

# Documentation for Confluence 5.3

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# Confluence 101

We're delighted that you've decided to try Confluence. This tutorial will help you evaluate Confluence for your organisation.

We'll guide you through:

- starting your trial
- creating a space and some useful content
- adding users and assigning permissions
- collaborating with other users, and
- changing the look and feel of Confluence and other customisation.

It should take you about 30 minutes to work through this tutorial so let's get started.



*So what is a 101 anyway?*

*In US universities a 101 course is a general course that is often used as an introduction to a particular subject area - it covers the basics, and gives you a taste of what you're in for... just like this tutorial!*

Let's get started »

## Start your trial

First you need to set up a trial. If you already have Confluence you can skip this step.



### Set up your Confluence Trial

Signing up for a **Confluence OnDemand** trial will provide you with a fully-functional Confluence site hosted in the cloud, which is free for one month. The OnDemand signup process requires a credit card, but you will not be charged in the first month and can cancel at any time.

1. Go to http://www.atlassian.com/software/confluence/try/.
2. Read the Trial FAQ. Don't skip this step, the FAQ has important information on what you are signing up for.
   You can find the link under the 'OnDemand' and 'Download' panels, if the FAQ is not showing.
3. Click **Start Free OnDemand Trial**.
4. Follow the prompts to set up your trial.
   Tips for filling in your Confluence OnDemand form:
   - 10 users is enough for this tutorial, and you can always add more later.
   - You won't need any other applications. This guide only covers Confluence.
   - You can choose to keep your site after your trial. Keep this in mind when picking a site address.

That's it! It will take about 10 minutes for your OnDemand instance to be provisioned. You will receive an email when your Confluence instance is ready. The trial is free for the first month and you can cancel any time.

Next »

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If you can't use Confluence OnDemand, you can install the trial version instead. Go to http://www.atlassian.com/software/confluence/try/ and choose **Start Free Download Trial**.

Installing Confluence on Windows

To install the Confluence trial on Windows:

1. Download the Confluence Windows Installer file for 32-bit or 64-bit Windows.
2. Run the installer, choose an installation directory, a home directory, and a port ('8090' will do). We recommend you choose to install Confluence as a service.
3. Confluence will start automatically when the installer finishes. The installer will also add Windows 'Start' menu shortcuts which you can use to start and stop Confluence.
4. To access Confluence, go to your web browser and type this address: http://localhost:8090/ .
5. The Setup Wizard will guide you through the process of setting up your Confluence server and creating an administrative user.

Refer to our full installation instructions for more information.

Installing Confluence on Linux

To install the Confluence trial on Linux:

1. Download the Confluence Linux 64-bit / 32-bit Installer (.bin) file.
2. Open a Linux console and change directory (`cd`) to the '.bin' file's directory.
3. Execute the '.bin' file to start the console wizard.
4. Follow the prompts. The console wizard will install Confluence onto your operating system and will start Confluence automatically when the wizard finishes.
5. To access Confluence, go to http://<computer_name_or_IP_address>:<HTTP_port_number> (`<computer_name_or_IP_address>` is the name or IP address of the computer on which Confluence is installed and `<HTTP_port_number>` is the HTTP port number specified during installation.
6. The Setup Wizard will guide you through the process of setting up your Confluence server and creating an administrative user.

Refer to our full Installation instructions for more information.

Installing Confluence on Mac (evaluators only)

Installing Confluence as a production system on a Mac is not supported, however for the purposes of evaluating, you should be able to install Confluence locally on your Mac.

## Create some content

Your trial is set up and you're ready to go.  You have **administrator** permissions for your OnDemand trial.

Throughout this tutorial we will highlight whether a feature is available to all users or requires specific permissions.



All users can do this

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We'll point out where there are differences between our OnDemand and Installed versions of Confluence with this icon ⚠️.

In this step you will create a space, create some pages and add content to a page, including images, links and macros.

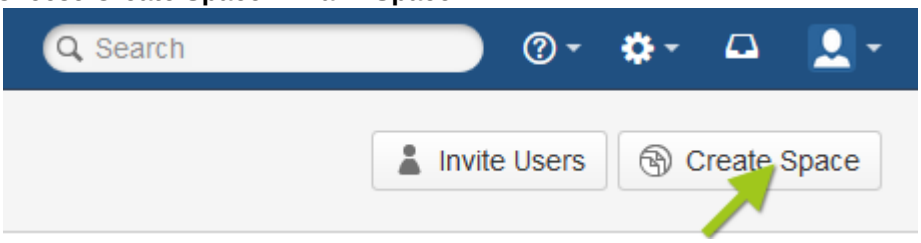
## Create a space



Let's jump in with both feet and create a space.  Spaces are where you create pages, blogs and collaborate with your team.

In this example you will create a space for a team working together on a project. It will be used for gathering requirements, recording meeting notes, making decisions and sharing files.

1. Choose **Create Space** > **Blank Space**.




2. Enter a name for your space, for example 'Project Space'.
3. Confluence creates a space key for you - this forms part of the space URL.
4. Choose **Create**.

Your space appears with some sample content on the homepage. It's as easy as that. You can have as many spaces as you need.

Later in this tutorial you will look at customising the look of your space, but for now, let's create some content.

## Create some content

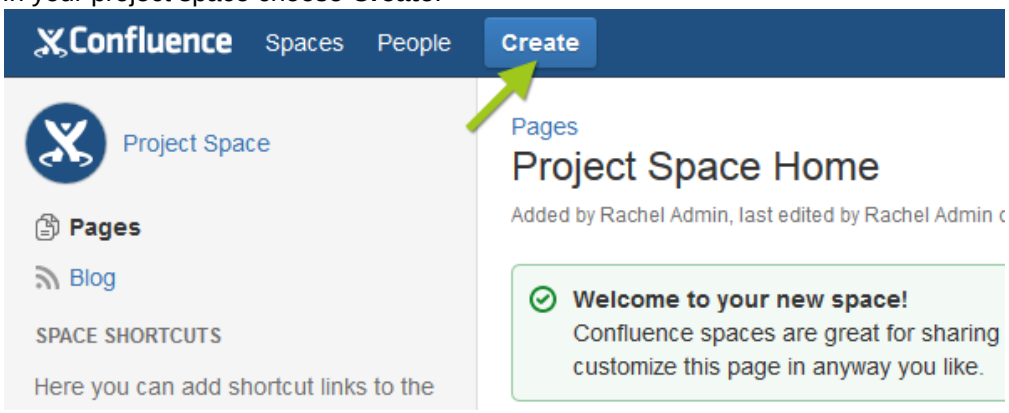
Pages are where you create your content.  You can create a blank page, a blog post, or use a blueprint to solve the blank page problem.

In this example you will use the Meeting Notes blueprint to create some meeting notes in our new project space.

To create meeting notes:

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1. In your project space choose **Create**.




2. Choose **Meeting Notes** and **Create**.
3. The meeting notes page appears, enter some content.
4. Choose **Save**.

Confluence creates a link for all the meeting notes in your space on the Sidebar.

Blueprints provide you with ways to create common content quickly. The best way to learn about them is to try some out. They contain instructions and wizards to guide you through the process.

## Create a blank page

Next let's create a new blank page to record some background about our project. New pages are created as a child of the current page, so we will return to the homepage first.

1. Go back to the space homepage (hint use the **Home** link in the breadcrumb, or use the space name or logo in the sidebar).
2. Choose **Create** > **Blank page**.
3. The blank page appears, name the page 'Project Background' and **Save**.

In the next step we will take a closer look at the editor and the types of content you can add to your pages.

## Edit the content of a page

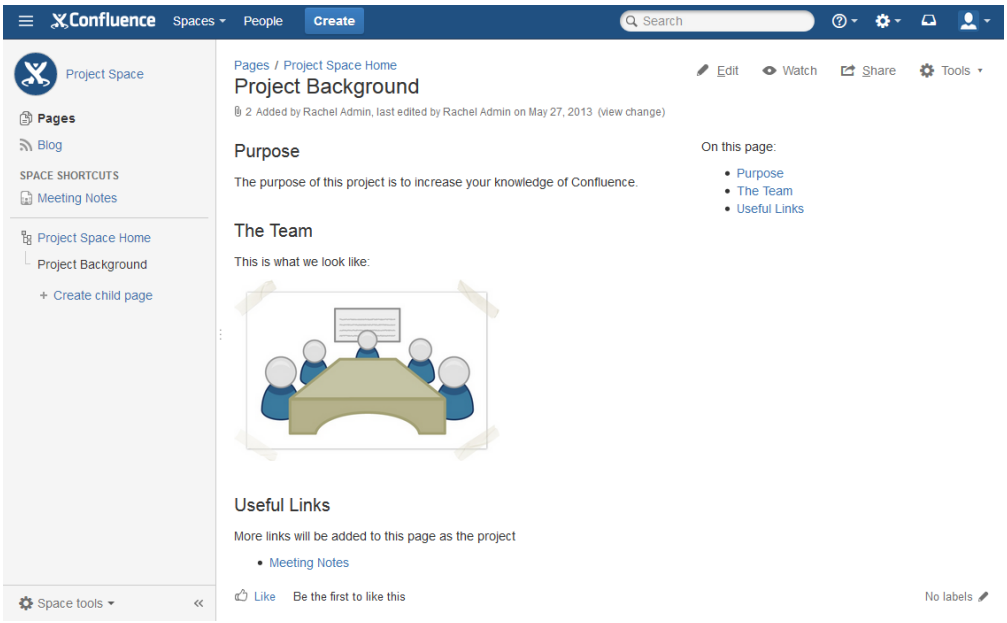
In this example you will edit your new 'Project Background' page and add some content.

To edit an existing page:

1. Go to the page you just created - you can use the sidebar or search to get to a page.
2. Choose **Edit** (or use the keyboard shortcut **E**).
3. The editor appears - now get editing!

Our aim in this example is to use the editor tools to create a page that looks like this. Click the image for a bigger view.

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## Headings and text

Add some text to your page and try out the heading styles and other formatting. In the example above we added headings for Purpose, The Team and Useful Links.

Confluence uses styles, so you will notice there is no Font or Size tools. This keeps your Confluence content looking nice and consistent.

To apply a style, highlight the text and choose a style (for example paragraph, or heading) from the style drop down menu on the toolbar.

## Images

Now let's attach an image to your page. In this example we will add a photo of our project team.

1. Choose **Insert (+)** > **Image**.
2. Browse for an image file on your computer.
3. Choose **Insert**.

Your image appears on the page. When you select the image the Image the Properties toolbar appears. This toolbar allows you to:

- Change the size of the image on your page (in our example we chose 300px, users can click to see the full size version).
- Add a border.
- Add an effect (in our example we chose **Properties** > **Effects** and selected the 'Taped' effect).
- Add a title and alt text.

Images are attached to your page, like attachments to an email. You can also search for images attached to other pages, or use images from the web.

## Links

Creating links is easy in the Confluence editor. You can link to external sites, other confluence pages and spaces, recently viewed pages, attachments, anchors in your text - you name it!

Let's add Useful Links heading to our page, then add a link to the Meeting Notes index page that we created earlier.

To add a link to another Confluence page:

1. Type Useful Links, select it then choose Heading 2 from the style dropdown menu on the toolbar.
2. Enter down to a new line and choose **Link** on the editor toolbar.
3. Choose **Search**.
4. Type the name of the page you want to link to (meeting notes) - the quick search will appear as you type.

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5. Choose the page from the list.
6. Enter the link text (if you want it to be something other than the page name).
7. Choose **Insert**.

You can also make images a link - select the image and choose **Link** from the image properties toolbar.

#### Page layouts

The example page had content in two columns. This was achieved by modifying the page layout.

Try it now:

1. Choose the **Page Layout** button on the editor toolbar.
2. A section is added to your page, dotted lines indicate the section boundaries.
3. Choose one of the 2 column layouts from the toolbar to apply it to the section.
4. Your existing content will appear in the left column, leaving the right column free to add more content.

You can add as many sections as you need, and each section can have a different column layout. For this example, you only need one section.

#### Macros

To provide some in-page navigation, based on the headings on your page, you can add a Table of Contents Macro. This is great for long pages with many headings.

To add the table of contents macro:

1. Place your cursor in the right hand column you created in the previous step.
2. Choose **Insert** > **Table of Contents**.
3. Customise your table of contents using the options provided.
4. Choose **Insert**.

**Save** your page. Your page should now have some headings, an image, a link to another Confluence page and a table of contents.

## More about Macros

Macros extend what's possible on a Confluence page.  There are macros for navigation, for special formatting, for reporting and adding media - there are even macros that integrate with other Atlassian products like JIRA.

To add a macro to a page:

1. Edit your page.
2. Choose **Insert** > **Other Macros**.
3. Choose a macro from the macro browser - you can use the categories or search field to help you find a macro.
4. Enter any **parameters** the macro might need.
5. Choose **Insert**.

The macro appears as a placeholder in the editor. Select the placeholder to edit or remove the macro.  Once you save your page you will see the macro content in all its glory.

Check out these great macro examples:

Display web content like videos, Twitter feeds and slideshows...

The Widget Connector macro allows you to display a wide range of web content on your Confluence page such as video, twitter feeds, slideshows. In this example we will add a YouTube video.

To add a YouTube video to your page the fast way:

1. Go to YouTube and grab the URL for the video (hint: use the 'Share' option, not the page URL).
2. Paste the URL on to your page.
3. Confluence recognises the URL and adds the Widget Connector macro for you.

You can add more than just videos, you can content from Twitter, Flickr, SlideShare, Scribid, Vimeo and many more.

A Confluence demonstration video is shown here - using the Widget Connector macro.

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### Embed a document or presentation...

The View File macros allow you to display PDF and Office documents that are attached to your page.

To use the macro the fast way:

1. Grab a PDF or Office document that is saved on your computer.
2. Drag it into the editor.
3. Watch while Confluence attaches the file to your page and adds the macro.

A Powerpoint macro showing a sample presentation attached to this page is shown here:



### Add a dynamic list of JIRA issues...

The JIRA macro allows you to display a list of JIRA issues. Use the wizard or your own JQL query to populate the Macro with issues.

You'll need JIRA linked to Confluence to use this macro.

We won't be using the macro in this example, but here is an example from our Release Notes showing what the macro looks like. Click to see the larger version.

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JIRA Issues (6 issues)

| Type | Key | Summary | Priority | Status | Resolution |
|---|---|---|---|---|---|
| | CONF-26049 | Add an option in User Directory settings to make an SSL LDAP connection but without verifying that the hostname and certificate match | | Resolved | Fixed |
| | CONF-28500 | Clicking "Cancel" does not delete drafts | | Resolved | Fixed |
| | CONF-28415 | Editor is not full height | | Resolved | Fixed |
| | CONF-29143 | Javascript error causes sidebar buttons or header bar buttons to not function | | Resolved | Fixed |
| | CONF-28743 | NullPointerException is thrown when trying to start Confluence 5.1 with JNDI datasource | | Resolved | Fixed |
| | CONF-28724 | Confluence search box should say "Search this space" when search is restricted to current space | | Resolved | Fixed |

## Pages vs Blogs

Before you move on, let's talk about the difference between a blog, a blueprint and a blank page.

Blogs are pages that play by blog rules.  Blog posts cannot be restricted or moved, they are visible to other users as soon as you post, and have their own watch and notification settings. Blog posts appear under the 'Blogs' link on the sidebar, whereas pages appear under 'Pages' on the sidebar.

Blueprints are pages that are created from special templates, and are designed to make it easy for you to add common types of content to your pages. Many blueprints appear under their own link on your space sidebar.

Next »

# Add users and set permissions



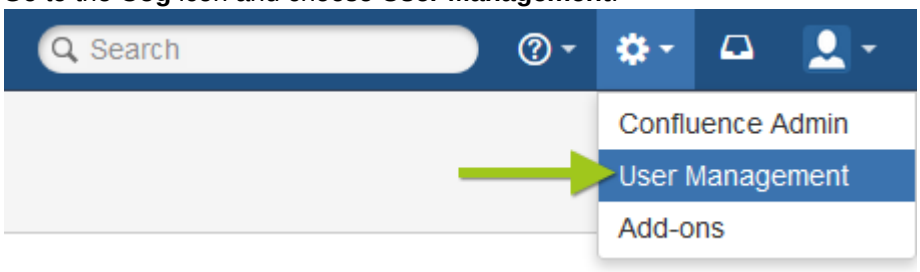
Confluence is designed to help you collaborate with your team. You can easily add users, invite users, or allow new users to sign themselves up.

In this step, you will invite a user to come and try Confluence, and then manually add a user.

You need to be an Administrator to add users.

Let's try it now. To invite a user:

1. Go to the **Cog** icon and choose **User Management**.




2. Choose the **Invite Users** tab.
3. Enter an **email address** of a colleague or friend, customise the message then **Send**.

To add a user:

1. Choose the **Add Users** tab.
2. Enter a username, full name and email address.
   If you are creating a 'dummy' user, deselect the **Send an email...** checkbox to manually set a password for your user.
3. Choose **Add**.

That's it, you've now added one user, and invited another to join you in Confluence.  Now you need to think about permissions.

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## Permissions and Groups

Permissions control what a user can do in individual spaces and across the whole confluence site.

Users hold permissions as individuals (for example over content they have created) and by being a member of a group.

There are a number of default groups in Confluence OnDemand:

| | |
|---|---|
| users | These are your typical users. They can add spaces, create content and collaborate. ⚠ |
| administrators | These are your admins. They can access the Confluence Administration console and create new users. |
| system-administrators | These are the Atlassian administrators who look after your OnDemand instance. ⚠ |
| anonymous | These are users who are not logged in. You can choose to grant them permissions for your site. |

⚠ There are a couple of differences between OnDemand and Installed Confluence. In Installed Confluence, the 'users' group is called 'confluence-users' and in OnDemand some admin functions are restricted.

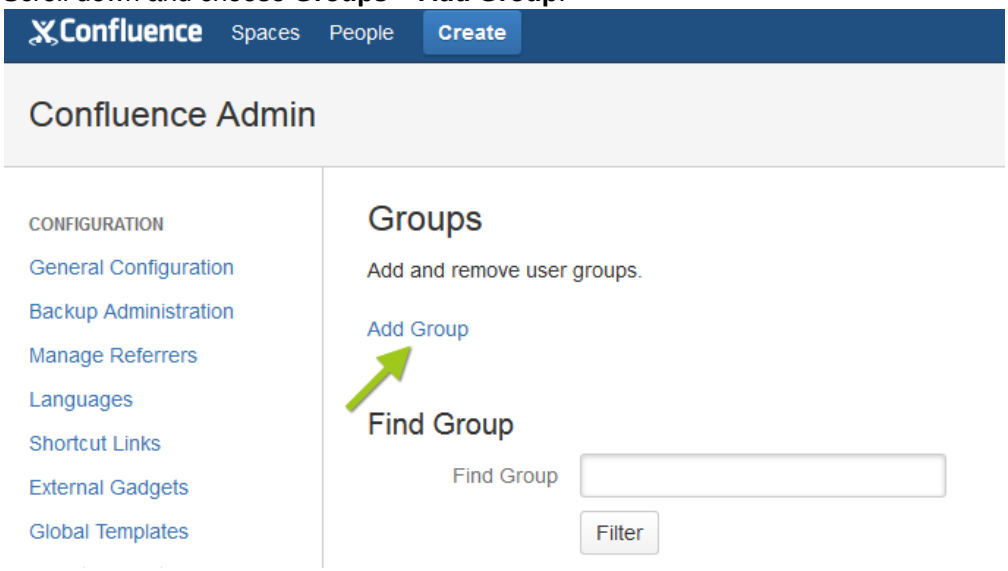
## Create a new group



In this example you will create a new group called 'project-team' and add your new users. You need to be an administrator to add a group.

To create the group and add users:

1. Go to the **Cog** icon and choose **Confluence Admin**.
2. Scroll down and choose **Groups** > **Add Group**.




3. Enter a group name, for example 'project-team'.
4. Choose **Save**.
5. Choose **Add Members**.
6. Enter names of the users you wish to add to the group and choose **Add**.

Your group has been created. Next you can grant some permissions to the group.

## Grant space permissions to a group

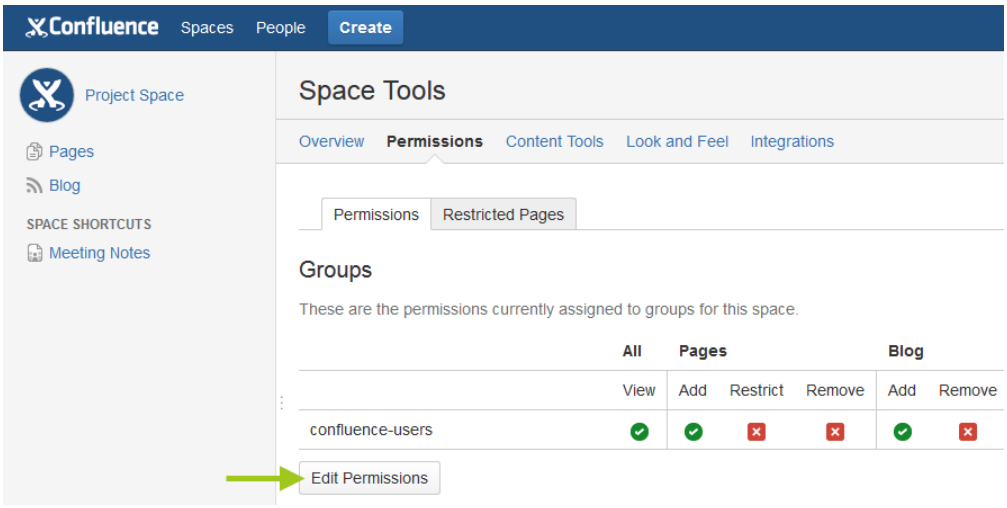
In a previous step you created a new space.  As the creator, you have Space Admin permissions for that space. Let's grant some permissions to the 'project-team' group. This will allow the team to do things like access the

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Space Tools console, apply restrictions and remove content.



1. Go back to your new space (hint - the Confluence logo takes you back to the dashboard, or Spaces on the toolbar takes you to a list of spaces).
2. Choose **Space Tools** in the sidebar.
3. Choose **Edit Permissions**.




4. Enter the name of your new group ('project-team') in the grant permissions field under 'Groups' and choose **Add**.
5. Select all the permissions you wish to grant to the group including Space **Admin**.
6. Scroll down and choose **Save all**.

Now any user added to the 'project-team' group will be able to access Space Tools, and administer the space.

You need to be a space administrator to grant permissions using this method. Most commonly the space administrator is the user who created the space. Members of the administrators group can also do this via **Confluence Admin** > **Space Permissions**.

### Anonymous Users



Confluence supports anonymous users. You are probably an anonymous user in our Confluence site right now.

Anonymous access is turned off by default.  Once Anonymous access is turned on across your site, you can decide what permissions you would like to grant anonymous users in each space.

You may decide to make only some spaces accessible to anonymous users.

Next »

## Share and collaborate



Confluence has some great collaboration features. Let's try some of them out.

Most of these features are available to all users.

### Like

You can like pages, blog posts and comments just as in your favourite social networking sites.  Show people you care, run crazy 'can we get to 100 likes' challenges, how you use it is up to you!

### Comment

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You can add comments to pages and blog posts. This is a great way to get people communicating. The full editor is available in the comments field, so you can use bullets, add images, tables - if you can do it in a page, you can more than likely do it in a comment.

Let's add a comment to the meeting notes page you created earlier.

1. Go to your meeting notes page (hint, use the Meeting Notes blueprint shortcut in the sidebar).
2. Scroll down and enter a comment in the comment field.
3. Choose **Save**.

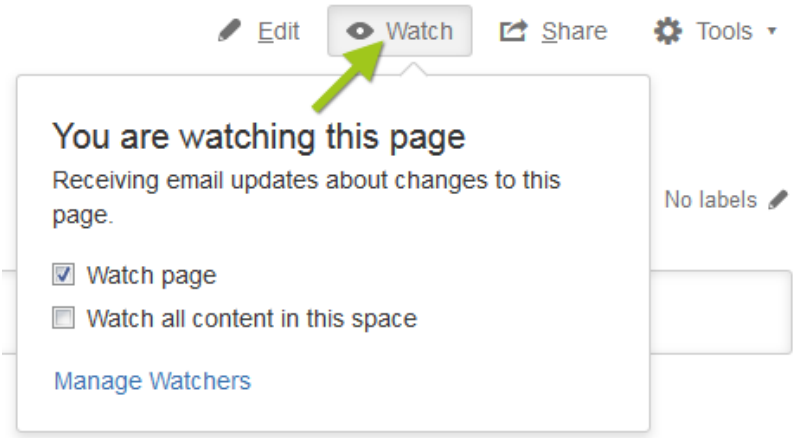
Comments are also threaded, so you can make your comment a direct reply to another comment. The Quote style in the editor also allows you to indicate where you are quoting another user.

## Watch

Want a way to know when someone edits or comments on a page? You can watch it. This is a great way to monitor fast moving information.

Let's watch the meeting notes page you created earlier.

1. Go to your meeting notes page.
2. Choose **Watch**.
3. Choose to watch just this page or all pages in the space.




You will receive notifications by email and in your workbox when the page is edited or a comment is added. The workbox is located on the toolbar and shows all your recent notifications and tasks. You can customise how you want to be notified in your profile settings.




By default you will automatically be set to watch all pages you create. To stop watching, choose the **Watch** button and deselect **Watch page**.

Watching is particularly great for Blogs. You can choose to watch all blogs in a space, and even build an RSS feed to use in your favourite RSS reader.

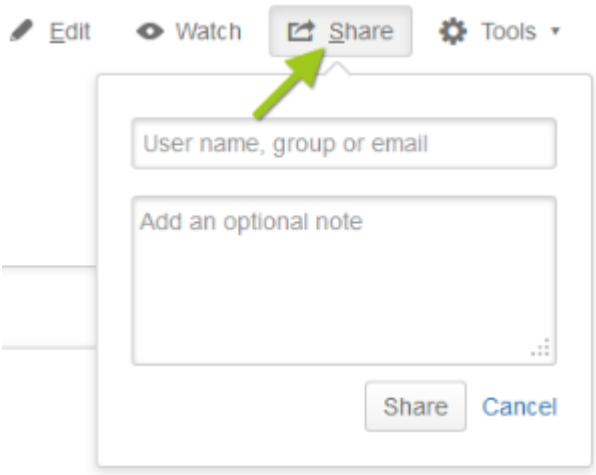
## Share and Mention

What if you have created a page and need a user to be notified about it? There are a couple of ways you can do this.

First you could share the page with the user. To share a page:

1. Go to a page choose **Share**.

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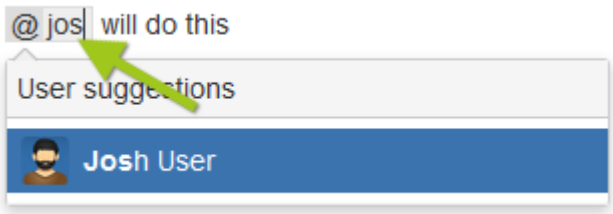



2. Enter the name or email address of a user, autocorrect will provide suggestions as you type.
3. Enter a message and **Share**.

The user will receive an email and a notification in their workbox.

Another way to notify a user about a page or blog post is to mention them on the page or in a comment.

1. Go to a page and choose **Edit**.
2. Type @ followed by part of the user's name, for example @josh - autocorrect will search for the user




The user will be notified in their workbox and by email.

Some blueprints use mentions out of the box. For example when you enter a stakeholder in the decision blueprint they are automatically added to the page as a @Mention and notified.

Want to get really tricky?  Mention someone in a task, and that task will automatically be added to their task list in the workbox.

## Restrict



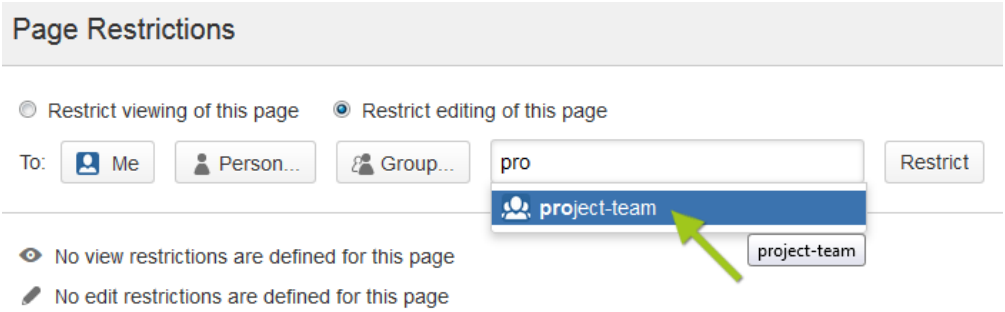
Sharing is wonderful, but sometimes you may want to make a page only visible to some users, or only visible to you.  In other instances you may want to users to view and comment on, but not edit a page.

In this example you will restrict editing of the homepage in your project space to members of the 'project-team' group.

You can only apply restrictions to your own pages, unless you have 'Restrict Page' permissions in that space.

1. Go to the space homepage and choose **Tools** > **Restrictions**.
2. Choose **Restrict editing of this page**.
3. Enter a group name or username, for example 'project-team' - autocomplete will search for the user or group.

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4. Choose **Save**.

A padlock icon appears on the page to indicate that the page has restrictions.

You can also access the restrictions from a button in the editor and from the padlock icon.

Next »

# Customise the look and feel

Now for the fun stuff - let's look at how you can customise Confluence to suit your organisation or team.

## Site look and feel



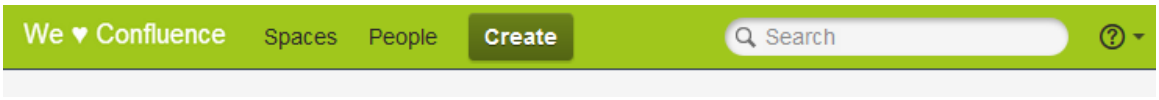
It is very simple to change the look and feel of your site. You can make your Confluence site match your corporate colours, make it neon pink, add photos of puppies. It's up to you!

You need to be an administrator to do this. You will also need an image file like this one, or you could use your organisation's logo to see how it looks.

To change the site logo:

1. Go to **Confluence Admin** (hint, choose the 'Cog' icon on the header).
2. Choose **Site Logo** under Look and Feel in the sidebar.
3. Browse for your file and **Save**.

Confluence detects the colours in your logo and changes the colour scheme to match. In the example below we uploaded a green logo.




To reset or further edit the colour scheme:

1. Go to **Confluence Admin**.
2. Choose **Colour Scheme**.
3. Choose **Edit** to further refine or reset the colour scheme.

## Space look and feel



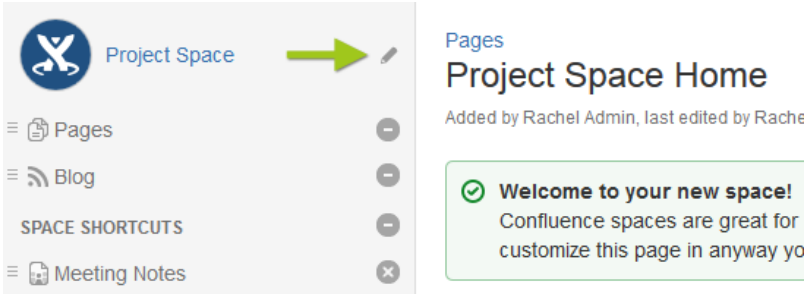
Let's start small and set a logo for your project space. To do this you will need an image file. Space logos are circular, so consider this when choosing an image.

You need space administrator permissions to customise a space.

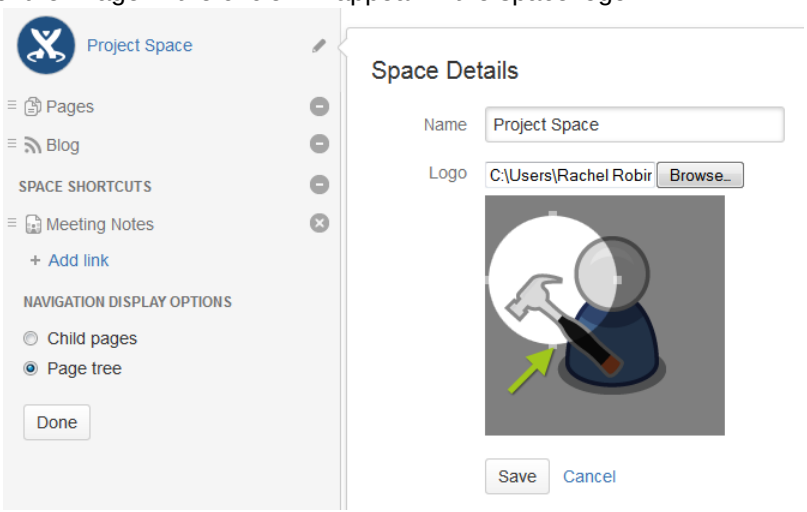
To change the space logo:

1. Go to your project space, you can select it from the **Spaces** dropdown in the header.
2. Choose **Space Tools** > **Configure Sidebar** (hint, it's on the sidebar).
3. Choose the **Edit** (pencil) icon next to the space name.

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4. Browse for the image you want to set as the space logo.
5. A preview appears, drag the circle guide until you are happy with the preview - don't forget, only the part of the image in the circle will appear in the space logo.




6. Choose **Save**.

The logo appears in the sidebar. This logo also appears whenever your space is listed on the dashboard or in the Spaces directory. It's a great way to differentiate your spaces.

So what else can you do in your space? You can:

- **Customise the homepage** - the space homepage is just an ordinary Confluence page, you can add images, links, macros.
- **Add shortcuts to the sidebar** - these can be links to external sites, other spaces, pages within this space - how you use it is up to you and your team.
- **Change the colour scheme** - in Space Tools > Look and Feel you can change the colours of the header, menus and headings. Make it red, make it green, make it tangerine.
- **Change the theme** - in Space Tools > Look and Feel you can turn on the Documentation theme if you want your space to have a more structured sidebar (like you see right now in the Confluence documentation) ⚠.

⚠ A number of third party themes are also available from the Atlassian Marketplace. These are not supported by Atlassian and not available for OnDemand customers.

## Add-ons

Add-ons, also known as plugins, allow you to extend the functionality of your Confluence site. A small selection of add-ons are available for OnDemand ⚠.

To view the add-ons for your instance:

1. Go to **Confluence Admin**.
2. Choose **Manage Add-Ons**.
3. Choose a category from the drop down, for example **User Installed**.

Some add-ons are included in your OnDemand subscription, and others are commercial and require paid subscriptions to use.

⚠ In installed instances of Confluence you can go directly to the Atlassian Marketplace to find add-ons to download and install. Some of these add-ons are supported by Atlassian and others are provided by third

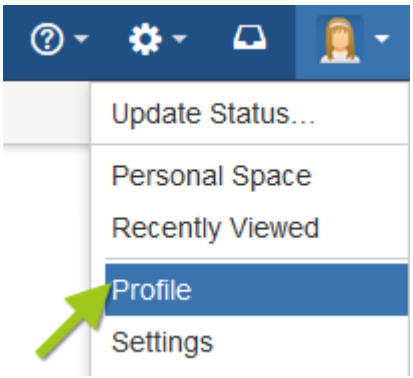
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parties on a free or commercial basis.

### Personal Customisation



You can customise your personal Confluence experience too. The **User Profile** menu provides access to a range of personal customisation options.




Some you might want to try include:

- Choose **Profile** > **Picture** to upload a photo of yourself.
- Choose **Settings** > **Password** to change your password.
- Choose **Settings** > **Email** to set your notification preferences.

All users can access and customise their profile.




## Next Steps

So that's it - we hope this guide has helped you get a feel for Confluence.

Your OnDemand trial is free for one month and then you have a couple of options:

- **Keep this OnDemand instance**
  You don't need to do anything if you want to keep your OnDemand instance. When the evaluation expires your credit card will be charged and you can continue using Confluence OnDemand.
  You can manage your account at my.atlassian.com.
- **Cancel your OnDemand trial**
  Decided not to continue? You can cancel at any time during the first month.
  To cancel your OnDemand trial:
  1. Go to my.atlassian.com.
  2. Navigate to your Confluence OnDemand Evaluation.
  3. Choose **Cancel Subscription**.
- **Switch to installed Confluence**
  If you want the greater flexibility that comes with hosting your own Confluence instance, you can cancel your OnDemand trial and switch to installed Confluence. Refer to the Confluence Installation Guide for information about installing Confluence.
  If you want to keep the content you created in your OnDemand instance see Migrating from Confluence OnDemand to a Confluence Installed Site.
  If you were evaluating Confluence using the installable trial you might find the information on Migrating to Another Database useful.

You can find more information about managing your OnDemand subscription at www.atlassian.com/licensing/ondemand.

### More information

Want more information about the concepts covered in this guide? Refer to the full documentation:

**Create spaces and content**

- Creating Content
- Working with Spaces
- Working with Pages

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**Users and Permissions**

- Managing Confluence Users
- Giving People Access to Content
- Restricted Functions in Atlassian OnDemand
- Getting Started as Confluence Administrator

**Share and Collaborate**

- Sharing Content
- Managing Changes and Notifications and Tasks

**Customise Confluence**

- Customising the Look and Feel of a Confluence Space
- Changing the Look and Feel of Confluence
- Personal Customisations

### Feedback

Tell us what you think about this evaluator's guide. Did it help you get a feel for Confluence?

Take our 5 minute survey...

# Confluence User's Guide

### About this document

The Confluence user's guide begins with an overview of the key features of Confluence, and goes on to describe the use of Confluence as a knowledge management tool and a collaborative environment. If you still have a question that has not been answered, please ask us.

This guide assumes that your Confluence site uses the default theme. If your site's theme has been customized, then your site may look different and the menu items may appear in different locations from those in this guide.

Would you like a full list of the pages in this guide? Here it is: Table of Contents for Confluence User's Guide.

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## Downloads




You can download the Confluence documentation in PDF, HTML and XML formats.

## More resources

Visit the Confluence Administrator's Guide for information on how to administer and configure your Confluence site, or go to the Confluence Documentation Home for a list of further resources.

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## In this guide

Getting Started with Confluence

Creating Content

Sharing Content

Managing Changes and Notifications and Tasks

Finding Content

Organising Content

Customising Confluence

Giving People Access to Content

Using Confluence on a Mobile Device

Advanced and Special Uses of Confluence

# Getting Started with Confluence

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**Getting to know Confluence**
The dashboard
Page layout
Spaces in Confluence
Other users

**Personalising Confluence**
Changing your password
Updating your user profile
Creating your personal space
Choosing the home page you see when you log in
Customising the dashboard for yourself
Getting notifications about changes

**Things to do**
Creating Content
Adding a space

**More helpful things**
Keyboard shortcuts
Confluence glossary
About Confluence

Take me back to the Confluence User's Guide.

## About Confluence

Confluence is a wiki. You can use it to collaborate on writing and sharing content with your team. Your team can be as small or as big as you like. It could encompass the whole world. Your content can be as simple or as rich as you like. It can be just words, or you can add images, diagrams, activity streams, web service integration and more.

In a nutshell, a wiki is a piece of software that runs on a server. It publishes web pages that you can read via a web browser such as Mozilla Firefox, Google Chrome or Microsoft Internet Explorer. The thing that makes wiki pages different from other web pages is the **edit button**. Provided that you have the right permissions, you can edit the page, save your changes, and the updates will be visible to other people immediately.

Confluence provides extra functionality that transforms it into a social collaboration platform:

- Add a space for your team, then add a page or comment on someone else's page.
- Share content by writing a blog post, sharing a link or calling someone's attention to a page via @mentions. Form a social network and tell people what you are doing via a status update.
- Add images, picture galleries, videos and more.

**Related pages:**

- Getting Started with Confluence
- Confluence User's Guide

## Dashboard

The dashboard is the front page of a Confluence site. It provides an overview of the site, gives access to the spaces that you have permission to view, and displays a few different lists of the most recently updated content.

You can go to the dashboard from anywhere in your site by choosing the **site logo** at the top left of the page. This might be the Confluence logo, or may be a customised logo set by your Confluence Administrator.

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### Overview of the dashboard

The dashboard is divided into these sections:

- **Welcome message:** The information that appears in the top left section of the dashboard. Confluence Administrators can customise this message.
- **Get started:** A quick-start guide for administrators. This section of the dashboard is visible to Confluence administrators and system administrators only. It is not configurable via the web interface, but you can update or remove it by editing the site layout. *Not applicable to Confluence OnDemand.*
- **Spaces, Pages, Network**: Tabs displaying your favourite content and people, displayed in the lower left section of the dashboard.
  - **Spaces** displays the spaces you have marked as favourites, followed by all the spaces that you have permission to view.
  - **Pages** displays the pages you have marked as favourites.
  - **Network** displays the users that you are following (or who are following you).
- **Recent activity**: Tabs on the right-hand side of the dashboard, displaying recently-updated content**:**.
  - **Popular** displays content that has been recently created, liked or commented on. See below for more details.
  - **All Updates** displays updates from all spaces that you have permission to view.
  - **Favourite Spaces** displays updates from your favourite spaces.
  - **Network** displays updates made by the users that you are following (or who are following you).
  - **Space Categories** displays updates from spaces in the category you have selected from the list.

**On this page:**

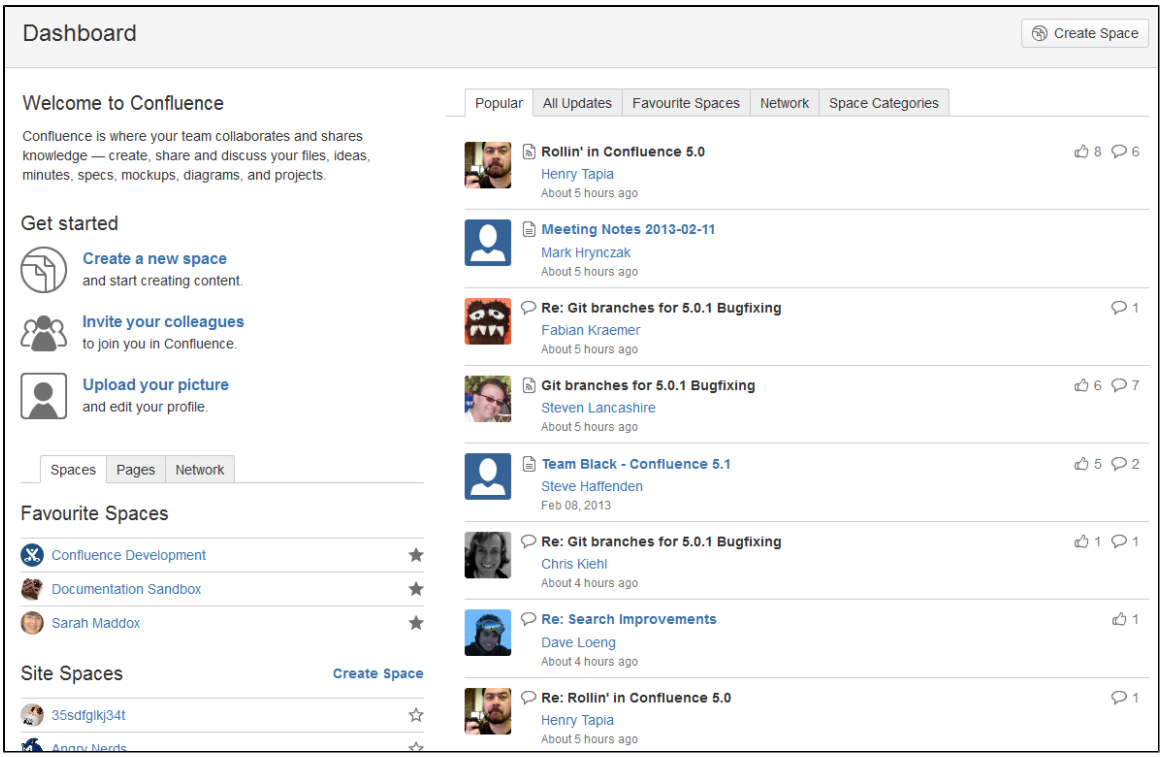

- Overview of the dashboard
- More about popular content
- Notes


**Related pages:**

- Confluence Glossary
- Working with Spaces
- Confluence User's Guide

*Screenshot: The dashboard*

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### More about popular content

The 'Popular' tab on the dashboard displays recent activity of the following types:

- Pages, blog posts and comments that people have recently **liked**.
- Pages and blog posts that people have recently **commented** on, and threaded comments that people have recently replied to.
- Pages and blog posts that have recently been **created**.

'Recent' means any activity in the last seven days.

A **bold** link means that you have not yet visited the page.

The activities are listed in order of popularity, with the most popular at the top. Likes, comments and content creations are scored equally. Activity that involves people in your network ranks higher than activity not involving your network. The most recent activity ranks higher than earlier activity.

### Notes

- If you have the right permission, you can add a new space from the dashboard. Choose **Create Space** at the top right of the dashboard, or on the 'Spaces' tab.
- By default, the dashboard is the home page for the Confluence site. However, you can set any other page in Confluence as your home page via your user profile settings.
- If your site has a custom homepage, the site logo will take you to the homepage not the dashboard. You can still access the dashboard by invoking a URL like this one `https://yoursite.com/wiki/dashboard.action`. See Configuring the Site Home Page for more details.
- Administrators can customise the global dashboard that all users see. *Not applicable to Confluence OnDemand.*
- Users can customise the dashboard for themselves.
- Are you looking for a way to build an RSS feed? Choose **Help** > **Feed Builder**.
- Are you looking for a list of the people in your site? Choose **People** on the header.

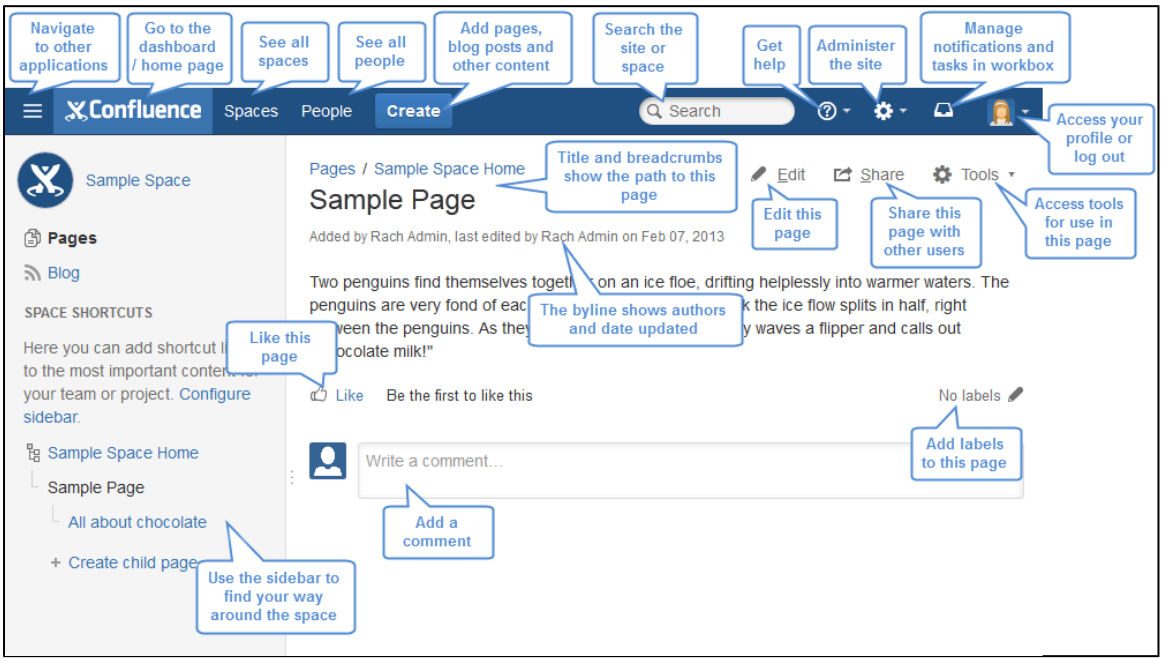
## Page in View Mode

The images below show the menus and other controls on a typical Confluence page using the default theme. The sidebar is on the left of each page. On the right is the body of the page.

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**Related pages:**

- Creating Content
- Using the Editor
- Overview of Spaces
- Sharing Content
- Confluence User's Guide




| Section or option | Explanation |
|---|---|
| **Sidebar** | The sidebar helps you to see where you are in the space, and helps you to find pages and other content in the space. The sidebar contains shortcut links to important pages in your space. Space administrators can access options to configure the sidebar and other parts of the space. At the bottom of the sidebar is a contextual navigation section, which adapts depending on the page or blog post that you are viewing. See Finding Content. |
| **Application Navigator** | Use the application navigator for quick and easy access to applications that are linked to your site, for example JIRA. Confluence Administrators can add links to the application navigator, for example external websites. |
| **Dashboard / Home Page** | Choose the site logo to access to the site home page. By default, the dashboard is the home page of your Confluence site. Your Confluence Administrator may have set a different homepage for your site. |
| **Spaces** | Use the Spaces menu to access your recently viewed spaces and the Space Directory which contains a list of all the spaces that you have permission to view. |
| **People** | Choose this option to see the people directory, showing all the users of your Confluence site. |
| **Create** | Create pages, blog posts, and other content types in Confluence. |

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| | |
|---|---|
| **Search** | Type text into this box to see a list of matching pages. Select a page to go directly to it, or press Enter to use the full Confluence search. See Searching Confluence. |
| **Help** | Go to the documentation for help and support, view a list of keyboard shortcuts, or access other help options from this menu. |
| **Administration** | The cog icon gives access to the site administration menu. If you are a Confluence administrator or a system administrator, you can access user and add-on management, and other site administration options here. (Note that the space administration options are in the sidebar, not in the administration menu.) |
| **Workbox** | View and respond to notifications collected from Confluence page watches, shares and mentions. Manage your personal tasks. See Managing Notifications in Confluence and Managing Tasks in Confluence. |
| **User** | After you have logged in, your profile picture will appear at top right of the page. When you choose your profile picture, the user menu drops down with options 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. |
| **Tools** | Perform miscellaneous actions relating to the page. |
| **Like** | Let people know that you like this page. |
| **Edit** | Edit the current page. (Shortcut: press **e** on your keyboard.) |
| **Watch** | Add yourself as a watcher of the page, to receive notifications of changes. |
| **Share** | Email a link to the current page to another Confluence user or email address. |
| **Labels** | View and edit labels (tags) attached to the current page. (Shortcut: press **l** on your keyboard.) |
| **Add a comment** | Click in the text box to begin writing a comment. (Shortcut: press **m** on your keyboard.) |
| **Title and breadcrumbs** | The title is the page name. The breadcrumbs show the position of the page in relation to its parent pages in the space. |
| **Byline** | Shows the original author and the most recent editor of the page, and the date of the most recent edit. |
| **Byline icons** | A small padlock indicates page restrictions. A paperclip indicates that the page has attachments. Both icons are clickable, leading to the 'Page Information' and 'Attachments' pages, respectively. |

## Confluence Glossary

**Administration Console**

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The Administration Console is the interface for the global administration of Confluence.

Only administrators can access the Administration Console.

---

**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.

---

**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 pages is a means of hierarchically organising content in Confluence. A child page can only have one parent page.

---

**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.

---

**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 used when creating page templates in Confluence 4.2 and earlier. It is no longer needed, because the template editor offers form fields as an option in the editor toolbar.

---

**Global Administrators**

A global administrator is the same as a system administrator.

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**Global Spaces**

Known as Site Spaces, these spaces contain content on any theme or topic of your choice.

For more information about *site spaces* and *personal spaces*, see Working with Spaces.

**Hover Profile**

The hover profile is the pop-up you see when the mouse pointer pauses over a Confluence user's name. Use the hover profile to follow the user, visit their profile, and more.

**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.

**Blog Posts**

A blog post 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 and are the building blocks of spaces.

**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.

**RSS Feeds**

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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.

### Site Spaces

Site spaces contain content on any theme or topic of your choice. Previously known as global spaces.

For more information about site spaces and personal spaces, see Working with Spaces.

### 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 within Confluence, containing your pages, blog posts and other content. You can think of each space as a sub-site, or mini-site, each with its own home page.

There are two types of spaces: site spaces and personal spaces - see Working with 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.

### Thumbnails

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As of Confluence 4.0, all images on the page that aren't links are displayed as thumbnails: when you click on an image the full-size image is displayed in a pop-up.

**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**

When you watch a page, you receive an email notification whenever that page has been modified. When you watch a space, you receive an email notification whenever content is 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.

**Wiki Markup**

This is the markup used to write and edit page templates in Confluence.

**Related Topics**

Take me back to Confluence User's Guide

## Keyboard Shortcuts

Confluence provides a number of keyboard shortcuts that you can use to speed up your editing and viewing. This page describes the keyboard shortcuts for the English language. The shortcut keys (letters of the alphabet) may be different in other languages.

Confluence can display a list of available keyboard shortcuts. There are a few ways to see this keyboard shortcuts dialog:

- Choose the help icon  at top right of the screen, then choose **Keyboard Shortcuts**.
- When viewing a page, press Shift+?
- In the editor, choose the question mark icon on the editor toolbar.

The keyboard shortcuts dialog shows the following information:

- **General** – global, page and blog post shortcuts.

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- **Editor** – text editing and formatting shortcuts.
- **Editor Autoformatting** – wiki markup and autoformatting shortcuts.

**On this page:**


- Keyboard shortcuts
  - All screens
  - Editor
  - Tables in the editor
  - Autocomplete in the editor
  - View screen
  - Workbox
- Disabling and re-enabling keyboard shortcuts
- Notes


**Related pages:**

- Using Autocomplete
- Confluence User's Guide

## Keyboard shortcuts

The first section below describes the keyboard shortcuts that are available on all Confluence screens. Subsequent sections describe the shortcuts specific to each type of screen.

**Notes:**

- If you are using Safari on OS X, please substitute 'Control' for 'Cmd' in the shortcuts below.
- We have used capital letters (for example, 'A') instead of lower case ('a') to represent keys on the keyboard. Do not press the Shift key unless this guide explicitly mentions it.

### All screens

| Windows | Action | Mac OS X |
|---|---|---|
| / | Enable the quick search | / |
| Ctrl+S | • Submit (where a form is active).<br>• Editor -- save the Confluence page.<br>• Outside the editor -- save the browser page. | Cmd+S |
| G then D | Go to the dashboard | G then D |
| G then S | Browse the current space | G then S |
| G then G | Position cursor in the search box. See Searching Confluence. | G then G |
| ? | Open the Keyboard Shortcut help | ? |
| [ | Toggle the sidebar (left-hand navigation panel) when the space is using the default Confluence theme or the Documentation theme. | [ |

### Editor

| Windows | Action | Mac OS X |
|---|---|---|
| Ctr+0 | Apply the paragraph style. | Cmd+0 |

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| | | |
|---|---|---|
| Ctr+(1–6) | Apply a heading level (of the number chosen) to the current line. | Cmd+(1–6) |
| Ctr+7 | Apply the preformatted style. | Cmd+7 |
| Ctr+8 | Apply the block quote style. | Cmd+8 |
| Ctrl+Shift+A | Open the Macro Browser. | Cmd+Shift+A |
| Ctrl+B | Make the selected text **bold**. | Cmd+B |
| Ctrl+Shift+B | Format text as a bulleted list. | Cmd+Shift+B |
| Ctrl+Shift+D | Insert wiki markup. (Opens the Wiki Markup dialog.) | Cmd+Shift+D |
| Ctrl+Shift+E | Preview the page you are editing. | Cmd+Shift+E |
| Ctr+I<br>*(letter I, not number 1)* | Make the selected text *italic.* | Cmd+I<br>*(letter I, not number 1)* |
| Ctrl+Shift+J | Insert a JIRA issue. (Opens the Insert JIRA Issue dialog.) | Cmd+Shift+J |
| Ctrl+K | Insert a link. (Opens the Insert Link dialog.) | Cmd+K |
| Ctrl+Shift+K | See a list of suggested pages or other locations to link to from your page. More about autocomplete... | Cmd+Shift+K |
| Ctrl+M | Insert an image. (Opens the Insert Image dialog.) | Cmd+M |
| Ctrl+Shift+M | See a list of suggested images, documents and other files to embed in your page. More about autocomplete... | Cmd+Shift+M |
| Ctrl+Shift+N | Format text as a numbered list. | Cmd+Shift+N |
| Ctrl+S | Save the page you are editing. | Cmd+S |
| Ctrl+Shift+S | Format text with a strike through. | Cmd+Shift+S |
| Ctrl+U | Make the selected text underlined. | Cmd+U |
| Ctrl+Y | Revert an action that was undone. | Cmd+Y |
| Ctrl+Z | Undo the most recent action. | Cmd+Z |
| Tab | Indent current line (only in bulleted lists and numbered lists). | Tab |
| Shift+Tab | 'Outdent' current line (only in bulleted lists and numbered lists). | Shift+Tab |
| Shift+Enter | Force a line break without a paragraph break. This is a line break with no extra space. | Shift+Enter |
| [ then ] | Start a list of tasks. More about tasks... | [ then ] |

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| | | |
|---|---|---|
| Ctrl+Shift+F | Hide the tools at the top and bottom of the page, giving you a much larger editing area (a full-screen editor). | Ctrl+Shift+F<br>(Yes, Ctrl not Cmd) |

#### Tables in the editor

| Windows | Action | Mac OS X |
|---|---|---|
| Ctrl+Shift+c | Copy the current table row, or the selected rows. | Cmd+Shift+c |
| Ctrl+Shift+i | Insert a table. (Opens the Insert Table dialog.) | Cmd+Shift+i |
| Ctrl+Shift+v | Paste the table rows from your clipboard, placing them above the current row. | Cmd+Shift+v |
| Ctrl+Shift+x | Cut the current table row, or the selected rows. | Cmd+Shift+x |
| Alt+Up Arrow | Add a row above the current row. | Alt+Up Arrow |
| Alt+Down Arrow | Add a row below the current row. | Alt+Down Arrow |

#### Autocomplete in the editor

| Key | Action |
|---|---|
| [ | See a list of suggested pages or other locations to link to from your page. |
| ! | See a list of suggested images, multimedia files and documents to embed in your page. |
| { | See a list of suggestions as you begin typing a macro name. |
| @ | See a list of suggested users to mention. |

See more about using autocomplete.

#### View screen

| Windows | Action | Mac OS X |
|---|---|---|
| B | Create a blog post. | B |
| C | Create a child page of your current page. | C |
| E | Edit a page or blog post, or return to Edit mode when previewing. | E |
| K | Open the Link To dialog. | K |
| L | Add or edit labels. | L |
| M | Add a comment to a page or blog post. | M |
| S | Share the current page | S |

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| | | |
|---|---|---|
| T | View attachments. | T |
| V | Return to page view (only if you are viewing page attachments). | V |
| W | Add or edit watchers. | W |

#### Workbox

| Key | Action |
|---|---|
| g then n | Open the Confluence workbox. |
| j | Move down to the next entry in the notification list. |
| k | Move up to the previous entry in the notification list. |
| n | Move down to the next notification for a particular page or blog post. |
| p | Move up to the previous notification for a particular page or blog post. |
| Enter | Open the selected notification. |
| u | Return to the notification list after opening a particular notification. |

**Note:** The above keyboard shortcuts are available for notifications only, not for tasks, inside the Confluence workbox.

See more about managing notifications and tasks.

### Disabling and re-enabling keyboard shortcuts

Keyboard shortcuts are enabled by default. You can disable general keyboard shortcuts for your personal editing sessions. This setting will not affect other Confluence users. You cannot disable the editor keyboard shortcuts.

**To disable or re-enable general keyboard shortcuts:**

1. Log in to Confluence.
2. Open the keyboard shortcuts dialog, by doing one of the following:
   - Choose the help icon  at top right of the screen, then choose **Keyboard Shortcuts**.
   - When viewing a page, press Shift+?
   - In the editor, choose the question mark icon on the editor toolbar.
3. Choose the **General** tab.
4. Select or clear the **Enable General Shortcuts** check box as required.

### Notes

- **Note about supported web browsers:** Please ensure that you are using one of the web browsers supported by Confluence. If you are using an unsupported browser or browser version, some features may not work correctly. Check the Supported Platforms page to find the list of supported web browsers and browser versions on this page.
- The keyboard shortcuts dialog also displays the trigger characters for the Confluence autocomplete feature. See Using Autocomplete.
- Confluence keyboard shortcuts are consistent with JIRA keyboard shortcuts.

## Creating Content

Do you want to add a page or a blog post? Choose the **Create** option in the Confluence header.




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Pages and blog posts are created within spaces, so you will need the 'Add Pages' or 'Add Blog' permission for the space. A space administrator can give you these permissions. See Giving People Access to Content.

## Adding a page or a blog post

You can add pages and blog posts via the 'Create' dialog.

**To create content:**

1. Go to a space and choose **Create** in the Confluence header (or use shortcut key **c**).
2. Choose the **type of content** you want to create. You can create a blank page, a blog post, or a page based on a template or blueprint.
3. Choose **Next**.
4. The Confluence editor will open. Add your content in the editor pane, or update the default content supplied by the template.
5. Choose **Save**.

You can also select a space from the Create dialog to create a page in a different space to the one you are currently viewing.

Space administrators can customise the items that are visible in the Create dialog. If any items are hidden you will see a **Show more** link. See Working with Templates for more information.

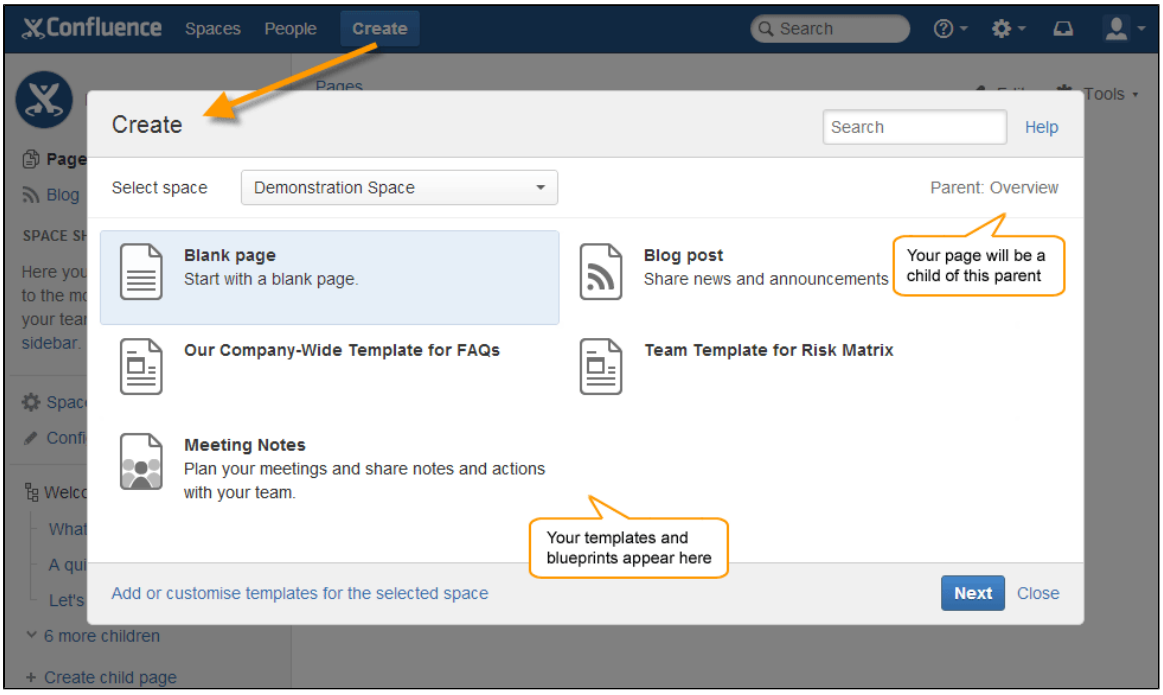
**On this page:**


- Adding a page or a blog post
- Location of the new page
- Using an undefined link to create a page later
- Other ways to create a page


**Related pages:**

- Using the Editor
- Creating Beautiful and Dynamic Pages
- Adding a Template
- Working with Blueprints
- Finding Content
- Organising Content
- Confluence User's Guide

*Screenshot: Creating content*




## Location of the new page

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When you create a new page, that page will be a child of another page, in the space that you selected in the 'Create' dialog. The parent page depends on where you are when you create the page.

| Your location when creating the page | Location of new page |
|---|---|
| You are viewing a page in the same space where you will put the new page – that is, the space that you select in the 'Create' dialog. | A child of the page you are currently viewing. |
| You are viewing any other Confluence screen. For example:<br>• You are on the dashboard.<br>• You are on the 'Pages' view of a space.<br>• You are viewing a blog post.<br>• You are viewing a page in a space, and choose to add your new page in a different space. | A child of the home page in the space you select in the 'Create' dialog. |

The space sidebar in the default theme has useful links to your pages, blog posts, and other parts of the space. For more about the sidebar and the location of pages, see Finding Content.

### Using an undefined link to create a page later

You may want to insert a link pointing to a Confluence page that does not yet exist, but which you intend to create later. This type of link is called an undefined link.

**To add an undefined link for later creation of a page:**

1. Edit the page in which the link should appear.
2. Type '**[**' to trigger autocomplete, and type the name of the undefined page. Alternatively, type the text first, then select the text and type '**[**'.
3. Choose **Insert Link to Create Page**.

When you save the page, Confluence colours the undefined link red. When someone clicks the link, the new page opens in edit mode. That person can then enter the page name, add content and save the page, as usual.

### Other ways to create a page

You can display a button on a page, which offers people the option of creating a page based on a given template. See Create from Template Macro.

You can import content from other Confluence sites, other wikis, Microsoft Word, and HTML pages. See Importing Content Into Confluence.

The Confluence APIs allow programmatic and scripted creation of pages. See our developer documentation.

## Using the Editor

The Confluence editor is the tool that you will use to create and edit Confluence pages, blog posts and comments. You can enter content as you would in a Word document, apply formatting, and embed other content and files into the page.

Looking for a quick start? See the Quick Reference Guide for the Confluence Editor.

To begin an editing session, choose **Edit** at the top of a page (or press E on the keyboard).

**A note about permissions:** To edit a page, you need the 'Add Pages' permission for the space. See space permissions. Someone may also apply page restrictions that may prevent you from editing the page.

#### An editing session

You start an editing session whenever you:

- Create a new page or blog post, or add a comment.
- Edit an existing page, blog post or comment.

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While in an editing session, you can also:

- Name, or rename, a page or blog post. Note that renaming has effects that you should consider.
- Add a comment describing the changes you made.
- Choose whether or not people watching the page get notified of the change you made.
- Add labels to the page.

Confluence automatically saves drafts of your page as you work. If another user begins editing the same page as you, Confluence will display a message, and will try to merge the changes when you save your page.

Choose **Cancel** (at the bottom of the page) if you want to end the session without saving any changes.

The session ends when you choose **Save**.

When you create a new page you can choose the location where the page should be saved. You can also move a page after it has been saved, to make it a child page of a different page, or to move it to another space.

To see changes between different versions of the page, look at the history of the page.

**On this page:**

- An editing session
- The editor
- Toolbars
- Embedding content in the page
- Things to help you work faster
  - Autoformatting
  - Autocomplete
  - Autoconvert for pasted links
  - Drag-and-drop for external images and files
  - Drag-and-drop within the editor
  - Keyboard shortcuts
- Finding and replacing text
- Enabling and disabling autocomplete and autoformatting

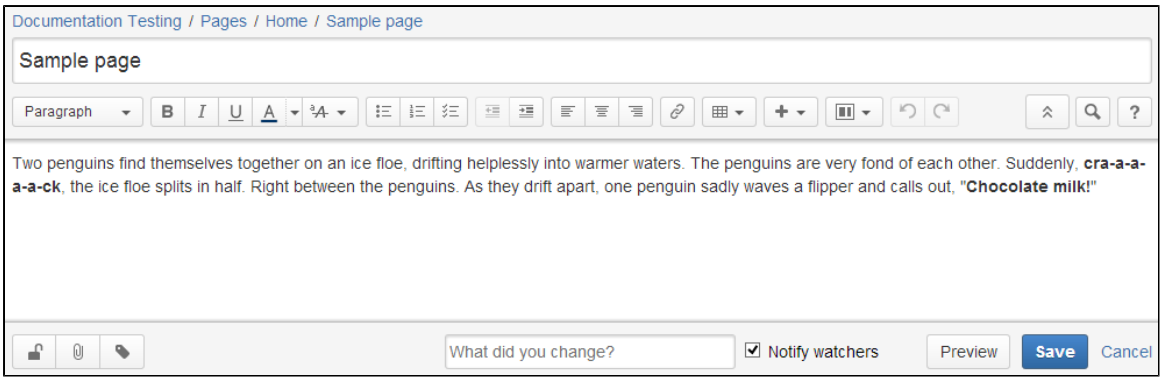
**Related pages:**

- Quick Reference Guide for the Confluence Editor
- Page in View Mode
- Working with Tables
- Working with Page Layouts and Columns and Sections
- Displaying Images
- Working with Links
- Using Symbols, Emoticons and Special Characters
- Confluence User's Guide

## The editor

*Screenshot: The Confluence editor*

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| Item | Explanation |
|---|---|
| **Page title** | Type the name of the page. This name is used in links to the page. |
| **Page content** | Add the words, images and other content that forms the content of the page. |
| **Editor toolbar** | Use these tools to format and colour content, create lists and tables, indent and align text, and insert other content into the page, such as symbols, links, images, multimedia files and macros. The toolbar also provides the find and replace option, help, and full-screen editing options. |
| **Restrictions** | Control who can view or edit the page. See Page Restrictions. |
| **Attachments** | View, and manage, the attached files on the page. |
| **Labels** | Add labels to a page, to categorise the page content. |
| **Change comment** | Type a comment that describes the changes you have made. |
| **Notify watchers** | Select this option to prompt Confluence to send an e mail notification of your changes to people who are watching the page. |
| **Preview** | See how your changes will appear, without saving the page. |
| **Save** | Save the changes you have made to the page. (Keyboard shortcut: Ctrl+S). |
| **Cancel** | End the editing session, without saving any changes. |

### Toolbars

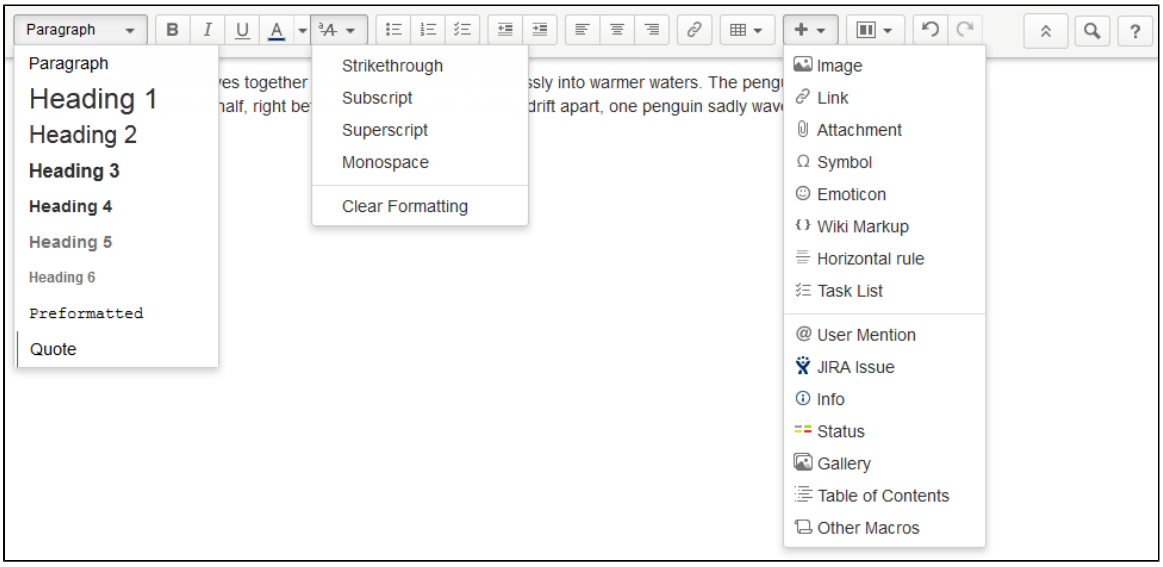
From the toolbar you can:

- Apply paragraph styles and character formatting (such as bold, italics, superscript).
- Choose colour for text.
- Create numbered and bulleted lists.
- Set the indenting and alignment for text and images.
- Create links to other pages, attachments, anchors and external resources.
- Add tables, and add, remove, cut and paste rows and columns, highlight cells, rows and columns, and merge and split cells.
- Insert other content into the page, such as images, multimedia, attachments, symbols and wiki markup.
- Use macros to add other types of content, such as a list of JIRA issues or a table of contents.

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- Add layouts and columns and sections to your page.
- Find and replace content within the page that you are editing.
- Hide the tools at the top and bottom of the page, giving you a much larger editing area (a full-screen editor).
  **Note:** The full-screen editing option is available in Firefox, Chrome and Safari. It is not supported in Internet Explorer. The editor remembers your full-screen preference the next time you edit a page.

*Screenshot: The editor toolbar*




## Embedding content in the page

Choose **Insert** on the editor toolbar to include any of the following types of content on your page:

- An image.
- A link to another Confluence page or external URL, or a link to an attachment or image.
- An emoticon or symbol, or a horizontal line.
- A macro. Choose either a specific macro, or **Other Macros**, from the **Insert** menu.

## Things to help you work faster

### Autoformatting

You can type Confluence wiki markup directly into the editor to have Confluence auto-format your text as you type. To learn more, choose **?** on the editor toolbar and choose the **Editor Autoformatting** tab. See also See the Quick Reference Guide for the Confluence Editor.

### Autocomplete

When editing a page or blog post, you can enter a trigger character to show a list of suggested links, media files or macros to add to your page. This feature is called 'autocomplete' and provides you with a fast editing solution if you prefer to use key strokes rather than pointing and clicking with the mouse.

Quick summary of autocomplete:

| Type: | To see suggested: |
|---|---|
| **[** | pages and blog posts |
| **!** | multimedia files |
| **{** | macros |
| @ | mentions |

For details, see Using Autocomplete.

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#### Autoconvert for pasted links

When you paste URLs into Confluence, the editor will analyse what you are pasting and automatically convert it into something that will display well in Confluence. Examples include:

- YouTube videos
- JIRA issue queries
- Google Maps
- Confluence pages, blog posts, comments, user statuses, user profiles.
- Shared screenshot links from Skitch
- And more.

#### Drag-and-drop for external images and files

You can drag a file from a location outside Confluence, and drop it directly into the editor. For example, try it with images, video files, audio files, Office documents, and PDF files. The contents of the file will be embedded into the page or blog post. Please refer to the following pages for more information:

- Using Drag-and-Drop in Confluence – Using Confluence's drag-and-drop feature, including details about its requirements and configuration.
- Displaying Images – Embedding images onto a Confluence page or blog post.
- Embedding Multimedia Content – Embedding videos, audio files and other multimedia files onto a Confluence page or blog post.
- Displaying Office Files in Confluence – Embedding Office and PDF files onto a Confluence page or blog post.

#### Drag-and-drop within the editor

Working within the editor panel, you can drag an image or a macro from one location on the page and drop it into a different location on the page. Hover your cursor over the image or the macro placeholder. The cursor changes to a drag-and-drop icon  and you can click the image or macro and drag it to a new location.

If you want to abandon the drag-and-drop action, press Escape. The image/macro will return to its original position.

**Note:** For the drag-and-drop of images and macros in the editor, Confluence supports the following browsers: Chrome, Firefox, and Internet Explorer 9. (Drag and drop in the editor does not work in Internet Explorer 8.)

#### Keyboard shortcuts

To see the keyboard shortcuts available, choose **?** on the editor toolbar.

### Finding and replacing text

Click the find / replace icon on the toolbar, or use the keyboard shortcut **Ctrl+F** (Windows) or **Cmd+F** (Mac OS).

Search matches are highlighted in yellow. You can step through the results one by one, replace the matching text strings one by one, or replace all matching strings at once. This find and replace feature works only within the current page.

### Enabling and disabling autocomplete and autoformatting

You can enable or disable the editor's autocomplete and autoformatting functions, by editing the settings in your user profile.

In summary:

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Choose **Editor** under 'Your Settings' in the left-hand panel.

For more details, see Editing User Settings.

## Quick Reference Guide for the Confluence Editor

This page is a quick-reference guide to using the Confluence editor. The aim is to give you enough information about the editor's features for you to experiment yourself, rather than describing every possible shortcut key,

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autocomplete feature or toolbar option.

This guide is for people who want to use the autocomplete, autoformatting and keyboard shortcuts provided by the editor. If you prefer to use the toolbar options, the editor itself should be mostly self-explanatory.

### Introductory tips

1. **Jump in and start using the Confluence editor**. The editor toolbar contains the most important buttons you'll need for creating and editing content.

2. **Use the keyboard shortcuts**. For example, type these characters in the editor panel:

- Type **[** (angle bracket) to insert a link.
- Type **!** (exclamation mark) to insert an image or other media.
- Type **{** (curly bracket) to insert a macro.
  These characters will trigger the autocomplete functionality, prompting you with a list of suggestions to finish off the entry. For more shortcuts, click the help icon  on the editor toolbar.

3. **See how to undo the autocomplete and autoformatting actions.** To undo something that autocomplete or autoformatting has done, press **Ctrl+Z** (Windows) or **Cmd+Z** (Mac).

**On this page:**


- Introductory tips
- Seeing it in action
- Using the most common formats and features
  - Formatting text
  - Using symbols
  - Linking text
  - Using lists
  - Using tables
  - Using macros
  - Displaying images and multimedia
- Enabling and disabling autocomplete and autoformatting


**Related pages:**

- Using Autocomplete
- Using the Editor
- Confluence User's Guide

### Seeing it in action

This short video shows the autoformatting and autocomplete features of the editor.

See the video on YouTube

This video shows how to add macros, links and images by wiki markup alone. Type the macro, including its parameters and the closing curly bracket. Add a link, such as an anchor link, and end it with a square bracket. Insert an image or other embedded object, enclosed between exclamation marks. As soon as you close the macro, link, or embedded image, Confluence will convert it to rich text format and add it to the page.

See the video on YouTube.

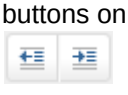
### Using the most common formats and features

Below is a list of the most commonly used editor features, and the related keyboard shortcuts.

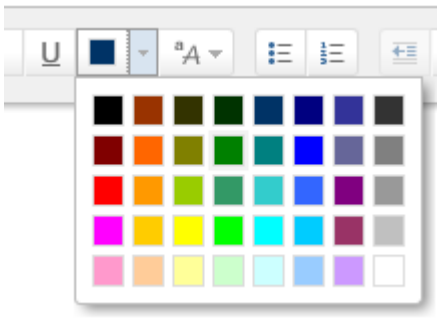
#### *Formatting text*

| Formatting text | What to do | Windows keyboard shortcuts (For Mac OS X, replace 'Ctrl' with 'Cmd') |
|---|---|---|

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| | | |
|---|---|---|
| Heading levels | Type the heading level and a full stop. Autoformat will convert the line to the appropriate heading immediately. You can continue typing your heading text immediately. Example:<br><br>`h2.` | Ctrl + 1 to 6 |
| **Bold text** | Type an asterisk '*', your text, then another asterisk. Confluence autoformat will convert the text to bold immediately. Example:<br><br>`*Surf's Up*` | Ctrl + b |
| *Italic text* | Type an underscore '_', your text, then another underscore. Confluence autoformatting will convert the text to italics immediately. Example:<br><br>`_Surf's Up_` | Ctrl + i |
| Underlined text | Type a plus sign '+', your text, then another plus sign '+'. Confluence autoformatting will convert the text to underlined immediately. Example:<br><br>`+Surf's Up+` | Ctrl + u |
| `Monospace text` | Type two curly braces {{, your text, then another two curly braces }}. Confluence autoformat will convert the text to monospace immediately. Example:<br><br>`{{Surf's Up}}` | **{{** |
| Left, centre and right alignment | Click the left, centre and right alignment buttons on the editor toolbar:<br>  <br>This can also be used to align images independently of text. | None |
| Indentation | Click the left and right indentation buttons on the editor toolbar:<br>  | Tab (*right*), Shift + Tab (*left*) |
| Line break | Press **Shift + Enter** to force a line break without a paragraph break. This is a line break with no extra space. | Shift + Enter |

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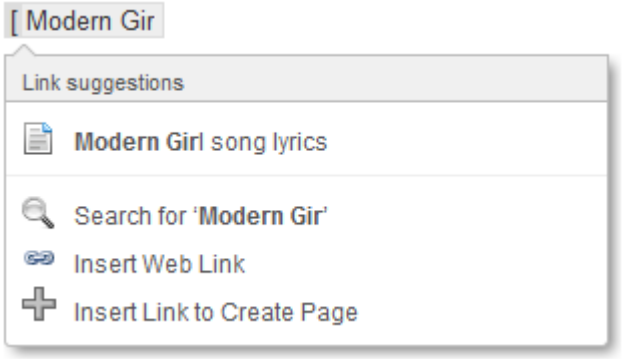
| | | |
|---|---|---|
| Quotation | Use the *Quote* style – select '**Quote**' from the style dropdown menu or use the keyboard shortcut. Example:<br>  | Ctrl + 8 |
| Colour | Click the colour options on the editor toolbar. Example:<br>  | None |

***Using symbols***

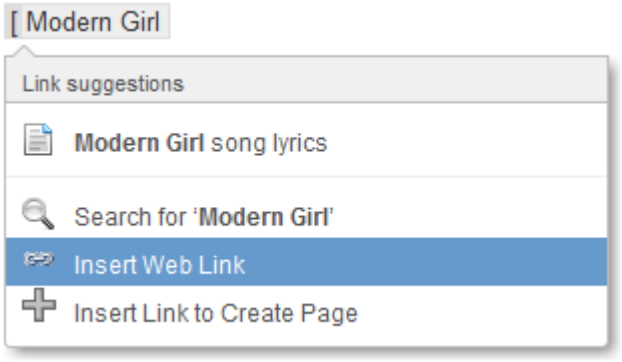
| Adding symbols and emoticons | What to type | Keyboard shortcut (Windows) |
|---|---|---|
| Tick or check mark | Type a forward slash in round brackets. Autocomplete will convert it as you type. Example:<br><br>( / ) | ( + / + ) |
| Smiley | Type the globally-recognised markup for a smiley face (colon and round bracket), a wink (semicolon and round bracket), and so on. Autocomplete will convert it as you type. Example:<br><br>: ) | : + ) |

***Linking text***

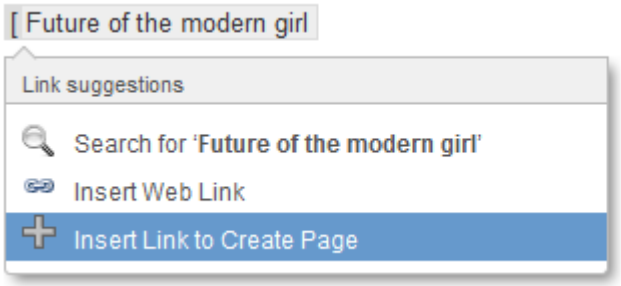
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| Linking text | What to type | Keyboard shortcut (Windows) |
|---|---|---|
| Linking to a Confluence page | Type a square bracket '**[**' and start typing the page name to see the suggested pages to link to. Press the arrow keys to select the page you want. Example:<br>  <br><br>Alternatively, use **wiki markup entirely**. Type the link, including the alias and the page name or URL. As soon as you type the closing square bracket, Confluence will convert the link to rich text format and add it to the page. This means that you can skip the link browser.<br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing bracket manually.<br>• Example: `[Modern Girl\|Modern Girl song lyrics]` | **[** |

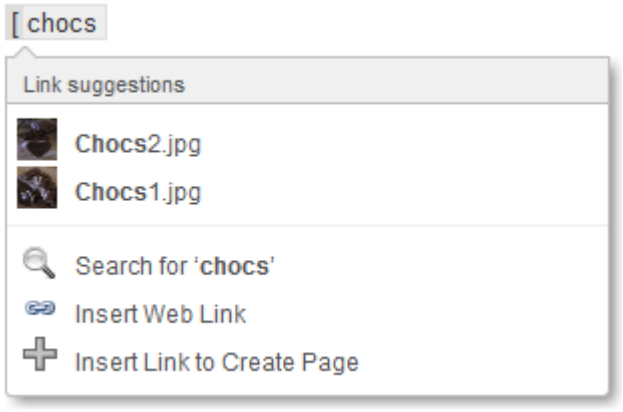
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| | | |
|---|---|---|
| Linking text to a web page | Type a square bracket '**[**' and select '**Insert Web Link**', then paste the URL into the link dialog. Example:<br>  <br><br>Alternatively, use **wiki markup entirely**. Type the link, including the alias and the URL. As soon as you type the closing square bracket, Confluence will convert the link to rich text format and add it to the page. This means that you can skip the link browser.<br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing bracket manually.<br>• Example: `[Modern Girl\|http://www.example.com/song]` | **[** |

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| | | |
|---|---|---|
| Linking to a page that does not yet exist | Type a square bracket '**[**' and the name of the non-existent page, then select '**Insert Link to Create Page**'. Example:<br>  <br><br>Alternatively, use **wiki markup entirely**. Type the link, including the alias and the page name or URL. As soon as you type the closing square bracket, Confluence will convert the link to rich text format and add it to the page. This means that you can skip the link browser.<br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing bracket manually.<br>• Example: `[Future of the Modern Girl]` | **[** |

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| | | |
|---|---|---|
| Linking to an attachment | Type a square bracket '**[**' and start typing the attachment name to see the suggested attachments to link to. Press the arrow keys to select the item you want. Example:<br>  <br><br>Alternatively, use **wiki markup ent irely**. Type the link, including the alias (if required), the caret character ^ and the attachment name. As soon as you type the closing square bracket, Confluence will convert the link to rich text format and add it to the page. This means that you can skip the link browser.<br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing bracket manually.<br>• Example: `[^attachment name]` | **[** |

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| | | |
|---|---|---|
| Linking to an anchor | **To create the anchor:** Add an anchor macro using wiki markup. Confluence will convert the macro to rich text format and add it to the page. For example, to create an anchor named 'index', type the following: `{anchor:index}`<br><br>**To create the link:** Use wiki markup too. Type the link, including the alias (if required), the hash character # and the anchor name. As soon as you type the closing square bracket, Confluence will convert the link to rich text format and add it to the page. This means that you can skip the link browser.<br><br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing bracket manually.<br>• Example: `[Index\|#index]` | **[** |

***Using lists***

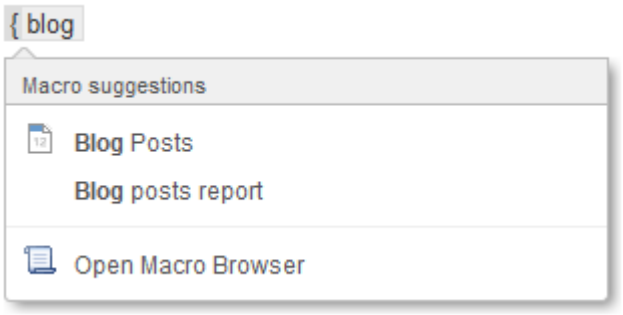
| Using lists | What to type | Keyboard shortcut (Windows) |
|---|---|---|
| Adding a bullet list | Type an asterisk '*' followed by a space. Autoformat will convert the line to a bulleted list. You can continue typing your text immediately. Example:<br><br>My list:<br>• bullet item<br><br>To add another line of text to an entry without creating a new list item, press Shift + Enter at the end of the line. | Ctrl + Shift + b |
| Adding a numbered list | Type a hash or pound '#' followed by a space. Autoformat will convert the line to a numbered list. You can continue typing your text immediately. Example:<br><br>My list:<br>1. bullet item<br><br>To add another line of text to an entry without creating a new list item, press Shift + Enter at the end of the line. | Ctrl + Shift + n |

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***Using tables***

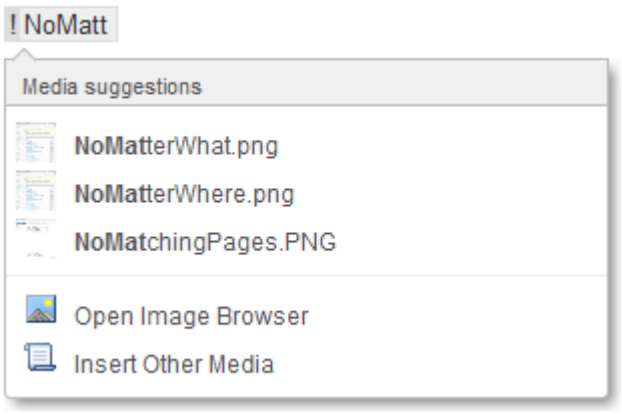
| Using tables | What to type | Keyboard shortcut (Windows) |
|---|---|---|
| Adding a table | Type a series of pipe characters '\|' then press **Enter**. Autoformat will convert the pipes to a table. Example – to create a table with three columns:<br>\| \| \| \| | None |

***Using macros***

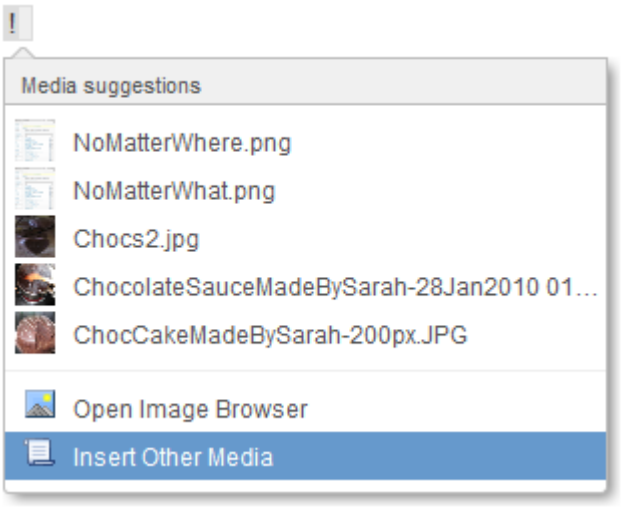
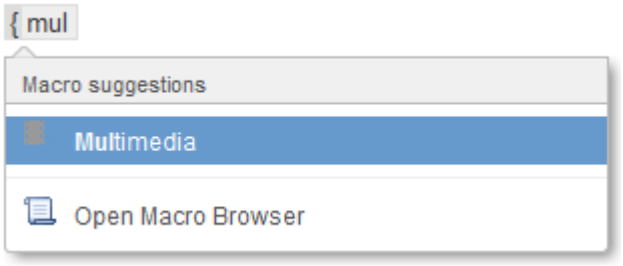
| Adding macros | What to type | Keyboard shortcut (Windows) |
|---|---|---|
| Adding a macro to your page. | Type '**{**' and start typing the macro name to see a list of macros that match your text. Press the arrow keys to select the macro you want. Example:<br>  <br><br>Alternatively, use **wiki markup entirely**. Type the macro, including its parameters and the closing curly bracket. As soon as you close the macro, Confluence will convert it to rich text format and add it to the page. This means that you can skip the macro browser.<br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing bracket manually.<br>• Example: `{blogposts:content=titles\|author=jsmith}`<br>• For details of wiki markup syntax, see Confluence Wiki Markup for Macros. | **{** |

***Displaying images and multimedia***

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| Displaying images | What to type | Keyboard shortcut (Windows) |
|---|---|---|
| Display an image attached to the page | Type an exclamation mark '**!**' and start typing the image name to see the suggested images to insert onto the page. Press the arrow keys to select the item you want. Example:<br>  <br><br>Alternatively, use **wiki markup entirely**. Type the wiki markup for the image insertion, including the exclamation marks, the space and/or page name (if different from the current page) and the image name, as well as any other allowed parameters. As soon as you type the closing exclamation mark, Confluence will convert the image to rich text format and add it to the page. This means that you can skip the image browser.<br>• This works if you have 'Autoformatting' enabled in the editor settings in your user profile.<br>• This does not work if you paste the wiki markup onto the page. You need to enter the closing exclamation mark manually.<br>• Example: `!NoMatterWhat.png\|align=right!` | **!** |
| Displaying an image attached to another page | *Exactly the same as when the image is attached to the same page.* | **!** |
| **Embedding multimedia files** | **What to type** | **Keyboard shortcut (Windows)** |

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| | | |
|---|---|---|
| Embedding a video, movie or audio file into a page | Type an exclamation mark '**!**' and select 'Insert Other Media'. Example:<br>  <br><br>Or type '**{**' and start typing the macro name 'Multimedia'. Example:<br>  <br> | **!** |

#### Enabling and disabling autocomplete and autoformatting

You can enable or disable the editor's autocomplete and autoformatting functions, by editing the settings in your user profile.

In summary:

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Choose **Editor** under 'Your Settings' in the left-hand panel.

For more details, see Editing User Settings.

## Working with Text Effects

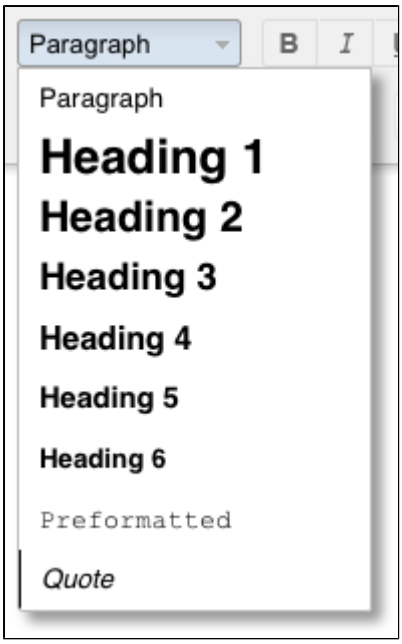
The Confluence editor supports most text effects available in standard text editing applications.

#### Applying paragraph styles

Choose a paragraph style from the editor toolbar, or click in the paragraph and use one of the keyboard shortcuts Ctrl+(0–8) .

*Screenshot: Choosing paragraph styles from the editor toolbar*

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**On this page:**


- Applying paragraph styles
- Applying character formats
- Applying colours to text
- Aligning text
- Indenting text


**Related pages:**

- Using the Editor
- Keyboard Shortcuts
- Confluence User's Guide

### Applying character formats

To apply a character format, select the text and click one of the editor toolbar buttons, or use a keyboard shortcut. Some formats are available from the 'More' menu.

*Screenshot: Text formatting buttons on the editor toolbar*




| Format | Shortcut Key |
|---|---|
| **Bold** | Ctrl+B |
| *Italics* | Ctrl+I |
| Underline | Ctrl+U |
| ~~Strikethrough~~ | Ctrl+Shift+S |
| Subscript | none |
| Superscript | none |
| `Monospace` | none |

Choose **Clear Formatting** from the 'More' menu to remove all formatting.

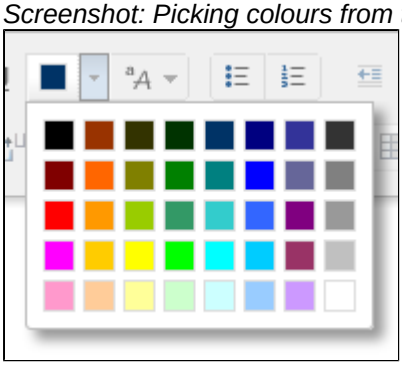
### Applying colours to text

To apply a colour to text, select the text and choose the colour option in the editor toolbar. To see the available

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colours, choose the dropdown arrow next to the colour option.

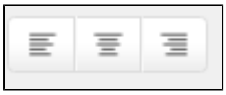
*Screenshot: Picking colours from the editor toolbar*



#### Aligning text

You can align text to the left, right or centre of a content block. Select the text and click the appropriate alignment option on the editor toolbar.

*Screenshot: Left, centre and right alignment options on the editor toolbar*



#### Indenting text

You can move text to the left or right by a predefined sequence of indentations. Confluence determines the size of the indentation. Select the text and click the left or right indentation option on the editor toolbar.

*Screenshot: Left and right indentation options on the editor toolbar*



## Working with Links

You can create links to pages, blog posts, anchors, attachments, external websites, JIRA issues and more. Links can be text or images, and can be added in many different ways.

Links to pages within your Confluence site are relative, which means that you can move pages and rename pages without breaking links.

This page explains the most common ways to create links.

#### Inserting a text link

To insert a link on a page:

1. Select some text or position your cursor where you want to insert the link.
2. Choose **Link** on the toolbar or use the keyboard shortcut **Ctrl+K**.
3. Select a page, blog post or attachment, or enter an external URL (see below for how to link to particular types of content).
4. Enter or modify the link text - this is the text that will appear on the page. If this field is left blank, the page name or URL will be used as the link text.
5. Choose **Insert**.

Alternatively you can type **[** followed by the page or attachment name. Autocomplete will suggest matching items for you.

You can also paste a URL directly onto your page. Confluence will automatically create the link, and if the URL is for a page in the current site, the page name will be set as the link text.

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**On this page:**


- Inserting a text link
- Inserting an image link
- Modifying a link
- Removing a link
- Linking to specific types of content
- Linking to Confluence pages from other websites
- Linking to comments
- Using shortcut Links
- Trackback

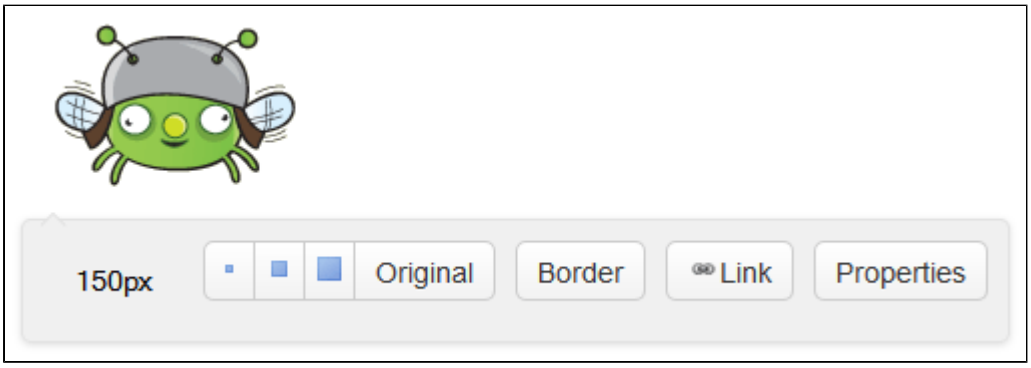

**Related pages:**

- Working with Anchors
- Inserting JIRA Issues
- Confluence User's Guide

### Inserting an image link

To link from an image:

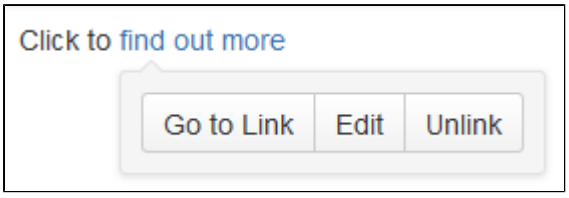
1. Select an image on your page.
2. Choose **Link** on the Image Properties toolbar.
3. Select a page, blog post or attachment, or enter an external URL (see below for how to link to particular types of content).
4. Choose **Insert**.




### Modifying a link

To modify a link:

1. Select the link text or image .
2. Choose **Edit** from the link properties toolbar.
3. Modify the link and choose **Save**.




### Removing a link

To remove a link:

1. Select the link text or image
2. Choose **Unlink** from the properties toolbar.

### Linking to specific types of content

Confluence supports many methods for creating links. Some of the common ones are listed here.

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| Type of link | Ways to do this |
| --- | --- |
| Link to a page | Choose **Link** > **Search** then enter part of the page name.<br><br>Choose **Link** > **Recently viewed** and select a page from the list.<br><br>Type **[** and enter part of the page name then select the page from the list.<br><br>Paste the URL of the page onto your page (Confluence will automatically create the link). |
| Link to a page in another space | Choose **Link** > **Search** enter part of the page name and select **All Spaces** from the drop down.<br><br>Choose **Link** > **Advanced** then enter the space key followed by the page name `spacekey:mypage`.<br><br>Type **[** and enter part of the page name then select the page from the list.<br>(you can hover over each suggestion to see which space the page is from). |
| Link to a blog post | Choose **Link** > **Search** and enter part of the blog post name.<br><br>Type **[** and enter part of the blog post name then select the blog post from the list. |
| Link to an attachment or image on this page | Choose **Link** > **Attachment** then upload or select an attachment from the list.<br><br>Type **[** and enter part of the attachment file name then select the attachment from the list. |
| Link to an attachment on another page | Choose **Link** > **Search** and enter part of the attachment name.<br><br>Type **[** and enter part of the attachment file name then select the attachment from the list<br>(you can hover over each suggestion to see which space the page is from). |
| Link to a website | Choose **Link** > **Web Link** then enter the website URL.<br><br>Type or paste the URL onto the page (Confluence will automatically create the link). |
| Link to an email address | Choose **Link** > **Web Link** then enter the email address.<br><br>Type or paste the email address onto the page (Confluence will automatically create a 'mailto:' link). |

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| | |
|---|---|
| Link to an anchor on a page | Choose **Link** > **Advanced** then enter the anchor name in one of the formats below.<br>For an anchor on this page: `#anchor name`.<br>For an anchor on another page in this space: `page name#anchor name`.<br>For an Anchor on another page in another space: `spacekey:page name#anchor name`.<br>See Working with Anchors for more information on using anchors. |
| Link to a heading on a page | Choose **Link** > **Advanced** then enter the heading in one of the formats below. Heading text is case sensitive and must be entered without spaces.<br>For a heading on this page: `#MyHeading`.<br>For a heading on another page in this space: `Page Name#MyHeading`.<br>For a heading on another page in another space: `spacekey:Page Name#MyHeading`.<br>Be aware that these links will break if you edit the heading text. Consider using the Table of Contents m acro or an Anchor instead. |
| Link to a comment on a page | Go to the comment, right click the **Date** at the bottom of the comment and copy the link. Paste the link directly onto your page or choose **Link** > **Web Link** a nd paste in the URL.<br>Type **[$** then enter the Comment ID ('12345' in this example): `[$12345]` |
| Link to an undefined page<br>(a page that does not exist yet) | Choose **Link** > **Advanced** then enter the new page name (a page will be created on click).<br>Type **[** then enter the new page name then choose **In sert link to create page** .<br>See Managing Undefined Pages for more information on undefined pages. |
| Link to a personal space or user profile | Choose **Link** > **Search** then enter the user's name and select their personal space homepage or their profile from the list.<br>Type **[** then enter the user's name and select their personal space homepage or their profile from the list. |
| Link to a JIRA issue<br>(where Confluence is connected to JIRA) | Paste the JIRA issue URL - Confluence will automatically create a JIRA Issue macro. |

#### Linking to Confluence pages from other websites

The best way to link to a Confluence page from outside Confluence, for example on a website or in an email message, is to use the tiny link which is a permanent URL. This ensures that the link to the page is not broken if the page name changes.

To access the permanent URL for a page:

1. View the page you wish to link to.

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2. Choose **Tools** > **Link to this page**.
3. Copy the **Tiny Link**.
4. Use the tiny link in your website or email message.

You do not need to use the tiny link to link to pages within your Confluence site. Confluence automatically updates links when you rename or move a page to another space.

If you want to link to specific content such as anchors, headings or comments you need to use the following link syntax. Note that there are no spaces in the page name, anchor name or heading text.

In the examples below, the anchor name is 'InsertLinkAnchor' and the heading text is 'Insert a link'.

| Purpose | Link syntax |
|---|---|
| Link to an anchor<br>(from an external website) | `http://myconfluence.com/display/spacekey/pagename#pagename-anchorname`<br>Example from this page:<br>`https://confluence.atlassian.com/display/DOC/Working+with+Links#WorkingwithLinks-InsertLinkAnchor` |
| Link to a heading<br>(from an external website) | `http://myconfluence.com/display/spacekey/pagename#pagename-headingtext`<br>Example from this page:<br>`https://confluence.atlassian.com/display/DOC/Working+with+Links#WorkingwithLinks-Insertalink` |
| Link to a comment<br>(from an external website) | `http://myconfluence.com/display/spacekey/pagename?focusedCommentId=commentid#comment-commentid`<br>Example from this page:<br>`https://confluence.atlassian.com/display/DOC/Working+with+Links?focusedCommentId=368640803#comment-368640803` |

Some things to note when linking to anchors from a website or email message:

- The page name is repeated in the URL, after the # sign. The second occurrence of the page name is concatenated into a single word, with all spaces removed.
- There is a single dash (hyphen) between the concatenated page name and the anchor name.
- The anchor name in the full URL is concatenated into a single word, with all spaces removed.
- The anchor name is case sensitive. You must use the same pattern of upper and lower case letters as you used when creating the Anchor.

#### Linking to comments

You can add a link to a comment by using the comment URL (a permanent link), or by using wiki markup to link to the Comment ID.

To find out the comment URL and comment ID:

1. Go to the comment you wish to link to.
2. Choose the **Date** at the bottom of the comment and examine the URL.

The number after 'comment-' is the Comment ID. An example is shown here.

```
https://confluence.atlassian.com/display/DOC/Working+with+Links?focusedCommentId=368640803#comment-368640803
```

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You can use wiki markup directly in the editor to link to a comment. Enter **[$** followed by the Comment ID, for example `[$12345]` where '12345' is the Comment ID.

#### Using shortcut Links

If you have configured shortcut links on your Confluence site, then you can link to an external site using a shortcut link that looks like this:`CONF-17025@jira`.

Our Confluence site (where this documentation is housed) is configured to allow shortcut links to our JIRA site, using the shortcut `@jira`. So the shortcut link `CONF-17025@jira` produces this link.

To add a shortcut link using the 'Insert Link' dialog:

1. Choose **Link** > **Advanced** and enter or paste the shortcut link into the **Link** field. Shortcut links are case-insensitive.
2. Modify or enter link text - this is the text that will appear on the page.
3. Choose **Insert**.

You can also type '[' and choose **Insert Web Link** > **Advanced** to enter a shortcut link.

See Configuring Shortcut Links for more details.

#### Trackback

Trackback enables two sites can stay informed each time one site refers to the other using trackback 'pings'.

In Confluence, Trackback can be enabled by a site administrator in 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. Choose **Tools** > **Page Information**.

Any Trackback pings the page has received will be listed under the page's **Incoming Links**.

Confluence incoming trackback pings only work with referenced pages that are public (anonymously viewable).

## Working with Anchors

Anchors are used to enable links to a specific location on 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 instead of the top of the page.

Anchors are invisible to the reader when the page is displayed.

There are two steps to using an anchor:

1. Create an anchor on the page.
2. Create a link to the anchor.

#### Creating an anchor

Use the Anchor macro to mark the location you want to link to.

1. **Add the Anchor macro to a page.**
    a. In the Confluence editor, choose **Insert** > **Other Macros**.
    b. Find and select the required macro.

    **Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

    **To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.
2. **Specify the name of your anchor.** For example, 'bottom' or 'important information'. See the 'Anchor Name' parameter described below.

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**On this page:**


- Creating an anchor
- Creating a link to an anchor
- Code examples
- Notes


**Related pages:**

- Working with Links
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

***Macro options (parameters)***

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Anchor Name** | None | This is the anchor name that you will use when creating the link.<br>• The anchor name can include spaces. Confluence will remove the spaces automatically when building a URL that points to this anchor.<br>• The anchor name is case sensitive. You must use the same pattern of upper and lower case letters when creating the link as you used when creating the Anchor macro. |

### Creating a link to an anchor

You can link to an anchor from:

- A page on the same Confluence site. The link may be on the same page as the anchor, another page in the same space, or a page in another space on the same Confluence site.
- Another web page or another Confluence site, using a specifically formatted URL.

**To link to an anchor from within the same Confluence site:**

1. Select some text or position your cursor where you want to insert the link.
2. Choose **Link** on the toolbar or press **Ctrl+K**.
3. Choose **Advanced** and enter the anchor name in the **Link** field following the format below.

| Anchor location | Link syntax for anchor | Examples |
|---|---|---|
| Same page | #anchor name | #bottom<br>#important information |
| Page in same space | page name#anchor name | My page#bottom<br>My page#important information |

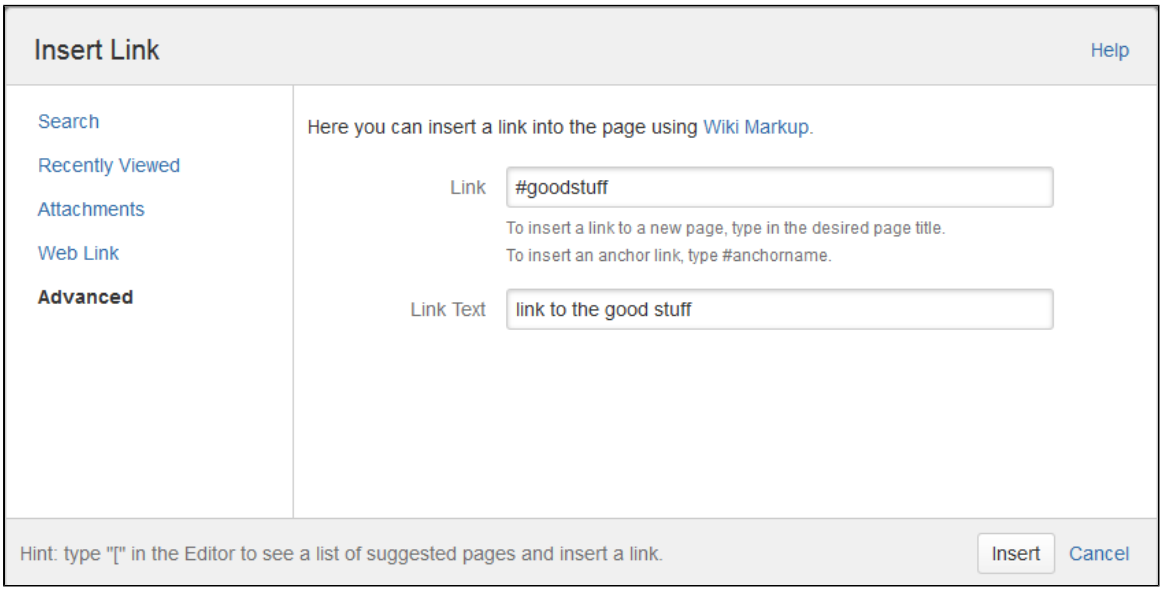
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| | | |
|---|---|---|
| Page in different space | `spacekey:page name#anchor name` | DOC:My page#bottom<br>DOC:My page#important information |

The anchor name is case sensitive. You must use the same pattern of upper and lower case letters as you used when creating the Anchor macro.

4. Enter or modify the **Link Text** - this is the text that will appear on the page. If this field is left blank, the page name or URL will be used as the link text..
5. Choose **Insert**.

*Screenshot: The 'Advanced' option in the link dialog*




**To link to an anchor from another web page or another Confluence site:**

Use a full URL in the following format:

| Link syntax | Examples |
|---|---|
| `http://myconfluence.com/display/spacekey/pagename#pagename-anchorname` | http://myconfluence.com/display/DOCS/My+page#Mypage-bottom<br>http://myconfluence.com/display/DOCS/My+page#Mypage-importantinformation |

Notes about the full URL:

- The page name is repeated in the URL, after the # sign. The second occurrence of the page name is concatenated into a single word, with all spaces removed.
- There is a single dash (hyphen) between the concatenated page name and the anchor name.
- The anchor name in the full URL is concatenated into a single word, with all spaces removed.
- The anchor name is case sensitive. You must use the same pattern of upper and lower case letters as you used when creating the Anchor macro.

#### Code examples

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

#### Notes

- **Table of contents on page:** Consider using the Table of Contents Macro to generate a list of links pointing to the headings on the page. The list of links will appear on the page, and will be automatically

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updated each time someone changes the wording of a heading.
- **Linking to headings:** You can link directly to the headings of a page. See Working with Links. However, if someone changes the wording of a heading, those direct links will be broken. Use the Anchor macro to ensure a lasting link within the body of a page.
- **Site welcome message:** If you are adding an anchor to a page that you are using in the site welcome message, you can only link to that anchor from another page. Internal links within that page will not work.
- **Templates:** When you are previewing a template, a link to an anchor is displayed as a 'broken' link. However, when you create a page using the template the resulting page will have the correct link.

## Displaying Images

You can display an image on a Confluence page when:

- The image is attached to the page.
- The image is attached to another page in the same Confluence site, even if in another space.
- The image is on a remote web page.

Once the image is displayed on the page, you can:

- Move the image to a new position on the page by dragging or cut and paste.
- Change how the image appears on the page.
- Add a title and alt text for the image.
- Link from an image to another page.

#### Displaying an image attached to the page

There are several methods for attaching image files to a page.
Once you have attached an image to a page, there are different methods for choosing where on the page the image should appear:

##### Using the 'Insert Image' dialog

Once an image is attached to the page, you can edit the page to choose where the image should appear.

**On this page:**


- Displaying an image attached to the page
- Displaying an image attached to a different page
- Displaying an image from a remote web page
- Controlling the image appearance
- Setting other image attributes
- Displaying a gallery of images
- Image file formats


**Related pages:**

- Deleting an Image
- Working with Links
- Working with Attachments
- Choosing a Profile Picture
- Confluence User's Guide

**To position an attached image on the page**:

1. While editing the page, position the cursor where you want to place the image.
2. Choose **Insert** > **Image** and choose the **Attached Images** tab.
3. Select the required image and choose **Insert** (or just double-click the image).

##### Using autocomplete

Once an image is attached to the page, you can use autocomplete while editing the page to choose where the image should appear.

**To position an attached image on the page**:

1. While editing the page, position the cursor where you want to place the image.
2. Trigger the autocomplete function by typing '!'.
3. Choose the image from the list that appears.

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#### Using drag-and-drop

Depending on the browser you are using, you can attach and position an image in one step. While you are editing a page, simply drag-and-drop an image file on to the page. The image is attached to the page and is placed at the current cursor position.

### Displaying an image attached to a different page

You can display an image that is attached to a different page of the same Confluence site, as long as you know the name of the image. This approach can make it easier to manage and reuse your images by allowing you to keep them all in the same place.

**To display an image attached to a different page:**

1. While editing the page, position the cursor where you want to place the image.
2. Choose **Insert** > **Image** and choose the **Search** tab.
3. Enter the name of the image.
4. Choose whether to search the current space or **All Spaces** and choose **Search**.
5. Select the required image from the search results and choose **Insert**.

Alternatively, you can cut and paste the image from another page (the image will still only be attached to the original page).

### Displaying an image from a remote web page

You can display an image from a remote web page on your Confluence page, without needing to attach it to your page. You need to know the URL for the image, not for the web page it appears on. Note that you should have permission to use that image on your page.

**To display an image located on a web page:**

1. While editing the page, position the cursor where you want to place the image.
2. Choose **Insert** > **Image** and choose **From the Web**.
3. Type in the URL for the image. An example is: http://atlassian.wpengine.netdna-cdn.com/wp-content/uploads/AtlassianBushRegeneration-12January2012-083-trunc.jpg
4. Choose **Preview** to check that the URL and image are correct.
5. Choose **Insert**.

Alternatively, you can simply cut and paste the image from a web page.

### Controlling the image appearance

When editing the page, select the image to show the image properties panel. The panel allows you to set the display size, add a border and effects and link the image to other pages.

**To set the size of the image, do one of the following:**

- Choose one of the size 'preset' buttons (the image width in pixels is displayed to the left).
- Choose the image size text and enter a new image width in pixels (you can specify a size between 16px and 900px).

Images are displayed as thumbnails.

**To add a border to the image:**

- Choose **Border** in the image properties panel.

**To add a hyperlink to the image:**

- Choose **Link** in the image properties panel.

**To align an image:**

- Select the image and choose the paragraph alignment buttons on the editor toolbar.
- If you choose the left or right alignment, the text will wrap around the image. The text does not wrap for centre alignment.

**To add effects to an image**:

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- Choose **Properties** > **Effects** in the image properties panel.
- Select an effect and choose **Save**.

Note: The **Instant Camera** effect only works with Latin character languages, due to a lack of handwriting style fonts in multi-byte languages.

**To add a caption to an image:**

- Choose **Effects** in the image properties panel and choose the **Instant Camera** image effect.
- Save the page.
- Choose **Tools** > **Attachments** to go to the 'Attachments' view of the page.
- Choose **Properties** next to the image file.
- Add a **comment** to the attachment. The text in your comment will appear as the image caption.

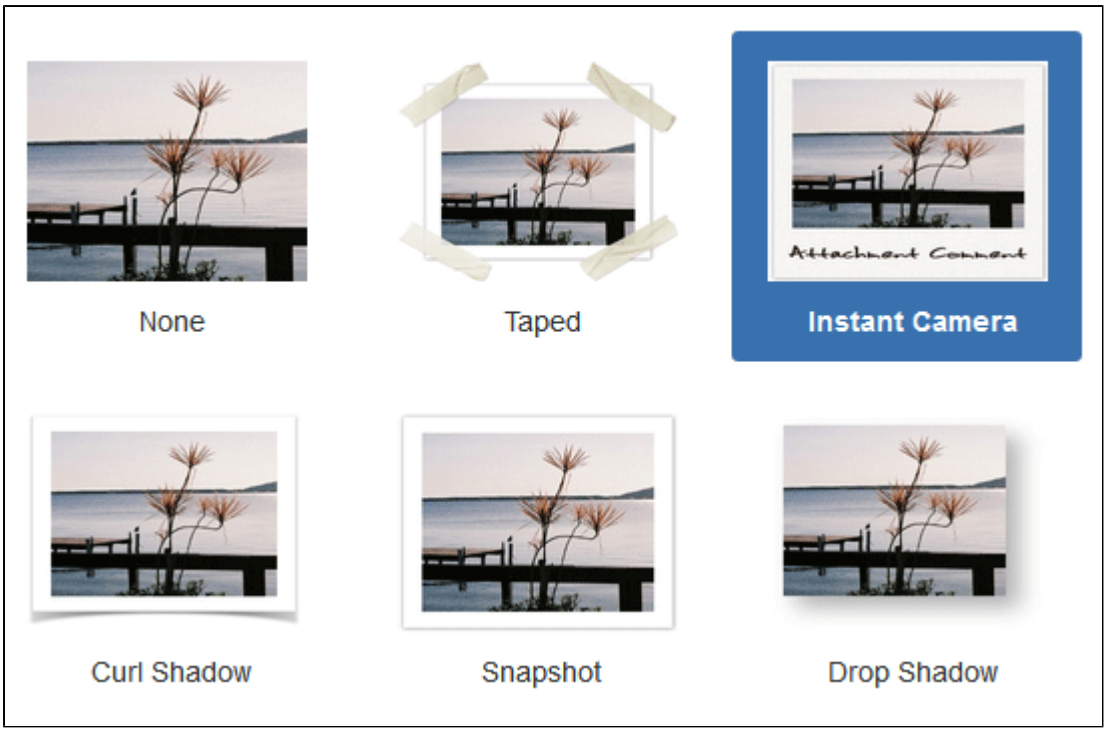
You will need to re-enter the comment each time you upload a new version of the image.

*Screenshot: The image properties panel beneath an image*




*Screenshot: Examples of image border effects*

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#### Setting other image attributes

You can add a title and alt text to your image in the image properties panel. The image title displays when the user hovers over the image or views the full size image. The alt text is used by screen readers and when the image cannot be shown.

**To add a title and alt text:**

- Choose **Properties** > **Title** in the image properties panel.
- Enter a **title** and **alt text** and choose **Save**.

Other attributes can also be set by using the **Insert > Wiki Markup** function from the editor toolbar, then using the syntax described in Confluence Wiki Markup.

#### Displaying a gallery of images

See the Gallery Macro.

#### Image file formats

You can attach image files of any format to a page. Confluence supports the following image formats in the Gallery macro and when displaying an image on a page:

- gif
- jpeg
- png
- bmp (depending on browser support)

## Deleting an Image

This page describes how to remove an image from a page. You may want to remove the image from the content of the page, but leave the image available in Confluence. Or you may want to remove the image from Confluence entirely.

#### *Removing an image from the content of a page*

A Confluence page can display one or more images, as described in Displaying Images.

**To remove an image from the content of a page:**

1. Edit the page.

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2. Select the image. The image properties panel will appear, letting you know that the image is selected.
3. Press the Delete key on your keyboard.
4. Save the page.

The image will no longer appear as part of the page content. If the image file was originally uploaded as an attachment on the current page or another page, the image is still available in Confluence. If you want to to remove the attachment, follow the steps below.

#### *Removing an image attachment from Confluence*

To remove an image file from Confluence, you must remove the attachment. See Deleting an Attachment.

**Note:** A page can display an image that is attached to another page. If you remove an image that is used on a page, readers will see an error message on that page.

*Example error message that appears when image attachment is removed:*




**Related pages:**

- Displaying Images
- Working with Attachments
- Confluence User's Guide

## Working with Tables

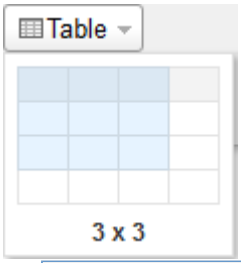
Confluence pages can include multi-row and multi-column tables. You can highlight cells, rows and columns in different colours. When viewing the page, people can sort the table by clicking the column headers.

#### Inserting a table

**To create a table:**

1. While editing the page, place your cursor at the point where you want to insert the table.
2. Choose **Table** on the toolbar.
3. A dropdown menu will appear, showing a table with a variable number of rows and columns. Click in a cell to set the number of columns and rows for your table.
4. Add content and more rows and columns as needed. See below for guidelines on what you can do with your table in the editor.

*Screenshot: Inserting a table with 3 rows and 3 columns*




**On this page:**


- Inserting a table
- What you can do with your table in the editor
- Shortcut keys
- Sorting the table in view mode

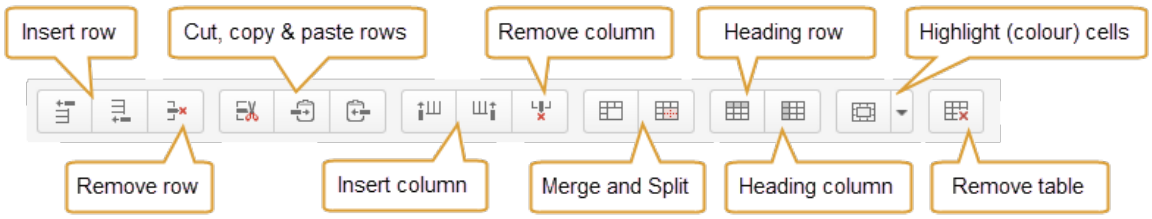

**Related pages:**

- Working with Page Layouts and Columns and Sections
- Using the Editor
- Confluence User's Guide

#### What you can do with your table in the editor

While editing a page, place your cursor inside a table to see the table toolbar.

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Using the table toolbar you can:

- Insert an empty row above the current one.
- Insert an empty row below the current one.
- Remove the current row.
- Cut the current row and copy it to the clipboard.
- Copy the current row to the clipboard.
- Paste the row from the clipboard to the current row.
- Insert an empty column to the left of the current one.
- Insert an empty column to the right of the current one.
- Remove the current column.
- Merge the selected cells.
- Split the selected merged cells.
- Mark a row as a table header. The cells in the row will be highlighted in grey and the text will be bold.
- Mark a column as a table header. The cells in the column will be highlighted in grey and the text will be bold.
- Highlight cells with a background colour.
- Remove the table.

#### Shortcut keys

| Windows | Action | Mac OS X |
|---|---|---|
| Ctrl+Shift+c | Copy the current table row, or the selected rows. | Cmd+Shift+c |
| Ctrl+Shift+i | Insert a table. (Opens the Insert Table dialog.) | Cmd+Shift+i |
| Ctrl+Shift+v | Paste the table rows from your clipboard, placing them above the current row. | Cmd+Shift+v |
| Ctrl+Shift+x | Cut the current table row, or the selected rows. | Cmd+Shift+x |
| Alt+Up Arrow | Add a row above the current row. | Alt+Up Arrow |
| Alt+Down Arrow | Add a row below the current row. | Alt+Down Arrow |

For more editor keyboard shortcuts, see Keyboard Shortcuts.

#### Sorting the table in view mode

When readers view a table on a page, they can sort the table by clicking the sort icons in the header row.

*Screenshot: A colourful, sortable table*

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| Document | Author | Reviewer |
|---|---|---|
| Getting Started | Sandy | Joan |
| Installation Guide | Sandy | Pete |
| Upgrade Guide | Juan | Lise |

## Using Symbols, Emoticons and Special Characters

You can add various symbols and special characters to Confluence pages. You can also use them in other places that display content, such as blog posts, comments, the dashboard welcome message and the configuration panels offered by the Documentation theme.

### Inserting symbols and special characters

**To add a symbol to your page:**

1. Edit the page.
2. Choose **Insert** > **Symbol**. This will display the 'Insert Custom Character' window.
3. Choose a symbol to insert it.

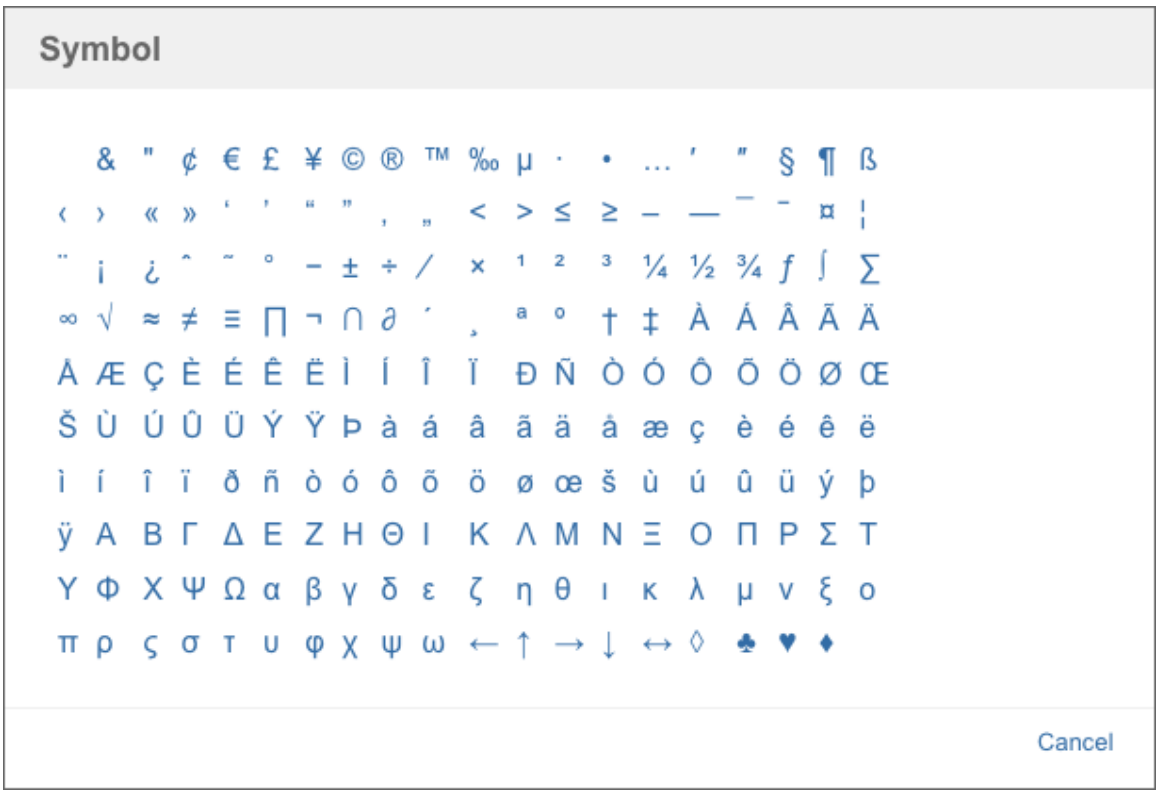
**On this page:**


- Inserting symbols and special characters
- Inserting emoticons
- Preventing emoticons from appearing


**Related pages:**

- Quick Reference Guide for the Confluence Editor
- Confluence Wiki Markup
- Confluence User's Guide

*Screenshot : Available symbols*




### Inserting emoticons

There are two ways to add an emoticon, or smiley, to your page.

**By choosing an emoticon from those available:**

1. Choose **Insert** > **Emoticon**.
2. Choose an emoticon to insert it.

**By typing a character combination:**
You can insert emoticons by typing commonly-used character combinations. For example, the following code appears as an emoticon when the page is rendered.

```
;)
```

The above example creates this emoticon: 

This table shows the emoticons (and other icons) available in Confluence, and the character combinations that create them:

| Image |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Notation | :) | :( | :P | :D | ;) | (y) | (n) | (i) | (/) | (x) | (!) | (+) | (-) | (?) | (on) | (off) | (*) | (*r) | (*g) | (*b) | (*y) |

#### Preventing emoticons from appearing

To undo the conversion of a character combination into an emoticon, press **Ctrl+Z** (Windows) or **Cmd+Z** (Mac).

To prevent Confluence from converting text to emoticons automatically, disable 'Autoformatting' in your user profile. See Editing User Settings.

The Confluence knowledge base has an article on disabling emoticons for the Confluence site as a whole.

## Using Autocomplete

When using the Confluence editor, you can type a trigger character or press a keyboard shortcut to see a list of suggested links, files or macros to add to your page, or to mention another user (and automatically notify them of this).

#### Summary of autocomplete

| What you want to do | Trigger character | Keyboard shortcut | Description |
|---|---|---|---|
| Add a link on your page | **[** | Ctrl+Shift+K | See a list of suggested pages or other locations to link to from your page. More... |
| Display an image, video, audio file or document on your page | **!** | Ctrl+Shift+M | See a list of suggested images, multimedia files and documents to embed in your page. More... |
| Add a macro on your page | **{** | None | See a list of suggestions as you begin typing a macro name. More... |

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| | | | |
|---|---|---|---|
| Notify another user by email that you have mentioned them on your page | @ | None | See a list of suggested users to mention. More... |

**On this page:**


- Summary of autocomplete
- Using autocomplete for links
- Using autocomplete for images, videos, audio files and documents
- Using autocomplete for macros
- Using autocomplete for mentions
- Cancelling autocomplete
- Enabling and disabling autocomplete
- Ignoring autocomplete


**Related pages:**


- Working with Links
- Using Images
- Working with Macros
- Keyboard Shortcuts
- User Profile Overview
- Confluence User's Guide


### Using autocomplete for links

Type '[', or press Ctrl+Shift+K, to see a list of suggested pages or other locations to link to from your page. You can link to pages, user profiles, images, documents and other file attachments.

**To autocomplete a link**:

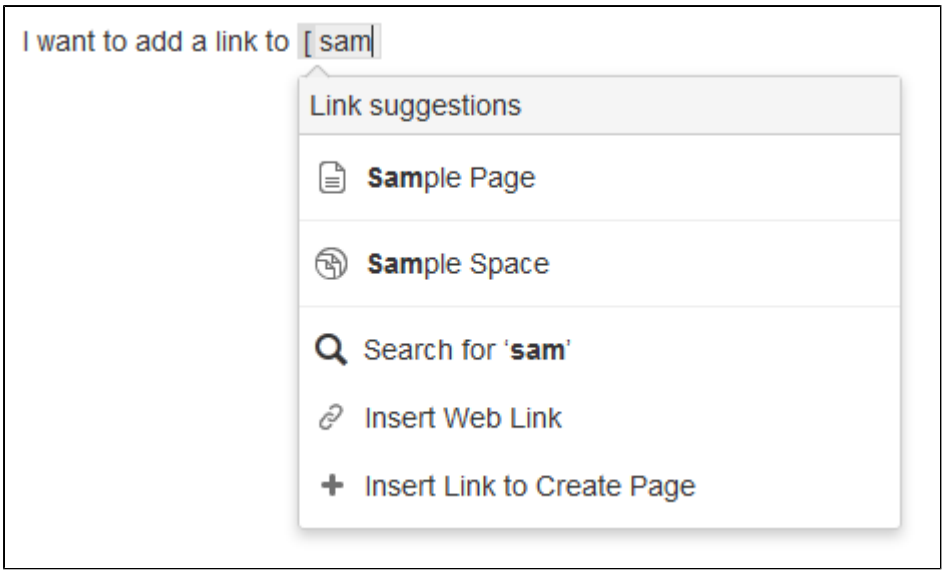
1. Edit the page.
2. Click where you want to insert a link and do one of the following:
    - Type '[' and then the first few characters of the page title, user's name, image name or file name.
    - Type the first few characters of the page title, user's name, image name or file name (or select relevant text) and then press Ctrl+Shift+K.
3. Click the relevant link from the list of suggestions.

If the item you need is not in the list, either:

- Choose **Search for 'xxx'** to continue looking for the page within Confluence, or
- Choose **Insert Web Link** to insert a link to an external web page using the link browser.

*Screenshot: Autocomplete for a link*

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#### Using autocomplete for images, videos, audio files and documents

You can use the autocomplete as a fast way of embedding images, videos, audio files and documents into your page. Type an exclamation mark or press Ctrl+Shift+M to see a list of suggested images, multimedia files and documents to display on your page. You can use autocomplete to embed the following file types:

- Images – any format that Confluence supports. See Displaying Images.
- Videos, audio files and all multimedia formats that Confluence supports. See Embedding Multimedia Content.
- Office documents supported by the Confluence Office Connector: Word, Excel and PowerPoint.
- PDF files.

Autocomplete works most efficiently for files that are already attached to the Confluence page. See Attaching Files to a Page.

**To embed an image, video, audio file or document**:

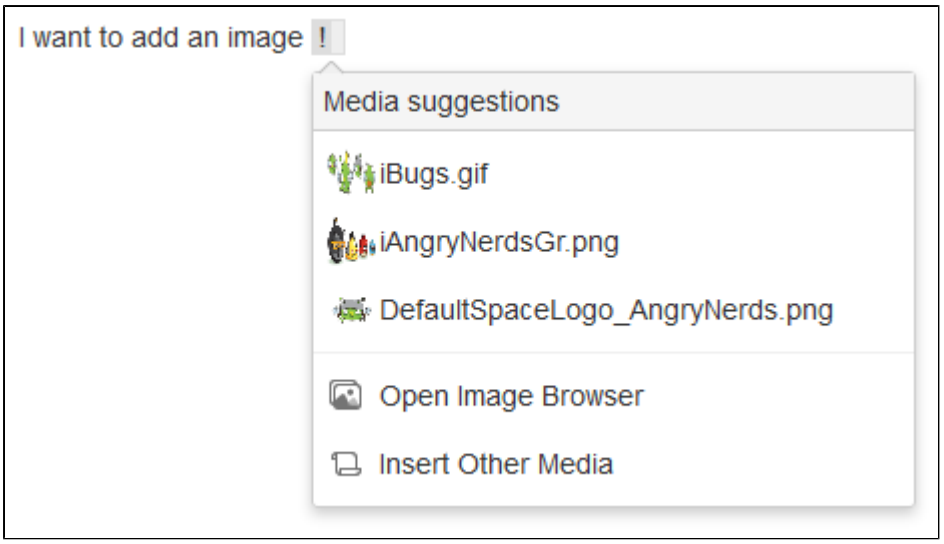
1. Edit the page.
2. Click where you want to insert the image, video, audio file or document and do one of the following:
    - Type '!' and then the first few characters of the image, file or document name.
    - Type the first few characters of the name of the image, file or document (or select relevant text) and then press Ctrl+Shift+M.
3. Choose the relevant file from the list of suggestions.

If the item you need is not in the list, either:

- Choose **Open Image Browser** to find images and documents using the image browser, or
- Choose **Insert Other Media** to embed videos, audio and other multimedia files using the macro browser. Insert the 'Multimedia' macro to display your multimedia file.

*Screenshot: Autocomplete for an image or document*

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#### Using autocomplete for macros

Type '{' to see a list of suggested macros to add to your page.

Autocomplete provides access to all available macros in your Confluence site, including any user macros that your administrator has added and made visible to all.

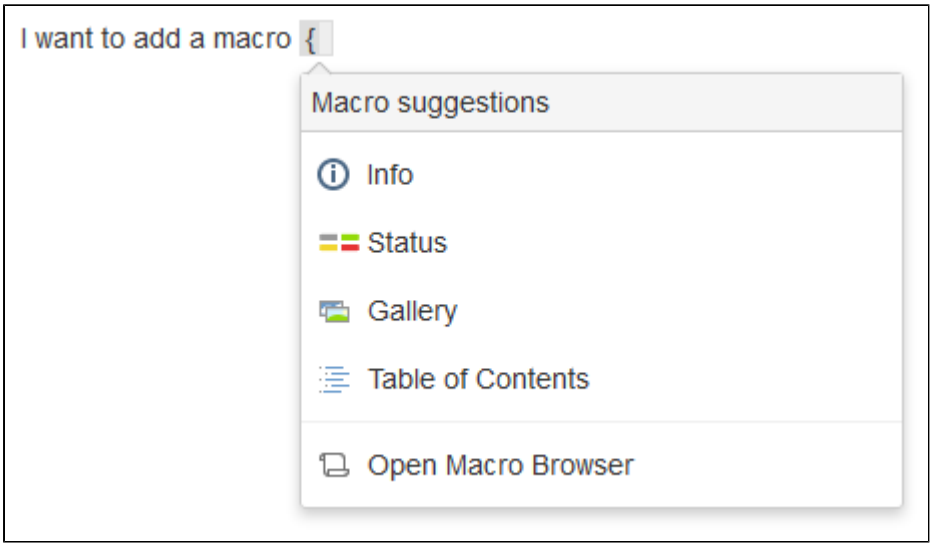
You need to know the name of macro. Autocomplete for macros will only match the name of the macro, not the description.

**To autocomplete a macro using '{'**:

1. Edit the page.
2. Click where you want to insert the macro.
3. Type '{' and then the first few characters of the macro name.
4. Choose the relevant macro from the list of suggestions.
5. Configure the macro by completing the form fields as prompted.

If the macro you need is not in the list, choose **Open Macro Browser** in the list of suggestions to continue looking for the macro in the macro browser. See Working with Macros.

*Screenshot: Autocomplete for a macro*




#### Using autocomplete for mentions

You can use autocomplete to automatically notify another Confluence user that you have mentioned them in a page, blog post, or comment. Type '@' and part of the person's name, to see a list of suggested users.

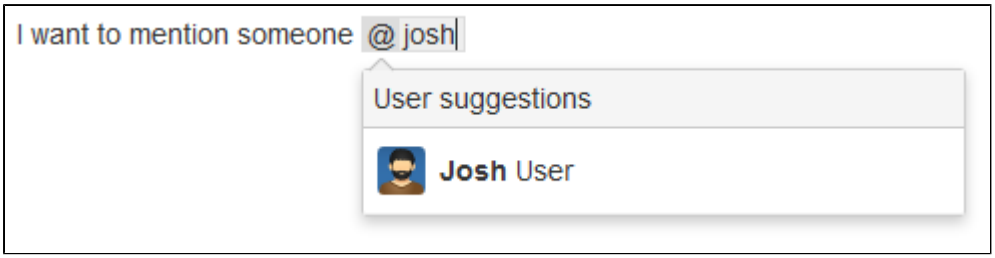
**Note:** Use the person's full name. Autocomplete will recognise users' full names only, not their usernames.

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**To mention someone using '@'**:

1. Edit the page.
2. Click where you want to insert a mention and type '@' and then the first few characters of the user's full name.
3. Choose the user's name from the list of suggestions.

*Screenshot: Autocomplete for mentions*




#### Cancelling autocomplete

The autocomplete starts automatically when you press the trigger characters. You may want to close the autocomplete menu or escape from autocomplete once it has started.

There are a few different ways to stop the autocomplete once it has started:

- Press the escape key, 'Esc', on your keyboard.
- Click somewhere else in the editor panel.
- Press an arrow key to move out of the autocomplete area.
- For the *link* autocomplete only: enter a right-hand square bracket, like this: **]**

#### Enabling and disabling autocomplete

You can turn off the triggering of autocomplete by the '[' and '!' characters. This will prevent the autocomplete from starting automatically when you press one of the trigger characters. You can also turn it back on again.

Notes:

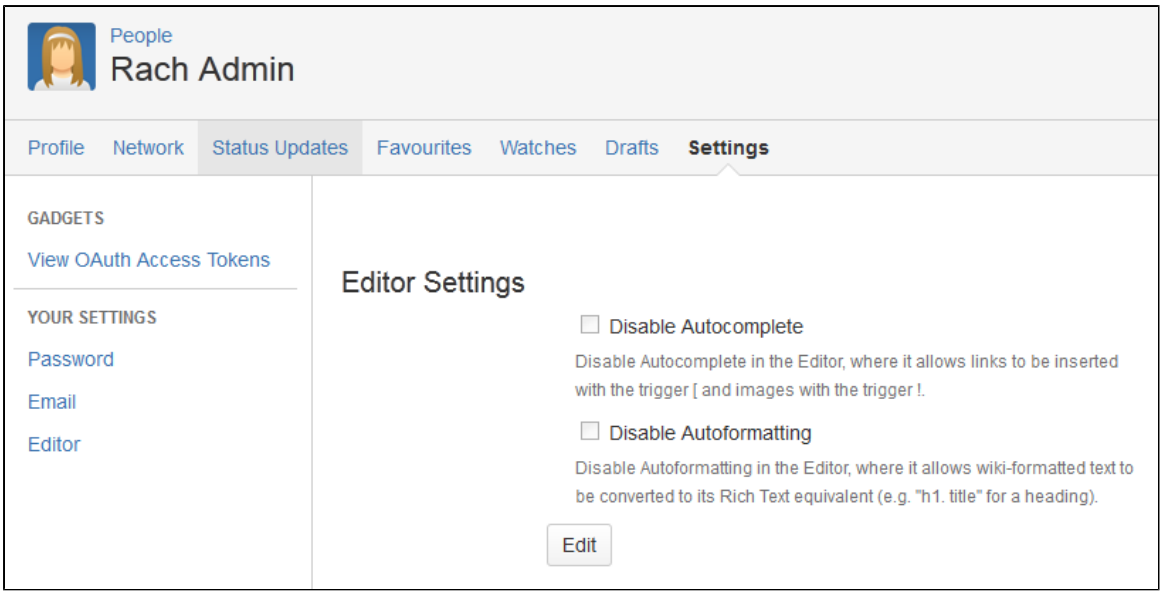
- This setting does not affect the keyboard shortcuts for autocomplete (Ctrl+Shift+K and Ctrl+Shift+M). Even if the trigger characters are disabled, you can still use the keyboard shortcuts for autocomplete.
- This setting affects only you. Other people using Confluence can enable or disable the setting on their user profiles independently.
- Note that autocomplete is enabled by default.

**To enable or disable the autocomplete trigger characters:**

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Choose **Editor** under 'Your Settings' in the left-hand panel.
3. Choose **Edit**.
4. Either:
    - Disable autocompletion by selecting **Disable Autocomplete**.
    - Enable autocompletion by clearing **Disable Autocomplete**.
5. Choose **Submit**.

*Screenshot: User settings for the editor*

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#### Ignoring autocomplete

You can add macros, links and images by wiki markup alone. Type the macro, including its parameters and the closing curly bracket. Add a link, such as an anchor link, and end it with a square bracket. Insert an image or other embedded object, enclosed between exclamation marks. As soon as you close the macro, link, or embedded image, Confluence will convert it to rich text format and add it to the page.

More information about mouse-free macros, links and images:

- Quick Reference Guide for the Confluence Editor
- Video

## Working with Page Layouts and Columns and Sections

There are two ways to modify the layout of a Confluence page. You can:

- use Page Layouts to add sections and columns, or
- use macros to add sections and columns.

Page layouts provides a simple, visual representation of your page layout in the editor, while the macros are more flexible and allow for greater complexity in your layout.

#### Using page layouts

The Page Layouts tool allows you to structure your page using horizontal sections and vertical columns. By adding multiple sections with different column configurations you can build quite complex layouts very easily.

**On this page:**


- Using page layouts
- Using the Section and Column macros
- Code examples


**Related pages:**

- Using the Editor
- Working with Macros
- Working with Tables
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

*Screenshot: Editor view of a page showing three sections with different column configurations.*

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Start by adding a horizontal section to your page.

**To add a section:**

1. Choose the **Page Layout** button on the editor toolbar.
2. The Page Layout toolbar appears. Choose **Add Section**.

The new section appears below your current content. The boundaries of the section are indicated by dotted lines. These are not visible when you view the page.

**To change the column layout in a section:**

1. Place your cursor in the section you wish to change.
2. Choose a layout from the Page Layout toolbar (for example two column, three column).

Any text, images or macros in your section are not lost when you change the column layout. When you decrease the number of columns, Confluence will move your content to the left. When you increase the number of columns, Confluence will add blank columns to the right of your existing content.

**To move a section to another part of the page:**

1. Place your cursor in the section you wish to move.
2. Choose the **Move up** or **Move down** buttons.

The section and all of its content will be moved above or below other sections on the page.

**To delete a section:**

1. Place your cursor in the section you wish to remove.
2. Choose **Remove section**.

The section and all of its content will be removed.

***Notes about Page Layouts***

- **Column width** - The width of the columns are fixed. If you need more than three columns, or columns of a specific width, you should use the Section and Column macros described below.
- **Very wide tables.** The width of each column is set to a percentage of the page width. The icons in the drop down menu indicate the relative widths for each layout. In most cases, Confluence will adapt the width of the columns to fit the width of the page. If a column includes a large table, the content may not fit into the width of the page. You will see a horizontal scroll bar when viewing the page.

#### Using the Section and Column macros

You can use the Section and Column macros to add a set of columns to the page. The Section macro defines an area that will contain the columns. You can have as many sections as you like. Within each section, you can have as many columns as you like.

The Section and Column macros are useful if you want to define a specific percentage or pixel width for each column.

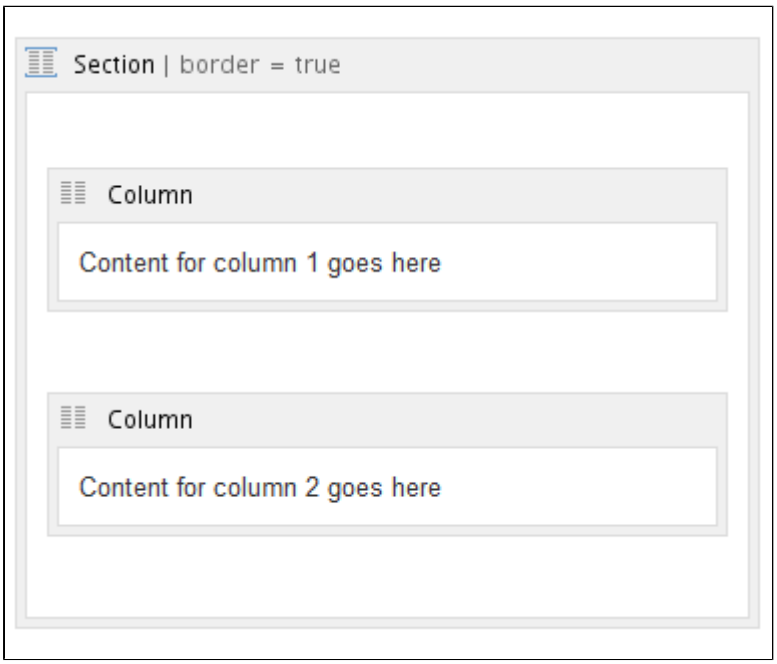
**To add a section and some columns to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find the **Section** macro, select it and insert it onto the page.

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3. Choose **Insert** > **Other Macros** again.
4. Find and insert the **Column** macro.
5. Add your content to the column.
6. Insert as many columns as you like within the section.

*Screenshot: A section and two columns in the editor*




When you see the page in view mode, the above layout is displayed like this:
Content for column 1 goes here
Content for column 2 goes here

#### *Macro parameters*

Parameters are options that you can set to control the content or format of the macro output.

##### Parameters of the Section macro

| Parameter | Default | Description |
|---|---|---|
| **Show Border** | false | Select this option to draw a border around the section and columns.<br>**Note:** Without a Column macro, the border will not be displayed correctly. |

##### Parameters of the Column macro

| Parameter | Default | Description |
|---|---|---|
| **Column Width** | 100% of the page width, divided equally by the number of columns in the section. | Specify the width of the column, in pixels (for example, `400px`) or as a percentage of the available width (for example, `50%`). |

#### *Notes about sections and columns*

- All content within your section must be enclosed within a Column macro, otherwise the section layout will not work as expected.
- You can put tables inside columns.
- PDF exports do not handle page layouts. See this issue report:

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**CONF-25240** - PDF export does not handle page layouts (Technical Review)

#### Code examples

See:

- Confluence Wiki Markup for Macros -- Section macro
- Confluence Storage Format for Macros -- Section macro

---

## Working with Macros

Using a macro, you can add extra functionality or include dynamic content on 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.

#### Adding a Macro to your Page

##### Including Macros with the Macro Browser

**To add a macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

##### 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 allowing you to:

- Specify the file formats of the attachments displayed.
- Choose whether or not you want old versions of the attachments displayed.

##### Macro Placeholders

Macro placeholders are displayed in the editor where you have added a macro to the page.

When editing a page, you can:

- Double-click a macro placeholder (or click the placeholder and choose **Edit**) to open the macro dialog window, where you can edit the macro's parameters.
- Select a macro placeholder to cut, copy and paste the macro.

**On this page:**


- Adding a Macro to your Page
- Macros Shipped with your Confluence Installation
- Information about Other Macros
- Writing your own Macros
- Code examples


**Related pages:**

- Atlassian Plugin Exchange
- Confluence User's Guide

#### 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.

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#### Activity Stream Macro

#### Anchor Macro

Allows you to link to a specific part of a page.

#### Attachments Macro

Displays a list of attachments on a given page.

#### Blog Posts Macro

Lists the most recent news items in the space.

#### Change-History Macro

Displays a history of updates made to a page.

#### Chart Macro

Displays a chart based on tabular data.

#### Cheese Macro

Displays the words "I like cheese!"

#### Children Display Macro

Displays the children and descendants of the current page.

#### Code Block Macro

Displays code in your document with the appropriate syntax highlighting.

#### Column Macro

Used with the Section macro to define columns on a page. See  Working with page layouts and columns and sections.

#### Content by Label Macro

Displays a list of content associated with specific labels.

#### Content by User Macro

Displays a list of the content items that have been created by a specified Confluence user.

#### Content Report Table Macro

Displays a set of pages and blog posts in tabular format, based on the labels specified in the macro parameters.

#### Contributors Macro

Displays a list of Confluence users who have made a contribution of some type to a page.

#### Contributors Summary Macro

Displays a table of contribution-based statistics for a set of pages.

#### Create from Template Macro

Creates a page from a given template.

#### Create Space Button Macro

Displays a create space button linked to the create space page.

#### Excerpt Include Macro

Allows you to display an excerpt from another page within the current page.

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#### Excerpt Macro

Define a part of a page as the page's 'excerpt' which can then be displayed in another page.

#### Expand Macro

Displays an expandable/collapsible section of text.

#### Favourite Pages Macro

Displays a list of your favourite pages.

#### Gadget Macro

Allows you to add Confluence gadgets to pages or blog posts.

#### Gallery Macro

Forms a thumbnail gallery of all images attached to a page.

#### Global Reports Macro

Displays a list of links to global reports within a table.

#### HTML Include Macro

Includes the content of an external HTML file into a Confluence page.

#### HTML Macro

Renders your specified HTML code within the current page.

#### IM Presence Macro

Displays graphically when a contact is online.

#### Include Page Macro

Inserts the contents of the specified page into the current one.

#### Info Macro

Displays a block of text in a blue highlight box.

#### JIRA Issues Macro

Displays one or more JIRA issues, and offers the option to create an issue in JIRA.

#### JUnit Report Macro

Display a summary of JUnit test results.

#### Labels List Macro

Displays a hyperlinked alphabetical index of all labels within the current space.

#### Livesearch Macro

Add a dynamic search box to a wiki page.

#### Loremipsum Macro

Display a few paragraphs of pseudo-Latin text.

#### Multimedia Macro

Displays videos, animations and more, sourced from a file attached to a Confluence page and displayed on your page.

#### Navigation Map Macro

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Displays a navigable map of the pages tagged with a given label.

#### Network Macro

Displays a list of Network activity for users on your Confluence site.

#### Noformat Macro

Displays a block of text in monospace font.

#### Note Macro

Displays a block of text in a yellow highlighted box.

#### Office Excel Macro

Displays the content of an Excel spreadsheet on a wiki page.

#### Office PowerPoint Macro

Displays the content of a PowerPoint presentation on a wiki page.

#### Office Word Macro

Displays the content of a Word document on a wiki page.

#### Page Index Macro

Creates a hyperlinked alphabetical index of all page titles within the current space.

#### Page Properties Macro

Allows you to embed metadata into a page and then display that data in tabular form using the Page Properties Report macro .Previously known as the Metadata Details macro.

#### Page Properties Report Macro

Presents a tabulated summary of selected metadata, which has been embedded on pages using the Page Properties macro. Previously known as the Details Summary macro.

#### Page Tree Macro

Displays a dynamic, hierarchical list of pages starting from a specified parent (root) page.

#### Page Tree Search Macro

Adds a search box to your Confluence page and searches a hierarchy of pages starting from a specified parent (root) page.

#### Panel Macro

Displays a block of text within a customisable panel.

#### PDF Macro

Displays the content of a PDF document on a wiki page.

#### Popular Labels Macro

Displays the most popular labels used throughout your Confluence site or within a space.

#### Profile Picture Macro

Displays a user's profile picture on a page.

#### Recently Updated Dashboard Macro

Displays a list of the most recently changed content within Confluence and is intended for use on the Confluence dashboard.

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#### 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 Results Macro

Searches Confluence, and includes the results in the page.

#### Section Macro

Used with the Column macro to define columns on a page. See  Working with page layouts and columns and sections.

#### Space Attachments Macro

Displays a list of attachments belonging to the current space.

#### Space Details Macro

Displays the details of a Confluence space, including the space name, description, and more.

#### Space Jump Macro

Allows you to link from a page in one space to a page with the same name in another space, without knowing the name of the page when you create the link.

#### Spaces List Macro

Displays a list of the spaces visible to the user.

#### Status Macro

Displays a coloured lozenge, useful for reporting project status.

#### Table of Contents Macro

Displays a table of contents based on the headings on the page.

#### Table of Content Zone Macro

Displays a table of contents from a defined page 'zone'.

#### Tasklist Macro

Displays a dynamic task list which can be modified in view mode.

#### Tip Macro

Displays a block of text in a green box.

#### User List Macro

Displays a list of Confluence users in a given group.

#### User Profile Macro

Displays a summary of a given Confluence user's profile.

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#### User Status List Macro

Displays a history of a given Confluence user's status updates.

#### View File Macro

Embeds an Office document or PDF file into your Confluence page.

#### Warning Macro

Displays a block of text in a red highlight box.

#### Widget Connector 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. For example, macros that may be of interest are available from Adaptavist, CustomWare and the Confluence SharePoint Connector. *Not applicable to Confluence OnDemand.*

### 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 Writing User Macros. *Not applicable to Confluence OnDemand.*
- The Confluence Plugin Guide tells you how to develop a plugin for Confluence.

### Code examples

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Activity Stream Macro

The Activity Stream macro is a specific instance of the Gadget macro. It inserts an Activity Stream gadget onto your page. For instructions, see Activity Stream Gadget.

**Related pages:**

- Activity Stream Gadget
- Gadget Macro
- Confluence User's Guide

## Anchor Macro

The Anchor Macro is documented in Working with Anchors.

## Attachments Macro

See Displaying a List of Attachments.

## Blog Posts Macro

The Blog Posts macro allows you to display blog posts on a Confluence page. Clicking on a title takes you to the blog post.

#### Using the Blog Posts Macro

**To add the Blog Posts macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of

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suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Blog Posts Macro
- Parameters
- Code examples


**Related pages:**

- Working with Macros
- Working with Blog Posts
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

***Parameters***

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Content Type to Display** | **titles** | Available values:<br>• **titles** — Display only the title of each blog post.<br>• **excerpts** — Display a short excerpt from each blog post. If the post contains an Excerpt macro, the Blog Posts macro will display the content defined in the Excerpt macro. If the post does not contain an Excerpt macro, the Blog Posts macro will display the first few sentences of the post. |
| **Time Frame** | no limit | Specify how far back in time Confluence should look for the blog posts to be displayed.<br><br>Available values:<br>• `m` — Minutes<br>• `h` — Hours, so '`12h`' displays blog posts created in the last twelve hours.<br>• `d` — Days, so '`7d`' displays blog posts created in the last seven days.<br>• `w` — Weeks |

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| | | |
|---|---|---|
| **Restrict to these Labels** | None | Filter the results by label. The macro will display only the blog posts which are tagged with the label(s) you specify here.<br><br>You can specify one or more label values, separated by a comma or a space.<br><br>• 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'.<br>• 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'. |
| **Restrict to these Authors** | None | Filter the results by author. The macro will display only the blog posts which are written by the author(s) you specify here.<br><br>You can specify one or more authors, separated by a comma. For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |

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| | | |
|---|---|---|
| **Restrict to these Spaces** | @self, i.e. the space which contains the page on which the macro is coded | 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.<br><br>You can specify one or more space keys, separated by a comma or a space.<br><br>• 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.<br>• 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.)<br><br>Special values:<br><br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |
| **Maximum Number of Blog Posts** | 15 | Specify the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied. |

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| | | |
|---|---|---|
| **Sort By** | creation | Specify how the results should be sorted. If this parameter is not specified, the sort order defaults to descending order (newest first) based on the creation date.<br><br>Values:<br>• **title** — Sort alphabetically by title.<br>• **creation** — Sort by the date on which the content was added.<br>• **modified** — Sort by the date on which the content was last updated. |
| **Reverse Sort** | false | Select to change the sort from descending to ascending order (oldest first). Use this parameter in conjunction with the **Sort By** parameter. This parameter is ignored if the **Sort By** parameter is not specified. |

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Change-History Macro

The Change-History macro shows the history of updates made to a page: version number, author, date and comment. It displays the information inline.

*Screenshot: The Change-History macro in Confluence*




**Related pages:**

- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

**To add the Change-History macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

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**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**Note:** There are no parameters for this macro.

#### *Code examples*

See:

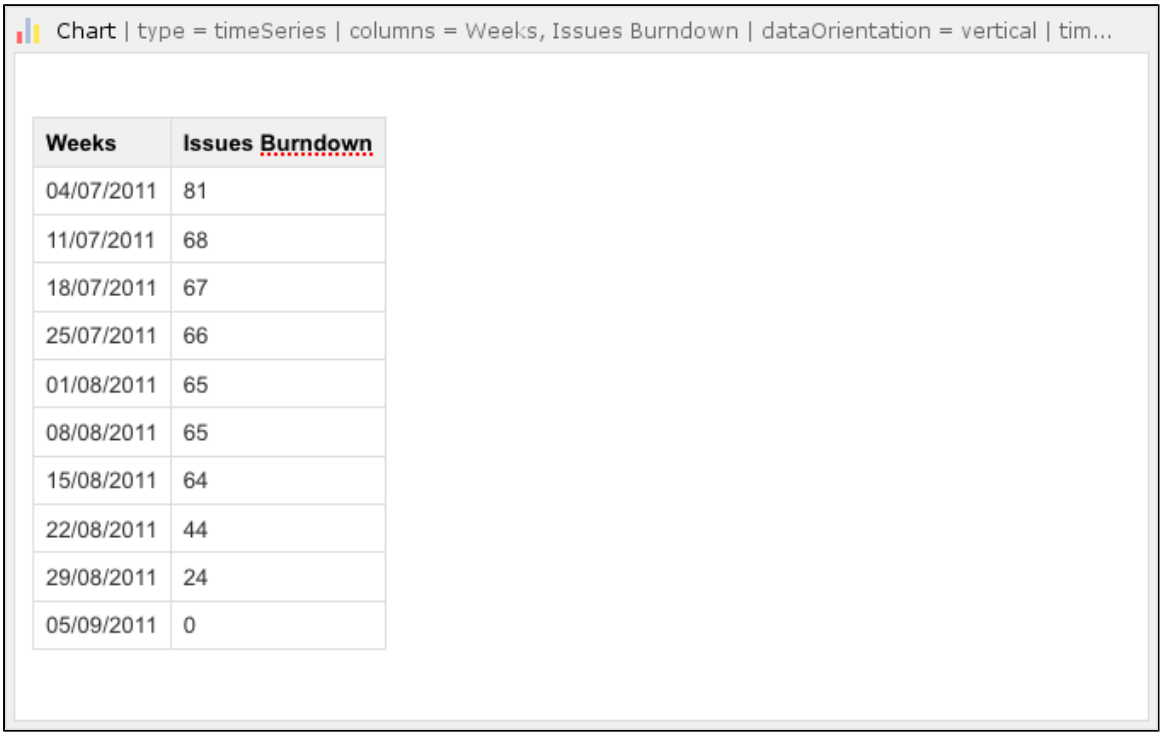
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Chart Macro

The Chart macro allows you to display a chart based on tabular data. When you add the macro to a page, you:

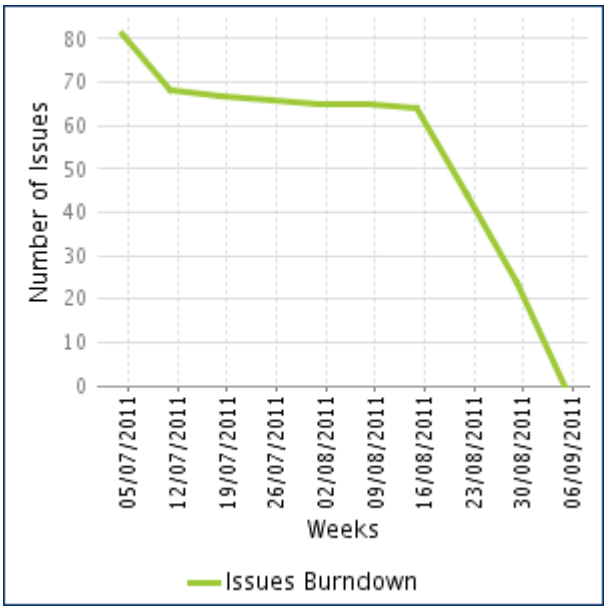
- supply the data to be charted by the macro as a table in the placeholder of the macro.
- edit the macro parameters in the Macro Browser to configure the format of the chart.

*Screenshot 1: A table of data in the Chart macro placeholder*




*Screenshot 2: The resulting chart*

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**On this page:**


- Using the Chart Macro
- Parameters
- Examples
  - Pie Chart
  - Bar Chart
  - 3D Bar Chart
  - Time Series Chart
  - XY Line Chart
  - XY Area Chart
  - Area Charts
- Code examples


**Related pages:**

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Working with Macros
- Confluence User's Guide

### *Using the Chart Macro*

**To add the Chart macro to a page:**

1. Edit the page and use autocomplete to add the Chart macro. (Type '{chart}'.)
2. Enter your chart data as one or more tables in the body of the macro placeholder. (See the screenshot ab ove.)
3. Click the macro placeholder and choose **Edit**.
4. Select a chart type using the **Type** parameter (see below).
5. Choose other parameter settings in the macro browser, as described below.
6. Click **Refresh** in the 'Preview' area, to check that the chart appears as you expect.
7. Click **Save** to add the chart to your page.
8. Click **Save** again when you are ready to save the page.

### *Parameters*

Chart Type Parameters | Display Control Parameters | Title and Label Parameters | Data Specification Parameters | Colour Parameters | Axis Parameters | Pie Chart Parameters | Attachment Parameters

#### *Chart Type Parameters*

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These parameters determine the type of chart to display and the way the chart looks.

| Parameter | Default | Description |
|---|---|---|
| **Type** | **pie** | The type of chart to display. XY charts have numerical x- and y-axes. The x values may optionally be time-based (see the **Time Series** parameter).<br><br>*Standard* — pie, bar, line, area<br><br>*XY Plots* — xyArea, xyBar, xyLine, xyStep, xyStepArea, scatter, timeSeries<br><br>*Other* — gantt |
| **Display Orientation** | **vertical** | Applies to area, bar and line charts.<br>• **vertical** — y-axis is vertical<br>• **horizontal** — x-axis is vertical |
| **Show in 3D** | false | Applies to area, bar and line charts. |
| **Stacked Values** | false | Applies to area and bar charts. |
| **Show shapes** | true | Applies to line charts. Shapes are shown at each data point. |
| **Opacity** | • 75 percent for 3D charts<br>• 50 percent for non-stacked area charts<br>• 100 percent for all other charts | A percentage value between 0 (transparent) and 100 (opaque) that determines how opaque the foreground areas and bars are. |

#### *Display Control Parameters*

| Parameter | Default | Description |
|---|---|---|
| **Width** | 300 | The width of the chart in pixels. |
| **Height** | 300 | The height of the chart in pixels. |
| **Display rendered data** | false | Sets whether to display the rendered body of the macro (usually the data tables). By default, the chart data table isn't rendered.<br>• **before** — the data are displayed before the chart.<br>• **after** — the data are displayed after the chart. |
| **Image format** | **png** | The image format to be used for the chart.<br>• **png**<br>• **jpg** |

#### *Title and Label Parameters*

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| Parameter | Default | Description |
|---|---|---|
| **Chart Title** | none | The title of the chart. |
| **Chart Subtitle** | none | A subtitle for the chart, using a smaller font than for **Title**. |
| **Horizontal-axis Label** | none | The label for the x-axis (domain). |
| **Vertical-axis Label** | none | The label for the y-axis (range). |
| **Show Legend** | true | Show a legend or key. |

#### *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 in Confluence will be tried. Additional conversion options can be specified using the parameters below.

| Parameter | Default | Description |
|---|---|---|
| **Tables** | all first level 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. 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). |
| **Columns** | all 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. 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. |
| **Content Orientation** | **horizontal** | • **vertical** — data table columns will be interpreted as series.<br>• **horizontal** — data tables rows will be interpreted as series. |
| **Time Series** | false | • true — the x values in an XY plot will be treated as time series data and so will be converted according to date formats. |

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| | | |
|---|---|---|
| **Date format** | Confluence language defined date formats | For time series data, the date format allows for additional customization of the conversion of data to date values. If a **Date format** is specified, it will be the first format used to interpret date values. Specify a format that matches the time series data. See simple date format. |
| **Time Period** | **Day** | The time period for time series data. Defines the granularity of how the data is interpreted. Valid values are: **Millisecond**, **Second**, **Minute**, **Hour, Day**, **Week**, **Month**, **Quarter**, **Year**. |
| **Language** | none | Use in combination with the **Country** parameter to form a locale. These additional number and date formats will be used for data conversion before the default languages.<br>Valid values are 2 character ISO 639-1 alpha-2 codes. |
| **Country** | none | Use in combination with the **Language** parameter to form a locale. Valid values are 2 character ISO 3166 codes. |
| **Forgive** | true | • true — the macro tries to convert numeric and date values that do not totally match any of the default or user-specified formats.<br>• false — enforce strict data format. Data format errors will cause the chart to not be produced. |

#### *Colour Parameters*

Colours are specified using hexadecimal notation or HTML colour names.

| Parameter | Default | Description |
|---|---|---|
| **Background Colour** | White | Background of the chart. |
| **Border Colour** | no border | Border around the chart. |
| **Colours** | | Comma-separated list of colours used to customise category, sections, and series colours. |

#### *Axis 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.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Range Minimum Value** | none | Range axis lower bound. |
| **Range Maximum Value** | none | Range axis upper bound. |
| **Range Axis Tick Unit** | none | Range axis units between axis tick marks. |
| **Range Axis Label Angle** | none | Angle for the range axis label in degrees. |
| **Domain Axis Lower Bound** | none | Only applies to XY plots. Domain axis lower bound. For a date axis, this value must be expressed in the date format specified by the **Date format** parameter. |
| **Domain Axis Upper Bound** | none | Only applies to XY plots. Domain axis upper bound. For a date axis, this value must be expressed in the date format specified by the **Date format** parameter. |
| **Domain Axis Tick Unit** | none | Only applies to XY plots. Domain axis units between axis tick marks. For a date axis, this value represents a count of the units specified in the **Time Period** parameter. The **Time Period** unit can be overridden by specifying a trailing character: y (years), M (months), d (days), h (hours), m (minutes), s (seconds), u (milliseconds). |
| **Domain Axis Label Angle** | none | Only applies to XY plots. The angle for the domain axis label, in degrees. |
| **Category Label Position** | none | Placement of the axis label text for categories.<br>• `up45` — 45 degrees going upward<br>• `up90` — 90 degrees going upward<br>• `down45` — 45 degrees going downward<br>• `down90` — 90 degrees going downward |
| **Date Tick Mark Position** | **start** | Placement of the date tick mark.<br>• `start` — tick mark is at the start of the date period.<br>• `middle` — tick mark is in the middle of the date period.<br>• `end` — tick mark is at the end of the date period. |

***Pie Chart Parameters***

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Pie Section Label** | Show only the pie section key value | Format for how pie section labels are displayed. The format uses a string with special replacement variables:<br>• %0% is replaced by the pie section key.<br>• %1% is replaced by the pie section numeric value.<br>• %2% is replaced by the pie section percent value.<br><br>Example 1: "%0% = %1%" would display something like "Independent = 20"<br>Example 2: "%0% (%2%)" would display something like "Independent (20%)" |
| **Pie Section Explode** | No exploded sections | Comma separated list of pie keys that are to be shown exploded. 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 Pluginto improve performance. Depending on the options chosen, chart images can be versioned for historical purposes.

| Parameter | Default | Description |
|---|---|---|
| **Attachment** | none | The name and location with which the chart image will be saved as an attachment. The user must be authorised to add attachments to the page specified.<br>• ^attachmentName.png — the chart is saved as an attachment to the current page.<br>• page^attachmentName.png — the chart is saved as an attachment to the page name provided.<br>• space:page^attachmentName.png — the chart is saved as an attachment to the page name provided in the space indicated. |

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| | | |
|---|---|---|
| **Attachment Version** | new | Defines the the versioning mechanism for saved charts.<br>• new — creates new version of the attachment.<br>• 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.<br>• 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. |
| **Attachment Comment** | none | Comment used for a saved chart attachment. |
| **Thumbnail** | false | • true — the chart image attachment will be shown as a thumbnail. |

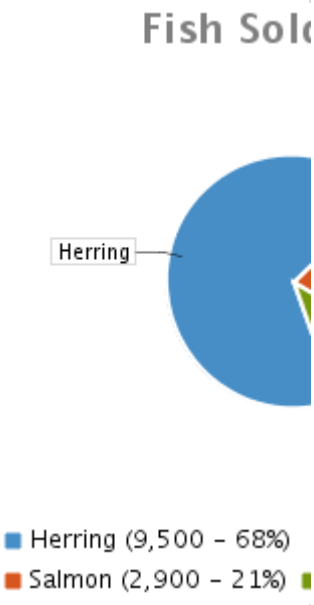
Chart Type Parameters | Display Control Parameters | Title and Label Parameters | Data Specification Parameters | Colour Parameters | Axis Parameters | Pie Chart Parameters | Attachment Parameters

***Examples***

***Pie Chart***

| Parameters in Macro Browser | | Data Table in Macro Placeholder | Rendered Chart |
|---|---|---|---|
| **Type** | pie | | |
| **Chart Title** | Fish Sold 2011 | | |
| **Show Legend** | true | | |
| **Content Orientation** | vertical | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Fish Type | 2011 |
|---|---|
| Herring | 9,500 |
| Salmon | 2,900 |
| Tuna | 1,500 |



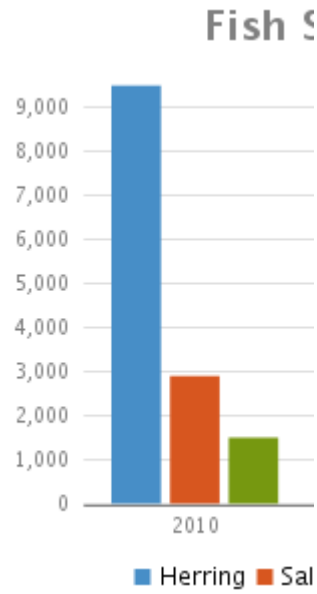

***Bar Chart***

| Parameters in Macro Browser | Data Table in Macro Placeholder | Rendered Chart |
|---|---|---|

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| | |
|---|---|
| **Type** | bar |
| **Chart Title** | Fish Sold |
| **Show Legend** | true |

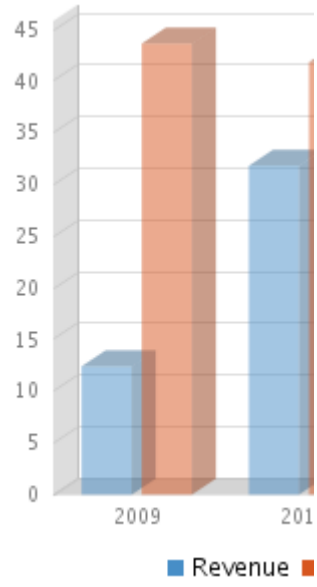
| Fish Type | 2010 | 2011 |
|---|---|---|
| Herring | 9,500 | 8,300 |
| Salmon | 2,900 | 4,200 |
| Tuna | 1,500 | 1,500 |




***3D Bar Chart***

| Parameters in Macro Browser | |
|---|---|
| Type | bar |
| Show in 3D | true |
| Opacity | 50 |
| Show Legend | true |

| | 2009 | 2010 | 2011 |
|---|---|---|---|
| Revenue | 12.4 | 31.8 | 41.1 |
| Expense | 43.6 | 41.8 | 31.1 |




***Time Series Chart***

| Parameters in Macro Browser | |
|---|---|
| Type | Time Series |
| Date Format | MM/yyyy |
| Time Period | Month |
| Content Orientation | vertical |
| Range Axis Lower Bound | 0 |

| Month | Revenue |
|---|---|
| 1/2011 | 31.8 |
| 2/2011 | 41.8 |
| 3/2011 | 51.3 |
| 4/2011 | 33.8 |

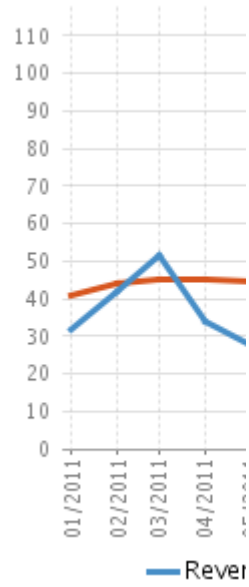
| Month | Expenses |
|---|---|
| 1/2011 | 41.1 |
| 2/2011 | 43.8 |
| 3/2011 | 45.3 |
| 4/2011 | 45.0 |

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| | |
|---|---|
| Show Legend | true |
| | |
| | |
| | |
| | |
| | |

| | |
|---|---|
| 5/2011 | 27.6 |
| 6/2011 | 49.8 |
| 7/2011 | 51.8 |
| 8/2011 | 77.3 |
| 9/2011 | 73.8 |
| 10/2011 | 97.6 |
| 11/2011 | 101.2 |
| 12/2011 | 113.7 |

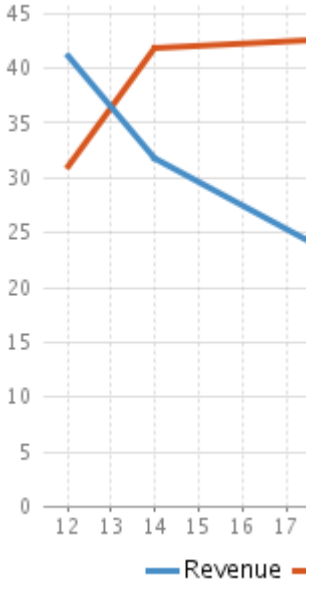
| | |
|---|---|
| 5/2011 | 44.6 |
| 6/2011 | 43.8 |
| 7/2011 | 51.8 |
| 8/2011 | 52.3 |
| 9/2011 | 53.8 |
| 10/2011 | 55.6 |
| 11/2011 | 61.2 |
| 12/2011 | 63.7 |




***XY Line Chart***

| Parameters in Macro Browser | |
|---|---|
| Type | xyLine |
| Show Legend | true |
| | |

| | 12 | 14 | 23 |
|---|---|---|---|
| Revenue | 41.1 | 31.8 | 12.4 |
| Expense | 31.1 | 41.8 | 43.6 |



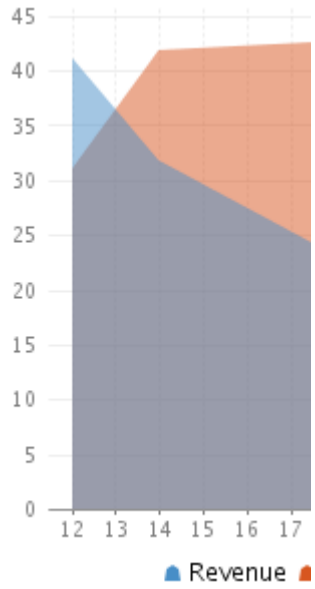

***XY Area Chart***

| Parameters in Macro Browser | |
|---|---|
| Type | xyArea |
| Show Legend | true |
| | |
| | |
| | |

| | 12 | 14 | 23 |
|---|---|---|---|
| Revenue | 41.1 | 31.8 | 12.4 |
| Ex | 31. | 41. | 43. |

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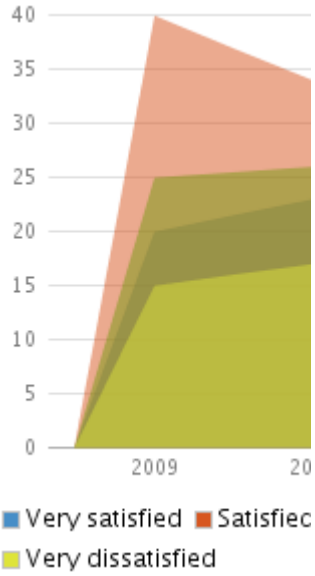
| | | | | | |
|---|---|---|---|---|---|
| | | pense | 1 | 8 | 6 |




***Area Charts***

Example 1

| Parameters in Macro Browser | | Data Table in Macro Placeholder | | | |
|---|---|---|---|---|---|
| Type | area | **Satisfaction** | **2009** | **2010** | **2011** |
| Show Legend | true | Very satisfied | 20 | 23 | 34 |
| Width | 300 | Satisfied | 40 | 34 | 23 |
| Height | 300 | Dissatisfied | 25 | 26 | 25 |
| Opacity | 50 | Very dissatisfied | 15 | 17 | 18 |



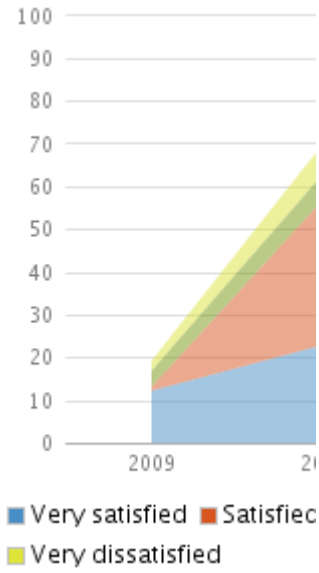

Example 2

| Parameters in Macro Browser | | Data Table in Macro Placeholder | Rendered Chart |
|---|---|---|---|

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| | |
|---|---|
| Type | area |
| Show Legend | true |
| Width | 300 |
| Height | 300 |
| Stacked Values | true |

| Satisfaction | 2009 | 2010 | 2011 |
|---|---|---|---|
| Very satisfied | 12 | 23 | 31 |
| Satisfied | 1 | 34 | 36 |
| Dissatisfied | 4 | 6 | 22 |
| Very dissatisfied | 2 | 7 | 12 |




***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Cheese Macro

The Cheese macro simply displays the words "I like cheese!" You can use this macro to test the Confluence macro functionality.

**To add the Cheese macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**Note:** There are no parameters for this macro.

**Related pages:**

- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- How to Make Gorgonzola Cheese
- Confluence User's Guide

### Children Display Macro

Use the Children Display macro to list the child pages of a page and the further descendants (children's

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children). By default, the macro displays links to the child pages as shown in the screenshot below. People viewing the page will see only the links for pages that they have permission to view.

*Screenshot: The Children Display macro in Confluence*




**On this page:**

- Using the Children Display macro
- Example
- Parameters
- Code examples

**Related pages:**

- Working with Pages
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### *Using the Children Display macro*

**To add the Children Display macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

### *Example*

This list of child pages is generated by a Children Display macro on this page:

- Child Page 1
- Child Page 2

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Show Descendants** | false | Choose whether to display all the parent page's descendants.<br>• If true shows the complete tree of pages underneath the parent page, regardless of **De pth of Descendants** |
| **Parent Page** | current | Specify the page to display children for, from either the current space or a different space. Enter:<br>• `'/'` — to list the top-level pages of the current space, i.e. those without parents.<br>• `'pagename'` — to list the children of the specified page.<br>• `'spacekey:'` — to list the top-level pages of the specified space.<br>• `'spacekey:pagename'` — to list the children of the specified page in the specified space. |
| **Number of Children** | none | Restrict the number of child pages that are displayed at the top level. |
| **Depth of Descendants** | none | Enter a number to specify the depth of descendants to display. This setting has no effect of **Show Descendants** is enabled. |
| **Heading Style** | none | Choose the style used to display descendants. |
| **Include Excerpts** | false | Display excerpts for the child pages, if they exist. |
| **Sort Children By** | Manual if manually ordered, otherwise alphabetical | Optional. Choose:<br>• **creation** — to sort by content creation date<br>• **title** — to sort alphabetically on title<br>• **modified** — to sort of last modification date. |
| **Reverse Sort** | false | Use with the **Sort Children By** par ameter. When set, the sort order changes from ascending to descending. |

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

**Child Page 1**

***Grandchild***

**Child Page 2**

This page is used to test the {children} macro.

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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:

```
public static void main(String[] args)
{
  System.out.println("Hello World!");
}
```

**On this page:**


- Using the Code Block Macro
- Parameters
- Configuring the Code Block macro
- Code examples


**Related pages:**

- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### *Using the Code Block Macro*

**To add the Code Block macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

You can now type the code block directly into the macro placeholder in the editor. Note that any white space contained in the placeholder is not manipulated in any way by the Code Block macro. This is to provide the writer with flexibility over code indentation.

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Syntax highlighting** | java | Specifies the language (or environment) for syntax highlighting. The default language is Java but you can choose from one of the following languages/environments:<br>• **actionscript3**<br>• **bash**<br>• **csharp** (C#)<br>• **coldfusion**<br>• **cpp** (C++)<br>• **css**<br>• **delphi**<br>• **diff**<br>• **erlang**<br>• **groovy**<br>• **html/xml**<br>• **java**<br>• **javafx**<br>• **javascript**<br>• **none** (no syntax highlighting)<br>• **perl**<br>• **php**<br>• **powershell**<br>• **python**<br>• **ruby**<br>• **scala**<br>• **sql**<br>• **vb** |
| **Title** | none | Adds a title to the code block. If specified, the title will be displayed in a header row at the top of the code block. |
| **Collapsible** | false | If selected, the code macro's content will be collapsed upon visiting or refreshing the Confluence page. Clicking the **`exp and source`** link allows you to view this content. If false, the code macro's content is always displayed in full. |
| **Show line numbers** | false | If selected, line numbers will be shown to the left of the lines of code. |
| **First line number** | 1 | When **Show line numbers** is selected, this value defines the number of the first line of code. |

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| | | |
|---|---|---|
| **Theme** | Default | Specifies the colour scheme used for displaying your code block. Many of these themes are based on the default colour schemes of popular integrated development environments (IDEs). The default theme is **Confluence** (also known as **Default**), which is typically black and coloured text on a blank background. However, you can also choose from one of the following other popular themes:<br>• **DJango**<br>• **Emacs**<br>• **FadeToGrey**<br>• **Midnight**<br>• **RDark**<br>• **Eclipse**<br>• **Confluence** |

#### *Configuring the Code Block macro*

You can configure the Code Block macro to use a specific language and theme by default and also upload new lanuages. You need **Confluence Administrator** permissions to change the default theme and language and **System Administrator** permissions to upload new languages.

**To set the default appearance of code blocks in your site:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Configure Code Macro**.
3. Select a **Default Theme** and **Default Language**.
4. Choose **Save**.

All new code blocks will use the default theme and language unless you specify otherwise. Existing code blocks will be unchanged.

**To add an additional language:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Configure Code Macro**.
3. Choose **Add a new language**.
4. Locate your language file and enter a **Name** for the new language (this will appear when selecting the language).
5. Choose **Add**.

Language files must be correctly formatted JavaScript files and adhere to the Custom Brush syntax. You can find some examples of language files here.

**To disable or remove a user-installed language:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Manage Add-ons**.
3. Go to **User-installed Add-ons** and locate the add-on for your uploaded language - it will appear like this 'Custom Code Macro Highlighting for...'
4. Choose **Uninstall** or **Disable**.

The language will no longer appear in the Code Macro.

#### *Code examples*

See:

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- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

- Using the Code Block Macro
- Parameters
- Configuring the Code Block macro
- Code examples

### Column Macro

Used with the Section macro to define columns on a page. See Working with page layouts and columns and sections.

### Content by Label Macro

The Content by Label macro displays links to pages, blog posts and attachments that have been tagged with specific labels.

#### *A working example*

Below is a working example of the Content by Label macro, displaying content with the label 'LDAP'.

Testing LDAP Connection using JXplorer (Atlassian Development)
ldap

InvalidSearchFilterException: Empty filter when Synchronising LDAP (JIRA Knowledge Base)
ldap

Error Performing LDAP Search Filter Due to Incomplete Base DN (Confluence Knowledge Base)
ldap

Getting 'Exception when Adding LDAP group' For User Authentication Only (Confluence Knowledge Base)
ldap

Users Are Unable to Log in Due to 'uSNChanged' Warnings (Confluence Knowledge Base)
ldap

Showing first 5 of 839 results

**On this page:**


- A working example
- Using the Content by Label Macro
- Parameters
- Code examples


**Related pages:**

- Related Labels Macro
- Navigation Map Macro
- Recently Used Labels Macro
- Working with Confluence Labels
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

#### *Using the Content by Label Macro*

**To add the Content by Label macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of

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suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Label(s)** | None | Filter by label(s). The macro will display only the content tagged with the label(s) specified here. See also the **Operator** parameter below.<br><br>This parameter is required. Specify one or more labels, separated by a comma or a single space.<br><br>• 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'.<br>• 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'. |
| **Author(s)** | None | Filter by author. The macro will display only the content created or updated by the author(s) specified here.<br><br>Specify one or more authors, separated by a comma.<br>For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |

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| | | |
|---|---|---|
| **Include this Content Type Only** | all | Filter by content type. The macro will display only the content of the type specified here.<br><br>Specify one or more content types, separated by a comma or a space.<br><br>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.<br><br>Available values:<br><br>• `page` – Pages.<br>• `blogpost` or `news` – Blog posts, also known as news items.<br>• `attachment` – Attachments |
| **Show Labels for Each Page** | true | Show or hide labels in the results. |
| **Show Space Name for Each Page** | true | Show or hide spaces in the results. |
| **List Title** | None | Add a title or heading to the list. |
| **Maximum Number of Pages** | 15 | Limit the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied. |
| **Display Excerpts** | false | Include excerpts from each page listed. Note that you must have defined excerpts on each of those pages, by adding the excerpt macro to the page. Only the first few lines of the excerpt for each page are displayed. |

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| | | |
|---|---|---|
| **Restrict to these Spaces** | @all | Filter by space. The macro will display only the content which belongs to the space(s) specified here.<br><br>Specify one or more space keys, separated by a comma or a space.<br><br>• 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.<br>• 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.)<br><br>Special values:<br><br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |

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| | | |
|---|---|---|
| **Operator** | OR | The operator to apply when matching content against the labels specified in the **Label(s)** parameter:<br>• **OR** – Display content with *any* of the non-prefixed labels.<br>• **AND** – Display content with *all* of the specified non-prefixed labels.<br><br>Note that this parameter only modifies the behaviour of the **Label(s)** parameter and only affects label values without a plus (+) or minus (-) sign prefix. |
| **Sort By** | modified | Specify how the results should be sorted.<br><br>Values:<br>• **title** — Sort alphabetically by title.<br>• **creation** — Sort by the date on which the content was added.<br>• **modified** — Sort by the date on which the content was last updated.<br><br>Note: If this parameter is not specified, the sort order defaults to descending, based on the last modification date (latest first). To change the sort order from ascending to descending, use the **Reverse Sort** parameter. |
| **Reverse Sort** | false | Select **Reverse Sort** to change the sort from descending to ascending. Use this parameter in conjunction with the **Sort By** parameter. **Reverse Sort** is ignored if **Sort By** is not specified. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Content by User Macro

The Content by User macro generates a tabulated list of the content items, throughout the Confluence installation, that have been created by a specified Confluence user. The list includes all current pages, comments and spaces created by the user. Each item in the table is linked to its corresponding page, page comment or space dashboard.

Note that items for page comments contain a link to the page, followed by a second link to the comment itself, with these separated by a greater-than sign (>).

#### *Using the Content by User macro*

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**To add the Content by User macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Content by User macro
- Parameters
- Code examples


**Related pages:**

- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Username** | none | The Confluence username for a person who has created content. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Content Report Table Macro

The Content Report Table macro displays a set of pages and blog posts in tabular format, based on the labels specified in the macro parameters.

#### *A working example*

Below is a working example of the Content Report Table macro, displaying content with the label 'LDAP'.

| Title | Creator | Modified |
|---|---|---|
| Connecting to an Internal Directory with LDAP Authentication | Sarah Maddox [Atlassian] | Sep 25, 2013 |
| Requesting Support for External User Management | Matt Ryall [Atlassian] | Sep 25, 2013 |
| User Management Limitations and Recommendations | Sarah Maddox [Atlassian] | Sep 25, 2013 |
| Diagrams of Possible Configurations for User | Sarah Maddox [Atlassian] | Sep 25, 2013 |

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| | | |
|---|---|---|
| Management | | |
| Synchronising Data from External Directories | Sarah Maddox [Atlassian] | Sep 25, 2013 |
| Managing Multiple Directories | Sarah Maddox [Atlassian] | Sep 13, 2013 |
| Configuring an SSL Connection to Active Directory | Sarah Maddox [Atlassian] | Sep 25, 2013 |
| Configuring the LDAP Connection Pool | Sarah Maddox [Atlassian] | Sep 25, 2013 |
| Connecting to LDAP or JIRA or Other Services via SSL | Nick Faiz | Apr 29, 2013 |
| Connecting to an LDAP Directory | Sarah Maddox [Atlassian] | Jul 30, 2012 |
| Configuring User Directories | Sarah Maddox [Atlassian] | Jul 03, 2012 |
| Managing Nested Groups | Sarah Maddox [Atlassian] | Apr 26, 2012 |

**On this page:**


- A working example
- Using the Content Report Table Macro
- Parameters
- Code examples


**Related pages:**

- Related Labels Macro
- Content by Label Macro
- Working with Confluence Labels
- Working with Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### *Using the Content Report Table Macro*

**To add the Content Report Table macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Label(s)** | None | This parameter is required. Specify one or more labels, separated by a comma. The macro will display the content tagged with any of the label(s) specified here.<br><br>For example, if you specify labels 'A' and 'B', the macro will display all pages that have the label 'A', and all pages that have the label 'B', and all pages that have both those labels. |
| **Space(s)** | (All spaces) | Specify one or more space keys, separated by a comma or a space. The macro will display only the content which belongs to the space(s) specified here.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |
| **Maximum Number of Pages** | 20 | Define the maximum number of pages that the macro will show in a single set of results. If there are more pages to be shown, the macro will display a link labelled 'Find more results'. People viewing the page can choose the link to go to a search view, which shows all pages tagged with the specified label(s).<br><br>Which pages will appear? Before displaying the results, Confluence will sort them by the date the page was last modified. The most-recently created/updated pages will appear first. |

***Code examples***

See Confluence Storage Format for Macros.

Wiki markup is not available for this macro. You cannot add this macro via wiki markup.

### 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 the 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*

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This is the Contributors macro

- Rach Admin
- Josh User
- Sophie Staunton

In this example, the **Display Format** parameter has been set to **list**.

**On this page:**


- Using the Contributors Macro
- Parameters
- Code examples


**Related pages:**

- Contributors Summary Macro
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### *Using the Contributors Macro*

**To add the Contributors macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Contribution Type** | authors | Filters by either the type of contribution made to a page (and optionally its descendant pages), or the watches on the page. Contribution types are:<br>• `authors` - includes people who created or have edited the page(s)<br>• `comments` - includes people who have added comments to the page(s)<br>• `labels` - includes people who have added labels to the page(s)<br>• `watches` - includes people who are watching the page(s).<br><br>You can specify one or more contribution types, separated by commas. |

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| | | |
|---|---|---|
| **Sort By** | count | Specifies the criteria used to sort contributors. Sort criteria are:<br>• **count** - sorts people based on the total number of contributions to the page(s)<br>• **name** - sorts people into alphabetical order<br>• **update** - sorts people based on the date of their last contribution to the page(s). |
| **Reverse Sort** | false | Reverses the sort order of contributors in the list. Must be used in conjunction with the **Sort By** parameter. |
| **Maximum Number of Contributors** | no limit | Limits the number of contributors in the list. If a number is not specified, all contributors are included. |
| **Display Format** | inline | Sets how the list of contributor's names is formatted:<br>• **inline** — a comma-separated list<br>• **list** — a bullet list. |
| **Show Anonymous Contributions?** | false | Sets whether to include those who contributed anonymously to a page. |
| **Show Count?** | false | Sets whether to show the number of times each person made a contribution of the specified **Contribution Type**. |
| **Show Last Contribution Time?** | false | Sets whether to show the last time each person made a contribution of the specified **Contribution Type**. |
| **Page Name** | current | Specifies the page to use when generating the list of contributors. If **Page Name** and **Space(s)** are left blank, the current page is assumed. |
| **Label(s)** | none | Filters the list of contributors to those who created the specified labels from a page. You can specify one or more labels, separated by commas. |

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| | | |
|---|---|---|
| **Space(s)** | current | Specifies the space key of the Confluence space that contains the page set in **Page Name** or alternatively, specifies the spaces to search. Space keys are case-sensitive.<br><br>This parameter also takes special values, including:<br>• `@global` — All site spaces.<br>• `@personal` — All personal spaces.<br>• `@all` — All spaces in your Confluence site.<br><br>You can specify one or more space keys or special values, separated by commas.<br><br>If no **Page Name** and **Label(s)** are specified, all pages from the specified set of spaces are included. |
| **Content Type** | both pages and blog posts | Restricts the content type to use when generating the list of contributors:<br>• **pages** — pages<br>• **blogposts** — blog posts. |
| **Blog Post Date** | none | Specifies the publish date for a blog post. The date format required is: YYYY/MM/DD. |
| **Include Page Hierarchy** | specified page only | Specifies additional pages to include when generating the list of contributors:<br>• **children** — just the child pages of the specified page<br>• **descendants** — all descendants of the specified page. |
| **Show Selected Pages** | false | Sets whether to show a list of the pages used to generate the list of contributors. |
| **Custom "None Found" Message** | default message | Specifies the message to be used to override the default message that is displayed when no contributors are found. |

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Contributors Summary Macro

The Contributors Summary macro displays a table of contribution-based statistics for a set of pages. These

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statistics can be grouped according to individual pages or individual contributors.

The default scope for this macro is 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)

**On this page:**


- Using the Contributors Summary Macro
- Parameters
- Code examples


**Related pages:**

- Contributors Macro
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

A simple example of the Contributors Summary macro is shown in the screenshot below. It lists statistics for the number of times each contributor has edited, added comments and added labels to this page.

*Screenshot: Example Contributors Summary table of statistics*

| User | Edits | Comments | Labels |
|---|---|---|---|
| Sarah Maddox | 2 | 2 | 0 |
| Edwin Dawson | 2 | 0 | 0 |
| Giles Gaskell | 2 | 0 | 0 |
| Rosie Jameson | 2 | 0 | 0 |
| Andrew Lui | 2 | 0 | 1 |
| Charles Miller | 1 | 0 | 0 |
| Andrew Prentice | 0 | 0 | 1 |

In this example, all default parameter settings are used. For more information about this macro's parameters, refer to the Parameters section below.

#### *Using the Contributors Summary Macro*

**To add the Contributors Summary macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

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| Parameter | Default | Description |
| --- | --- | --- |
| **Group By** | contributors | Specifies the basis for grouping contribution-based statistics:<br>• **contributors** — group by the people who have contributed<br>• **pages** — group by the pages used to find contributors. |

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| | | |
|---|---|---|
| **Columns to Display** | edits,comments,labels | Sets the columns that should appear in the table. The statistics or type of information presented depends on the basis for grouping set with the **Group By** parameter. Statistics may be calculated for:<br>• `edits` — the number of times each contributor has edited the page(s) or the number of edits made to each page.<br>• `edited` — a list of the pages edited by each contributor or a list of contributors who have edited each page.<br>• `comments` — the number of times each contributor has added comments to the page(s) or the number of comments on each page.<br>• `commented` — a list of pages to which each contributor has added comments or a list of contributors who have commented on each page.<br>• `labels` — the number of times each contributor has added labels to the page(s) or the number of labels on each page.<br>• `labeled` — a list of pages to which each contributor has added labels or a list of contributors who have added a label to each page.<br>• `labellist` — a list of labels either added by each contributor or on each page.<br>• `watches` — the number of pages being watched by each contributor/person or the number of contributors/people watching each page.<br>• `watching` — a list of pages being watched by each contributor/person or a list of contributors/people watching each page.<br>• `lastupdate` — the last time each contributor made an update or when each page was last updated. Valid updates can include edit, comment or label modifications to a page.<br><br>One or more columns can be used. |

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| | | |
|---|---|---|
| **Sort By** | edits | Sets the criterion used for sorting items in the table. The items sorted depend on the basis for grouping set with the **Group By** parameter. Sort criteria are:<br>• `edits` — sorts items in the table based on the total number of edits made, either by a contributor or to a page.<br>• `name` — sorts items in the table in alphabetical order, either by contributor or page name.<br>• `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 lasted edited.<br>• `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 any contribution made to it. |
| **Reverse Sort** | false | Reverses the sort order of items in the table, as specified using the **Sort By** parameter. (Used only in conjunction with the **Sort By** parameter.) |
| **Maximum Number of Items** | no limit | Limits the number of contributors or pages in the table to the value specified. If no number is specified, all items are included. |
| **Show Anonymous Contributions?** | false | Includes individuals who have made anonymous contributions to a page. |
| **Show Zero Counts?** | false | Sets whether contributors or pages are included for which a calculated statistic is zero. |
| **Page Name** | current | Sets the page for which to calculate the contribution-based statistics. If no values for **Page Name** and **Space(s)** are specified, the current page is assumed. |
| **Label(s)** | none | Restricts the contribution-based statistics to the specified labels only. You can specify one or more labels, separated by commas. |

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| | | |
|---|---|---|
| **Space(s)** | current | Specifies the space key of the Confluence space which contains the specified page name or alternatively, specifies a scope of spaces to search. Space keys are case-sensitive.<br><br>This parameter also takes special values, including:<br>• `@global` — All site spaces.<br>• `@personal` — All personal spaces.<br>• `@all` — All spaces in your Confluence site.<br><br>You can specify one or more space keys or special values, separated by commas.<br><br>If no **Page Name** and **Label(s)** are specified, all pages from the specified set of spaces are included. |
| **Content Type** | both pages and blog posts | Restricts page types to either pages (**pages**) or blog posts (**blog posts**). If no value is specified in the Macro Browser, both pages and blog posts are included. |
| **Blog Post Date** | none | Specifies the publish date for a blog post. The date format required is: YYYY/MM/DD. |
| **Include Page Hierarchy** | 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. |

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Create from Template Macro

The Create from Template macro displays a button on a page, linked to a specific template. When someone clicks the button, the macro opens the editor, ready to add a new page, and adds content to the page based on the given template.

When adding the macro to the page, you can specify a blueprint or a user-created template in the macro. You will also specify the name of the button displayed, and the space in which the new page will appear.

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**On this page:**

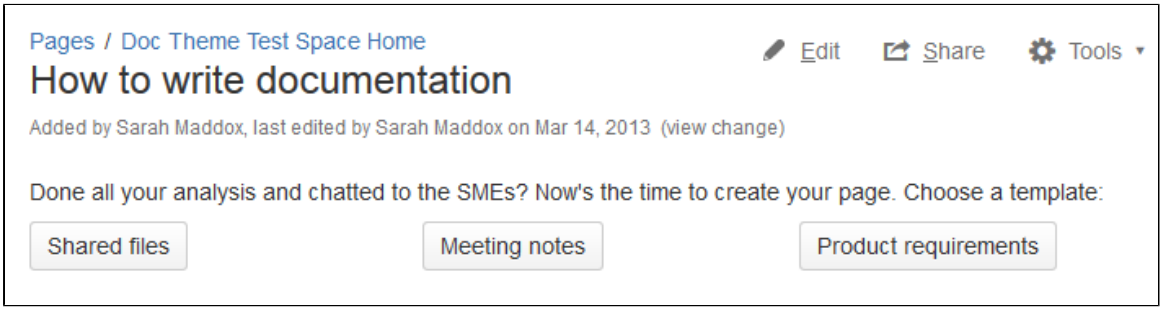

- Example
- Using the Create from Template Macro
- Parameters
- Code examples


**Related pages:**

- Working with Templates
- Working with Macros
- Confluence User's Guide

### *Example*

*Screenshot: A page with three buttons, all displayed by the 'Create from Template' macro*




### *Using the Create from Template Macro*

**To add the Create from Template macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| Button Text | 'Create from Template' | The description that people will see when viewing this macro on the page. |
| Template Name | None | Select the template or blueprint to base the new page on. Only global and user-created templates for the current space appear (unless you have specified a different space in the 'Space Key' field). |
| Template Title | Blank | Specify a default title for pages created using this macro (optional). You can include @currentDate, @spaceName and @spaceKey variables in the title. |

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| | | |
|---|---|---|
| Space Key | The space where the current page is located | Supply the unique space identifier (space key), to determine where the new page will be created when someone uses this macro to create a page. |

#### *Code examples*

See:

- Confluence Storage Format for Macros
- Wiki markup is not available for this macro. You cannot add this macro via wiki markup.

### Create Space Button Macro

The Create Space Button macro displays a create space icon that links to the 'Create Space' page. To see this icon, viewers need the 'Create Space' permission which is assigned by a site administrator.

*Screenshot: The 'create space' button in Confluence*



#### *Using the Create Space Button macro*

**To add the Create Space Button macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Create Space Button macro
- Parameters
- Code examples


**Related pages:**

- Creating a Space
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Icon Size** | large | Specify whether to use large or small icon. Available values:<br>• **large**<br>• **small** |

#### *Code examples*

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See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Excerpt Include Macro

The Excerpt Include macro is used to display 'excerpted' (that is, a segment of) content from one page in another.

Before you can use this macro, the excerpt must have been defined using the Excerpt macro. Note that you can have more than one Excerpt Include macro on a page (although you can have only one Excerpt macro on a page).

### *Example*

The paragraph below shows an example of an Excerpt Include macro, containing content from an excerpt which we have defined on the Excerpt Macro page. On the Excerpt Include macro below, we have set the options to show both the title of the page and the panel surrounding the content.

| Excerpt Macro |
| --- |
| Define a part of a page as the page's 'excerpt' which can then be displayed in another page. |

**On this page:**


- Example
- Using the Excerpt Include Macro
- Parameters
- Code examples


**Related pages:**

- Excerpt Macro
- Page Properties Macro
- Working with Macros
- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros
- Confluence User's Guide

### *Using the Excerpt Include Macro*

**To add the Excerpt Include macro to a page**:

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
| --- | --- | --- |

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| | | |
|---|---|---|
| **Page Containing the Excerpt** | none | Type the name of the page that contains the excerpt to be displayed. You can use an excerpt from a page in the same space or another space in the same wiki.<br><br>When you type the name of the page into the Excerpt Include macro dialog, Confluence will offer a list of matching pages, including those from other spaces.<br><br>Alternatively, you can type the space key followed by a colon (:) and the page name, like this:<br><br>`SPACEKEY:Page name` |
| **Remove Surrounding Panel** | false | Determines whether Confluence will display a panel around the excerpted content. The panel includes the title of the page containing the excerpt, and the border of the panel. By default, the panel and title are shown. |

#### *Code examples*

See:

- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros

### Excerpt Macro

The Excerpt macro is used to mark a part of a page's content for re-use. Defining an excerpt enables other macros, such as the Excerpt Include and Blog Posts macros, to display the marked content elsewhere.

You can only define one excerpt per page. In other words, you can only add the Excerpt macro once to a page.

**On this page:**


- Using the Excerpt Macro
- Parameters
- Code examples


**Related pages:**

- Excerpt Include Macro
- Working with Macros
- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros
- Confluence User's Guide

#### *Using the Excerpt Macro*

**To add the Excerpt macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

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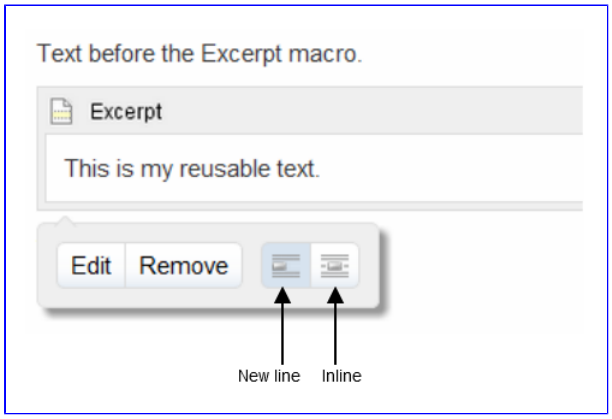
**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**To add reusable content to the macro:**

1. Add your content inside the Excerpt macro placeholder.
2. Choose the macro placeholder to see the options panel, and select the option to **Display on new line** or to **Display inline**. The default is to display the content of the macro on a new line. If you choose the inline option, the content of the macro will form part of the same paragraph as the text preceding and following it. Note that this option affects only the page that contains the Excerpt macro. It does not affect any pages where the content is reused.

*Screenshot: The Excerpt macro placeholder and options panel*




#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Hide Excerpted Content** | false | Controls whether the page content contained in the Excerpt macro placeholder is displayed on the page. |

#### *Code examples*

See:

- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros

### Expand Macro

The Expand macro displays an expandable/collapsible section of text on your page.

Here is an example:

Click here to expand...

This text is hidden until you expand the section.

#### *Using the Expand Macro*

**To insert the Expand macro into a page using the macro browser:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

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**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Expand Macro
- Parameters
- Code examples
- Notes


**Related pages:**

- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Title** | Click here to expand... | Defines the text that appears next to the expand/collapse icon. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

#### *Notes*

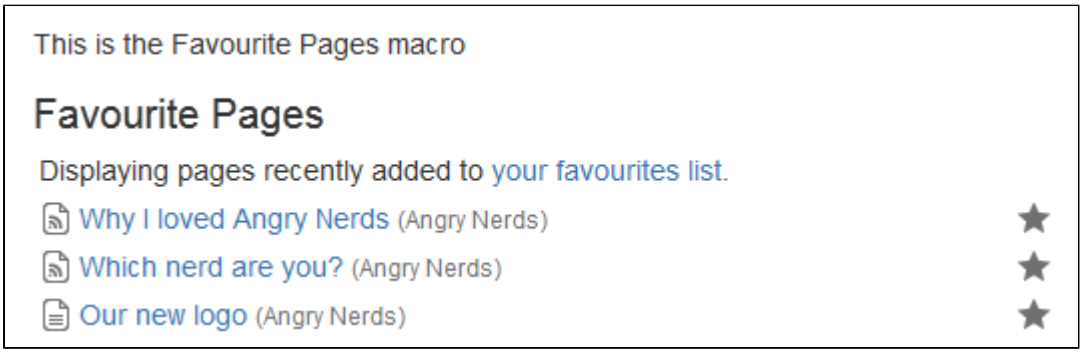
- **Text is expanded in PDF and HTML exports.** When you export the page to PDF or HTML, the text between the macro tags is expanded so that readers can see it in the PDF and HTML versions of the page.
- **Nesting your Expand macros.** You can put one Expand macro inside another, and Confluence will correctly show and hide the contents of all Expand macros, including the nested ones.

### Favourite Pages Macro

Use the Favourite Pages macro to display a list of your favourite pages.

The output of the Favourite Pages macro appears as in the following screenshot.

*Screenshot: The Favourite Pages Macro in Confluence*




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**On this page:**


- Using the Favourite Pages Macro
- Code examples


**Related pages:**

- Working with Favourites
- Working with Macros
- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros
- Confluence User's Guide

#### *Using the Favourite Pages Macro*

**To insert the favourite pages macro into a page using the Macro Browser:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

There are no parameters for this macro.

#### *Code examples*

See:

- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros

### Gadget Macro

Gadgets are small applications that can offer dynamic content. They are typically served from a web application server and can be re-used in many other web applications. In Confluence, use the Gadget macro to add gadgets to pages or blog posts.

Confluence comes bundled with a few of its own gadgets that you can add to your pages or blog posts. The Confluence gadgets are listed in Confluence Gadgets. However, you can access additional gadgets in this list if your Confluence Administrator has:

- Installed additional gadgets in Confluence (typically as a Confluence plugin) or
- Registered gadgets served from an external web application or website (such as those from a JIRA installation or iGoogle).

Unlike other macros, the name of each gadget macro is unique and follows the convention **"<gadget-name> macro"**, where **<gadget-name>** is the name supplied by the gadget itself.

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**On this page:**


- Inserting gadgets into a Confluence page or blog post
- Editing gadgets on a Confluence page or blog post
- Standard gadget parameters
- Contents of a Gadget macro
- Code examples


**Related pages:**

- The big list of Atlassian gadgets
- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros
- Confluence User's Guide

### *Inserting gadgets into a Confluence page or blog post*

**To add a gadget to a page:**

1. Edit your page or blog post.
2. Choose **Insert** > **Other Macros**.
3. Click **External Content** to see a list of gadgets configured for use in your Confluence installation. (Some Confluence macros like the JIRA Issues, RSS Feed, Tasklist and Widget Connector macros also appear in this category because they can also access external content.)
4. Click the desired gadget to access its parameters and properties.
   Almost all gadgets allow you to set basic parameters (listed below), which appear on the right of the macro dialog. Each gadget may also have its own set of parameters, which appear on the left of the macro dialog.
5. Set the parameters to your requirements.
6. Click **Refresh** to preview your changes.
7. Click **Insert** to add the gadget to the page.

### *Editing gadgets on a Confluence page or blog post*

**To edit an existing gadget on a page or blog post:**

1. Edit your page or blog post.
2. Click the Gadget macro placeholder and choose **Edit** (or double-click the placeholder).
3. Set the gadget's parameters to your requirements.
4. Click **Refresh** to preview your changes.
5. **Save** the gadget.

### *Standard gadget parameters*

Almost all gadgets allow you to set basic parameters (listed below), which appear on the right of the macro dialog. Each gadget may also have its own set of parameters, which appear on the left of the macro dialog.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Width** | 450 pixels | Set the width of the gadget, using one of the following conventions:<br>• Width in pixels, using `px` or plain numbers. For example, `500px` or `500`<br>• A percentage of the page width, using `%`. For example, `50%`<br>• Automatic resizing of the gadget to fit 100% of the page width: `auto` |
| **Border** | true | Places a thin grey border around the gadget. |

#### *Contents of a Gadget macro*

In the addition to the standard parameters, the gadget macro contains 'parameter-like' content, which represents specific property settings that are particular to each gadget. Hence they are not documented here. Typically, this content would only be changed by customising the gadget's default properties using the macro browser.

#### *Code examples*

See:

- Confluence Storage Format for Macros
- Confluence Wiki Markup for Macros

### Gallery Macro

The Gallery macro displays a collection 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 a screen-sized image and then view the images as a slide show.

**Overview:**

- 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 captions 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.
- You can sort your images into a particular order.
- 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.

**On this page:**


- Using the Gallery macro
- Parameters
- Image file formats
- Code examples


**Related pages:**

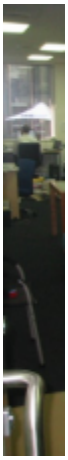
- Displaying Images
- Attaching Files to a Page
- Editing Attachment Properties
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

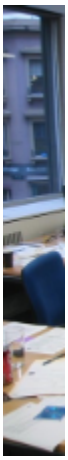
*Illustration: Live example of the Gallery macro*

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***Some office photos, and a waterfall***







Here's an office photo

Here is the waterfall photo

***Using the Gallery macro***

**To insert the Gallery macro onto a page**:

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

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**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

The full list of parameters is shown in the following table. If the name of an attached file or page contains a comma, you can refer to it in the relevant parameters below by enclosing it in single or double quotes, for example `"this,that.jpg", theother.png`

| Parameter | Default | Description |
|---|---|---|
| **Gallery Title** | Nothing | Specify a title for your gallery. |
| **Number of Columns** | 4 | Specify the number of columns for your table. |
| **Images to Exclude** | No exclusions. Include all the pictures on the page. | The gallery will ignore any pictures specified. You can specify more than one picture, separated by commas.<br>Note: The filename and filetype for this parameter are case-sensitive. For example, 'my picture.PNG' will not be recognised as 'my picture.png'. |
| **Include these Images Only** | Include all the pictures on the page. | If you specifically include one or more pictures, the gallery will show only those pictures. You can specify more than one picture, separated by commas.<br>Note: The filename and filetype for this parameter are case-sensitive. For example, 'my picture.PNG' will not be recognised as 'my picture.png'. |
| **Exclude Images with these Labels** | No exclusions. Include all the pictures on the page. | The gallery will ignore any pictures that have the specified label. You can specify more than one label, separated by commas. For information on labelling the attachments, see Adding Labels. |
| **Include Images with these Labels Only** | None. The images are not filtered by label. | Filters the images to display, based on a list of labels. If you wish to enter more than one label, separate the labels with commas. Confluence will show only images that have **all** the labels specified. (The match is an AND, not an OR.) For information on labelling the attachments, see Adding Labels. |
| **Use Images in these Pages** | If no page is specified, the gallery macro displays the images attached to the page on which the macro is used. | Specify the title of the page which contains the images you want displayed. You can specify more than one page name, separated by commas. To specify a page in a different space, use the following syntax: `SPACEKEY:Page Title` |

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| | | |
|---|---|---|
| **Sort Images By** | None. The sort order is unspecified and therefore unpredictable. | Specify an attribute to sort the images by. Sort order is ascending, unless you select the **Reverse Sort** parameter (see below). Options are:<br>• **name** – file name.<br>• **comment** – comment linked to the attached file.<br>• **date** – date/time last modified.<br>• **size** – size of the attached file. |
| **Reverse Sort** | Off. Sort order is ascending | Used in combination with the **Sort Images By** parameter above. Use **Reverse Sort** to reverse the sort order, from ascending to descending. |

#### *Image file formats*

You can attach image files of any format to a page. Confluence supports the following image formats in the Gallery macro and when displaying an image on a page:

- gif
- jpeg
- png
- bmp (depending on browser support)

#### *Code examples*

See:

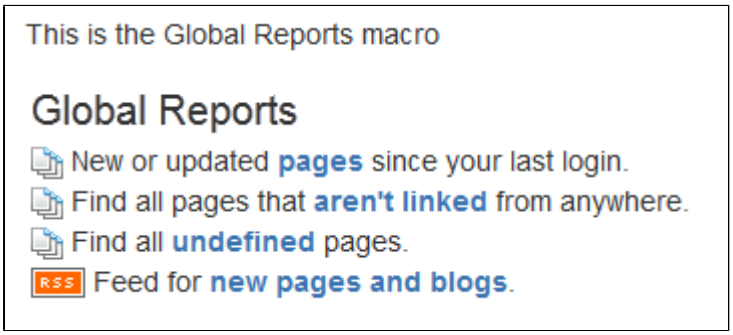
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Global Reports Macro

The Global Reports macro displays a list of links to some reports about content on your site.

These reports include a list of new or updated pages, orphan pages, undefined pages, and RSS feeds for new pages and blog posts.

*Screenshot: The Global Reports macro*




**Related pages:**

- Subscribing to RSS Feeds within Confluence
- Working with Macros
- Confluence User's Guide.

#### *Using the Global Reports Macro*

**To add the Global Reports macro to a page:**

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1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Width of Table** | 99% | Specify the width of the table in which the links are displayed, as a percentage of the window width. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### HTML Include Macro

The HTML Include macro allows you to include the contents of an external HTML file in 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.

#### *Using the HTML Include Macro*

**To insert the HTML Include macro into a page**:

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**Related pages:**

- HTML Macro
- Working with Macros
- Configuring the Whitelist
- Confluence User's Guide

*The information on this page does not apply to Confluence OnDemand.*

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **HTML Page's URL** | None | The URL of the page to include. |

#### *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.

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### HTML Macro

The HTML macro allows you to add HTML code to a Confluence page.

Note that the HTML macro will only be available if it has been enabled by your System Administrator.

#### *Using the HTML Macro*

**To add the HTML macro to a page**:

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

There are no parameters for this macro.

Enter the HTML code into the body of the macro placeholder.

**Related pages:**

- HTML Include Macro
- Working with Macros
- Enabling HTML macros
- Confluence User's Guide

*The information on this page does not apply to Confluence OnDemand.*

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### 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.

#### *Using the IM Presence Macro*

**To add the IM Presence macro to a page:**

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1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Description |
|---|---|
| User ID/Screen Name | Identify the user by their ID, account name or screen name. |
| Service | aim – AOL Instant Messenger<br>gtalk – Google Talk<br>icq – ICQ<br>jabber – Jabber<br>msn – MSN Instant Messenger<br>sametime – IBM Lotus Sametime<br>skype – Skype<br>Skype requires 'Show my status on the web' to be checked under 'Privacy' preferences<br>skypeme – Skype<br>wildfire – Openfire Server<br>yahoo – Yahoo! Messenger |
| Show User ID | Shows or hides the User ID of the contact. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

#### *Related Topics*

- Working with Macros
- Confluence User's Guide

### Include Page Macro

You can use the Include Page macro to display the contents of one Confluence page or blog post in another page or blog post.

#### *Using the Include Page Macro*

**To add the Include Page macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

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**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Page to Include** | None | This is the name of the Confluence page or blog post that you want to include in the current page.<br>• If the page or blog post is located in another space, add the space key and a colon in front of the page name. For example, `DOC:My page name`.<br>• To include a blog post, specify the date as well as the title of the blog post. For example: `/2010/12/01/My blog post`.<br>• The space key is case sensitive.<br>• You can include pages from personal spaces using `~username` as the space key, where 'username' is the person's username. For example, `~jsmith:My page name`. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

#### *Notes*

- If you want to include part of a page rather than the whole page, use the Excerpt and Excerpt Include macros.
- To display a page's contents, you need 'View' permission for that page. Similarly, people who view the page will need 'View' permissions for the embedded page as well as the page into which it is embedded. See space permissions or contact your Confluence space administrator for more information.
- If you want to embed an external page into a Confluence page, you need the HTML Include Macro.

#### *Related Topics*

Working with Macros

**Sample Include Page**

Start of sample page content

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Aliquam fermentum vestibulum est. Cras rhoncus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Sed quis tortor. Donec non ipsum. Mauris condimentum, odio nec porta tristique, ante neque malesuada massa, in dignissim eros velit at tellus. Donec et risus in ligula eleifend consectetuer. Donec volutpat eleifend augue. Integer gravida sodales leo. Nunc vehicula neque ac erat. Vivamus non nisl. Fusce ac magna. Suspendisse euismod libero eget mauris.

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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.

### *Using the Info Macro*

**To add the Info macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Info Macro
- Parameters
- Code examples


**Related pages:**

- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Optional Title** | none | The title of the information box. If specified, the title text will be displayed in bold next to the icon. |
| **Show Information Icon** | true | If "false", the icon will not be displayed. |

### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## JIRA Issues Macro

JIRA is the issue tracking and project management system supplied by Atlassian. By adding the JIRA Issues macro to a Confluence page, you can display one or more issues from a JIRA site. You can also choose to create an issue in JIRA, at the time of adding the macro to the Confluence page.

Before you can use this macro, your Confluence and JIRA sites must be connected via Application Links. People viewing the page will see the publicly accessible issues from the JIRA site. If your JIRA site has restricted viewing (that is, people need permission to view issues) then they will need to authenticate before seeing the restricted issues. See more about restricted JIRA issues below.

### *What you can do with the JIRA Issues macro*

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Using the JIRA Issues macro, you can:

- Display a table of JIRA issues on your page, based on the results of a search using JIRA Query Language (JQL).
- Display a table of JIRA issues onto your page, using a JIRA URL.
- Display a single issue from the JIRA site, or a subset of selected issues from your JIRA search results.
- Display a count of issues from the JIRA site.
- Create a new issue on the JIRA site and display that issue on your page.

#### *Adding and updating the JIRA Issues macro – an overview*

Quick guide to using the macro on a Confluence page:

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- What you can do with the JIRA Issues macro
- Adding and updating the JIRA Issues macro – an overview
- Displaying issues via a JIRA Query Language (JQL) search
- Displaying issues via a JIRA URL
- Displaying a single JIRA issue, or selected JIRA issues
- Displaying a count of issues
- Creating a new issue in JIRA
- Configuring Application Links to display restricted JIRA issues
- Rendering HTML from JIRA
- Disabling the JIRA Issues macro
- Notes
- Code examples for this macro


**Related pages:**

- Working with Macros
- Confluence User's Guide

*Screenshot: Example of JIRA issues macro on a Confluence page*

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| Key | Summary | Type | Created | Assignee | Status |
|---|---|---|---|---|---|
| CONF-29185 | Widget Connector Macro documentation should list unsupported Google Docs formats | | May 04, 2013 | Felipe van Schaik Willig [Atlassian] | Open |
| CONF-29065 | Local Help breaks "Whats New" feature | | Apr 24, 2013 | Unassigned | New |
| CONF-28076 | Provide the Confluence documentation in languages other than English | | Feb 13, 2013 | Unassigned | Open |
| CONF-27923 | MySQL documentation for server collation/charset | | Jan 30, 2013 | Unassigned | New |
| CONF-27719 | Configuring a Webdav client for Confluence page needs to be updated for AOD | | Nov 12, 2012 | Christine Burwinkle [Atlassian Technical Writer] | Open |
| CONF-27460 | JIRA should be a Trusted Application in order for JIRA notifications to show up in Confluence Workbox | | Dec 06, 2012 | Unassigned | New |
| CONF-27132 | Document taking thread dumps in Windows Server 2008 | | Nov 06, 2012 | Unassigned | New |
| CONF-27008 | SOAP API method 'getPageHistory' does not return expected 'pageHistorySummary' object | | Oct 25, 2012 | Unassigned | Open |
| CONF-25734 | Improve the SSL/HTTPS documentation to include PCKS#12 | | Jun 14, 2012 | Unassigned | Open |
| CONF-25581 | update the developer documentation on how exportSite works | | May 28, 2012 | Joe Xie [atlassian] | New |

55 additional issues were returned by the query, to view them all please click here.

***Displaying issues via a JIRA Query Language (JQL) search***

You can use the macro to display a table of JIRA issues on your page, based on the results of a search using JI RA Query Language (JQL).

JQL is a simple query language, similar to SQL, which works in JIRA. A basic JQL query consists of a *field*, followed by an *operator* (such as = or >), followed by one or more *values* or *functions*.

Examples:

- The following query will find all issues in the 'TEST' project:

```
project = "TEST"
```

- The following query will find all issues in the 'documentation' component of the 'CONF' project:

```
project = CONF and component = documentation
```

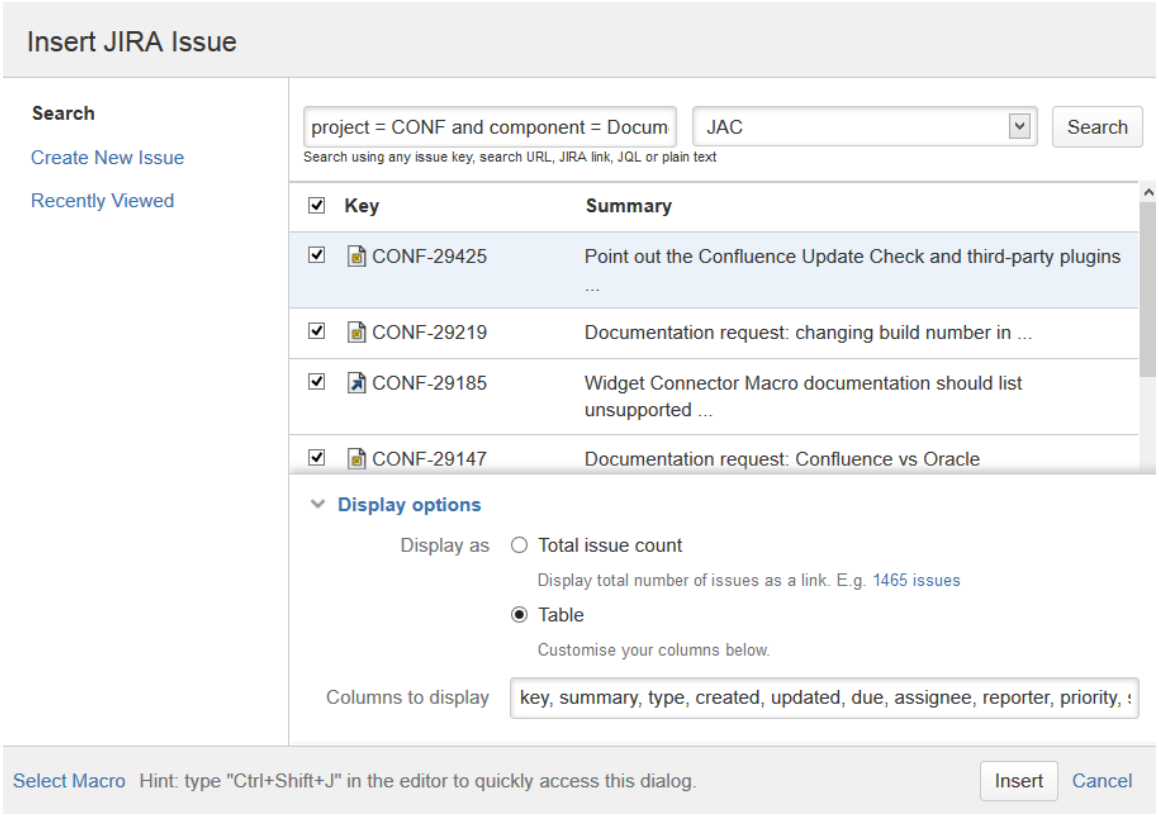
For more information about JQL syntax, see the JIRA documentation: Advanced Searching.

**To display a table of issues based on a JQL search:**

1. Insert the JIRA Issues macro onto your Confluence page, as described above.
2. Choose a JIRA server next to the **Search** button.
3. If prompted, log in to the JIRA server.
4. Enter the JQL query into the **Search** box.
5. Choose **Search**.
6. If you want to customise the display, choose **Display options** and adjust the columns that will appear in your table of issues.
7. Choose **Insert**.

*Screenshot: The JIRA Issues macro browser with a JQL search, and display options*

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***Displaying issues via a JIRA URL***

You can paste any of the following JIRA URLs into the JIRA Issues macro. Confluence will immediately convert the URL to a JQL search.

- Any URL for a JIRA issue search or filter.
- A URL for a single issue.
- The URL of the XML view of a JIRA search.

**Auto-convert:** You can paste a JIRA URL directly into the Confluence editor (without calling up the macro browser). Confluence will automatically convert the URL into a JIRA Issues macro.

***Displaying a single JIRA issue, or selected JIRA issues***

**To display a single JIRA issue**, choose one of the following methods:

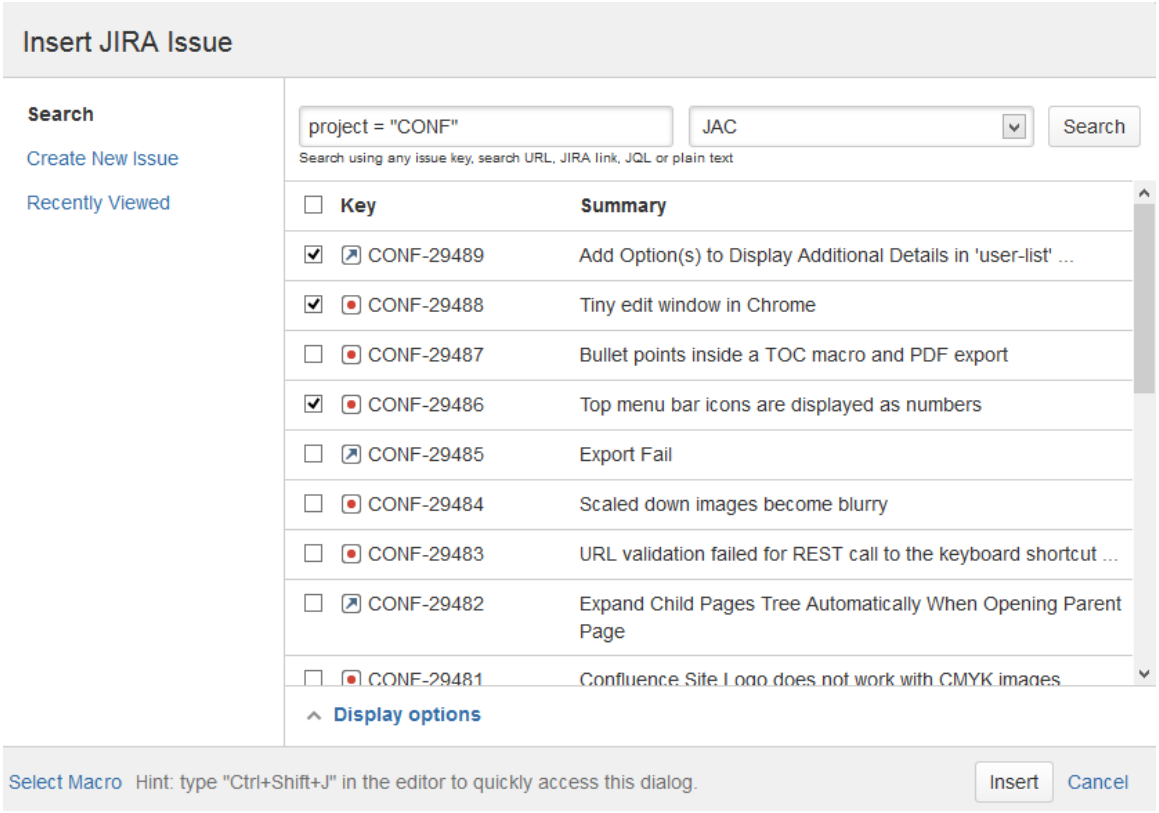
- Paste the URL of the issue directly onto the Confluence page. (There is no need to use the macro browser.) Confluence will auto-convert the link to a JIRA Issues macro.
- Or: Add the JIRA issues macro to the page as described above, and choose **Recently Viewed** to see the JIRA issues you have visited recently. Select an issue and choose **Insert**.
- Or: Add the JIRA issues macro to the page as described above, and past the issue URL into the search box in the macro browser.
- Or: Add the JIRA issues macro to the page, define your search criteria in the macro browser via JQL as described above, then select the check box next to the issue in the search results, within the macro browser.

**To display a subset of JIRA issues from your search results:**

1. Add the JIRA issues macro to the page.
2. Define your search criteria in the macro browser via JQL, as described above.
3. Select the check boxes next to the required issues in the search results, within the macro browser.

*Screenshot: Selecting a subset of issues to display*

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***Displaying a count of issues***

You can choose to display the number of issues returned by your search, rather than a table of issues. The JIRA Issues macro will display a count of issues, linked to the search in JIRA.

*Screenshot: The JIRA Issues macro displaying an issue count on a Confluence page*




**To display an issue count:**

1. Add the JIRA issues macro to the page.
2. Define your search criteria in the macro browser via JQL, as described above.
3. Choose **Display options**, then choose **Total issue count** next to 'Display options' in the macro browser.
4. Choose **Insert**.

***Creating a new issue in JIRA***

While editing a Confluence page, you can create an issue in JIRA and display it on your Confluence page, without leaving the Confluence editor.

**To insert an issue into JIRA:**

1. Add the JIRA Issues macro to the page, as described above.
2. Choose **Create New Issue**.
3. Supply the information about your JIRA server, project, and issue, as prompted.
4. Choose **Insert**.

Confluence will send a request to JIRA, to add the issue to the JIRA site. Confluence will also display the resulting JIRA issue on the Confluence page.

**Notes:**

- This feature works best with JIRA issue types whose mandatory field requirements have not been altered. With the exception of a JIRA issue's 'Component/s' or 'Fix Version/s' fields, You cannot use the JIRA Issies macro to add an issue whose issue type has customised mandatory field requirements. (Exception: customisations of the 'Component/s' and 'Fix Version/s' fields are accepted.)
- If your JIRA project has customised fields, the JIRA Issues macro will not prompt you for information for

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those fields. In other words, those fields will not appear in the 'Create New Issue' dialog in the JIRA Issues macro browser.

#### *Configuring Application Links to display restricted JIRA issues*

Before you can use this macro, your Confluence and JIRA sites must be connected via Application Links.

If the JIRA site allows anonymous viewing of issues, you must configure an application link, but there is no need to configure any incoming or outgoing authentication between JIRA and Confluence. People viewing the Confluence page will see the publicly accessible issues from the JIRA site.

If your JIRA site has restricted viewing, or if some JIRA projects or issues are restricted to viewing by certain people, then people will need to log in before seeing the restricted issues.

In such a case, the *outgoing authentication* in the Confluence Application Links determines how the JIRA Issues macro handles restricted issues:

- If the outgoing authentication is set to **Trusted Applications**, people can see restricted issues in JIRA if their username is the same in JIRA and Confluence, and if they have permission in JIRA to see the issue.
- If the outgoing authentication is set to **OAuth**, people may need to choose **Login & Approve**, to gain access to the JIRA server and restricted issues.
- If the outgoing authentication is set to **Basic Access**, people can see the JIRA issues that are visible to the user account configured in JIRA's *outgoing authentication* setting.

#### *Rendering HTML from JIRA*

Formatted fields from JIRA can be displayed in Confluence if you set up a Confluence-to-JIRA application link. Otherwise, such formatted fields will be escaped within the output of the JIRA issues macro. This is to prevent the possibility of malicious HTML being served by an untrusted JIRA server. The most likely field where you will notice this is in the description field.

This example shows how a description column may be displayed in JIRA:

| Description |
| --- |
| This is<br>• the description<br>• of my issue |

If there is no application link between JIRA and Confluence, the description will appear in the JIRA issues macro like this:

| Description |
| --- |
| This is<ul><li>the description</li><li>of my issue</li></ul> |

#### *Disabling the JIRA Issues macro*

The functionality is provided by an add-on (plugin) called 'JIRA Macros'. To make the macro unavailable on your site, you can disable the add-on. See Disabling and Enabling Add-ons.

#### *Notes*

**HTTPS**: The JIRA Issues macro can access a JIRA site running under SSL provided the Confluence server is configured to accept the JIRA SSL certificate. See Connecting to LDAP or JIRA or Other Services via SSL.

Custom fields can be added as columns to the table simply by using the name of the field with no quotes. Earlier versions of the macro required you to use the custom field id, e.g. `customfield_10100`.

#### *Code examples for this macro*

Note: Wiki markup offers a few additional parameters that are not available via the macro browser.

See:

- Confluence Wiki Markup for Macros

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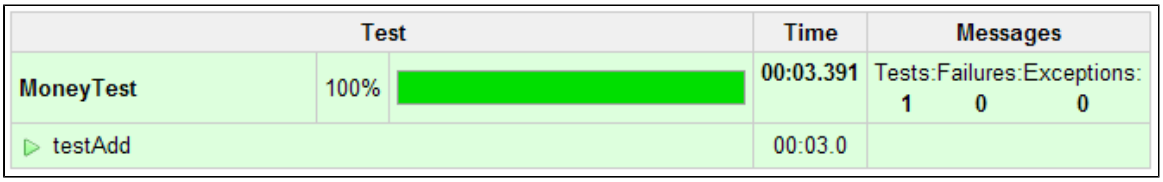
- Confluence Storage Format for Macros

### 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*




**Note:**When generating reports from the JUnit Report macro, set the Apache Ant formatter to 'XML'.

#### *Using the JUnit Report macro*

**To add the JUnit Report macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **URL of the test result XML file** | None | URL of a particular test result XML file. Is overridden by the **Directory (URL) of your test result files** par ameter if you use both.<br><br>Example, from a Confluence instance: `http://yourConfluenceInstance.com/download/attachments/<page id>/file.xml`<br><br>For Confluence installations without anonymous user access, you can specify logon credentials as part of this parameter in the form of URL parameters:<br><br>• `os_username` — The username of a Confluence user with permission to access to the JUnit test results.<br>• `os_password` — The password of the Confluence user specified in the `os_username` parameter. |

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| | | |
|---|---|---|
| **Directory (URL) of your test result files** | None | URL of a directory containing your test result files. This must be a directory name and **not** the XML file itself. Overrides the **URL of the test result XML file** parameter if you use both.<br>Example, for a local drive: `file://C:/TEMP/`<br>Example, for a network drive: `http://*host*/*path*` |
| **Report Detail** | **all** | Detail for the report. Can be **all**, **fixture**, **summary** or **failuresonly**. |
| **Debug** | None | Shows the content of failures, as well as the error messages. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

#### *Related topics*

Working with Macros

Take me back to the Confluence User's Guide.

### Labels List Macro

The Labels List macro displays a list of all labels within the current space. Each label in the list links to a page that displays all pages in the current space that contain that label.

#### *Using the Labels List macro*

**To add the Labels List macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| **Restrict to this Space Key** | No | Current space | The key of the space whose labels you want to display. |
| **Excluded label(s)** | No | Blank | The labels that you do not want to appear in the list. |

#### *Code examples*

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See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

***Related topics***

Working with Macros

Take me back to the Confluence User's 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.

***Using the Livesearch macro***

**To add the Livesearch macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

***Parameters***

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Restrict to this Space Key** | all spaces | Specify a space key to limit the search to the given space. Case-sensitive. |
| **Restrict to label(s)** | | Specify labels to limit the search to content with that label. If unspecified will search all content regardless of label. |
| **Size** | medium | Choose a medium or large search field size. |
| **Placeholder text** | | Specify the placeholder text to appear in the search field, for example 'Search this space' |
| **Type** | all | Specify the content types to be included in the search - choose from pages, blogs, comments, space descriptions, or all content types. |
| **Additional** | space name | Display the space name, a page excerpt or nothing under the search result. |

***Code examples***

See:

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- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

***Related topics***

Searching Confluence
Search Results Macro
Working with Macros

Take me back to the Confluence User's Guide.

## Loremipsum Macro

The Loremipsum macro displays paragraphs of pseudo-Latin text (more information). You can use this macro to generate 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 text:

> Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Aliquam fermentum vestibulum est. Cras rhoncus. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Sed quis tortor. Donec non ipsum. Mauris condimentum, odio nec porta tristique, ante neque malesuada massa, in dignissim eros velit at tellus. Donec et risus in ligula eleifend consectetuer. Donec volutpat eleifend augue. Integer gravida sodales leo. Nunc vehicula neque ac erat. Vivamus non nisl. Fusce ac magna. Suspendisse euismod libero eget mauris.

***Using the Loremipsum macro***

**To add the Loremipsum macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

***Parameters***

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Number of Paragraphs** | 3 | Determines the amount of pseudo-Latin (space-filler) text to display. The macro will display a maximum number of 30 paragraphs. |

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

***Related topics***

Working with Macros

Take me back to the Confluence User's Guide.

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### Multimedia Macro

See Embedding Multimedia Content.

### Navigation Map Macro

The Navigation Map macro displays a navigable map of the pages tagged with a given label.

#### *Using the Navigation Map Macro*

**To add the Navigation Map macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**

- Using the Navigation Map Macro
- Parameters
- Code examples

**Related pages:**

- Related Labels Macro
- Content by Label Macro
- Recently Used Labels Macro
- Working with Confluence Labels
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Label** | none | Specify the label associated with the pages you want to show in the navigation map. |
| **Map Title** | none | Specify a title for the navigation map. |
| **Number of Cells Per Row** | 5 | Specify the number of cells in a row |
| **Cell Width (Pixels)** | 90 px | Specify the cell width |
| **Cell Height (Pixels)** | 60 px | Specify the cell height |

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| | | |
|---|---|---|
| **Navigation Map Theme** | Confluence | Define a theme for the navmap.<br><br>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 `rounded edges` for this parameter. |

***Code examples***

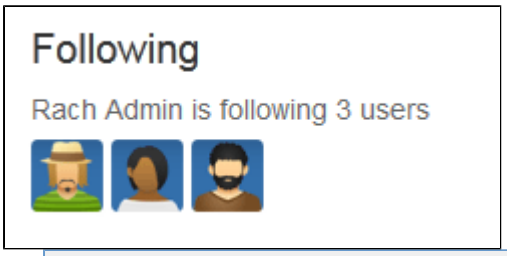
See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Network Macro

The Network macro displays a list of Network activity on a Confluence page or blog post. You can specify the user whose network activity 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 shows 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*




**On this page:**


- Using the Network macro
- Parameters
- Disabling the Network macro
- Code examples


**Related pages:**

- Working with Macros
- Confluence User's Guide

***Using the Network macro***

**To add the Network macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open,

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where you can edit the parameters of the macro.

#### Parameters

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Username** | Current user's username | 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. |
| **Mode** | **following** | Determines which users are listed, with respect to the specified user:<br>• **following** – those who the user is following.<br>• **followers** – those who are following the user. |
| **Theme** | **full** | Determines how the user's network is displayed:<br>• **full** – shows a large version of user's profile pictures and, if the **following** mode is set, provides an entry field function to follow more users.<br>• **tiny** – shows only the small version of user's profile pictures. |
| **Maximum Results** | No limit imposed up to a maximum of 30 | Restricts the number of users displayed. If the number of users exceeds the specified maximum, then a **Show All** link is provided. This link leads to the specified user's Network view, showing the complete list of network interactions. |

#### Disabling the Network macro

The Network macro is provided by the 'network' module in the 'Profile Macros' plugin. To remove the macro from your site, you can disable the module in the plugin. See Disabling and Enabling Add-ons.

#### Code examples

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Noformat Macro

The Noformat macro displays a block of text in monospace font with no other formatting.

#### Using the Noformat Macro

**To add the Noformat macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.

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2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

Enter the content that is to be unformatted into the body of the macro placeholder.

**On this page:**
- Using the Noformat Macro
- Parameters
- Code examples

**Related pages:**
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **No Panel** | False | Removes the panel around the content. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Note Macro

The Note macro displays a block of text in a yellow highlighted box. This is useful for emphasising important information.

Example:

> **My note**
> This is the content of my note.

#### *Using the Note Macro*

**To add the Note macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

Add the text of the note to the body of the macro placeholder.

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**On this page:**


- Using the Note Macro
- Parameters
- Code examples


**Related pages:**


- Working with Macros
- Confluence User's Guide


#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Optional Title** | none | If specified, the title is displayed in bold next to the icon. |
| **Show Exclamation Mark Icon** | true | • **true** – displays the warning icon<br>• **false** – the icon is not displayed |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Office Excel Macro

The Office Excel macro displays the content of an Excel spreadsheet on a wiki page. First attach the spreadsheet to a Confluence page, then use the macro to display the content. When viewing the page, people will see the content of the spreadsheet, without needing to have Office installed.

For details, see the View File Macro.

### Office PowerPoint Macro

The Office PowerPoint macro displays the content of a PowerPoint presentation on a wiki page. First attach the presentation to a Confluence page, then use the macro to display the content. When viewing the page, people will see the content of the presentation, without needing to have Office installed.

For details, see the View File Macro.

### Office Word Macro

The Office Word macro displays the content of a Word document on a wiki page. First attach the document to a Confluence page, then use the macro to display the content. When viewing the page, people will see the content of the document, without needing to have Office installed.

For details, see the View File Macro.

### Page Index Macro

The Page Index macro creates a hyperlinked alphabetical index of all page titles within the current space.

The top section of the index contains a cell for each letter of the alphabet, with cells for numbers and symbols. Each cell indicates how many pages are in the corresponding list.

The lower section contains lists of page titles followed by the first few sentences of content on that page.

Each letter, number or symbol in the top section is hyperlinked to the corresponding cell in the lower section. Each page title in the lower section is hyperlinked to the page in the space.

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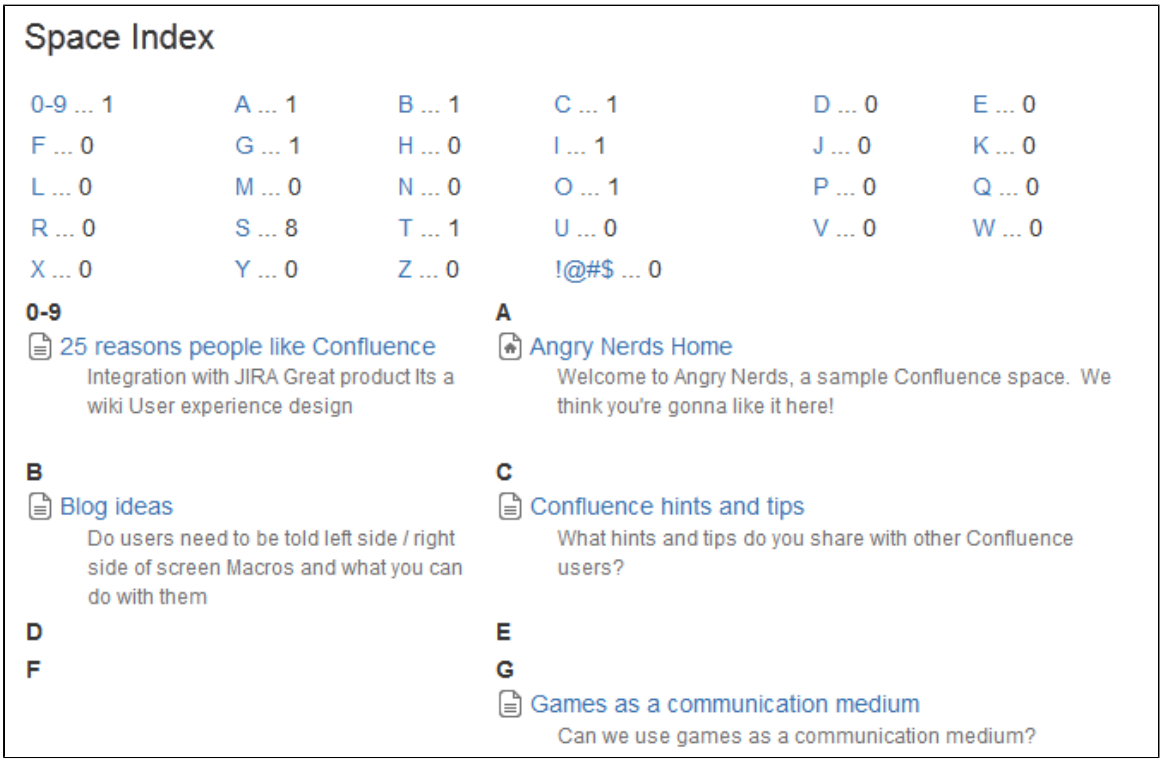
**On this page:**


- Using the Page Index macro
- Code examples


**Related pages:**

- Working with Macros
- Confluence User's Guide.

*Screenshot: Page Index macro (partial view)*




### *Using the Page Index macro*

**To add the Page Index macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

This macro accepts no parameters.

### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Page Properties Macro

The Page Properties macro enables you to embed data on a page and then display that data in tabular form on another page . You can put the Page Properties macro on as many pages as you like and use the Page Properties Report macro to display the collected data on one page. You can also choose to hide the metadata on the pages that contain the Page Properties macro.

This macro was previously known as the Metadata Details macro.

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**On this page:**


- Basic usage of the Page Properties and Page Properties Report macros
- Using the Page Properties macro
- Parameters
- Examples
- Code examples
- Notes
- Other metadata macros


**Related pages:**

- Include Page Macro
- Excerpt Include Macro
- Using Label Macros to Categorise Wiki Content
- Working with Macros
- Working with Confluence Labels
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

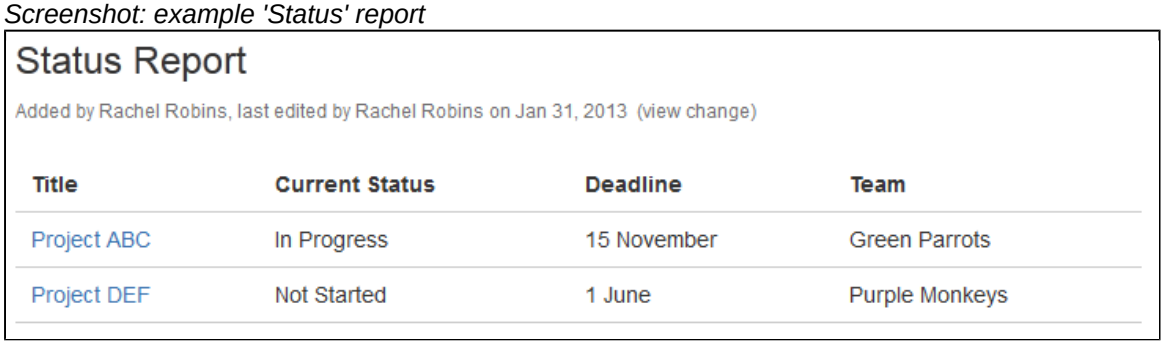
### *Basic usage of the Page Properties and Page Properties Report macros*

The Page Properties macro is used in conjunction with the Page Properties Report macro.

To use the macros:

1. Add the **Page Properties** macro to your page and specify a label (for example, Status).
2. Add a two column table in the body of the macro placeholder for your metadata **keys** and **values.**
3. Repeat this process to add the **Page Properties** macro to other pages.
4. Create a new page to contain your report (for example, Status Report).
5. Add the **Page Properties Report** macro and specify the same label (for example, Status).
6. View your new status report page. The data contained in your **Page Properties** macros display in the report.

*Screenshot: example 'Status' report*




7. Choose a column heading to sort the report.

When you insert the Page Properties macro on a page Confluence automatically adds the label to the page. You can add more than one Page Properties macro to the page, but they will inherit the same label (e.g. you cannot have two Page Properties macros with *different* labels on the same page).

### *Using the Page Properties macro*

1. **Add the Page Properties macro to the page:**
   a. In the Confluence editor, choose **Insert** > **Other Macros**.
   b. Find and select the required macro.

   **Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

   **To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

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2. **Add a label to the macro, using the macro parameters.**
   In the macro browser, add a **Label**. For example, "Status".

3. **Add metadata keys and values as rows in a table, in the body of the macro placeholder.**
   In the macro body add a two column table and remove the header row. In the left column specify the **keys** (these will be the column headings in your report. You cannot format this text). In the right column specify the **values** for each key.

   *Screenshot: The macro placeholder in the Confluence editor*




***Parameters***

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Label** | (None) | The label used to identify the metadata on this page. Confluence will add this label to the page. Any additional Page Properties macros will inherit this label. |
| **Hidden** | False | Determines whether the data in the Page Properties macro will be displayed on the current page. This setting does not affect the display of the detail in the Page Properties Report macro. |

***Examples***

The following examples outline how you can use the Page Properties and Page Properties Report macros together to create a Status Report or a Risk Report.

Example 1 - Status Report

In this example we wish to create a Status Report page that displays project status metadata from a number of pages.

The **label** in this example is 'status'

The **keys** in this example are:

- Deadline
- Project Status
- Team.

The **values** for each key are:

- Deadline: 1 June, 15 November and so on.
- Project status:  Not started, In progress, Complete.
- Team: Purple Monkeys, Green Parrots.

The **Page Properties macro** on each page looks like this:

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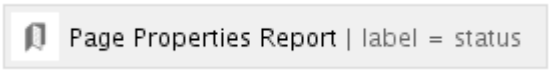
*Screenshot: two examples of the Page Properties macro from different pages showing values for each key.*




The label keys are the same on each page. The values are different.

The **Page Properties Report macro** on the Status Report page looks like this:

*Screenshot: Page Properties Report macro with the label 'Status'*




The final Status Report **page** looks like this, with a row for each page:

*Screenshot: Example of the Page Properties Report macro showing data*




You could also use the Status Macro within the Page Properties macro, to provide a visual indication of status.

Want to see this example in action? The following pages were created in this documentation space to create this example.

- Status and Risk Reports - example of Page Properties Report macro
- Project ABC - Example Metadata
- Project DEF - Example Metadata

## Example 2 - Risk Report

In this example we wish to create a Risk Report page that displays project risk metadata from a number of pages.

The **label** in this example is 'risk'

The **keys** in this example are:

- Impact
- Risk Level.

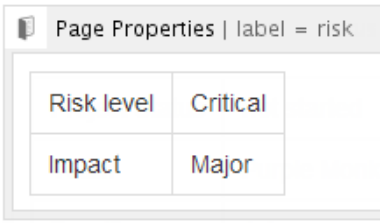
The **values** for each key are:

- Impact: critical, high, medium, low
- Risk Level:  major, minor, trivial.

The **Page Properties macro** on each page looks like this:

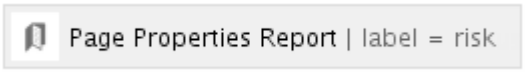
*Screenshot: example of the Page Properties macro from one page.*

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The **Page Properties Report macro** on the Risk Report page looks like this:

*Screenshot: Page Properties Report macro with the label 'Risk'*




The final Risk Report **page** looks like this, with a row for each page:

*Screenshot: Example of the Page Properties Report macro showing data*



Page Properties Report for label "risk"

| Title | Impact | Risk level |
|---|---|---|
| Implementation Option A - Example Metadata | Major | Critical |
| Implementation Option B - Example Metadata | Trivial | High |
| Implementation Option C - Example Metadata | Major | High |

Want to see this example in action? The following pages were created in this documentation space to create this example.

- Status and Risk Reports - example of Page Properties Report macro
- Implementation Option A - Example Metadata
- Implementation Option B - Example Metadata
- Implementation Option C - Example Metadata

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

***Notes***

- If you add a label to the parameter in the Page Properties macro, Confluence adds the label to the page.
  - If you remove the label from the Page Properties macro, the label remains on the page.
  - If you remove the label from the page but leave it in the Page Properties macro, Confluence puts the label back onto the page.
- You can add many Page Properties macros per page, however all Page Properties macros on the page will have the same labels applied to them. For example, if you add two Page Properties macros on a page, one with the label "risk" and the other with the label "status", both sets of metadata will appear in the Page Properties Report macro for the "status" label and for the "risk: label. This is true even if you have specified just one label in each Page Properties macro. It is the labels on the page that matter, not the labels in the macros.
- You cannot use text formatting or macros in the left column as the data in this column is used to populate the column headings in your Page Properties Report macro.
- If your table has a header row, this row will be ignored by the Page Properties Report macro. You should remove the header row.
- It is not possible to reference the metadata using the metadata key from within the page, or anywhere else on a Confluence page.

***Other metadata macros***

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There are other metadata macros, which are not supported or documented on this page but which are worth mentioning:

- {metadata-list} – Adds metadata keys and values. See Atlassian Answers.
- {metadata-values:pagename} – Displays the metadata values without the keys. You can use @self to get the metadata on the current page. See Atlassian Answers.
- {metadata-report}
- Macros added by the Confluence Metadata Plugin 2.

### Status Report - Example of Page Properties Report Macro

This page contains examples of the Page Properties Report macro used to show a status report and a risk report.

**Page Properties Report for label "status"**

| Title | Deadline | Project status | Team |
|---|---|---|---|
| Project ABC - Example Metadata | 15 November | In Progress | Green Parrots |
| Project DEF - Example Metadata | 1 June | Not Started | Purple Monkeys |

**Page Properties Report for label "risk"**

| Title | Impact | Risk level |
|---|---|---|
| Implementation Option A - Example Metadata | Major | Critical |
| Implementation Option B - Example Metadata | Trivial | High |
| Implementation Option C - Example Metadata | Major | High |

**Related pages:**

- Page Properties Report Macro
- Page Properties Macro
- Confluence User's Guide

### Implementation Option A - Example Metadata

This page contains an example of the Page Properties macro. The data in the macro is not hidden.

| | |
|---|---|
| **Risk level** | Critical |
| **Impact** | Major |

**Related pages:**

- Page Properties Report Macro
- Page Properties Macro
- Confluence User's Guide

### Implementation Option B - Example Metadata

This page contains an example of the Page Properties macro. The data in the macro is not hidden.

| | |
|---|---|
| **Risk level** | High |
| **Impact** | Trivial |

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**Related pages:**

- Page Properties Report Macro
- Page Properties Macro
- Confluence User's Guide

#### Implementation Option C - Example Metadata

This page contains an example of the Page Properties macro. The data in the macro is not hidden.

| | |
|---|---|
| **Risk level** | High |
| **Impact** | Major |

**Related pages:**

- Page Properties Report Macro
- Page Properties Macro
- Confluence User's Guide

#### Project ABC - Example Metadata

This page contains an example of the Page Properties macro. The data in the macro is not hidden.

| | |
|---|---|
| **Project Status** | In Progress |
| **Team** | Green Parrots |
| **Deadline** | 15 November |

**Related pages:**

- Page Properties Report Macro
- Page Properties Macro
- Confluence User's Guide

#### Project DEF - Example Metadata

This page contains an example of the Page Properties macro. The data in this macro is hidden.

**Related pages:**

- Page Properties Report Macro
- Page Properties Macro
- Confluence User's Guide

### Page Properties Report Macro

The Page Properties Report macro presents a tabulated summary of metadata that has been embedded, using the Page Properties macro,  on any page or blog post in the current Confluence space. The Page Properties Report macro collects metadata from only those pages or blog posts that have a specific label.

The left-hand column of the report shows the name of the page that contains the metadata. Each page name is presented on a single row with a link to the page.

The other columns in the report represent the fields (keys) defined in the Page Properties macros. You can sort the table by choosing the column headers.

This macro was previously known as the Details Summary macro.

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**On this page:**


- Basic usage of Page Properties and Page Properties Report macros
- Using the Page Properties Report macro
- Parameters
- Examples
- Code examples


**Related pages:**

- Include Page Macro
- Excerpt Include Macro
- Using Label Macros to Categorise Wiki Content
- Working with Macros
- Working with Confluence Labels
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### *Basic usage of Page Properties and Page Properties Report macros*

The Page Properties macro is used in conjunction with the Page Properties Report macro.

To use the macros:

1. Add the **Page Properties** macro to your page and specify a label (for example, Status).
2. Add a two column table in the body of the macro placeholder for your metadata **keys** and **values.**
3. Repeat this process to add the **Page Properties** macro to other pages.
4. Create a new page to contain your report (for example, Status Report).
5. Add the **Page Properties Report** macro and specify the same label (for example, Status).
6. View your new status report page. The data contained in your **Page Properties** macros display in the report.

*Screenshot: example 'Status' report*




7. Choose a column heading to sort the report.

When you insert the Page Properties macro on a page Confluence automatically adds the label to the page. You can add more than one Page Properties macro to the page, but they will inherit the same label (e.g. you cannot have two Page Properties macros with *different* labels on the same page).

### *Using the Page Properties Report macro*

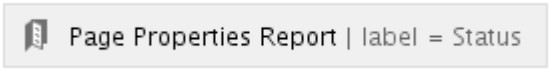
1. **Add the Page Properties Report macro to the page:**
    a. In the Confluence editor, choose **Insert** > **Other Macros**.
    b. Find and select the required macro.

    **Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

    **To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

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2. **Add a label to the macro, using the macro parameters.**
   In the macro browser, specify a **Label**. For example, 'Status'.
   *Screenshot: Page Properties Report macro with label specified*




#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Label** | (None) | Identifies the label to be used in the Page Properties Report. The report will show data from all Page Properties macros with the same label on pages in the current space. |
| **Restrict to spaces** | (None) | If not specified, the report will only show data from the current space. You can specify a comma separated list of space keys, or use @all to show data from all spaces. |
| **Columns to show** | (None) | If not specified, the report will show all columns. You can specify a comma separated list of columns to include.<br><br>If your column heading includes commas, use double quotes around the column name. If your column heading includes quotes, use double quotes. For example, A column, "My ""new"" column, yes", Third column |

#### *Examples*

The following examples outline how you can use the Page Properties and Page Properties Report macros together.

The following examples outline how you can use the Page Properties and Page Properties Report macros together to create a Status Report or a Risk Report.

Example 1 - Status Report

In this example we wish to create a Status Report page that displays project status metadata from a number of pages.

The **label** in this example is 'status'

The **keys** in this example are:

- Deadline
- Project Status
- Team.

The **values** for each key are:

- Deadline: 1 June, 15 November and so on.
- Project status:  Not started, In progress, Complete.
- Team: Purple Monkeys, Green Parrots.

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The **Page Properties macro** on each page looks like this:

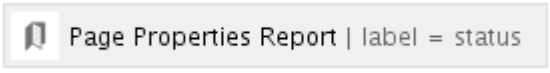
*Screenshot: two examples of the Page Properties macro from different pages showing values for each key.*




The label keys are the same on each page. The values are different.

The **Page Properties Report macro** on the Status Report page looks like this:

*Screenshot: Page Properties Report macro with the label 'Status'*




The final Status Report **page** looks like this, with a row for each page:

*Screenshot: Example of the Page Properties Report macro showing data*




You could also use the Status Macro within the Page Properties macro, to provide a visual indication of status.

Want to see this example in action? The following pages were created in this documentation space to create this example.

- Status and Risk Reports - example of Page Properties Report macro
- Project ABC - Example Metadata
- Project DEF - Example Metadata

## Example 2 - Risk Report

In this example we wish to create a Risk Report page that displays project risk metadata from a number of pages.

The **label** in this example is 'risk'

The **keys** in this example are:

- Impact
- Risk Level.

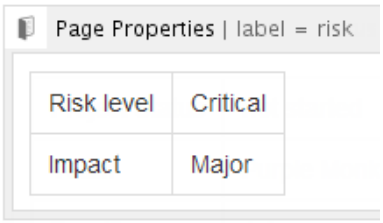
The **values** for each key are:

- Impact: critical, high, medium, low
- Risk Level:  major, minor, trivial.

The **Page Properties macro** on each page looks like this:

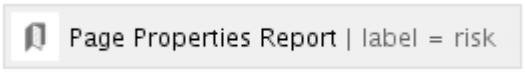
*Screenshot: example of the Page Properties macro from one page.*

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The **Page Properties Report macro** on the Risk Report page looks like this:

*Screenshot: Page Properties Report macro with the label 'Risk'*




The final Risk Report **page** looks like this, with a row for each page:

*Screenshot: Example of the Page Properties Report macro showing data*




Want to see this example in action? The following pages were created in this documentation space to create this example.

- Status and Risk Reports - example of Page Properties Report macro
- Implementation Option A - Example Metadata
- Implementation Option B - Example Metadata
- Implementation Option C - Example Metadata

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Page Tree Macro

The Page Tree macro displays a dynamic, hierarchical list of pages starting from a specified parent (root) page. 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 view the relevant page. The page's current position is highlighted in the page tree.

**Note:** The Page Tree macro is used in the Confluence Documentation theme, to create a navigation panel showing a table of contents for your space. Read the instructions on Configuring the Documentation Theme.

#### *Using the Page Tree Macro*

**To add the Page Tree macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

Click **Refresh** in the Macro Browser to see the effect of changes to the macro parameters.

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**On this page:**


- Using the Page Tree Macro
- Macro Parameters
- Code examples


**Related pages:**


- Page Tree Search Macro
- Working with Macros
- Confluence User's Guide


***Macro Parameters***

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Root Page** | The home page of the space | 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.<br><br>Specify the page title or a special value as follows:<br>• Your page title — 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.<br>• '@home' — will include all pages under the home page of the space (default).<br>• '@self' — will include all pages under the current page.<br>• '@parent' — will include all pages under the parent of the current page, including the current page.<br>• '@none' — will include all pages in the space, including orphaned pages and the home page. |

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| | | |
|---|---|---|
| **Sort Pages By** | **position** | 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:<br>• **bitwise** — sort alphabetically, for example: title1, title10, title2.<br>• **creation** — sort by date of creation.<br>• **modified** — sort by order of date last modified.<br>• **natural** — sort in 'natural' alphabetical order, for example: title1, title2, title10.<br>• **position** — sort by 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. |
| **Include Excerpts in Page Tree** | false | Select if you want the page tree to show excerpts from each page. The excerpts must be defined on each page by the Excerpt macro. |
| **Reverse Order** | false | Select to show the pages in reverse (descending) natural order. Must be used in combination with the **Sort Pages By** parameter. |
| **Include Search Box above Page Tree** | false | Select if you want to include a search box above the page tree. The search box allows your readers to search within the page tree for the specified value. |
| **Show Expand/Collapse Links** | false | Select 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. |
| **Start Depth** | 1 | Enter any number greater than 0 to set how many levels of children the tree should show when it opens for the first time. |

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

**Sample Page Tree**

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This page is a sample, used to demonstrate the Pagetree macro.

For more information, take a look at the main page on the Page Tree Macro.

| What you need to type | What you will get |
|---|---|
| {pagetree:root=@parent\|expandCollapseAll=false} | |

#### *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 Page Tree Macro.

| What you need to type | What you will get |
|---|---|
| {pagetree:root=@parent\|expandCollapseAll=true} | Expand all Collapse all |

#### 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 Page Tree Macro.

| What you need to type | What you will get |
|---|---|
| {pagetree:root=@parent\|expandCollapseAll=true} | Expand all Collapse all |

### Page Tree Search Macro

Using the Page Tree Search macro, you can 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.

You can also add a search box as part of a dynamic page tree, which looks like a table of contents. See the Page Tree macro .

#### *Using the Page Tree Search macro*

**To add the Page Tree Search macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Page Tree Search macro
- Parameters
- Code examples


**Related pages:**

- Page Tree Macro
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

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| Parameter | Default | Description |
|---|---|---|
| **Name of Root Page** | none | 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.<br><br>**Note:** Unlike the Page Tree macro, the Page Tree Search macro does not accept the special values that start with an @ sign, such as @home or @self. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Panel Macro

The Panel macro displays a block of text within a customisable panel, like a text box.

**Handy hint:** You can use panels within columns, in table cells and in the sections defined by page layouts.

Here is an example of a Panel macro:

**My Title**

A formatted panel.

#### *Using the Panel macro*

**To add the Panel macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Panel macro
- Parameters
- Code examples


**Related pages:**

- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Panel Title** | none | The title of the panel. If specified, this title will be displayed in its own title row. |

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| | | |
|---|---|---|
| **Border Style** | solid | The style of the panel's border. Accepted values are `solid`, `dashed` and other valid CSS border styles. |
| **Border Colour** | | The colour of the panel's border. Colours can be specified as HTML colour names or hexadecimal codes. |
| **Border Pixel Width (Value Only)** | | The width of the panel's border (in pixels). |
| **Background Colour** | | The background colour of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |
| **Title Background Colour** | | The background colour of the title row of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |
| **Title Text Colour** | | The colour of the text in the title row of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### PDF Macro

The PDF macro displays the content of a PDF document (Adobe's Portable Document Format) on a wiki page. First attach the document to a Confluence page, then use the macro to display the document.

For details, see the View File Macro.

### Popular Labels Macro

The Popular Labels macro displays the most popular labels used throughout your Confluence site or within a space.

#### *Using the Popular Labels Macro*

**To add the Popular Labels macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

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**On this page:**
- Using the Popular Labels Macro
- Parameters
- Code examples

**Related pages:**
- Using Label Macros to Categorise Wiki Content
- Related Labels Macro
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Number of Labels to Display** | 100 | Specifies the total number of labels to display in the heatmap. |
| **Restrict Labels to this Space Key** | none | Restricts the list of popular labels to the specified space. |
| **Style of Labels** | list | • **list** – displays the popular labels as a bulleted list, ordered by popularity (highest first).<br>• **heatmap** – displays the popular labels using different font sizes for each label depending on the label's popularity, ordered by label names. |

#### *Code examples*

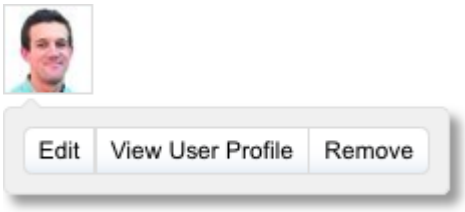
See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Profile Picture Macro

The Profile Picture macro displays a user's profile picture on a page.

- When viewing the page, mouse-over the picture to see the Hover Profile for the user.
- When editing the page, click on the picture and choose **View User Profile** to see the profile for the user.




The Profile Picture macro is useful for such tasks as creating Team Pages that show all members of a project team.

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**On this page:**

- Using the Profile Picture Macro
- Parameters
- Code examples

**Related pages:**

- Working with Macros
- Confluence User's Guide

#### *Using the Profile Picture Macro*

**To add the Profile Picture macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **User** | none | The username, or real name, of a Confluence user. |

#### *Code examples*

See Confluence Storage Format for Macros.

Wiki markup is not available for this macro. You cannot add this macro via wiki markup.

### 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.

#### *Using the Recently Updated Dashboard macro*

**To add the Recently Updated Dashboard macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**

- Using the Recently Updated Dashboard macro
- Parameters
- Code examples

**Related pages:**

- Recently Updated Macro
- Viewing Recently Updated Content
- Working with Macros
- Confluence User's Guide

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#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Space(s)** | The space which contains the page on which the macro is added | 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. '*' means all spaces. |
| **Include these Content Types Only** | all types | 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`. |
| **Label(s)** | none | 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.<br>*Note:* 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<br>**CONF-13860** - recently-updated-dashboard macro doesn't return an empty result when no pages match the specified label(s) ( **Open**) |
| **User(s)** | all users | Filter by username of the user who updated the content. The macro will only display content created and updated by the user(s) you specify here. You can specify one or more usernames separated by commas. |
| **Width of Table** | 100% | Specify the width of the macro display, as a percentage of the window width. |
| **Show User Profile Pictures** | false | Select whether profile pictures of the users who updated the content are displayed. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros.

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- Confluence Storage Format for Macros.

### Recently Updated Macro

The Recently Updated macro displays a list of the most recently changed content within Confluence.

#### *Using the Recently Updated Macro*

**To add the Recently Updated macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Recently Updated Macro
- Parameters
- Notes
- Code examples


**Related pages:**

- Recently Updated Dashboard Macro
- Viewing Recently Updated Content
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Author(s) by username** | None specified. That is, display all content | Filter the results by author. The macro will display only the pages etc which were last modified by the author(s) you specify here.<br><br>You can specify one or more authors, separated by a comma or a space.<br>For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |

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| | | |
|---|---|---|
| **Space(s)** | `@self`<br><br>That is, the space which contains the page on which the macro is used | 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.<br><br>You can specify one or more space keys, separated by a comma or a space.<br><br>• 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.<br>• 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.)<br><br>Special values:<br><br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |

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| | | |
|---|---|---|
| **Label(s)** | None specified i.e. display all content | Filter the results by label. The macro will display only the pages etc which are tagged with the label(s) you specify here.<br><br>You can specify one or more label values, separated by a comma or a space.<br><br>• 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'.<br>• 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'. |
| **Width of Table** | 100% | Specify the width of the macro display, as a percentage of the window width. |
| **Include these Content Types Only** | All types | This parameter allows you to filter content by content type. The macro will display only the content of the type you specify here.<br><br>You can specify one or more types, separated by a comma or a space.<br><br>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.<br><br>Available values:<br><br>• `page` — Pages.<br>• `blogpost` or `news` — Blog posts, also known as news items.<br>• `comment` — Comments on pages and blog posts.<br>• `attachment` — Attachments.<br>• `status` — Status updates made by other users. |

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| | | |
|---|---|---|
| **Maximum Number of Results** | 15 | Specify the maximum number of results to be displayed. 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), though this has been limited to 200 in the code, for performance reasons. More details are here. |
| **theme** | `concise` | Choose the appearance of this macro:<br>• `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.<br>• `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.<br>• `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. |
| **Show User Profile Pictures** | `false` | Specify `showProfilePic=true` to display the profile pictures of the users who updated the content. |

***Notes***

- The Recently Updated Dashboard macro is similar to this macro, but is intended for display on the Confluence dashboard.
- 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.

***Code examples***

See:

- Confluence Wiki Markup for Macros.
- Confluence Storage Format for Macros

**Recently Used Labels Macro**

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The Recently Used Labels macro displays a list of the labels that have been most recently added to a page, blog post or attachment. You can define the number of labels to be displayed and the scope (the current space, your personal space or site spaces, also known as 'global' spaces).

#### *Using the Recently Used Labels macro*

**To add the Recently Used Labels macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Recently Used Labels macro
- Parameters of this macro
- Code examples


**Related pages:**

- Related Labels Macro
- Content by Label Macro
- Recently Used Labels Macro
- Working with Confluence Labels
- Working with Macros
- Confluence User's Guide

#### *Parameters of this macro*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Number of Labels to Display** | 10 | Specifies the total number of labels to display in the list. |
| **Scope for Retrieving Labels** | global | Specifies the scope of labels to be displayed in the list. Valid values include:<br>• **global** — covers all site spaces (non-personal) in the Confluence installation.<br>• **space** — the current space.<br>• **personal** — your own personal space. |
| **List Style** | list | • **list** – displays the list of labels horizontally.<br>• **table** – includes additional information such as the page to which the label was added and the user who added it. |
| **Table Title** | none | Adds a title to the top of the list in table style. Titles are only visible when the **List Style** parameter has been set to **table**. |

#### *Code examples*

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See:

- Confluence Wiki Markup for Macros.
- Confluence Storage Format for Macros

### Related Labels Macro

The Related Labels macro lists all labels from every page which has one or more labels in common with the current page.

#### *Using the Related Labels Macro*

**To add the Related Labels macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**
- Using the Related Labels Macro
- Parameters
- Code examples

**Related pages:**
- Navigation Map Macro
- Content by Label Macro
- Recently Used Labels Macro
- Working with Confluence Labels
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Restrict to these Labels** | none | Specify the labels for which you want to view related labels. For example, `documentation,my:stuff`. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros.
- Confluence Storage Format for Macros

### 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.

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The RSS Feed 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.

#### *Using the RSS Feed macro*

**To add the RSS Feed macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the RSS Feed macro
- Parameters
- How up to date is the feed?
- What happens to a page containing a disallowed URL?
- Authentication
- Accessing internal HTTPS feeds
- Enabling and disabling the RSS Feed macro
- Code examples


**Related pages:**

- Subscribing to RSS Feeds within Confluence
- Managing Changes and Notifications and Tasks
- Working with Macros
- Configuring the Whitelist
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **RSS Feed URL** | none | The URL of the RSS feed link you want to show. |
| **Maximum Number of Entries** | 15 | Limit the number of entries displayed. |
| **Show Item Titles Only** | false | Show only the titles of the news items, not the content. |
| **Show Name/Title of RSS Feed** | true | Hide the feeds title bar. |

#### *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 will need to install the Cache plugin onto your Confluence site.

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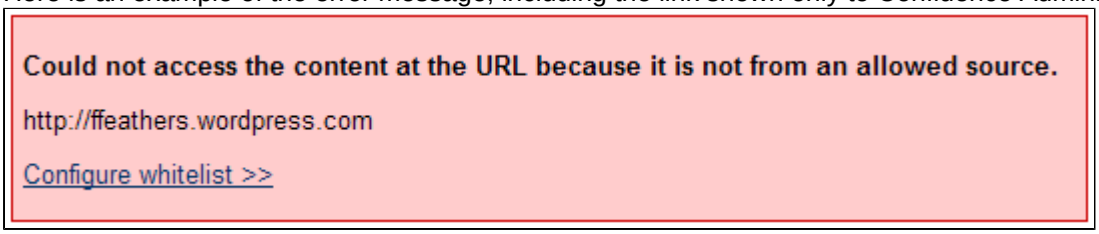
#### *What happens to a page containing a disallowed URL?*

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 Feed macro.

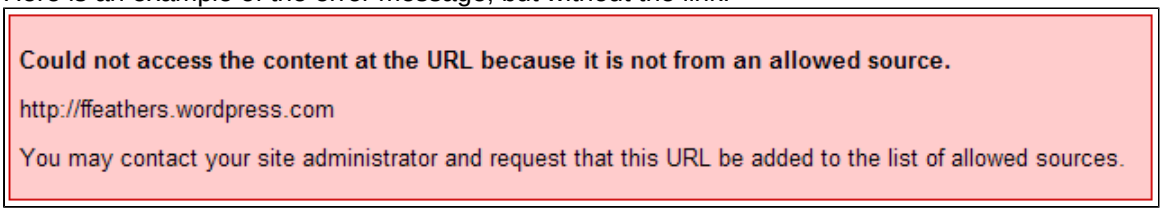
A user can add the RSS Feed macro or the HTML-include macro to a Confluence page. The macro code includes a URL from which the content is drawn. When the page is displayed, Confluence will check the URL against the whitelist. If the URL is not allowed, Confluence will display an error message on the 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.




#### *Authentication*

Privatefeeds from external sites

RSS feeds which require authentication cannot be accessed using the RSS Feed 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 Feed macro cannot access internal feeds. To enable the RSS Feed macro to access internal feeds without affecting your HTTPS setup, enable local-only HTTP access:

1. Shut down Confluence.
2. Consult the SSL guide to enable HTTP access to Confluence. You'll want to ensure that you have an HTTP connector and an SSL connector, both commented in. This means that Confluence will be accessible via both HTTP and HTTPS. However, you should *not* have a redirect port, nor rules in web.xml to redirect all traffic.
3. Instead of using web.xml to redirect traffic, 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 Feed macro feed link to use the HTTP URL, and restart Confluence.

#### *Enabling and disabling the RSS Feed macro*

The RSS Feed macro is a module of the Confluence HTML Macros plugin.

**To enable or disable the RSS Feed macro:**

1. Enable the **Confluence HTML Macros** plugin by following the instructions in Enabling HTML macros.
2. In the plugin module list of the HTML macros, find the **RSS (rss-xhtml)** module and hover your cursor over it to enable or disable it.

#### *Code examples*

See:

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- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Search Results Macro

The Search Results macro searches your Confluence site based on search terms specified in the macro parameters, and displays the results on the wiki page.

### *Using the Search Results macro*

**To add the Search Results macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**
- Using the Search Results macro
- Parameters
- Notes
- Code examples

**Related pages:**
- Livesearch Macro
- Searching Confluence
- Working with Macros
- Confluence User's Guide

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Search Terms** | none | The search terms which this macro will use to generate its results.<br><br>You can refine your search query by using operators such as 'AND' and 'OR'. For example: `my_query 1 AND my_query2`<br><br>For more information, take a look at the documentation on the Confluence search syntax. |
| **Maximum Number of Results** | 10 | Set a limit to the number of search results displayed. |
| **Restrict to this Space Key** | all | Start typing the space name to find the space, or specify the key of the space you want to search in. Note that the key is case sensitive. |
| **Content Type** | all | Specify the content type. The content types are: **page**, **comment**, **blogpost**, **attachment**, **userinfo** (the content of user profiles only) and **spacedesc** (the content of space descriptions only). |

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| | | |
|---|---|---|
| **Last Modified** | all | Specify a period of time in weeks, days, hours and/or minutes, to see the content modified within that time frame.<br>These are the values you can use:<br>• `w` = weeks<br>• `d` = days<br>• `h` = hours<br>• `m` = minutes<br>For example:<br>• `2h 35m`<br>• `3d 30m`<br>Notes:<br>• If no time category is specified, Confluence assumes minutes.<br>• If you specify more than one time period (for example, weeks and days), you must separate the periods with a space. You can put them in any order.<br>• The time categories are not case sensitive. For example, '`4 d`' is the same as '`4D`'. |
| **Restrict to this Username** | all | Specify the username of a Confluence user, to show only content created or updated by that user. |

#### *Notes*

**Permissions:** When a user views the page containing the Search Results macro, the search results will show only pages and other content types for which the user has 'View' permission.

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Section Macro

Used with the Column macro to define columns on a page. See Working with page layouts and columns and sections.

### Space Attachments Macro

See Displaying a List of Attachments.

### Space Details Macro

The Space Details macro displays the details of a Confluence space, including the space name, description, and more.

#### *Using the Space Details macro*

**To add the Space Details macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.

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2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**
- Using the Space Details macro
- Parameters
- Code examples

**Related pages:**
- Editing Space Details
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Width of Table** | 100% | The width of the space details table, specified as a percentage (%) of the page width. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Space Jump Macro

This page describes the Space Jump macro, which is provided with the Documentation theme. You can use space jumping to link from a page in one space to a page with the same name in another space, without knowing the name of the page when you create the link.



**Advance warning of plans to merge Documentation theme with the default theme**
This is an advance notice that we plan to merge the functionality of the Confluence Documentation theme with the Confluence default theme. We do not yet have a specific date for this plan, and we are interested in your feedback. The new default theme, introduced with Confluence 5.0, includes a sidebar with contextual navigation. Our plan is to include features from the Documentation theme in the default theme, and then remove the Documentation theme from Confluence.

If you are interested in this change and would like to give us feedback, please add a **comment on this blog post**: Advance warning of plans to merge Documentation theme with the default theme. We are especially interested to know which features of the Documentation theme you use and value the most.

The Space Jump macro inserts a link onto the page. When the reader clicks the link, they will jump to a page that has the same name in another space. You specify the space when you insert the Space Jump macro.

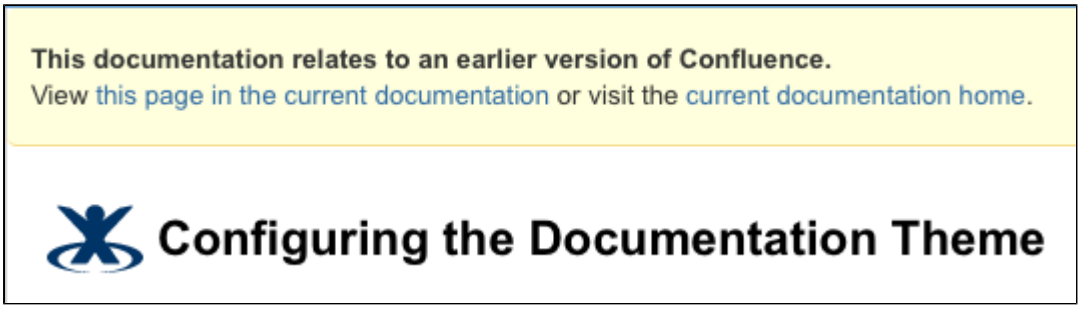
**Example:** We use the Space Jump macro to put a standard message at the top of our archive spaces, telling people that they're reading an old version of the documentation and letting them jump quickly to the same page in the latest documentation. See the words '**this page in the current documentation**' in the screenshot below.

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**On this page:**
- Using the Space Jump macro
- Parameters
- Notes
- Code examples

**Related pages:**
- Configuring the Documentation Theme
- Working with Macros
- Confluence User's Guide

*Screenshot: One way of using the Space Jump macro*




#### *Using the Space Jump macro*

**To add the Space Jump macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Space** | None | The space key that contains a page with the same page title that you want the link to jump to. Space keys are case-sensitive. |
| **Alias** | None | The text to display as the hyperlinked text. If you do not supply an alias, Confluence will display the page name. |

#### *Notes*

What happens if there is no page with the same name in the target space?

For the space jump to work, the target space must contain a page with the same name as the page that renders the Space Jump macro. If the target space does not contain such a page, you will see a broken link. Confluence handles this in its usual manner: the link is coloured red. If you click the link, Confluence offers to create the page for you.
Can I use the Space Jump macro in any space?

Yes. You can use the Space Jump macro in any space, even if that space is not currently using the

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Documentation theme. Provided that the Documentation theme plugin and its components are installed and enabled on your Confluence site, the Space Jump macro is available in any space.

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Spaces List Macro

The Spaces List macro displays a list of spaces, similar to the list of spaces seen on the dashboard.

#### *Using the Spaces List macro*

**To add the Spaces List macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**
- Using the Spaces List macro
- Parameters
- Notes
- Code examples

**Related pages:**
- Working with Spaces
- Creating Content
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Required? | Default | Description |
|---|---|---|---|
| Scope of spaces | no | all | The view from which spaces are listed. Available options are:<br>• **all** – All spaces in the Confluence installation.<br>• **category** – Spaces grouped according to space categories.<br>• **favourite** – Spaces which you have added to your favourites list.<br>• **new** – New spaces which have been created within the last 7 days. |

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| | | | |
|---|---|---|---|
| Width of List | no | 100% | The width of the spaces list, specified as a percentage (%) of the window width. |

#### Notes

There is a bug in this macro that prevents people from selecting a space category. For details, please refer to this issue: CONF-26597 - Changing category in Space List macro generates wrong URL (Resolved)

#### Code examples

See:

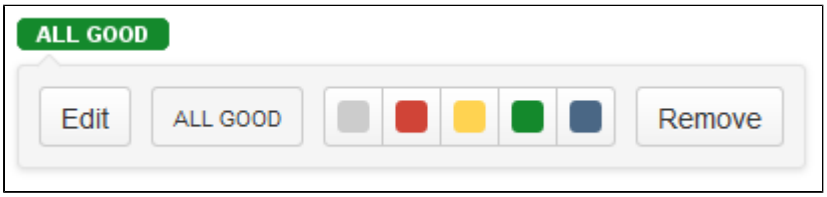
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Status Macro

The Status macro displays a coloured lozenge (a rounded box) that is useful for reporting project status. You can choose the colour of the lozenge and the text that appears inside the lozenge. The macro also displays its current status in the editor, and you can change the status directly in the editor.

ALL GOOD!

*Screenshot: Click on the Status macro lozenge to change the status.*




**On this page:**


- Using the Status macro
- Parameters
- Code examples


**Related pages:**

- Working with Macros
- Confluence User's Guide

#### Using the Status macro

**To add the Status macro to a page using the Macro Browser:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### Parameters

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|

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| | | |
|---|---|---|
| **Colour** | Grey | The colour of the lozenge. The following colours are available: **Grey**, **Red**, **Yellow**, **Green** and **Blue**. |
| **Title** | The colour that you select. | The text that will appear inside the lozenge. If you do not specify any text, the title will be the colour of the lozenge, that is 'Grey', 'Red', 'Yellow', 'Green' or 'Blue'. |
| **Use outline style** | No | The style of the lozenge and its border. The default style lozenge is a solid background colour with white text. The outline style lozenge is white with a coloured border and coloured text as shown here ALL GOOD! |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Table of Contents Macro

The Table of Contents macro scans the headings on the current Confluence page to create a table of contents based on those headings. This helps readers find their way around lengthy pages, by summarising the content structure and providing links to headings.

#### *Using the Table of Contents macro*

**Hint:** For quick access from the editor toolbar, choose **Insert** > **Table of Contents**.

**To add the Table of Contents macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**

- Using the Table of Contents macro
- Macro parameters
- Examples
- Notes
- Code examples

**Related topics:**

- Table of Content Zone Macro
- Page Tree Macro
- Using the Documentation Theme
- Working with Macros
- Confluence User's Guide

#### *Macro parameters*

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Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Output Type** | list | • **list** — produces a typical list-type table of contents.<br>• **flat** — produces a horizontal menu-type series of links. |
| **Display Section Numbering** | clear | Select the check box to apply outline numbering to your headings, for example: 1.1, 1.2, 1.3. |
| **List Style** | disc | Select the style of bullet point for each list item. You can use any valid CSS style. For example:<br>• `none` — no list style is displayed<br>• `circle` — the list style is a circle<br>• `disc` — the list style is a filled circle. This is the typical bullet list, and is used for this example list.<br>• `square` — the list style is a square<br>• `decimal` — the list is numbered (1, 2, 3, 4, 5)<br>• `lower-alpha` — the list is lower-case, alphabetised (a, b, c, d, e)<br>• `lower-roman` — the list style is lower roman numerals (i, ii, iii, iv, v, vi)<br>• `upper-roman` — the list style is upper roman numerals (I, II, III, IV, V, VI) |
| **Heading Indent** | | Sets the indent for a **list** according to CSS quantities. Entering `10px` will successively indent heading groups by 10px. For example, level 1 headings will be indented 10px and level 2 headings will be indented an additional 10px. |

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| | | |
|---|---|---|
| **Separator** | brackets | This parameter applies to **flat** lists only. You can enter any of the following values:<br>• `brackets` — Each item is enclosed by square brackets: [ ].<br>• `braces` — Each item is enclosed by braces: { }.<br>• `parens` — Each item is enclosed by parentheses: ( ).<br>• `pipe` — Each item is separated by a pipe:<br>• *anything* — Each item is separated by the value you enter. You can enter any text as a separator, for example "*******". If using a custom separator, be aware that text displays exactly as entered, with no additional white space to further separate the characters. |
| **Minimum Heading Level** | 1 | Select the highest heading level to start your TOC list. For example, entering 2 will include levels 2, and lower, headings, but will not include level 1 headings. |
| **Maximum Heading Level** | 7 | Select the lowest heading level to include. For example, entering 2 will include levels 1 and 2, but will not include level 3 headings and below. |
| **Include Headings** | | Filter headings to include according to specific criteria. You can use wildcard characters. See Sun's Regex documentation for examples of constructing regular expression strings. |
| **Exclude Headings** | | Filter headings to enclude according to specific criteria. You can use wildcard characters. See Sun's Regex documentation for examples of constructing regular expression strings. |
| **Printable** | checked | By default, the TOC is set to print. If you clear the check box, the TOC will not be visible when you print the page. |
| **CSS Class Name** | | If you have custom TOC styles in your CSS style sheet, use this parameter to output the TOC inside `<div>` tags with the specified class attribute. |

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#### *Examples*

The examples below are based on this table of contents:




##### *Filtered Table of Contents*

This example filters the headings to include those that contain 'Favourite', but excludes headings which end with 'Things'. The list is styled with Roman numerals.

| Parameter | Value |
|---|---|
| **List Style** | `upper-roman` |
| **Include Headings** | `Favourite.*` |
| **Exclude Headings** | `.*Things` |

The resulting table of contents is:




##### *Flat List*

This example filters all headings to render a flat list of 'Unknowns' enclosed in square brackets (the default list style).

| Parameter | Value |
|---|---|
| **Output Type** | **flat** |
| **Maximum Heading Level** | `2` |
| **Include Headings** | `Unknown.*` |

The resulting table of contents is:




#### *Notes*

- When you use a Table of Contents macro in a **template**, you will see an error when you preview the template itself. But the Table of Contents macro works on the pages that people create from the

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template – the table of contents shows up after they have saved the page. (This is probably because the template is not defined as a page, and the Table of Contents macro works for pages only.)

- 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 use 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 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"></a>Heading Name</h2>
```

  The syntax for the anchor name is the page name and heading name separated by a hyphen. Remove all spaces and convert all text to lower case. Convert all punctuation marks to their URL-encoded equivalent.

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Table of Content Zone Macro

You can use the Table of Content Zone macro to mark out a section (zone) within the page from which to create a table of contents. You can style the headings as a flat list, and place the list of links at the top and bottom of the section or page, to provide navigation bars similar to web navigation.

#### *Using the Table of Content Zone macro*

**To add the Table of Content Zone macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Table of Content Zone macro
- Parameters
- Examples
- Notes
- Code examples


**Related pages:**

- Table of Contents Macro
- Page Tree Macro
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

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| Parameter | Default | Description |
|---|---|---|
| **location** | both | Specifies where in the zone the output list is displayed: **top**, **botto m**, or **both**, which encloses the page zone content. |
| **Output Type** | list | Specifies the layout for the table of contents:<br>• **list** – produces a vertical list, typical of a TOC.<br>• **flat** – produces a horizontal menu-type series of links, for example: [Heading 1] [Heading 2] [Heading 3]. |
| **Display Section Numbering** | false | Select to apply outline numbering to your headings, for example: 1.1, 1.2, 1.3. |
| **List Style** | none | Specifies the style of bullet point for each list item. You can use any valid CSS style. For example:<br>• `none` — no list style is displayed<br>• `circle` --- the list style is a circle<br>• `disc` — the list style is a filled circle. This is the typical bullet list, and is the one we're using for this example list<br>• `square` — the list style is a square<br>• `decimal` — the list is numbered (1, 2, 3, 4, 5)<br>• `lower-alpha` — the list is lower-case, alphabetised (a, b, c, d, e)<br>• `lower-roman` — the list style is lower roman numerals (i, ii, iii, iv, v, vi)<br>• `upper-roman` — the list style is upper roman numerals (I, II, III, IV, V, VI) |
| **Heading Indent** | | Sets the indent for a **list** output type, according to CSS quantities. Entering "10px" will successively indent list heading levels by 10px. For example, h1 headings will be indented 10px and h2 headings will be indented an additional 10px. |

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| | | |
|---|---|---|
| **Separator** | brackets | Only applies to the **flat** output type **.** Specifies the display style of the links. You can enter any of the following values:<br>• `brackets` — Each item is enclosed by square brackets: [ ].<br>• `braces` — Each item is enclosed by braces: { }.<br>• `parens` — Each item is enclosed by parentheses: ( ).<br>• `pipe` — Each item is separated by a pipe:<br>• *anything* — Each is separated by the value you enter. You can enter any text as a separator, for example **'***'**. If using a custom separator, be aware that text displays exactly as entered, with no additional white space to further separate the characters. |
| **Minimum Heading Level** | 1 | Select the largest heading level to start your TOC list. For example, 2 will list h2, h3, and h4 headings, but will not include h1 headings. |
| **Max Heading Level** | 7 | Select the smallest heading level to include in the TOC. For example, 2 will list h1 and h2, but will not include h3 and below. |
| **Include Headings** | | Filter the included headings according to specific criteria. You can use wildcard characters. See Sun's Regex documentation for examples of constructing regular expression strings. |
| **Exclude Headings** | | Exclude headings according to specific criteria. You can use wildcard characters. See Sun's Regex documentation for examples of constructing regular expression strings. |
| **Printable** | true | By default, the TOC is set to print. If you clear this parameter, the TOC will not be visible when you print the page. |
| **CSS Class Name** | | If you have a custom TOC in your CSS style sheet, you can use this parameter to output the TOC with the specified "class" attribute. |

***Examples***

The examples are based on a page with the following headings:

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- Places
  - Favourite Places
  - Unknown Places
- Foods
  - Favourite Foods
  - Unknown Foods
- Things
  - Favourite Foods
  - Unknown Foods

#### *Filtered Table of Contents*

This example will filter all headings to include those that contain "Favourite", but will exclude any heading which ends with the word "Things". The list is styled with upper-case Roman numerals.

| Parameter | Value |
|---|---|
| **Output Type** | **list** |
| **List Style** | `upper-roman` |
| **Include Headings** | `Favourite.*` |
| **Exclude Headings** | `.*Things` |

*Screenshot: Filtered TOC 'zone' headings*

I. Favourite Places
II. Favourite Foods

#### *Flat List*

This example will filter all headings to render a flat list of "Unknowns" enclosed in square brackets.

| Parameter | Value |
|---|---|
| **Output Type** | **flat** |
| **Separator** | brackets |
| **Max Heading Level** | 2 |
| **Include Headings** | `Unknown.*` |

*Screenshot: Filtered TOC 'zone' headings displayed as a flat list*

[ Unknown Places ] [ Unknown Foods ] [ Unknown Foods ]

#### *Notes*

- Due to an outstanding issue in the Table of Content Zone macro (CONF-10619), the Macro Browser's **Ref resh** function does not render any parameter modifications. Currently, the rendering of parameter value modifications to the Table of Content Zone macro occurs only after the page is saved.
- Using HTML heading markup with the Table of Content Zone macro — The Table of Content Zone macro cannot handle HTML heading markup on its own. Hence, if you used the HTML and HTML Include macro s to render HTML heading markup in a Confluence page, the Table of Content Zone macro will not create a contents list out of these headings. (For more information on about this issue, please refer to TOC-93.)

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However, if you insert an HTML anchor into each HTML heading on your page (based on the following syntax), the Table of Content Zone macro will incorporate these headings into your contents list.

```
<h2><a name="pagename-headingname"></a>Heading Name</h2>
```

The syntax for the anchor name is the page name and heading name separated by a hyphen. Remove all spaces and convert all text to lower case. Convert all punctuation marks to their URL-encoded equivalent.

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Tasklist Macro

The Tasklist macro adds a list of tasks to the wiki page. Users viewing the page can modify the tasks without having to edit the page, provided they have the required permissions to modify the page.

You may also be interested in the lightweight task list that you can add directly onto your page, via the editor insert menu. This method also allows you to notify users that tasks have been assigned to them. See Managing Tasks in Confluence.

#### *Using the Tasklist macro*

**To add the Tasklist macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the Tasklist macro
- Parameters
- Editing the task list while viewing a page
- Sorting the tasks
- Viewing the progress on tasks completed
- Notes
- Code examples


**Related pages:**


- Managing Tasks in Confluence
- Working with Macros
- Confluence User's Guide


#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Title** | 'Task List' | The name of the task list. This is displayed as the title above the list of tasks. |
| **Width of List** | 530px | The width of the task list. |

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| | | |
|---|---|---|
| **Enable Locking** | clear | When selected, you can lock individual tasks so that they cannot be changed. See instructions below on editing the task list. |
| **Prompt on Delete** | clear | When selected, the user must confirm the deletion of a task in the list. |

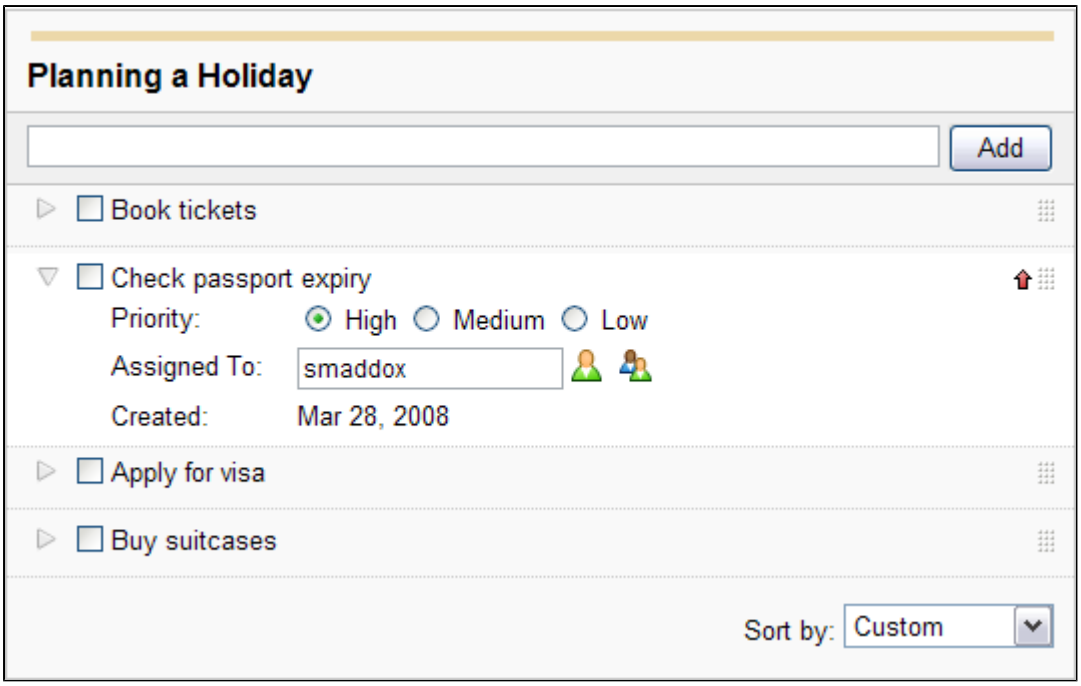
***Editing the task list while viewing a page***

While viewing a page, you can change the tasks in a task list as follows:

| Action | Description |
|---|---|
| **Adding a task** | Type the task description in the box under the list title, and click **Add**. |
| **Completing/uncompleting a task** | Click the check box 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. Clear the check box to mark the task as uncompleted. You can also click **Uncheck all** to mark all tasks as uncompleted. |
| **Editing a task** | Move your cursor over the task and 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 cursor over the task and 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 **Enable Locking** parameter has been selected, you can click the lock icon to prevent the task from being edited, deleted, or otherwise changed. |
| **Changing the priority** | When the task details are visible, click the appropriate option — **High**, **Medium** or **Low**. |
| **Assigning the task** | When the task details are visible, change the assignee of the task by typing in or searching for a username. |

*Screenshot: Task list showing task details*

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***Sorting the tasks***

There are two ways to sort the tasks in the list:

- Using the **Sort by** list.
- Using drag and drop.

**Select one of the sort options from the 'Sort by' list:**

| Option | Description |
|---|---|
| **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. |

Once you have selected a sort option, use the icon beside the **Sort by** box to reverse the sort order.

**Dragging and dropping a task into a new position:**

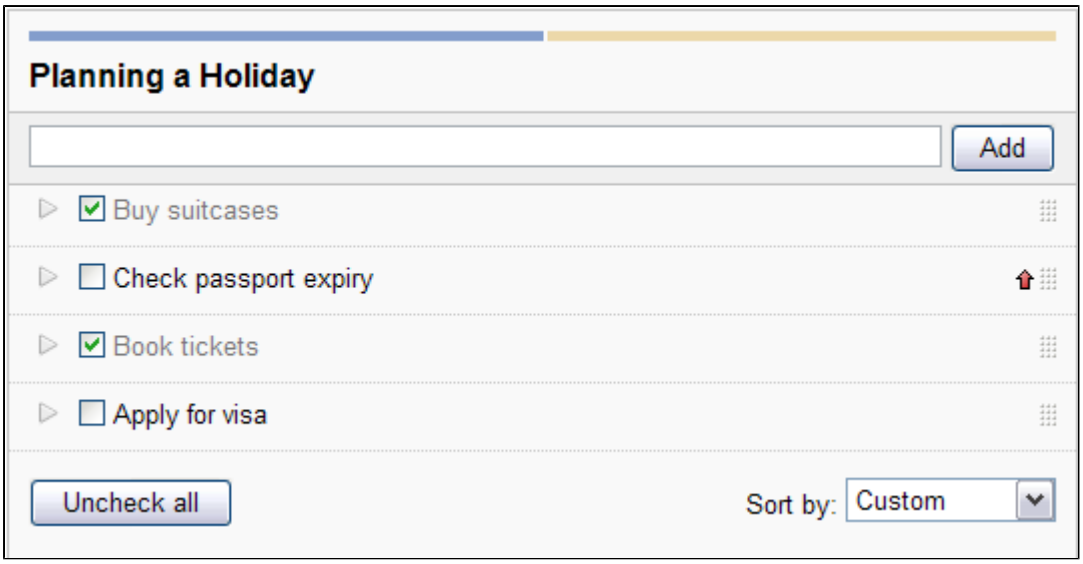
Drag a task up or down the list using the 'drag me' handle to the right of the task name. Make sure the task is positioned to the left of the existing tasks. A space will open and you will be able to drop the task into its new position.

***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*

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***Notes***

- It is not possible to add a due date to the task list. If you interested in this improvement request, you can comment on or vote for this issue:
  **CONF-7371** - Dynamic Tasklist macro - add due date for tasks ( **Open**)
- The Tasklist macro does not notify users that a task has been assigned to them. But you can do that using the lightweight task list accessible from the editor tool bar. See Managing Tasks in Confluence.

***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Tip Macro

Using the Tip macro, you can highlight a helpful tip on a Confluence page. The macro creates a green-coloured box surrounding your text as shown below.

**Tip Macro Example**
This text is displayed inside the tip macro.

***Using the Tip macro***

**To add the Tip macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

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**On this page:**
- Using the Tip macro
- Parameters
- Code examples

**Related pages:**
- Working with Macros
- Info Macro
- Note Macro
- Warning Macro
- Panel Macro
- Styling Confluence with CSS (*Not applicable to Confluence OnDemand.*)
- Error Box Macro - Example of a User Macro (*Not applicable to Confluence OnDemand.*)
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Optional Title** | none | The title of the tip. If specified, it will be displayed in bold next to the icon. |
| **Show Tip Icon** | true | If cleared, the icon will not be displayed. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### User List Macro

The User List macro displays a list of users registered in Confluence, based on their group membership.

#### *Using the User List macro*

**To add the User List macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**
- Using the User List macro
- Parameters
- Code examples

**Related pages:**
- Working with Macros
- Configuring the User List Macro
- Confluence User's Guide

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#### Parameters

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Group(s)** | none | Specifies 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. |
| **Display Online/Offline Users** | All registered users | Select to generate a list of online users. Clear to generate a list of offline users. In order to make this feature functional, a System Administrator needs to enable the User Log In Listener for your Confluence site. *Not applicable to Confluence OnDemand.* |

#### Code examples

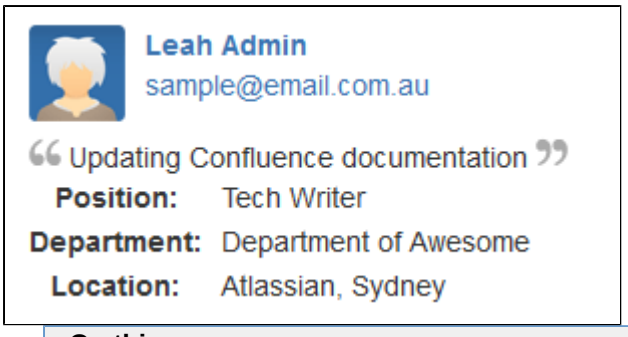
See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### User Profile Macro

The User Profile macro displays a short summary of a given Confluence user's profile. This is the same summary that appears in a Hover Profile, which appears whenever you mouse over a user's name in the Confluence interface.

*Screenshot: Example of the User Profile macro*




**On this page:**


- Using the User Profile macro
- Parameters
- Code examples


**Related pages:**

- Working with Macros
- User Profile Overview
- Confluence User's Guide

#### Using the User Profile macro

**To add the User Profile macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

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**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Username** | none | The username of the Confluence user whose profile summary you wish to show. |

#### *Code examples*

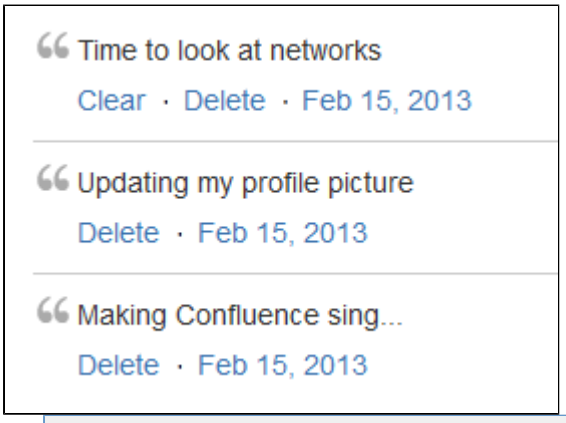
See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### User Status List Macro

The User Status List macro displays a history of a given Confluence user's status updates. This is the same history that appears in the user's Status Updates view.

*Screenshot: Example output of the User Status List macro*




**On this page:**
- Using the User Status List macro
- Parameters
- Notes
- Code examples

**Related pages:**
- Working with Macros
- User Status Updates
- Confluence User's Guide.

#### *Using the User Status List macro*

**To add the User Status List macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

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#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Username** | none | The username of the Confluence user whose history of status updates you wish to show. |

#### *Notes*

**Hint:** If you wish to list status updates made by more than one user, you can use the Recently Updated macro w ith the following parameter values:

- **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.

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### View File Macro

The View File macros allow you to embed an Office or PDF document into your Confluence page. First attach the document to a page and then use one of the View File macros to display the document's content.

When people view the page, they will see the content of the Office or PDF document. They do not need to have Office installed in order to see the content of an Office document. If they do have Office installed, people will be able to open the document for editing in their Office application.

For a full list of Office Connector prerequisites and limitations, please refer to:

- Office Connector Prerequisites
- Office Connector Limitations and Known Issue

For an overview of all Office Connector features, please refer to Working with the Office Connector.
**On this page:**


- Displaying an Office or PDF Document in Confluence
- Parameters for the Office and PDF macros
- Editing an Office document
- Troubleshooting
- Code examples


**Related pages:**

- Working with the Office Connector
- Working with Macros
- Confluence User's Guide.

#### *Displaying an Office or PDF Document in Confluence*

To display an Office or PDF document in a page, use one of the following View File macros in the macro browser:

- Office Excel
- Office PowerPoint
- Office Word
- PDF

**To add one of the View File macros to a page:**

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1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

***Parameters for the Office and PDF macros***

Parameters are options that you can set to control the content or format of the macro output.

| Macro | Parameter | Default | Description |
|---|---|---|---|
| All View File macros | **Page Name** | The page which contains the macro | Enter a page name, if you wish to display a document which is attached to another Confluence page. |
| | **File Name** | none | The file name of the Office or PDF document to be displayed. The document must be attached to a page on your Confluence site. |
| Office Excel | **Show Grid?** | true | Select to show grid lines around each cell of the Excel spreadsheet. Clear to hide these grid lines. |
| | **Worksheet Name** | Last worksheet viewed in the spreadsheet | The name of the worksheet that you want displayed. |
| | **Last Row** | Last row with content | The number of the last row you want displayed, starting from '0' as the first row. |
| | **Last Column** | Last column with content | The number of the last column you want displayed, starting from '0' as the first column.<br><br>**Hint for reducing the size of the spreadsheet:** Use the **L ast Column** and **Last Row** parameters to reduce the size of the spreadsheet displayed on the wiki page. This is especially useful to prevent the display from showing empty cells. This will also help to prevent 'out of memory' errors. |

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| | | | |
|---|---|---|---|
| Office<br><br>PowerPoint | **Height** | | Specify the height of the display, in pixels (default) or as a percentage of the window's height. |
| | **Slide Number** | none | Specify the number of the slide that you want displayed on the Confluence page, where the first slide is numbered zero. Instead of a slide show, the page will display just the single slide, represented as a JPEG image. If not specified, all slides display as a slideshow. |
| | **Width** | | Specify the width of the display, in pixels (default) or as a percentage of the window's width. |

#### *Editing an Office document*

You can launch your Office application and edit Office documents displaying in the view file macros directly from your Confluence page.

- **Word** and **Excel** - choose the **Edit Document** link above the content
- **PowerPoint** - choose the edit icon on the viewer.

You will find more information and other methods for editing attached Office documents in Editing an Office Document from Confluence.

#### *Troubleshooting*

Problems? Please refer to our guide to the Office Connector limitations and known issues.

#### *Code examples*

Office Excel macro:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

Office PowerPoint macro:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

Office Word macro:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

PDF macro:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Warning Macro

The Warning macro is useful for highlighting a warning on a Confluence page. The macro creates a red-coloured box surrounding your text as shown below.

**Example of a Warning Macro**

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This text appears inside the Warning macro.

#### *Using the Warning macro*

**To add the Warning macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**
- Using the Warning macro
- Parameters
- Code examples

**Related pages:**
- Working with Macros
- Confluence User's Guide

#### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Optional Title** | none | The title of the warning note. If specified, will be displayed in bold next to the icon. |
| **Show Warning Icon** | true | If "false", the icon will not be displayed. |

#### *Code examples*

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

### Widget Connector Macro

The Widget macro, or Widget Connector, allows you to embed certain multimedia content from other web sites into your Confluence page.

It supports the following content:

- Gadgets and other widgets: Google Gadgets, Widgetbox.
- Videos: YouTube, MySpace 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. **Note:** Th e integration with Google Docs is currently broken. Please refer to CONF-24927 for details of the issue .
- Calendars: Google Calendar.
- Forms and online databases: Wufoo HTML Form Builder / Wufoo Reports.
- Support and customer satisfaction: Get Satisfaction.

There are live examples of many of these on the widget examples page. If you wish to extend the functionality of this plugin, please see Extending the Widget Connector.

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**On this page:**


- Using the Widget Connector
- Parameters
- Live example of Flickr photos
- Live example of Google Gadget
- More examples of macro sources
- Troubleshooting
- Code examples


**Related pages:**

- Working with Macros
- Confluence User's Guide

### *Using the Widget Connector*

**To add the Widget Connector to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

### *Parameters*

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Description |
|---|---|
| **Web Site's Widget URL** | This is the URL provided by the external web site for embedding content from that web site onto another web page. |
| **Pixel Height (Value Only)** | Specify the height of the display, in pixels. |
| **Pixel Width (Value Only)** | Specify the width of the display, in pixels. |

### *Live example of Flickr photos*

This example displays all photos from Flickr with the tag 'Atlassian'. It uses this URL: http://www.flickr.com/photos/tags/atlassian/

### *Live example of Google Gadget*

This example lets you play with a Google Gadget, Gadzi's Monkey Virtual Pet. It uses this URL: http://www.google.com/ig/directory?synd=open&num=24&url=http://www.gadzi.com/gadgets/monkey.xml&output=html

### *More examples of macro sources*

Google Gadgets

You 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:

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```
http://www.google.com/ig/directory?synd=open&num=24&url=http://abowman.googlepages.com/spider.xml&output=html
```

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&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 **Copy**.
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-fba866ffdd28
```

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 on YouTube. Choose **Share**.
4. Choose **Options**, located under the video's URL.
5. Choose **Long link**, then copy the long URL. It looks something like this:

```
http://au.youtube.com/watch?v=-dnL00TdmLY
```

**Note:** You must use the long YouTube URL. The shortened URL (like this one: `http://www.youtu.be/<video_key>`) does not work in the widget connector.

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 and search for the video you want.

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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 one:

```
http://vids.myspace.com/index.cfm?fuseaction=vids.individual&videoid=3376248&searchid=20c789f6-1ae9-459a-bfec-75efcfc2847c
```

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 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://video.yahoo.com/watch/423158/2424140
```

If you are unable to obtain a unique URL from your browser's address bar, click the envelope (Share) icon on the lower section of the video screen and copy the contents of the **Link** field.

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 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.

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 **Web Site's Widget URL** box in the Macro Browser.

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'.

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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:

```
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 one:

```
http://www.metacafe.com/watch/679493/wikis_in_plain_english_how_to/
```

blip.tv

This integration is currently broken. Please refer to CONF-27266 for details of the issue.

Viddler

This integration is currently broken. Please refer to CONF-27267 for details of the issue.

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 URL displays a slide show of Flickr photos that are tagged with the word 'Atlassian' http://www.flickr.com/photos/tags/atlassian/
Flickr Photos from a Specific User

This URL displays a slide show of photos from the Flickr photostream of user 'Atlassian': http://www.flickr.com/photos/atlassian/
Flickr Photos from a Specific Set

This URL displays a slide show of Flickr photos from the set 'Melbourne Cup - November 2008' created by user 'Atlassian': http://www.flickr.com/photos/atlassian/sets/72157608657271078/
A Specific Flickr Photo

This URL displays a slide show of photos from the Flickr photostream of the user 'Atlassian', starting with a specific photo: http://www.flickr.com/photos/atlassian/3003538919/

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:

1. Go to Skitch.com.
2. Find the image and copy the URL from the address bar of your browser. The URL looks something like

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this:

```
http://skitch.com/atlassian/411g/example-image
```

**Note:** Skitch is now integrated with Evernote, as described in this blog post from *The Next Web*: Evernote is bringing Skitch into its core service, Skitch.com will be archived. As a result, private images on Skitch.com are no longer accessible and will not work in the Confluence widget connector. Existing public images on Skitch.com will remain available.

Twitter

**Note**: Due to a recent change to the Twitter API, the process for displaying Tweets has changed. The following instructions relate to v 2.1.6 of the Widget Connector plugin. Earlier versions of the Widget Connector no longer display tweets correctly.

To embed a single tweet:

1. In Twitter, navigate to the tweet you wish to embed and choose **Details** to display just that tweet in your browser.
2. Copy the page URL (the URL should be in the following format, `https://twitter.com/atlassian/status/346976521250037760`).
3. In Confluence, paste the URL into the Widget Connector.
4. The single tweet will display, like the one below.




To embed a dynamic list of tweets:

1. In Twitter, create a **Widget** (go to **Settings** > **Widgets**).
2. Configure the widget to display the tweets you wish to embed (for example, a user timeline, list of tweets or hashtag search).
3. Save the widget, then copy the page URL (the URL should be in the following format, `https://twitter.com/settings/widgets/354381809263472640/edit`)
4. In Confluence, paste the URL into the Widget Connector.
5. The list of tweets will display, like the one below.

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FriendFeed

To display the latest messages from a FriendFeed user, add the user's FriendFeed link as the 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 the 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
```

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-b974-3665
2774971b
```

3. Paste the URL into the Widget macro code on your Confluence page.

Scribd

You will need to find the URL for the Scribd presentation that you want to display.

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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:

```
http://www.scribd.com/doc/5683554/My-Sea-Friends-Coloring-Book
```

4. Paste the URL into the Widget macro code on your Confluence page.

Google Docs Presentations

This integration is currently broken. Please refer to CONF-24927 for details of the issue.

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&ctz=Australia/
Sydney
```

5. Paste the URL into the Widget macro code on your Confluence page.

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:

```
http://examples.wufoo.com/forms/contact-form/
```

Wufoo Reports

To display a Wufoo Report built using the Wufoo Report Manager, add the report's link as a URL to the Widget Macro. For example:

```
http://examples.wufoo.com/reports/example-satisfaction-survey-report/
```

Get Satisfaction social support application

To display a feedback form for a Get Satisfaction community, add the community or company link as a URL to the Widget Macro. For example:

```
http://getsatisfaction.com/atlassian
```

***Troubleshooting***

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If the URL given in the Widget Connector macro does not work, the macro displays an icon and the base URL.

For example, the following code:

```
http://example.com/invalid
```

will result in an image like the one below:




***Code examples***

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

**Widget Connector Examples**

This page contains working examples of some 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. For detailed usage, see Widget Connector Macro.

**Flickr**

```
http://www.flickr.com/photos/tags/atlassian
```

```
http://www.flickr.com/photos/atlassian/
```

```
http://www.flickr.com/photos/atlassian/sets/72157608657271078/
```

```
http://www.flickr.com/photos/atlassian/3003538919/
```

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**On this page:**


- Flickr
- Google Docs
- YouTube
- MySpace
- Vimeo
- BlipTV
- Viddler
- Skitch
- Twitter
- FriendFeed
- SlideShare
- SlideRocket
- Scribd
- Wufoo
- Example of widget error message


**Related pages:**

- Widget Connector Macro
- Working with Macros
- Confluence User's Guide

#### Google Docs

This integration is currently broken. Please refer to CONF-24927 for details of the issue.

#### YouTube

```
http://au.youtube.com/watch?v=-dnL00TdmLY
```

**Note:** You must use the long YouTube URL, available under **Share** > **Options**. For detailed instructions, see the user's guide to the widget macro.

#### MySpace




```
http://www.myspace.com/video/theflynn/glacier-creek-confluence-time-lapse/3376248
```

#### Vimeo




```
http://www.vimeo.com/909808
```

#### BlipTV

This integration is currently broken. Please refer to CONF-27266 for details of the issue.

#### Viddler

This integration is currently broken. Please refer to CONF-27267 for details of the issue.

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#### Skitch

Skitch is now integrated with Evernote, as described in this blog post from *The Next Web*: Evernote is bringing Skitch into its core service, Skitch.com will be archived. As a result, private images on Skitch.com are no longer accessible and will not work in the Confluence widget connector. Existing public images on Skitch.com will remain available.

#### Twitter




```
http://twitter.com/mcannonbrookes
```




```
http://search.twitter.com/search?q=AtlassianDragons
```

#### FriendFeed

```
http://friendfeed.com/myname
```

#### SlideShare




```
http://www.slideshare.net/jleyser/using-jira-greenhopper-for-agile-development-pres
entation
```

#### SlideRocket

```
http://app.sliderocket.com/app/FullPlayer.aspx?id=132f9db7-b0fb-4f51-b974-366527749
71b
```

#### Scribd

```
http://www.scribd.com/doc/28967704/How-did-Shakespeare-change-the-English-language|
height=600px
```

#### Wufoo

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```
http://examples.wufoo.com/forms/contact-form/
```

**Example of widget error message**

This is an example of the error message you will see, if the Widget connector cannot find the URL or service specified.




```
http://example.com/invalid
```

## Working with Drafts

A draft is a 'snapshot' of unsaved page content, which Confluence creates automatically at regular intervals while you are editing a page or blog post. This can minimise the loss of work if your Confluence site experiences a problem, since you can retrieve the page content from your last saved draft.

### How do drafts work in Confluence?

At regular intervals, Confluence automatically saves a draft of the page you are editing. If a network failure or system error prevents you from saving your page, you can retrieve its last saved draft and continue working on the page from the last saved draft.

Drafts are created while you are adding and editing a page or blog post. Each new draft replaces the previously saved draft. By default, Confluence saves a draft of your page once every thirty seconds. However, a Confluence administrator can configure how often drafts are saved. In addition, whenever you edit a page and then move to another screen, Confluence will automatically save a draft.

When you edit the page 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 it.

Each time Confluence saves a draft, it displays a message and the time of the last save near the **Save** button on the edit screen.

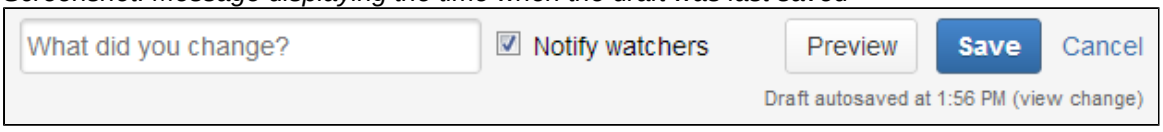
**On this page:**

- How do drafts work in Confluence?
- Viewing drafts
- Viewing your unsaved changes

**Related pages:**

- Resuming the Editing of a Draft
- Configuring the Time Interval at which Drafts are Saved
- Concurrent Editing and Merging Changes
- Confluence User's Guide

*Screenshot: Message displaying the time when the draft was last saved*




More about drafts:

- A user only has access to the drafts of pages they have been working on and whose content has not yet been saved.

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- A user cannot create a draft explicitly.
- A user's drafts are listed in the 'Drafts' tab of their profile.
- Once a user has resumed editing a draft, or chosen to discard it, the draft is removed from their drafts tab.

#### Viewing drafts

Your drafts are listed on the **Drafts** tab of your user profile.

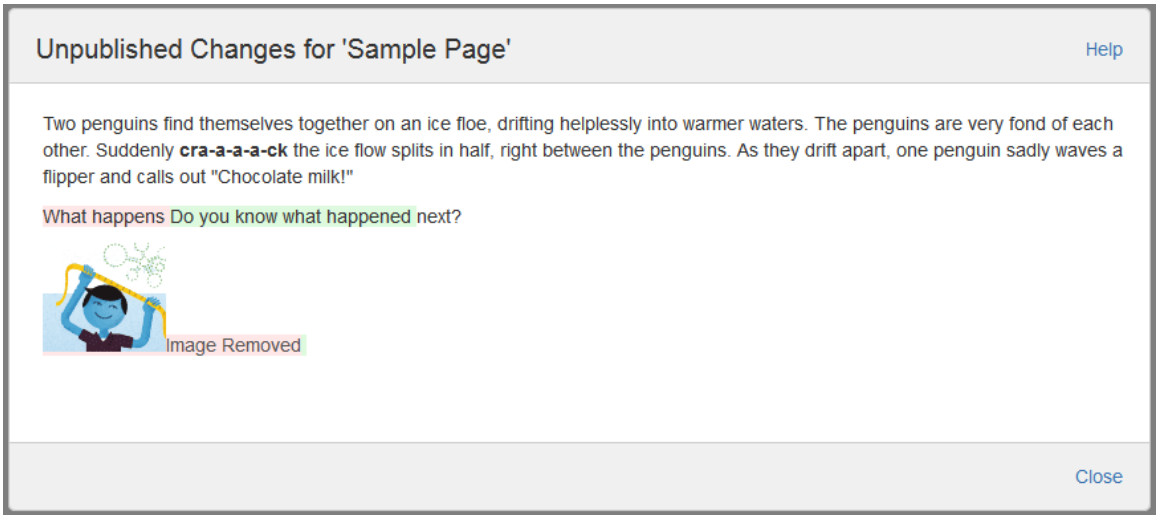
**To see your drafts:**

Choose **your profile picture** at top right of the screen, then choose **Drafts**.

#### Viewing your unsaved changes

While editing a page or blog post, you can view any 'unsaved' changes you have made since the last automatically saved draft, by clicking **view change** (near the **Save** button).

*Screenshot: Segment of the unpublished changes window*




### Configuring the Time Interval at which Drafts are Saved

By default, Confluence saves a draft of your page once every thirty seconds. Confluence administrators can configure how often drafts are saved.

As a Confluence administrator, you can set the time interval at which drafts are saved as follows:

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click **General Configuration** in the left-hand panel.
3. Edit the setting for **Draft Save Interval**.

**Related pages:**

- Working with Drafts
- Resuming the Editing of a Draft

### 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.

**Related pages:**

- Page History and Page Comparison Views
- Viewing Page Information
- Working with Drafts
- Confluence User's Guide.

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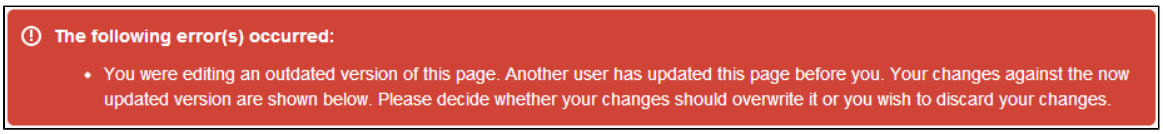
*Screenshot: Notification of Simultaneous Page Editing*




**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 your changes**' manually, or '**Discard**' them.

*Screenshot: Notification of Page Editing Conflict*




***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.

### Resuming the Editing of a Draft

If you have typed some content into a Confluence page or blog post, Confluence will save a draft of it, even if you were not able to successfully save the page or blog post, or add a title to it.

**There are two ways to resume editing an unsaved page or blog post:**

A. Using your drafts view. To resume editing a draft from this view:

1. Choose **your profile picture** at top right of the screen, then choose **Drafts**.
2. Choose **Resume Editing** next to the appropriate draft to resume editing that draft.

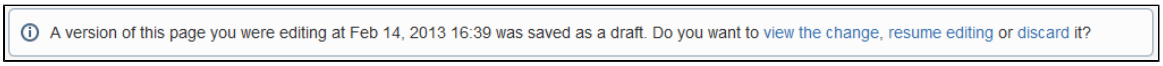
**Note:** If you had not yet entered a page title, the draft will be listed with the title '*Untitled*'.

B. If you had created a new page or blog post but did not save it, then when you next add a page or blog post in that space, Confluence will ask you if you want to resume editing the page that was not saved. If you click **resume editing**, the draft and its unsaved content will be restored, allowing you to continue editing it.

**Related pages:**

- Working with Drafts

*Screenshot: Resume Editing*




## 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.

### Recording Change Comments

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A 'change comment' is a short description that summarises the changes made to a page during an editing session. 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 pages and blog posts for information about that type of comment.

Note that once a change comment has been added and the page has been saved, it is not possible to update or remove the change comment.

**On this page:**


- Entering a Change Comment
- Viewing a Change Comment
- Viewing a History of Change Comments

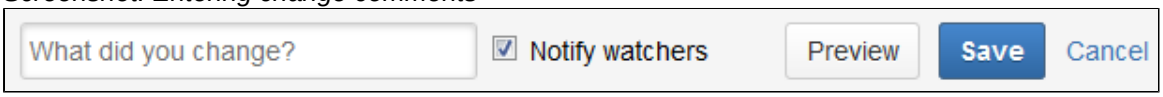

Related pages:

- Viewing Page Information
- Page History and Page Comparison Views
- Confluence User's Guide

#### *Entering a Change Comment*

You can enter change comments in the field located below the edit screen:

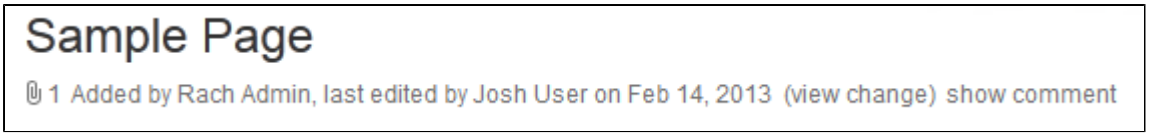
*Screenshot: Entering change comments*




#### *Viewing a Change Comment*

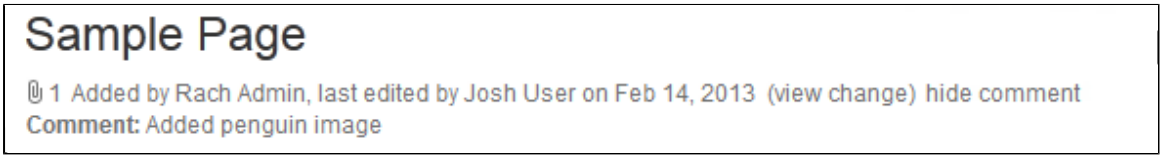
Once a comment has been added, it becomes visible in the view mode of the page, so that users are aware of the most recent changes made to a page. If a comment has been recorded, you will see a **show comment** link below the page title. Click the link to view the comment.

*Screenshot: The 'show comment' link*




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*




#### *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*

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Recent Changes

**Since you last logged in:**

Josh User, Sophie User made 2 changes. (view)

**Since you last edited this page:**

Josh User made 1 change. (view)

| Time | Editor | |
|---|---|---|
| Feb 14, 2013 10:58 | Josh User | View Changes |
| Added penguin image | | |
| Feb 14, 2013 10:57 | Sophie User | View Changes |
| Fixed a typo | | |
| Feb 14, 2013 09:06 | Rach Admin | |

View Page History

*Screenshot: History of change comments on History view*

Pages / ... / Sample Page

View Tools

Page History

Compare selected versions

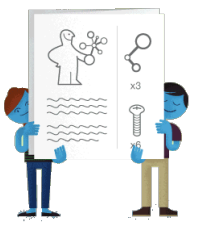
| | Version | Date | Changed By | Operations |
|---|---|---|---|---|
| ☐ | CURRENT (v. 3) | Feb 14, 2013 10:58 | Josh User: Added penguin image | |
| ☐ | v. 2 | Feb 14, 2013 10:57 | Sophie User: (Fixed a typo) | Restore this version |
| ☐ | v. 1 | Feb 14, 2013 09:06 | Rach Admin | Restore this version |

Return to Page Information

## Creating Beautiful and Dynamic Pages

Confluence has a number of features that help you build attractive pages to engage your readers and give them the opportunity to interact with up-to-date information. This page summarises those features and provides links to detailed instructions.

### Adding visual appeal



**Pictures, photographs and screenshots.** Confluence pages can display images from your Confluence site and from other websites. To put an image into Confluence, you can upload it and attach it to a page or blog post, then display it on any page, blog post or comment. Alternatively, display an image from a remote location via the web address (URL). See . Displaying Images **Galleries.** Use the Gallery Macro to display a set of images. When viewing the page, people can click any of the pictures to zoom in and view the images as a slide show.

**People.** Add a Profile Picture Macro to show a picture of a Confluence user, or a User Profile Macro to show a summary of the person's profile as well as their avatar.

**Multimedia.** You can display movies, animations and videos, and embed audio files on your Confluence page. For example, Confluence supports Adobe Flash, MP3, MP4, and various other movie formats. See Embedding

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Multimedia Content.

**Social video and image sharing.** The Widget macro displays live content from social sites such as YouTube an Widget Connector Macrod other video sharing sites, and Flickr for shared photographs. See the guide to the .

**On this page:**


- Adding visual appeal
- Bringing numbers to life
- Displaying presentations and documentsP ulling in content from your issue tracker
- Telling a story in pictures
- Varying the structure of your pages
- Integrating your content with social media
- Showing activity streams

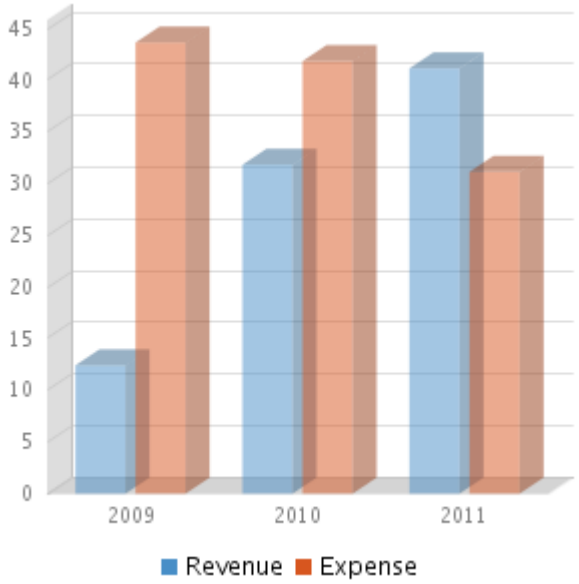

**Related pages:**

- Working with Macros
- Using the Editor
- Confluence User's Guide

### Bringing numbers to life

The Chart Macro offers a variety of graphs and charts that you can use to illustrate statistics and other numerical data.

*Illustration: A 3-dimensional bar chart produced by the Chart macro*




### Displaying presentations and documents

Display your Office documents and other presentations directly in Confluence.

- Attach your Office documents to a Confluence page then display them on the page, using the View File Macro. This works for Excel spreadsheets, PowerPoint presentations and Word documents.
- Display PDF files in Confluence too, also with the View File Macro.
- Use the Widget Connector Macro to show slide decks hosted on SlideShare and other online presentation sites.

### Pulling in content from your issue tracker

Many project teams and customers have useful information on a JIRA issue tracker. Rather than copying and pasting it onto your Confluence page, you can display it directly from the source, thus ensuring that the information shown in Confluence is always up to date.

Link to a feature request in your issue tracker, or display a list of fixed issues – useful for release notes and project planning. See the JIRA Issues Macro.

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*Illustration: A PowerPoint slide deck*



### Telling a story in pictures

A number of Confluence add-ons provide sophisticated tools for creating diagrams and mockups.

For example:

- Balsamiq Mockups for Confluence
- Creately for Confluence
- Gliffy Confluence Plugin
- Graphviz Plugin for Confluence
- Lucidchart for Confluence

Search the Atlassian Marketplace for more add-ons.

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

### Varying the structure of your pages

You can build up a custom layout by using the page layout tool to add sections and columns to your page. See the detailed guidelines to Working with Page Layouts and Columns and Sections.

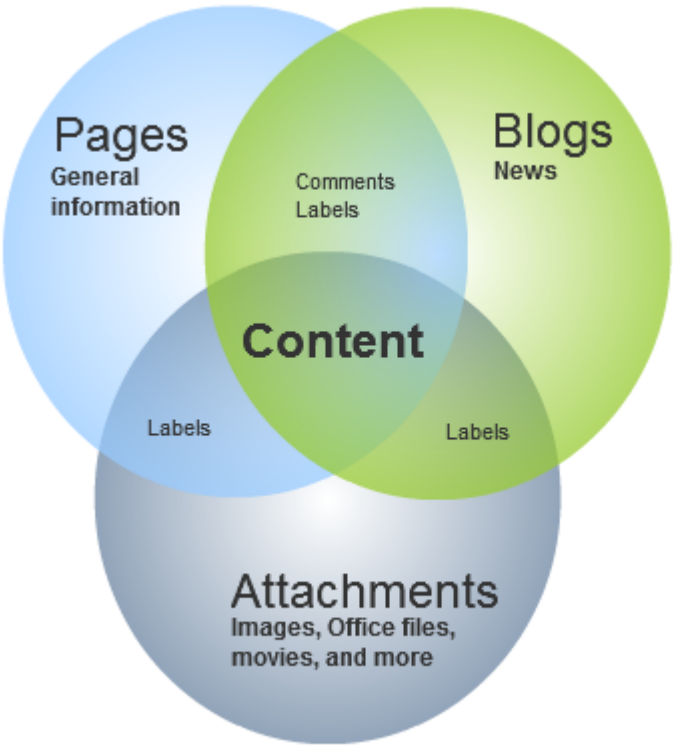
Do you need to display tabular data, which your readers can sort when viewing the page? See Working with Tables.

Use other macros to highlight and format sections of your page:

- Panel
- Tip
- Info
- Note
- Warning
- Code block
- Noformat

*Illustration: A Gliffy diagram*

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| Illustration: A Panel macro |
| --- |
| Use a macro or add a smiley to brighten your page. |

### Integrating your content with social media

People share information on various social sites. You can make Confluence a focal point where people collect their shared information and see what is happening in the areas that matter to them.

Use the Widget Connector macro:

- Show a live stream of tweets from a Twitter user, or tweets matching a Twitter search.
- Display a video from YouTube or other online movie sites.
- Share photographs from Flickr.
- Display slide decks hosted on SlideShare and other online presentation sites.
- See what else the Widget Connector macro can do.

### Showing activity streams

Make your Confluence pages dynamic and interactive with:

- An activity stream showing updates and comments on Confluence and other linked applications. See Working with Confluence Gadgets.
- An RSS feed from within Confluence or an external site. See Subscribing to RSS Feeds within Confluence.
- A list of recent blog posts from within Confluence. See Blog Posts Macro.

*Illustration: A Twitter stream via the Widget macro*


search.twitter.com

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# Working with Templates

When you add a new page, you do not have to write the content from scratch. Instead, you can base your new page on a template. A template is a Confluence page with predefined content. Some templates are provided by blueprints or add-ons, others are defined by Confluence users.

Some examples of where templates are useful:

- 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.

## Global templates and space templates

In Confluence, there are two places to store your page templates:

- **Space templates:** These page templates are available in a specific space only. People who have space administrator permission can define templates via the space administration screen.
- **Global templates:** These page templates are available in every space on the site. People who have Confluence Administrator permission can define the global templates via the Confluence Administration Console.

System administrators can also download predefined templates.

**On this page:**


- Global templates and space templates
- Creating a template
- Using a template
- Templates provided by blueprints
- Promoting templates in the Create dialog
- System templates


**Related pages:**

- Adding a Template
- Administering Site Templates
- Importing Templates
- Creating a Page using a Template
- Confluence User's Guide

## Creating a template

You can write your template using the Confluence editor. You can also add special variables to the page, if you want to include fields that the author will complete when adding the page. See Adding a Template for more information.

## Using a template

Page templates are used only when adding a page. It is not possible to apply a template to an already-existing page. Once a page has been added using a template, the template is no longer linked to the page. All further editing is performed as if the template was never used. Some plugins provide enhanced template functionality. You can search the Atlassian Marketplace for template add-ons.

See Creating a Page using a Template for more information.

## Templates provided by blueprints

A blueprint is a page template with added functionality to help you create, manage and organise content in Confluence.

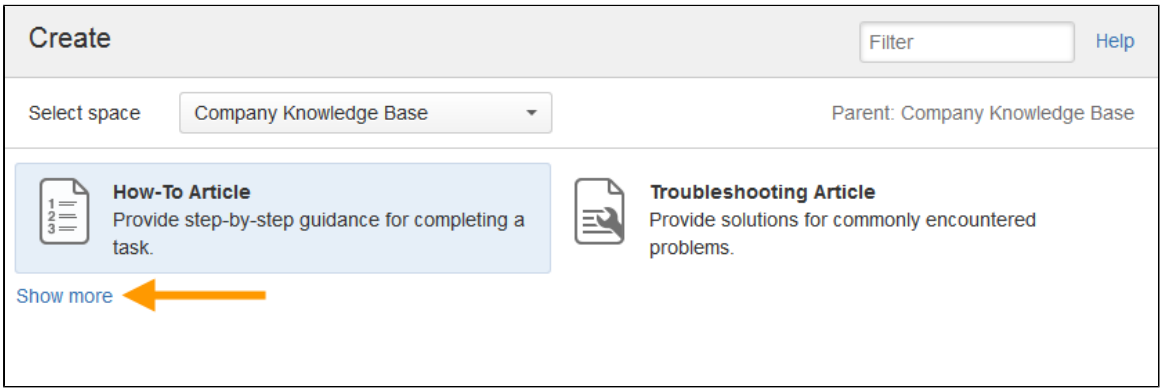
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Confluence ships with some predefined blueprints. You can also download additional blueprints from the Atlassian Marketplace. You can customise the blueprint templates to suit your individual needs, disable particular blueprints or even develop your own blueprints.See Working with Blueprints.

### Promoting templates in the Create dialog

Space administrators can choose to promote specific templates and blueprints in the Create dialog. Promoting items can help ensure consistency in a space by encouraging users to create particular types of content over blank pages.

The promoted templates or blueprints will appear at the top, with all other content types, including Blank Page and Blog Post collapsed under them. To view the other types of content available choose the **Show more** link.




**To promote a template or blueprint:**

1. Go to **Space Tools** > **Content Tools**.
   If your space is using the Documentation theme choose **Browse** > **Space Admin** > **Templates**.
2. Choose **Promote** next to the templates or blueprints you want to appear in the Create dialog.

Remember: by promoting a blueprint or template you will be hiding all other items, including blank page and blog post, under the **Show more** link.

### System templates

Confluence also provides 'system templates' containing content like the site welcome message and default space content. See Administering Site Templates.

## Adding a Template

A template is a predefined page that can be used as a framework when creating new pages. Templates are useful for setting a common style or format for a page.

In Confluence, there are two places to store your page templates:

- **Space templates:** These page templates are available in a specific space only. People who have space administrator permission can define templates via the space administration screen.
- **Global templates:** These page templates are available in every space on the site. People who have Confluence Administrator permission can define the global templates via the Confluence Administration Console.

### Adding a space template

Space templates are available in one space only.

**To add a template for a space:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Templates** > **Add New Space Template**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Templates** from the space administration options.

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3. Choose **Add New Space Template**.

The 'Create Template' screen will appear. Add content as described below.

**On this page:**


- Adding a space template
- Adding a global template
- A template illustration
  - Using the template editor
  - The resulting form when the template contains variables
- Adding content to your template
  - Labels
  - Images and other attachments
  - Variables used as form fields
  - Instructional text
- Adding a description to your template
- Converting an existing page to a template
- Notes


**Related pages:**

- Creating a Page using a Template
- Working with Templates
- Working with Confluence Labels
- Working with Macros
- Using the Editor
- Confluence User's Guide

### Adding a global template

Global templates are available in all spaces in your Confluence site.

**To add a global template:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand panel.
3. Choose **Add New Global Template**.

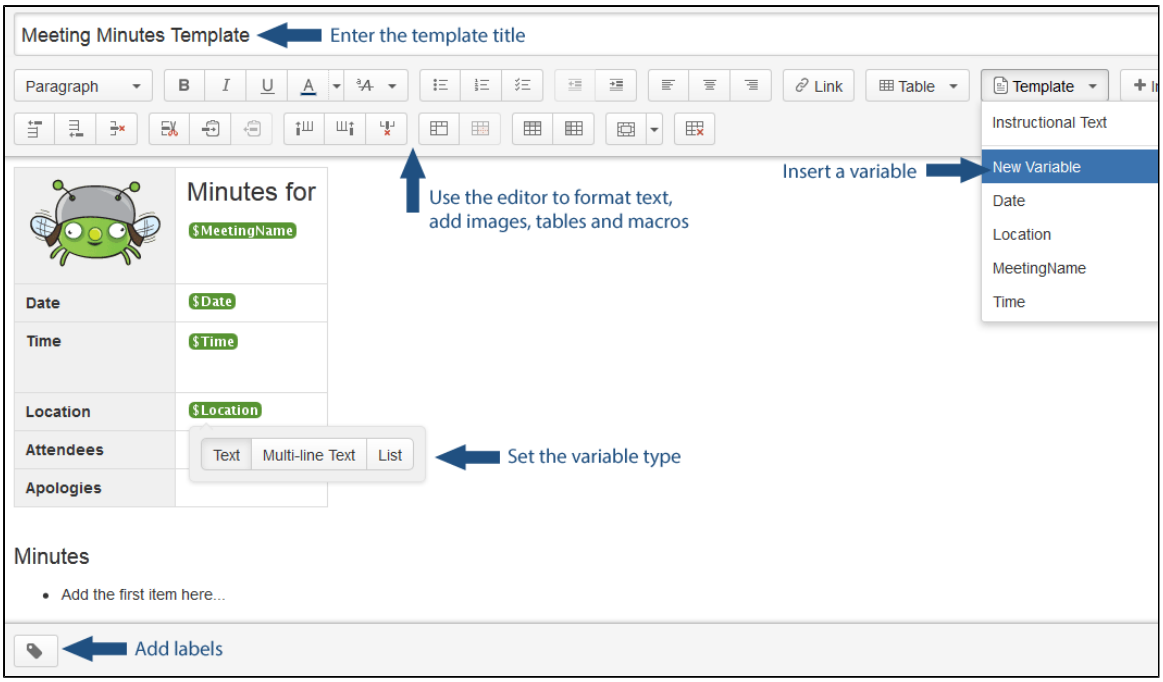
The 'Create Template' screen will appear. Add content as described below.

### A template illustration

#### *Using the template editor*

This illustration shows the template editor with an image, some text, styling, and variables.

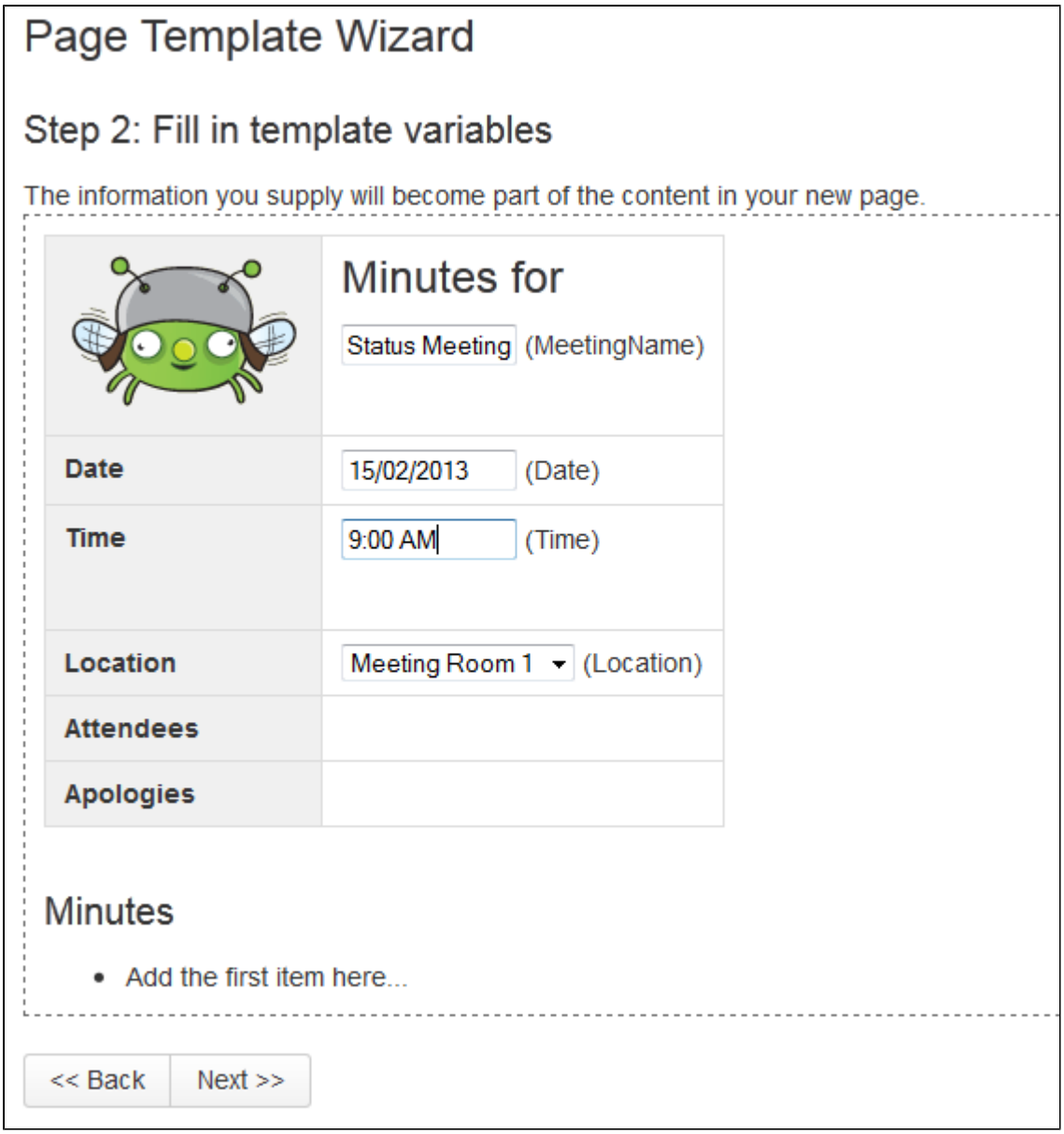
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***The resulting form when the template contains variables***

This screenshot shows the form displayed when someone creates a page based on the template containing the above variables. (See Creating a Page using a Template.)

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#### Adding content to your template

Add a name for your template.

Enter text into the body of the template, and use the editor toolbar to apply styles, layout and formatting. You can add links and macros. In general, you can use the Confluence editor in the same way as on a page. In addition, you can add variables which will produce a form for data collection when someone adds a page based on the template.

Below are some points of special interest in templates.

##### *Labels*

Choose **Labels** to add one or more labels to the template. These labels will be included in all pages created using this template.

##### *Images and other attachments*

You cannot attach an image or other file to a template. Instead, attach the file to another page, and insert it into the body of the template.

For example:

- You can attach an image to a page and then choose **Insert** > **Image** to embed the image into the

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template.
- You can attach a PDF file to a page and then choose **Insert** > **Other Macros** > **PDF** to embed the PDF file into the template.

#### *Variables used as form fields*

You can add variables to your template, to act as form fields. When someone creates a page based on the template, Confluence will display a text entry box for each field. The user can enter data into each field, and the data is inserted onto the new page.

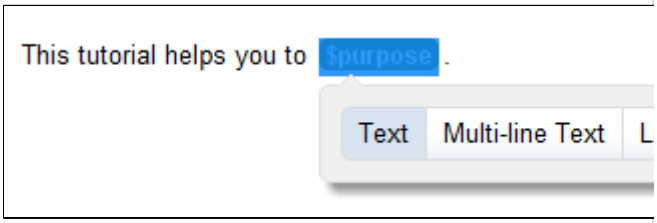
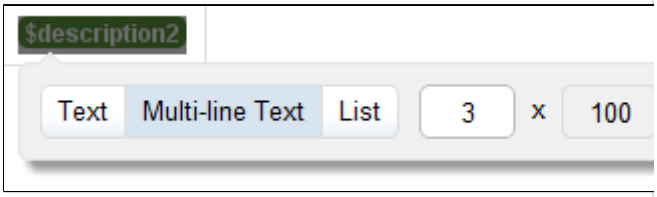
Every variable must have a unique name. If you add the same variable more than once in the same template, Confluence will make sure that they have the same value when the user saves the page. This is useful if you need the same information in more than one place in the page.

**To insert a variable into a template:**

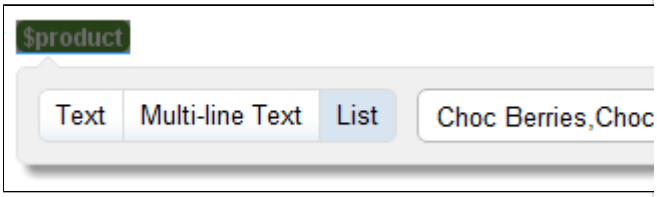
1. Place your cursor on the template where you want the variable to appear.
2. Choose **Template** > **New Variable** from the editor toolbar. Alternatively, you can choose the name of an existing variable if you want the same variable to appear more than once in the template.
3. Enter the variable name.
4. Press **Enter**. By default this will create a single-line text input field.
5. To change the variable type, click the variable placeholder. The variable's property panel will appear. Choose one of the variable types: **Text**, **Multi-line Text**, or **List**. See below for a description of each type.

**Speeding up variable entry with autocomplete:** Type **$** and the variable name, then press Enter, to add a new variable or to select an existing variable from a list of suggestions. The suggestions are drawn from variables already defined in this template.

These are the types of variable available:

| Variable type | Description |
|---|---|
| Text | Creates a single-line text input field.<br>*Screenshot: A template variable called* `$purpose` *and its property panel*<br>  |
| Multi-line text | Creates a text box that allows more than one line of text.<br>By default, the text area is 5 rows depth and 100 characters wide. You can change the size by typing over the digits in the variable property panel.<br>*Screenshot: A multi-line variable and its property panel*<br>  |

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| | |
|---|---|
| List | Creates a dropdown list.<br><br>You must specify the values that will appear in the dropdown list. The values:<br><br>• Must be separated by commas.<br>• Can include letters, numbers, special characters, and spaces.<br>• Cannot include commas (except as the list separation character).<br><br>*Screenshot: A list variable and its property panel*<br><br>  |

***Instructional text***

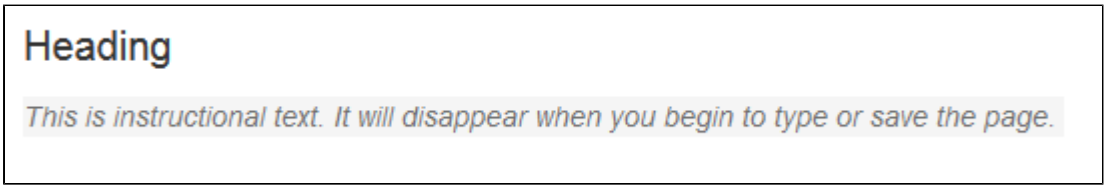
Instructional text allows you to add placeholder content to a template.  This text is only visible in the editor and disappears when the author of the page begins typing.

**To insert instructional text into a template:**

1. Place your cursor on the template where you want the instructional text to appear.
2. Choose **Template** > **Instructional Text** on the editor toolbar.
3. Begin typing - the instructional text appears in italics with a shaded background to distinguish it from normal paragraph text.

You can also change the placeholder type from 'text' to 'user mention', which launches the mentions auto-complete when the author of the page begins to type. Select the instructional text and choose **User Mention**.

*Screenshot: Instructional text in a template.*

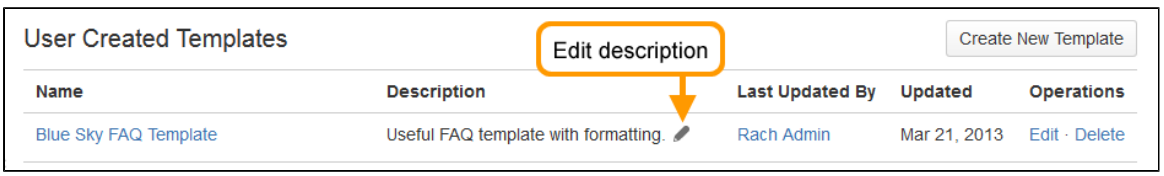



### Adding a description to your template

The template description displays in the 'Create' dialog and is useful for explaining the purpose of a template to users.

**To add a description to a template:**

- Go to the space or global templates page (as described above).
- Choose the **Edit** icon in the 'Description' column.
- Enter your description and save.




### Converting an existing page to a template

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If you would like to convert an existing page to a template, you can copy the content from the page and paste it into the template editor. There is no automated way of doing this.

Please note the section above about images and other attachments in templates.

#### Notes

- You cannot insert variables via the 'Insert wiki markup' option in the editor toolbar.
- Page templates are used only when adding a page. It is not possible to apply a template to an already-existing page. Once a page has been added using a template, the template is no longer linked to the page. All further editing is performed as if the template was never used. Some plugins provide enhanced template functionality. You can search the Atlassian Marketplace for template add-ons.
- When you use a Table of Contents macro in a template, you will see an error when you preview the template itself. But the Table of Contents macro works on the pages that people create from the template – the table of contents shows up after they have saved the page. (This is probably because the template is not defined as a page, and the Table of Contents macro works for pages only.)
- The editor for templates is available only in **Confluence 4.3 and later**. Please refer to the earlier documentation for a description of the wiki markup editor templates.
- Confluence also provides 'system templates' containing content like the site welcome message and default space content. See Administering Site Templates.

## Creating a Page using a Template

You can create a page based on a global template (available to all spaces) or a space template (available only to that space). Before reading this page, make sure that someone has already created a template on your Confluence site.

#### Information copied from the template to the page

When you create a page based on a template, Confluence will copy the following content and information from the template to the new page:

- Labels
- Text and styles
- Layouts and formatting
- Macros
- Embedded images and other files. Note that you cannot attach an image or other file to a template. But if the template displays an image or file from another page, the new page will display that image or file too.

#### Form fields displayed by the template

If the template author included variables in the template, Confluence will display a form prompting you to supply values for the variables when you add the page.

**On this page:**

- Information copied from the template to the page
- Form fields displayed by the template
- Using a template to create a page
- Notes

**Related pages:**

- Adding a Template
- Using the Editor
- Working with Confluence Labels
- Confluence User's Guide

#### Using a template to create a page

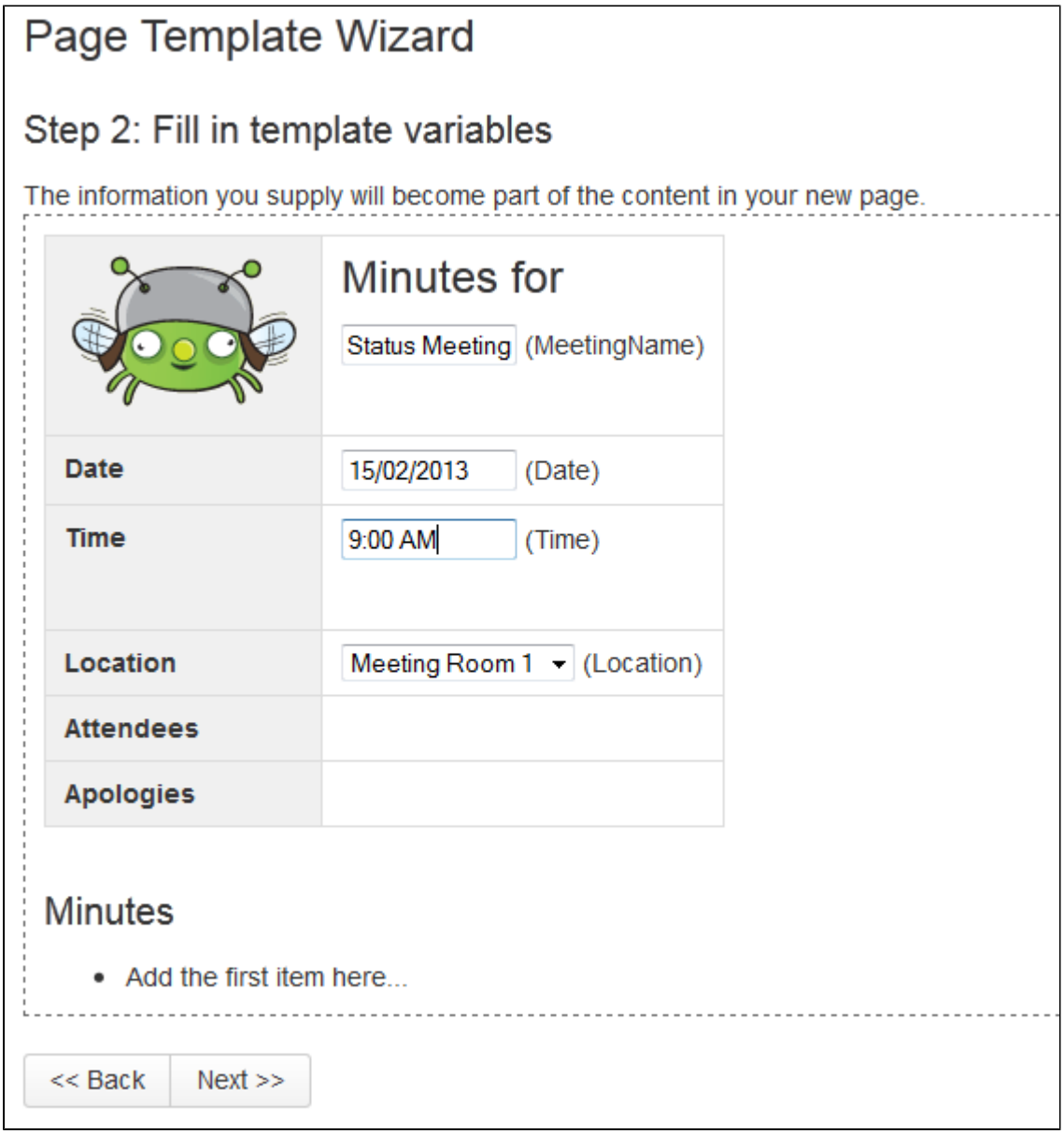
**To create a page based on a template:**

1. Choose **Create** on the header
2. Select a **space** and the **template** you want to use and choose **Next**
3. If the template contains variables, you will now see a form. Type the relevant information into the form fields, and choose **Next**.
4. Now you will see a new page based on the template. If you added information in the form fields, the page content will include that information.

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5. Type a name for the page where you see 'New Page'.
6. Add more content or make any other changes required.
7. Choose **Save**.

*Screenshot: Form showing template variables when creating a page from a template*




**Notes**

Page templates are used only when adding a page. It is not possible to apply a template to an already-existing page. Once a page has been added using a template, the template is no longer linked to the page. All further editing is performed as if the template was never used. Some plugins provide enhanced template functionality. You can search the Atlassian Marketplace for template add-ons.

## Editing a template

A template is a predefined page that can be used as a prototype when creating new pages. Templates are useful for giving pages a common style or format. This page is about changing an existing template.

**Note:** Page templates are used only when adding a page. It is not possible to apply a template to an already-existing page. Once a page has been added using a template, the template is no longer linked to the page. All further editing is performed as if the template was never used. Some plugins provide enhanced template functionality. You can search the Atlassian Marketplace for template add-ons.

In Confluence, there are two places to store your page templates:

- **Space templates:** These page templates are available in a specific space only. People who have space administrator permission can define templates via the space administration screen.

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- **Global templates:** These page templates are available in every space on the site. People who have Confluence Administrator permission can define the global templates via the Confluence Administration Console.

Confluence also provides 'system templates' containing content like the site welcome message and default space content. See Administering Site Templates.

**Related pages:**

- Adding a Template
- Creating a Page using a Template
- Working with Template
- Working with Pages
- Confluence User's Guide

**To edit a space template:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. A list of templates for the space displays. Choose **Edit** next to the template that you want to modify.
3. Make changes, or add new content, as you would when adding a template.
4. Choose **Save**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Templates** from space administration options.
3. A list of templates for the space displays. Choose **Edit** next to the template that you want to modify.
4. Make changes, or add new content, as you would when adding a template.
5. Choose **Save**.

**To edit a global template:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand navigation panel.
3. A list of templates for the Confluence site displays. Choose **Edit** next to the template that you want to modify.
4. Make changes, or add new content, as you would when adding a template.
5. Choose **Save**.

For more information on editing the content of a template, including adding macros, variables and instructional text see - Adding Content to a Template.

## Deleting a Template

A template is a predefined page that can be used as a prototype when creating new pages. Templates are useful for giving pages a common style or format. This page is about deleting an existing template, at space level or at site (global) level.

Templates are used only when adding a page. Once a page has been added, the template is no longer linked to the page. You can therefore delete the template without affecting any existing pages.

You need to be a space administrator to delete a space template, and you need Confluence Administrator permissions to delete a global template.

**Note:** Deleted templates cannot be restored.

**Related pages:**

- Working with Templates
- Confluence User's Guide

**To delete a space template:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. A list of templates for the space displays. Choose **Delete** next to the template that you want to delete.
3. Confirm the deletion when prompted.

If your space uses the Documentation Theme:

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1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Templates** from the space administration options.
3. A list of templates for the space displays. Choose **Delete** next to the template that you want to delete.
4. Confirm the deletion when prompted.

**To delete a global template:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand navigation panel.
3. A list of templates for the Confluence site displays.Choose **Delete** next to the template that you want to delete.
4. Confirm the deletion when prompted.

## Working with Blueprints

# What is a blueprint?

A blueprint is a set of page templates with added functionality to help you create, manage and organise content in Confluence more easily.

Create meeting notes, shared file lists and requirements documentation out of the box. Customise the blueprint templates to suit your individual needs.You can even develop your own blueprints.

Find out more about specific blueprints:

- Shared Links Blueprint
- Decisions Blueprint
- File List Blueprint
- Meeting Notes Blueprint
- Product Requirements Blueprint

**On this page:**
- Creating content using a blueprint
- Customising blueprint templates
- Promoting blueprints in the Create dialog
- Adding more blueprints
- Disabling a blueprint

**Related pages:**

- Working with Templates
- Confluence User's Guide
- Requesting Add-ons

### Creating content using a blueprint

You create a page from a blueprint in the same way as other pages in Confluence.  All blueprints are different and most contain instructions to guide you.

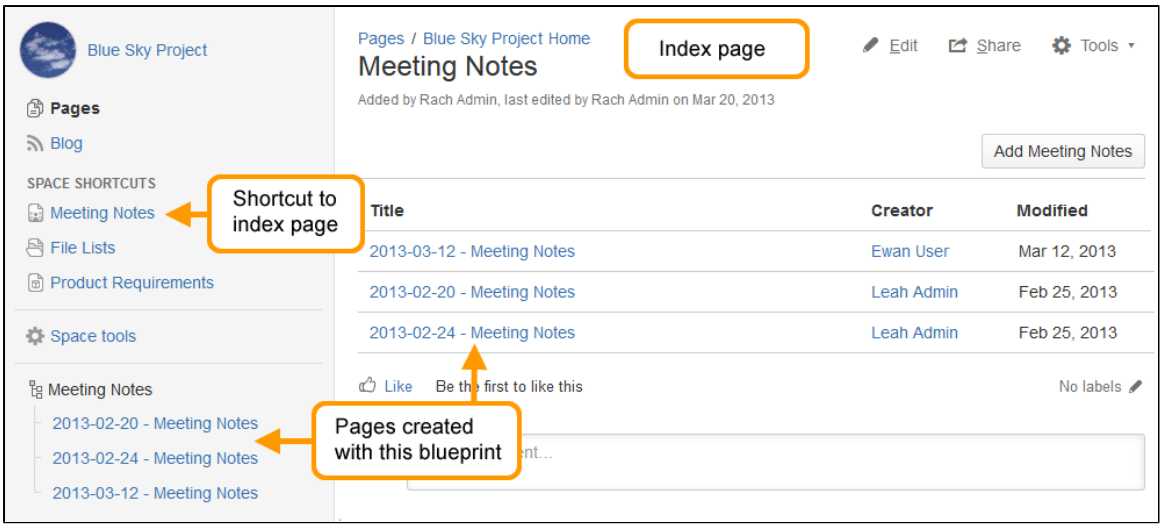
**To create a page from a blueprint in the current space:**

1. Choose **Create** on the header.
2. Choose a blueprint from the 'Create' dialog.
3. Choose **Create**.
4. The editor will open, a prompt to enter information, or the page will appear, depending on the blueprint selected. You can now follow the instructions built in to the blueprint to add content.

The first time a blueprint is used in a space, Confluence creates an index page and adds a shortcut to your sidebar (if you are using the default theme). The index shows information from your blueprint pages, for example the meeting notes index displays a list of all meeting notes pages in the space.

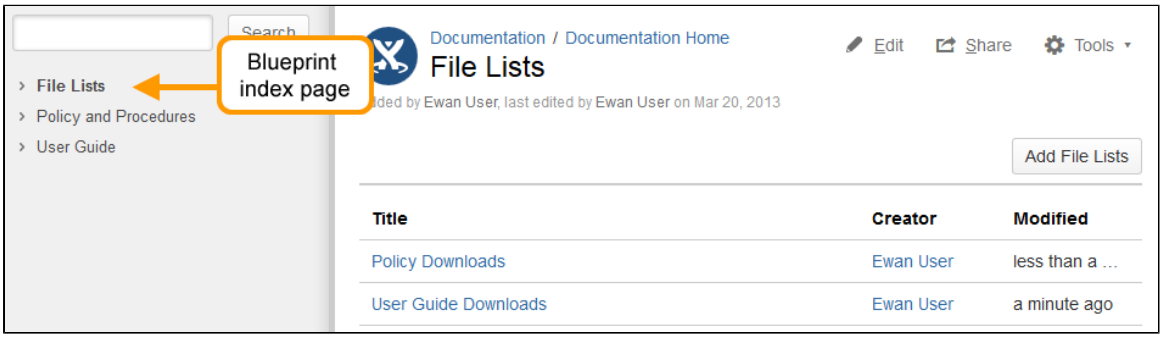
*Screenshot: Index page for the Meeting Notes blueprint*

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If you are using the Documentation theme, your blueprint index pages will appear in the sidebar as children of the homepage.

*Screenshot: Index page for the File List blueprint with the Documentation theme applied to the space*




## Customising blueprint templates

Blueprints are made up of templates that can be customised for an individual space or the whole site. This means you can adapt the content of the blueprint pages to suit your specific needs. For example, you might update the Meeting Notes blueprint templates to include a heading for apologies.

If you have space administrator permissions, you can customise blueprint templates for the spaces you are an administrator of. You must be a Confluence Administrator to customise blueprint templates for a whole site. See Administering Site Templates for more information.

**To customise a blueprint template for a space:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Edit** beside the blueprint template you wish to edit.
3. Make your changes to the template and choose **Save**.

Editing a blueprint template is very similar to editing a page template except:

- You should be careful not to remove any macros that the blueprint page or index page may use to store and display information.
- You cannot remove a blueprint template or change the template name.

**To reset a blueprint template back to the default:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Reset to default** beside the blueprint template you wish to reset.

See Working With Templates and Administering Site Templates for more information on templates.

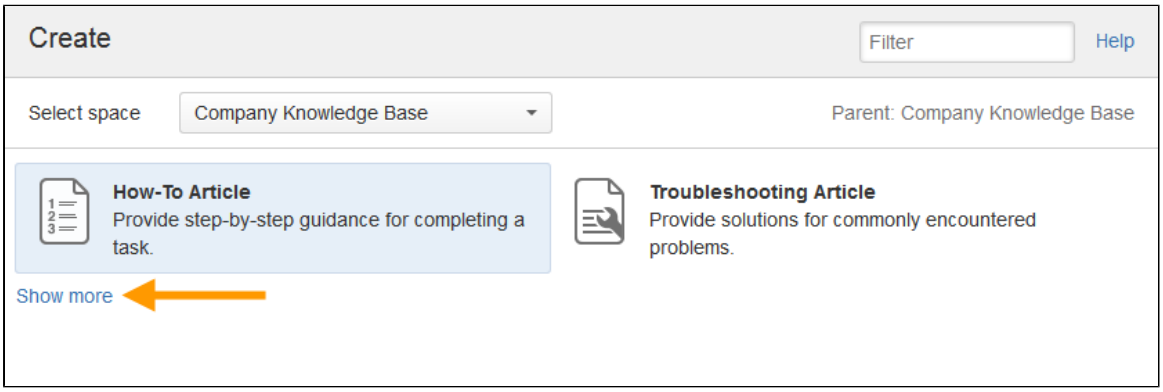
As with user created space and site templates, editing a blueprint template will not change existing pages, but any new blueprint pages will be based on the updated template.

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### Promoting blueprints in the Create dialog

Space administrators can choose to promote specific templates and blueprints in the Create dialog. Promoting items can help ensure consistency in a space by encouraging users to create particular types of content over blank pages.

The promoted templates or blueprints will appear at the top, with all other content types, including Blank Page and Blog Post collapsed under them. To view the other types of content available choose the **Show more** link.




**To promote a template or blueprint:**

1. Go to **Space Tools** > **Content Tools**.
   If your space is using the Documentation theme choose **Browse** > **Space Admin** > **Templates**.
2. Choose **Promote** next to the templates or blueprints you want to appear in the Create dialog.

Remember: by promoting a blueprint or template you will be hiding all other items, including blank page and blog post, under the **Show more** link.

### Adding more blueprints

You can find more blueprints for Confluence in the Atlassian Marketplace. Blueprints are managed using add-ons (also known as plugins).

See Requesting Add-ons for information on how you can search for new blueprint add-ons and send a request to your System Administrator.

If you are a System Administrator, see Managing Add-ons and Macros for information on how to install new blueprint add-ons.

You can also develop your own blueprints. See our developer documentation on Writing a Blueprint.

### Disabling a blueprint

You may want to disable particular blueprints. For example, you may not want to see the Product Requirements blueprint in the Create dialog in a HR or Social space. If you are a Confluence Administrator you can also disable particular blueprints for the whole site.

**To disable a blueprint in a space:**

- Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
- Choose **Disable** next to the blueprint you wish to disable in that space.

You can re-enable the blueprint at any time.

**To disable a blueprint across a whole site:**

- Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**. You need Confluence Administrator permissions to do this.
- Choose **Global Templates**.
- Choose **Disable** next to the blueprint you wish to disable.

The blueprint will not appear in the 'Create' dialog or any space in the site.

## Shared Links Blueprint

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The Shared Links blueprint helps you take content from the web and share it with your team.

You can use Shared Links to share and collaborate on web content, or to create a centralised repository of useful links.

The first time you use the Shared Links blueprint in a space, Confluence will create an index page and add a shortcut on your space sidebar (if you are using the default theme). The index lists all the shared links in that space.

**Related pages:**

- Working with Blueprints
- Decisions Blueprint
- File List Blueprint
- Meeting Notes Blueprint
- Product Requirements Blueprint

**To use the Shared Links blueprint:**

- Choose **Create** > **Share a link**.
- Enter the URL of the web content you want to share.
- Choose **Create**.

You can also:

- include topics to help categorise your links - these are added as labels to your page.
- share the link immediately with another user or group - users will receive a notification.
- add a comment to start the discussion.

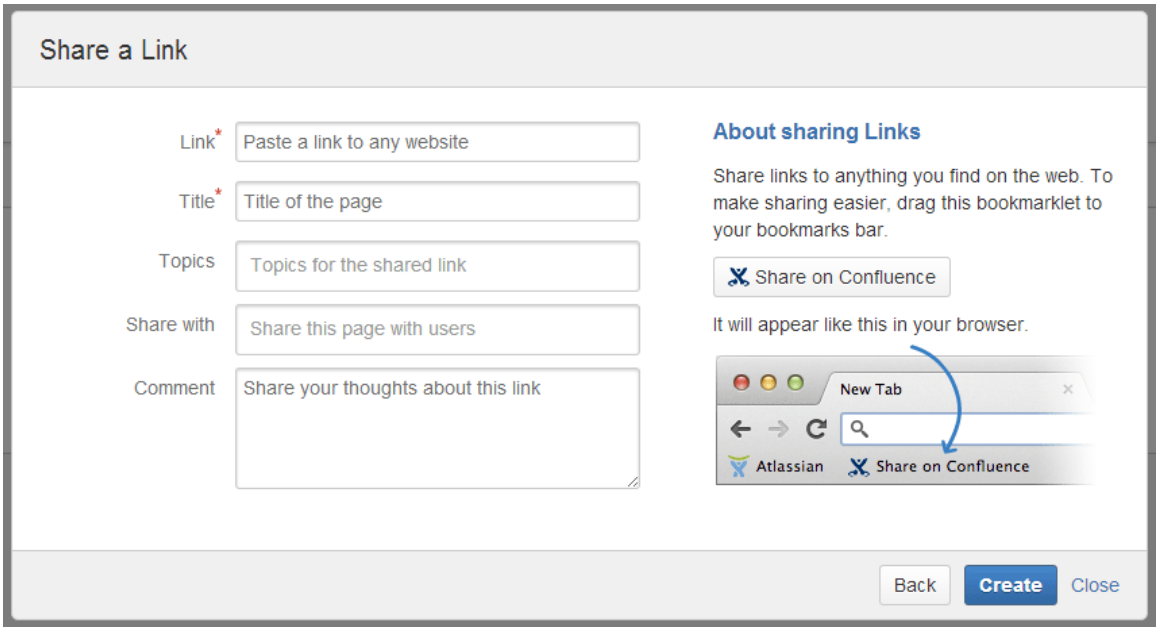
To make sharing links even faster, you can add a **Share on Confluence** button to your browser's toolbar. Click this button and the webpage you are currently viewing will be added as a shared link!

**To add the Share on Confluence button to your browser:**

- Choose **Create** > **Share a link**.
- Drag the Share on Confluence button to your browser toolbar.

Now when you want to share a link on Confluence, you can choose the **Share on Confluence** button in your browser, and follow the prompts.

*Screenshot: Share a link from the Create dialog.*




## Decisions Blueprint

The Decisions blueprint helps you make decisions and record the outcomes with your team.

The first time you use the Decisions blueprint in a space, Confluence will create an index page and add a shortcut on your space sidebar (if you are using the default theme). The index acts as your Decision Register

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and lists all the decisions in that space.

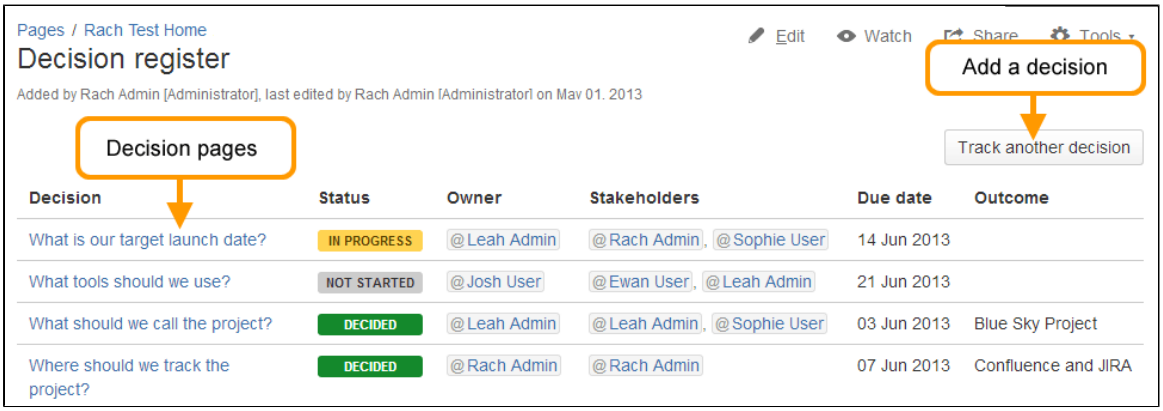
**Related pages:**

- Working with Blueprints
- File List Blueprint
- Meeting Notes Blueprint
- Product Requirements Blueprint

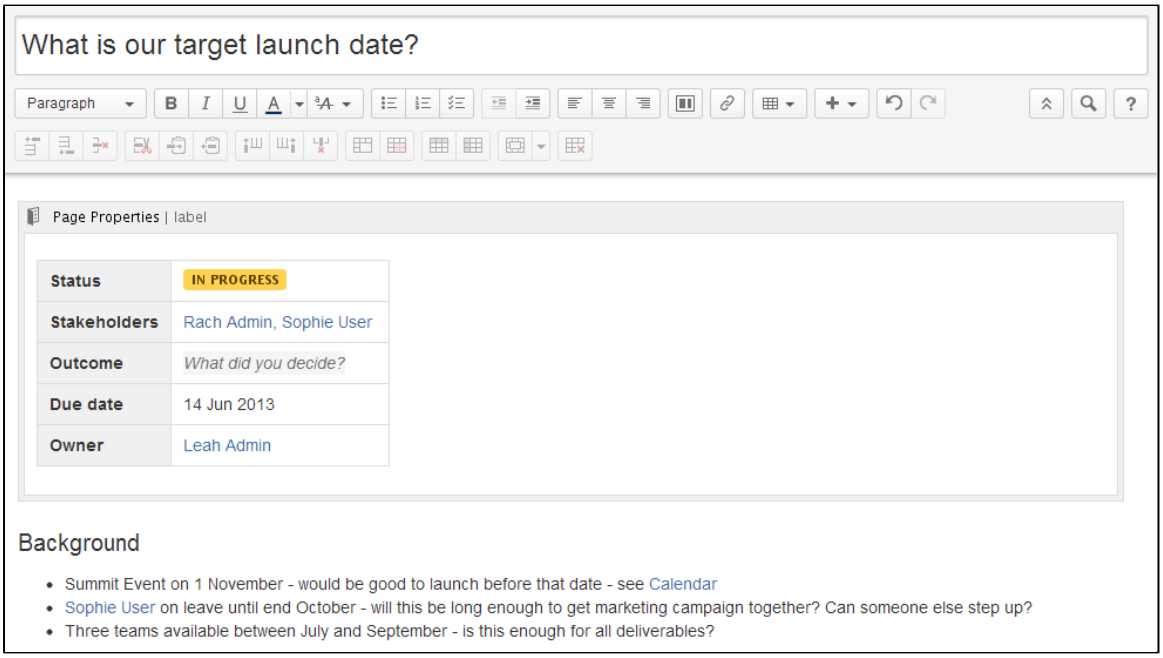
**To use the Decisions blueprint:**

- Create a Decisions blueprint page (choose **Create** > **Decision**)
- Enter information about the decision and stakeholders - the blueprint will prompt you.

*Screenshot: Decision Register showing a series of Decision pages.*




*Screenshot: Editing a Decision page.*




The Decisions blueprint uses these Confluence features:

- Page Properties and Page Properties Report macro - content that you enter within the page properties macro can appear on the index page.
- Mentions - add a user as a stakeholder, owner or @mention them on the page and they will be notified in their workbox.

### Customising this blueprint

You can customise the templates that are used by the Decisions blueprint - see Customising the blueprint templates.

You might choose to edit the **index** page in a space to change the columns to be displayed by the Page

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Properties Report macro.

You might choose to edit the **page template** to add some headings or instructional text to the background section, or even add rows to the Page Properties macro, for example a row for the date the decision was made.

To find out more about using instructional text in a template see - Instructional text.

## File List Blueprint

The File List blueprint helps you to create lists of files to share with your team. Great for organising documents, images and presentations.

The first time you use the File List blueprint in a space, Confluence will create an index page and add a shortcut to your space sidebar (if you are using the default theme). The index page lists the latest File List pages in that space. You can have as many File List pages as you need.

**Related pages:**

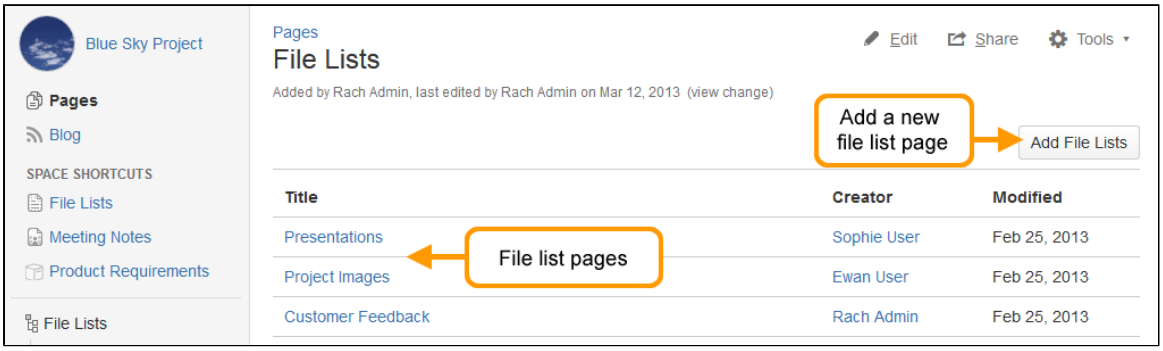
- Working with Blueprints
- Meeting Notes Blueprint
- Product Requirements Blueprint

**To use this blueprint:**

- Create a File List page (choose **Create** > **File List**).
- Drag files from your desktop or choose Browse to attach files to the page.
- Attachments appear on the page. Expand each attachment to preview the file or see attachment details.

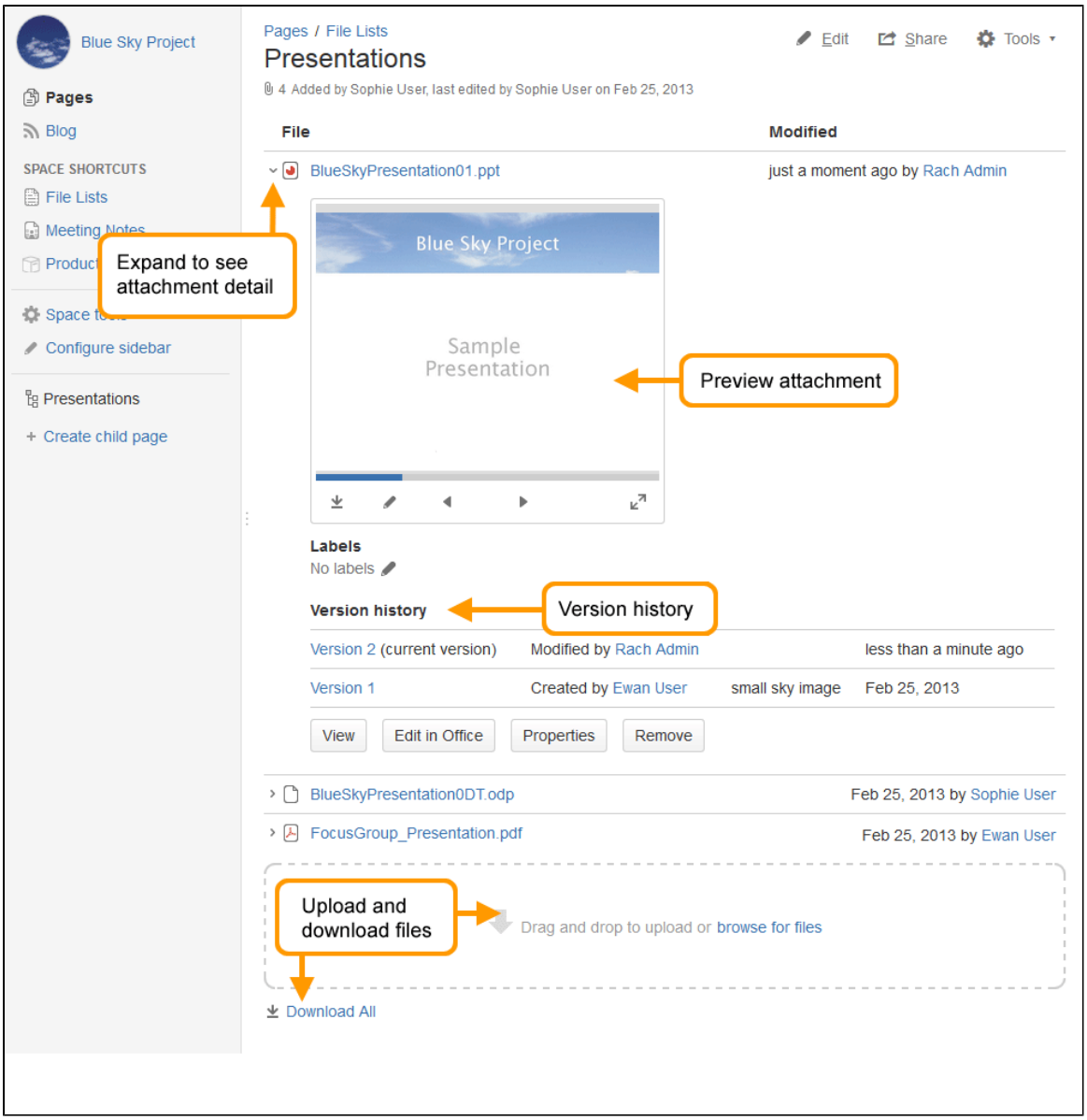
In this example three File List pages have been created to store project related presentations, images and customer feedback. Confluence looks after the versioning of the files, so there is no need to use the document file name to mark version numbers.

*Screenshot: Index page showing File List pages.*




*Screenshot: A File List page.*

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# Customising this blueprint

You can customise the templates that are used by the File List blueprint - see Customising blueprint templates.

The File List blueprint template uses the attachments macro. You could customise the macro to change the sort order or hide features such as version history and the upload attachment fields. To find out more about the attachments macro see Displaying a List of Attachments.

You can also edit the Content Report Table macro used on the Index page to specify the number of pages you want to display.

## Meeting Notes Blueprint

The Meeting Notes blueprint helps you to plan your meetings and share notes and actions with your team.

The first time you use the Meeting Notes blueprint in a space, Confluence will create an index page and add a shortcut on your space sidebar (if you are using the default theme). The index page lists the latest Meeting Notes pages in that space. You can have as many Meeting Notes pages as you need.

**Related pages:**

- Working with Blueprints
- File List Blueprint
- Product Requirements Blueprint

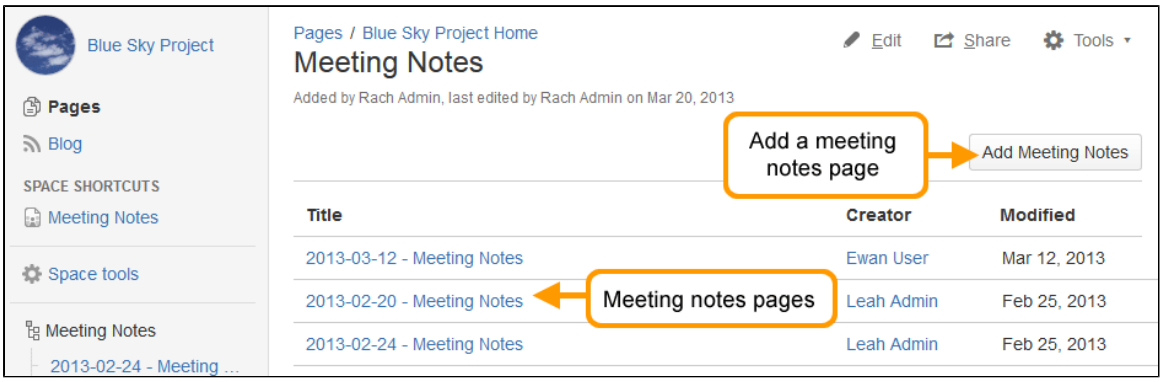
**To use the Meeting Notes blueprint:**

- Create a Meeting Notes blueprint page (choose **Create** > **Meeting Notes**).

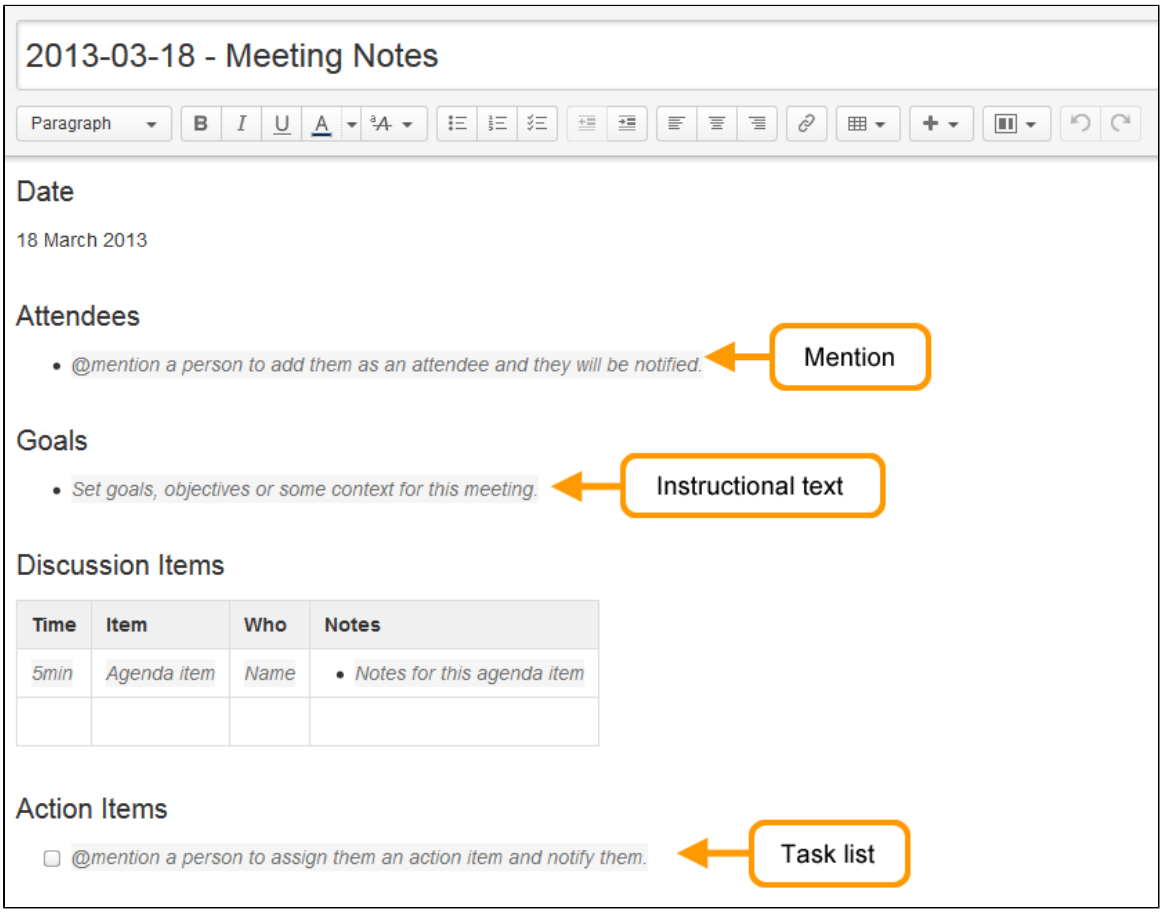
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- Enter goals, agenda items, @mention attendees - the instructional text will prompt you.
- Save your page and get ready to attend your meeting.
- During or after your meeting edit the page and enter your notes, action items and @mention users to assign them to tasks.

*Screenshot: Index showing three Meeting Notes pages.*




*Screenshot: A blank Meeting Notes page showing instructional text.*




The Meeting Notes blueprint uses some cool Confluence features:

- Instructional text - this handy text prompts you to enter information and disappears when you start typing or view the page.
- Mentions - @mention a user on the page and they will be notified in their workbox.
- Task lists - @mention a user in a task to assign them - the task will appear as a personal task in their workbox.

#### Customising this blueprint

You can customise the templates that are used by the Meeting Notes blueprint - see Customising the blueprint templates.

You might choose to edit the headings or add additional headings, or change the instructional text that prompts

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users to enter information to suit your context.  To find out more about using instructional text in a template see - Instructional text.

You can also edit the Content Report Table macro used on the Index page to specify the number of pages you want to display.

## Product Requirements Blueprint

The Product Requirements blueprint helps you to define, scope and track requirements for your product or feature.

The first time you use the Product Requirements blueprint in a space, Confluence will create an index page and add a shortcut on your space sidebar (if you are using the default theme). The index lists all the Product Requirements pages in that space, and displays a summary of the information on each page (such as status and owner). You can have as many Product Requirements pages as you need.

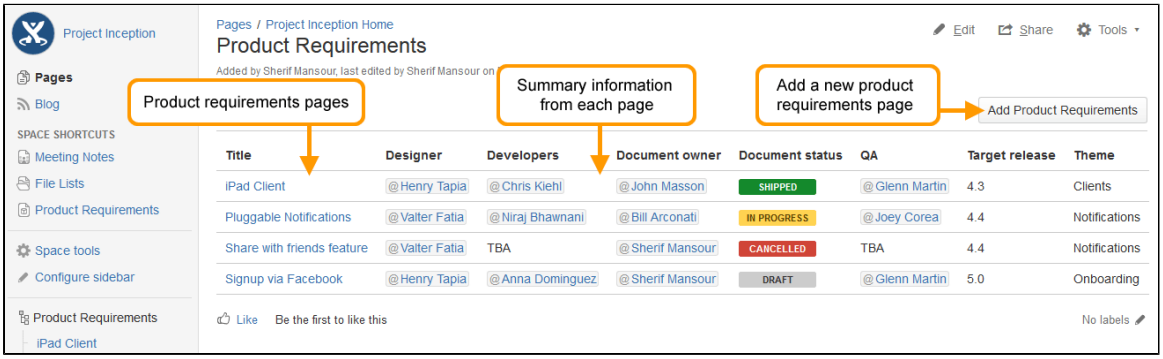
**Related pages:**

- Working with Blueprints
- File List Blueprint
- Meeting Notes Blueprint

**To use the Product Requirements blueprint:**

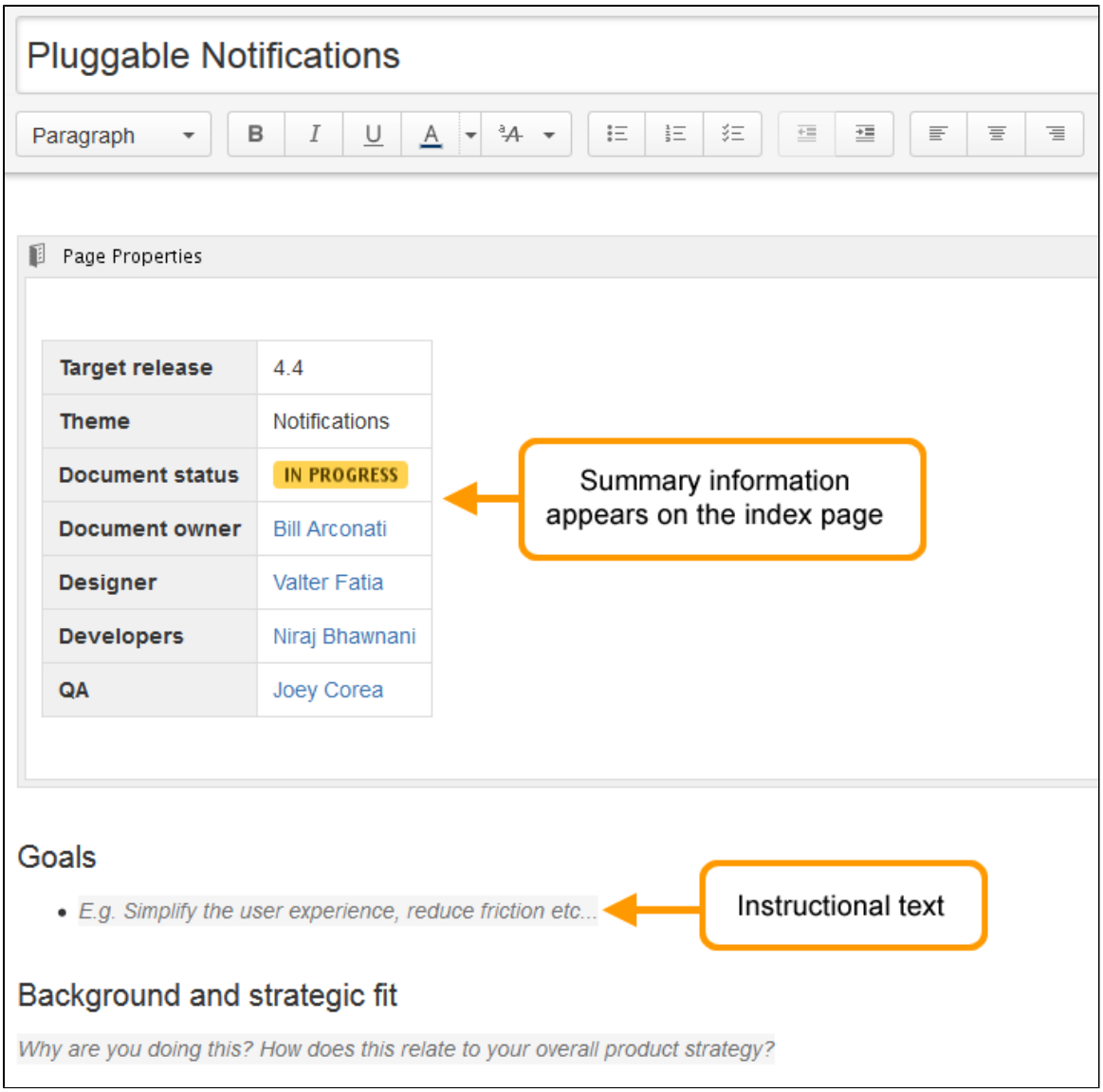
- Create a Product Requirements blueprint page (choose **Create** > **Product Requirements**)
- Enter information about your product or feature - the instructional text will prompt you.
- Mention owners and other contacts.

*Screenshot: Index showing a series of Product Requirements pages and summary information.*




*Screenshot: Editing a Product Requirements page.*

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The Product Requirements blueprint uses these Confluence features:

- Page Properties and Page Properties Report macro - content that you enter within the page properties macro can appear on the index page.
- Instructional text - this handy text prompts you to enter information and disappears when you start typing or view the page.
- Mentions - @mention a user on the page and they will be notified in their workbox.

#### Customising this blueprint

As no two products or projects are alike, you can customise the templates that are used by the Product Requirements blueprint - see Customising the blueprint templates.

You might choose to edit the **index** page in a space to change the columns to be displayed by the Page Properties Report macro.

You might choose to edit the **page template** to:

- edit the headings or add additional headings
- change the instructional text that prompts users to enter information to suit your context
- add or remove rows within the Page Properties macro.

To find out more about using instructional text in a template see - Instructional text.

## Working with the Office Connector

The Office Connector is bundled with Confluence 2.10 and later. It allows you to:

- Import an Office document into Confluence format

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- 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
- Displaying Office Files in Confluence
- Importing a Word Document into Confluence
- Editing an Office Document from Confluence
- Editing an Office Spreadsheet from Confluence
- Editing an Office Presentation from Confluence
- Installing the Firefox Add-On for the Office Connector


Related Topics

View File Macro

Configuring the Office Connector (*Not applicable to Confluence OnDemand.*)

Confluence User's 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* a nd discuss any configuration problems with your administrator. (*Not applicable to Confluence OnDemand.*)

### 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 enablin g 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 viewing Office and PDF files in Confluence

If you want to use the View File macro, or to view Office files attached to a Confluence page, you need the setup described below.

#### *Browsers and Flash Player*

You can use any browser to view an Office file on a wiki page or attachment view, 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 files in Confluence.

#### *File Types*

Confluence can display files compatible with Microsoft Office 97-2007, and PDF files, of the following types:

- `.doc` and `.docx`
- `.xls` and `.xlsx`
- `.ppt` and `.pptx`

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- `.pdf`

**On this page:**


- Overall prerequisites
- Prerequisites for viewing Office and PDF files in Confluence
- Prerequisites for importing Word documents into Confluence
- Prerequisites for editing Office files directly from Confluence


**Related pages:**

- Working with the Office Connector
- Configuring the Office Connector (*Not applicable to Confluence OnDemand.*)
- Confluence User's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

### Prerequisites for importing Word documents into Confluence

- Document import can import Microsoft Word documents of the file types `.doc` and `.docx`. These must be valid Word 97-2007 format documents.

### Prerequisites for editing Office files directly from Confluence

The Office Connector allows you to edit Office files embedded in a wiki page or from the page's attachments view.

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.
- **Note: No Chrome support.** Chrome does not support WEBDAV clients, so this feature will not work. Please refer to this issue for more information: CONF-23322.

Office editors

To edit Office files, you will need to have Microsoft Office or OpenOffice 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 file 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 Office files in OpenOffice when using Internet Explorer.

Configuration matrix

You need one of the following software combinations to edit Office files from your wiki page:

| Operating System | Office Version | Browser |
|---|---|---|
| • Windows 7,<br>• Windows Vista, or<br>• Windows XP with Service Pack 2 or 3 | • OpenOffice 2.x – 3.x, or<br>• Microsoft Office XP, 2003, 2007 or 2010 | • Internet Explorer 8.x – 9.x, or<br>• Firefox – latest stable version |

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| | | |
|---|---|---|
| • Mac OS X 10.5 and 10.6 | • OpenOffice 2.x – 3.x<br>• The "Edit in Word" feature is known to work in OpenOffice 3 .2.0. | • Firefox – latest stable version |
| • Linux | • OpenOffice 2.x – 3.x<br>The only known supported Office editor for Linux is OpenOffice. But in theory it should work with any WebDAV-aware application. | • Firefox – latest stable version |

## Displaying Office Files in Confluence

Confluence can display Office files that are attached to a page. If you have an Office application installed, you will also be able to edit these Office files in your Office application.

These are two of the ways that Confluence can interact with Office files. 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* a nd discuss any configuration problems with your administrator. (*Not applicable to Confluence OnDemand.*)

**On this page:**


- Prerequisites
- Attaching and displaying Office files and PDF files
- Viewing and Editing the Attached Office Files
- Troubleshooting


**Related pages:**

- View File Macro
- Working with the Office Connector
- Confluence User's Guide

### Prerequisites

If you want to use the View File macro, or to view Office files attached to a Confluence page, you need the setup described below.

#### *Browsers and Flash Player*

You can use any browser to view an Office file on a wiki page or attachment view, 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 files in Confluence.

#### *File Types*

Confluence can display files compatible with Microsoft Office 97-2007, and PDF files, of the following types:

- `.doc` and `.docx`
- `.xls` and `.xlsx`
- `.ppt` and `.pptx`
- `.pdf`

### Attaching and displaying Office files and PDF files

There are two ways to do this in Confluence:

- Attach Office files to a page and display them in a Confluence page using the View File or Attachments macros
- Attach an Office or PDF file to a page and embed its contents onto the page by simply dragging and

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dropping it into the editor window

**To attach and display Office files in Confluence using macros:**

1. Attach the Office file(s) to a Confluence page:
   - View the Confluence page on which you want to display your document.
   - Choose **Tools** > **Attachments**.
   - Browse for your Office files and upload them to the Confluence page.
     Refer to detailed instructions in Attaching Files to a Page.
2. Now you have two options for displaying the attached document:
   - You can embed the document into the Confluence page, using one of the Office Word, Office Excel, Office PowerPoint or View PDF macros. These macros can be found using the macro browser. Refer to the detailed instructions in the View File macro topic.
   - You can display a list of page attachments using the Attachments macro. People viewing the page will be able to click the **View** link to see the Office or PDF document in Confluence.

**To attach and display an Office file on a Confluence page using 'drag and drop':**

- Drag the Office file from your computer and drop it into the editor window. Only one file can be dragged and dropped at a time. The appropriate View File macro placeholder will appear in the position where you dragged the file. However, the contents of the file will be rendered in full when you preview, or save and view, the page.
  Older browser versions may not support drag and drop - refer to Using Drag-and-Drop in Confluence.

#### Viewing and Editing the Attached Office Files

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:

- View the list of attachments for a specific Confluence page, then click **View** 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 **View** next to the Office document in the list of attachments. (See Displaying a List of Attachments.)
- 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.

## Importing a Word Document into Confluence

The Office Connector in Confluence allows you to import a Word 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* a nd discuss any configuration problems with your administrator.

The simplest way to import a Word document is to import the entire content of the document into a single wiki page. By default, the content of the document will be created as a new 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.

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These options are described below.

### Prerequisites

Prerequisites for the Office Connector's document import feature:

- Document import can import Microsoft Word documents of the file types `.doc` and `.docx`. These must be valid Word 97-2007 format documents.

For a full list of Office Connector prerequisites and limitations, please refer to:

- Office Connector Prerequisites
- Office Connector Limitations and Known Issues

**On this page:**


- Prerequisites
- Importing a Word Document
- Splitting a Word Document into Multiple Wiki Pages


**Related pages:**

- Exporting to a Word document
- Working with the Office Connector
- Office Connector Prerequisites
- Displaying Office Files in Confluence
- Importing a Word Document into Confluence
- Editing an Office Document from Confluence
- Editing an Office Spreadsheet from Confluence
- Editing an Office Presentation from Confluence
- Installing the Firefox Add-On for the Office Connector
- Confluence User's Guide

### Importing a Word Document

The simplest way to import a Word 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 a Word document onto a single wiki page:**

1. Create a page in Confluence (see Creating Content) or go to an existing page whose content you want replaced. View the page in view mode (not edit mode).
2. Choose **Tools** > **Import Word Document**.
3. Click **Browse** and find the Word 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 **Next** on the Office Connector import screen. The import document options screen will display.
6. The import document options are:

| Option | Description |
|---|---|
| Root page title | The title of the wiki page that will contain the information from your imported document. |
| Import as a new page in the current space | A new wiki page will be created with the page title specified above. |
| Replace <pagename> | The contents of the existing page will be replaced. The page will be renamed to the page title specified above. |

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| | |
|---|---|
| Delete existing children of <pagename> | The existing child pages of the page you are replacing will be deleted. |
| Rename imported pages if page name already exists | Assign new names to any new page which would otherwise have a duplicate name. The content of existing pages will remain unchanged. |
| Replace existing pages with imported pages of the same title | If imported pages have titles equal to existing pages, then the content of the Word document will overwrite the content on the existing page. Page history will be preserved. |
| Remove existing pages with the same title as imported pages | If imported pages have titles equal to existing pages, then the existing pages will be deleted. This will remove the page history as well as the content. |
| Split by heading | The content of the Word document will be split over multiple wiki pages. If you don't want to split your document into multiple wiki pages, leave the default **Don't split** option selected. For more information on splitting your document, please see below. |

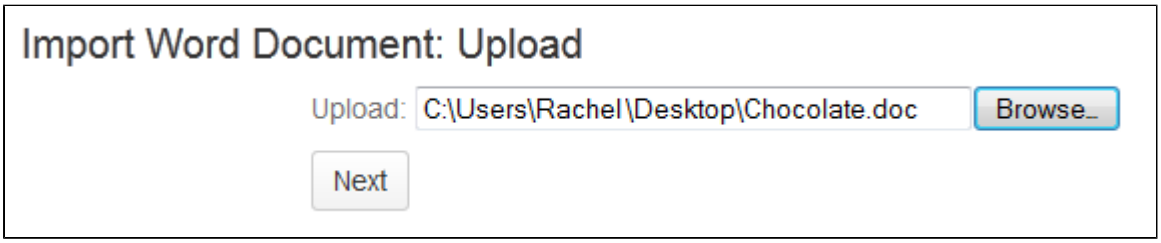
7. Click **Import**.

When the upload has finished, the content of the Word document will have been transformed into Confluence page content. You can now view and edit this page in the usual way. There is no connection between the original Word document and this wiki page.

*Screenshot: Empty page ready for import*

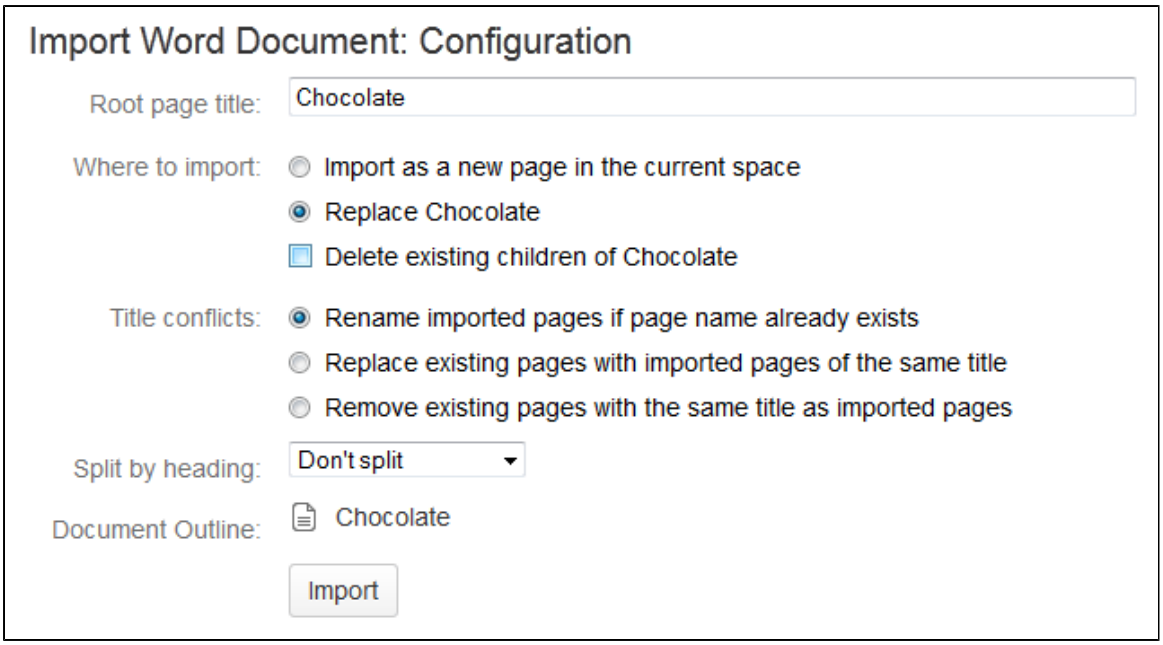



*Screenshot: Selecting Word document to import*

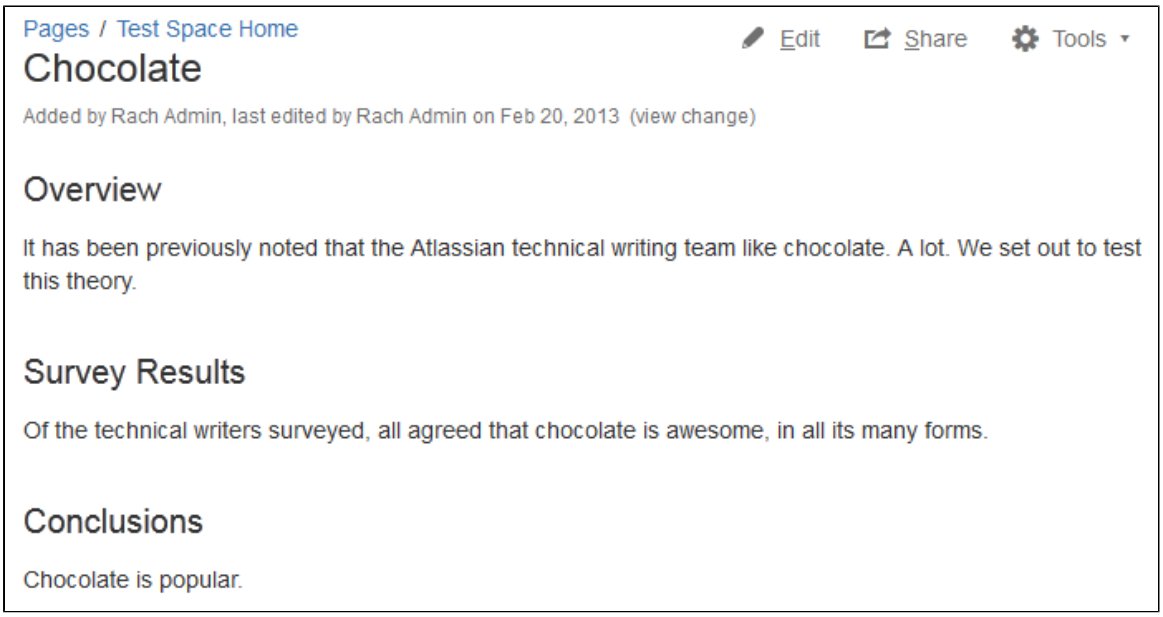



*Screenshot: Importing a Word document*

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*Screenshot: Page after import*




#### Splitting a Word Document into Multiple Wiki Pages

When importing a Word 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.

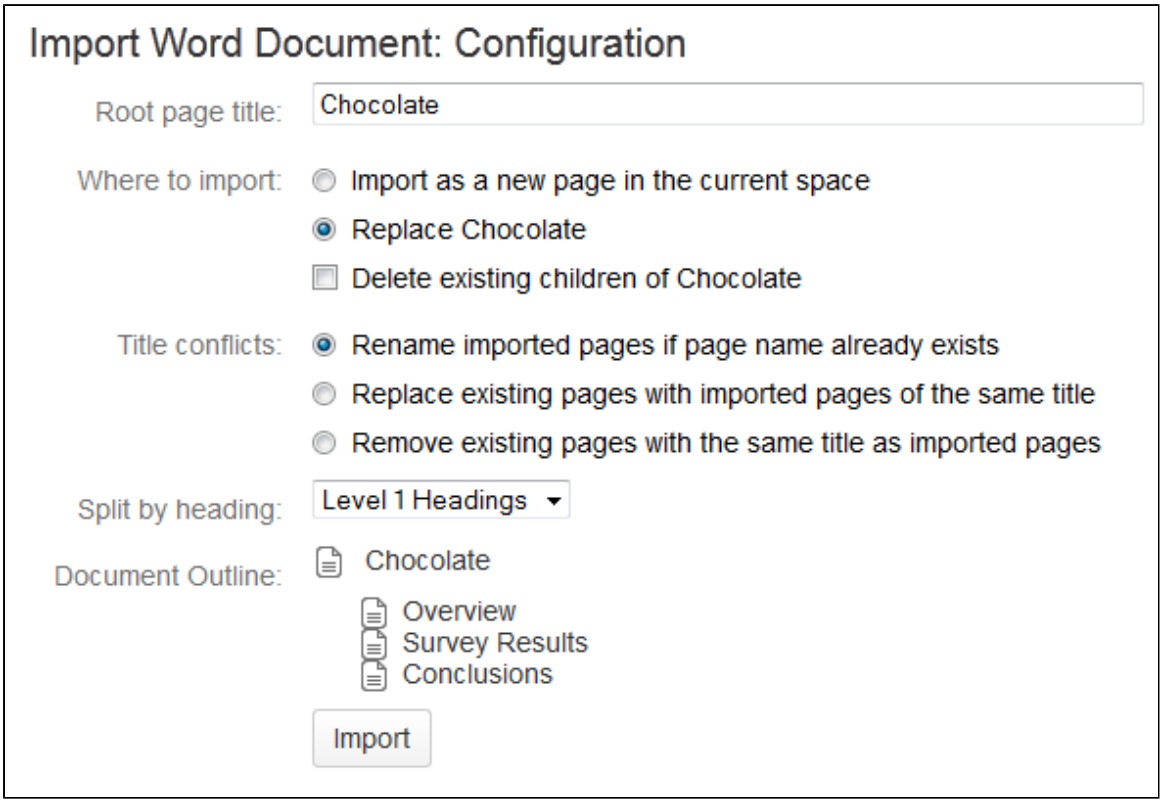
**To import a Word document into multiple wiki pages:**

1. Import a Word document as described above. On the import document options screen, choose how to split your document in the '**Split by heading**' field:
    - '**Split by heading**' — If you want to split the content under each heading in your document into separate child pages, select the desired heading level to split by. A preview of the page hierarchy that will be created by the split will be displayed under '**Document Outline**'. Each bullet point in the 'Document Outline' represents a new page after import into Confluence.
2. Click '**Import**' to import your document.
3. When the upload has finished, the content of the Word document will have been transformed into Confluence page content. You can now view and edit this page in the usual way. There is no connection

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between the original Word document and this wiki page.

*Screenshot: Splitting a single Word document into multiple wiki pages*




## Editing an Office Document 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 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* a nd discuss any configuration problems with your administrator. (*Not applicable to Confluence OnDemand.*)

#### Prerequisites for Editing an Attached Office Document

The Office Connector allows you to edit Office files embedded in a wiki page or from the page's attachments view.

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.
- **Note: No Chrome support.** Chrome does not support WEBDAV clients, so this feature will not work. Please refer to this issue for more information: CONF-23322.

Office editors

To edit Office files, you will need to have Microsoft Office or OpenOffice 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 file type. See Installing the Firefox Add-On for the Office Connector.

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- If you are using Internet Explorer, you will need Microsoft Office. You cannot edit Office files in OpenOffice when using Internet Explorer.

Configuration matrix

You need one of the following software combinations to edit Office files from your wiki page:

| Operating System | Office Version | Browser |
|---|---|---|
| • Windows 7,<br>• Windows Vista, or<br>• Windows XP with Service Pack 2 or 3 | • OpenOffice 2.x – 3.x, or<br>• Microsoft Office XP, 2003, 2007 or 2010 | • Internet Explorer 8.x – 9.x, or<br>• Firefox – latest stable version |
| • Mac OS X 10.5 and 10.6 | • OpenOffice 2.x – 3.x<br>• The "Edit in Word" feature is known to work in OpenOffice 3 .2.0. | • Firefox – latest stable version |
| • Linux | • OpenOffice 2.x – 3.x<br>The only known supported Office editor for Linux is OpenOffice. But in theory it should work with any WebDAV-aware application. | • Firefox – latest stable version |

**On this page:**


- Prerequisites for Editing an Attached Office Document
- Editing an Office Document in your Office Application
- Troubleshooting


**Related pages:**

- Office Connector Prerequisites
- Displaying Office Files in Confluence
- Importing a Word Document into Confluence
- Editing an Office Document from Confluence
- Editing an Office Spreadsheet from Confluence
- Editing an Office Presentation from Confluence
- Installing the Firefox Add-On for the Office Connector
- Confluence User's Guide.

### Editing an Office Document in your Office Application

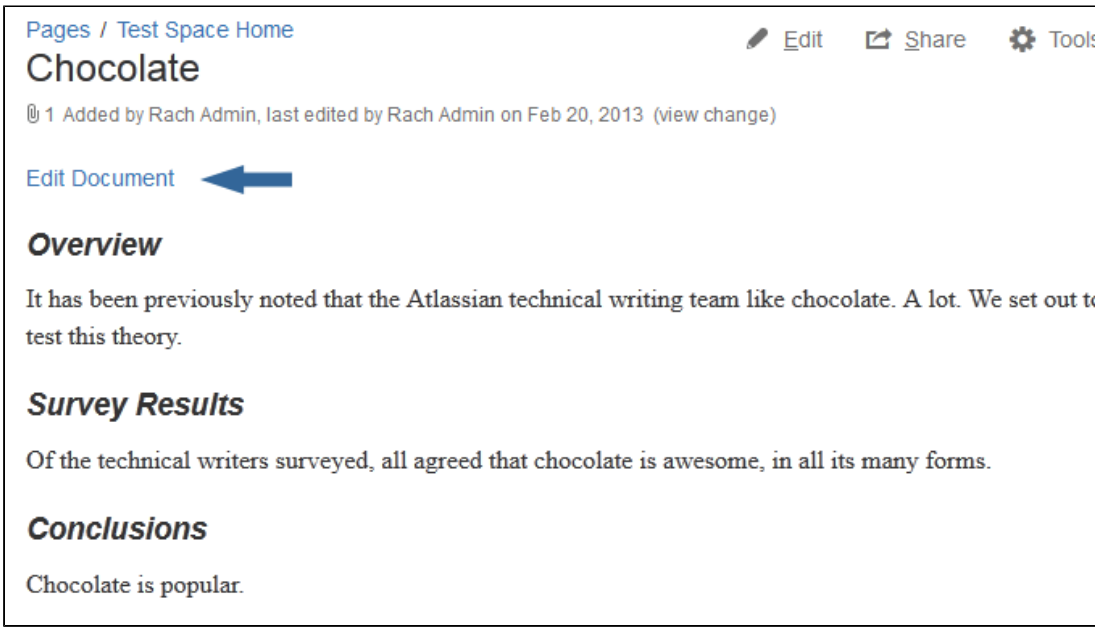
**To edit an Office document in your Office application:**

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1. There are two ways to do this:

   - **From an Office document embedded on a page:**
     a. Go to a Confluence page with an Office document embedded on it.
     b. Choose **Edit Document** above the embedded document.

     *Screenshot: Page with an embedded Word document showing the 'Edit Document' link*



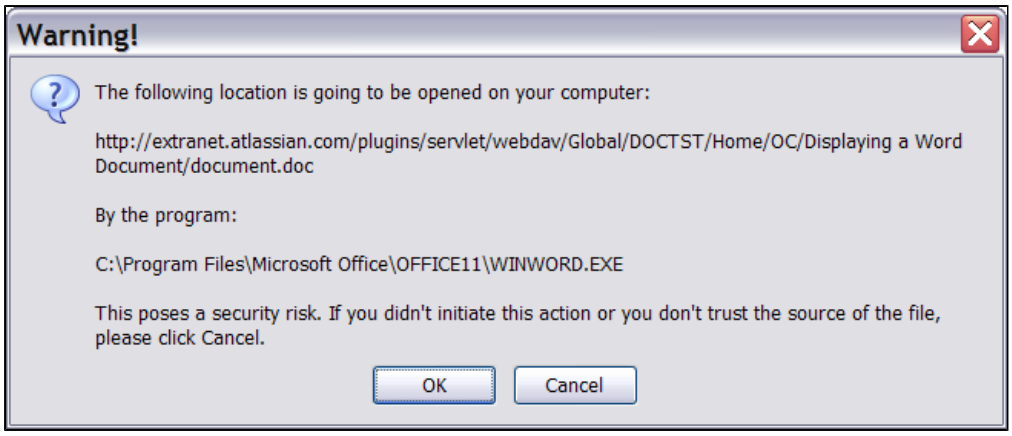

   - **From an Office document in a list of attachments:**
     - If an Office file is attached to a Confluence page, you can edit this file directly in your compatible Office application, in one of the following ways:
       - View the list of attachments for a specific Confluence page, then click **Edit in Office** next to the Office file on the Attachments page. (See Viewing Attachment Details.)
       - View a list of attachments displayed on a page via the Attachments macro, then click **Edit in Office** next to the Office file in the list of attachments. (See Displaying a List of Attachments.)



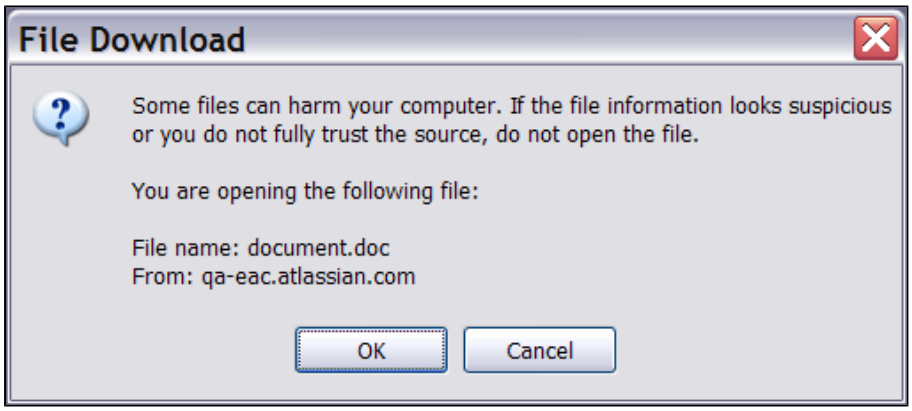

2. A window will pop up, asking you to confirm that you want to open this document.

   *Screenshot: Confirmation window in Firefox*

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*Screenshot: Confirmation window in Internet Explorer*




3. Click '**OK**'. Now you may be asked to log in to your Confluence server.
4. Enter your Confluence username and password, then choose '**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.

## 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* a nd discuss any configuration problems with your administrator. (*Not applicable to Confluence OnDemand.*)

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**On this page:**


- Prerequisites for Editing an Attached Office Spreadsheet
- Editing an Office Spreadsheet in your Office Application
- Troubleshooting


**Related pages:**


- Office Connector Prerequisites
- Displaying Office Files in Confluence
- Importing a Word Document into Confluence
- Editing an Office Document from Confluence
- Editing an Office Spreadsheet from Confluence
- Editing an Office Presentation from Confluence
- Installing the Firefox Add-On for the Office Connector


### Prerequisites for Editing an Attached Office Spreadsheet

The Office Connector allows you to edit Office files embedded in a wiki page or from the page's attachments view.

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.
- **Note: No Chrome support.** Chrome does not support WEBDAV clients, so this feature will not work. Please refer to this issue for more information: CONF-23322.

Office editors

To edit Office files, you will need to have Microsoft Office or OpenOffice 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 file 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 Office files in OpenOffice when using Internet Explorer.

Configuration matrix

You need one of the following software combinations to edit Office files from your wiki page:

| Operating System | Office Version | Browser |
|---|---|---|

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| | | |
|---|---|---|
| • Windows 7,<br>• Windows Vista, or<br>• Windows XP with Service Pack 2 or 3 | • OpenOffice 2.x – 3.x, or<br>• Microsoft Office XP, 2003, 2007 or 2010 | • Internet Explorer 8.x – 9.x, or<br>• Firefox – latest stable version |
| • Mac OS X 10.5 and 10.6 | • OpenOffice 2.x – 3.x<br>• The "Edit in Word" feature is known to work in OpenOffice 3 .2.0. | • Firefox – latest stable version |
| • Linux | • OpenOffice 2.x – 3.x<br>The only known supported Office editor for Linux is OpenOffice. But in theory it should work with any WebDAV-aware application. | • Firefox – latest stable version |

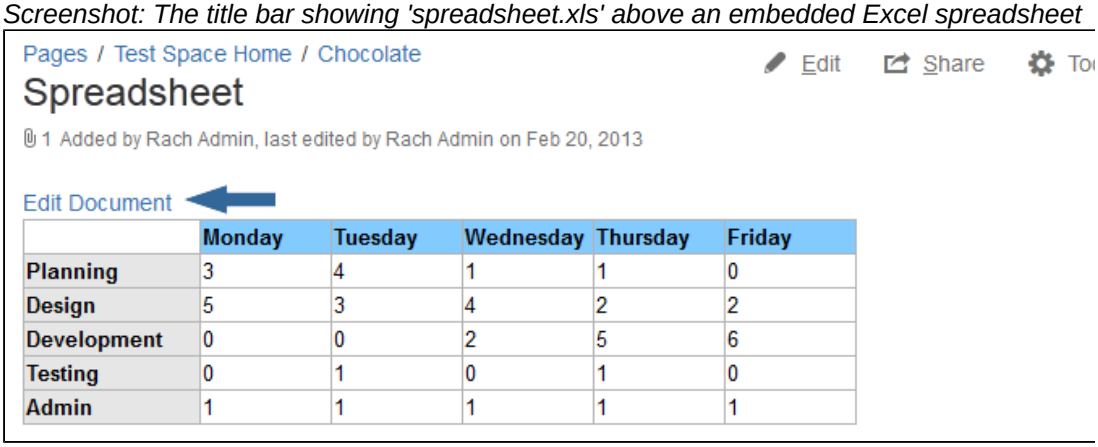
### Editing an Office Spreadsheet in your Office Application

**To edit an Office spreadsheet in your Office application:**

1. There are two ways to do this:

   - **From an Office spreadsheet embedded on a page:**
     a. Open a Confluence page with an Office document embedded on it.
     b. Choose **Edit Document** above the embedded content.

   *Screenshot: The title bar showing 'spreadsheet.xls' above an embedded Excel spreadsheet*




| | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| Planning | 3 | 4 | 1 | 1 | 0 |
| Design | 5 | 3 | 4 | 2 | 2 |
| Development | 0 | 0 | 2 | 5 | 6 |
| Testing | 0 | 1 | 0 | 1 | 0 |
| Admin | 1 | 1 | 1 | 1 | 1 |

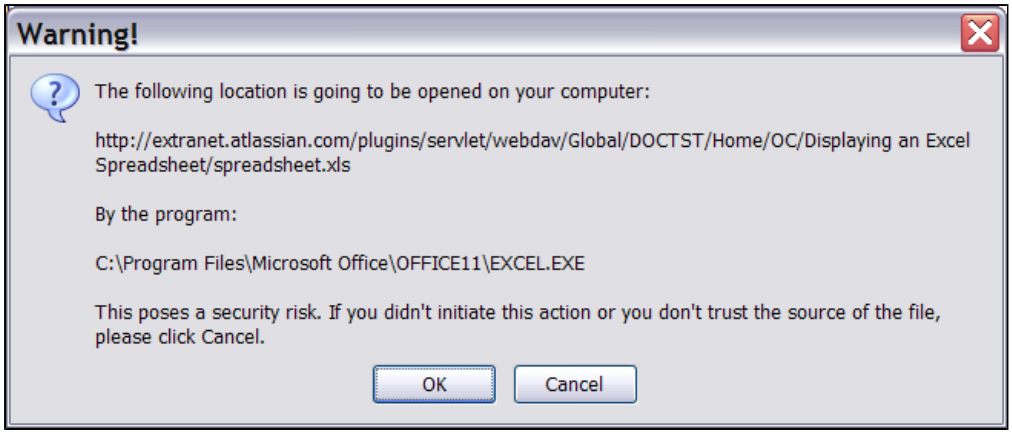
   - **From an Office spreadsheet in a list of attachments:**
     - If an Office file is attached to a Confluence page, you can edit this file directly in your compatible Office application, in one of the following ways:
       - View the list of attachments for a specific Confluence page, then click **Edit in Office** next to the Office file on the Attachments page. (See Viewing Attachment Details.)
       - View a list of attachments displayed on a page via the Attachments macro, then click **Edit in Office** next to the Office file in the list of attachments. (See Displaying a List of Attachments.)



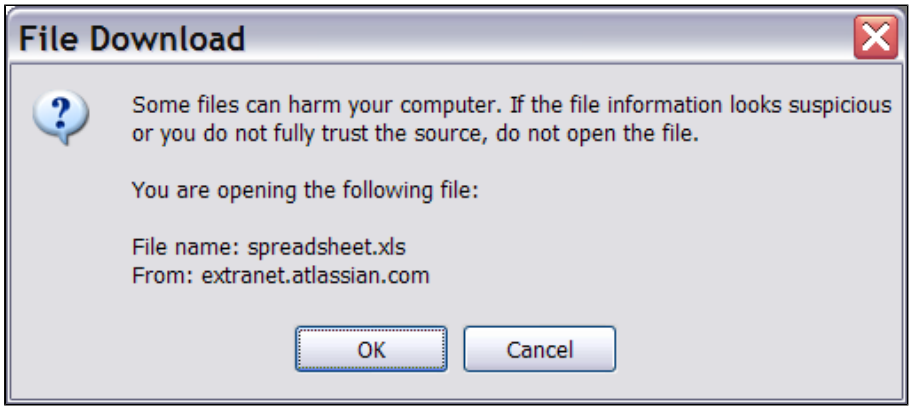

2. A window will pop up, asking you to confirm that you want to open this document.

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*Screenshot: Confirmation window in Firefox*




*Screenshot: Confirmation window in Internet Explorer*




3. Click '**OK**'. Now you may be asked to log in to your Confluence server.
   Enter your Confluence username and password, then click '**OK**'.
4. The Office spreadsheet will open in your Office application.
5. 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.

## 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* a nd discuss any configuration problems with your administrator. (*Not applicable to Confluence OnDemand.*)

#### Prerequisites for Editing an Attached Office Presentation

The Office Connector allows you to edit Office files embedded in a wiki page or from the page's attachments view.

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.

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- **Note: No Chrome support.** Chrome does not support WEBDAV clients, so this feature will not work. Please refer to this issue for more information: CONF-23322.

Office editors

To edit Office files, you will need to have Microsoft Office or OpenOffice 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 file 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 Office files in OpenOffice when using Internet Explorer.

Configuration matrix

You need one of the following software combinations to edit Office files from your wiki page:

| Operating System | Office Version | Browser |
|---|---|---|
| • Windows 7,<br>• Windows Vista, or<br>• Windows XP with Service Pack 2 or 3 | • OpenOffice 2.x – 3.x, or<br>• Microsoft Office XP, 2003, 2007 or 2010 | • Internet Explorer 8.x – 9.x, or<br>• Firefox – latest stable version |
| • Mac OS X 10.5 and 10.6 | • OpenOffice 2.x – 3.x<br>• The "Edit in Word" feature is known to work in OpenOffice 3 .2.0. | • Firefox – latest stable version |
| • Linux | • OpenOffice 2.x – 3.x<br>The only known supported Office editor for Linux is OpenOffice. But in theory it should work with any WebDAV-aware application. | • Firefox – latest stable version |

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**On this page:**


- Prerequisites for Editing an Attached Office Presentation
- Editing an Office Presentation in your Office Application
- Troubleshooting


**Related pages:**


- Office Connector Prerequisites
- Displaying Office Files in Confluence
- Importing a Word Document into Confluence
- Editing an Office Document from Confluence
- Editing an Office Spreadsheet from Confluence
- Editing an Office Presentation from Confluence
- Installing the Firefox Add-On for the Office Connector


### Editing an Office Presentation in your Office Application

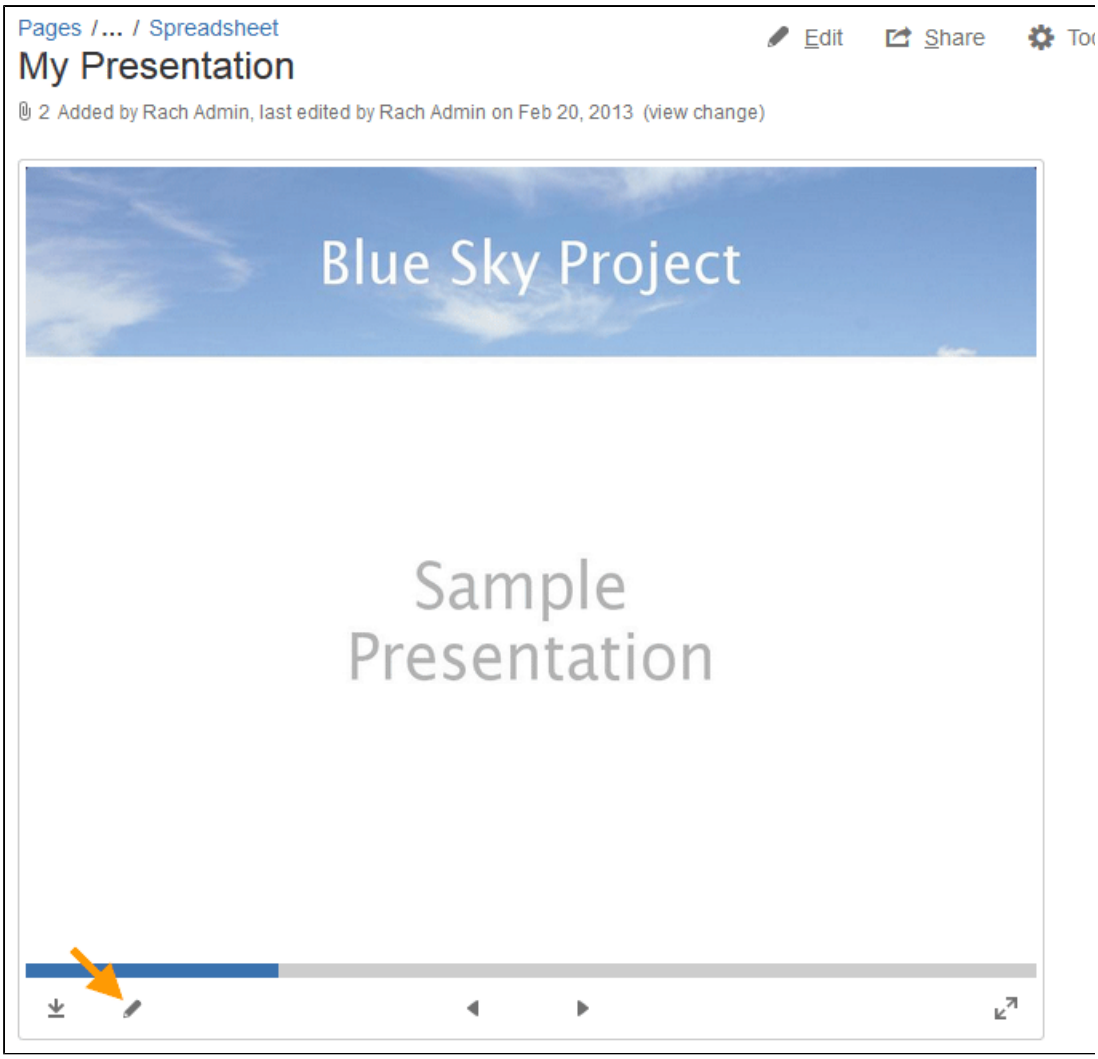
**To edit an Office presentation in your Office application:**

1. There are two ways to do this:

   - **From an Office presentation embedded on a page:**
     a. Open a Confluence page with an Office presentation embedded on it.
     b. Click the 'Edit' icon  on the bottom frame of the slide show.

        *Screenshot: PowerPoint presentation displayed on a Confluence page*

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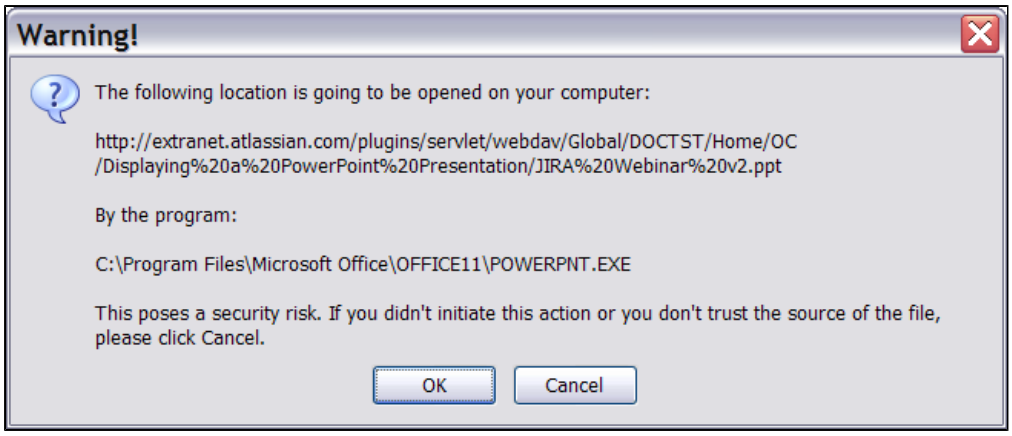

- **From an Office document in a list of attachments:**
  - If an Office file is attached to a Confluence page, you can edit this file directly in your compatible Office application, in one of the following ways:
    - View the list of attachments for a specific Confluence page, then click **Edit in Office** next to the Office file on the Attachments page. (See Viewing Attachment Details.)
    - View a list of attachments displayed on a page via the Attachments macro, then click **Edit in Office** next to the Office file in the list of attachments. (See Displaying a List of Attachments.)



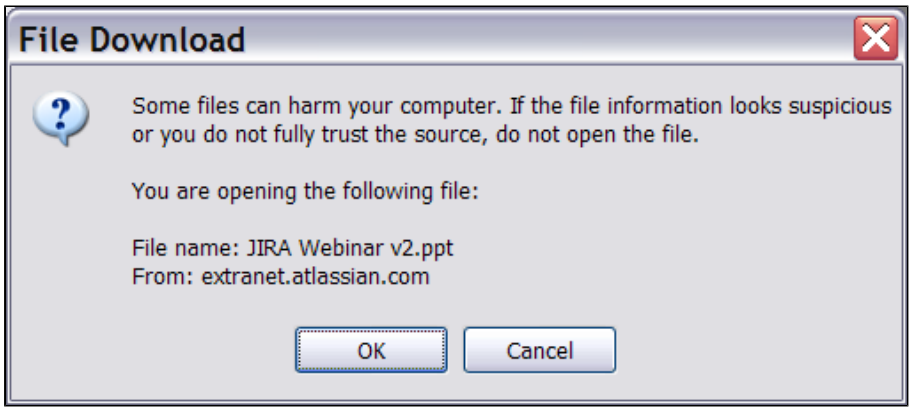

2. A window will pop up, asking you to confirm that you want to open this document.

   *Screenshot: Confirmation window in Firefox*

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*Screenshot: Confirmation window in Internet Explorer*




3. Click '**OK**'. Now you may be asked to log in to your Confluence server.
   Enter your Confluence username and password, then click '**OK**'.
4. The presentation will open in your Office application.
5. 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.

## 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 (the Firefox WebDAV Launcher) 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.
**Note about supported web browsers:** Please ensure that you are using one of the web browsers supported by Confluence. If you are using an unsupported browser or browser version, some features may not work correctly. Check the Supported Platforms page to find the list of supported web browsers and browser versions on this page.

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**On this page:**


- Installing the Firefox Add-On
- Configuring the Add-On
- Security Risks
- Information about this Firefox Add-On
- Related Topics

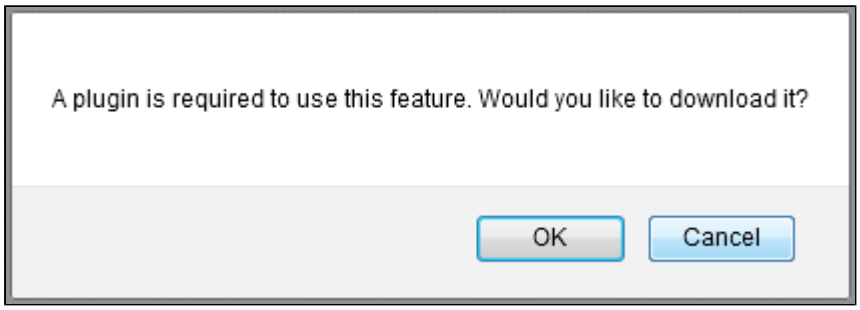

**Related pages:**

- Office Connector Prerequisites
- Displaying Office Files in Confluence
- Importing a Word Document into Confluence
- Editing an Office Document from Confluence
- Editing an Office Spreadsheet from Confluence
- Editing an Office Presentation from Confluence
- Installing the Firefox Add-On for the Office Connector
- Confluence User's Guide.

### Installing the Firefox Add-On

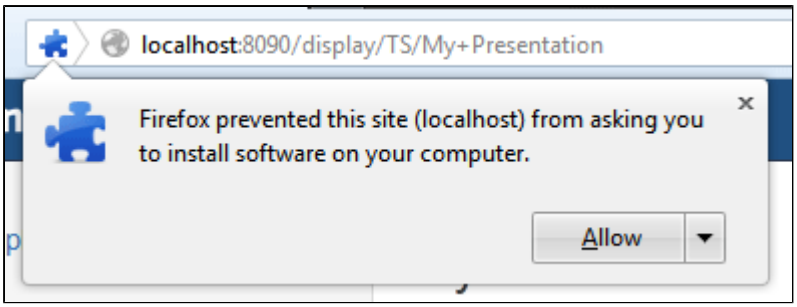
You will be prompted to install the add-on the first time you try to use a function which requires it. The add-on is required for editing a wiki page in Office, or for editing an Office document which is displayed on a wiki page.

1. When you choose an option which requires the Firefox add-on, you will see a popup window like this one:



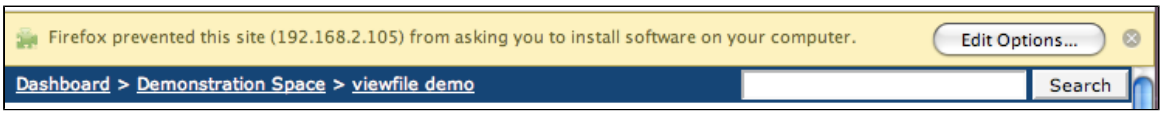

2. Click '**OK**'. Some browsers may now ask you to confirm the download with a message bar across the top of the page, beneath the browser's address bar.
    - You may see a message like the one shown here:

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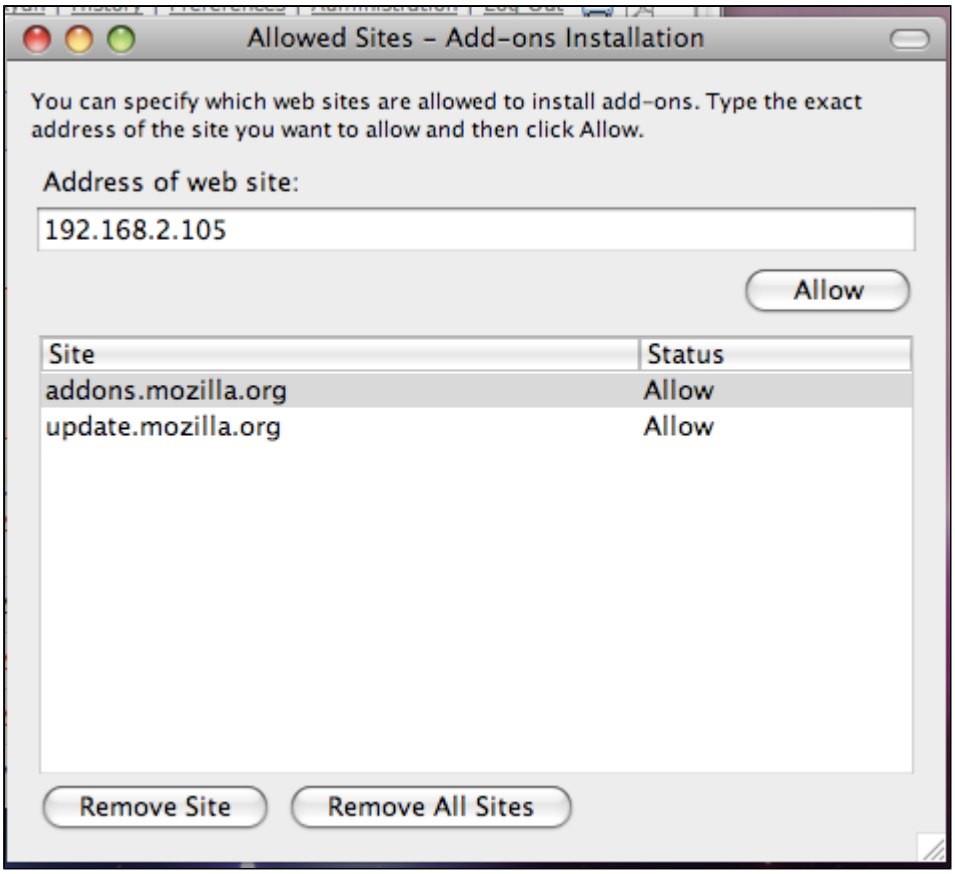



Click '**Allow**'.

- Or you may see a similar message with an 'Edit Options' button like this:



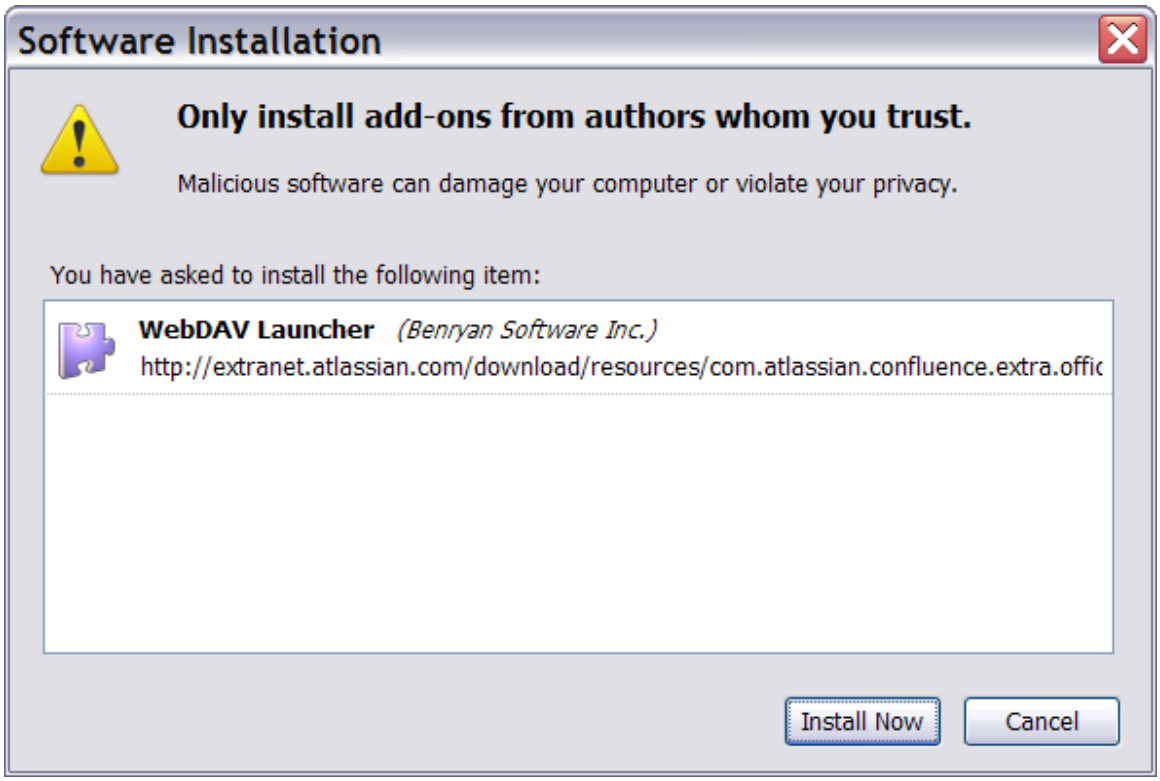

  - If you see the above message, click '**Edit Options**'. You will then see an 'Allowed Sites' window like this one:



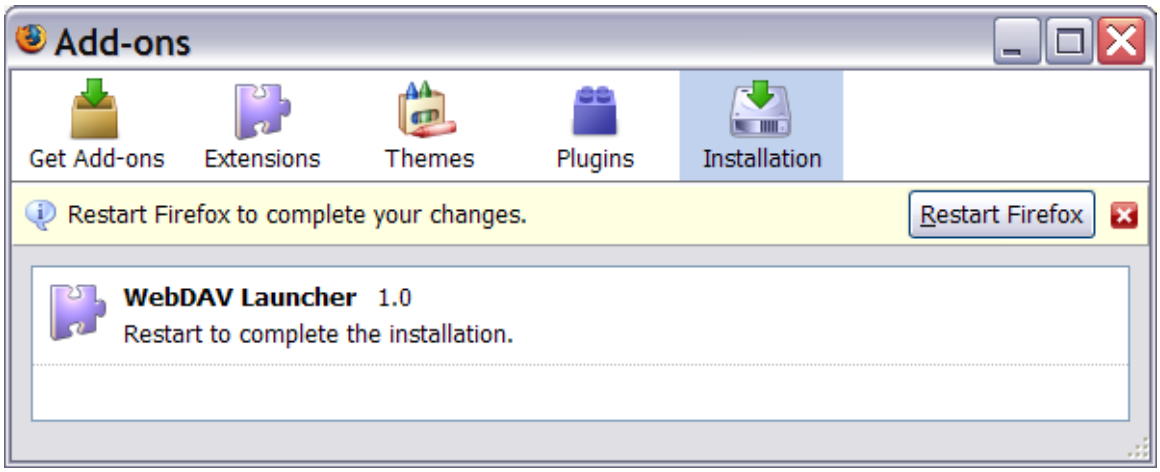

    This window lets you tell Firefox that your Confluence server is allowed to install add-ons into Firefox. The '**Address of web site**' box should already contain the address of your Confluence server.
  - Click the '**Allow**' button to add your Confluence server to the list.
  - Go back to your Confluence 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:

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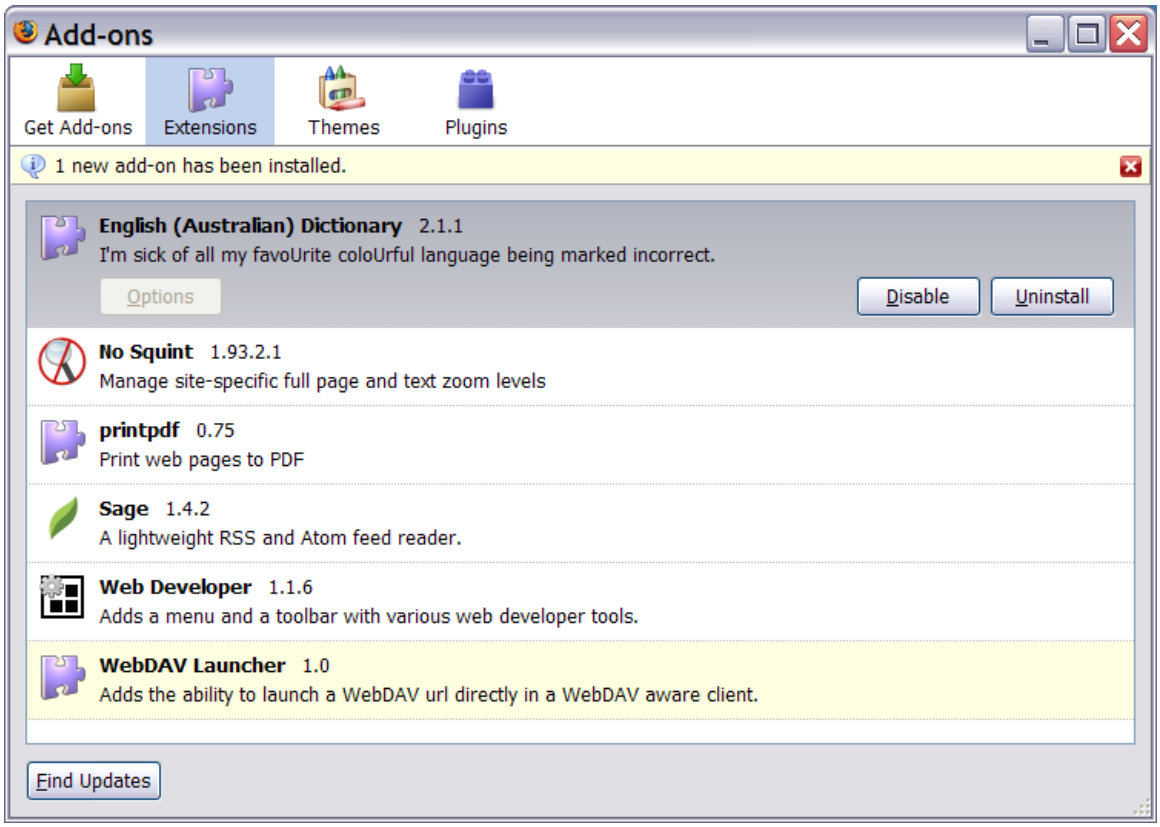



4. Click '**Install Now**'. The installation will happen and a window will pop up asking you to restart Firefox:




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:

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### Configuring the Add-On

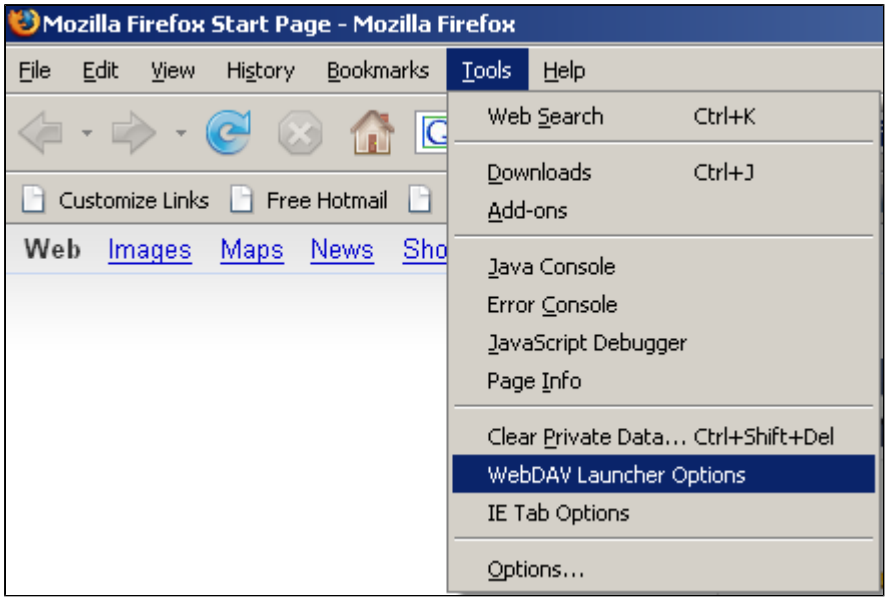
After you have installed the add-on into Firefox, you will need to configure it. Basically, you will associate a desktop application (editor) with each relevant file type. This tells the Office Connector which application to launch when it encounters a link to an editable file. The configuration is slightly 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.

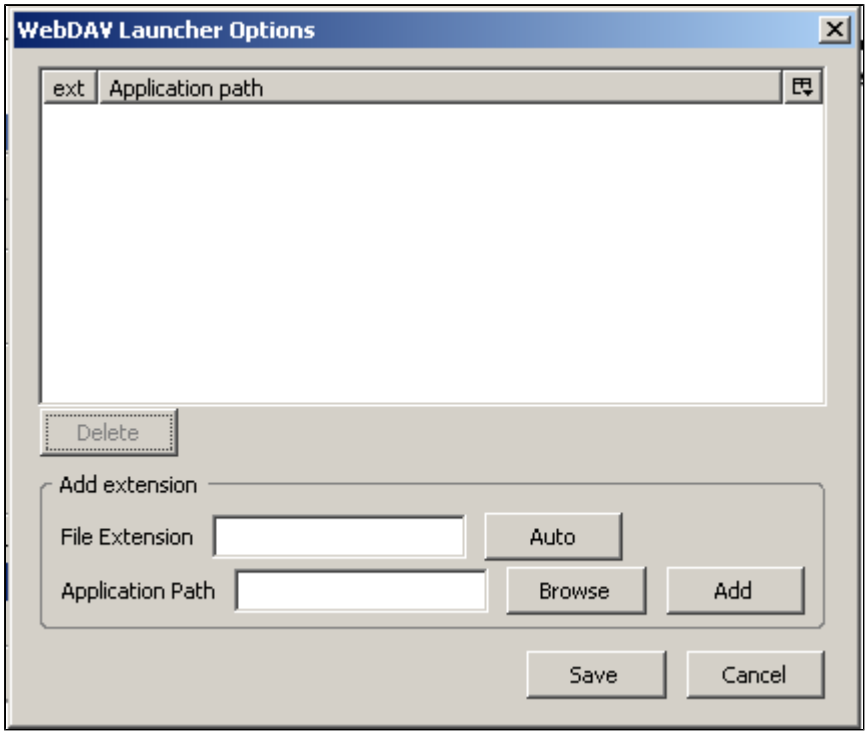
If you want to override the registry settings, or if for some reason the automatic configuration is not working, you can configure the Firefox add-on manually.

1. In Firefox, go to the '**Tools** menu and select '**WebDAV Launcher Options**', as shown in this screenshot:




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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:

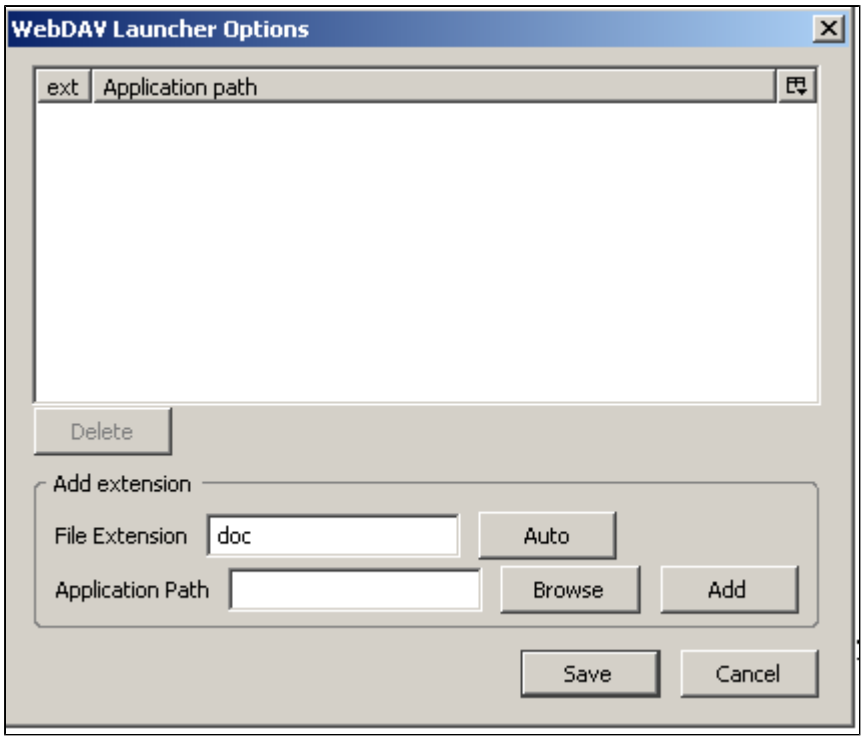



3. In the '**File Extension** box, enter the extension for a particular file type. For example, you may want to associate the 'doc' file extension with Microsoft Word 2003 or earlier. To do this, you would type 'doc' in the File Extension text box.

> **If you use or have recently upgraded to Office 2007**
>
> In addition to the original Office 2003 file extensions (that is, 'doc', 'ppt' and 'xls'), you *should additionally* configure the WebDAV launcher to handle the new Office 2007-specific file extensions for Microsoft Word ('docx'), Microsoft Excel ('xlsx') and PowerPoint ('pptx').

*Screenshot: Configuring the WebDAV Launcher - adding the 'doc' file extension.*

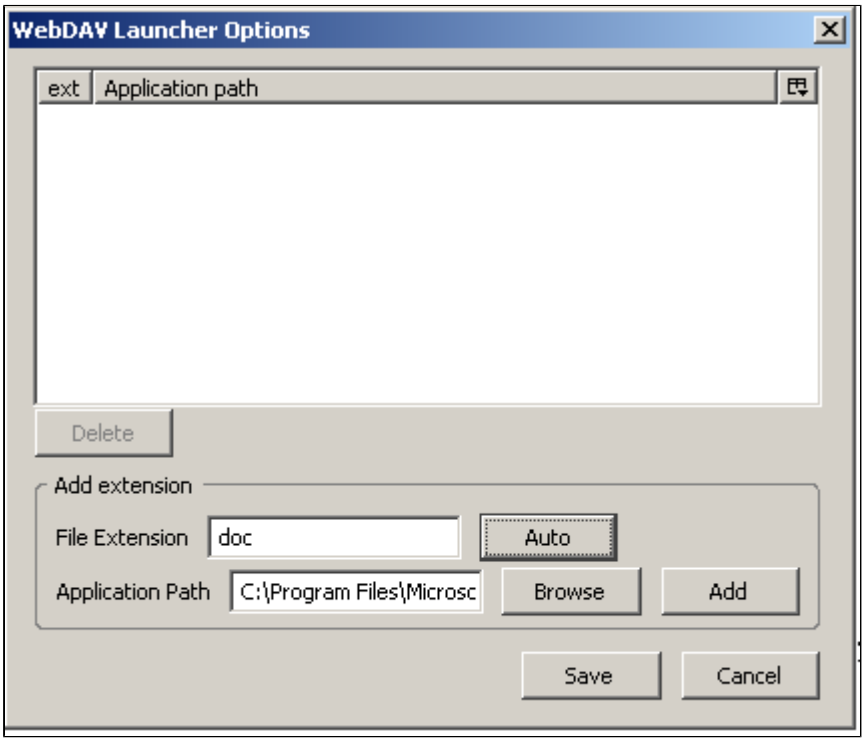
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4. Enter the '**Application Path** — Use one of the following methods to specify the associated application for editing the given file type:

    - 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.

    *Screenshot: Configuring the WebDAV Launcher - adding the 'Application Path' for the 'doc' file extension.*



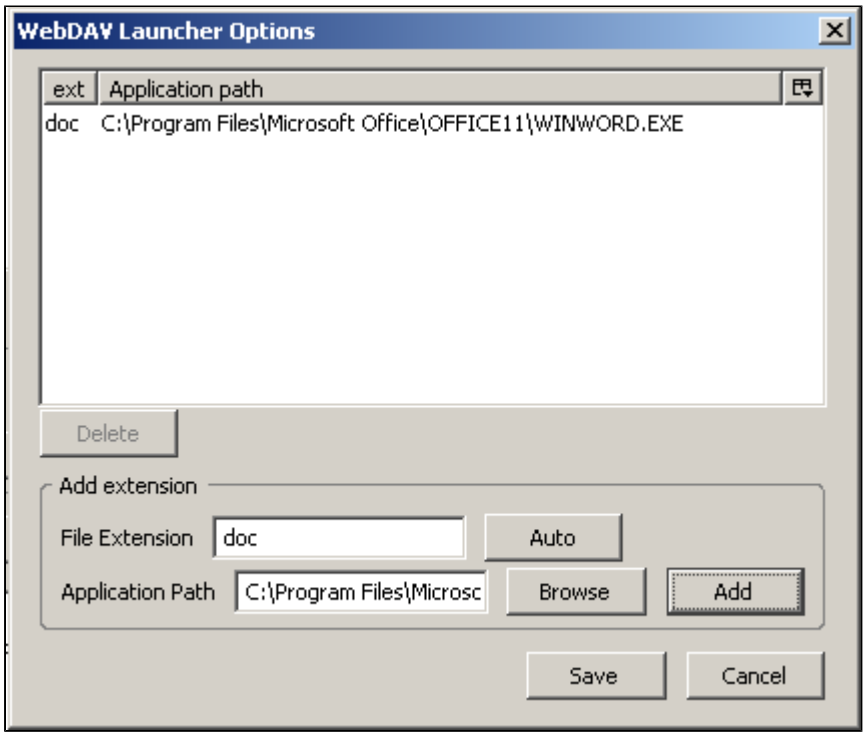

> **If you use or have recently upgraded to Office 2007**
>
> Follow the instructions in this step to add the path to the relevant Office 2007 application for the Office 2007 file extension you configured above. For example, if you had a typical

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default installation of Office 2007, you would add the application path 'C:\Program Files\Microsoft Office\Office12\WINWORD.EXE' to the 'docx' extension.

5. Click the '**Add**' button. The file extension association will be added to the list. For example, 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.

   *Screenshot: Configuring the WebDAV Launcher - configuration of the 'doc' file extension complete.*




#### Configuring the Add-On in Mac OS X

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:

| File Extension | Application Path |
|---|---|
| `doc` and `docx` | /usr/bin/oowriter |
| `ppt` and `pptx` | /usr/bin/ooimpress |
| `xls` and `xlsx` | /usr/bin/oocalc |

#### 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.

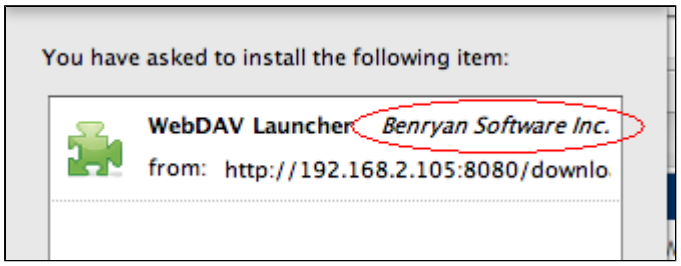
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Summary of the risks:

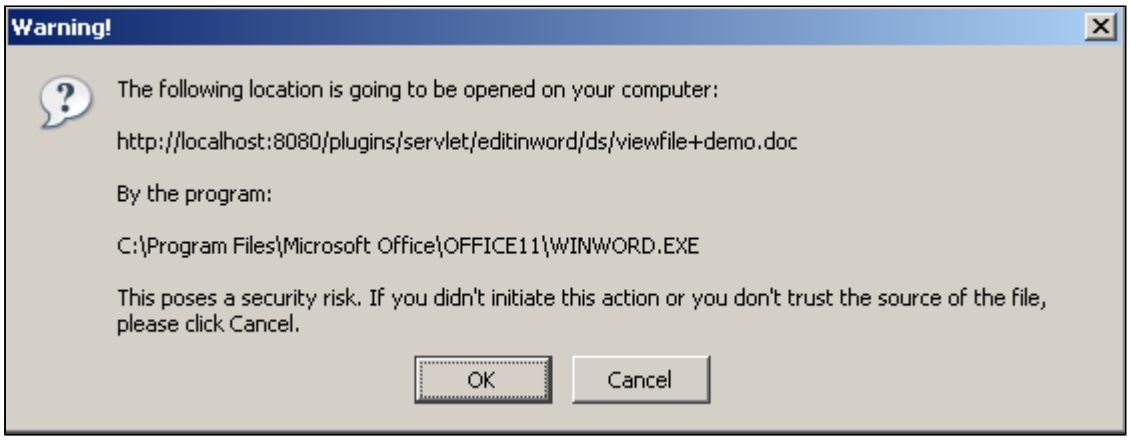
- Office documents can contain macro viruses. Before opening an Office document, make sure that you trust the source of the document.
- There are known flaws in the Office file formats and Microsoft Office that an attacker can exploit to gain control of your machine. Microsoft has fixed the known exploits 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.




**Information about this Firefox Add-On**

| | |
|---|---|
| **Add-on name:** | WebDAV Launcher |
| **Description:** | Adds the ability to launch a WebDAV URL directly in a WebDAV-aware client. |
| **Latest version:** | See the WebDAV Launcher add-on page at Mozilla |
| **Compatible with:** | All versions of Firefox, up to and including the latest stable version. |
| **Author:** | Atlassian Pty Ltd |

**Related Topics**

Working with the Office Connector

## Importing Content Into Confluence

This page describes how to get text, pages, images and other content into Confluence, by converting the content

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from another storage format and importing it into the Confluence wiki.

### Importing content from other Confluence sites

For content originating from other Confluence sites, you can:

- Import an entire Confluence site into a new site. See Restoring a Site (*Not applicable to Confluence OnDemand.*) or Importing a Confluence Site (*For Confluence OnDemand.*).
- Import a space from one Confluence site into another. Page history, attachments, and page content 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. See Restoring a Space (*Not applicable to Confluence OnDemand.*) or Importing a Confluence Space (*For Confluence OnDemand.*).

**On this page:**


- Importing content from other Confluence sites
- Importing content from other wikis
- Importing content from a Microsoft Word document
- Importing web content
- Importing other non-wiki content
- Note about add-on support


**Related pages:**

- Working with the Office Connector
- Confluence User's Guide

### Importing content from other wikis

Check whether the Universal Wiki Converter can import the content. See Importing Content from Another Wiki. *Not applicable to Confluence OnDemand.*

### Importing content from a Microsoft Word document

The Office Connector in Confluence allows you to import a Word document into Confluence. The document's content is copied onto one or more Confluence pages. See Importing a Word Document into Confluence.

### Importing web content

Here are some options for importing or displaying web content on a Confluence page:

- Use the Widget Connector 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. *Not applicable to Confluence OnDemand.*
- Embed an external web page into Confluence with the HTML Include macro. *Not applicable to Confluence OnDemand.*
- Use HTML code in a page with the HTML macro. *Not applicable to Confluence OnDemand.*

### 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 editor. This includes simple Word documents or web pages.
- Files such as Microsoft Excel documents can be imported using a content converter plugin. *Not applicable to Confluence OnDemand.*
- Confluence pages saved to disk can be imported from disk. *Not applicable to Confluence OnDemand.*
- Files can be uploaded in bulk using the Confluence WebDav Plugin (*Not applicable to Confluence OnDemand.*) or WebDAV upload (*For Confluence OnDemand.*).
- Full featured customisation is available using the Confluence remote APIs.

### Note about add-on support

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*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

## 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.

**Note:** 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.

- Download the latest version of the UWC from the Atlassian Marketplace.
- For information on installation and usage, see the UWC User Documentation.
- 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 - what wikis are currently supported?.
- To ask a question, see the UWC discussions on Atlassian Answers.

**Related pages:**

- Importing Content Into Confluence
- Data Import and Export
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

## Importing Pages from Disk

Confluence allows you to import text files from a directory on the Confluence server, and convert them into Confluence pages. Each file will be imported as a separate Confluence page with the same name as the file.

Notes:

- The text file may contain plain text, HTML or Confluence Storage Format.
- You need to be logged in as a System Administrator to import text files.
- You can import pages from disk into site spaces, but not into personal spaces. Please see Working with Spaces for information about differences between site spaces and personal spaces.

**Related pages:**

- Importing Content Into Confluence
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

**To import text files:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Import**.
3. Type the your directory path into the **Import directory** box.
4. Select **Trim file extensions** to remove file extensions from the page titles when converting the files to Confluence pages. Note that the Confluence pages will take their titles from the files' names (including their extensions). To avoid having page titles with a suffix like '.txt' check this box.
5. Select **Overwrite existing pages** if you want to replace existing Confluence pages that have the same page title as one you are importing.
6. Choose **Import**.

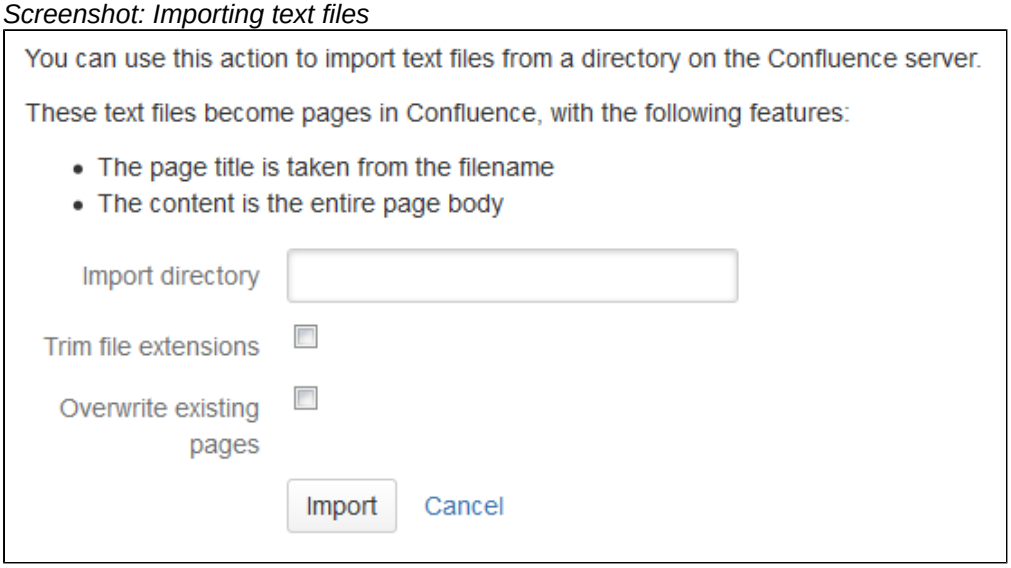
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If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Import** from the space administration options.
3. Follow the steps above.

Confluence will place the new pages at the root of the space.

*Screenshot: Importing text files*




## Sharing Content

Confluence provides a number of ways for you to notify other people about content that may be of interest to them:

- You can share a page link with them.
- You can mention a user when you write a page, blog post or comment. Mentioning a user automatically emails a notification to them about that content.
- You can broadcast a message that appears in Confluence activity streams.
- You can like a page, blog post or comment. The author will receive a notification. If enough people like the content, it will appear in the list of popular content on the dashboard and in the recommended updates email message.

Other users can also find out about changes to content in Confluence by watching pages and spaces.

You may also be interested in exporting Confluence content to other formats such as XML, HTML, Microsoft Word and PDF.

**Related pages:**

- Creating Content
- Managing Changes and Notifications and Tasks
- Organising Content
- Confluence User's Guide

## Network Overview

The 'network' feature provides notifications on the activity of users that you choose to follow. This compares with Confluence's other content tracking features, which provide notifications on specified types of content updates, made by any user.
The types of activities tracked by the network feature 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
- Updates to a user's User Profile

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**On this page:**


- Accessing Your Network View
- Following Another User
- Stop Following a User
- Notes


**Related pages:**

- Network Macro
- Subscribing to a Network RSS Feed
- Subscribing to Email Notifications of Updates to Confluence Content
- Confluence User's Guide.

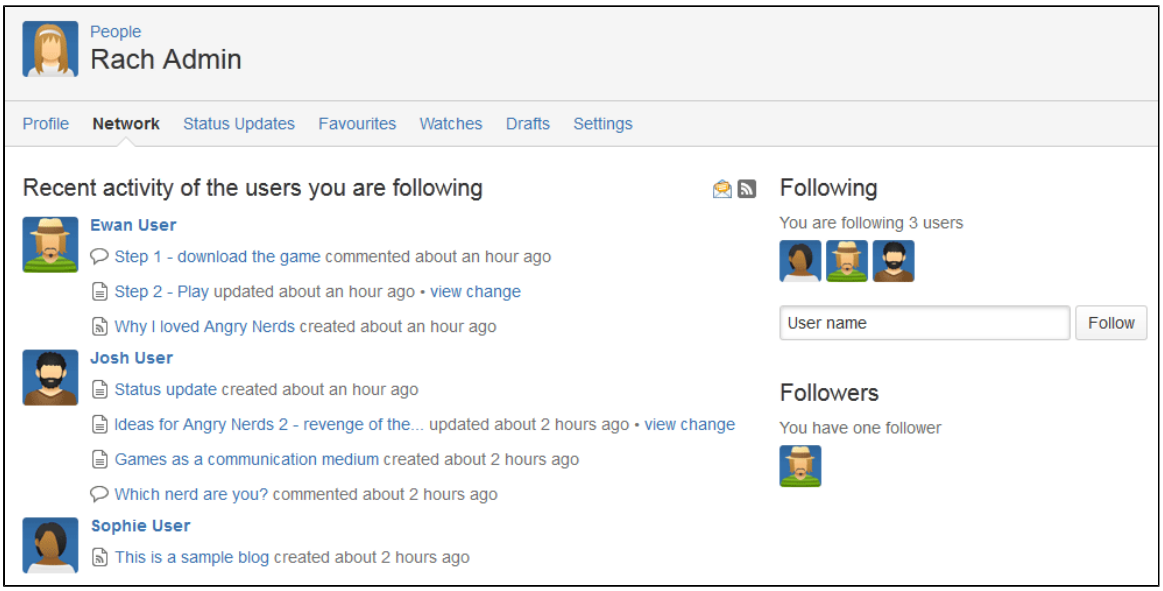
## Accessing Your Network View

**To see your network view:**

- Choose **your profile picture** at top right of the screen, then choose **Network**. (Alternatively, choose **More** in the 'Network' section of your profile sidebar.)

You can access another user's Network view using the Hover Profile.

*Screenshot: Example of the Network view*




## Following Another User

You can follow another user by using either the Hover Profile or your Network view.

**To follow a user with the Hover Profile:**

1. Open the user's hover profile popup:
   - Log in to Confluence, if you have not already done so.
     Note: If a Confluence Administrator has granted the 'View User Profiles' permission to anonymous users, you can access people's hover profile popups without logging in. However, the hover profile features available to anonymous users are restricted.
   - Move your mouse pointer over a user's linked name or profile picture. The hover profile popup will appear.
2. Choose **Follow**.

**To follow a user from your Network view:**

1. Choose **your profile picture** at top right of the screen, then choose **Network**. (Alternatively, choose **More** in the 'Network' section of your profile sidebar.)

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2. Enter the first few characters of the name (or username) of the user you wish to follow in the **Following** fi eld and choose the user from the list of suggestions.
3. Choose **Follow**.

If you now 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

**To stop following a user by using the Hover Profile:**

1. Open the user's hover profile popup:
   - Log in to Confluence, if you have not already done so.
     Note: If a Confluence Administrator has granted the 'View User Profiles' permission to anonymous users, you can access people's hover profile popups without logging in. However, the hover profile features available to anonymous users are restricted.
   - Move your mouse pointer over a user's linked name or profile picture. The hover profile popup will appear.
2. Choose **Stop Following**.

You can also stop following a user by going to their Profile view.

If you now 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.

### Notes

Once you are following a user, you can see their activity in a number of ways:

- Your Network view: your Network view shows all the tracked activities that you have permission to view for all the users that you are following. In the same way, people who follow you will be able to see all your Confluence-based activities on their network views, provided they have permission to view the content. See below for instructions on accessing your network view.
- RSS feeds: you can subscribe to any Confluence user's network RSS feed and receive summaries on the activities of other users they are following in their network. See Subscribing to a Network RSS Feed.
- Email notifications: you can request email notifications of any activity in your network. See Subscribing to Email Notifications of Updates to Confluence Content.

Note that it is not possible to stop another user from following you. If you are interested in the ability to block followers, please watch CONF-16285 for updates on the feature request.

## Likes and Popular Content

Has someone written a good blog post or page on Confluence? Or has someone added a comment that you agree with? Click the **Like** button to them know. 


Confluence has like buttons on every page, blog post and comment. If enough people like a page or post, it will show on the dashboard's 'Popular' tab. The information in the 'Recommended Updates' email message is based on the number of peoplewho have liked the content.

### Liking a page, blog post or comment

Click the **Like** button to let people know that you agree with or enjoy a page, blog post or comment. Click **Unlike** to remove your name from the list of people who like the content.

You can also see:

- Up to three names of people in your network who have most recently liked the content.
- A link showing the number of people who have liked the comment. For example, **19 people like this**. Click the link to see the names. At the top of the list are people in your network, sorted with the most recent likes first. Then follow other people, also sorted chronologically with the most recent first.

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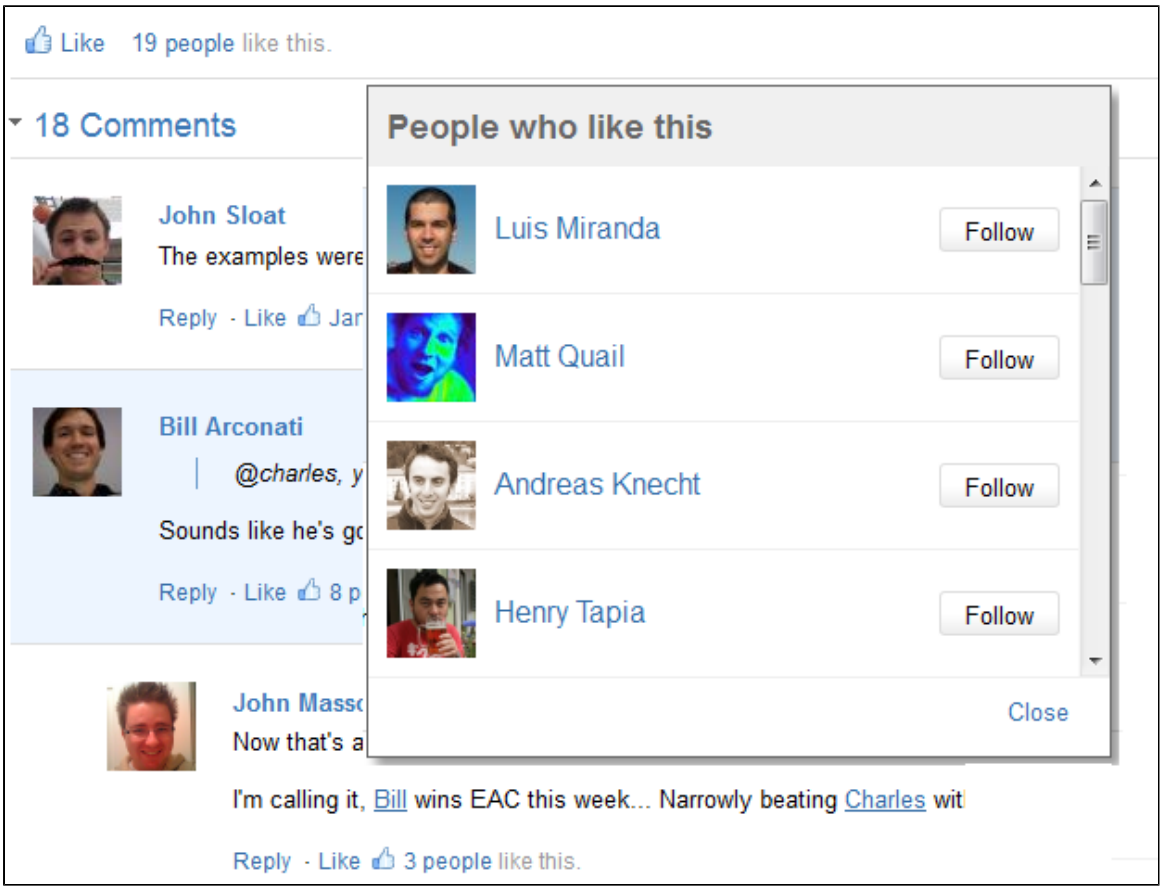
**On this page:**


- Liking a page, blog post or comment
- Effects of liking content
- Disabling the 'like' feature
- Disabling notifications when your content is 'liked'


**Related pages:**

- Dashboard
- Subscribing to Email Notifications of Updates to Confluence Content
- Network Overview

*Screenshot: The Like button at the bottom of a page and on comments*




### Effects of liking content

When you like a page, blog post or comment:

- The author of the content receives a notification.
- People in your network receive a notification. They will receive the notification only if they do not already know about the content. Let's assume Arthur is in your network. Arthur will **not** receive a notification if:
  - Someone else in his network has already liked the content.
  - Arthur himself has already liked the content.
  - Arthur has already commented on it.
  - In the case of a threaded comment, Arthur has already replied to the comment.
- If enough people like the content, it will appear on the 'Popular' tab of the dashboard.
- Similarly, if the content is popular enough it will appear in the 'Recommended Updates' summary sent out by email.

### Disabling the 'like' feature

The functionality is provided by a plugin called the 'Confluence Like Plugin'. To remove the 'like' functionality from your site, you can disable the plugin. See Disabling or Enabling a Plugin.

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### Disabling notifications when your content is 'liked'

There are two ways to turn the 'someone likes your page' notifications off:

1. Open an email notification of a like, and click Manage Notifications
2. Go to _<your confluence URL>/plugins/likes/view-notifications.action_

## User Status Updates

You can use your 'user status' to broadcast a short message, which other users can see on various activity streams in 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.
- Another person's Confluence username, in the format [~username], to send that person an email message about your status.

Your 'Status Updates' view shows a history of updates you have made to your status. Your latest status message is shown on the profile popup that appears when people hover over your username, and in various other places in Confluence.

**On this page:**


- Setting or updating your status
- Mentioning another person in your status update
- Viewing status updates
- Clearing your current status
- Deleting a status update
- More about user status updates
- Enabling and disabling status updates


**Related pages:**

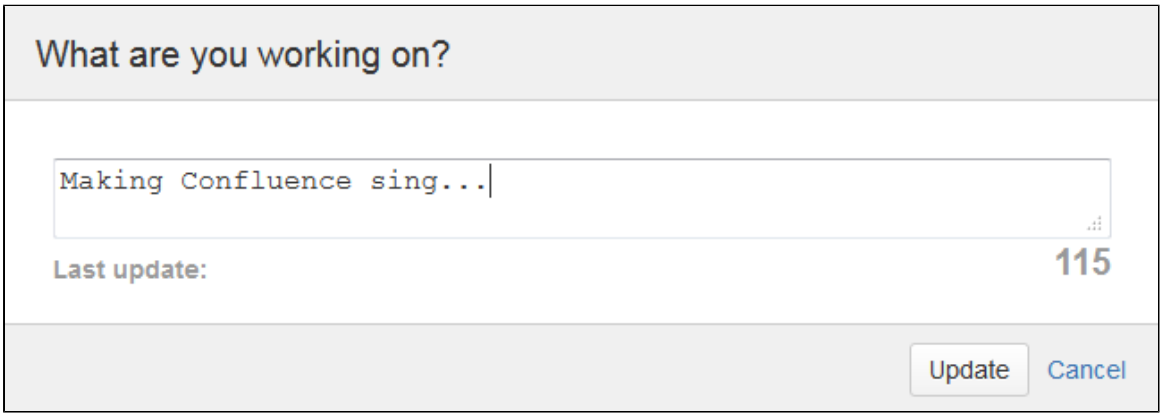
- User Profile Overview
- User Status List Macro
- Confluence User's Guide

### Setting or updating your status

**To set or update your status:**

1. Log in to Confluence.
2. Choose **your profile picture** at top right of the screen, then choose **Update Status**. The 'What are you working on' dialog will open.
3. Enter a short message (140 characters maximum) that describes your current status or what you are working on.
4. Choose **Update** to publish your new or updated status.

*Screenshot: User status*




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### Mentioning another person in your status update

You can include another person's Confluence username in your status update, using square brackets and the tilde sign in the format `[~username]`. Confluence will send that person an email message containing your status update. For example, let's assume another Confluence user has the username 'charlie'. You could put this message in your status update, and Charlie will receive an email message:

> *Enjoying all the blog posts that [~charlie] has written recently!*

**Note:** Mentions in status updates do **not** appear as notifications in the Confluence workbox.

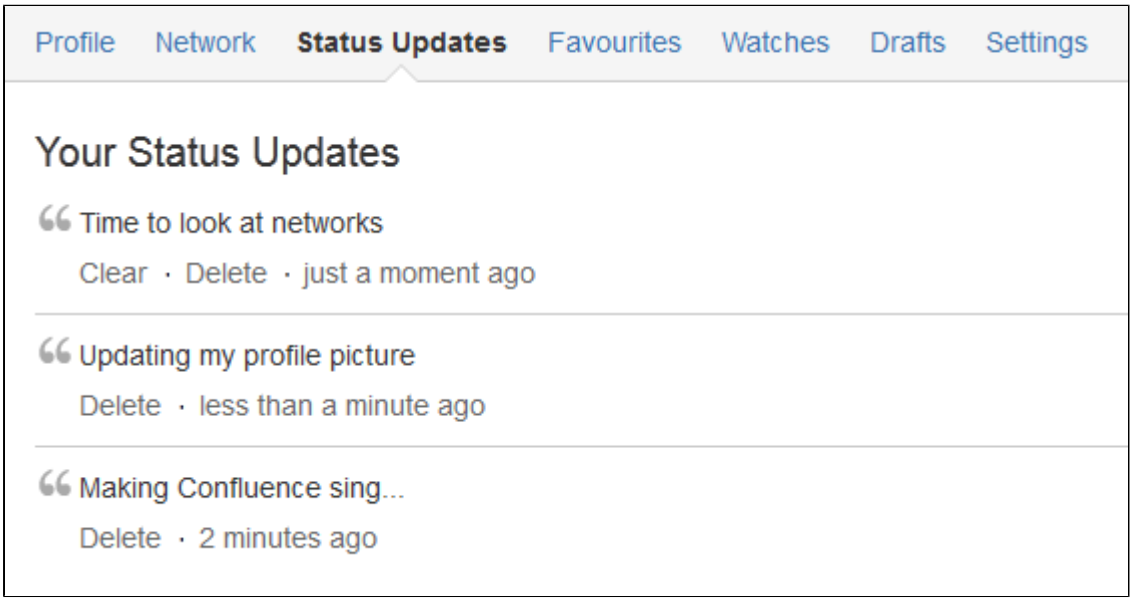
### Viewing status updates

**To view your status updates:**

- Choose **your profile picture** at top right of the screen, then choose **Status Updates**.

You can also view another user's status by going to their profile.

*Screenshot: Status updates view*




### Clearing your current status

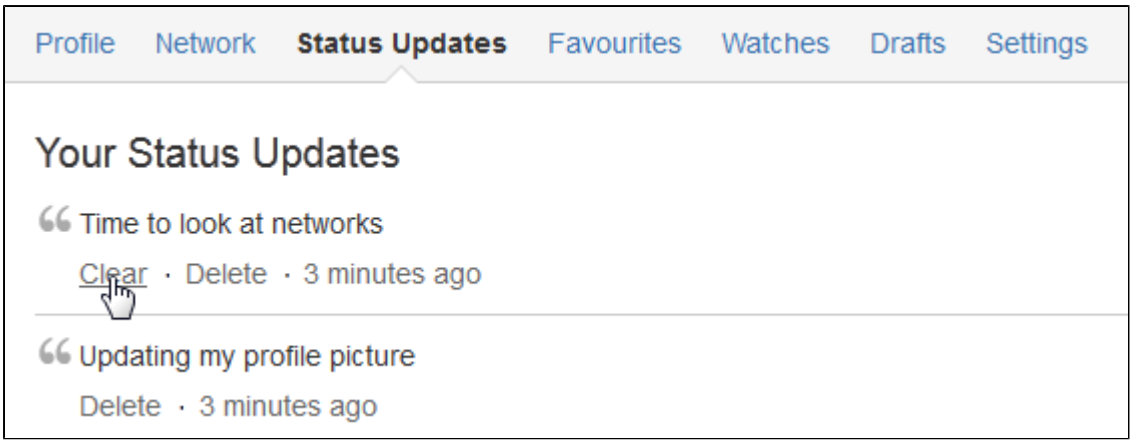
Clearing a message is not the same as deleting it. If you clear a message, it is still shown in your status updates view until it is deleted.

**To clear your current status:**

1. Choose **your profile picture** at top right of the screen, then choose **Status Updates**.
2. Choose **Clear** in the status message at the top of the page.

*Screenshot: Clearing your current status message*

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### Deleting a status update

**To delete your current or a previous status message:**

1. Choose **your profile picture** at top right of the screen, then choose **Status Updates**.
2. Choose **Delete** next to the appropriate status message. Your status updates view will be refreshed and the message you deleted will be removed from the list.

### More about user status updates

There are a number of activity streams in Confluence that show different types of status updates. These include:

- The 'Recently Updated' list on the Confluence Dashboard, which shows all status updates (when the **All** t ab 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').

### Enabling and disabling status updates

The functionality is provided by a plugin called 'User Status'. To remove the status updates functionality from your site, you can disable the plugin. See Disabling or Enabling a Plugin.

You can also set the Confluence site permissions to determine which users can use status updates. By default, users will not have permission to use this feature. See Global Permissions Overview.

## Using Mentions

You can mention a person in a special way that prompts Confluence to send that person an email message and a workbox notification. This way of mentioning someone is called an @mention. It works on Confluence pages, blog posts and comments.

When you save the page, Confluence sends an email message to the user letting them know that they have been mentioned on the page (if they have permission to view the page) with a link to the relevant page. Confluence also adds a notification to the person's workbox.

**Note:** Use the person's full name. The user mention feature recognises the full name only, not the username.

There are two ways to mention someone:

- The quickest way is to start typing '@' and the person's name, then choose from the suggestions that Confluence offers. This is called autocomplete.
- Alternatively, you can choose **Insert** > **User Mention** from the editor toolbar.

Each of these methods is described in more detail below.

### Using autocomplete to mention someone

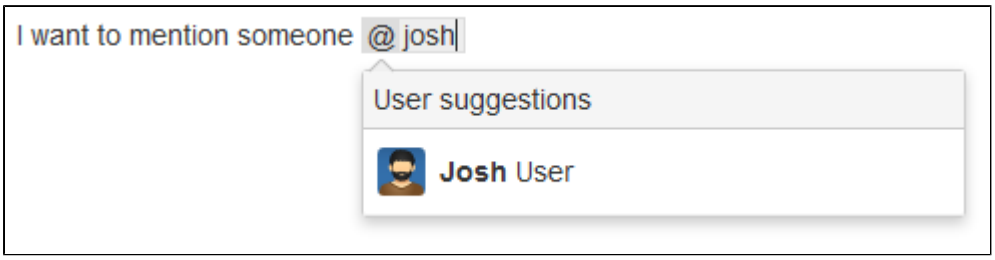
**To mention someone using '@'**:

1. Edit the page.

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2. Click where you want to insert a mention and type '@' and then the first few characters of the user's full name.
3. Choose the user's name from the list of suggestions.

*Screenshot: Autocomplete for mentions*




**On this page:**


- Using autocomplete to mention someone
- Accessing the user mention option in the editor toolbar
- Seeing your mentions in the Confluence workbox
- Notes


**Related pages:**

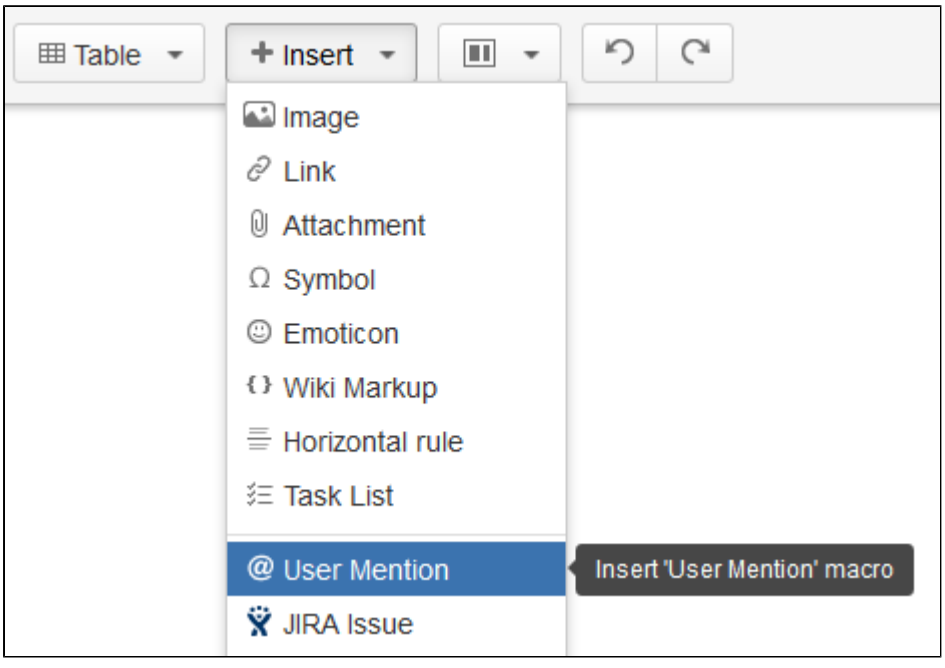
- Using the Editor
- Using Autocomplete
- Keyboard Shortcuts
- Confluence User's Guide

## Accessing the user mention option in the editor toolbar

**To add a user mention via the editor toolbar:**

1. Edit the page.
2. Choose **Insert** > **User Mention**. Confluence will add an '@' sign to the page, and display a dropdown list of suggested users for you to choose from.
3. Start typing the person's name, to refine the list of suggestions.
4. Choose the person from the list of names.

*Screenshot: The user mention option in the editor toolbar*




## Seeing your mentions in the Confluence workbox

When someone mentions you, you will receive a notification in the Confluence workbox. See Managing

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Notifications in Confluence.

**Notes**

- **Disabling the user mention feature.** The functionality is provided by a plugin called the 'Confluence Mentions Plugin'. To remove the user mention functionality from your site, you can disable the plugin. See Disabling or Enabling a Plugin.
- **Mentioning groups.** It is not possible to mention a group and then have the email sent to the entire group. You can only mention individual users. There is a feature request to allow mentions for groups:
  **CONF-23015** - Extend 'Mentions' to work with groups as well ( **Open**)
- **Mentioning people in status updates.** See User Status Updates.
- **Linking to a user profile.** You can use a square bracket '[' and a person's name to trigger Confluence autocomplete and link to a person's user profile or personal space. Confluence will send the person a notification just as if you had used @mention (unless the administrator has disabled the user mention feature).

## Emailing a Page

You can share a Confluence page or blog post by emailing a link to recipients of your choice. The recipients can be Confluence users or any email addresses.

**To share a link to a Confluence page or blog post by email:**

1. Go to the page or blog post you wish to share.
2. Choose **Share**.
   Note: The **Share** button will only visible if your Confluence administrator has configured an outgoing mail server for your Confluence site.
3. Enter a username, group or email address - autocomplete will suggest matching users and groups.
4. Select the appropriate user, group or email address from the dropdown. You can add multiple recipients to the list.
5. Enter an optional message into the **Note** box.
6. Choose **Share** to send the link via email.

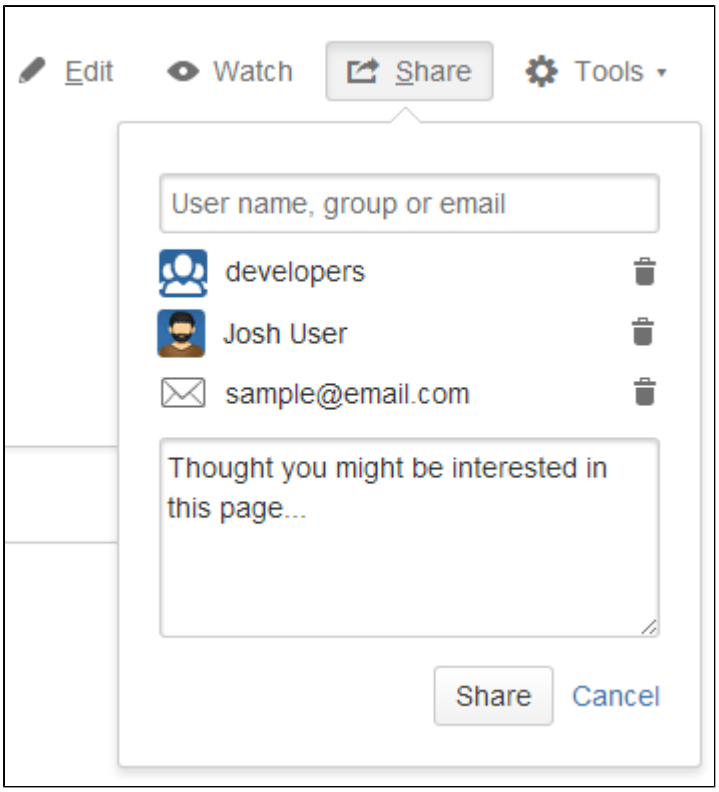
In addition to an email, Confluence users will also receive a notification in their Confluence workbox. See Managing Notifications in Confluence.

**Related pages:**

- Managing Notifications in Confluence
- Working with Pages
- Working with Blog Posts
- Configuring a Server for Outgoing Mail *Not applicable to Confluence OnDemand.*
- Confluence User's Guide

*Screenshot: Sharing a page*

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### Notes

To remove a recipient from the list, choose the delete icon to the right of the recipient.

## Commenting on pages and blog posts

A comment is a remark, question, or any other additional information you wish to add to a page or blog post. People can use comments to interact with each other on your Confluence site.

You can add a comment to any page or blog post, provided that you have the 'Add Comments' permission in the space. You can also show that you agree with or enjoyed someone else's comment, by liking it.

Comments are displayed at the bottom of the page, below the page content. They appear in one of two views, configured globally by a site administrator:

- **Threaded** – This view shows the comments in a hierarchy (tree) of responses. The replies are indented to indicate the relationships between the comments.
- **Flat** – This view displays all the comments in a single list and does not indicate the relationships between comments.

**On this page:**


- Adding a comment
- Editing a comment
- Deleting a comment
- Linking to a comment
- Disabling comments
- Notes


**Related pages:**

- Working with Pages
- Working with Blog Posts
- Sharing Content
- Confluence User's Guide
- Enabling Threaded Comments

### Adding a comment

You can add a comment on pages and blog posts in Confluence.

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To add a comment, you need the 'Add Comments' permission. See Space permissions.

**To add a new comment:**

1. Position your cursor in the comment box, next to your profile picture at the bottom of the page.
2. Type in your comment.
3. Choose **Preview** to see how your comment will appear.
4. By default, **Watch this page** is ticked.This means that you will start receiving notifications about this page. Remove the tick if you do not want to watch the page.
5. Choose **Save**.

If the Confluence site displays comments in the threaded view, you can respond to previous comments.

**To respond to a comment:**

1. Choose **Reply** located below the text of a comment.
2. Type in your response.
3. Choose **Save**.

### Editing a comment

To edit a comment, you need the 'Add Comments' permission. See Space permissions. Space administrators ca n edit all comments within their space. The date on a comment always indicates the time the comment was last edited.

**To edit a comment:**

1. Go to the comment and choose **Edit**.
2. Make changes to the comment just as if you were adding a comment.
3. Choose **Save**.

### Deleting a comment

To delete a comment from a page, you need the 'Remove Comments' permission. See Space permissions. Del eted comments cannot be restored.

**To delete a comment:**

1. Go to the page that contains the comment.
2. Choose **Delete** at the bottom of the comment box.

If you do not have 'Remove Comments' permission, you are able to delete your own comments, but only if there are no replies to the comment.

### Linking to a comment

You can link directly to a comment on a page. See Working with Links for more information on linking to comments.

### Disabling comments

To prevent all users from adding comments in a space, remove the 'Add Comments' permission from the 'confluence-users' or 'users' group, anonymous users and all other users and groups. See Space permissions. The option to add comments will no longer appear on pages or blog posts. You need to be a space administrator to change the space permissions.

There is no permission that controls comments across the entire site.

### Notes

- You can choose **Tools** > **Watch** to receive an email notification whenever anyone edits the page or adds a comment to the page.
- Your profile picture will appear next to each comment that you have added. (This is true if your space uses the Confluence Default theme.)
- On blog posts only, an 'Author' lozenge will appear on any comments made by the original author of the post. 


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- Comments are not auto-saved. See feature request:

  **CONF-12978** - Add auto-save/draft feature for comments ( **Open**)
- It is not possible to delete all comments for a page simultaneously.
- There is no option in the default Confluence user interface, to change the order of comments. For example, it is not possible to show the most recent comments at the top. Here are some options to investigate:
  - Answers and comments on this question on Atlassian Answers.
  - Available themes on Atlassian Marketplace.

## Printing Confluence Pages

You can print one or more Confluence pages:

- To print a single page, use your browser's 'Print' option.
- Confluence allows you to export a single page, single blog post, part of a space, or an entire space into a single PDF file. See Exporting Confluence Pages and Spaces to PDF.

## Exporting Confluence Pages and Spaces to Other Formats

You can convert a part of, or the entire contents of a space to various formats, including Microsoft Word, HTML, PDF and XML. This is called 'exporting' the space.

**What would you like to do?**

- Exporting Confluence Pages and Spaces to HTML
- Exporting Confluence Pages and Spaces to PDF
- Exporting to a Word document
- Exporting Confluence Pages and Spaces to XML

**Related topics**

- Working with Spaces
- Confluence User's Guide

### Exporting Confluence Pages and Spaces to HTML

In Confluence, you can export 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 use the space export functionality, you need the 'Export Space' permission. See the guide to space permissions.

**To export pages to HTML:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Export**. This option will only be visible if you have the 'Export Space' permission.
3. Select **HTML** then choose **Next**.
4. Decide whether you need to customise the export:
   - Select **Normal Export** to produce an HTML file containing all the pages that you have permission to view.
   - Select **Custom Export** if you want to export a subset of pages, or to exclude comments from the export.
5. Select the **Include Comments** check box if you want to include comments for the pages you are exporting.
6. Select the pages you want to export.
   - You have the option to **Select All** or **Deselect All** pages.
   - When you select a page, all its child pages will also be selected. Similarly, when you deselect a page all its child pages will also be deselected.
7. Choose **Export**. This will create a zipped archive of HTML files.
8. When the export process has finished, download the zipped archive as prompted, and extract the files into a folder.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**.
2. Choose **HTML Export** from the left menu.

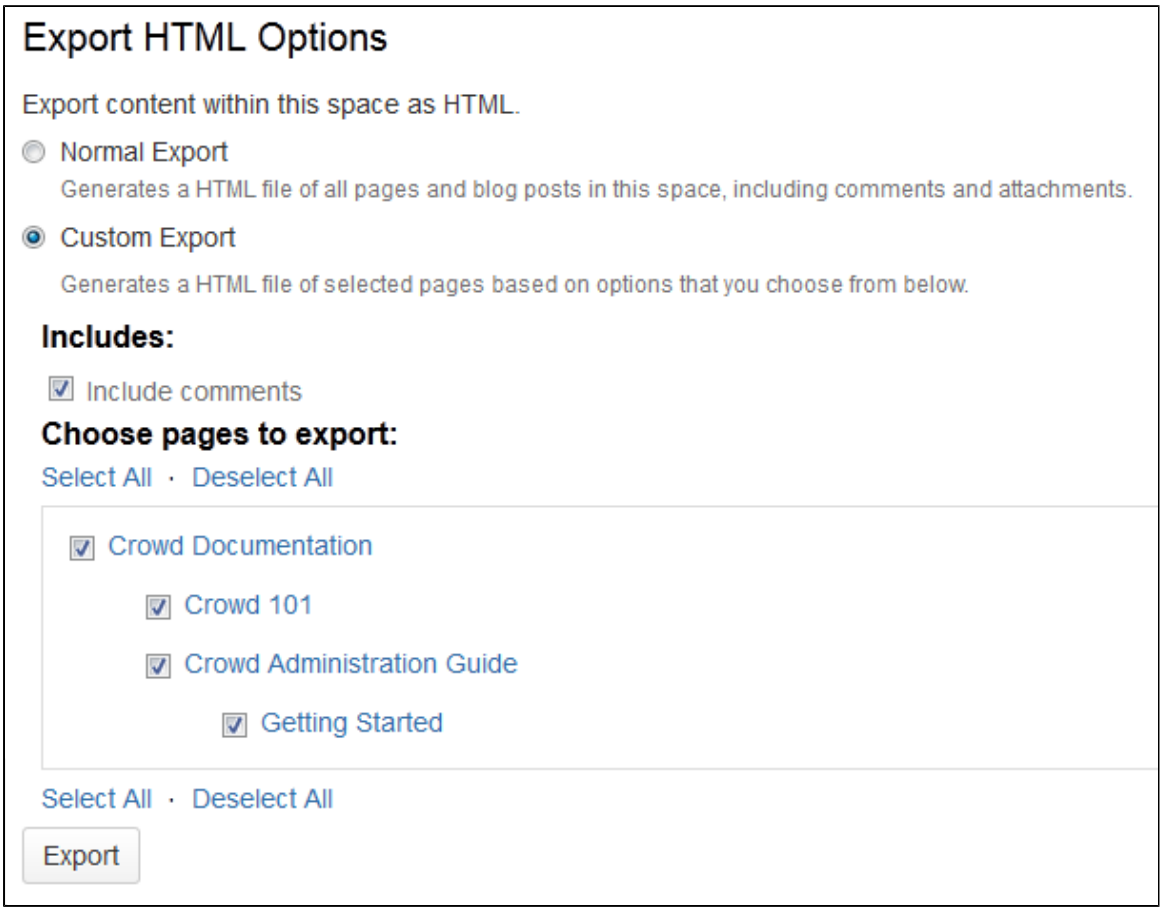
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3. Follow the steps above to export the Space.

**Related pages:**

- Exporting Confluence Pages and Spaces to PDF
- Exporting Confluence Pages and Spaces to XML
- Confluence User's Guide

*Screenshot: Selecting pages to export*




#### Notes

- In the zip file, 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.
- Blog posts are not included in the HTML export. See the feature request: CONF-14684.
- To customise the HTML output, you will need to modify the file `confluence-x.y.z-jar/com/atlassian/confluence/pages/Page.htmlexport.vm`. To learn how to repackage this file, see How to Edit Files in Confluence JAR Files

## Exporting Confluence Pages and Spaces to PDF

This page explains how you can export individual Confluence pages, blog posts, entire spaces or selections of pages into a single PDF file.

#### Exporting single pages

You can export a Confluence page to PDF. This option exports a single page and is available to all users who have permission to view the page.

- Go to a page in the space and choose **Tools** > **Export to PDF**. Follow the prompts to export the page.

Note that the export of a single page to PDF applies any PDF stylesheet customisations, but does not apply any

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PDF layout customisations. To make your PDF layout customisations apply to a single page exported to PDF, use the 'multiple page' method described below to export that single page only. See Customising Exports to PDF .

### Exporting a blog post

You can export a Confluence blog post to PDF. This option exports a single blog post and is available to all users who have permission to view the page.

- Go to a blog post and choose **Tools** > **Export to PDF**. Follow the prompts to export the page.

Blog posts can only be exported individually. Blogs cannot be exported at the space level.

### Exporting multiple pages or the entire space

Using Confluence's space export functionality, you can convert multiple pages or an entire space to PDF.

To use the space export functionality, you need the 'Export Space' permission. See the guide to space permissions.

**To export a space or selected pages to PDF:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Export**. This option will only be visible if you have the 'Export Space' permission.
3. Select **PDF** then choose **Next**
4. Decide whether you need to customise the export:
    - Select **Normal Export** to produce a PDF file containing all the pages that you have permission to view.
    - Select **Custom Export** if you want to export a subset of pages.
5. Select the pages you want to export.
    - You have the option to **Select All** or **Deselect All** pages.
    - When you select a page, all its child pages will also be selected. Similarly, when you deselect a page all its child pages will also be deselected.
6. Choose **Export**.
7. When the export process has finished, download and save the PDF file as prompted.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**
2. Choose **PDF Export** from the left menu.
3. Follow the steps above to export the Space.

**On this page:**

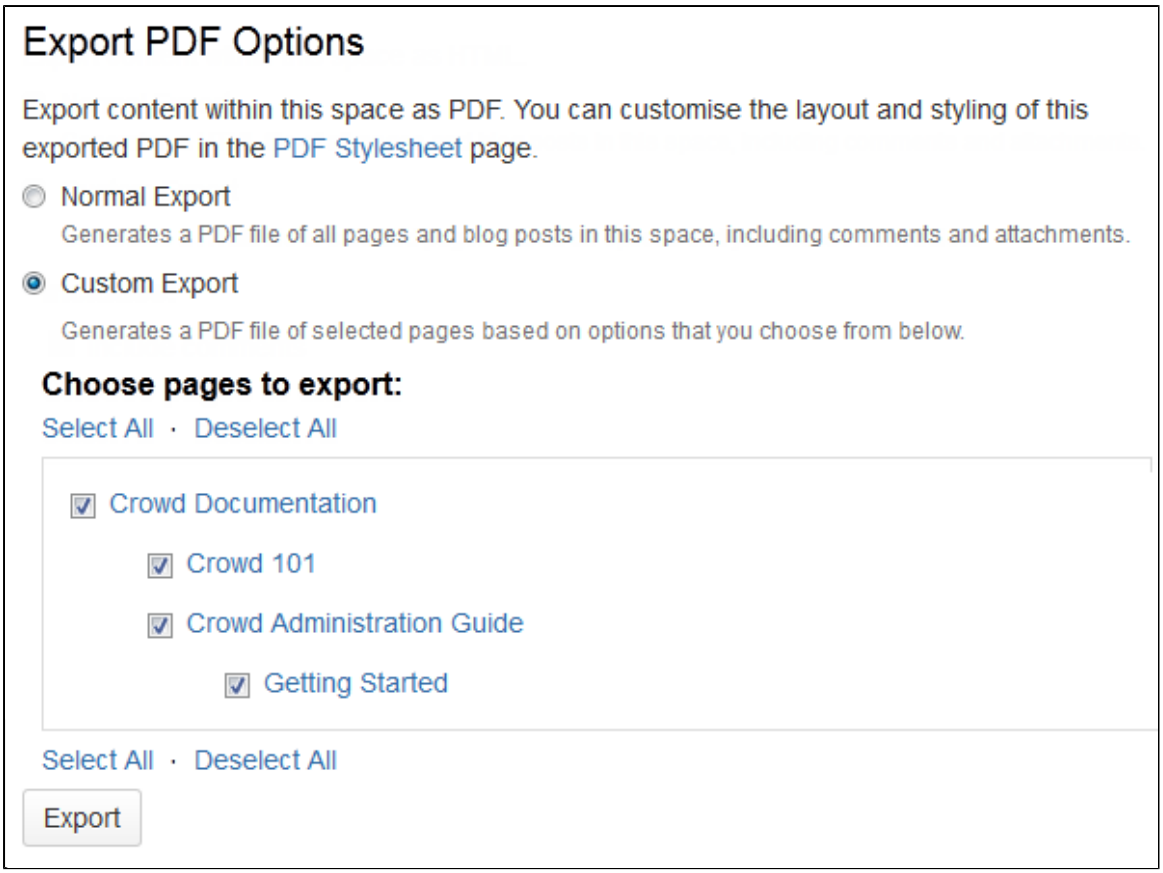

- Exporting single pages
- Exporting a blog post
- Exporting multiple pages or the entire space
- Customising the appearance of PDF exports
- Notes


**Related pages:**


- Customising Exports to PDF
- Advanced PDF Stylesheet Customisations
- Creating PDF in Another Language
- Exporting Confluence Pages and Spaces to HTML
- Exporting Confluence Pages and Spaces to XML
- Confluence User's Guide


*Screenshot: Selecting pages to export*

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#### Customising the appearance of PDF exports

You can add a title page, a table of contents and customised headers and footers to the PDF output. For more advanced customisations, you can apply Cascading Style Sheet (CSS) modifications. These customisations are specific to each space. You need the 'Space Administrator' permission to be able to apply these customisations. For more information, see Customising Exports to PDF.

#### Notes

- PDF exports will not handle columns created via the page layout option in the editor. If you have a two- or three-column layout, the PDF export will contain the page content in one single column. The issue is tracked here: **CONF-25240** - PDF export does not handle page layouts (Technical Review)
- Comments on the page are not exported to the PDF file.
- Only image attachments that 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.
- Blog posts can be individually exported, but are not included when you export a space to PDF.
- 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 screenshot above.
- Confluence's PDF export feature is designed to handle a wide variety of content. However, on rare occasions the PDF Export process may fail due to an unrecognised customisation. If that happens 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.

### Customising Exports to PDF

Confluence administrators and space administrators can customise the PDF exports for individual spaces.

Please note:

- PDF customisations are unique to each space.
- Confluence's PDF customisations use a combination of HTML and CSS (Cascading Style Sheets).
- To achieve a particular requirement in the exported PDF file, you make changes in one or both of the following:
  - The **PDF Layout**, where HTML is used to define the structure of the exported content, including features such as the title page, headers and footers.

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- The **PDF Stylesheet**, where CSS is used to define the style of elements in the exported content, such as page size and margins, font, colour, and list numbering.

For further customisations, see the Advanced PDF Export Customisations page.

### *Customising the PDF Layout*

You can add your own HTML to customise the title page, page headers and page footers in the PDF output.

#### Setting a global PDF layout

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **PDF Layout**. You can enter HTML and CSS that will be rendered on the PDF title page, as well as page headers and footers.

#### Setting the PDF layout at space level

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar. You'll need Space Admin permissions to do this.
2. Choose **PDF Layout**.
3. Choose **Edit**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **PDF Layout** in space administration options.
3. Choose **Edit**.

You can customise the HTML that is generated for the following areas when the space is exported to PDF:

- **PDF Space Export Title Page** – title page.
- **PDF Space Export Header** – page headers.
- **PDF Space Export Footer** – page footers.

Enter your customisations into each text box as required. The PDF layout section accepts HTML code. You can include inline CSS in the HTML too.

**On this page:**


- Customising the PDF Layout
  - Setting a global PDF layout
  - Setting the PDF layout at space level
- Customising the PDF Stylesheet
  - Setting a global PDF Stylesheet
  - Setting a space PDF stylesheet
- Example Customisations
  - Page Size
  - Page Orientation: Landscape or Portrait
  - Page Margins
  - Page Breaks
  - Title Page
  - Table of Contents
  - Headers and Footers
  - Page Numbering
  - Wrapping Long Words
  - General Formatting
- Notes
- Related Topics


**Related pages:**


- Advanced PDF Export Customisations


### *Customising the PDF Stylesheet*

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You can adjust the appearance of the PDF pages by customising the CSS in the PDF Stylesheet screen.

To get started, download the default CSS rules for the PDF stylesheet - confluencedefaultpdf.css.

Any rule defined in this file can be customised and added to the PDF Export Stylesheet section. Your customisations override any default CSS rule. If no customisations are defined, the default CSS rules will be applied.

By default, the export does not include a title page, headers or footers. You can define these in the PDF layout.

**To customise the PDF Stylesheet:**

#### Setting a global PDF Stylesheet

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Look and Feel** > **PDF Stylesheet**. The following screen allows you to enter and save CSS code that will render content on each page.

#### Setting a space PDF stylesheet

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar. You'll need Space Admin permissions to do this.
2. Choose **PDF Stylesheet**.
3. Choose **Edit**.
4. Enter your customisations.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **PDF Stylesheet** in the space administration options.
3. Choose **Edit**.
4. Enter your customisations.

The PDF Export Stylesheet field accepts Cascading Style Sheets (CSS) rules. The 'PDF Export Stylesheet' page shows the current (e.g. customised) contents of your PDF stylesheet.

### *Example Customisations*

This section provides examples of typical customisations that you can add. See also Advanced PDF Customisations.

#### Page Size

The default page size is based on the location of your Confluence server. For example, if this server is located in the US then the default paper size of your PDF export will be US Letter (8.5 inches wide by 11 inches long). If the server is located in Australia, the default paper size will be A4 (210 mm wide by 297 mm long). More information about paper sizes can be found on Wikipedia.

To modify the page size to A4, edit the PDF Stylesheet to add a `size` property to the CSS`@page` rule, like this:

**CSS - PDF Stylesheet**

```
@page
{
/*The A4 paper size is 210 mm wide by 297 mm long*/
size: 210mm 297mm;
}
```

#### Page Orientation: Landscape or Portrait

To change the page orientation of your PDF document, simply reverse the order of the values declared in the @p

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age rule's `size` property. 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 - PDF Stylesheet**

```
@page
{
/*A4-sized pages in landscape orientation are 297 mm wide by 210 mm long*/
size: 297mm 210mm;
}
```

#### Page Margins

To set all margins to 15 mm, with a paper size of A4, edit the CSS `@page` rule in the PDF Stylesheet, like this:

**CSS - PDF Stylesheet**

```
@page
{
size: 210mm 297mm;
margin: 15mm;
}
```

To set the margins independently, edit the `@page` rule as follows:

**CSS - PDF Stylesheet**

```
@page
{
margin-top: 2.54cm;
margin-bottom: 2.54cm;
margin-left: 1.27cm;
margin-right: 1.27cm;
}
```

To set margins to provide a gutter for binding a printed document, use the `:left` and `:right` pseudo-classes, as follows:

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**CSS - PDF Stylesheet**

```
@page :left
{
margin-left: 4cm;
margin-right: 3cm;
}
@page :right
{
margin-left: 3cm;
margin-right: 4cm;
}
@page :first
{
margin-top: 10cm /* Top margin on first page 10cm */
}
```

Note the use of the `:first` pseudo-class in the example above to define distinct margins for a cover or title page.

#### Page Breaks

By default, Confluence pages are exported without page breaks, so that shorter pages will appear on the same PDF page.

To make each Confluence page appear on a separate page in the PDF file, add the following rule in the PDF Stylesheet:

**CSS - PDF Stylesheet**

```
.pagetitle
{
page-break-before: always;
}
```

#### Title Page

You can add a title page to your PDF document by adding HTML to the Title Page section of the PDF Layout screen. The following example creates the title page and adds a title:

**HTML - PDF Layout: Title Page Section**

```
<div class="fsTitlePage">
 <img src="/download/attachments/590719/titlepage.png" />
<div class="fsTitle">Planning for Confluence 4.0</div>
</div>
```

Use CSS rules in the PDF Stylesheet to control the appearance of the title page and the title text:

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**CSS - PDF Stylesheet**

```
.fsTitlePage
{
margin-left: auto;
margin-top: 50mm;
margin-right: auto;
page-break-after:always
}

.fsTitle
{
font-size: 42px;
font-weight: bold;
margin: 72px 0 4px 0;
text-align:center;
}
```

Adding an Image to the Title Page

In the example above, the title page includes an image called 'titlepage.png', centred in the middle of the page. The "590719" in the `src` attribute is the ID number of the page to which the image is attached.

Follow these instructions to include an image on your title page:

1. Attach the image to a Confluence page.
2. View the list of attachments on that page, then right-click the image and copy its location.
3. Paste the link into the appropriate `src=""` attribute in your PDF Stylesheet, as shown above.
4. Edit the image URL so that it is relative, by removing the first part of the URL before `/download/...`.

#### Table of Contents

By default, a table of contents will be generated after the title page, or at the beginning of the PDF document if no title page is defined in the PDF Layout. To see the default CSS rules applied to the table of contents, download the default CSS rules (confluencedefaultpdf.css) and examine the specific rules with `toc` in their name.

To make changes to the appearance of the table of contents, define CSS rules in the PDF Stylesheet.

##### *Disabling the Table of Contents*

To prevent the table of contents from being generated in your PDF document, add the `div.toc` rule to the PDF Stylesheet and set its `display` property to none:

**CSS - PDF Stylesheet**

```
div.toc
{
display: none;
}
```

##### *Changing the Leader Character in the Table of Contents*

The leader character is used to link a heading in the table of contents with its page number. By default, the leader character is the '.' (dot) character. Leader values of `dotted`, `solid` and `space` are allowed. You can also use a string, for example `leader(". . . ")`.

To change the leader character to a solid line, modify the `leader()` value on the `content` property of the CSS rule as follows:

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**CSS - PDF Stylesheet**

```
span.toclead:before
{
content: leader(solid);
}
```

#### Headers and Footers

You can add headers and footers to your PDF pages using the 'Header' and 'Footer' sections of the PDF Layout screen. By default, headers and footers only apply to a space export and not to exports of single pages (however, see Advanced PDF Export Customisations). The following example adds a simple copyright notice.

**HTML - PDF Layout: Footer Section**

```
Copyright © 2013, Atlassian Pty Ltd.
```

#### Page Numbering

To add page numbering, you need to combine customised HTML in the PDF Layout with customised CSS in the PDF Stylesheet.

1. PDF Layout HTML: In the Footer section (or the Header section), use an empty span element with a unique ID, for example `pageNum`, to act as a place holder for the page number.

   **HTML - PDF Layout: Footer Section**

   ```
   <span id="pageNum"/>
   ```

2. PDF Stylesheet CSS: Create the following CSS selector rule for the empty span:

   **CSS - PDF Stylesheet**

   ```
   #pageNum:before
   {
   content: counter(page);
   }
   ```

Analysing the above CSS selector rule in more detail:

- The `#pageNum` rule selects the HTML 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.
- The `content` property tells the CSS processor that dynamic content (that is, an incrementing page number) is to be inserted at the span tag.

#### Wrapping Long Words

In order to break long words or words that are not separated by whitespace, add a selector to the PDF stylesheet containing the `word-wrap` property with a value of `break-word`:

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**CSS - PDF Stylesheet**

```
div
{
word-wrap: break-word;
}
```

#### General Formatting

You can 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 is to find a selector for the HTML element produced by Confluence or the Confluence macro. Then add a CSS rule to the PDF stylesheet. Your customisation will appear in the PDF export.

#### *Notes*

- **Demotion of heading elements: h1, h2, and so on.** Due to the hierarchical manner in which a space is exported, Confluence will modify the heading elements to generate a uniform appearance for the entire space export. This means that headings will be demoted. This will affect the application of custom PDF Stylesheets. It is possible to calculate the amount by which a heading will be demoted in order to have the correct CSS styling applied. A heading will be demoted by the value of its depth in the export tree. A page at the first level will be demoted by 1 (all <h1> elements will become <h2> elements, and so on). A page at the second level will be demoted by 2, and so on.
- **Atlassian support for PDF customisation is limited.** We support the mechanism for customising the PDF layout with HTML and CSS, and we will help if the mechanism is broken or does not work as we say it should in our published examples. But, since custom HTML and CSS offer potentially limitless possibilities, Atlassian will not support issues that are caused by or related to PDF customisations.

#### *Related Topics*

Advanced PDF Export Customisations

### Advanced PDF Export Customisations

This page provides information about 'advanced' PDF export customisations. These expand upon the regular customisations described in Customising Exports to PDF.

⚠ The information below is for advanced users. Customisations are not supported by Atlassian. Be aware that the advanced customisations described below require knowledge of certain parts of Confluence, and of CSS and HTML. This documentation is intended for advanced users. Some of the suggestions below are moderately complex, or irregular in nature. If you are having trouble understanding them we strongly suggest you ask an expert. We do not support any of the customisations described below. This means that the Atlassian support engineers will not be able to help you with these modifications.

**On this page:**


- Header and Footer
  - Adding Headers and Footers to Single Page Exports
  - Adding Images to Headers and Footers
- Incorporating Other Fonts
- Adding a Dynamic Title to the Title Page
- Hiding Text from the PDF Output (*Not applicable to Confluence OnDemand.*)
- Indexing
- Notes


**Related pages:**


- Customising Exports to PDF
- Confluence User's Guide


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#### Header and Footer

##### *Adding Headers and Footers to Single Page Exports*

By default, custom headers and footers set up in the PDF Layout screen (see Customising Exports to PDF), only apply to space exports and not to exports of single pages. However, it is possible to add CSS rules to your PDF Stylesheet that produce headers and footers in single page exports as well as space exports.

For custom headers, define `@top-left`, `@top-center` and `@top-right` rules within your `@page` rule. These rules apply respectively to content that appears on the left-hand side, centre and right-hand side of your page's header area.

For custom footers, define `@bottom-left`, `@bottom-center` and `@bottom-right` rules within your `@page` rule.

For example, the following rules add a document title at the centre of the header and a page number at the centre of the footer:

**CSS - PDF Stylesheet**

```
@page
{
    @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 */
}
```

Notes:

- The `font-family` and `font-size` properties ensure 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.
- 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 the header or footer, add HTML to the Header or Footer section of the PDF Layout screen.

The following example uses an HTML `img` element with `src` attribute to add an image to the left of the header. The `src` attribute refers to an image attached to a Confluence page. The image element is usually placed within a `div` element container.

**HTML - PDF Layout: Header Section**

```
<div style="margin-top:10mm">
  <img src="/download/attachments/12346/header-image.png"/>
</div>
```

In the example above, the header includes an image called 'header-image.png'. The "12346" in the `src` attribute is the ID number of the page to which the image is attached.

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Follow these instructions to include an image on your page:

1. Attach the image to a Confluence page.
2. View the list of attachments on that page, then right-click the image and copy its location.
3. Paste the link into the appropriate `src=""` attribute in your PDF Stylesheet, as shown above.
4. Edit the image URL so that it is relative, by removing the first part of the URL before `/download/...`.

Notes:

- This example uses an inline CSS property `margin-top` in the `style` attribute to force 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.
- 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 attach it to your Confluence page again. If you prefer to keep the image size and want to move the content lower instead, you can do so by configuring the `margin-top` properties in the `@page` CSS rule.
- 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 to your `style` attribute. For example, to align the header image to the right-hand side of the page, your `style` attribute would look similar to this: `style="margin-top:10mm ; text-align:right"`.

#### Incorporating Other Fonts

By default, Confluence provides Times New Roman, Helvetica or Courier fonts for use in PDF exports. You can use your own fonts for PDF exports by declaring them in a `@font-face` CSS rule in your PDF Stylesheet.

The following CSS rule example shows how to declare the Consolas font and apply it to some elements for your PDF export:

**CSS - PDF Stylesheet**

```
@font-face
{
  src: url(file:///usr/share/fonts/Consolas.ttf);
  -fs-pdf-font-embed: embed;
}

.code pre, .preformatted pre, tt, kbd, code, samp
{
  font-family: Consolas, monospace;
  font-size: 9pt;
}
```

The font path specified in the CSS must be the path to the font on the Confluence server.

#### Adding a Dynamic Title to the Title Page

When you export an arbitrary set of pages from Confluence, you may like to have a corresponding title added to the cover (or title) page automatically. This can be done (in a somewhat irregular way) by using the top level item from the default table of contents as the title. This method relies on having the exported pages structured as sub-pages of the top-level page. In other words, the pages to be exported should consist of a page (at the top-level) and all of its child pages. The result is that the title that appears on the cover page changes depending on the top-level page that is used for the export.

The CSS below moves, and styles, the top-level TOC item for use as the title on the cover page, and turns off the leader and page number normally associated with this item in the TOC.

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**CSS - PDF Stylesheet**

```
.fsTitlePage
{
position:relative;
left:0px;
}

/* Turn off the default section numbering for this TOC item */
.toclvl0:before
{
 content: " ";
 counter-reset: chapter 0;
}

/* Hide the default page numbering for this TOC item */
.toclvl0 .tocnum
{
display: none;
}

/* Move and style this TOC item */
.toclvl0
{
position:absolute;
top:250px;
font-size: 42px;
font-weight: bold;
margin: 72px 0 4px 0;
text-align:center;
}
```

#### Hiding Text from the PDF Output (*Not applicable to Confluence OnDemand.*)

This section describes a way to hide text from your PDF export. In other words, you can have text on the Confluence page that will not appear in the PDF export.

There are three steps:

1. Follow the instructions to define the NoPrint user macro. *Not applicable to Confluence OnDemand.*
2. Use the NoPrint macro to mark some text on a Confluence page.
3. Add the following CSS to your PDF stylesheet to make the PDF export recognise the NoPrint macro:

**CSS - PDF Stylesheet**

```
.noprint
{
display: none ;
}
```

#### Indexing

To obtain an index at the end of the exported PDF file, consider using the Scroll Wiki PDF Exporter plugin that is produced by K15t Software GmbH.

#### Notes

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If styling is not working as expected, it is useful to look at the intermediary HTML source to which the CSS is applied. This intermediary HTML is created whenever you create an HTML export that contains **multiple pages**, and is stored in the `temp` directory in Confluence's home directory. For example:

```
<confluence-home>/temp/htmlexport-20110308-154047-1/export-intermediate-154047-2.html
```

### Creating PDF in Another Language

To export a Confluence page written in a language other than English, you need to install the necessary font for that language. This means that you need to upload the font file to Confluence, as described below.

**Note:** If you are using *Confluence OnDemand*, please raise a support ticket at http://support.atlassian.com, asking Atlassian to perform this function for you. Confluence OnDemand users do not have access to this functionality. The Atlassian Support team will need to access this URL:

```
https://<account_name>.atlassian.net/wiki/admin/flyingpdf/configurepdflanguagesupport.action
```

#### *Uploading a Font File to Confluence*

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:

     ```
     /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 into a temporary folder, for example a folder on your desktop.
3. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**. then choose **PDF Export Language Support**.
4. Upload the file you copied in step 2.
5. Choose **Install**.

**Related pages:**

- Exporting Confluence Pages and Spaces to PDF
- Confluence Administrator's Guide

#### *Notes*

- The only font files supported are *true type fonts* and *true type collections*. The accepted file extensions are *.ttf and *.ttc.
- We recommend that you use Unicode font Verdana for correct character encoding and exporting to PDF.
- If the font file size is bigger than your current attachment size limit, you will not be able to upload it. Please increase the attachment size limit temporarily and re-upload again. An improvement of the error messaging is tracked at

  **CONF-24706** - Provide better error message when trying to upload a custom PDF font which is bigger than current attachment size limit ( **Open**)

  .
- To make use of an installed font in your PDF Export style sheet (CSS) refer to it by the font-family ConfluenceInstalledFont.

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## Exporting to a Word document

Confluence allows you to export a single page into a Word document. By default, this will create a Word document with the same name as the Confluence page. This is useful for emailing content to people who do not have access to Confluence.

Anyone who has permission to view the page will be able to export it to Word.

**To export a page to a Word document:**

Go to the page and choose **Tools** > **Export to Word.**

#### Useful plugins

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

This plugin provides extended functionality for exporting Confluence pages to Microsoft Word: Scroll Office.

**Related pages:**

- Importing a Word Document into Confluence
- Confluence User's Guide

## Exporting Confluence Pages and Spaces to XML

You can export part of, or the entire contents of, a Confluence space into a zipped archive of XML files and attachments. This is useful if you want to make a backup of the space, or import the space into another Confluence site, or use the data from the space in another application.

To export a space or pages to XML, you need the 'Export Space' permission. See Space Permissions.

**Notes:**

- See Restoring a Space for notes on restrictions when **importing** a space.
- If you are doing the export for backup purposes, consider another means of backup. See Production Backup Strategy

**To export pages or an entire space to XML:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Export**
   Note: This option will only be visible if you have the 'Export Space' permission.
3. Select **XML** then choose **Next**.
4. Decide whether you need to customise the export:
   - Select **Full Export** to produce an XML file containing all the pages in the space, including those that you do not have permission to view.
   - Select **Custom Export** if you want to export a subset of pages, or to exclude comments from the export.
5. Select **Include Comments** if you want to include comments made on the pages you are exporting.
6. Select the pages you want to export.
   - You have the option to **Select All** or **Deselect All** pages.
   - When you select a page, all its child pages will also be selected. Similarly, when you deselect a page all its child pages will also be deselected.
7. Choose **Export**. This will create a zipped archive of XML files and attachments.
8. When the export process has finished, download and save the zipped archive file as prompted.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**.
2. Choose **XML Export** from the left-hand panel.
3. Follow the steps above to export the space.

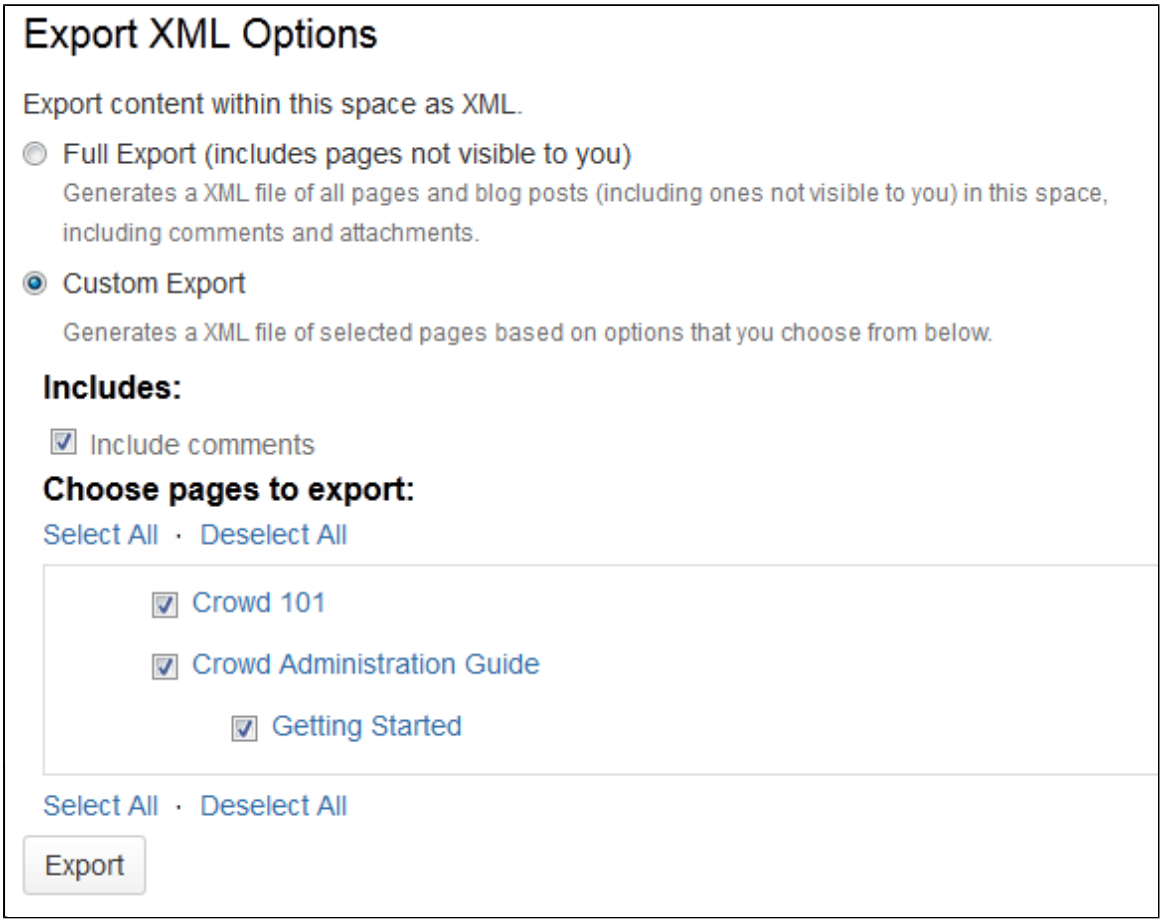
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**On this page:**

**Related pages:**

- Exporting Confluence Pages and Spaces to PDF
- Exporting Confluence Pages and Spaces to HTML
- Working with Spaces
- Confluence User's Guide
- Restoring a Space

*Screenshot: Exporting a space*




***Notes***

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.

# Managing Changes and Notifications and Tasks

Confluence provides several ways in which you can watch for changes to single pages, entire spaces, and all spaces on the site. You can also follow the updates made by specific people. You can only track updates to content that you have permission to see.

Personal tasks appear in the task-and-notification dialog, and you can assign team tasks via a task list on a page.

## Making yourself a watcher of pages or spaces

You can 'watch' a page, blog post or space that you have permission to view. Confluence will then send you an email notification whenever someone adds or updates content on, or adds a comment to, that page or space. See Watching Pages, Spaces and Blogs.

If you have space administrator permissions, you can manage watchers of pages and spaces.

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### Requesting other notifications

You can configure Confluence to send you various digest reports via email. See Subscribing to Email Notifications of Updates to Confluence Content.

**On this page:**


- Making yourself a watcher of pages or spaces
- Requesting other notifications
- Tracking updates by specific people
- Managing your notifications and tasks
- Using Confluence RSS feeds


**Related pages:**

- Page History and Page Comparison Views
- Viewing Space Activity
- Contributors Macro
- Confluence User's Guide

### Tracking updates by specific people

You can also follow the activity of people who interest you (see Network Overview) and receive a notification when someone follows you (see Subscribing to Email Notifications of Updates to Confluence Content).

### Managing your notifications and tasks

There are a few ways to manage notifications and tasks in Confluence:

- You can manage your email notification settings via the options in your user profile. See Subscribing to Email Notifications of Updates to Confluence Content.
- The Confluence workbox displays all notifications collected from Confluence page watches, shares and mentions. See Managing Notifications in Confluence.
- You can manage your personal tasks in the Confluence workbox, and also create a list of tasks on a page. See Managing Tasks in Confluence.

### Using Confluence RSS feeds

You can build RSS feeds to monitor content changes in Confluence.

- Create a customised RSS feed using the RSS Feed Builder.
- Subscribe to one of the pre-specified feeds generated by Confluence.

## Watching Pages, Spaces and Blogs

You can 'watch' a Confluence page, blog post or space. Confluence will then send you a notification by email whenever anyone updates the watched content.
You will receive email notifications for:

- Edits (unless the author clears the 'Notify watchers' check box).
- Deletions.
- Attachments, including new versions or deletions of an existing attachment.
- Comments, including new comments, edits of existing comments or deletions of existing comments.

By default, Confluence will assign you as a watcher of any page or blog post that you create or edit. This behaviour is called 'autowatch'. You can control autowatch.

There is no daily digest for email notifications. You will receive an email notification every time someone makes a change.

You will **not** receive email notifications for content changes due to the output of a macro, because the page content itself has not been edited.

You need 'View' permission for the page, blog post or space to receive notifications.

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**On this page:**


- Watching a page or blog post
- Watching an entire space
- Watching for new blog posts in a space
- Watching all spaces on the site
- Watching for all new blog posts on the site
- Managing watches from your user profile
- Managing watches from the email message
- Setting autowatch and other notification options


**Related pages:**

- Managing Watchers
- Subscribing to Email Notifications of Updates to Confluence Content
- Managing Changes and Notifications and Tasks
- Updating Email Address
- Confluence User's Guide

### Watching a page or blog post

To start watching a page or blog post:

1. Log in to Confluence, if you have not already done so.
2. Go to the page or blog post.
3. Choose **Watch** and select the relevant check box.

To stop watching the page or post, deselect the relevant check box.

### Watching an entire space

You can choose to watch all the pages and blog posts in a particular space.

The quickest way is to use the **Watch** option on a page or blog post, as described above.

To stop watching the space, deselect the relevant check box.

Alternatively, choose **Pages** in the space sidebar, then choose **Watch this space** at the top right.

If your space uses the Documentation theme, choose **Browse** > **Space Operations**. Then choose **Watch this space** in the left-hand menu.

### Watching for new blog posts in a space

You can choose to receive a notification whenever someone adds a blog post in the space. You will not receive notification of updates to or deletions of blog posts, nor of comments on the blog posts.

To watch for new posts:

1. Log in to Confluence, if you have not already done so.
2. Go to a blog post in the space.
3. Choose **Watch** and select **Watch all blog posts in this space**.

To stop watching for new blog posts, deselect the relevant check box.

Alternatively, choose **Blog** in the space sidebar, then choose **Watch this blog** at the top right.

If your space uses the Documentation theme, choose **Browse** > **Space Operations**. Then choose **Watch this blog** in the left-hand menu.

### Watching all spaces on the site

You can receive notifications about changes to the content of pages, blog posts and comments from all spaces on a Confluence site.

To start watching for content changes across the whole site:

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1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Choose **Email**.
3. Choose **Edit** then choose **Subscribe to daily updates**.
4. Choose **Submit**.

### Watching for all new blog posts on the site

You can choose to watch for all new blog posts in all spaces on the Confluence site. You will not receive notification of updates to or deletions of blog posts, nor of comments on the blog posts.

To start watching for all new blog posts:

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Choose **Email**.
3. Choose **Edit** then choose **Subscribe to all blog posts**.
4. Choose **Submit**.

### Managing watches from your user profile

The '**Watches**' page in your user profile displays a list of all pages and spaces you are currently watching.

**To manage your watches:**

1. Choose **your profile picture** at top right of the screen, then choose **Watches**.
2. Choose **Stop Watching** for any unwanted spaces or pages.

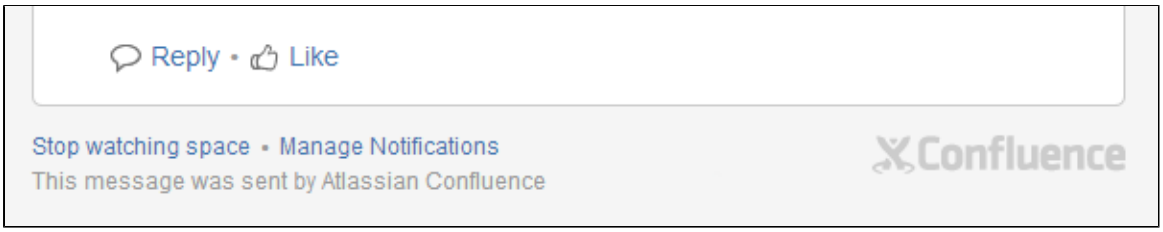
### Managing watches from the email message

The email notifications that you receive from Confluence have some useful links at the bottom of the email message. The links in each message vary, depending on the context. In general, the links allow you to view the page online, reply to a comment, and so on.

In particular with respect to setting your notification preferences, you will see one or more of the following links:

- **Stop watching page** – Click this link to stop watching the page that triggered the email notification.
- **Stop watching space** – Click this link to stop watching the space that triggered the email notification.
- **Stop following this user** – Click this link to stop following the user whose update triggered the email notification.
- **Manage Notifications** – Click this link to go to the email settings page in your user profile.

*Screenshot: Example email notification footer showing links*




### Setting autowatch and other notification options

By default, Confluence will assign you as a watcher of any page or blog post that you create or edit. This behaviour is called 'autowatch'. You can turn autowatch on or off, and set other notification options, in the email settings section of your user profile. See Setting User Settings.

## Managing Watchers

If you are a space administrator for a space, you can manage the watchers for all pages and blog posts in that space. This means that you can:

- View a list of the watchers of a page or blog post.
- View a list of the watchers of the space that contains the page or blog post.
- Add users as watchers of the page or blog post.
- Remove existing watchers of the page or blog post.

You cannot remove watchers of the space.

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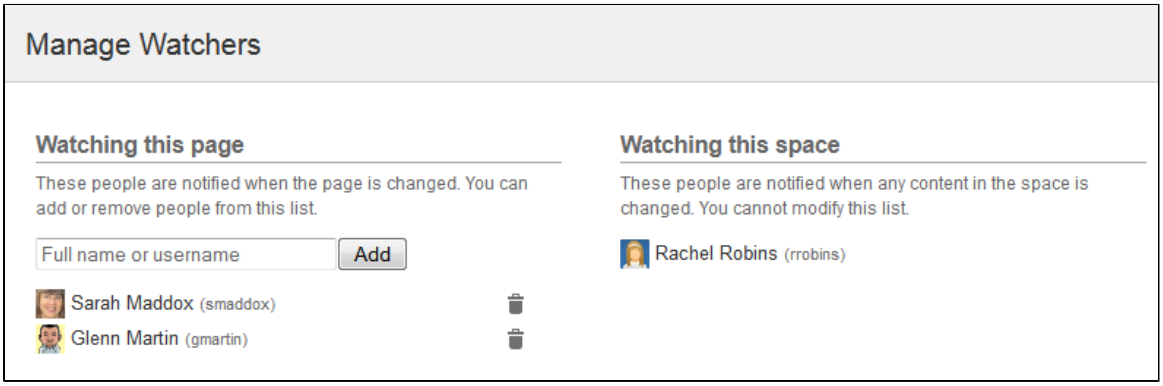
**Related pages:**

- Watching Pages, Spaces and Blogs
- Subscribing to Email Notifications of Updates to Confluence Content
- Managing Changes and Notifications and Tasks
- User Profile Overview
- Confluence User's Guide.

**To manage the watchers of a page or blog post:**

1. Go to the page or blog post for which you want to manage the watchers.
2. Choose **Watch** > **Manage Watchers**.
3. The 'Manage Watchers' screen will appear. The left-hand column shows the users watching the page or blog post. The right-hand column shows the users watching the space.
    - To remove an existing page watcher, choose the icon (trash can) next to the user's name.
    - To add a user as a watcher of the page, type their username and choose **Add**.

*Screenshot: Managing watchers*




## Subscribing to Email Notifications of Updates to Confluence Content

You can 'watch' a page, blog post or space. Confluence will then send you a notification by email whenever anyone adds or updates content on that page or space. You can also subscribe to daily email reports and other notifications of various updates, as described below.

You will only receive notifications for content that you have permission to view. Users that have been disabled by an administrator will not receive email notifications.

### Subscribing to email notifications

You can subscribe to the following email summary reports:

- A daily report of updates to all spaces that you have permission to view.
- An immediate report of all blog posts added or changed, in all spaces that you have permission to view.
- An immediate report of all updates made by the people you are following, in all spaces that you have permission to view.
- An immediate report when someone follows you.
- A daily or weekly report of recommended updates, in all spaces that you have permission to view.

**To edit your email notification settings:**

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Click **Email** in the left-hand panel.
3. Click **Edit**.

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**On this page:**


- Subscribing to email notifications
  - Autowatch
  - Subscribe to daily updates
  - Subscribe to all blog posts
  - Subscribe to network
  - Subscribe to new follower notifications
  - Notify on my actions
  - Show changed content
  - Subscribe to recommended updates
- Notes for administrators


**Related pages:**

- Managing Changes and Notifications and Tasks
- Subscribing to RSS Feeds within Confluence
- User Profile Overview
- Editing User Settings
- Confluence User's Guide

Below is an explanation of all the email settings is explained below.

| Setting | Description | Content | Frequency |
|---|---|---|---|
| **Autowatch** | **Option:** Do you want Confluence to automatically add you as a watcher on each page or blog post that you add or update? If you are a watcher of a page or a post, you will receive notification of future changes. | • Pages and blog posts that you create, edit or comment on. | (Not applicable) |
| **Subscribe to daily updates** | Receive email reports showing changes to content in all spaces that you have permission to view.<br><br>Note: *Daily email reports do not include information about attachments on a page or blog post that are added, edited or deleted.* | • Pages and blog posts that are added, edited or deleted.<br>• Comments on a page or blog post that are added, edited or deleted.<br>• Updates by users who have changed their personal profile. | Daily |
| **Subscribe to all blog posts** | Receive email notifications for changes to blogs in your Confluence installation that you have permission to view. | • Blog posts added, edited or deleted. | Immediately |

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| | | | |
|---|---|---|---|
| **Subscribe to network** | Receive email notifications for changes to content by all users that you are following, which you have permission to view. | • Pages being added, edited or deleted.<br>• Blog posts being added, edited or deleted.<br>• Comments being added, edited or deleted.<br>• Status updates by the user. | Immediately |
| **Subscribe to new follower notifications** | Receive an email message when anyone chooses to follow you. | | Immediately |
| **Notify on my actions** | **Option:** Do you want to receive email notifications for your own changes?<br><br>Note: If you have not subscribed to any email notifications and are not watching any pages/spaces, then selecting 'Notify on my actions' will not do anything. | • All pages and spaces that you are watching.<br>• This affects all subscriptions set. | (Not applicable) |
| **Show changed content** | **Option:** Do you want your notifications to include details of the changes made to the content?<br>• If you do not select this option, your notifications will include only the title of the page, and any comment the author made when updating the page.<br>• If you do select this option, your notifications will show the differences between the current and previous versions of the page. See Page History and Page Comparison Views. | • Edits to pages and blog posts. | (Not applicable) |

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| | | | |
|---|---|---|---|
| **Subscribe to recommended updates** | Receive an email message showing the top content that is relevant to you from spaces that you have permission to view.<br><br>How do you set the frequency of the mail message? A link in the email message allows you to choose daily or weekly notifications.<br><br>How do you enable and disable the notification? You can turn off the notification by clicking a link in the email message. You can also turn the notification on or off by setting the 'Subscribe to recommended updates' option in your user profile. | Confluence chooses the content to display, based on:<br><br>• Pages and blog posts that people have recently liked.<br>• Pages and blog posts that people have recently commented on.<br>• Pages and blog posts that have recently been created.<br><br>'Recent' means any activity that occurred since the last recommended updates message was sent to you.<br><br>The activities are listed in order of popularity, with the most popular at the top. Likes, comments and content creations are scored equally. Activity that involves people in your network ranks higher than activity not involving your network. Content in your favourite spaces also ranks higher than content in other spaces. The recommended updates summary does not include any content that you created yourself, and it gives a lower ranking to content that you have participated in, for example by adding a comment or updating the page.<br><br>If there is no activity to report, Confluence will not send the email message. | Daily (weekdays at 1pm) or weekly |

### Notes for administrators

- To enable Confluence to send email notifications, a System Administrator must configure an email server. See Configuring a Server for Outgoing Mail. *Link Not applicable to Confluence OnDemand.* In OnDemand, the email server is already configured for you.
- Confluence Administrators can set the default options for the recommended updates notification. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**. Click **Recommended Updates Email** in the left-hand panel. See Configuring the Recommended Updates Email Notification.

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# Subscribing to RSS Feeds within Confluence

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 is not 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 add-on 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 an RSS feed 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.

## Confluence RSS feeds

RSS feeds allow you to track updates to content within Confluence. You will need an RSS newsreader to read a feed.

You can create a customised RSS feed using the RSS Feed Builder 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. For example, you can filter your feed using a label, specify the number of items and days to include in your feed, and so on.
- Subscribe to pre-specified RSS feeds – Generate an RSS feed automatically in a minimal number of steps.
- Subscribe to a feed of any Confluence user's network – Track the activities of users the selected person is following.

**On this page:**


- Confluence RSS feeds
- RSS newsreaders
- Removing an RSS feed


**Related pages:**

- Managing Changes and Notifications and Tasks
- RSS Feed Macro
- Confluence User's Guide

## RSS newsreaders

The following are some popular RSS readers 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

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- 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&showC
ontent=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.

## Using pre-specified RSS feeds

This page tells you how to get hold of an RSS feed which Confluence has predefined for you.

**To subscribe to predefined RSS feeds for a particular space:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **RSS Feeds**.
3. Copy and paste the link for one of the feeds into your RSS newsreader:

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**
2. Choose **RSS Feeds** in the space operations options.
3. Copy and paste the link for one of the feeds into your RSS newsreader.

Feeds include:

- Pages
- Blog
- Mail
- Comments
- Attachments
- All content

**To subscribe to predefined RSS feeds for a particular page (where available):**

Note that the word 'page' here means a part of the Confluence user interface, rather than a page that contains Confluence content. For example, your Network view offers an RSS feed.

1. Go to the page.
2. Locate the following icon, which is available in the top-right corner of certain pages: 
3. Copy and paste the icon's link into your RSS newsreader.

**Related pages:**

- Using the RSS Feed Builder
- Managing Changes and Notifications and Tasks
- RSS Feed Macro
- Confluence User's Guide

### Notes

If you want to customise your Confluence RSS feed (for example, use a label to filter your feed), use the RSS

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Feed builder instead of the above instructions.

## Using the RSS Feed Builder

Using the RSS feed builder, you can create customised RSS feeds to subscribe to changes within Confluence.

Wondering what an RSS feed is? See more information about RSS Feeds.

### Building an RSS feed

Follow the steps below to build your feed, choosing the type of content and the time period you want to monitor.

**To create a customised RSS feed:**

1. Choose the help icon  at top right of the screen, then choose **Feed Builder**.
2. Select the content types you want in your feed.
   Check **Mail** if you want to know when the email archive is updated. (See the overview of mail archives in Confluence. *Not applicable to Confluence OnDemand.*)
3. Select one or more spaces from the list.
4. Click **Advanced Options** to set the following:

| Option | Description |
|---|---|
| **Feed Name** | The default name is based on the name of your Confluence installation. For example, 'Extranet RSS Feed'. |
| **With these labels** | Enter one or more labels separated by spaces or commas. Confluence returns all content (of the selected types) that matches one or more of the labels. See the hint below about using labels to customise your feeds. |
| **Exclude these spaces** | Exclude specific spaces from those already selected. |
| **Sorted by** | Sort content by either the date or creation or the date they were last updated. |
| **Limit to** | Specify the number of items returned in your feed. |
| **Within the last** | Specify how old items returned can be. |
| **Include content for pages** | Specify whether the entire page is displayed in the feed. |

5. Choose **Create RSS Feed**.
6. Drag or copy the link into your RSS reader.

**On this page:**

- Building an RSS feed
- Hints
- Notes

**Related pages:**

- Managing Changes and Notifications and Tasks
- Subscribing to RSS Feeds within Confluence
- Confluence User's Guide

### Hints

- **Separate feeds.** Try building separate feeds, one for pages only and one that includes comments as well. This allows you to monitor only pages if you are short of time, and to read the comments when you have more time.

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- **Labels to customise your feed.**

  You can use the RSS feed builder to track updates to labelled pages and comments on those pages. Here is an idea for customising your RSS feed by using your own personal label(s). This is useful if you want to track updates to specific pages or blog posts, and you do not want to deal with emails. You can use this method as an alternative to watching pages.
  - Build an RSS feed that returns pages, blog posts and comments labelled with a personal label, such as '**my:feed**'.
  - Each time you want to 'watch' a page, just label it with 'my:feed'.
  - All updates and comments will automatically come through your RSS feed.

#### Notes

- **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.

- **Feed authentication options:**Confluence can offer you the option of an anonymous feed or a feed that requires authentication.
  - An **anonymous** feed will show only the content that is visible to anonymous users. The feed URL does not contain the `&os_authType` parameter mentioned below. This feed is useful only if your Confluence site allows anonymous access. If a feed is anonymous, you only get anonymously-viewable content in the feed regardless of whether you are a Confluence user or not.
  - An **authenticated** feed requires you to log in to Confluence before you can retrieve the content. The feed URL contains the following parameter: `&os_authType=basic`.
  - The option to choose between an anonymous and an authenticated feed is currently not available on the feed builder screen. The feed builder offers only **authenticated** feeds. See CONF-21601 for details and a workaround.

## 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 status updates
- Updates to a user's profile

#### Subscribing to a user's network feed

**To subscribe to a user's network RSS feed:**

1. Locate the RSS 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.

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**On this page:**
- Subscribing to a user's network feed
- Customising your network RSS feed
- Notes

**Related pages:**
- Network Overview
- Subscribing to RSS Feeds within Confluence
- Confluence User's Guide

#### Customising your network RSS feed

Confluence does not provide a way of customising a network RSS feed via the user interface. 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. Example: http://confluence.atlassian.com/feeds/network.action?username=MYNAME&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. Ensure that each parameter is separated from the other by an ampersand (`&`).
   Example:
   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.

#### Notes

It is not possible to filter for more than one type of content by adding multiple values to the `contentType` parameter.

## Managing Notifications in Confluence

This page is about the notification-and-task dialog, known as the Confluence 'workbox', which drops down when you choose the  icon on the Confluence page header.

Do you want to manage your notification email messages instead? See Subscribing to Email Notifications of Updates to Confluence Content.

#### Managing your notifications in the Confluence workbox

The workbox displays all notifications collected from Confluence page watches, shares, mentions, and tasks. If your Confluence site is linked to a JIRA issue tracker, you will also see JIRA notifications in your workbox.

You can view your notifications and convert them to personal tasks. Use the inline actions to reply to comments, like a comment or page, or watch a page. Follow the links in a notification to open the relevant page or blog post. With JIRA integration, you can watch or unwatch issues, comment on issues, or follow the link to open the issue

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in JIRA.

The workbox displays your notifications and your personal tasks in separate tabs.

**To manage your notifications:**

1. Choose the workbox icon  in the Confluence page header.
   - A number may appear on the workbox icon, indicating the number of unread notifications waiting for your attention.
   - You can use the keyboard shortcut: Type **g** then **n**. (When in the Confluence editor, click outside the editor pane before pressing the keyboard shortcut keys.)
2. Choose the notifications icon: 
3. Choose a notification from the list, to see the notification details. Now you can do the following:
   - Choose a link or **Open** to open the related page, blog post, or comment. The page will open in a new tab in your browser.
   - Choose **Like** or **Unlike** to let people know that you like, or have stopped liking, a page, blog post, or comment.
   - Choose **Watch** or **Stop Watching** to receive notifications, or stop receiving notifications, about a page or blog post.
   - Choose **Reply** to respond to a comment inline, within the workbox.
   - Choose the 'add task' icon  to flag a notification as a task. The notification will remain in the notification list too.

**On this page:**

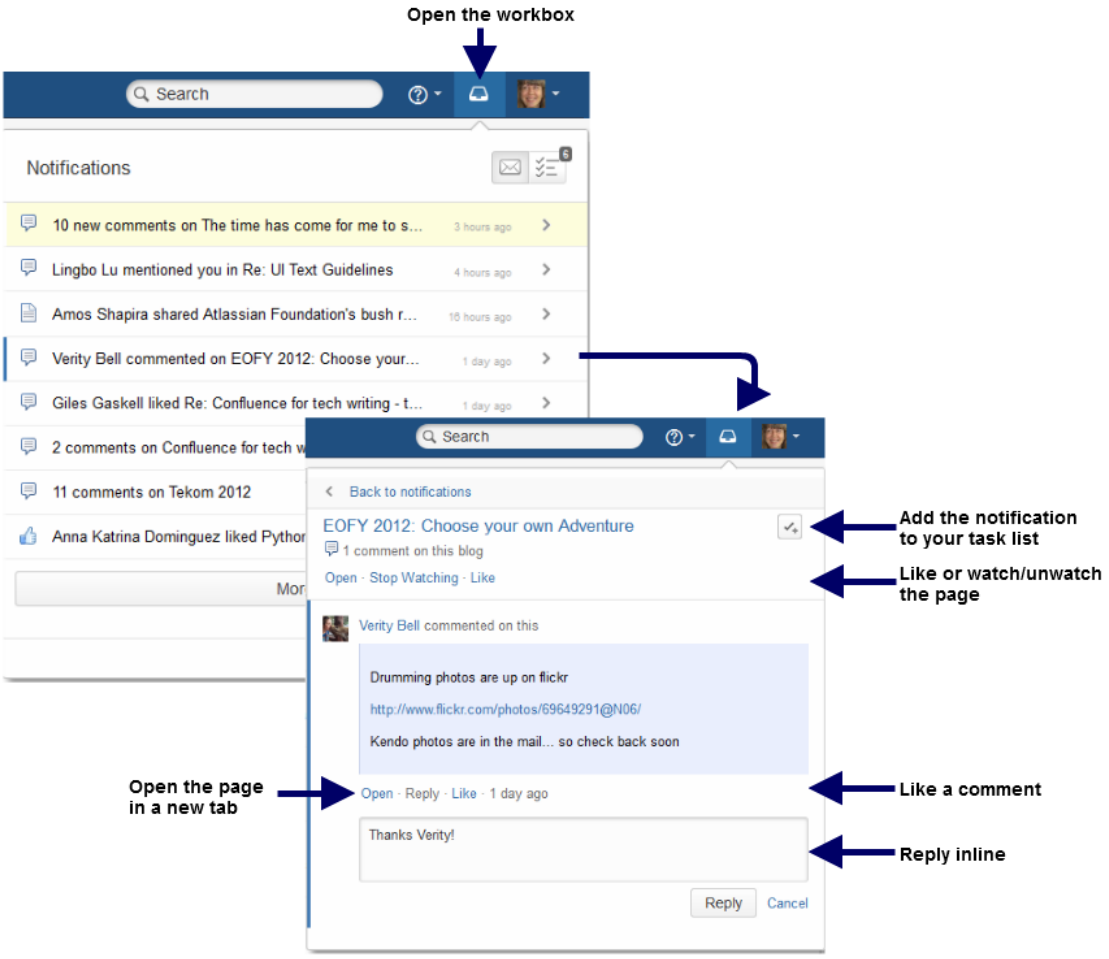

- Managing your notifications in the Confluence workbox
- Which notifications are included?
- Keyboard shortcuts
- Managing notifications with Confluence mobile
- Notes


**Related pages:**


- Configuring Workbox Notifications
- Subscribing to Email Notifications of Updates to Confluence Content
- Watching Pages, Spaces and Blogs
- Likes and Popular Content
- Managing Tasks in Confluence
- Confluence User's Guide


*Screenshot: Your Confluence notifications in the workbox*

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### Which notifications are included?

The workbox displays a notification when someone does one of the following in Confluence:

- Shares a page or blog post with you.
- Mentions you in a page, blog post or comment.
- Assigns you a task by mentioning you in a task list.
- Comments on a page or blog post that you are watching.
- Likes a page or blog post that you are watching.

The workbox does **not** show notifications triggered because you are watching a space. Only watches on pages and blog posts are relevant here.

The notification in your workbox appears as 'read' if you have already viewed the page or blog post.

If your Confluence site is linked to JIRA, you will also see the following JIRA notifications in your workbox:

- Comments on issues that you are watching.
- Mentions.
- Shares of issues, filters and searches.

### Keyboard shortcuts

| Key | Action |
|---|---|
| g then n | Open the Confluence workbox. |
| j | Move down to the next entry in the notification list. |
| k | Move up to the previous entry in the notification list. |

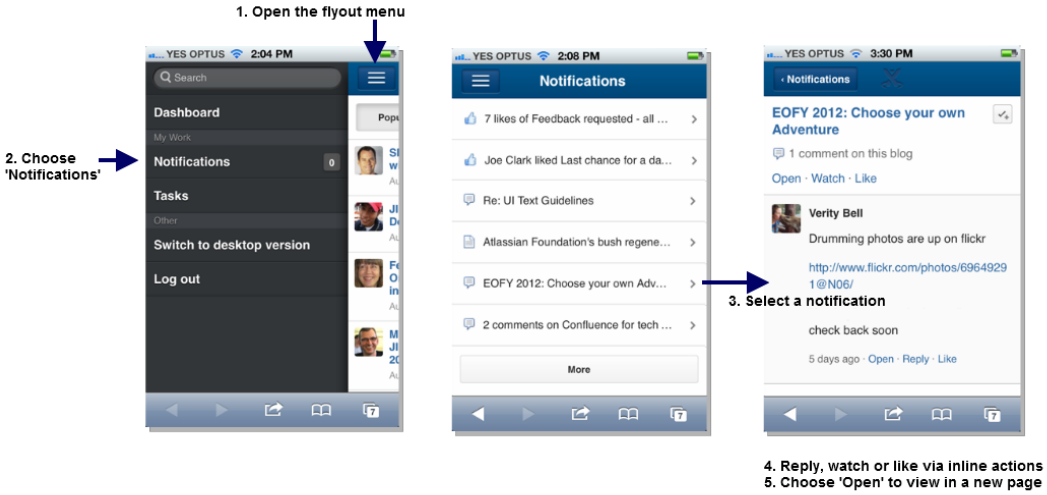
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| | |
|---|---|
| n | Move down to the next notification for a particular page or blog post. |
| p | Move up to the previous notification for a particular page or blog post. |
| Enter | Open the selected notification. |
| u | Return to the notification list after opening a particular notification. |

**Note:** The above keyboard shortcuts are available for notifications only, not for tasks, inside the Confluence workbox.

### Managing notifications with Confluence mobile

You can view and respond to your notifications on your phone or other mobile device too. See Using Confluence on a Mobile Device for more about mobile platforms.




### Notes

- Read notifications are automatically deleted after 2 weeks.
- Unread notifications are automaticallydeleted after 4 weeks.
- You cannot delete your notifications yourself.
- If a new notification arrives while you have workbox open, the count appears on the workbox icon but the notification is not added to the workbox. You need to close workbox and re-open it to see the new notification.
- The ability to receive notifications from JIRA or another Confluence site is available in **Confluence 4.3.3 and later.** To receive JIRA notifications, you need **JIRA 5.2 or later**.
- Administrators can enable and disable the workbox on your Confluence site. They can also connect a JIRA site or another Confluence site, so that notifications from those sites appear in your workbox too. See Configuring Workbox Notifications.
- The Confluence workbox is provided by a set of plugins. To remove the personal notifications and tasks functionality from your site, you can disable the following plugins. See Disabling or Enabling a Plugin for instructions. Disabling these plugins will disable the entire workbox . It is not possible to disable only tasks or only notifications:
  - Workbox - Common Plugin
  - Workbox - Host Plugin
  - Workbox - Confluence Provider Plugin
- If you want to re-enable the plugins, do so in the following order: Common Plugin, Host Plugin, Confluence Provider Plugin.
- There is no option to disable the workbox for an individual user.
- The workbox is not available in clustered environments. The plugin will be installed and enabled, but it will

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detect that the site is in clustered mode and will not display the dialog.

# Managing Tasks in Confluence

You can manage your personal tasks in the notification-and-task dialog, known as the Confluence 'workbox', which drops down when you choose the icon  in the Confluence page header.

You can also create a list of tasks on a page, and assign them to your colleagues via @mention. Changes made in the workbox are reflected in the task list on the page, and changes made on the page are reflected in the workbox too.

## Creating personal tasks and having tasks assigned to you

There are a few ways that you and other people can assign tasks to you:

- You can add a personal task via the workbox.
- You can add a notification to your task list, via the notification workbox. This is useful if you want to get back to it later.
- Someone can assign you a task from a task list on a Confluence page.
- Other Confluence actions may create a task for you. For example, your Confluence site may be running a plugin that creates and assigns tasks.

**On this page:**


- Creating personal tasks and having tasks assigned to you
- Managing your personal tasks in the workbox
- Adding your notifications to your task list
- Creating task lists and managing tasks on a page
- Managing tasks with Confluence mobile
- Notes


**Related pages:**

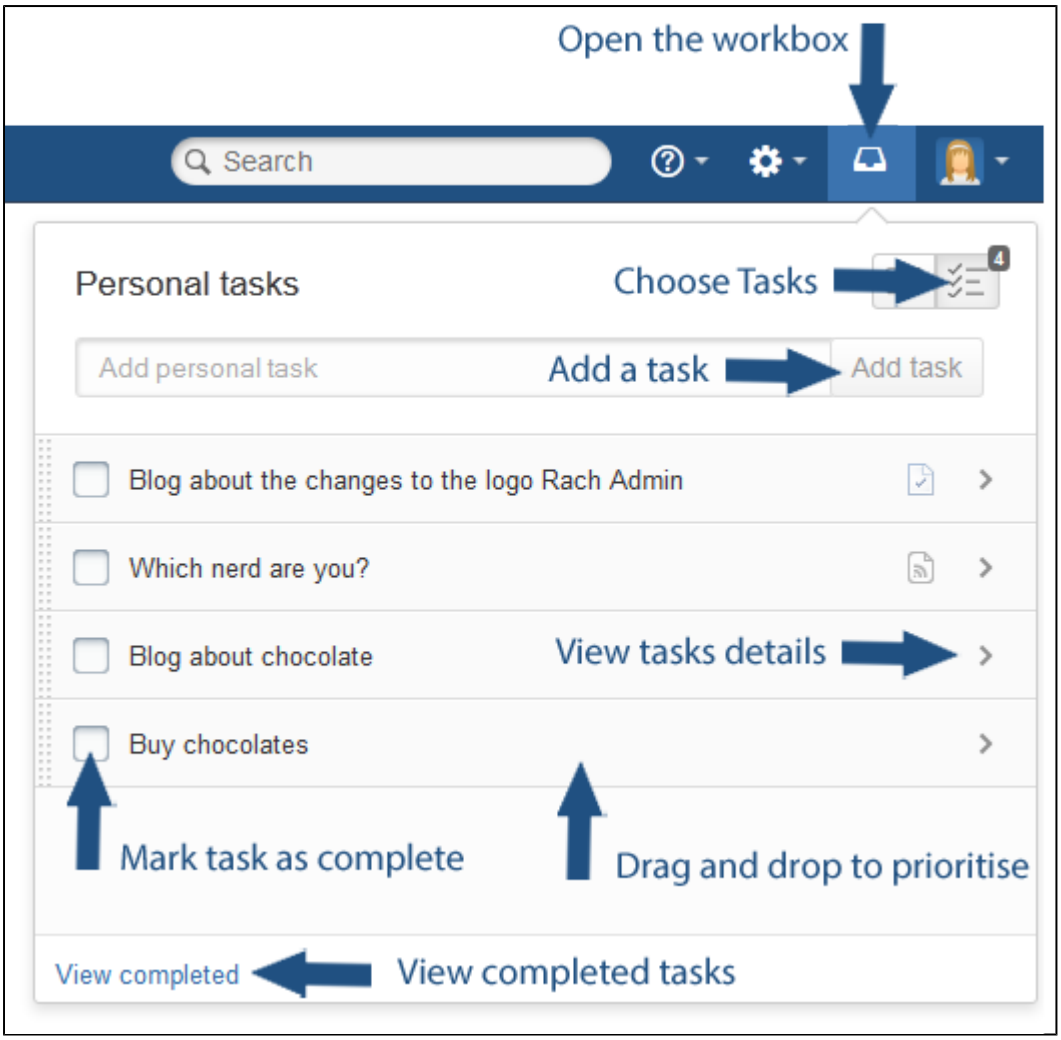
- Tasklist Macro
- Managing Notifications in Confluence
- Subscribing to Email Notifications of Updates to Confluence Content
- Confluence User's Guide

## Managing your personal tasks in the workbox

The workbox displays your notifications and your personal tasks in separate tabs. The task tab shows the tasks assigned to you. When you update a task that originated in a task list on a page, the update is reflected in the task list too.

*Screenshot: Your personal tasks in the workbox*

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**To manage your tasks:**

1. Choose the workbox icon in the Confluence page header.
    - You can use the keyboard shortcut: Type **g** then **n**. (When in the Confluence editor, click outside the editor pane before pressing the keyboard shortcut keys.)
    - The icon indicates the number of unread notifications.
2. Choose the personal tasks icon:
3. To add a task and assign it to yourself, type the task summary in the text box and choose **Add task**.
4. To prioritise tasks, drag and drop them into your chosen order. (Click a task, hold down your mouse button to drag the task into position, then release the mouse button.)
5. To complete a task, or mark it as incomplete, choose the check box next to the task.
6. To add notes to a task and see further information (for example, a related page) choose the task item. The task details dialog will open.
7. To see the tasks that are marked as complete, choose **View completed**.

### Adding your notifications to your task list

You can flag a notification as a task. This is useful if you want to take action on the notification later.

**To add a notification to your task list:**

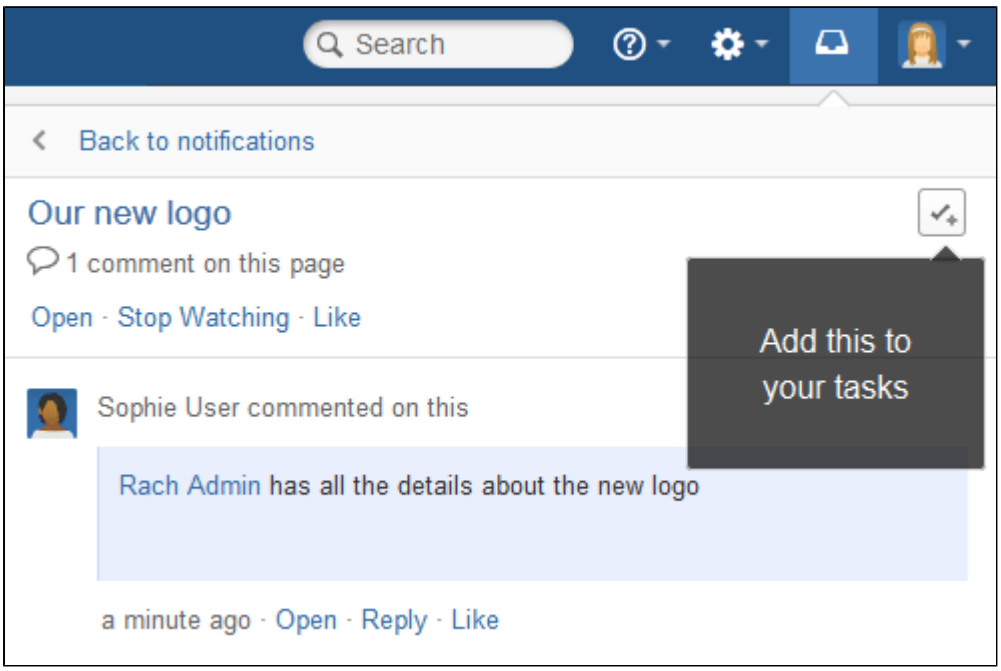
1. Choose the workbox icon in the Confluence page header.
    - You can use the keyboard shortcut: Type **g** then **n**. (When in the Confluence editor, click outside the editor pane before pressing the keyboard shortcut keys.)
    - The icon above shows that you have 3 unread notifications.

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2. Choose the notifications icon: 
3. Choose the notification that you want to add to your task list. The notification details dialog will open.
4. Choose the 'add task' icon  to add this notification to your tasks. The notification will remain in the notification list too.

See Managing Notifications in Confluence for a full description of notifications.

*Screenshot: The notification details dialog*




### Creating task lists and managing tasks on a page

Task lists on a page are useful for assigning and managing tasks in a team.

**To add a task list on a page:**

1. Edit the page.
2. Choose the task-list icon  in the editor toolbar, or press **[** and then **]** on your keyboard.
3. Type the description of the task.
4. If you want to assign a task to someone, type '@' and the person's name in the task description. (For more information about @mentions, see Using Mentions.) That person will receive a notification, and the task will appear in their personal task list in the workbox. If you @mention yourself, the task will appear in your personal task list.
5. To end the list, press Enter twice.

**Keyboard shortcuts:**

- To add a task list, press press **[** and then **]** on your keyboard.
- To indent a task, press Tab.
- To undo an indent, press Shift+Tab.

**Managing tasks on a page:**

- When viewing a page, you and other viewers can mark tasks as complete or incomplete. Updates to a task on the page will be transferred to the workbox too. (See above.)
- To be able to update a task list when in view mode, you need permission to edit the page:
  - You need the 'Create page' permission in the space. See Space Permissions Overview.
  - There must not be any page restrictions that prevent you from editing the page. See Page Restrictions.

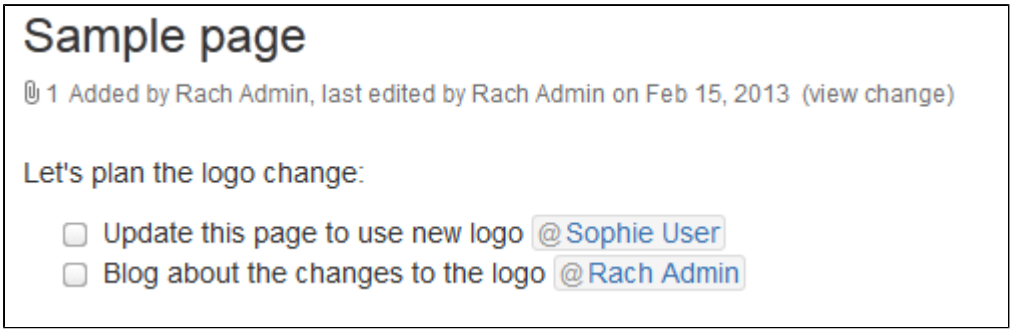
**What if the update fails?**

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This section describes what you should do if Confluence displays an error message saying that your change to a task list could not be saved. The cause is probably one of the following:

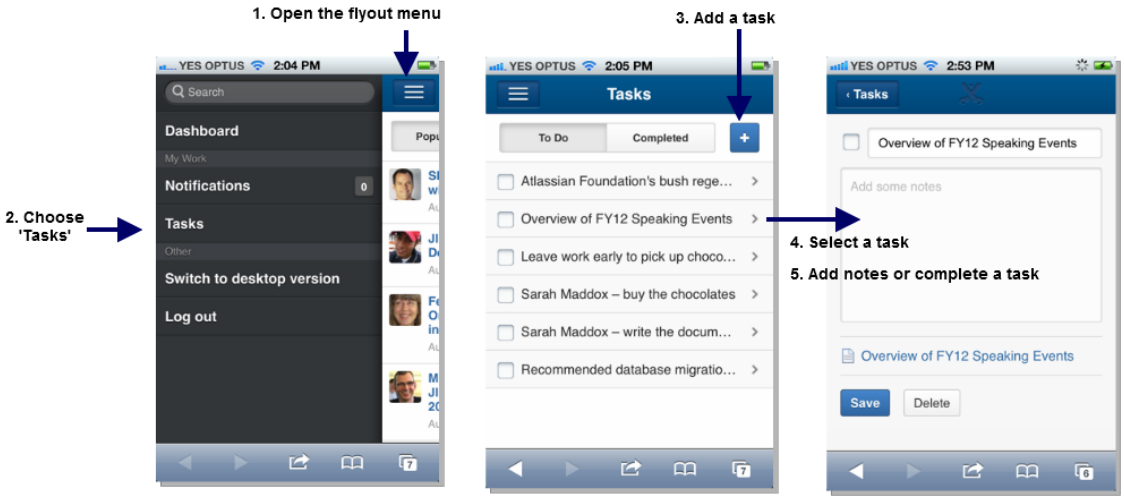
- Your session has expired. **Resolution:** Log in and update the task list again.
- You do not have permission to update the task list. **Resolution:** Check your permissions. You need 'Create page' permission in the space. Please check also that there are no page restrictions that prevent you from editing the page.
- The network is down. **Resolution:** Please try again when the network is available.

*Screenshot: A task list on a page*




### Managing tasks with Confluence mobile

You can view and manage your tasks on your phone or other mobile device too. See Using Confluence on a Mobile Device for more about mobile platforms.




### Notes

- Administrators can enable and disable the workbox on your Confluence site. They can also connect a JIRA site or another Confluence site, so that notifications from those sites appear in your workbox too. See Configuring Workbox Notifications.
- The Confluence workbox is provided by a set of plugins. To remove the personal notifications and tasks functionality from your site, you can disable the following plugins. See Disabling or Enabling a Plugin for instructions. Disabling these plugins will disable the entire workbox . It is not possible to disable only tasks or only notifications:
  - Workbox - Common Plugin
  - Workbox - Host Plugin
  - Workbox - Confluence Provider Plugin
- If you want to re-enable the plugins, do so in the following order: Common Plugin, Host Plugin, Confluence Provider Plugin.
- There is no option to disable the workbox for an individual user.
- The workbox is not available in clustered environments. The plugin will be installed and enabled, but it will detect that the site is in clustered mode and will not display the dialog.

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- Completed tasks in the workbox are automatically deleted after 7 days.
- You cannot disable the functionality that provides task lists on a page.
- There is no link between the tasks in a Tasklist Macro and the tasks described above. The tasks from the macro do not appear in the workbox.
- **Have a feature request?** If you are interested in expanding the functionality of tasks in Confluence, you can collaborate with other customers, vote and view all the open feature requests for this feature in the workbox component of the Confluence issue tracker.
  For example, here are some of the feature requests on the issue tracker:
  - Ability to get a list of tasks from content: CONF-26688
  - Ability to see other users tasks: CONF-26615

# Finding Content

Where does a page or blog post go when you create it, and how can you find it again? How can you find content that is most relevant to your team or project, or search for pages that cover the topic you are interested in?

**Hint for space administrators:** Help your team members and colleagues find important pages and other content, by adding links to the space's sidebar. See Configuring a Sidebar.

A space is an area within Confluence, containing your pages, blog posts and other content. You can think of each space as a sub-site, or mini-site, each with its own home page.

## Finding pages and blog posts

These are the quickest ways to find your content:

- Use the links in the **sidebar** to find your pages, blog posts, and other parts of the space. See more details below.
- Type the page name or key words into the **search box** at the top right of the Confluence screen. See Searching Confluence.
- Go to the **pages** view for a list of pages in the space. You can see recently updated pages or browse through a hierarchical (tree) view. See Viewing All Pages in a Space.

## More about the sidebar

The sidebar appears on the left of every page in spaces that use the default Confluence theme. You can:

- Choose a different type of content, or perform various operations, via the links on the sidebar.
- Use the contextual navigation options that appear at the bottom of the sidebar, based on the type of content you are viewing.
- Collapse or expand the sidebar.
- Access the sidebar options via slide-out menus even when the sidebar is collapsed.
- Configure the links that appear in the 'Shortcut links' section, if you are a space administrator.

**On this page:**

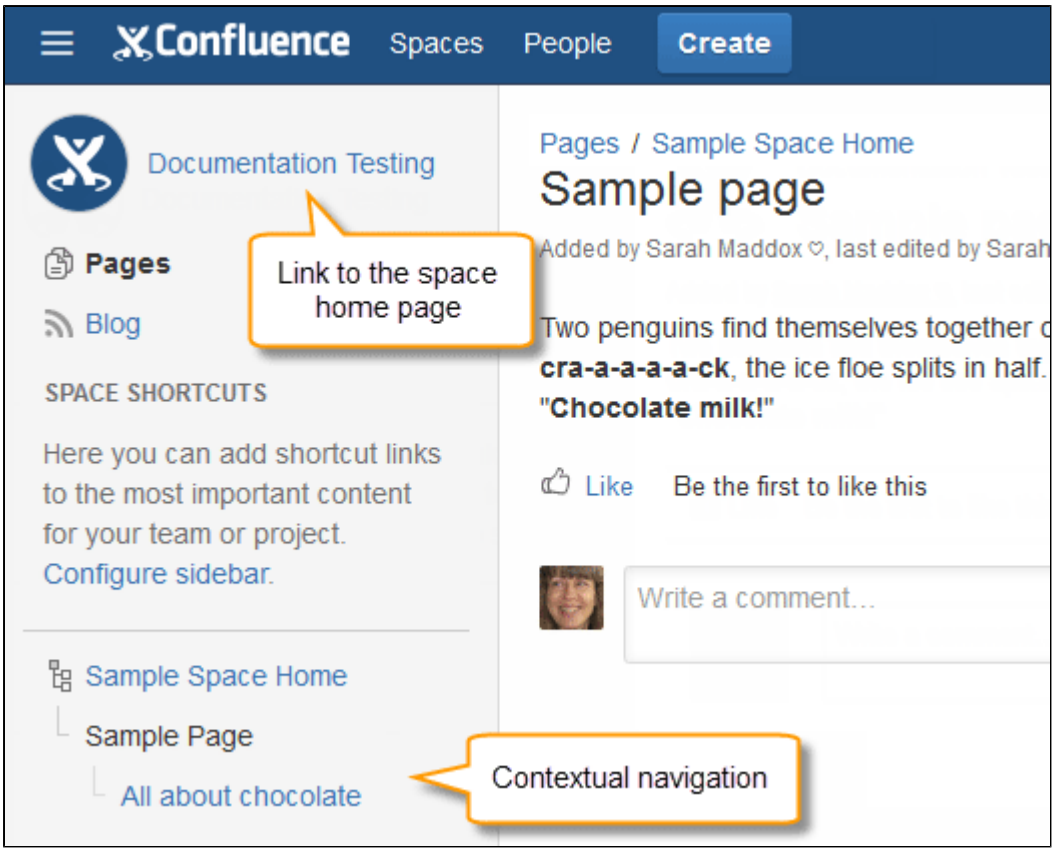

- Finding pages and blog posts
- More about the sidebar
- Collapsing the sidebar
- Where does Confluence put your pages and blog posts?
- Can you change the location of a page?
- Can you change the location of a blog post?


**Related pages:**

- Creating Content
- Organising Content
- Giving People Access to Content
- Using the Documentation Theme
- Confluence User's Guide

*Screenshot: Sidebar in the default theme*

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| Section or option | Explanation |
|---|---|
| **Link to the space home page** | This link appears next to the space logo at the top of the sidebar. It takes you to the home page for this space. Clicking on the space logo will also take you to the home page for the space. |
| **Pages and Blog** | This section can contain the links to the following locations:<br>• **Pages**: An index of all pages in the space. See Viewing All Pages in a Space. Note that space administrators can hide the 'Pages' link.<br>• **Blog**: An index of all blog posts in the space. See Working with Blog Posts. Note that space administrators can hide the 'Blog' link.<br>• Other links added by add-ons. |
| **Space shortcuts** | This area contains links to important pages and other locations for your project or team. Space administrators can add and remove links here. See Configuring a Sidebar. |
| **Space Tools** | The 'Advanced' option gives access to space administration and advanced operations like space exports and space watches. |
| **Configure sidebar** | The 'Configure sidebar' option is available to space administrators for setting up shortcut links, changing the space name and logo, and other configuration options. See Configuring a Sidebar. |

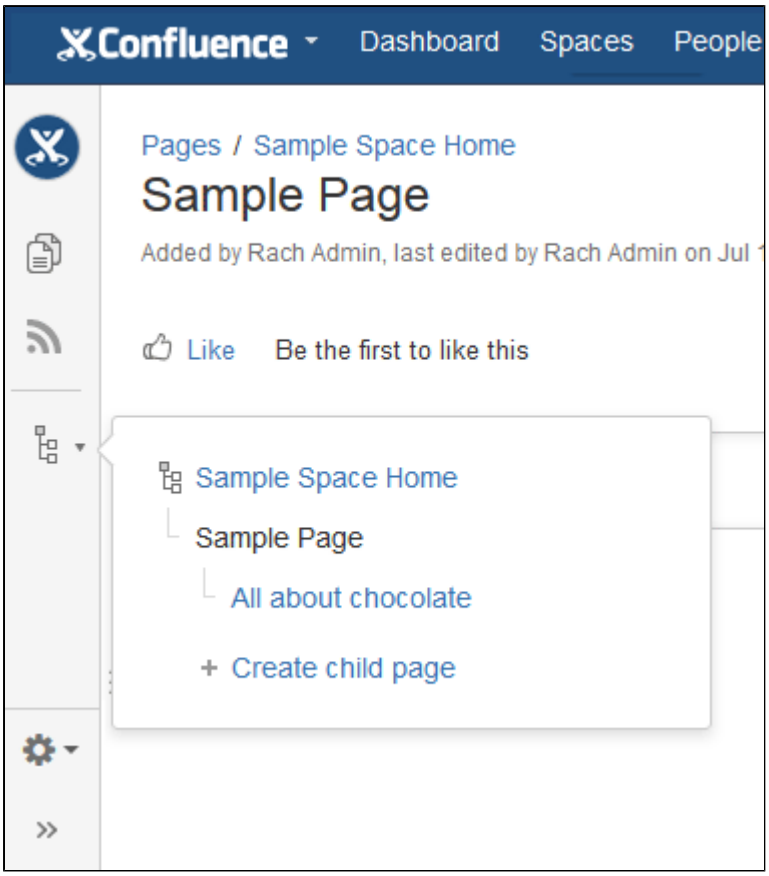
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| | |
|---|---|
| **Contextual navigation** | The links in this area change, depending on the section of the space that you are viewing.<br>• For pages, you will see the child pages (if any) of the current page, and a quick link to create a child page.<br>• For blogs, you will see links to blog posts in the current month, and an expandable list of previous months.<br>• If you are viewing the space tools option, you will see content toots, space administration, and other advanced options. Add-ons can add options here too. |

## Collapsing the sidebar

Advanced users will find it useful to collapse the sidebar and gain more space on the page.

- Grab and drag the border, choose the >> button or use the keyboard shortcut **[** to collapse and expand the sidebar.
- Access the sidebar options via slide-out menus even when the sidebar is collapsed.




## Where does Confluence put your pages and blog posts?

When you create a new page, that page will be a child of another page, in the space that you selected in the 'Create' dialog. The parent page depends on where you are when you create the page.

| Your location when creating the page | Location of new page |
|---|---|
| You are viewing a page in the same space where you will put the new page – that is, the space that you select in the 'Create' dialog. | A child of the page you are currently viewing. |

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| | |
|---|---|
| You are viewing any other Confluence screen. For example:<br>• You are on the dashboard.<br>• You are on the 'Pages' view of a space.<br>• You are viewing a blog post.<br>• You are viewing a page in a space, and choose to add your new page in a different space. | A child of the home page in the space you select in the 'Create' dialog. |

A blog post is part of a chronological sequence of posts, linked from the space's 'Blog' index page.

### Can you change the location of a page?

Yes. See Moving a Page.

### Can you change the location of a blog post?

No.

## Searching Confluence

Quick guide to searching in Confluence:

1. Use the search box at the top right of your Confluence screen. It offers you a quick navigation aid as well as a full site search.
2. You can search for administrative actions via the quick navigation aid too.
3. You can search Confluence directly from your browser's search box. Just add your Confluence site as a search provider using the dropdown menu in your browser's search box.
4. While editing a page or a blog post, you can find and replace text on the page. See Using the Editor.

#### Using the quick navigation aid to find content and administrative actions

When you enter text into the Confluence search box, the quick navigation aid automatically offers a dropdown list of pages, administrative options, and other items. The items are matched by page name to your search query. You can choose one of the offered items or ignore them altogether.

**To use the quick navigation aid to find content:**

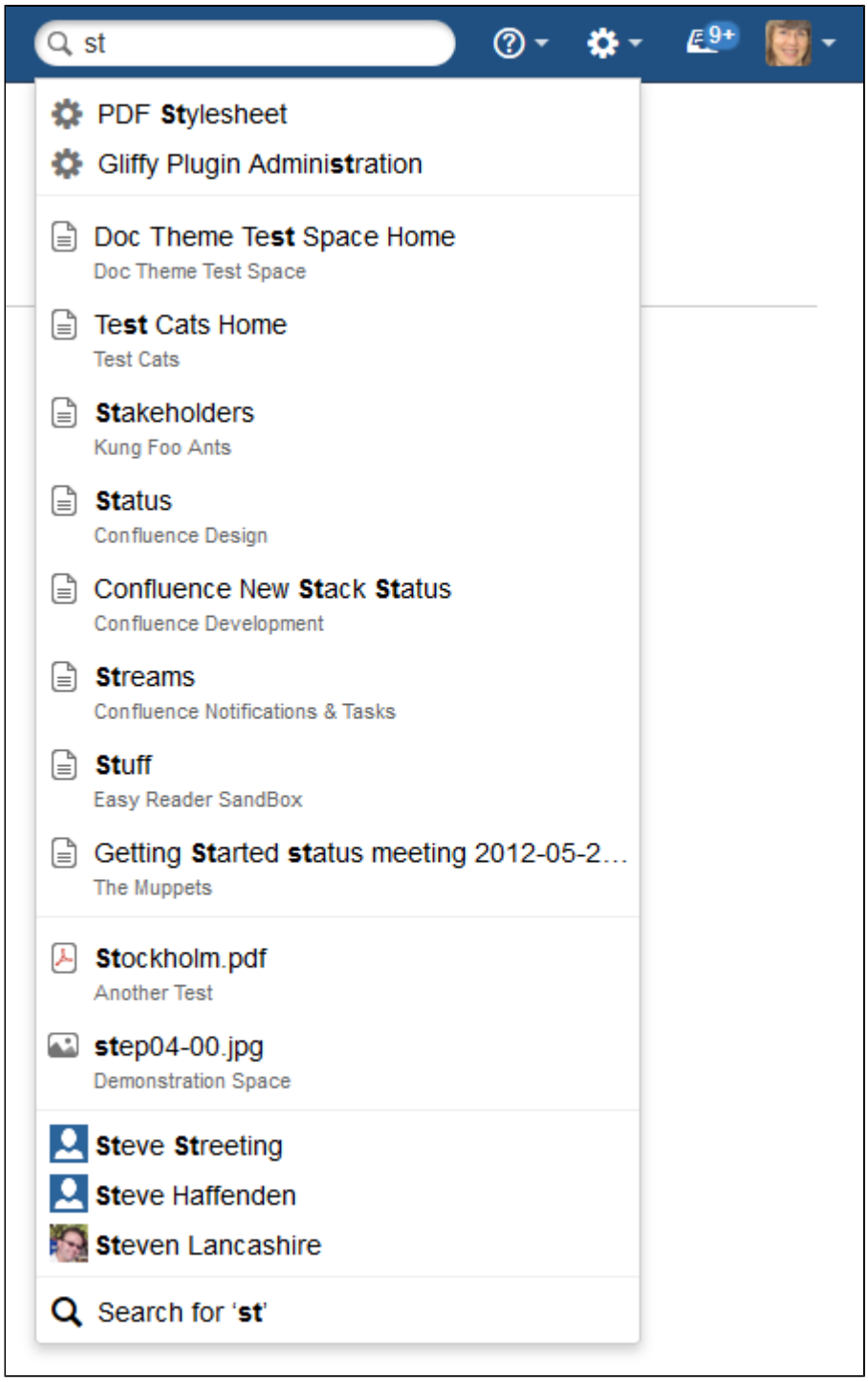
1. Start typing your query into the search box located at the top right-hand corner of every screen. Confluence matches titles as you type, showing a quickly-adjusting dropdown list of pages, blog posts, personal profiles, attachments and so on.
   Press the Enter key if you want to bypass the quick navigation aid and perform a full search, as described below.
2. To see the space to which an item belongs, let your mouse pointer hover over the item in the dropdown list.
3. Use the up- and down-arrows on your keyboard to move up and down the list of matching titles and select an item.
4. Press the Enter key to open the selected item.
5. If you do not find what you are looking for, click **Search for** at the bottom of the list 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.

**To use the quick navigation aid to get to administration functions:** Start typing what you want to do into the Confluence search box. The matching administrative functions will appear with a cog icon at the top of the dropdown search results.

**Even faster via 'GG':** Press 'G' twice on your keyboard then continue typing the search term.

*Screenshot: The quick navigation aid showing titles matching the query 'st'*

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Here is more information about how the quick navigation feature works:

- Confluence will truncate any titles that are too long to be displayed.
- The matching items are grouped by type so that you can quickly find the type you want. Confluence shows a maximum of 3 administrative items, 6 pages and/or blog posts, 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 using the Confluence Administration Console.

Notes about finding administrative options via the search box:

- Pressing 'GG' puts your cursor into the search box.
- The 'GG' combination is familiar to JIRA users, because the same shortcut opens the JIRA administration search dialog.
- System administration, Confluence administration and space administration options may appear in the

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search results.
- Confluence permissions determine the administrative options that appear in the search results. You will only see the options that you have permission to perform.

**On this page:**


- Using the quick navigation aid to find content and administrative actions
- Performing a full search
- Filtering your search results
- Searching for labels
- Searching the content of attachments
- Search options when using the Documentation theme
- Advanced search syntax
- Searching Confluence from your browser's search box
- Useful plugins
- Notes


**Related pages:**

- Confluence Search Syntax
- Confluence Search Fields
- Search Results Macro
- Livesearch Macro
- Page Tree Macro (includes an optional search box)
- Viewing Labels and Labelled Content
- Searching the People Directory
- Confluence User's Guide

## Performing a full search

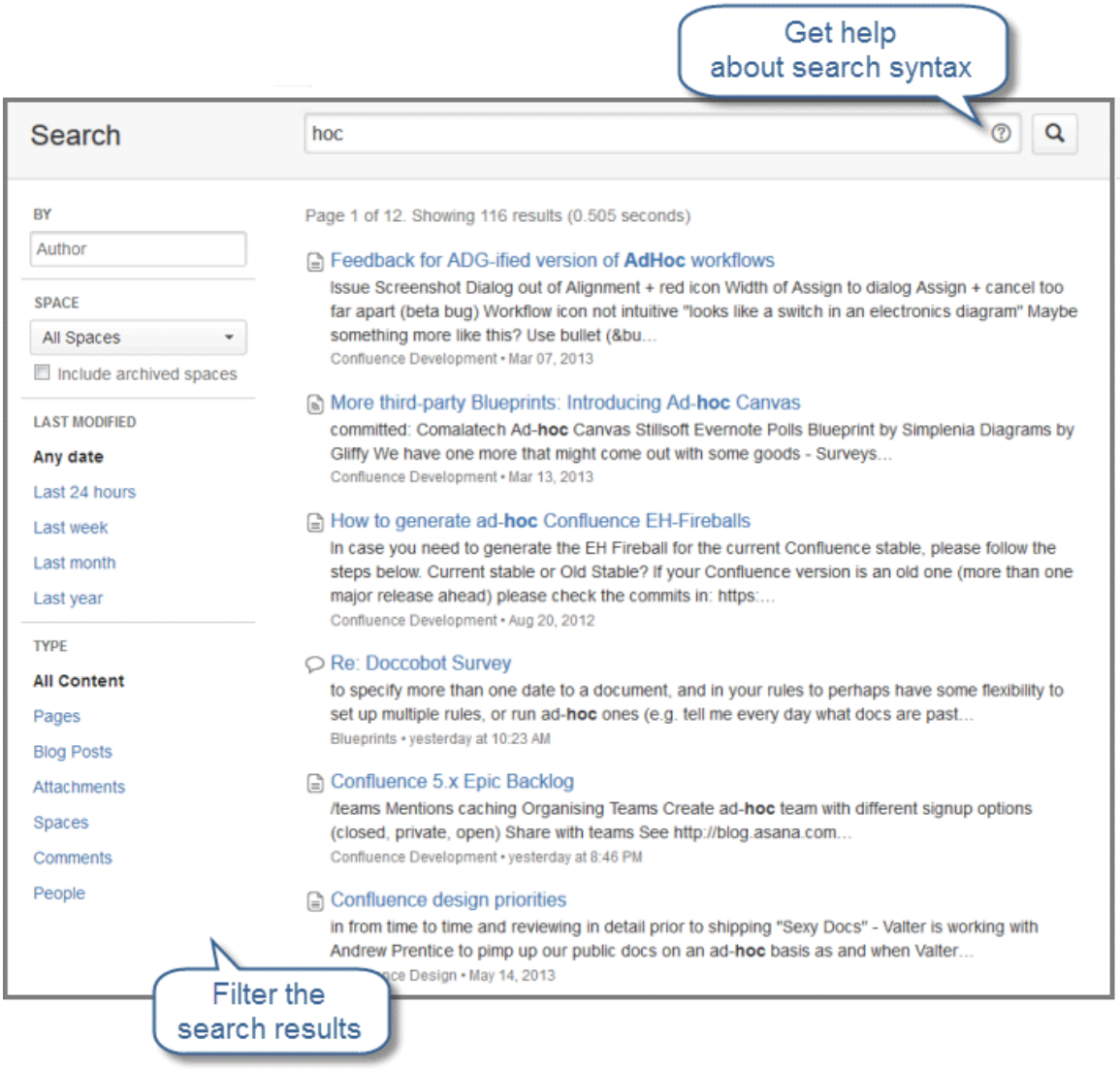
When you perform a full search, Confluence will search all content in all spaces (site and personal), mail, personal profiles, attachments and the space description. The results will appear on a new screen.

**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.

*Screenshot: Search results page*

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On the right 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, blog post, etc).
- The title or name of the content item, linked to the item.
- The most relevant few lines of content from within the item. Any words that match your search query are highlighted within the content.
- 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 left of the screen are further options which allow you to tailor or filter your search results. See below.

### 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 left of the screen are options which allow you to tailor (filter) the search results.

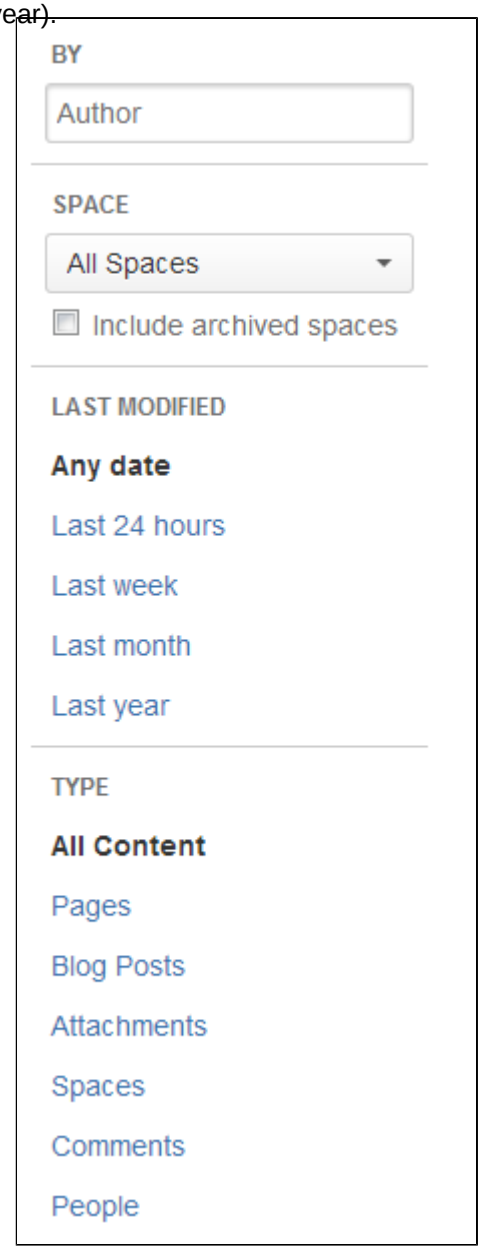
Define your filter criteria**:**

- **Type** – Restrict your search results to a particular content type (pages, blog posts, comments, etc).
- **Last modified** – Restrict your search results to content updated within a particular period of time (within

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the previous 24 hours, within a week, within a month, or within a year).

- **Space** – Restrict your search results to a particular space, or to your favourite spaces, site spaces or personal spaces. You can also set an option to include archived spaces. (See Archiving a Space.)
- **By –** Restrict your search results to content last modified by a particular person. You can start typing the person's username or part of their name into the text box as follows:
  - Type the username (for example: 'jsmith').
  - Or start typing the person's first name (for example: 'john')
  - Or their last name (for example: '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.




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.

### Searching for labels

Use the '`labelText:`' prefix to search specifically for content that has a specific label. The table below gives examples of search terms that you can enter into Confluence's search box, and the search results that you can expect.

| Searching for ... | Returns content that ... |
|---|---|
| `recipe labelText:chocolate` | contains the word '`recipe`' or has the label '`chocolate`' |
| `recipe AND labelText:chocolate` | contains the word '`recipe`' and has the label '`chocolate`' |
| `labelText:cake labelText:chocolate` | has the label '`cake`' or the label '`chocolate`' |
| `labelText:cake AND labelText:chocolate` | has both labels '`cake`' and '`chocolate`' |

The '`labelText:`' prefix is an example of a search field. See more about Confluence Search Fields.

### Searching the content of attachments

When you search Confluence, by default the search will include the content of the following types of attachments:

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- 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. See this search on Atlassian Marketplace.
- Guidelines on developing your own attachment content extractor plugin. See our developer documentation on extractor plugins.

### Search options when using the Documentation theme

When using the Documentation theme, the Confluence search offers a few options as described below.

Using the search box at the top right of the page:

- By default, the main Confluence search is configured to search the entire Confluence site.
  - You will see the words '**Search Confluence**' in the search box at top right of the page.
  - The Confluence search will look for matches in the entire Confluence site. This is the default behaviour for other themes too.
- A space administrator can configure the Documentation theme to restrict the search to the current space.
  - You will see the words '**Search this space**' in the search box at top right of the page.
  - The search will return results from the current space only.
  - You can override the search restriction. Enter '**all:**' and your search term to search the entire site. For example, enter the following into the search box at top right of the page to search the entire site for 'technical writing':

```
all: technical writing
```

Using the search box in the left-hand panel:

- By default, the Documentation theme's left-hand panel includes a search box. Enter your search term there, to restrict the search to the current space. Specifically, this will search only the pages that are children of the space's home page.
- If your administrator has restricted the main search to the current space, there will not be a search box in the left-hand panel.

For screenshots and a full description, see Using the Documentation Theme.

### 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.

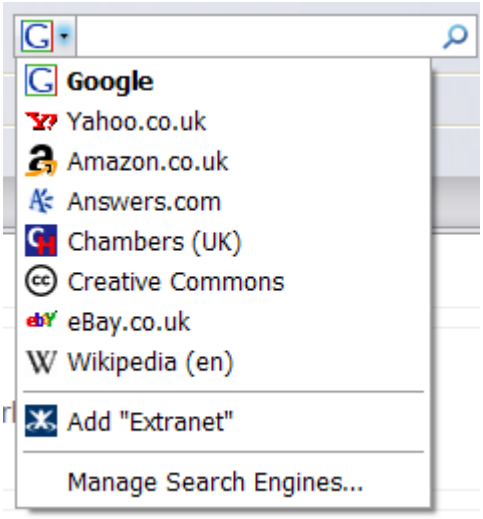
### Searching Confluence from your browser's search box

If you are using Firefox or Internet Explorer 7 or later, you can add add your Confluence site as a search provider, using the dropdown menu next to the browser's search box.

The example below shows the 'Extranet' Confluence site offered for inclusion as a search engine in the browser's search box.

*Screenshot: Adding your Confluence site to your browser's search box*

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Information about 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 using the Confluence Administration Console.

### Useful plugins

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

This plugin extends the Confluence search, so that you can search for macro parameter names and values: the Confluence Macro Indexer plugin.

### Notes

**For developers:** The rendering of search results in Confluence is pluggable. If you are a developer, you may wish to write your own search result renderer to change how the search results are displayed. For more information, please refer to the following developer document: Writing a search result renderer.

## Confluence Search Syntax

This page describes the special words and punctuation marks you can use to refine your search.

### Matched phrase search

Use double quotes to search for content that contains the phrase 'cheese one', or a phrase where 'cheese' and 'one' are the major words:

```
"cheese one"
```

**Note:** Confluence will ignore common words (stop words), including 'and', 'the', 'or', and more, even if they are included within double quotes. See the default list of stop words used by Confluence's search engine, Lucene, in the Lucene documentation.

For example:

1. Searching for "cheese one" returns only pages in which 'one' appears as the first word (other than stop words) after 'cheese'. So it will return 'cheese for one' or 'cheese to one' or 'cheese one'. It does not return 'one cheese' or 'cheese flamingo one'.
2. Searching for "the one" returns all pages containing 'one' because 'the' is a stop word.

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If you would like to override Lucene's tokenisation and stemming, please cast your vote on this improvement request: CONF-14910.

#### OR search

To search for content that contains one of the terms, 'chalk' or 'cheese', use the operator OR in capital letters:

```
chalk OR cheese
```

**On this page:**

- Matched phrase search
- OR search
- AND search
- NOT search
- Excluded term search
- Grouping search
- Title search
- Wildcard searches
- Proximity searches
- Range search
- Fuzzy search
- Combined search
- Searching for macros
- Searching for labels

**Related pages:**

- Searching Confluence
- Confluence Search Fields
- Confluence User's Guide

#### AND search

To search for content that contains both the terms 'chalk' and 'cheese', use the operator AND in capital letters:

```
chalk AND cheese
```

#### NOT search

To search for content that contains 'chalk' but NOT 'cheese', use the operator NOT in capital letters:

```
chalk NOT cheese
```

#### Excluded term 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 brackets to group the search terms:

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```
(cheese OR butter) AND chalk
```

#### Title search

To search for content with 'chalk' in its title, where *title* is the field keyword.

```
title:chalk
```

#### Wildcard searches

##### *Single character*

To search for 'butter' or 'batter' you can use a question mark as a wildcard:

```
b?tter
```

To search for 'chicken' or 'chickpea' you can use an asterisk as a wildcard:

```
chick*
```



Leading wildcards is an experimental feature currently only available in our OnDemand offering.

You can use wildcards anywhere within a word, even at the very beginning:

```
*chick
```

##### *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' but not 'chickpea':

```
c*c?
```

##### *Case sensitivity in wildcard searches*

Confluence is case sensitive for wildcard searches.

Note: All the example searches given above will 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.

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#### Proximity searches

Use a tilde character followed by a number, to find two words within a certain number of words of each other.

For example, the following search will return 'Octagon blog post':

```
"octagon post"~1
```

The following search is not valid:

```
"octagon post"~0
```

#### Range search

Use the operator 'TO', in capital letters, to search for names that fall alphabetically within a specified range:

```
[adam TO ben]
```

Note: You cannot use the AND keyword inside this statement.

#### Fuzzy search

Use a tilde character to find words spelled similarly.

To search for octagon, if unsure about spelling:

```
octogan~
```

#### Combined search

You can also combine various search terms together:

```
o?tag* AND past~ AND ("blog" AND "post")
```

#### Searching for macros

You can search Confluence content for anywhere a macro is used. To do this, just add `macroName:` to your search and append the macro name after the column. For example, search for all excerpt-include macros:

```
macroName:excerpt-include*
```

For more information about `macroName` and other search fields, see Confluence Search Fields.

#### Searching for labels

Use the '`labelText:`' prefix to search specifically for content that has a specific label. The table below gives examples of search terms that you can enter into Confluence's search box, and the search results that you can expect.

| Searching for ... | Returns content that ... |
|---|---|
| `recipe labelText:chocolate` | contains the word '`recipe`' or has the label '`chocolate`' |

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| | |
|---|---|
| `recipe AND labelText:chocolate` | contains the word '`recipe`' and has the label '`chocolate`' |
| `labelText:cake labelText:chocolate` | has the label '`cake`' or the label '`chocolate`' |
| `labelText:cake AND labelText:chocolate` | has both labels '`cake`' and '`chocolate`' |

The '`labelText:`' prefix is an example of a search field. See more about Confluence Search Fields.

## Confluence Search Fields

This page gives an overview of the Apache Lucene search fields used in Confluence.

### 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.

Preliminary 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
```

**On this page:**


- Searching for content in specific fields
- Confluence search fields
  - Personal Information
  - Pages
  - Blog
  - Attachments
  - Mail items
- More examples
  - Searching for labels
- Useful plugins


**Related pages:**

- Searching Confluence
- Confluence Search Syntax
- Confluence User's Guide

### Confluence search fields

Below are the fields which can be searched, listed by content type.

#### Personal Information

| Name | Indexed | Stored | Tokenised | Notes |
|---|---|---|---|---|
| **handle** | **true** | **true** | **false** | |
| **type** | **true** | **true** | **false** | |

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| | | | | |
|---|---|---|---|---|
| **urlPath** | **true** | **true** | **false** | |
| **fullName** | **true** | **true** | **true** | |
| **username** | **true** | **true** | **true** | |
| **title** | **true** | **true** | **false** | |
| **labelText** | **true** | **true** | **true** | |
| **modified** | **true** | **true** | **false** | |
| **created** | **true** | **true** | **false** | |
| **userpermission** | **true** | **true** | **false** | |
| **contentBody** | **true** | **true** | **true** | |

#### Pages

| Name | Indexed | Stored | Tokenised | Notes |
|---|---|---|---|---|
| **handle** | **true** | **true** | **false** | |
| **type** | **true** | **true** | **false** | |
| **urlPath** | **true** | **true** | **false** | |
| **title** | **true** | **true** | **true** | |
| **spacekey** | **true** | **true** | **false** | |
| **labelText** | **true** | **true** | **true** | |
| **modified** | **true** | **true** | **false** | |
| **created** | **true** | **true** | **false** | |
| **userpermission** | **true** | **true** | **false** | |
| **contentBody** | **true** | **true** | **true** | |
| **lastModifiers** | **true** | **true** | **false** | Username of the user who last updated the page. |
| **creatorName** | **true** | **true** | **false** | Username of the user who added the page. |
| **macroName** | **true** | **true** | **false** | The name of a macro used on the page |

#### Blog

| Name | Indexed | Stored | Tokenised | Notes |
|---|---|---|---|---|
| **handle** | **true** | **true** | **false** | |
| **type** | **true** | **true** | **false** | |
| **urlPath** | **true** | **true** | **false** | |
| **title** | **true** | **true** | **true** | |
| **spacekey** | **true** | **true** | **false** | |

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| | | | | |
|---|---|---|---|---|
| **labelText** | **true** | **true** | **true** | |
| **modified** | **true** | **true** | **false** | |
| **created** | **true** | **true** | **false** | |
| **userpermission** | **true** | **true** | **false** | |
| **contentBody** | **true** | **true** | **true** | |
| **lastModifiers** | **true** | **true** | **false** | Username of the user who last updated the blog post. |
| **creatorName** | **true** | **true** | **false** | Username of the user who created the blog post. |
| **macroName** | **true** | **true** | **false** | The name of a macro used in the blog |

**Attachments**

| Name | Indexed | Stored | Tokenised | Notes |
|---|---|---|---|---|
| **handle** | **true** | **true** | **false** | |
| **type** | **true** | **true** | **false** | |
| **urlPath** | **true** | **true** | **false** | |
| **filename** | **true** | **true** | **true** | |
| **title** | **true** | **true** | **false** | |
| **comment** | **true** | **true** | **true** | |
| **spacekey** | **true** | **true** | **false** | |
| **modified** | **true** | **true** | **false** | |
| **created** | **true** | **true** | **false** | |
| **userpermission** | **true** | **true** | **false** | |
| **contentBody** | **true** | **true** | **true** | |

**Mail items**

| Name | Indexed | Stored | Tokenised | Notes |
|---|---|---|---|---|
| **handle** | **true** | **true** | **false** | |
| **type** | **true** | **true** | **false** | |
| **urlPath** | **true** | **true** | **false** | |
| **title** | **true** | **true** | **true** | |
| **spacekey** | **true** | **true** | **false** | |
| **messageid** | **true** | **true** | **false** | |
| **inreplyto** | **true** | **true** | **false** | |

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| | | | | |
|---|---|---|---|---|
| **recipients** | **true** | **true** | **true** | |
| **labelText** | **true** | **true** | **true** | |
| **modified** | **true** | **true** | **false** | |
| **created** | **true** | **true** | **false** | |
| **userpermission** | **true** | **true** | **false** | |
| **contentBody** | **true** | **true** | **true** | |
| **lastModifiers** | **true** | **true** | **false** | The username of the user who did the mail import, not the person who sent the email message. |
| **creatorName** | **true** | **true** | **false** | The username of the user who did the mail import, not the person who sent the email message. |

#### More examples

***Searching for labels***

Use the '`labelText:`' prefix to search specifically for content that has a specific label. The table below gives examples of search terms that you can enter into Confluence's search box, and the search results that you can expect.

| Searching for ... | Returns content that ... |
|---|---|
| `recipe labelText:chocolate` | contains the word '`recipe`' or has the label '`chocolate`' |
| `recipe AND labelText:chocolate` | contains the word '`recipe`' and has the label '`chocolate`' |
| `labelText:cake labelText:chocolate` | has the label '`cake`' or the label '`chocolate`' |
| `labelText:cake AND labelText:chocolate` | has both labels '`cake`' and '`chocolate`' |

The '`labelText:`' prefix is an example of a search field. See more about Confluence Search Fields.

#### Useful plugins

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

This plugin extends the Confluence search, so that you can search for macro parameter names and values: the Confluence Macro Indexer plugin.

## Searching the People Directory

The people directory displays a list of people who are authorised to log in to 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 using external user management if they have never yet logged in.

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### Viewing the people directory

Choose **People** at the top of the screen.

### Searching for people

To search for a particular person, type their first name and/or last name into the search box and choose **Search**.

- To see everyone who uses your Confluence site, choose **All People**.
- To see just those people who have set up a personal space, choose **People with Personal Spaces**.

### Following people's activities

Confluence's network features allow you to 'follow' (that is, keep track of) other people's activities in your Confluence site. For more information, please refer to Network Overview. You can use the hover profile feature in the people directory to start following other people.

- To start following someone, move your mouse over their name or profile picture and choose **Follow** in their profile popup.
- To stop following someone, move your mouse over their name or profile picture and choose **Stop Following** in their profile popup.

Once you start following another person, their activities will start appearing in your network view.

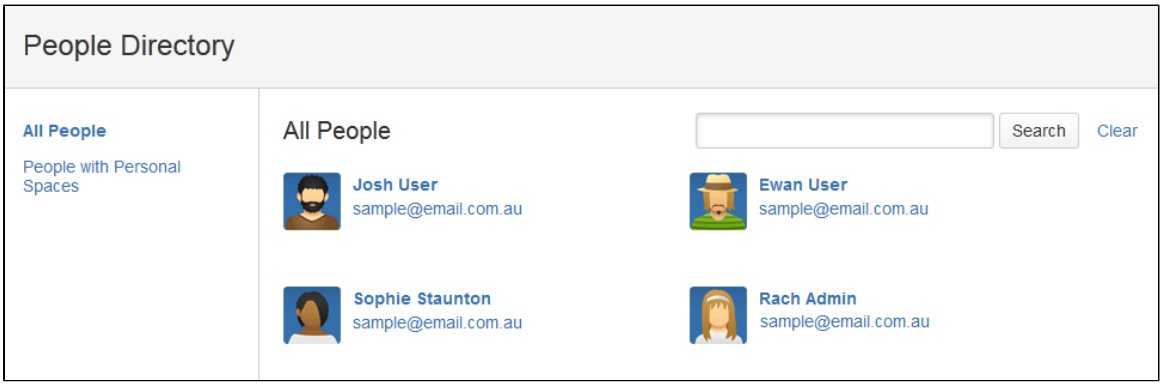
**On this page:**

- Viewing the people directory
- Searching for people
- Following people's activities
- Notes

**Related pages:**

- Setting Up your Personal Space
- Editing your User Profile
- Choosing a Profile Picture
- Confluence User's Guide

*Screenshot: The people directory*




### Notes

- 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.
- By default, deactivated users (disabled user accounts) are excluded from the people directory. You can include them by adding the `showDeactivatedUsers` parameter to the URL. For example:

```
http://my.confluence.com/dopeopledirectorysearch.action?showDeactivatedUsers=true
```

- By default, externally deleted users (for example, users deleted from an LDAP repository) are excluded

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from the people directory. You can include them by adding the `showExternallyDeletedUsers` parameter to the URL. For example:

```
http://my.confluence.com/dopeopledirectorysearch.action?showExternallyDeletedUsers=true
```

- The Confluence administrator can hide the people directory. If it is hidden, you will not see the **People Directory** option.

## Organising Content

Confluence provides a number of ways for organising and structuring content in the wiki:

- Spaces allow you to group content according to major categories.
- Pages are used for discrete topics, and can be structured into page trees to show the relation between them.
- Favourites are particular pages or spaces that have been bookmarked by a user, to make them easy to find again.
- Labels are user-defined tags that are added to related pages in order to categorise them in some way.
- Attachments to a page can include images, multimedia, Office and PDF files, and provide a way to include other forms of content in the wiki.
- The sidebar is a good place to display important links for your team or project.
- Email can be collected and archived within each space, to manage all mail related to a project. *Not applicable to Confluence OnDemand.*

**Related pages:**

- Changing the Sequential Order of Pages
- Creating Content
- Searching Confluence
- Confluence User's Guide

### Working with Pages

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. 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 using the editor.
- Rename a page.
- Copy a page.
- Delete a page or remove a specific version of a page.
- Move pages and organise them hierarchically 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 manage and compare versions of a page.
- Search page content, including attachments.
- Export pages to PDF, WORD, HTML or XML.
- Email page content.
- Like a page.

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**Related pages:**

- Creating Content
- Working with Drafts
- Working with the Office Connector
- Viewing Recently Visited Content
- Confluence User's Guide

## Moving a Page

This guide describes how to change a page's location. You can:

- Change the default location of a new page.
- Move an existing page to a different space.
- Move an existing page to a different parent page within the same space.
- Reorder pages that are children of the same parent.

When you move a page, attachments and comments will be moved with the page. All child and descendent pages will also be moved.

**Notes about permissions:**

To move a page, you need the following permissions:

- 'Add' 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.

To move a page into a different space, you also need:

- 'Delete' permission on the space you are moving from, and
- 'Add' permission on the space you are moving to.

If the page has page restrictions, and you want to keep the page restrictions in the new location, you will also need 'Restrict' permission on the space you are moving to. Alternatively, remove the page restrictions before performing the move.

**On this page:**


- Setting the location of a new page
- Moving a page to a different space
- Moving a page within a space
- Notes


**Related pages:**

- Moving an Attachment
- Copying a Page
- Deleting a Page
- Changing the Sequential Order of Pages
- Overview of Pages
- Confluence User's Guide

### Setting the location of a new page

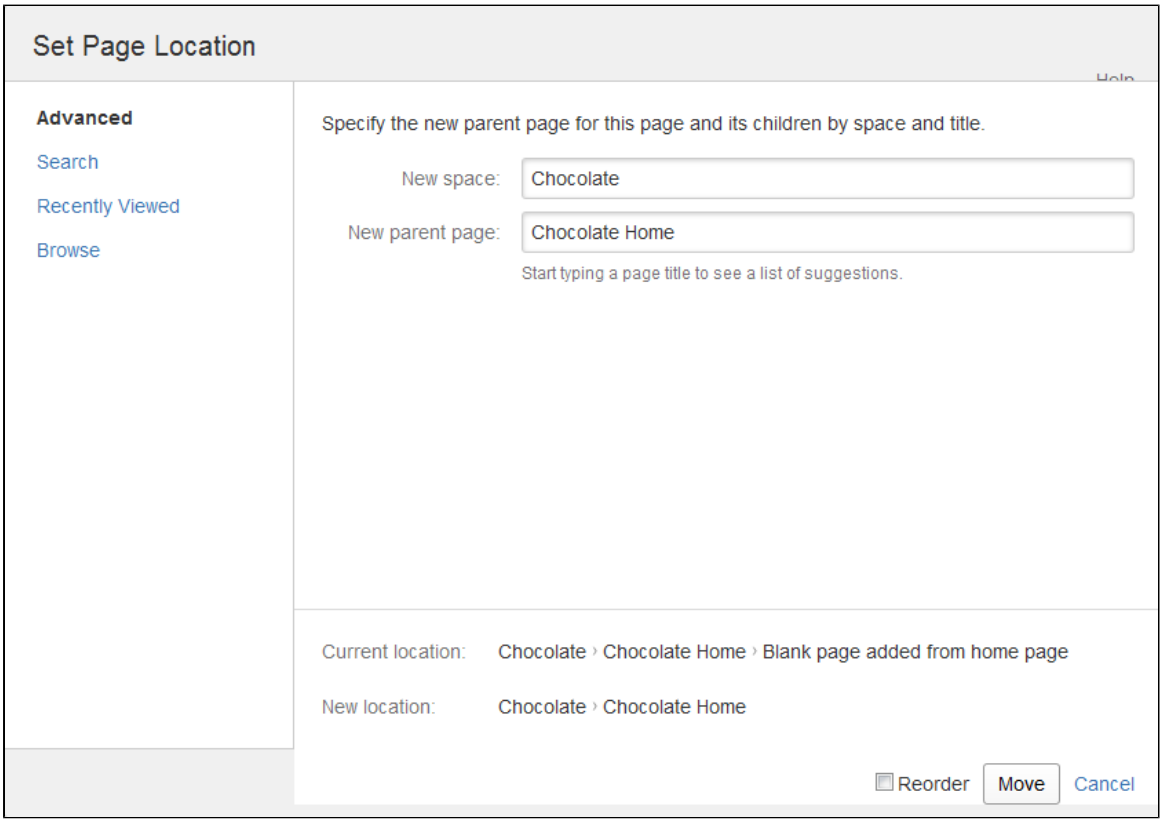
While you are creating a **new** page, you can set the page's location before saving the page.

**To set the location for a new page:**

1. While editing the page, choose **Location**.
2. Use the tabs on the left of the 'Set Page Location' dialog to help you find the new space and parent page for your page. They determine the location of your page. The 'Current location' and 'New location' breadcrumb trails at the bottom of the dialog indicate the current parent page and new parent page.
3. If you want to move a page to a different position amongst the child pages, select **Reorder**. (When you choose **Move** in the next step, you will be able to reorder the page.)
4. Choose **Move**.
5. If you are reordering the child pages, position the pointer in the list to set the new position for the page and choose **Reorder**.

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*Screenshot: Setting the location of a new page*




### Moving a page to a different space

You can move a page, along with its child pages, to a different space. Confluence will automatically adjust all links to the moved pages, to point to the pages in the new space.

**To move a page to another space in your Confluence site:**

1. Go to the page and choose **Tools** > **Move**.
2. Use the tabs on the left to help you find the new space and parent page for your page. They determine the location of your page. The 'Current location' and 'New location' breadcrumb trails at the bottom of the dialog indicate the current parent page and new parent page.
3. If you want to move a page to a different position amongst the child pages, select **Reorder**. (When you choose **Move** in the next step, you will be able to reorder the page.)
4. Choose **Move**.
5. If you are reordering the child pages, position the pointer in the list to set the new position for the page and choose **Reorder**.

### Moving a page within a space

You can move a page to a different position in the page tree. This allows you to:

- Move a single page, or a family of pages, to a different parent within the space.
- Reorder pages that are children of the same parent.

All links to the page are maintained. When you move a parent page, the entire hierarchy of child pages will move too.

**To move a page:**

1. Go to the space and choose **Space tools** > **Reorder pages** on the sidebar.
   If your space is using the Documentation theme choose **Browse** > **Pages**.
2. Expand the branches to locate the page you want to move.
3. Drag the page to a new position in the tree.
4. 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

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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.

**Notes**

- The new position of the page is saved as soon as you release the mouse button.
- To cancel the move, press the 'Esc' key before releasing the mouse button.

## 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.

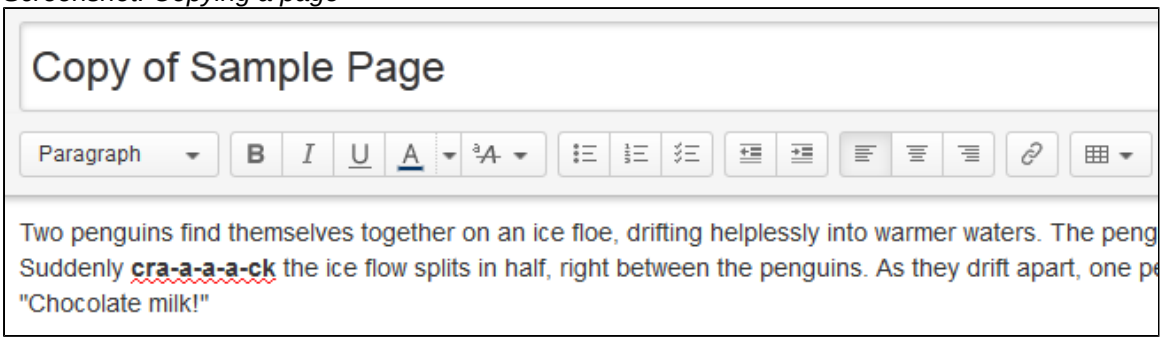
**To copy a page:**

1. Go to a page in the space and choose **Tools** > **Copy**. Confluence will open a copy of the page in the editor. By default, Confluence will name the page 'Copy of <<original page name>>'.
2. Rename the page and make any other changes required in the body of the page.
3. 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. Click **Save**.

**Related pages:**

- Working with Pages
- Moving a Page
- Confluence User's Guide

*Screenshot: Copying a page*




**Notes**

- 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 WebDAV 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.

## Renaming a Page

To rename an existing page, you require 'Edit Pages' permission which is assigned by a space administrator fro m the Space Administration screens. See Space permissions or contact a space administrator for more information.

**To rename a page:**

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1. Go to a page in the space, and click **Edit** at the top to view the page in 'Edit' mode.
2. Change the page title as required.
3. Click **Save**.

**Related pages:**

- Working with Pages
- Confluence User's Guide

#### *Notes*

- Confluence will automatically update all internal links to point to your new page title. This only works for relative links that use the relative link syntax, for example [Renaming a Page].
- In macros, page links will not be updated. You need to update these manually.
- Links from external sites will be broken, unless they use the permanent URL - see Working with Links.

## Deleting a Page

By default, when you delete a page in Confluence, this will delete all versions of the page. To do that, you need the 'Delete Pages' permission. See Space permissions. If someone has applied page restrictions to the page, the restrictions may prevent you from deleting the page too.

If you want to delete a specific version of a page, you need to be a space administrator.

#### Deleting all versions of a page

**To delete a page:**

Go to the page and choose **Tools** > **Delete**. Confirm the action as prompted.
*Note:* The 'Delete' option will only appear if you have permission to delete this page.

#### Deleting a specific version of a page

**To delete just one version of a page:**

1. Go to the page and choose **Tools** > **Page History**.
2. Choose **Delete** next to the version you want to delete, and confirm the action as prompted.

**On this page:**

- Deleting all versions of a page
- Deleting a specific version of a page
- Deleting a page and all its children
- Notes

**Related pages:**

- Restoring a Deleted Page
- Purging Deleted Pages
- Creating Content
- Editing or Deleting a Page That Won't Render
- Confluence User's Guide

#### Deleting a page and all its children

If the page you are deleting has any child pages, the child pages will move to the root of the space. The child pages will not be deleted, but they will lose the parent-child relationship with the deleted page.

**Hint:** If you need to remove a parent page and a large number of child pages:

- Create a temporary new space.
- Move the parent page to the new space. The child pages will move too.
- Remove the space.

#### Notes

- When you delete a page, Confluence moves it to the trash. Space administrators can recover pages from the trash. For important notes about what happens when you restore deleted pages, see Restoring a Deleted Page.
- Purge the trash to delete the page permanently.
- When you delete a version of a page, the version is not stored in the trash. The deletion of a version is

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therefore permanent and cannot be undone.
- Attachments attached to a deleted page will remain in the database (allowing potential retrieval) until the trash is purged. When the trash is purged, all attachments on that page are pemanently removed.
- When you delete a version of a page, the version numbers of the later versions will change accordingly. For example, if a page has four versions and you delete version 2, then version 3 will become version 2 and version 4 will become version 3.

### 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.

**Related pages:**

- Deleting a Page
- Restoring a Deleted Page

Confluence User's Guide

**To purge deleted pages:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Trash**
3. A list of deleted pages and blog posts for the space displays. Choose **Purge** for a specific page or **Purge All** to permanently clear all deleted pages and news items.

If your space is using the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Trash** from the space administration options
3. A list of deleted pages and blog posts for the space displays. Choose **Purge** for a specific page or **Purge All** to permanently clear all deleted pages and news items.

When the trash is purged, all attachments on purged pages are permanently removed as well.

### Restoring a Deleted Page

When you restore a page, you are moving it from 'Trash' to the root of the space.

You need to be a space administrator to restore deleted pages.

**Related pages:**

- Deleting a Page
- Purging Deleted Pages
- Confluence User's Guide

**To restore a deleted page:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Content Tools** > **Trash**
3. A list of deleted pages and blog posts for the space displays. Choose **Restore** for the page you wish to restore.

If your space is using the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Trash** from the space administration options
3. A list of deleted pages and blog posts for the space displays. Choose **Restore** for the page you wish to restore.

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**To find the page after you have restored it**, choose **Pages** to go to the root of the space. (The page is not restored to its original position in the page hierarchy.)
Notes

- 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.
- If the page had any child pages before it was deleted, Confluence moved the child pages to the root of the space when the page was deleted. The parent-child relationship will **not** be automatically restored when you restore the page.

## Viewing All Pages in a Space

All Confluence pages are contained within a space. You can use the Pages view to see a list of recently updated pages and all pages within a space.

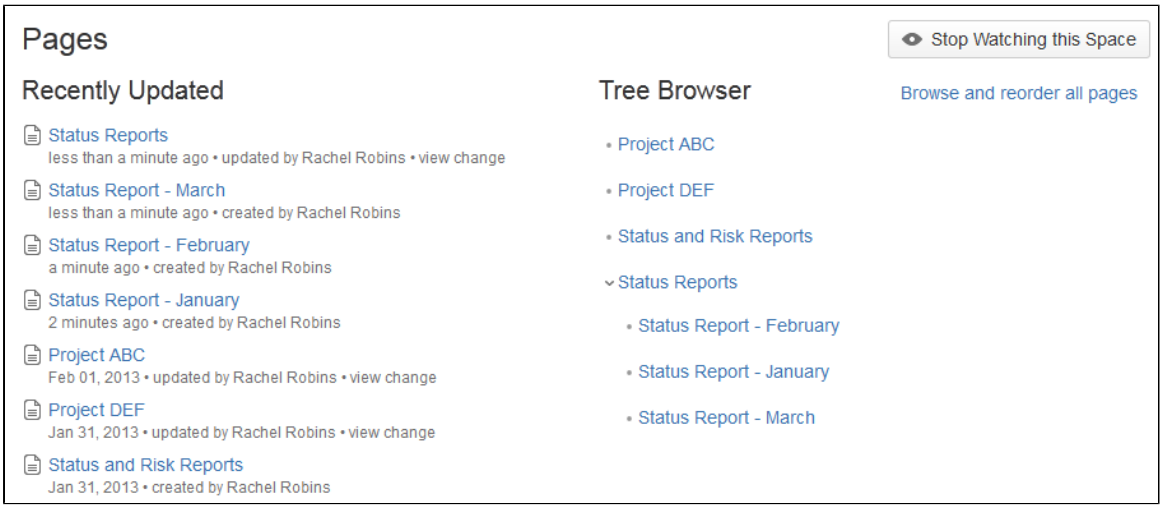
**To access the Pages view:**

1. Go to a page in the space and choose **Pages** in the sidebar.
   Or, if you are using the Documentation theme, choose **Browse** > **Pages** at the top of the screen.
2. Recently updated pages and a hierarchical (tree) view of all pages in the space display.

**Related pages:**

- Moving a Page
- Changing the Sequential Order of Pages
- Working with Pages
- Confluence User's Guide

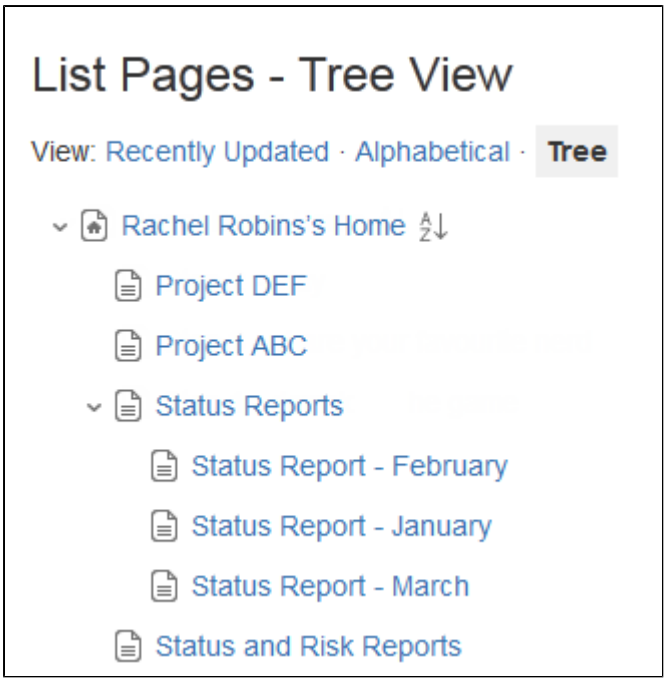
*Screenshot: The pages view in the default theme*




If you are using the Documentation theme, you can choose between Recently Updated, Alphabetical and Tree view of the pages in your space.

*Screenshot: Tree view in the Documentation theme*

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## Changing 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 navigation area of the space sidebar. (See Finding Content.)
- The pages Tree on the 'Pages' view in the space.
- Pages exported to PDF, HTML and XML.
- The Page Tree 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 we say 'page family' we mean the immediate children of the parent page, not including the grand-children.

When ordering pages alphabetically, Confluence 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.

**On this page:**


- Alphabetical versus manual order
- Changing the page order manually
- Changing the page order to alphabetical


**Related pages:**

- Finding Content
- Working with Pages
- Confluence User's Guide

#### Changing the page order manually

**To change the order of pages in the space:**

1. Go to the space and choose **Space tools** > **Reorder pages** on the sidebar.
   If your space is using the Documentation theme choose **Browse** > **Pages**.

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2. Expand the branches of the tree to find the page family you wish to sort.
3. Drag each page to a new position in the tree.

When you drag a page to a new position, the order of the page family changes to Manual. Newly added pages will not be sorted alphabetically, but will appear at the bottom of the list.

#### Changing the page order to alphabetical

If the pages in a page family have been ordered manually, you can change the page order back to alphabetical.

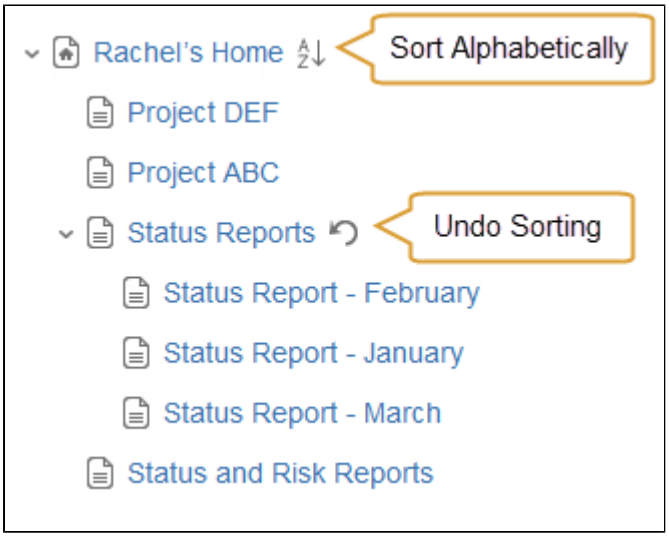
**To set the page order to alphabetical:**

1. Go to the space and choose **Space tools** > **Reorder pages** on the sidebar.
   If your space is using the Documentation theme choose **Browse** > **Pages**.
2. Expand branches of the tree to find the page family you wish to sort.
3. Choose the **Sort Alphabetically** (A-Z) icon beside the parent page.

The **Sort Alphabetically** (A-Z) icon only appears next to the parent page if the page family is currently sorted manually.

If you change your mind, you can use the **Undo Sorting** icon to revert back to the previous manual page order for that page family. This option is only available immediately after sorting the page (while you are still on the 'Reorder Pages' tab and have not performed any other action).

*Screenshot: Page tree showing the Sort Alphabetically and Undo Sorting icons.*




Sort Alphabetically only sorts the immediate children of the parent page. The grandchildren will not be re-ordered, sorting happens for one node at a time. If you want to re-order grandchildren, you need to click the **Sort Alphabetically** icon next to the parent of those pages.

## Managing Orphaned Pages

An orphaned page is a page without any incoming links. This means that, unless you know that the 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 may 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 reorganising them.

**To view the orphaned pages in a space:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Orphaned Pages**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations** at the top of the screen.
2. Choose **Orphaned Pages** in the space operations options.

You can do the following:

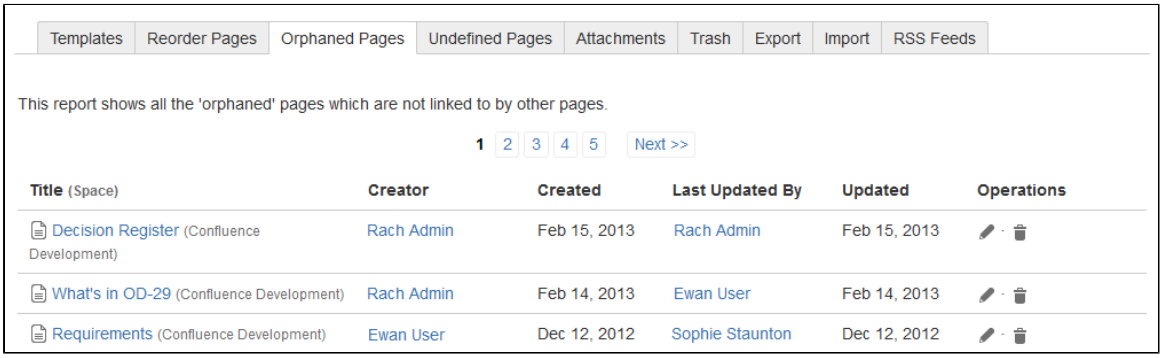
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- Delete an orphaned page by choosing the 'trash can' icon next to the page name.
- Edit a page by choosing the 'pencil' icon next to the page name.
- Give an orphaned page a parent — see Moving a Page.

**Related pages:**

- Managing Undefined Pages
- Working with Pages
- Confluence User's Guide

*Screenshot: Managing orphaned pages*




## Managing Undefined Pages

In Confluence, you can add links to pages that you intend to create later. These are links to 'undefined pages'. This is useful because it allows you to create links first and enter content for those pages later.

The link to an undefined page is shown in dark red. If someone clicks the link, Confluence will create a new page called 'link to new page'.

The 'Undefined Pages' view gives a consolidated report of all undefined pages so that you can manage your space better. The undefined page links are badged with this icon to remind you that those pages need to be created.

**To view a list of the undefined links in a space:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Undefined Pages**

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations** at the top of the screen.
2. Choose **Undefined Pages** in the space operations options.

You can choose the link for an undefined page to create the page and add content to it.

**Related pages:**

- Managing Orphaned Pages
- Working with Pages
- Confluence User's Guide

## Using the Documentation Theme

The Documentation theme is one of the themes bundled with Confluence. It provides an inbuilt table of contents for your wiki space, a configurable header and footer, and text styles suited to documentation. You can also configure it to restrict the search results to the current space, rather than searching the entire Confluence site.

**Advance warning of plans to merge Documentation theme with the default theme**
This is an advance notice that we plan to merge the functionality of the Confluence Documentation theme with the Confluence default theme. We do not yet have a specific date for this plan, and we are interested in your feedback. The new default theme, introduced with Confluence 5.0, includes a sidebar with contextual navigation. Our plan is to include features from the Documentation theme in the default theme, and then remove the Documentation theme from Confluence.

If you are interested in this change and would like to give us feedback, please add a **comment on this blog post**: Advance warning of plans to merge Documentation theme with the default theme. We are

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especially interested to know which features of the Documentation theme you use and value the most.

This page tells you how to view pages in your Confluence space when your space uses the Documentation theme. For the full list of features and instructions on applying the theme to a space, see the guide to configuring the Documentation theme.

**Quick guide to using the Documentation theme:**

- The left-hand panel contains a page tree. This is a table of contents that shows the pages in the space.
- Click the plus signs in the page tree to see the child pages.
- Drag the thick vertical bar to change the width of the panels.
- Show/hide the left-hand panel: Click the sidebar icon at top right, next to the search box, to remove the left-hand panel altogether. Click the icon again to restore the panel.
- Alternatively, press '**[**' on your keyboard to show/hide the left-hand panel.
- Overriding a space-restricted search: If your theme is configured to restrict the search to the current space, you can enter '**all:**' and your search term to search the entire site.

The rest of this page gives more details of the above guidelines.

**On this page:**


- Using the Documentation theme
- Searching the space or the site
- Hints and tips
- Notes

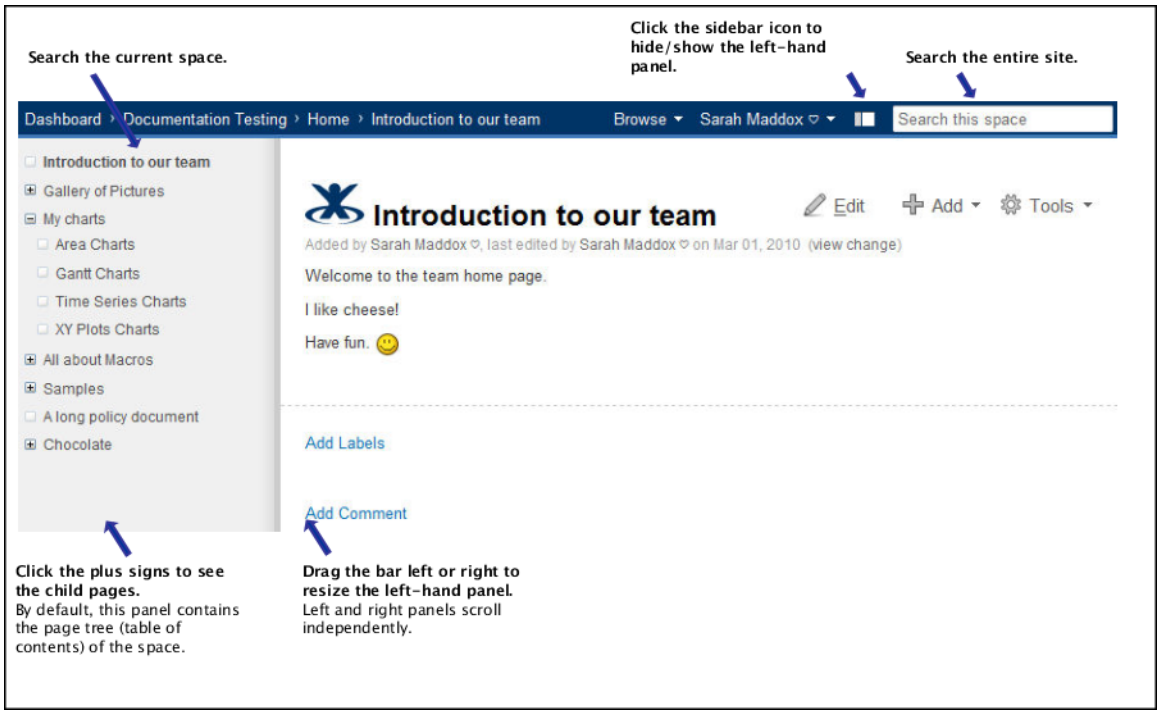

**Related pages:**

- Configuring the Documentation Theme
- Space Jump Macro
- Changing the Sequential Order of Pages
- Confluence User's Guide

### Using the Documentation theme

By default in a space that uses the Documentation theme, the left-hand panel contains a search box and a table of contents (page tree) showing all the pages in your space. Specifically, it shows the pages that are children of the space's home page.

*Diagram: The Documentation theme with default settings*

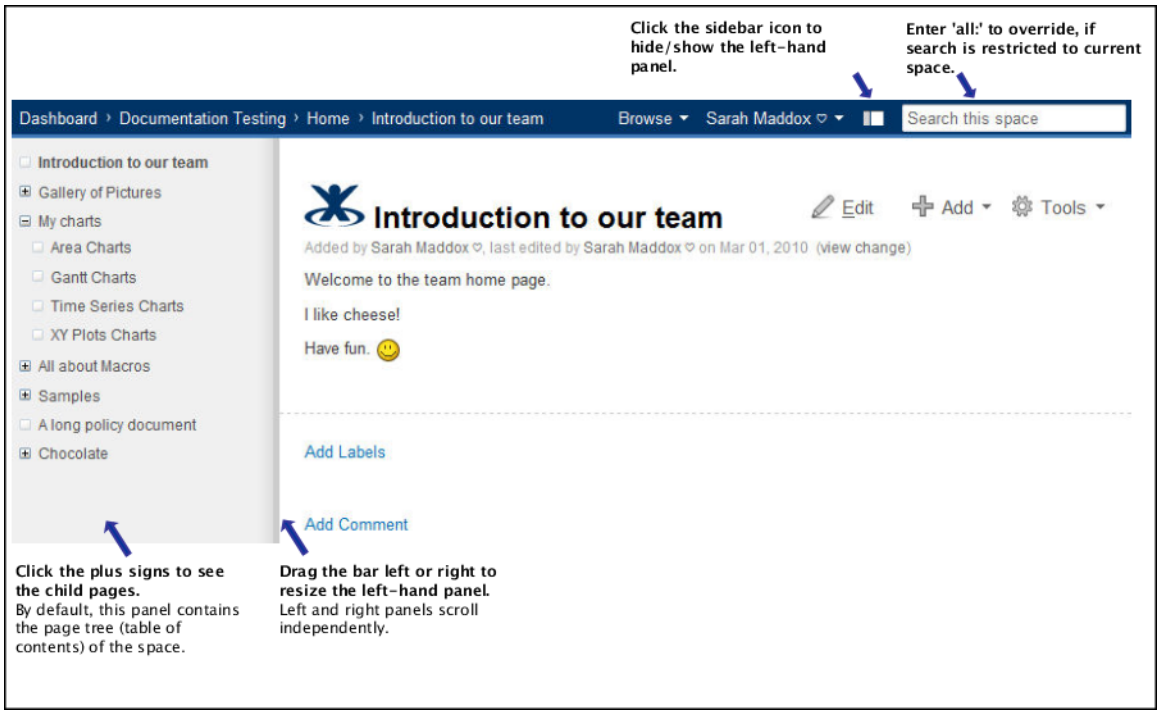



A space administrator can customise the Documentation theme as follows:

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- Change the content in the left-hand panel and add a header and footer to the page. This means that your own pages may look different from the screenshot above.
- Restrict the search so that it will show results from the current space only, not from the entire Confluence site.

*Diagram: The Documentation theme with space-restricted search*




Here is a summary of the things you can do on a page that uses the Documentation theme:

- Click the plus signs to open and close the branches of the page tree (table of contents) in the left-hand panel.
- Drag the thick bar between the left-hand panel and the content, to increase or decrease the width of the panel.
- Click the sidebar icon at top right, next to the search box, to remove the left-hand panel. This will remove the panel for you only. Other people will still see it.
- Click the sidebar icon again to restore the left-hand panel.
- Alternatively, press '**[**' on your keyboard to show/hide the left-hand panel.
- Use the scroll bars to scroll the left-hand and right-hand panels independently of each other.
- Search the content of the space or the site. See below.

### Searching the space or the site

When using the Documentation theme, the Confluence search offers a few options as described below.

Using the search box at the top right of the page:

- By default, the main Confluence search is configured to search the entire Confluence site.
  - You will see the words '**Search Confluence**' in the search box at top right of the page.
  - The Confluence search will look for matches in the entire Confluence site. This is the default behaviour for other themes too.
- A space administrator can configure the Documentation theme to restrict the search to the current space.
  - You will see the words '**Search this space**' in the search box at top right of the page.
  - The search will return results from the current space only.
  - You can override the search restriction. Enter '**all:**' and your search term to search the entire site. For example, enter the following into the search box at top right of the page to search the entire site for 'technical writing':

```
all: technical writing
```

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Using the search box in the left-hand panel:

- By default, the Documentation theme's left-hand panel includes a search box. Enter your search term there, to restrict the search to the current space. Specifically, this will search only the pages that are children of the space's home page.
- If your administrator has restricted the main search to the current space, there will not be a search box in the left-hand panel.

#### Hints and tips

Below are some hints that you may find useful when using the Documentation theme.

##### *Where can I see a working example of the Documentation theme?*

The Confluence documentation uses the Documentation theme. If you are reading this documentation online on the Atlassian documentation wiki, you are seeing a working version of the Documentation theme.

##### *Which pages will appear in the Documentation theme's table of contents?*

The theme constructs the page tree in the left-hand panel from all pages that are child pages of the space's home page. Each space has a single page designated as the 'Home' page. You can specify the home page in the space administration section.

##### *Help, my pages do not appear in the Documentation theme table of contents*

**Cause 1: Your pages are not under the space's home page.** The most probable reason why your pages do not appear in the page tree in the left-hand panel is this: The theme constructs that table of contents from all pages that are child pages of the space's home page. If your pages are above the home page in the page tree, they will not appear in the left-hand panel.

There are two ways to fix the problem:

- You can change the designated space home page in the space administration section.
- Or you can drag and drop all your pages to make them children of the current home page. You can drag and drop pages in the 'Pages' section of the space 'Browse' screen. See Moving a Page.

**Cause 2: Problem with upgrade from Confluence 3.1, with Documentation theme as plugin, to Confluence 3.2 or later with Documentation theme bundled.** If your existing Confluence installation already has the Documentation theme plugin installed, you may find that after upgrading to Confluence 3.2 the left-hand navigation bar is empty in the spaces that use the theme. The fix is to enable all modules of the Documentation theme plugin. See the knowledge base article.

##### *Help, my left-hand panel has disappeared*

If your entire left-hand panel has disappeared when using the Documentation theme, this is probably because you have clicked the sidebar icon  at top right, next to the search box. Click the icon again to restore the panel.

##### *Can I change the default width of the left-hand navigation panel?*

The Confluence user interface does not offer a way to change the default width of the left-hand navigation panel supplied by the Documentation theme. Users can change the width by dragging the middle bar, but the default width is not configurable. This post on Atlassian Answers gives a way to do it with CSS: Documentation Theme - Default Width (in px) of left panel.

#### Notes

- The Confluence default theme supplies a **sidebar**, which is different to the left-hand panel in the Documentation theme. For information about the sidebar, see Finding Content and Configuring a Sidebar.
- The Documentation theme supplies a **Browse** menu in the Confluence header, which gives access to the space administration and advanced options.

## Viewing Page Information

The 'information' view for a page shows you various bits of useful information about the page.

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**To see the information view for a page:**

1. View the page.
2. Choose **Tools** > **Info** to go to the 'Information' view for the page.

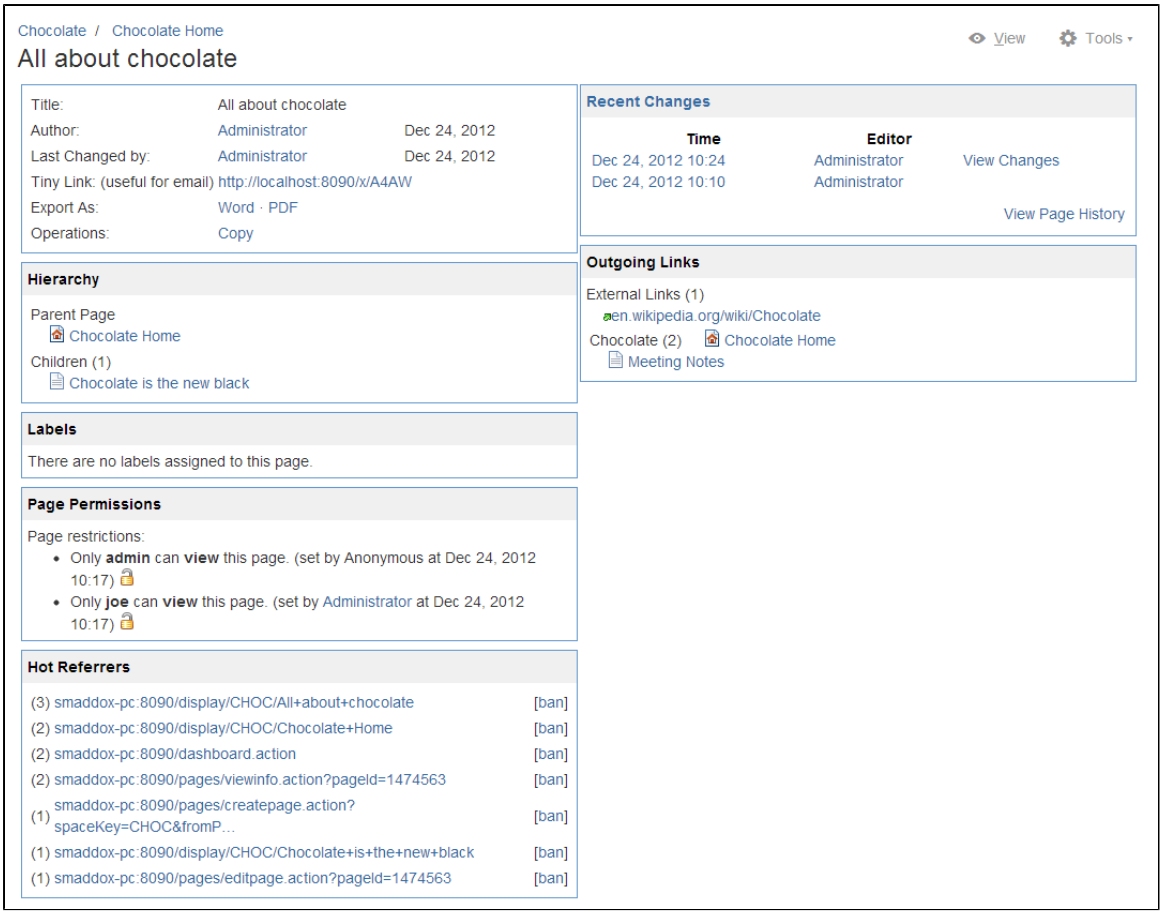
You will see the following information:

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. Labels: Any labels (tags) that have been applied to this page. See Working with Confluence Labels.
4. Page Permissions: Displays page-level security restrictions that apply to the page (if present). See Page Restrictions.
5. Hot Referrers: The external website pages which send the most viewers to the page. See Managing External Referrers.
6. Recent Changes: Links to the five most recent versions of the page along with the name of the editor and the date of modification. See Page History and Page Comparison Views. Choose **View page history** to see the page history view, all the versions of the page in reverse chronological order and allows you to compare versions or to restore a previous version.
7. Outgoing links: A summary of the links contained on this page, pointing to other pages on the Confluence site or to external websites.

**Related pages:**

- Working with Pages
- Confluence User's Guide

*Screenshot: A page's information view*




## Viewing Recently Visited Content

Confluence keeps track of pages you have recently visited in Confluence. You can access your recently viewed pages and navigate back to them using the **Recently Viewed** list.

**To view the full list of recently viewed pages:**

1. Choose **your profile picture** at top right of the screen, then choose **Recently Viewed**.
2. Choose the title of the page you wish to revisit.

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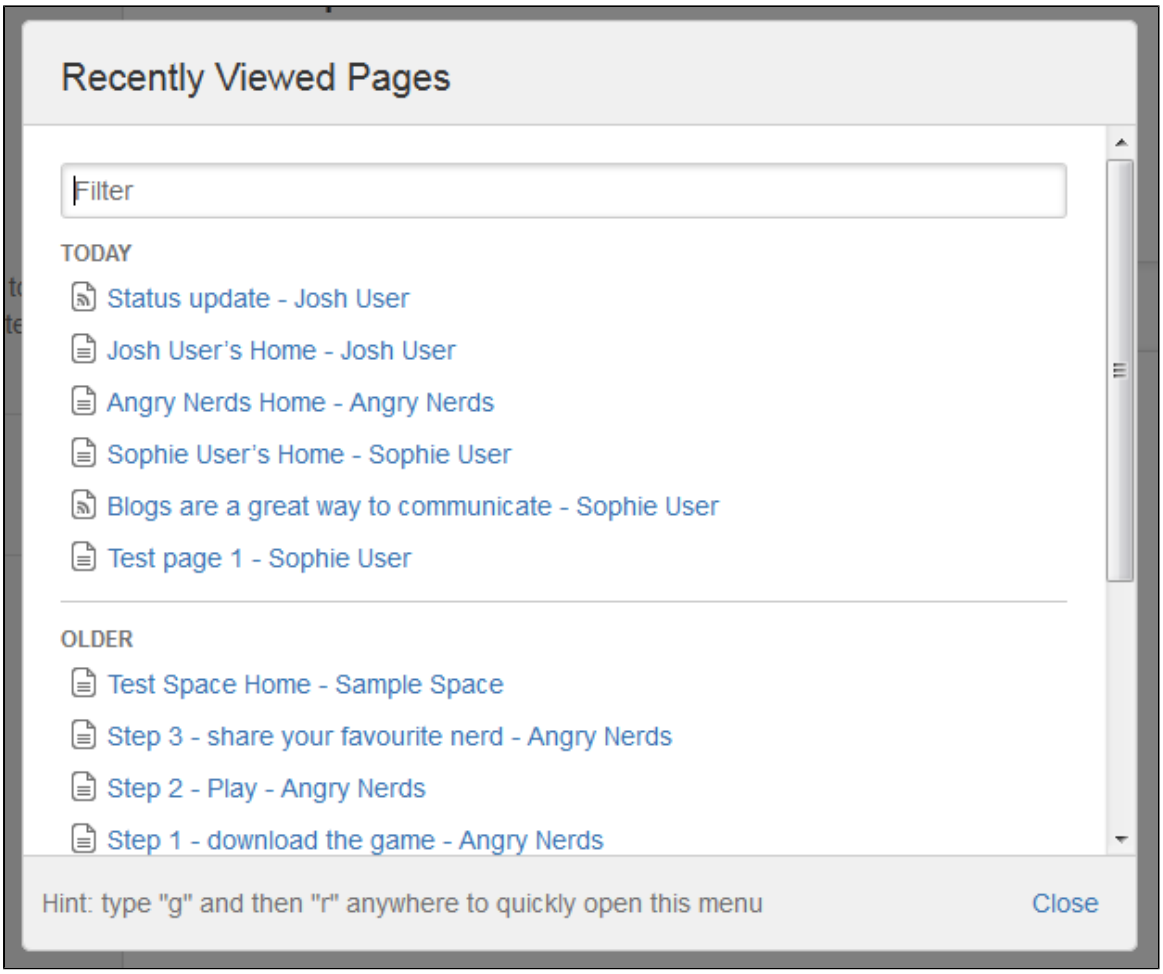
To filter the list type part of a page title or user's name in the Filter field.

Your last ten recently viewed pages also appear when you select the 'Search' field anywhere in Confluence.

**Related pages:**

- Working with Pages
- Confluence User's Guide

*Screenshot: Recently viewed content*




## Page History and Page Comparison Views

Confluence tracks the history of changes to each page by creating a new version of the page each time it is modified. You can view the changes between different versions, and roll back to a previous version if required.

#### Accessing the page history

**To view the history of a page:**

Go to the page and choose **Tools** > **Page History**.

You can choose a version number to view the content of that version.

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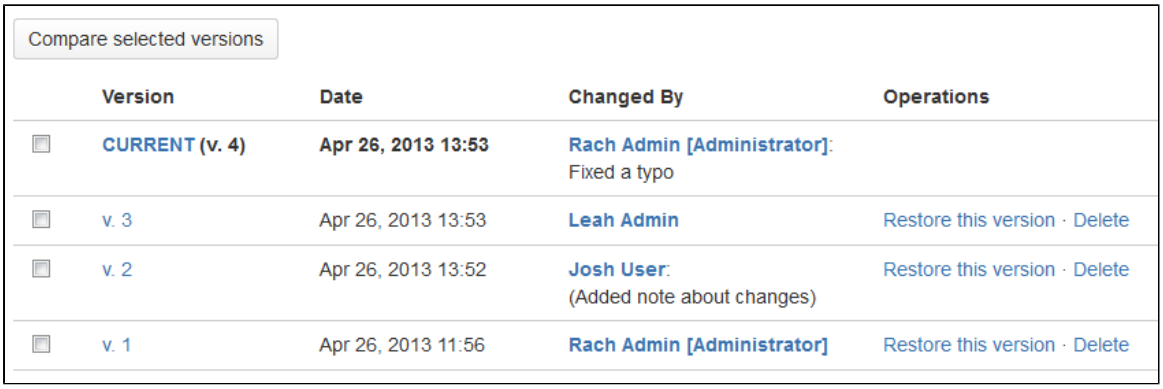
**On this page:**


- Accessing the page history
- Viewing an older version of a page
- Restoring an older version of a page
- Deleting a specific version of a page
- Viewing the changes made to a page
- Comparing two versions of a page


**Related pages:**

- Viewing Page Information
- Working with Pages
- Tracking Updates
- Confluence User's Guide

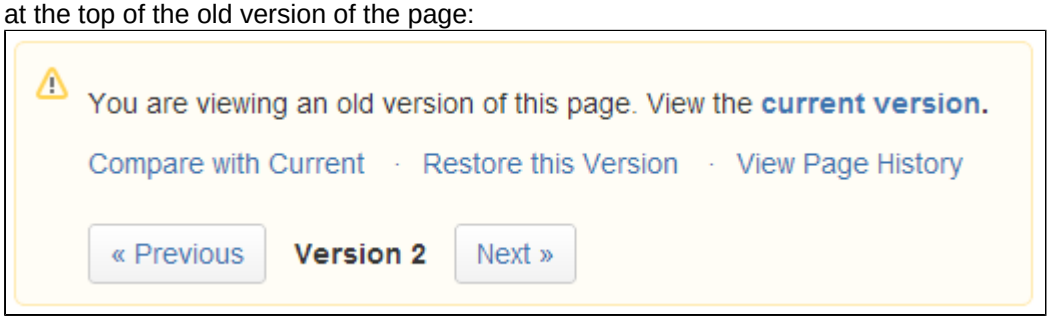
*Screenshot: Page history*




### Viewing an older version of a page

**To view a specific version of a page:**

1. Go to the page and choose **Tools** > **Page History**.
2. Choose a version number to view the contents of that version of the page. You will see a header like this, at the top of the old version of the page:




If you want to send this page version to someone, copy and paste the URL from your browser. The link will look something like this: `http://confluence.atlassian.com/pages/viewpage.action?pageId=12345.`

When you are viewing a specific version of the page, the following functions are available:

| Function | Description |
|---|---|
| **current version** | View the latest version of the page. |
| **Compare with Current** | Compare the differences between the version of the page you are viewing and the current version. |
| **Restore this Version** | Roll back the content of the page to the previous version that you are viewing. |

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| | |
|---|---|
| **View Page History** | Return to the list of page versions. |
| **<< Previous** and **Next >>** | View the previous or next version of the page. |

#### Restoring an older version of a page

You can roll back the content of the page to a specific version.

**To restore an older version of a page:**

1. Go to the page and choose **Tools** > **Page History**.
2. Choose **Restore this version** beside the version you want to restore.
3. Change the default comment if necessary, and choose **OK**.

***Notes***

- All page history is retained. Restoring an older version creates a copy of that version. For example, if you restore version 39, Confluence will create a copy of version 39. This copy will become the new, current version.
- If you are viewing a specific version of a page, you can restore that version of the page by choosing **Rest ore this Version** at the top of the page.

#### Deleting a specific version of a page

Choose **Delete** next to a version, to remove that version. See Deleting a Page.

#### Viewing the changes made to a page

Using the page history view or the page information view, you can see the recent changes made to a page.

**To view recent changes made to a page:**

1. Choose **view change** at the top of the page below the page title. The page comparison view is displayed, showing the differences between the current version and the previous version.
   **Or:**
2. Choose **Tools** > **Info** to go to the 'Information' view for the page.
   - 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.
   - Choose **View Changes** beside the required version. The page comparison view is displayed, showing the differences between the selected and previous versions.

#### Comparing two versions of a page

**To compare two versions of a page:**

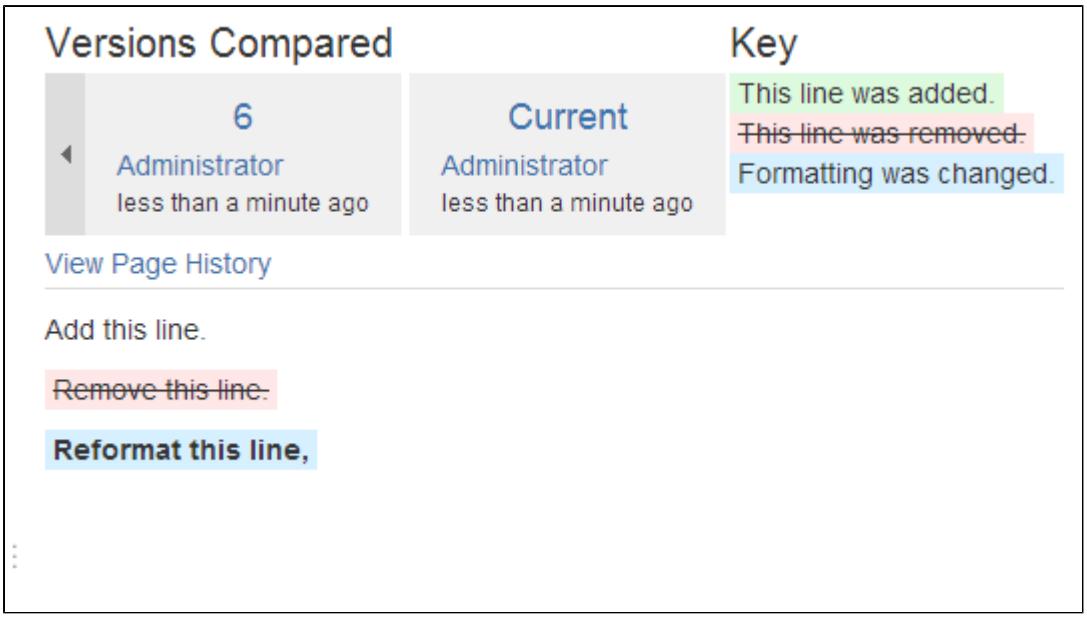
1. Go to the page and choose **Tools** > **Page History**.
2. Choose the versions you want to compare by selecting the check boxes beside them.
3. Choose **Compare selected versions**. The page comparison view is displayed, showing the differences between the selected versions.

Changes are highlighted in different colours, as shown in this table:

| Highlighted colour | Meaning |
|---|---|
| Green | Added content |
| Red | Deleted content |
| Blue | Changed formatting |

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*Screenshot: Comparing changes*




***More options on the comparison view***

When a page comparison view is first displayed, all large sections of unchanged text are hidden and reduced to an ellipsis, like this: **. . .**

You can 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 >>**

## Using a WebDAV Client to Work with Pages

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

Please refer to the page on configuring and setting up a WebDAV client.

# Working with Blog Posts

You can publish a blog post from any space in Confluence, provided you have permission. Blog posts may be announcements, journal entries, status reports, or any other timely information.

**To view the blog posts within a space:** Go to a page in the space and choose **Blog** in the sidebar.
Or, if you are using the Documentation theme, choose **Browse** > **Blog** at the top of the screen.

Confluence lists the latest blog posts. You can click through to earlier posts via the navigation area in the sidebar.

Creating and editing a blog post is just as easy as creating and editing any other page in Confluence. You can also let people know you care by liking a blog post.

### Creating a blog post

To create a blog post, you need the 'Add Blog' permission. See Space Permissions, and Creating Content.

You can create attractive, engaging content in a blog post in the same way as in a page. See Creating Beautiful and Dynamic Pages.

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**On this page:**


- Creating a blog post
- Editing a blog post
- Deleting a blog post
- Exporting a blog post


**Related pages:**

- Subscribing to RSS Feeds within Confluence
- Managing Changes and Notifications and Tasks
- Blog Posts Macro
- Sharing Content
- Exporting Confluence Pages and Spaces to PDF
- Confluence User's Guide

## Editing a blog post

To edit a blog post, you need the 'Add Blog' permission. See Space Permissions.

**To edit a blog post:**

1. Go to a page in the space and choose **Blog** in the sidebar.
   Or, if you are using the Documentation theme, choose **Browse** > **Blog** at the top of the screen. You will see the most recent blog posts within the space, and you can find earlier posts via the navigation area in the sidebar.
2. Go to the blog post and choose **Edit**.
3. Make changes to the blog post.
4. *(optional)* Add a comment, in the text box below the editing pane, to describe your changes.
5. **Preview** your changes if desired, and choose **Publish**.

Editing a blog post 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 blog post. You can only backdate when adding a blog post.
- You cannot move a blog post to another space.
- A blog post has no parent.

## Deleting a blog post

By default, when you delete a blog post in Confluence, this will remove all versions of the post. To do that, you need the 'Delete Blog' permission. See Space permissions. If someone has applied page restrictions to the blog post, the restrictions may prevent you from deleting the post too. Deleted blog posts are stored in the space's trash and can be recovered by a space administrator.

If you want to delete a specific version of a blog post, you need to be a space administrator. When you delete a version of a blog post, the version is not stored in the trash. The deletion of a version is therefore permanent and cannot be undone.

**To delete all versions of a blog post:**

Go to the page and choose **Tools** > **Delete**. Confirm the action as prompted.
*Note:* The 'Delete' option will only appear if you have permission to delete this page.

**To delete just one version of a blog post:**

1. Go to the page and choose **Tools** > **Page History**.
2. Choose **Delete** next to the version you want to delete, and confirm the action as prompted.

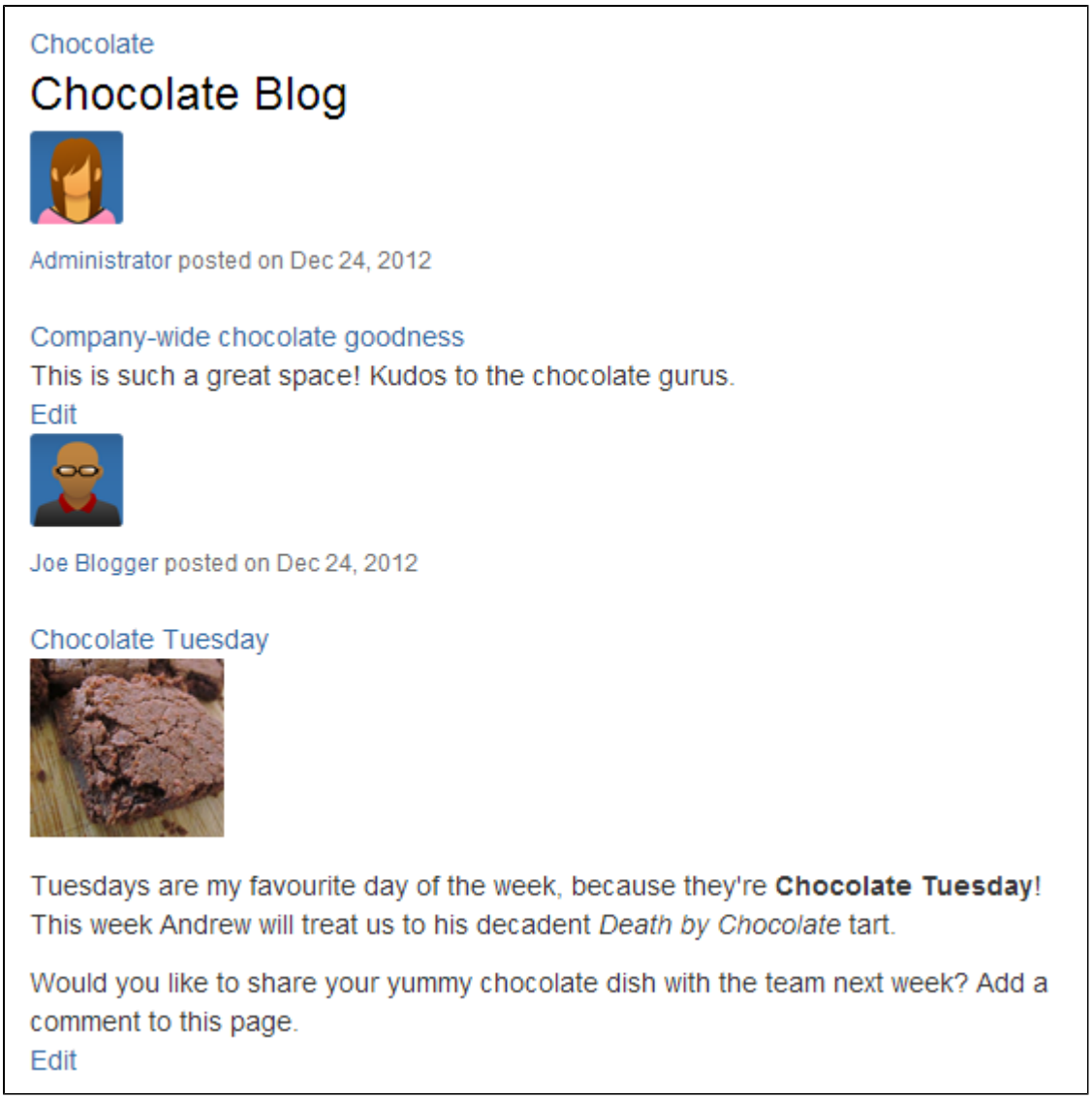
## Exporting a blog post

You can export individual blog posts to PDF format. This is useful, for example, if you want to email an internal blog post to people outside your organisation.

See Exporting Confluence Pages and Spaces to PDF for more information on exporting blog pages to PDF.

*Screenshot: A blog within a Confluence space*

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## Working with Spaces

In Confluence, content is organised into spaces. There are two main types of space:

- Site spaces, sometimes called 'global' spaces, are areas on your site where you can create content and collaborate with other users. For example, you might create a space for each team or project in your organisation.
- Personal spaces belong to specific users. You can keep your personal space private, or open it up for other users to view or edit. Personal spaces are listed in the People Directory.

### What is a Space?

A space is an area within Confluence, containing your pages, blog posts and other content. You can think of each space as a sub-site, or mini-site, each with its own home page.

You can create a blank space or choose to use a space blueprint.

Each space:

- Has its own pages, blog posts, comments, and more.
- Has its own access control settings. You can set different levels of access for different spaces.
- Cannot be nested under another space, but can be grouped using space categories.
- Can be separately exported to PDF, HTML or XML. The XML export provides a way of backing up and restoring a space.

There is no limit to the number of site spaces you can create in Confluence.

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**On this page:**


- What is a Space?
- What is a Space Blueprint?
- Viewing the spaces in a Confluence site
- Example: Favourite spaces as shown on the dashboard
- Notes


**Related pages:**


- Creating a Space
- Configuring a Sidebar
- Setting Up your Personal Space
- Viewing All Confluence Spaces
- Archiving a Space
- Deleting a Space
- Backing Up and Restoring a Space
- Administering a Space
- Confluence User's Guide


## What is a Space Blueprint?

Space Blueprints allow you to create common types of spaces, such as a team space or knowledge base, quickly and easily.

A space created using a space blueprint will have a customised homepage, sidebar and may contain page blueprints or sample content that is specific to that type of space.

When you create a space using a blueprint a wizard will prompt you to enter information to help set up your space. For example the Team Space blueprint asks for the members of your team, and displays them on the homepage.

## Viewing the spaces in a Confluence site

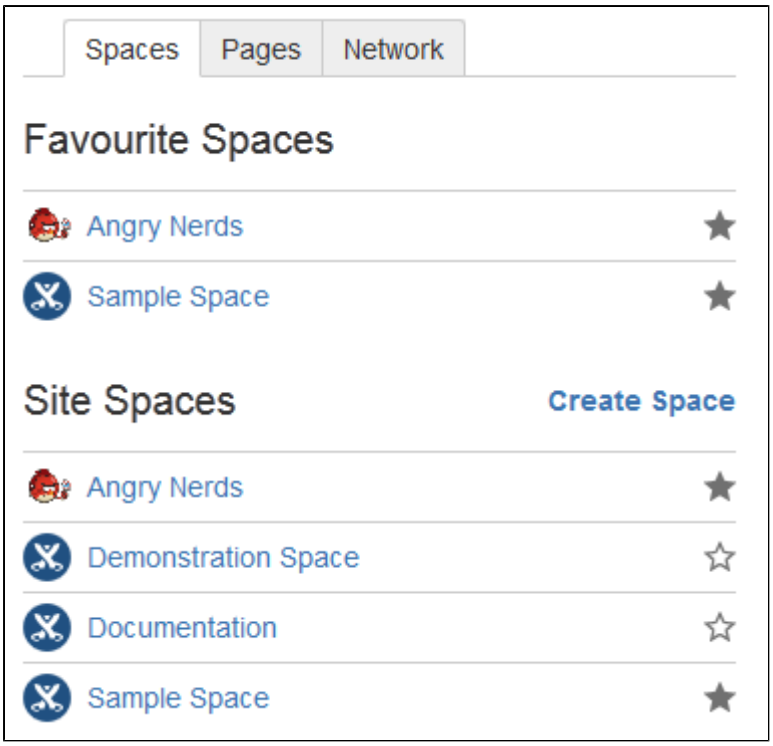
Confluence displays a list of spaces in the following locations:

- The **dashboard** displays a list of all the spaces that you have permission to see. You can make a space a favourite, or categorise the space, to get easy access to the content that is most relevant to you. See Customising your Personal Dashboard.
- The **space directory** displays a list of all the site and personal spaces that you have permission to see. You can filter the list of spaces. See Viewing All Confluence Spaces.
- The **people directory** displays a list of all Confluence users, including those who have personal spaces. See Searching the People Directory.

## Example: Favourite spaces as shown on the dashboard

The screenshot below shows the area of the Confluence dashboard that displays the spaces that you have marked as favourite:

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#### Notes

A **space key** is a short, unique identifier for a space. For example, you might give your documentation space a key of "DOC". To find the key of an existing space, look at the Confluence URL for a page in the space. The standard Confluence URL has this format:

```
http://my.confluence.site.com/display/SPACEKEY/Page+Name
```

## Viewing All Confluence Spaces

Quick guide to viewing spaces:

- The **dashboard** displays a list of all the spaces that you have permission to see. You can make a space a favourite, or categorise the space, to get easy access to the content that is most relevant to you. See Customising your Personal Dashboard.
- The **space directory** displays a list of all the site and personal spaces that you have permission to see. You can filter the list of spaces. See Viewing All Confluence Spaces.
- The **people directory** displays a list of all Confluence users, including those who have personal spaces. See Searching the People Directory.

**On this page:**


- Viewing spaces on the dashboard
- Viewing spaces in the space directory
- Viewing personal spaces in the people directory
- Notes


**Related pages:**

- Working with Spaces
- Archiving a Space
- Confluence User's Guide

#### Viewing spaces on the dashboard

The Confluence dashboard displays a list of spaces that you have permission to view. Remember to log in, so that you can see the complete list of spaces based on your username's permissions.

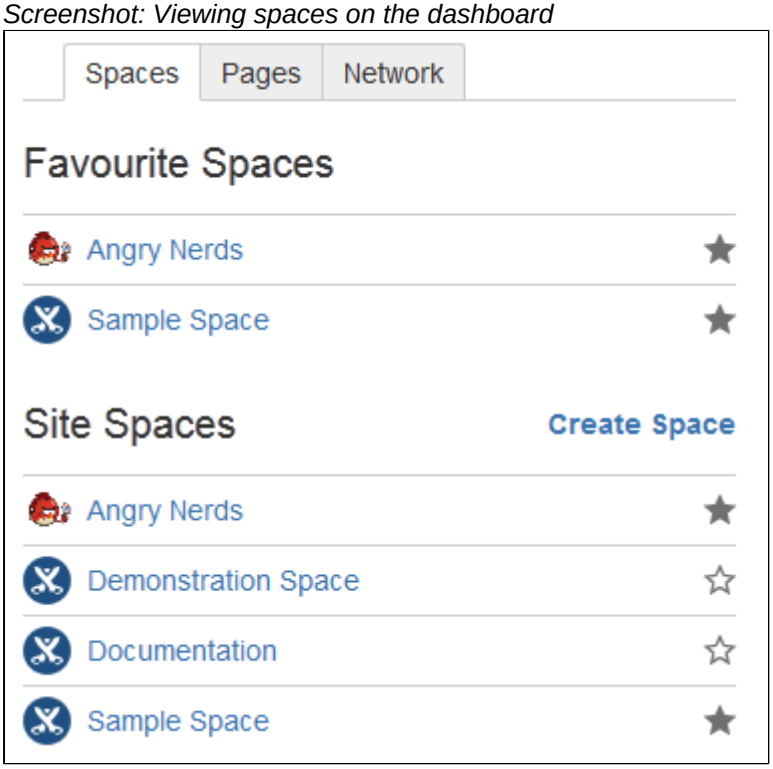
The **Spaces** tab displays all the global spaces on the site that you have permission to view, and the spaces you have marked as your favourites.

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**To see the spaces on the dashboard:**

1. Choose the **site logo** at the top left of your Confluence screen.
2. Scroll down and choose the **Spaces** tab.

*Screenshot: Viewing spaces on the dashboard*




### Viewing spaces in the space directory

The space directory displays a list of site and personal spaces that you have permission to view. Remember to log in, so that you can see the complete list of spaces based on your permissions.

**To view all spaces:**

1. Choose **Spaces** > **Space directory** on the header.
2. All the spaces that you have permission to view will appear.

If you have a large number of spaces in your site, you can filter the list.

**To filter the list of spaces:**

- Enter part of the space name or description in the **Filter** field, or
- Choose a pre-defined filter or category.

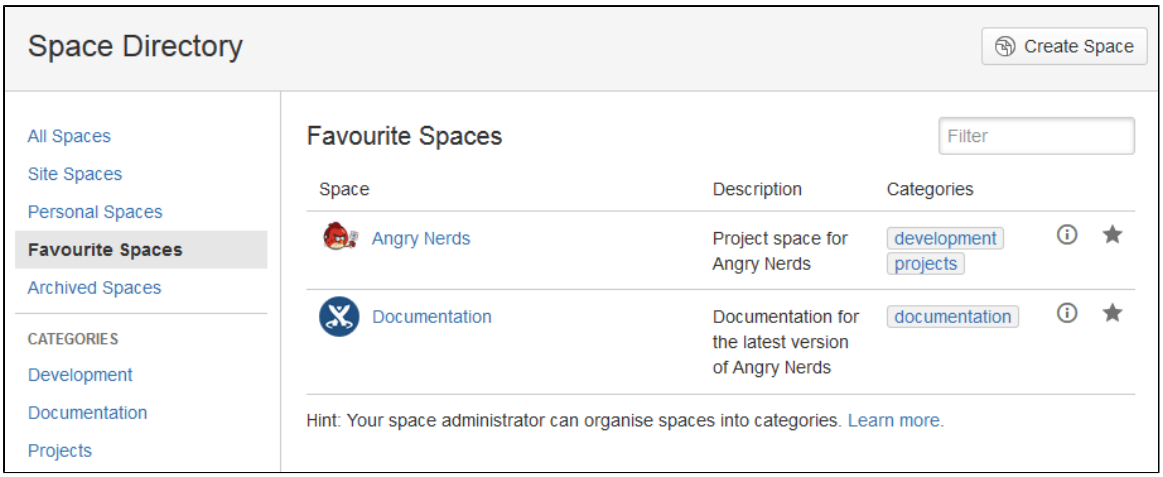
Only those spaces that match your filter will appear.

The filters include:

- **All Spaces** – Shows all global and personal spaces. The list excludes spaces that you do not have permission to view and spaces that have been archived.
- **Site Spaces** – Excludes personal spaces.
- **Personal Spaces** – Shows only personal spaces.
- **Favourite Spaces** – Shows the spaces that you have marked as your favourites.
- **Archived Spaces** – Shows all global and personal spaces that have been archived, and that you have permission to view.
- **Categories** – Shows spaces that have been labelled with the selected space category. See Using Labels to Categorise Spaces.

*Screenshot: Viewing favourite spaces in the space directory*

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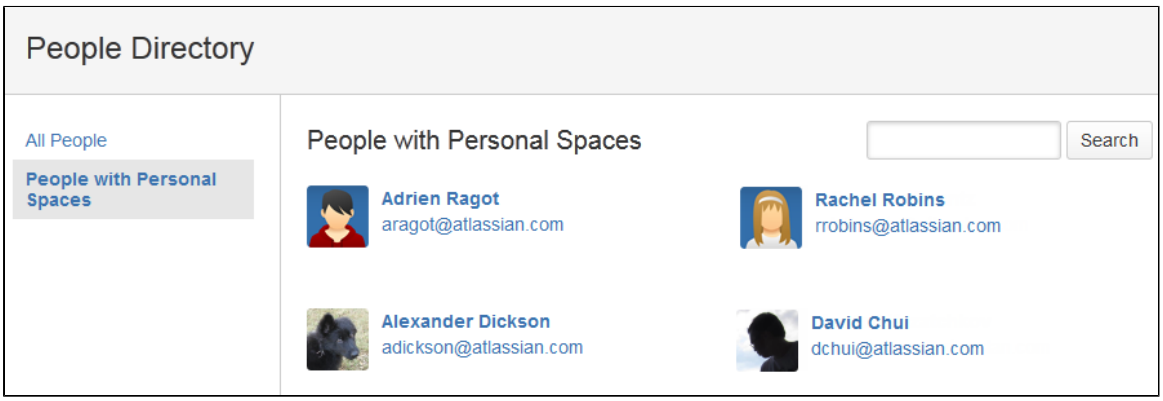

### Viewing personal spaces in the people directory

The people directory displays a list of Confluence users, including those who have personal spaces. See Searching the People Directory. It excludes spaces that have been archived.

**To see the personal spaces in the people directory:**

1. Choose **People** at the top of the screen.
2. Choose **People with Personal Spaces**.

*Screenshot: The people directory*




### Notes

- If you do not log in, you will be treated as an 'anonymous user'. Confluence will display only those spaces that anonymous users have permission to see.
- Permission to access a space is granted by a space administrator. See the overview of space permissions.
- You can use the Spaces List macro to display a list of spaces on a Confluence page.

## Creating a Space

In Confluence pages and other content are stored in spaces. There are two main types of spaces - site spaces and personal spaces. Your Confluence site can contain many site spaces, and each user can have one personal space.

To create a site space you need the 'Create Space' global permission.

To create a personal space you need the 'Personal Space' global permission.

**To create a space:**

1. Choose **Create Space** on the dashboard or from the space directory.
2. Choose the type of space you would like to create then choose **Next**.
3. Enter details of your space including **Name**, **Space Key**, and set any permissions - the wizard will prompt you.
4. Choose **Create**.

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Once your new space has been created you will be taken to the space homepage, which will be customised depending on the type of space you selected.

You can now start creating content to your space.

**Related pages:**

- Setting Up your Personal Space
- Configuring a Sidebar
- Editing Space Details
- Deleting a Space
- Confluence User's Guide

#### Choosing a space key

The space key is the unique identifier for your space and is used in URLs and macros. Your space key must be unique, can contain any alphanumeric character (A-Z, a-z, 0-9), and be up to 255 characters long. Personal spaces use your username as the space key.

You cannot change the space key after your space has been created, so choose your space key carefully.

#### Space permissions

Spaces are created with a set of default permissions. The user who created a site space is automatically granted 'space admin' permissions for that space. They can then grant permissions to other users and groups. See Space Administrators and their Permissions for more information.

**Note:** System Administrators can edit the permissions of spaces in their Confluence site at any time.

## Setting Up your Personal Space

Your personal space is a place where you can publish your own pages and blog posts. Once you have set up your personal space, Confluence users can reach it by clicking your name in the People Directory. You can get to your personal space by clicking your name at the top of the page and choosing 'Personal Space'.

#### Creating your personal space

To set up your personal space, you need the 'Personal Space' permission which is assigned by a Confluence administrator. See Giving People Access to Content and Global Permissions Overview.

**To create your personal space:**

1. Choose **your profile picture** at top right of the screen, then choose **Add Personal Space**.
2. Indicate whether your space should be private or not. A private space will be visible only to you. If you do not make it private, the space will have the default space permissions. Note that you can change these settings again later. You will have space administrator permissions on your space.
3. Choose **Create**.
4. The home page of your new space will appear. Your home page will contain any default space content as defined by your Confluence administrator. You can change this content at any time.

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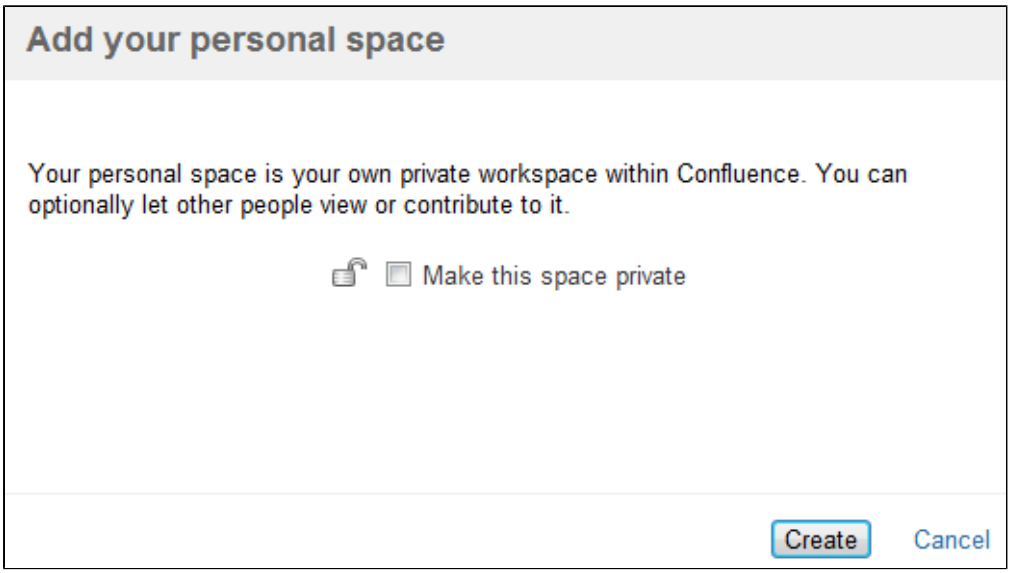
**On this page:**


- Creating your personal space
- Adding and changing content in your space
- Changing the look and feel of your space
- Granting access to your space
- Watching updates made in your space


**Related pages:**

- Configuring a Sidebar
- User Profile Overview
- Working with Spaces
- Confluence User's Guide

*Screenshot: Adding a personal space*




#### 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.

#### Changing the look and feel of your space

If you like, you can apply a different theme to your personal space, or modify its colour scheme. You can also add and arrange links in the sidebar.

#### Granting access to your space

When you created the space, you set the option to make your space private, or to allow other people to view and contribute content to your space. You can change the permissions on your space at any time.

#### Watching updates made in your space

By default, Confluence assigns you as a watcher of your space. This means that you will receive an email notification each time someone adds or updates content in your space. You can stop watching the space (see Watching Pages, Spaces and Blog Posts) and change your notification settings at any time.

## Administering a Space

This page gives an overview of the administration functions available in site and personal spaces. You need to be a space administrator to perform space administration functions.

Space administrators can also add and remove links in the space sidebar. See Configuring a Sidebar.

#### Administering a space

**To view the space tools page:**

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1. Go to the space and choose **Space tools** > **Permissions** on the sidebar.
2. The 'Space Permissions' page displays.

**On this page:**


- Administering a space
- Administering a space that uses the Documentation theme


**Related pages:**

- Configuring a Sidebar
- Working with Spaces
- Confluence User's Guide

The administration options are divided into the following categories. Some options may not be applicable for personal spaces or Confluence OnDemand.

- **Overview**
  - Space Details - see Editing Space Details
  - Space Labels - see Using Labels to Categorise Spaces
  - Delete Space - see Deleting a Space
- **Permissions**
  - Permissions - see Assigning Space Permissions
  - Restricted Pages - see Page Restrictions
- **Content Tools**
  - Templates - see Working with Templates
  - Orphaned Pages - see Managing Orphaned Pages
  - Undefined Pages - see Managing Undefined Pages
  - Attachments - see Viewing Attachment Details
  - Trash - see Purging Deleted Pages and Restoring a Deleted Page
  - Export - see Exporting Confluence Pages and Spaces to Other Formats
  - RSS Feeds - see Using pre-specified RSS feeds
  - Import - see Importing Pages from Disk. *Not available for personal spaces.*
- **Look and Feel**
  - Themes – see Applying a Theme to a Space
  - Colour Scheme – see Editing a Space's Colour Scheme
  - Layout - see Customising Space Layouts
  - Stylesheet - see Styling Confluence with CSS
  - PDF Layout – see Customising Exports to PDF
  - PDF Stylesheet – see Customising Exports to PDF
- **Integrations**
  - Application Links – see Configuring Application Links
  - Mail Accounts – see Working with Mail Archives. *Not available for personal spaces.*
  - Mailbox Import – see Importing Mail. *Not available for personal spaces.*
  - Mail – see Working with Mail Archives. *Not available for personal spaces.*

You can also customise the sidebar, including changing the space logo and adding shortcuts to other spaces - see Configuring a Sidebar for more information.

#### Administering a space that uses the Documentation theme

In this theme the standard Confluence sidebar is replaced by a page navigation sidebar. As a result the layout of the space administration options are slightly different.

**To view the space admin page:**

1. Go to the space you wish to manage.
2. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
3. The 'Space Details' page displays.

For spaces using the Documentation theme, the administration options are divided into the following categories:

- **General**

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    - Space Details – see Editing Space Details.
    - Space Labels – see Using Labels to Categorise Spaces.
    - Templates – see Working with Templates.
    - Delete Space – see Deleting a Space.
    - Trash – see Purging Deleted Pages and Restoring a Deleted Page.
- **Security**
    - Permissions – see Assigning Space Permissions.
    - Restricted Pages – see Page Restrictions.
    - Application Links – see Configuring Application Links.
- **Mail**
    - Mail Accounts – see Working with Mail Archives
    - Mailbox Import – see Importing Mail
- **Look and Feel**
    - Themes – see Applying a Theme to a Space.
    - Colour Scheme – see Editing a Space's Colour Scheme.
    - PDF Layout – see Customising Exports to PDF.
    - PDF Stylesheet – see Customising Exports to PDF.
    - Change Space Logo – see Changing a Space's Logo.

**Import**

- Import Pages from Disk – see Importing Pages from Disk.

## Editing Space Details

To edit the details of a space you need to be a space administrator for the space.

**To edit the details of a space:**

1. Go to the space and choose **Space tools** on the sidebar.
   *Note:* The options available in 'Space tools' differ depending on your space permissions. All space tools options are available if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Overview** > **Edit Space Details**
3. The 'Edit Space Details' page displays.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. The 'Edit Space Details' page displays.

On the 'Edit Space Details' page you can:

- Change the name of the space (you can also do this via the sidebar - see Configuring a Sidebar).
- Change the description of the space.
- Change the status of the space from 'Current' to 'Archived' or back again - see Archiving a Space.
- Select a new home page for the space. The home page is the default page that users see when they navigate to the space.
  *Note:* If you set this field to blank (no selection) the default home page will be the 'Pages' page.

**Related pages:**

- Configuring a Sidebar
- Working with Spaces
- Archiving a Space
- Confluence User's Guide

**Notes**

- You cannot edit the space key or the space creator's name.
- The space fields do not accept wiki markup. Any wiki markup entered in these fields will be displayed as plain text.

## Deleting a Space

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Deleting a space permanently removes the space and all of its contents. To delete a space you must be the space administrator for the space.

**Note:** Deleting a space is permanent. Always create an XML backup of the space before proceeding. Once you have deleted the space, there is no way to restore it unless you have made an XML space backup.

**To delete a space:**

1. Go to the space and choose **Space tools** > **Overview** on the sidebar.
2. Choose **Delete Space**.
3. Choose **OK**.

If your space is using the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Delete Space** in the space administration options.
3. Choose **OK**.

**Related pages:**

- Working with Spaces
- Archiving a Space
- Copying or Renaming a Space
- Confluence User's Guide

## Backing Up and Restoring a Space

Confluence can back up 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) that define the content of the space, and optionally a folder containing the attachments in the space. To transfer this data to another Confluence site, you can upload the zip file.

#### Creating a space backup

See Exporting Confluence Pages and Spaces to XML.

#### Restoring (importing) a space backup

See Restoring a Space.

## Archiving a Space

You can archive a space, so that its content is less visible but still available on your Confluence site. You need to be a space administrator to archive a space. You can change a space's status from archived to current at any time.

#### The effect of archiving a space

If a space is archived:

- The pages and other content do not appear in the Confluence quick navigation aid, which drops down when you enter text in the search box.
- By default, the pages and other content do not appear in the Confluence search results. If a Confluence site contains any archived spaces, the search screen will provide an option to include them in the search results.
- The space and its pages do not appear on the dashboard.
- Updates to the space's content do not appear in activity streams, such as the recent updates section of the dashboard.
- The space does not appear in space-selection dropdown menus. Similarly, its pages and other content do not appear in any dropdown menus in the Confluence user interface.
- In the space directory, the archived space will no longer appear in the general space lists. Archived spaces will appear on the 'archived spaces' tab. They will also appear on the category tabs, as determined by their labels.

These functions remain available for archived spaces:

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- People can view the content as usual, by following a link or typing in a URL belonging to the archived space.
- People can edit the content as usual, as determined by the space permissions.
- RSS feeds, watches and notifications remain active.

**On this page:**


- The effect of archiving a space
- Archiving a space
- Notes


**Related pages:**

- Working with Spaces
- Deleting a Space
- Confluence User's Guide

#### Archiving a space

**To archive a space:**

1. Go to the space and choose **Space tools** > **Overview** on the sidebar.
2. Choose **Edit Space Details**.
3. Select **Archived** in the **Status** dropdown menu.
4. Choose **Save**.

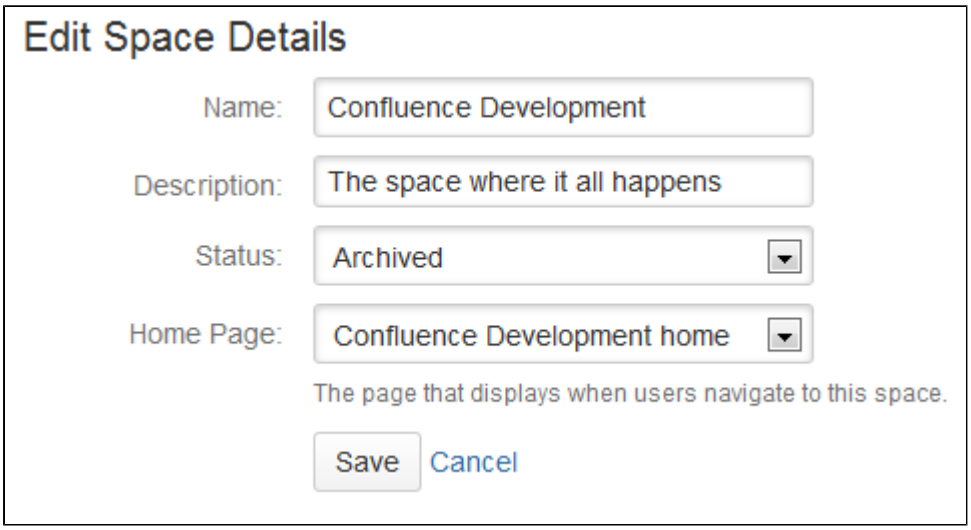
If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. The 'Edit Space Details' page displays. Select **Archived** in the **Status** dropdown menu.
3. Choose **Save**.

#### Notes

Archiving a space has no effect on search results of external search engines. For example, the space will still appear in Google search results.

*Screenshot: An archived space*




## Viewing Space Activity

Space activity information is **disabled by default**.

If enabled, the space activity screen displays statistics on the activity in each space. These include:

- How many pages and blog posts have been viewed, added or updated over a given period.
- Which content is the most popular (most frequently viewed).
- Which content is the most active (most frequently edited).
- Which people are the most active contributors/editors of content.

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The 'Activity' tab will not be visible unless the Confluence Usage Stats plugin is enabled. See notes below.

**To view the activity in a space:**

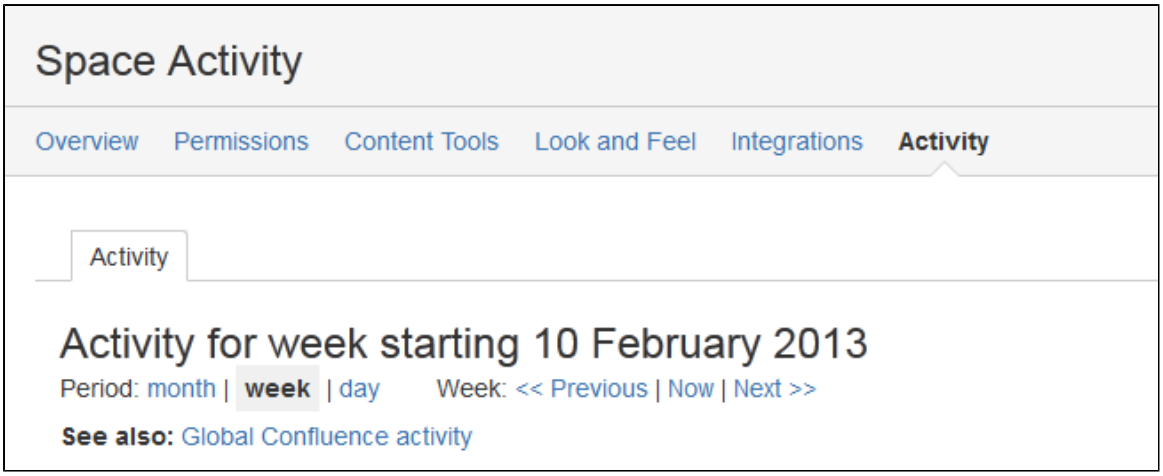
1. Choose **Space Tools** in the space sidebar.
2. Choose the **Activity** tab.

Confluence will show a graphic display of the number of pages and blog posts that have been viewed, added and edited, showing trends over a period of time.

**Related pages:**

- Page History and Page Comparison Views
- Managing Changes and Notifications and Tasks
- How Do I Get More Statistics from Confluence?
- Finding Unused Spaces *Not applicable to Confluence OnDemand.*
- Viewing Site Statistics *Not applicable to Confluence OnDemand.*
- Confluence User's Guide

*Screenshot 1: The Space Activity tab*




In addition to the graphical representation of Views and Edits, the top ten most popular and most active pages and/or blog posts will be listed, with a link to each.

*Screenshot: Popular content, active content and active contributors.*




**Notes**

- The Confluence Usage Stats plugin, which provides the 'Space Activity' screen, is known to cause performance problems on large installations. This plugin is **disabled by default**. Your Confluence system administrator can enable the plugin, but please be aware of the possible impact upon your site's performance.
- The plugin is sometimes called 'Confluence Usage Tracking'.
- If your Confluence site is clustered, the space activity information will not be available.

## Viewing Recently Updated Content

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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, blog posts, mail messages and comments.

Are you looking for a way to display a list of recently updated pages on a page? Try the Recently Updated Macro .

**To view the recently updated content in a space:**

1. Go to a page in the space and choose **Pages** in the sidebar.
   Or, if you are using the Documentation theme, choose **Browse** > **Pages** at the top of the screen.
2. Choose **Recently Updated**. A list of the most recently added or modified content in the space is displayed. Choose a link to open the corresponding document.

**Related pages:**

- Recently Updated Macro
- Viewing All Pages in a Space
- Viewing Space Activity
- Confluence User's Guide

## Working with Mail Archives

Confluence allows you to collect and archive mail within each space. This is useful for storing the email messages that relate to a particular project – you can put them in the same Confluence space as the content for that project.

You can download mail from one or more POP or IMAP accounts. You can also import mail from mbox files either on your local system or on the Confluence server.

You need space administration permissions to manage the mail archives. See Space Permissions Overview.

Confluence mail archiving is an optional feature. This means that the 'Mail' options may be disabled and will therefore not appear in the Confluence user interface. Mail archiving features are contained in a bundled plugin. To activate mail archiving features in Confluence, enable the plugin – choose **Confluence Admin** > **Manage Add-ons** > Choose **System** in the drop down, then enable the **Confluence Mail Archiving Plugin**.

**To see archived mail:**

- Go to a space and choose **Space Tools** > **Integration** > **Mail**
  Or, if your space uses the Documentation theme, choose **Browse** > **Mail** at the top of the screen.
- Choose a message to see its contents, or choose **Next**, **Previous** and other options to navigate around the mail archives.

**Managing mail archives:**

- Adding a Mail Account
- Deleting Mail
- Fetching Mail
- Importing Mail
- Managing Mail Accounts

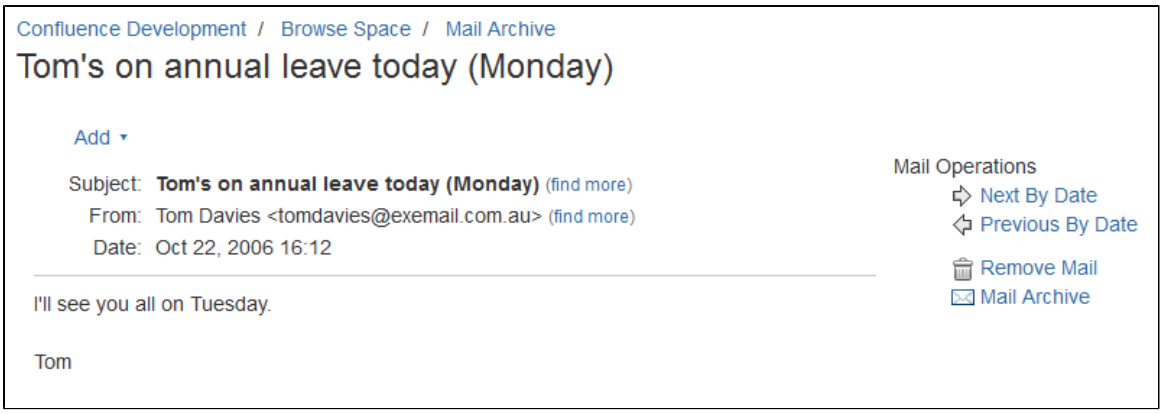
**Related pages:**

- Working with Spaces
- Confluence User's Guide

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Viewing a message in the mail archive*

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### Notes

- Only **site spaces** can store mail archives. Personal spaces cannot. See Working with Spaces for an explanation of site spaces and personal spaces.
- You can also search the mail messages and their attachments. See Searching Confluence.
- Confluence mail archiving is an optional feature. This means that the 'Mail' options may be disabled and will therefore not appear in the Confluence user interface. Mail archiving features are contained in a bundled plugin. To activate mail archiving features in Confluence, enable the plugin – choose **Confluence Admin** > **Manage Add-ons** > Choose **System** in the drop down, then enable the **Confluence Mail Archiving Plugin**.

## Adding a Mail Account

When you add a mail account, you are configuring Confluence to download mail from that account and archive the mail within the space.

You need space administration permissions to add a mail account. See Space Permissions Overview.

⚠ **Note:** Confluence will remove email messages from an email account when it transfers them to the mail archive. You must therefore configure Confluence 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.

#### *Step 1. Create a clone email account on the mail server*

1. Add a new email account on the mail server with the clone email address.
2. Copy all existing email messages from the actual account to the clone account.
3. Set up the actual account to bcc sent email messages to the clone account.
4. Set up the actual account to forward received email messages to the clone account.

**Related pages:**

- Working with Mail Archives
- Managing Mail Accounts
- How Do I Check Which Spaces Have Email Accounts?
- How Do I Disable Automatic Mail Polling?
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *Step 2. Configure Confluence to archive the clone account*

1. Go to the 'Mail Accounts' view:
   - Go to the space and choose **Space tools** > **Integrations** on the sidebar.
     Choose **Mail Accounts**.
   - If your space uses the Documentation theme:
     Choose **Browse** > **Space Admin** at the top of the screen.
     *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you

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are a super user (a member of the `confluence-administrators` group).
Choose **Integration** > **Mail Accounts**.

2. Choose **Add mail account**.
3. Enter configuration details for the account.
    - **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, POPS or IMAPS.
    - **Hostname:** Enter thehost name of the mail server on which the account resides.
    - **Port:** Do not edit this field. The mail server's port number will be displayed by default.
    - **Username:** Enter a username that has permission to retrieve mail from this account.
    - **Password:** Enter the account's password.
4. Choose **Test Connection** to verify the details.
5. Choose **Create** to add the account to Confluence.

**Notes**

- Only **site spaces** can store mail archives. Personal spaces cannot. See Working with Spaces for an explanation of site spaces and personal spaces.
- Confluence mail archiving is an optional feature. This means that the 'Mail' options may be disabled and will therefore not appear in the Confluence user interface. Mail archiving features are contained in a bundled plugin. To activate mail archiving features in Confluence, enable the plugin – choose **Confluence Admin** > **Manage Add-ons** > Choose **System** in the drop down, then enable the **Confluence Mail Archiving Plugin**.

## Deleting Mail

To delete mail from a space, you need 'Delete Mail' permission. See Space Permissions.

Only a space administrator can delete all email messages for the space simultaneously.

**To delete mail from a space:**

1. Go to a space and choose **Space Tools** > **Integration** > **Mail**
   Or, if your space uses the Documentation theme, choose **Browse** > **Mail** at the top of the screen.A list of email messages in the space is displayed in reverse chronological order.
2. Delete an individual email message by choosing the trash  icon beside it.
3. If you are a space administrator, you can delete all email messages within a space at once by choosing **Delete All**.

Space administrators can restore deleted email messages, provided they were deleted individually.

**Note:** Email messages deleted using the 'Delete All' option cannot be restored.

**To restore mail that has been deleted:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Trash**.
3. You will see a list of email messages and other content deleted from the space. Choose Restore beside the email message you want to restore.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Trash** in the left-hand panel.
3. You will see a list of email messages and other content deleted from the space. Choose **Restore** beside the email message you want to restore.

**Related pages:**

- Working with Mail Archives
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

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## Fetching Mail

Confluence fetches mail from the server once every 30 minutes. If necessary, you can manually retrieve new mail from the configured mail accounts.

You need to be a space administrator to manually retrieve mail. See Space Permissions.

**To manually retrieve mail:**

1. Go to a space and choose **Space Tools** > **Integration** > **Mail**
   Or, if your space uses the Documentation theme, choose **Browse** > **Mail** at the top of the screen.
2. Choose **Fetch new mail**. Any new messages will be displayed in order of most recent first.

**Notes**

- Confluence mail archiving is an optional feature. This means that the 'Mail' options may be disabled and will therefore not appear in the Confluence user interface. Mail archiving features are contained in a bundled plugin. To activate mail archiving features in Confluence, enable the plugin – choose **Confluence Admin** > **Manage Add-ons** > Choose **System** in the drop down, then enable the **Confluence Mail Archiving Plugin**.
- Once mail is fetched, it will be removed from the server.

**Related pages:**

- Adding a Mail Account
- Working with Mail Archives
- How Do I Disable Automatic Mail Polling?
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

## Importing Mail

Confluence allows you to import mail from mbox files located either on your local system or on the Confluence server. Confluence will store the imported email messages in the space's mail archive.

You need to be a space administrator to import mail for a space. See Space Permissions.

NB: You may need to enable the **Confluence Mail Archiving Plugin** as it is disabled by default.

**To import mail from an mbox file:**

1. Go to the space and choose **Space tools** > **Integrations** on the sidebar.
2. Choose **Mailbox Import**.
   - To import from a location on your file system: Browse to the location of the mbox file, select the file and then choose **Import**.
   - To import from the Confluence server: Enter the location of the mbox file on the server, then choose **Import**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Mailbox Import** in the space administration options.
   - To import from a location on your file system: Browse to the location of the mbox file, select the file and then choose **Import**.
   - To import from the Confluence server: Enter the location of the mbox file on the server, then choose **Import**.

**Related pages:**

- Working with Mail Archives
- Adding a Mail Account
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

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#### Notes

- Only **site spaces** can store mail archives. Personal spaces cannot. See Working with Spaces for an explanation of site spaces and personal spaces.
- Confluence mail archiving is an optional feature. This means that the 'Mail' options may be disabled and will therefore not appear in the Confluence user interface. Mail archiving features are contained in a bundled plugin. To activate mail archiving features in Confluence, enable the plugin – choose **Confluence Admin** > **Manage Add-ons** > Choose **System** in the drop down, then enable the **Confluence Mail Archiving Plugin**.

## Managing Mail Accounts

You need to be a space administrator to manage mail accounts for a space. See Space Permissions.

Confluence will import mail from these POP/IMAP mail accounts into the space's mail archive.

**To manage mail accounts:**

1. Go to the 'Mail Accounts' view:
   - Go to the space and choose **Space tools** > **Integrations** on the sidebar.
     Choose **Mail Accounts**.
   - If your space uses the Documentation theme:
     Choose **Browse** > **Space Admin** at the top of the screen.
     *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
     Choose **Integration** > **Mail Accounts**.
2. Add an account if required. See Adding a Mail Account.
3. For each of the existing mail accounts listed, you can:
   - **Edit**: Change the configuration settings for the mail account.
   - **Remove**: Remove the account permanently.
   - **Disable/Enable**: Temporarily disable the account, or enable a disabled account.

**Related pages:**

- Working with Mail Archives
- Importing Mail
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Notes

Confluence mail archiving is an optional feature. This means that the 'Mail' options may be disabled and will therefore not appear in the Confluence user interface. Mail archiving features are contained in a bundled plugin. To activate mail archiving features in Confluence, enable the plugin – choose **Confluence Admin** > **Manage Add-ons** > Choose **System** in the drop down, then enable the **Confluence Mail Archiving Plugin**.

# Working with Confluence Labels

Labels are key words or tags that you can add to pages, blog posts, attachments and spaces. You can define your own labels and use them to categorise, identify or bookmark content in Confluence.

For example, you could assign the label 'accounting' to all accounts-related pages on the site. You can then browse all pages with that label in a single space or across the site, or display a list of pages with that label. You can search based on the label, or use it to filter items when you subscribe to a Confluence RSS feed.

Because labels are user-defined, you can add any word that helps you identify the content in the site.

You can add or remove labels without affecting the page content.

### Content labels

You can add labels to pages, blog posts and attachments. Any user with permission to view the page can also view its labels. See Adding Labels.

### Space categories

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You can also apply labels to spaces and use them to categorise your spaces. These are known as **space categories**. See Using Labels to Categorise Spaces.

**On this page:**


- Content labels
- Space categories
- Advantages of labels
- Using labels
- Notes


**Related pages:**

- Using Label Macros to Categorise Wiki Content
- Viewing Labels and Labelled Content
- Using Labels in the Search
- Using Labels to Categorise Spaces
- Using the RSS Feed Builder
- Confluence User's Guide

### Advantages of labels

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 and spaces without having to restructure the site.
- Labels are easy to add and edit, and do not affect the content of the page.
- You can add as many labels as you like to a page or space.

### Using labels

- Adding Labels
- Using Labels to Categorise Spaces
- Removing Labels
- Using Label Macros to Categorise Wiki Content
- Viewing Labels and Labelled Content
- Viewing Personal Labels

### Notes

**Note: Personal labels are deprecated:** Earlier versions of Confluence recognised a special type of label called a 'personal' label. A personal label starts with '**my:**' and is only visible to the user who created it. We are removing personal labels from Confluence, as announced in the Confluence 4.1 Upgrade Notes. The functionality for personal labels is still in Confluence, but we recommend that you stop using them. In a future release, we plan to remove the functionality altogether.

## Adding Labels

Labels are key words or tags that you can add to pages, blog posts, attachments and spaces. You can define your own labels and use them to categorise, identify or bookmark content.

### Labelling a page or blog post

Any user with permission to edit a page can add a label to a page.

**To add a label to a page or blog post:**

1. Go to the page. If the page already has labels, these will be listed at the bottom of the page, below the page content.
2. Choose the edit icon beside the list of labels, or press L on your keyboard.
3. Type in a new label. Existing labels are suggested as you type.
4. Choose **Add**.

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**On this page:**


- Labelling a page or blog post
- Labelling an attachment
- Notes

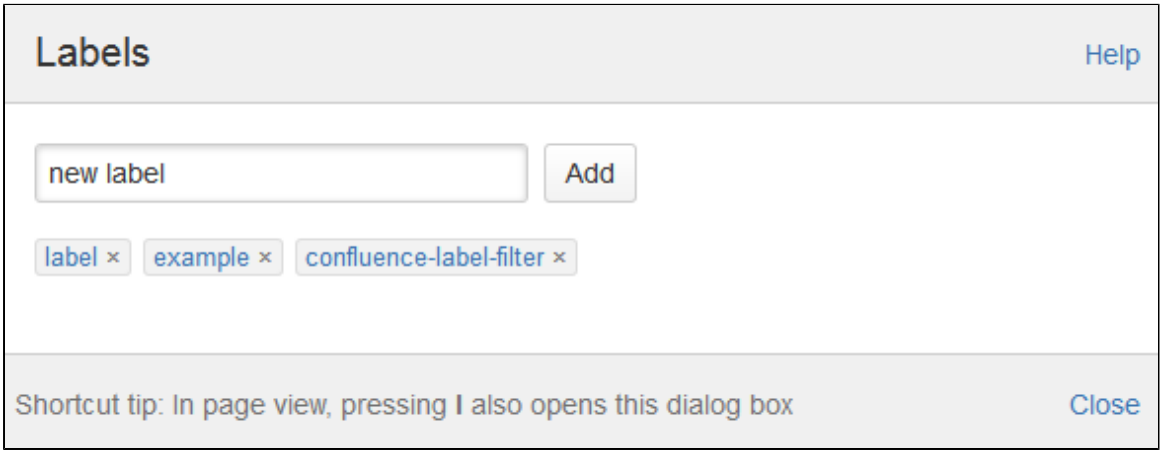

**Related pages:**

- Removing Labels
- Viewing Labels and Labelled Content
- Using Label Macros to Categorise Wiki Content
- Using Labels to Categorise Spaces
- Confluence User's Guide

*Screenshot: Labels as they are displayed on a page*




*Screenshot: Adding a label to a page or blog post*




### Labelling an attachment

If you have permission to view or edit the page that contains the attachment, you can add a label to the attachment.

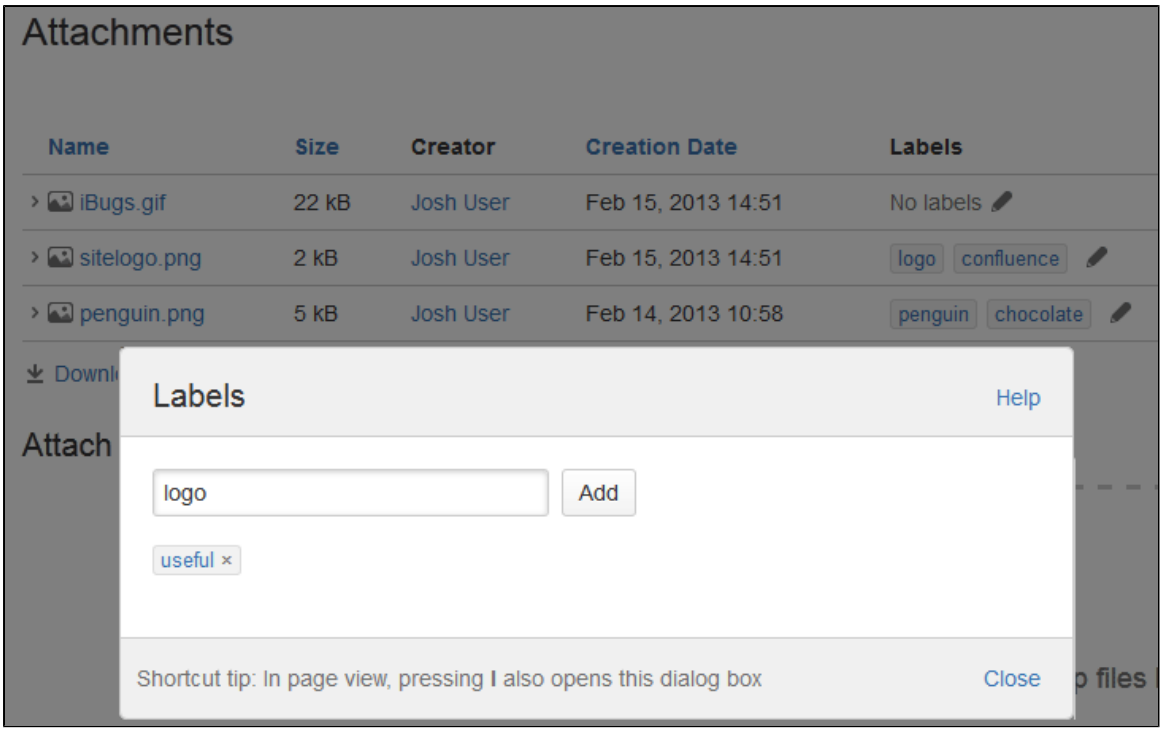
**To add a label to an attachment:**

1. Go to the page that contains the attachment. Choose **Tools** > **Attachments**.
2. Alternatively, go to the attachments view of the space:
   - Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
   - Choose **Attachments**.
3. You will see a list of attachments, with columns for attachment name and other details. If the attachment already has labels, these will be listed in the **Labels** column.
4. Choose the edit icon beside the list of labels.
5. Type in a new label. Existing labels are suggested as you type.
6. Choose **Add**.

You can also add labels in a list of attachments displayed by the Attachments macro, by choosing the edit icon beside each label.

*Screenshot 2: Adding a label to an attachment*

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#### Notes

- **Note: Personal labels are deprecated.** Earlier versions of Confluence recognised a special type of label called a 'personal' label. A personal label starts with '**my:**' and is only visible to the user who created it. We are removing personal labels from Confluence, as announced in the Confluence 4.1 Upgrade Notes. The functionality for personal labels is still in Confluence, but we recommend that you stop using them. In a future release, we plan to remove the functionality altogether.
- If you add a label to a template, that label will be copied to the page when someone adds a page based on that template. See Adding a Template.

## Using Labels to Categorise Spaces

A **space category** is a label that you can apply to a whole space for the purpose of categorising your spaces in the the space directory, and in the recent activity area of the dashboard.

You need to be a space administrator to add space categories.

#### Using space categories

Here is an example of using space categories. Let's assume that you have one or more spaces that your Sales team may be interested in. You can use the category 'sales' to group those spaces together.

1. First add the 'sales' category to the relevant spaces, as described below.
2. Then, in the space directory, you can click the relevant tab to see only the spaces with the chosen label. See Viewing All Confluence Spaces.
3. And, you can see updated content in those spaces by choosing the 'sales' category under the **Space Categories** tab in the recent activity area of the dashboard. See Customising your Personal Dashboard.

**On this page:**


- Using space categories
- Categorising a space
- Removing a space from a category
- Removing an entire space category
- Notes


**Related pages:**

- Working with Confluence Labels
- Viewing All Confluence Spaces
- Confluence User's Guide

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### Categorising a space

When you categorise a space, you add a 'space category' to the space. A category does not exist if there are no spaces labelled with that category.

**To add a space category to a space:**

1. Go to the space and choose **Space tools** > **Overview** on the sidebar.
2. Choose Space Categories: **Edit**.
3. Under 'Space Categories', enter your category name and choose **Add**.
   Alternatively, choose a category in the list of 'Suggested Space Categories'
4. Choose **Done**.

If your space is using the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Space Labels** in the space administration options.
3. Under 'Space Categories', enter your category name and choose **Add**.
   Alternatively, choose a category in the list of 'Suggested Space Categories'.
4. Choose **Done**.

### Removing a space from a category

Removing a space from a category is the same as removing the category from the space.

**To remove a space category from a space:**

1. Go to the space and choose **Space tools** > **Overview** on the sidebar.
2. Choose Space Categories: **Edit**.
3. Choose the **x** next to the space category.

If you are using the Documentation theme:

1. Go to the space and choose **Space tools** on the sidebar.
   *Note:* The options available in 'Space tools' differ depending on your space permissions. All space tools options are available if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Space Labels** in the space administration options.
3. Choose the x next to the space category.

### Removing an entire space category

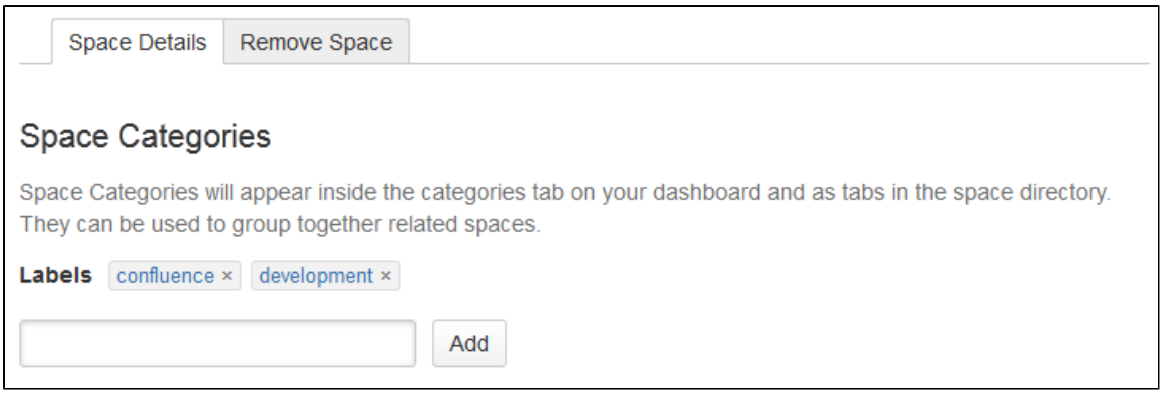
To remove a whole space category from Confluence, just remove that category from all spaces, as described above. A category cannot exist if there are no spaces labelled with that category. The space category will disappear from the dashboard and space directory.

**To remove an entire space category from Confluence:**

1. Choose **Spaces** > **Space directory** on the header.
2. Choose the space category that you want to remove.
3. You will see a list of all spaces in that category. Choose the spaces one by one, and remove the category from each space, as described above.

*Screenshot: Space categories*

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#### Notes

The ability to add space labels has been removed in Confluence 5.0 in order to simplify the way labels are used in spaces. Existing space labels will be preserved, but you will be unable to add new space labels. Space categories are unaffected by this change.

## Removing Labels

Labels are key words or tags that you can add to pages, blog posts and attachments. You can define your own labels and use them to categorise, identify or bookmark content in Confluence. You can see the existing labels, and the pages which contain the labels, by viewing labels and labelled content.

#### Removing labels in Confluence

**To remove a label from a page or blog post:**

1. Go to the page that contains the label. You will see the labels at the bottom of the page below the page content.
2. Choose the edit icon beside the list of labels, or press L on your keyboard.
3. In the 'Labels' dialog, choose the **X** next to a label to remove that label.
4. Choose **Close**.

**Related pages:**

- Working with Confluence Labels
- Confluence User's Guide

**To remove a label from an attachment:**

1. Go to the page that contains the attachment. Choose **Tools** > **Attachments**.
2. Alternatively, go to the attachments view of the space:
   - Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
   - Choose **Attachments**.
3. You will see a list of attachments, with columns for the attachment name and other details. If the attachment already has labels, these will be listed in the **Labels** column.
4. Choose the edit icon beside the list of labels.
5. In the 'Labels' dialog, choose the **X** next to a label to remove that label.
6. Choose **Close**.

When you have removed the label from all content, the label will disappear from the labels view in the space too.

#### Notes

- **Deleted pages containing labels:** If you have deleted pages that contain a label, you may need to purge the deleted pages from the space's trash to ensure that the label disappears too.
- **Bulk removal of labels:** There is no way to remove a number of labels at once, via the Confluence user interface. Instead, we suggest that you use the Confluence Command Line Interface. See the 'removeLabels' action described in the CLI documentation. For an introduction to the CLI, see this blog post: Confluence CLI for bulk actions like deleting or publishing pages.

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## Using Label Macros to Categorise Wiki Content

Using labels, you can categorise pages and refer to content across multiple categories, pages and even spaces.

#### Example

For the purpose of this example, imagine we have a space with pages of content on various types of vehicles. Pages are shown in **bold** text, 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 categorised using labels, with pages referenced using the Content by Label Macro.

| If you want to list... | You would use this label: | These would be the pages that you would get: |
|---|---|---|
| Vehicle types | `vehicle-type` | Cars, Motorbikes |
| All vehicles | `vehicle` | Toyota Prius, Honda Civic, Porshe Carrera, Harley Davidson Sportster, Suzuki GSX-R |
| All cars | `car` | Toyota Prius, Honda Civic, Porshe Carrera |

**Related pages:**

- Working with Confluence Labels
- Working with Macros
- Confluence User's Guide

#### Label macros

***Navmap macro***

The Navigation Map macro renders the list of pages associated with a specified label as a navigation map.

***Related Labels macro***

The Related Labels macro lists labels commonly associated with the current page's labels.

***Content by Label macro***

The Content by Label macro displays a list of content marked with specified labels.

***Content Report Table macro***

The Content Report Table macro displays a set of pages and blog posts in tabular format, based on the specified labels.

***Labels List macro***

The Labels List macro lists all labels of a space, grouped alphabetically.

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#### *Recently Used Labels macro*

The Recently Used Labels macro lists labels most recently used in a specified scope - global (site), space, or personal.

#### *Popular Labels macro*

The Popular Labels macro displays popular labels in a list or in a heatmap (also called a cloud).

## Viewing Labels and Labelled Content

Labels are key words or tags that you can add to pages, blog posts, attachments and spaces. You can define your own labels and use them to categorise, identify or bookmark content in Confluence. This page describes a few ways of viewing labels and labelled content. The focus of this page is on labels that are visible to everyone. You may also be interested in viewing personal labels.

### Finding the labels view

Global labels are visible to all users with 'view' permission on the page, and personal labels are visible only to the person who added them.

- Any page or blog post that has labels will have them listed together in a block at the bottom of the page.
- You will also see labels in the 'Attachments' view or in a listing of attachments provided by the Attachments macro. (See Displaying a List of Attachments.)

**To find the labels view by choosing a label:**

If you are in a page that has labels, choose a label.

- If it is a **personal** label (starts with 'my:') you will go to the personal labels page in your user profile. See Viewing Personal Labels.
- If it is a global label, you will go to the 'Labels' tab of the space. Choose **Popular Labels** or **All Labels** to see all labels in the space.

*Screenshot: Labels as they are displayed on a page*




**To find the labels view via URL:**

Visit the following URL:

```
<MY.CONFLUENCE.SITE>/labels/listlabels-alphaview.action?key=MYSPACEKEY
```

For example: https://confluence.atlassian.com/labels/listlabels-alphaview.action?key=DOC

**To find the labels view from the menu (Documentation theme only):**

If the space is using the Documentation theme, you can access the labels view directly via the menu:

- Go to a page in the space and choose **Browse** > **Labels**.
- Choose **Popular Labels** or **All Labels** to see all labels in the space.

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**On this page:**


- Finding the labels view
- Using the labels view
- Searching for labels
- Navigating pages by URL and label


**Related pages:**

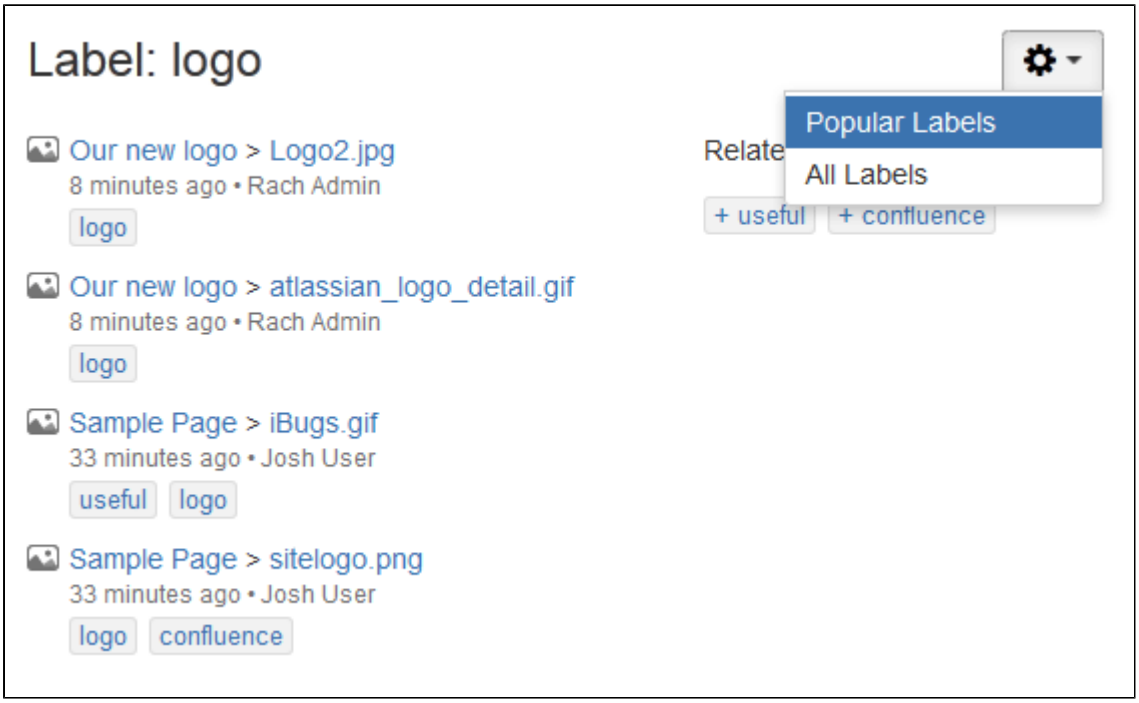
- Viewing Personal Labels
- Searching Confluence
- Confluence User's Guide

### Using the labels view

The labels view in a space offers the following options:

- **Popular Labels**: Choose this option to see a list of the most frequently used labels in that space. From here, you can also view the most popular labels across the site. The bigger the font size, the more popular the label.
- **All Labels**: View all labels in the space. From this view, you can choose a link to view an alphabetical listing of all labels across the site. Choosing 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.
- **See content from all spaces:** Expand the list of labels to include pages and other labelled content from all spaces.

*Screenshot: The labels view, showing all 'logo' labels*




### Searching for labels

Use the '`labelText:`' prefix to search specifically for content that has a specific label. The table below gives examples of search terms that you can enter into Confluence's search box, and the search results that you can expect.

| Searching for ... | Returns content that ... |
|---|---|
| `recipe labelText:chocolate` | contains the word '`recipe`' or has the label '`chocolate`' |

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| | |
|---|---|
| `recipe AND labelText:chocolate` | contains the word '`recipe`' and has the label '`chocolate`' |
| `labelText:cake labelText:chocolate` | has the label '`cake`' or the label '`chocolate`' |
| `labelText:cake AND labelText:chocolate` | has both labels '`cake`' and '`chocolate`' |

The '`labelText:`' prefix is an example of a search field. See more about Confluence Search Fields.

#### Navigating pages by URL and label

This section describes how to move around your Confluence pages by adding and subtracting labels from the list of labels that you want to match. You can search for matching labels by entering a URL. You can also add and subtract labels from the search.

**To search labelled pages by typing a URL:**

1. Open a new web browser window.
2. In the address bar of your web browser, type an URL such as:

   ```
   http://CONFLUENCE_HOSTNAME/label/foo+bar
   ```

3. Press Enter.
4. The 'View Labels' page will load, showing search results for pages with the labels 'foo' and 'bar'.

**Adding a label to your results:**

- Choose a label from the **Related Labels** list (at the top *left*).
- A new page loads, showing pages that contain all of the labels selected so far. You can continue to add labels to the results in this way.

**Subtracting a label from your search results:**

When two labels are in use, links to subtract a 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 this:

```
- education
```

### Viewing Personal Labels

Any page that has labels (global or personal) will have them listed at the bottom of the page. Personal labels start with '**my:**', and are only visible to the user that created them.

**Note: Personal labels are deprecated.** The functionality for personal labels is still in Confluence, but we recommend that you stop using them. In a future release, we plan to remove the functionality altogether.

**To view your personal labels:**

- If you are on a page that has personal labels, click one of those labels to get to the screen showing all your personal labels.
- Alternatively, visit the URL: `<your Confluence site>/users/viewmylabels.action`. For example: http://confluence.atlassian.com/users/viewmylabels.action

You will see a list of your personal labels along with the pages that contain the label.

**Related pages:**

- Adding Labels
- Viewing Labels and Labelled Content
- Confluence User's Guide

## Working with Favourites

You can mark pages and spaces as favourites and then access them quickly from the Confluence dashboard and from your user profile.

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### Adding favourites

**To add a page as a favourite:**

1. Go to the page.
2. Choose **Tools** > **Favourite**.
   The menu item will change to 'Remove Favourite' to indicate the page is a favourite.

**To add a space as a favourite:**

1. Choose **Spaces** > **Space directory** on the header.
2. Choose the star icon next to the space name in the list of spaces.
   The star icon will change colour to indicate that you have added this space as a favourite.

**To add someone's personal space as a favourite:**
This option is only available for personal spaces. You cannot mark a person's profile as favourite, so this option is not available if the person has not yet created a personal space.

1. Choose **Spaces** > **Space directory** on the header.
2. Choose **Personal Spaces**.
3. Choose the star icon next to the space name in the list of spaces.
   The star icon will change colour to indicate that you have added this space as a favourite.

**On this page:**


- Adding favourites
- Removing favourites
- Viewing favourites


**Related pages:**

- User Profile Overview
- Likes and Popular Content
- Working with Spaces
- Searching the People Directory
- Confluence User's Guide

### Removing favourites

**To remove a page as a favourite:**

1. Go to the page.
2. Choose **Tools** > **Remove Favourite**.
   This will change to 'Favourite' to indicate that you have removed this page from your favourites.

**To remove a space as a favourite:**

1. Go to the dashboard or choose Spaces in the header.
2. Choose the star icon beside the space in the list of spaces.
   The star icon will change colour to indicate that you have removed this space as a favourite.

**To remove a personal space as a favourite:**

1. Choose **Spaces** in the header.
2. Choose **Personal Spaces**.
3. Choose the star icon beside the space in the list of personal spaces.
   The star icon will change colour to indicate that you have removed this space as a favourite.

### Viewing favourites

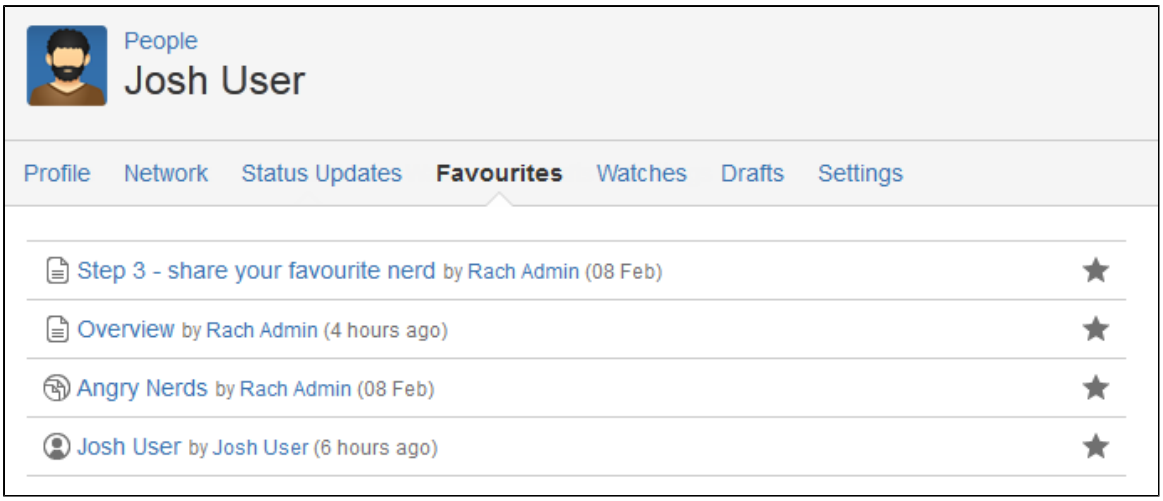
You can see your favourite pages via your user profile and on the dashboard.

**To view your favourites via your profile:**

1. Log in to Confluence, if you have not already done so.
2. Choose **your profile picture** at top right of the screen, then choose **Favourites**.

*Screenshot: Viewing your favourites in your profile*

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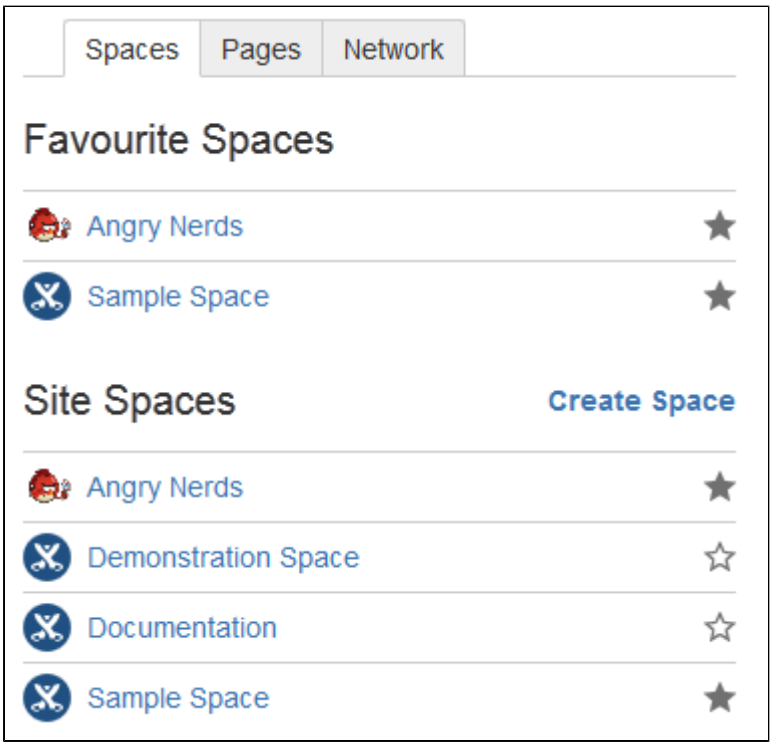

**Viewing your favourites via the dashboard**

On the dashboard, you can see:

- your favourite spaces on the **Spaces** tab.
- your most recently added favourite pages on the **Pages** tab.

Recently updated content in your favourite spaces will be listed on the **Favourite Spaces** tab on the dashboard.

*Screenshot: Viewing your favourites on the dashboard*




## Working with Attachments

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format. You can attach files to any page or blog post, provided you have permission to do so.

When a page you are viewing contains attachments, a small paperclip icon 1 appears next to the page byline, under the page name. Clicking the paperclip will take you to the 'Attachments' view, where you will see the full list of attachments.

**A quick guide to attachments**

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Choose **Tools** > **Attachments** to view and attach files to a Confluence page. (See Attaching Files to a 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 the relevant files, you can display attached images and multimedia content on the page. If the attachment is an Office document, use the View File macro to display the content of the document on the Confluence page. If you have an Office application installed, you will also be able to launch your Office editor from within Confluence. See Displaying Office Files in Confluence and Working with the Office Connector.

Your page can display a list of attachments – these may be the files that are attached to the page or to any page in the space. You can also display a link to an attachment. When a user clicks the link, the attachment will open, provided that the user has the software application needed to open the attachment.

You can label an attachment, and then use labels to categorise your content.

**On this page:**


- A quick guide to attachments
- Working with attachments
- Notes


**Related pages:**

- Configuring Attachment Size
- Confluence User's Guide
- Configuring your Attachment Storage

### Working with attachments

- Using Drag-and-Drop in Confluence
- Attaching Files to a Page
- Attachment Versions
- Deleting an Attachment
- Displaying a List of Attachments
- Downloading Attachments
- Editing Attachment Properties
- Embedding Multimedia Content
- Embedding PowerPoint Presentations in a Page
- Moving an Attachment
- Viewing Attachment Details

### Notes

If you want an attachment to be displayed on more than one page, you may wish to consider creating a special page to hold such attachments. This special page could be part of an 'inclusions library'.

## Using Drag-and-Drop in Confluence

This page describes the drag-and-drop functionality in Confluence, and the browser configurations needed to support that functionality.

#### Overview of the drag-and-drop features

Confluence supports these forms of drag-and-drop:

- **Drag-and-drop within the editor.** Working inside the editor panel, you can drag an image or a macro and drop it into a different location on the page.
- **Drag-and-drop for external images and files.** You can drag a file from a location outside Confluence, and drop it directly into the editor. For example, try it with images, video files, audio files, Office documents, and PDF files. The contents of the file will be embedded into the page or blog post.

#### Drag-and-drop within the editor

Working within the editor panel, you can drag an image or a macro from one location on the page and drop it into a different location on the page. Hover your cursor over the image or the macro placeholder. The cursor

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changes to a drag-and-drop icon  and you can click the image or macro and drag it to a new location.

If you want to abandon the drag-and-drop action, press Escape. The image/macro will return to its original position.

#### *Requirements for internal drag-and-drop*

For the drag-and-drop of images and macros in the editor, Confluence supports the following browsers: Chrome, Firefox, and Internet Explorer 9. (Drag and drop in the editor does not work in Internet Explorer 8.)

**On this page:**


- Overview of the drag-and-drop features
- Drag-and-drop within the editor
  - Requirements for internal drag-and-drop
- Drag-and-drop for external images and files
  - Requirements for external drag-and-drop
  - Disabling drag-and-drop for external files


**Related pages:**

- Attaching Files to a Page
- Using the Editor
- Displaying Images
- Confluence User's Guide

### Drag-and-drop for external images and files

You can drag files from your computer or file system onto your browser and attach them to your Confluence pages or blog posts. You can drag and drop:

- multiple files at once.
- image, multimedia and PDF files, and Office documents.

When you drag and drop files onto the different Confluence views, you get the following results:

| Confluence View | Result |
|---|---|
| Attachments | Files are attached |
| Page | Files are attached |
| Edit | Files are attached, and embedded at the cursor position |

#### *Requirements for external drag-and-drop*

- For dragging files from your computer or file system onto your browser, your browser must support the drag-and-drop functionality of HTML5. Browsers such as Firefox 3.5, Safari 4 and Internet Explorer 9 offer limited HTML5 functionality and don't support drag-and-drop.

**Note about supported web browsers:** Please ensure that you are using one of the web browsers supported by Confluence. If you are using an unsupported browser or browser version, some features may not work correctly. Check the Supported Platforms page to find the list of supported web browsers and browser versions on this page.

- Some older Confluence themes do not support Confluence's drag-and-drop feature.
  - **Supported themes**: Confluence Default theme, Documentation theme.
  - **Themes that are not supported**: Left Navigation theme, Clickr theme. You cannot drag and drop attachments into spaces that use these themes.

#### *Disabling drag-and-drop for external files*

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- If you wish to disable the drag-and-drop feature, you can disable the entire **Confluence Drag and Drop Plugin**. See Disabling and Enabling Add-ons.
- You can also disable the drop zone that appears on the 'Attachments' view or the image dialog box, by disabling the **View Attachments Drop Zone** or **Image Dialog Drop Zone** modules of the above plugin. This will remove these drop zones while retaining Confluence's drag-and-drop functionality.

## Attaching Files to a Page

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format. Read more in Working with Attachments.

When you attach a file to a page, Confluence makes a copy of the file and stores it on the Confluence server. Page attachments in Confluence are managed using the 'Attachments' view of the page.

To attach a file, you need the 'Create Attachments' permission. See Space Permissions.

When a page you are viewing contains attachments, a small paperclip icon 1 appears next to the page byline, under the page name. Clicking the paperclip will take you to the 'Attachments' view, where you will see the full list of attachments.

**On this page:**


- Attaching files
- Attachment versions
- Notes


**Related pages:**

- Working with Attachments
- Configuring Attachment Size
- Displaying Images
- Attachment Versions
- Deleting an Attachment
- Confluence User's Guide

### Attaching files

This page describes the following ways of attaching files to a Confluence page:

- Drag and drop files on to a Confluence page.
- Browse to, and upload files from, your computer or network.

**To attach a file to a page using drag-and-drop:**

1. View the page to which you want to attach files.
2. Drag one or more files from your computer onto the page. The 'Attach File(s)' message box appears, indicating the upload status of the files being attached to your page.

You can drag and drop more than one file at a time onto a page. You cannot drag a folder of files onto a page.

Expand this section to see other ways to drag-and-drop a file on to a page...

You can also drag and drop files:

- directly onto the 'Attachments' view for the page.
- directly onto the editor view of the page.
- onto any tab of the 'Insert Link' or 'Insert Image' dialogs, which are available from the **Insert** menu while editing.

**To attach a file to a page from the computer's (or network's) file system:**

1. Choose **Tools** > **Attachments**.
2. Choose **Browse** and navigate to the file.
3. Select the file and click **Open**.
4. Add a descriptive comment for the file (optional).
5. Choose **Attach more files** if required.

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6. Choose **Attach**.

You can attach than one file at a time. You cannot attach a folder of files.

Expand this section to see other ways to upload a file to a page...

You can also browse for, and upload, a file from:

- the 'Attachments' tab of the 'Insert Link' dialog. (While editing the page, choose **Insert** > **Link**.)
- the 'Attached Images' tab of the 'Insert Image' dialog. (While editing the page, choose **Insert** > **Image.**)

#### Attachment versions

If you upload a file with the same name as an existing attachment, Confluence will rename the old file and keep it as a previous version. Read more about Attachment Versions and Viewing Attachment Details.

#### Notes

- **Reusing attachments:** If you want to display the same file on more than one page, the best way is to put the attachment on a page (say, page A) and then use the Include Page Macro to include page A into page B, page C, and all the pages where you want the diagram, presentation, or other file. Alternatively, you can display an image that is attached to another page.
- **Updating the original file:** Any changes you make to the source file do not affect the copy that was uploaded to Confluence. To update the Confluence copy, you need to upload the new version of the file.

## Attachment Versions

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format.

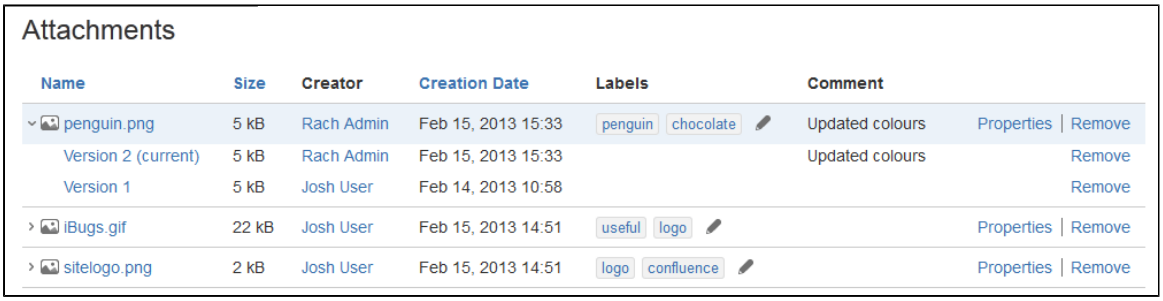
When viewing a list of attachments, you can add a **new version of an existing attachment** by uploading an attachment with the same file name, as displayed on the attachment view. Existing files will be kept with the name '***Version x***', where the value of 'x' increments with each upload of an attachment with the same file name.

**To see all versions of an attachment:** Choose the arrow next to an attachment name.

**Related pages:**

- Attaching Files to a Page
- Deleting an Attachment
- Moving an Attachment
- Viewing Attachment Details
- Working with Attachments
- Confluence User's Guide

*Screenshot: Attachment versions*




#### Notes

- You cannot revert to a previous version of an attachment. See feature request CONF-1943.
- Confluence does not track the history of attachments in the same way as it does for pages. See feature request CONF-13943.
- By default, attachments and their versions are stored in the `<confluence_home>/attachments` directory. (See Attachment Storage Configuration. *Not applicable to Confluence OnDemand.*)
- There is no limit to the number of attachments or attachment versions, provided that there is enough disk space.

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## Deleting an Attachment

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format.

By default, when you delete an attachment, this will delete all versions of the attachment. To do that, you need the 'Delete Attachments' permission. See Space permissions.

If you want to delete a specific version of an attachment, you need to be a space administrator.

**Related pages:**

- Working with Attachments
- Deleting an Image
- Displaying Images
- Confluence User's Guide

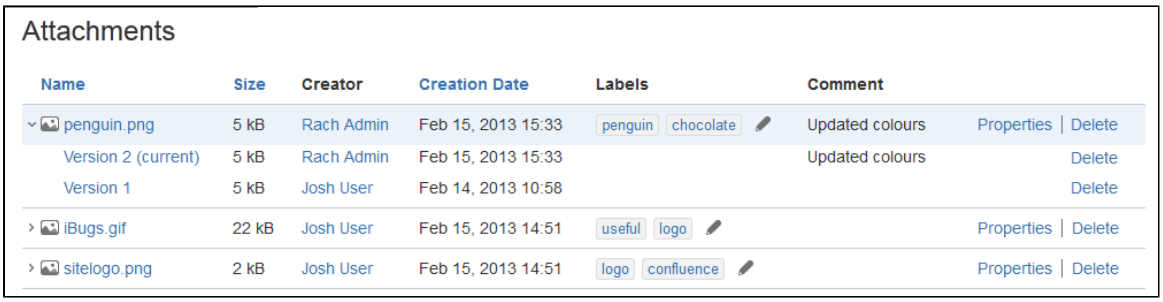
**To delete all versions of an attachment:**

1. Go to the page that contains the attachment.
2. Choose **Tools** > **Attachments**. A list of the page's attachments will appear.
3. Choose **Delete** next to the attachment you want to delete.
4. Choose **Delete** to confirm your action.

**To delete a specific version of an attachment:**

1. Go to the page that contains the attachment.
2. Choose **Tools** > **Attachments**. A list of the page's attachments will appear.
3. Choose the arrow on the left next to the attachment you want to manage. A list of attachment versions will appear.
4. Choose **Delete** next to the version you want to delete.
5. Choose **Delete** to confirm your action.

*Screenshot: Attachments and attachment versions*




## Displaying a List of Attachments

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format.

You can display a list of attachments on your page – these may be the files that are attached to the current page or to any page in the space. Use the

- Use the **Attachments** macro to show a list of the attachments on the current page, or
- Use the **Space Attachments** macro to show a list of the attachments in the current space.

Both these macros generate a table of attachments which is clickable.

### Using the macros

**To add the Attachments or Space Attachments macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

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**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

**On this page:**


- Using the macros
- Parameters of the Attachments macro
- Viewing files and changing file properties via the Attachments macro
- Parameters of the Space Attachments macro
- Code examples


**Related pages:**

- Attaching Files to a Page
- Working with Attachments
- Working with Macros
- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros
- Confluence User's Guide

### Parameters of the Attachments macro

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Filename Patterns** | all | A comma-separated list of regular expressions, used to filter the attachments by file name. Note that the parameter values must be regular expressions. For example:<br>• To match a file suffix of 'jpg', use `.*jpg` (not `*.jpg`).<br>• To match file names ending in 'jpg' or 'png', use `.*jpg,.*png` |
| **Attachment Labels** | (none) | A list of labels, used to filter the attachments to display. If you wish to enter more than one label, separate the labels with commas. Confluence will show only attachments that have **all** the labels specified. (The match is an AND, not an OR.) For information on labelling the attachments, see Adding Labels. |
| **Include Old Attachment Versions** | false | A value of `true` will include previous attachment versions in the list. |
| **Sort By** | date | The sort order for attachments. Note that people viewing the page can change the sort order by clicking the column headings. Valid values are:<br>• **date** – sorts by reverse chronological order (newest first)<br>• **size** – sorts largest to smallest<br>• **name** – sorts alphabetically |

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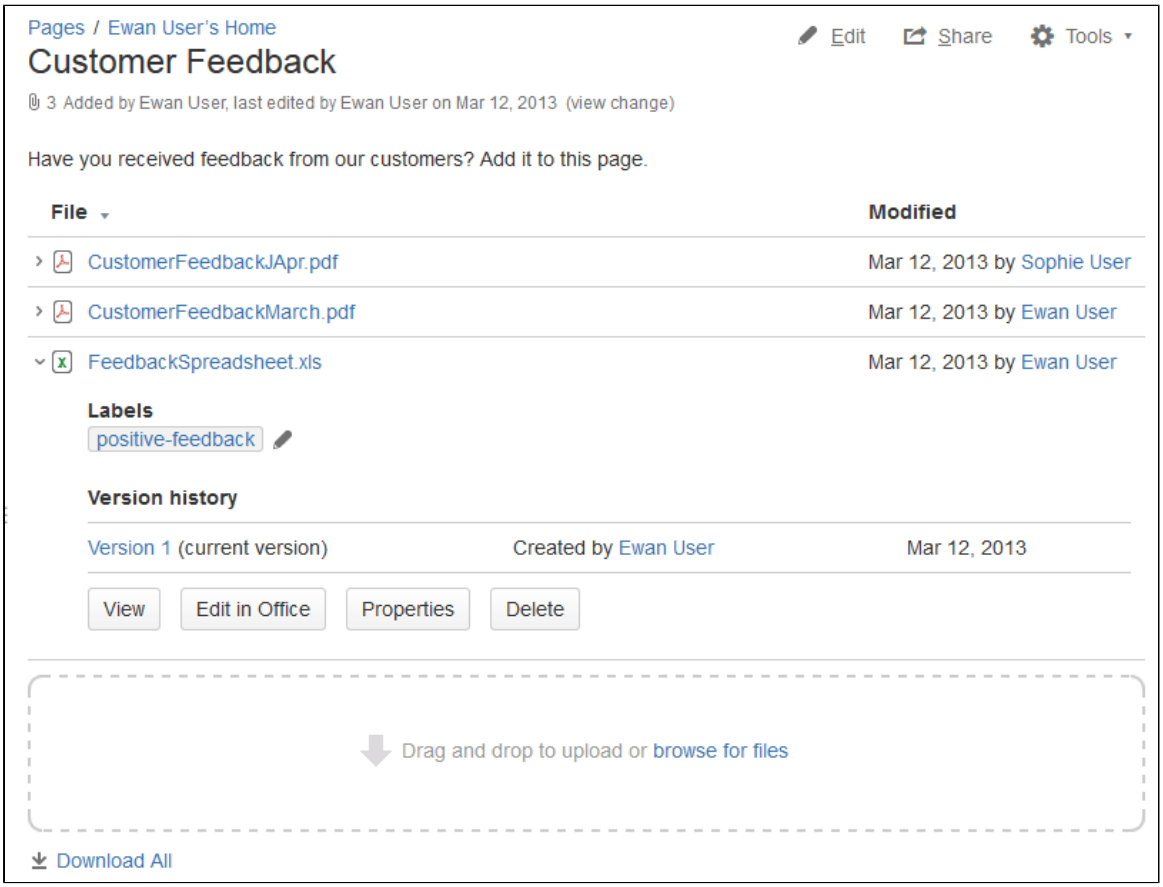
| | | |
|---|---|---|
| **Sort Order** | ascending | Used in combination with the **Sort By** parameter, to sort the attachments in ascending or descending order. |
| **Allow Upload** | true | If selected, the list of attachments will include options allowing users to browse for, and attach, new files. |
| **Page Title** | (none) | Used to display attachments from another page. If you do not enter a page title, the macro will display the files attached to the current page. |

### Viewing files and changing file properties via the Attachments macro

The list of files displayed by the Attachments macro can be expanded to show options for viewing the files and other actions, provided you have the relevant permissions.

- If you have specified the 'Allow Upload' parameter, users will be able to upload attachments directly from the list.
- You can delete attachments. Note that you can only delete the entire attachment (including all versions). To delete a specific version of an attachment, you must go to the 'Attachments' view. See Deleting an Attachment.
- You can edit attachment properties and labels. If an attachment is an Office or PDF file, they will see the appropriate options for Office Connector files.

*Screenshot: The Attachments macro, showing details of an attachment*




### Parameters of the Space Attachments macro

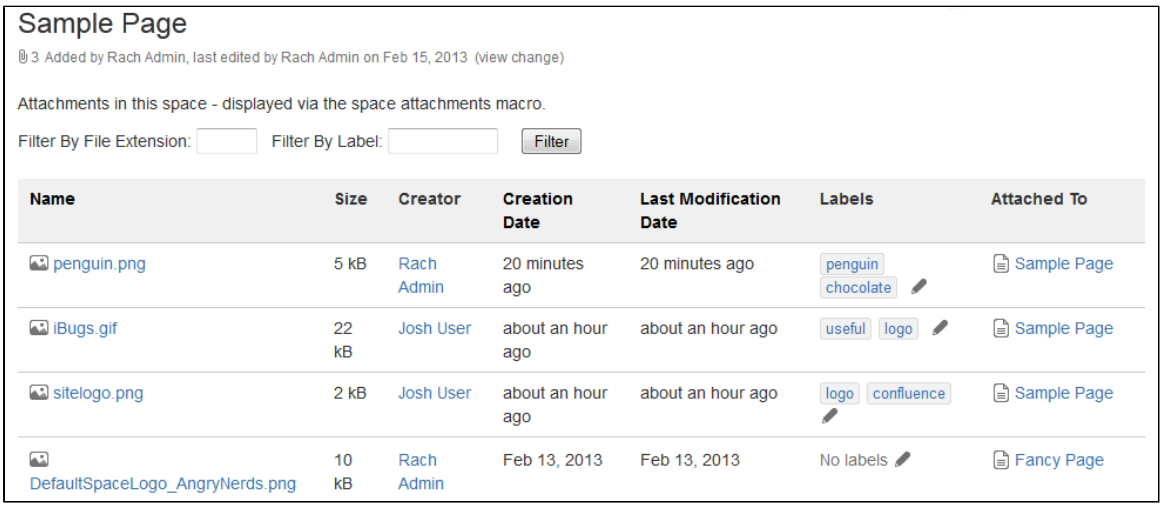
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The Space Attachments macro displays a list of all the attachments in a space. You can choose to show attachments from the current space, or another space.

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Space** | (none) | Selects the Confluence space to display attachments for. If you do not specify a space, the current space will be used. |
| **Show Filter Controls** | true | Determines whether or not the filter panel is shown. If you select this option, people viewing the page will be able to filter the list of attachments by file type (extension) and by label. |

*Screenshot: The Space Attachments macro*




#### Code examples

For the Attachments macro:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

For the Space Attachments macro:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

## Downloading Attachments

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format.

**To download a single attachment from a page:**

1. View the page.
2. Choose **Tools** > **Attachments**.
3. Right-click the link on the attachment name, and select **Save Link As**, **Save Target As** or a similar option provided by your browser. This will open a 'Save' dialog.
4. Select the location into which you want to download the file and choose **Save**.

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**Related pages:**

- Attaching Files to a Page
- Working with Attachments
- Confluence User's Guide

**To download all the attachments from a page:**

1. View the page.
2. Choose **Tools** > **Attachments**.
3. Choose the **Download All** button at the end of the page to download a zipped file of all the page's attachments.

Notes

- There is no permission that controls the downloading of attachments. See an article in our knowledge base about disabling the download of attachments.
- Confluence does not supply an option to download all attachments from a space. See the closed feature request: CONF-5669 - Download all attachments from a Space (Closed)

## Editing Attachment Properties

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format.

To edit an attachment's properties, you need the 'Create Attachments' permission. See Space Permissions.

**To edit the properties of an attachment:**

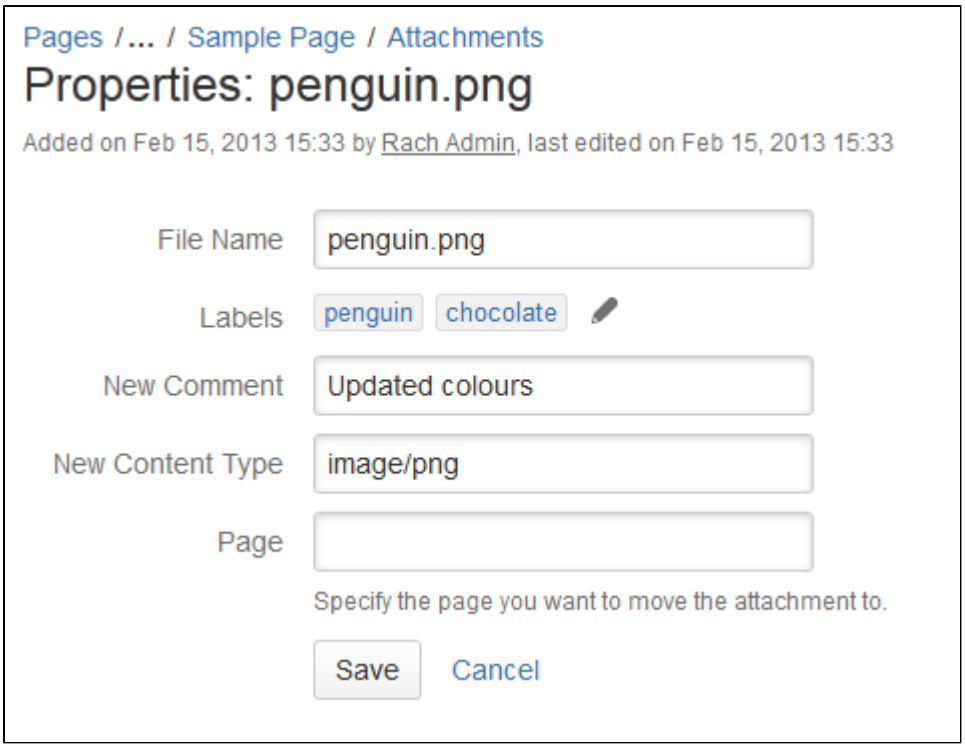
1. View the page that contains the attachment.
2. Choose **Tools** > **Attachments**.
3. Choose **Properties** next to the attachment. The 'Properties' screen wil appear.
4. Make your changes:
    - **File Name** — Rename or modify the name of the attachment.
    - **New Comment** — Update the existing 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.
5. Choose **Save**.

**Related pages:**

- Attaching Files to a Page
- Moving an Attachment
- Viewing Attachment Details
- Working with Attachments
- Confluence User's Guide

*Screenshot: Editing an attachment's properties*

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## Embedding Multimedia Content

Using multimedia files you can display movies, animations and videos, and embed audio files on your Confluence page.
There are several methods for attaching files to a page. Once you have attached the multimedia file to a Confluence page, you then edit the page to set where the multimedia content should appear.

In the example below, we display a Flash file that is attached to this page.
Error rendering macro 'multimedia' : null

Confluence supports the following multimedia formats:

- Adobe Flash (.swf)
- Apple QuickTime (.mov)
- Windows Media (.wma, .wmv)
- Real Media (.rm, .ram)
- MP3 and MP4 files (.mp3, .mp4)
- MPEG files (.mpeg, .mpg)
- AVI files (.avi) *You may need to enable an avi decoder within your browser.*

**On this page:**


- Displaying a multimedia file attached to the page
- Multimedia macro parameters
- Notes
- Code examples
- Related topics


**Quick guide to displaying multimedia content on a page**
Choose one of these methods:

- **Add the macro yourself:** Attach the multimedia file to the page in the usual way. Add the Multimedia macro using the macro browser.
- **Autocomplete:** Attach the multimedia file to the page in the usual way. Type '**!**' in the editor and choose the multimedia file from the list that appears.
- **Drag and drop:** Drop the video or other file into the editor. Confluence will attach the file and insert the Multimedia macro for you.
- **Adjust parameters if necessary:** Click on the Multimedia macro placeholder to set options for the macro, such as adjusting the width or height of the display, or setting autoplay on.

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### Displaying a multimedia file attached to the page

Once you have attached a multimedia file to a page, there are different methods for choosing where on the page the multimedia content should appear:

#### Inserting the Multimedia macro yourself

You can add the Multimedia macro to the page yourself using the Macro Browser. This allows you to display a multimedia file that is attached to either the current page or to another page in the Confluence site.

**To insert the Multimedia macro on the page at the current cursor position:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the required macro.

**Speeding up macro entry with autocomplete:** Type **{** and the beginning of the macro name, to see a list of suggested macros. Details are in Using Autocomplete.

**To edit an existing macro:** Click the macro placeholder and choose **Edit**. A macro dialog window will open, where you can edit the parameters of the macro.

#### Using autocomplete

Once a multimedia file is attached to the page, you can use autocomplete, while editing the page, to choose where the multimedia content should appear.

**To position an attached multimedia file on the page using autocomplete:**

1. While editing the page, position the cursor where you want to place the multimedia content.
2. Trigger the autocomplete function by typing '!'.
3. Choose the multimedia file from the list that appears.
4. If necessary, click on the Multimedia macro placeholder and choose **Edit** to set various options such as the width, height or autoplay.

#### Using drag-and-drop

Depending on the browser you are using, you can attach and position a multimedia file in one step using drag-and-drop.

**To attach and position multimedia content using drag-and-drop:**

1. While you are editing a page, simply drag-and-drop the multimedia file on to the page. Confluence will attach the file to the page and insert the Multimedia macro at the current cursor position for you.
2. If necessary, click on the Multimedia macro placeholder and choose **Edit** to set various options such as the width, height or autoplay.

### Multimedia macro parameters

Parameters are options that you can set to control the content or format of the macro output.

| Parameter | Default | Description |
|---|---|---|
| **Page Name** | Current page | Name of the page to which the multimedia file is attached. If you are using the Macro Browser, just start typing the name of the page and then select it from the dropdown list that appears. The page can be in the same space or another space. |
| **Attachment** | None | File name of the multimedia file. |

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| | | |
|---|---|---|
| **Width** | If not specified, the browser will determine the width based on the file type. | Width of the movie window to be displayed on the page. By default, this value is specified in pixels. You can also choose to specify a percentage of the window's width, or any other value accepted by HTML. |
| **Height** | If not specified, the browser will determine the height based on the file type. | Height of the movie window to be displayed on the page. By default, this value is specified in pixels. You can also choose to specify a percentage of the window's height, or any other value accepted by HTML. |
| **Autoplay** | False | If this option is checked (that is, if the parameter is set to 'true') then the video or audio file will start playing as soon as the page is loaded. If this option is not checked (set to 'false') then the file will not play until the user clicks the icon or image on the page. See the note about autoplay below . |

#### Notes

- **The multimedia file must be attached to a Confluence page.** For security reasons, files located on remote servers are not permitted. See the Widget Connector for displaying live content from external sites.
- **You will need the relevant multimedia plugin for your browser.** Your browser (Firefox, Internet Explorer, Safari and others) needs a plugin to play the video or audio file on a Confluence page. For example, to play a Flash movie you need the Flash plugin. Many plugins are shipped with the major browsers by default. If a user does not have the required plugin installed and enabled in their browser, they will not be able to view the multimedia files on the page.
- **Autoplay may not always work as expected.** You can set autoplay on, so that your video or audio file should start playing as soon as the page is loaded into the browser. (See parameters.) However, this setting may not always work as expected. Confluence will send an instruction to the browser plugin that plays the multimedia file. Different browsers and different media plugins behave in different ways, and not all of them respect such instructions.
- **Use the Office Connector to display Office documents.** Take a look at the Office Connector for embedding Word documents, presentations and other Office documents onto your Confluence page.
- If you get the error, 'Unable to embed content of type application/octet-stream', this means the MIME type is not recognised.
- **Advanced users can try 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.

#### Code examples

See:

- Confluence Wiki Markup for Macros
- Confluence Storage Format for Macros

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#### Related topics

Working with Macros
Widget Connector Macro
Working with the Office Connector
Working with Attachments

Take me back to Confluence User's Guide

## Embedding PowerPoint Presentations in a Page

Below are some ideas on how you can display a presentation on a Confluence page.

#### Option 1 - Office Connector for Confluence

The Office Connector provides the most straightforward way to display PowerPoint slides.

1. Attach your PowerPoint file to a Confluence page - see Attaching Files to a Page.
2. Use the Office PowerPoint View File macro to display the presentation on the page.

Alternatively you can drag your PowerPoint file directly into the editor, and Confluence will attach the file and display it in the Office PowerPoint View File Macro for you.

**On this page:**

- Option 1 - Office Connector for Confluence
- Option 2 - PDF View File macro
- Option 3 - Gallery or Slide Show of JPEG or PNG Images

**Related pages:**

- Working with the Office Connector
- Working with Attachments
- Confluence User's Guide

#### Option 2 - PDF View File macro

1. Convert your presentation to PDF, using 'Save as > PDF' in PowerPoint (PowerPoint 2007 and later).
2. Attach the PDF file to your Confluence page.
3. Use the PDF View File macro to display the presentation on the page. The PDF View File macro contains **Next Slide**, **Previous Slide** and **Full Screen Mode** buttons for controlling your presentation.

Alternatively you can drag your PDF file directly into the editor, and Confluence will attach the file and display it in the PDF View File Macro for you.

This method is also useful for presentations created in other packages such as Keynote.

#### Option 3 - Gallery or Slide Show of JPEG or PNG Images

1. Convert your PowerPoint presentation 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.
3. Use the Gallery macro to display the images as a slide show in Confluence.

## 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 (see Space Permissions):

- 'Add Page' permission on the page where the attachment currently exists.
- 'Add Attachment' permission on the space into which you are moving the attachment.

**To move an attachment:**

1. Go to the page that contains the attachment.
2. Choose **Tools** > **Attachments**.
3. Choose **Properties** next to the attachment.
4. Enter the name of the page where you want to move the attachment into the **Page** field, for example, `My Destination Page`.

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5. Choose **Save**.

If you wish to move the attachment to a page in a different space, add the space key before the page name, for example, `DOC:My Destination Page`.

**Related pages:**

- Moving a Page
- Working with Attachments
- Confluence User's Guide

## Viewing Attachment Details

An attachment is any file that is included with your page. Examples of attachments are screenshots, photographs, other images, Word documents, presentations, PDF documents, videos and sound files. Attachments are useful when you want to share information that exists in another file format.

You can view attachment details in the following places:

- The list of attachments in a space. This will show all files attached to all pages in the space. See below.
- The list of attachments for a specific page. See below.
- A list of attachments created by a macro and displayed on a page. See Displaying a List of Attachments.

### Viewing attachments in a space

**To view the attachments associated with a space:**

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Attachments**. You will see a list of all the attachments in the space, along with their details and the pages they are attached to.
   To see only files of a particular type:
   - Type the last part of the file name in the **Filter By File Extension** box. For example, enter 'gif' to see only image files of the GIF format.
   - Choose **Filter**.
3. To see only files that have a particular label or labels:
   - Type the label or labels in the **Filter by Label** box. If you enter more than one label, separate the labels with commas or spaces. Confluence will show only attachments that have **all** the labels specified. (The match is an AND, not an OR.)
   - Choose **Filter**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**.
2. Choose **Attachments** from the left menu.

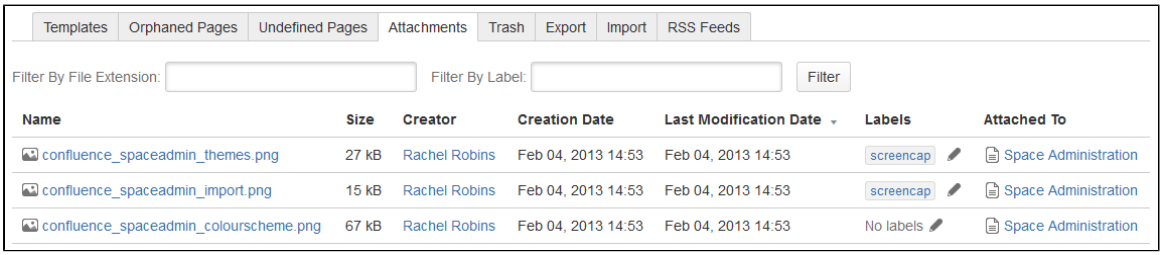
**On this page:**


- Viewing attachments in a space
- Viewing attachments on a page
- Attachment details


**Related pages:**

- Working with Attachments
- Displaying a List of Attachments
- Confluence User's Guide

*Screenshot: List of attachments for a space*




### Viewing attachments on a page

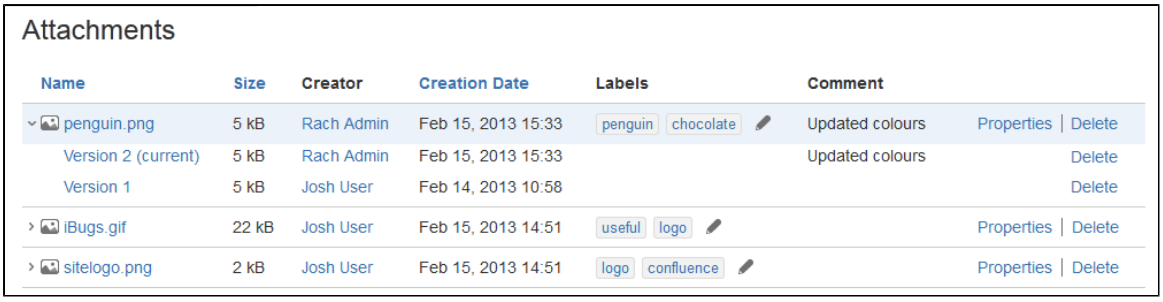
When a page you are viewing contains attachments, a small paperclip icon 1 appears next to the page byline, under the page name. Clicking the paperclip will take you to the 'Attachments' view, where you will see the full list of attachments.

**To view the attachments associated with a page:**

1. Go to the page.
2. Choose **Tools** > **Attachments**. You will see a list of the attachments in the page along with their details.
3. To see all versions of an attachment, choose the arrow on the left of the attachment name.

The list of attachments includes options for viewing the files, and other actions, provided the user has the relevant permissions. If you have specified the 'Allow Upload' parameter, users will be able to upload attachments directly from the list too. Users can also delete attachments or edit attachment properties and labels . If an attachment is an Office or PDF file, you will see the appropriate options for Office Connector files.

*Screenshot: List of attachments for a page*




#### Attachment details

Note that 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 person who attached the file. Clicking on the link takes you to the person's' user profile.
- **Creation Date** is the date the file was attached. You can sort by date by clicking the column title.
- **Labels** are keywords, or tags, that you can enter to categorise the attachments. See how to add labels.
- **Last Mod. Date** (in the space view) is the date the file was last modified.
- **Attached To** (in the space view) tells you which page contains the attachment.
- **Comment** (in the page view) is a short description of the attachment.
- The **Properties** link (in the page view) lets you edit the attachment details. See how to edit attachment properties.
- The **Delete** link (in the page view) lets you delete the attachment, or a specific version of the attachment.
- The **Edit in Office** link (in the page view) appears next to Office files only, and lets you edit that attachment.
- The **Attach File** option lets you add another attachment or another version of an existing attachment. See how to upload attachments.

## Customising Confluence

You can customise or configure many aspects of Confluence:

- The look and feel of any Confluence space.
- Personal aspects, including your personal profile and homepage.
- Setting up your user profile.
- User access, including permissions and page restrictions.
- Add-ons such as gadgets and macros.
- Customisations for specific uses of Confluence.

**Related pages:**

- Configuring Confluence
- Configuring Confluence Security
- Confluence User's Guide
- Managing Add-ons and Macros

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## Personal Customisations

There are several ways that you can customise the way that Confluence works for you, including:

- Your personal home page
- Your personal dashboard
- Your personal profile
- Your email notifications
- Your RSS Feed settings

**Related pages:**

- Customising Confluence
- Confluence User's Guide

### User Profile Overview

Each Confluence user has a user profile. In your own profile, you can access account management features and updated information about yourself. You can also view other users' profiles.
**To find your user profile:**

Choose **your profile picture** at top right of the screen, then choose **Profile**.
Or, choose the **Profile** link in the sidebar of your personal space.

**To find someone else's user profile:**

1. Open the user's hover profile popup:
   - Log in to Confluence, if you have not already done so.
     Note: If a Confluence Administrator has granted the 'View User Profiles' permission to anonymous users, you can access people's hover profile popups without logging in. However, the hover profile features available to anonymous users are restricted.
   - Move your mouse pointer over a user's linked name or profile picture. The hover profile popup will appear.
2. Choose the user's linked name to open the user profile.

Alternatively, you can choose the **Profile** link in the sidebar of the user's personal space or go directly to this URL:

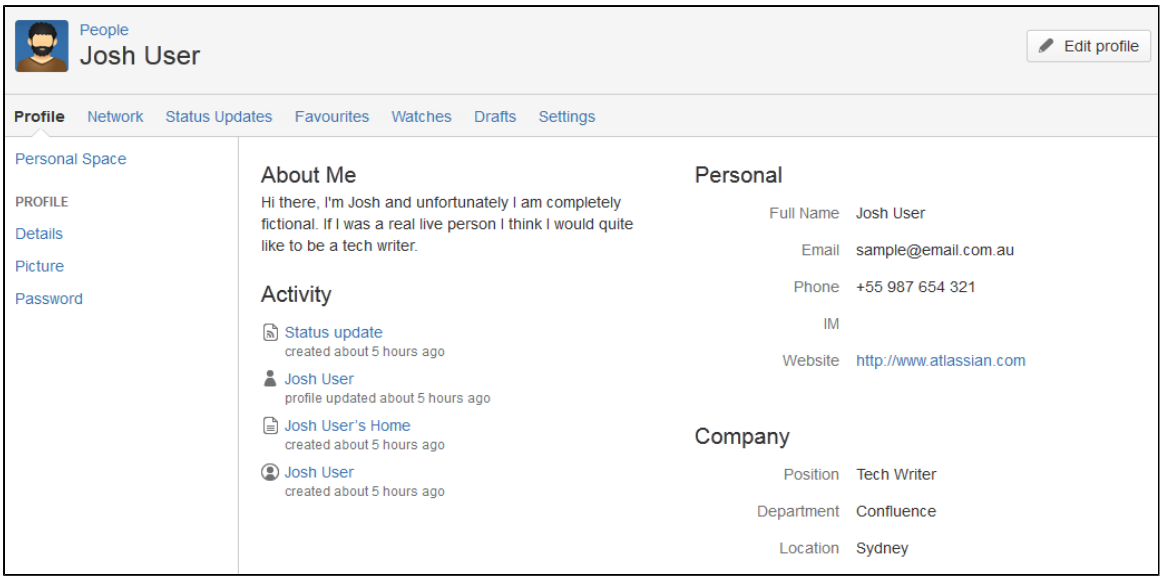
```
http://MY.CONFLUENCE.COM/users/viewuserprofile.action?username=USERNAME
```

**Related pages:**

- Managing Changes and Notifications and Tasks
- Setting Up your Personal Space
- Confluence User's Guide

*Screenshot: User profile screen for the current user*

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**Profile**

- View and edit your personal details, such as your name and email address details and optionally, your photograph and other personal information. Note that as a security precaution, in order to change your email address, you will be required to re-enter your password.
- 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.

**Favourites**

- View a list of your favourite spaces.

**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.
- View and revoke your OAuth access tokens.

### Notes

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.

## Changing Password

**To change your Confluence password:**

1. Choose **your profile picture** at top right of the screen, then choose **Profile**.
2. On your **Profile** tab, click **Password** in the left-hand column.
3. Enter your current password and your new password in the form displayed.
4. Click **Submit**.

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Related Topics

Viewing User Profile
Editing Your User Profile
Choosing a Profile Picture
Setting Up your Personal Space
Updating Email Address
Email Address Privacy

Take me back to the Confluence User's Guide.

## Editing User Settings

You can set various Confluence preferences that affect your personal session:

- General preferences such as home page, language and time zone, as described below.
- Editor settings, as described below.
- Email settings for subscriptions to email reports. See Subscribing to Email Notifications of Updates to Confluence Content.
- OAuth access tokens that you have granted from your Confluence user account. See Viewing and Revoking OAuth Access Tokens.

### *General User Preferences*

**To edit your general user settings:**

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Click **Edit** and update the settings:

| Setting | Description |
|---|---|
| **Site Homepage** | Select the page that you would like to see whenever you log into Confluence. |
| **Language** | Select your language. See below. |
| **Time zone** | Select your time zone. |
| **Use Keyboard Shortcuts** | Enable keyboard shortcuts, other than for the editor. |

3. Click **Submit**.

**On this page:**

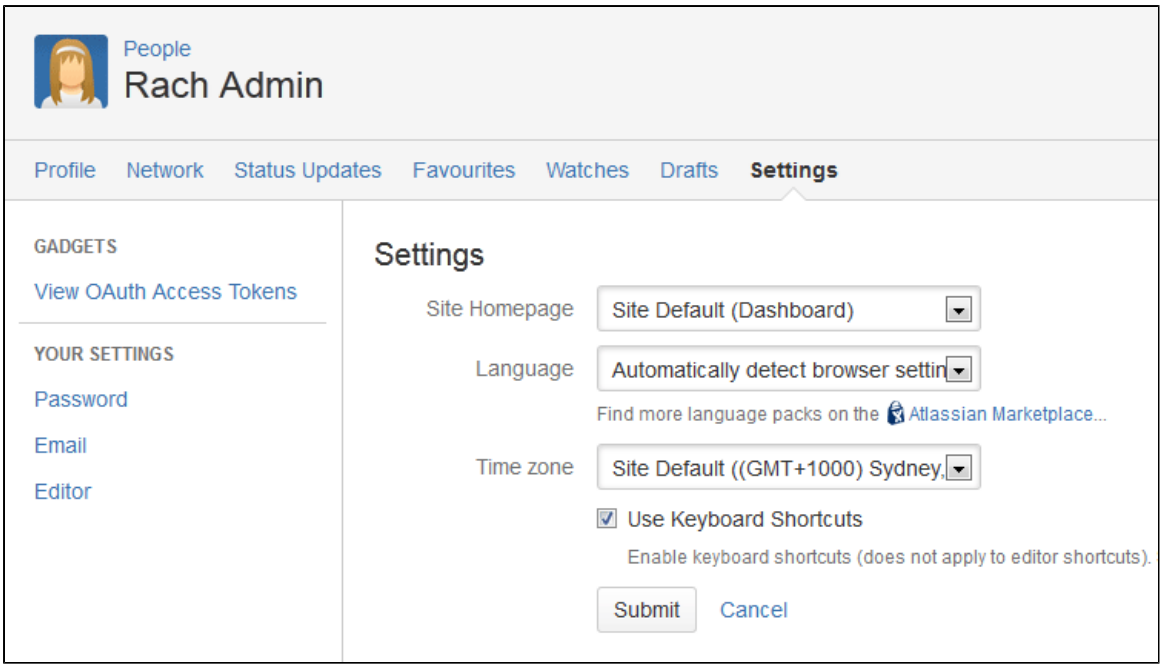

- General User Preferences
- More about Language
- Editor Preferences


**Related pages:**

- Editing Your User Profile
- Choosing a Profile Picture
- Setting Up your Personal Space
- Email Address Privacy
- Using Autocomplete
- Confluence User's Guide

*Screenshot: Editing your user profile settings*

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#### *More about Language*

Setting your language preference in your user profile is described in the section above. This section gives more information about that setting and other settings that affect the language Confluence will use.

Individual users can choose the language that Confluence will use to display screen text and messages. Note that the list of supported languages depends on the language packs installed on your Confluence site.

The language used for your session will depend on the settings below, in the following order of priority from highest to lowest:

- The language preference defined in your user profile. Note that you need to be logged in for this setting to take effect.
- The language that you choose by clicking an option at the bottom of the Confluence login screen. Confluence stores this value in a cookie. When the cookie expires, the setting will expire too.
- The language set in your browser. The browser sends a header with a prioritised list of languages. Confluence will use the first supported language in that list. Your Confluence administrator can disable this option by setting a system property.
- The default language for your site, as defined by your Confluence site administrator.

#### *Editor Preferences*

You can set some options that determine the way the Confluence editor works. Note that these settings affect only you. Other people using Confluence can enable or disable the settings on their user profiles independently.

**To change your editor preferences:**

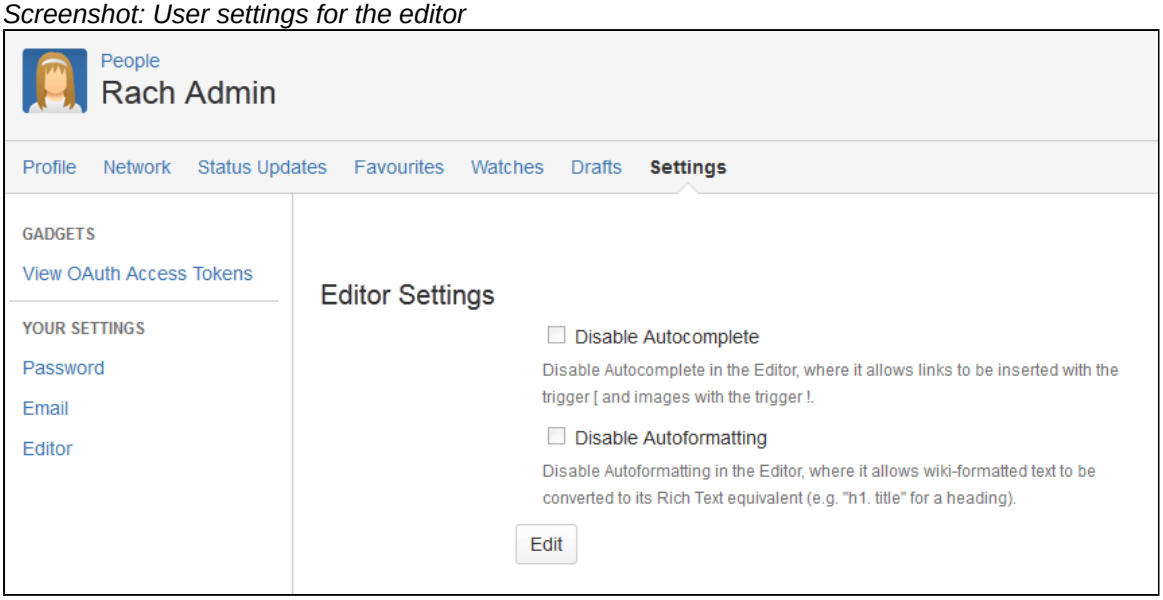
1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Click **Editor** under 'Your Settings' in the left-hand panel.
3. Click **Edit**.

| Setting | Description |
|---|---|
| **Disable Autocomplete** | Select to disable autocompletion when you press one of the trigger characters. |
| **Disable Autoformatting** | Select to disable autoformatting when you type wiki markup in the editor. Click **?** on the editor toolbar to learn more. |

4. Click **Submit**.

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*Screenshot: User settings for the editor*




## Editing Your 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. Choose **your profile picture** at top right of the screen, then choose **Profile**.
   Or, choose the **Profile** link in the sidebar of your personal space.
2. Choose **Edit Profile**.
3. Enter details about yourself in the form displayed.
4. Click **Save**.

**Related pages:**

- Viewing User Profile
- Choosing a Profile Picture
- Setting Up your Personal Space
- Email Address Privacy
- Confluence User's Guide.

| Detail | Description |
|---|---|
| **Full Name** | Your name as you would like it to appear in your profile. |
| **Email** | Your email address which will be used to send you mail notifications. |
| **Phone** | Your phone number. |
| **IM** | Your Instant Messenger (IM) details.<br>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 ' or a user ID, like '123456789'. |
| **Website** | Your website's URL. |
| **About me** | Information about yourself that other users can view (such as your professional information, hobbies, and other interests). You can use Confluence wiki markup in this field. |

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| | |
|---|---|
| **Position** | The title of your position within your organisation. |
| **Department** | The name of your department within your organisation. |
| **Location** | Your location. This could be a town, city, region or country. |

**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.

### 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 using the Administration Console, refer to User Email Visibility. *Not applicable to Confluence OnDemand.*

**Related pages:**

- Editing Your User Profile
- Viewing User Profile
- User Email Visibility (*Not applicable to Confluence OnDemand.*)
- Confluence User's Guide

### 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. Choose **your profile picture** at top right of the screen, then choose **Profile**.
2. Click **Edit** in the 'Personal' section.
3. In the **Email** field, specify your new email address which will be used when sending you mail notifications.
4. Click **Save**.

Related Topics

Changing Password
Editing Your User Profile

Take me back to the Confluence User's Guide.

### Choosing 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. It also appears in various other places next to your name, such as in the list of recent updates on the dashboard.

You can 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 (trim) the picture.

**To choose a profile picture:**

1. Choose **your profile picture** at top right of the screen, then choose **Profile**.
2. Click **Picture** on the left.
3. Choose one of the following two options:
    - Upload a new picture: Click **Browse** to locate your picture, then click **Upload** to upload it from your

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computer or file server.
- Or select one of the default icons provided.

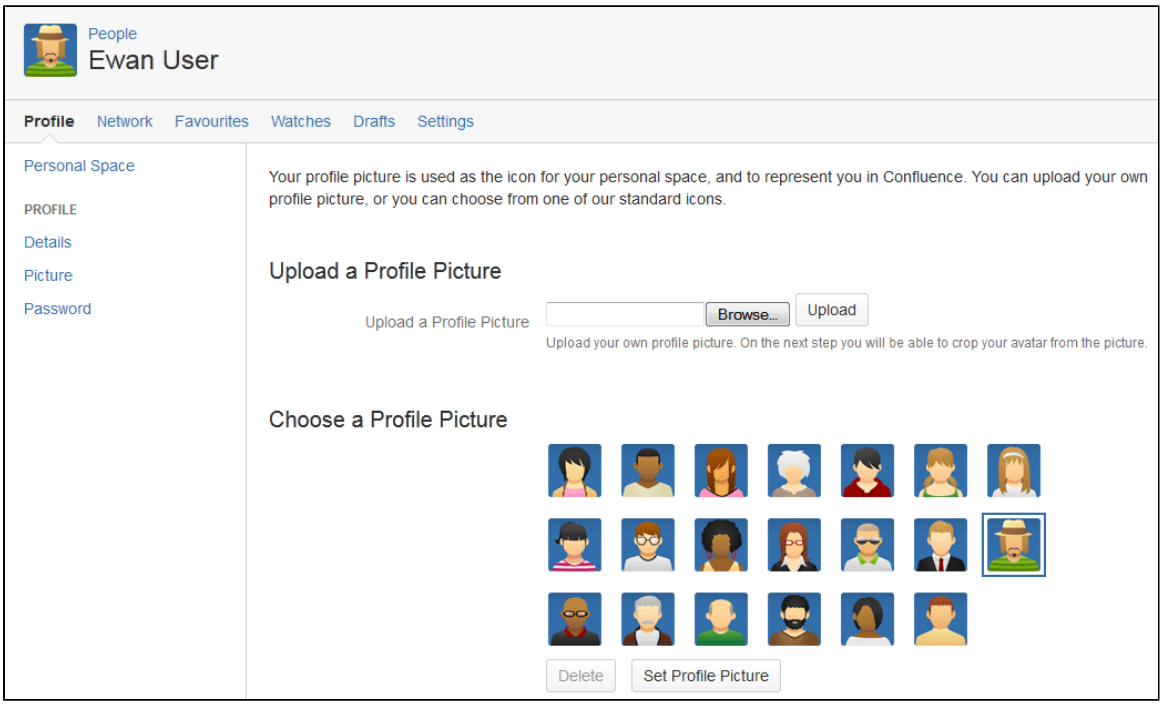
4. Click **Set Profile Picture**.

**On this page:**

**Related pages:**

- Deleting a Profile Picture
- Editing Your User Profile
- Setting Up your Personal Space
- Confluence User's Guide

*Screenshot: Choosing a profile picture*



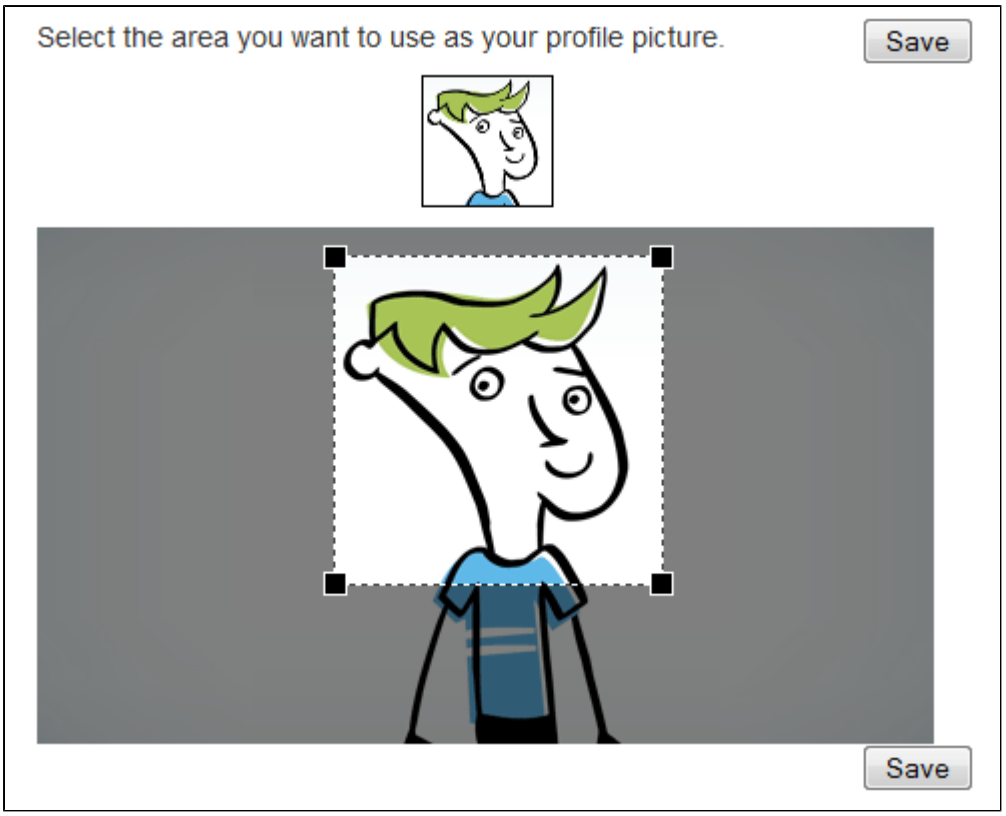

If you upload a profile picture that is larger than 48x48 pixels, the 'Edit My Profile Picture' screen will appear. You can select part of the picture or the entire picture, to be used as the final image for your profile. Note that the size of the final image will always be scaled down to 48x48 pixels.

**To edit your profile picture:**

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 resize the area for your new image.
3. Click **Save**.
4. The image from your selected area will be cropped, resized to 48x48 pixels and saved.

*Screenshot: Trimming a profile picture*

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Deleting a Profile Picture

You can delete the profile picture images that you have uploaded to Confluence.

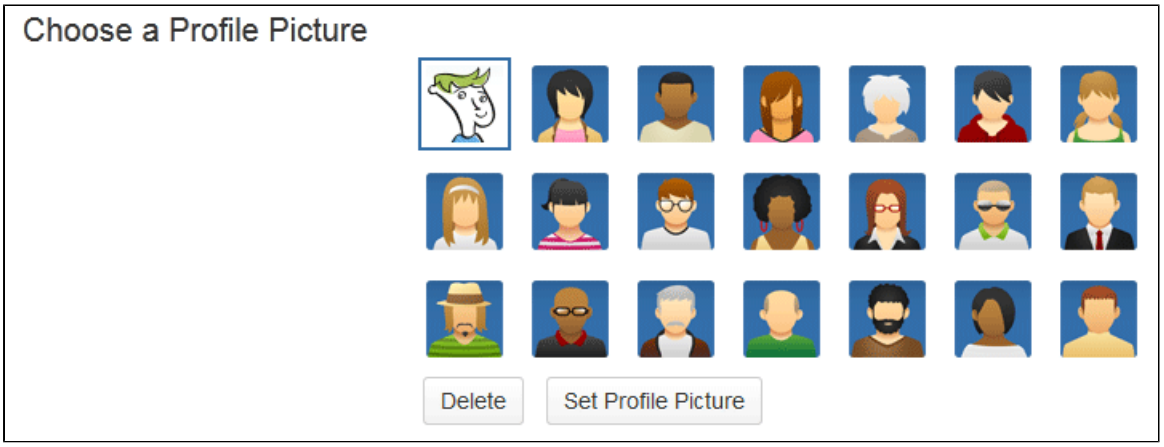
**To delete a profile picture**:

1. Choose **your profile picture** at top right of the screen, then choose **Profile**.
2. Click **Picture** on the left.
3. Locate and select the picture file you wish to delete, then click **Delete**.
   Note that you can only delete images that you have uploaded to Confluence. The standard icons cannot be deleted.
4. Click **Delete** to confirm the action. The picture is permanently removed from the server.

**Related pages:**

- Choosing a Profile Picture
- Editing Your User Profile
- Setting Up your Personal Space
- Confluence User's Guide.

*Screenshot: Deleting a Profile Picture*




Viewing User Profile

Each Confluence user has a user profile. In your own profile, you can access account management features and update information about yourself. You can also view other users' profiles, add them to your network, and add

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their personal spaces to your list of favourites.
**To find your user profile:**

Choose **your profile picture** at top right of the screen, then choose **Profile**.
Or, choose the **Profile** link in the sidebar of your personal space.

**To find someone else's user profile:**

1. Open the user's hover profile popup:
    - Log in to Confluence, if you have not already done so.
      Note: If a Confluence Administrator has granted the 'View User Profiles' permission to anonymous users, you can access people's hover profile popups without logging in. However, the hover profile features available to anonymous users are restricted.
    - Move your mouse pointer over a user's linked name or profile picture. The hover profile popup will appear.
2. Choose the user's linked name to open the user profile.

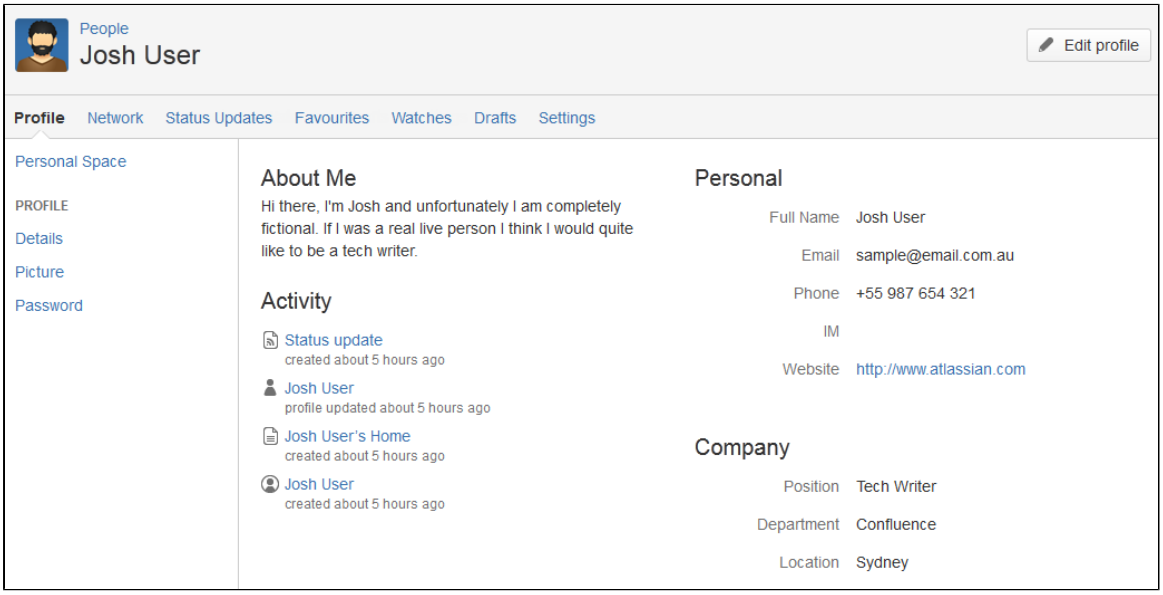
Alternatively, you can choose the **Profile** link in the sidebar of the user's personal space or go directly to this URL:

```
http://MY.CONFLUENCE.COM/users/viewuserprofile.action?username=USERNAME
```

**Related pages:**

- User Profile Overview
- Setting Up your Personal Space
- Confluence User's Guide

*Screenshot: User profile for the current user.*




***Updating your profile***

You can update the following aspects of your profile from this view:

- **Information about yourself** – see Editing Your User Profile.
- **Your Profile picture** – see Choosing a Profile Picture.
- **Your login password** – see Changing Password.

## Viewing and Revoking OAuth Access Tokens

This page describes the purpose of OAuth access tokens which have been issued on behalf of your Confluence user account and provides instructions on how to revoke them.

**On this page:**

- OAuth Access Tokens

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- Viewing your OAuth Access Tokens
  - OAuth Access Token Details
- Revoking your OAuth Access Tokens


#### *OAuth Access Tokens*

OAuth access tokens allow you to use a Confluence gadget on an external web application or website (also known as the 'consumer') *and* grant this gadget access to Confluence data which is restricted or privy to your Confluence user account.

OAuth access tokens will only appear in your user profile if the following conditions have been met:

1. Your Confluence Administrator has established an OAuth relationship between your Confluence site and the consumer.
   Confluence Administrators should refer to Configuring OAuth for more information about establishing these OAuth relationships. *Not applicable to Confluence OnDemand.*
2. You have accessed a Confluence gadget on the consumer and have conducted the following tasks:
   a. Logged in to your Confluence user account via the gadget and then,
   b. Clicked the 'Approve Access' button to allow the gadget access to data that is privy to your Confluence user account.
      Confluence will then send the consumer an OAuth 'access token', which is specific to this gadget. You can view the details of this access token from your Confluence site's user account.

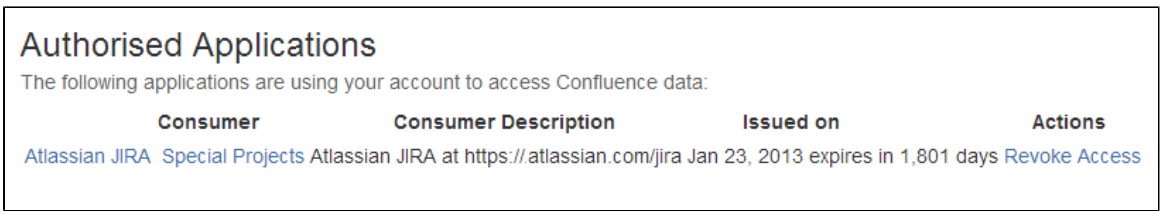
      An OAuth access token acts as a type of 'key'. As long as the consumer is in possession of this access token, the Confluence gadget on the consumer will be able to access Confluence data that is both publicly available and privy to your Confluence user account. As a Confluence user, you can revoke this access token at any time. Furthermore, all access tokens expire after seven days. Once the access token is revoked or has expired, the Confluence gadget will only have access to publicly available Confluence data.

#### *Viewing your OAuth Access Tokens*

**To view all of your Confluence user account's OAuth access tokens:**

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Click **View OAuth Access Tokens**. A view similar to screenshot below is displayed. Refer to OAuth Access Token Details below for information on interpreting this table.
   If no access tokens have been set, then 'None specified' is shown.

*Screenshot: Viewing your OAuth Access Tokens*




#### *OAuth Access Token Details*

Your list of OAuth access tokens is presented in a tabular format, with each access token presented in separate rows and each property of these tokens presented in a separate columns:

| Column Name | Description |
|---|---|
| Consumer | The name of the Confluence gadget that was added on the consumer. |

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| | |
|---|---|
| Consumer Description | A description of this consumer application. This information would have been obtained from the consumer's own OAuth settings when an OAuth relationship was established between Confluence and that consumer.<br>If the consumer is another Atlassian application, this information is obtained from the Consumer Info tab's 'Description' field of the OAuth Administration settings. The application's administrator can customise this Consumer Info detail. |
| Issued On | The date on which the OAuth access token was issued to the consumer by Confluence. This would have occurred immediately after you approved this gadget access to your Confluence data (privy to your Confluence user account). |
| Expires On | The date when the OAuth access token expires. This is seven days after the 'Issued On' date. When this date is reached, the access token will be automatically removed from this list. |
| Actions | The functionality for revoking the access token. |

***Revoking your OAuth Access Tokens***

**To revoke one of your OAuth access tokens:**

1. View your Confluence user account's OAuth access tokens (described above).
2. Locate the Confluence gadget whose OAuth access token you wish to revoke and click **Revoke OAuth Access Token** next to it.
   The gadget's access token is revoked and the Confluence gadget on the consumer will only have access to publicly available Confluence data.

## Choosing your Home Page

By default, all users are directed to the dashboard after logging in. However, you can choose to be redirected to the home page of any space on the Confluence site after logging in.

**To set the home page:**

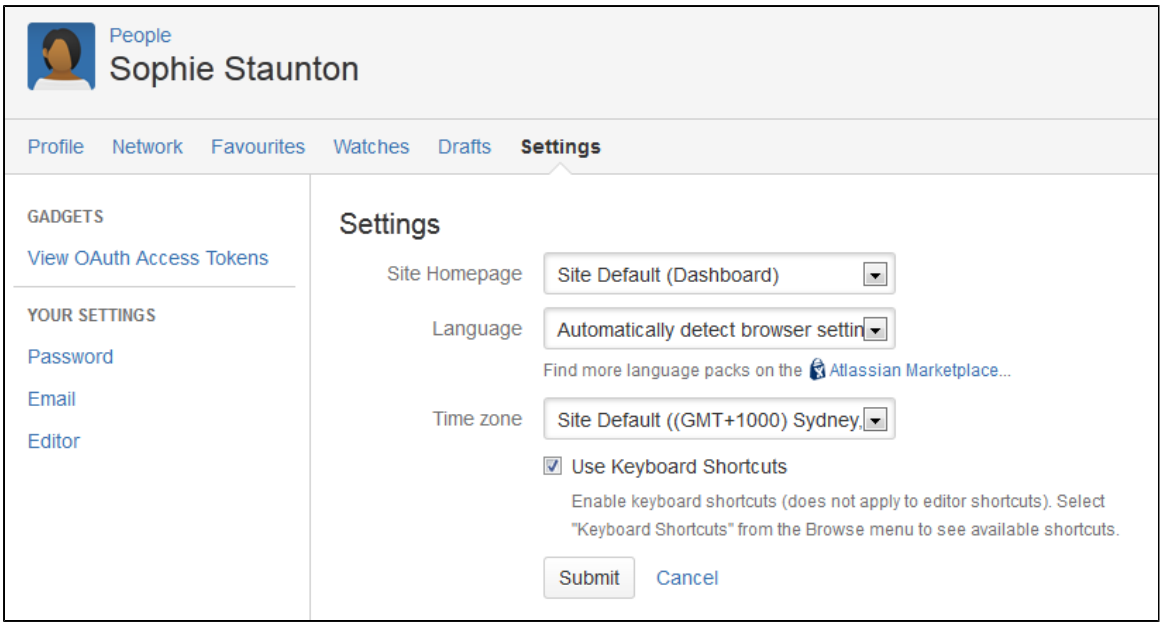
1. Choose **your profile picture** at top right of the screen, then choose **Settings**.
2. Choose **Edit**.
3. Choose a page from the **Site Homepage** drop down. Only spaces for which you have 'view' access display. You will be directed to the home page of the selected space when you next log in.
4. Click **Submit**.

**Related pages:**

- User Profile Overview
- Confluence User's Guide

*Screenshot: Profile Settings*

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## Customising your Personal Dashboard

You can customise the Confluence dashboard to provide access to the content on the site that is most relevant to you. The options described on this page will change your own personal dashboard, but will not affect the dashboard that other people see.

If you have System Administrator permissions, you can change the global dashboard, as seen by all Confluence users. See the administrator's guide to customising the dashboard.

### Displaying your favourite spaces

Mark some spaces as favourites. You can now choose the **Spaces** tab on the dashboard to see a list of your favourite spaces. You can also choose the **Favourite Spaces** tab at the top right of the dashboard to see recently updated content from just your favourite spaces.

### Categorising your spaces

To help keep Confluence spaces organised, you can label spaces with different space categories. See Using Labels to Categorise Spaces. Space categories are used to group related spaces.

For example, you might want to group spaces on your Confluence site by applying the following space categories to the relevant spaces:

- 'design' (for spaces relevant to a design team), and
- 'development' (for spaces relevant to a development team).

If a subset of these spaces is relevant to both teams, apply both the 'design' *and* 'development' categories to each of these spaces to make the spaces appear in both groups.

Once you have added space categories, you can choose the **Space Categories** tab at the top right of the dashboard and select a category from the drop-down menu to display only spaces belonging to that category.

**On this page:**


- Displaying your favourite spaces
- Categorising your spaces
- Displaying your favourite pages


**Related pages:**

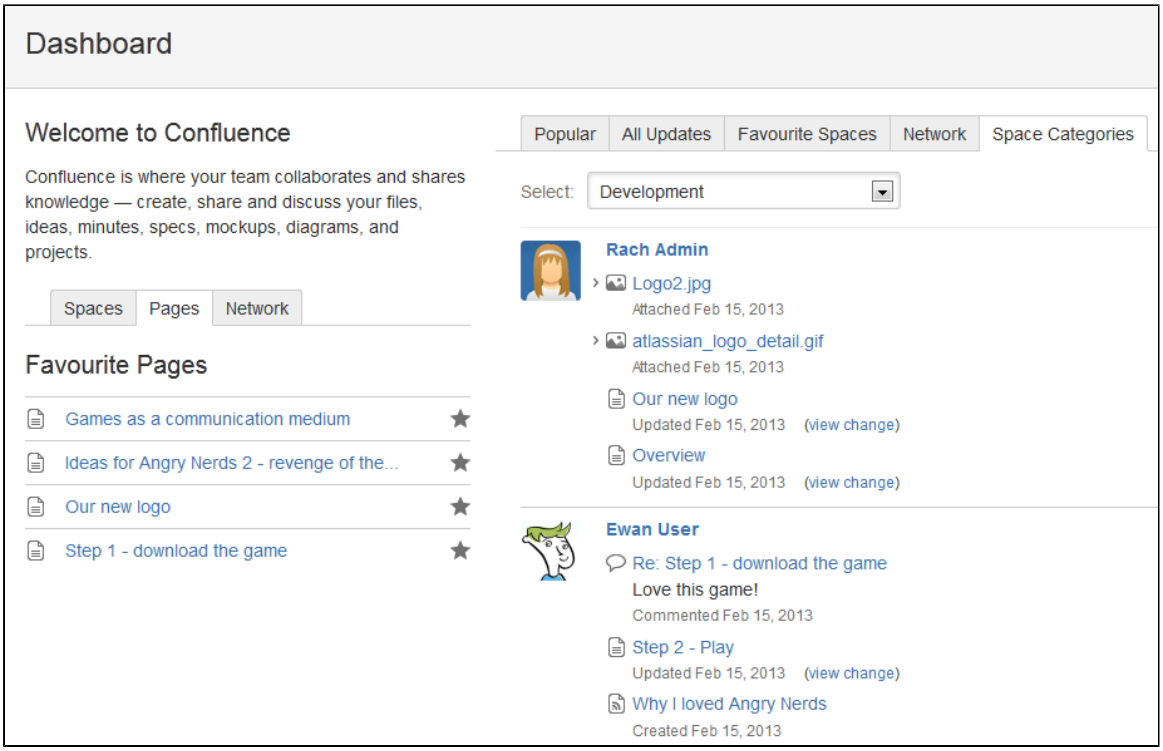
- Working with Confluence Labels
- Working with Favourites
- Configuring the Site Home Page
- Customising the Confluence Dashboard
- Confluence User's Guide

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### Displaying your favourite pages

Mark some pages as favourites. You can now choose the **Pages** tab on the dashboard to see a list of your favourite pages.

*Screenshot: The dashboard, showing favourite pages and space categories*




## Customising the Look and Feel of a Confluence Space

You can customise the 'look and feel' of a space on your Confluence site through options available in the **Space Administration** menu. By default, the look and feel of a space is based on site-wide settings configured from the Administration Console.

You need to be a space administrator to change the look and feel of a space.

- Applying a Theme to a Space
- Configuring a Sidebar
- Changing a Space's Logo
- Changing the Confluence Browser Icon, aka favicon
- Customising Space Layouts
- Editing a Space's Colour Scheme
- Styling Confluence with CSS

**Related pages:**

- Changing the Look and Feel of Confluence
- Working with Spaces
- Confluence User's Guide

### Applying a Theme to a Space

Themes allow you to personalise the 'look and feel' of Confluence. You can apply a theme to your entire Confluence site or to individual spaces. Choose a specific theme if you want to add new functionality or significantly alter the appearance of Confluence.

Confluence comes with a selection of themes. In addition, a site administrator can install new themes as plugins via the Confluence Administration Console. Provided that the theme is installed into your Confluence site, any space administrator can apply a theme to a space.

By default when you create a new space, the space will have the Confluence default theme.

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**Related pages:**

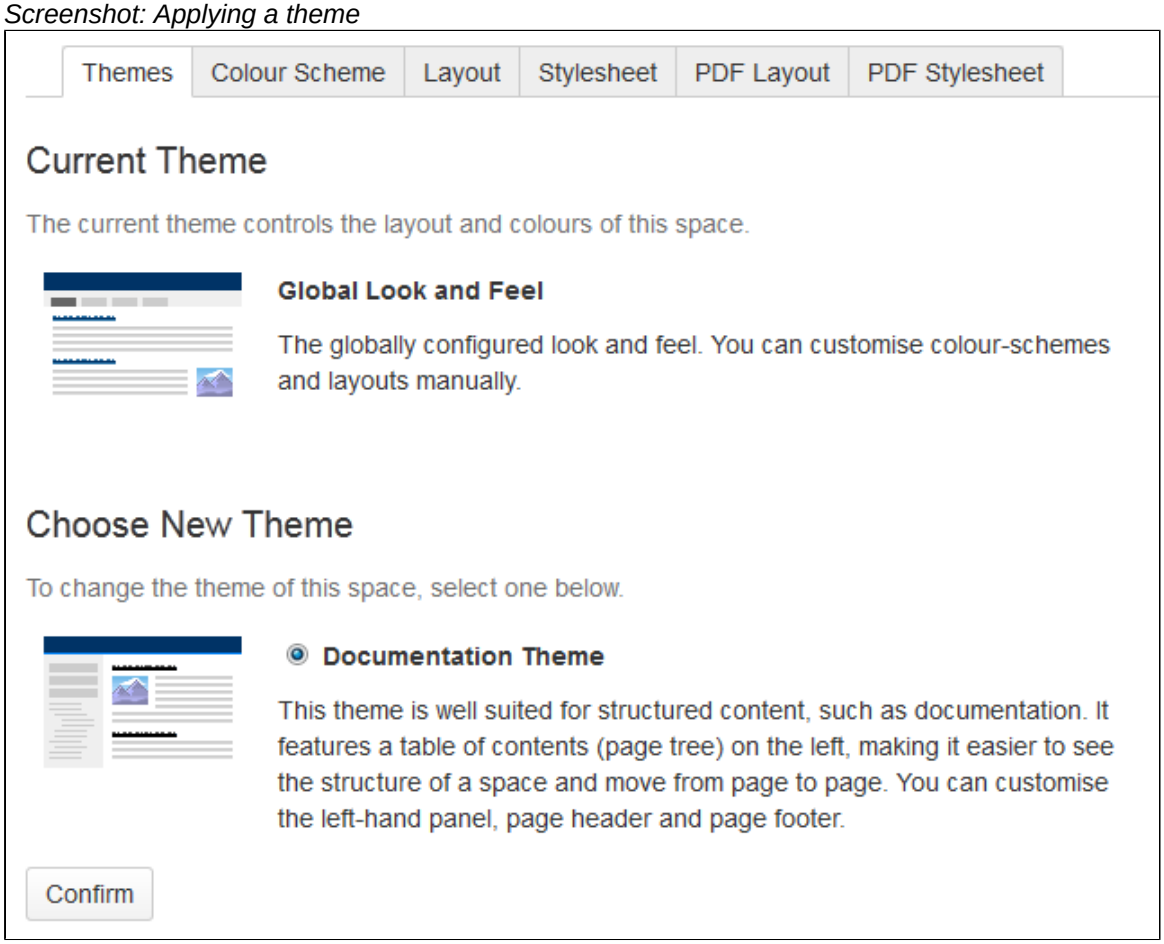
- Applying a Theme to a Site
- Editing a Space's Colour Scheme
- Customising the Look and Feel of a Confluence Space
- Confluence User's Guide

Want to customise Confluence or make it even more beautiful? Try a Confluence theme from the Atlassian Marketplace.

**To apply a theme to a space:**

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
   You'll need Space Admin permissions to do this.
2. Choose **Themes** and select a theme option.
3. Choose **Confirm**.

*Screenshot: Applying a theme*




If your space is using the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Themes** from the space administration options
3. Select a theme option.
4. Choose **Confirm**.

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## Configuring the Documentation Theme

The Documentation theme is one of the themes bundled with Confluence.



**Advance warning of plans to merge Documentation theme with the default theme**
This is an advance notice that we plan to merge the functionality of the Confluence Documentation theme with the Confluence default theme. We do not yet have a specific date for this plan, and we are interested in your feedback. The new default theme, introduced with Confluence 5.0, includes a sidebar with contextual navigation. Our plan is to include features from the Documentation theme in the default theme, and then remove the Documentation theme from Confluence.

If you are interested in this change and would like to give us feedback, please add a **comment on this blog post**: Advance warning of plans to merge Documentation theme with the default theme. We are especially interested to know which features of the Documentation theme you use and value the most.

The Documentation theme is designed for spaces containing technical documentation, but you may find it useful for other types of structured content. It provides a table of contents for your space, a configurable header and footer, and text styles suited to documentation. (See features below.)

**Quick guide to applying and customising the Documentation theme:**

- Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
- Choose **Themes**.
- Select **Documentation Theme** and choose **Confirm**.
- If you want to customise the theme, choose **Configure theme**.
  - Select or deselect the default page tree.
  - Select or deselect the space-restricted search.
  - Enter the text and wiki markup for your custom left-hand panel header and footer.
  - Choose **Save**.

The rest of this page gives more details of the above procedure.

**On this page:**

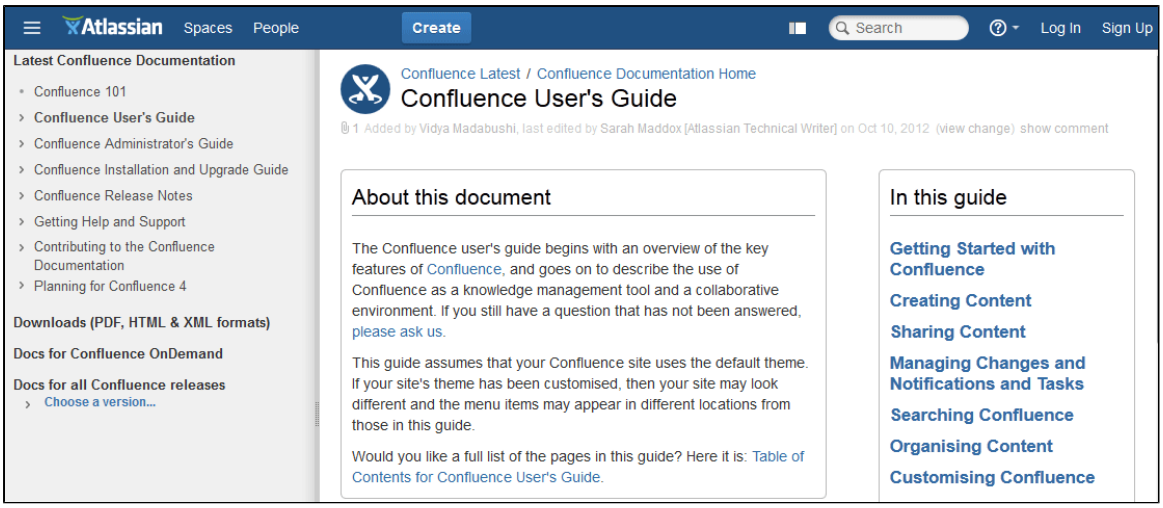

- Applying the Documentation theme to your space
- Applying the Documentation theme to your site
- Customising the Documentation theme
  - Customising the theme at site level
- Features of the Documentation theme
- Hints and tips
- Notes


**Related pages:**

- Using the Documentation Theme
- Space Jump Macro
- Applying a Theme to a Space
- Applying a Theme to a Site
- Editing a Space's Colour Scheme
- Customising the Look and Feel of a Confluence Space
- Confluence User's Guide

*Screenshot: The Documentation theme showing the space sidebar replaced by a navigation sidebar.*

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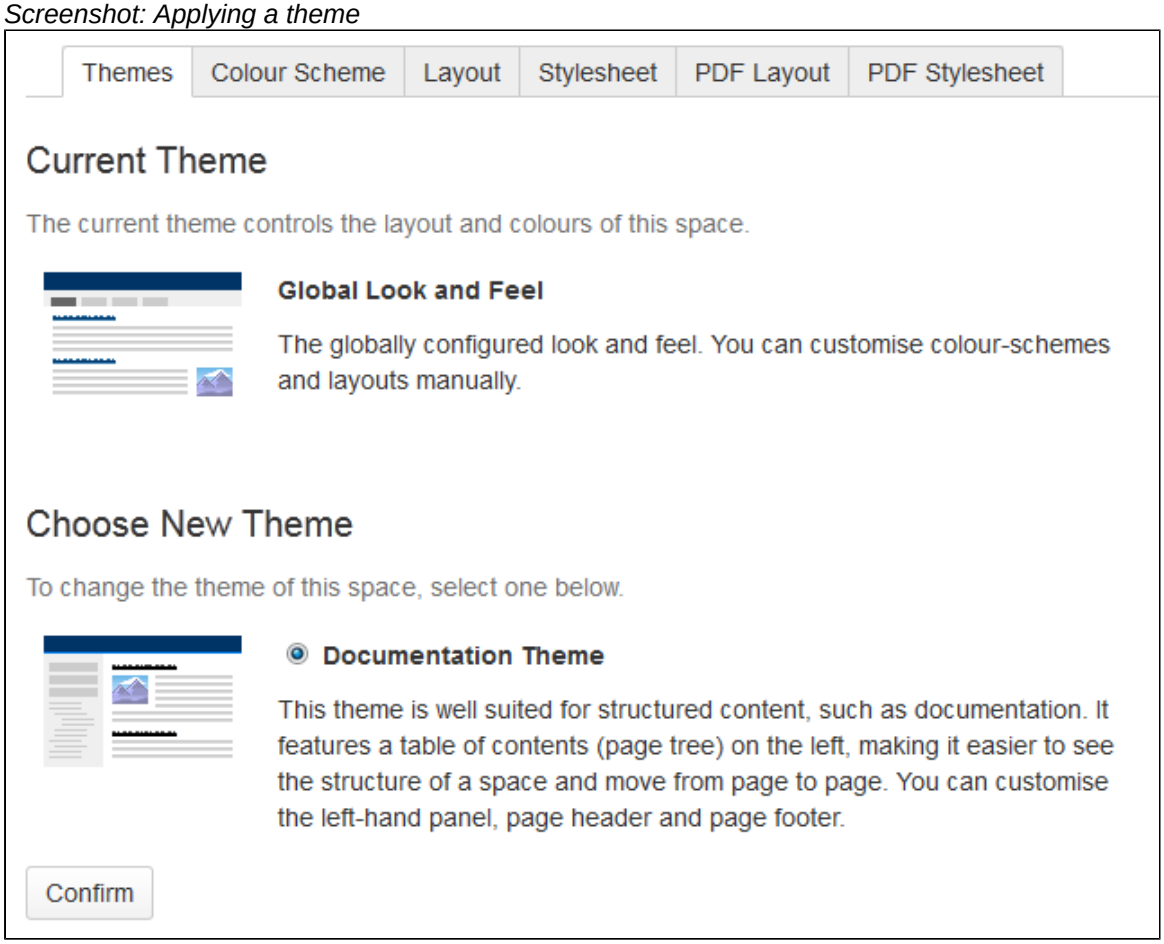

***Applying the Documentation theme to your space***

Follow the steps below to apply the Documentation theme to your space. All pages in the space will start using the theme immediately.

**To apply a theme to a space:**

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
   You'll need Space Admin permissions to do this.
2. Choose **Themes** and select a theme option.
3. Choose **Confirm**.

*Screenshot: Applying a theme*




If your space is using the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.

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*Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Themes** from the space administration options
3. Select a theme option.
4. Choose **Confirm**.

#### *Applying the Documentation theme to your site*

If you have site administrator permissions, you can apply the theme at site level. It will then be the default theme for all spaces in the site. See the administrator's guide to applying a theme.

#### *Customising the Documentation theme*

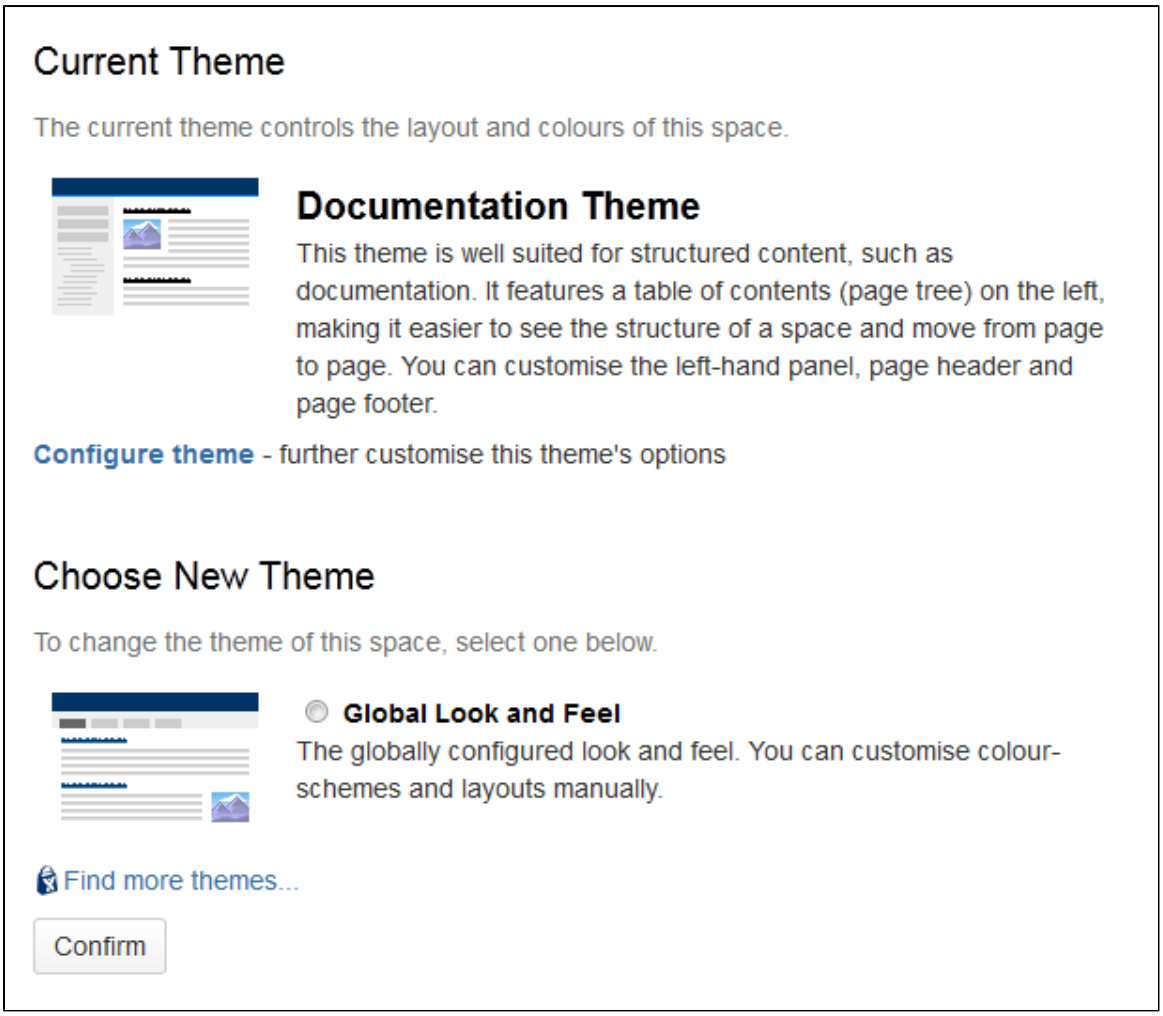
The theme works well without any customisation. If necessary, you can restrict the search to just one space, change the content of the left-hand navigation panel and add your own header and footer. The following instructions assume you have already applied the Documentation theme.

**To customise the Documentation theme:**

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Themes** in the left-hand panel under the heading 'Look and Feel'.
3. Choose **Configure theme** in the yellow area of the 'Current Theme' section at the top of the page. See screenshot below. The 'Documentation Theme Configuration' screen appears. See screenshot below.
4. Select or deselect the **Page Tree** check box. This determines whether your space will display the default search box and table of contents (page tree) in the left-hand panel.
5. Select or deselect the **Limit search results to the current space** check box.
   - If you select the check box:
     - The Confluence search will look for matches only in the current space by default. Users can override this restriction when entering their search term. See Using the Documentation Theme.
     - The default page tree in the left-hand panel will not include a search box.
   - If you do not select the check box:
     - The Confluence search will look for matches in the entire Confluence site. This is the default behaviour for other themes too.
     - The default page tree in the left-hand panel will include a search box, which restricts search results to the current space.
6. Enter text, images, macros and other wiki markup into any or all of the three text boxes.
   You can use the Include or Excerpt Include to include re-usable content into your footer. See hint below.
   - 'Navigation' – This text box contains content for the left-hand panel.
     - If the **Page Tree** check box is selected, the navigation panel contains the default search box and page tree. Any content you enter into the 'Navigation' text box will appear *above* the page tree and search box.
     - You can include your own content *underneath* the page tree as well as above. See hint below. In summary: Deselect the **Page Tree** check box. Insert your own page tree using the Pagetree macro, then add your own content under the macro.
   - 'Header' – This text box contains content for a page header that will appear above the page title on all pages in the space. See example screenshot below.
   - 'Footer' – This text box contains content for a page footer that will appear after the comments and above the site footer, on all pages in the space. See example screenshot below.
7. Choose **Save**.

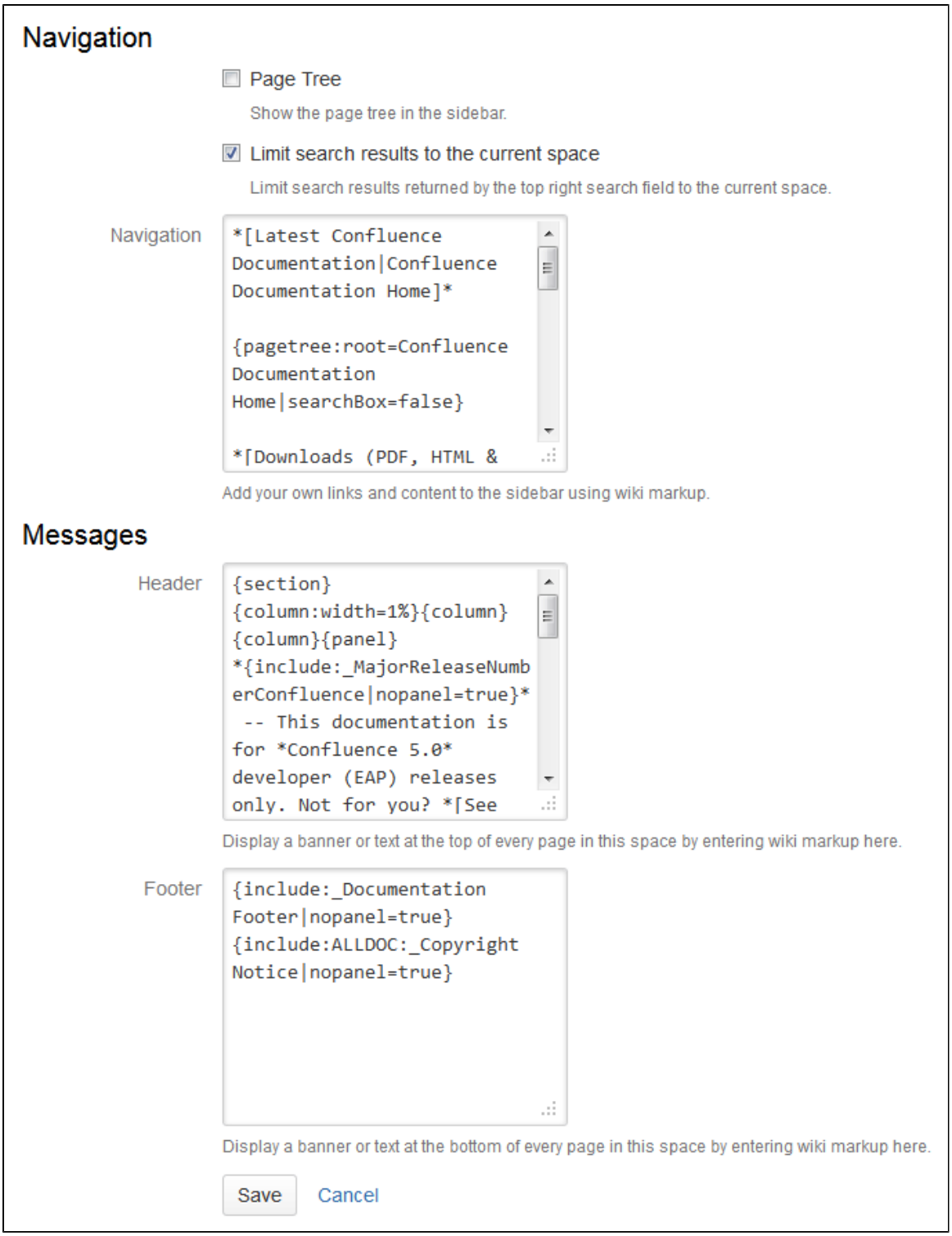
*Screenshot: The 'Configure theme' option*

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*Screenshot: Customising the Documentation theme*

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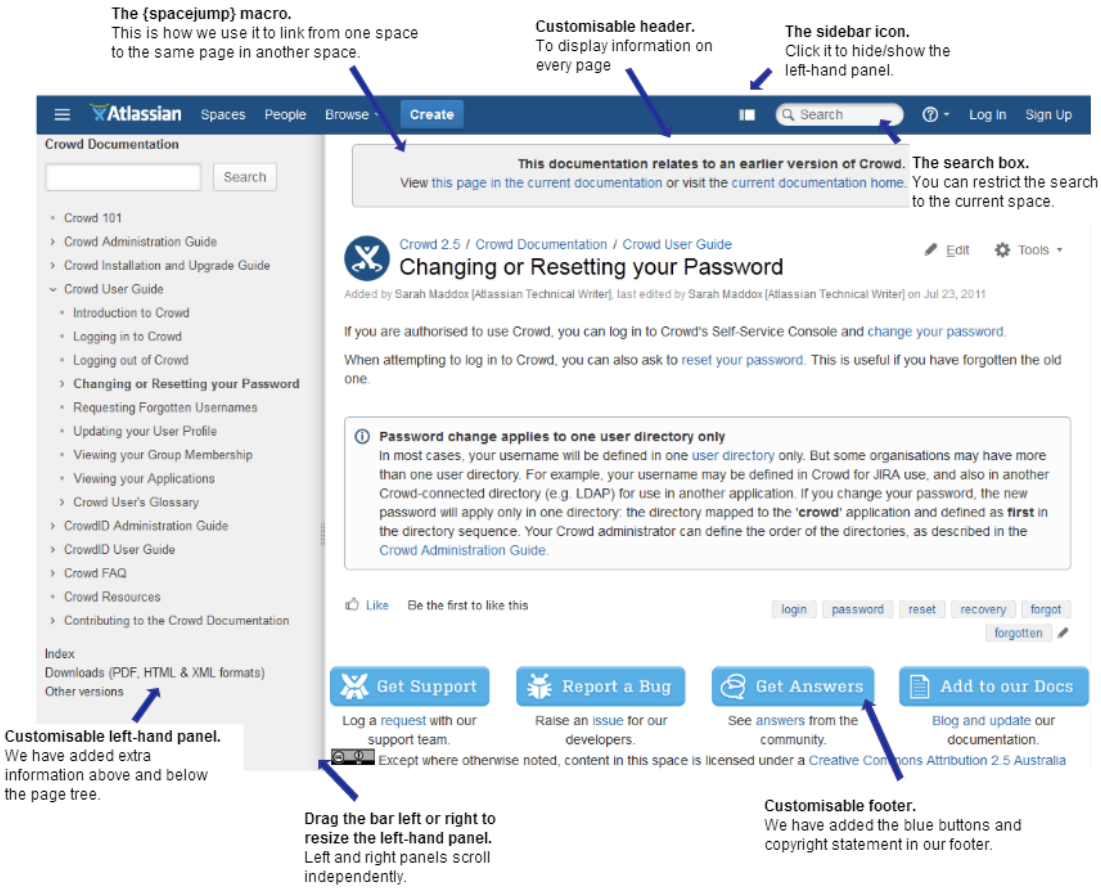

#### *Customising the theme at site level*

If you have site administrator permissions, you can apply and customise the theme at site level. The customisation options are the same as the space level options, as described above.

#### *Features of the Documentation theme*

*Screenshot: A customised header, footer and left-hand panel*

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The above screenshot shows a wiki space with a customised left-hand panel, header and footer.

Here is a summary of the features that the Documentation theme provides:

- By default, the left-hand panel contains a search box and a table of contents (page tree) showing all the pages in your space. Specifically, it shows the pages that are children of the space's home page.
- The left-hand panel is fully customisable. You can choose to include or exclude the search box and page tree. You can enter your own text, images and wiki markup.
- People viewing the page can drag the thick bar between the left-hand panel and the content, to increase or decrease the width of the panel. They can also remove the panel altogether, by clicking the sidebar icon at top right, next to the search box.
- The left-hand and right-hand panels scroll independently of each other.
- The page title is neatly above the page content, and not uncomfortably above the navigation panel as tends to happen when you insert the navigation panel yourself.
- Because the left-hand panel is part of the theme, it will be upgraded whenever Confluence is upgraded. There is no need to remove and then re-apply your customisations on each upgrade, as you would do if you added your own left-hand navigation bar.
- The theme also provides a customisable header and footer, which will appear at the top and bottom of every page.
- The text and heading styles are designed to enhance the content typically found in a documentation space.
- You can use the Space Jump macro to link from a page in one wiki space to a page with the same name in another space, without knowing the name of the page when you create the link.
- You can limit the Confluence search results to the current space. If you choose this option, the Confluence search will look for matches only in the current space by default. Users can override the restriction. See Using the Documentation Theme.

***Hints and tips***

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Below are some hints that you may find useful when using the Documentation theme.Where can I see a working example of the Documentation theme?

The Confluence documentation uses the Documentation theme. If you are reading this documentation online on the Atlassian documentation wiki, you are seeing a working version of the Documentation theme.

Which pages will appear in the Documentation theme's table of contents?

The theme constructs the page tree in the left-hand panel from all pages that are child pages of the space's home page. Each space has a single page designated as the 'Home' page. You can specify the home page in the space administration section.

Help, my pages do not appear in the Documentation theme table of contents

**Cause 1: Your pages are not under the space's home page.** The most probable reason why your pages do not appear in the page tree in the left-hand panel is this: The theme constructs that table of contents from all pages that are child pages of the space's home page. If your pages are above the home page in the page tree, they will not appear in the left-hand panel.

There are two ways to fix the problem:

- You can change the designated space home page in the space administration section.
- Or you can drag and drop all your pages to make them children of the current home page. You can drag and drop pages in the 'Pages' section of the space 'Browse' screen. See Moving a Page.

**Cause 2: Problem with upgrade from Confluence 3.1, with Documentation theme as plugin, to Confluence 3.2 or later with Documentation theme bundled.** If your existing Confluence installation already has the Documentation theme plugin installed, you may find that after upgrading to Confluence 3.2 the left-hand navigation bar is empty in the spaces that use the theme. The fix is to enable all modules of the Documentation theme plugin. See the knowledge base article.

Help, my left-hand panel has disappeared

If your entire left-hand panel has disappeared when using the Documentation theme, this is probably because you have clicked the sidebar icon  at top right, next to the search box. Click the icon again to restore the panel.
Can I change the default width of the left-hand navigation panel?

The Confluence user interface does not offer a way to change the default width of the left-hand navigation panel supplied by the Documentation theme. Users can change the width by dragging the middle bar, but the default width is not configurable. This post on Atlassian Answers gives a way to do it with CSS: Documentation Theme - Default Width (in px) of left panel.

Hiding pages from the left-hand table of contents

You can 'hide' pages by putting them at the same level as or higher than the space home page.

Each space has a single page designated as the 'Home' page. You can specify the home page in the space administration section.

The theme constructs the page tree in the left-hand panel from all pages that are child pages of the space's home page.

If your documentation pages are at the same level as the space home page, they will not appear in the left-hand navigation bar. So you can 'hide' pages by putting them at the same level as or higher than the space home page. The pages will show up in the search results and people can see the content if they open the page, but the pages will not appear in the left-hand panel.

More detail: The theme uses the Pagetree macro to produce the table of contents. When entering the Pagetree macro, you can choose the top page in the page tree. The Documentation theme chooses the space home page as the top page.

Using reusable content in your header, footer or sidebar

You can use any text or wiki markup in your theme header, footer or left-hand panel. One useful hint is to use the Include or Excerpt Include to include re-usable content into your footer.

The screenshot above shows the theme customisation options, with examples of the macros used to include content from other pages. And the example screenshot also above shows the resulting header, footer and

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left-hand panel.

Adding content below the page tree in your sidebar

If you want to include your own content underneath the page tree, you can deselect the 'Page Tree' check box, add your own page tree using the Pagetree macro in the 'Navigation' text box, and then add your own content under the macro.

The screenshot above shows the theme customisation options, with the default page tree deselected and a custom page tree inserted, along with additional content in the left-hand panel. The example screenshot also above shows the resulting left-hand panel.
Adding an expanding All Versions section to the sidebar

If you want to include a an expanding list of links to other spaces, as we have included in this space (see 'Docs for all Confluence releases' in the sidebar), you can use an Expand Macro and an Include Page Macro in the 'Navigation' text box. For example:

```
*[Docs for all Confluence releases|_Latest Versions of Confluence
Documentation]*
{expand:Choose a version...}
{include:_Latest Versions of Confluence Documentation}
{expand}
```

If you would like this to display below the page tree, follow the steps above.

Adding underlines to your links

By default, the Documentation theme does not underline hyperlinks. If you prefer to have your links underlined, you can edit the CSS stylesheet for your space and add the following CSS code:

```
.wiki-content a:link, .wiki-content a:visited, .wiki-content a:active {
  text-decoration: underline;
}
```

**To edit a space's CSS style sheets:**

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
2. Choose **Stylesheet** then **Edit**.
3. Paste your custom CSS into the text field.
4. Save your changes. The new CSS will be visible on all content pages in the space.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Click **Stylesheet** in the left-hand panel under the heading 'Look and Feel'.
3. Choose **Edit**.
4. Paste your custom CSS into the text field.
5. Save your changes. The new CSS will be visible on all content pages in the space.

Notes:

- You need system administrator permissions to edit the CSS for a space or for the site.
- This function is turned off by default. To turn it on, go to **Confluence Admin > Security Configuration** a nd choose **Custom Stylesheets for Spaces**.

Jumping to the same page in another space

The {spacejump} macro is provided along with the Documentation theme. You can use space jumping to link from a page in one wiki space to a page with the same name in another space, without knowing the name of the

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page when you create the link. When a reader is viewing a page and chooses the link provided by the macro, they will go to a page with the same name, but in the space specified in the macro. See more about the Space Jump macro.
Hiding the left-hand panel completely

It's not possible to remove the left-hand panel entirely, using the user interface supplied by the theme. There is an improvement request here:

**CONF-25923** - Provide option to hide the left-hand panel entirely in the Documentation theme (Resolved)

If you like, you can comment on and/or vote for that request. In the meantime, Atlassian Answers is a good place to ask the question and see if other people can help you with custom code to remove the panel.

***Notes***

- The Confluence default theme supplies a **sidebar**, which is different to the left-hand panel in the Documentation theme. For information about the sidebar, see Finding Content and Configuring a Sidebar.
- The Documentation theme supplies a **Browse** menu in the Confluence header, which gives access to the space administration and advanced options.

## Configuring a Sidebar

The default theme and documentation theme in Confluence both feature a left sidebar.

This page outlines how to customise the sidebar in the default theme. To find out how to customise the sidebar in the Documentation theme, see Configuring the Documentation Theme.

You need space administrator permissions to configure the sidebar. See Space Permissions. Any changes you make to the sidebar will be visible to all Confluence users viewing that space.

**To configure a space's sidebar:**

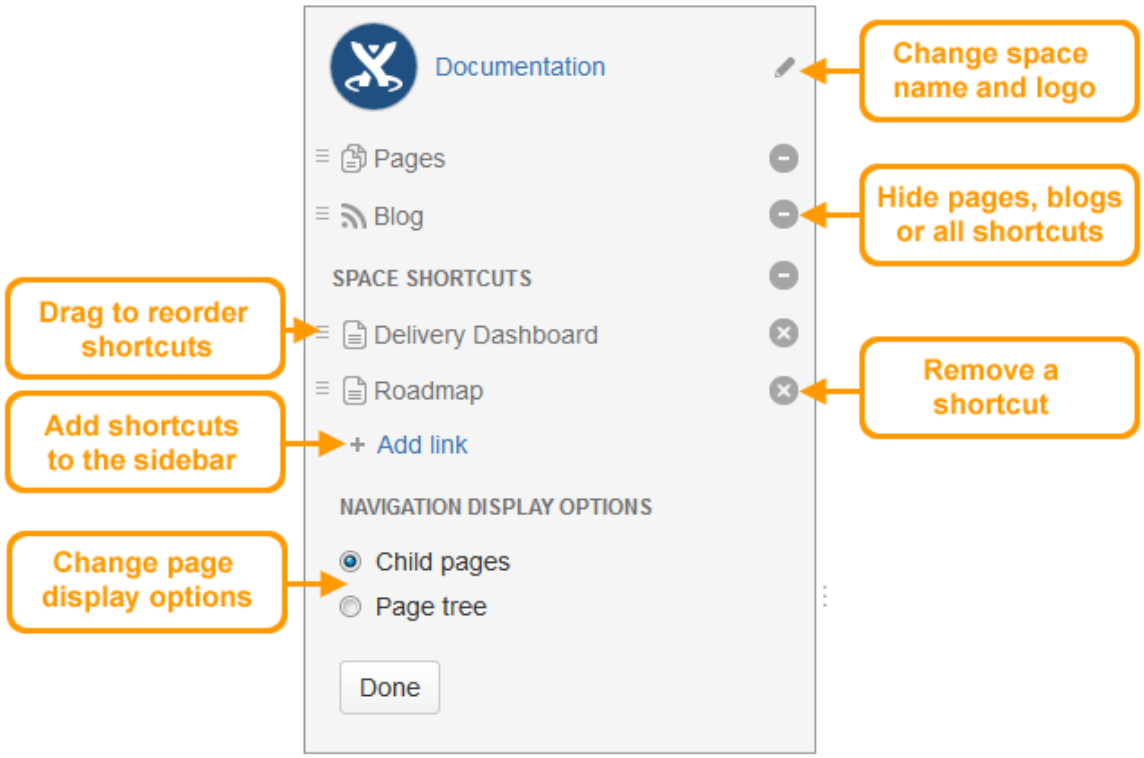
1. Go to the space and choose **Space tools** > **Configure sidebar** on the sidebar.
2. Change the space name and/or space logo:
    - Choose the edit icon next to the space name.
    - Type in a space **Name**.
    - Browse to find an image for the space **Logo**, and crop the image to the required size.
    - Choose **Save**.
3. Configure the **Pages** and **Blog** links:
    - Choose the icons to **hide** or **show** the 'Pages' or 'Blog' link. For example, you may want your space to be used primarily as a blog (hide the 'Pages' link) or you may not need a blog in your space (hide the 'Blog' link).
    - Drag the links to a different sequence within the section. Note that you cannot move a link from one section to another.
    - Note that add-ons may add other links in this section of the sidebar. For example, the Team Calendars add-on may put a link in this location.
4. Add or remove the **shortcut links**:
    - Choose **Add link** to add a shortcut link to the sidebar. This can be a link to an important page for your team, or to an external site, for example.
    - Choose the icon to **remove** a shortcut link.
    - Drag the links to a different sequence within the section. Note that you cannot move a link from one section to another.
    - Choose the **hide** or **show** icon beside the 'Space Shortcuts' heading to show or hide all shortcuts on the sidebar.
5. Change the **navigation display options**:
    - Choose **Child pages** to see the current page and its children in the sidebar.
    - Choose **Page tree** to see the page tree for the entire space, expanded to the current page.

**Related pages:**

- Finding Content
- Administering a Space
- Confluence User's Guide

*Screenshot: Configuring a space's sidebar*

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**Notes**

The default theme and Documentation theme both feature a sidebar. If you are using a third party theme it may not feature a sidebar.

## Changing a Space's Logo

In Confluence, you can replace the default logo for a space with an image of your choice. The instructions below apply to site spaces. For your personal space, your profile picture is used as the space icon.

You need to be a space administrator to replace a space's logo.

**To change a space's logo, in spaces using the default theme:**

1. Go to the space and choose **Space tools** > **Configure sidebar** on the sidebar.
2. Choose the edit icon next to the space name.
3. Choose **Choose File**.
4. Browse to find and upload an image.
5. Adjust the size of the highlighted circle on the image, to crop the image to the required size.
6. Choose **Save**.

**To change a space's logo, in spaces using the Documentation theme:**

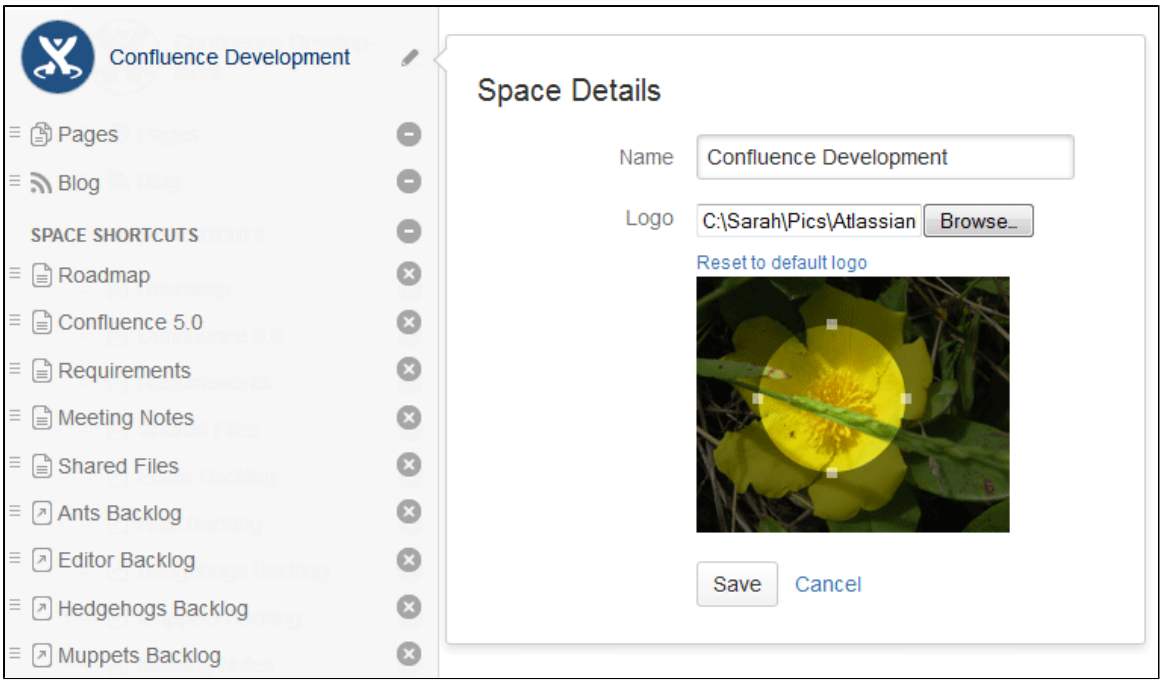
1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Change Space Logo** in the left-hand panel.
3. Use the browse option to locate the new logo and choose **Upload**.

**Related pages:**

- Configuring a Sidebar
- Customising the Look and Feel of a Confluence Space
- Confluence User's Guide

*Screenshot: Changing a space logo in the default theme*

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**Notes**

- **Dimensions of image when using the Documentation theme:** A space logo in the Documentation theme looks best if the height and width of the image are of the same or similar length. In other words, the area occupied by the image, including white space, should be square rather than rectangular.
- **Minimum dimensions:** Space logos are set at 48 x 48px. Logos less than these dimensions will be centred with whitespace around them.
- **Space logos in the default theme are circular.**

## Changing the Confluence Browser Icon, aka favicon

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 ICO file format. To maximise browser compatibility, it should be 32x32 pixels in size, 71x71 DPI (dots per inch) and have an 8 bit colour depth.
2. Inside the root of your Confluence installation directory, find the `confluence` subdirectory.
3. Back up the file `favicon.ico`.
4. Replace the `favicon.ico` file with your custom ICO image.
5. Restart your application server.

> *The information on this page does not apply to Confluence OnDemand.*

Users may need to clear their browser cache before they will see the new image. This can be done by pressing ctrl+refresh in the browser when a page in Confluence is open.

> **Converting a PNG to an icon**
> To create an ICO out of a PNG image, you can use the freeware tool png2ico or the the online tool at http://converticon.com/.

***Related Topics***

Customising the Look and Feel of a Confluence Space

## Customising Space Layouts

You can modify Confluence's look and feel by editing the 'decorator' (layout) files. This page tells you how to customise the layout files for a space

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Confluence system administrators can also customise the layout of their entire Confluence site as a whole. For more information, please refer to Customising Site and Space Layouts. Site layout customisations modify the default layout of all spaces in the Confluence site. *Not applicable to Confluence OnDemand.*

Any space layout customisations will override the equivalent site customisations.

**A note about permissions:** To perform these customisations, you will require space administrator permissions for that space. For security reasons, you must also have Confluence system administrator permissions to modify any **space** layout throughout your Confluence site.

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 any customisations. For more information on updating your customisations, please refer to Upgrading Customised Site and Space Layouts.

**Related pages:**

- Customising the Look and Feel of a Confluence Space
- Applying a Theme to a Space

Confluence User's Guide.

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.

The decorator files in Confluence are grouped into the following categories:

- **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 blog posts. They do not 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**:

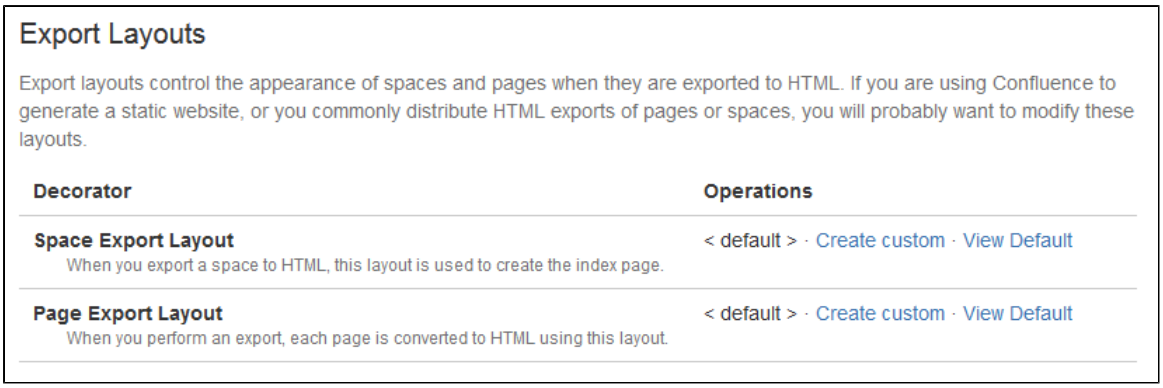
1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
2. Choose **Layout** (**Layout** is displayed only if you are a Confluence system administrator.)
3. You will see a list of the layouts for the space.
    - Click **View Default** to view the vmd file.
    - Click **Create Custom** to edit the default vmd file. This will open up the vmd file in edit mode. Make changes and click **Update**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Layout** in the left-hand panel (**Layout** is displayed only if you are a Confluence system administrator.)
3. You will see a list of the layouts for the space.
    - 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**.

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*Screenshot : Edit Layouts Example*




**Click the thumbnail to see an example of a vmd file**:



## 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.

**Related pages:**

- Customising the Look and Feel of a Confluence Space
- Confluence User's Guide

**To change the colour scheme for a space:**

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
2. Choose **Colour Scheme**.
3. Choose **Select** next to a scheme listed under **Custom Colour Scheme** (if not already selected).
4. Choose **Edit**.
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.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Colour Scheme** under the heading **Look and Feel**.
3. Follow the steps above to select a custom colour scheme and edit the colours.

The colour scheme allows you to edit the colours of UI elements including the top bar, tabs and backgrounds.

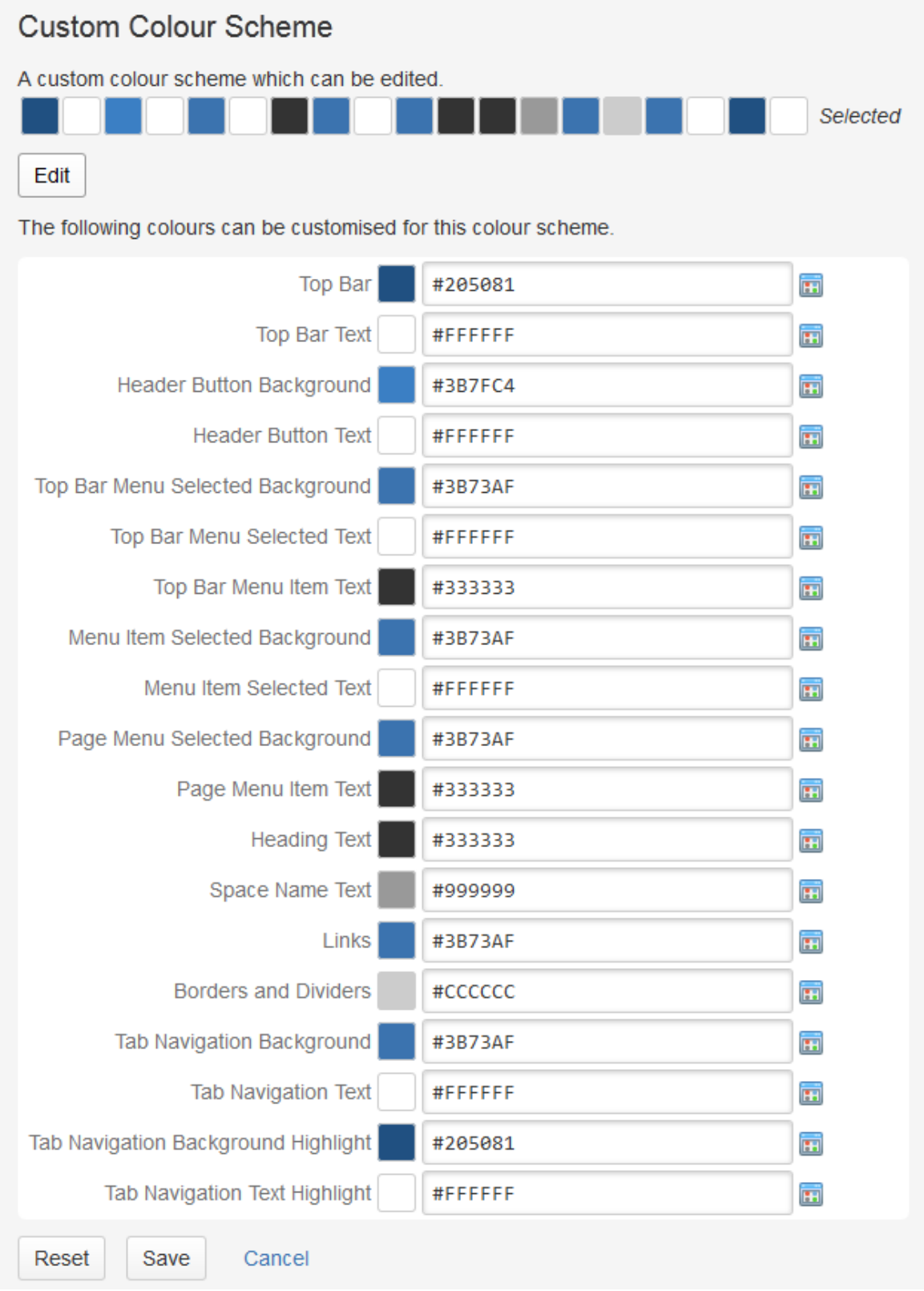
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Some UI elements below are for specific themes, and colour changes may not take effect for other themes.

- **Top Bar** - the top navigation bar background
- **Top Bar Text** - the text on the top navigation bar
- **Header Button Background** - buttons on the top navigation bar (e.g. Create button)
- **Header Button Text** - the text on buttons on the top navigation bar
- **Top Bar Menu Selected Background** - background colour of top navigation bar menu items when selected (e.g. spaces)
- **Top Bar Menu Selected Text** - text colour of top navigation bar menu items when selected
- **Top Bar Menu Item Text** - text on top navigation bar drop down menus (e.g. help or cog)
- **Menu Item Selected Background** - highlight colour on top navigation bar drop down menu items
- **Menu Item Selected Text** - text colour on highlighted top navigation bar drop down menu items
- **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
- **Heading Text** - all heading tags throughout the space
- **Space Name Text** - the text of the current space name located above the page title
- **Links** - all links throughout the space
- **Borders and Dividers** - table borders and dividing lines
- **Tab Navigation Background** - the background colour of the tab navigation
- **Tab Navigation Text** - the text of the tab navigation when highlighted
- **Tab Navigation Background Highlight** - the background colour of the tab navigation when highlighted
- **Tab Navigation Text Highlight** - the text of the tab navigation elements when highlighted

*Screenshot: Editing the colour scheme*

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**Handy Hint**
If you mess things up, just choose **Reset** then try again.

## Styling Confluence with CSS

The information in this page relates to customisations or development changes in Confluence. Consequ ently, Atlassian Support **cannot guarantee to provide any support for the steps described on this page**. Please be aware that this material is provided for your information only and that you use it at your own risk.

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This page explains the facility for changing the look and feel of Confluence with CSS.

## 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. You can upload a CSS text file, or simply type in a stylesheet, and apply it to a space or even a whole Confluence site.

Notes:

- You need system administrator permissions to edit the CSS for a space or for the site.
- This function is turned off by default. To turn it on, go to **Confluence Admin > Security Configuration** a nd choose **Custom Stylesheets for Spaces**.

Creating CSS styles that work 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 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.

**On this page:**


- Introduction
- Considerations for Using Custom CSS
- Getting Started
- CSS Resources


**Related pages:**

- Basic Styling Tutorial
- Styling Fonts in Confluence
- Confluence User's Guide

*The information on this page does not apply to Confluence OnDemand.*

## Considerations for Using Custom CSS

### *CSS Knowledge is Required*

If you are not familiar with CSS, see the links in the CSS Resources section below. You should spend some time to become confident with Cascading Style Sheets before you start editing your Confluence style sheets.

### *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*

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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.

**Note about supported web browsers:** Please ensure that you are using one of the web browsers supported by Confluence. If you are using an unsupported browser or browser version, some features may not work correctly. Check the Supported Platforms page to find the list of supported web browsers and browser versions on this page.

#### *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.

### Getting Started

#### *Editing the CSS*

**To edit a space's CSS style sheets:**

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
2. Choose **Stylesheet** then **Edit**.
3. Paste your custom CSS into the text field.
4. Save your changes. The new CSS will be visible on all content pages in the space.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Click **Stylesheet** in the left-hand panel under the heading 'Look and Feel'.
3. Choose **Edit**.
4. Paste your custom CSS into the text field.
5. Save your changes. The new CSS will be visible on all content pages in the space.

**To edit your global CSS stylesheet:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Stylesheet**.
3. Choose **Edit**.
4. Paste your custom CSS into the text field.
5. Choose **Save**.

**Note:**

- The new CSS will be visible across all spaces, provided they do not define their own custom stylesheet and are not using a theme. This CSS will also overwrite all styles defined in custom global themes.
- You may be able to add CSS to your site by choosing **Custom HTML** in the administration section, and adding your CSS definitions to the HEAD or BODY of the page. You should only use this option if you cannot achieve the desired results via the global stylesheet.

#### *Follow the Tutorial*

Follow the examples in the Basic Styling Tutorial to get started.

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### CSS Resources

- W3C CSS Standards
- W3schools CSS Introduction
- Mozilla Developer Network
- W3resource.com

## Basic Styling Tutorial

This page contains instructions on how to get started with custom CSS styling in Confluence.

#### *CSS Editing Quick-Start*

**To edit a space's CSS style sheets:**

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
2. Choose **Stylesheet** then **Edit**.
3. Paste your custom CSS into the text field.
4. Save your changes. The new CSS will be visible on all content pages in the space.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Click **Stylesheet** in the left-hand panel under the heading 'Look and Feel'.
3. Choose **Edit**.
4. Paste your custom CSS into the text field.
5. Save your changes. The new CSS will be visible on all content pages in the space.

**On this page:**
- CSS Editing Quick-Start
- Tutorial: Changing the Header Background
- CSS Editing Tips
- Notes

**Related pages:**

- Styling Confluence with CSS
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *Tutorial: Changing the Header Background*

The header is the menu area at the top of a default Confluence page where the **Breadcrumb Links**, **Browse** m enu, **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 '**65 8833839**'.
4. Compose your custom CSS for the header. The example below loads the new graphic (called '**header.pn g**') from a specific page (denoted by page ID '**658833839**') in the same space.

```
#header .aui-header  {

background-image:url('../download/attachments/658833839/header.png'
);
        background-repeat: no-repeat;
    }
```

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5. Log in as the Space Administrator.
6. Open the Space Admin page.
7. Click **Stylesheet**.
8. Click **Edit** to change the code in the text field.
9. Paste your custom CSS into the text field.
10. Click **Save** and then reload the page (you may have to shift-reload). The background of the header will change.
11. 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).

#### *Notes*

Notes:

- You need system administrator permissions to edit the CSS for a space or for the site.
- This function is turned off by default. To turn it on, go to **Confluence Admin > Security Configuration** a nd choose **Custom Stylesheets for Spaces**.

### Styling Fonts in Confluence

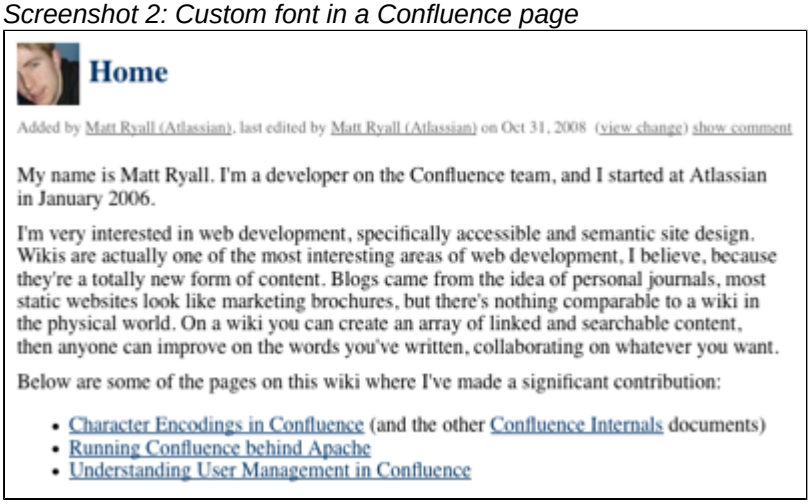
Confluence provides the ability to adjust its visual style via Cascading Style Sheets (CSS). This tutorial shows you to change the fonts and font sizes of a Confluence page, using a few lines of CSS.

*Screenshot 1: Default font in a Confluence page*

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*Screenshot 2: Custom font in a Confluence page*




Below is the code for the custom font. Copy and paste it into the Space Stylesheet form within the Space Administration section.

**Related pages:**

- Basic Styling Tutorial
- Confluence User's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

***Changing the fonts***

In order to customise the fonts in Confluence, you first need to set the body font to the font you want. Secondly, you may want to adjust the font size because different fonts have different relative sizes.

The relevant CSS is shown below. It changes Confluence's font from the default of Helvetica/Arial – *sans serif* to Times/Times New Roman – *serif*. To adjust for the fact that Times is a bit smaller than Helvetica, we increase the font size to 14 pixels. The many styles that 'wiki-content' in their definition are necessary to change the font size for all the tags in the wiki content.

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```
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;
}
```

***Notes***

Notes:

- You need system administrator permissions to edit the CSS for a space or for the site.
- This function is turned off by default. To turn it on, go to **Confluence Admin > Security Configuration** a nd choose **Custom Stylesheets for Spaces**.

## Requesting Add-ons

The Atlassian Marketplace website offers hundreds of add-ons that the administrator of your Atlassian application can install to enhance and extend Confluence. If the add-on request feature is enabled for your Confluence instance, you can submit requests for add-ons from the Marketplace to your Confluence administrator.

The 'Atlassian Marketplace for Confluence' page provides an integrated view of the Atlassian Marketplace from within your Confluence instance. The page offers the same features as the Marketplace website, such as searching and category filtering, but tailors the browsing experience to Confluence.

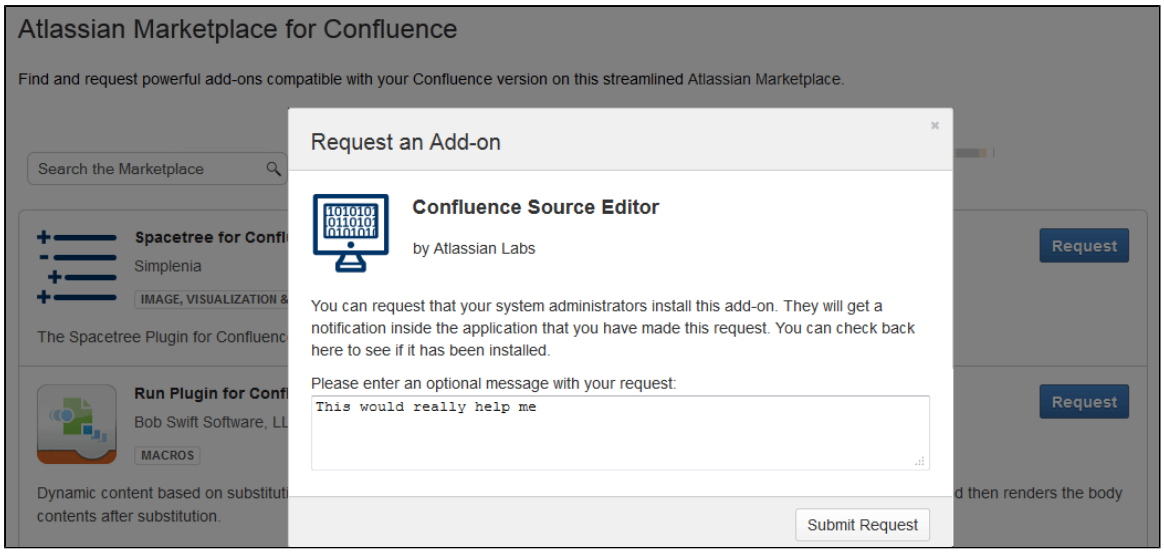
This in-product view of the Marketplace gives day-to-day users of the Atlassian applications, not just administrators, an easy way to discover the add-ons that can help them work. When you find an add-on of interest, you can submit a request with just a few clicks.

### Submitting an add-on request

To browse for add-ons in the Atlassian Marketplace, follow these steps:

1. Choose **your profile picture** at top right of the screen, then choose **Atlassian Marketplace**.
2. In the Atlassian Marketplace page, use the search box to find add-ons or use the category menus to browse or filter by add-ons by type, popularity, price or other criteria. You can see what your fellow users have requested by choosing the **Most Requested** filter.
3. When you find an add-on that interests you, click **Request** to generate a request for your administrator.
4. Optionally, type a personal message to your administrators in the text box. This message is visible to administrators in the details view for the add-on.

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5. When ready, click **Submit Request**.
6. Click **Close** to dismiss the 'Success!' message dialog box.

At this point, a notification appears in the interface your administrators use to administer add-ons. Also your request message will appear in the add-on details view, visible from the administrator's 'Find New Add-ons' page. From there, your administrator can purchase the add-on, try it out or dismiss requests.

#### Updating an add-on request

After submitting the request, you can update your message at any time. Click the **Update Request** button next to the listing in the Atlassian Marketplace page to modify the message to your administrator.

The administrator is not notified of the update. However, your updated message will appear as you have modified it in the details view for the add-on immediately.

# Giving People Access to Content

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 is 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.

## Levels of permission

There are three levels of permissions in Confluence.

#### 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.

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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.

**Note:** If you misconfigure a space so that nobody has access to administer it any more, someone in the 'confluence-administrators' group will need to fix the permissions for you.

#### 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.

**On this page:**

- Levels of permission
  - Global permissions
  - Space permissions
  - Page restrictions
- More information
  - How do space permissions and page restrictions work together?
  - How do space permissions and page restrictions affect links?

**Related pages:**

- Users and Groups
- Global Permissions Overview
- Space Permissions Overview
- Page Restrictions
- Configuring Confluence Security
- Confluence Security Overview and Advisories (*Not applicable to Confluence OnDemand.*)
- Confluence User's Guide

## 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.

# Page Restrictions

Page restrictions allow you to control who can view or edit individual pages in a space.

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To add or remove restrictions to a page you will need to have permissions to edit the page and 'Restrict' or 'Admin' permission in the space.

## About page restrictions and space permissions

Confluence permissions are hierarchical, so page restrictions will not override any space permissions for the user or group.

For example, if you restrict viewing or editing a page to a user who does not have 'view' permissions for the space, they will not be able to see the page, as the page level restrictions cannot override their space permissions.

Some page restrictions are inherited. If you restrict viewing a page to a user or group, all children of that page will also be restricted to the user or group. Edit page restrictions are not inherited.

## Adding restrictions to a page

You can restrict viewing a page or editing a page to a specific user or group.

**To restrict viewing or editing a page to a user or group:**

1. Go to the page and choose **Tools** > **Restrictions**.
2. Choose **Restrict viewing of this page** or **Restrict editing of this page**.
3. Enter part of user or group name, and then choose the appropriate user or group from the autocomplete drop down. You can add multiple users and groups.

The page restrictions have now been applied:

- Viewing the page is now restricted to the users and / or groups listed. All other users will not be able to view the page. Any children of this page will inherit the viewing restrictions.
- Editing the page is now restricted to the users and / or groups listed. All other users will be able to view, but not edit, the page.

**On this page:**


- About page restrictions and space permissions
- Adding restrictions to a page
- Viewing the current page restrictions
- Removing restrictions from a page
- Request and grant access to view a restricted page
- Viewing all restricted pages in a space
- Notes


**Related pages:**

- Working with Pages
- Confluence User's Guide.

## Viewing the current page restrictions

Confluence displays a padlock icon on the byline when a page has current viewing or editing restrictions.

*Screenshot: Byline showing page restrictions icon.*




**To view the restrictions:**

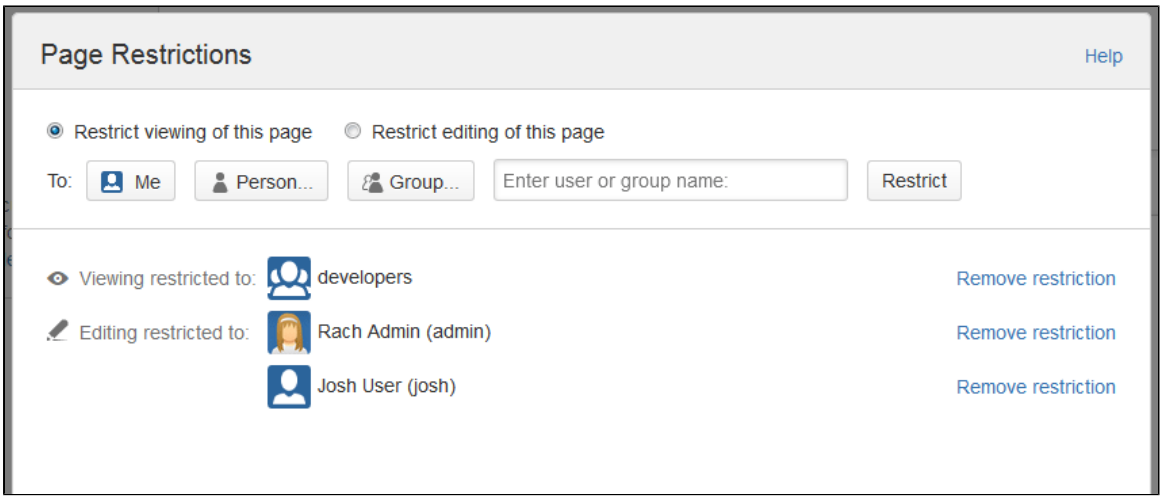
1. Go to the page and:
    - choose **Tools** > **Restrictions,** or

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- choose the padlock icon on the byline, or
- choose the **Restricted** button on the footer, if you are in the editor.

2. The Page Restrictions dialog appears, listing the users and / or groups that have restrictions applied.

*Screenshot: Page Restrictions dialog showing viewing restricted to the 'developers' group and editing restricted to two users.*




### Removing restrictions from a page

**To remove restrictions from a page:**

1. Go to the page and:
   - choose **Tools** > **Restrictions**, or
   - choose the padlock icon on the byline, or
   - choose the **Restricted** button on the footer, if you are in the editor.
2. Choose **Remove** next to each restriction you would like to remove.

### Request and grant access to view a restricted page

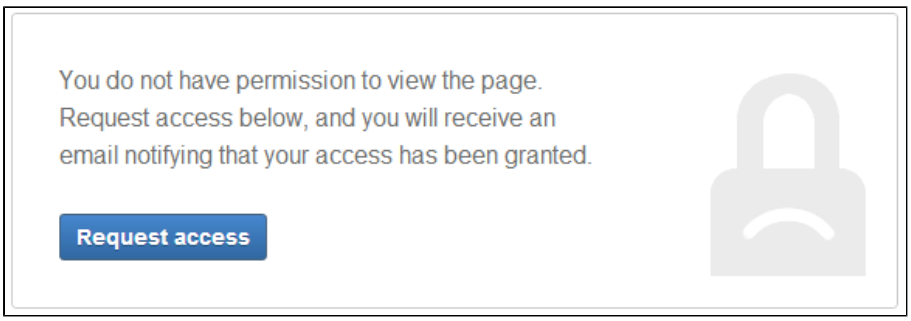
If you navigate to a page that you are not able to view because it has page restrictions applied (for example from a link or page URL) you may be able to request access to the page.

**To request access to a restricted page:**

1. On the restricted page choose **Request access**.
2. Wait for an email confirming that access has been granted.

If the request access message does not appear, you are not able to request access for that particular page. This usually is because the page has inherited restrictions from a parent page, or you may not have adequate space permissions.

*Screenshot: Request access message on a restricted page.*




**To grant access to a restricted page:**

1. In the request access email, choose **Grant access**.
2. You will be taken to the restricted page, a banner will appear with the access request.
3. Choose **Confirm** on the banner.

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The user will receive an email confirming that access has been granted.

This process is the same as navigating to **Tools** > **Restrictions** and adding a 'View' restriction for the user.

*Screenshot: Confirm access request.*




**Who can grant access?**

To grant access to a restricted page you will need to have permission to edit that page, and have the 'Restrict' or 'Admin' permission for the space.

Confluence will send an email to the a user who can grant permissions - this will be either the last user (with appropriate permissions) to edit the page, the page creator or a space admin.

### Viewing all restricted pages in a space

You need 'Admin' permissions to view the list of restricted pages in a space.

**To view restricted pages:**

1. Go to the space and choose **Space tools** > **Permissions** on the sidebar.
2. Choose **Restricted Pages**.

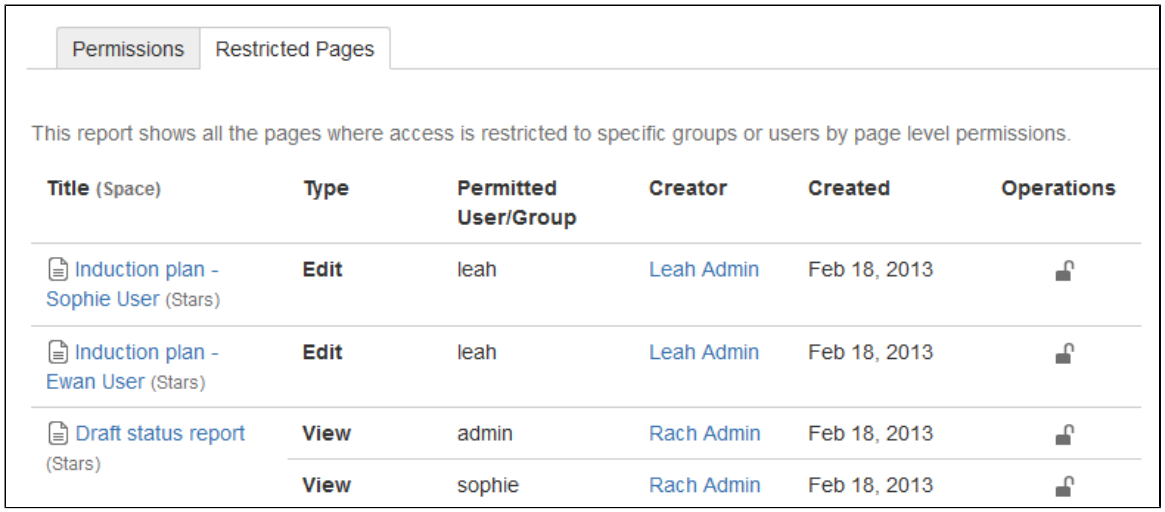
If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Restricted Pages** in the space administration options.

A list of all restricted pages in the space displays.

Space Administrators can remove restrictions from a page

*Screenshot: Restricted pages in a space*




### Notes

- **Inherited restrictions**
  If a page has a '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 child page that has already inherited page restrictions from its parent, users must satisfy both restrictions in order to see the page.

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- **Space Admin and Confluence Administrator access to restricted pages**
  Users with 'Admin' permissions in a space, or members of the 'confluence-administrators' group can remove restrictions from pages, even if the page restriction prevents them from viewing the page. 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.

## Site Administrators and their Permissions

All site administrative functions are performed from the Administration Console. You need 'System Administrator' or 'Confluence Administrator' permissions to access the Administration Console.
The Confluence permission scheme allows the following levels of site administrator permissions, with the most powerful at the top of the list:

- **Super user** – A 'super user' belongs to the `confluence-administrators` group, has full administrative access to Confluence, and can see all the content.
- **System Administrator** – A person with 'System Administrator' permission has full administrative access to Confluence.
- **Confluence Administrator** – A person with 'Confluence Administrator' permission has access to most of the Confluence administrative functions.


*Some functionality described on this page is restricted in Confluence OnDemand.*

Please refer to the overview of global permissions for full details.

**Related Topics**

- Users and Groups
- Confluence User's Guide

## Contacting Confluence Administrators

If you receive an error message from Confluence, the error page may offer you a link to click in order to contact the administrators of the Confluence site.

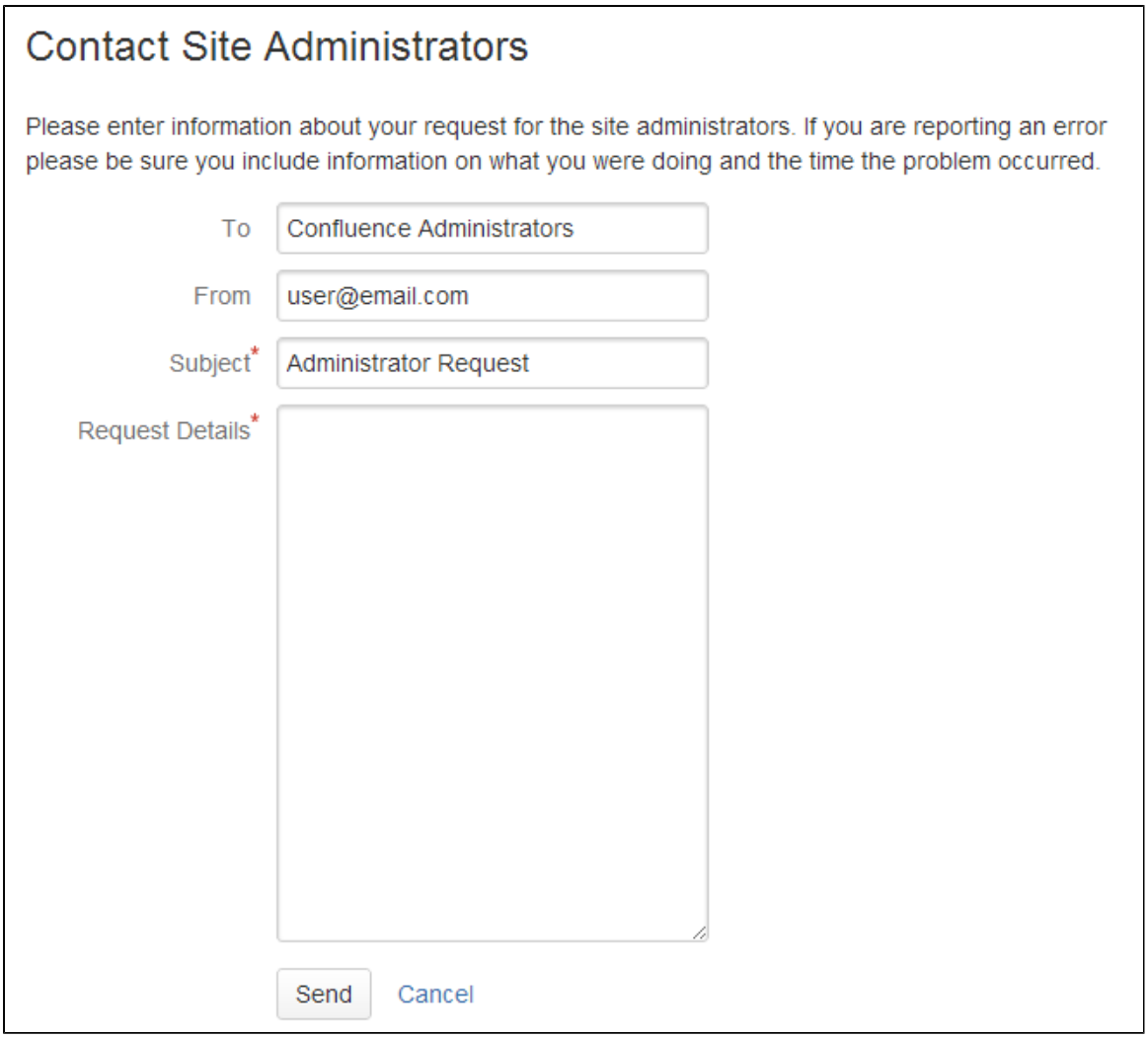
When you click the link to contact the Confluence administrators, you will see an administrator contact page with the title '**Contact Site Administrators**'. By default, the administrator contact page looks like the screenshot below.

**Related pages:**

- Configuring the Administrator Contact Page

*Screenshot: The administrator contact screen*

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***The screen may look different***

In certain configurations of Confluence, you will not be able to use the form shown in the screenshot above. Instead, you will see a message telling you about one of the following conditions:

- If your Confluence administrator has not configured a mail server for Confluence, this means that Confluence will not be able to send an email message to the administrators.
- If none of the Confluence administrators has an email address, Confluence will not be able to send an email message to them.
- If there are no Confluence administrators defined to Confluence, Confluence will not be able to send an email message to them.
- The Confluence administrator can disable the form and specify a different message to be displayed on the above screen instead of the default message and form. See the administrator's guide.

#### Notes

You can also access this contact form using the following URL.

```
yoursite.com/wiki/contactadministrators.action
```

## 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

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other space administrators as required.

To find the space administrator for a specific space:

1. Choose **Spaces** > **Space directory** on the header.
2. Choose the **Space Details** icon beside a space.
3. The space administrators are listed.

**On this page:**
- Who is a space administrator?
- What can a space administrator do?

**Related pages:**
- Space Permissions Overview
- Confluence User's Guide

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).
- manage the watchers for any page in the space (but not watchers of the space).
- grant themselves any other space permissions (e.g. permission to set restrictions on a particular page).

All space administration functions, with the exception of managing watchers, are performed from the **Space Tools** menu (choose **Browse** > **Space Admin** in the Documentation theme). You need to be a space administrator to access the Space Administration screens.

## Space Permissions Overview

Every space has its own independent set of permissions. Space permissions can only be granted by a space administrator.

Permissions can be assigned to any group, to any individual user in the 'confluence-user' or 'user' group, and to users in the 'anonymous' group.

These are the 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**:
  - Add – user may create and edit pages in this space.
  - Restrict – user may apply page-level restrictions.
  - Delete – user may delete pages in this space.
- **Blog**:
  - Add – user may add and edit blog posts in this space.
  - Delete – user may delete blog posts in this space.
- **Comments**:

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    - Add – user may make comments in this space.
    - Delete – user may delete comments from this space.
- **Attachments**:
    - Add – user may add attachments in this space.
    - Delete – user may delete attachments from this space.
- **Mail**:
    - Delete – user may delete individual mail items.
- **Space**:
    - Export – user may export content from this space via the space-level export screens. Note that this permission does not affect the exporting of a single page's content. Anyone who has permission to view the page also has permission to export its content.
    - Admin – user has administrative permissions over this space.

**Related pages:**

- Space Administrators and their Permissions
- Users and Groups
- Assigning Space Permissions
- Page Restrictions
- Confluence User's Guide

#### Notes

- **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.
- The Confluence CLI tool is useful for bulk operations, including adjustments to space permissions. You can download it from the Atlassian Marketplace. The documentation for the Confluence CLI includes information about the `AddPermissions` action.

## Assigning Space Permissions

You can assign space permissions to groups or to individual users. You need to be a space administrator to assign space permissions. In addition, Confluence administrators can set the default permissions that will be applied to new spaces as described below.

**To access the permissions for a space:**

1. Go to the space and choose **Space tools** > **Permissions** on the sidebar.
2. Choose **Edit Permissions**.

If your space is using the Documentation theme:

1. Go to the 'Space Permissions' page:
    - Choose **Browse** > **Space Admin** at the top of the screen.
    *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
    - Choose **Permissions** from the space administration options.
2. Choose **Edit Permissions**.

The 'Edit Space Permissions' page is divided into the following sections:

- Groups – a list of groups which already have permissions to access the site.
- Individual Users – a list of users who already have permissions to access the site.
- Anonymous Access – the space permissions granted to all anonymous users of the site.

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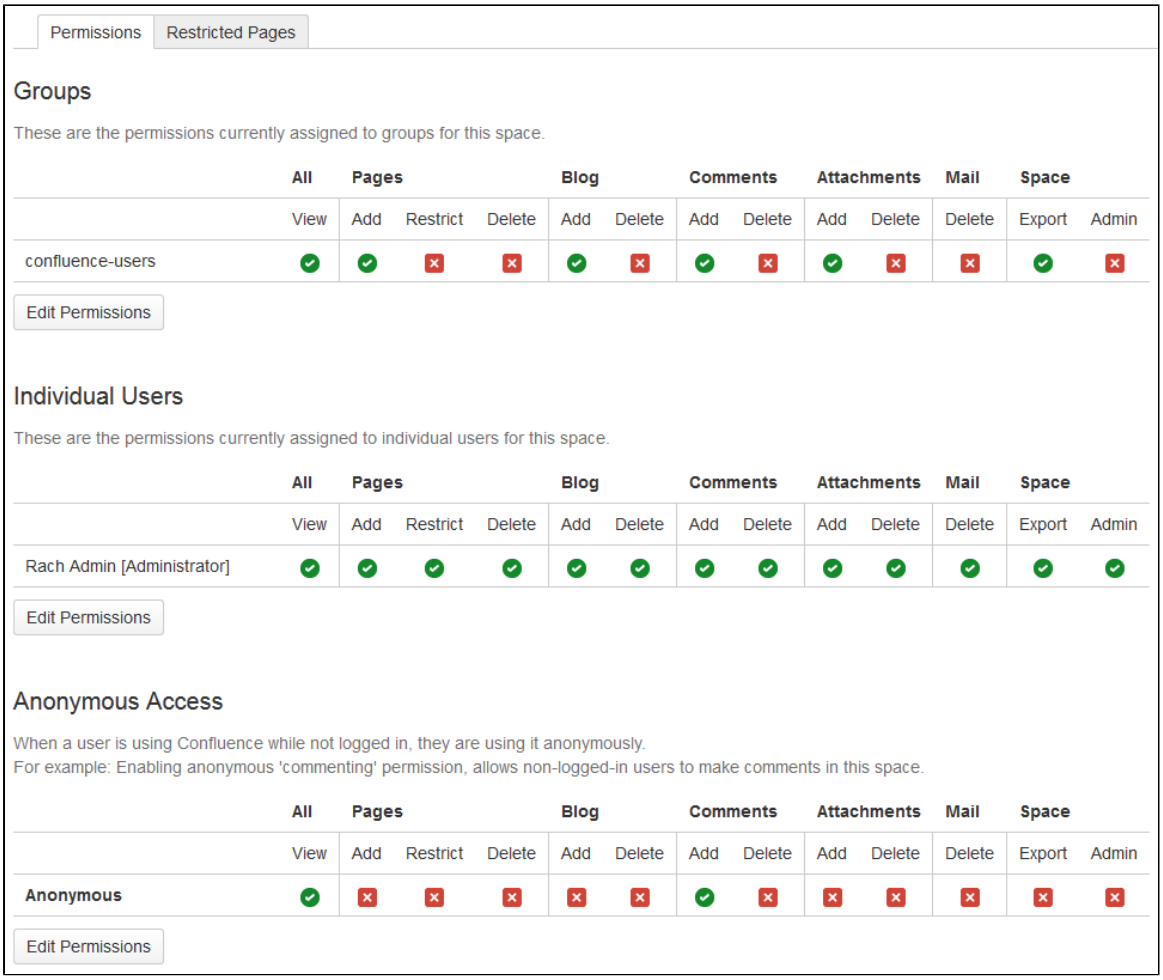
**On this page:**


- Assigning space permissions to groups
- Assigning space permissions to users
- Assigning space permissions to anonymous users
- Setting default space permissions
- Notes


**Related pages:**

- Space Permissions Overview
- Users and Groups
- Confluence User's Guide

*Screenshot : Space permissions*




### Assigning space permissions to groups

- To assign a permission, check the box next to the relevant group.
- To deny a permission, uncheck the relevant box.
- To add a new group to the list, type the group name into the text box in the 'Groups' section and choose **Add**. The group will appear in the list of groups. You can then assign the permissions.
- To search for a group:

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    - Choose the  icon.
    - The **Group Search** window opens. Enter all or part of the group name. You can use an asterisk '*' as a wild card.
    - Check the boxes to select the required group(s).
    - Choose **Select Groups**. The group name(s) will appear in the text box in the 'Groups' section.
    - Choose **Add**.
- To bulk assign or revoke group member permissions, choose either **Select All** or **Deselect All** from the **Actions** dropdown list.

Choose **Save All** to apply the changes.

#### Assigning space permissions to users

- To assign a permission, check the box next to the relevant user.
- To deny a permission, uncheck the relevant box.
- To add a new user to the list, type the username into the text box in the 'Individual Users' section and choose **Add**. The user will appear in the list of users, with 'View' permission assigned. You can then add more permissions if necessary.
- To search for a user:
    - Choose the  icon.
    - The **User Search** window opens. You can read more about searching for users.
    - Check the boxes to select the required user(s).
    - Choose **Select User(s)**. The username(s) will appear in the text box in the 'Individual Users' section.
    - Choose **Add**.
- To bulk assign or revoke individual user permissions, choose either **Select All** or **Deselect All** from the **Actions** dropdown list.

Choose **Save All** to apply the changes.

#### Assigning space permissions to anonymous users

- To assign a permission, check the box for the required permission.
- To deny a permission, uncheck the relevant box.
- To bulk assign or revoke anonymous user permissions, choose either **Select All** or **Deselect All** from the **Actions** dropdown list.

Choose **Save All** to apply the changes.

**Note:** You cannot grant space administration rights or page restriction rights to anonymous users.

#### Setting default space permissions

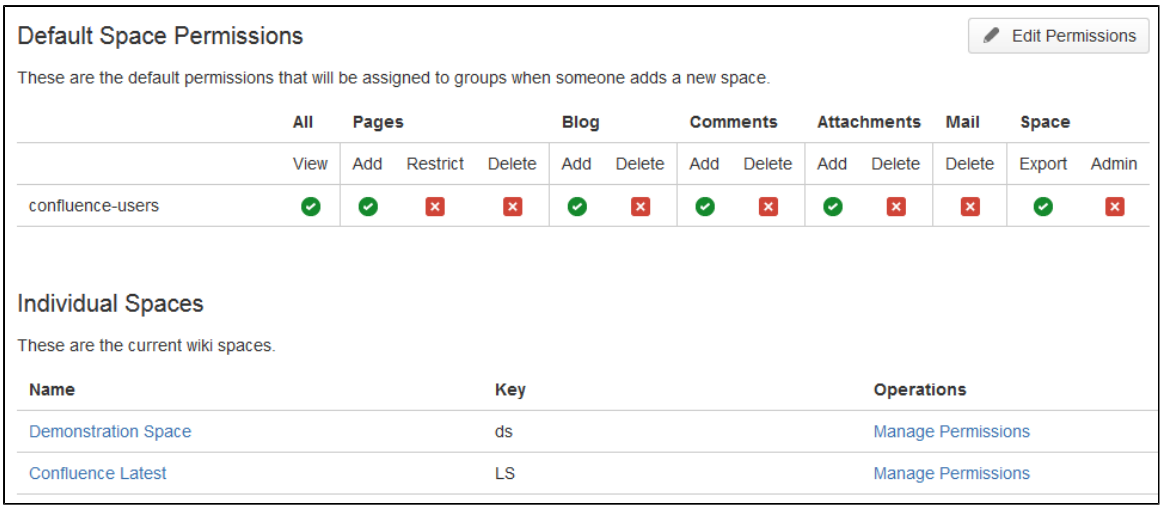
If you are a Confluence Administrator, you can set the default permissions that will be applied to new spaces. The default permissions are configurable for groups only, not for individual users or anonymous users.

**To set the default space permissions:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Space Permissions** under Security in the sidebar.
3. Choose **Edit Permissions**.

*Screenshot: Default space permissions*

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**Notes**

**Assigning permissions in bulk.** There is no way to change a number of space permissions at once, via the Confluence user interface. Instead, take a look at the Confluence Command Line Interface. Here is a link to the CLI documentation. For an introduction to the CLI, see this blog post: Confluence CLI for bulk actions like deleting or publishing pages.

## Users and Groups

A 'user' is the account for an individual who accesses Confluence.

New users are created by a Confluence administrator via the Administration Console. See Searching For and Administering 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 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

Assigning Space Permissions

Page Permissions

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Managing Confluence Users

Confluence User's Guide

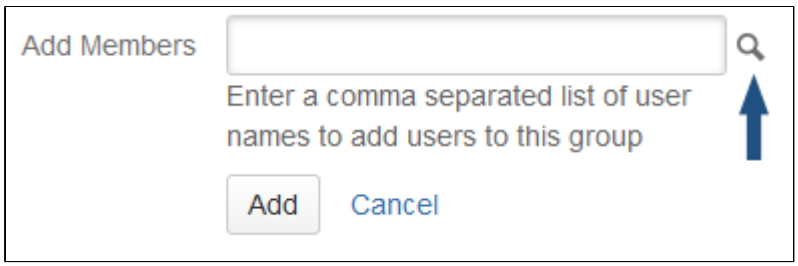
# Searching for Users

This page describes how to use the 'User Search' window, which appears when you click **Choose Users** or a user search icon on a Confluence page.

### Accessing the User Search

**To access the 'User Search' window:**

1. Choose the user search icon when you are performing one of the following actions:
   - When assigning space permissions, choose the **user search** icon in the users section.
   - When adding members to a group, choose the **user search** icon.




2. The simple 'User Search' window will appear, as shown below.

**On this page:**


- Accessing the User Search
- Using the Simple User Search
- Searching for Users in One or More Groups
- Selecting One or More Users
- Notes


Related pages:

- Searching Confluence
- Page Restrictions
- Assigning Space Permissions
- Adding or Removing Users in Groups
- Confluence User's Guide

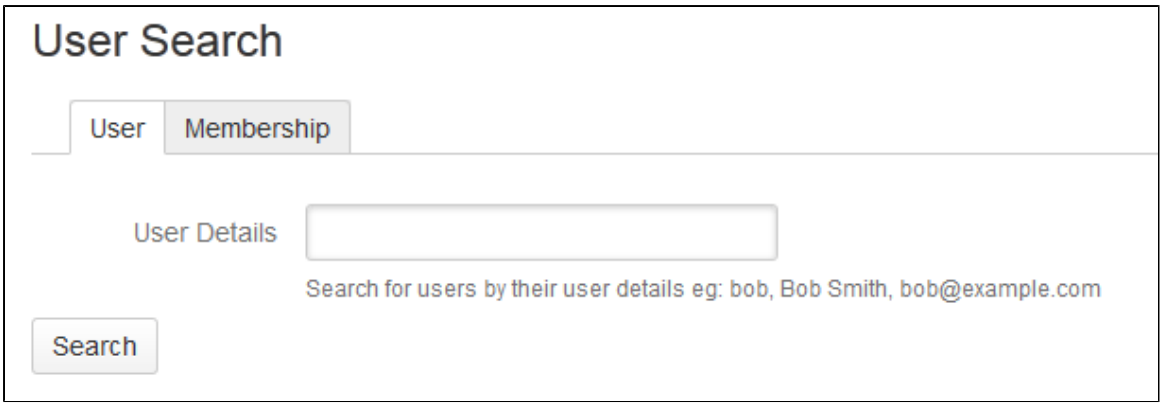
### Using the Simple User Search

**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. Enter information about the user in the User Details field, such as all or part of a username, full name or email address.
3. Choose **Search**.
4. Confluence will return a list of matching users. See below for instructions on selecting one or more users.

*Screenshot: Simple user search*

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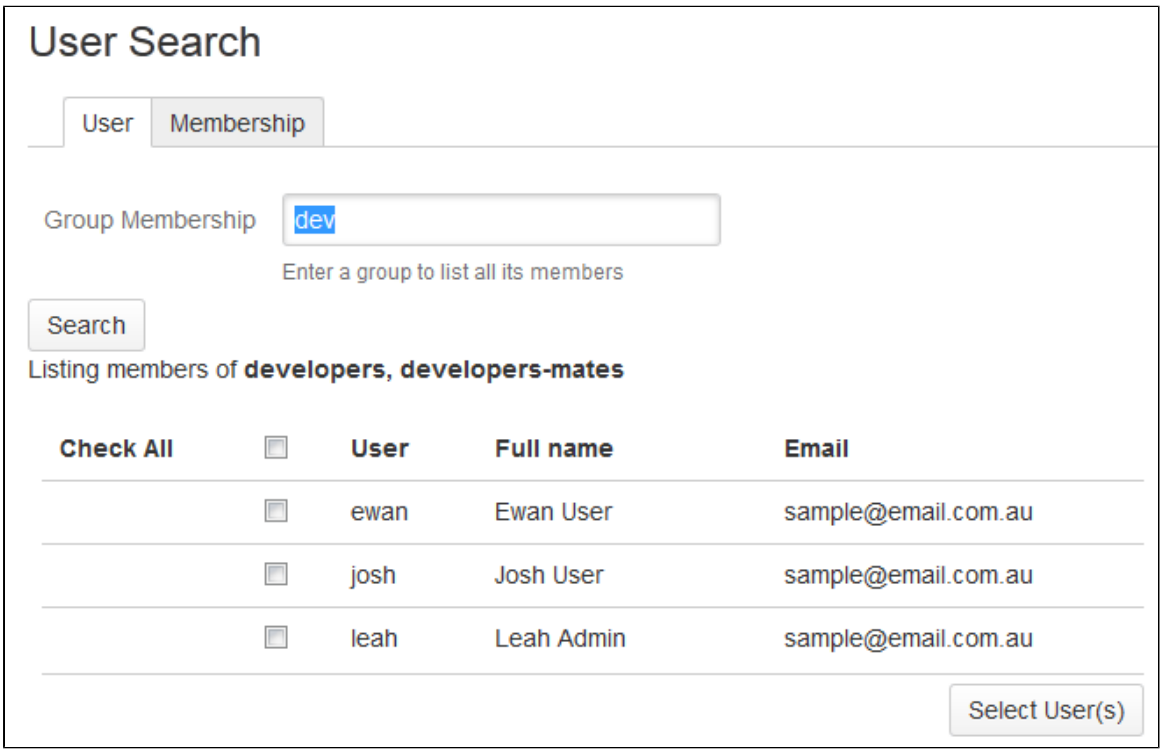

### Searching for Users in One or More Groups

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. Enter all or part of a group name into the **Group Membership** field.
3. Choose **Search**.
4. 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'.
5. Now you can select one or more users, as described below.

*Screenshot: Searching for users in a group*




### 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 deselect one or more users.
   You can click **Check All** to select or deselect all users.

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2. Click **Select User(s)**.
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.

**Notes**

- **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.
- **Multiple user directories:**You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

  Here is a summary of how the directory order affects the processing:
  - The order of the directories is the order in which they will be searched for users and groups.
  - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

  See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)
- **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.

# Using Confluence on a Mobile Device

When you view a Confluence page on a mobile device, such as an iPhone, iPad or Android device, Confluence will display an optimised version of the page. Confluence chooses the mobile or desktop interface based on your device. See Supported Platforms for details of supported mobile devices.

On your supported mobile device, you can:

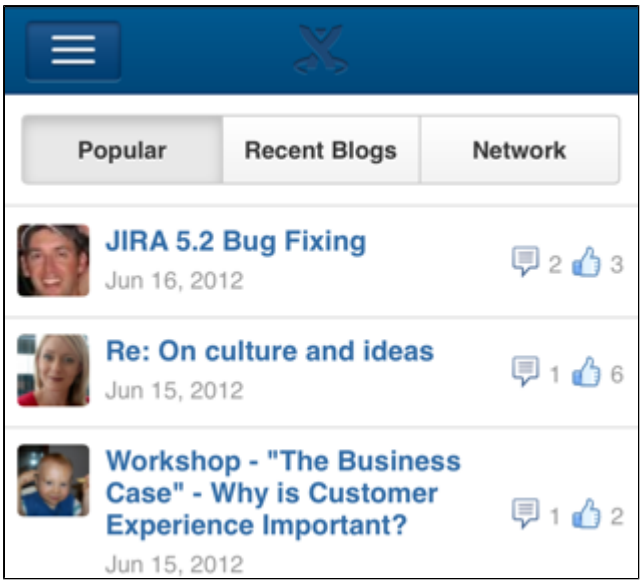
- View the Confluence dashboard, pages, blog posts, and user profiles.
- Add or reply to a comment on a page or blog post.
- Like a page, blog post or comment.
- Watch a page or blog post.
- Manage your personal tasks and notifications.

You cannot add or edit pages or blog posts, or edit existing comments, using the mobile interface.

## The dashboard – the first thing you see

*Screenshot: The dashboard in Confluence mobile*

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Choose a tab to see:

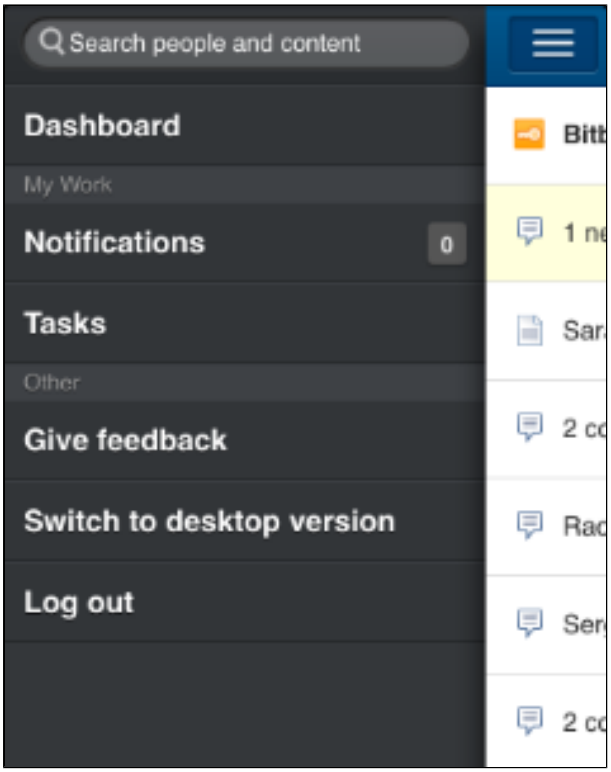
- Popular content – what people like in your wiki.
- Recent blogs – the latest blog posts.
- Network – updates by people in your network.

Tap the links to view the full content of a page, blog post or comment.

## Searching for content and people

Tap the menu icon  to open the menu panel on the left of the page. Then type text or a person's name in the **Search** box. The mobile interface offers the quick navigation search, which returns matches on page title only. (See Searching Confluence.) To use the full search, switch to desktop mode.

*Screenshot: The menu panel in Confluence mobile*




## Viewing pages, blog posts and comments

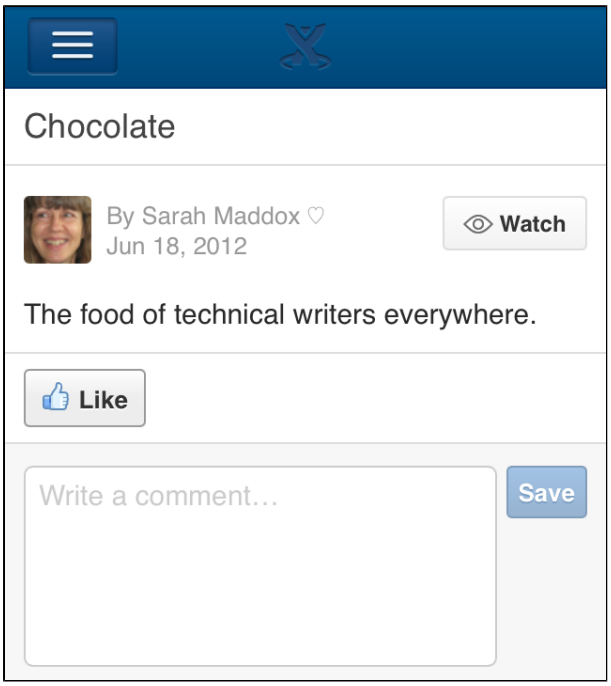
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Tap a link on the dashboard or on any other page. Confluence will display the linked page, blog post or comment.

You can:

- View the content, tap a link to move to another page, and interact with the page using the standard functionality supported by mobile browsers.
- Like or unlike a page, blog post or comment.
- Watch or stop watching a page or blog post.
- Add or reply to a comment. Confluence mobile supports plain-text comments only.

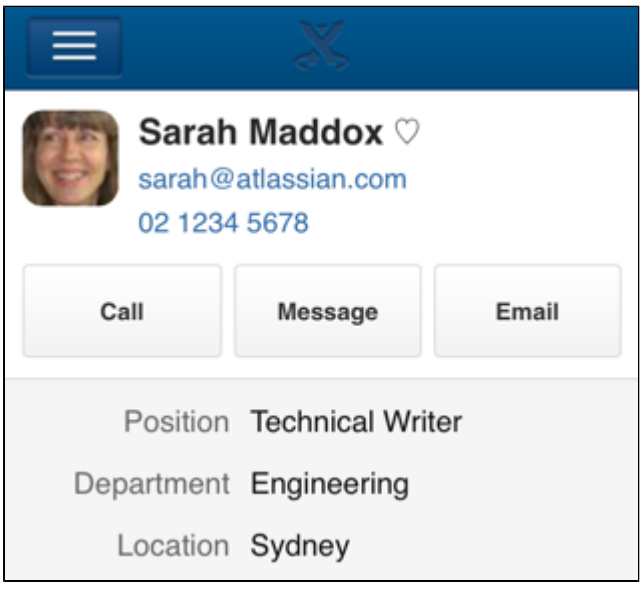
*Screenshot: A page showing Like, Watch and Comment options.*




## Viewing people's profiles

Search for a person's name, then view that person's user profile. Tap the options to phone, SMS or email a colleague directly from your mobile device.

*Screenshot: A user profile on Confluence mobile*

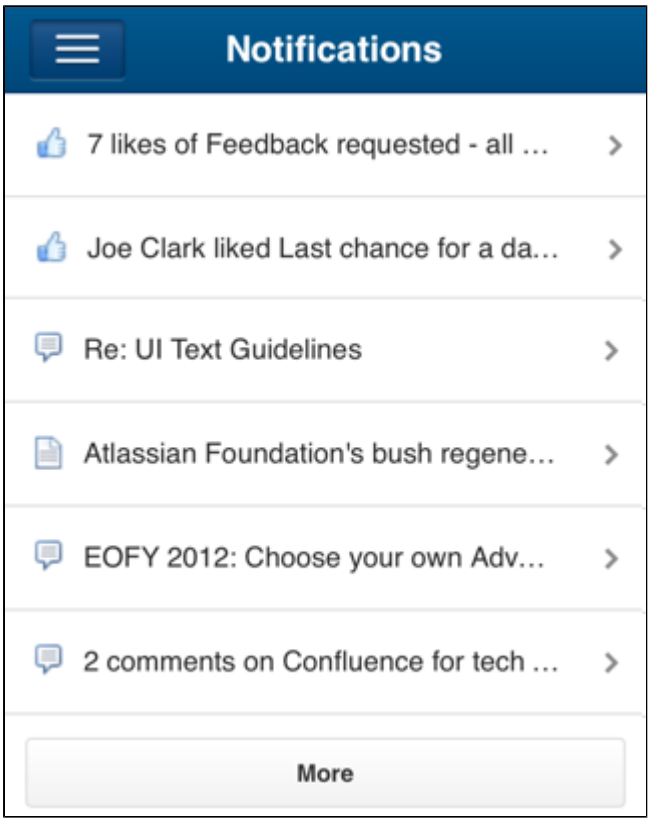



## Following up on notifications

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You can view and respond to your notifications on your phone or other mobile device. Tap the menu icon  to open the menu panel on the left of the page. Choose **Notifications**, and tap a notification to see its details. You can reply, watch or like via the inline actions. Tap **Open** to open the page or blog post in a new page. For full details, see Managing Notifications in Confluence.

*Screenshot: Notifications in Confluence mobile*

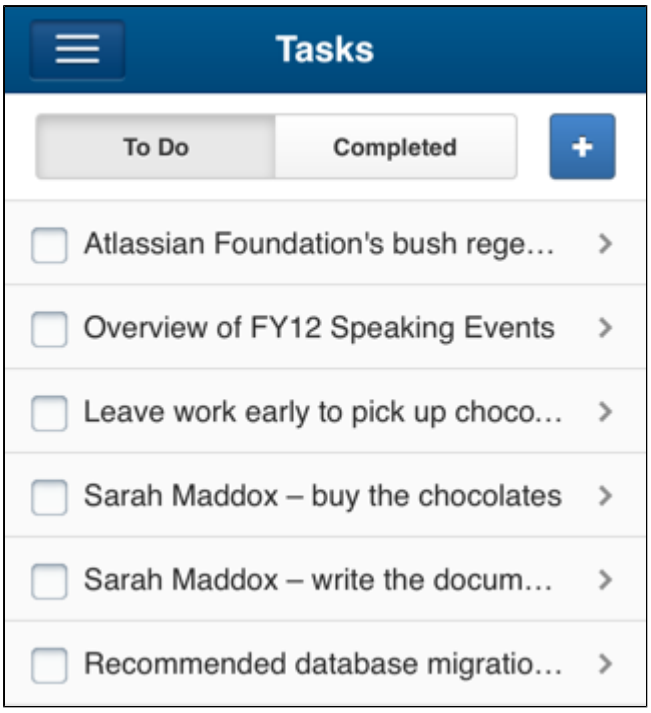



## Managing tasks

You can view and manage your tasks on your phone or other mobile device too. Tap the menu icon  to open the menu panel on the left of the page. Choose **Tasks**, and tap the plus sign  to add a new task. Tap a task to see its details. You can add notes, complete a task, and tap a link to open the related page. For full details, see Managing Tasks in Confluence.

*Screenshot: Tasks in Confluence mobile*

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### More things you may need to know

See Notes about Confluence Mobile.

### Related pages

- Dashboard
- Managing Notifications in Confluence
- Managing Tasks in Confluence
- Confluence User's Guide

## Notes about Confluence Mobile

When you view a Confluence page on a mobile device, such as an iPhone, iPad or Android device, Confluence will display an optimised version of the page. Confluence chooses the mobile or desktop interface based on your device. See Supported Platforms for details of supported mobile devices.

For a summary of mobile features, see Using Confluence on a Mobile Device. Below are additional notes that you will find useful.

**On this page:**


- Some macros may not work
- You can swap from mobile to standard Confluence and back again
- Administrators can disable Confluence mobile on your site
- Confluence mobile is a web interface, not a native app
- Related pages


### Some macros may not work

Confluence macros are not yet fully supported in Confluence mobile. If you view a page that contains an unsupported macro, you will see a message inviting you to click through to the desktop version of the page.

*Screenshot: Macro not rendered in Confluence mobile*

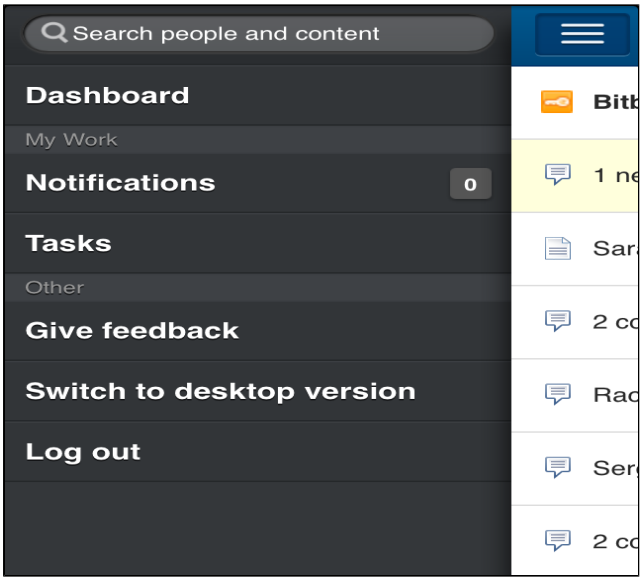
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### You can swap from mobile to standard Confluence and back again

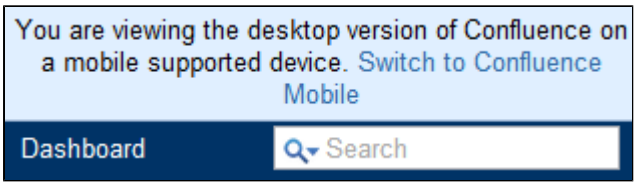
You can swap from the mobile view to the standard view of a page at any time. Choose the menu icon  then choose **Switch to desktop version**.

*Screenshot: The menu panel in Confluence mobile*




You can also swap from the desktop view to the mobile view, if you are on a mobile device. Choose the option **Switch to Confluence Mobile** at the top of the window.

*Screenshot: Option to switch to Confluence mobile*




### Administrators can disable Confluence mobile on your site

The mobile functionality is provided by a plugin called the 'Confluence Mobile Plugin'. To remove the functionality from your site, you can disable the plugin.

### Confluence mobile is a web interface, not a native app

Atlassian does not supply a native mobile application that you can download and install onto your mobile device. Confluence mobile is a web-based user interface that Confluence displays when it detects a mobile client. See Supported Platforms for supported mobile browsers.

### Related pages

- Using Confluence on a Mobile Device
- Dashboard
- Confluence User's Guide

## Advanced and Special Uses of Confluence

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This section describes the more advanced features of Confluence, and gives guidelines on some specific uses of the wiki.

#### Confluence markup formats

The syntax and usage of Confluence wiki markup and the Confluence XHTML-based storage format – see Working with Confluence Markup.

#### Gadgets

How to add gadgets to a wiki page, or use Confluence gadgets on other sites – see Working with Confluence Gadgets.

#### Using Confluence for technical documentation

A technical communicator's guide to using Confluence – see Developing Technical Documentation on Confluence Wiki.

#### Setting up a knowledge base

A support engineer's guide to using Confluence as a knowledge base – see Developing a Knowledge Base on Confluence Wiki.

#### Setting up an intranet

A quick guide to setting up an intranet wiki – see Developing an Intranet on Confluence Wiki.

**Related pages:**

- Confluence User's Guide
- Confluence Administrator's Guide

## Working with Confluence Markup

This section describes two types of markup found in Confluence:

- **Confluence storage format.** Confluence stores the content of pages and blog posts in an XHTML-based format. Advanced users can view the storage format of a page and even edit it, provided their Confluence site is configured to allow that. See Confluence Storage Format for a description of the core elements of the storage format. For details of the elements used to define a macro, see Confluence Storage Format for Macros.
- **Wiki markup.** Confluence allows data entry via a shorthand code called wiki markup. Some parts of the Confluence administration interface also accept wiki markup for defining content. For a description of the wiki markup syntax, see Confluence Wiki Markup. For details of the wiki markup used to define Confluence macros, see Confluence Wiki Markup for Macros.

**Related pages:**

- Working with Macros
- Confluence User's Guide

**A request from the Atlassian technical writers about comments and feedback:** When adding comments to this page, please restrict your comments to constructive feedback on the documentation itself: Things we've missed in the documentation, and things that will be useful to other readers. If you have other feedback about the editor, wiki markup, the XML storage format, and Confluence 4 in general, please add your comments in the section titled Confluence 4 Editor - Customer Feedback, and its child pages. Our reason for this request: When a page attracts a large number of comments, it makes it difficult for everyone to read the page, and to add or respond to comments about the documentation. Thanks.

## Confluence Storage Format

This page describes the XHTML-based format that Confluence uses to store the content of pages, page templates, blueprints, blog posts and comments. This information is intended for advanced users who need to interpret and edit the underlying markup of a Confluence page.

We refer to the Confluence storage format as 'XHTML-based'. To be correct, we should call it XML, because the Confluence storage format does not comply with the XHTML definition. In particular, Confluence includes custom elements for macros and more. We're using the term 'XHTML-based' to indicate that there is a large proportion of HTML in the storage format.

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**Notes:**

- You can view the Confluence storage format for a given page by choosing **Tools** > **View Storage Format** . This option is only available if one of the following is true:
  - You are a Confluence administrator.
  - Your Confluence site has the Confluence Source Editor plugin installed and you have permission to use the source editor.
- If you would like to edit the storage format for a page, your Confluence system administrator will need to install the Confluence Source Editor plugin.
- Clarification of terminology: If you choose **Tools** > **View Source**, you will see the format used within the editor panel, not the storage format of the page.
- **A request from the Atlassian technical writers about comments and feedback:** When adding comments to this page, please restrict your comments to constructive feedback on the documentation itself: Things we've missed in the documentation, and things that will be useful to other readers. If you have other feedback about the editor, wiki markup, the XML storage format, and Confluence 4 in general, please add your comments in the section titled Confluence 4 Editor - Customer Feedback, and its child pages. Our reason for this request: When a page attracts a large number of comments, it makes it difficult for everyone to read the page, and to add or respond to comments about the documentation. Thanks.

**On this page:**


- Macros
- Headings
- Text effects
- Text breaks
- Lists
- Links
- Images
- Tables
- Page layouts
- Resource identifiers
- Template variables
- Instructional Text


**Related pages:**

- Confluence Storage Format for Macros
- Working with Confluence Markup

### Macros

See Confluence Storage Format for Macros.

### Headings

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get | |
|---|---|---|---|---|
| Heading 1 | `h1. Heading 1` | `<h1>Heading 1</h1>` | **Heading 1** | Underlined in the Documentation Theme |
| Heading 2 | `h2. Heading 2` | `<h2>Heading 2</h2>` | **Heading 2** | Underlined in the Documentation Theme |

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| | | | | |
|---|---|---|---|---|
| Heading 3 | `h3. Heading 3` | `<h3>Heading 3</h3>` | **Heading 3** | |
| Headings 4 to 6 are also available and follow the same pattern | | | | |

Text effects

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get | |
|---|---|---|---|---|
| strong/bold | `*strong*` | `<strong>strong text</strong>` | **strong** | <b> will also work but get converted to  upon saving |
| emphasis | `_emphasis_` | `<em>Italics Text</em>` | *emphasis* | <i> will also work but get converted to  upon saving |
| strikethrough | `-strikethrough-` | `<span style="text-decoration: line-through;">strikethrough</span>` | ~~strikethrough~~ | <s> and <del> will also work |

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| | | | | |
|---|---|---|---|---|
| underline | +underline+ | <u>u<br>nder<br>line<br></u> | underline | |
| superscript | ^superscrip<br>t^ | <sup<br>>sup<br>ersc<br>ript<br></su<br>p> | superscript | |
| subscript | ~subscript~ | <sub<br>>sub<br>scri<br>pt</<br>sub> | subscript | |
| monospace | {{monospace<br>d}} | <cod<br>e>mo<br>nosp<br>aced<br></co<br>de> | monospaced | |
| preformatted | n/a | <pre<br>>pre<br>form<br>atte<br>d<br>text<br></pr<br>e> | preformatte<br>d text | |

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| | | | | |
|---|---|---|---|---|
| block quotes | `bq. block quote`<br>*or*<br>`{quote}`<br><br>`block`<br><br>`quote`<br><br>`{quote}` | `<blockquote><p>block quote</p></blockquote>` | > *block quote* | |
| text colour | `{color:red}red text{color}` | `<span style="color: rgb(255,0,0);">red text</span>` | red text | |
| small | n/a | `<small>small text</small>` | small text | |
| big | n/a | `<big>big text</big>` | big text | |

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| | | | | |
|---|---|---|---|---|
| center-align | n/a | `<p style="text-align: center;">centered text</p>` | centered text | |
| right-align | n/a | `<p style="text-align: right;">right aligned text</p>` | right aligned text | |

**Text breaks**

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get |
|---|---|---|---|
| New paragraph | `Paragraph 1`<br><br>`(empty line)`<br><br>`Paragraph 2` | `<p>Paragraph 1</p>`<br>`<p>Paragraph 2</p>` | Paragraph 1<br><br>Paragraph 2 |
| Line break | `Line 1 \\ Line 2` | `Line 1 <br /> Line 2`<br><br>Note: Created in the editor using `Shift + Return/Enter` | Line 1<br>Line 2 |
| Horizontal rule | ---- | `<hr />` | |

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| | | | |
|---|---|---|---|
| — symbol | --- | `—` | — |
| – symbol | -- | `–` | – |

Lists

| Format type | In Confluence 3.5 and earler | In Confluence 4.0 and later | What you will get |
|---|---|---|---|
| Unordered list – round bullets | `* Round bullet list item` | `<ul> <li>round bullet list item</li> </ul>` | • Round bullet list item |
| Ordered list (numbered list) | `# Ordered list item` | `<ol> <li>numbered list item</li> </ol>` | 1. Ordered list item |
| Task Lists | `[] Task list item` | `<ac:task-list> <ac:task> <ac:task-status>incomplete</ac:task-status> <ac:task-body>task list item</ac:task-body> </ac:task> </ac:task-list>` | ☐ task list item |

Links

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| Link to another Confluence page | `[Link to another Confluence page\|Page Title]` | `<ac:link> <ri:page ri:content-title="Page Title" /> <ac:plain-text-link-body> <![CDATA[Link to another Confluence Page]]> </ac:plain-text-link-body> </ac:link>` | Link to another Confluence page |
| Link to an attachment | `[Link to an attachment^atlassian_logo.gif]` | `<ac:link> <ri:attachment ri:filename="atlassian_logo.gif" /> <ac:plain-text-link-body> <![CDATA[Link to a Confluence Attachment]]> </ac:plain-text-link-body> </ac:link>` | Link to an attachment |
| Link to an external site | `[Atlassian\|http://www.atlassian.com/]` | `<a href="http://www.atlassian.com">Atlassian</a>` | Atlassian |

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| | | | |
|---|---|---|---|
| Anchor link (same page) | `[Anchor Link\|#anchor]` | `<ac:link ac:anchor="anchor">`<br><br>`<ac:plain-text-link-body>`<br><br>`<![CDATA[Anchor Link]]>`<br><br>`</ac:plain-text-link-body>`<br>`</ac:link>` | Anchor Link |
| Anchor link (another page) | `[Anchor Link\|pagetitle#anchor]` | `<ac:link ac:anchor="anchor">`<br>`  <ri:page ri:content-title="pagetitle"/>`<br><br>`<ac:plain-text-link-body>`<br><br>`<![CDATA[Anchor Link]]>`<br><br>`</ac:plain-text-link-body>`<br>`</ac:link>` | Anchor Link |

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| | | | |
|---|---|---|---|
| Link with an embedded image for the body | [!google.png!\|pagetitle#anchor] | <ac:link ac:anchor="Anchor Link"><br><br><ac:link-body><br><ac:image><ri:url ri:value="http://confluence.atlassian.com/images/logo/confluence_48_trans.png" /></ac:image><br><br></ac:link-body><br></ac:link><br><br>⚠ For rich content like *images*, you need to use `ac:link-body` to wrap the contents. | |

#### A note about link bodies

All links received from the editor will be stored as plain text by default, unless they are detected to contain the limited set of mark up that we allow in link bodies. Here are some examples of markup we support in link bodies.

**An example of different link bodies**

```
<ac:link>
  <!-- Any resource identifier -->
  <ri:page ri:content-title="Home" ri:space-key="SANDBOX" />
  <ac:link-body>Some <strong>Rich</strong> Text</ac:link-body>
</ac:link>
<ac:link>
  <ri:page ri:content-title="Plugin developer tutorial stuff"
ri:space-key="TECHWRITING" />
  <ac:plain-text-link-body><![CDATA[A plain <text> link
body]]></ac:plain-text-link-body>
</ac:link>
<ac:link>
  <ri:page ri:content-title="Plugin developer tutorial stuff"
ri:space-key="TECHWRITING" />
  <!-- A link body isn't necessary. Auto-generated from the resource identifier for
display. -->
</ac:link>
```

The markup tags permitted within the <ac:link-body> are <b>, , , <i>, <code>, <tt>, <sub>, <sup>,

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<br> and .

### Images

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get |
|---|---|---|---|
| Attached image | `!atlassian_logo.gif!` | `<ac:image><ri:attachment ri:filename="atlassian_logo.gif" /></ac:image>` |  |
| External image | `!http://confluence.atlassian.com/images/logo/confluence_48_trans.png!` | `<ac:image><ri:url ri:value="http://confluence.atlassian.com/images/logo/confluence_48_trans.png" /></ac:image>` | |

Supported image attributes (some of these attributes mirror the equivalent HTML 4 IMG element):

| Name | Description |
|---|---|
| ac:align | image alignment |
| ac:border | Set to "true" to set a border |
| ac:class | css class attribute. |
| ac:title | image tool tip. |
| ac:style | css style |
| ac:thumbnail | Set to "true" to designate this image as a thumbnail. |
| ac:alt | alt text |
| ac:height | image height |
| ac:width | image width |

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| | |
|---|---|
| ac:vspace | the white space on the top and bottom of an image |
| ac:hspace | the white space on the left and right of an image |

### Tables

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get |
|---|---|---|---|
| Two column, two row (top header row) | `\|\|Table Heading Cell 1\|\|Table Heading Cell 2\|\|`<br><br>`\|Normal Cell 1\|Normal Cell 2\|` | `<table>`<br>`<tbody>`<br>`<tr>`<br><br>`<th>Table Heading Cell 1</th>`<br><br>`<th>Table Heading Cell 2</th>`<br>`</tr>`<br>`<tr>`<br><br>`<td>Normal Cell 1</td>`<br><br>`<td>Normal Cell 2</td>`<br>`</tr>`<br>`</tbody>`<br>`</table>` | **Table Heading Cell 1** / **Table Heading Cell 2**<br>Normal Cell 1 / Normal Cell 2 |

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| | | | |
|---|---|---|---|
| Two column, three rows, 2nd and third with merged cells in first row | N/A | <table><br><tbody><br><tr><br><th>Table Heading Cell 1</th><br><th>Table Heading Cell 2</th><br></tr><br><tr><br><td rowspan="2">Merged Cell</td><br><td>Normal Cell 1</td><br></tr><br><tr><br><td colspan="1">Normal Cell 2</td><br></tr><br></tbody><br></table> | <table><tr><th>Table Heading Cell 1</th><th>Table Heading Cell 2</th></tr><tr><td rowspan="2">Merged Cell</td><td>Normal Cell 1</td></tr><tr><td>Normal Cell 2</td></tr></table> |

#### Page layouts

Confluence supports page layouts directly, as an alternative to macro-based layouts (using, for example, the section and column macros). This section documents the storage format XML created when these layouts are used in a page.

**Notes:**

- Page layouts were originally introduced in Confluence 4.2, and are not available in earlier versions of Confluence. If you are using Confluence 4.2 - 5.1 you should refer to the documentation for your version of Confluence:
  - Confluence Storage Format (Confluence 4.2)
  - Confluence Storage Format (Confluence 4.3)
  - Confluence Storage Format (Confluence 5.0)
  - Confluence Storage Format (Confluence 5.1)
- Pages with a layout created in the old format will be converted to 5.2 format.
- Confluence 5.2 provides more flexible layouts with a more concise storage format.

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| Element name | In Confluence 5.2 and later | Attributes |
|---|---|---|
| `ac:layout` | Indicates that the page has a layout. It should be the top level element in the page. | None |
| `ac:layout-section` | Represents a *row* in the layout. It must be directly within the `ac:layout` tag. The type of the section indicates the appropriate number of cells and their relative widths. | `ac:type` |
| `ac:layout-cell` | Represents a *column* in a layout. It must be directly within the `ac:layout-section` tag. There should be an appropriate number of cells within the layout-section to match the `ac:type`. | None |

The recognised values of `ac:type` for `ac:layout-section` are:

| ac:type | Expected number of cells | Description |
|---|---|---|
| `single` | 1 | One cell occupies the entire section. |
| `two_equal` | 2 | Two cells of equal width. |
| `two_left_sidebar` | 2 | A narrow (~30%) cell followed by a wide cell. |
| `two_right_sidebar` | 2 | A wide cell followed by a narrow (~30%) cell. |
| `three_equal` | 3 | Three cells of equal width. |
| `three_with_sidebars` | 3 | A narrow (~20%) cell at each end with a wide cell in the middle. |

The following example shows one of the more complicated layouts from the old format built in the new. The word `{content}` indicates where further XHTML or Confluence storage format block content would be entered, such as `<p>` or `<table>` tags.

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```
<ac:layout>
  <ac:layout-section ac:type="single">
     <ac:layout-cell>
        {content}
     </ac:layout-cell>
  </ac:layout-section>
 <ac:layout-section ac:type="three_with_sidebars">
     <ac:layout-cell>
       {content}
     </ac:layout-cell>
     <ac:layout-cell>
       {content}
     </ac:layout-cell>
     <ac:layout-cell>
       {content}
     </ac:layout-cell>
  </ac:layout-section>
  <ac:layout-section ac:type="single">
     <ac:layout-cell>
        {content}
     </ac:layout-cell>
  </ac:layout-section>
</ac:layout>
```

## Emoticons

| Format type | In Confluence 3.5 and earlier | In Confluence 4.0 and later | What you will get |
|---|---|---|---|
| Emoticons | :) | `<ac:emoticon ac:name="smile" />` |  |
| | :( | `<ac:emoticon ac:name="sad" />` |  |
| | :P | `<ac:emoticon ac:name="cheeky" />` |  |
| | :D | `<ac:emoticon ac:name="laugh" />` |  |

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| | | | |
|---|---|---|---|
| | ;) | `<ac:emoticon ac:name="wink" />` |  |
| | (y) | `<ac:emoticon ac:name="thumbs-up" />` |  |
| | (n) | `<ac:emoticon ac:name="thumbs-down" />` |  |
| | (i) | `<ac:emoticon ac:name="information" />` |  |
| | (/) | `<ac:emoticon ac:name="tick" />` |  |
| | (x) | `<ac:emoticon ac:name="cross" />` |  |
| | (!) | `<ac:emoticon ac:name="warning" />` |  |

#### Resource identifiers

Resource identifiers are used to describe "links" or "references" to resources in the storage format. Examples of resources include pages, blog posts, comments, shortcuts, images and so forth.

| Resource | Resource identifier format |
|---|---|

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| | |
|---|---|
| Page | <ri:page ri:space-key="FOO" ri:content-title="Test Page"/><br><br>Notes:<br>• ri:space-key: (optional) denotes the space key. This can be omitted to create a relative reference.<br>• ri:content-title: (required) denotes the title of the page. |
| Blog Post | <ri:blog-post ri:space-key="FOO" ri:content-title="First Post" ri:posting-day="2012/01/30" /><br><br>Notes:<br>• ri:space-key: (optional) denotes the space key. This can be omitted to create a relative reference.<br>• ri:content-title: (required) denotes the title of the page.<br>• ri:posting-day: (required) denotes the posting day. The format is YYYY/MM/DD. |

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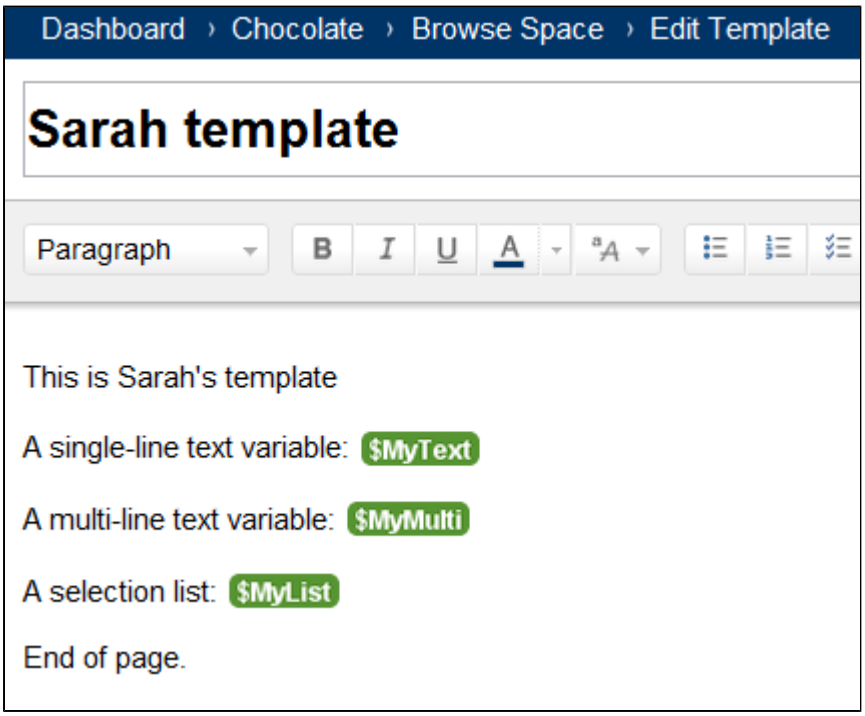
| | |
|---|---|
| Attachment | <ri:attachment ri:filename><br>... resource identifier for the container of the attachment ...<br></ri:attachment><br><br>Notes:<br>• ri:filename: (required) denotes the name of the attachment.<br>• the body of the ri:attachment element should be a resource identifier denoting the container of the attachment. This can be omitted to create a relative attachment reference (similar to [foo.png] in wiki markup).<br><br>Examples:<br>**Relative Attachment Reference**<br><ri:attachment ri:filename="happy.gif" /><br><br>**Absolute Attachment Reference**<br><ri:attachment ri:filename="happy.gif"><br><ri:page ri:space-key="TST" ri:content-title="Test Page"/><br></ri:attachment> |
| URL | <ri:url ri:value="http://example.org/sample.gif"/><br><br>Notes:<br>• ri:value: (required) denotes the actual URL value. |
| Shortcut | <ri:shortcut ri:key="jira" ri:parameter="ABC-123"><br><br>Notes:<br>• ri:key: (required) represents the key of the Confluence shortcut.<br>• ri:parameter: (required) represents the parameter to pass into the Confluence shortcut.<br>• The example above is equivalent to [ABC-123@jira] in wiki markup. |

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| | |
|---|---|
| User | `<ri:user ri:userkey="2c9680f7405147ee0140514c26120003"/>`<br><br>Notes:<br>• `ri:userkey`: (required) denotes the unique identifier of the user. |
| Space | `<ri:space ri:space-key="TST"/>`<br><br>Notes:<br>• `ri:space-key`: (required) denotes the key of the space. |
| Content Entity | `<ri:content-entity ri:content-id="123"/>`<br><br>Notes:<br>• `ri:content-id`: (required) denotes the id of the content. |

#### Template variables

This screenshot shows a simple template:




The template contains the following variables:

| Variable name | Type | Values |
|---|---|---|
| $MyText | Single-line text | |
| $MyMulti | Multi-line text | Size: `5 x 100` |

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| | | |
|---|---|---|
| $MyList | List | List items: `Apples,Pears,Peaches` |

The XML export produces the following code for the template:

```
<at:declarations>
  <at:string at:name="MyText" />
  <at:textarea at:columns="100" at:name="MyMulti" at:rows="5" />
  <at:list at:name="MyList">
    <at:option at:value="Apples" />
    <at:option at:value="Pears" />
    <at:option at:value="Peaches" />
  </at:list>
</at:declarations>

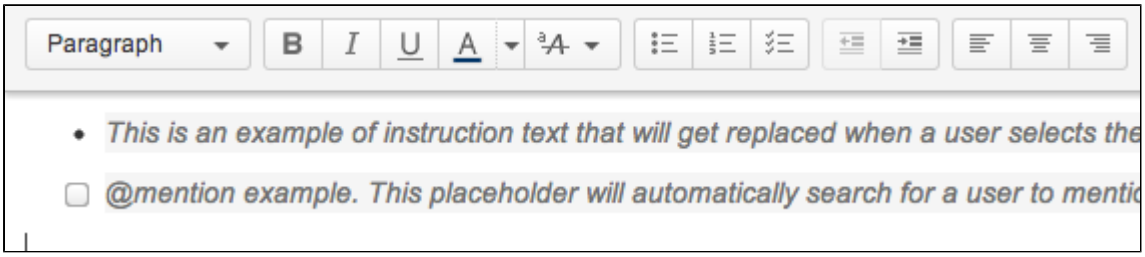
<p>This is Sarah's template</p>
<p>A single-line text variable:&amp;nbsp;<at:var at:name="MyText" /></p>
<p>A multi-line text variable:&amp;nbsp;<at:var at:name="MyMulti" /></p>
<p>A selection list:&amp;nbsp;<at:var at:name="MyList" /></p>
<p>End of page.</p>
```

#### Instructional Text

Instructional text allows you to include information on how to fill out a template for an end-user (the person using creating a page from the template). Instructional text will:

- automatically clear all *instructional text* as the user types in a specific text block, and
- automatically trigger a @mention prompt for user selection (for 'mention' type instructional text).

*Screenshot: Example of instructional text.*




```
<ul>
    <li><ac:placeholder>This is an example of instruction text that will get
replaced when a user selects the text and begins typing.</ac:placeholder></li>
</ul>
<ac:task-list>
    <ac:task>
        <ac:task-status>incomplete</ac:task-status>
        <ac:task-body><ac:placeholder ac:type="mention">@mention example. This
placeholder will automatically search for a user to mention in the page when the
user begins typing.</ac:placeholder></ac:task-body>
    </ac:task>
</ac:task-list>
```

## Confluence Storage Format for Macros

This page is an extension of the page about the Confluence storage format. This page describes the XML used to define specific Confluence macros – those that are shipped with Confluence. For each macro, we define the macro name, parameter names, and accepted parameter values.

This information is intended for advanced users who need to interpret and edit the underlying markup for a

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Confluence page.

**Related pages:**

- Confluence Storage Format
- Working with Confluence Markup
- Working with Macros
- Confluence User's Guide

**On this page:**

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### Anchor macro

Allows you to link to a specific part of a page.

**Macro name:** `anchor`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None) | The name of the anchor. |

**Example:**

```
<ac:structured-macro ac:name="anchor">
  <ac:parameter ac:name="">here</ac:parameter>
</ac:structured-macro>
```

### Attachments macro

Displays a list of attachments on a given page.

**Macro name:** `attachments`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `old` | No | `false` | Available values:<br>• `false` - Displays only the latest version of each attachment.<br>• `true` – Displays all versions of each attachment, including the old versions. |
| `patterns` | No | (None) | A comma-separated list of regular expressions, used to filter the attachments by file name. Note that the parameter values must be regular expressions. For example:<br>• To match a file suffix of 'jpg', use `.*jpg` (not `*.jpg`).<br>• To match file names ending in 'jpg' or 'png', use `.*jpg,.*png` |
| `sortBy` | No | `date` | Available values:<br>• `date`<br>• `size`<br>• `name` |
| `page` | No | The page on which the macro exists. | Page name, used to display attachments from another page. |
| `sortOrder` | No | The default sort order is determined by the `sortBy` type:<br>• Reverse chronological for 'date'.<br>• Largest to smallest for 'size'.<br>• Alphabetical for 'name'. | Available values:<br>• `ascending`<br>• `descending` |
| `labels` | No | (None) | A comma-separated list of labels. Confluence will show only attachments that have **all** the labels specified. (The match is an AND, not an OR.) |
| `upload` | No | `false` | Determines whether the list of attachments will include options allowing users to browse for, and attach, new files. |

**Example:**

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```
<ac:structured-macro ac:name="attachments">
  <ac:parameter ac:name="old">false</ac:parameter>
  <ac:parameter ac:name="patterns">.*png,.*jpg</ac:parameter>
  <ac:parameter ac:name="sortBy">name</ac:parameter>
  <ac:parameter ac:name="page">
    <ac:link>
      <ri:page ri:content-title="My page about chocolate"/>
    </ac:link>
  </ac:parameter>
  <ac:parameter ac:name="sortOrder">descending</ac:parameter>
  <ac:parameter ac:name="labels">chocolate,cookies</ac:parameter>
  <ac:parameter ac:name="upload">false</ac:parameter>
</ac:structured-macro>
```

#### Blog Posts macro

Lists the most recent news items in the space.

**Macro name:** `blog-posts`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `content` | No | `entire` | Available values:<br>• `entire` – Display the whole content of each blog post.<br>• `excerpts` – Display a short extract from each blog post. If the post contains an Excerpt macro, the Blog Posts macro will display the content defined in the Excerpt macro. If the post does not contain an Excerpt macro, the Blog Posts macro will display the first few sentences of the post.<br>• `titles` – Display a list of blog posts, showing titles only. |
| `spaces` | No | `@self` | One or more space keys, separated by a comma or a space. |

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| | | | |
|---|---|---|---|
| | | | • 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.<br>• 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.)<br><br>Special values:<br><br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |

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| | | | |
|---|---|---|---|
| `author` | No | (None) | One or more usernames, separated by commas. |
| `time` | No | (None) | Available values:<br>• `m` — Minutes<br>• `h` — Hours<br>• `d` — Days<br>• `w` — Weeks<br>For example,<br>• `time=12h` – Display blog posts created in the last twelve hours.<br>• `time=7d` – Display blog posts created in the last seven days. |
| `reverse` | No | `false` | A value of `true` changes the sort order. |
| `sort` | No | `creation` | Available values:<br>• **title** — Sort alphabetically by title.<br>• **creation** — Sort by the date on which the content was added.<br>• **modified** — Sort by the date on which the content was last updated. |
| `max` | No | `15` | The maximum number of results to be displayed. |

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| | | | |
|---|---|---|---|
| `label` | No | (None) | One or more label values, separated by a comma or a space.<br>• 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'.<br>• 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'. |

**Example:**

```
<ac:structured-macro ac:name="blog-posts">
  <ac:parameter ac:name="content">titles</ac:parameter>
  <ac:parameter ac:name="spaces">
    <ri:space ri:space-key="ds"/>
  </ac:parameter>
  <ac:parameter ac:name="author">
    <ri:user ri:userkey="12345678912345678912345678912345"/>
  </ac:parameter>
  <ac:parameter ac:name="time">4w</ac:parameter>
  <ac:parameter ac:name="sort">creation</ac:parameter>
  <ac:parameter ac:name="max">10</ac:parameter>
  <ac:parameter ac:name="labels">chocolate,cookies</ac:parameter>
</ac:structured-macro>
```

#### Change-History macro

Displays a history of updates made to a page.

**Macro name:** `change-history`

**Macro body:** None.

**Parameters:** None.

**Example:**

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```
<ac:structured-macro ac:name="change-history"/>
```

#### Chart macro

Displays a chart based on tabular data.

**Macro name:** `chart`

**Macro body:** Accepts rich text, consisting of tables that hold the chart's data.

This macro recognises a large number of parameters, listed here by type for convenience.

##### Chart type parameters

These parameters determine the type of chart to display and how the chart looks.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `type` | No | `pie` | The type of chart to display. XY charts have numerical x- and y-axes. The x values may optionally be time-based. See the `timeSeries` parameter.<br><br>Available values:<br>• *Standard charts* - `pie`, `bar`, `line`, `area`<br>• *XY plots* – `xyArea`, `xyBar`, `xyLine`, `xyStep`, `xyStepArea`, `scatter`, `timeSeries`<br>• *Other charts* – `gantt` (beta) |
| `orientation` | No | `vertical` | The display orientation. Applies to area, bar and line charts.<br><br>Available values:<br>• `vertical` – y-axis is vertical<br>• `horizontal` – x-axis is vertical |
| `3D` | No | `false` | Show in three dimensions. Applies to area, bar and line charts. |
| `stacked` | No | `false` | Stacked values. Applies to area and bar charts. |
| `showShapes` | No | true | Applies to line charts. Shapes are shown at each data point. |

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| | | | |
|---|---|---|---|
| `opacity` | No | • 75 percent for 3D charts<br>• 50 percent for non-stacked area charts<br>• 100 percent for all other charts | A percentage value between 0 (transparent) and 100 (opaque) that determines how opaque the foreground areas and bars are. |

**Chart display parameters**

| Parameter | Required | Default | Description |
|---|---|---|---|
| `width` | No | `300` | The width of the chart in pixels. |
| `height` | No | `300` | The height of the chart in pixels. |
| `dataDisplay` | No | `false` | Determines whether to display the body of the macro, consisting of the data table. By default, the chart data table is not displayed.<br>Available values:<br>• false – the data is not displayed.<br>• `true` or `after` – the data is displayed after the chart.<br>• `before` – the data is displayed before the chart. |
| `imageFormat` | No | `png` | The image format to be used for the chart.<br>Available values:<br>• `png`<br>• `jpg` |

**Chart title and label parameters**

| Parameter | Required | Default | Description |
|---|---|---|---|
| `title` | No | (None) | The title of the chart. |
| `subTitle` | No | (None) | A subtitle for the chart. |
| `xLabel` | No | (None) | The label for the x-axis (domain). |
| `yLabel` | No | (None) | The label for the y-axis (range). |
| `legend` | No | `false` | Determines whether to show a legend (key) for the chart. |

**Chart data parameters**

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The data for the chart is taken from tables found in the macro body. The parameters below 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 in Confluence will be tried. You can specify additional conversion options using the parameters below.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `tables` | No | All first level tables | You can supply a 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. 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). |
| `columns` | No | All columns | You can supply a 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. 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` | No | `horizontal` | The content orientation. By default, the data tables will be interpreted as columns (horizontally) representing domain and x values.<br>Available values:<br>• `vertical` – data table columns will be interpreted as series.<br>• `horizontal` – dat a tables rows will be interpreted as series. |
| `timeSeries` | No | `false` | If '`true`', the x values in an XY plot will be treated as time series data and so will be converted according date formats. |

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| | | | |
|---|---|---|---|
| `dateFormat` | No | Confluence language defined date formats | For time series data, the date format allows for additional customisation of the conversion of data to date values. If a `dateFormat` is specified, it will be the first format used to interpret date values. Specify a format that matches the time series data. See simple date format. |
| `timePeriod` | No | `day` | The time period for time series data. Defines the granularity of how the data is interpreted.<br><br>Available values: `millisecond`, `second`, `minute`, `hour`, `day`, `week`, `month`, `quarter`, `year` |
| `language` | No | (None) | Use in combination with the `country` parameter to form a locale. These additional number and date formats will be used for data conversion before the default languages.<br><br>Available values are the two-character ISO 639-1 alpha-2 codes. |
| `country` | No | (None) | Use in combination with the `language` parameter to form a locale. Valid values are the two-character ISO 3166 codes. |

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| | | | |
|---|---|---|---|
| `forgive` | No | `true` | Determines whether the macro will forgive (allow) some data formatting errors.<br>Available values:<br>• `true` — the macro tries to convert numeric and date values that do not totally match any of the default or user-specified formats.<br>• `false` — the macro enforces strict data formatting. If there are data format errors, the chart will not be produced. |

#### Chart colour parameters

Colours are specified using hexadecimal notation or HTML colour names.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `bgColor` | No | White | Background colour of the chart. |
| `borderColor` | No | No border | Colour of the border around the chart. |
| `colors` | No | | A comma-separated list of colours used to customise the colours of categories, sections, and series. |

#### Chart axis 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.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `rangeAxisLowerBound` | No | (None) | Minimum value for the range axis. |
| `rangeAxisUpperBound` | No | (None) | Maximum value for the range axis. |
| `rangeAxisTickUnit` | No | (None) | Range axis units between axis tick marks. |
| `rangeAxisLabelAngle` | No | (None) | Angle for the range axis label in degrees. |

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| | | | |
|---|---|---|---|
| `domainAxisLowerBound` | No | (None) | Only applies to XY plots. Domain axis lower bound. For a date axis, this value must be expressed in the date format specified by the `dateFormat` parameter. |
| `domainAxisUpperBound` | No | (None) | Only applies to XY plots. Domain axis upper bound. For a date axis, this value must be expressed in the date format specified by the `dateFormat` parameter. |
| `domainAxisTickUnit` | No | (None) | Only applies to XY plots. 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 `timePeriod` unit can be overridden by specifying a trailing character: `y` (years), `M` (months), `d` (days), `h` (hours), `m` (minutes), `s` (seconds), `u` (milliseconds). |
| `domainAxisLabelAngle` | No | (None) | Only applies to XY plots. The angle for the domain axis label, in degrees. |
| `categoryLabelPosition` | No | (None) | Placement of the axis label text for categories.<br>Available values:<br>• `up45` — 45 degrees going upward<br>• `up90` — 90 degrees going upward<br>• `down45` — 45 degrees going downward<br>• `down90` — 90 degrees going downward |

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| | | | |
|---|---|---|---|
| `dateTickMarkPosition` | No | `start` | Placement of the date tick mark.<br>Available values:<br>• `start` — tick mark is at the start of the date period.<br>• `middle` — tick mark is in the middle of the date period.<br>• `end` — tick mark is at the end of the date period. |

#### Pie chart Parameters

| Parameter | Required | Default | Description |
|---|---|---|---|
| `pieSectionLabel` | No | Show only the pie section key value | Formatof pie section labels. The format uses a string with special replacement variables:<br>• `%0%` is replaced by the pie section key.<br>• `%1%` is replaced by the pie section numeric value.<br>• `%2%` is replaced by the pie section percent value.<br>Example 1: To display something like 'Independent = 20':<br>`%0% = %1%`<br>Example 2: To display something like 'Independent (20%)':<br>`%0% (%2%)` |
| `pieSectionExplode` | No | No exploded sections | A comma-separated list of pie keys that are to be shown exploded. Note: requires jFreeChart version 1.0.3 or higher. |

#### Chart 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

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displayed. These options allow for the generated image to be saved as an attachment and have subsequent access to 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.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `attachment` | No | (None) | The name and location where the chart image will be saved as an attachment. The user must be authorised to add attachments to the page specified.<br><br>Available syntax for this parameter:<br><br>• `^attachmentName.png` — the chart is saved as an attachment to the current page.<br>• `page name^attachmentName.png` — the chart is saved as an attachment to the page name provided.<br>• `spacekey:page name^attachmentName.png` — the chart is saved as an attachment to the page name provided in the space indicated. |
| `attachmentVersion` | No | `new` | Defines the the versioning mechanism for saved charts.<br><br>Available values:<br><br>• `new` — creates new version of the attachment.<br>• `replace` — replaces all previous versions of the chart. To replace an existing attachment, the user must be authorised to remove attachments for the page specified.<br>• `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. |

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| | | | |
|---|---|---|---|
| `attachmentComment` | No | (None) | Comment used for a saved chart attachment. |
| `thumbnail` | No | `false` | If `true`, the chart image attachment will be shown as a thumbnail (small, expandable) image. |

**Example:**

Below is a simple example of a pie chart. See more examples in Storage Format Examples for Chart Macro.

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```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="title">Fish Sold</ac:parameter>
  <ac:parameter ac:name="type">pie</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Fish Type</p>
          </th>
          <th>
            <p>2004</p>
          </th>
          <th>
            <p>2005</p>
          </th>
        </tr>
        <tr>
          <th>
            <p>Herring</p>
          </th>
          <td>
            <p>9,500</p>
          </td>
          <td>
            <p>8,300</p>
          </td>
        </tr>
        <tr>
          <th>
            <p>Salmon</p>
          </th>
          <td>
            <p>2,900</p>
          </td>
          <td>
            <p>4,200</p>
          </td>
        </tr>
        <tr>
          <th>
            <p>Tuna</p>
          </th>
          <td>
            <p>1,500</p>
          </td>
          <td>
            <p>1,500</p>
          </td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Cheese macro

Displays the words "I like cheese!"

**Macro name:** `cheese`

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**Macro body:** None.

**Parameters:** None

**Example:**

```
<ac:structured-macro ac:name="cheese"/>
```

#### Children Display macro

Displays the children and descendants of the current page.

**Macro name:** `children`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `reverse` | No | `false` | Reverses the sort order in the list of child pages. Use this parameter in conjunction with the `sort` parameter described below. A value of `true` will change the sort order from ascending to descending. |
| `sort` | No | Manual if the pages have been manually reordered, otherwise alphabeticalby page title | Determines the sort order of the list of child pages.<br>Available values:<br>• `creation` – Sort by the date on which the page was created.<br>• `title` – Sort alphabetically by page name.<br>• `modified` – Sort by the date on which the page was last updated. |
| `style` | No | Bullet list | A heading style to be applied to the list of child pages.<br>Available values: `h1` (heading level 1) through to `h6` (heading level 6). |

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| | | | |
|---|---|---|---|
| `page` | No | The page that contains the macro | The name of the parent page. The macro will display the children of the specified page.<br><br>To specify a page in a different space, use a space key followed by a colon. For example: `MYSPACE:My page`<br><br>If the value of this parameter is a forward slash (`/`) the macro will list the pages at the root of the current space. In other words, the pages without parents. |
| `excerpt` | No | `false` | If `true`, Confluence will display any excerpts that are defined on the child pages. The excerpts must be defined via an Excerpt macro. |
| `first` | No | (None) | The maximum number of child pages to be displayed (at the top level). For example, if the value of this parameter is `99`, the macro will display the first 99 pages at the top level. It will also display their children, as determined by the `depth` and `all` parameters |
| `depth` | No | (None) | The number of levels of child pages to display. For example, if the value is `2`, the macro will display 2 levels of child pages. |
| `all` | No | `false` | If `true`, Confluence will display all levels of child pages. This setting will override the `depth` setting. |

**Example:**

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```
<ac:structured-macro ac:name="children">
  <ac:parameter ac:name="reverse">true</ac:parameter>
  <ac:parameter ac:name="sort">creation</ac:parameter>
  <ac:parameter ac:name="style">h4</ac:parameter>
  <ac:parameter ac:name="page">
    <ac:link>
      <ri:page ri:content-title="Home"/>
    </ac:link>
  </ac:parameter>
  <ac:parameter ac:name="excerpt">true</ac:parameter>
  <ac:parameter ac:name="first">99</ac:parameter>
  <ac:parameter ac:name="depth">2</ac:parameter>
  <ac:parameter ac:name="all">true</ac:parameter>
</ac:structured-macro>
```

#### Code Block macro

Displays code in your document with the appropriate syntax highlighting.

**Macro name:** `code`

**Macro body:** Accepts plain text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | Adds a title to the code macro box. |
| `theme` | No | `Confluence` | Specifies the colour scheme used for displaying your code. Many of these themes are based on the default colour schemes of popular integrated development environments (IDEs). The default theme is `Confluence` (also known as `Default`), which is typically black and coloured text on a blank background.<br>Available themes:<br>• `DJango`<br>• `Emacs`<br>• `FadeToGrey`<br>• `Midnight`<br>• `RDark`<br>• `Eclipse`<br>• `Confluence (same as default)` |

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| | | | |
|---|---|---|---|
| `linenumbers` | No | `false` | If `true`, a line number will be shown to the left of each line of code. Numbering is incremented by 1.<br>If `false`, no line numbers are shown. |
| `language` | No | `java` | Specifies the language (or environment) for syntax highlighting.<br>• (none) — that is, no syntax highlighting<br>• `actionscript3`<br>• `bash`<br>• `csharp` — that is, C#<br>• `coldfusion`<br>• `cpp` — that is, C++<br>• `css`<br>• `delphi`<br>• `diff`<br>• `erlang`<br>• `groovy`<br>• `java`<br>• `javafx`<br>• `javascript`<br>• `perl`<br>• `php`<br>• `powershell`<br>• `python`<br>• `ruby`<br>• `scala`<br>• `sql`<br>• `vb` — that is, Visual Basic<br>• `html/xml` |
| `firstline` | No | `1` | When `linenumbers` is `true`, this value defines the number of the first line of code. |
| `collapse` | No | `false` | If `true`, the code macro's content will be collapsed upon visiting or refreshing the Confluence page. Clicking the 'expand source' link allows you to view the content.<br>If `false`, the code macro's content is always displayed in full. |

**Example:**

The following example shows all parameters and a body:

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```
<ac:structured-macro ac:name="code">
  <ac:parameter ac:name="title">This is my title</ac:parameter>
  <ac:parameter ac:name="theme">FadeToGrey</ac:parameter>
  <ac:parameter ac:name="linenumbers">true</ac:parameter>
  <ac:parameter ac:name="language">xml</ac:parameter>
  <ac:parameter ac:name="firstline">0001</ac:parameter>
  <ac:parameter ac:name="collapse">true</ac:parameter>
  <ac:plain-text-body><![CDATA[<b>This is my code</b>]]></ac:plain-text-body>
</ac:structured-macro>
```

Below are three examples of the Code Block macro with various optional parameters used.

| Description | Markup | What you will get |
|---|---|---|
| Code block macro with a body and no optional parameters | `<ac:structured-macro ac:name="code"> <ac:plain-text-body> <![CDATA[this is my code]]></ac:plain-text-body> </ac:structured-macro>` | `this is my code` |
| Code block macro with a body and the optional *language* parameter defined | `<ac:structured-macro ac:name="code"> <ac:parameter ac:name="language">html/xml</ac:parameter> <ac:plain-text-body> <![CDATA[this is my code]]></ac:plain-text-body> </ac:structured-macro>` | `this is my code` |

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| | | |
|---|---|---|
| Code block macro with a body and optional *title*, *line numbers* and *language* parameters defined | <ac:structured-macro ac:name="code"><br>  <ac:parameter ac:name="title">This is my title</ac:parameter><br>  <ac:parameter ac:name="linenumbers">true</ac:parameter><br>  <ac:parameter ac:name="language">html/xml</ac:parameter><br><br><ac:plain-text-body><br><![CDATA[this is my code]]></ac:plain-text-body><br></ac:structured-macro> | **This is my title**<br>this is my code |

#### Column macro

Used with the Section macro to define columns on a page. See Working with page layouts and columns and sections.

**Macro name:** `column`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | 100% of the page width, divided equally by the number of columns in the section. | The width of the column. Can be specified either in pixels (for example, `400px`) or as a percentage of the available page width (for example, `50%`). |

**Example:**

```
<ac:structured-macro ac:name="column">
  <ac:parameter ac:name="width">100px</ac:parameter>
  <ac:rich-text-body>
    <p>This is the content of <strong>column 1</strong>.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Content by Label macro

Displays a list of content associated with specific labels.

**Macro name:** `contentbylabel`

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**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `spaces` | No | `@all` | Filters the results by space. The macro will display only the pages and other content types which belong to the space(s) you specify here.<br><br>You can specify one or more space keys, separated by a comma or a space.<br><br>• 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.<br>• 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.)<br><br>Special values: |

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| | | | |
|---|---|---|---|
| | | | • `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |
| `author` | No | (None) | Filters the results by author. The macro will display only the pages and other content types which are written or updated by the author(s) you specify here.<br><br>You can specify one or more authors, separated by a comma.<br>For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |
| `title` | No | (None) | Adds a heading to the list. |
| `showLabels` | No | `true` | Determines whether to display the matching labels in the list of results. |
| `reverse` | No | `false` | Use this parameter in conjunction with the `sort` parameter. Set `reverse=true` to change the sort from ascending to descending. This parameter is ignored if the `sort` parameter is not specified. |

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| | | | |
|---|---|---|---|
| `sort` | No | `modified` | Determines how the results are sorted. To change the sort order from ascending to descending, use the `reverse` parameter described above.<br><br>If this parameter is not specified, the sort order defaults to descending order based on the last modification date.<br><br>Values:<br>• **title** — Sort alphabetically by title.<br>• **creation** — Sort by the date on which the content was added.<br>• **modified** — Sort by the date on which the content was last updated. |
| `max` | No | `15` | Determines the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied. |
| `excerpt` | No | `false` | If this parameter is set to `true`, the macro displays an excerpt from each page listed in the results. Note that you must define the excerpts on each of those pages, by adding the Excerpt macro to each page. If a particular page does not have an excerpt defined, then the Content by Label macro will not attempt to show an excerpt for that page. The Content by Label macro will show only the first few lines of the excerpt for each page. |

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| | | | |
|---|---|---|---|
| `labels` | Yes | (None) | Use this parameter to filter the results by label. The macro will display only the pages and other content types which are tagged with the label(s) you specify here. See also the `operator` parameter.<br><br>You can specify one or more label values, separated by a comma or a space.<br><br>• 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'.<br>• 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'. |
| `showSpace` | No | `true` | Determines whether to display the spaces in the list of results. |

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| | | | |
|---|---|---|---|
| `type` | No | All | Filters the restults by content type. The macro will display only the content of the type you specify here.<br><br>You can specify one or more types, separated by a comma or a space.<br><br>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.<br><br>Available values:<br><br>• `page` — ages.<br>• `blogpost` or `news` — blog posts, also known as news items.<br>• `attachment` – attachments. |
| `operator` | No | `OR` | The operator to apply to the supplied lists of labels. By default, a page with **any** of the non-prefixed labels (that is, labels without a plus (+) or minus (-) sign immediately preceding it) will be listed. If you specify a value of `AND`, only pages with **all** of the supplied non-prefixed labels will be listed.<br><br>Note 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, we recommend that you do not use the **operator** par ameter in conjunction with any label values prefixed with '+' or '-' signs. |

**Example:**

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```
<ac:structured-macro ac:name="contentbylabel">
  <ac:parameter ac:name="spaces"/>
  <ac:parameter ac:name="author">admin,smaddox</ac:parameter>
  <ac:parameter ac:name="title">My labelled pages</ac:parameter>
  <ac:parameter ac:name="showLabels">false</ac:parameter>
  <ac:parameter ac:name="reverse">true</ac:parameter>
  <ac:parameter ac:name="sort">creation</ac:parameter>
  <ac:parameter ac:name="max">10</ac:parameter>
  <ac:parameter ac:name="excerpt">true</ac:parameter>
  <ac:parameter ac:name="labels">chocolate,cake</ac:parameter>
  <ac:parameter ac:name="showSpace">false</ac:parameter>
  <ac:parameter ac:name="type">page</ac:parameter>
  <ac:parameter ac:name="operator">AND</ac:parameter>
</ac:structured-macro>
```

#### Content by User macro

Displays a list of the content items that have been created by a specified Confluence user.

**Macro name:** `content-by-user`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None) | The Confluence username for the person whose content you wish to display |

**Example:**

```
<ac:structured-macro ac:name="content-by-user">
  <ac:parameter ac:name="">
    <ri:user ri:userkey="12345678912345678912345678912345"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Content Report Table macro

Displays a set of pages and blog posts in tabular format, based on the labels specified in the macro parameters.

**Macro name:** `content-report-table`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `spaces` | No | (None) | This parameter is required. Specify one or more labels, separated by a comma. The macro will display only the content tagged with the label(s) specified here. |

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| | | | |
|---|---|---|---|
| `labels` | Yes | (None) | Specify one or more space keys, separated by a comma or a space. The macro will display only the content which belongs to the space(s) specified here.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |
| `maxResults` | No | (None) | Define the maximum number of pages that the macro will show in a single set of results. If there are more pages to be shown, the macro will display a link labelled 'Find more results'. |

**Example:**

```
<ac:structured-macro ac:name="content-report-table">
  <ac:parameter ac:name="spaces">
    <ri:space ri:space-key="DOC"/>
  </ac:parameter>
  <ac:parameter ac:name="labels">LDAP</ac:parameter>
  <ac:parameter ac:name="analytics-key">meeting-notes</ac:parameter>
  <ac:parameter ac:name="maxResults">5</ac:parameter>
</ac:structured-macro>
```

#### Contributors macro

Displays a list of Confluence users who have made a contribution of some type to a page.

**Macro name:** `contributors`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `limit` | No | (None) | Limits the number of contributors displayed in the list. |

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| | | | |
|---|---|---|---|
| `spaces` | No | Current space | Specifies the space key of the Confluence space to search. Space keys are case sensitive.<br><br>Special values:<br>• `@global` — All site spaces.<br>• `@personal` — All personal spaces.<br>• `@all` — All spaces in the Confluence site.<br><br>You can specify one or more space keys or special values, separated by commas.<br><br>If no `page` and `labels` are specified, all pages from the specified set of spaces are included. |
| `reverse` | No | `false` | Reverses the order of contributors in the list. Must be used in conjunction with the `order` parameter. |
| `scope` | No | The specified page only | Specifies additional pages to include when generating the list of contributors.<br><br>Available values:<br>• `children` – only the child pages of the specified page.<br>• `descendants` – all descendants of the specified page. |
| `labels` | No | (None) | Limits the list of contributors to those who created the specified labels on a page. You can specify one or more labels, separated by commas. |
| `showPages` | No | `false` | If the value is true, the macro will display a list of the pages used to generate the list of contributors. |
| `noneFoundMessage` | No | "No contributors found for:" (and a summary of selected parameter values) | Any message given here will override the default message that is displayed when no contributors are found. |

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| | | | |
|---|---|---|---|
| `showCount` | No | false | Determines whether the macro will show the number of times each person made a contribution. |
| `contentType` | No | Both pages and blog posts | Restricts the content type that the macro will use when generating the list of contributors.<br><br>Available values:<br><br>• `pages` – pages<br>• `blogposts` – blog posts. |
| `include` | No | authors | Filters by either the type of contribution made to a page (and optionally its descendant pages), or the watches on the page. Contribution types are:<br><br>• `authors` - includes people who created or have edited the page(s)<br>• `comments` - includes people who have added comments to the page(s)<br>• `labels` - includes people who have added labels to the page(s)<br>• `watches` - includes people who are watching the page(s).<br><br>You can specify one or more contribution types, separated by commas. |
| `mode` | No | `inline` | Determines how the list of contributors is formatted:<br><br>• `inline` — a comma-separated list<br>• `list` — a bullet list. |
| `showAnonymous` | No | `false` | Determines whether to include those who contributed anonymously to a page. |

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| | | | |
|---|---|---|---|
| order | No | count | Specifies the criteria used to sort contributors. Sort criteria are:<br>• count – sorts the names based on the total number of contributions to the page(s)<br>• name – sorts the names into alphabetical order<br>• update – sorts the names by the date of their last contribution to the page(s). |
| page | No | The current page | Specifies the page to use when generating the list of contributors. If page and spaces are left blank, the current page is assumed. |
| showLastTime | No | false | Determines whether to show the last time each person made a contribution. |
| publishDate | No | (None)e | Specifies the publication date for a blog post. The date format required is: YYYY/MM/DD. |

**Example:**

This example specifies a content type of blog posts:

```
<ac:macro ac:name="contributors">
    <ac:parameter ac:name="limit">10</ac:parameter>
    <ac:parameter ac:name="spaces">ds,@personal</ac:parameter>
    <ac:parameter ac:name="reverse">true</ac:parameter>
    <ac:parameter ac:name="labels">chocolate,cake</ac:parameter>
    <ac:parameter ac:name="showPages">true</ac:parameter>
    <ac:parameter ac:name="noneFoundMessage">Oh dear, no contributors
found</ac:parameter>
    <ac:parameter ac:name="showCount">true</ac:parameter>
    <ac:parameter ac:name="contentType">blogposts</ac:parameter>
    <ac:parameter ac:name="include">authors,comments,labels,watches</ac:parameter>
    <ac:parameter ac:name="mode">list</ac:parameter>
    <ac:parameter ac:name="showAnonymous">true</ac:parameter>
    <ac:parameter ac:name="order">update</ac:parameter>
    <ac:parameter ac:name="showLastTime">true</ac:parameter>
    <ac:parameter ac:name="publishDate">2012/06/30</ac:parameter>
  </ac:macro>
```

This example specifies a content type of pages:

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```
<ac:macro ac:name="contributors">
    <ac:parameter ac:name="limit">10</ac:parameter>
    <ac:parameter ac:name="spaces">ds,@personal</ac:parameter>
    <ac:parameter ac:name="reverse">true</ac:parameter>
    <ac:parameter ac:name="scope">descendants</ac:parameter>
    <ac:parameter ac:name="labels">chocolate,cake</ac:parameter>
    <ac:parameter ac:name="showPages">true</ac:parameter>
    <ac:parameter ac:name="noneFoundMessage">Oh dear, no contributors
found</ac:parameter>
    <ac:parameter ac:name="showCount">true</ac:parameter>
    <ac:parameter ac:name="contentType">pages</ac:parameter>
    <ac:parameter ac:name="include">authors,comments,labels,watches</ac:parameter>
    <ac:parameter ac:name="mode">list</ac:parameter>
    <ac:parameter ac:name="showAnonymous">true</ac:parameter>
    <ac:parameter ac:name="order">update</ac:parameter>
    <ac:parameter ac:name="page">ds:Advanced Topics</ac:parameter>
    <ac:parameter ac:name="showLastTime">true</ac:parameter>
  </ac:macro>
```

#### Contributors Summary macro

Displays a table of contribution-based statistics for a set of pages.

**Macro name:** `contributors-summary`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `limit` | No | (None) | Limits the number of contributors or pages displayed in the table. |
| `spaces` | No | Current space | Specifies the space key of the Confluence space to search. Space keys are case sensitive.<br><br>Special values:<br>• `@global` — All site spaces.<br>• `@personal` — All personal spaces.<br>• `@all` — All spaces in the Confluence site.<br><br>You can specify one or more space keys or special values, separated by commas.<br><br>If no `page` and `labels` are specified, all pages from the specified set of spaces are included. |

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| | | | |
|---|---|---|---|
| `reverse` | No | `false` | Reverses the order of items in the table. Must be used in conjunction with the `order` parameter. |
| `showAnonymous` | No | `false` | Determines whether to include those who contributed anonymously to a page. |
| `scope` | No | The specified page only | Specifies additional pages to include when generating the list of contributors.<br>Available values:<br>• `children` – only the child pages of the specified page.<br>• `descendants` – all descendants of the specified page. |
| `order` | No | `edits` | Sets the criterion used for sorting items in the table.<br>Available values:<br>• `edits` – sorts items in the table based on the total number of edits made, either by a contributor or to a page.<br>• `name` – sorts items in the table in alphabetical order, either by contributor or page name.<br>• `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 lasted edited.<br>• `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 any contribution made to it. |

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| | | | |
|---|---|---|---|
| `page` | No | The current page | A page title. Specifies the page to use when generating the list of contributors. If `page` and `spaces` are left blank, the current page is assumed. |
| `labels` | No | (None) | Limits contribution-based statistics to the specified labels only. You can specify one or more labels, separated by commas. |
| `columns` | No | `edits,comments,labels` | Determines the columns that should appear in the table. The statistics or type of information presented depends on the `groupby` parameter.<br><br>Available values:<br>• `edits` – the number of times each contributor has edited the page(s) or the number of edits made to each page.<br>• `edited` – a list of the pages edited by each contributor or a list of contributors who have edited each page.<br>• `comments` – the number of times each contributor has added comments to the page(s) or the number of comments on each page.<br>• `commented` – a list of pages to which each contributor has added comments or a list of contributors who have commented on each page.<br>• `labels` – the number of times each contributor has added labels to the page(s) or the number of labels on each page. |

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| | | | |
|---|---|---|---|
| | | | • `labeled` – a list of pages to which each contributor has added labels or a list of contributors who have added a label to each page.<br>• `labellist` – a list of labels either added by each contributor or on each page.<br>• `watches` – the number of pages being watched by each contributor/person or the number of contributors/people watching each page.<br>• `watching` – a list of pages being watched by each contributor/person or a list of contributors/people watching each page.<br>• `lastupdate` – the last time each contributor made an update or when each page was last updated. Valid updates can include edits, comments or label modifications to a page.<br>You can specify one or more columns, separated by commas. |
| `groupby` | No | `contributors` | Specifies the basis for grouping contribution-based statistics:<br>• `contributors` – group by the people who have contributed.<br>• `pages` – group by the pages used to find the contributors. |

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| | | | |
|---|---|---|---|
| `contentType` | No | Both pages and blog posts | Restricts the content type that the macro will use when generating the list of contributors.<br>Available values:<br>• `pages` – pages<br>• `blogposts` – blog posts. |
| `showZeroCounts` | No | `false` | Determines whether contributors or pages are included for which the calculated statistic is zero. |
| `publishDate` | No | (None) | Specifies the publication date for a blog post. The date format required is: YYYY/MM/DD. |

**Example:**

This example specifies a content type of blog posts:

```
<ac:structured-macro ac:name="contributors-summary">
  <ac:parameter ac:name="limit">10</ac:parameter>
  <ac:parameter ac:name="spaces">
    <ri:space ri:space-key="ds"/>
    <ri:space ri:space-key="@personal"/>
  </ac:parameter>
  <ac:parameter ac:name="reverse">true</ac:parameter>
  <ac:parameter ac:name="showAnonymous">true</ac:parameter>
  <ac:parameter ac:name="order">update</ac:parameter>
  <ac:parameter ac:name="labels">chocolate,cake</ac:parameter>
  <ac:parameter ac:name="columns">edits,comments,labels,lastupdate</ac:parameter>
  <ac:parameter ac:name="groupby">pages</ac:parameter>
  <ac:parameter ac:name="contentType">blogposts</ac:parameter>
  <ac:parameter ac:name="showZeroCounts">true</ac:parameter>
  <ac:parameter ac:name="publishDate">2012/06/07</ac:parameter>
</ac:structured-macro>
```

This example specifies a content type of pages:

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```
<ac:structured-macro ac:name="contributors-summary">
  <ac:parameter ac:name="limit">10</ac:parameter>
  <ac:parameter ac:name="spaces">
    <ri:space ri:space-key="ds"/>
    <ri:space ri:space-key="@personal"/>
  </ac:parameter>
  <ac:parameter ac:name="reverse">true</ac:parameter>
  <ac:parameter ac:name="showAnonymous">true</ac:parameter>
  <ac:parameter ac:name="scope">descendants</ac:parameter>
  <ac:parameter ac:name="order">update</ac:parameter>
  <ac:parameter ac:name="page">
    <ac:link>
      <ri:page ri:content-title="Advanced Topics" ri:space-key="ds"/>
    </ac:link>
  </ac:parameter>
  <ac:parameter ac:name="labels">chocolate,cake</ac:parameter>
  <ac:parameter ac:name="columns">edits,comments,labels,lastupdate</ac:parameter>
  <ac:parameter ac:name="groupby">pages</ac:parameter>
  <ac:parameter ac:name="contentType">pages</ac:parameter>
  <ac:parameter ac:name="showZeroCounts">true</ac:parameter>
</ac:structured-macro>
```

#### Create from Template macro

Creates a page from a given template.

**Macro name:** `create-from-template`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `templateId` | Required for user-created templates | (None) | The ID of a user-created template. This is the unique identifier that Confluence assigns when you create a template. For example, `2 99630593`. To find the ID of a template, edit the template and look at the URL in your browser. The template ID is given in the URL parameter named `entityId`. |
| `blueprintModuleCompleteKey` | Required for blueprints | (None) | The qualified name of the add-on that defines the blueprint (for example, `com.atlassian.confluence.plugins.confluence-shared-files-plugin:file-list-blueprint` ). |

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| | | | |
|---|---|---|---|
| templateName | Yes | (None) | The ID of a user-created template (for example, 299630593) or the qualified name of the add-on that defines the blueprint (for example, com.atlassian.confluence.plugins.confluence-shared-files-plugin:file-list-blueprint). |
| buttonLabel | Yes | 'Create from Template' | The description that people will seeing when viewing this macro on the page. |
| spaceKey | Yes | The space where the current page is located | The unique space identifier, to determine where the new page will be created when someone uses this macro to create a page. |
| Title | No | (None) | The title for pages created using this macro. You can include @currentDate, @spaceName and @spaceKey variables in the title. This title will override any title specified in a blueprint template. |

**Example:**

This example specifies a user-created template:

```
<ac:structured-macro ac:name="create-from-template">
  <ac:parameter ac:name="templateId">299630593</ac:parameter>
  <ac:parameter ac:name="buttonLabel">Blitz test</ac:parameter>
  <ac:parameter ac:name="spaceKey">
    <ri:space ri:space-key="DOCTHEME"/>
  </ac:parameter>
  <ac:parameter ac:name="templateName">299630593</ac:parameter>
</ac:structured-macro>
```

This example uses a blueprint:

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```
<ac:structured-macro ac:name="create-from-template">
  <ac:parameter
ac:name="blueprintModuleCompleteKey">com.atlassian.confluence.plugins.confluence-sh
ared-files-plugin:file-list-blueprint</ac:parameter>
  <ac:parameter ac:name="buttonLabel">Shared files</ac:parameter>
  <ac:parameter ac:name="spaceKey">
    <ri:space ri:space-key="DOCTHEME"/>
  </ac:parameter>
  <ac:parameter
ac:name="templateName">com.atlassian.confluence.plugins.confluence-shared-files-plu
gin:file-list-blueprint</ac:parameter>
</ac:structured-macro>
```

#### Create Space Button macro

Displays a create space button linked to the create space page.

**Macro name:** `create-space-button`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `size` | No | `large` | Determines the size of the 'create space' icon displayed. Available values:<br>• `large`<br>• `small` |
| `width` | No | Natural size of icon<br>(1:1 pixel ratio) | The width of the icon to be displayed, specified in pixels. Confluence will stretch or shrink the width of the icon to the number of pixels specified.<br>Note: This parameter is not available via the macro browser. |
| `height` | No | Natural size of icon<br>(1:1 pixel ratio) | The height of the icon to be displayed, specified in pixels. Confluence will stretch or shrink the height of the icon to the number of pixels specified.<br>Note: This parameter is not available via the macro browser. |

**Example:**

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```
<ac:structured-macro ac:name="create-space-button">
  <ac:parameter ac:name="size">small</ac:parameter>
</ac:structured-macro>
```

#### Excerpt Include macro

Allows you to display an excerpt from another page within the current page.

**Macro name:** `excerpt-include`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None.) | The name of the page that contains the excerpt to be displayed.<br><br>To include an excerpt from a page in another space, type the space key followed by a colon (:) and the page name, like this:<br><br>`SPACEKEY:My page name`<br><br>**Note:** The ability to include excerpts from other spaces is available only in **Confluence 4.3.2 and later**. In earlier versions of Confluence, the Excerpt Include macro does not work across spaces. Use the Include Page macro instead. |
| `nopanel` | No | `False` | Determines whether Confluence will display a panal around the excerpted content. The panel includes the title of the page containing the excerpt, and the border of the panel. By default, the panel and title are shown. |

**Example:**

```
<ac:macro ac:name="excerpt-include">
  <ac:parameter ac:name="nopanel">true</ac:parameter>
  <ac:default-parameter>My page name</ac:default-parameter>
</ac:macro>
```

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### Excerpt macro

Define a part of a page as the page's 'excerpt' which can then be displayed in another page.

**Macro name:** `excerpt`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `hidden` | No | `False` | Determines whether the content of the Excerpt macro body is displayed on the page that contains the Excerpt macro.<br><br>Note that this option affects only the page that contains the Excerpt macro. It does not affect any pages where the content is reused. |
| `atlassian-macro-output-type` | No | `BLOCK` | Determines whether the content of the Excerpt macro body is displayed on a new line or inline.<br><br>Available values:<br><br>• `BLOCK` – Displays the content of the macro on a new line.<br>• `INLINE` – Displays the the content of the macro as part of the same paragraph as the text preceding and following it.<br><br>Note that this option affects only the page that contains the Excerpt macro. It does not affect any pages where the content is reused. |

**Example:**

```
<ac:structured-macro ac:name="excerpt">
  <ac:parameter ac:name="hidden">true</ac:parameter>
  <ac:parameter ac:name="atlassian-macro-output-type">BLOCK</ac:parameter>
  <ac:rich-text-body>
    <p>This is the <strong>text</strong> I want to reuse in other pages. This text
is inside an Excerpt macro.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

### Expand macro

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Displays an expandable/collapsible section of text.

**Macro name:** `expand`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br>(Unnamed in wiki markup) | No | `Click here to expand...` | Text that will be displayed on the line that people can click to expand the hidden text. |

**Example:**

```
<ac:structured-macro ac:name="expand">
  <ac:parameter ac:name="">This is my message</ac:parameter>
  <ac:rich-text-body>
    <p>This text is <em>hidden</em> until you expand it.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Favourite Pages macro

Displays a list of your favourite pages.

**Macro name:** `favpages`

**Macro body:** None.

**Parameters:** None.

**Example:**

```
<ac:structured-macro ac:name="favpages"/>
```

#### Gadget macro

Allows you to add Confluence gadgets to pages or blog posts.

**Macro name:** `gadget`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `width` | No | `450` pixels | The width of the gadget, using one of the following conventions:<br>• Width in pixesl, using `px` or plain numbers. For example, `500px` or `500`<br>• A percentage of the page width, using `%`. For example, `50%`<br>• Automatic resizing of the gadget to fit 100% of the page width: `auto` |
| `border` | No | `true` | Determines whether Confluence will draw a border around the gadget. |
| `url` | Yes | (none.) | This is the location of the gadget specification (XML file). |
| `preferences` | No | (Gadget-dependent.) | Specific property settings that are particular to each gadget. |

**A note about editing a gadget's properties (preferences) in markup**: It is possible to edit the values of these properties directly in the wiki markup or storage format. However, this will allow the entry of invalid values. If a gadget property supports a certain set of values, the macro browser will restrict the user to selecting only valid values for that property. For that reason, we recommend that you use the macro browser to edit a gadget's properties.

**Example:**

This example shows the Confluence Page gadget:

```
<ac:structured-macro ac:name="gadget">
  <ac:parameter ac:name="width">500</ac:parameter>
  <ac:parameter ac:name="border">false</ac:parameter>
  <ac:parameter
ac:name="url">rest/gadgets/1.0/g/com.atlassian.confluence.plugins.gadgets:confluenc
e-page-gadget/gadgets/confluence-page-gadget.xml</ac:parameter>
  <ac:parameter
ac:name="preferences">spaceName=Documentation&amp;spaceKey=DOC&amp;quickfind-space=
Documentation&amp;pageId=753666&amp;pageName=Documentation%20Home&amp;quickfind-pag
e=Documentation%20Home&amp;isEditable=true&amp;isConfigured=true&amp;refresh=15&amp
;showLink=false</ac:parameter>
</ac:structured-macro>
```

This example shows the Confluence News gadget:

```
<ac:structured-macro ac:name="gadget">
  <ac:parameter
ac:name="url">rest/gadgets/1.0/g/com.atlassian.confluence.plugins.gadgets:confluenc
e-news-gadget/gadgets/confluence-news-gadget.xml</ac:parameter>
  <ac:parameter ac:name="preferences"/>
</ac:structured-macro>
```

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### Gallery macro

Forms a thumbnail gallery of all images attached to a page.

**Macro name:** `gallery`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | Specify a title to be displayed above your gallery of pictures. |
| `reverse` | No | Not specified. Sort order is ascending. | Used in combination with the `sort` parameter, to change the sort order from ascending to descending.<br>Available values:<br>• `true` – Sort order is descending.<br>• `false` – Sort order is ascending. |
| `sort` | No | None. The sort order is unspecified and therefore unpredictable. | Specify an attribute to sort the images by. Sort order is ascending, unless you specify the `reverse` parameter.<br>Available values:<br>• `name` – file name.<br>• `comment` – comment linked to the attached file.<br>• `date` – date/time last modified.<br>• `size` – size of the attached file. |
| `page` | No | If no page is specified, the gallery macro displays the images attached to the page on which the macro is used. | Specify the title of the page which contains the images you want displayed. You can specify more than one page name, separated by commas. To specify a page in a different space, use the following syntax: `SPACEKEY:Page title`. |

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| | | | |
|---|---|---|---|
| `includeLabel` | No | None. The images are not filtered by label. | The gallery will include only those pictures that have the specified label. If you wish to enter more than one label, separate the labels with commas. Confluence will show only images that have **all** the labels specified. (The match is an AND, not an OR.) For information on labelling the attachments, see Adding Labels. |
| `excludeLabel` | No | No exclusions. The gallery will include all the pictures on the page. | The gallery will ignore any pictures that have the specified label. You can specify more than one label, separated by commas. For information on labelling the attachments, see Adding Labels. |
| `columns` | No | 4 | Specify the number of columns for the table that forms the gallery. |
| `exclude` | No | No exclusions. Include all the pictures on the page. | Specify images by file name. The gallery will ignore any images specified. You can specify more than one image, separated by commas.<br>Note: The file name and file type for this parameter are case sensitive. For example, 'my picture.PNG' will not be recognised as 'my picture.png'. |
| `include` | No | Include all the pictures on the page. | If you specifically include one or more pictures, the gallery will show only those pictures. You can specify more than one picture, separated by commas.<br>Note: The file name and file type for this parameter are case-sensitive. For example, 'my picture.PNG' will not be recognised as 'my picture.png'. |

**Example:**

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```
<ac:structured-macro ac:name="gallery">
  <ac:parameter ac:name="title">My holiday pictures</ac:parameter>
  <ac:parameter ac:name="reverse">true</ac:parameter>
  <ac:parameter ac:name="sort">size</ac:parameter>
  <ac:parameter ac:name="page">My page1, ds:Welcome to Confluence</ac:parameter>
  <ac:parameter ac:name="excludeLabel">badlabel1, badlabel2</ac:parameter>
  <ac:parameter ac:name="columns">3</ac:parameter>
  <ac:parameter ac:name="exclude">badpicture.png</ac:parameter>
</ac:structured-macro>
```

#### Global Reports macro

Displays a list of links to global reports within a table.

**Macro name:** `global-reports`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | 99% | Specify the width of the table in which the links are displayed, as a percentage of the window width. |

**Example:**

```
<ac:structured-macro ac:name="global-reports">
  <ac:parameter ac:name="width">50%</ac:parameter>
</ac:structured-macro>
```

#### HTML Include macro

Includes the content of an external HTML file into a Confluence page.

**Macro name:** `html-include`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `url` | Yes | (None) | Specify a URL of the content to be included into your Confluence page. |

**Example:**

```
<ac:structured-macro ac:name="html-include">
  <ac:parameter ac:name="url">
    <ri:url ri:value="http://www.example.com"/>
  </ac:parameter>
</ac:structured-macro>
```

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### HTML macro

Renders your specified HTML code within the current page.

**Macro name:** `html`

**Macro body:** Text, consisting of HTML code.

**Parameters:** None.

**Example:**

```
<ac:structured-macro ac:name="html">
  <ac:plain-text-body><![CDATA[<a href="http://www.atlassian.com">Click here</a> to
see the <b>Atlassian</b> website.]]></ac:plain-text-body>
</ac:structured-macro>
```

### IM Presence macro

Displays graphically when a contact is online.

**Macro name:** `im`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `showid` | No | `true` | Determines whether the macro shows or hides the user ID of the contact.<br>Available values:<br>• `true` – User ID is shown on the page.<br>• `false` – User ID is not shown on the page. |
| `service` | Yes | Not specified. | The web service that Confluence should query.<br>Available values:<br>• aim – AOL Instant Messenger<br>• gtalk – Google Talk<br>• icq – ICQ<br>• jabber – Jabber<br>• msn – MSN Instant Messenger<br>• sametime – IBM Lotus Sametime<br>• skype – Skype<br>• skypeme – Skype<br>• wildfire – Openfire Server<br>• yahoo – Yahoo! Messenger |

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| | | | |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | Not specified. | User ID. Identifies the IM contact by their ID, account name or screen name. |

**Example:**

```
<ac:structured-macro ac:name="im">
  <ac:parameter ac:name="showid">false</ac:parameter>
  <ac:parameter ac:name="service">skype</ac:parameter>
  <ac:parameter ac:name="">MySkypeName</ac:parameter>
</ac:structured-macro>
```

#### Include Page macro

Inserts the contents of the specified page into the current one.

**Macro name:** `include`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None.) | The name of the page whose content should be included on the current page<br><br>To includecontent from a page in another space, type the space key followed by a colon (:) and the page name, like this:<br><br>`SPACEKEY:My page name`<br><br>To include a blog post, specify the date as well as the title of the blog post. For example: `/2010/12/01/My blog post`.<br><br>You can include pages from personal spaces using **~username** as the space key, where 'username' is the person's username. For example, `~jsmith:My page name`. |

**Example:**

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```
<ac:structured-macro ac:name="include">
  <ac:parameter ac:name="">
    <ac:link>
      <ri:page ri:content-title="My chocolate page" ri:space-key="DOC"/>
    </ac:link>
  </ac:parameter>
</ac:structured-macro>
```

#### Info macro

Displays a block of text in a blue highlight box.

**Macro name:** `info`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `icon` | No | `true` | Determines whether to display the  icon in the title bar of the information box. |
| `title` | No | (None) | The title of the information box. If specified, the title text will be displayed in bold next to the icon. |

**Example:**

The following example shows all parameters and a body:

```
<ac:structured-macro ac:name="info">
  <ac:parameter ac:name="icon">false</ac:parameter>
  <ac:parameter ac:name="title">This is my title</ac:parameter>
  <ac:rich-text-body>
    <p>
      <span>This is </span> <em>important</em> <span> information.</span>
    </p>
  </ac:rich-text-body>
</ac:structured-macro>
```

Below are some examples of the Info macro with various optional parameters used.

| Description | Markup | What you will get |
|---|---|---|

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| | | |
|---|---|---|
| Info macro with a body defined and no optional parameters | <ac:structured-macro ac:name="info"><br><br><ac:rich-text-body><br> This is important information. <br><br></ac:rich-text-body><br></ac:structured-macro> | This is *important* information. |
| Info macro with with a body and an optional *Title* parameter defined | <ac:structured-macro ac:name="info"><br><ac:parameter ac:name="title">This is my title</ac:parameter><br><br><ac:rich-text-body><br> This is important information. <br><br></ac:rich-text-body><br></ac:structured-macro> | **This is my title**<br>This is *important* information. |
| Info macro with a body and optional *Title* and *Icon* parameters defined | <ac:structured-macro ac:name="info"><br><ac:parameter ac:name="icon">false</ac:parameter><br><ac:parameter ac:name="title">This is my title</ac:parameter><br><br><ac:rich-text-body><br> <br>This is <br>important<br><br>information.<br> <br><br></ac:rich-text-body><br></ac:structured-macro> | **This is my title**<br>This is *important* information. |



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Displays one or more JIRA issues, and offers the option to create an issue in JIRA.

**Macro name:** `jiraissues`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `anonymous` | No | `false` | If this parameter is set to 'true', JIRA will return only the issues which allow unrestricted viewing. That is, 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.<br><br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |
| `baseurl` | No | The value of the 'url' parameter | If you specify a 'baseurl', then the link in the header, pointing to your JIRA site, will use this base URL instead of the value of the 'url' parameter. This is useful when Confluence connects to JIRA with a different URL from the one used by other users. |

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| | | | |
|---|---|---|---|
| `columns` | No | By default, the following columns are shown:<br>• type<br>• key<br>• summary<br>• assignee<br>• reporter<br>• priority<br>• status<br>• resolution<br>• created<br>• updated<br>• due | A list of JIRA column names, separated by semi-colons (;). You can include any columns recognised by your JIRA site, including custom columns. See the JIRA documentation for a list of names. |
| `count` | No | `false` | 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. |
| `cache` | No | `on` | 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'.)<br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |

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| | | | |
|---|---|---|---|
| `height` | No | `480` (if render mode is dynamic) | The height in pixels of the table displaying the JIRA issues.<br>Note that this height specification is ignored in the following situations:<br>• If the 'renderMode' parameter (see below) is set to 'static'.<br>• When the JIRA issues are displayed in a PDF or Word document, in an email message or in an RSS feed.<br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |
| `renderMode` | No | `static` | If the value is 'dynamic', the JIRA Issues macro offers an interactive display which people can manipulate as follows:<br>• Click the column headers to sort the output.<br>• Drag and drop the columns into a different order.<br>• Temporarily remove a column from the display.<br>• View a page of issues at a time, for faster response times.<br>A value of 'static' will disable the dynamic display features.<br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |

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| | | | |
|---|---|---|---|
| `title` | No | JIRA Issues | 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.<br><br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |
| `url` | Yes | none | The URL of the XML view of your selected issues in JIRA Issue Navigator.<br><br>**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. |
| `width` | No | 100% | The width of the table displaying the JIRA issues. Can be indicated either as a percentage (%) or in pixels (px).<br><br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |

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**Example:**

Example using a URL that points to the XML view of a JIRA search:

```
<ac:structured-macro ac:name="jiraissues">
  <ac:parameter ac:name="anonymous">true</ac:parameter>
  <ac:parameter ac:name="columns">type;key;summary</ac:parameter>
  <ac:parameter ac:name="url">
    <ri:url
ri:value="http://jira.atlassian.com/sr/jira.issueviews:searchrequest-xml/temp/Searc
hRequest.xml?jqlQuery=project+%3D+CONF+AND+%28summary+%7E+jiraissues+OR+description
+%7E+jiraissues+OR+comment+%7E+jiraissues%29&amp;tempMax=10"/>
  </ac:parameter>
</ac:structured-macro>
```

Example using JQL – note that Confluence will insert the `server` and `serverId` parameters, based on settings in Application Links:

```
<ac:structured-macro ac:name="jira">
  <ac:parameter
ac:name="columns">key,summary,type,created,assignee,status</ac:parameter>
  <ac:parameter ac:name="server">Atlassian JIRA</ac:parameter>
  <ac:parameter
ac:name="serverId">144880e9-a1111-333f-9412-ed999a9999fa</ac:parameter>
    <ac:parameter ac:name="jqlQuery">project = CONF AND component = documentation
AND resolution = unresolved</ac:parameter>
  </ac:structured-macro>
```

#### JUnit Report macro

Display a summary of JUnit test results.

**Macro name:** `junitreport`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `directory` | Must include either the `directory` or the `url` parameter | (None) | URL of a directory containing your test result files. This must be a directory name and not the XML file itself. Overrides the `url` parameter if you use both.<br>**Note:** When using a local drive, you must use a directory name and not the XML file itself. |
| `reportdetail` | No | `all` | Level of detail required in the report.<br>Available values:<br>• `all`<br>• `fixture`<br>• `summary`<br>• `failuresonly` |

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| | | | |
|---|---|---|---|
| `url` | Must include either the `directory` or the `url` parameter | (None) | URL of a particular test result XML file.<br><br>This parameter is overridden by the `directory` parameter if you use both.<br><br>For Confluence installations that require authentication, you can specify login credentials as part of this parameter, in the form of URL parameters:<br><br>• `os_username` — The username of a Confluence user with permission to access the JUnit test results.<br>• `os_password` — The password of the Confluence user specified in the `os_username` parameter. |
| `debug` | No | `false` | If the value of this parameter is `true`, the report will show the content of failures, as well as the error messages. |

**Example:**

```
<ac:structured-macro ac:name="junitreport">
  <ac:parameter ac:name="reportdetail">summary</ac:parameter>
  <ac:parameter ac:name="directory">
    <ri:url ri:value="http://confluence.com/download/attachments/123/"/>
  </ac:parameter>
  <ac:parameter ac:name="debug">true</ac:parameter>
  <ac:parameter ac:name="url">
    <ri:url ri:value="http://confluence.com/download/attachments/123/file.xml"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Labels List macro

Displays a hyperlinked alphabetical index of all labels within the current space.

**Macro name:** `listlabels`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| spaceKey | No | Current space | The key of the space whose labels you want to display. |

**Example:**

```
<ac:structured-macro ac:name="listlabels">
    <ac:parameter ac:name="spaceKey">
      <ri:space ri:space-key="DOC"/>
    </ac:parameter>
    <ac:parameter ac:name="excludedLabels">not-this-label</ac:parameter>
  </ac:structured-macro>
```

#### Livesearch macro

Add a dynamic search box to a wiki page.

**Macro name:** `livesearch`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| placeholder | No | (None) | Specify the placeholder text to appear in the search field. |
| labels | No | (None) | Specify labels to limit the search to content with that label. |
| spaceKey | No | All spaces | Specify a space key to limit the search to the given space. |
| type | No | All | Specify the content types to be included in the search - pages, blogs, comments, space descriptions, or all content types. |
| size | No | Medium | Specify the size of the search field - medium or large. |
| additional | No | Space Name | Display the space name, a page excerpt or none under the search result. |

**Example:**

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```
<ac:structured-macro ac:name="livesearch">
  <ac:parameter ac:name="additional">page excerpt</ac:parameter>
  <ac:parameter ac:name="placeholder">Search this space</ac:parameter>
  <ac:parameter ac:name="labels">myLabel</ac:parameter>
  <ac:parameter ac:name="spaceKey">
    <ri:space ri:space-key="SS"/>
  </ac:parameter>
  <ac:parameter ac:name="type">page</ac:parameter>
  <ac:parameter ac:name="size">large</ac:parameter>
</ac:structured-macro>
```

#### Loremipsum macro

Display a few paragraphs of pseudo-Latin text.

**Macro name:** `loremipsum`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(No name in wiki markup) | No | 3 | Number of paragraphs. Determines the amount of pseudo-Latin (space-filler) text to display. The macro will display a maximum number of 30 paragraphs. |

**Example:**

```
<ac:structured-macro ac:name="loremipsum">
  <ac:parameter ac:name="">2</ac:parameter>
</ac:structured-macro>
```

#### Multimedia macro

Displays videos, animations and more, sourced from a file attached to a Confluence page and displayed on your page.

**Macro name:** `multimedia`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `page` | No | Current page | Name of the page to which the multimedia file is attached. |
| `space` | No | Current space | Space key of the page that has the multimedia file attached. |

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| | | | |
|---|---|---|---|
| `name` | Yes | None | File name of the multimedia file, which is attached to a Confluence page. |
| `width` | No | If not specified, the browser will determine the width based on the file type. | Width of the movie window to be displayed on the page. By default, this value is specified in pixels. You can also choose to specify a percentage of the window's width, or any other value accepted by HTML. |
| `height` | No | If not specified, the browser will determine the height based on the file type. | Height of the movie window to be displayed on the page. By default, this value is specified in pixels. You can also choose to specify a percentage of the window's height, or any other value accepted by HTML. |
| `autostart` | No | `false` | If the parameter is set to `true` then the video or audio file will start playing as soon as the page is loaded. If this option is set to `false` th en the file will not play until the user clicks the icon or image on the page. |

**Example:**

```
<ac:structured-macro ac:name="multimedia">
  <ac:parameter ac:name="width">500</ac:parameter>
  <ac:parameter ac:name="name">
    <ri:attachment ri:filename="Ninjas.MOV"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Navigation Map macro

Displays a navigable map of the pages tagged with a given label.

**Macro name:** `navmap`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None) | The label that pages must contain to be included in the navigation map. |
| `wrapAfter` | No | `5` | The number of cells in a row. |
| `title` | No | (None) | A title for the navigation map. |
| `cellHeight` | No | `60` | Height of the cells, in pixels. |
| `cellWidth` | No | `90` | Width of the cells, in pixels. |
| `theme` | No | (None) | *Not applicable to Confluence OnDemand.*<br><br>The name of a Velocity template that defines a theme for the navigation map.<br><br>The name of your theme file must have the following format: `navmap-mytheme.vm`, where `mytheme` is the name of your theme. That is also the value to use for the `theme` parameter of the macro. For example, if your theme file is `navmap-roundededges.vm`, use the value `roundededges` for this parameter.<br><br>Put your theme file in the `confluence/WEB-INF/classes/templates/macros` directory, in your Confluence installation. (Create the directory if it does not exist.) |

**Example:**

```
<ac:structured-macro ac:name="navmap">
  <ac:parameter ac:name="wrapAfter">4</ac:parameter>
  <ac:parameter ac:name="title">My map name</ac:parameter>
  <ac:parameter ac:name="cellHeight">50px</ac:parameter>
  <ac:parameter ac:name="theme">navmap-mytheme.vm</ac:parameter>
  <ac:parameter ac:name="cellWidth">80px</ac:parameter>
  <ac:parameter ac:name="">mylabel</ac:parameter>
</ac:structured-macro>
```

Network macro

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Displays a list of Network activity for users on your Confluence site.

**Macro name:** `network`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br>(Unnamed in wiki markup) | Yes | `following` | The display mode, which determines the set of users to be listed, based on their relationship to the specified user:<br>• `following` – those whom the user is following.<br>• `followers` – those who are following the user. |
| `username` | No | Current user's username | The username of the Confluence user whose network interactions you wish to show. |
| `max` | No | `30` | The maximum number of users to show. If the number of users exceeds the specified maximum, then the macro provides a 'Show All' link. This link leads to the specified user's network view, showing the complete list of network interactions. |
| `theme` | No | `full` | Determines how the user's network is displayed:<br>• `full` – Shows a large version of user's profile pictures. If the display mode is set to `'following'`, the macro offers the option to follow more users.<br>• `tiny` – Shows only the small version of user's profile pictures. |

**Example:**

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```
<ac:structured-macro ac:name="network">
  <ac:parameter ac:name="username">
    <ri:user ri:userkey="12345678912345678912345"/>
  </ac:parameter>
  <ac:parameter ac:name="max">10</ac:parameter>
  <ac:parameter ac:name="theme">full</ac:parameter>
  <ac:parameter ac:name="">followers</ac:parameter>
</ac:structured-macro>
```

#### Noformat macro

Displays a block of text in monospace font.

**Macro name:** `noformat`

**Macro body:** Accepts plain text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `nopanel` | No | `false` | Determines whether the macro draws a box around the content.<br>Available values:<br>• `true` – Box is removed. In other words, there is no panel.<br>• `false` – Box is drawn. In other words, there is a panel. |

**Example:**

```
<ac:structured-macro ac:name="noformat">
  <ac:parameter ac:name="nopanel">true</ac:parameter>
  <ac:plain-text-body><![CDATA[http://www.example.com]]></ac:plain-text-body>
</ac:structured-macro>
```

#### Note macro

Displays a block of text in a yellow highlighted box.

**Macro name:** `note`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | The words that will appear in the header of the note block. |

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| | | | |
|---|---|---|---|
| `icon` | No | `true` | Determines whether an icon appears next to the title. The icon is an exclamation mark inside a yellow triangle.<br>Available values:<br>• `true` – the icon appears<br>• `false` – the icon does not appear |

**Example:**

```
<ac:structured-macro ac:name="note">
  <ac:parameter ac:name="icon">false</ac:parameter>
  <ac:parameter ac:name="title">My title</ac:parameter>
  <ac:rich-text-body>
    <p>This is the content of my note.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Office Excel macro

Displays the content of an Excel spreadsheet on a wiki page.

**Macro name:** viewxls

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `name` | Yes | (None.) | The file name of the Excel spreadsheet to be displayed. The document must be attached to a page on your Confluence site. |
| `page` | No | The page containing the macro | The name of a Confluence page to which the Excel spreadsheet is attached. |

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| | | | |
|---|---|---|---|
| `col` | No | Last column with content | The number of the last column you want displayed, starting from '0' as the first column.<br>**Hint for reducing the size of the spreadsheet:** Use the `col` and `row` parameters to reduce the size of the spreadsheet displayed on the wiki page. This is especially useful to prevent the display from showing empty cells. This will also help to prevent 'out of memory' errors. |
| `row` | No | Last row with content | The number of the last row you want displayed, starting from '0' as the first row. |
| `grid` | No | `true` | Determines whether the macro will show borders around the cells in the spreadsheet.<br>Accepted values:<br>• `true` – Shows borders.<br>• `false` – Does not show borders. |
| `sheet` | No | The most-recently viewed worksheet | The name of the worksheet that you want displayed. |

**Example:**

```
<ac:structured-macro ac:name="viewxls">
  <ac:parameter ac:name="col">E</ac:parameter>
  <ac:parameter ac:name="name">
    <ri:attachment ri:filename="Spreadsheet.xls"/>
  </ac:parameter>
  <ac:parameter ac:name="sheet">Sheet1</ac:parameter>
  <ac:parameter ac:name="row">5</ac:parameter>
</ac:structured-macro>
```

#### Office PowerPoint macro

Displays the content of a PowerPoint presentation on a wiki page.

**Macro name:** `viewppt`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `name` | Yes | (None.) | The file name of the PowerPoint presentation to be displayed. The document must be attached to a page on your Confluence site. |
| `page` | No | The page containing the macro | The name of a Confluence page to which the PowerPoint presentation is attached. |
| `height` | No | | The height of the macro display, specified in pixels (for example: `10px`, or just `10`) or as a percentage (for example: `20%`) of the window's height. |
| `width` | No | | The width of the macro display, specified in pixels (for example: `10px`, or just `10`) or as a percentage (for example: `20%`) of the window's height. |
| `slide` | No | All slides, starting with the first, as a slide show | The number of the slide that you want displayed on the Confluence page, where the first slide is numbered zero. Instead of a slide show, the page will display just the single slide, represented as a JPEG image. |

**Example:**

```
<ac:structured-macro ac:name="viewppt">
  <ac:parameter ac:name="height">250</ac:parameter>
  <ac:parameter ac:name="width">250</ac:parameter>
  <ac:parameter ac:name="name">
    <ri:attachment ri:filename="101_samplepresentation.pptx"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Office Word macro

Displays the content of a Word document on a wiki page.

**Macro name:** `viewdoc`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `name` | Yes | (None.) | The file name of the Word document to be displayed. The document must be attached to a page on your Confluence site. |
| `page` | No | The page containing the macro | The name of a Confluence page to which the Word document is attached. |

**Example:**

```
<ac:structured-macro ac:name="viewdoc">
  <ac:parameter ac:name="name">
    <ri:attachment ri:filename="Chocolate.doc"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Page Index macro

Creates a hyperlinked alphabetical index of all page titles within the current space.

**Macro name:** `index`

**Macro body:** None.

**Parameters:** None.

**Example:**

```
<ac:structured-macro ac:name="index"/>
```

#### Page Properties macro

Allows you to embed metadata into a page and then display that data in tabular form using the Page Properties Report macro .Previously known as the Metadata Details macro.

**Macro name:** `details`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `hidden` | No | `false` | Determines whether the data in the Page Properties macro will be displayed on the current page. This setting does not affect the display of the detail in the Page Properties Report macro. |

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| | | | |
|---|---|---|---|
| `label` | No | (None) | The label used to identify the metadata on this page. Confluence will add this label to the page. |

**Example:**

```
<ac:structured-macro ac:name="details">
  <ac:parameter ac:name="hidden">true</ac:parameter>
  <ac:parameter ac:name="label">status</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <td style="text-align: left;">Project Status</td>
          <td style="text-align: left;">Complete</td>
        </tr>
        <tr>
          <td colspan="1" style="text-align: left;">Team</td>
          <td colspan="1" style="text-align: left;">Green Parrots</td>
        </tr>
        <tr>
          <td colspan="1" style="text-align: left;">Deadline</td>
          <td colspan="1" style="text-align: left;">2012-09</td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Page Properties Report macro

Presents a tabulated summary of selected metadata, which has been embedded on pages using the Page Properties macro. Previously known as the Details Summary macro.

**Macro name:** `detailssummary`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `label` | No | (None) | Identifies the metadata to be included in the Page Properties Report. The report will show data from the Page Properties macros on the pages in the current space that have this label on the page. |

**Example:**

```
<ac:structured-macro ac:name="detailssummary">
  <ac:parameter ac:name="label">status</ac:parameter>
</ac:structured-macro>
```

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### Page Tree macro

Displays a dynamic, hierarchical list of pages starting from a specified parent (root) page.

**Macro name:** `pagetree`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `excerpt` | No | `false` | Determines whether the page tree will show excerpts from each page. The excerpts must be defined on the individual pages by the Excerpt macro.<br>Available values:<br>• `true` – Show excerpts.<br>• `false` – Do not show excerpts. |
| `expandCollapseAll` | No | `false` | Determines whether the macro will offer the 'expand all' and 'collapse all' options at the top of the page tree. Your readers can click these links to open or close all branches of the tree at once.<br>Available values:<br>• `true` – Show the 'expand all' and 'collapse all' options.<br>• `false` – Do not show the options. |
| `reverse` | No | `false` | Used in combination with the `sort` parameter. Determines the order of pages displayed in the tree, by reversing the default (ascending) order.<br>Available values:<br>• `true` – Pages will be displayed in descending order by title.<br>• `false` – Pages will be displayed in ascending order by title. |

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| | | | |
|---|---|---|---|
| `root` | No | The home page of the space | Specifies the parent page for the page tree. The tree will include all children of the given page, plus their children and grand-children, and so on. The tree will *not* in clude the root page itself.<br><br>Available values:<br>• A page title – 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.<br>• `@home` – will include all pages under the home page of the space (default).<br>• `@self` – will include all pages under the current page.<br>• `@parent` – will include all pages under the parent of the current page, including the current page.<br>• `@none` – will include all pages in the space, including orphaned pages and the home page. |
| `searchBox` | No | `false` | Determines whether the macro will offer 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.<br><br>Available values:<br>• `true` – Include the search box.<br>• `false` – Do not include the search box. |

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| | | | |
|---|---|---|---|
| `sort` | No | `position` | Determines the order in which pages are displayed in the tree. This sort order is for display purposes only. It does not permanently re-arrange the page order.<br><br>Available values:<br><br>• `bitwise` – sort alphabetically, for example: title1, title10, title2.<br>• `creation` – sort by date of creation.<br>• `modified` – sort by order of date last modified.<br>• `natural` – sort in 'natural' alphabetical order, for example: title1, title2, title10.<br>• `position` – sort by 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. |
| `startDepth` | No | `1` | Indicates how many levels of children the tree should show when it opens for the first time.<br><br>Available values: Any number greater than 0. |

**Example:**

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```
<ac:structured-macro ac:name="pagetree">
  <ac:parameter ac:name="reverse">false</ac:parameter>
  <ac:parameter ac:name="sort">natural</ac:parameter>
  <ac:parameter ac:name="root">
    <ac:link>
      <ri:page ri:content-title="Page Name"/>
    </ac:link>
  </ac:parameter>
  <ac:parameter ac:name="startDepth">3</ac:parameter>
  <ac:parameter ac:name="excerpt">true</ac:parameter>
  <ac:parameter ac:name="searchBox">true</ac:parameter>
  <ac:parameter ac:name="expandCollapseAll">true</ac:parameter>
</ac:structured-macro>
```

#### Page Tree Search macro

Adds a search box to your Confluence page and searches a hierarchy of pages starting from a specified parent (root) page.

**Macro name:** `pagetreesearch`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `root` | No | The home page of the space | Specifies the parent page for the page tree. The tree will include all children of the given page, plus their children and grand-children, and so on. The tree will *not* in clude the root page itself.<br><br>**Note:** Unlike the Page Tree macro, the Page Tree Search macro does **not** accept the special values that start with an @ sign, such as @home or @self. |

**Example:**

```
<ac:structured-macro ac:name="pagetreesearch">
  <ac:parameter ac:name="root">My page name</ac:parameter>
</ac:structured-macro>
```

#### Panel macro

Displays a block of text within a customisable panel.

**Macro name:** `panel`

**Macro body:** Accepts rich text.

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| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | The words that will appear in the header of the panel. |
| `borderStyle` | No | `solid` | The style of the panel's border.<br>Accepted values:<br>• `solid`<br>• `dashed`<br>• Other valid CSS border styles. |
| `borderColor` | No | | The colour of the panel's border. Colours can be specified as HTML colour names or hexadecimal codes. |
| `borderWidth` | No | | The width of the panel's border, in pixels. |
| `bgColor` | No | | The background colour of the panel. Colours can be specified as HTML colour names or hexidecimal codes. |
| `titleBGColor` | No | | The background colour of the title row of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |
| `titleColor` | No | | The colour of the text in the title row of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |

**Example:**

```
<ac:structured-macro ac:name="panel">
  <ac:parameter ac:name="bgColor">#72bc72</ac:parameter>
  <ac:parameter ac:name="titleBGColor">#00a400</ac:parameter>
  <ac:parameter ac:name="title">My title</ac:parameter>
  <ac:parameter ac:name="borderStyle">dashed</ac:parameter>
  <ac:parameter ac:name="borderColor">blue</ac:parameter>
  <ac:parameter ac:name="titleColor">white</ac:parameter>
  <ac:rich-text-body>
    <p>A formatted panel</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### PDF macro

Displays the content of a PDF document on a wiki page.

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**Macro name:** viewpdf

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `name` | Yes | (None.) | The file name of the PDF document to be displayed. The document must be attached to a page on your Confluence site. |
| `page` | No | The page containing the macro | The name of a Confluence page to which the PDF document is attached. |

**Example:**

```
<ac:structured-macro ac:name="viewpdf">
    <ac:parameter ac:name="name">
      <ri:attachment ri:filename="My_document.pdf"/>
    </ac:parameter>
  </ac:structured-macro>
```

#### Popular Labels macro

Displays the most popular labels used throughout your Confluence site or within a space.

**Macro name:** `popular-labels`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `style` | No | `list` | Determines how the macro displays the labels.<br>Accepted values:<br>• `list` – displays the labels as a bullet list, ordered by popularity (highest first).<br>• `heatmap` – displays the labels using different font sizes for each label depending on the label's popularity, ordered alphabetically by label name. |
| `count` | No | `100` | The number of labels to display. |

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| | | | |
|---|---|---|---|
| spaceKey | No | No restriction – include labels from all spaces in the site | If a space key is given, the macro will include only labels in that space. |

**Example:**

```
<ac:structured-macro ac:name="popular-labels">
    <ac:parameter ac:name="count">20</ac:parameter>
    <ac:parameter ac:name="spaceKey">
      <ri:space ri:space-key="ds"/>
    </ac:parameter>
  </ac:structured-macro>
```

#### Profile Picture macro

Displays a user's profile picture on a page.

**Macro name:** `profile-picture`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| User | Yes | (None) | The username of a Confluence user. |

**Example:**

```
<ac:structured-macro ac:name="profile-picture">
  <ac:parameter ac:name="User">
    <ri:user ri:userkey="12345678912345678912345"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Recently Updated Dashboard macro

Displays a list of the most recently changed content within Confluence and is intended for use on the Confluence dashboard.

**Macro name:** `recently-updated-dashboard`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `spaces` | No | The space that contains the page on which the macro is added. | Filters content by space. The macro will display only the pages and other content which belong to the space(s) you specify here.<br><br>Accepted values:<br><br>• One or more space keys, separated by commas.<br>• An asterisk (*****) means all spaces. |
| `users` | No | All users. | Filters by username of the user who updated the content. The macro will only display content created and updated by the user(s) you specify here.<br><br>You can specify one or more usernames separated by commas. |
| `width` | No | 100% | The width of the macro display, specified as a percentage of the window width. |
| `showProfilePic` | No | `false` | Determines whether the macro displays profile pictures of the users who updated the content.<br><br>Accepted values:<br><br>• `true` – the macro will show profile pictures.<br>• false – the macro will not show profile pictures. |

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| | | | |
|---|---|---|---|
| `labels` | No | None. Labels are not used to filter the content. | Filters content by label. The macro will display only the pages and other content which are tagged with the label(s) you specify here. You can specify one or more labels, separated by commas.<br><br>*Note:* If there are **no** pag es 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 ". |
| `types` | No | All content types. | Filters content by type. You can specify one or more types, separated by commas.<br><br>Accepted values:<br><br>• `page`<br>• `blogpost` or `news`<br>• `spacedesc`<br>• `attachment`<br>• `comment`<br>• `mail`<br>• `userinfo` |

**Example:**

```
<ac:structured-macro ac:name="recently-updated-dashboard">
  <ac:parameter ac:name="spaces">
    <ri:space ri:space-key="ss"/>
  </ac:parameter>
  <ac:parameter ac:name="users">
    <ri:user ri:userkey="12345678912345678912345"/>
  </ac:parameter>
  <ac:parameter ac:name="width">50%</ac:parameter>
  <ac:parameter ac:name="labels">choc</ac:parameter>
  <ac:parameter ac:name="types">page</ac:parameter>
</ac:structured-macro>
```

#### Recently Updated macro

Displays a list of recently changed content (pages, news items, comments, etc).

**Macro name:** `recently-updated`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `spaces` | No | The space that contains the page on which the macro is added. | Filters content by space. The macro will display only the pages and other content which belong to the space(s) you specify here.<br>You can specify one or more space keys, separated by a comma or a space.<br>• 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.<br>• 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.)<br>Special values: |

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| | | | |
|---|---|---|---|
| | | | • `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |
| `author` | No | All users. | Filters by the username of the user who updated the content. The macro will only display content created and updated by the user(s) you specify here.<br>You can specify one or more authors, separated by a comma or a space.For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |
| `max` | No | `15` | The maximum number of results to be displayed.<br><br>The theoretical maximum value that this parameter can accept is 2 to the power of 31, minus 1 (or 2147483647). But this maximum is limited to 200 in the code, for performance reasons. More details are in this issue: CONF-19096 |

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| | | | |
|---|---|---|---|
| `hideHeading` | No | `false` | Determines whether the macro hides or displays the text 'Recently Updated' as a title above the list of content.<br><br>Accepted values:<br><br>• `true` – Title is hidden.<br>• `false` – Title is shown. |
| `width` | No | `100%` | The width of the macro display, specified as a percentage of the window width. |
| `theme` | No | `concise` | Choose the appearance of the macro.<br><br>Accepted values:<br><br>• `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.<br>• `social` – Shows recent modifications in reverse chronological order, grouped by user in 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 the time when these modifications occurred.<br>• `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. |

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| | | | |
|---|---|---|---|
| `showProfilePic` | No | `false` | Determines whether the macro displays profile pictures of the users who updated the content.<br>Accepted values:<br>• `true` – the macro will show profile pictures.<br>• false – the macro will not show profile pictures. |

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| | | | |
|---|---|---|---|
| `labels` | No | None. Labels are not used to filter the content. | Filters content by label. The macro will display only the pages and other content which are tagged with the label(s) you specify here. You can specify one or more labels, separated by commas.<br><br>*Note:* If there are **no** pag es 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 ".<br><br>Filter the results by label. The macro will display only the pages etc which are tagged with the label(s) you specify here.<br><br>You can specify one or more label values, separated by a comma or a space.<br><br>• 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'.<br>• 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'. |

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| | | | |
|---|---|---|---|
| `types` | No | All content types. | Filters content by type. You can specify one or more types, separated by commas.<br>You can specify one or more types, separated by a comma or a space.<br><br>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.<br><br>Available values:<br><br>• `page` — Pages.<br>• `blogpost` or `news` — Blog posts, also known as news items.<br>• `comment` — Comments on pages and blog posts.<br>• `attachment` — Attachments.<br>• `status` — Status updates made by other users. |

**Example:**

```
<ac:structured-macro ac:name="recently-updated">
  <ac:parameter ac:name="spaces">
    <ri:space ri:space-key="ss"/>
  </ac:parameter>
  <ac:parameter ac:name="author">
    <ri:user ri:userkey="12345678912345678912345"/>
  </ac:parameter>
  <ac:parameter ac:name="users"/>
  <ac:parameter ac:name="max">10</ac:parameter>
  <ac:parameter ac:name="width">50%</ac:parameter>
  <ac:parameter ac:name="theme">sidebar</ac:parameter>
  <ac:parameter ac:name="labels">choc</ac:parameter>
  <ac:parameter ac:name="types">page</ac:parameter>
</ac:structured-macro>
```

#### Recently Used Labels macro

Lists labels most recently used in a specified scope (global, space, or personal)

**Macro name:** `recently-used-labels`

**Macro body:** None.

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| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | None. | Adds a title to the top of the list in table style. Titles are only visible when the `style` parameter is set to `table`. |
| `scope` | No | `global` | The scope of labels to be displayed in the list.<br>Accepted values:<br>• `global` – All spaces (non-personal) in the Confluence installation.<br>• `space` – The current space.<br>• `personal` – Your own personal space. |
| `style` | No | `list` | The style of the list of labels:<br>• `list` – Displays the list of labels horizontally.<br>• `table` – Includes additional information such as the page to which the label was added and the user who added it. |
| `count` | No | `10` | The maximum number of labels to display in the list. |

**Example:**

```
<ac:structured-macro ac:name="recently-used-labels">
    <ac:parameter ac:name="title">My title</ac:parameter>
    <ac:parameter ac:name="scope">space</ac:parameter>
    <ac:parameter ac:name="style">table</ac:parameter>
    <ac:parameter ac:name="count">20</ac:parameter>
  </ac:structured-macro>
```

#### Related Labels macro

Lists labels frequently appearing on the same pages as the current page's labels.

**Macro name:** related-labels

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `labels` | No | None | The label(s) for which you want to view related labels. If you include more than one label, separate them with commas. |

**Example:**

```
<ac:structured-macro ac:name="related-labels">
    <ac:parameter ac:name="labels">choc,cake</ac:parameter>
  </ac:structured-macro>
```

#### RSS Feed macro

Displays the contents of an RSS feed.

**Macro name:** rss

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `max` | No | `15` | The maximum number of news items to display. |
| `showTitlesOnly` | No | `false` | Determines whether the macro will show only the titles of the news items, or the titles plus content.<br>Accepted values:<br>• `true` – Displays titles only.<br>• `false` – Displays titles and content. |
| `url` | Yes | (None) | The URL of the RSS feed. |
| `titleBar` | No | `true` | Determines whether the macro will show a title above the list of news items.<br>Accepted values:<br>• `true` – Displays the title.<br>• `false` – Does not display a title. |

**Example:**

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```
<ac:structured-macro ac:name="rss">
    <ac:parameter ac:name="max">10</ac:parameter>
    <ac:parameter ac:name="showTitlesOnly">true</ac:parameter>
    <ac:parameter ac:name="url">
      <ri:url ri:value="http://myblog.com/feed"/>
    </ac:parameter>
    <ac:parameter ac:name="titleBar">false</ac:parameter>
  </ac:structured-macro>
```

#### Search Results macro

Searches Confluence, and includes the results in the page.

**Macro name:** `search`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `lastModified` | No | (None.) | Defines a period of time in weeks, days, hours and/or minutes. The macro will display the content modified within that time frame.<br><br>These are the values you can use:<br>• `w` = weeks<br>• `d` = days<br>• `h` = hours<br>• `m` = minutes<br><br>For example:<br>• `2h 35m`<br>• `3d 30m`<br><br>Notes:<br>• If no time category is specified, Confluence assumes minutes.<br>• If you specify more than one time period (for example, weeks and days), you must separate the periods with a space. You can put them in any order.<br>• The time categories are not case sensitive. For example, '`4d`' is the same as '`4D`'. |

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| | | | |
|---|---|---|---|
| `query` | Yes | (None.) | The search terms which this macro will use to generate its results.<br><br>You can refine your search query by using operators such as 'AND' and 'OR'. For example: `my_term1 AND my_term2`<br><br>For more information, take a look at the documentation on the Confluence search syntax. |
| `contributor` | No | (None.) | The username of a Confluence user. If this parameter is present, the macro will show only content created or updated by the given user. |
| `maxLimit` | No | `10` | The maximum number of search results to display. |
| `type` | No | (None.) | The type of content to include in the search results.<br><br>Accepted values:<br><br>• `page`<br>• `comment`<br>• `blogpost`<br>• `attachment`<br>• `userinfo` – the content of user profiles<br>• `spacedesc` – the content of space descriptions |

**Example:**

```
<ac:structured-macro ac:name="search">
  <ac:parameter ac:name="lastModified">3w</ac:parameter>
  <ac:parameter ac:name="query">choc</ac:parameter>
  <ac:parameter ac:name="contributor">
    <ri:user ri:userkey="12356789123456789123456789123456"/>
  </ac:parameter>
  <ac:parameter ac:name="maxLimit">10</ac:parameter>
  <ac:parameter ac:name="type">page</ac:parameter>
  <ac:parameter ac:name="spacekey">
    <ri:space ri:space-key="ss"/>
  </ac:parameter>
</ac:structured-macro>
```

### Section macro

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Used with the Column macro to define columns on a page. See Working with page layouts and columns and sections.

**Macro name:** `section`

**Macro body:** Rich text, consisting of one or more Column macros.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `border` | No | False | If the value is `true`, the columns in this section will have a dashed border. |

**Example:**

```
<ac:structured-macro ac:name="section">
  <ac:parameter ac:name="border">true</ac:parameter>
  <ac:rich-text-body>
    <ac:structured-macro ac:name="column">
      <ac:parameter ac:name="width">100px</ac:parameter>
      <ac:rich-text-body>
        <p>This is the content of <strong>column 1</strong>.</p>
      </ac:rich-text-body>
    </ac:structured-macro>
    <ac:structured-macro ac:name="column">
      <ac:rich-text-body>
        <p>This is the content of <strong>column 2</strong>.</p>
      </ac:rich-text-body>
    </ac:structured-macro>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Space Attachments macro

Displays a list of attachments belonging to the current space.

**Macro name:** `space-attachments`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `showFilter` | No | `true` | Determines whether or not the filter panel is shown. If you select this option, people viewing the page will be able to filter the list of attachments by file type (extension) and by label.<br>Accepted values:<br>• `true` – Macro displays the filter panel.<br>• `false` – Macro does not display the filter panel. |
| `space` | No | Current space. | Determines the Confluence space containing the attachments that the macro will display. |

**Example:**

```
<ac:structured-macro ac:name="space-attachments">
    <ac:parameter ac:name="showFilter">false</ac:parameter>
    <ac:parameter ac:name="space">
      <ri:space ri:space-key="ds"/>
    </ac:parameter>
  </ac:structured-macro>
```

#### Space Details macro

Displays the details of a Confluence space, including the space name, description, and more.

**Macro name:** `space-details`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | `100%` | The width of the space details table, specified as a percentage of the page width. |

**Example:**

```
<ac:structured-macro ac:name="space-details">
    <ac:parameter ac:name="width">50%</ac:parameter>
  </ac:structured-macro>
```

#### Space Jump macro

Allows you to link from a page in one space to a page with the same name in another space, without knowing

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the name of the page when you create the link.

**Macro name:** `spacejump`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `alias` | No | The name of the current page | The text to display as the hyperlinked text. |
| `space` | Yes | (None.) | The key of the space that contains a page with the same name as the current page. Space keys are case sensitive. |

**Example:**

```
<ac:structured-macro ac:name="spacejump">
    <ac:parameter ac:name="alias">My Space</ac:parameter>
    <ac:parameter ac:name="space">
      <ri:space ri:space-key="SS"/>
    </ac:parameter>
  </ac:structured-macro>
```

#### Spaces List macro

Displays a list of the spaces visible to the user.

**Macro name:** `spaces`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br>(Unnamed in wiki markup) | No | All spaces | Specify the view from which spaces are listed.<br>Accepted values:<br>• `all` – All spaces in the Confluence site.<br>• `category` – Spaces grouped according to space categories.<br>• `favourite` – Spaces in the reader's list of favourites.<br>• `new` – Spaces created within the last 7 days. |
| `width` | No | `100%` | The width of the list of spaces, specified as a percentage (%) of the window. |

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**Example:**

```
<ac:structured-macro ac:name="spaces">
    <ac:parameter ac:name="width">80%</ac:parameter>
    <ac:parameter ac:name="">favourite</ac:parameter>
  </ac:structured-macro>
```

#### Status macro

Displays a coloured lozenge, useful for reporting project status.

**Macro name:** `status`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `colour` | No | `Grey` | The colour of the lozenge.<br><br>Accepted values: `Grey, Red, Yellow, Green, Blue` |
| `title` | No | The value of the `colour` parameter | The text that will appear inside the lozenge. If you do not specify any text, the title will be the colour of the lozenge, that is 'Grey', 'Red', 'Yellow', 'Green' or 'Blue'. |
| `subtle` | No | `false` | The style of the lozenge and its border.<br><br>Accepted values:<br><br>• `false` – The lozenge will have the default style: a solid coloured background with white text.<br>• `true` – The lozenge will have the outline, or subtle, style: a white background with a coloured border and coloured text. |

**Example:**

```
<ac:structured-macro ac:name="status">
    <ac:parameter ac:name="colour">Green</ac:parameter>
    <ac:parameter ac:name="title">On track</ac:parameter>
    <ac:parameter ac:name="subtle">true</ac:parameter>
  </ac:structured-macro>
```

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Table of Contents macro

Displays a table of contents based on the headings on the page.

**Macro name:** `toc`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `printable` | No | `true` | If you set this parameter to `false`, the table of contents will not be visible when you print the page. |
| `style` | No | `none` | The style of bullet point for each list item. You can use any valid CSS style. For example:<br>• `none` – No list style is displayed.<br>• `circle` – The list style is a circle.<br>• `disc` – The list style is a filled circle. This is the typical bullet list, and is the one we are using in this example list.<br>• `square` — The list style is a square.<br>• `decimal` — The list is numbered (1, 2, 3, 4, 5).<br>• `lower-alpha` — The list style is lower case, alphabetised (a, b, c, d, e).<br>• `lower-roman` — The list style is lower-case roman numerals (i, ii, iii, iv, v, vi).<br>• `upper-roman` — The list style is upper-case roman numerals (I, II, III, IV, V, VI). |
| `maxLevel` | No | 7 | Maximum heading level. Use this parameter to select the highest heading level to include. For example, a value of 2 will list h1 and h2 levels, but will not include h3 and below. |

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| | | | |
|---|---|---|---|
| `indent` | No | (None) | This parameter applies to vertical lists only (`type = list`).<br><br>Use this parameter to indent the list items according to CSS quantities. For example, a value of `10px` will successively indent list heading groups by 10 pixels. Level 1 headings will be indented 10px, and level 2 headings by an additional 10px, and so on. |
| `minLevel` | No | `1` | Minimum heading level. The heading level at which the table of contents will start. For example, a value of 2 will list h2, h3, and h4 headings, but will not include h1 headings. |
| `class` | No | (None) | A CSS class name. If you have a custom style sheet, you can use this parameter to output the table of contents with the specified class attribute. |
| `exclude` | No | (None) | Specifies the headings to exclude by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will include only the headings that match the regular expression. Example: `.* \.[1//2]`<br>See Sun's Regex documentation for examples of constructing regular expression strings. |

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| | | | |
|---|---|---|---|
| `type` | No | `list` | Defines the overall format of the table of contents.<br><br>Available values:<br><br>• `list` – displays the table of contents in a vertical list.<br>• `flat` – displays a horizontal series of links. For example: [Heading 1] [Heading 2] [Heading 3]. |
| `outline` | No | `false` | A value of `true` will apply outline numbering to the headings as displayed in the table of contents. For example: 1.1, 1.2, 1.3. |
| `separator` | No | `brackets` | This parameter applies to flat lists only (`type = flat`). Use this parameter to style the display of a flat list.<br><br>Available values:<br><br>• `brackets` – Each item is enclosed by square brackets: [ ].<br>• `braces` – Each item is enclosed by braces: { }.<br>• `parens` – Each item is enclosed by parentheses: ( ).<br>• `pipe` – The items are separated by a pipe: \|<br>• *anything* – The items are separated by the value you enter. You can enter any text as a separator, for example `***`. If using a custom separator, be aware that text displays exactly as entered, with no additional white space to further separate the characters. |

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| | | | |
|---|---|---|---|
| `include` | No | (None) | Specifies the headings to include by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will ignore any headings that do not match the regular expression. Example: `.*\.[1//2]`<br><br>See Sun's Regex documentation for examples of constructing regular expression strings. |

**Example:**

This example shows a list-type table of contents.

```
<ac:structured-macro ac:name="toc">
    <ac:parameter ac:name="printable">true</ac:parameter>
    <ac:parameter ac:name="style">square</ac:parameter>
    <ac:parameter ac:name="maxLevel">2</ac:parameter>
    <ac:parameter ac:name="indent">5px</ac:parameter>
    <ac:parameter ac:name="minLevel">2</ac:parameter>
    <ac:parameter ac:name="class">bigpink</ac:parameter>
    <ac:parameter ac:name="exclude">[1//2]</ac:parameter>
    <ac:parameter ac:name="type">list</ac:parameter>
    <ac:parameter ac:name="outline">true</ac:parameter>
    <ac:parameter ac:name="include">.*</ac:parameter>
  </ac:structured-macro>
```

This example shows a flat table of contents.

```
<ac:structured-macro ac:name="toc">
    <ac:parameter ac:name="maxLevel">2</ac:parameter>
    <ac:parameter ac:name="minLevel">2</ac:parameter>
    <ac:parameter ac:name="class">bigpink</ac:parameter>
    <ac:parameter ac:name="exclude">[1//2]</ac:parameter>
    <ac:parameter ac:name="type">flat</ac:parameter>
    <ac:parameter ac:name="outline">true</ac:parameter>
    <ac:parameter ac:name="separator">pipe</ac:parameter>
    <ac:parameter ac:name="include">.*</ac:parameter>
  </ac:structured-macro>
```

#### Table of Content Zone macro

Displays a table of contents from a defined page 'zone'.

**Macro name:** `toc-zone`

**Macro body:** Accepts rich text.

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| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `location` | Yes | `both` | Determines where the macro will display the table of contents, relative to the zone delineated by the macro.<br><br>Accepted values:<br><br>• `top` – The table of contents appears at the start of the zone.<br>• `bottom` – The table of contents appears at the end of the zone.<br>• `both` – The table of contents appears at the start and end of the zone. |
| `printable` | No | `true` | If you set this parameter to `false`, the table of contents will not be visible when you print the page. |

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| | | | |
|---|---|---|---|
| `style` | No | `none` | The style of bullet point for each list item. You can use any valid CSS style. For example:<br>• `none` – No list style is displayed.<br>• `circle` – The list style is a circle.<br>• `disc` – The list style is a filled circle. This is the typical bullet list, and is the one we are using in this example list.<br>• `square` — The list style is a square.<br>• `decimal` — The list is numbered (1, 2, 3, 4, 5).<br>• `lower-alpha` — The list style is lower case, alphabetised (a, b, c, d, e).<br>• `lower-roman` — The list style is lower-case roman numerals (i, ii, iii, iv, v, vi).<br>• `upper-roman` — The list style is upper-case roman numerals (I, II, III, IV, V, VI). |
| `maxLevel` | No | 7 | Maximum heading level. Use this parameter to select the highest heading level to include. For example, a value of 2 will list h1 and h2 levels, but will not include h3 and below. |
| `indent` | No | (None) | This parameter applies to vertical lists only (`type = list`).<br><br>Use this parameter to indent the list items according to CSS quantities. For example, a value of `10px` will successively indent list heading groups by 10 pixels. Level 1 headings will be indented 10px, and level 2 headings by an additional 10px, and so on. |

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| | | | |
|---|---|---|---|
| `minLevel` | No | `1` | Minimum heading level. The heading level at which the table of contents will start. For example, a value of 2 will list h2, h3, and h4 headings, but will not include h1 headings. |
| `class` | No | (None) | A CSS class name. If you have a custom style sheet, you can use this parameter to output the table of contents with the specified class attribute. |
| `exclude` | No | (None) | Specifies the headings to exclude by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will include only the headings that match the regular expression. Example: `.* \.[1//2]` See Sun's Regex documentation for examples of constructing regular expression strings. |
| `type` | No | `list` | Defines the overall format of the table of contents.<br>Available values:<br>• `list` – displays the table of contents in a vertical list.<br>• `flat` – displays a horizontal series of links. For example: [Heading 1] [Heading 2] [Heading 3]. |
| `outline` | No | `false` | A value of `true` will apply outline numbering to the headings as displayed in the table of contents. For example: 1.1, 1.2, 1.3. |

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| | | | |
|---|---|---|---|
| `separator` | No | `brackets` | This parameter applies to flat lists only (`type = flat`). Use this parameter to style the display of a flat list.<br><br>Available values:<br><br>• `brackets` – Each item is enclosed by square brackets: [ ].<br>• `braces` – Each item is enclosed by braces: { }.<br>• `parens` – Each item is enclosed by parentheses: ( ).<br>• `pipe` – The items are separated by a pipe: \|<br>• *anything* – The items are separated by the value you enter. You can enter any text as a separator, for example `***`. If using a custom separator, be aware that text displays exactly as entered, with no additional white space to further separate the characters. |
| `include` | No | (None) | Specifies the headings to include by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will ignore any headings that do not match the regular expression. Example: `.*\.[1//2]`<br><br>See Sun's Regex documentation for examples of constructing regular expression strings. |

**Example:**

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```
<ac:structured-macro ac:name="toc-zone">
  <ac:parameter ac:name="printable">false</ac:parameter>
  <ac:parameter ac:name="maxLevel">2</ac:parameter>
  <ac:parameter ac:name="minLevel">2</ac:parameter>
  <ac:parameter ac:name="location">top</ac:parameter>
  <ac:parameter ac:name="type">flat</ac:parameter>
  <ac:parameter ac:name="outline">true</ac:parameter>
  <ac:parameter ac:name="separator">pipe</ac:parameter>
  <ac:rich-text-body>
    <p>Only headings within this block are included in the table of contents.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Tasklist macro

Displays a dynamic task list which can be modified in view mode.

**Macro name:** `tasklist`

**Macro body:** Accepts wiki markup, for defining the tasks.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | `Task List` | The title to be displayed above the list of tasks. |
| `enableLocking` | No | `false` | Determines whether the macro allows users to lock individual tasks so that they cannot be changed.<br>Accepted values:<br>• `true` – The task list offers the option to lock tasks.<br>• `false` – There is no option to lock a task. |
| `width` | No | `530px` | The width of the task list, specified in pixels (for example: `200px`) or as a percentage of page width (for example: `20%`). |
| `promptOnDelete` | No | `false` | Determines whether Confluence will ask the user to confirm the deletion of a task.<br>Accepted values:<br>• `true` – Asks for confirmation before deleting a task.<br>• `false` – Deletes the task without asking for confirmation. |

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**Example:**

**Note:** The `CDATA` content inside the macro body defines the tasks in the list. This content is coded in wiki markup, as a table.The first row in the table defines the column headings for the task list. Each subsequent row defines a task.

```
<ac:structured-macro ac:name="tasklist">
  <ac:parameter ac:name="title">My title</ac:parameter>
  <ac:parameter ac:name="enableLocking">true</ac:parameter>
  <ac:parameter ac:name="width">20%</ac:parameter>
  <ac:parameter ac:name="promptOnDelete">true</ac:parameter>

<ac:plain-text-body><![CDATA[||Completed||Priority||Locked||CreatedDate||CompletedD
ate||Assignee||Name||
|F|M|F|1371784117215|          |admin|Book tickets|
|F|M|F|1371784127222|          |admin|Check passport expiry|
]]></ac:plain-text-body>
</ac:structured-macro>
```

#### Tip macro

Displays a block of text in a green box.

**Macro name:** `tip`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `icon` | No | `true` | Determines whether to display the standard Confluence tip icon in the title bar of the tip box. |
| `title` | No | (None) | The title of the tip box. If specified, the title text will be displayed in bold next to the icon. |

**Example:**

```
<ac:structured-macro ac:name="tip">
  <ac:parameter ac:name="icon">false</ac:parameter>
  <ac:parameter ac:name="title">My title</ac:parameter>
  <ac:rich-text-body>
    <p>This is my hint.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### User List macro

Displays a list of Confluence users in a given group.

**Macro name:** `userlister`

**Macro body:** None.

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| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `groups` | Yes | (None.) | One or more groups containing the Confluence users that the macro will list.<br><br>Accepted values:<br><br>• A comma-separated list of group names.<br>• `*` (an asterisk – The macro will list all users registered on the Confluence site. |
| `online` | No | All users | Instructs the macro to differentiate between online and offline users.<br><br>Accepted values:<br><br>• Unspecified – The macro will show all registered users.<br>• `true` – The macro will show only online users.<br>• `false` – The macro will show only offline users.<br><br>**Note:** In order to make this parameter functional, a System Administrator needs to enable the User Log In Listener for your Confluence site. *Not applicable to Confluence OnDemand.* |

**Example:**

```
<ac:structured-macro ac:name="userlister">
    <ac:parameter ac:name="groups">confluence-users</ac:parameter>
    <ac:parameter ac:name="online">false</ac:parameter>
  </ac:structured-macro>
```

#### User Profile macro

Displays a summary of a given Confluence user's profile.

**Macro name:** `profile`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `user` | Yes | (None.) | The username of the Confluence user whose profile summary you wish to show. |

**Example:**

```
<ac:structured-macro ac:name="profile">
  <ac:parameter ac:name="user">
    <ri:user ri:userkey="12345678912345678912345678912345"/>
  </ac:parameter>
</ac:structured-macro>
```

#### User Status List macro

Displays a history of a given Confluence user's status updates.

**Macro name:** `status-list`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `username` | Yes | (None.) | The username of the Confluence user whose status updates you wish to show. |

**Example:**

```
<ac:structured-macro ac:name="status-list">
  <ac:parameter ac:name="username">
    <ri:user ri:userkey="12345678912345678912345678912345"/>
  </ac:parameter>
</ac:structured-macro>
```

#### Warning macro

Displays a block of text in a red highlight box.

**Macro name:** `warning`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `icon` | No | `true` | Determines whether to display a warning icon in the title bar of the text box. |
| `title` | No | (None.) | The title of the warning box. If specified, the title text will be displayed in bold next to the icon. |

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**Example:**

```
<ac:structured-macro ac:name="warning">
  <ac:parameter ac:name="icon">false</ac:parameter>
  <ac:parameter ac:name="title">This is my title</ac:parameter>
  <ac:rich-text-body>
    <p>This is <em>important</em> information.</p>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Widget Connector macro

Displays videos, slide shows, twitter chats, documents and more, sourced from other web sites and displayed on your Confluence page.

**Macro name:** `widget`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `height` | No | | The height of the display, in pixels. Specify the number of pixels only. |
| `width` | No | | The width of the display, in pixels. Specify the number of pixels only. |
| `url` | Yes | (None.) | The URL provided by the external website for embedding content from that website onto another web page. |

**Example:**

```
<ac:structured-macro ac:name="widget">
    <ac:parameter ac:name="height">480</ac:parameter>
    <ac:parameter ac:name="width">640</ac:parameter>
    <ac:parameter ac:name="url">
      <ri:url ri:value="http://youtube.com/watch?v=23pLByj_q5U"/>
    </ac:parameter>
  </ac:structured-macro>
```

#### Macro format notes

##### *Macro bodies*

Some macros accept a body as well as parameters.

- The Info macro and Expand macro are examples of macros that accept a rich text body.
- The Code Block macro is a good example of a macro that accepts a plain text body.

##### *Plain text bodies*

The body of a plain text macro must be inside a `CDATA` block. So the following is not sufficient:

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```
<ac:plain-text-body>text</ac:plain-text-body>
```

The correct usage is:

```
<ac:plain-text-body><![CDATA[text]]></ac:plain-text-body>
```

#### Other notes

- The 'Required' column indicates whether the parameter is required on data entry. If the parameter is not supplied, Confluence will insert default values as indicated in the 'Default' column.
- **A request from the Atlassian technical writers about comments and feedback:** When adding comments to this page, please restrict your comments to constructive feedback on the documentation itself: Things we've missed in the documentation, and things that will be useful to other readers. If you have other feedback about the editor, wiki markup, the XML storage format, and Confluence 4 in general, please add your comments in the section titled Confluence 4 Editor - Customer Feedback, and its child pages. Our reason for this request: When a page attracts a large number of comments, it makes it difficult for everyone to read the page, and to add or respond to comments about the documentation. Thanks.

## Confluence Storage Format Examples for Chart Macro

This page is an extension of Confluence Storage Format for Macros, which contains storage format examples for all Confluence macros. The Chart macro is a special case, because it offers so many options via parameters and chart types. This page offers additional examples for the Chart macro.

### *Pie chart*

Here is a simple example of a pie chart.

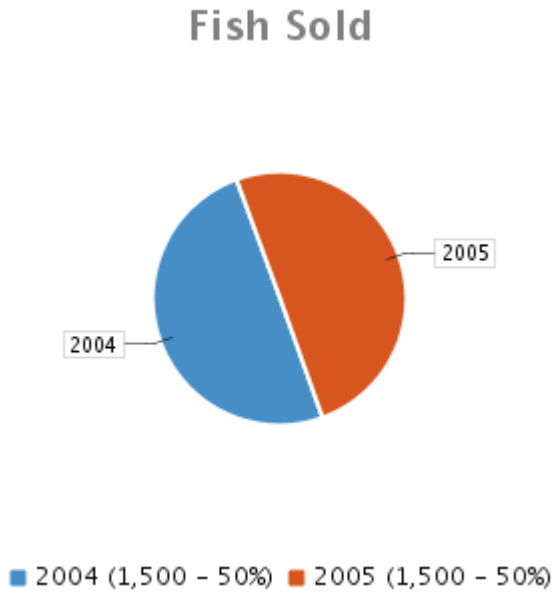
#### Storage format

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```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="title">Fish Sold</ac:parameter>
  <ac:parameter ac:name="type">pie</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Fish Type</p>
          </th>
          <th>
            <p>2004</p>
          </th>
          <th>
            <p>2005</p>
          </th>
        </tr>
        <tr>
          <th>
            <p>Herring</p>
          </th>
          <td>
            <p>9,500</p>
          </td>
          <td>
            <p>8,300</p>
          </td>
        </tr>
        <tr>
          <th>
            <p>Salmon</p>
          </th>
          <td>
            <p>2,900</p>
          </td>
          <td>
            <p>4,200</p>
          </td>
        </tr>
        <tr>
          <th>
            <p>Tuna</p>
          </th>
          <td>
            <p>1,500</p>
          </td>
          <td>
            <p>1,500</p>
          </td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Resulting chart

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***Bar chart***

Here is a simple example of a bar chart.

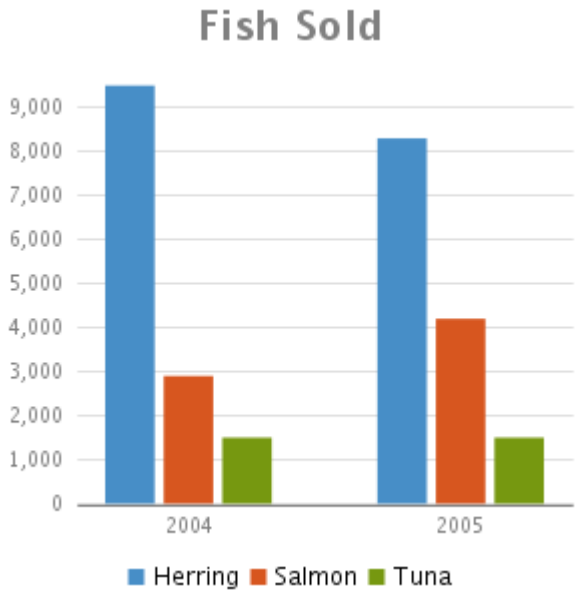
**Storage format**

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```
<ac:macro ac:name="chart">
  <ac:parameter ac:name="title">Fish Sold</ac:parameter>
  <ac:parameter ac:name="type">bar</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Fish Type</p>
          </th>
          <th>
            <p>2004</p>
          </th>
          <th>
            <p>2005</p>
          </th>
        </tr>
        <tr>
          <th>
            <p>Herring</p>
          </th>
          <td>
            <p>9,500</p>
          </td>
          <td>
            <p>8,300</p>
          </td>
        </tr>
        <tr>
          <th>
            <p>Salmon</p>
          </th>
          <td>
            <p>2,900</p>
          </td>
          <td>
            <p>4,200</p>
          </td>
        </tr>
        <tr>
          <th>
            <p>Tuna</p>
          </th>
          <td>
            <p>1,500</p>
          </td>
          <td>
            <p>1,500</p>
          </td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:macro>
```

**Resulting chart**

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***Time series chart***

Here is an example of a time series chart.

**Storage format**

```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="timePeriod">Month</ac:parameter>
  <ac:parameter ac:name="dataOrientation">vertical</ac:parameter>
  <ac:parameter ac:name="rangeAxisLowerBound">0</ac:parameter>
  <ac:parameter ac:name="dateFormat">MM/yyyy</ac:parameter>
  <ac:parameter ac:name="type">timeSeries</ac:parameter>
  <ac:parameter ac:name="domainaxisrotateticklabel">true</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Month</p>
          </th>
          <th>
            <p>Revenue</p>
          </th>
        </tr>
        <tr>
          <td>
            <p>1/2005</p>
          </td>
          <td>
            <p>31.8</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>2/2005</p>
          </td>
          <td>
            <p>41.8</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>3/2005</p>
```

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```
  </td>
  <td>
    <p>51.3</p>
  </td>
</tr>
<tr>
  <td>
    <p>4/2005</p>
  </td>
  <td>
    <p>33.8</p>
  </td>
</tr>
<tr>
  <td>
    <p>5/2005</p>
  </td>
  <td>
    <p>27.6</p>
  </td>
</tr>
<tr>
  <td>
    <p>6/2005</p>
  </td>
  <td>
    <p>49.8</p>
  </td>
</tr>
<tr>
  <td>
    <p>7/2005</p>
  </td>
  <td>
    <p>51.8</p>
  </td>
</tr>
<tr>
  <td>
    <p>8/2005</p>
  </td>
  <td>
    <p>77.3</p>
  </td>
</tr>
<tr>
  <td>
    <p>9/2005</p>
  </td>
  <td>
    <p>73.8</p>
  </td>
</tr>
<tr>
  <td>
    <p>10/2005</p>
  </td>
  <td>
    <p>97.6</p>
  </td>
</tr>
<tr>
  <td>
```

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```
            <p>11/2005</p>
          </td>
          <td>
            <p>101.2</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>12/2005</p>
          </td>
          <td>
            <p>113.7</p>
          </td>
        </tr>
      </tbody>
    </table>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Month</p>
          </th>
          <th>
            <p>Expenses</p>
          </th>
        </tr>
        <tr>
          <td>
            <p>1/2005</p>
          </td>
          <td>
            <p>41.1</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>2/2005</p>
          </td>
          <td>
            <p>43.8</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>3/2005</p>
          </td>
          <td>
            <p>45.3</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>4/2005</p>
          </td>
          <td>
            <p>45.0</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>5/2005</p>
          </td>
          <td>
```

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```
        <p>44.6</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>6/2005</p>
      </td>
      <td>
        <p>43.8</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>7/2005</p>
      </td>
      <td>
        <p>51.8</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>8/2005</p>
      </td>
      <td>
        <p>52.3</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>9/2005</p>
      </td>
      <td>
        <p>53.8</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>10/2005</p>
      </td>
      <td>
        <p>55.6</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>11/2005</p>
      </td>
      <td>
        <p>61.2</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>12/2005</p>
      </td>
      <td>
        <p>63.7</p>
      </td>
    </tr>
  </tbody>
```

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```
      </table>
    </ac:rich-text-body>
  </ac:structured-macro>
```

**Resulting chart**




***XY line chart***

Here is an example of an XY line chart.

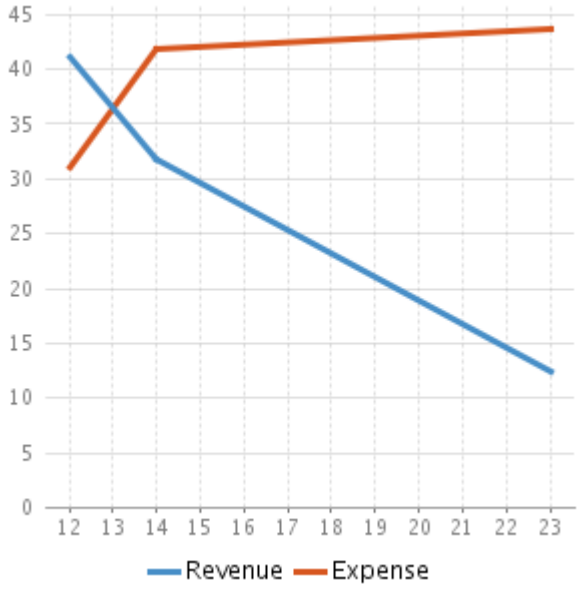
**Storage format**

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```
<ac:macro ac:name="chart">
  <ac:parameter ac:name="type">xyline</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p> </p>
          </th>
          <th>
            <p>12</p>
          </th>
          <th>
            <p>14</p>
          </th>
          <th>
            <p>23</p>
          </th>
        </tr>
        <tr>
          <td>
            <p>Revenue</p>
          </td>
          <td>
            <p>41.1</p>
          </td>
          <td>
            <p>31.8</p>
          </td>
          <td>
            <p>12.4</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>Expense</p>
          </td>
          <td>
            <p>31.1</p>
          </td>
          <td>
            <p>41.8</p>
          </td>
          <td>
            <p>43.6</p>
          </td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:macro>
```

#### Resulting chart

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***XY bar chart***

Here is an example of an XY bar chart.

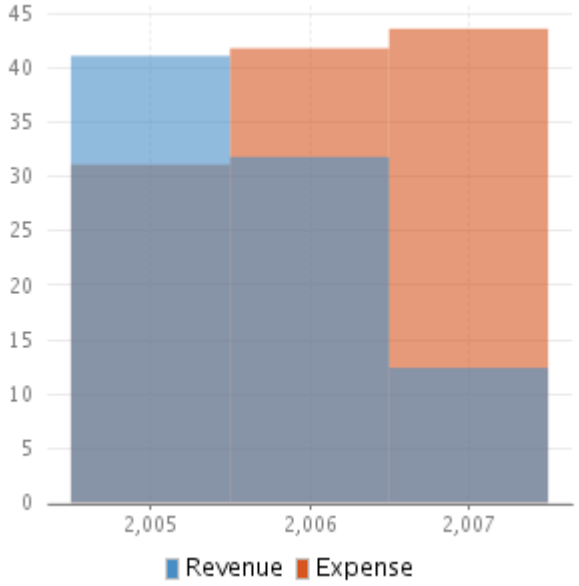
**Storage format**

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```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="opacity">60</ac:parameter>
  <ac:parameter ac:name="type">xybar</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p> </p>
          </th>
          <th>
            <p>2005</p>
          </th>
          <th>
            <p>2006</p>
          </th>
          <th>
            <p>2007</p>
          </th>
        </tr>
        <tr>
          <td>
            <p>Revenue</p>
          </td>
          <td>
            <p>41.1</p>
          </td>
          <td>
            <p>31.8</p>
          </td>
          <td>
            <p>12.4</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>Expense</p>
          </td>
          <td>
            <p>31.1</p>
          </td>
          <td>
            <p>41.8</p>
          </td>
          <td>
            <p>43.6</p>
          </td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:structured-macro>
```

**Resulting chart**

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***XY area chart***

Here is an example of an XY area chart.

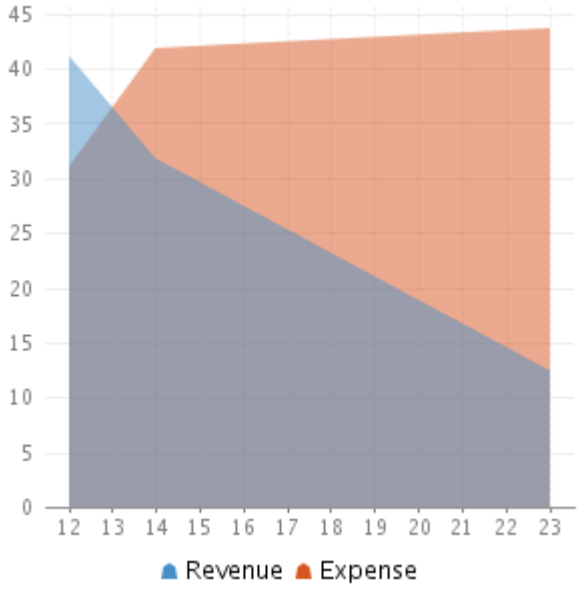
**Storage format**

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```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="type">xyarea</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p> </p>
          </th>
          <th>
            <p>12</p>
          </th>
          <th>
            <p>14</p>
          </th>
          <th>
            <p>23</p>
          </th>
        </tr>
        <tr>
          <td>
            <p>Revenue</p>
          </td>
          <td>
            <p>41.1</p>
          </td>
          <td>
            <p>31.8</p>
          </td>
          <td>
            <p>12.4</p>
          </td>
        </tr>
        <tr>
          <td>
            <p>Expense</p>
          </td>
          <td>
            <p>31.1</p>
          </td>
          <td>
            <p>41.8</p>
          </td>
          <td>
            <p>43.6</p>
          </td>
        </tr>
      </tbody>
    </table>
  </ac:rich-text-body>
</ac:structured-macro>
```

#### Resulting chart

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***Area chart***

Here are two examples of area charts.

**Storage format for area chart 1**

```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="height">300</ac:parameter>
  <ac:parameter ac:name="legend">true</ac:parameter>
  <ac:parameter ac:name="width">300</ac:parameter>
  <ac:parameter ac:name="opacity">50</ac:parameter>
  <ac:parameter ac:name="type">area</ac:parameter>
  <ac:parameter ac:name="dataDisplay">true</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Satisfaction</p>
          </th>
          <th>
            <p>2002</p>
          </th>
          <th>
            <p>2003</p>
          </th>
          <th>
            <p>2004</p>
          </th>
        </tr>
        <tr>
          <td>
            <p>Very satisfied</p>
          </td>
          <td>
            <p>20</p>
          </td>
          <td>
            <p>23</p>
          </td>
          <td>
            <p>34</p>
          </td>
```

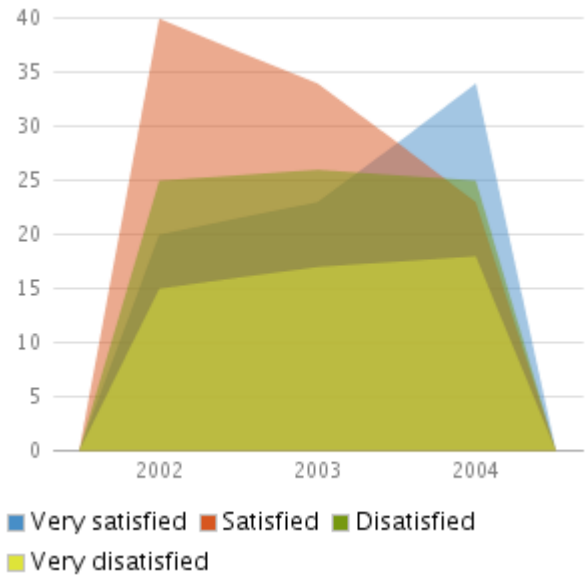
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```
    </tr>
    <tr>
      <td>
        <p>Satisfied</p>
      </td>
      <td>
        <p>40</p>
      </td>
      <td>
        <p>34</p>
      </td>
      <td>
        <p>23</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>Disatisfied</p>
      </td>
      <td>
        <p>25</p>
      </td>
      <td>
        <p>26</p>
      </td>
      <td>
        <p>25</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>Very disatisfied</p>
      </td>
      <td>
        <p>15</p>
      </td>
      <td>
        <p>17</p>
      </td>
      <td>
        <p>18</p>
      </td>
    </tr>
  </tbody>
```

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```
    </table>
  </ac:rich-text-body>
</ac:structured-macro>
```

**Resulting area chart 1**




| Satisfaction | 2002 | 2003 | 2004 |
|---|---|---|---|
| Very satisfied | 20 | 23 | 34 |
| Satisfied | 40 | 34 | 23 |
| Disatisfied | 25 | 26 | 25 |
| Very disatisfied | 15 | 17 | 18 |

**Storage format for area chart 2**

```
<ac:structured-macro ac:name="chart">
  <ac:parameter ac:name="stacked">true</ac:parameter>
  <ac:parameter ac:name="height">300</ac:parameter>
  <ac:parameter ac:name="legend">true</ac:parameter>
  <ac:parameter ac:name="width">300</ac:parameter>
  <ac:parameter ac:name="type">area</ac:parameter>
  <ac:parameter ac:name="dataDisplay">true</ac:parameter>
  <ac:rich-text-body>
    <table>
      <tbody>
        <tr>
          <th>
            <p>Satisfaction</p>
          </th>
          <th>
            <p>2002</p>
          </th>
          <th>
            <p>2003</p>
          </th>
          <th>
            <p>2004</p>
          </th>
```

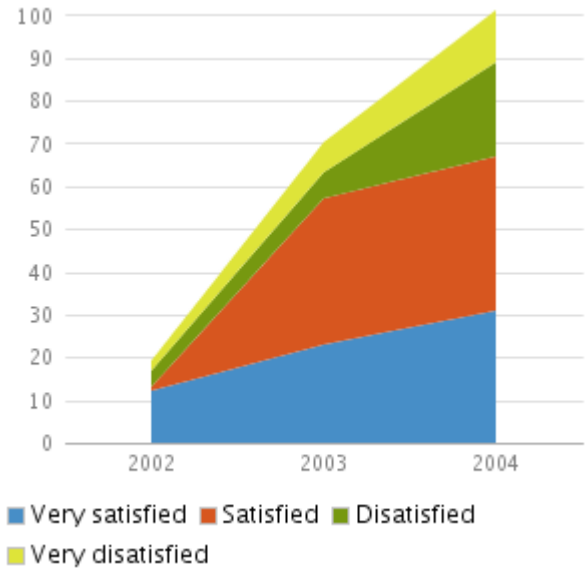
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```
    </tr>
    <tr>
      <td>
        <p>Very satisfied</p>
      </td>
      <td>
        <p>12</p>
      </td>
      <td>
        <p>23</p>
      </td>
      <td>
        <p>31</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>Satisfied</p>
      </td>
      <td>
        <p>1</p>
      </td>
      <td>
        <p>34</p>
      </td>
      <td>
        <p>36</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>Disatisfied</p>
      </td>
      <td>
        <p>4</p>
      </td>
      <td>
        <p>6</p>
      </td>
      <td>
        <p>22</p>
      </td>
    </tr>
    <tr>
      <td>
        <p>Very disatisfied</p>
      </td>
      <td>
        <p>2</p>
      </td>
      <td>
        <p>7</p>
      </td>
      <td>
        <p>12</p>
      </td>
    </tr>
  </tbody>
```

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```
      </table>
    </ac:rich-text-body>
  </ac:structured-macro>
```

**Resulting area chart 2**




| Satisfaction | 2002 | 2003 | 2004 |
|---|---|---|---|
| Very satisfied | 12 | 23 | 31 |
| Satisfied | 1 | 34 | 36 |
| Disatisfied | 4 | 6 | 22 |
| Very disatisfied | 2 | 7 | 12 |

## Confluence Wiki Markup

This page describes the wiki markup used on some administration screens in Confluence. Another page describes the wiki markup for macros.

Wiki markup is useful when you want to do one of the following:

- Configure the Documentation theme.
- Type wiki markup directly into the editor. Confluence will convert it to the rich text editor format as you type.
- Create links using the **Advanced** tab of the Links Browser.
- Insert a block of wiki markup into the Confluence editor. (Choose **Insert** > **Wiki Markup**.)

**Note: You cannot edit content in wiki markup.** Confluence does not store page content in wiki markup. Although you can enter wiki markup into the editor, Confluence will convert it to the rich text editor format immediately. You will not be able to edit the wiki markup after initial entry.

**A request from the Atlassian technical writers about comments and feedback:** When adding comments to this page, please restrict your comments to constructive feedback on the documentation itself: Things we've missed in the documentation, and things that will be useful to other readers. If you have other feedback about the editor, wiki markup, the XML storage format, and Confluence 4 in general, please add your comments in the section titled Confluence 4 Editor - Customer Feedback, and its child pages. Our reason for this request: When a page attracts a large number of comments, it makes it difficult for everyone to read the page, and to add or respond to comments about the documentation. Thanks.

#### Can I type wiki markup into the editor?

Yes. You can type wiki markup directly into the editor, and Confluence will convert it as you type. (You cannot edit the wiki markup after conversion.) **See it in action in this video**:

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Read this blog post for more examples: 12 Things You Didn't Know About the Confluence Editor.

**On this page:**


- Can I type wiki markup into the editor?
- Headings
- Lists
- Tables
- Text Effects
- Text Breaks
- Links
- Images
- Page Layouts
- Useful Information


**Related pages:**

- Confluence Wiki Markup for Macros
- Confluence User's Guide

### Headings

To format a line as a heading, type "hn." at the start of your line, where n can be a number from 1 to 6.

| What you need to type | What you will get |
|---|---|
| `h1. Biggest heading` | **Biggest heading** |
| `h3. Big heading` | ***Big heading*** |
| `h5. Small heading` | ***Small heading*** |

### Lists

Wiki markup allows you to create bulleted or numbered lists, and is flexible enough to allow a combination of the two list types.

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.

| What you need to type | What you will get |
|---|---|
| `- some`<br>`- bullet`<br>`- points` | • some<br>• bullet<br>• points |

#### 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.

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| What you need to type | What you will get |
|---|---|
| `* some`<br>`* bullet`<br>`** indented`<br>`** bullets`<br>`* points` | • some<br>• bullet<br>  • indented<br>  • bullets<br>• points |

#### Numbered lists

Use the hash (#) to create numbered lists.
Make sure there is a space between the hash and your text.

| What you need to type | What you will get |
|---|---|
| `# a`<br>`# numbered`<br>`# list` | 1. a<br>2. numbered<br>3. list |

A second level of hashes will produce a sub-list, such as the **alphabetical** sub-list shown below.

| What you need to type | What you will get |
|---|---|
| `# Here's a sentence.`<br>`## This is a sub-list point.`<br>`## And a second sub-list point.`<br>`# Here's another sentence.` | 1. Here's a sentence.<br>  a. This is a sub-list point.<br>  b. And a second sub-list point.<br>2. Here's another sentence. |

You can use a third level of hashes to produce a sub-sub-list.

| What you need to type | What you will get |
|---|---|
| `# Here's a sentence.`<br>`## This is a sub-list point.`<br>`### Third list level.`<br>`### Another point at the third level.`<br>`## And a second sub-list point.`<br>`# Here's another sentence.` | 1. Here's a sentence.<br>  a. This is a sub-list point.<br>  i. Third list level.<br>  ii. Another point at the third level.<br>  b. And a second sub-list point.<br>2. Here's another sentence. |

**Note:** 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

| What you need to type | What you will get |
|---|---|

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```
# Here
#* is
#* an
# example
#* of
#* a
# mixed
# list
```

1. Here
   - is
   - an
2. example
   - of
   - a
3. mixed
4. list

#### Tables

You can 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:**

```
||heading 1||heading 2||heading 3||
|cell A1|cell A2|cell A3|
|cell B1|cell B2|cell B3|
```

**What you will get:**

| heading 1 | heading 2 | heading 3 |
|---|---|---|
| cell A1 | cell A2 | cell A3 |
| cell B1 | cell B2 | cell B3 |

You can also use a vertical header.

**What you need to type:**

```
||heading 1|col A1|col A2|col A3|
||heading 2|col B1|col B2|col B3|
```

**What you will get:**

| heading 1 | col A1 | col A2 | col A3 |
|---|---|---|---|
| heading 2 | col B1 | col B2 | col B3 |

##### Table Type 2

This method allows you to specify the width of the columns in the table.

**What you need to type**

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```
{section:border=true}
{column:width=30%}
Text for this column goes here. This is  the smaller column with a width of only
30%.
{column}
{column:width=70%}
Text for this column goes here. This is  the larger column with a width of 70%.
{column}
{section}
```

**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**

```
||Heading 1||Heading 2||
|* Item 1
* Item 2
* Item 3|# Item 1
# Item 2
# Item 3|
```

**What you will get**

| Heading 1 | Heading 2 |
| --- | --- |
| • Item 1<br>• Item 2<br>• Item 3 | 1. Item 1<br>2. Item 2<br>3. Item 3 |

#### Text Effects

Use the markup shown in the examples below to format text.

| What you need to type | What you will get |
| --- | --- |
| *strong* | **strong** |
| *bold text* | **bold text** |
| _emphasis_ | *emphasis* |

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| | |
|---|---|
| _italics_ | *italics*<br>*Hint:* To italicise parts of a word, add braces (curly brackets) around the underscore. For example,<br>`Thing{_}x_`<br>gives you this: Thing*x* |
| ??citation?? | —*citation* |
| -deleted- | ~~deleted~~ |
| +inserted+ | inserted |
| Text with^superscript^ | Text with$^{superscript}$<br>Hint: There are two ways to make superscripts work, when used directly after another word or character:<br>• Add a space before the superscript. For example, `kg/m ^3^` gives you this: kg/m $^3$<br>• Add braces (curly brackets) around the superscript markup. For example,<br>`kg/m{^3^}`<br>gives you this: kg/m$^3$ |
| Text with~subscript~ | Text with$_{subscript}$ |
| `{{monospaced}}` | `monospaced` |
| `bq. Here's how you make a paragraph appear as a block quotation.` | > *Here's how you make a paragraph appear as a block quotation.* |
| {color:red}look ma, red text!{color} | look ma, red text! |

### Text Breaks

#### Paragraph Break

In wiki markup, a paragraph is a continuous line of text ending in two carriage returns. 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  tags.

#### Line Break

Confluence provides two options for forcing a line break within a paragraph of text:

- Implicitly, by entering a single carriage return at its end.
- Explicitly, by entering two consecutive backslashes: \\

When rendered into HTML, the result is a paragraph of text that is 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 is enough.

The examples below show how to use explicit line breaks.

| What you need to type | What you will get |
|---|---|

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| | |
|---|---|
| here is some text<br>\\<br>divided \\<br>using line \\  \\<br>breaks\\ | here is some text<br>divided<br>using line<br><br>breaks |
| This is a short list:<br>* Point 1<br>Text to go with point 1<br>* Point 2<br>\\  \\<br>Text to go with point 2 with a break | This is a short list:<br>• Point 1<br>Text to go with point 1<br>• Point 2<br><br>Text to go with point 2 with a break |

If you wish to use multiple consecutive line breaks, each should be separated by a space character. For example, use this for two consecutive line breaks:
\\ \\

#### Horizontal Rule

To create a horizontal line across the width of your page or content block, type four dashes (like this: ----) at the beginning of a line, then press Enter or space.

Make sure that the dashes are on a separate line from the rest of the text.

| What you need to type | What you will get |
|---|---|
| here is some text<br>----<br>divided by a horizontal rule | here is some text<br>divided by a horizontal rule |

#### Links

You can use wiki markup to add hyperlinks to your text.

| What you need to type | What you will get |
|---|---|
| [#anchor] | A link to an anchor on the same page. |
| [Confluence Wiki Markup^attachment.ext] | A link to a file attached to the page. |
| [pagetitle] | A link to a page. |
| [pagetitle#anchor] | A link to an anchor on another page. |
| [pagetitle^attachment.ext] | A link to a file attached to another page. |
| [spacekey:pagetitle] | A link to a page in another space. |
| [spacekey:pagetitle#anchor] | A link to an anchor on a page in another space. |
| [spacekey:pagetitle^attachment.ext] | A link to a file attached to a page in another space. |
| [/2004/01/12/blogposttitle] | A link to a blog post. |
| [spacekey:/2004/01/12/blogposttitle] | A link to a blog post in another space. |
| [/2004/01/12] | A link to a whole day's blog posts. |
| [spacekey:/2004/01/12] | A link to a whole day's blog posts in another space. |

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| | |
|---|---|
| [spacekey:] | A link to the space homepage (or the space summary page of the space. |
| [~username] | A link to the user profile page of a particular user. |
| [phrase@shortcut] | A shortcut link to the specified shortcut site. Shortcuts are configured by the site administrator. |
| [http://confluence.atlassian.com] | A link to an external resource. |
| [mailto:legendaryservice@atlassian.com] | A link to an email address. |
| [file://z:/file/on/network/share.txt] | A link to a file on your computer or on a network share that you have mapped to a drive. *This only works on Internet Explorer*. |

Note that Confluence treats headings as anchors, so you can link to headings using this pattern: [spacekey:pagename#headingname], where headingname is case-sensitive and must be entered without spaces.

For each of these link forms:

- You can prepend a link alias, so that alternate text is displayed on the page. Example: [link alias|pagetitle#anchor]
- You can append a link tip, which appears as a tooltip. Example: [pagetitle#anchor|link tip]

#### Images

You can display images from attached files or remote sources.

| What you need to type | What you will get |
|---|---|
| !http://www.host.com/image.gif! | An image from a remote source is displayed on the page. Uses a fully qualified URL. |
| !attached-image.gif! | An image file attached to the page is displayed. |
| !pageTitle^image.gif! | An image file attached to a different page is displayed. |
| !spaceKey:pageTitle^image.gif! | An image file attached to a page in a different space is displayed. |
| !/2010/05/23/My Blog Post^image.gif! | An image file attached to a blog post is displayed. |
| !image.jpg\|thumbnail! | The image is displayed as a thumbnail on the page (only works with images that are attached to the page). Users can click on the thumbnail to see the full-sized image. Thumbnails must be enabled by the site administrator for this to work. |
| !image.gif\|align=right, vspace=4! | For any image, you can specify attributes of the HTML image tag as a comma separated list of name=value pairs. |

Available HTML image tags include:

| Image tag | Details |
|---|---|
| align | Available values are 'left', 'right', 'bottom', 'center', 'top'. |
| border | Specifies the width of the border (in pixels). |

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| | |
|---|---|
| bordercolor | Use with the 'border' tag. Specify colours by name or hex value. |
| hspace | Specifies the amount of whitespace to be inserted to the left and right of the image (in pixels). |
| vspace | Specifies the amount of whitespace to be inserted above and below the image (in pixels). |
| width | Specifies the width of the image (in pixels). This will override the natural width of the image. |
| height | Specifies the height of the image (in pixels). This will override the natural height of the image. |
| title | Specifies alternate text for the image, which is displayed when the pointer hovers over the image. |
| alt | Specifies alternate text for the image. This text is retrievable via search, and contributes to accessibility of the page for text-only viewing. |

#### Page Layouts

There is no wiki markup representation for page layouts.

#### Useful Information

- A **space key** is a short, unique identifier for a space. For example, you might give your documentation space a key of "DOC". To find the key of an existing space, look at the Confluence URL for a page in the space. The standard Confluence URL has this format:

```
http://my.confluence.site.com/display/SPACEKEY/Page+Name
```

- If you would like to edit the XML source of a page, your Confluence system administrator will need to install the Confluence Source Editor plugin. See more about the Confluence Storage Format.

- *Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

## Confluence Wiki Markup for Macros

This page is an extension of Confluence Wiki Markup. It describes the wiki markup used to define specific Confluence macros – the macros that are shipped with Confluence. For each macro, we define the macro name, parameter names, and accepted parameter values.

Wiki markup is useful when you want to do one of the following:

- Configure the Documentation theme.
- Type wiki markup directly into the editor. Confluence will convert it to the rich text editor format as you type.
- Create links using the **Advanced** tab of the Links Browser.
- Insert a block of wiki markup into the Confluence editor. (Choose **Insert** > **Wiki Markup**.)

**Note: You cannot edit content in wiki markup.** Confluence does not store page content in wiki markup. Although you can enter wiki markup into the editor, Confluence will convert it to the rich text editor format immediately. You will not be able to edit the wiki markup after initial entry.

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**Related pages:**

- Confluence Wiki Markup
- Working with Confluence Markup
- Working with Macros
- Confluence User's Guide

**On this page:**

[ Anchor macro ] [ Attachments macro ] [ Blog Posts macro ] [ Change-History macro ] [ Chart macro ] [ Cheese macro ] [ Children Display macro ] [ Code Block macro ] [ Column macro ] [ Content by Label macro ] [ Content by User macro ] [ Content Report Table macro ] [ Contributors macro ] [ Contributors Summary macro ] [ Create from Template macro ] [ Create Space Button macro ] [ Excerpt Include macro ] [ Excerpt macro ] [ Expand macro ] [ Favourite Pages macro ] [ Gadget macro ] [ Gallery macro ] [ Global Reports macro ] [ HTML Include macro ] [ HTML macro ] [ IM Presence macro ] [ Include Page macro ] [ Info macro ] [ JIRA Issues macro ] [ JUnit Report macro ] [ Labels List macro ] [ Livesearch macro ] [ Loremipsum macro ] [ Multimedia macro ] [ Navigation Map macro ] [ Network macro ] [ Noformat macro ] [ Note macro ] [ Office Excel macro ] [ Office PowerPoint macro ] [ Office Word macro ] [ Page Index macro ] [ Page Properties macro ] [ Page Properties Report macro ] [ Page Tree macro ] [ Page Tree Search macro ] [ Panel macro ] [ PDF macro ] [ Popular Labels macro ] [ Profile Picture macro ] [ Recently Updated Dashboard macro ] [ Recently Updated macro ] [ Recently Used Labels macro ] [ Related Labels macro ] [ RSS Feed macro ] [ Search Results macro ] [ Section macro ] [ Space Attachments macro ] [ Space Details macro ] [ Space Jump macro ] [ Spaces List macro ] [ Status macro ] [ Table of Contents macro ] [ Table of Content Zone macro ] [ Tasklist macro ] [ Tip macro ] [ User List macro ] [ User Profile macro ] [ User Status List macro ] [ Warning macro ] [ Widget Connector macro ] [ Notes ]

### Anchor macro

Allows you to link to a specific part of a page.

**Macro name:** `anchor`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None) | The name of the anchor. |

**Example:**

```
{anchor:here}
```

### Attachments macro

Displays a list of attachments on a given page.

**Macro name:** `attachments`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `old` | No | `false` | Available values:<br>• `false` - Displays only the latest version of each attachment.<br>• `true` – Displays all versions of each attachment, including the old versions. |
| `patterns` | No | (None) | A comma-separated list of regular expressions, used to filter the attachments by file name. Note that the parameter values must be regular expressions. For example:<br>• To match a file suffix of 'jpg', use `.*jpg` (not `*.jpg`).<br>• To match file names ending in 'jpg' or 'png', use `.*jpg,.*png` |
| `sortBy` | No | `date` | Available values:<br>• `date`<br>• `size`<br>• `name` |
| `page` | No | The page on which the macro exists. | Page name, used to display attachments from another page. |
| `sortOrder` | No | The default sort order is determined by the `sortBy` type:<br>• Reverse chronological for 'date'.<br>• Largest to smallest for 'size'.<br>• Alphabetical for 'name'. | Available values:<br>• `ascending`<br>• `descending` |
| `labels` | No | (None) | A comma-separated list of labels. Confluence will show only attachments that have **all** the labels specified. (The match is an AND, not an OR.) |
| `upload` | No | `false` | Determines whether the list of attachments will include options allowing users to browse for, and attach, new files. |

**Example:**

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```
{attachments:old=false|patterns=.*png,.*jpg|sortby=name|page=My page about
chocolate|sortorder=descending|labels=chocolate,cookies|upload=false}
```

#### Blog Posts macro

Lists the most recent news items in the space.

**Macro name:** `blog-posts`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `content` | No | `entire` | Available values:<br>• `entire` – Display the whole content of each blog post.<br>• `excerpts` – Display a short extract from each blog post. If the post contains an Excerpt macro, the Blog Posts macro will display the content defined in the Excerpt macro. If the post does not contain an Excerpt macro, the Blog Posts macro will display the first few sentences of the post.<br>• `titles` – Display a list of blog posts, showing titles only. |
| `spaces` | No | `@self` | One or more space keys, separated by a comma or a space. |

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| | | | |
|---|---|---|---|
| | | | • 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.<br>• 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.)<br><br>Special values:<br><br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |

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| | | | |
|---|---|---|---|
| `author` | No | (None) | One or more usernames, separated by commas. |
| `time` | No | (None) | Available values:<br>• `m` — Minutes<br>• `h` — Hours<br>• `d` — Days<br>• `w` — Weeks<br>For example,<br>• `time=12h` – Display blog posts created in the last twelve hours.<br>• `time=7d` – Display blog posts created in the last seven days. |
| `reverse` | No | `false` | A value of `true` changes the sort order. |
| `sort` | No | `creation` | Available values:<br>• **title** — Sort alphabetically by title.<br>• **creation** — Sort by the date on which the content was added.<br>• **modified** — Sort by the date on which the content was last updated. |
| `max` | No | `15` | The maximum number of results to be displayed. |

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| | | | |
|---|---|---|---|
| `label` | No | (None) | One or more label values, separated by a comma or a space.<br>• 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'.<br>• 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'. |

**Example:**

```
{blog-posts:content=titles|spaces=@self,ds|author=jsmith|time=4w|reverse=true|sort=creation|max=10|label=chocolate,cookies}
```

#### Change-History macro

Displays a history of updates made to a page.

**Macro name:** `change-history`

**Macro body:** None.

**Parameters:** None.

**Example:**

```
{change-history}
```

#### Chart macro

Displays a chart based on tabular data.

**Macro name:** `chart`

**Macro body:** Accepts rich text, consisting of tables that hold the chart's data.

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This macro recognises a large number of parameters, listed here by type for convenience.

#### Chart type parameters

These parameters determine the type of chart to display and how the chart looks.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `type` | No | `pie` | The type of chart to display. XY charts have numerical x- and y-axes. The x values may optionally be time-based. See the `timeSeries` parameter.<br><br>Available values:<br>• *Standard charts* - `pie`, `bar`, `line`, `area`<br>• *XY plots* – `xyArea`, `xyBar`, `xyLine`, `xyStep`, `xyStepArea`, `scatter`, `timeSeries`<br>• *Other charts* – `gantt` (beta) |
| `orientation` | No | `vertical` | The display orientation. Applies to area, bar and line charts.<br><br>Available values:<br>• `vertical` – y-axis is vertical<br>• `horizontal` – x-axis is vertical |
| `3D` | No | `false` | Show in three dimensions. Applies to area, bar and line charts. |
| `stacked` | No | `false` | Stacked values. Applies to area and bar charts. |
| `showShapes` | No | true | Applies to line charts. Shapes are shown at each data point. |
| `opacity` | No | • 75 percent for 3D charts<br>• 50 percent for non-stacked area charts<br>• 100 percent for all other charts | A percentage value between 0 (transparent) and 100 (opaque) that determines how opaque the foreground areas and bars are. |

#### Chart display parameters

| Parameter | Required | Default | Description |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `width` | No | `300` | The width of the chart in pixels. |
| `height` | No | `300` | The height of the chart in pixels. |
| `dataDisplay` | No | `false` | Determines whether to display the body of the macro, consisting of the data table. By default, the chart data table is not displayed.<br>Available values:<br>• false – the data is not displayed.<br>• `true` or `after` – the data is displayed after the chart.<br>• `before` – the data is displayed before the chart. |
| `imageFormat` | No | `png` | The image format to be used for the chart.<br>Available values:<br>• `png`<br>• `jpg` |

#### Chart title and label parameters

| Parameter | Required | Default | Description |
|---|---|---|---|
| `title` | No | (None) | The title of the chart. |
| `subTitle` | No | (None) | A subtitle for the chart. |
| `xLabel` | No | (None) | The label for the x-axis (domain). |
| `yLabel` | No | (None) | The label for the y-axis (range). |
| `legend` | No | `false` | Determines whether to show a legend (key) for the chart. |

#### Chart data parameters

The data for the chart is taken from tables found in the macro body. The parameters below 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 in Confluence will be tried. You can specify additional conversion options using the parameters below.

| Parameter | Required | Default | Description |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `tables` | No | All first level tables | You can supply a 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. 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). |
| `columns` | No | All columns | You can supply a 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. 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` | No | `horizontal` | The content orientation. By default, the data tables will be interpreted as columns (horizontally) representing domain and x values.<br>Available values:<br>• `vertical` – data table columns will be interpreted as series.<br>• `horizontal` – dat a tables rows will be interpreted as series. |
| `timeSeries` | No | `false` | If '`true`', the x values in an XY plot will be treated as time series data and so will be converted according date formats. |

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| | | | |
|---|---|---|---|
| `dateFormat` | No | Confluence language defined date formats | For time series data, the date format allows for additional customisation of the conversion of data to date values. If a `dateFormat` is specified, it will be the first format used to interpret date values. Specify a format that matches the time series data. See simple date format. |
| `timePeriod` | No | `day` | The time period for time series data. Defines the granularity of how the data is interpreted.<br><br>Available values: `millisecond`, `second`, `minute`, `hour`, `day`, `week`, `month`, `quarter`, `year` |
| `language` | No | (None) | Use in combination with the `country` parameter to form a locale. These additional number and date formats will be used for data conversion before the default languages.<br><br>Available values are the two-character ISO 639-1 alpha-2 codes. |
| `country` | No | (None) | Use in combination with the `language` parameter to form a locale. Valid values are the two-character ISO 3166 codes. |

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| | | | |
|---|---|---|---|
| `forgive` | No | `true` | Determines whether the macro will forgive (allow) some data formatting errors.<br>Available values:<br>• `true` — the macro tries to convert numeric and date values that do not totally match any of the default or user-specified formats.<br>• `false` — the macro enforces strict data formatting. If there are data format errors, the chart will not be produced. |

#### Chart colour parameters

Colours are specified using hexadecimal notation or HTML colour names.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `bgColor` | No | White | Background colour of the chart. |
| `borderColor` | No | No border | Colour of the border around the chart. |
| `colors` | No | | A comma-separated list of colours used to customise the colours of categories, sections, and series. |

#### Chart axis 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.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `rangeAxisLowerBound` | No | (None) | Minimum value for the range axis. |
| `rangeAxisUpperBound` | No | (None) | Maximum value for the range axis. |
| `rangeAxisTickUnit` | No | (None) | Range axis units between axis tick marks. |
| `rangeAxisLabelAngle` | No | (None) | Angle for the range axis label in degrees. |

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| | | | |
|---|---|---|---|
| `domainAxisLowerBound` | No | (None) | Only applies to XY plots. Domain axis lower bound. For a date axis, this value must be expressed in the date format specified by the `dateFormat` parameter. |
| `domainAxisUpperBound` | No | (None) | Only applies to XY plots. Domain axis upper bound. For a date axis, this value must be expressed in the date format specified by the `dateFormat` parameter. |
| `domainAxisTickUnit` | No | (None) | Only applies to XY plots. 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 `timePeriod` unit can be overridden by specifying a trailing character: `y` (years), `M` (months), `d` (days), `h` (hours), `m` (minutes), `s` (seconds), `u` (milliseconds). |
| `domainAxisLabelAngle` | No | (None) | Only applies to XY plots. The angle for the domain axis label, in degrees. |
| `categoryLabelPosition` | No | (None) | Placement of the axis label text for categories.<br>Available values:<br>• `up45` — 45 degrees going upward<br>• `up90` — 90 degrees going upward<br>• `down45` — 45 degrees going downward<br>• `down90` — 90 degrees going downward |

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| | | | |
|---|---|---|---|
| `dateTickMarkPosition` | No | `start` | Placement of the date tick mark.<br>Available values:<br>• `start` — tick mark is at the start of the date period.<br>• `middle` — tick mark is in the middle of the date period.<br>• `end` — tick mark is at the end of the date period. |

#### Pie chart Parameters

| Parameter | Required | Default | Description |
|---|---|---|---|
| `pieSectionLabel` | No | Show only the pie section key value | Formatof pie section labels. The format uses a string with special replacement variables:<br>• `%0%` is replaced by the pie section key.<br>• `%1%` is replaced by the pie section numeric value.<br>• `%2%` is replaced by the pie section percent value.<br>Example 1: To display something like 'Independent = 20':<br>`%0% = %1%`<br>Example 2: To display something like 'Independent (20%)':<br>`%0% (%2%)` |
| `pieSectionExplode` | No | No exploded sections | A comma-separated list of pie keys that are to be shown exploded. Note: requires jFreeChart version 1.0.3 or higher. |

#### Chart 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

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displayed. These options allow for the generated image to be saved as an attachment and have subsequent access to 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.

| Parameter | Required | Default | Description |
|---|---|---|---|
| `attachment` | No | (None) | The name and location where the chart image will be saved as an attachment. The user must be authorised to add attachments to the page specified.<br><br>Available syntax for this parameter:<br><br>• `^attachmentName.png` — the chart is saved as an attachment to the current page.<br>• `page name^attachmentName.png` — the chart is saved as an attachment to the page name provided.<br>• `spacekey:page name^attachmentName.png` — the chart is saved as an attachment to the page name provided in the space indicated. |
| `attachmentVersion` | No | `new` | Defines the the versioning mechanism for saved charts.<br><br>Available values:<br><br>• `new` — creates new version of the attachment.<br>• `replace` — replaces all previous versions of the chart. To replace an existing attachment, the user must be authorised to remove attachments for the page specified.<br>• `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. |

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| | | | |
|---|---|---|---|
| attachmentComment | No | (None) | Comment used for a saved chart attachment. |
| thumbnail | No | false | If true, the chart image attachment will be shown as a thumbnail (small, expandable) image. |

**Example:**

Below is a simple example of a pie chart. See more examples in Wiki Markup Examples for Chart Macro.

```
{chart:type=pie|title=Fish Sold}
|| Fish Type || 2004 || 2005 ||
|| Herring | 9,500 | 8,300 |
|| Salmon | 2,900 | 4,200 |
|| Tuna | 1,500 | 1,500 |
{chart}
```

#### Cheese macro

Displays the words "I like cheese!"

**Macro name:** cheese

**Macro body:** None.

**Parameters:** None

**Example:**

```
{cheese}
```

#### Children Display macro

Displays the children and descendants of the current page.

**Macro name:** children

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| reverse | No | false | Reverses the sort order in the list of child pages. Use this parameter in conjunction with the sort parameter described below. A value of true will change the sort order from ascending to descending. |

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| | | | |
|---|---|---|---|
| `sort` | No | Manual if the pages have been manually reordered, otherwise alphabeticalby page title | Determines the sort order of the list of child pages.<br>Available values:<br>• `creation` – Sort by the date on which the page was created.<br>• `title` – Sort alphabetically by page name.<br>• `modified` – Sort by the date on which the page was last updated. |
| `style` | No | Bullet list | A heading style to be applied to the list of child pages.<br>Available values: `h1` (hea ding level 1) through to h 6 (heading level 6). |
| `page` | No | The page that contains the macro | The name of the parent page. The macro will display the children of the specified page.<br>To specify a page in a different space, use a space key followed by a colon. For example: `MYSPACE:My page`<br>If the value of this parameter is a forward slash (`/`) the macro will list the pages at the root of the current space. In other words, the pages without parents. |
| `excerpt` | No | `false` | If `true`, Confluence will display any excerpts that are defined on the child pages. The excerpts must be defined via an Excerpt macro. |
| `first` | No | (None) | The maximum number of child pages to be displayed (at the top level). For example, if the value of this parameter is `99`, the macro will display the first 99 pages at the top level. It will also display their children, as determined by the `depth` and `all` parameters |

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| | | | |
|---|---|---|---|
| `depth` | No | (None) | The number of levels of child pages to display. For example, if the value is `2`, the macro will display 2 levels of child pages. |
| `all` | No | `false` | If `true`, Confluence will display all levels of child pages. This setting will override the `depth` setting. |

**Example:**

```
{children:reverse=true|sort=creation|style=h4|page=Home|excerpt=true|first=99|depth=2|all=true}
```

#### Code Block macro

Displays code in your document with the appropriate syntax highlighting.

**Macro name:** `code`

**Macro body:** Accepts plain text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | Adds a title to the code macro box. |
| `theme` | No | `Confluence` | Specifies the colour scheme used for displaying your code. Many of these themes are based on the default colour schemes of popular integrated development environments (IDEs). The default theme is `Confluence` (also known as `Default`), which is typically black and coloured text on a blank background.<br>Available themes:<br>• `DJango`<br>• `Emacs`<br>• `FadeToGrey`<br>• `Midnight`<br>• `RDark`<br>• `Eclipse`<br>• `Confluence (same as default)` |

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| | | | |
|---|---|---|---|
| `linenumbers` | No | `false` | If `true`, a line number will be shown to the left of each line of code. Numbering is incremented by 1.<br><br>If `false`, no line numbers are shown. |
| `language` | No | `java` | Specifies the language (or environment) for syntax highlighting.<br><br>• (none) — that is, no syntax highlighting<br>• `actionscript3`<br>• `bash`<br>• `csharp` — that is, C#<br>• `coldfusion`<br>• `cpp` — that is, C++<br>• `css`<br>• `delphi`<br>• `diff`<br>• `erlang`<br>• `groovy`<br>• `java`<br>• `javafx`<br>• `javascript`<br>• `perl`<br>• `php`<br>• `powershell`<br>• `python`<br>• `ruby`<br>• `scala`<br>• `sql`<br>• `vb` — that is, Visual Basic<br>• `html/xml` |
| `firstline` | No | `1` | When `linenumbers` is `true`, this value defines the number of the first line of code. |
| `collapse` | No | `false` | If `true`, the code macro's content will be collapsed upon visiting or refreshing the Confluence page. Clicking the 'expand source' link allows you to view the content.<br><br>If `false`, the code macro's content is always displayed in full. |

**Example:**

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```
{code:title=This is my
title|theme=FadeToGrey|linenumbers=true|language=html/xml|firstline=0001|collapse=t
rue}
This is my code
{code}
```

#### Column macro

Used with the Section macro to define columns on a page. See Working with page layouts and columns and sections.

**Macro name:** `column`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | 100% of the page width, divided equally by the number of columns in the section. | The width of the column. Can be specified either in pixels (for example, `400 px`) or as a percentage of the available page width (for example, `50%`). |

**Example:**

```
{column:width=100px}
This is the content of *column 1*.
{column}
```

#### Content by Label macro

Displays a list of content associated with specific labels.

**Macro name:** `contentbylabel`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `spaces` | No | `@all` | Filters the results by space. The macro will display only the pages and other content types which belong to the space(s) you specify here.<br><br>You can specify one or more space keys, separated by a comma or a space. |

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| | | | |
|---|---|---|---|
| | | | • 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.<br>• 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.)<br><br>Special values:<br><br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above.<br><br>When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |

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| | | | |
|---|---|---|---|
| `author` | No | (None) | Filters the results by author. The macro will display only the pages and other content types which are written or updated by the author(s) you specify here.<br><br>You can specify one or more authors, separated by a comma.<br>For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |
| `title` | No | (None) | Adds a heading to the list. |
| `showLabels` | No | `true` | Determines whether to display the matching labels in the list of results. |
| `reverse` | No | `false` | Use this parameter in conjunction with the `sort` parameter. Set `reverse=true` to change the sort from ascending to descending. This parameter is ignored if the `sort` parameter is not specified. |

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| | | | |
|---|---|---|---|
| `sort` | No | `modified` | Determines how the results are sorted. To change the sort order from ascending to descending, use the `reverse` parameter described above.<br><br>If this parameter is not specified, the sort order defaults to descending order based on the last modification date.<br><br>Values:<br>• **title** — Sort alphabetically by title.<br>• **creation** — Sort by the date on which the content was added.<br>• **modified** — Sort by the date on which the content was last updated. |
| `max` | No | `15` | Determines the maximum number of results to be displayed. Note that the results are sorted first, and then the maximum parameter is applied. |
| `excerpt` | No | `false` | If this parameter is set to `true`, the macro displays an excerpt from each page listed in the results. Note that you must define the excerpts on each of those pages, by adding the Excerpt macro to each page. If a particular page does not have an excerpt defined, then the Content by Label macro will not attempt to show an excerpt for that page. The Content by Label macro will show only the first few lines of the excerpt for each page. |

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| | | | |
|---|---|---|---|
| `labels` | Yes | (None) | Use this parameter to filter the results by label. The macro will display only the pages and other content types which are tagged with the label(s) you specify here. See also the `operator` parameter.<br><br>You can specify one or more label values, separated by a comma or a space.<br><br>• 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'.<br>• 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'. |
| `showSpace` | No | `true` | Determines whether to display the spaces in the list of results. |

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| | | | |
|---|---|---|---|
| `type` | No | All | Filters the restults by content type. The macro will display only the content of the type you specify here.<br><br>You can specify one or more types, separated by a comma or a space.<br><br>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.<br><br>Available values:<br><br>• `page` — ages.<br>• `blogpost` or `news` — blog posts, also known as news items.<br>• `attachment` – attachments. |
| `operator` | No | `OR` | The operator to apply to the supplied lists of labels. By default, a page with **any** of the non-prefixed labels (that is, labels without a plus (+) or minus (-) sign immediately preceding it) will be listed. If you specify a value of `AND`, only pages with **all** of the supplied non-prefixed labels will be listed.<br><br>Note 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, we recommend that you do not use the **operator** par ameter in conjunction with any label values prefixed with '+' or '-' signs. |

**Example:**

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```
{contentbylabel:spaces=@personal,@self|author=admin,smaddox|title=My labelled
pages|showLabels=false|reverse=true|sort=creation|max=10|excerpt=true|labels=chocol
ate,cake|showSpace=false|type=page|operator=AND}
```

#### Content by User macro

Displays a list of the content items that have been created by a specified Confluence user.

**Macro name:** `content-by-user`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br>(Unnamed in wiki markup) | Yes | (None) | The Confluence username for the person whose content you wish to display |

**Example:**

```
{content-by-user:jsmith}
```

#### Content Report Table macro

Wiki markup is not available for this macro. You cannot add this macro via wiki markup.

#### Contributors macro

Displays a list of Confluence users who have made a contribution of some type to a page.

**Macro name:** `contributors`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `limit` | No | (None) | Limits the number of contributors displayed in the list. |

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| | | | |
|---|---|---|---|
| `spaces` | No | Current space | Specifies the space key of the Confluence space to search. Space keys are case sensitive.<br><br>Special values:<br>• `@global` — All site spaces.<br>• `@personal` — All personal spaces.<br>• `@all` — All spaces in the Confluence site.<br><br>You can specify one or more space keys or special values, separated by commas.<br><br>If no `page` and `labels` are specified, all pages from the specified set of spaces are included. |
| `reverse` | No | `false` | Reverses the order of contributors in the list. Must be used in conjunction with the `order` parameter. |
| `scope` | No | The specified page only | Specifies additional pages to include when generating the list of contributors.<br><br>Available values:<br>• `children` – only the child pages of the specified page.<br>• `descendants` – all descendants of the specified page. |
| `labels` | No | (None) | Limits the list of contributors to those who created the specified labels on a page. You can specify one or more labels, separated by commas. |
| `showPages` | No | `false` | If the value is true, the macro will display a list of the pages used to generate the list of contributors. |
| `noneFoundMessage` | No | "No contributors found for:" (and a summary of selected parameter values) | Any message given here will override the default message that is displayed when no contributors are found. |

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| | | | |
|---|---|---|---|
| `showCount` | No | false | Determines whether the macro will show the number of times each person made a contribution. |
| `contentType` | No | Both pages and blog posts | Restricts the content type that the macro will use when generating the list of contributors.<br><br>Available values:<br><br>• `pages` – pages<br>• `blogposts` – blog posts. |
| `include` | No | authors | Filters by either the type of contribution made to a page (and optionally its descendant pages), or the watches on the page. Contribution types are:<br><br>• `authors` - includes people who created or have edited the page(s)<br>• `comments` - includes people who have added comments to the page(s)<br>• `labels` - includes people who have added labels to the page(s)<br>• `watches` - includes people who are watching the page(s).<br><br>You can specify one or more contribution types, separated by commas. |
| `mode` | No | `inline` | Determines how the list of contributors is formatted:<br><br>• `inline` — a comma-separated list<br>• `list` — a bullet list. |
| `showAnonymous` | No | `false` | Determines whether to include those who contributed anonymously to a page. |

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| | | | |
|---|---|---|---|
| `order` | No | `count` | Specifies the criteria used to sort contributors. Sort criteria are:<br>• `count` – sorts the names based on the total number of contributions to the page(s)<br>• `name` – sorts the names into alphabetical order<br>• `update` – sorts the names by the date of their last contribution to the page(s). |
| `page` | No | The current page | Specifies the page to use when generating the list of contributors. If `page` and `spaces` are left blank, the current page is assumed. |
| `showLastTime` | No | `false` | Determines whether to show the last time each person made a contribution. |
| `publishDate` | No | (None)e | Specifies the publication date for a blog post. The date format required is: YYYY/MM/DD. |

**Example:**

This example specifies a content type of blog posts:

```
{contributors:limit=10|spaces=ds,@personal|reverse=true|labels=chocolate,cake|showP
ages=true|noneFoundMessage=Oh dear, no contributors
found|showCount=true|contentType=blogposts|include=authors,comments,labels,watches|
mode=list|showAnonymous=true|order=update|showLastTime=true|publishDate=2012/06/30}
```

This example specifies a content type of pages:

```
{contributors:limit=10|spaces=ds,@personal|reverse=true|scope=descendants|labels=ch
ocolate,cake|showPages=true|noneFoundMessage=Oh dear, no contributors
found|showCount=true|contentType=pages|include=authors,comments,labels,watches|mode
=list|showAnonymous=true|order=update|page=ds:Advanced Topics|showLastTime=true}
```

### Contributors Summary macro

Displays a table of contribution-based statistics for a set of pages.

**Macro name:** `contributors-summary`

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**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `limit` | No | (None) | Limits the number of contributors or pages displayed in the table. |
| `spaces` | No | Current space | Specifies the space key of the Confluence space to search. Space keys are case sensitive.<br><br>Special values:<br>• `@global` — All site spaces.<br>• `@personal` — All personal spaces.<br>• `@all` — All spaces in the Confluence site.<br><br>You can specify one or more space keys or special values, separated by commas.<br><br>If no `page` and `labels` are specified, all pages from the specified set of spaces are included. |
| `reverse` | No | `false` | Reverses the order of items in the table. Must be used in conjunction with the `order` parameter. |
| `showAnonymous` | No | `false` | Determines whether to include those who contributed anonymously to a page. |
| `scope` | No | The specified page only | Specifies additional pages to include when generating the list of contributors.<br><br>Available values:<br>• `children` – only the child pages of the specified page.<br>• `descendants` – all descendants of the specified page. |

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| | | | |
|---|---|---|---|
| `order` | No | `edits` | Sets the criterion used for sorting items in the table.<br><br>Available values:<br><br>• `edits` – sorts items in the table based on the total number of edits made, either by a contributor or to a page.<br>• `name` – sorts items in the table in alphabetical order, either by contributor or page name.<br>• `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 lasted edited.<br>• `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 any contribution made to it. |
| `page` | No | The current page | A page title. Specifies the page to use when generating the list of contributors. If `page` and `spaces` are left blank, the current page is assumed. |
| `labels` | No | (None) | Limits contribution-based statistics to the specified labels only. You can specify one or more labels, separated by commas. |
| `columns` | No | `edits,comments,labels` | Determines the columns that should appear in the table. The statistics or type of information presented depends on the `groupby` parameter.<br><br>Available values: |

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| | | | |
|---|---|---|---|
| | | | • `edits` – the number of times each contributor has edited the page(s) or the number of edits made to each page.<br>• `edited` – a list of the pages edited by each contributor or a list of contributors who have edited each page.<br>• `comments` – the number of times each contributor has added comments to the page(s) or the number of comments on each page.<br>• `commented` – a list of pages to which each contributor has added comments or a list of contributors who have commented on each page.<br>• `labels` – the number of times each contributor has added labels to the page(s) or the number of labels on each page.<br>• `labeled` – a list of pages to which each contributor has added labels or a list of contributors who have added a label to each page.<br>• `labellist` – a list of labels either added by each contributor or on each page.<br>• `watches` – the number of pages being watched by each contributor/person or the number of contributors/people watching each page.<br>• `watching` – a list of pages being watched by each contributor/person or a list of contributors/people watching each page. |

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| | | | |
|---|---|---|---|
| | | | • `lastupdate` – the last time each contributor made an update or when each page was last updated. Valid updates can include edits, comments or label modifications to a page.<br>You can specify one or more columns, separated by commas. |
| `groupby` | No | `contributors` | Specifies the basis for grouping contribution-based statistics:<br>• `contributors` – group by the people who have contributed.<br>• `pages` – group by the pages used to find the contributors. |
| `contentType` | No | Both pages and blog posts | Restricts the content type that the macro will use when generating the list of contributors.<br>Available values:<br>• `pages` – pages<br>• `blogposts` – blog posts. |
| `showZeroCounts` | No | `false` | Determines whether contributors or pages are included for which the calculated statistic is zero. |
| `publishDate` | No | (None) | Specifies the publication date for a blog post. The date format required is: YYYY/MM/DD. |

**Example:**

This example specifies a content type of blog posts:

```
{contributors-summary:limit=10|spaces=ds,@personal|reverse=true|showAnonymous=true|
order=update|labels=chocolate,cake|columns=edits,comments,labels,lastupdate|groupby
=pages|contentType=blogposts|showZeroCounts=true|publishDate=2012/06/07}
```

This example specifies a content type of pages:

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```
{contributors-summary:limit=10|spaces=ds,@personal|reverse=true|showAnonymous=true|
scope=descendants|order=update|page=ds:Advanced
Topics|labels=chocolate,cake|columns=edits,comments,labels,lastupdate|groupby=pages
|contentType=pages|showZeroCounts=true}
```

#### Create from Template macro

Creates a page from a given template.

Wiki markup is not available for this macro. You cannot add this macro via wiki markup.

#### Create Space Button macro

Displays a create space button linked to the create space page.

**Macro name:** `create-space-button`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `size` | No | `large` | Determines the size of the 'create space' icon displayed. Available values:<br>• `large`<br>• `small` |
| `width` | No | Natural size of icon<br>(1:1 pixel ratio) | The width of the icon to be displayed, specified in pixels. Confluence will stretch or shrink the width of the icon to the number of pixels specified.<br>Note: This parameter is not available via the macro browser. |
| `height` | No | Natural size of icon<br>(1:1 pixel ratio) | The height of the icon to be displayed, specified in pixels. Confluence will stretch or shrink the height of the icon to the number of pixels specified.<br>Note: This parameter is not available via the macro browser. |

**Example:**

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```
{create-space-button:size=small}
{create-space-button:height=50px|width=50px}
```

#### Excerpt Include macro

Allows you to display an excerpt from another page within the current page.

**Macro name:** `excerpt-include`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None.) | The name of the page that contains the excerpt to be displayed.<br><br>To include an excerpt from a page in another space, type the space key followed by a colon (:) and the page name, like this:<br><br>`SPACEKEY:My page name`<br><br>**Note:** The ability to include excerpts from other spaces is available only in **Confluence 4.3.2 and later**. In earlier versions of Confluence, the Excerpt Include macro does not work across spaces. Use the Include Page macro instead. |
| `nopanel` | No | `False` | Determines whether Confluence will display a panal around the excerpted content. The panel includes the title of the page containing the excerpt, and the border of the panel. By default, the panel and title are shown. |

**Example:**

```
{excerpt-include:My page name|nopanel=true}
```

#### Excerpt macro

Define a part of a page as the page's 'excerpt' which can then be displayed in another page.

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**Macro name:** `excerpt`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `hidden` | No | `False` | Determines whether the content of the Excerpt macro body is displayed on the page that contains the Excerpt macro.<br><br>Note that this option affects only the page that contains the Excerpt macro. It does not affect any pages where the content is reused. |
| `atlassian-macro-output-type` | No | `BLOCK` | Determines whether the content of the Excerpt macro body is displayed on a new line or inline.<br><br>Available values:<br><br>• `BLOCK` – Displays the content of the macro on a new line.<br>• `INLINE` – Displays the the content of the macro as part of the same paragraph as the text preceding and following it.<br><br>Note that this option affects only the page that contains the Excerpt macro. It does not affect any pages where the content is reused. |

**Example:**

```
{excerpt:hidden=true|atlassian-macro-output-type=BLOCK}
This is the *text* I want to reuse in other pages. This text is inside an Excerpt
macro.
{excerpt}
```

#### Expand macro

Displays an expandable/collapsible section of text.

**Macro name:** `expand`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | No | `Click here to expand...` | Text that will be displayed on the line that people can click to expand the hidden text. |

**Example:**

```
{expand:This is my message}
This text is _hidden_ until you expand it.
{expand}
```

#### Favourite Pages macro

Displays a list of your favourite pages.

**Macro name:** `favpages`

**Macro body:** None.

**Parameters:** None.

**Example:**

```
{favpages}
```

#### Gadget macro

Allows you to add Confluence gadgets to pages or blog posts.

**Macro name:** `gadget`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | `450` pixels | The width of the gadget, using one of the following conventions:<br>• Width in pixesl, using `px` or plain numbers. For example, `500px` or `500`<br>• A percentage of the page width, using `%`. For example, `50%`<br>• Automatic resizing of the gadget to fit 100% of the page width: `auto` |
| `border` | No | `true` | Determines whether Confluence will draw a border around the gadget. |
| `url` | Yes | (none.) | This is the location of the gadget specification (XML file). |

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| | | | |
|---|---|---|---|
| `preferences` | No | (Gadget-dependent.) | Specific property settings that are particular to each gadget. |

**A note about editing a gadget's properties (preferences) in markup**: It is possible to edit the values of these properties directly in the wiki markup or storage format. However, this will allow the entry of invalid values. If a gadget property supports a certain set of values, the macro browser will restrict the user to selecting only valid values for that property. For that reason, we recommend that you use the macro browser to edit a gadget's properties.

**Example:**

This example shows the Confluence Page gadget:

```
{gadget:width=500|border=false|url=rest/gadgets/1.0/g/com.atlassian.confluence.plug
ins.gadgets:confluence-page-gadget/gadgets/confluence-page-gadget.xml}
spaceName=Documentation&spaceKey=DOC&quickfind-space=Documentation&pageId=753666&pa
geName=Documentation%20Home&quickfind-page=Documentation%20Home&isEditable=true&isC
onfigured=true&refresh=15&showLink=false
{gadget}
```

This example shows the Confluence News gadget:

```
{gadget:url=rest/gadgets/1.0/g/com.atlassian.confluence.plugins.gadgets:confluence-
news-gadget/gadgets/confluence-news-gadget.xml}
{gadget}
```

#### Gallery macro

Forms a thumbnail gallery of all images attached to a page.

**Macro name:** `gallery`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | Specify a title to be displayed above your gallery of pictures. |
| `reverse` | No | Not specified. Sort order is ascending. | Used in combination with the `sort` parameter, to change the sort order from ascending to descending.<br>Available values:<br>• `true` – Sort order is descending.<br>• `false` – Sort order is ascending. |

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| | | | |
|---|---|---|---|
| `sort` | No | None. The sort order is unspecified and therefore unpredictable. | Specify an attribute to sort the images by. Sort order is ascending, unless you specify the `reverse` parameter.<br><br>Available values:<br><br>• `name` – file name.<br>• `comment` – comment linked to the attached file.<br>• `date` – date/time last modified.<br>• `size` – size of the attached file. |
| `page` | No | If no page is specified, the gallery macro displays the images attached to the page on which the macro is used. | Specify the title of the page which contains the images you want displayed. You can specify more than one page name, separated by commas. To specify a page in a different space, use the following syntax: `SPACEKEY:Page title`. |
| `includeLabel` | No | None. The images are not filtered by label. | The gallery will include only those pictures that have the specified label. If you wish to enter more than one label, separate the labels with commas. Confluence will show only images that have **all** the labels specified. (The match is an AND, not an OR.) For information on labelling the attachments, see Adding Labels. |
| `excludeLabel` | No | No exclusions. The gallery will include all the pictures on the page. | The gallery will ignore any pictures that have the specified label. You can specify more than one label, separated by commas. For information on labelling the attachments, see Adding Labels. |
| `columns` | No | 4 | Specify the number of columns for the table that forms the gallery. |

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| | | | |
|---|---|---|---|
| `exclude` | No | No exclusions. Include all the pictures on the page. | Specify images by file name. The gallery will ignore any images specified. You can specify more than one image, separated by commas.<br>Note: The file name and file type for this parameter are case sensitive. For example, 'my picture.PNG' will not be recognised as 'my picture.png'. |
| `include` | No | Include all the pictures on the page. | If you specifically include one or more pictures, the gallery will show only those pictures. You can specify more than one picture, separated by commas.<br>Note: The file name and file type for this parameter are case-sensitive. For example, 'my picture.PNG' will not be recognised as 'my picture.png'. |

**Example:**

```
{gallery:title=My holiday pictures|reverse=true|sort=size|page=My page1, ds:Welcome to Confluence|excludeLabel=badlabel1, badlabel2|columns=3|exclude=badpicture.png}
```

#### Global Reports macro

Displays a list of links to global reports within a table.

**Macro name:** `global-reports`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | 99% | Specify the width of the table in which the links are displayed, as a percentage of the window width. |

**Example:**

```
{global-reports:width=50%}
```

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### HTML Include macro

Includes the content of an external HTML file into a Confluence page.

**Macro name:** `html-include`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `url` | Yes | (None) | Specify a URL of the content to be included into your Confluence page. |

**Example:**

```
{html-include:url=http://www.example.com}
```

### HTML macro

Renders your specified HTML code within the current page.

**Macro name:** `html`

**Macro body:** Text, consisting of HTML code.

**Parameters:** None.

**Example:**

```
{html}<a href="http://www.atlassian.com">Click here</a> to see the <b>Atlassian</b>
website.{html}
```

### IM Presence macro

Displays graphically when a contact is online.

**Macro name:** `im`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `showid` | No | `true` | Determines whether the macro shows or hides the user ID of the contact.<br>Available values:<br>• `true` – User ID is shown on the page.<br>• `false` – User ID is not shown on the page. |

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| | | | |
|---|---|---|---|
| `service` | Yes | Not specified. | The web service that Confluence should query.<br><br>Available values:<br><br>• aim – AOL Instant Messenger<br>• gtalk – Google Talk<br>• icq – ICQ<br>• jabber – Jabber<br>• msn – MSN Instant Messenger<br>• sametime – IBM Lotus Sametime<br>• skype – Skype<br>• skypeme – Skype<br>• wildfire – Openfire Server<br>• yahoo – Yahoo! Messenger |
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | Not specified. | User ID. Identifies the IM contact by their ID, account name or screen name. |

**Example:**

```
{im:MySkypeName|service=skype|showid=false}
```

#### Include Page macro

Inserts the contents of the specified page into the current one.

**Macro name:** `include`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | (None.) | The name of the page whose content should be included on the current page<br><br>To includecontent from a page in another space, type the space key followed by a colon (:) and the page name, like this:<br><br>`SPACEKEY:My page name`<br><br>To include a blog post, specify the date as well as the title of the blog post. For example: `/2010/12/01/My blog post`.<br><br>You can include pages from personal spaces using **~username** as the space key, where 'username' is the person's username. For example, `~jsmith:My page name`. |

**Example:**

```
{include:DOC:My chocolate page}
```

#### Info macro

Displays a block of text in a blue highlight box.

**Macro name:** `info`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `icon` | No | `true` | Determines whether to display the icon in the title bar of the information box. |
| `title` | No | (None) | The title of the information box. If specified, the title text will be displayed in bold next to the icon. |

**Example:**

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```
{info:title=This is my title|icon=false}
This is _important_ information.
{info}
```

#### JIRA Issues macro

Displays one or more JIRA issues, and offers the option to create an issue in JIRA.

**Macro name:** `jiraissues`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `anonymous` | No | `false` | If this parameter is set to 'true', JIRA will return only the issues which allow unrestricted viewing. That is, 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.<br><br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |
| `baseurl` | No | The value of the 'url' parameter | If you specify a 'baseurl', then the link in the header, pointing to your JIRA site, will use this base URL instead of the value of the 'url' parameter. This is useful when Confluence connects to JIRA with a different URL from the one used by other users. |

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| | | | |
|---|---|---|---|
| `columns` | No | By default, the following columns are shown:<br>• type<br>• key<br>• summary<br>• assignee<br>• reporter<br>• priority<br>• status<br>• resolution<br>• created<br>• updated<br>• due | A list of JIRA column names, separated by semi-colons (;). You can include any columns recognised by your JIRA site, including custom columns. See the JIRA documentation for a list of names. |
| `count` | No | `false` | 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. |
| `cache` | No | `on` | 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'.)<br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |

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| | | | |
|---|---|---|---|
| `height` | No | `480` (if render mode is dynamic) | The height in pixels of the table displaying the JIRA issues.<br>Note that this height specification is ignored in the following situations:<br>• If the 'renderMode' parameter (see below) is set to 'static'.<br>• When the JIRA issues are displayed in a PDF or Word document, in an email message or in an RSS feed.<br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |
| `renderMode` | No | `static` | If the value is 'dynamic', the JIRA Issues macro offers an interactive display which people can manipulate as follows:<br>• Click the column headers to sort the output.<br>• Drag and drop the columns into a different order.<br>• Temporarily remove a column from the display.<br>• View a page of issues at a time, for faster response times.<br>A value of 'static' will disable the dynamic display features.<br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |

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| | | | |
|---|---|---|---|
| `title` | No | JIRA Issues | 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.<br><br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |
| `url` | Yes | none | The URL of the XML view of your selected issues in JIRA Issue Navigator.<br><br>**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. |
| `width` | No | 100% | The width of the table displaying the JIRA issues. Can be indicated either as a percentage (%) or in pixels (px).<br><br>**Note:** This parameter is available only if you insert the macro via wiki markup or by editing the storage format of the page. The graphic user interface (macro browser) for the JIRA Issues macro does not offer this parameter. |

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**Example:**

```
{jiraissues:anonymous=true|url=http://jira.atlassian.com/sr/jira.issueviews:searchrequest-xml/temp/SearchRequest.xml?jqlQuery=project+%3D+CONF+AND+%28summary+%7E+jiraissues+OR+description+%7E+jiraissues+OR+comment+%7E+jiraissues%29&tempMax=10|columns=type;key;summary|title=My List of Issues}
```

#### JUnit Report macro

Display a summary of JUnit test results.

**Macro name:** `junitreport`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `directory` | Must include either the `directory` or the `url` parameter | (None) | URL of a directory containing your test result files. This must be a directory name and not the XML file itself. Overrides the `url` parameter if you use both.<br>**Note:** When using a local drive, you must use a directory name and not the XML file itself. |
| `reportdetail` | No | `all` | Level of detail required in the report.<br>Available values:<br>• `all`<br>• `fixture`<br>• `summary`<br>• `failuresonly` |

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| | | | |
|---|---|---|---|
| `url` | Must include either the `directory` or the `url` parameter | (None) | URL of a particular test result XML file.<br><br>This parameter is overridden by the `directory` parameter if you use both.<br><br>For Confluence installations that require authentication, you can specify login credentials as part of this parameter, in the form of URL parameters:<br><br>• `os_username` — The username of a Confluence user with permission to access the JUnit test results.<br>• `os_password` — The password of the Confluence user specified in the `os_username` parameter. |
| `debug` | No | `false` | If the value of this parameter is `true`, the report will show the content of failures, as well as the error messages. |

**Example:**

Loading JUnit reports from a local drive:

```
{junitreport:directory=file:///C:/TEMP/}
```

Loading JUnit reports from a network drive:

```
{junitreport:url=http://*host*/*path*}
```

Loading JUnit reports from a Confluence site:

```
{junitreport:url=http://yourConfluenceInstance.com/download/attachments/<page
id>/file.xml}
```

Loading JUnit reports from a Confluence site that requires authentication:

If your Confluence site is not accessible by anonymous users, specify login 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 'secret'.

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```
{junitreport:url=http://yourConfluenceInstance.com/download/attachments/<page
id>/file.xml?os_username=admin&os_password=secret}
```

#### Labels List macro

Displays a hyperlinked alphabetical index of all labels within the current space.

**Macro name:** `listlabels`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `spaceKey` | No | Current space | The key of the space whose labels you want to display. |

**Example:**

```
{listlabels:spaceKey=DOC}
```

#### Livesearch macro

Add a dynamic search box to a wiki page.

**Macro name:** `livesearch`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `placeholder` | No | (None) | Specify the placeholder text to appear in the search field. |
| `labels` | No | (None) | Specify labels to limit the search to content with that label. |
| `spaceKey` | No | All spaces | Specify a space key to limit the search to the given space. |
| `type` | No | All | Specify the content types to be included in the search - pages, blogs, comments, space descriptions, or all content types. |
| `size` | No | Medium | Specify the size of the search field - medium or large. |
| `additional` | No | Space Name | Display the space name, a page excerpt or none under the search result. |

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**Example:**

```
{livesearch:spaceKey=DOC|size=large|placeholder=Search this space}
```

#### Loremipsum macro

Display a few paragraphs of pseudo-Latin text.

**Macro name:** `loremipsum`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br><br>(No name in wiki markup) | No | 3 | Number of paragraphs. Determines the amount of pseudo-Latin (space-filler) text to display. The macro will display a maximum number of 30 paragraphs. |

**Example:**

```
{loremipsum:2}
```

#### Multimedia macro

Displays videos, animations and more, sourced from a file attached to a Confluence page and displayed on your page.

**Macro name:** `multimedia`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `page` | No | Current page | Name of the page to which the multimedia file is attached. |
| `space` | No | Current space | Space key of the page that has the multimedia file attached. |
| `name` | Yes | None | File name of the multimedia file, which is attached to a Confluence page. |

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| | | | |
|---|---|---|---|
| `width` | No | If not specified, the browser will determine the width based on the file type. | Width of the movie window to be displayed on the page. By default, this value is specified in pixels. You can also choose to specify a percentage of the window's width, or any other value accepted by HTML. |
| `height` | No | If not specified, the browser will determine the height based on the file type. | Height of the movie window to be displayed on the page. By default, this value is specified in pixels. You can also choose to specify a percentage of the window's height, or any other value accepted by HTML. |
| `autostart` | No | `false` | If the parameter is set to `true` then the video or audio file will start playing as soon as the page is loaded. If this option is set to `false` th en the file will not play until the user clicks the icon or image on the page. |

**Example:**

```
{multimedia:space=DOC|page=My macros|name=ninjas.swf|autostart=true}
```

#### Navigation Map macro

Displays a navigable map of the pages tagged with a given label.

**Macro name:** `navmap`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br>(Unnamed in wiki markup) | Yes | (None) | The label that pages must contain to be included in the navigation map. |
| `wrapAfter` | No | `5` | The number of cells in a row. |
| `title` | No | (None) | A title for the navigation map. |
| `cellHeight` | No | `60` | Height of the cells, in pixels. |

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| | | | |
|---|---|---|---|
| `cellWidth` | No | `90` | Width of the cells, in pixels. |
| `theme` | No | (None) | *Not applicable to Confluence OnDemand.*<br><br>The name of a Velocity template that defines a theme for the navigation map.<br><br>The name of your theme file must have the following format: `navmap-mytheme.vm`, where `mytheme` is the name of your theme. That is also the value to use for the `theme` parameter of the macro. For example, if your theme file is `navmap-roundededges.vm`, use the value `roundededges` for this parameter.<br><br>Put your theme file in the `confluence/WEB-INF/classes/templates/macros` directory, in your Confluence installation. (Create the directory if it does not exist.) |

**Example:**

```
{navmap:mylabel|wrapAfter=4|title=My map
name|cellHeight=50px|theme=navmap-mytheme.vm|cellWidth=80px}
```

#### Network macro

Displays a list of Network activity for users on your Confluence site.

**Macro name:** `network`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `default-parameter`<br><br>(Unnamed in wiki markup) | Yes | `following` | The display mode, which determines the set of users to be listed, based on their relationship to the specified user:<br>• `following` – those whom the user is following.<br>• `followers` – those who are following the user. |
| `username` | No | Current user's username | The username of the Confluence user whose network interactions you wish to show. |
| `max` | No | `30` | The maximum number of users to show. If the number of users exceeds the specified maximum, then the macro provides a 'Show All' link. This link leads to the specified user's network view, showing the complete list of network interactions. |
| `theme` | No | `full` | Determines how the user's network is displayed:<br>• `full` – Shows a large version of user's profile pictures. If the display mode is set to `'following'`, the macro offers the option to follow more users.<br>• `tiny` – Shows only the small version of user's profile pictures. |

**Example:**

```
{network:followers|username=admin|max=10|theme=full}
```

### Noformat macro

Displays a block of text in monospace font.

**Macro name:** `noformat`

**Macro body:** Accepts plain text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `nopanel` | No | `false` | Determines whether the macro draws a box around the content.<br>Available values:<br>• `true` – Box is removed. In other words, there is no panel.<br>• `false` – Box is drawn. In other words, there is a panel. |

**Example:**

```
{noformat:nopanel=true}http://www.example.com{noformat}
```

#### Note macro

Displays a block of text in a yellow highlighted box.

**Macro name:** `note`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | The words that will appear in the header of the note block. |
| `icon` | No | `true` | Determines whether an icon appears next to the title. The icon is an exclamation mark inside a yellow triangle.<br>Available values:<br>• `true` – the icon appears<br>• `false` – the icon does not appear |

**Example:**

```
{note:icon=false|title=My title}
This is the content of my note.
{note}
```

#### Office Excel macro

Displays the content of an Excel spreadsheet on a wiki page.

**Macro name:** viewxls

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**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `name` | Yes | (None.) | The file name of the Excel spreadsheet to be displayed. The document must be attached to a page on your Confluence site. |
| `page` | No | The page containing the macro | The name of a Confluence page to which the Excel spreadsheet is attached. |
| `col` | No | Last column with content | The number of the last column you want displayed, starting from '0' as the first column.<br>**Hint for reducing the size of the spreadsheet:** Use the `col` and `row` parameters to reduce the size of the spreadsheet displayed on the wiki page. This is especially useful to prevent the display from showing empty cells. This will also help to prevent 'out of memory' errors. |
| `row` | No | Last row with content | The number of the last row you want displayed, starting from '0' as the first row. |
| `grid` | No | `true` | Determines whether the macro will show borders around the cells in the spreadsheet.<br>Accepted values:<br>• `true` – Shows borders.<br>• `false` – Does not show borders. |
| `sheet` | No | The most-recently viewed worksheet | The name of the worksheet that you want displayed. |

**Example:**

```
{viewxls:col=5|page=Docs|name=My document.xls|grid=false|sheet=mysheet|row=5}
```

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### Office PowerPoint macro

Displays the content of a PowerPoint presentation on a wiki page.

**Macro name:** `viewppt`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `name` | Yes | (None.) | The file name of the PowerPoint presentation to be displayed. The document must be attached to a page on your Confluence site. |
| `page` | No | The page containing the macro | The name of a Confluence page to which the PowerPoint presentation is attached. |
| `height` | No | | The height of the macro display, specified in pixels (for example: `10px`, or just `10`) or as a percentage (for example: `20%`) of the window's height. |
| `width` | No | | The width of the macro display, specified in pixels (for example: `10px`, or just `10`) or as a percentage (for example: `20%`) of the window's height. |
| `slide` | No | All slides, starting with the first, as a slide show | The number of the slide that you want displayed on the Confluence page, where the first slide is numbered zero. Instead of a slide show, the page will display just the single slide, represented as a JPEG image. |

**Example:**

```
{viewppt:height=20%|page=Docs|width=20%|name=My document.ppt|slide=4}
```

### Office Word macro

Displays the content of a Word document on a wiki page.

**Macro name:** `viewdoc`

**Macro body:** None.

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| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| name | Yes | (None.) | The file name of the Word document to be displayed. The document must be attached to a page on your Confluence site. |
| page | No | The page containing the macro | The name of a Confluence page to which the Word document is attached. |

**Example:**

```
{viewdoc:page=Docs|name=My document.doc}
```

#### Page Index macro

Creates a hyperlinked alphabetical index of all page titles within the current space.

**Macro name:** `index`

**Macro body:** None.

**Parameters:** None.

**Example:**

```
{index}
```

#### Page Properties macro

Allows you to embed metadata into a page and then display that data in tabular form using the Page Properties Report macro .Previously known as the Metadata Details macro.

**Macro name:** `details`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| hidden | No | false | Determines whether the data in the Page Properties macro will be displayed on the current page. This setting does not affect the display of the detail in the Page Properties Report macro. |
| label | No | (None) | The label used to identify the metadata on this page. Confluence will add this label to the page. |

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**Example:**

```
{details:hidden=true|label=status}
Project Status: Complete
Team: Green Parrots
Deadline: 2012-09
{details}
```

#### Page Properties Report macro

Presents a tabulated summary of selected metadata, which has been embedded on pages using the Page Properties macro. Previously known as the Details Summary macro.

**Macro name:** `detailssummary`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `label` | No | (None) | Identifies the metadata to be included in the Page Properties Report. The report will show data from the Page Properties macros on the pages in the current space that have this label on the page. |

**Example:**

```
{detailssummary:label=status}
```

#### Page Tree macro

Displays a dynamic, hierarchical list of pages starting from a specified parent (root) page.

**Macro name:** `pagetree`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `excerpt` | No | `false` | Determines whether the page tree will show excerpts from each page. The excerpts must be defined on the individual pages by the Excerpt macro.<br>Available values:<br>• `true` – Show excerpts.<br>• `false` – Do not show excerpts. |

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| | | | |
|---|---|---|---|
| `expandCollapseAll` | No | `false` | Determines whether the macro will offer the 'expand all' and 'collapse all' options at the top of the page tree. Your readers can click these links to open or close all branches of the tree at once.<br><br>Available values:<br><br>• `true` – Show the 'expand all' and 'collapse all' options.<br>• `false` – Do not show the options. |
| `reverse` | No | `false` | Used in combination with the `sort` parameter. Determines the order of pages displayed in the tree, by reversing the default (ascending) order.<br><br>Available values:<br><br>• `true` – Pages will be displayed in descending order by title.<br>• `false` – Pages will be displayed in ascending order by title. |

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| | | | |
|---|---|---|---|
| `root` | No | The home page of the space | Specifies the parent page for the page tree. The tree will include all children of the given page, plus their children and grand-children, and so on. The tree will *not* in clude the root page itself.<br><br>Available values:<br>• A page title – 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.<br>• `@home` – will include all pages under the home page of the space (default).<br>• `@self` – will include all pages under the current page.<br>• `@parent` – will include all pages under the parent of the current page, including the current page.<br>• `@none` – will include all pages in the space, including orphaned pages and the home page. |
| `searchBox` | No | `false` | Determines whether the macro will offer 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.<br><br>Available values:<br>• `true` – Include the search box.<br>• `false` – Do not include the search box. |

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| | | | |
|---|---|---|---|
| `sort` | No | `position` | Determines the order in which pages are displayed in the tree. This sort order is for display purposes only. It does not permanently re-arrange the page order.<br><br>Available values:<br><br>• `bitwise` – sort alphabetically, for example: title1, title10, title2.<br>• `creation` – sort by date of creation.<br>• `modified` – sort by order of date last modified.<br>• `natural` – sort in 'natural' alphabetical order, for example: title1, title2, title10.<br>• `position` – sort by 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. |
| `startDepth` | No | `1` | Indicates how many levels of children the tree should show when it opens for the first time.<br><br>Available values: Any number greater than 0. |

**Example:**

```
{pagetree:root=Page
Name|sort=natural|excerpt=true|reverse=false|startDepth=3|expandCollapseAll=true|se
archBox=true}
```

#### Page Tree Search macro

Adds a search box to your Confluence page and searches a hierarchy of pages starting from a specified parent (root) page.

**Macro name:** `pagetreesearch`

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**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `root` | No | The home page of the space | Specifies the parent page for the page tree. The tree will include all children of the given page, plus their children and grand-children, and so on. The tree will *not* in clude the root page itself.<br><br>**Note:** Unlike the Page Tree macro, the Page Tree Search macro does **not** accept the special values that start with an @ sign, such as @home or @self. |

**Example:**

```
{pagetreesearch:root=My page name}
```

#### Panel macro

Displays a block of text within a customisable panel.

**Macro name:** `panel`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | (None) | The words that will appear in the header of the panel. |
| `borderStyle` | No | `solid` | The style of the panel's border.<br><br>Accepted values:<br>• `solid`<br>• `dashed`<br>• Other valid CSS border styles. |
| `borderColor` | No | | The colour of the panel's border. Colours can be specified as HTML colour names or hexadecimal codes. |
| `borderWidth` | No | | The width of the panel's border, in pixels. |

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| | | | |
|---|---|---|---|
| bgColor | No | | The background colour of the panel. Colours can be specified as HTML colour names or hexidecimal codes. |
| titleBGColor | No | | The background colour of the title row of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |
| titleColor | No | | The colour of the text in the title row of the panel. Colours can be specified as HTML colour names or hexadecimal codes. |

**Example:**

```
{panel:title=My
title|borderStyle=dashed|borderColor=blue|titleBGColor=#00a400|titleColor=white|bgC
olor=#72bc72}
A formatted panel
{panel}
```

#### PDF macro

Displays the content of a PDF document on a wiki page.

**Macro name:** viewpdf

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| name | Yes | (None.) | The file name of the PDF document to be displayed. The document must be attached to a page on your Confluence site. |
| page | No | The page containing the macro | The name of a Confluence page to which the PDF document is attached. |

**Example:**

```
{viewpdf:page=Docs|name=My document.pdf}
```

#### Popular Labels macro

Displays the most popular labels used throughout your Confluence site or within a space.

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**Macro name:** `popular-labels`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `style` | No | `list` | Determines how the macro displays the labels.<br>Accepted values:<br>• `list` – displays the labels as a bullet list, ordered by popularity (highest first).<br>• `heatmap` – displays the labels using different font sizes for each label depending on the label's popularity, ordered alphabetically by label name. |
| `count` | No | `100` | The number of labels to display. |
| `spaceKey` | No | No restriction – include labels from all spaces in the site | If a space key is given, the macro will include only labels in that space. |

**Example:**

```
{popular-labels:style=heatmap|count=20|spaceKey=ds}
```

#### Profile Picture macro

Wiki markup is not available for this macro. You cannot add this macro via wiki markup.

#### Recently Updated Dashboard macro

Displays a list of the most recently changed content within Confluence and is intended for use on the Confluence dashboard.

**Macro name:** `recently-updated-dashboard`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `spaces` | No | The space that contains the page on which the macro is added. | Filters content by space. The macro will display only the pages and other content which belong to the space(s) you specify here.<br><br>Accepted values:<br><br>• One or more space keys, separated by commas.<br>• An asterisk (*****) means all spaces. |
| `users` | No | All users. | Filters by username of the user who updated the content. The macro will only display content created and updated by the user(s) you specify here.<br><br>You can specify one or more usernames separated by commas. |
| `width` | No | 100% | The width of the macro display, specified as a percentage of the window width. |
| `showProfilePic` | No | `false` | Determines whether the macro displays profile pictures of the users who updated the content.<br><br>Accepted values:<br><br>• `true` – the macro will show profile pictures.<br>• false – the macro will not show profile pictures. |

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| | | | |
|---|---|---|---|
| `labels` | No | None. Labels are not used to filter the content. | Filters content by label. The macro will display only the pages and other content which are tagged with the label(s) you specify here. You can specify one or more labels, separated by commas.<br><br>*Note:* If there are **no** pag es 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 ". |
| `types` | No | All content types. | Filters content by type. You can specify one or more types, separated by commas.<br><br>Accepted values:<br><br>• `page`<br>• `blogpost` or `news`<br>• `spacedesc`<br>• `attachment`<br>• `comment`<br>• `mail`<br>• `userinfo` |

**Example:**

```
{recently-updated-dashboard:spaces=ds|users=admin|width=50%|showProfilePic=true|lab
els=choc|types=page}
```

#### Recently Updated macro

Displays a list of recently changed content (pages, news items, comments, etc).

**Macro name:** `recently-updated`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `spaces` | No | The space that contains the page on which the macro is added. | Filters content by space. The macro will display only the pages and other content which belong to the space(s) you specify here. |

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| | | | |
|---|---|---|---|
| | | | You can specify one or more space keys, separated by a comma or a space.<br>• 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.<br>• 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.)<br>Special values:<br>• `@self` — The current space.<br>• `@personal` — All personal spaces.<br>• `@global` — All site spaces.<br>• `@favorite` — The spaces you have marked as favourite.<br>• `@favourite` — The same as `@favorite` above.<br>• `@all` — All spaces in your Confluence site.<br>• `*` — The same as `@all` above. |

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| | | | |
|---|---|---|---|
| | | | When specifying a personal space, remember to use the tilde (~) sign in front of the username, such as `~jbloggs` or `~jbloggs@example.com`. |
| `author` | No | All users. | Filters by the username of the user who updated the content. The macro will only display content created and updated by the user(s) you specify here.<br>You can specify one or more authors, separated by a comma or a space.For example: `jsmith,jbrown`<br><br>To include content from one user, but exclude from another user: `jsmith,!jbrown` |
| `max` | No | `15` | The maximum number of results to be displayed.<br><br>The theoretical maximum value that this parameter can accept is 2 to the power of 31, minus 1 (or 2147483647). But this maximum is limited to 200 in the code, for performance reasons. More details are in this issue: CONF-19096 |
| `hideHeading` | No | `false` | Determines whether the macro hides or displays the text 'Recently Updated' as a title above the list of content.<br><br>Accepted values:<br><br>• `true` – Title is hidden.<br>• `false` – Title is shown. |
| `width` | No | `100%` | The width of the macro display, specified as a percentage of the window width. |

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| | | | |
|---|---|---|---|
| `theme` | No | `concise` | Choose the appearance of the macro.<br><br>Accepted values:<br><br>• `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.<br>• `social` – Shows recent modifications in reverse chronological order, grouped by user in 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 the time when these modifications occurred.<br>• `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. |
| `showProfilePic` | No | `false` | Determines whether the macro displays profile pictures of the users who updated the content.<br><br>Accepted values:<br><br>• `true` – the macro will show profile pictures.<br>• false – the macro will not show profile pictures. |

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| | | | |
|---|---|---|---|
| `labels` | No | None. Labels are not used to filter the content. | Filters content by label. The macro will display only the pages and other content which are tagged with the label(s) you specify here. You can specify one or more labels, separated by commas.<br><br>*Note:* If there are **no** pag es 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 ".<br><br>Filter the results by label. The macro will display only the pages etc which are tagged with the label(s) you specify here.<br><br>You can specify one or more label values, separated by a comma or a space.<br><br>• 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'.<br>• 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,+go odpage` you will get only content which has at least two labels, being 'superpage' and 'goodpage'. |

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| | | | |
|---|---|---|---|
| `types` | No | All content types. | Filters content by type. You can specify one or more types, separated by commas.<br>You can specify one or more types, separated by a comma or a space.<br><br>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.<br><br>Available values:<br><br>• `page` — Pages.<br>• `blogpost` or `news` — Blog posts, also known as news items.<br>• `comment` — Comments on pages and blog posts.<br>• `attachment` — Attachments.<br>• `status` — Status updates made by other users. |

**Example:**

```
{recently-updated:spaces=ds|author=admin|max=10|hideHeading=true|width=50%|theme=sidebar|showProfilePic=true|labels=choc|types=page}
```

### Recently Used Labels macro

Lists labels most recently used in a specified scope (global, space, or personal)

**Macro name:** `recently-used-labels`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | None. | Adds a title to the top of the list in table style. Titles are only visible when the `style` parameter is set to `table`. |

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| | | | |
|---|---|---|---|
| `scope` | No | `global` | The scope of labels to be displayed in the list.<br>Accepted values:<br>• `global` – All spaces (non-personal) in the Confluence installation.<br>• `space` – The current space.<br>• `personal` – Your own personal space. |
| `style` | No | `list` | The style of the list of labels:<br>• `list` – Displays the list of labels horizontally.<br>• `table` – Includes additional information such as the page to which the label was added and the user who added it. |
| `count` | No | `10` | The maximum number of labels to display in the list. |

**Example:**

```
{recently-used-labels:title=My title|scope=space|style=table|count=20}
```

#### Related Labels macro

Lists labels frequently appearing on the same pages as the current page's labels.

**Macro name:** related-labels

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `labels` | No | None | The label(s) for which you want to view related labels. If you include more than one label, separate them with commas. |

**Example:**

```
{related-labels:labels=choc,cake}
```

#### RSS Feed macro

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Displays the contents of an RSS feed.

**Macro name:** rss

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `max` | No | `15` | The maximum number of news items to display. |
| `showTitlesOnly` | No | `false` | Determines whether the macro will show only the titles of the news items, or the titles plus content.<br>Accepted values:<br>• `true` – Displays titles only.<br>• `false` – Displays titles and content. |
| `url` | Yes | (None) | The URL of the RSS feed. |
| `titleBar` | No | `true` | Determines whether the macro will show a title above the list of news items.<br>Accepted values:<br>• `true` – Displays the title.<br>• `false` – Does not display a title. |

**Example:**

```
{rss:max=10|showTitlesOnly=true|url=http://myblog.com/feed|titleBar=false}
```

#### Search Results macro

Searches Confluence, and includes the results in the page.

**Macro name:** `search`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| `lastModified` | No | (None.) | Defines a period of time in weeks, days, hours and/or minutes. The macro will display the content modified within that time frame.<br><br>These are the values you can use:<br>• `w` = weeks<br>• `d` = days<br>• `h` = hours<br>• `m` = minutes<br><br>For example:<br>• `2h 35m`<br>• `3d 30m`<br><br>Notes:<br>• If no time category is specified, Confluence assumes minutes.<br>• If you specify more than one time period (for example, weeks and days), you must separate the periods with a space. You can put them in any order.<br>• The time categories are not case sensitive. For example, '`4d`' is the same as '`4D`'. |
| `query` | Yes | (None.) | The search terms which this macro will use to generate its results.<br><br>You can refine your search query by using operators such as 'AND' and 'OR'. For example: `my_term1 AND my_term2`<br><br>For more information, take a look at the documentation on the Confluence search syntax. |
| `contributor` | No | (None.) | The username of a Confluence user. If this parameter is present, the macro will show only content created or updated by the given user. |

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| | | | |
|---|---|---|---|
| `maxLimit` | No | `10` | The maximum number of search results to display. |
| `type` | No | (None.) | The type of content to include in the search results.<br><br>Accepted values:<br><br>• `page`<br>• `comment`<br>• `blogpost`<br>• `attachment`<br>• `userinfo` – the content of user profiles<br>• `spacedesc` – the content of space descriptions |

**Example:**

```
{search:lastModified=3w|query=choc|contributor=admin|maxLimit=10|type=page|spacekey
=ds}
```

#### Section macro

Used with the Column macro to define columns on a page. See Working with page layouts and columns and sections.

**Macro name:** `section`

**Macro body:** Rich text, consisting of one or more Column macros.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `border` | No | False | If the value is `true`, the columns in this section will have a dashed border. |

**Example:**

```
{section:border=true}
{column:width=100px}
This is the content of *column 1*.
{column}
{column}
This is the content of *column 2*.
{column}
{section}
```

#### Space Attachments macro

Displays a list of attachments belonging to the current space.

**Macro name:** `space-attachments`

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**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `showFilter` | No | `true` | Determines whether or not the filter panel is shown. If you select this option, people viewing the page will be able to filter the list of attachments by file type (extension) and by label.<br>Accepted values:<br>• `true` – Macro displays the filter panel.<br>• `false` – Macro does not display the filter panel. |
| `space` | No | Current space. | Determines the Confluence space containing the attachments that the macro will display. |

**Example:**

```
{space-attachments:showFilter=false|space=ds}
```

#### Space Details macro

Displays the details of a Confluence space, including the space name, description, and more.

**Macro name:** `space-details`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `width` | No | `100%` | The width of the space details table, specified as a percentage of the page width. |

**Example:**

```
{space-details:width=50%}
```

#### Space Jump macro

Allows you to link from a page in one space to a page with the same name in another space, without knowing the name of the page when you create the link.

**Macro name:** `spacejump`

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**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `alias` | No | The name of the current page | The text to display as the hyperlinked text. |
| `space` | Yes | (None.) | The key of the space that contains a page with the same name as the current page. Space keys are case sensitive. |

**Example:**

```
{spacejump:alias=my link|space=ds}
```

#### Spaces List macro

Displays a list of the spaces visible to the user.

**Macro name:** `spaces`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `default-parameter`<br>(Unnamed in wiki markup) | No | All spaces | Specify the view from which spaces are listed.<br>Accepted values:<br>• `all` – All spaces in the Confluence site.<br>• `category` – Spaces grouped according to space categories.<br>• `favourite` – Spaces in the reader's list of favourites.<br>• `new` – Spaces created within the last 7 days. |
| `width` | No | `100%` | The width of the list of spaces, specified as a percentage (%) of the window. |

**Example:**

```
{spaces:favourite|width=80%}
```

#### Status macro

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Displays a coloured lozenge, useful for reporting project status.

**Macro name:** `status`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `colour` | No | `Grey` | The colour of the lozenge.<br>Accepted values: `Grey, Red, Yellow, Green, Blue` |
| `title` | No | The value of the `colour` parameter | The text that will appear inside the lozenge. If you do not specify any text, the title will be the colour of the lozenge, that is 'Grey', 'Red', 'Yellow', 'Green' or 'Blue'. |
| `subtle` | No | `false` | The style of the lozenge and its border.<br>Accepted values:<br>• `false` – The lozenge will have the default style: a solid coloured background with white text.<br>• `true` – The lozenge will have the outline, or subtle, style: a white background with a coloured border and coloured text. |

**Example:**

```
{status:colour=Green|title=On track|subtle=true}
```

#### Table of Contents macro

Displays a table of contents based on the headings on the page.

**Macro name:** `toc`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `printable` | No | `true` | If you set this parameter to `false`, the table of contents will not be visible when you print the page. |

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| | | | |
|---|---|---|---|
| `style` | No | `none` | The style of bullet point for each list item. You can use any valid CSS style. For example:<br>• `none` – No list style is displayed.<br>• `circle` – The list style is a circle.<br>• `disc` – The list style is a filled circle. This is the typical bullet list, and is the one we are using in this example list.<br>• `square` — The list style is a square.<br>• `decimal` — The list is numbered (1, 2, 3, 4, 5).<br>• `lower-alpha` — The list style is lower case, alphabetised (a, b, c, d, e).<br>• `lower-roman` — The list style is lower-case roman numerals (i, ii, iii, iv, v, vi).<br>• `upper-roman` — The list style is upper-case roman numerals (I, II, III, IV, V, VI). |
| `maxLevel` | No | 7 | Maximum heading level. Use this parameter to select the highest heading level to include. For example, a value of 2 will list h1 and h2 levels, but will not include h3 and below. |
| `indent` | No | (None) | This parameter applies to vertical lists only (`type = list`).<br><br>Use this parameter to indent the list items according to CSS quantities. For example, a value of `10px` will successively indent list heading groups by 10 pixels. Level 1 headings will be indented 10px, and level 2 headings by an additional 10px, and so on. |

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| | | | |
|---|---|---|---|
| `minLevel` | No | `1` | Minimum heading level. The heading level at which the table of contents will start. For example, a value of 2 will list h2, h3, and h4 headings, but will not include h1 headings. |
| `class` | No | (None) | A CSS class name. If you have a custom style sheet, you can use this parameter to output the table of contents with the specified class attribute. |
| `exclude` | No | (None) | Specifies the headings to exclude by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will include only the headings that match the regular expression. Example: `.* \.[1//2]` See Sun's Regex documentation for examples of constructing regular expression strings. |
| `type` | No | `list` | Defines the overall format of the table of contents.<br>Available values:<br>• `list` – displays the table of contents in a vertical list.<br>• `flat` – displays a horizontal series of links. For example: [Heading 1] [Heading 2] [Heading 3]. |
| `outline` | No | `false` | A value of `true` will apply outline numbering to the headings as displayed in the table of contents. For example: 1.1, 1.2, 1.3. |

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| | | | |
|---|---|---|---|
| `separator` | No | `brackets` | This parameter applies to flat lists only (`type = flat`). Use this parameter to style the display of a flat list.<br><br>Available values:<br><br>• `brackets` – Each item is enclosed by square brackets: [ ].<br>• `braces` – Each item is enclosed by braces: { }.<br>• `parens` – Each item is enclosed by parentheses: ( ).<br>• `pipe` – The items are separated by a pipe: \|<br>• *anything* – The items are separated by the value you enter. You can enter any text as a separator, for example `***`. If using a custom separator, be aware that text displays exactly as entered, with no additional white space to further separate the characters. |
| `include` | No | (None) | Specifies the headings to include by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will ignore any headings that do not match the regular expression. Example: `.*\.[1//2]`<br><br>See Sun's Regex documentation for examples of constructing regular expression strings. |

**Example:**

This example shows a list-type table of contents.

```
{toc:printable=true|style=square|maxLevel=2|indent=5px|minLevel=2|class=bigpink|exclude=[1//2]|type=list|outline=true|include=.*}
```

This example shows a flat table of contents.

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```
{toc:printable=true|maxLevel=2|minLevel=2|class=bigpink|exclude=[1//2]|type=flat|ou
tline=true|separator=pipe|include=.*}
```

#### Table of Content Zone macro

Displays a table of contents from a defined page 'zone'.

**Macro name:** `toc-zone`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `location` | Yes | `both` | Determines where the macro will display the table of contents, relative to the zone delineated by the macro.<br><br>Accepted values:<br><br>• `top` – The table of contents appears at the start of the zone.<br>• `bottom` – The table of contents appears at the end of the zone.<br>• `both` – The table of contents appears at the start and end of the zone. |
| `printable` | No | `true` | If you set this parameter to `false`, the table of contents will not be visible when you print the page. |

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| | | | |
|---|---|---|---|
| `style` | No | `none` | The style of bullet point for each list item. You can use any valid CSS style. For example:<br>• `none` – No list style is displayed.<br>• `circle` – The list style is a circle.<br>• `disc` – The list style is a filled circle. This is the typical bullet list, and is the one we are using in this example list.<br>• `square` — The list style is a square.<br>• `decimal` — The list is numbered (1, 2, 3, 4, 5).<br>• `lower-alpha` — The list style is lower case, alphabetised (a, b, c, d, e).<br>• `lower-roman` — The list style is lower-case roman numerals (i, ii, iii, iv, v, vi).<br>• `upper-roman` — The list style is upper-case roman numerals (I, II, III, IV, V, VI). |
| `maxLevel` | No | 7 | Maximum heading level. Use this parameter to select the highest heading level to include. For example, a value of 2 will list h1 and h2 levels, but will not include h3 and below. |
| `indent` | No | (None) | This parameter applies to vertical lists only (`type = list`).<br><br>Use this parameter to indent the list items according to CSS quantities. For example, a value of `10px` will successively indent list heading groups by 10 pixels. Level 1 headings will be indented 10px, and level 2 headings by an additional 10px, and so on. |

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| | | | |
|---|---|---|---|
| `minLevel` | No | `1` | Minimum heading level. The heading level at which the table of contents will start. For example, a value of 2 will list h2, h3, and h4 headings, but will not include h1 headings. |
| `class` | No | (None) | A CSS class name. If you have a custom style sheet, you can use this parameter to output the table of contents with the specified class attribute. |
| `exclude` | No | (None) | Specifies the headings to exclude by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will include only the headings that match the regular expression. Example: `.* \.[1//2]` See Sun's Regex documentation for examples of constructing regular expression strings. |
| `type` | No | `list` | Defines the overall format of the table of contents.<br><br>Available values:<br>• `list` – displays the table of contents in a vertical list.<br>• `flat` – displays a horizontal series of links. For example: [Heading 1] [Heading 2] [Heading 3]. |
| `outline` | No | `false` | A value of `true` will apply outline numbering to the headings as displayed in the table of contents. For example: 1.1, 1.2, 1.3. |

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| | | | |
|---|---|---|---|
| `separator` | No | `brackets` | This parameter applies to flat lists only (`type = flat`). Use this parameter to style the display of a flat list.<br><br>Available values:<br><br>• `brackets` – Each item is enclosed by square brackets: [ ].<br>• `braces` – Each item is enclosed by braces: { }.<br>• `parens` – Each item is enclosed by parentheses: ( ).<br>• `pipe` – The items are separated by a pipe: \|<br>• *anything* – The items are separated by the value you enter. You can enter any text as a separator, for example `***`. If using a custom separator, be aware that text displays exactly as entered, with no additional white space to further separate the characters. |
| `include` | No | (None) | Specifies the headings to include by pattern matching. The value must be a regular expression. If this parameter is specified, the table of contents will ignore any headings that do not match the regular expression. Example: `.*\.[1//2]`<br><br>See Sun's Regex documentation for examples of constructing regular expression strings. |

**Example:**

```
{toc-zone:printable=false|maxLevel=2|minLevel=2|location=top|type=flat|outline=true
|separator=pipe}
Only headings within this block are included in the table of contents.
{toc-zone}
```

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### Tasklist macro

Displays a dynamic task list which can be modified in view mode.

**Macro name:** `tasklist`

**Macro body:** Accepts wiki markup, for defining the tasks.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `title` | No | `Task List` | The title to be displayed above the list of tasks. |
| `enableLocking` | No | `false` | Determines whether the macro allows users to lock individual tasks so that they cannot be changed.<br>Accepted values:<br>• `true` – The task list offers the option to lock tasks.<br>• `false` – There is no option to lock a task. |
| `width` | No | `530px` | The width of the task list, specified in pixels (for example: `200px`) or as a percentage of page width (for example: `20%`). |
| `promptOnDelete` | No | `false` | Determines whether Confluence will ask the user to confirm the deletion of a task.<br>Accepted values:<br>• `true` – Asks for confirmation before deleting a task.<br>• `false` – Deletes the task without asking for confirmation. |

**Example:**

**Note:** The content inside the macro body (between the {`tasklist`} tags) defines the tasks in the list. This content is coded in wiki markup, as a table.The first row in the table defines the column headings for the task list. Each subsequent row defines a task.

```
{tasklist:title=My title|enableLocking=true|width=20%|promptOnDelete=true}
||Completed||Priority||Locked||CreatedDate||CompletedDate||Assignee||Name||
|F|M|F|1371784117215|          |admin|Book tickets|
|F|M|F|1371784127222|          |admin|Check passport expiry|
{tasklist}
```

### Tip macro

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Displays a block of text in a green box.

**Macro name:** `tip`

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `icon` | No | `true` | Determines whether to display the standard Confluence tip icon in the title bar of the tip box. |
| `title` | No | (None) | The title of the tip box. If specified, the title text will be displayed in bold next to the icon. |

**Example:**

```
{tip:icon=false|title=My title}
This is my hint.
{tip}
```

#### User List macro

Displays a list of Confluence users in a given group.

**Macro name:** `userlister`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `groups` | Yes | (None.) | One or more groups containing the Confluence users that the macro will list.<br>Accepted values:<br>• A comma-separated list of group names.<br>• * (an asterisk – The macro will list all users registered on the Confluence site. |

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| | | | |
|---|---|---|---|
| `online` | No | All users | Instructs the macro to differentiate between online and offline users.<br><br>Accepted values:<br><br>• Unspecified – The macro will show all registered users.<br>• `true` – The macro will show only online users.<br>• `false` – The macro will show only offline users.<br><br>**Note:** In order to make this parameter functional, a System Administrator needs to enable the User Log In Listener for your Confluence site. *Not applicable to Confluence OnDemand.* |

**Example:**

```
{userlister:groups=confluence-users|online=false}
```

#### User Profile macro

Displays a summary of a given Confluence user's profile.

**Macro name:** `profile`

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| `user` | Yes | (None.) | The username of the Confluence user whose profile summary you wish to show. |

**Example:**

```
{profile:user=admin}
```

#### User Status List macro

Displays a history of a given Confluence user's status updates.

**Macro name:** `status-list`

**Macro body:** None.

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| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| username | Yes | (None.) | The username of the Confluence user whose status updates you wish to show. |

**Example:**

```
{status-list:username=admin}
```

#### Warning macro

Displays a block of text in a red highlight box.

**Macro name:** warning

**Macro body:** Accepts rich text.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| icon | No | true | Determines whether to display a warning icon in the title bar of the text box. |
| title | No | (None.) | The title of the warning box. If specified, the title text will be displayed in bold next to the icon. |

**Example:**

```
{warning:icon=false|title=This is my title}
This is _important_ information.
{warning}
```

#### Widget Connector macro

Displays videos, slide shows, twitter chats, documents and more, sourced from other web sites and displayed on your Confluence page.

**Macro name:** widget

**Macro body:** None.

| Parameter name | Required | Default | Parameter description and accepted values |
|---|---|---|---|
| height | No | | The height of the display, in pixels. Specify the number of pixels only. |
| width | No | | The width of the display, in pixels. Specify the number of pixels only. |

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| | | | |
|---|---|---|---|
| `url` | Yes | (None.) | The URL provided by the external website for embedding content from that website onto another web page. |

**Example:**

```
{widget:height=400|width=400|url=http://www.google.com/ig/directory?synd=open&num=24&url=http://www.gadzi.com/gadgets/monkey.xml&output=html}
```

#### Notes

- The 'Required' column indicates whether the parameter is required on data entry. If the parameter is not supplied, Confluence will insert default values as indicated in the 'Default' column.
- Wiki markup is not case sensitive. For example, you can specify a parameter name of `sortBy` or `sortby` .
- For a few macros in wiki markup, the default parameter may be unnamed. The examples on this page show the macros concerned. In such cases, the unnamed parameter is always the first parameter specified.
- **A request from the Atlassian technical writers about comments and feedback:** We would like to distinguish between the documentation of the current solution (this page) and any discussion of the solution and possible changes to Confluence wiki markup and/or the XHTML-based storage format. If you have a suggestion for, or correction of, this documentation, please add your suggestion to this page.

## Wiki Markup Examples for Chart Macro

This page is an extension of Confluence Wiki Markup for Macros, which contains wiki markup examples for all Confluence macros. The Chart macro is a special case, because it offers so many options via parameters and chart types. This page offers additional examples for the Chart macro.

### *Pie chart*

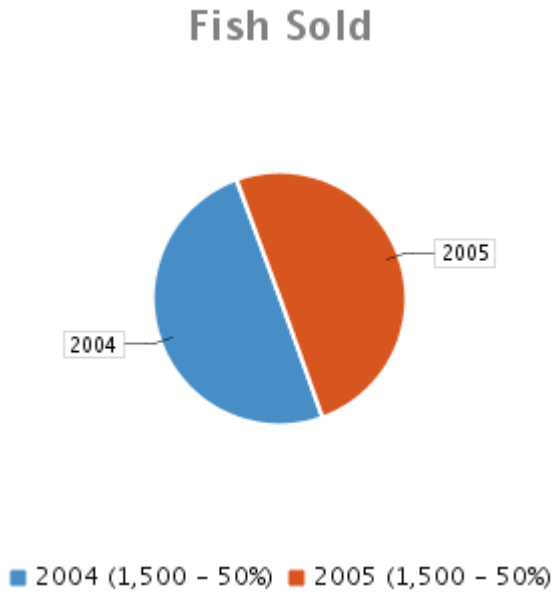
Here is a simple example of a pie chart.

#### Wiki markup

```
{chart:type=pie|title=Fish Sold}
|| Fish Type || 2004 || 2005 ||
|| Herring | 9,500 | 8,300 |
|| Salmon | 2,900 | 4,200 |
|| Tuna | 1,500 | 1,500 |
{chart}
```

#### Resulting chart

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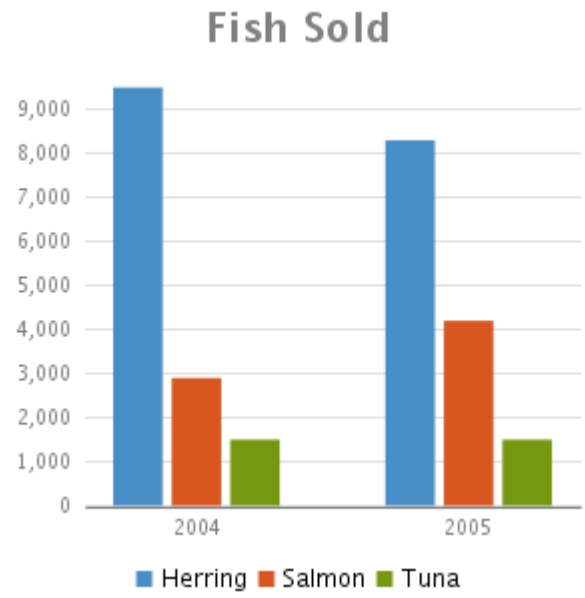

***Bar chart***

Here is a simple example of a bar chart.

**Wiki markup**

```
{chart:type=bar|title=Fish Sold}
|| Fish Type || 2004 || 2005 ||
|| Herring | 9,500 | 8,300 |
|| Salmon | 2,900 | 4,200 |
|| Tuna | 1,500 | 1,500 |
{chart}
```

**Resulting chart**




***Time series chart***

Here is an example of a time series chart.

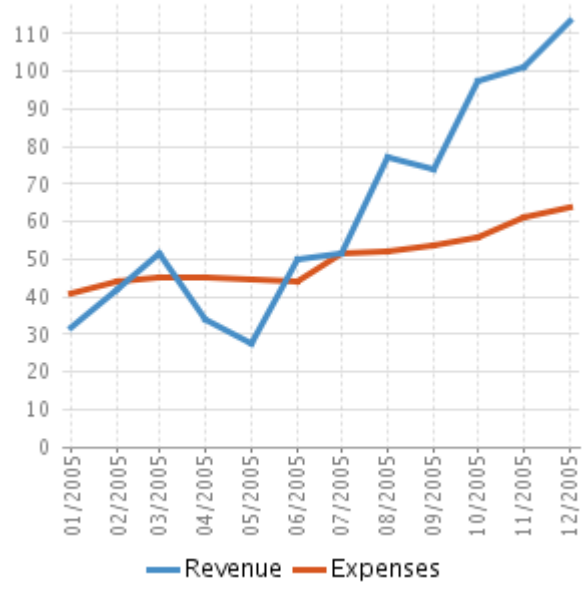
**Wiki markup**

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```
{chart:type=timeSeries|dateFormat=MM/yyyy|timePeriod=Month|
dataOrientation=vertical|rangeAxisLowerBound=0|domainaxisrotateticklabel=true}
|| Month || Revenue ||
| 1/2005 | 31.8 |
| 2/2005 | 41.8 |
| 3/2005 | 51.3 |
| 4/2005 | 33.8 |
| 5/2005 | 27.6 |
| 6/2005 | 49.8 |
| 7/2005 | 51.8 |
| 8/2005 | 77.3 |
| 9/2005 | 73.8 |
| 10/2005 | 97.6 |
| 11/2005 | 101.2 |
| 12/2005 | 113.7 |

|| Month || Expenses ||
| 1/2005 | 41.1 |
| 2/2005 | 43.8 |
| 3/2005 | 45.3 |
| 4/2005 | 45.0 |
| 5/2005 | 44.6 |
| 6/2005 | 43.8 |
| 7/2005 | 51.8 |
| 8/2005 | 52.3 |
| 9/2005 | 53.8 |
| 10/2005 | 55.6 |
| 11/2005 | 61.2 |
| 12/2005 | 63.7 |
{chart}
```

**Resulting chart**




***XY line chart***

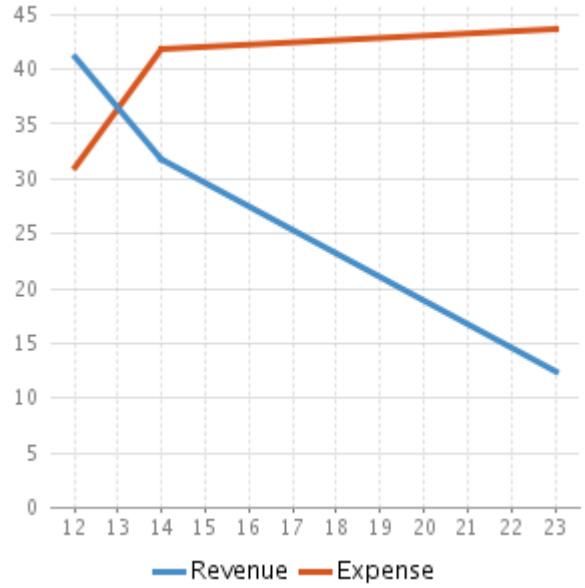
Here is an example of an XY line chart.

**Wiki markup**

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```
{chart:type=xyline}
|| || 12 || 14 || 23 ||
| Revenue | 41.1 | 31.8 | 12.4 |
| Expense | 31.1 | 41.8 | 43.6 |
{chart}
```

**Resulting chart**




***XY bar chart***

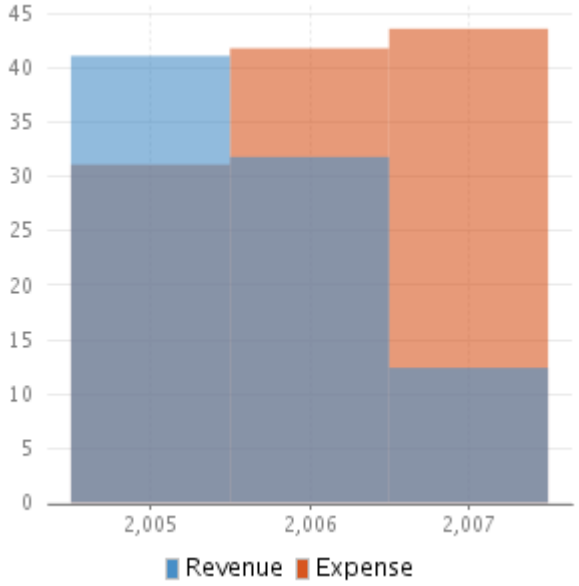
Here is an example of an XY bar chart.

**Wiki markup**

```
{chart:type=xybar|opacity=60}
|| || 2005 || 2006 || 2007 ||
| Revenue | 41.1 | 31.8 | 12.4 |
| Expense | 31.1 | 41.8 | 43.6 |
{chart}
```

**Resulting chart**

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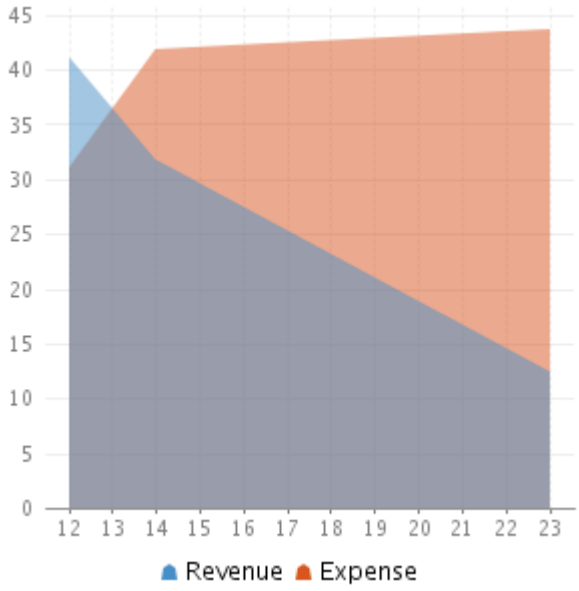

### *XY area chart*

Here is an example of an XY area chart.

#### Wiki markup

```
{chart:type=xyarea}
|| || 12 || 14 || 23 ||
| Revenue | 41.1 | 31.8 | 12.4 |
| Expense | 31.1 | 41.8 | 43.6 |
{chart}
```

#### Resulting chart




### *Area chart*

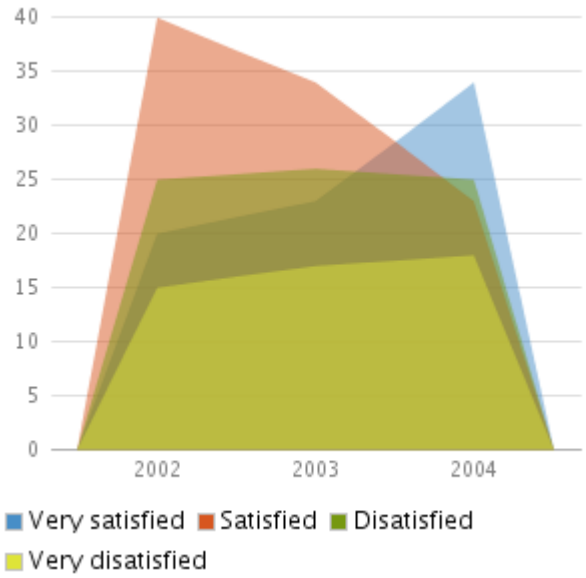
Here are two examples of area charts.

#### Wiki markup for area chart 1

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```
{chart:type=area|dataDisplay=true|legend=true|width=300|height=300|opacity=50}
|| Satisfaction || 2002 || 2003 || 2004 ||
| Very satisfied | 20 | 23 | 34 |
| Satisfied | 40 | 34 | 23 |
| Disatisfied | 25 | 26 | 25 |
| Very disatisfied | 15 | 17 | 18 |
{chart}
```

**Resulting area chart 1**



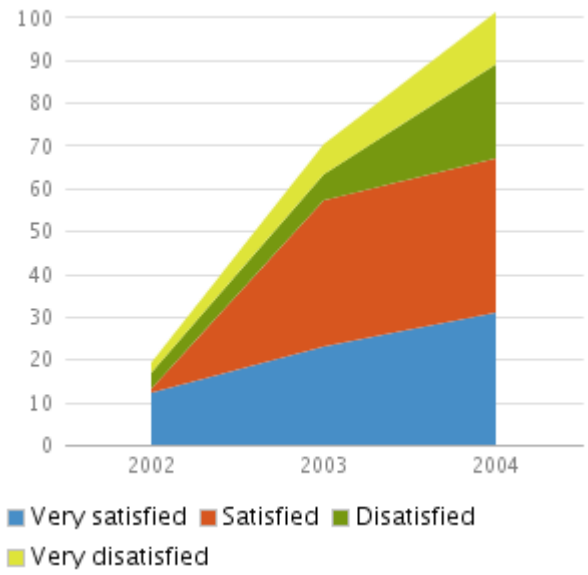

| Satisfaction | 2002 | 2003 | 2004 |
|---|---|---|---|
| Very satisfied | 20 | 23 | 34 |
| Satisfied | 40 | 34 | 23 |
| Disatisfied | 25 | 26 | 25 |
| Very disatisfied | 15 | 17 | 18 |

**Wiki markup for area chart 2**

```
{chart:type=area|dataDisplay=true|legend=true|width=300|height=300|stacked=true}
|| Satisfaction || 2002 || 2003 || 2004 ||
| Very satisfied | 12 | 23 | 31 |
| Satisfied | 1 | 34 | 36 |
| Disatisfied | 4 | 6 | 22 |
| Very disatisfied | 2 | 7 | 12 |
{chart}
```

**Resulting area chart 2**

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| Satisfaction | 2002 | 2003 | 2004 |
|---|---|---|---|
| Very satisfied | 12 | 23 | 31 |
| Satisfied | 1 | 34 | 36 |
| Disatisfied | 4 | 6 | 22 |
| Very disatisfied | 2 | 7 | 12 |

## Working with Confluence Gadgets

This section introduces the concept of gadgets in Confluence and provides an outline on how to use gadgets in Confluence and other web applications.

### Introduction to Gadgets in Confluence

A gadget is a small object (i.e. a piece of functionality) offering dynamic content that can be placed into the page of:

- An Atlassian application's website, such as a Confluence page or blog post or a JIRA 4.0+ dashboard.
- A third-party application's website, such as iGoogle or Gmail. (But see the limitations on using Confluence gadgets in other applications.)

Gadgets allow interactions between Confluence and other compatible websites. Confluence interacts with gadgets that support the OpenSocial specification.

For more information about Atlassian gadgets, please refer to the introduction to Atlassian gadgets and the big list of Atlassian gadgets.

### Using Gadgets in Confluence

You can place any gadget that complies with the OpenSocial specification from an external source, such as iGoogle or other Atlassian applications such as JIRA 4.0+, onto a Confluence page or blog post. To add a gadget to a page, use the Confluence macro browser to add a Gadget macro.

See the page on adding JIRA gadgets to a Confluence page.

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**On this page:**


- Introduction to Gadgets in Confluence
- Using Gadgets in Confluence
- Adding Confluence Gadgets in Other Applications
  - Adding a Confluence Gadget to JIRA
  - Adding a Confluence Gadget to Non-Atlassian Web Applications
  - Confluence Gadgets


**Related pages:**

- Gadget Macro
- Configuring Confluence Gadgets for Use in Other Applications
- Adding a Confluence Gadget to a JIRA Dashboard
- Confluence Gadgets
- All Atlassian gadgets
- External Gadgets

### Adding Confluence Gadgets in Other Applications

You can add a Confluence gadget to a JIRA dashboard or another Confluence site. In principle, you can also put a Confluence gadget on any other OpenSocial-compliant website such as iGoogle or Gmail. See the limitations on using Confluence gadgets in other applications.

#### *Adding a Confluence Gadget to JIRA*

See Adding a Confluence Gadget to a JIRA Dashboard.

#### *Adding a Confluence Gadget to Non-Atlassian Web Applications*

For instructions on how to add Confluence gadgets in another compatible non-Atlassian web application or container, refer to Configuring Confluence Gadgets for Use in Other Applications.

#### *Confluence Gadgets*

The Confluence Gadgets topic explains the purpose of the 'Confluence Gadgets' window and provides information about the gadgets which are bundled with Confluence.

## Adding a Confluence Gadget to a JIRA Dashboard

JIRA 4.0 is the first major Atlassian application that can incorporate OpenSocial-compliant gadgets, such as Confluence gadgets onto its dashboard. This page explains how to add a Confluence gadget to the dashboard of a JIRA 4.0+ installation.

To add a Confluence gadget to a JIRA dashboard, complete the steps below.

#### Creating an Application Link between Confluence and JIRA

If your Confluence gadgets need to access user-restricted Confluence data, then your Confluence administrator must first establish an Application Link between your Confluence site and the JIRA site. For more information about configuring an Application Link between Confluence and other web applications, refer to Configuring OAuth Authentication for an Application Link.

If you only need to access anonymously accessible Confluence data, then you can skip the section about adding an Application Link, and go directly to Finding a Confluence Gadget's URL, below.

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**On this page:**


- Creating an Application Link between Confluence and JIRA
- Finding a Confluence Gadget's URL
- Adding a Confluence gadget to JIRA's gadget directory
- Adding a Confluence gadget to the JIRA dashboard


**Related pages:**

- All Atlassian gadgets
- Working with Confluence Gadgets
- Confluence User's Guide

### Finding a Confluence Gadget's URL

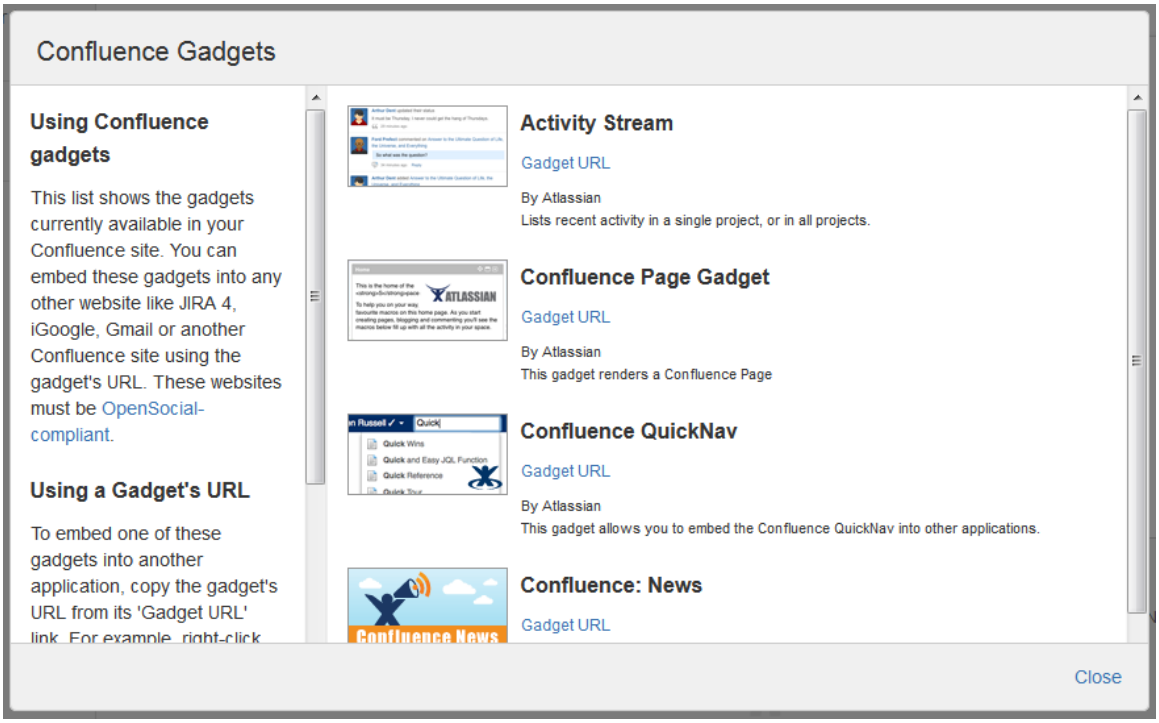
A gadget's URL points to the gadget's XML specification file. These URLs look something like this:

```
http://example.com/my-gadget-location/my-gadget.xml
```

**To find a Confluence gadget's URL:**

1. Choose the help icon  at top right of the screen, then choose **Available Gadgets**.
2. Find the gadget you want.
3. Copy the **Gadget URL** link to your clipboard.

*Screenshot: Finding a gadget's URL*




### Adding a Confluence gadget to JIRA's gadget directory

**To add a Confluence gadget to the gadget directory in JIRA:**

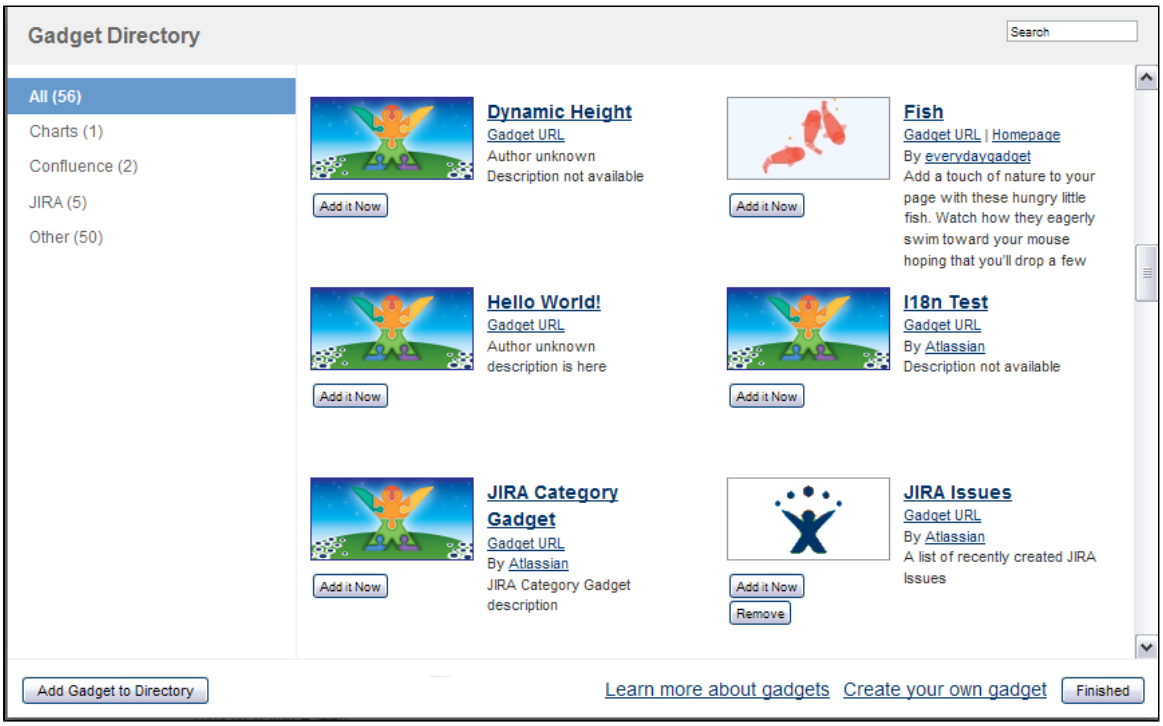
1. Go to the dashboard by clicking **Dashboard** at the top left of the screen.
2. The dashboard will appear. Click **Add Gadget**.
3. The 'Add Gadget' screen appears, showing the list of gadgets in your directory. See screenshot 1 below. Click **Add Gadget to Directory**.

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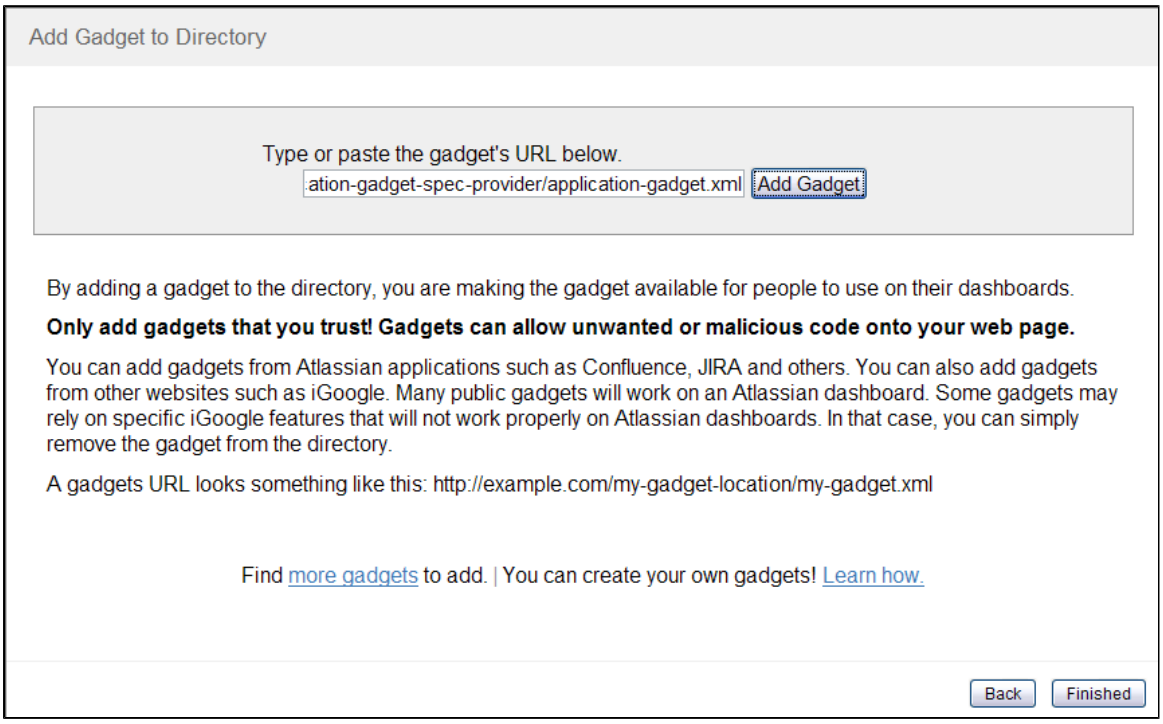
Note: You will only see this button if you have system administrator permissions in JIRA.

4. The 'Add Gadget to Directory' screen appears. See screenshot 2 below. Paste the gadget URL (which you copied to your clipboard above) into the text box.
5. Click **Add Gadget**.
6. The gadget appears in your gadget directory. (It will be highlighted for a short time, so that you can see it easily.)

*Screenshot 1: Gadget directory with 'Add Gadget to Directory' button*




*Screenshot 2: Adding a gadget to the directory*




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### Adding a Confluence gadget to the JIRA dashboard

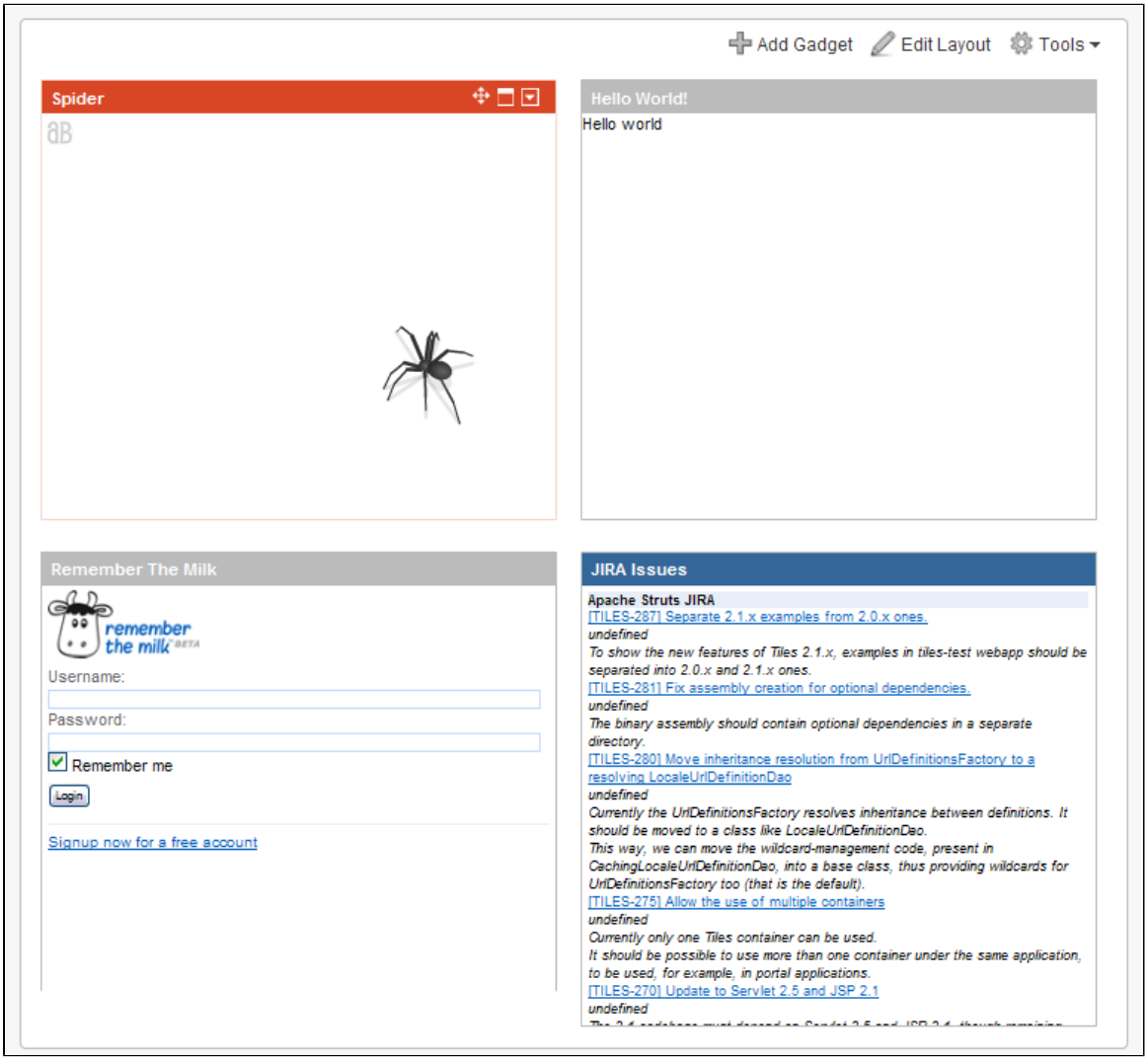
In the procedure below, 'your Atlassian dashboard' and 'your Atlassian application' refers to the JIRA dashboard and application, respectively.

You can add a gadget from the directory of gadgets that are available to your Atlassian application.

**To add a gadget to your Atlassian dashboard,**

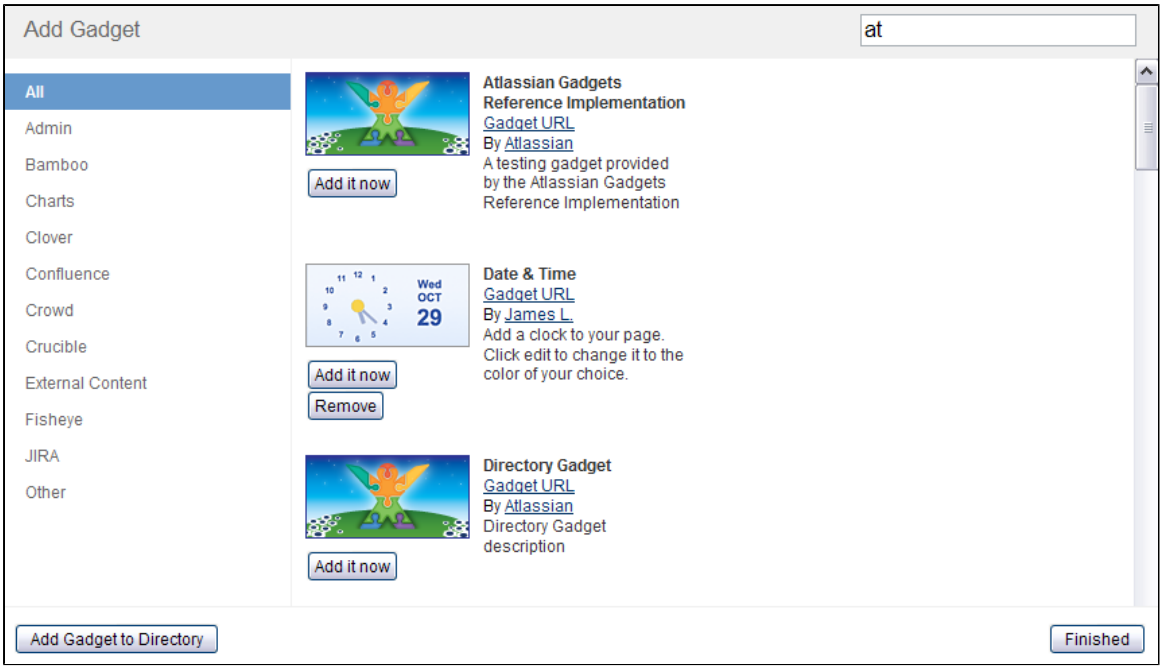
1. Go to the dashboard by clicking the '**Dashboard**' link or the '**Home**' link at the top left of the screen.
2. The dashboard will appear, looking something like screenshot 1 below. Click '**Add Gadget**'.
3. The '**Add Gadget**' screen will display a list of available gadgets in your gadget directory, as shown in screenshot 2below. Find the gadget you want, using one or more of the following tools:
    - Use the scroll bar on the right to move up and down the list of gadgets.
    - Select a category in the left-hand panel to display only gadgets in that category.
    - Start typing a key word for your gadget in the '**Search**' textbox. The list of gadgets will change as you type, showing only gadgets that match your search term.
4. When you have found the gadget you want, click the '**Add it Now**' button to add the gadget to your dashboard.

*Screenshot 1: An Atlassian dashboard*




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*Screenshot 2: Adding a gadget from the gadget directory*




**Note:**

- You need administrator privileges to add a gadget to the list of available gadgets. If you have permission to add gadgets to and remove gadgets from the directory itself, you will see the '**Add Gadget to Directory**' and '**Remove**' buttons on the 'Add Gadget' screen, as shown in the screenshot about. Please refer to the Gadgets and Dashboards Administration Guide.
- In **Atlassian OnDemand** products, it is not possible for administrators to add gadgets to the directory. If you would like to add an Atlassian gadget to a directory, please contact Atlassian Support.

## Configuring Confluence Gadgets for Use in Other Applications

This page tells you how to add a Confluence gadget to another (external) application. The instructions and examples given in this topic focus on adding and using Confluence Gadgets in other web applications.

> **Atlassian support does not cover gadgets on external sites like iGoogle and Gmail**
> In principle, you should be able to add Atlassian gadgets to iGoogle, Gmail and other external sites that support OpenSocial gadgets. However, these external integrations are experimental at this stage and we have encountered problems with them. Please do have fun playing around with them, but be aware that Atlassian does not support the use of Atlassian gadgets on iGoogle, Gmail or other external web sites. See the detailed section on gadget limitations.

Gadgets that display information from Atlassian applications, such as Confluence, should be able to run on iGoogle, Gmail and other web applications that provide OpenSocial containers. Below are specific instructions for iGoogle and Gmail. You can experiment by adding a Confluence gadget to other web sites and applications, such as a Ning community like The Content Wrangler.

**On this page:**


- Overview of Adding a Confluence Gadget to Another Web Application
- Finding a Confluence Gadget's URL
- Adding an Atlassian Gadget to iGoogle
- Adding an Atlassian Gadget to Gmail
- Limitations and Support
- Related Topics


### Overview of Adding a Confluence Gadget to Another Web Application

The exact procedure for adding a Confluence gadget depends on the application where you want to add the gadget. The basic steps are the same:

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1. Find the Confluence gadget's URL, i.e. the URL for the gadget's XML specification file.
2. Ensure one of the following two mandatory (typically one-off) procedures have been conducted:
    - An OAuth relationship between Confluence (as the 'service provider') and the other web application (as the 'consumer') has been established. Refer to Configuring OAuth for more information about OAuth and instructions on establishing these relationships.
    - A Trusted Applications relationship between Confluence and JIRA has been established. Refer to Configuring Trusted Applications in the JIRA documentation for more information about establishing these relationships.
3. Follow the procedure provided by the external web application where you want to add the Confluence gadget.

### Finding a Confluence Gadget's URL

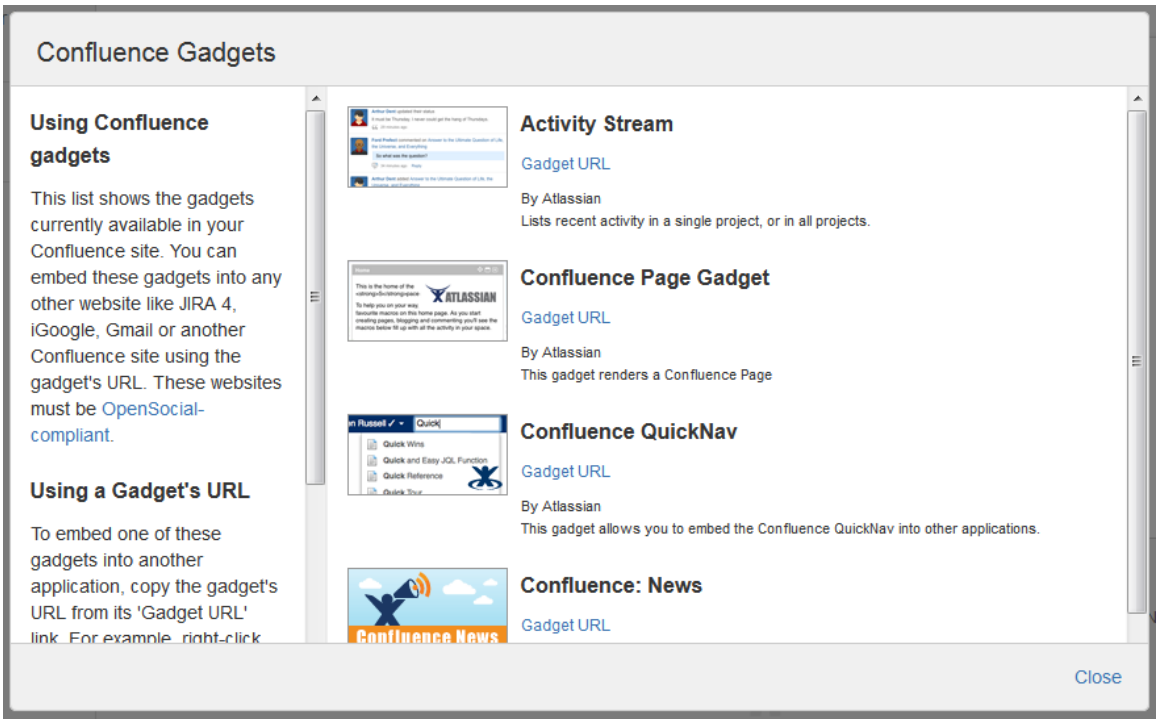
A gadget's URL points to the gadget's XML specification file. These URLs look something like this:

```
http://example.com/my-gadget-location/my-gadget.xml
```

**To find a Confluence gadget's URL:**

1. Choose the help icon  at top right of the screen, then choose **Available Gadgets**.
2. Find the gadget you want.
3. Copy the **Gadget URL** link to your clipboard.

*Screenshot: Finding a gadget's URL*




### Adding an Atlassian Gadget to iGoogle

You can customise your iGoogle home page by adding gadgets and moving them around on the page.

**To add an Atlassian gadget to your iGoogle page:**

1. First find the gadget's URL as described above.
2. Go to iGoogle and log in if you have a username and password.
3. Click **Add stuff** near the top right of the iGoogle page.
4. The Google gadget directory will appear, showing a list of available gadgets. Click **Add feed or gadget** in the right-hand panel.

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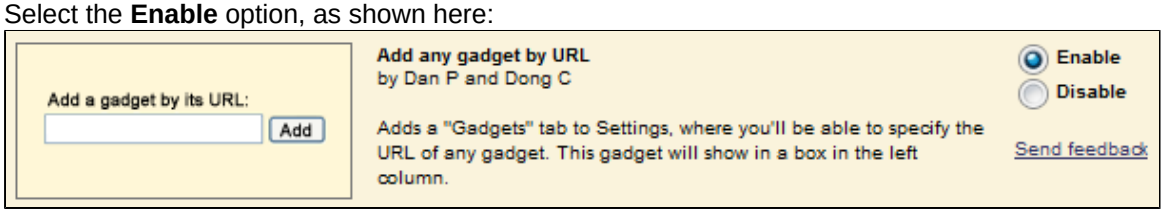

5. A text box will open, as shown above. Enter or paste the gadget's URL from your clipboard into the textbox and click **Add**.
6. Go back to your iGoogle home page. The gadget will appear on your iGoogle page.

### Adding an Atlassian Gadget to Gmail

You can add gadgets to the left-hand panel of your Gmail page.

**To add an Atlassian gadget to your Gmail page:**

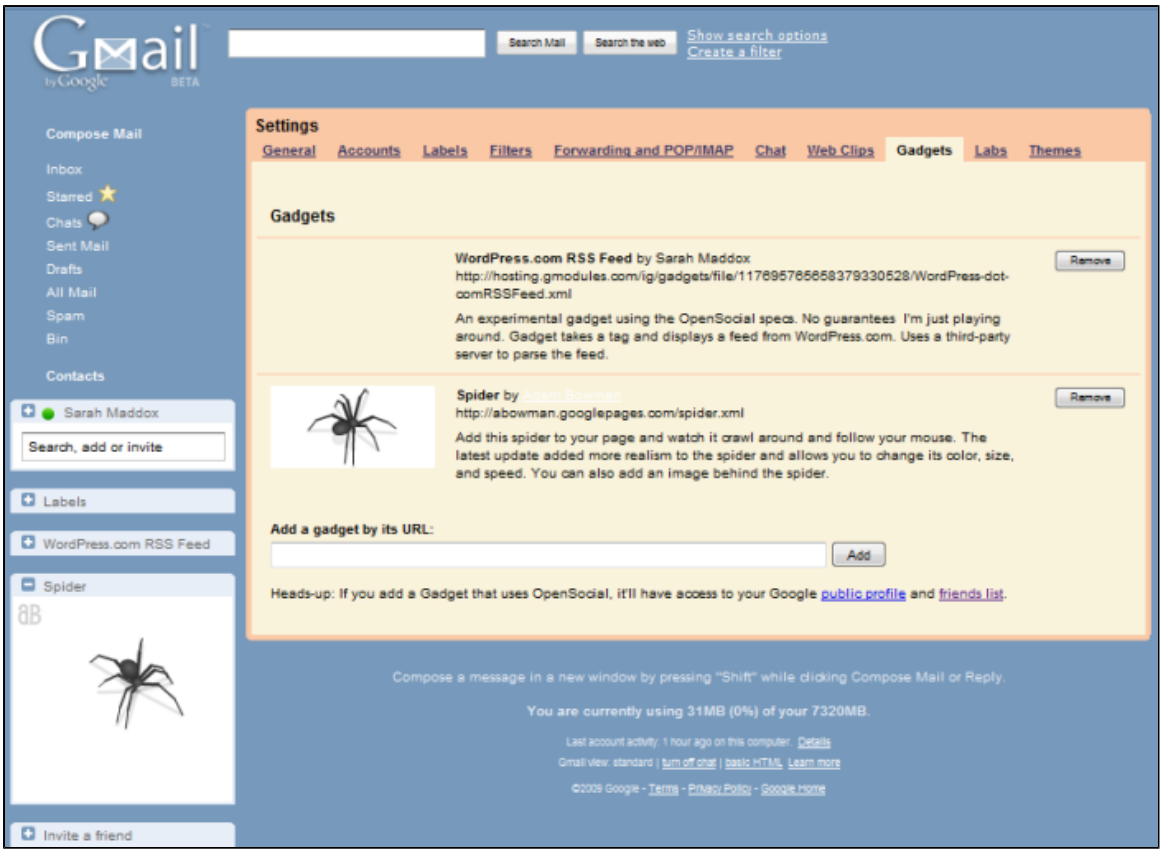
1. First find the gadget's URL as described above.
2. Log in to Gmail.
3. Click **Settings** near the top right of the Gmail page. The Gmail settings page will appear.
4. Click the **Labs** tab. The Gmail Labs page will appear. This is a laboratory area or testing ground where Google allows you to use experimental features in Gmail.
5. Scroll down to find the feature called 'Add any gadget by URL'.
6. Select the **Enable** option, as shown here:




7. Click **Save Changes**.
8. A new **Gadgets** tab will appear on your 'Settings' page. Click the **Gadgets** tab. The 'Gadgets' page will appear, as shown in the screenshot below.
9. Enter or paste your gadget's URL into the **Add a gadget by its URL** box, then click **Add**.
10. The gadget will appear in the left-hand panel of your Gmail page, as shown in the screenshot below.

*Screenshot: Adding a gadget to Gmail*

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### Limitations and Support

**Atlassian support does not cover gadgets on external sites like iGoogle and Gmail**
In principle, you should be able to add Atlassian gadgets to iGoogle, Gmail and other external sites that support OpenSocial gadgets. However, these external integrations are experimental at this stage and we have encountered problems with them. Please do have fun playing around with them, but be aware that Atlassian does not support the use of Atlassian gadgets on iGoogle, Gmail or other external web sites. See the detailed section on gadget limitations.

### Related Topics

The big list of Atlassian gadgets

## Confluence Gadgets

This page describes the purpose of the 'Confluence Gadgets' dialog and how to access it, and provides information about the gadgets that are bundled with Confluence.

Gadgets:

- Interact with and provide access to data in your Confluence installation.
- Can be used externally such as on a JIRA dashboard, a page or blog post of another Confluence site, or any compatible page on a we site that accepts gadgets, such as iGoogle. (But see the limitations on using Confluence gadgets in other applications.)

### The gadgets dialog

The 'Confluence Gadgets' dialog displays a list of all the Confluence gadgets available in your Confluence installation. The Confluence gadgets bundled with Confluence are described below. Any additional Confluence gadgets installed by your Confluence administrator (typically as Confluence plugins), will also appear in this list.

**To access the Confluence Gadgets dialog: Choose the help icon at top right of the screen, then choose Available Gadgets.**

You can use a Confluence gadget within the same Confluence site, by adding it to a page or blog post using the

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gadget macro.

You can also add Confluence gadgets to external applications. See Adding a Confluence Gadget to a JIRA Dashboard and Configuring Confluence Gadgets for Use in Other Applications.

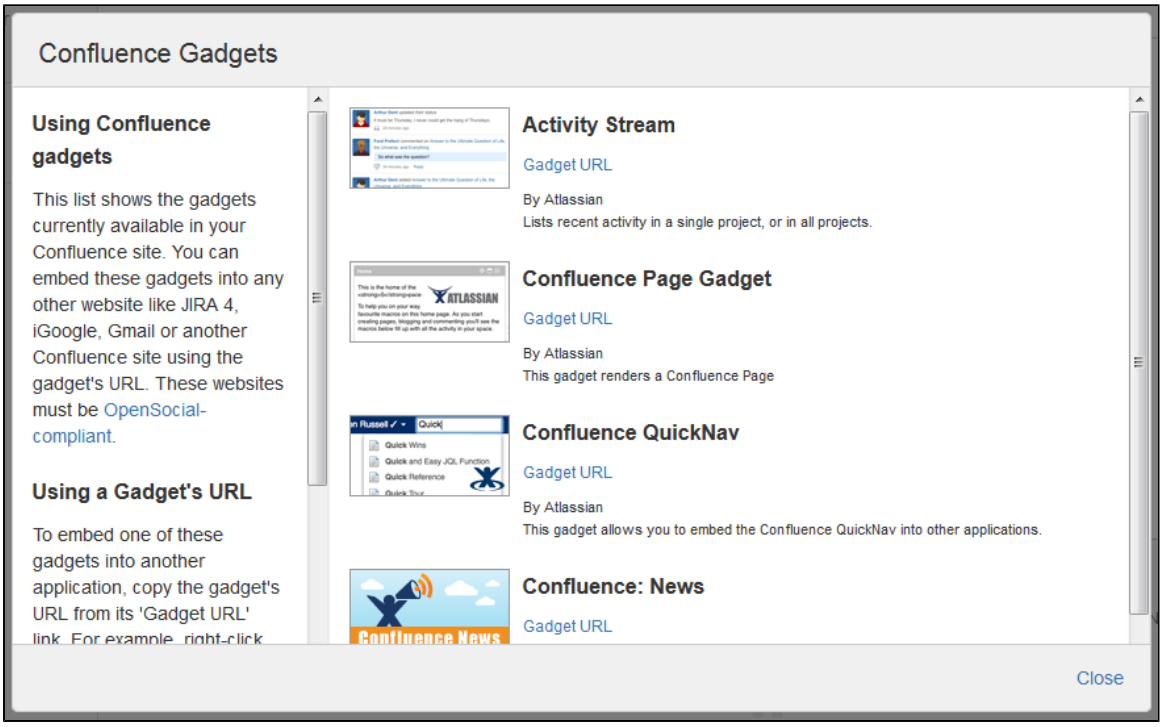
**On this page:**


- The gadgets dialog
- Confluence gadgets


**Related pages:**

- Adding a Confluence Gadget to a JIRA Dashboard
- Configuring Confluence Gadgets for Use in Other Applications
- Gadget Macro
- The big list of Atlassian gadgets
- Confluence User's Guide

*Screenshot: The 'Confluence Gadgets' dialog*




### Confluence gadgets

This following table lists the gadgets which are bundled with Confluence. Click the name of the gadget for more information.

| Name | Description |
|---|---|
| **Confluence Page Gadget** | The Confluence page gadget allows you to show content from a page on your Confluence site in a gadget. You can optionally configure the gadget to display links to view and/or edit the page on your Confluence site. The page gadget can also be displayed in canvas view, so that it takes up all of the space provided by your dashboard. |
| **Activity Stream Gadget** | The activity stream gadget is similar to the recently updated macro and shows a list of the most recently changed content within your Confluence site. |

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| | |
|---|---|
| **Confluence News Gadget** | The Confluence news gadget is an example of a 'news feed' gadget that shows a list of recent Confluence Product Blogs and events at Atlassian. |
| **Confluence Quicknav Gadget** | The Confluence QuickNav gadget provides the Quick Navigation Aid functionality for searching the Confluence site. For more information on how to use this feature, refer to the Quick Navigation Aid section of Searching Confluence. |

### Activity Stream Gadget

The activity stream gadget is similar to the recently updated macro and shows a list of the most recently changed content within your Confluence site.

*For instructions on how to use Confluence gadgets in your applications, please see Confluence Gadgets.*

In addition to showing a list of most recently changed content, the activity stream gadget also groups activities by separate date, and provides an RSS feed link to its content in the top-right corner.

#### *Activity Stream Gadget Properties*

Properties are settings for Confluence gadgets that allow the user to control the content or presentation of data retrieved by the gadget. These are similar to a Confluence macro's parameters. The table below lists relevant properties for this gadget.

| Property | Required? | Default | Description |
|---|---|---|---|
| **Title** | Yes | None | Adds a title to the top of the Activity Stream. |
| **Projects** | No | None specified (i.e. display content in all spaces) | Filters the content by space. This gadget will display only the pages etc. which belong to the space(s) you specify here. |
| **Username** | No | None specified (i.e. display content by all users) | Filters the results by user. The macro will display only the pages etc. which were last modified by the user(s) you specify here.<br><br>You can specify one or more user, separated by a comma or a space. |
| **Number of Entries** | No | 10 | Specify the maximum number of results to be displayed. A maximum of 10 results will be displayed by default. The maximum value that this property can accept is 100. |

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| | | | |
|---|---|---|---|
| **Refresh Interval** | No | Never/false | Specify the time interval between each 'refresh' action undertaken by the activity stream gadget. A refresh makes the activity stream gadget reflect any new activity that has been conducted on the Confluence site. |

### Confluence News Gadget

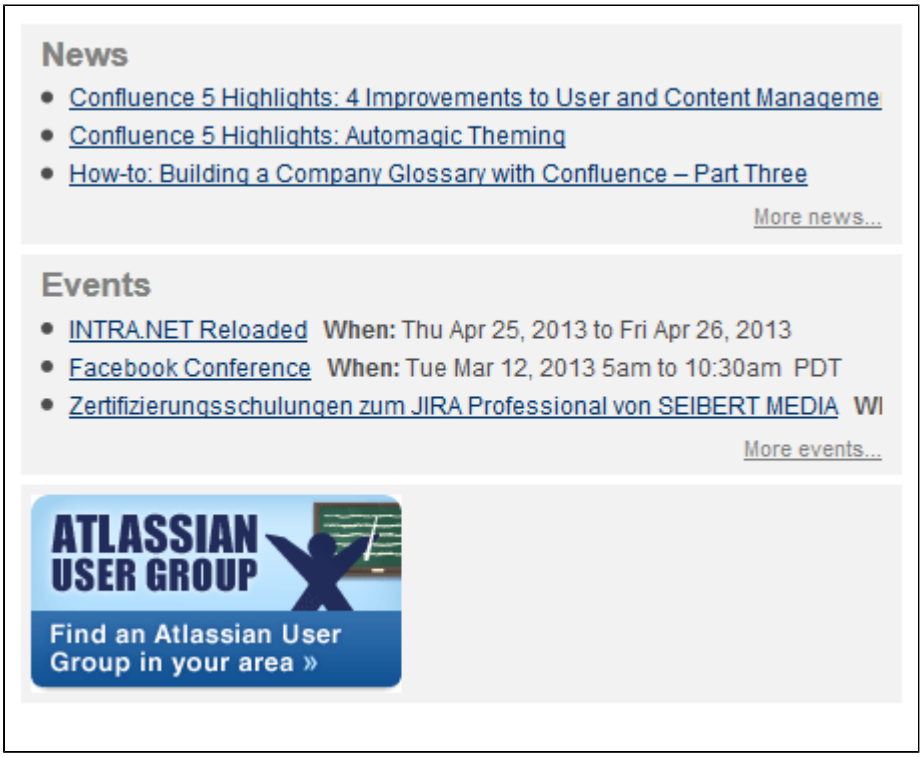
The Confluence news gadget is an example of a 'news feed' gadget that shows a list of recent Confluence Product Blogs and events at Atlassian.

*For instructions on how to use Confluence gadgets in your applications, please see Confluence Gadgets.*

Clicking an item in the Confluence news gadget takes you directly to the selected blog post of the Confluence Product Blogs feed or event details on the events at Atlassian page.

Clicking **More news** takes you to the Confluence Product Blogs feed page and clicking **More events** takes you to the events at Atlassian page.

*Screenshot: The News Gadget*




***Confluence: News Gadget Properties***

Properties are settings for Confluence gadgets that allow the user to control the content or presentation of data retrieved by the gadget. These are similar to a Confluence macro's parameters. The table below lists relevant properties for this gadget.

| Property | Required? | Default | Description |
|---|---|---|---|
| **Show News?** | No | True | Shows a short list of the most recent Confluence Product Blogs. |
| **Show Events?** | No | True | Shows a short list of the most recent events at Atlassian. |

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| | | | |
|---|---|---|---|
| **Show Banners?** | No | True | Shows any banner advertisements (if available). |

### Confluence Page Gadget

The Confluence page gadget allows you to show content from a page on your Confluence site in a gadget. You can optionally configure the gadget to display links to view and/or edit the page on your Confluence site. The page gadget can also be displayed in canvas view, so that it takes up all of the space provided by your dashboard.

*For instructions on how to use Confluence gadgets in your applications, please see Confluence Gadgets.*

**Macros that work with the page gadget**
Please note, not all macros work with the page gadget. Please refer to the Working Macros section below for more information.

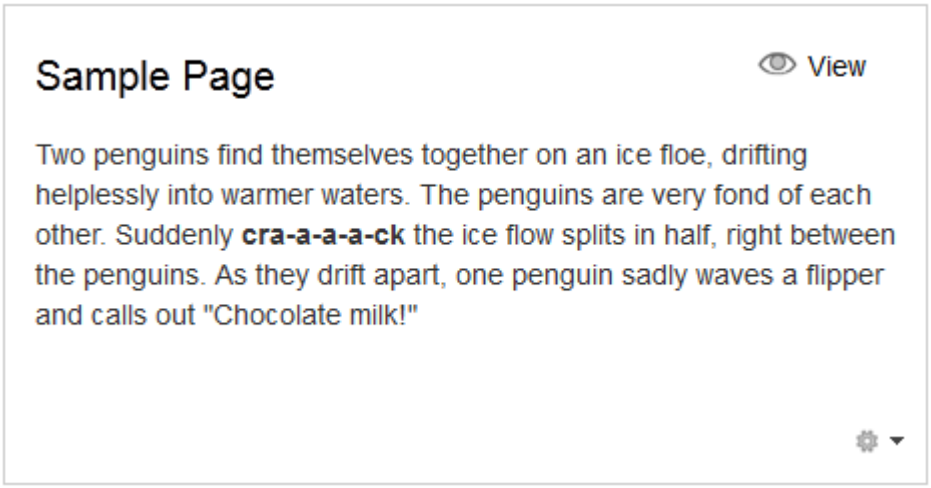
**On this page:**


- Confluence Page Gadget Properties
- Working Macros


**Related pages:**

- Confluence Gadgets
- Confluence User's Guide

*Screenshot: The Confluence page gadget displaying a sample page*




#### *Confluence Page Gadget Properties*

Properties are settings for Confluence gadgets that allow the user to control the content or presentation of data retrieved by the gadget. These are similar to a Confluence macro's parameters. The table below lists relevant properties for this gadget.

| Property | Required? | Default | Description |
|---|---|---|---|
| **Space** | No | None | Specify the space that your desired page is located in. Suggestions will display in a dropdown when you start typing. (Note, this property is only used to make searching for pages easier. It is not required.) |

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| | | | |
|---|---|---|---|
| **Page** | Yes | None | Specify the page that you want to display in your gadget. Suggestions will display in a dropdown when you start typing. |
| **Show View Link** | No | Yes | Select whether to display a link to view the page on your Confluence site. Clicking the link will open the page in Confluence. |
| **Show Edit Link** | No | No | Select whether to display a link to edit the page on your Confluence site. Clicking the link will open the page for editing in Confluence. |
| **Refresh Interval** | No | Never/false | Specify the time interval between each 'refresh' action undertaken by the page gadget. A refresh makes the activity stream gadget reflect any new activity that has been conducted on the Confluence site. |

***Working Macros***

The Confluence page gadget will only render a subset of the macros that are used in Confluence correctly. Refer to the table below for the list of macros that work and do not work with the page gadget and known limitations.

> Some of the issues with macros in the page gadget can be worked around, if you are comfortable developing in Confluence. Please see Troubleshooting Macros in the Page Gadget for more information.

**Key:**
*Works with the page gadget*
** Partially works with the page gadget*
*Does not work with the page gadget*

| Macro | Works with page gadget? | Limitations |
|---|---|---|
| Activity Stream | ✗ | You cannot have another gadget embedded within the Confluence Page Gadget |
| Anchor (within a page) | ✓ * | Opens in a new page |
| Attachments | ✓ | N/A |
| Blog Posts | ✓ | N/A |
| Chart | ✓ | N/A |
| Children Display | ✓ | N/A |
| Content By Label | ✓ | N/A |
| Content By User | ✓ | N/A |
| Excerpt | ✓ | N/A |

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| | | |
|---|---|---|
| Gallery | ✓ | N/A |
| Include Page | ✓ | N/A |
| Info | ✓ | N/A |
| Labels List | ✓ | N/A |
| Livesearch | ✗ | N/A |
| Note | ✓ | N/A |
| Metadata | ✓ | N/A |
| Metadata Summary | ✓ | N/A |
| Pagetree Search | ✗ | N/A |
| Pagetree | ✓ | N/A |
| Panel | ✓ | N/A |
| Quick Nav | ✗ | You cannot have another gadget embedded within the Confluence Page Gadget |
| Recently Updated | ✓ | N/A |
| RSS Feed | ✓ | N/A |
| Section & Column | ✓ | N/A |
| Spaces List | ✓ | N/A |
| Table of Contents | ✓ * | Works, however links will be opened in a new browser window when clicked. |
| Tasklist | ✓ * | Tasks can be viewed but not added/edited. |
| View File (PDF or PPT) | ✓ * | Works, but you may need to refresh the gadget the first time (see CONF-19932). |
| Widget Connector | ✓ * | Only works for some content:<br>• **Works:** blip.tv, Episodic, Flickr, Google Calendar, presentations on Google Docs, MySpace Video, Scribd, Skitch.com, SlideRocket, SlideShare, Viddler, Vimeo, YouTube, Dailymotion, Metacafe, FriendFeed, Yahoo Video, Wufoo HTML Form Builder<br>• **Does not work:** FriendFeed, Google Gadgets, Google Video (consumer service discontinued), Twitter, Widgetbox, DabbleDB, BackType |

### Confluence Quicknav Gadget

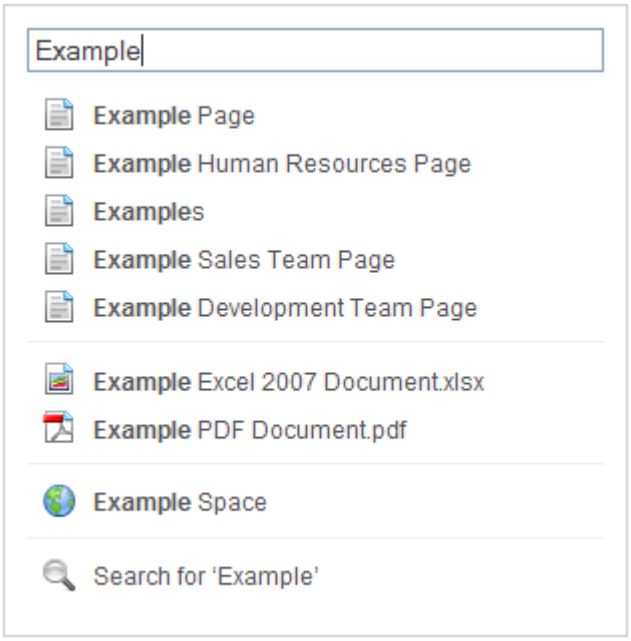
The Confluence QuickNav gadget provides the Quick Navigation Aid functionality for searching the Confluence site. For more information on how to use this feature, refer to the Quick Navigation Aid section of Searching

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Confluence.

*For instructions on how to use Confluence gadgets in your applications, please see Confluence Gadgets.*

*Screenshot: Using the QuickNav Gadget*




***Confluence QuickNav Gadget Properties***

This gadget has no properties and cannot be customised.

## Adding JIRA Gadgets to a Confluence Page

The Confluence Gadget macro is a specific type of macro which is used to display gadgets, including JIRA gadgets, in a Confluence page. Once you have configured external gadgets in the Confluence Administration Console, they will appear in the Macro Browser.

Before you can start adding JIRA Gadgets:

- Your JIRA administrator will need to configure JIRA to trust Confluence via Application Links. See the JIRA administrator's guide. (Not required if your JIRA site allows anonymous access)
- Your Confluence administrator will need to add the JIRA gadget URL to the list of authorised external gadgets in Confluence.

**To add a JIRA Gadget to a Confluence page:**

- Choose **Insert** > **Other Macros**.
- Navigate to the gadget you wish to add to the page and choose **Insert**.

Refer to the Gadget Macro page for more information on adding the macro to your page.

## Developing Technical Documentation on Confluence Wiki

Welcome! This is a guide to using Confluence wiki for technical documentation. You will find this guide useful if you want to write a technical manual such as a user's guide, administrator's guide, installation guide, and so on.

- Creating your Technical Documentation Space
- Using Templates in Technical Documentation
- Re-using Content in Technical Documentation
- Managing the Life Cycle of your Technical Documentation
- Providing PDF Versions of your Technical Documentation
- Exporting and Printing Technical Documentation
- Essential Confluence Features for Technical Documentation
- Confluence Add-ons for Technical Documentation
- Further Reading about Developing Technical Documentation on Confluence

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**Related pages:**

- Confluence User's Guide
- Confluence Administrator's Guide

## Creating your Technical Documentation Space

This guide is for people who want to develop and publish technical documentation on Confluence wiki. You will find it useful if you want to write a technical manual such as a user's guide, administrator's guide, installation guide, and so on. This page is a quick-start guide to creating a wiki space for technical documentation.

**Quick guide to creating a technical documentation space:**

- Add a space and select the Documentation theme.
- Set the space permissions.
- Change the title and content of the space home page.
- Customise the Documentation theme.
- Create an inclusions library to manage your re-usable content.
- Create the table of contents for your manual or manuals, by adding top-level pages for all the usual sections (user's guide, administrator's guide, and so on).
- Customise your PDF layout and stylesheet, if required.
- *Hint:* Now that you have a good skeleton for a documentation space, save the space as a template space.

The rest of this page gives more details of the above procedure.

**On this page:**


- Step 1. Add your space
- Step 2. Set the space permissions
- Step 3. Customise the title and content of the space home page
- Step 4. Customise the Documentation theme
- Step 5. Create an inclusions library
- Step 6. Create the table of contents
- Step 7. (Optional) Customise the PDF layout and stylesheet
- Step 8. Save your new space as a template


### Step 1. Add your space

Below is a quick guide to adding a space. See Creating a Space for a full description.

1. Go to the Confluence dashboard and choose **Create Space** > **Blank Space**.
   *Hint:* If you cannot see **Create Space**, this means that you do not have permission to add spaces. Please contact your Confluence administrator.
2. Choose **Next** then enter a **space name** and a short, unique **space key**.
3. Leave the **permission** settings as default, or choose to allow only yourself to view or contribute content to this space. You can change these settings later and with more flexible options.
4. Choose **Create**.
5. Your new space appears. Choose **Space Tools** in the sidebar.
6. Choose **Look and Feel** > **Themes** and select the **Documentation** theme.
7. Choose OK.

The home page of your new space will appear. Because you created the space, you are the space administrator. Now you can do some basic configuration, as described in the sections below. From this point on, instructions will refer to navigating in the Documentation theme, which is slightly different to the default theme.

### Step 2. Set the space permissions

Define the space permissions to determine who can do what in your new space.

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Permissions**.
3. Choose **Edit Permissions**.
4. Set the permissions to suit your needs then choose **Save All**.

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- You can add **groups** and/or individual **users** to the list, then select the permissions for each group or user.
- You can also set the permissions for **anonymous** users – these are people who have not logged in to the wiki. Anonymous access is available only if enabled for the entire Confluence site.
- Note that you can change these permissions at any time. You may want to restrict the permissions to specific groups now, and later open the space to more people.

***A bit more about permissions***

Confluence has a robust and granular permissions scheme that you can use to determine who can view, comment on and even update the documentation. There are three levels of permissions in Confluence:

- Global permissions apply across the entire site.
- Space permissions apply to a space.
- Page restrictions allow you to restrict the editing and/or viewing of a specific page. Below we discuss a way of using these in the draft, review and publishing workflow.

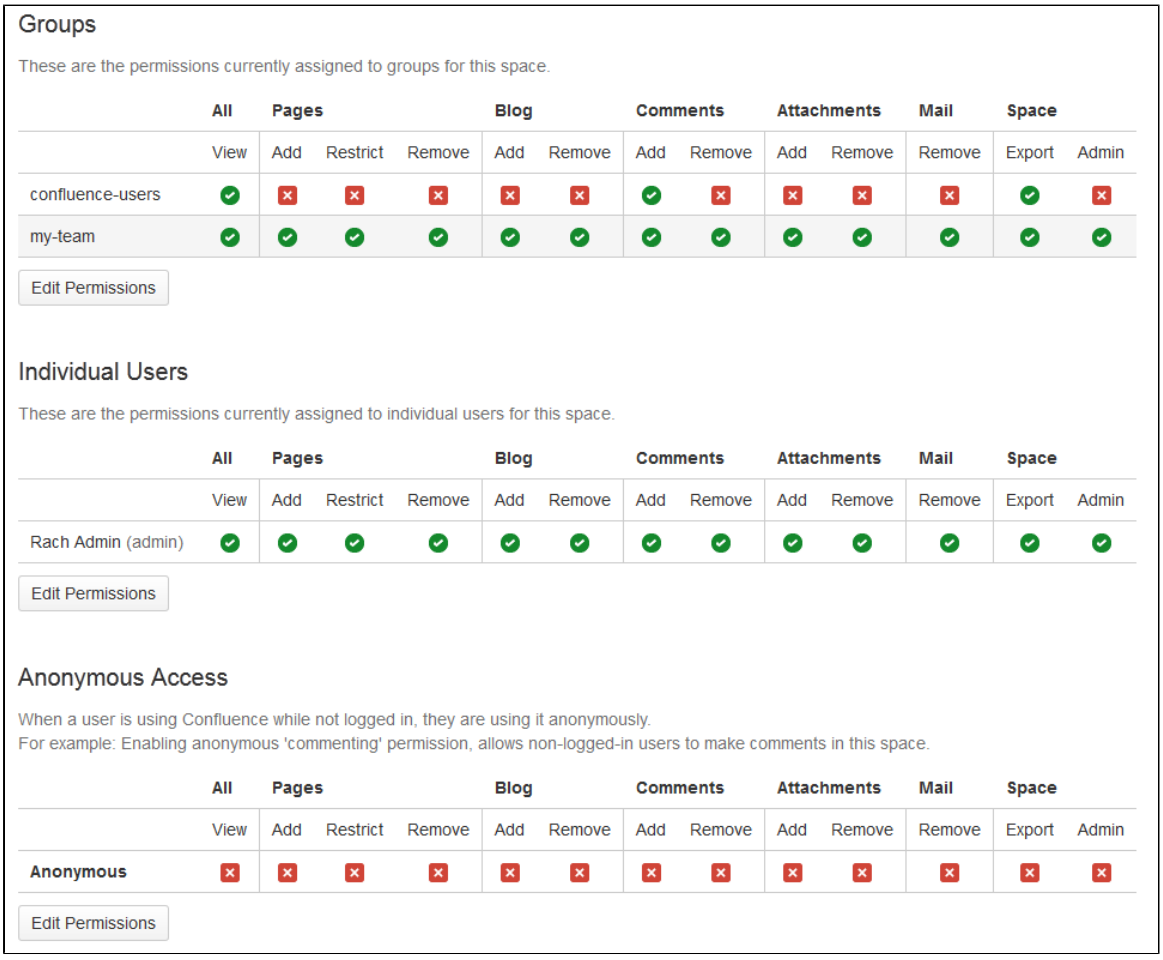
**Space permissions** in Confluence are simple yet granular enough to be useful for technical documentation. You can:

- Use the permission levels to control who can create pages in the space, delete pages, create comments, delete comments, administer the space, and so on.
- Grant a permission level to one or more users, and/or to one or more groups, and/or to anonymous users.

Terminology:

- '**Anonymous**' means people who have not logged in to the wiki.
- The '**confluence-users**' group is the default group into which all new users are assigned (in OnDemand this group is called 'users'). Everyone who can log in to Confluence is a member of this group.

For example, you might allow your team full edit and administration rights while others can only add comments. Or you might grant the general public access to your documentation, while only staff members can update it.




For detailed information, see the documentation on:

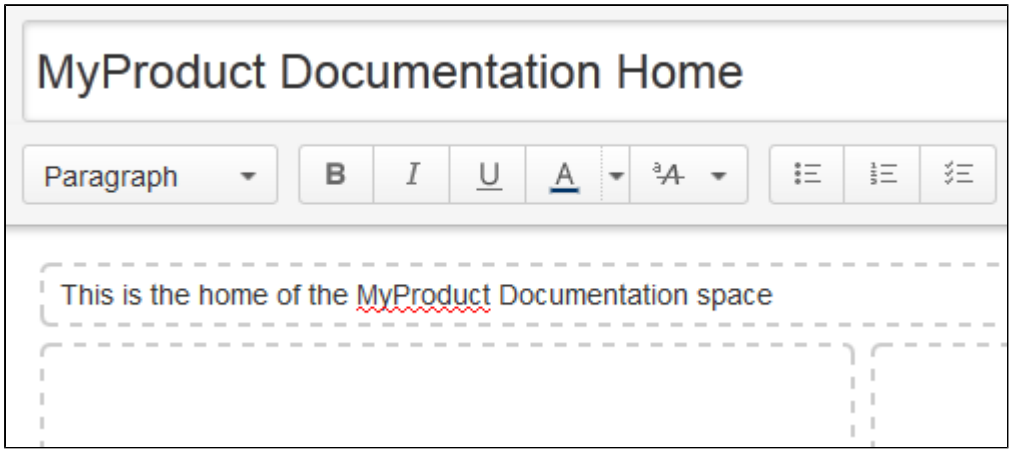
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- Global permissions
- Space permissions
- Page restrictions
- Users and groups

#### Step 3. Customise the title and content of the space home page

When you created your space, Confluence created a home page with default content and a default title. You will want to change the title and content.

1. Go to your space home page.
2. By default, the page title is 'X Home', where 'X' is the name you gave the space.
3. Choose **Edit**.
4. The page opens in the editor. Change the title to suit your needs.

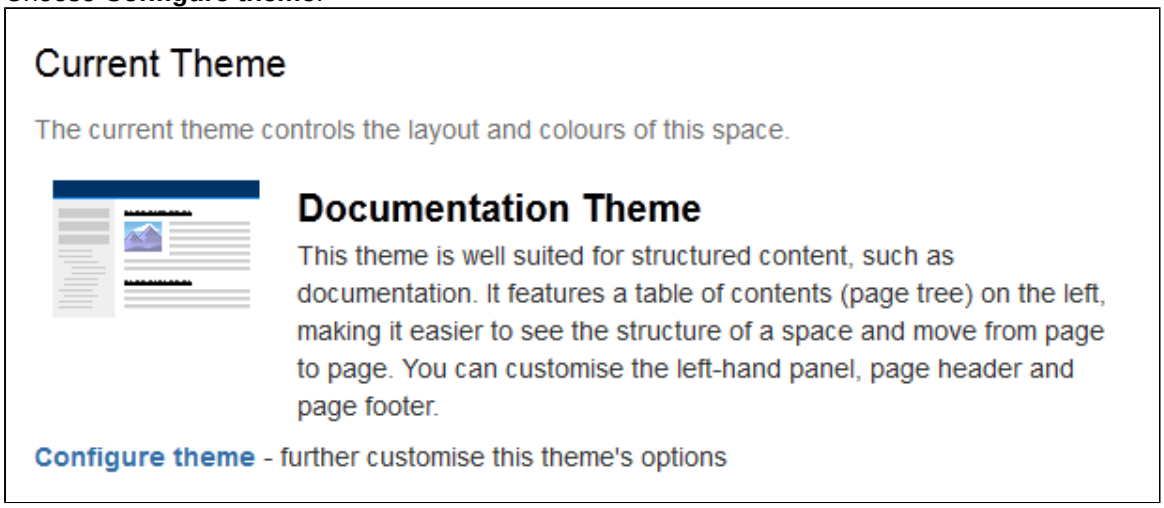



5. Update the content to suit your needs.
   *Hint:* If you do not know what to add yet, just add a short description. You can refine the content of the page later. Take a look at an example of a home page.
6. Choose **Save**.

#### Step 4. Customise the Documentation theme

When you added the space you chose the Documentation theme, which provides a left-hand navigation bar and a good look and feel for technical documentation. If necessary, you can configure the Documentation theme to add your own page header and footer or to customise the default left-hand navigation bar. These customisations affect the online look and feel of your documentation. See Configuring the Documentation Theme for the full description.

1. Choose **Browse** > **Space Admin.** (If you have not yet applied the Documentation theme choose **Space Tools** > **Look and Feel** > **Themes**.)
2. Choose **Themes** in the left menu.
3. If the space is not yet using the Documentation theme, apply the theme now.
4. Choose **Configure theme**.




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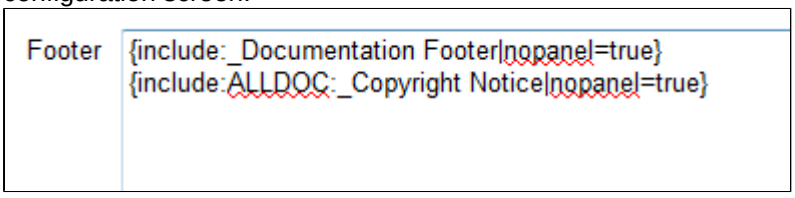
5. The 'Documentation Theme Configuration' screen appears. Customise the left-hand navigation bar, header and footer to suit your needs. Details are in the documentation. Here are some hints:
    - The **Page Tree** check box determines whether your space will display the default search box and table of contents (page tree) in the left-hand panel.
    - The **Limit search results to the current space** check box determines whether Confluence will search only the current space or the whole Confluence site. This setting affects the default search. Viewers can override it each time they do a search.
    - Enter text, images, macros and other wiki markup into any or all of the three text boxes for the the left-hand navigation bar, header and footer. You can use the Include macro and the Excerpt Include macro to include re-usable content.
    - Any content you add to the navigation panel will appear **above** the default page tree.
    - If you like, you can remove the default page tree (by unticking the box) and add your own, customised version of the Pagetree macro instead.
6. Choose **Save**.

***Example of a customised footer***

Take a look at the footer of a page in the Crowd documentation space.




To produce the above footer, we have the following content in the footer panel in the Documentation theme configuration screen:




Here it is in text form:

```
{include:_Documentation Footer|nopanel=true}
{include:ALLDOC:_Copyright Notice|nopanel=true}
```

The above content consists of two Include macros.

- The first macro includes a page called _Documentation Footer. This page contains the big blue buttons and hyperlinked text.
- The second macro includes a page from a different space, the ALLDOC space, called _Copyright Notice. This page includes our standard copyright notice, used in all our documentation spaces.

#### Step 5. Create an inclusions library

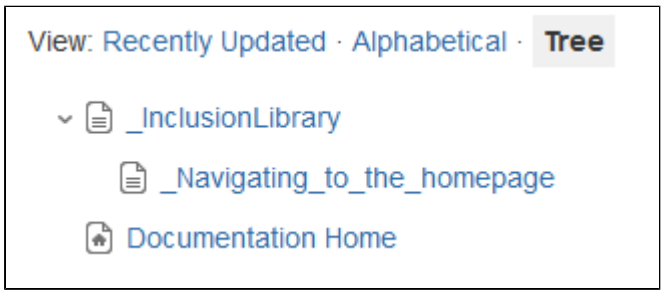
In Confluence, you can dynamically include content from one page into another page. You can include a whole page into another one, using the Include macro. You can also define an ‘excerpt’ on a page, and then include that excerpted text into another page using the Excerpt Include macro.

To organise your re-usable content, we recommend that you create a set of pages called an 'inclusions library'.

1. Choose **Create** and create a new page in your space.
2. Enter a suitable title. We use '_InclusionsLibrary'. The unusual format of the title helps to let people know this page is special.
3. Enter some content and **save** the page. We enter text explaining the purpose of the inclusions library and how to re-use the content. You can copy our text by clicking through to one of the example pages listed below.

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4. Choose **Browse** > **Pages** and drag your new page *above* the space homepage.
5. Go to your new inclusions page and choose **Create** to add child pages containing your re-usable content. See the examples of our own inclusions libraries listed in the examples below.




Some notes about inclusions libraries:

- The inclusions library is not a specific feature of Confluence. The pages in the inclusions library are just like any other Confluence page.
- The pages are located at the root of the wiki space, not under the home page. This means that they will not appear in the table of contents on the left and they will not be picked up by the search in the left-hand navigation bar either.
- The pages will be picked up by other searches, because they are just normal wiki pages.
- We have decided to start the page name with an underscore. For example, '_My Page Name'. This indicates that the page is slightly unusual, and will help prevent people from changing the page name or updating the content without realising that the content is re-used in various pages.

#### *Examples of inclusions libraries*

Here are some examples in our documentation:

- Crowd inclusions library
- Confluence inclusions library

### Step 6. Create the table of contents

Create the table of contents for your documentation, by adding the top-level pages for all the usual sections:

- User's guide
- Administrator's guide
- Installation guide
- Configuration guide
- Release notes
- FAQ
- Whatever else you need

Follow these steps to create the table of contents:

1. Go to your space home page.
2. Choose **Create** to add a page as a child of the homepage.
3. Type the page title, 'User's Guide'.
4. Type the content of the page.
   *Hint:* If you do not know what to add yet, just add a short description then refine the content of the page later. If you like, you can add the Children macro. That will act as a table of contents on the page once you have added child pages.
5. Choose **Save**.

Now do the same for all the sections of your technical document.

### Step 7. (Optional) Customise the PDF layout and stylesheet

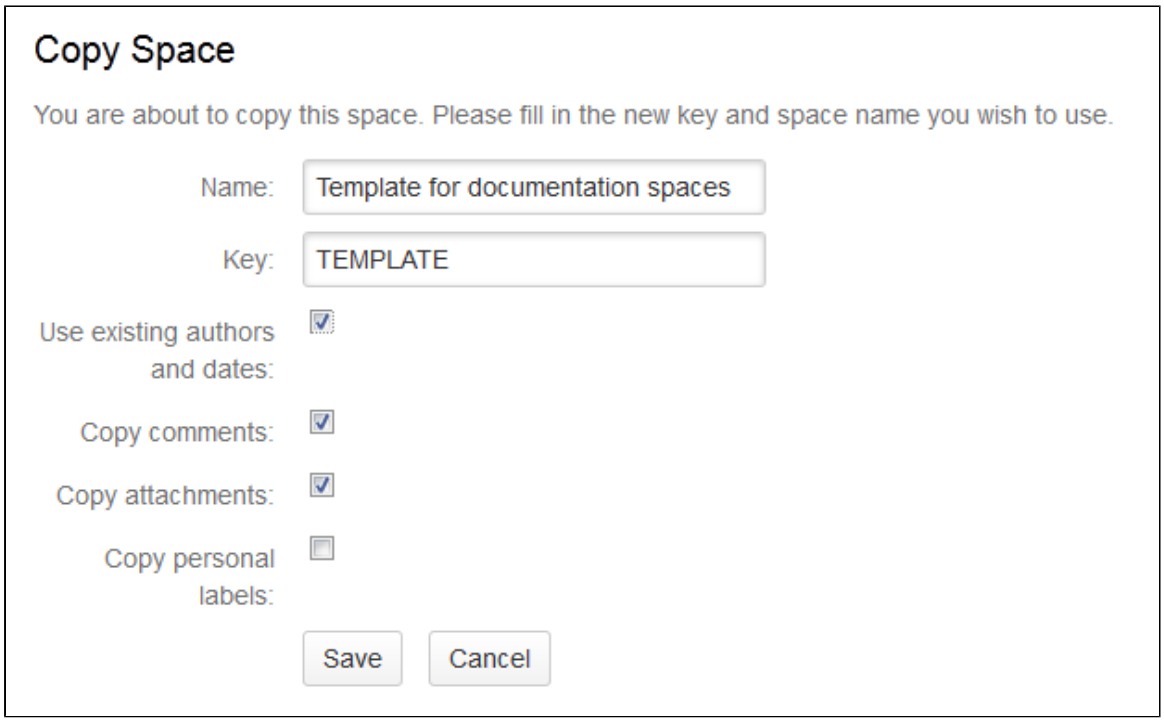
If you are planning to provide PDF versions of your documentation, you may want to customise the PDF layout and styles for your space. You can skip this step for now and do it later, if you prefer. The instructions are in a separate section of this guide, dedicated to PDF. See Providing PDF Versions of your Technical Documentation.

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#### Step 8. Save your new space as a template

This is a useful suggestion. Once you have set up your first documentation space and are more-or-less happy with it, use the Copy Space add-on (see notes below) to copy the space while it still has very little content. From this point on, you can copy it each time you want to create a new documentation space.

1. Choose **Browse** > **Space Admin**
2. Choose **Copy Space** in the left menu
   *Hint:* If you cannot see the 'Copy Space' option, this means that the add-on is not installed on your Confluence site. Refer to the documentation on installing add-ons. (*Not applicable to Confluence OnDemand.*)
3. The 'Copy Space' screen will appear. Enter the details as prompted, to copy your space to another new space.




4. Choose **Save**.

You now have a template space. From this point on, you can use the Copy Space add-on to copy the template space each time you want to create a new documentation space.

Notes:

- The Copy Space add-on is not covered by Atlassian support. However, the Atlassian technical writers use it for all our documentation. If you like, you can vote for an comment on the request for Atlassian support to cover this add-on: CONF-14198.
- Your site administrator will need to install the Copy Space add-on into Confluence. Refer to the documentation on installing add-ons. *Not applicable to Confluence OnDemand.*

#### *Next Steps*

You now have the basic structure and configuration for your technical documentation space. You have also created a handy template to use next time you need a space. What next? Take a look at Using Templates in Technical Documentation.

## Using Templates in Technical Documentation

This page is part of the guide to developing technical documentation on Confluence Wiki. We have already shown you how to create your technical documentation space. Now we offer an introduction to the templates that Confluence provides.

**Quick guide to templates in Confluence:**

- A template is a page with predefined content that can be used as a prototype when creating other pages.

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- Templates are available across the Confluence site (global templates) or per space (space templates).
- Both 'global templates' and 'space templates', as described on this page, define the content of a page. They do not define the content of an entire space.
- To create a template for an entire space, see our guide to creating your documentation space.
- Confluence blueprints provide predefined templates and added functionality.
- You can import predefined templates from the Atlassian Marketplace.

**On this page:**


- Deciding where to put your templates
- Creating a global template
- Creating a space template
- Importing templates
- Using templates provided by blueprints
- Using a template to create a page


### Deciding where to put your templates

Decide whether your template is useful across more than one space.

- If yes, create a global template. You will need Confluence administrator permissions.
- If no, create a space template.
  - You will need space administrator permissions for the relevant space(s).
  - You may have already saved your documentation space as a template, as described in our guide to creating your documentation space. In that case, it may be useful to save your template page in your template space. When you later copy the space, the template pages will be copied too.

### Creating a global template

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand panel.
3. Choose **Add New Global Template**.

See Administering Site Templates for more information.

### Creating a space template

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Templates** from the space administration options.
3. Choose **Add New Space Template**.

See Adding a Template for more information.

### Importing templates

If you have System Administrator permissions, you can download pre-defined templates from the Atlassian Marketplace in the form of a template bundle. Each template bundle contains one or more templates, created by Atlassian or third parties. See Importing Templates.

### Using templates provided by blueprints

A blueprint is a page template with added functionality to help you create, manage and organise content in Confluence.

Confluence ships with some predefined blueprints. You can also download additional blueprints from the Atlassian Marketplace. You can customise the blueprint templates to suit your individual needs and even develop your own blueprints.

See Working with Blueprints.

### Using a template to create a page

When people create a page on your Confluence site, they can choose to base their new page on a template.

1. Go to the page that will be the parent of your new page, and choose **Create**.

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2. You will see a list of all available templates. Select a template then choose **Next**.

#### *Next Steps*

You now have a good idea of how Confluence templates work. What next? Take a look at Re-using Content in Technical Documentation.

## Re-using Content in Technical Documentation

This page is part of the guide to developing technical documentation on Confluence Wiki. In the page about creating your technical documentation space, we showed you how to set up an 'inclusions library' to contain content that you can re-use on more than one page. Now we offer further guidelines on re-using content in your documentation space.

Your documentation may be about using a software application, or it may be a technical manual for your product range. On this page, we use the term 'widget' to describe the things that you are documenting, such as the screen, form, document, product or object.

**Quick guide to re-using content:**

- Create an 'inclusions library' to manage your re-usable content. See our guide to creating your technical documentation space.
- Use the `excerpt` macro to define a re-usable section ('excerpt') on a page, or just decide to re-use the entire content of the page.
- Use the `excerpt-include` macro to include the excerpt from one page onto another page.
- Use the `include` macro to include the entire content of a page onto another page.
- Consider installing the Multi Excerpt add-on if you need to define multiple excerpts per page.

The rest of this page gives an overview and more details of the above procedures.

**On this page:**


- Reasons for re-using content
- Defining an inclusions library
- Working with excerpts and inclusions
  - Using the Include Page macro
  - Using the Excerpt Include macro
  - Using the Multi Excerpt add-on
- An example of content re-use: a glossary
  - Creating a one-page glossary
  - Creating a glossary with child pages
  - Referring to glossary terms
- Further reading


### Reasons for re-using content

A golden rule for technical documentation is to write the content only once but allow that content to be used in many places and in many forms.

For example, you may have the following types of content:

- A technical manual that describes each widget in detail.
- Tips and tricks on how to get the most out of the widget.
- A step-by-step user guide for first-time users on how to use the most common widgets.
- A training manual with exercises or videos that people can follow in their own time.
- A one-page cheat sheet for users to stick up on their workstation.
- Text for a sales brochure that is sent out to a print house for production.

Each of these types of content will share common information, such as a glossary entry, a technical or marketing description of the widget, or a step-by-step guide on how to use the widget.

Some initial planning of your technical documentation will allow you to re-use any or all of the content you write, so there is only ever one place to update the content, and those changes flow through to all of your other documentation.

### Defining an inclusions library

We recommend that you create an 'inclusions library' to manage your re-usable content. If you have not already done this, see our guide to creating your technical documentation space.

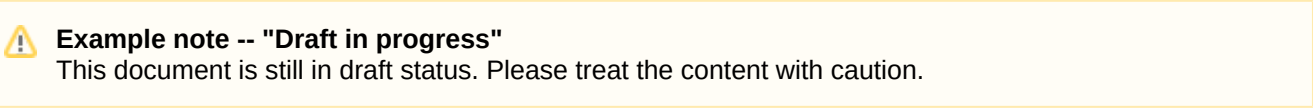
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### Working with excerpts and inclusions

Excerpts and inclusions (sometimes called 'includes') are very useful for re-using content:

- Use the Excerpt macro (`excerpt`) to define a re-usable section ('excerpt') on a page.
- Use the Excerpt Include macro (`excerpt-include`) to include the excerpt on another page.
- Use the Include Page macro (`include`) to include the entire content of a page onto another page.

A simple use case for an inclusion is a note or warning that is used in many places in your documentation. Here is an example:



**Example note -- "Draft in progress"**
This document is still in draft status. Please treat the content with caution.

*Tip:* Keep your re-usable pages short and sweet. Do not worry if you find that you need hundreds of pages to hold your inclusions. It helps to keep things separate and organised.

#### *Using the Include Page macro*

In this example, we use the Include Page macro to create a note that you can re-use on your documentation pages. The Include Page macro will include the entire content of one page into another page.

1. Create a page in your inclusions library called **_Draft Note**.
2. Add the content of the page. In this example, we use the Note macro with some text in the title and body:

```
{note:title=Draft in progress}This document is still in draft status. Please
treat the content with caution.{note}
```

3. Use the Include Page macro to include that note in any page in your documentation. For example:

```
{include:_Draft Note|nopanel=true}
```

See the documentation on the Include Page macro for more details.

#### *Using the Excerpt Include macro*

An excerpt is a section of a page that you can include into another page.

1. Use the `excerpt` macro to define any content in your page that you want to be able to use elsewhere. This content can be as short as a word or as long as the entire page. For example, let's assume we have a page called 'My Short Poem':

```
I really love this poem:
{excerpt}
Mary had a little lamb
Its fleece was white as snow
{excerpt}
And I'm going to use it all over the place.
```

2. Use the Excerpt Include macro to include the excerpt into another page. For example:

```
{excerpt-include:My Short Poem|nopanel=true}
```

You can only define one `excerpt` on a page. See the documentation on the Excerpt Include macro for more details.

To have multiple excerpts on a page, see the '**Multi Excerpt add-on**' below.

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#### *Using the Multi Excerpt add-on*

The Multi Excerpt add-on provides additional macros that enable you to have multiple excerpts on a page. A good example of where you would find this useful is in the glossary page discussed below. If you want to include a single glossary entry or a subset of the glossary entries in another page, then the named excerpts provided by the Multi Excerpt add-on are very useful.

Notes:

- The Multi Excerpt add-on is a commercial add-on and is not free.
- Your Confluence system administrator will need to download and install the add-on into your Confluence site before you can use the macros described below. Refer to the documentation on installing add-ons.
- *Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.* Please refer to the Multi Excerpt add-on page for support details.

To have multiple excerpts on a page:

1. Use the following code on the base page containing the content you want to use elsewhere:

```
{multi-excerpt:name=ExcerptName1}
Excerpt text 1
{multi-excerpt}
Any other text
{multi-excerpt:name=ExcerptName2}
Excerpt text 2
{multi-excerpt}
```

2. Use the following code on the page where you want to include the named excerpt:

```
{multi-excerpt-include:pageTitle=PageName|name=ExcerptName1|nopanel=true}
```

3. You can also include excerpts from other spaces using the following syntax:

```
{multi-excerpt-include:spaceKey:pageName|name=excerptName|nopanel=true}
```

See the Multi Excerpt add-on page for more details.

#### An example of content re-use: a glossary

A glossary is something that most technical documentation will require. There are a few ways to set up glossaries in Confluence. These are the most popular:

- All glossary entries on one page.
- Each glossary entry on separate child pages with a main page showing excerpts of the glossary.

Once you have defined the glossary entry, you can refer to it from the main pages of your technical documentation.

#### *Creating a one-page glossary*

This style of glossary is useful if the glossary entries tend to be short and there are not too many of them. The code blocks below use wiki markup. To insert wiki markup onto your page, open the editor and chose **Insert** > **Wiki Markup**.

1. Create a page named **Glossary**.
2. Add an alphabetical index at the top of the page and a heading for each letter of the alphabet:

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```
[A|#A] |[B|#B] |[C|#C] ...
{anchor:A}
h2. A
{anchor:B}
h2. B
{anchor:C}
h2. C ...
```

3. Enter each glossary entry under the relevant alphabetical heading. Each glossary entry (term) should include:
    - An `anchor` tag, so that you can link to it from other pages.
    - The term itself.
    - A definition of the term.
    - A link to the page in your technical documentation that explains the term in greater detail, where relevant.

    ```
    {anchor:MyGlossaryTerm}
    h4. MyGlossaryTerm
    This is the definition of MyGlossaryTerm. See [Page Name] for more
    information.
    ```

4. Optionally, include a horizontal line between the terms. This depends on how long each entry is. If your glossary tends to have short entries, it may look too cluttered with horizontal lines.

    ```
    ---
    ```

See the glossary in the Confluence documentation for an example of this style of glossary (without the alphabetical index).

#### *Creating a glossary with child pages*

This style of glossary is useful if the glossary entries tend to be quite long or have additional information over and above the definition of the term. The code blocks below use wiki markup. To insert wiki markup onto your page, open the editor and chose **Insert** > **Wiki Markup**.

1. Create a page named **Glossary**.
2. Create a child page for each glossary entry (term). Each child page should contain:
    - The term as the title of the page.
    - The definition of the term in the body of the page.
    - Excerpt tags (`excerpt`) tags surrounding the definition.
    - Any additional information after the `excerpt` tags.

    ```
    {excerpt}
    This is the definition of MyGlossaryTerm
    {excerpt}
    More information to describe MyGlossaryTerm
    ```

3. On the '**Glossary**' page, use the `children` macro to show the excerpts from each child page in a list, with the page name displayed in 'h4' style.

    ```
    {children:excerpt=true|style=h4}
    ```

See the glossary in the Crowd documentation for an example of this style of glossary.

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#### *Referring to glossary terms*

In the main pages of your technical documentation, create a link to the glossary page for each glossary term.

```
_[MyGlossary Term|Glossary#MyGlossaryTerm]_
```

Note that this is a standard page link with an anchor. We have formatted the link as italics, because it helps to have the glossary links looking different to other page links. Readers can just skip over the glossary link if they are already familiar with the term.

#### Further reading

A blog post about content re-use: Technical Writing in a Wiki - Content Re-use and Structure (November 2010).

#### *Next Steps*

You now have a good idea of how to re-use content in a Confluence documentation space. What next? Take a look at Managing the Life Cycle of your Technical Documentation.

## Managing the Life Cycle of your Technical Documentation

This page is part of the guide to developing technical documentation on Confluence Wiki. We have already shown you how to create your technical documentation space, including how to set permissions for your space. Now we offer a quick-start guide to managing the life cycle of your technical documentation in Confluence. The life cycle includes drafting, reviewing and publishing a document, as well as managing documentation that is release-specific.

**Quick guide to managing the technical documentation life cycle:**

- Create draft pages with restricted permissions, to hide them until they are ready for publication.
- Set the permissions to allow reviewers to comment on and/or update the pages.
- When ready, publish the page by removing the permission restrictions.
- Monitor updates to your draft and published pages by watching your space and/or subscribing to RSS feeds.
- Use spaces as a mechanism for matching your documentation version to product releases: one space per major release number.
- Consider installing add-ons for extended workflow and publication management.

The rest of this page gives more details of the above procedures.

**On this page:**


- Using the built-in Confluence functionality to manage workflow and release cycle
  - Drafting, reviewing and publishing a page
  - Keeping track of documentation updates
    - Viewing the history of a page
    - Receiving email notification of updates
    - Monitoring updates via RSS feeds
  - Release management
    - Space keys
    - The release management process
  - Other scenarios using the built-in Confluence functionality
- Using add-ons for extended workflow, publication and version management (*Not applicable to Confluence OnDemand.*)
- Notes


#### Using the built-in Confluence functionality to manage workflow and release cycle

This section describes how to use the built-in Confluence functionality to manage your workflow (draft, review, publish) and to align your documentation version control to the product release cycle.

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In this scenario we also assume that you want a *live* space that always has the same space key and always contains the *latest* version of your documentation. This scenario suits the requirements of an organisation that wants their technical documentation to be 'live'. Various groups of people can refine the content as and when required. People can also subscribe to the space, knowing that they will always get the latest version of the documentation and comments.

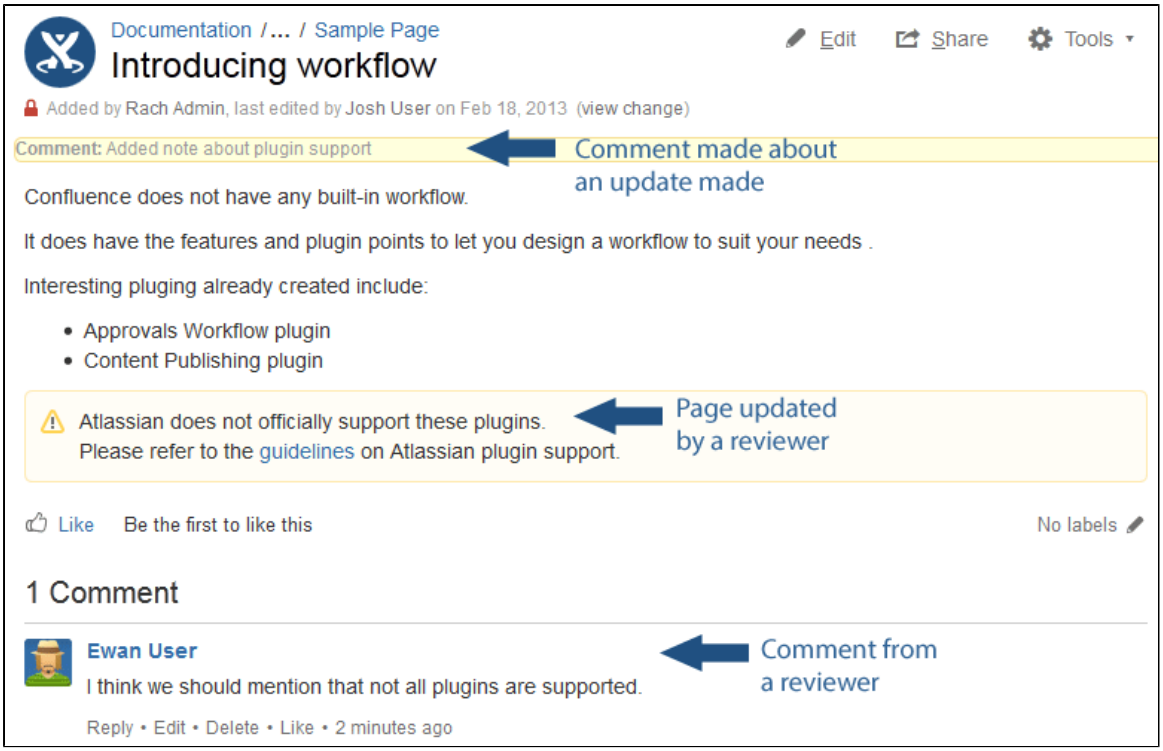
This is the way we manage our documentation at Atlassian. The content of the wiki is dynamic, continuously updated, commented on, subscribed to and watched by thousands of people all over the world.

#### *Drafting, reviewing and publishing a page*

The workflow is as follows.

1. Create a page with restricted permissions. For example, you might restrict viewing to a group of people such as your team. On a public wiki, you might restrict viewing to staff members, so that the general public cannot see the page.
2. Write the page content.
3. Ask other people to review the page. They can add comments to the page or simply edit the page content directly.
4. Publish the page when ready, by doing the following:
    - Delete the comments on the page.
    - Remove the permission restrictions on the page. The page has now been published. The space permissions and site permissions now determine who can see and/or update the page.

The screenshot below shows a page under review. Notice the lock icon at top left, indicating that restricted permissions apply to this page.




#### *Keeping track of documentation updates*

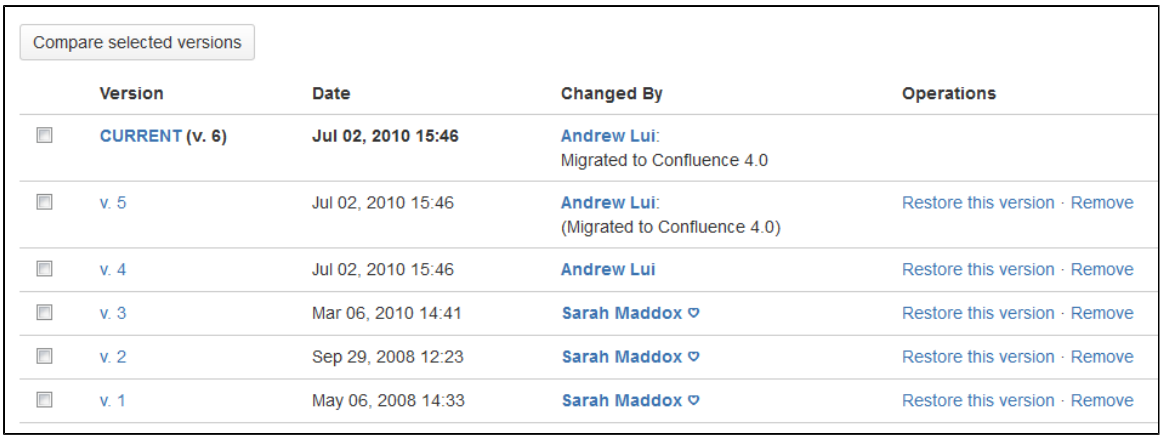
On a wiki, it is quite usual for a number of different people to update a single page. Technical writers need to know what happens to our documents, both during review and after publication.

##### Viewing the history of a page

Confluence creates a new version of the page every time someone edits the page. The page history shows all the versions, with date, author, and any comments made on the update.

Go to the page and choose **Tools** > **Page History**.

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On the page history view, you can:

- View the content of a specific version of the page.
- Revert to (restore) a specific version.
- Select any two versions and ask for a comparison, to see what has changed between those two versions.

See Page History and Page Comparison Views for detailed information.

It is all very well to go to a specific page and see what has happened to it, but how do you know when to go and look at the page? You need a notification of any changes made to your documentation space.

In Confluence, you can monitor updates to your documentation via email notifications and via RSS feeds.

#### Receiving email notification of updates

You can 'watch' a page or an entire space. Whenever anyone updates the page or space, you will receive an email notification.

1. Log in to Confluence, if you have not already done so.
2. Go to the page or blog post.
3. Choose **Watch** and select the relevant check box.

See Subscribing to Email Notifications of Updates to Confluence Content for details of the various notifications Confluence will send, and how to configure your notification settings.

#### Monitoring updates via RSS feeds

RSS feeds provide another way to keep track of updates. The simplest way to build an RSS feed is to use Confluence's feed builder. This will give you a URL that you can ping to get the latest updates.

Below we describe how to set up a useful feed for your technical documentation space. Remember that you can adjust the settings to suit your own needs.

1. Choose **Help ?** > **Feed Builder**. The RSS feed builder form appears.
2. Check the boxes to select all the content types. (Even if you are not expecting comments, blog posts or mail in your documentation space, it does no harm to receive notifications if they do arrive.)
    - **Pages** and the **comments** and **attachments** on pages.
    - **Blog posts** and their **comments** and **attachments**.
    - **Mail**.
3. Select your documentation **space** from the list. Press Ctrl and click to select multiple spaces.
4. Choose **Create RSS Feed**.
5. This will take you to a new screen. Drag or copy the link into your RSS reader. The feed URL is linked to the words **Drag or copy this link to your RSS reader**.

Now that you have set up your RSS feed, you need to decide how to read it. There are various options to choose from. For example:

- Use an RSS reader, such as the Sage add-on for Firefox.
- Use an email client, such as Thunderbird.

See Subscribing to RSS Feeds within Confluence for details.

#### *Release management*

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Let's assume that your product goes through a regular release cycle, and that you need to retain separate documentation for each major version of the product.

At Atlassian, we use spaces as our version-control mechanism.

- **Archive spaces**. At each release, we create a new archive space to house the *previous* version of the documentation.
- **The live space.** The documentation for the *latest* version of the product resides in the live space. The live space always retains the same space key and is always available for viewing and updating.

#### Space keys

The live space has just the product name as its space key. For example, for the Bamboo product the space key is 'BAMBOO'. (See the Bamboo documentation space.)

For the archived versions, we use a combination of the product name plus version number as the space key. For example, we use 'BAMBOO040' for the Bamboo 4.0 documentation, 'BAMBOO041' for the Bamboo 4.1 documentation, and so on.

#### The release management process

Here is an overview of the process we follow at Atlassian.

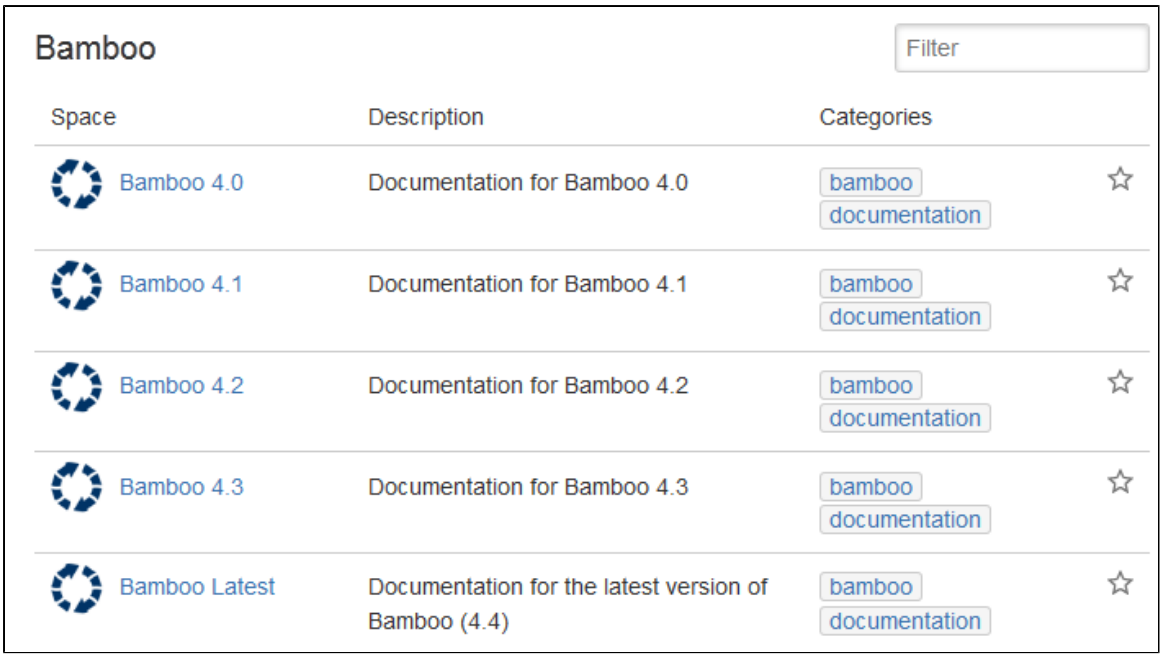
1. **Leading up to release date.** Work with hidden draft pages in the live space. A 'hidden draft' is simply a page that has restricted permissions applied:
    - For each new feature, create a new page with restricted permissions.
    - If you need to update existing pages, create a hidden copy of the existing page and apply the updates to the copy.
    - Follow the usual draft and review procedure for each page.
2. **A few days before release date.** Use the Copy Space add-on to copy the live space to a new space. This creates a snapshot of the current documentation, and will act as an archive for the current release which is soon to become the previous release. (We described the use of the Copy Space add-on in the earlier section of this guide: Creating your Technical Documentation Space.)
3. **On release date.** Publish the updated documentation for the new version of the product:
    - Rebrand the live documentation space to reflect the new release number. In other words, change the space name and any other descriptions that include the product release number.
    - Unhide all the new pages, by removing the permission restrictions on each hidden page.
    - Copy the content of the updated pages to the proper pages, then delete the copies.
    - Export the newly updated space to PDF, HTML and XML, for those customers who prefer offline versions of the documentation.

Note that the above process is applicable to major releases of the product. For minor bug-fix releases, we simply update the documentation in the live space. We do not create archive spaces for every minor release.

The example below shows an extract from the dashboard of our documentation wiki, listing the spaces for different versions of the Bamboo documentation. (Bamboo is one of our products.) Each space holds the documentation for a specific major release of Bamboo.

*Screenshot: Archive Bamboo spaces and Bamboo Latest for the current version of the documentation.*

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***Other scenarios using the built-in Confluence functionality***

It is easy to design other ways of managing your documentation spaces using the built-in Confluence functionality. For example, the simplest scenario is to publish a new space for every new release of your product, using the same Copy Space add-on as described above.

**Using add-ons for extended workflow, publication and version management (*Not applicable to Confluence OnDemand.*)**

For advanced workflow features, consider installing the Ad Hoc Workflows add-on onto your Confluence site.

For advanced publication and concurrent version management consider using the Scroll Versions add-on. With Scroll Versions, you can set up and manage concurrent versions of your documentation in a single space. You can manage multiple versions of software, different product variants, and even multiple languages of documentation. Plan your page updates for a specified version and then publish them all at once.

See the documentation of Scroll Versions for more information.

Similarly, consider using the Content Publishing add-on to publish content from a master space to a published space. In this scenario, you will create a *master* space that contains your drafts in progress and new releases. The master space is visible only to the authors and reviewers. You will periodically publish the master space to a *published* space. This suits the requirements of an organisation that needs a 'published' or 'official' set of documentation, published only when a new version of the product is released. There is no requirement for continual updating of the documentation.

**Automatic publishing.** The Content Publishing add-on can work together with the Ad Hoc Workflows add-on to publish pages automatically when the page reaches a specified state in the workflow.

**Notes**

- **Installing add-ons.** If you decide to use additional add-ons, your system administrator will need to install them into your Confluence site. Refer to the documentation on Installing Add-ons. (*Not applicable to Confluence OnDemand.*)
- **Add-on support.** *Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

***Next steps***

Now you know about managing your workflow and documentation release process on Confluence. What next? Take a look at Providing PDF Versions of your Technical Documentation.

## Providing PDF Versions of your Technical Documentation

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This page is part of the guide on Developing Technical Documentation on Confluence Wiki.

Confluence is a platform for publishing online documentation. It also provides functionality for producing PDF versions of your documentation, allowing you to print the documentation, or to provide a copy to customers who are unable to access the online version. This guide describes how to export your technical documentation to PDF using Confluence's built-in PDF export. We also introduce a third-party add-on that provides additional PDF layout and style functionality.

**Quick guide to PDF exports:**

- Customise the PDF layout (title page, header and footer) and style, for use each time you export your documentation.
- Export a single page to PDF.
- Export a selection of pages or an entire space to PDF.
- Consider installing a third-party add-on for advanced PDF export functionality.

The rest of this page gives more details of the above procedures.

**On this page:**


- Customising the PDF layout and style
  - Editing the PDF layout
  - Setting a global PDF layout
  - Setting the PDF layout at space level
  - Editing the PDF stylesheet
  - Setting a global PDF Stylesheet
  - Setting a space PDF stylesheet
  - Examples of PDF customisation
- Exporting to PDF
  - Exporting a single page to PDF
  - Exporting a selection of pages or a space to PDF
- Using the Scroll PDF Exporter add-on (*Not applicable to Confluence OnDemand.*)
- Notes


## Customising the PDF layout and style

If you plan to create PDF versions of your documentation, you may want to customise the PDF layout and styles for your space. These customisations will be applied every time you export documentation to PDF.

Under **PDF layout** you can add HTML to customise the PDF title page, and the page headers and footers. Under **PDF stylesheet**, you can adjust the appearance of the PDF pages.

### *Editing the PDF layout*

#### *Setting a global PDF layout*

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **PDF Layout**. You can enter HTML and CSS that will be rendered on the PDF title page, as well as page headers and footers.

#### *Setting the PDF layout at space level*

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar. You'll need Space Admin permissions to do this.
2. Choose **PDF Layout**.
3. Choose **Edit**.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **PDF Layout** in space administration options.

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3. Choose **Edit**.

You can customise the HTML that is generated for the following areas when the space is exported to PDF:

- **PDF Space Export Title Page** – title page.
- **PDF Space Export Header** – page headers.
- **PDF Space Export Footer** – page footers.

Enter your customisations into each text box as required. The PDF layout section accepts HTML code. You can include inline CSS in the HTML too.

#### *Editing the PDF stylesheet*

##### *Setting a global PDF Stylesheet*

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Look and Feel** > **PDF Stylesheet**. The following screen allows you to enter and save CSS code that will render content on each page.

##### *Setting a space PDF stylesheet*

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar. You'll need Space Admin permissions to do this.
2. Choose **PDF Stylesheet**.
3. Choose **Edit**.
4. Enter your customisations.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **PDF Stylesheet** in the space administration options.
3. Choose **Edit**.
4. Enter your customisations.

The PDF Export Stylesheet field accepts Cascading Style Sheets (CSS) rules. The 'PDF Export Stylesheet' page shows the current (e.g. customised) contents of your PDF stylesheet.

#### *Examples of PDF customisation*

Below are typical customisations you may want to make for your technical documentation. For more examples, see Customising Exports to PDF.

##### Adding a title page

You can create a title or cover page to your PDF document using HTML. Use the **PDF Space Export Title Page** section of the PDF layout to do this.

##### *Adding a New Title Page*

The following example uses HTML with an inline CSS rule to generate a title page.

```
<div class="fsTitlePage"
style="margin-left:auto;margin-top:75mm;margin-right:auto;page-break-after:always">
<img src="/download/attachments/12345/titlepage.png"/>
</div>
```

##### *Including Content Above Table of Contents in Default Title Page*

The following example includes content above the automatically-generated table of contents that appears on the default title page, so that your title page includes your own content plus the table of contents.

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```
<div class="fsTitlePage"
style="margin-left:auto;margin-top:75mm;margin-right:auto;">
<img src="/download/attachments/12345/titlepage.png"/>
</div>
```

#### *Adding an Image to your Title Page*

In the examples above, the title page includes an image called 'titlepage.png', centred in the middle of the page. The image is attached to a Confluence page and is referenced via its relative URL (that is, we use only the last part of the URL, excluding the Confluence site's base URL).

Follow these instructions to include an image on your title page:

1. Attach the image to a Confluence page.
2. View the list of attachments on that page.
3. Right-click the image and copy its location.
4. Paste the link into the appropriate `src=""` attribute within your PDF stylesheet, as shown above.
5. Remove the first part of the URL before `/download/...`.

#### Adding headers and footers

You can add headers and footers to your PDF pages using HTML. Use the 'PDF Space Export Header' and 'PDF Space Export Footer' sections of the PDF layout to do this. For simple headers and footers, plain text is enough. The following example adds a simple copyright notice.

```
Copyright © 2010, Atlassian Pty Ltd.
```

#### Adding page numbers to a header or footer

To add page numbering, you need to combine customised HTML in the PDF Layout with customised CSS in the PDF Stylesheet.

1. PDF Layout HTML: In the Footer section (or the Header section), use an empty span element with a unique ID, for example `pageNum`, to act as a place holder for the page number.

   **HTML - PDF Layout: Footer Section**

   ```
   <span id="pageNum"/>
   ```

2. PDF Stylesheet CSS: Create the following CSS selector rule for the empty span:

   **CSS - PDF Stylesheet**

   ```
   #pageNum:before
   {
   content: counter(page);
   }
   ```

**Analysing the above CSS selector rule in more detail:**

- The `#pageNum` rule selects the HTML 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.

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- The `content` property tells the CSS processor that dynamic content (that is, an incrementing page number) is to be inserted at the span tag.

#### Exporting to PDF

You can use the built-in Confluence PDF export to export a single page, a selection of pages or an entire space to a single PDF file.

##### *Exporting a single page to PDF*

You can export a Confluence page to PDF. This option exports a single page and is available to all users who have permission to view the page.

- Go to a page in the space and choose **Tools** > **Export to PDF**. Follow the prompts to export the page.

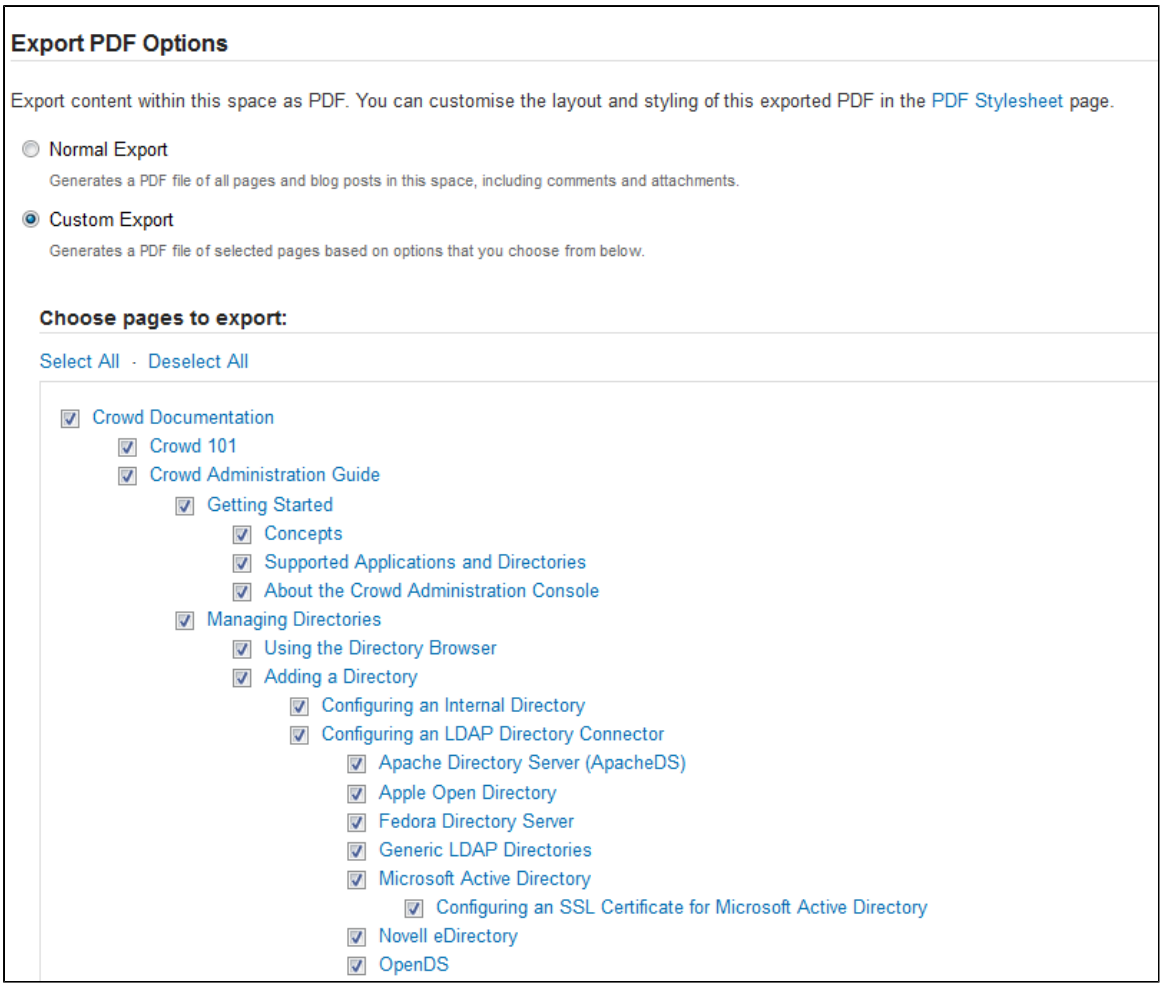
##### *Exporting a selection of pages or a space to PDF*

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Export**. This option will only be visible if you have the 'Export Space' permission.
3. Select **PDF** then choose **Next**
4. Decide whether you need to customise the export:
    - Select **Normal Export** to produce a PDF file containing all the pages that you have permission to view.
    - Select **Custom Export** if you want to export a subset of pages.
5. Select the pages you want to export.
    - You have the option to **Select All** or **Deselect All** pages.
    - When you select a page, all its child pages will also be selected. Similarly, when you deselect a page all its child pages will also be deselected.
6. Choose **Export**.
7. When the export process has finished, download and save the PDF file as prompted.

If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**
2. Choose **PDF Export** from the left menu.
3. Follow the steps above to export the Space.

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**Using the Scroll PDF Exporter add-on (*Not applicable to Confluence OnDemand.*)**

The Scroll PDF Exporter provides flexible themes for configuring PDF layout and styles. You can select one of Scroll PDF Exporter's built-in themes and configure your table of contents, header and title pages. For even more flexibility, see the section How Tos in the Scroll PDF Exporter documentation.

For this advanced PDF export functionality, you will need to install the Scroll PDF Exporter add-on into your Confluence site.

**Notes**

- **Permissions required to export a space:** To use the space export functionality, you need the 'Export Space' permission. See the guide to space permissions.
- **Installing add-ons:** If you decide to use additional add-ons, your site administrator will need to install the add-ons into your Confluence site. Refer to the documentation on installing add-ons. (*Not applicable to Confluence OnDemand.*)
- **Add-on support:** *Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

***Next Steps***

Now you know all about providing PDF versions of your documentation. What next? See other ways of Exporting and Printing Technical Documentation.

## Exporting and Printing Technical Documentation

This page is part of the guide to developing technical documentation on Confluence Wiki. Confluence is a great tool for writing and maintaining technical documentation. There are times when we need to export the content out of Confluence into other forms, such as PDF, HTML, Microsoft Word and paper.

Confluence itself provides an export to both PDF and HTML. Add-ons provide additional functionality. Below are

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guidelines on exporting your technical documentation to various formats, including printed output.

**Quick guide to printing and exporting content:**

- Use the browser's print option to print a single page.
- To print more than one page and for more advanced printing options, export your documentation to PDF.
- Confluence can export your pages to PDF, HTML, Confluence-specific XML and Word.
- Consider installing add-ons to export your pages to PDF (enhanced functionality). Word (enhanced functionality), DocBook XML, Eclipse Help and JavaHelp.
- Make your exports available to your customers for download by attaching the exported file to a Confluence page.

The rest of this page gives more details of the above procedures.

**On this page:**


- Printing
- Exporting to PDF
- Exporting to HTML
- Exporting to Confluence-specific XML
- Exporting to DocBook XML via an add-on
- Exporting to Microsoft Word
- Exporting to Microsoft Word via an add-on
- Exporting to Eclipse Help via an add-on
- Exporting to EPUB via an add-on
- Exporting to HTML via an add-on
- Making the PDF and other exported files available to your readers
- Notes
- Further reading


### Printing

To print a single Confluence page, just use the browser's print option. This option is available to all users who have permission to view the page.

To print more than one page and for more advanced printing options, export your documentation to PDF. See Providing PDF Versions of your Technical Documentation.

### Exporting to PDF

Because this is such an important topic, we have a section of this guide dedicated to PDF. See Providing PDF Versions of your Technical Documentation.

### Exporting to HTML

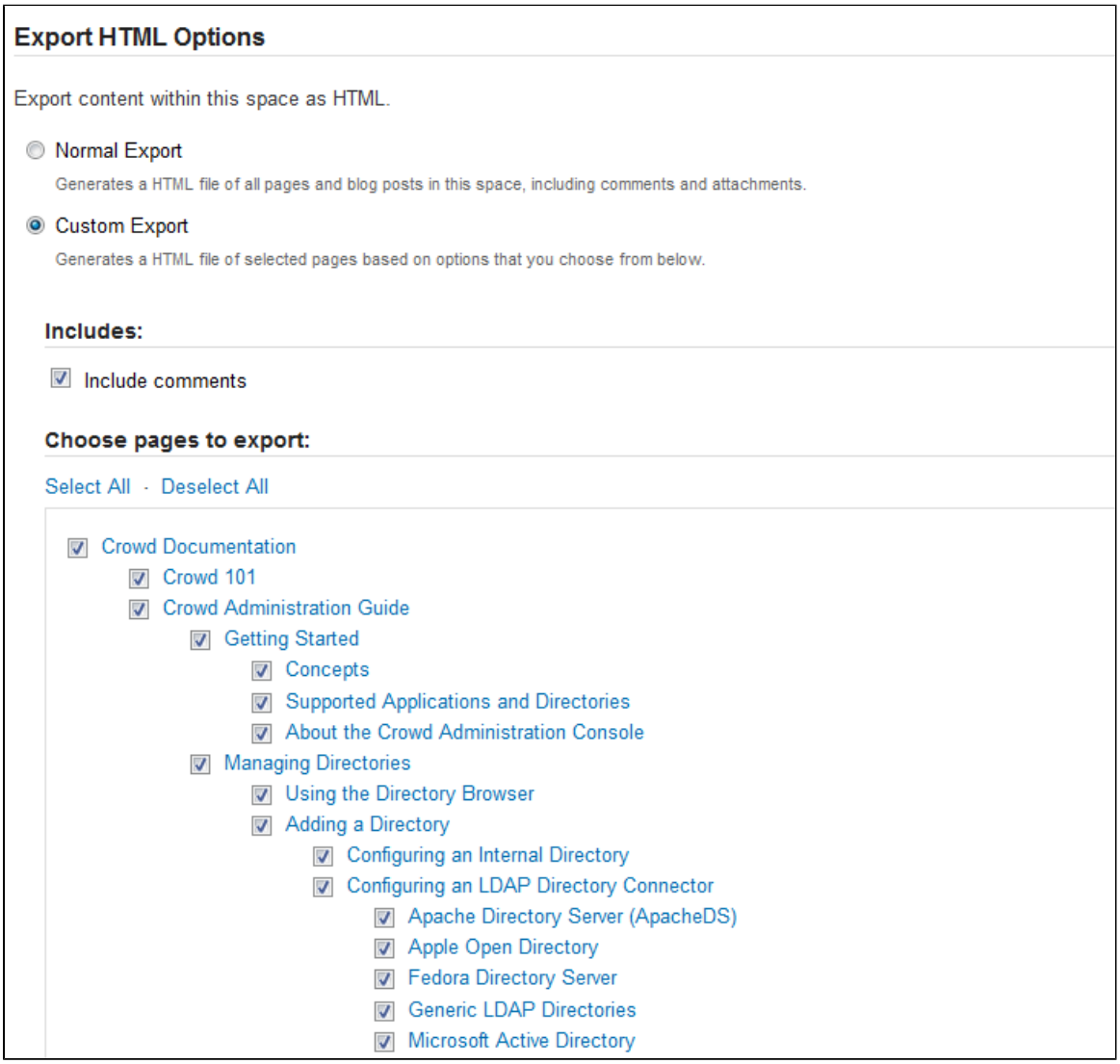
Using the built-in Confluence HTML export, you can export a single page, a selection of pages or an entire space to HTML. Confluence supplies the HTML and associated files in a zip file.

1. Go to the space and choose **Space tools** > **Content Tools** on the sidebar.
2. Choose **Export**. This option will only be visible if you have the 'Export Space' permission.
3. Select **HTML** then choose **Next**.
4. Decide whether you need to customise the export:
   - Select **Normal Export** to produce an HTML file containing all the pages that you have permission to view.
   - Select **Custom Export** if you want to export a subset of pages, or to exclude comments from the export.
5. Select the **Include Comments** check box if you want to include comments for the pages you are exporting.
6. Select the pages you want to export.
   - You have the option to **Select All** or **Deselect All** pages.
   - When you select a page, all its child pages will also be selected. Similarly, when you deselect a page all its child pages will also be deselected.
7. Choose **Export**. This will create a zipped archive of HTML files.
8. When the export process has finished, download the zipped archive as prompted, and extract the files into a folder.

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If your space uses the Documentation theme:

1. Choose **Browse** > **Space Operations**.
2. Choose **HTML Export** from the left menu.
3. Follow the steps above to export the Space.




#### Exporting to Confluence-specific XML

Confluence provides an XML export. The XML produced is a proprietary format and is intended for backups or for transferring a space from one Confluence site to another. If you write your documentation on Confluence and your customers have Confluence too, then you can export your manuals to XML and customers can upload them onto their own Confluence site.

#### Exporting to DocBook XML via an add-on

Scroll DocBook Exporter converts Confluence pages to DocBook XML. Your Confluence system administrator will need install the add-on onto your Confluence site.

#### Exporting to Microsoft Word

Confluence can export a page to Word. (Choose **Tools** > **Export to Word**.) This option performs a basic conversion of wiki content to HTML and applies some Word CSS stylesheets. It processes just one page at a time.

#### Exporting to Microsoft Word via an add-on

Scroll Office is a Confluence add-on. Once installed, Scroll Office replaces Confluence's built-in 'Export to Word'

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functionality. You can export a single page or a hierarchy of pages.

You can define your templates in Word in the usual way, and upload them to Confluence as global templates or space templates. When you export your Confluence pages to Word, Scroll Office will use those templates to build native Word documents from the wiki pages.

Scroll Office provides additional features such as enforcing page-breaks, setting the page orientation to landscape or portrait, and ignoring content. The latest version offers a REST-style API for automated export.

#### Exporting to Eclipse Help via an add-on

Scroll EclipseHelp Exporter provides an export to Eclipse Help format.

You can produce embeddable online help for Eclipse-based applications. Scroll EclipseHelp Exporter converts the Confluence content into EclipseHelp-compatible JAR files to create a standalone online help or a context-sensitive help.

**A hint about the Eclipse Help platform:** You can use a cut-down version of the Eclipse Help platform to provide online documentation for any system. It doesn't have to be an Eclipse tool that you are documenting. For some ideas, take a look at a couple of articles about documenting your project using the Eclipse help system.

#### Exporting to EPUB via an add-on

The Scroll EPUB Exporter outputs an ebook in the common EPUB format that can be read on iPads, iPhones and any other ebook reader.

#### Exporting to HTML via an add-on

The Scroll HTML Exporter enables the delivery of Confluence content from a web server. It converts the pages into static HTML pages that can be uploaded to a web server. The output of the Scroll HTML exporter can also be used as an input to produce other HTML-based help formats such as WinHelp and HTML Help.

#### Making the PDF and other exported files available to your readers

There are a number of ways to make your exported files available to your readers, such as putting the files on a disc and shipping them with your product.

One of the simplest ways is to attach the files to a Confluence page. (See Attaching Files to a Page.)

Atlassian uses the out-of-the-box Confluence export functionality to provide PDF, HTML and XML versions of our documentation. People can download the files from our documentation wiki. For example, here are the JIRA documentation downloads and the Confluence documentation downloads.

#### Notes

- **Permissions required to export a space.** To use the space export functionality, you need the 'Export Space' permission. See the guide to space permissions.
- **Installing add-ons.** If you decide to use additional add-ons, your site administrator will need to install the add-ons into your Confluence site. Refer to the documentation on installing add-ons.
- **Add-on support.** *Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

#### Further reading

- A blog post about exporting and importing content from/to Confluence: Technical Writing in a Wiki - Single Source Publishing (November 2010).
- A good overview of the Scroll Office features in this blog post (August 2010) and the followup post (November 2010).

#### *Next steps*

Now you know about a number of ways to get your technical documentation out of Confluence into various formats, for printing or for input into another system or process flow. What next? Take a look at Essential Confluence Features for Technical Documentation.

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## Essential Confluence Features for Technical Documentation

This page is part of the guide to developing technical documentation on Confluence. In this section we highlight the built-in Confluence macros that are most useful in technical documentation. For more information about Confluence macros, see Working with Macros.

**On this page:**

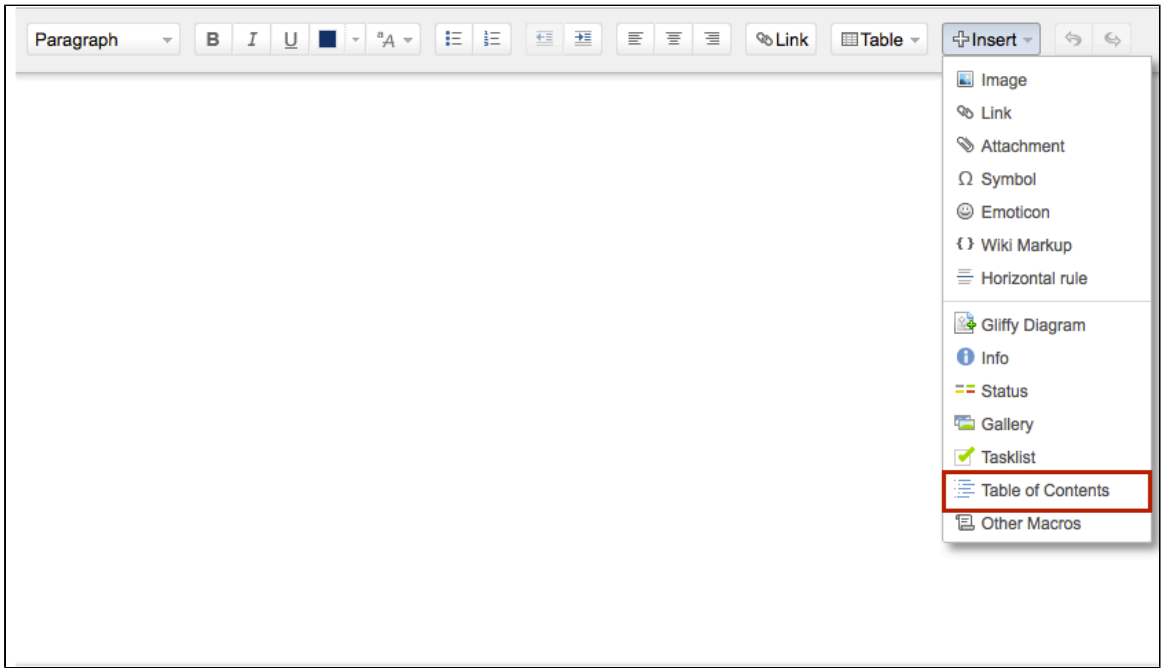

- Auto-generating a table of contents for page content
- Drawing attention to elements of a page
- Putting content inside customisable Panels
- Inserting anchor links on pages
- Structuring content using sections and columns
- Making your documentation more engaging by embedding videos


### Auto-generating a table of contents for page content

It is important to make it easy for viewers to jump to the section of a Confluence page that they are most interested in. The Table of Contents macro helps people navigate lengthy pages by summarising the content structure and providing links to headings used on the page.

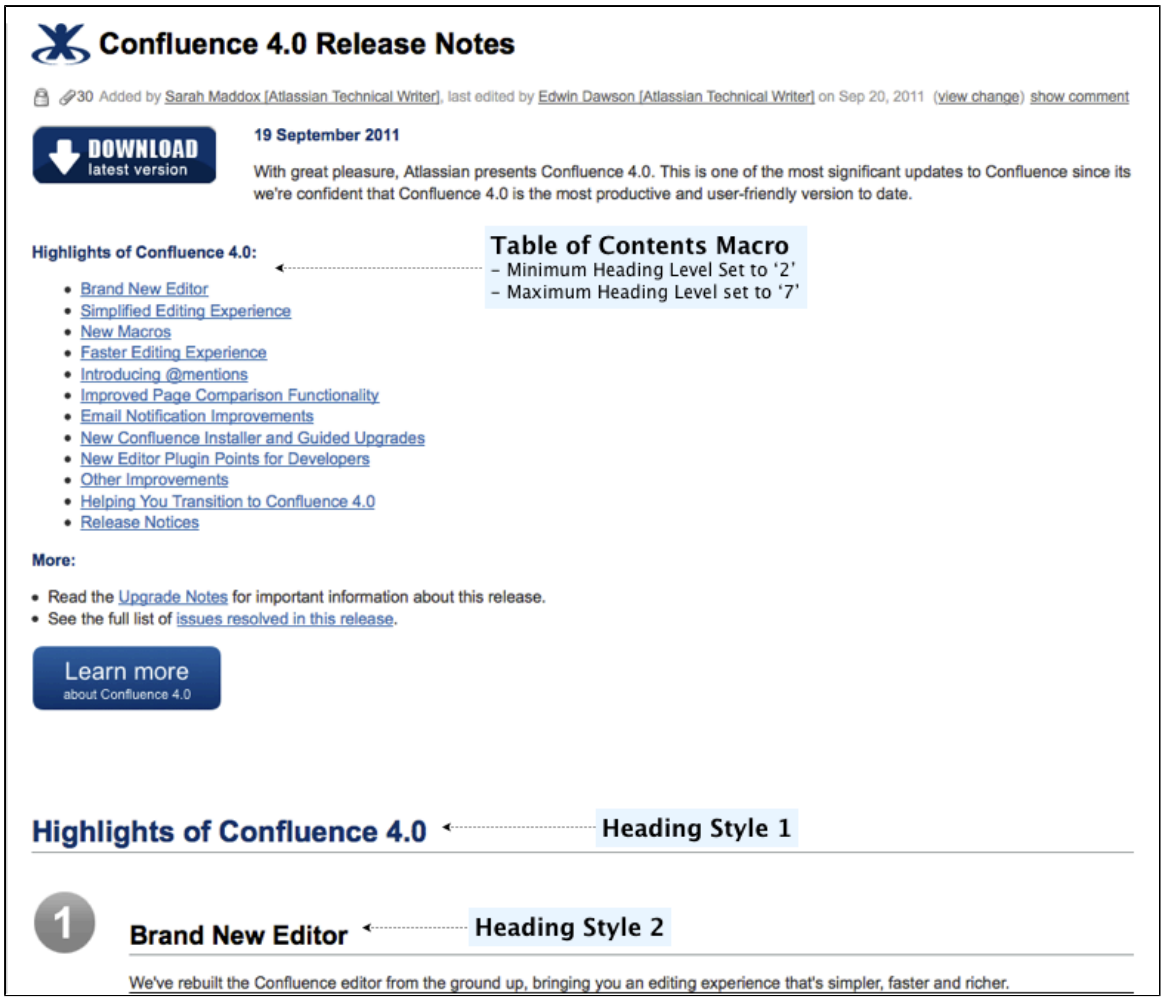
Click here to see a common example >>

1. You document the *Release Notes* for the latest version of your product in a Confluence page.
2. Each feature in the release is a heading on the page.
3. You can generate a list of hyperlinks to each of the features in the release notes by inserting the Table of Contents macro:

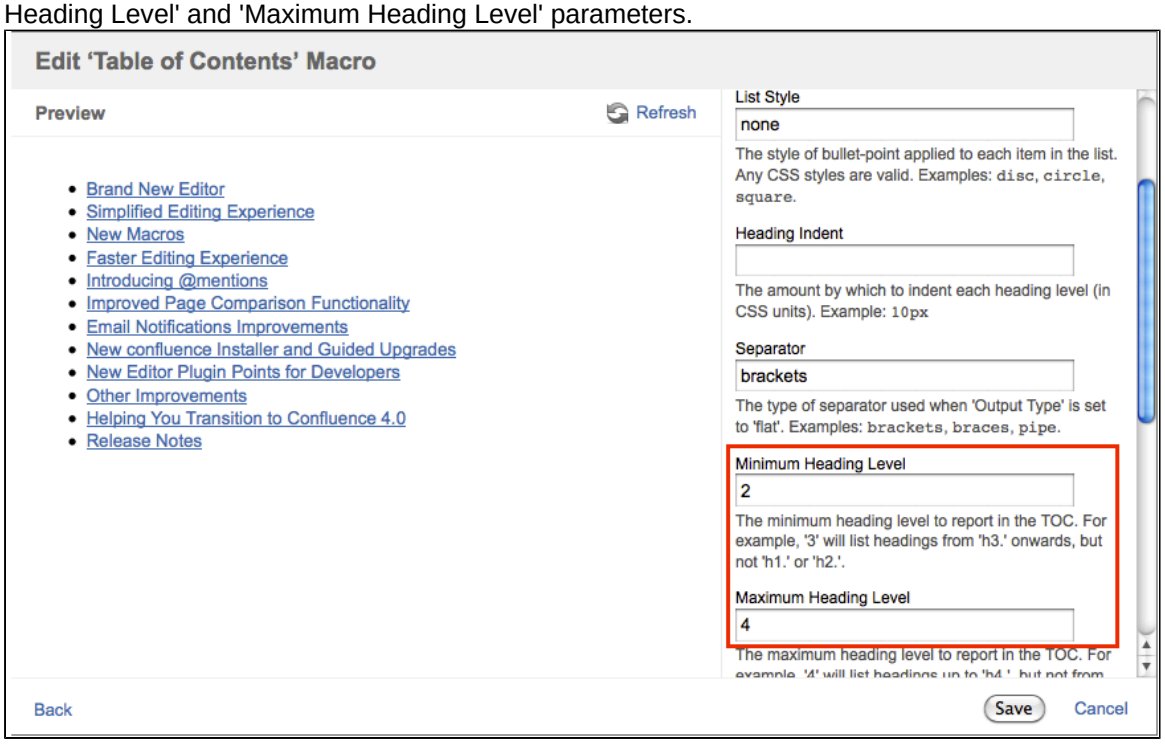



4. The image below shows the Table of Contents macro inserted at the top of the 'Release Notes' page. Note that we have excluded the 'Highlights of Confluence 4.0' heading from the table of contents by modifying the macro's parameters.

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5. The image below shows the macro parameters specified in the macro browser. Note the 'Minimum Heading Level' and 'Maximum Heading Level' parameters.




*Return to top of page*

### Drawing attention to elements of a page

Often when creating documentation there are elements of a page that you want to highlight, or draw the the viewers' attention to. Confluence ships with the following macros that help you focus a viewer's attention to a

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note, information, tip or warning.

Click here to see a common example >>

***Note macro***

| What is it? | Example |
|---|---|
| The Note macro allows you to highlight a note on a Confluence page.<br><br>It creates a yellow coloured box surrounding your text, as shown to the right.<br><br>See Note Macro for more examples and instructions. | **Draft in progress**<br>This document is a draft and is under development. |

***Info macro***

| What is it? | Example |
|---|---|
| The Info macro allows you to highlight helpful information on a Confluence page.<br><br>It creates a blue coloured box surrounding your text, as shown to the right.<br><br>See Info Macro for more examples and instructions. | **Did you know?**<br>Confluence is the best wiki ever. |

***Tip macro***

| What is it? | Example |
|---|---|
| The Tip macro allows you to highlight a helpful tip on a Confluence page.<br><br>It creates a green coloured box surrounding your text, as shown to the right.<br><br>See Tip Macro for more examples and instructions. | **Learn more**<br>Check out this blog post: Technical Writing in a Wiki: Technical Communicators Explain How & Why? |

***Warning macro***

| What is it? | Example |
|---|---|
| The Warning macro allows you to highlight a warning note on a Confluence page.<br><br>It creates a red coloured box surrounding your text, as shown to the right.<br><br>See Warning Macro for more examples and instructions. | **Draft**<br>This page is a draft in progress and visible to Atlassian staff only. |

*Return to top of page*

**Putting content inside customisable Panels**

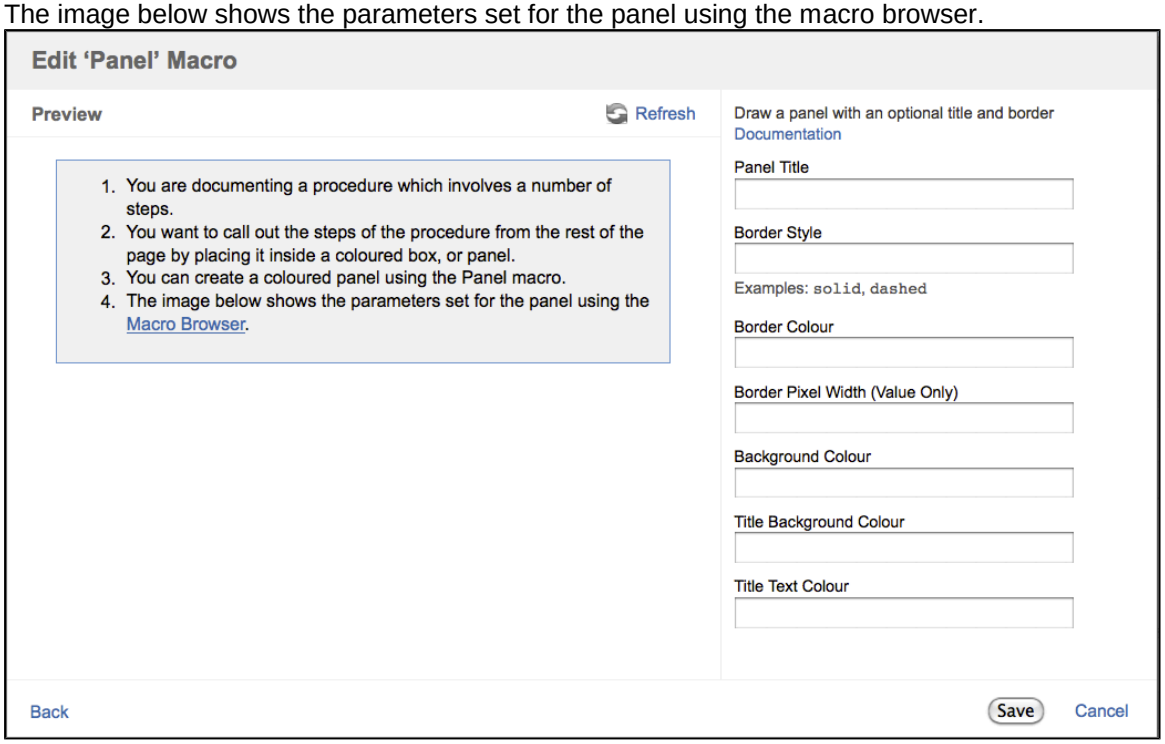
Using the Panel macro, you can place content inside a customisable coloured panel. This is particularly useful when you want to clearly separate elements on a page.

Click here to see a common example >>

1. You are documenting a procedure which involves a number of steps.

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2. You want to call out the steps of the procedure from the rest of the page by placing it inside a coloured box, or panel.
3. You can create a coloured panel using the Panel macro.
4. The image below shows the parameters set for the panel using the macro browser.




*Return to top of page*

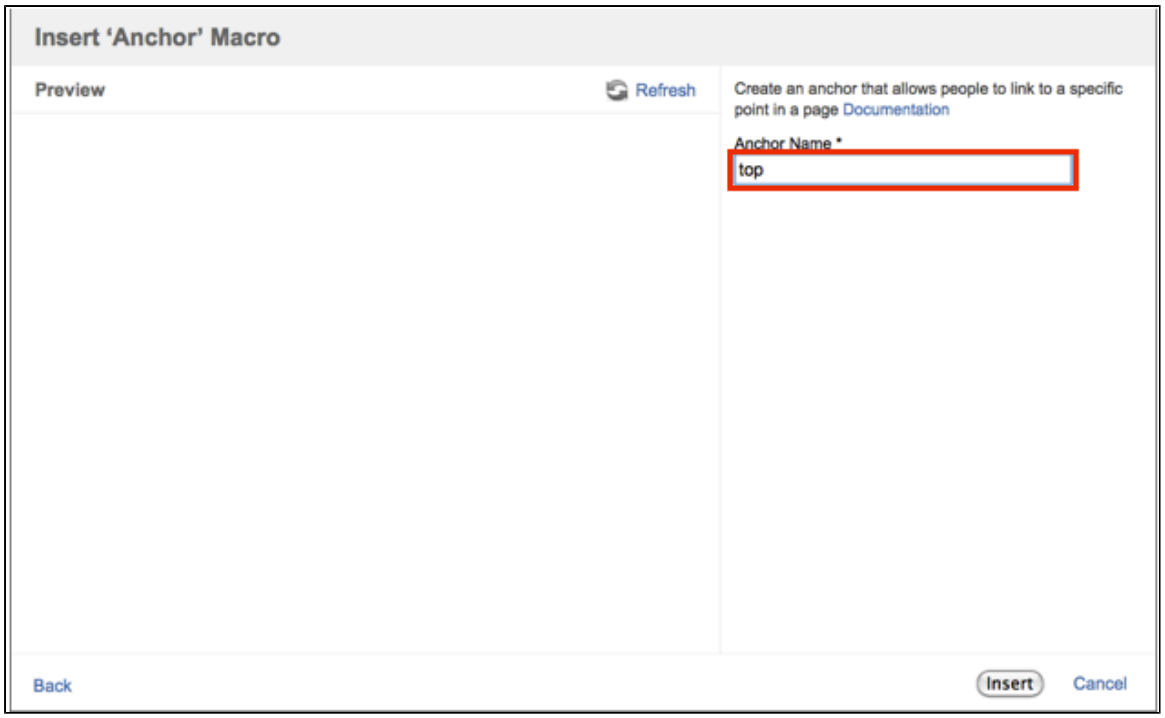
### Inserting anchor links on pages

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 from another page. The Anchor macro allows you to link to specific parts of a page.

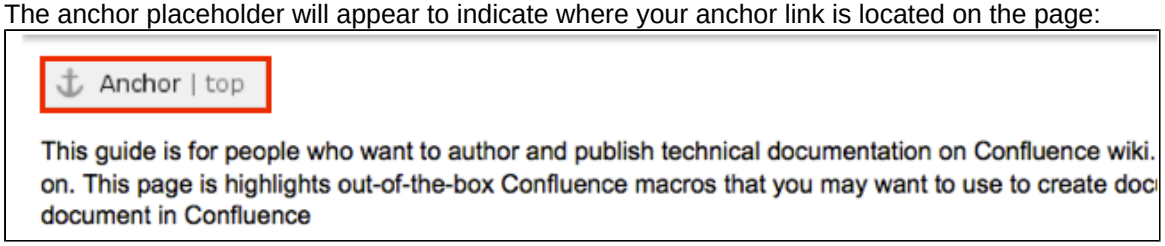
Click here to see a common example >>

1. You are documenting part of a user guide.
2. The page is split into multiple sections.
3. After each section you want to provide a link for viewers to click, taking them back to the top of the page.
4. To achieve this you first must create an *anchor* at the top of the page using the Anchor macro. You can give the anchor any name you like. In the image below, the anchor at the top of the page will be named 'top'.

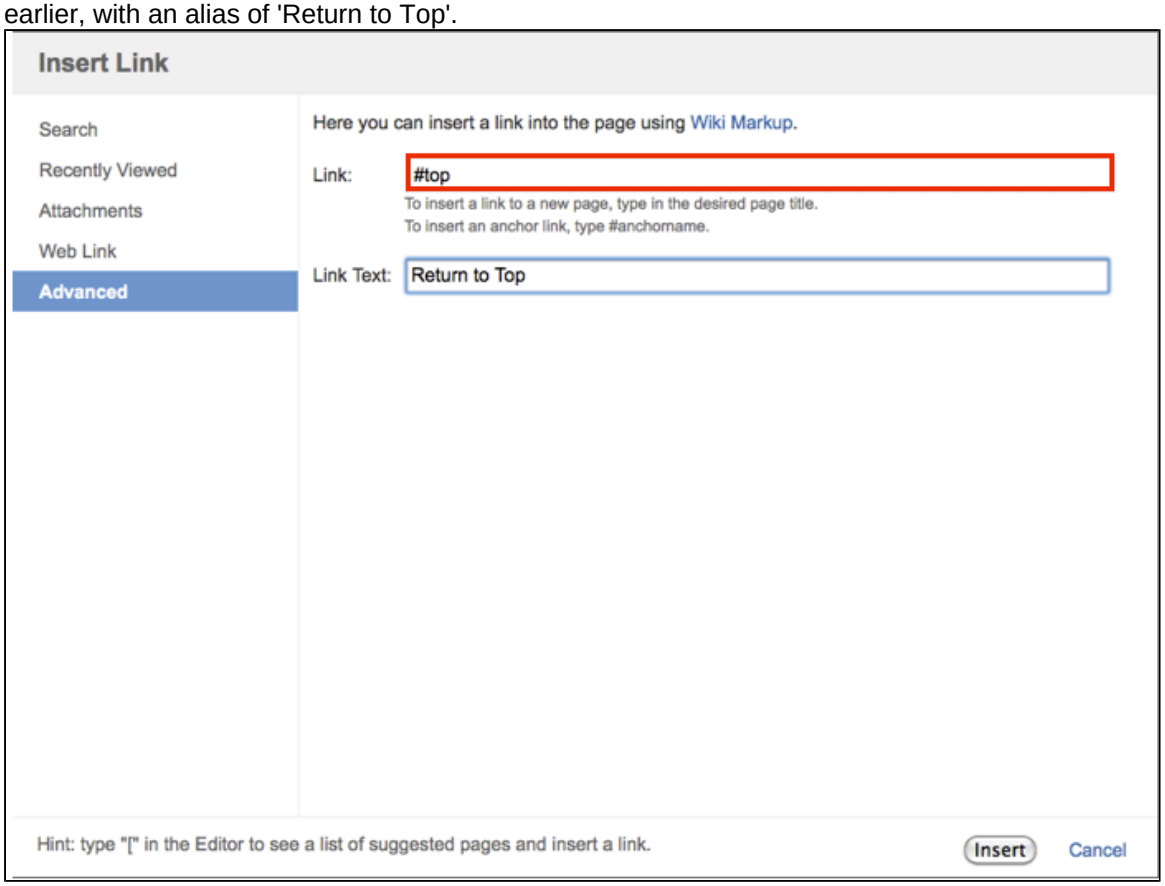
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5. The anchor placeholder will appear to indicate where your anchor link is located on the page:




6. Create a link to the anchor, anywhere on the page, using the Link Browser. The image below shows a link to the anchor called 'top' by using the hash '#' followed by the name of the anchor you created earlier, with an alias of 'Return to Top'.




See Working with Anchors for more examples and instructions.

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*Return to top of page*

### Structuring content using sections and columns

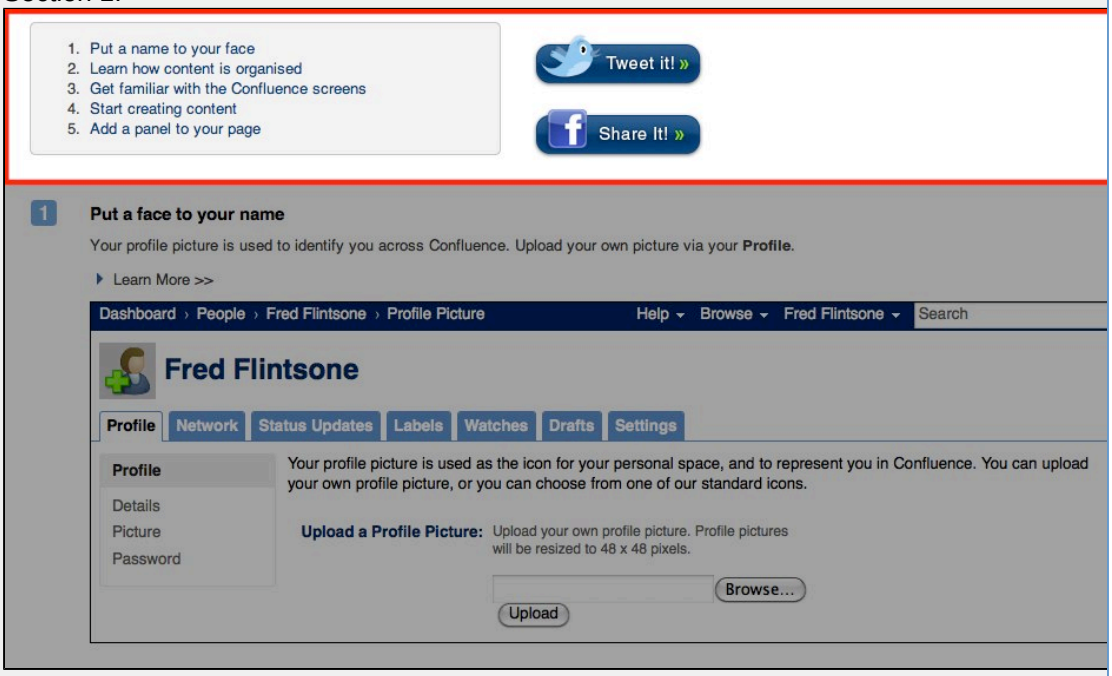
Sometimes it is necessary to structure content into sections and columns. The details are in Working with Page Layouts and Columns and Sections.

- Page layouts allow you to add sections to your page and then apply pre-defined column layouts to each section (for example, 2 column, three column). You can add multiple sections to a page.
- The Section and Column macros allow more flexibility. You can set the width of the columns, and put the sections and columns in any part of the page. Each section can contain any number of columns, created using the Column macro.
- Columns can either have a fixed width, specified in pixels, or a dynamic width, specified as a percentage of the page width.
- Note: whether you are using page layouts or macros, a *column* is always created inside a *section.*

Click here to see a common example >>

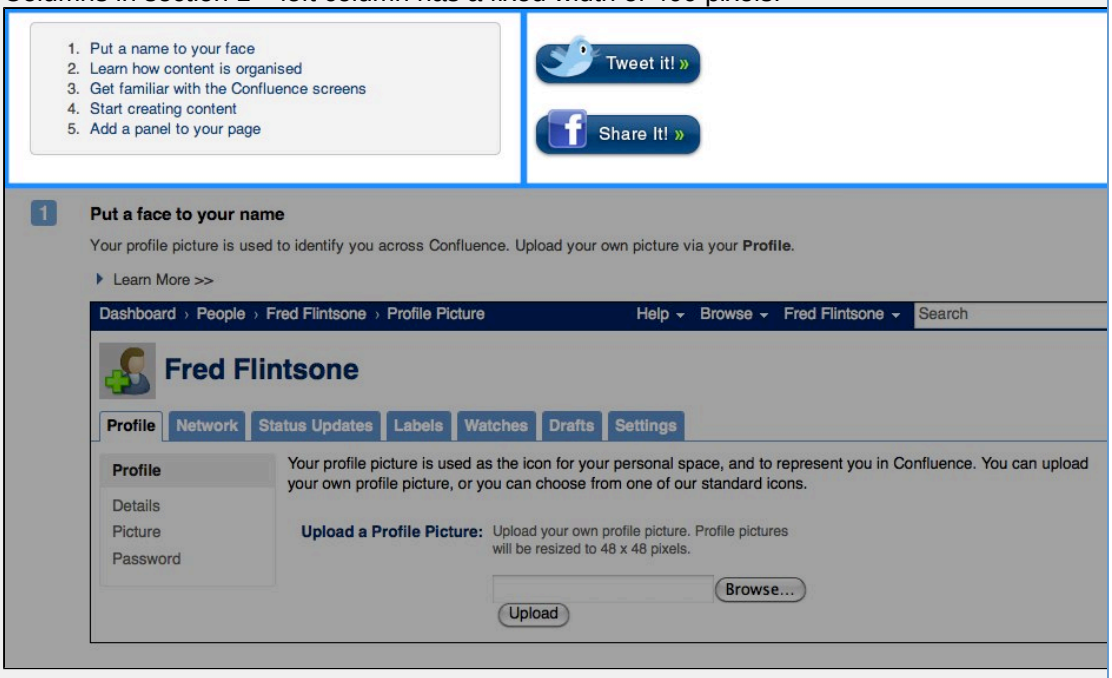
The images below show part of a Confluence page with two sections (outlined in red), each with two columns (blue) of different widths.

1. Section 1:

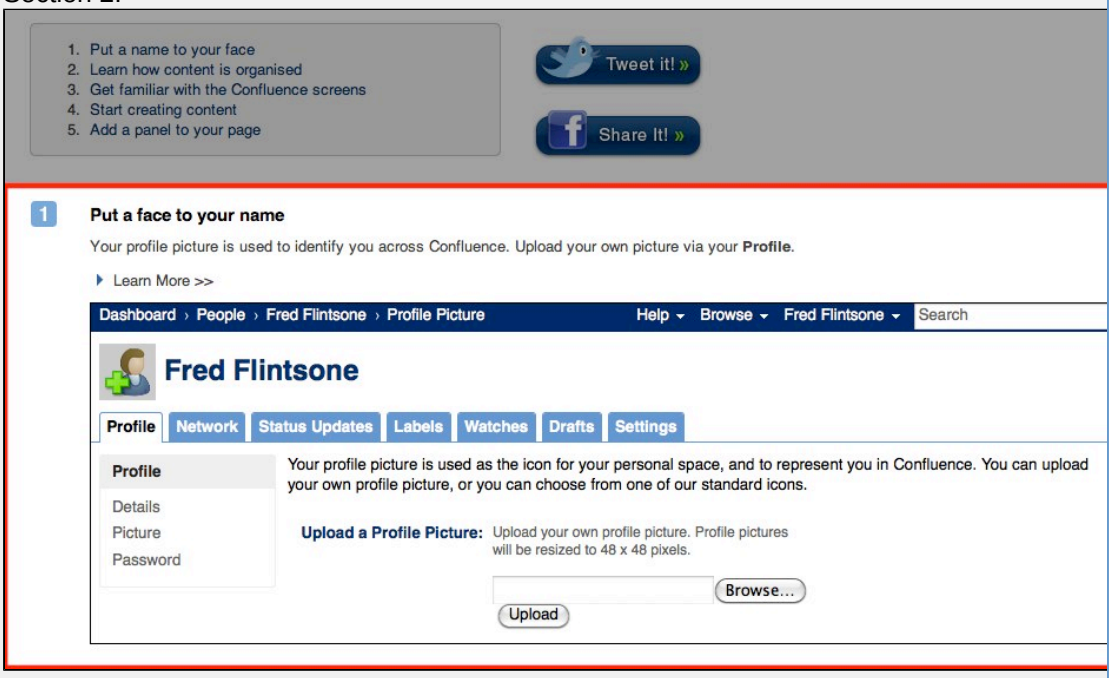



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2. Columns in section 1 – left column has a fixed width of 400 pixels:

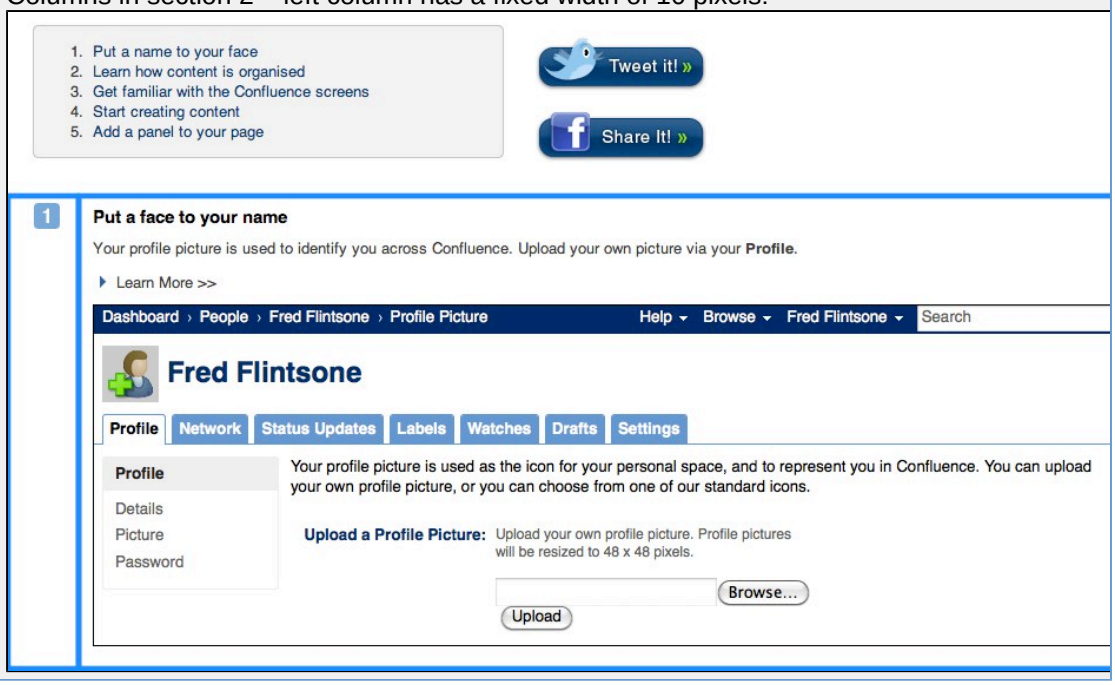



3. Section 2:




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4. Columns in section 2 – left column has a fixed width of 10 pixels:



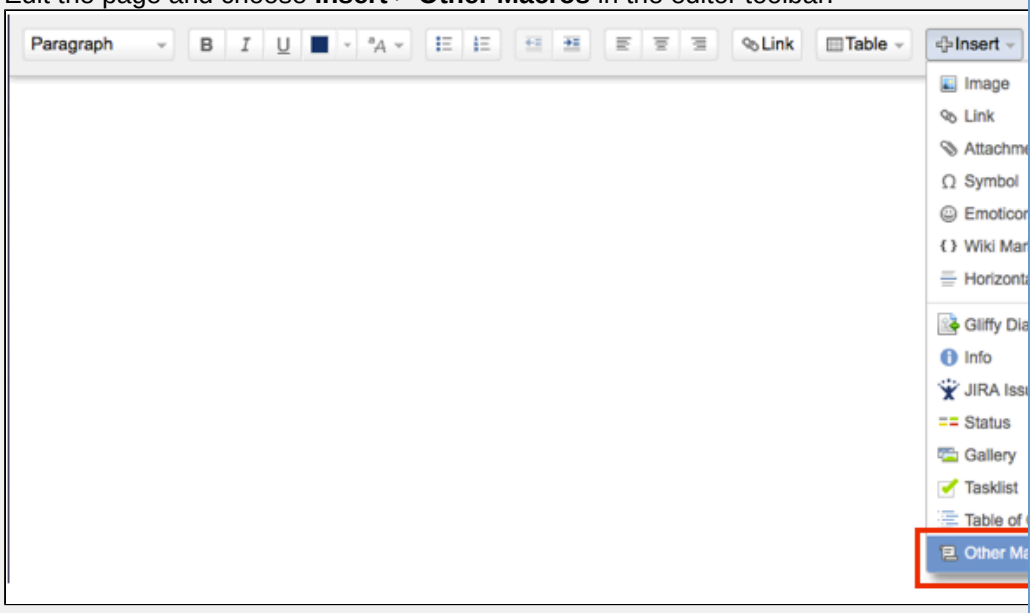

*Return to top of page*

### Making your documentation more engaging by embedding videos

Pictures can be worth a thousand words. The same can be said for videos. Often, it's easy to explain a concept or demonstrate a procedure using a video. The Widget macro allows you to embed web content, including YouTube and Vimeo videos, in a Confluence page.

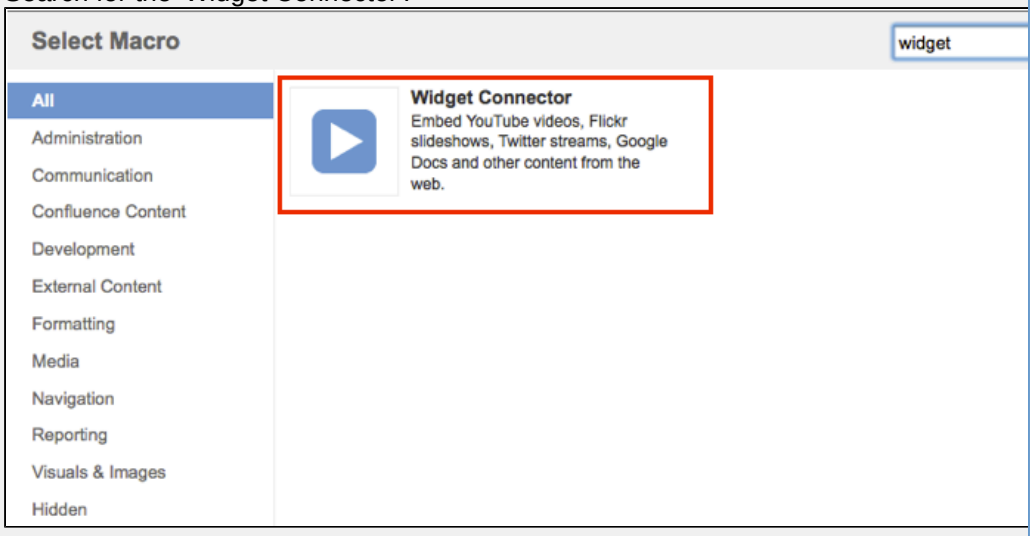
Click here to see a common example >>

1. You release a new version of your product.
2. You document the release notes on a Confluence page.
3. The marketing team creates a video demonstrating the new features of the release and uploads it to YouTube.
4. You can embed the video in your release notes using the Widget macro, for playback on your Confluence page.
    a. Edit the page and choose **Insert** > **Other Macros** in the editor toolbar.

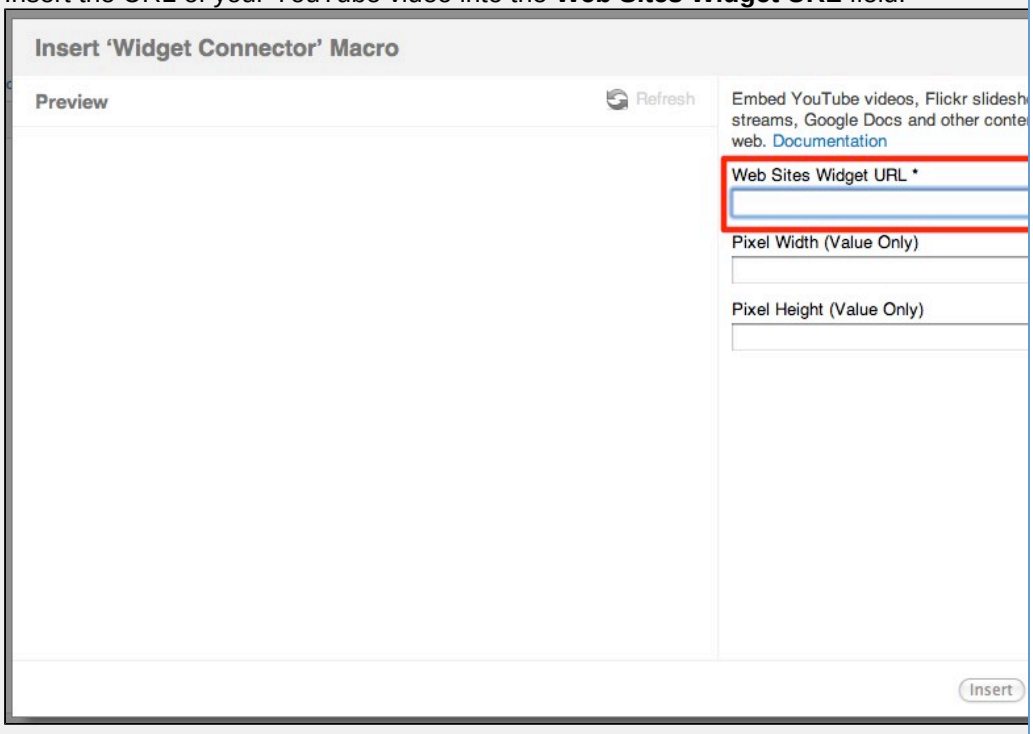



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b. Search for the 'Widget Connector'.

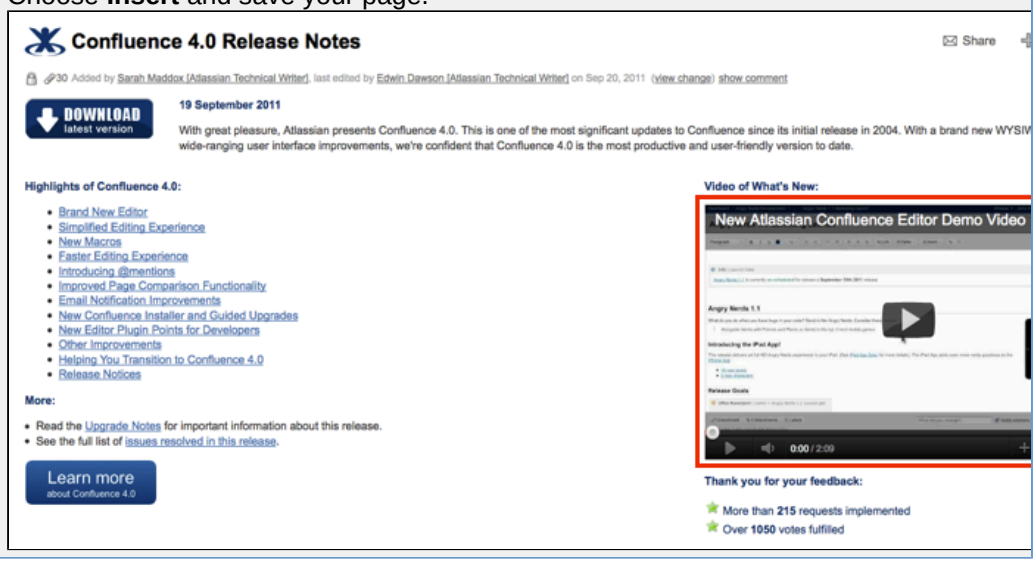



c. Insert the URL of your YouTube video into the **Web Sites Widget URL** field.




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d. Choose **Insert** and save your page.




See Widget Connector Macro for information on the supported services and for more examples.

*Return to top of page*

***Next steps***

Take a look at Confluence Add-ons for Technical Documentation.

## Confluence Add-ons for Technical Documentation

This page is part of the guide to developing technical documentation on Confluence. In this section we highlight some of the Confluence add-ons that are useful for technical writers in designing and developing documentation.

An add-on is an extension module that you can add to your Confluence site to extend the wiki's core functionality. It is similar to an add-on for your browser.

An add-on that specifically plugs into an Atlassian application such as Confluence is sometimes called a plugin. The terms 'plugin' and 'add-on' are often used interchangeably. Confluence add-ons may be developed by Atlassian or by third parties. To find an add-on featured on this page, and other add-ons too, visit the Atlassian Marketplace.

### Drawing tools

Below are some popular tools. Search the Atlassian Marketplace to see a full list of drawing and diagram add-ons for Confluence.

***Gliffy***

The Gliffy add-on provides an embedded diagram editor. With Gliffy you can create and edit diagrams directly on a Confluence page. Gliffy supports various diagram types (UML, business process, and so on).

**Commercial or free?** Commercial.

**Alternatives:** As an alternative you can use the standalone version of Gliffy available at http://www.gliffy.com/. Gliffy online has a free basic version.

**More information:** See the Gliffy add-on page.

***Lucidchart***

Using Lucidchart, you can draw flowcharts, wireframes, UML diagrams, mind maps, and more, inside the web editor, then integrate the diagram with Confluence. Include interactivity such as linking to pages within Confluence or other pages inside the diagram.

**Commercial or free?** Commercial.

**More information:** See the Lucidchart add-on page.

***Creately***

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Use Creately to draw flowcharts, UML diagrams, database diagrams, wireframes, mindmaps, UI mockups, workflow diagrams, network diagrams, org charts, and Gantt charts.

**Commercial or free?** Commercial.

**More information:** See the Creately add-on page.

#### *yWorks Diagrams*

Use yWorks Diagrams to create and edit diagrams directly inside Confluence.

**Commercial or free?** Commercial.

**More information:** See the yWorks Diagramsadd-on page.

**On this page:**


- Drawing tools
  - Gliffy
  - Lucidchart
  - Creately
  - yWorks Diagrams
- Add-ons for enhanced content manipulation
  - Quick overview of macros
  - Composition add-on
  - Using the Composition add-on to outline text blocks
  - Using the Composition add-on to add tabs to a page
  - Using the Composition add-on to flow your text around images
  - Scaffolding add-on
- Extended version control
  - Scroll Versions
  - Attachment Checkout add-on
- Add-ons featured in other parts of this guide
- Notes
- Further reading


### Add-ons for enhanced content manipulation

All content extensions are provided by **macros** in Confluence. Some macros are built in to Confluence. Other macros are supplied by add-ons.

#### *Quick overview of macros*

Before looking at add-ons, let's take a quick look at macros in general. There are two ways to add a macro to your page:

- Use the macro browser. This is the simplest and recommended way.
- Or insert the macro's name in curly brackets into the text of your page and specify the parameters.

Click here to see an example of a macro >>

The following code uses the {include} macro to insert the text from the page called 'My Page'.

```
Some content on my page.
{include:My Page}
Some more content on my page.
```

Let's assume 'My Page' contains just two lines:

> *I love chocolate.*
>
> *Chocolate loves me.*

The resulting page will look like this:

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> *Some content on my page.*
>
> *I love chocolate.*
>
> *Chocolate loves me.*
>
> *Some more content on my page.*

A number of macros are shipped with your Confluence installation by default. See Working with Macros. Below we describe some add-ons that provide additional useful macros for Confluence:

#### *Composition add-on*

The Composition add-on provides macros which allow finer control over the layout (composition) of a page. Using these macros, you can:

- Outline your text blocks.
- Add tabs to a page.
- Flow your text around the images or diagrams on the page.

**Commercial or free:** Commercial.

#### *Using the Composition add-on to outline text blocks*

Use the {cloak} macro to outline a text block.

**Usage:** The following code creates a text block named 'SeeAlso' for the outlined 'See Also' section within a page. The text block with id='SeeAlso' will be hidden after the 'See Also' title:

```
{composition-setup}
h2. {toggle-cloak:id=SeeAlso} See Also
{cloak:id=SeeAlso}
h3. Working With Macros:
[Link 1]
[Link 2]
h3. Working with Rich Text Editor:
[Link 3]
[Link 4]
{cloak}
```

**Alternatives:** You can also use the {expand} macro available in Confluence by default, but this macro can outline only text of the same level and cannot hide headings within the text. The {expand} macro does not require parameters and just hides the text placed between the {expand} tags.

**Note:** If you need to outline a text block containing nested headings, consider the text structure. Maybe the block is too big. You could create a child page from this block to decompose the whole text. Then you can include and outline the text block using the {include} macro within {expand}.

#### *Using the Composition add-on to add tabs to a page*

Use the {deck} and {card} macros to separate content between tabs on the same page.

**Usage:** The following code creates two tabs with client information:

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```
{composition-setup}
h1. Client Name
{deck:id=ClientName}
{card:label=Basic}
Client Company Name: Company
[Client Web Site|http://url.com]
Our projects: [Project1|Project1 Home]
{card}
{card:label=Contacts}
Company CEO: John Brown, e_mail: brown@company.com
{card}
{deck}
```

The tabs on a page will look like this:




***Using the Composition add-on to flow your text around images***

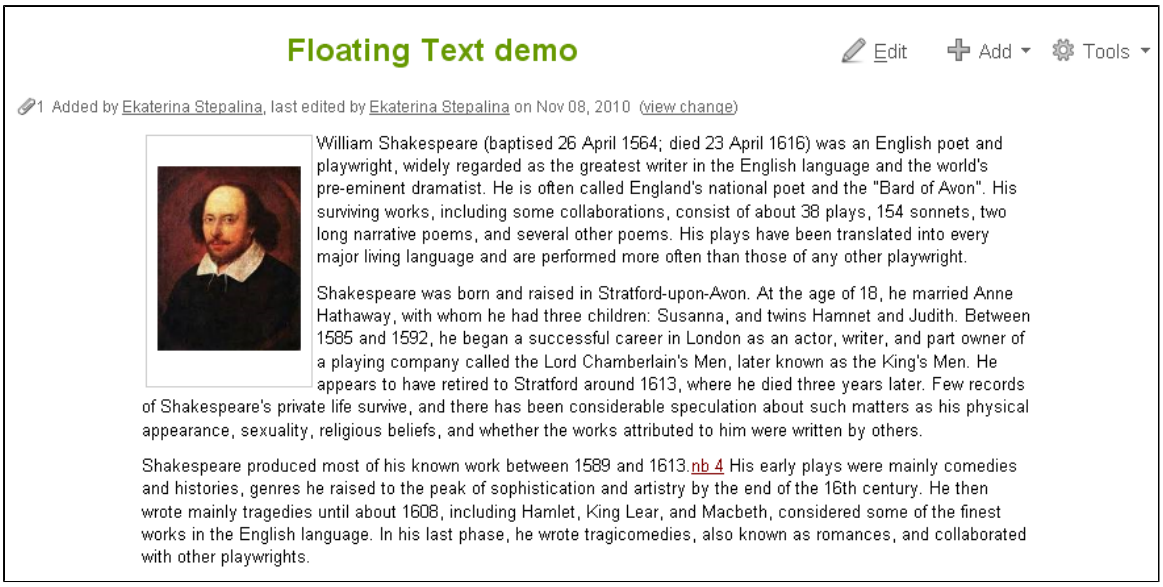
Use the {float} macro to make your text flow around images or diagrams.

**Usage:** The following code demostrates how a picture can be surrounded by the description, as often shown in printed publications:

```
{composition-setup}
{float:left}
!shakespeare.jpg!
{float}
William Shakespeare (baptised 26 April 1564; died 23 April 1616) was an English
poet and playwright, widely regarded as the greatest writer in the English language
and the world's pre-eminent dramatist.
...
```

The page will look like this:

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For more macros, see the Composition add-on page.

***Scaffolding add-on***

The Scaffolding add-on provides macros for creating 'permanent templates' and editable forms. You can create sophisticated page templates in order to add content easily and fast. Scaffolding templates are suitable for dynamically-filled data and allow people to create pages by completing form fields and selecting values from drop-down lists.

The Scaffolding templates are useful for creating pages with a well-determined structure, such as:

- API methods or property descriptions.
- Constant list.
- Feature description.
- Software requirement specifications.

**Commercial or free:** Commercial.

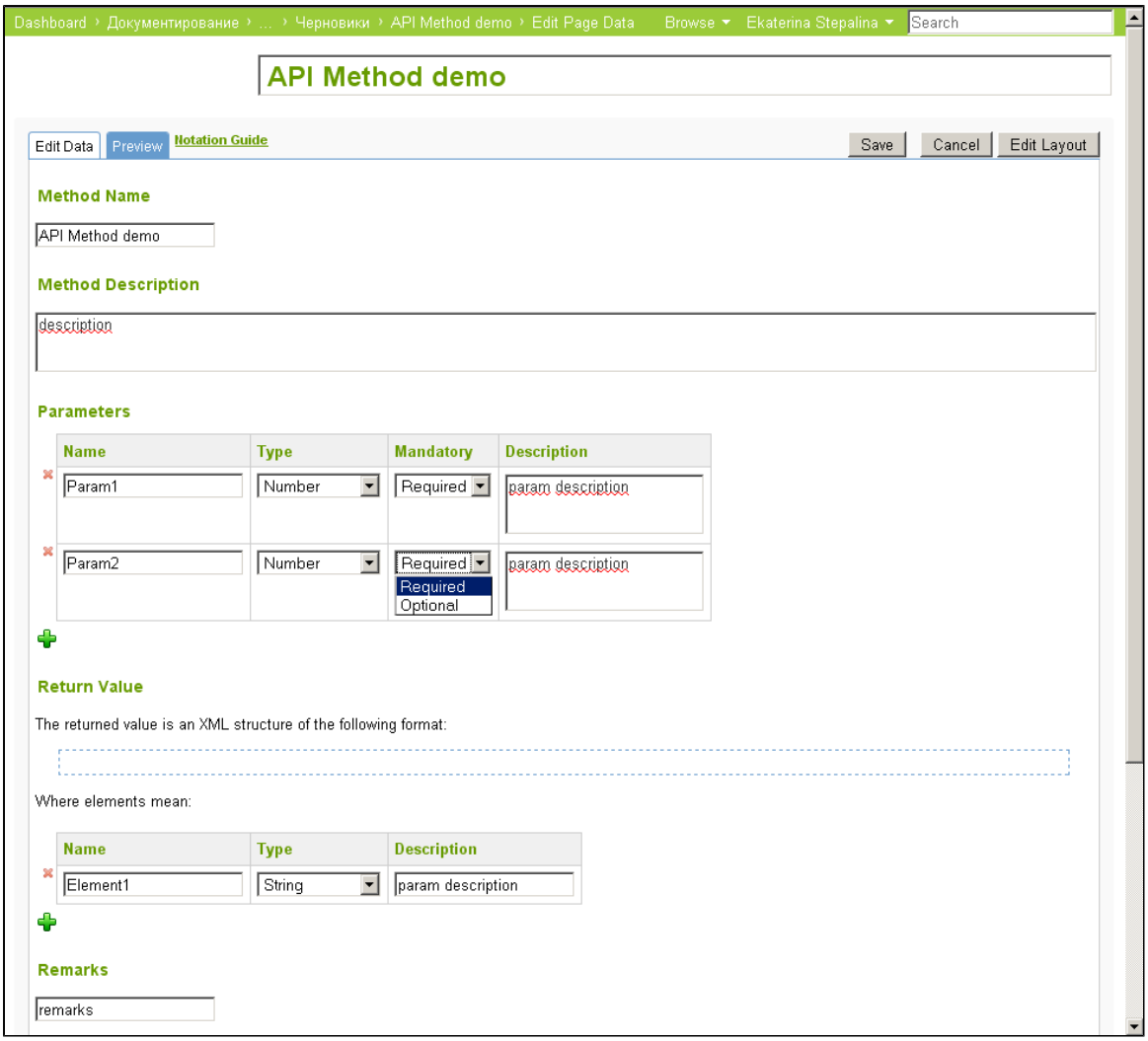
**Example:** The following Scaffolding template creates a description of an API method:

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```
h3. Method Name
{text-data:methodName|required=true}{text-data}
h3. Method Description
{text-data:methodDescription|type=area|required=true|width=100%}description{text-da
ta}
h3. Parameters
{table-data:parameters}
|| Name || Type || Mandatory || Description ||
| {text-data:paramName}ParamName{text-data} |
{list-data:paramType}{list-option:Number}Number{list-option}{list-option:String}Str
ing{list-option}{list-option:DateTime}DateTime{list-option}{list-option:MACaddress}
MACaddress{list-option}{list-option:IPaddress}IPaddress{list-option}{list-data} |
{list-data:paramMandatory}{list-option:Required}Required{list-option}{list-option:O
ptional}Optional{list-option}{list-data} |
{text-data:paramDescription|type=area}param description{text-data} |
{table-data}
h3. Return Value
The returned value is an XML structure of the following format:
\{code:xml\}
\{code\}
Where elements mean:
{table-data:returnValues}
|| Name || Type || Description ||
| {text-data:paramName}ParamName{text-data} |
{list-data:paramType}{list-option:Number}Number{list-option}{list-option:String}Str
ing{list-option}{list-option:DateTime}DateTime{list-option}{list-option:MACaddress}
MACaddress{list-option}{list-option:IPaddress}IPaddress{list-option}{list-data} |
{text-data:paramDescription}param description{text-data} |
{table-data}
h3. Remarks
{text-data:remarks}remarks{text-data}
h3. See Also
```

This template will look like this:

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For more information on how to create templates in Confluence, see Adding a Template.

**Alternatives:** Confluence includes built-in templates which as useful for static data and simple text. For more information, see Working with Templates.

**Notes:** The Scaffolding (and any) template changes will affect only new pages created from the modifed template. In order to change the existing pages, you need to edit each individual page and add or modify the formatting manually.

For more information on Scaffolding, see the Scaffolding add-on page.

### Extended version control

#### *Scroll Versions*

Scroll Versions adds functionality for sophisticated version management, enhanced content reuse, support for context-sensitive help, permalinks, and duplicate page titles. You can set up and manage concurrent versions of your documentation in a single space. Multiple versions of software, different product variants, and even multiple translations of documentation can be managed. Changes to pages are scheduled for a specified version and then published all at once. See the Scroll Versions documentation for an overview of the key features.

**Commercial or free:** Commercial.

*Video: Scroll Versions - Version Management for Confluence (4:20)*

#### *Attachment Checkout add-on*

The Arsenale Lockpoint: Attachments Checkout adds check-out/check-in functionality for Confluence attachments.

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**Commercial or free:** Free for up to 50 users, then commercial.

**More information:**

- Please visit the Attachments Checkout add-on page for an overview, including a video,
- See the Attachments Checkout documentation for further reference.
- For information on working with attachments in Confluence, see Working with Attachments.
- For information on attachment versioning, see Attachment Versions.

#### Add-ons featured in other parts of this guide

- Copy Space add-on – Provides an easy way of copying a space within a Confluence site. Free. See Creating your Technical Documentation Space.
- Multi Excerpt add-on – Enables you to have more than one excerpt (re-usable chunk) on a page. Commercial. See Re-using Content in Technical Documentation.
- Ad Hoc Workflows add-on – Provides advanced workflow features. Commercial. See Managing the Life Cycle of your Technical Documentation.
- Content Publishing add-on – Publishes content from a master space to a published space. Commercial no charge. See Managing the Life Cycle of your Technical Documentation.
- Scroll Office – Provides advanced features for export to Microsoft Word. Commercial. See Exporting and Printing Technical Documentation.
- Scroll PDF Exporter – Provides advanced PDF export features. Commercial. See Providing PDF Versions of your Technical Documentation and Exporting and Printing Technical Documentation.
- Scroll DocBook Exporter – Provides DocBook exports. Commercial.
- Scroll EPUB Exporter – Outputs an ebook in the common EPUB format that can be read on iPads, iPhones and any other ebook reader. Commercial.
- Scroll HTML Exporter – Enables the delivery of Confluence content from a web server. It converts the pages into static HTML pages that can be uploaded to a web server. The output of the Scroll HTML exporter can also be used as an input to produce other HTML-based help formats such as WinHelp and HTML Help. Commercial.
- Scroll EclipseHelp Exporter – Enables you to collaborate and author all your content in your wiki, and generate embeddable online help for Eclipse-based applications. Commercial.

#### Notes

- **Add-on support.** *Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*
- **Installing add-ons.** If you decide to use additional add-ons, your site administrator will need to install the add-ons into your Confluence site. Refer to the documentation on installing add-ons.

#### Further reading

- A blog post about useful add-ons and tools for exporting and importing content from/to Confluence: Technical Writing in a Wiki - Single Source Publishing (November 2010).
- Website for exploring and downloading the available add-ons: Atlassian Marketplace.
- Documentation on installing and configuring add-ons: Universal Plugin Manager Documentation.
- Documentation on using macros: Working with Macros.
- Further Reading about Developing Technical Documentation on Confluence

## Further Reading about Developing Technical Documentation on Confluence

This page is part of the guide to developing technical documentation on Confluence. Once you have absorbed all the information in this guide, you may be ready for more reading.

- The Confluence documentation: Confluence Latest.
- Tips from other technical writers, in the Confluence documentation: Tips of the Trade. *Not applicable to Confluence OnDemand.*
- Blog post about using Confluence for online help: Using a wiki for online help.
- Blog posts about version management in Confluence with Scroll Versions plugin:
  - Announcing Scroll Versions.
  - Version management gets serious with Confluence Scroll Versions plugin.
- Now you have your documentation space up and running, it's fun and rewarding to use the full power of the wiki to engage your readers and embed content from other social sites. Here is a blog post and presentation slides on engaging readers in the documentation.

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- Sarah Maddox's book about technical communication in Confluence: Confluence, Tech Comm, Chocolate - A Wiki as Platform Extraordinaire for Technical Communication.
- Webinar recording: Confluence as a Platform for Technical Documentation.

**Let us know about more links**
We plan to add more links to this page or to the 'Tips of the Trade' page. Let us know of any we have missed.

## Developing a Knowledge Base on Confluence Wiki

Welcome! This is a guide to using Confluence as a knowledge base. You will find this guide useful if you want to produce a knowledge base with a survey, content curation, intelligent search and standardized templates.

In these pages, we'll show you how to use Confluence to achieve a high-functioning knowledge base, including these features:

- Using templates
- Subscriptions (RSS or email)
- Organising content (hierarchically or by label)
- Populating data via templates
- A 'was this helpful?' survey
- Intelligent searching algorithms (higher ranked articles are promoted in search results)
- Targeted searching across specified Confluence spaces and content types
- How to show related content via labels
- Extensive metrics and reporting
- Re-using content for easier maintenance and consistency

In addition, you may find the following topics useful, in the guide to technical documentation in Confluence: Exporting articles to PDF, HTML and other formats

**Related pages:**

- Confluence User's Guide
- Confluence Administrator's Guide

**Table of contents**


- Creating Your Knowledge Base Space
- Using Templates and Formatting Macros in a Knowledge Base
- Proactive Communications in a Knowledge Base
- Additional Add-ons for a Knowledge Base


## Creating Your Knowledge Base Space

Confluence 5.3 ships with a space blueprint for creating Knowledge Base spaces. Go to **Create Space** > **Knowledge Base** to try it out for yourself.

The Knowledge Base space integrates with JIRA Service Desk too - see Connecting to a Knowledge Base.

This guide is for people who want to develop and publish a knowledge base using Confluence. You'll find Confluence useful because it combines professional web publishing features with the ease-of-use and flexibility of a wiki - requiring a low barrier to entry, but high quality output for all your team members. Confluence provides all of the collaborative features for your reports (such as automatic versioning, granular enterprise security, email and RSS subscriptions, and JIRA integration). This page is a quick-start guide to creating a wiki space for a knowledge base.

#### Step 1. Add a space and select the Documentation theme

Below is a quick guide to adding a space. See Setting up a New Global Space for a full description.

1. Go to the Confluence dashboard and choose **Create Space** > **Blank Space**.
   *Hint:* If you cannot see **Create Space**, this means that you do not have permission to add spaces. Please contact your Confluence administrator.
2. Choose **Next** then enter a **space name** and a short, unique **space key**.
3. Leave the **permission** settings as default, or choose to allow only yourself to view or contribute content to

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this space. You can change these settings later and with more flexible options.
4. Choose **Create**.
5. Your new space appears. Choose **Space Tools** in the sidebar.
6. Choose **Look and Feel** > **Themes** and select the **Documentation** theme.
7. Choose **OK**.

The home page of your new space will appear, and your space will be using the Documentation theme. Because you created the space, you are the space administrator. Now you can do some basic configuration, as described in the sections below. From this point on, instructions will refer to navigating in the Documentation theme, which is slightly different to the default theme.

**On this page:**


- Step 1. Add a space and select the Documentation theme
- Step 2. Set the space permissions
- Step 3. Customise the title and content of the home page
- Step 4. Customise the Documentation theme
- Step 5. Create an inclusions library to manage reusable content
- Step 6. Create the table of contents
- Step 7. Give people an RSS feed they can subscribe to
- Step 8. Set up Atlassian's Content Survey and Reporting add-on
- Step 9. Insert Google Analytics code into Confluence's custom HTML
- Note about add-on support


### Step 2. Set the space permissions

Define the space permissions to determine who can do what in your new space:

1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Permissions.**
3. Choose **Edit Permissions**.
4. Set the permissions to suit your needs then choose **Save All**.
   - You can add **groups** and/or individual **users** to the list, then select the permissions for each group or user.
   - You can also set the permissions for **anonymous** users – these are people who have not logged in to the wiki. Anonymous access is available only if enabled for the entire Confluence site. We recommend this setting if you are using this space for Technical Documentation or for a Knowledge Base.
   - Note that you can change these permissions at any time. You may want to restrict the permissions to specific groups now, and later open the space to more people.

#### *More about permissions*

Confluence has a robust and granular permissions scheme that you can use to determine who can view, comment on and even update the documentation. There are three levels of permissions in Confluence:

- Global permissions apply across the entire site.
- Space permissions apply to a space.
- Page restrictions allow you to restrict the editing and/or viewing of a specific page. Below we discuss a way of using these in the draft, review and publishing workflow.

Space permissions in Confluence are simple yet granular enough to be useful for technical documentation. You can:

- Use the permission levels to control who can create pages in the space, delete pages, create comments, delete comments, administer the space, and so on.
- Grant a permission level to one or more users, and/or to one or more groups, and/or to anonymous users.

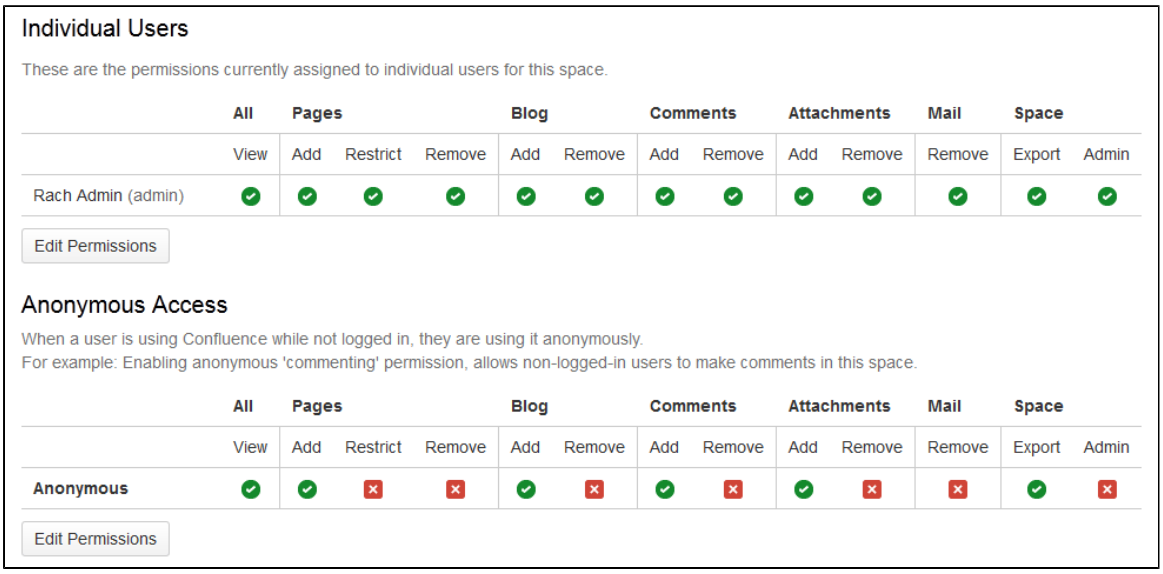
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Terminology:

- 'Anonymous' means people who have not logged in to the wiki. These are users that won't affect your the number permitted by your license.
- The 'confluence-users' or 'users' group is the default group into which all new users are assigned. Everyone who can log in to Confluence is a member of this group.

For example, you might allow 'Anonymous' users specific view and content creation rights so that they can access and engage with your knowledge base while your team lead (Rach) maintains full Space Administration rights.

*Screenshot: Allowing anonymous users to add specific content*




For detailed information, see the documentation on:

- Global permissions
- Space permissions
- Page restrictions
- Users and groups

#### Step 3. Customise the title and content of the home page

When you created your space, Confluence created a home page with default content and a default title. You will want to change the title and content.

1. Go back to your space home page, by choosing the space name in the breadcrumbs at the top of the screen.
2. The space home page appears. By default, the page title is 'X Home', where 'X' is the name you gave your space.
3. Choose **Edit**.
4. Change the title to suit your needs.
5. Update the content to suit your needs.
   *Hint:* If you do not know what to add yet, just add a short description. You can refine the content of the page later. Take a look at an example of a homepage.
6. Choose **Save**.

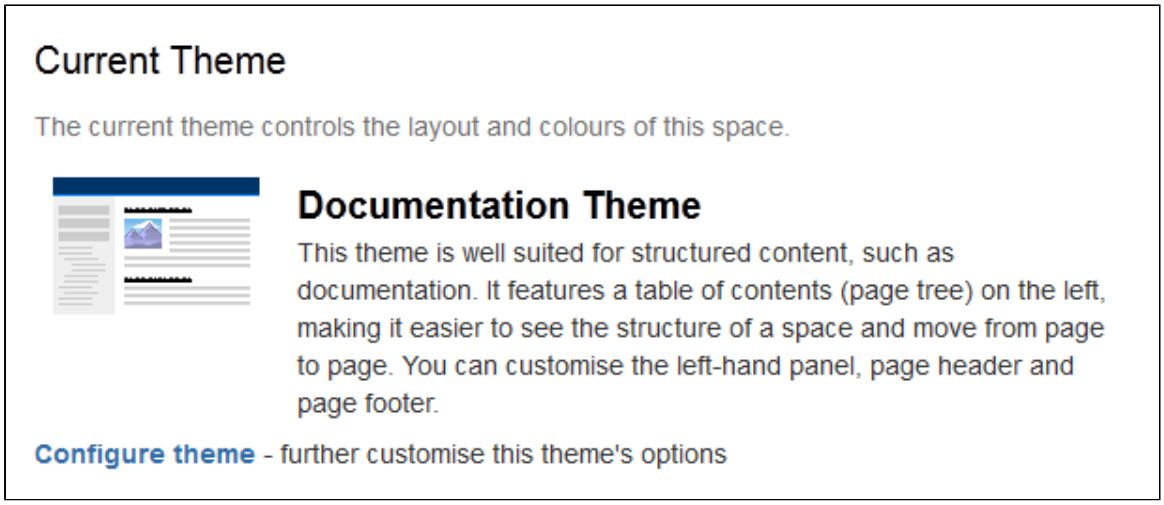
#### Step 4. Customise the Documentation theme

When you added this space you chose the Documentation theme, which provides a left-hand navigation bar and a good look and feel for a knowledge base. If necessary, you can configure the Documentation theme to add your own page header and footer, or to customise the default left-hand navigation bar. These customisations affect the online look and feel of your knowledge base. See Configuring the Documentation Theme for the full description.

1. Choose **Browse** > **Space Admin** (if you have not yet selected the documentation theme choose Space Tools > Look and Feel).
2. Choose **Themes**.

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3. If the space is not yet using the Documentation theme, apply the theme now.
4. Choose **Configure theme**.



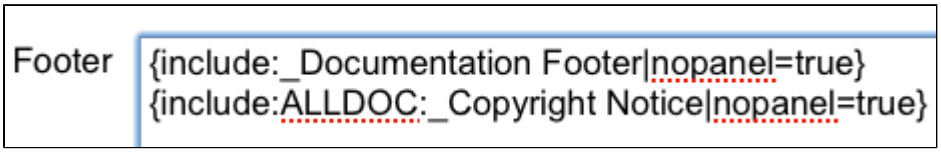

5. The 'Documentation Theme Configuration' screen appears. Customise the left-hand navigation bar, header and footer to suit your needs. Details are in the documentation. Here are some hints:
   - The **Page Tree** check box determines whether your space will display the default search box and table of contents (page tree) in the left-hand panel.
   - The **Limit search results to the current space** check box determines whether Confluence will search only the current space or the whole Confluence site. This setting affects the default search. Viewers can override it each time they do a search.
   - Enter text, images, macros and other wiki markup into any or all of the three text boxes for the the left-hand navigation bar, header and footer. You can use the Include macro and the Excerpt Include macro to include re-usable content.
   - Any content you add to the navigation panel will appear *above* the default page tree.
   - If you like, you can remove the default page tree (by unticking the box) and add your own, customised version of the Pagetree macro instead.
6. Choose **Save**.

***Example of a customised footer***

Take a look at the footer of a page in the Crowd documentation space.




To produce the above footer, we have the following content in the footer panel in the Documentation theme configuration screen:




Here it is in text form:

```
{include:_Documentation Footer|nopanel=true}
{include:ALLDOC:_Copyright Notice|nopanel=true}
```

The above content consists of two Include macros.

- The first macro includes a page called _Documentation Footer. This page contains the big blue buttons and hyperlinked text.

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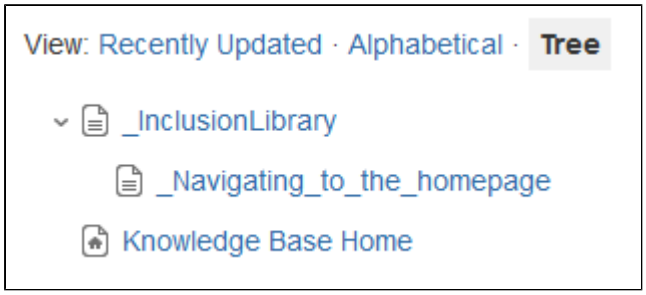
- The second macro includes a page from a different space, the ALLDOC space, called _Copyright Notice. This page includes our standard copyright notice, used in all our documentation spaces.
- In each include macro, the content has been drawn from an inclusions library, a hidden content repository, from which you can store frequently and re-usable content throughout your knowledge base space.

#### Step 5. Create an inclusions library to manage reusable content

Using Confluence, you can dynamically include content from one page into another page. You can include a whole page into another one, using the Include macro. You can also define an 'excerpt' on a page, and then include that excerpted text into another page using the Excerpt Include macro.

To organise your re-usable content, we recommend that you create a set of pages called an 'inclusions library':

1. Choose **Create** and create a new page in your space.
2. Enter a suitable title. We use '_InclusionsLibrary'. The unusual format of the title helps to let people know this page is special.
3. Enter some content and **save** the page. We enter text explaining the purpose of the inclusions library and how to re-use the content. You can copy our text by clicking through to one of the example pages listed below.
4. Choose **Browse** > **Pages** and drag your new page *above* the space homepage.
5. Go to your new inclusions page and choose **Create** to add child pages containing your re-usable content. See the examples of our own inclusions libraries listed in the examples below.




Some notes about inclusions libraries:

- The inclusions library is not a specific feature of Confluence. The pages in the inclusions library are just like any other Confluence page.
- The pages are located at the root of the wiki space, not under the homepage. This means that they will not appear in the table of contents on the left and they will not be picked up by the search in the left-hand navigation bar either.
- The pages will be picked up by other global searches, because they are just normal wiki pages.
- We have decided to start the page name with an underscore. For example, '_InclusionLibrary'. This indicates that the page is slightly unusual, and will help prevent people from changing the page name or updating the content without realising that the content is re-used in various pages.

##### *Examples of inclusions libraries*

Here are some examples in our documentation:

- Crowd inclusions library
- Confluence inclusions library

#### Step 6. Create the table of contents

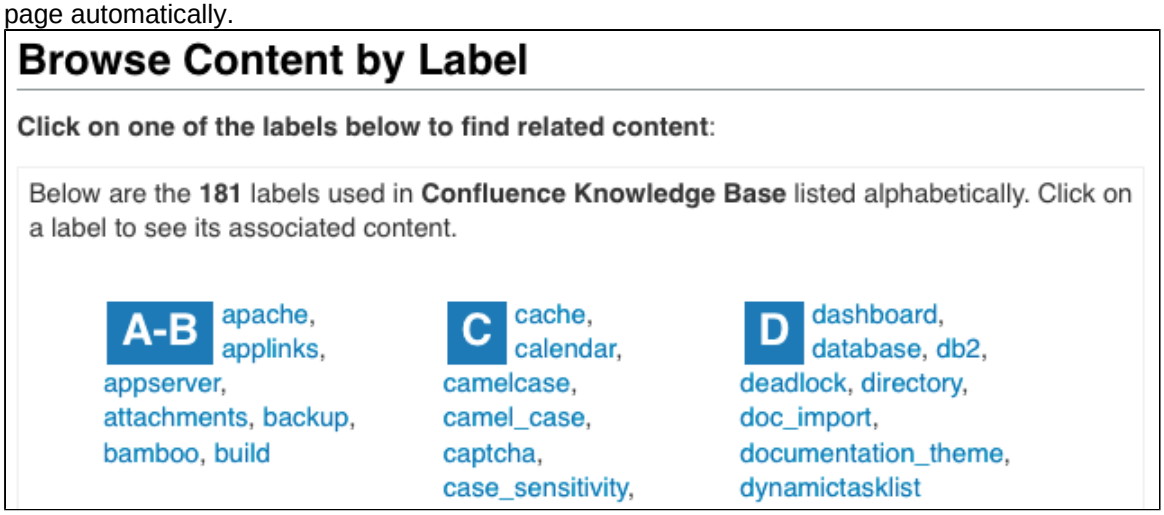
Create the table of contents for your knowledge base, by adding the top-level pages for all the usual sections. For example, our technical support team designed the following pages in the Confluence Knowledge Base on our public wiki:

- Browse Articles by Label
- Browse Articles by Top Ranked Content
- Browse Articles by Page Tree Hierarchy
- Browse Articles by Version
- Subscribe to Proactive Announcements

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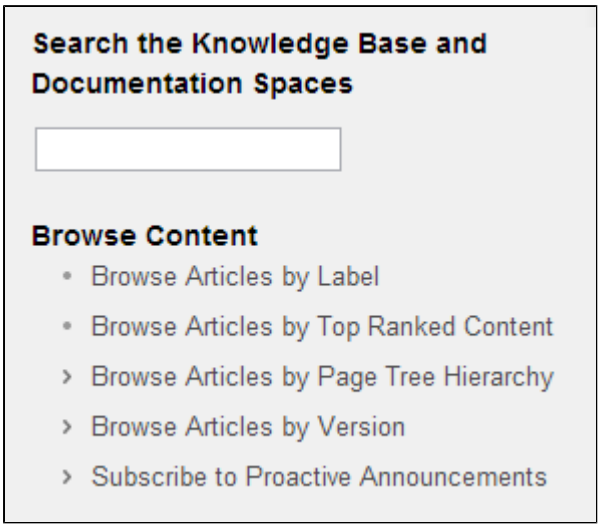
To start your table of contents:

1. Go back to your space home page, by clicking the space name in the breadcrumbs at the top of the screen.
2. Choose **Create** to add the page as a child of the home page.
3. Enter the page title. For example: 'Browse Articles by Label'.
4. Enter the content of the page.
    - *Hint:* If you do not know what to add yet, just add a short description then refine the content of the page later. If you like, you can follow an outline similar to the Confluence Knowledge Base and add the Label List macro. This displays a hyperlinked alphabetical index of all labels within the current space. As you create content in this space and apply appropriate labels, the macro will update this page automatically.




5. Choose **Save**.

Now do the same for all the sections of your knowledge base that you wish to appear in the left-hand navigation bar of the Documentation theme. Below is what the table of contents looks like for our Confluence Knowledge Base:



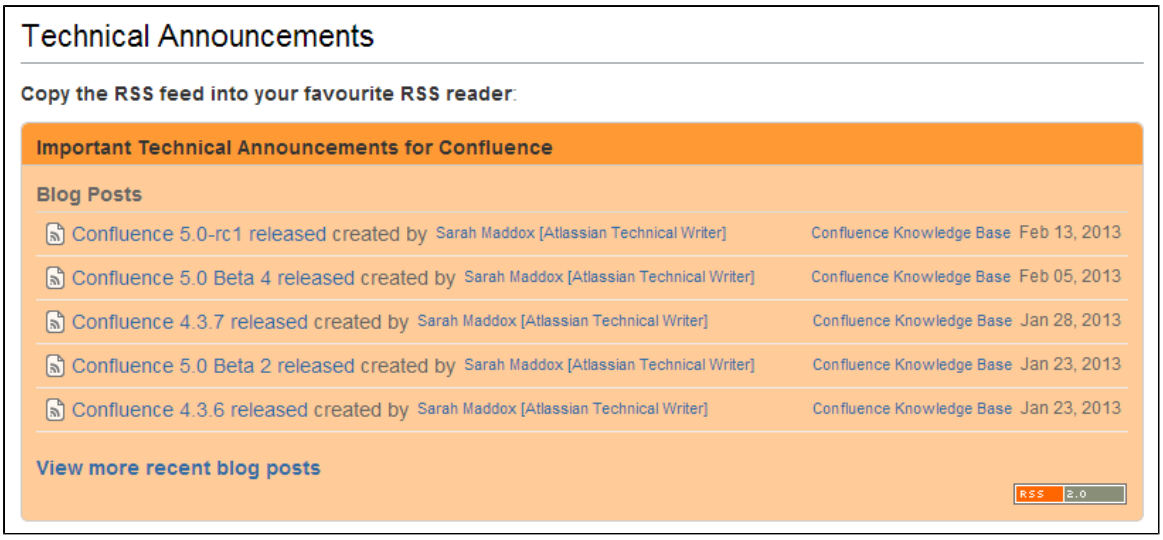

### Step 7. Give people an RSS feed they can subscribe to

Let's populate the knowledge base home page with content by creating an RSS feed that your co-workers and customers can subscribe to, so they an receive important updates from your knowledge base and technical alerts on your products.

This is a strategy that Atlassian's technical support team uses to create a proactive knowledge base that provides technical alerts to customers and coworkers and helps solve support issues before they're even created.

By following the quick guide below, you'll create a homepage similar to the one Atlassian's technical support team has created for the Confluence Knowledge Base on our public wiki:

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#### Creating your RSS feed:

Confluence can filter spaces by content type. To filter your knowledge base for 'blog post' content, do the following:

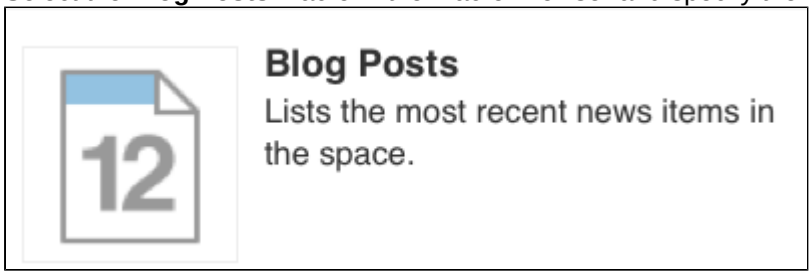
1. Go to a page in the space and choose **Blog** in the sidebar.
   Or, if you are using the Documentation theme, choose **Browse** > **Blog** at the top of the screen.
2. Copy this URL to your clipboard.
3. Create an RSS feed for the URL of your knowledge base space.
   Now your RSS feed will consist of any blog posts created in the knowledge base space.

#### Highlighting your technical announcement RSS feed

1. Go to your space home page.
2. Choose **Edit**.
3. Insert an 'h2' heading, such as 'Important Technical Announcements'.
4. Insert bold text that reads something like, 'Copy the RSS feed into your favourite RSS reader:'.
5. Choose **Insert** > **Other Macros** to open the Macro Browser.
6. Select the 'Panel' macro in the Macro Browser and specify your desired macro preferences. We recommend that you change the **Panel Title**, **Border Style**, and **Background Color** to further highlight the panel on the page.
7. Choose **Insert**.

#### Inserting a Blog Posts macro

1. Inside the Panel macro placeholder choose **Insert** > **Other Macros** to open the Macro Browser again.
2. Select the **Blog Posts** macro in the Macro Browser and specify the following preferences:




   - **Content Type to Display**: Title
   - **Restict to These Spaces**: Your knowledge base Spacekey
   - **Maximum Number of News Items**: 5
   - **Sort By**: Creation
   - **Reverse Sort**: Tick the box
3. Choose **Insert** to insert the Blog Posts macro onto the page inside your Panel macro.
   Now your panel will display the last 5 blog posts created in your knowledge base space.

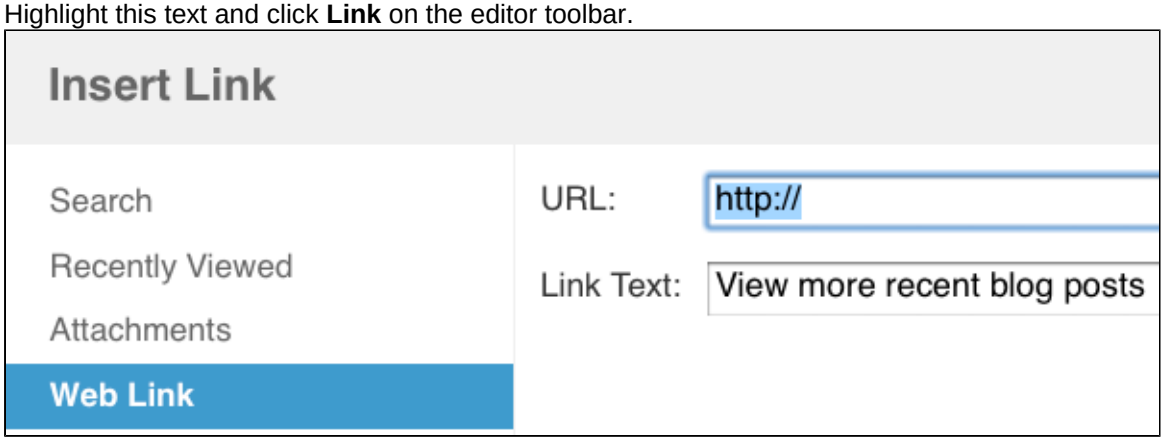
#### Inserting your RSS feed into your 'Technical Announcements' panel

First, let's create a link so that your coworkers and customers can view all of the blog posts in your knowledge

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base space. See Working with Links for a full description in our product documentation.

1. Place your cursor after/below the Blog Posts macro in the Panel macro placeholder.
2. Type: 'View more recent blog posts'.
3. Highlight this text and click **Link** on the editor toolbar.




4. Select 'Web Link' and paste the link you copied to create your RSS Feed.
5. Choose **Insert**.

Now, let's insert your RSS Feed into your panel by linking an image. See Linking an Image for a full description in our product documentation.

1. Attach an RSS Icon 

to the page by dragging and dropping it into the editor (preferably below the link you just created). See Drag-and-Drop for a full description in our product documentation.
2. Choose the RSS Icon image and choose the 'Align right' button on the editor toolbar.
3. Choose **Border** in the image properties panel.
4. Link the RSS Icon by selecting the image and then choosing **Link** on the editor toolbar.
5. Choose the 'Web Link' tab and insert the RSS Feed URL you created.
6. Choose **Insert** to link your RSS Feed to the RSS Icon image.
7. Choose **Save** to save your page and test your RSS Icon.

Congratulations! You have successfully created a proactive knowledge base.

#### Step 8. Set up Atlassian's Content Survey and Reporting add-on

*The information in this step does not apply to Confluence OnDemand.*

Now that you can monitor the traffic and activity of your knowledge base, let's measure its effectiveness. When the Content Survey and Reporting add-on is activated for a space, it will generate a report that includes:

- Direct feedback from customers about article quality
- Amalgamated 'composite score' results
- Answers to secondary questions, such as 'Was the information complete?' or 'Was the article well-written?'.
- A rollup at-a-glance view of the metrics for the whole space.

Lastly, the Content Survey and Reporting add-on will institute 'intelligent searching' which means that, based on the results of the surveys, higher ranked pages are promoted in search results, so your best and most popular pages are found easiest. This is a quick guide for how to set up the Content Survey and Reporting add-on.

This add-on only functions properly if the Documentation theme is applied to the space.
Let's install the Content Survey and Reporting add-on using Confluence's Universal Plugin Manager:

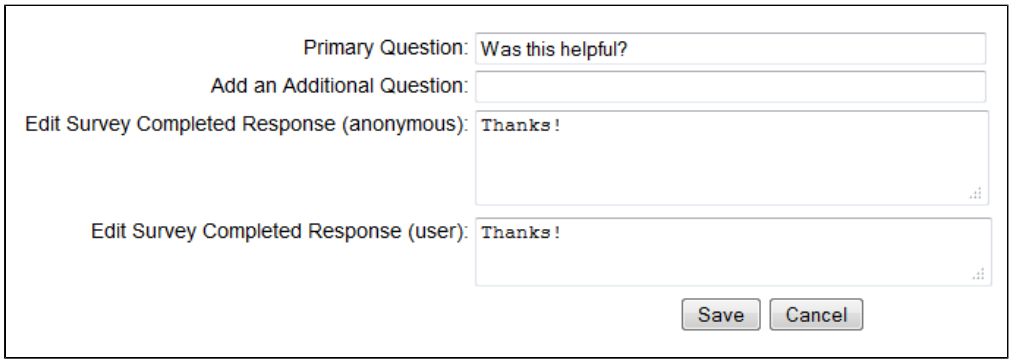
1. Log into Confluence as a System Administrator or Confluence Administrator.
2. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
3. Choose **Manage Add-ons.**
4. Search for the 'Content Survey and Reporting add-on'.
5. Choose **Install**.

You can also go to the Atlassian Marketplace and download the add-on and install it directly.

Now that you've installed the Content Survey and Reporting add-on, let's configure a survey:

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1. Go to your space.
2. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
3. Click **Configure Survey** under 'Knowledge Base Survey'. Here you can:
   - Add a question
   - Edit a question's text
   - Activate or deactivate a question
   - Edit the response text
4. Configure a 'Primary Question' for the survey




5. Choose **Save**.

Now that you've added a primary question, let's test out the add-on by adding it to the footer of the Documentation theme so that every page within your knowledge base space includes your survey:

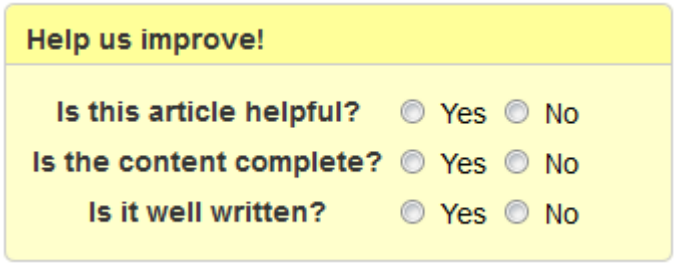
1. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
2. Choose **Themes**.
3. Choose **Configure theme**.
4. Go to the 'Footer' section of the 'Documentation Theme Configuration' page and insert this recommended markup to achieve a nice layout of the Content Survey and Reporting add-on:

```
{section}
{column:width=5%}
{column}
{column:width=90%}
{panel}
{kbsurvey}
{panel}
{column}
{column:width=5%}
{column}
{section}
```

5. Choose **Save** and go to your space homepage to view your Content Survey and Reporting add-on in the footer of the page.

With the Content Survey and Reporting add-on you can dramatically improve the quality of your knowledge base and the efficiency with which your team creates and maintains it. Here is an example of how our technical support team uses the Content Survey and Reporting add-on in the Confluence Knowledge Base:

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***Results displayed by the Content Survey and Reporting add-on***

Survey results are viewable by space administrators only. The add-on develops three results:

- **Pages with results** - Determine page-by-page, which are your most effective knowledge base articles and which ones need improvement.

View: **Pages with Results** | Pages without Results | Rollup Report

| Confluence Knowledge Base | Total Ballots | Composite Score | Is this article helpful? | Is the content complete? | Is it well written? |
|---|---|---|---|---|---|
| LDAP Error Code 49 | 284 | 585 | 73% (208/285) | 57% (111/195) | 75% (144/193) |
| Confluence Does Not Start with 'MySQL session isolation level 'REPEATABLE-READ' is no longer supported' Message | 69 | 167 | 86% (59/69) | 75% (39/52) | 82% (42/51) |
| Unable to Connect to SSL Services due to PKIX Path Building Failed sun.security.provider.certpath.SunCertPathBuilderException | 86 | 110 | 57% (49/86) | 51% (33/65) | 56% (34/61) |
| How to Edit the Footer in Confluence | 3 | 102 | 67% (2/3) | 50% (1/2) | 100% (2/2) |
| Exceeds Max Allowed Packet for MySQL | 44 | 100 | 82% (36/44) | 69% (24/35) | 94% (33/35) |
| MySQL Table is Marked as Crashed and Should be Repaired | 63 | 77 | 56% (35/63) | 47% (22/47) | 47% (20/43) |
| Problems Installing Confluence as a Service on Windows 64bit | 32 | 72 | 81% (26/32) | 71% (17/24) | 82% (18/22) |

  As you can see, the add-on develops a '**Composite Score**' which ranks articles in search, so your highest scoring (best) content can be found most easily. The score is based on the last 32 votes cast, using the global search configuration. See Confluence Content Survey and Reporting Add-on for a full description on how Global Search boosting works.

- **Pages without Results** - These are the pages in you knowledge base without survey results.
- **Rollup Report** - This is the summary of all survey results. The report can be used to determine how effective your overall knowledge base content is.

View: Pages with Results | Pages without Results | **Rollup Report**

| Number of Pages in Space | Total Ballots Cast | Is this article helpful? | Is the content complete? | Is it well written? |
|---|---|---|---|---|
| 1292 | 3351 | 58% (1934/3351) | 50% (1237/2454) | 67% (1596/2381) |

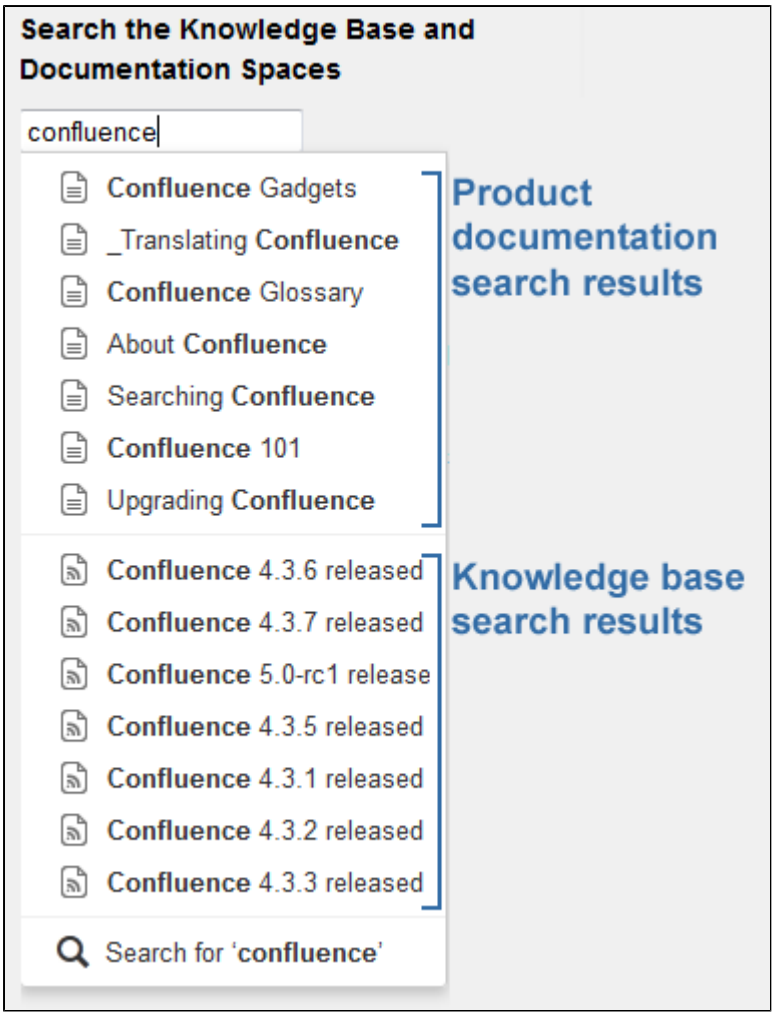
***Searching multiple spaces from your knowledge base***

As mentioned, the Content Survey and Reporting add-on generates a composite score that ranks pages and articles within your knowledge base to make the highest (most well regarded) pages more retrievable by visitors. The add-on also improves Confluence search by allowing users to search multiple spaces without ever leaving your knowledge base space. This is really helpful for users that are unfamiliar with Confluence because they can keep the knowledge base as a point of reference within the greater instance of Confluence.

At Atlassian, our product knowledge bases and product documentation exist in the same Confluence instance so that we can make both available to 'Anonymous' users. Our Technical Support team uses the Content Survey and Reporting add-on to allow visiting users to search for Confluence resources in the product documentation space from the Confluence Knowledge Base space. This provides the visitor twice the chances of finding an answer to their question.

In the image below, you can see the space specific search used in the left-navigation bar to find content related to Confluence in both the 'Documentation' and 'Knowledge Base' spaces. Pages in the 'Documentation' space are listed first and pages in the 'Knowledge Base' space are listed second.

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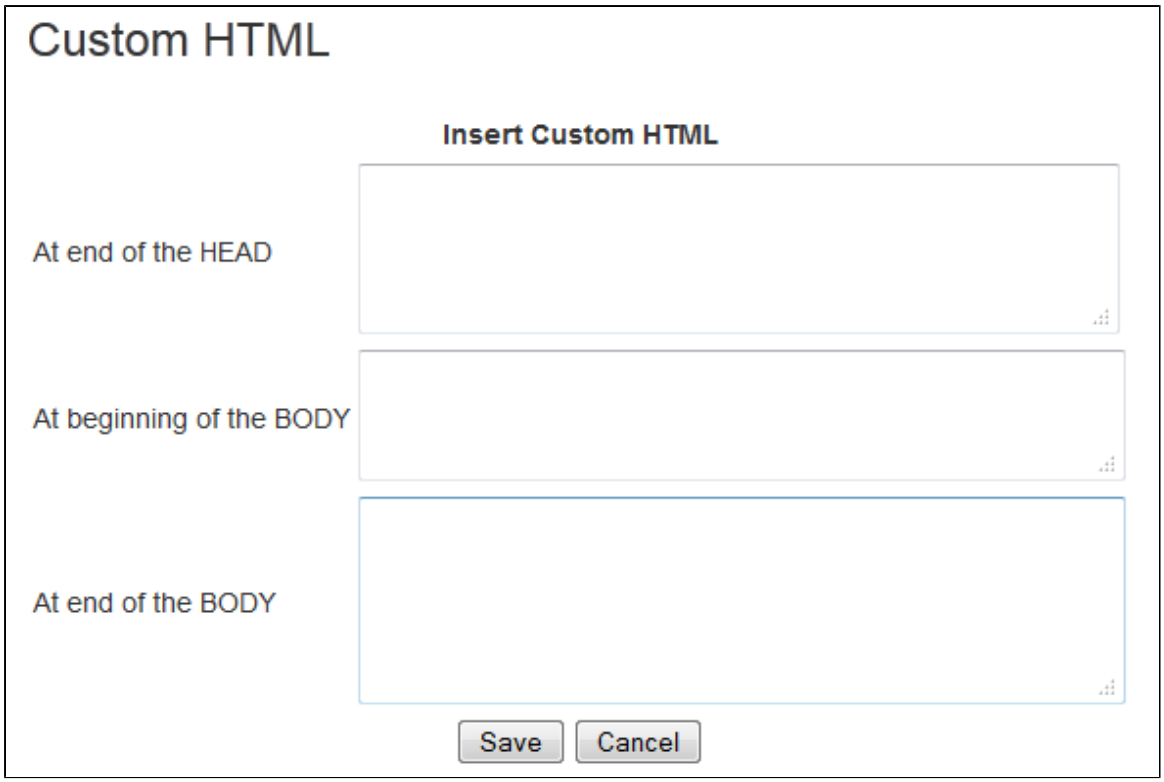

**Step 9. Insert Google Analytics code into Confluence's custom HTML**

⚠ *The information in this step does not apply to Confluence OnDemand.*

Now that you have a strong foundation for a knowledge base, it's critical to assess how effectively it services your customers. Google Analytics is a tool that gives you rich insights into your website traffic and marketing effectiveness. You are going to want to understand how your customers are accessing the resources in your knowledge base. This is a quick guide to inserting Google Analytics HTML code into Confluence so you can measure your knowledge base traffic.

1. If you don't have one already, create a Google Account and then create a Google Analytics Account using your Confluence instance's URL.
2. Copy the Google Analytics code to your clipboard.
3. Log into Confluence as a System Administrator or Confluence Administrator.
4. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
5. Choose **Custom HTML** under 'Look and Feel'.
6. Choose **Edit** to insert custom HTML into your Confluence instance.

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7. Paste your Analytics code you have saved to your clipboard into the table labeled **At end of the BODY**.
8. Choose **Save**.

You can now monitor the activity and traffic for every page you create in your Confluence instance and Knowledge Base.
*Hint*: *If your knowledge base only represents a space within your greater Confluence instance, you can search Google Analytics for activity in the specific space by exclusively filtering for the space key.*




Read David Simpson's blog post about Tracking Confluence Usage with Google Analytics for more information.

#### Note about add-on support

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

#### *Next Steps*

See Using Templates and Formatting Macros in a Knowledge Base for next steps.

## Using Templates and Formatting Macros in a Knowledge Base

This page is part of the guide to developing a knowledge base on Confluence Wiki. We have already shown you how to create your knowledge base space. Now we offer an introduction to the templates that Confluence provides, and show you some useful macros for formatting your content.

#### Quick guide to templates

A template is a page with predefined content that can be used as a prototype when creating other pages. Templates are available across the Confluence site (global templates) or per space (space templates).

Both 'global templates' and 'space templates', as described on this page, define the content of a page. They do not define the content of an entire space. To create a template for an entire space, see our guide to creating your documentation space.

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You can import predefined page templates from the Atlassian Marketplace.

### Space information design

One question that comes up is whether a knowledge base should be implemented as a decision matrix, with a multi-select or other list. We knew that most of our users visit our documentation directly from search engines. Early on, we learned from Google Analytics that most traffic was coming from search engines, not from within our site. So, we knew to focus on optimising page titles and tags rather than focus on a decision matrix.

**On this page:**
- Quick guide to templates
- Space information design
- Page templates
- Content macros
- JIRA Issues macro
- Labels and macros

### Page templates

Confluence's page templates are a good place to start. Begin by choosing how you want your templates to look. Here's the wiki markup for our page template:

```
h3. Symptoms
FILL IN SYMPTOMS HERE

h3. Cause
FILL IN CAUSE HERE

h3. Resolution
FILL IN RESOLUTION HERE

{htmlcomment}
ENTER SUPPORT TICKET LINKS
{htmlcomment}
```

Useful add-ons:

- The `{htmlcomment}` macro is part of Adaptavist's Content Formatting Macros, a handy add-on.
- Consider the Scaffolding add-on or Form Field Markup for filling out forms. Our support engineers are quite used to using wiki markup (we live and breathe Confluence!), so we left this template as is.

### Content macros

Some favourite macros for formatting content are the Tip, Info, Warning, and Note Macros, and the Code macro. Try the Noformat Macro for ensuring plain text.

We also use Adaptavist's Content Formatting Macros when we really want to make our content look great.

### JIRA Issues macro

Using JIRA for bug tracking? You can't expect your users to have exactly the right JQL filters to show the appropriate topics. We have some nice JIRA Issues macros on display. One of my favourites is in the JIRA KB's Causes for OutOfMemory Errors:

```
{jiraissues:url=http://jira.atlassian.com/sr/jira.issueviews:searchrequest-xml/temp
/SearchRequest.xml?jqlQuery=project+%3D+JRA+AND+issuetype+in+%28Bug%2C+Improvement%
2C+subTaskIssueTypes%28%29%29+AND+component+%3D+%22Performance+-+Memory+leaks%22+OR
DER+BY+key+DESC&tempMax=200|columns=fixversion;summary;status;key|anonymous=true}
```

The JQL includes components and sorting, plus the specific columns.

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#### Labels and macros

Sometimes an article needs to be cross listed. For that we label our articles. Some great macros to use for this are {contentbylabel}, {listlabels} and the {dynamiccontentbylabels} macro in the Content Survey add-on.

#### *Next Steps*

You now have a good idea of how Confluence templates work, and have seen some useful formatting macros. What next? Take a look at Proactive Communications in a Knowledge Base.

## Proactive Communications in a Knowledge Base

This page is part of the guide to developing a knowledge base on Confluence Wiki. We have already shown you how to create your knowledge base space and how to use templates and formatting macros. We touched on creating proactive communications in Creating Your Knowledge Base Space. Now let's discuss it further.

**Quick guide to proactive communications:**

- Confluence can both produce and consume RSS feeds.
- Both the RSS macro and the Blog Posts macro offer a good way to show summaries.

**On this page:**


- Proactive alerts
- Using Confluence as a producer
- Using Confluence as a consumer


#### Proactive alerts

Sending technical alerts to customers is a great way to keep customers and staff informed, and good way to reduce support load. At Atlassian we use the knowledge base both to consume and to produce proactive content that customers can opt into. This page describes how to achieve that.

#### Using Confluence as a producer

- Working with Blog Posts describes how to produce blog posts in Confluence.
- Emailing a Page is a great way to send email messages to users or an email distribution list.

#### Using Confluence as a consumer

Even if your Confluence site is not producing your proactive content, it can consume and display the content in a prominent way:

- The RSS Feed Macro can consume content from any RSS feed on the Internet.
- We use the Blog Posts Macro to display blog posts written in Confluence. The macro output looks especially handsome in a panel, accentuated by an RSS image in a link. Here's the wiki markup:

```
h4. Technical Alerts
{panel:title=Important Technical Alerts for Confluence| borderStyle=solid|
borderColor=#ccc| titleBGColor=#f93 | bgColor=#fc9}
{blog-posts:content=title|max=5|sort=modified|spaces=CONFKB|time=30d}
*[View more recent blog
posts|http://confluence.atlassian.com/pages/viewrecentblogposts.action?key=CON
FKB]*
[!CONFKB:Confluence Knowledge Base
Home^rss20.gif|align=right!|http://confluence.atlassian.com/createrssfeed.acti
on?types=blogpost&blogpostSubTypes=comment&blogpostSubTypes=attachment&spaces=
CONFKB&title=Confluence+KB+-+Technical+Alerts&labelString=techalert&excludedSp
aceKeys%3D&sort=modified&maxResults=10&timeSpan=30&showContent=true&showDiff=t
rue&confirm=Create+RSS+Feed|showTitleOnly=true]
{panel}
```

#### *Next steps*

You now have a good idea of how to do proactive communications. Next up, consider Additional Add-ons for a Knowledge Base.

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## Additional Add-ons for a Knowledge Base

This page is part of the guide to developing a knowledge base on Confluence Wiki. This page lists additional add-ons that might expand your usage.

#### Useful add-ons for a knowledge base

These are some great add-ons for Confluence as a knowledge base:

- The Content Survey and Reporting add-on gives a good report on popular and unpopular content.
- The Confluence Archiving add-on flags old content.
- The Ad hoc Workflows add-on and Content Publishing add-on manage workflows and review process.

#### Note about add-on support

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

#### Bye

Hope you enjoyed the tutorial! Have a chocolate, and please share with us your experiences. You can comment directly on this page.

# Developing an Intranet on Confluence Wiki

> Confluence 5.3 ships with a space blueprint for creating Team spaces that are great for intranets.
>
> Go to **Create Space** > **Team Space** to try it out for yourself.

This guide is for people who are using Confluence as a platform for an intranet. You will find this guide useful if you want to create a space where your team can collaborate and share information.

### Step 1. Create a space

Below is a quick guide to adding a space for your team.

1. Go to the Confluence dashboard and choose **Create Space** > **Blank Space**.
2. The **Create Space** screen appears. Enter a **space name** and a short, unique **space key**.
3. Choose **Create**.

The home page of your new space will appear. Because you created the space, you are the space administrator. Now you can do some basic configuration, as described in the sections below.

**On this page:**


- Step 1. Create a space
- Step 2. Set the space permissions
- Step 3. Customise the title and content of the home page
- Step 4. Subscribe to email notifications for updates made to the space
- Step 5. Attach or import Office documents, if applicable
- Step 6. Import page templates and blueprints
- Step 8. Publish a blog post


**Related pages:**

- Creating a Space
- Global Permissions Overview
- Assigning Space Permissions
- Page Restrictions
- Users and Groups

#### Step 2. Set the space permissions

Define the space permissions to determine who can do what in your new space.

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1. Go to the space and choose **Space tools** > **Permissions** on the sidebar.
2. Choose **Edit Permissions**.
3. Set the permissions to suit your needs then choose **Save All**.
    - You can add **groups** and/or individual **users** to the list, then select the permissions for each group or user.
    - You can also set the permissions for **anonymous** users – these are people who have not logged in to Confluence and will not count towards the number allocated by your license. Anonymous access is only available if enabled for your entire Confluence site. It is unlikely you will need anonymous users for your intranet.
    - You can change these permissions at any time. You may want to restrict the permissions to specific groups now, and later open the space to more people.

### More about permissions

Confluence has a robust and granular permissions scheme that you can use to determine who can view, create content and comment within your intranet. There are three levels of permissions in Confluence:

- Global permissions apply across the entire site.
- Space permissions apply to a space.
- Page restrictions allow you to restrict the editing and/or viewing of a specific page.

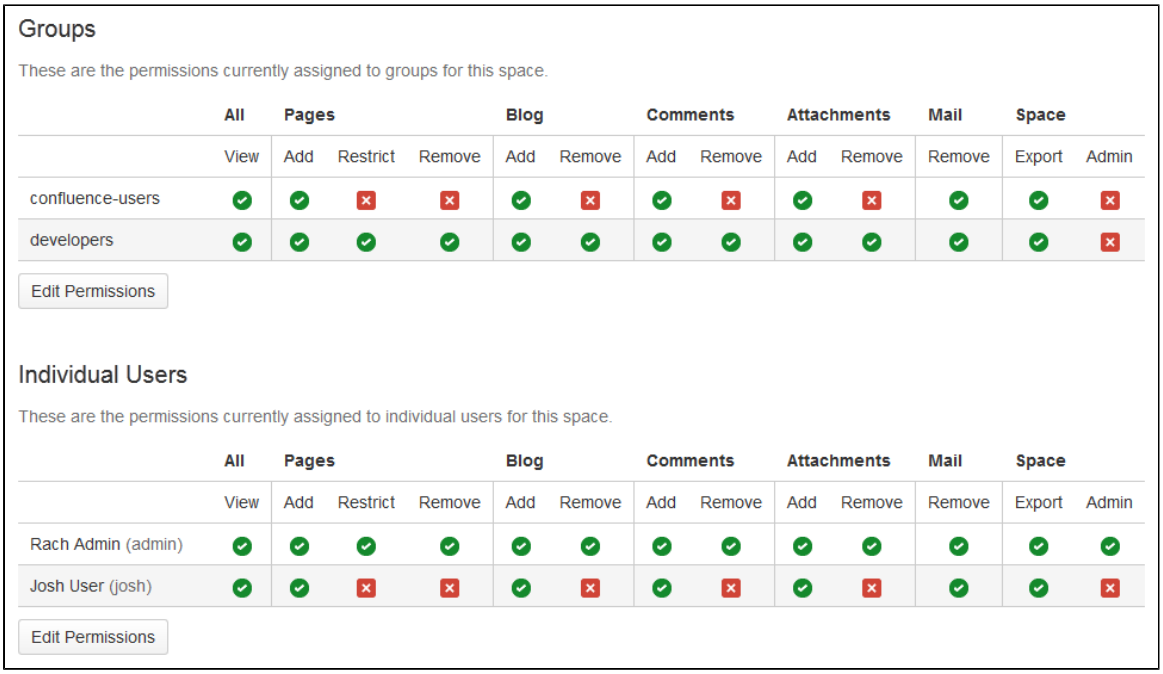
**Space permissions** in Confluence are simple yet granular enough to be useful for an intranet. You can:

- Use the permission levels to control who can create pages, delete pages, create comments, delete comments, administer the space, and so on.
- Grant a permission level to one or more users, and/or to one or more groups, and/or to anonymous users. A space administrator has complete control.

Terminology:

- '**Anonymous**' means people who have not logged in to Confluence
- The '**confluence-users**' ('**users**' in OnDemand) group is the default group into which all new users are assigned. Everyone who can log in to Confluence is a member of this group.

For example, you might allow the '**confluence-users**' group permission to create and edit comments, but reserve full editing rights for your team members. Let's assume your team members are all members of the '**developers**' group. The example below shows that members of the '**developers**' group have all permissions except space administration, but, members of the '**confluence-users**' group and the individual '**Josh User**' only have a few editing rights.




For detailed information, see the documentation on:

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- Global permissions
- Space permissions
- Page restrictions
- Users and groups

### Step 3. Customise the title and content of the home page

When you created your space, Confluence created a home page with default content and a default title. You will want to change the title and content to suit your team.

1. Go to your space home page
2. By default, the page title is 'X Home' (where 'X' is the name you gave your space).
3. Choose **Edit**.
4. The page opens in the editor.
5. Change the title and update the content to suit your needs.
   *Hint:* If you do not know what to add yet, add a short description. You can refine the content of the page at any time.
6. Choose **Save** to save your home page.

### Step 4. Subscribe to email notifications for updates made to the space

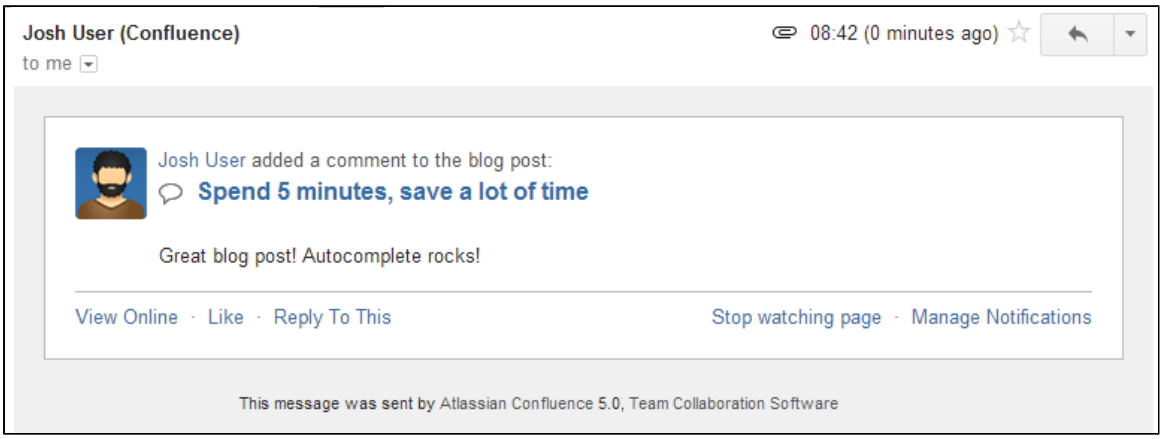
You can configure your email notifications to suit your needs: You can choose to be notified about all pages in a space, blog posts in a space, or both. Below is a quick guide to monitoring a space's content. See Watching Pages, Spaces and Blog Posts for a full description.

1. Go to your space homepage.
2. Choose **Pages** in the sidebar.
3. Choose **Watch this space**.
4. Choose **Blog** in the sidebar.
5. Choose **Watch this blog**.

If at any time you wish to stop watching activity in the space, choose **Stop watching this space** or **stop watching this blog**.

#### Example of an email notification

Here is an example of the email notification you will receive when someone adds a comment to a page or blog post:




#### More about notifications

You can specify the notifications you want to receive at a global, space, and page level. The quick guide above demonstrated how to set up notifications for a space. Now we will show you how to configure your notifications at the global and page levels.

##### Global notifications

Global notification settings determine the overall behaviour of the notifications you receive from Confluence.

1. Choose **your profile picture** at top right of the screen, then choose **Settings**.

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2. Choose **Email**.
3. Choose **Edit**.
4. Change the default settings to suit your needs. You can alter these email settings at any time.
5. Choose **Submit** to save your changes.

#### Page and blog post notifications

Follow the quick guide below to receive notifications from Confluence about changes to and comments on a specific page or blog post. See Watching Pages, Spaces and Blogs for a full description.

You can watch any given page or blog post that you have permission to view. We will use your space's home page as an example.

1. Go to the home page of your space.
2. Choose **Watch.**

You can choose to watch just that page, or all pages in the space.

You are now watching the current page and Confluence will notify you about any updates made or comments added.

Note that Confluence will **not** notify you about content changes that are 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 containing the Children macro will show the new child page. But the page content itself has not been edited, so no notifications will be sent.

You can stop watching a page or blog post at any time. Choose **Watch** and deselect the **Watch Page** or **Watch all content in this space** checkboxes.

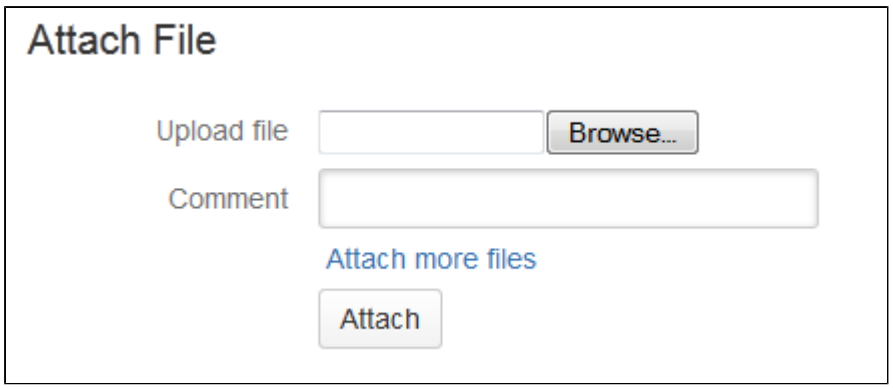
### Step 5. Attach or import Office documents, if applicable

Below are some guidelines on managing your existing Microsoft Office documents in Confluence. You can choose to attach them to a Confluence page, so that team members can view and access them in Confluence, and edit them in Office. Or you can import the documents into Confluence, converting the content to Confluence pages.

#### Attaching Office documents to a page

You can use Confluence as a central repository for your team's Office documents. This means that you can share your Office documents without having to email them to your teammates. People can view the Office documents even if they do not have Office installed on their computers.

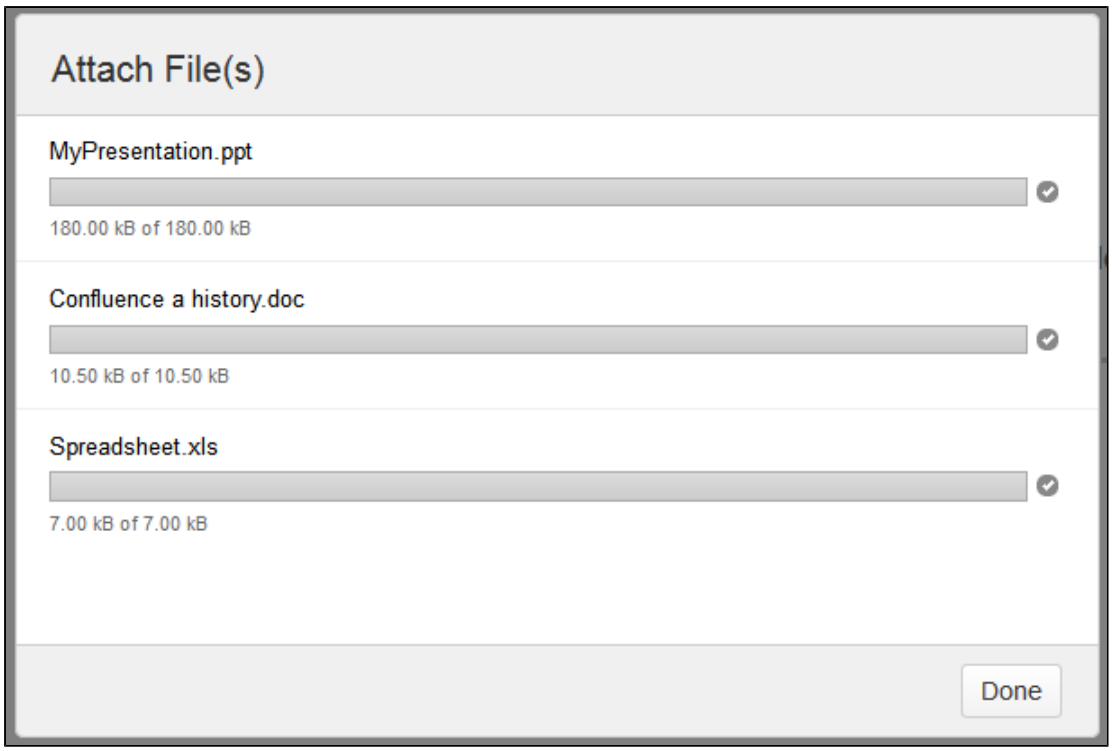
1. Go to a page in your space.
2. Choose **Tools** > **Attachments**.
3. Use one of the following methods for attaching files to the page:
    - Choose **Browse** and to locate the file on your computer, enter a **comment** then choose **Attach**




    - Alternatively, **drag and drop** one or more file(s) directly onto the 'Drop files here' region of the attachments screen. The 'Attach File(s)' message box appears, indicating the upload status of the

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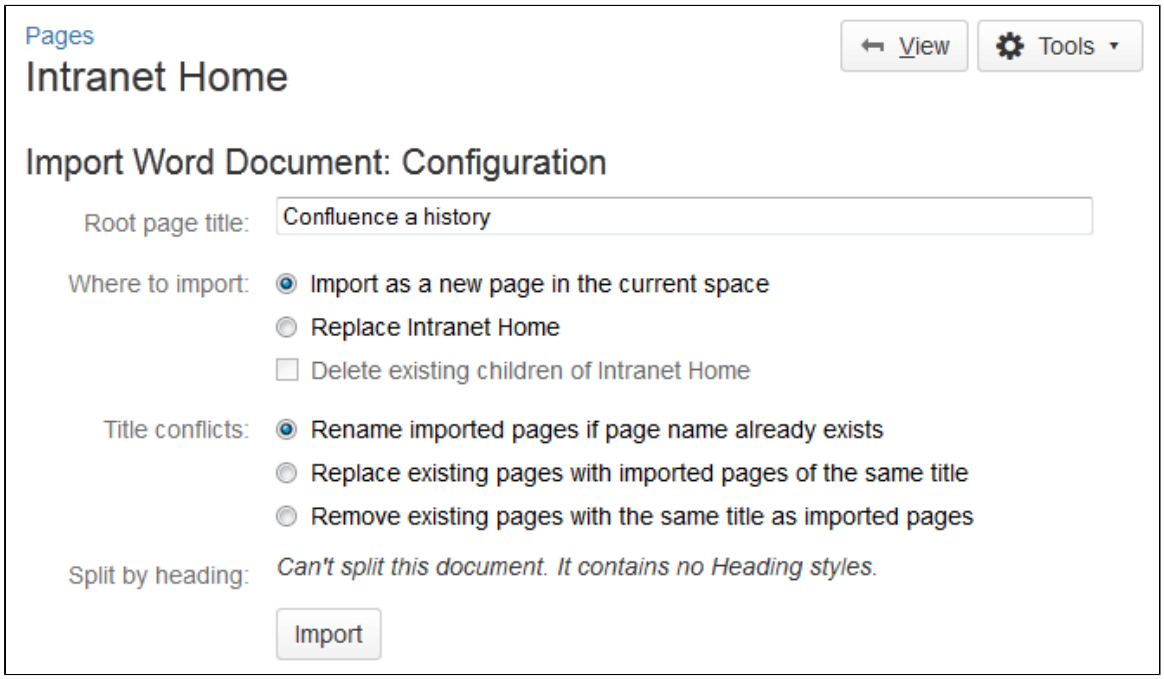
file(s) being attached to your page.




#### Importing Word documents into Confluence

You can also import content from Microsoft Word into Confluence, so that it becomes a Confluence page. See Importing a Word Document into Confluence for a full description.

1. Go to your space home page.
2. Choose **Tools** > **Import Word Document** The Office Connector import screen will appear.
3. Choose **Browse** and locate the Office document on your local drive or network.
4. Choose **Next**. The import document options screen will display.




5. Choose how you would like the Office Connector to import the file:
   - **Root page title** – This will be the title of the page.
   - **Import as a new page in the current space** – This option specifies that a new page will be created with the title specified.

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- **Rename imported pages if page name already exists** – This is what Confluence will do if there is a conflict.
- **Split by heading** – If your document contains headings, Confluence can use the heading information to split the document into multiple wiki pages. If you do not want to split your document leave the default 'Don't split' option selected.

6. Choose **Import**.

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 editor. There is now no connection between the original Office document and this page.

### Step 6. Import page templates and blueprints

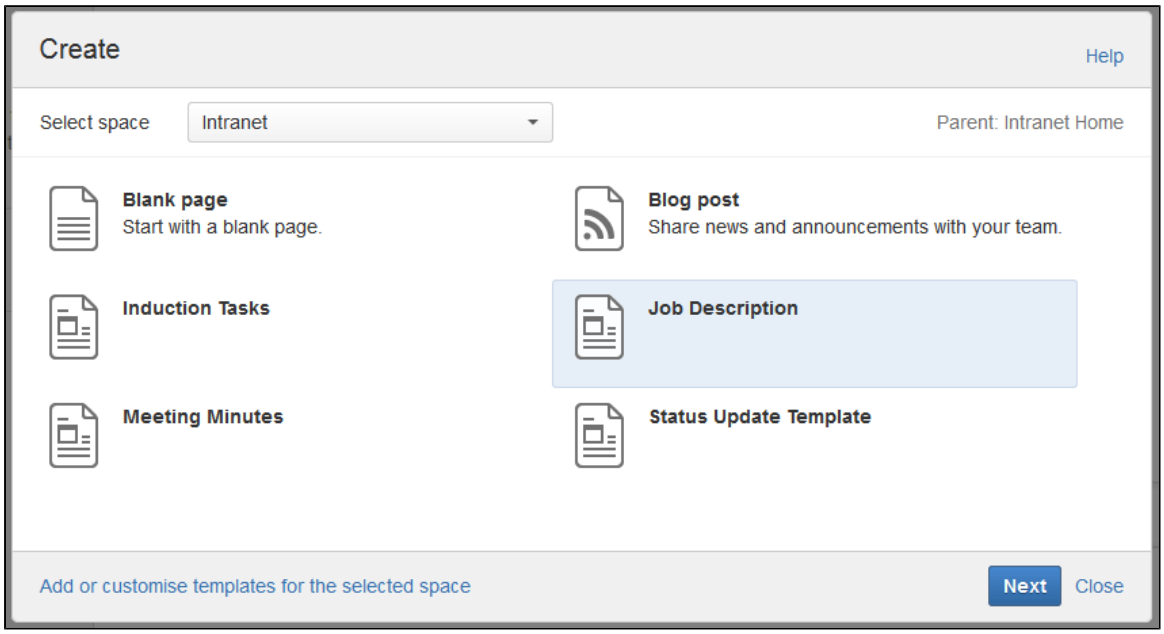
In order for an intranet to be effective, people need to use it. One way to spur new user adoption is to provide your team with templates so that they can focus more on content creation and less on page format. You can create your own templates or download some from the Atlassian Marketplace. See Importing Templates and Ad ding a Template for a more information.

A blueprint is a page template with added functionality to help you create, manage and organise content in Confluence. Confluence ships with some predefined blueprints. You can also download additional blueprints from the Atlassian Marketplace. You can customise the blueprint templates to suit your individual needs and even develop your own blueprints. See Working with Blueprints.

#### Creating a page from a template

Now that you have made some templates available to your site or space, other Confluence users will be able to choose a template when they want to create a page. Templates appear in the **Create** dialog for users to select when creating a new page.

1. Go to your Intranet space.
2. Choose **Create** on the header. Available templates will be listed in the Create dialog.
3. Select a template and choose **Next**.




4. If the template contains variables, a form will appear. Type the relevant information into the form fields, and choose **Next**.
5. Enter a title for the page, update the content and choose **Save**.

## Step 7. Set up your personal space

Now that you have created a space for your team, let's create your **personal space**. This is a place where you can publish your own pages and blog posts. Once you have created it, Confluence users can reach your personal space by clicking your name in the People Directory or by searching for your name via the quick

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navigation search box.

1. Choose **your profile picture** at top right of the screen, then choose **Add Personal Space**.
2. Enter a few details about your space:
   - Choose who can **view** content.
   - Choose who can **contribute** (create and edit) content.
   - Choose the '**Global Look and Feel**' for your personal space.
3. Choose **Create**.
4. The 'Home' page for your new space is displayed.

### Step 8. Publish a blog post

Blog posts are a good way of letting your team mates and the company know your news. People can blog about product and strategic ideas, team updates, and things they want to get ideas about. New employees can write blog posts introducing themselves. People write about getting married or the birth of a child. Blog posts are a great way for people to share their visions, get to know their c-oworkers and start lively discussions.

Remember to set your email notifications to alert you about the blog posts published within Confluence, as described in an earlier step.

See Working with Blog Posts for a full description of adding, editing, viewing and linking to blog posts.

1. Go to a page in your space.
2. Choose **Create** in the header.
3. Select **Blog** then choose **Next**.
4. Add a title and some content.
5. Choose **Save** to publish your blog post.

# Confluence Administrator's Guide

## About this document

The Confluence administrator's guide provides information on how to manage and configure your Confluence s ite. For people just getting started, we offer the guide to Getting Started as Confluence Administrator.

Would you like a full list of the pages in this guide? Here it is: Table of Contents for Confluence Administrator's Guide.

If you still have a question that has not been answered, please ask us.

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## Quick admin tip

**Use the search box to get to an administration screen quickly.** Start typing what you want to do into the Confluence search box at top right of the screen. The matching administrative functions will appear with a cog icon at the top of the dropdown search results.

**It is even faster via 'GG'.** Press 'G' twice on your keyboard then continue typing the action you want.

For more information, see Searching Confluence.

## Downloads




You can download the Confluence documentation in PDF, HTML and XML formats.

## More resources

Do you want to install or upgrade Confluence? See the Confluence Installation and Upgrade Guide. Or visit the Confluence User's Guide for information on how to use Confluence as a collaborative tool. You can find a list of further resources at the Confluence Documentation home page.

## In this guide

**Getting Started as Confluence Administrator**

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**Managing Confluence Users**

**Managing Add-ons and Macros**

**Customising your Confluence Site**

**Integrating Confluence with Other Applications**

**Managing your Confluence License**

**Managing Confluence Data**

**Configuring a Confluence Environment**

**Configuring Confluence**

**Operating Large or Mission-Critical Confluence Installations**

**Data Collection Policy**

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# Getting Started as Confluence Administrator

This page is an introduction for people just starting out as Confluence administrators. You will find this page useful if your Confluence site is brand new, or you are learning to administer an existing site.

Confluence is a Java-based web application. For the supported environments, there is an installer that will set up an application server and copy the application files to the designated directories on your server machine. If you prefer, you can install Confluence from a zip file. See the Confluence Installation Guide for details.

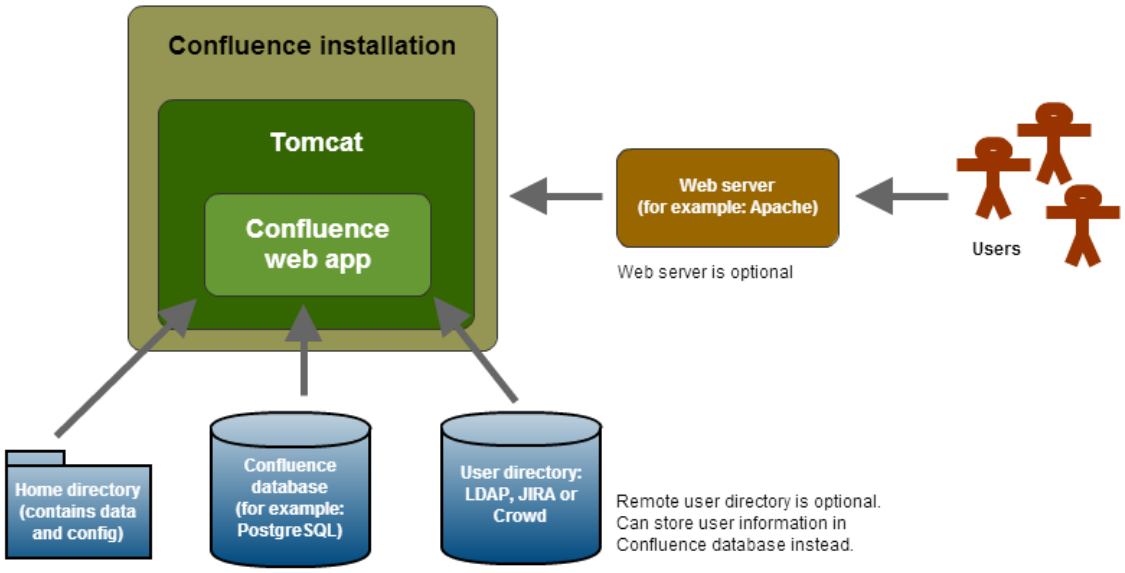
**On this page:**


- Quick access to administrative functions via Confluence search
- How to administer and configure Confluence
- Getting started on a new Confluence site
- Getting to know an existing Confluence site
- Prompts from Confluence itself


**Related pages:**

- Getting Help and Support
- Confluence Administrator's Guide

*Diagram: A Confluence installation*




## Quick access to administrative functions via Confluence search

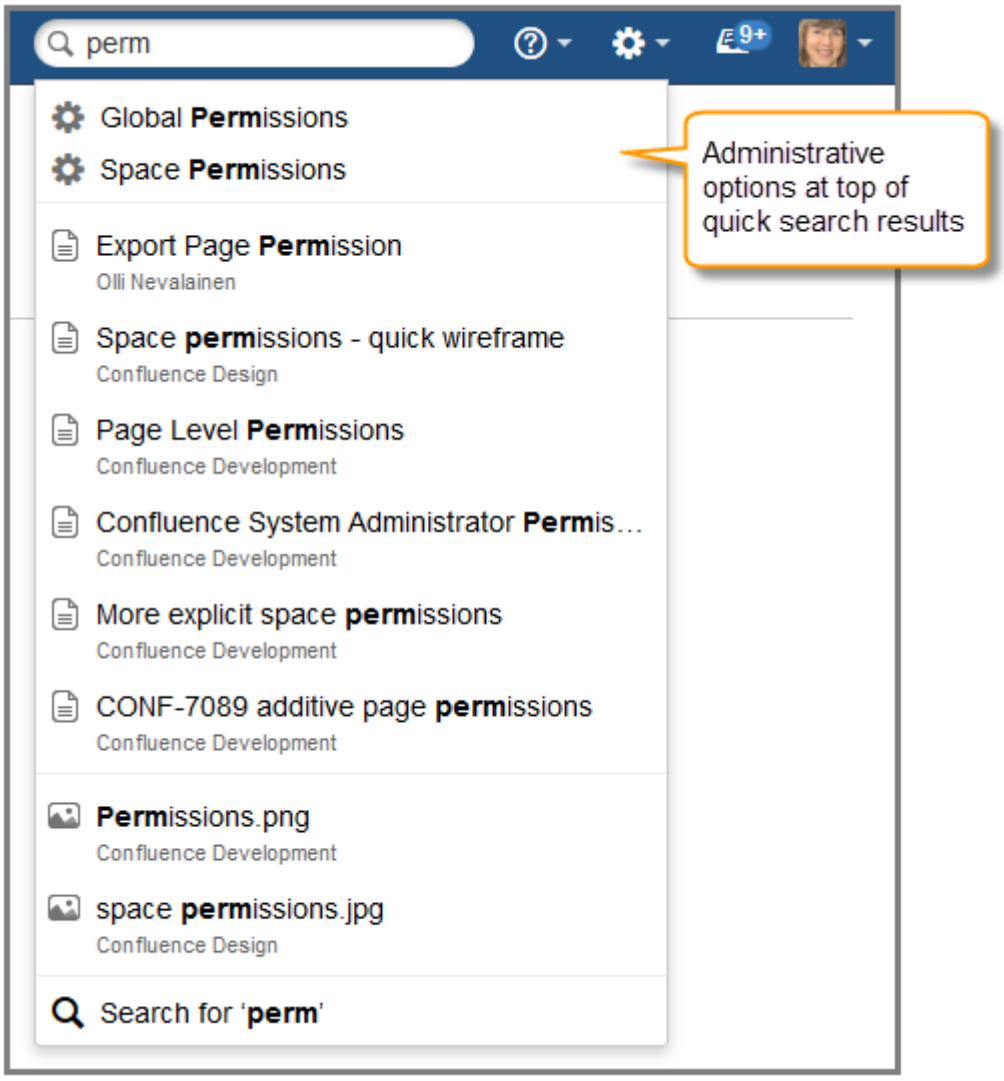
**Quick tip for getting to administration screens:** Start typing what you want to do into the Confluence search box at top right of the screen. The matching administrative functions will appear with a cog icon at the top of the dropdown search results.

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**Even faster via 'GG':** Press 'G' twice on your keyboard then continue typing the action you want.

Notes about finding administrative options via the search box:

- Pressing 'GG' puts your cursor into the search box.
- The 'GG' combination is familiar to JIRA users, because the same shortcut opens the JIRA administration search dialog.
- System administration, Confluence administration and space administration options may appear in the search results.
- Confluence permissions determine the administrative options that appear in the search results. You will only see the options that you have permission to perform.




## How to administer and configure Confluence

After installing Confluence, you will perform the initial configuration via a web interface called the Confluence Setup Wizard.

**Introducing the Confluence Administration Console:** From this point onwards, many of the administrative functions are available from the Confluence Administration Console, which is part of the Confluence web interface. If you have administrative permissions, you will have access to the Confluence Administration Console via your web browser, using the standard Confluence URL for your site.

**To access the Confluence Administration Console:**

1. Open your Confluence URL in your web browser.
2. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.

**For further configuration options**, you can edit the XML and properties files that are part of your Confluence installation directory. To get started, take a look at the important directories and files. The Confluence

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administration guide will lead you through tasks such as configuring the log files and configuring system properties.

## Getting started on a new Confluence site

Is this a new Confluence site? Here are some things to get started with:

- Decide whether you want to allow public (anonymous) access to your site. See Setting Up Public Access.
- Add a space and some content. See Creating a Space.
- Invite some users to your site. See Adding and Inviting Users.
- Decide whether you will manage your users in Confluence or hook up an external LDAP directory. See Configuring User Directories.
- Make sure you have set up an email server. The above task list will include this step, but it is worth mentioning it here again. Email notifications are an important part of collaborating on Confluence. See Configuring a Server for Outgoing Mail.

Now you can continue getting to know your site, as described in the next section.

## Getting to know an existing Confluence site

Has the site been around a while, but you are new to Confluence administration? Take a look at these topics:

- Understand the Confluence permission scheme. See Giving People Access to Content.
- Get to know the power of add-ons (also called plugins), for extending and customising your Confluence site. See About Add-ons.
- Investigate more ways of customising Confluence. See Customising your Confluence Site.

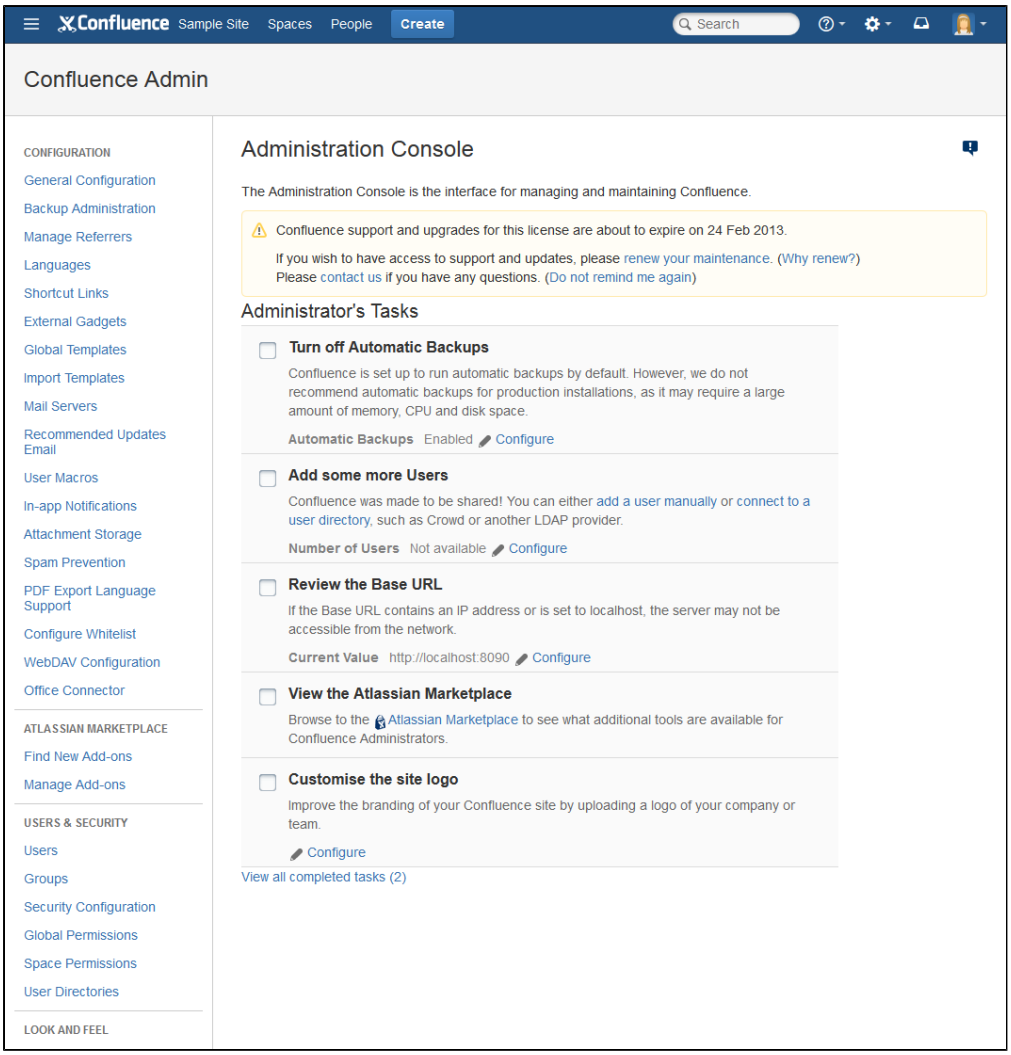
Now you are ready to dive into the Confluence Administrator's Guide.

## Prompts from Confluence itself

When you go to your Confluence Administration Console, you will see a handy list of tasks that need doing.

*Screenshot: The Confluence Administration Console, showing a list of tasks that need doing – these tasks are specific to your site, and those shown below are examples only*

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# Managing Confluence Users

A Confluence user is a person who can read or update a Confluence site. You can choose whether your Confluence site is accessible to anonymous users (people who have not logged in) or only to logged-in users. See Setting Up Public Access.

## Confluence user management

You can add users to Confluence, and then assign them permissions that determine their access to the content and administrative functions in your Confluence site. You can also collect users into groups, and assign the permissions to groups for easier management. See the following topics:

- Adding and Inviting Users
- Deleting or Deactivating Users
- Searching For and Administering Users
- Managing Site-Wide Permissions and Groups

By default, Confluence stores its users and groups in the Confluence database. This is called the internal directory. You can choose to connect Confluence to an external userbase instead, such as Microsoft Active Directory or another LDAP server.  You can also use Atlassian Crowd and JIRA as directory managers. When you add a user or group to Confluence, it will be added to the external directory too, based on your configuration options. See Configuring User Directories. *Not applicable to Confluence OnDemand.*

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**On this page:**


- Confluence user management
- Authentication
  - Seraph
  - XML-RPC and SOAP authentication
  - Password authentication
- Earlier user management frameworks


**Related pages:**

- Configuring Confluence Security
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

## 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 itself performs no user management functions. It merely checks the credentials of the incoming request and delegates any user management functions (looking up a user, checking a user's password) to Confluence's user management system.

If you want to integrate Confluence with your own single sign-on (SSO) infrastructure, you would do so by installing Atlassian Crowd or by writing a custom Seraph authenticator. See our developer documentation on HTTP authentication with Seraph.

### 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 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

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.

## Earlier user management frameworks

- **Atlassian-User – now behind the scenes.** Atlassian-User is a user and group management framework developed by Atlassian. It provides user, group and profile management services to Confluence. In earlier versions of Confluence, you needed to configure your user directories by editing the `atlassian-user.xml` file directly. In Confluence 3.5 and later this is no longer necessary, nor is it possible. Please refer to the documentation for Confluence 3.4 or earlier, if you need details of this framework. Refer to the Conflu

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ence 3.5 Upgrade Notes for details of the automatic migration that will occur during the upgrade process. *Not applicable to Confluence OnDemand.*
- **OSUser – obsolete.** OpenSymphony User was Confluence's core user management framework before Atlassian-User. Please refer to the documentation for Confluence 3.4 or earlier, if you need details of this framework.

### Adding and Inviting Users

There are a number of ways to add users to Confluence:

- **By user signup**: If user signup is enabled on your Confluence site, people can add themselves as users of the site. See below.
- **Via an invitation link:** You can invite people to sign up, by sending them an invitation link. You can copy and paste the link, or prompt Confluence to send the link in an email message. See below.
- **By adding users manually**: Administrators with Confluence Administrator or System Administrator permissions can add new users. See below.
- **Via an external user directory**: See Configuring User Directories. *Not applicable to Confluence OnDemand.*

You may also be interested in information about allowing anonymous users access to your site. Anonymous users do not count against your Confluence license totals. See Setting Up Public Access.

**Note:** If you are using Confluence OnDemand with multiple applications, please refer to the following guide for information on adding and inviting users: Managing Users and Groups.

## Allowing user signup

If you enable user signup, a 'Sign Up' option will appear on the Confluence screens. The option will be on the login screen, and also in the header on public sites. People can choose the option to create their own usernames on Confluence.

You can restrict the signup to people whose email addresses are within a given domain or domains. This is useful if you want to ensure that only people within your organisation can add their own usernames.

You will still be able to add or invite users manually, whether user signup is enabled or not.

You need Confluence Administrator or System Administrator permissions to change the signup options.

**To set the user signup options:**

1. Choose **Invite Users** on the dashboard, then choose **User Signup Options**.

   Or take the longer route: Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**. Then choose **Users** > **User Signup Options**.
2. Choose **Allow people to sign up to create their account**.
3. Choose one of the following options:
   - **Restricted by domain(s)** – Note: You need to set up a mail server for Confluence before you can configure domain restricted signup. When you choose this option, a text box will appear. Enter one or more domains, separated by commas. People will only be able to sign up if their email address belongs to one of the domains specified here. Confluence will send the person an email message, asking them to click a link to confirm their email address.
     For example: `mydomain.com, mydomain.net`
   - **No restrictions** – Anyone will be able to sign up to Confluence. Confluence will not send any email message requesting confirmation.
4. Choose **Notify administrators by email when an account is created** if you want Confluence to send an email message to all administrators (people with Confluence Administrator or System Administrator permissions) every time someone signs up to Confluence.

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**On this page:**


- Enabling and disabling notifications about user signup
- Inviting people to sign up
- Resetting the invitation link
- Adding users manually
- Notes


**Related pages:**

- Managing Confluence Users
- Setting Up Public Access
- Configuring a Server for Outgoing Mail (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

## Enabling and disabling notifications about user signup

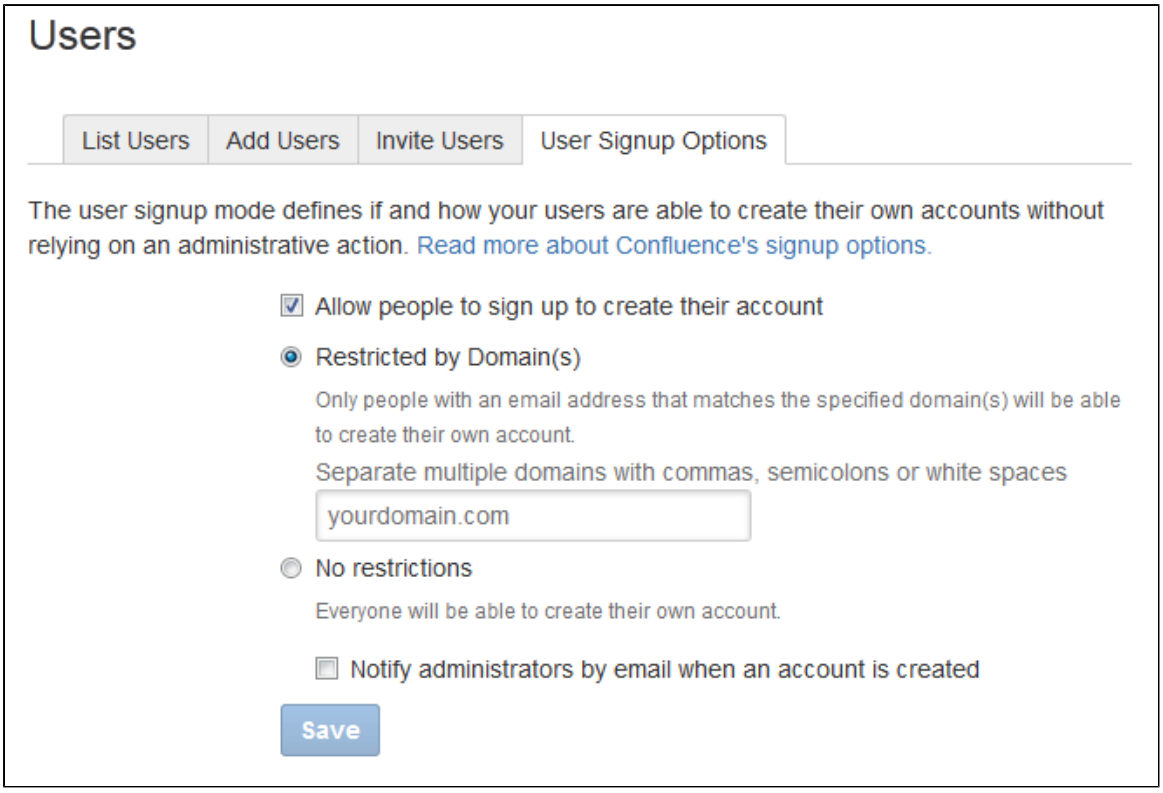
By default, Confluence will send an email notification to all Confluence administrators whenever someone signs up to the Confluence site. The administrators (people with Confluence Administrator or System Administrator permissions) will receive this message when someone signs up either by clicking the 'Sign Up' link or by clicking the invitation URL sent by an administrator.

**To disable this notification:**

1. Choose **Invite Users** on the dashboard, then choose **User Signup Options**.

   Or take the longer route: Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**. Then choose **Users** > **User Signup Options**.
2. Remove the tick from **Notify administrators by email when an account is created**.
3. Choose **Save**.

*Screenshot: User signup options*




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### Inviting people to sign up

You can invite new users to the site by sending them a signup URL, called an 'invitation link'. You can copy the invitation link and paste it onto a page or into an email message, or you can prompt Confluence to send an email message containing the same link.

The option to send invitations is independent of the signup options. You can send invitations if signup is open to all, restricted by domain, or disabled entirely. Even if signup is restricted or disabled, a person who has received an invitation will be able to sign up.

When someone visits the invitation link in a browser, a Confluence signup screen will appear.

**To invite people to sign up:**

1. Choose **Invite Users** on the dashboard.

   Or take the longer route: Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**. Then choose **Users** > **Invite Users**.
2. Copy the **Invitation Link** and paste it into an email message, or onto a page on your intranet, for example.
3. Alternatively, prompt Confluence to send an email message for you:
   - Enter one or more email addresses in the field labelled **Email To**. Separate the addresses with commas. For example: `john@example.com, sarah@example.com`
   - Optional: Change the **Message** if you want to.
   - Choose **Send**.

### Resetting the invitation link

The invitation link includes a security token, like this:

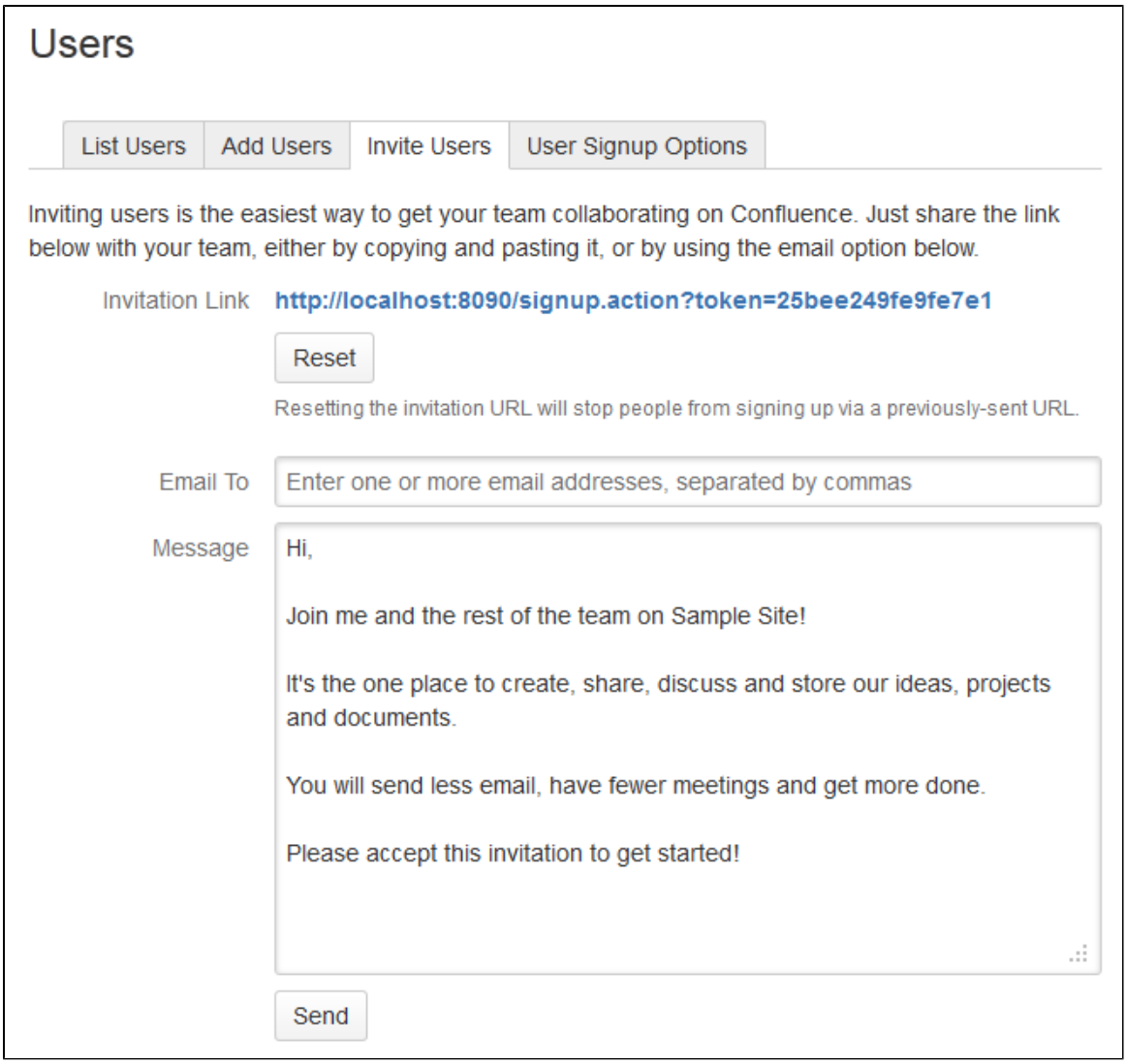
```
http://confluence.example.com/signup.action?token=d513a04456312c47
```

This security token is a shared token – individual invitations do not have unique tokens. Anyone who obtains this token will be able to sign up to Confluence.

You can change the token at any time, by choosing **Reset**. The previous invitation link will become unusable. People will no longer be able to use the previous link to sign up. If they try, they will see an error message that the signup token has expired.

*Screenshot: Inviting users*

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### Adding users manually

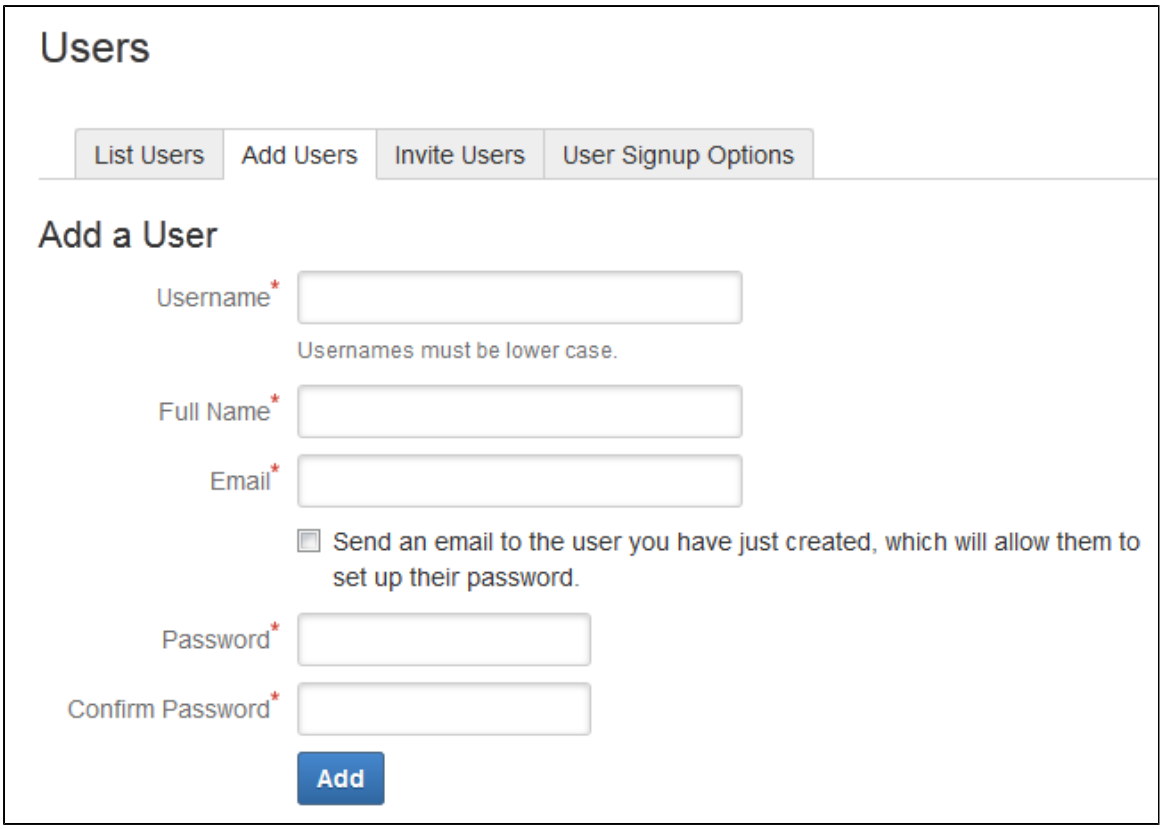
**To add a new user:**

1. Choose **Invite Users** on the dashboard, then choose **Add Users**.

   Or take the longer route: Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**. Then choose **Users** > **Add Users**.
2. Enter the user's details: username, name, password, and email address.
3. Choose whether Confluence should send an **email** message informing the person of their new username. The email message will contain a link that the person can use to reset their password.
4. Choose **Create**.

*Screenshot: Adding users*

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**Notes**

- **Multiple directories.**You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

  Here is a summary of how the directory order affects the processing:
  - The order of the directories is the order in which they will be searched for users and groups.
  - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

  See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)
- **Email server required for domain restricted signup and for invitations.** You need to set up a mail server for Confluence, before you can configure domain restricted signup or send email invitations to users.
- **Are the user management options not visible?** If you have external user management turned on, internal user management is disabled. To configure external user management, go to **Browse** > **Confluence Admin** > **Security Configuration**. See Disabling the Built-In User Management. *Not applicable to Confluence OnDemand.*
- **Confluence OnDemand:** If you are using Confluence OnDemand with multiple applications, please refer to the following guide for information on adding and inviting users: Managing Users and Groups.

## Deleting or Deactivating Users

If you are a Confluence Administrator, you can delete and deactivate users.

You can **delete** a user from Confluence if they have not yet added or edited any content on the site. Such content includes pages and blog posts, and edits and comments on existing pages.

You can **deactivate**, or disable, a user, including one who has contributed content.

- Deactivated users can no longer log in to Confluence.
- Deactivating a user will not remove the content created by them.
- Deactivated users do not count towards your license count. (See the notes below.)

**To remove a user:**

1. Go to the user's profile and choose **Administer User**.

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2. Choose **Delete**.

**To deactivate a user:**

1. Go to the user's profile and choose **Administer User**.
2. Choose **Disable**.

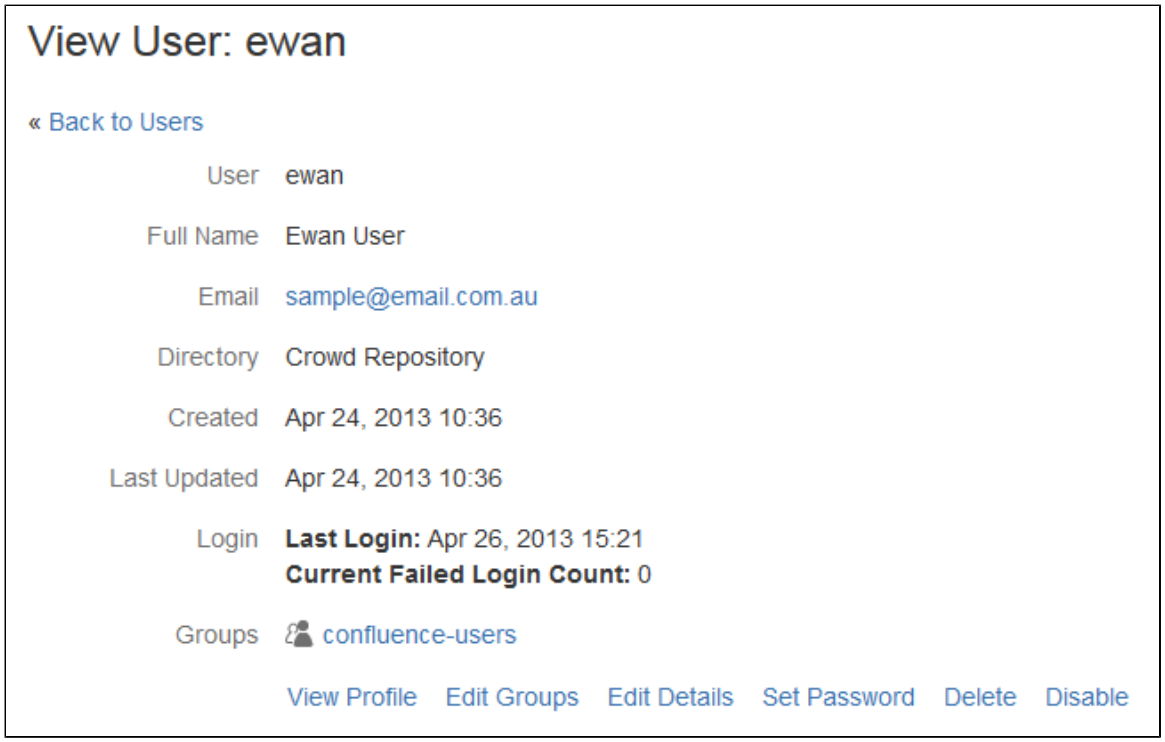
**Related pages:**

- Managing Confluence Users
- Configuring User Directories (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

*The information on this page does not apply to Atlassian OnDemand sites with multiple apps. For information on managing access for users if you use multiple applications in OnDemand, see Managing Application Access.*

*If you are using Confluence-only OnDemand, the information does apply.*

*Screenshot: Administering a user*




### Notes

- The **Administer User** link is only visible if you are logged in as an administrator.
- You can also delete or disable users using the Administration Console.
- You can edit the groups that a user belongs to, to change their permissions without completely preventing their access to Confluence.
- **Multiple user directories:** You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

  Here is a summary of how the directory order affects the processing:
  - The order of the directories is the order in which they will be searched for users and groups.
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See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)

- **Number of users and your license:** The Confluence 'License Details' screen tells you how many users your Confluence instance is licensed to support, and how many are currently registered. See Viewing and Editing License Details. The number of registered users includes only users who have the 'Can Use' global permission. Deactivated users, as described above, are not included. Choose **Refresh** to make sure you see the latest count.

## Searching For and Administering Users

If you have Confluence Administrator permissions, you can view users, edit their user details, reset their passwords, and assign them to groups.

### Accessing the user management screen

There are two ways to do this.

Option 1: Administer a known user:

- Go to a user's profile
- Choose **Administer User**.

Option 2: Find the user first:

- Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
- Choose **Users** in the left-hand panel.
- The 'Users' screen appears. You can now list all users or search for a specific user.

### Listing all users

**To list all users:**

1. Choose **Show all users**. All members of the 'confluence-users' or '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.
2. To move to another page of results, choose the numbered links, **Next** or **Previous** near the top or bottom of the page.
3. To specify how many results should be shown per page, choose a number **10**, **20**, **50** or **100** near the top of the page.

**On this page:**

- Accessing the user management screen
- Listing all users
- Using the simple user search
- Using the advanced user search
- Notes

**Related pages:**

- Adding and Inviting Users
- Giving People Access to Content
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

### Using the simple user search

**To search for a user via the simple user search:**

1. If the **Simple** link is showing, choose it. (If you see the 'Advanced' link and no 'Simple' link, then the simple search is already active.)
2. Type some information about the user into the 'Find User' text box. You can type all or part of their username, full name or email address.
3. Choose **Search**.

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4. Confluence will display a list of matching users. Click the link on a username to see and edit the details for that user.

### Using the advanced user search

The advanced user search allows you to specify the field in which your search term appears: username, full name or email address. This is useful if you need to limit the number of users appearing in the search results.

**To search via the advanced user search:**

1. If the **Advanced** link is showing, choose it. (If you see the 'Simple' link and no 'Advanced' link, then the advanced search is already active.)
2. Complete one or more of the following fields:
   - **Username** — Enter all or part of the person's username. This is their login ID, such as 'joe', or 'bloggs'.
   - **Full Name** — Enter all or part of the person's name. For example, 'joe bloggs', or 'bloggs', or 'joe'.
   - **Email** — Enter all or part of the person's email address. For example, 'acme'.
3. Choose **Search**.
4. Confluence will display a list of matching users. Click the link on a username to see and edit the details for that user.

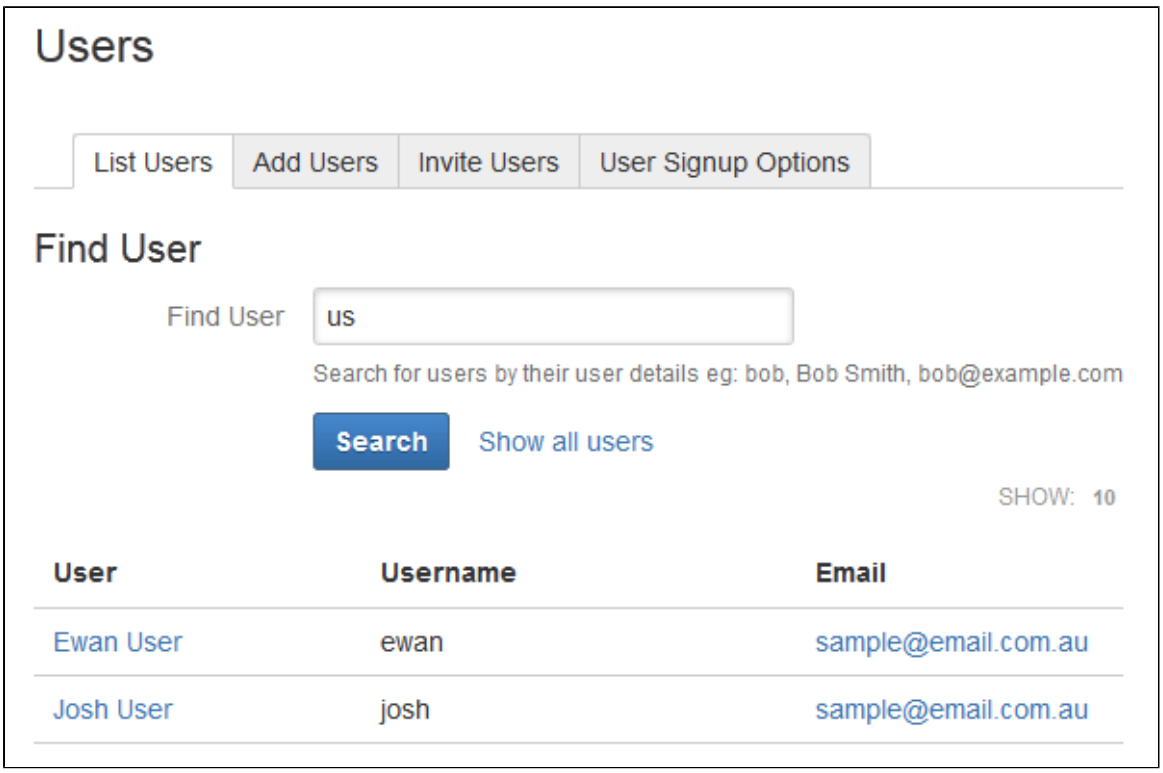
### Notes

- **Multiple user directories:** You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

  Here is a summary of how the directory order affects the processing:
  - The order of the directories is the order in which they will be searched for users and groups.
  - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

  See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)
- **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.

*Screenshot: The user management screen*




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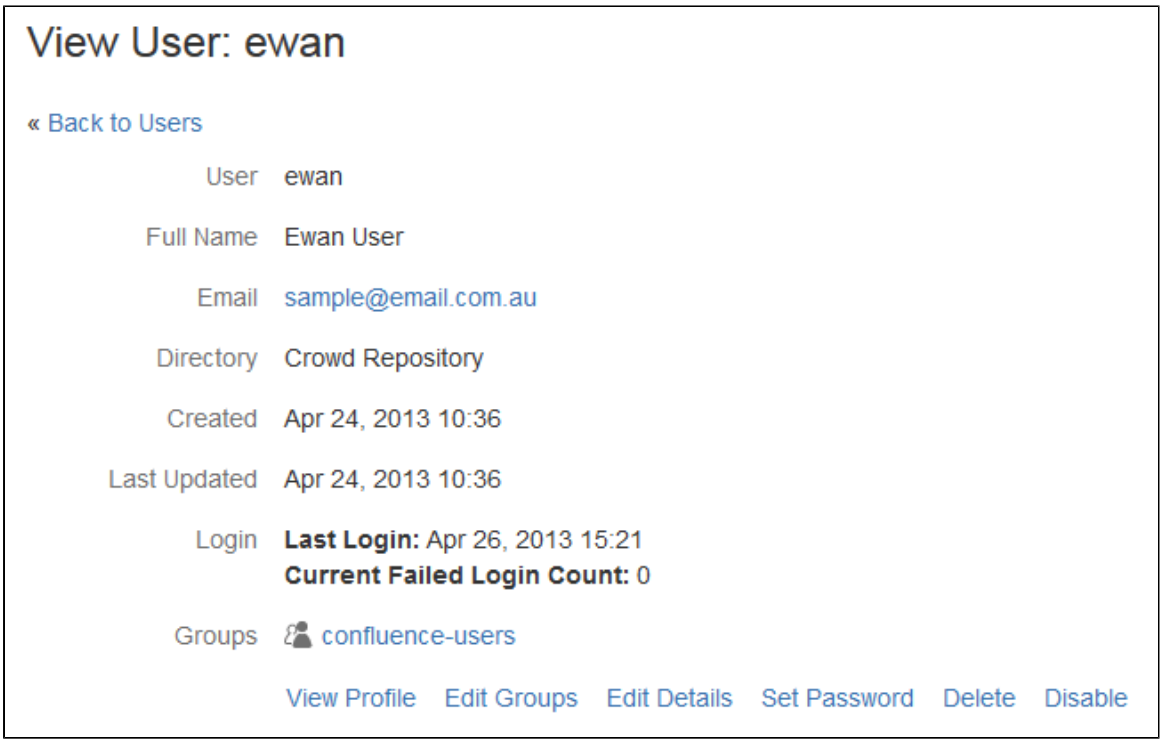
## Editing User Details

You need Confluence administrator permissions to be able to edit the details of a user. The details include the person's name, password, email address, group membership, and ability to access Confluence.

**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:
    - Either,
        - Go to the user's Profile and click the '**Administer User**' link on the user's profile screen.
    - Or, Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
        - 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** — Change details such as the user's name, email address, contact details and team or department information.
      Changing a user's username is not supported. See How do I change a username prior to Confluence 5.3 for information. (*Not applicable to Confluence OnDemand.*)
    - **Set Password** — Edit the user's password details.
    - **Delete** — You can delete a user permanently if the user has not added or edited any content on the site.
    - **Disable** — You can disable (i.e. deactivate) access for a user who has already added or edited any content on the site.

*Screenshot: User details*




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**Related pages:**

- Searching For and Administering Users
- Deleting or Deactivating Users
- Adding or Removing Users in Groups
- Adding and Inviting Users
- Confluence Administrator's Guide

*The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

Notes

**Multiple user directories:** You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

Here is a summary of how the directory order affects the processing:

- The order of the directories is the order in which they will be searched for users and groups.
- Changes to users and groups will be made only in the first directory where the application has permission to make changes.

See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)

## Resetting the Login Count for a User

Confluence records the number of failed logins attempts made against each user account. When the login attempts exceed a preset number, the user will prompted to authenticate using CAPTCHA until they successfully log in.

If you are a Confluence Administrator, you can manually set the failed login count for a user back to zero.

**To reset the failed login count for a user:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Manage Users** in the left-hand panel.
3. Search for the required user and click the user in the search results. The 'View User' screen will appear.
4. Choose **Reset Failed Login Count**' for the user. The 'Current Failed Login Count' will be reset to 0.

**Related pages:**

- Configuring Captcha for Failed Logins (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

*The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

*Screenshot: Resetting the failed login count for a user*

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## Restoring Passwords To Recover Admin User Rights

Use this document if you are unable to log in to Confluence as administrator. The most common reason for using these instructions is if you have lost the administration password for your Confluence site.

### Before you Start

Please note the following before you start:

- The following instructions include example SQL that should work on MySQL and PostgreSQL. You may need to customise the queries for other databases or for your installation.
- We strongly recommend testing the queries on a test database before modifying your production database.

#### *New user management in Confluence 3.5 and later*

- Confluence now uses the `CWD_USER` table in the database to store and refer to its users.
- During an upgrade from Confluence 3.4.9 or earlier, the upgrade process copied the users from the `OS_USER` table (for upgrades from versions older than 2.7) or the `USERS` table (for versions 2.7 to 3.4) into the `CWD_USER` table.
- The new user management framework also introduced user directories. Making modifications to users in the database will only fully work for users in Confluence's Internal Directory. The instructions below include extra steps for instances in which the user management has been delegated to external sources (via LDAP, Crowd or JIRA).

Please refer to the older documentation if you are still using OSUser or AtlassianUser.

#### *Using Crowd for SSO*

- If Confluence is configured for SSO through Crowd, you will only be able to authenticate as users from the Crowd server.
- This document covers how to recover administration rights from the local 'Confluence Internal Directory' only. However, you will not be able to authenticate as a local Confluence administrator while Crowd SSO is enabled. Please refer to Integrating Crowd with Atlassian Confluence for details on how to configure or disable Crowd SSO.

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**On this page:**


- Before you Start
- Step 0. Get access to the database
- Step 1. Identify Administrator
- Step 2. Replace Administrator Password
- Step 3. Put the Internal Directory in First Position
- Step 4. Clean Up
- Notes


#### Step 0. Get access to the database

If you are using the embedded HSQL database, you can find the files containing your database in `<confluence-home-directory>/database`. When you shut down Confluence, the SQL will be written to a '.script' or '.log' file in that directory to which you can append the SQL described below.

If you are using a proper production database, connect to the database with your normal tools. You will need to have permission to run queries and update data in the database.

#### Step 1. 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. Then connect to your database and retrieve the list of administrator usernames and IDs with:

```
select u.id, u.user_name, u.active from cwd_user u
join cwd_membership m on u.id=m.child_user_id join cwd_group g on m.parent_id=g.id
join cwd_directory d on d.id=g.directory_id
where g.group_name = 'confluence-administrators' and d.directory_name='Confluence
Internal Directory';
```

If there are multiple results, choose one ID/username combination to use for the following steps.
If there are no results, skip down to If No Local Administrator Exists.



It is important to make sure that the "active" field contains a value of "T". Without this flag trying to authenticate with this user is a non starter.

To set active to true run the following query replacing "<user_name>" with the user name from the previous query

```
UPDATE cwd_user
SET active = 'T'
WHERE user_name ='<user_name>';
```

##### If No Local Administrator Exists

There may be no administrators in your Internal Directory. If this is the case, you need to add one:

1. Add a new admin user by running:

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```
insert into cwd_user(id, user_name, lower_user_name, active, created_date,
updated_date, first_name, lower_first_name, last_name, lower_last_name,
display_name, lower_display_name, email_address, lower_email_address,
directory_id, credential) values (1212121, 'admin', 'admin', 'T', '2009-11-26
17:42:08', '2009-11-26 17:42:08', 'A. D.', 'a. d.', 'Ministrator',
'ministrator', 'A. D. Ministrator', 'a. d. ministrator', 'admin@example.com',
'admin@example.com', (select id from cwd_directory where
directory_name='Confluence Internal Directory'),
'x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONx
p3Y3pB37A==');
```

2. Add new groups by running:

```
insert into cwd_group(id, group_name, lower_group_name, active, local,
created_date, updated_date, description, group_type, directory_id)
values (
'888888','confluence-administrators','confluence-administrators','T','F','2011
-03-21 12:20:29','2011-03-21 12:20:29',NULL,'GROUP',(select id from
cwd_directory where directory_name='Confluence Internal Directory'));
insert into cwd_group(id, group_name, lower_group_name, active, local,
created_date, updated_date, description, group_type, directory_id)
values ( '999999','confluence-users','confluence-users','T','F','2011-03-21
12:20:29','2011-03-21 12:20:29',NULL,'GROUP',(select id from cwd_directory
where directory_name='Confluence Internal Directory'));
```

3. Add group memberships into cwd_membership:

```
insert into cwd_membership (id, parent_id, child_user_id) values (888888,
(select id from cwd_group where group_name='confluence-users' and
directory_id=(select id from cwd_directory where directory_name='Confluence
Internal Directory')), 1212121);
insert into cwd_membership (id, parent_id, child_user_id) values (999999,
(select id from cwd_group where group_name='confluence-administrators' and
directory_id=(select id from cwd_directory where directory_name='Confluence
Internal Directory')), 1212121);
```

⚠ If using an Oracle database, use **sysdate** instead of a string for the **`created_date`** column.

#### Step 2. Replace Administrator Password

Confluence does not store passwords in plain text in the database, but uses hashes computed from the original password. You will need to insert a hash, rather than the plain password, over the existing password in the database. Below is the hash for the password `admin`

```
x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONxp3Y3pB
37A==
```

##### For an External Database

**To change the password to `admin` for a given username:**

1. Shut down Confluence.
2. Connect to your database.
3. Run the following SQL:

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```
update cwd_user set credential =
'x61Ey612Kl2gpFL56FT9weDnpSo4AV8j8+qx2AuTHdRyY036xxzTTrw10Wq3+4qQyB+XURPWx1ONx
p3Y3pB37A=='
where id=<id from Stage 1>;
```

**For the Evaluation Embedded HSQL Database**

**To change the password to `admin` for a given username:**

1. Shut down Confluence.
2. Open `<confluence-home>/database/confluencedb.script`, or `confluencedb.log` if the .script file looks empty.
3. Search for:

```
INSERT INTO CWD_USER VALUES(
```

4. Keep searching until you find the appropriate user, then replace their password with the hash value above.
5. Save the file.
6. Restart Confluence.

### Step 3. Put the Internal Directory in First Position

Start Confluence, and try logging in with the username of the user you updated/created and the password 'admin'. If this works, skip to Step 4. Otherwise, your Internal Directory does not have high enough priority.

**To put your Internal Directory in first position:**

1. Find the directory names and their order:

```
select d.id, d.directory_name, m.list_index from cwd_directory d join
cwd_app_dir_mapping m on d.id=m.directory_id;
```

2. Take note of the ID with list_index 0, and the list_index and ID of the Confluence Internal Directory.
3. Switch the order of the directories:

```
update cwd_app_dir_mapping set list_index = 0 where directory_id = <Internal
Directory id>;
update cwd_app_dir_mapping set list_index = <Noted Internal Directory
list_index> where directory_id = <Directory id that had list_index 0>;
```

4. Check to see if the directory is active (the 'active' column should be set to 'T'):

```
select id, directory_name, active from cwd_directory where id = <Internal
Directory id>;
```

5. If necessary, activate the directory:

```
update cwd_directory set active = 'T' where id = <Internal Directory id>;
```

### Step 4. Clean Up

**To tidy up:**

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1. Start Confluence.
2. Log in with your modified/created username and use password `admin`
3. Change your password. **Do not leave your password as admin, or your instance will not be secure**.
4. If you created a new user in Stage 2, create a new admin via the UI and delete the admin you created in Stage 2.
5. If you followed Stage Three, go to Confluence Administration > User Directories and rearrange your directories so they are correctly configured again.

#### Notes

- Learn more about the password hash algorithm Confluence is using.

## Changing Usernames

A username is the name used to log in to Confluence, for example jsmith. If you are a Confluence administrator you can change a user's username, for example if they change their name.

All active users must have a unique username. This means that two active users cannot have the same username. You can however assign the username of a disabled user to another active user.

The procedure for changing a username depends on where you manage your users. Refer to Configuring User Directories for more information.

#### Changing the username of a user managed in Confluence

If you manage your users in the Confluence internal directory you can rename your user in Confluence. You will need Confluence Administrator permissions to change a username.

**To change a username:**

1. Navigate to the user's record:
    a. go to the user's profile and choose **Adminster User**, or
    b. go to **Confluence Admin** > **Users** and search for the user
2. Choose **Edit Details**.
3. Enter the new username and choose **Submit**.

The user's username has been changed. The user will need to use their new username to log in to Confluence from now on. The new username will also be reflected throughout Confluence, including in user mentions.

#### Changing the username of a user managed in an external directory

If you do not manage your users in the Confluence internal directory, you may still be able to change a user's username. Confluence cannot **update** external users but it will detect changes in usernames that are coming from some external directories.

The following table indicates the instances where you may be able to change a username in your external directory and have the change detected in Confluence.

| User directory | Where to rename the user |
|---|---|
| Internal directory with LDAP authentication | Rename the user in the LDAP directory, Confluence will detect the renamed user.<br><br>Note: you must have 'Copy User on Login' enabled. See Copying Users on Login for more information. |
| JIRA 6.1 or later | Rename the user in JIRA, Confluence will automatically detect the renamed user. |
| Atlassian Crowd 2.7 or later | Rename the user in Crowd, Confluence will automatically detect the renamed user. |
| LDAP | Rename the user in your LDAP directory, Confluence will automatically detect the renamed user. |

#### Notes

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Some important things to note about changing usernames:

- **Mentions and page history**
  Any user mentions in current pages will automatically reflect the user's new username, but any mentions in page versions created prior to Confluence 5.3 will include the user's old username.
- **Personal Spaces**
  If a Confluence Administrator renames a user who has a personal space, the space key for that space will remain the user's original username. For example if jsmith's username is changed to jbrown, their personal space key will remain ~jsmith.



This information is for Confluence 5.3 and later only. If you are using an earlier version, please refer to the documentation for your version, or see the following Confluence Knowledge Base article.

## Managing Site-Wide Permissions and Groups

Permissions determine what people can do on your Confluence site. Confluence recognises permissions at site level and at space level, as well as page-level restrictions.

You can create groups and allocate people to them, so that you can assign permissions to a number of people at once. For example, it is quicker to give group 'X' access to Confluence, rather than giving every team member access individually. You can also set the access levels for anonymous users.

**Related pages:**

- Confluence Administrator's Guide
- Confluence Security Overview and Advisories

### Global Groups Overview

A group is a collection of users. Administrators create groups so that the administrator can assign permissions to a number of people at once. For example, it is quicker to give group 'X' access to Confluence, rather than giving every team member access individually. You need Confluence Administrator permissions to view and update groups.

Groups are available at the space and page levels to allow for flexible access control. A user in a group will automatically be granted all permissions granted to the group.

#### Special groups

There are two special default groups in Confluence:

1. **confluence-administrators**: This is a group of 'super-users' who can access the Confluence administration screens ('administration console') and perform site-wide administration. Members of this group can also see all spaces in the Confluence site. 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.
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.

**The Confluence Administrator permission and the '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. Granting a user or a group 'Confluence Administrator' permission is *not* the same as granting them membership of 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 gives complete access.

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**On this page:**


- Special groups
- Anonymous users
- Updating groups
- Notes


**Related pages:**

- Managing Confluence Users
- Global Permissions Overview
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

#### 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. See Setting Up Public Access . This will allow non-registered users to access pages and spaces in Confluence. A space administrator can further control anonymous access per space via the space permissions.

#### Updating groups

**To add a new group:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Groups** in the left-hand panel.
3. Choose **Add Group**.
4. Enter a name for your group and choose **Save**.

You are now ready to start adding users to the group.

**To delete a group:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Groups** in the left-hand panel. You will see a list of all existing groups along with links to remove them.
3. Choose **Delete** next to the group you want to remove.

#### Notes

- **Multiple user directories:** You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

  Here is a summary of how the directory order affects the processing:
  - The order of the directories is the order in which they will be searched for users and groups.
  - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

  See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)

## 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.

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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 Managing Confluence Users.

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.

### Adding and removing members via the group management screen

This is the recommended method. It allows you to manage the group membership for a number of users at the same time.

**To add members to a group:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Groups** in the left-hand panel.
3. The 'Groups' screen appears, showing a list of groups. Choose the group to which you want to add users.
4. The 'Group Members' screen appears, showing the users who belong to the selected group. Choose **Add Members**.
5. Type the username(s) of the people you want to add to the group.
    - If you want to add more than one member, separate the usernames with commas.
    - You can also search for and select users by choosing the search icon, as described in Searching for Users.
6. Choose **Add** to add the member(s) to the group.

**To remove members from a group:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Groups** in the left-hand panel.
3. The 'Manage Groups' screen appears, showing a list of groups. Choose 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. Choose the 'Delete user from group' icon next to the user whose group membership you want to remove.

**On this page:**


- Adding and removing members via the group management screen
- Editing group membership from the user management screen
- Notes


**Related pages:**

- Managing Confluence Users
- Global Permissions Overview
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

*Screenshot: Adding members*

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**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 choose **Administer User** on the user's profile screen.
   - Or, Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
     - Choose **Users** in the left-hand panel.
     - The 'Users' screen appears. 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 Administering Users.
     - Choose the username you want to edit.
2. The 'View User' screen appears. Choose **Edit Groups**.
3. Select the group(s) for this user. To remove a user from a group, remove the tick mark in the relevant check box.

*Screenshot: Editing a user's groups*




**Notes**

You may define multiple user directories in Confluence, so that Confluence looks in more than one place for its users and groups. For example, you may use the default Confluence **internal directory** and also connect to an **LDAP** directory server. In such cases, you can define the **directory order** to determine where Confluence looks first when processing users and groups.

Here is a summary of how the directory order affects the processing:

- The order of the directories is the order in which they will be searched for users and groups.
- Changes to users and groups will be made only in the first directory where the application has permission to make changes.

See Managing Multiple Directories. (*Not applicable to Confluence OnDemand.*)

## Global Permissions Overview

Permissions determine the actions which a user is allowed to perform within Confluence. Global permissions are

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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.

The Confluence permission scheme allows the following levels of site administrator permissions, with the most powerful at the top of the list:

- **Super user** – A 'super user' belongs to the `confluence-administrators` group, has full administrative access to Confluence, and can see all the content.
- **System Administrator** – A person with 'System Administrator' permission has full administrative access to Confluence.
- **Confluence Administrator** – A person with 'Confluence Administrator' permission has access to most of the Confluence administrative functions.

**Note:** The first system administrator and super-user is defined during initial setup. 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.

**On this page:**


- Overview of the global permissions
- Comparing the System Administrator permission with the Confluence Administrator permission
- Comparing the confluence-administrators group with the administrator permissions
- Updating global permissions
- Error messages you may see


**Related pages:**

- Searching For and Administering Users
- Global Groups Overview
- Confluence Setup Guide (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

⚠ *Some functionality described on this page is restricted in Confluence OnDemand.*

### Overview of the global permissions

Global permissions control access across the whole Confluence site. Here is a list:

| Global Permission | Description |
|---|---|
| Can Use | This is the most basic permission that allows users to access the site.<br><br>Users with this permission count towards the number of users allowed by your license. See the information on removing/deactivating users. |
| Attach Files to User Profile | This allows the user to upload files to be stored in their user profile.<br><br>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. |

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| | |
|---|---|
| Update User Status | 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. |
| Personal Space | This permission allows the user to create a personal space. |
| Create Space(s) | 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. |
| Confluence Administrator | 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. |
| System Administrator | 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. See the comparison of 'System Administrator' and 'Confluence Administrator' below. Refer also to the note about the 'confluence-administrators' group below. |

#### Comparing the System Administrator permission with the Confluence Administrator permission

Confluence recognises two levels of administrator:

- **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.

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 granted to the 'System Administrator' permission but excluded from the 'Confluence Administrator' permission:

| Administration Screen | Excluded from Confluence Administrator permission |
|---|---|
| General Configuration | The following functionality is disallowed:<br>• Server Base URL<br>• Remote API plugin<br>• Public Signup<br>• Connection Timeouts |

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| | |
|---|---|
| Security Configuration | The following functionality is disallowed:<br>• External user management<br>• Append wildcards to user and group searches<br>• Anti XSS Mode<br>• Enable Custom Stylesheets for Spaces<br>• Show system information on the 500 page<br>• Maximum RSS Items<br>• XSRF Protection |
| Plugins | The following functionality is disallowed:<br>• Upgrade<br>• Install<br>• Confluence Upgrade Check |
| Daily Backup Admin | This function is disallowed entirely. |
| Mail Servers | This function is disallowed entirely. |
| User Macros | This function is disallowed entirely. |
| Attachment Storage | This function is disallowed entirely. |
| Layouts | This function is disallowed entirely. |
| Custom HTML | This function is disallowed entirely. |
| Backup & Restore | This function is disallowed entirely. |
| Logging and Profiling | This function is disallowed entirely. |
| Cluster Configuration | This function is disallowed entirely. |
| Scheduled Jobs | This function is disallowed entirely. |
| Application Links | People with the 'Confluence Administrator' permission can add, modify and remove application links and project links. For example, they can link Confluence to JIRA. However, Confluence administrators can configure only OAuth authentication for application links. |
| Office Connector configuration | This function is disallowed entirely. |

#### Comparing the confluence-administrators group with the administrator permissions

The 'confluence-administrators' group defines a set of 'super-users' who can access the Confluence administration console and perform site-wide administration. Members of this group can also see the content of all pages and spaces in the Confluence instance, regardless of space permissions. They cannot immediately see the pages that exclude them via page restrictions without knowing the direct URL to the page. They can remove the page restrictions via the Space Administration screen if need be. For example, they will not see restricted pages displayed by the children macro. But they are able to access restricted pages directly using the page URL.

The settings on the 'Global Permissions' screen do not affect the powers allowed to members of the 'confluence-administrators' 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.

**The Confluence Administrator permission and the 'confluence-administrators' group are not related.** Goi

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ng by the names, you would think the 'confluence-administrators' group and the 'Confluence Administrator' permission are related – but they are not. Granting a user or a group 'Confluence Administrator' permission is *no t* the same as granting them membership of 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 gives complete access.

### Updating global permissions

**To view the global permissions for a group or user:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Permissions** in the left-hand panel. The 'View Global Permissions' screen appears.

Add or edit group and user permissions as follows:

**To add permissions for a group:**

1. First add the group to Confluence, if you have not already done so.
2. Choose **Edit Permissions**. The 'Edit Global Permissions' screen appears.
3. Enter the group name in the **Grant browse permission to** box in the 'Groups' section. You can search for the group name.
4. Choose **Add**.
5. The group will appear in the list and you can now edit its permissions.

**To add permissions for a specific user:**
(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.)

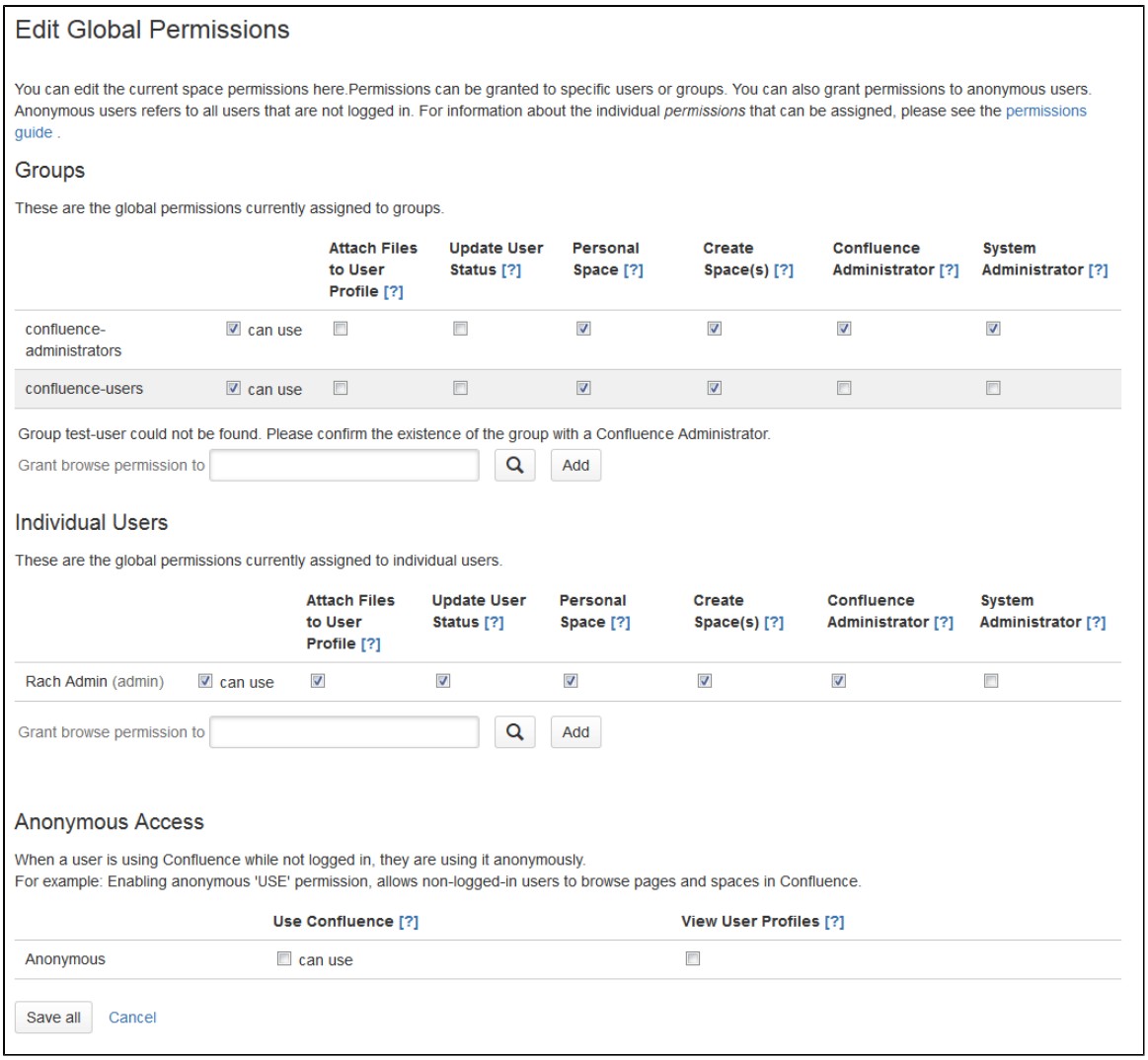
1. First add the user to Confluence, if you have not already done so.
2. Choose **Edit Permissions**. The 'Edit Global Permissions' screen appears.
3. Enter the username in the **Grant browse permission to** box in the 'Individual Users' section. You can search for the username.
4. Choose **Add**.
5. 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:**

1. Select, or clear, the check box under the relevant permission in the row for the relevant user/group. A selected check box indicates that the permission is granted.
2. 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 Public Access.
3. Choose **Save All** to save your changes.

*Screenshot: Editing global permissions*

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#### Error messages you may see

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.

## Setting Up Public Access

You can enable anonymous access (also known as public access) to your Confluence site by granting the 'Use Confluence' permission to 'anonymous' users. An 'anonymous' user is someone who has not logged in to the Confluence site. The 'Use Confluence' permission is also called 'can use'.

This user category gives you an easy way to administer users who have not logged into the site. Permissions assigned to this category apply to all anonymous users of the site.

#### Enabling anonymous access to the site

If you want to make your site visible to everyone, including people who have not logged in, you must enable anonymous access at site level.

**To enable anonymous access to your site**:

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.

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2. Choose **Global Permissions** in the left-hand panel.
3. Choose **Edit Permissions**.
4. In the 'Anonymous Access' section, select the **can use** check box to enable anonymous access to the content on your site.
5. If you want to allow anonymous users to see user profiles, select the check box in the **View User Profiles** section.
   *Note:* You must grant the 'can use' permission as well, if you want to grant the 'View User Profiles' permission.
6. Choose **Save All**.

**On this page:**


- Enabling anonymous access to the site
- Disabling anonymous access to the site
- Granting public access to a space
- Notes


**Related pages:**

- Configuring Captcha for Spam Prevention
- Adding and Inviting Users
- Global Permissions Overview
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

#### Disabling anonymous access to the site

To disable anonymous access to your site, deselect the **can use** check box, then choose **Save All**. People will not be able to see the content on the site until they have logged in.

#### Granting public access to a space

To enable public access to a Confluence space, you must grant the following permissions to anonymous users:

- The site-wide 'can use' permission, as described above.
- The relevant space permissions. If you want a space to be publicly accessible, the anonymous user must have at least the 'View Space' permission. To set space permissions, choose **Browse** > **Space Admin** > **Permissions**.

#### Notes

- We **severely warn against** giving anonymous users any administrative privileges, either within a space, or especially over the Confluence site. Giving administrative privileges to untrusted users may lead to a serious security compromise of your site.
- You can allow people to sign up for usernames themselves, and choose other options for user signup and invitations. See Adding and Inviting Users.

## Configuring User Directories

A user directory is a place where you store information about users and groups. User information includes the person's full name, username, password, email address and other personal information. Group information includes the name of the group, the users that belong to the group, and possibly groups that belong to other groups.

The **internal** directory stores user and group information in the Confluence database. You can also connect to **external** user directories, and to Atlassian **Crowd** and **JIRA** as directory managers.

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**On this page:**


- Configuring User Directories in Confluence
- Connecting to a Directory
- Updating Directories


*The information on this page does not apply to Confluence OnDemand.*

## Configuring User Directories in Confluence

**To configure your Confluence user directories:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click '**User Directories**' in the left-hand panel.

## Connecting to a Directory

You can add the following types of directory servers and directory managers:

- Confluence's internal directory. See Configuring the Internal Directory.
- Microsoft Active Directory. See Connecting to an LDAP Directory.
- Various other LDAP directory servers. See Connecting to an LDAP Directory.
- An LDAP directory for delegated authentication. See Connecting to an Internal Directory with LDAP Authentication.
- Atlassian Crowd. See Connecting to Crowd or JIRA for User Management.
- Atlassian JIRA 4.3 or later. See Connecting Confluence to JIRA for User Management.
- Atlassian JIRA 4.2 or earlier, using the legacy database connection. See Connecting to JIRA 4.2 or Earlier for User Management.

You can add as many external user directories as you need. Note that you can define the **order** of the directories. This determines which directory Confluence will search first, when looking for user and group information. See Managing Multiple Directories.

## Updating Directories

### *Limitations when Editing Directories*

You cannot edit, disable or remove the directory your user belongs to. This precaution is designed to prevent administrators from locking themselves out of the application by changing the directory configuration in a way that prevents them logging in or removes their administration permissions.

This limitation applies to all directory types. For example:

- You cannot disable the internal directory if your user is an internal user.
- You cannot disable or remove an LDAP or a Crowd directory if your user comes from that directory.

In some situations, reordering the directories will change the directory that the current user comes from, if a user with the same username happens to exist in both. This behaviour can be used in some cases to create a copy of the existing configuration, move it to the top, then remove the old one. Note, however, that duplicate usernames are not a supported configuration.

You cannot remove the internal directory. This precaution aligns with the recommendation below that you always keep an administrator account active in the internal directory.

### *Recommendations*

The recommended way to edit directory configurations is to log in as an internal user when making changes to external directory configuration.

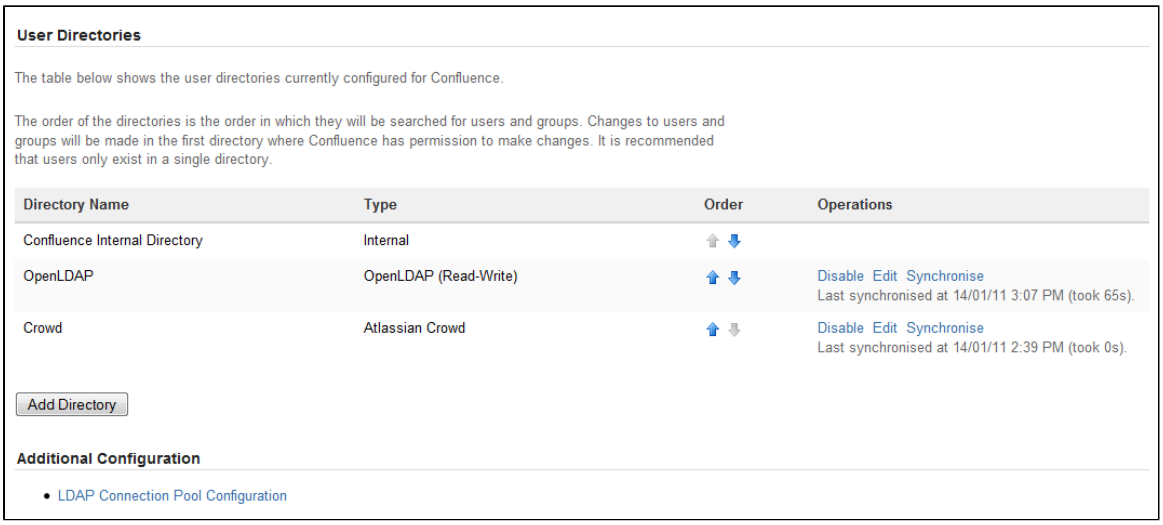
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⚠ We recommend that you keep either an administrator or system administrator user active in your internal directory for troubleshooting problems with your user directories.

***Enabling, Disabling and Removing Directories***

You can enable or disable a directory at any time. If you disable a directory, your configuration details will remain but the application will not recognise the users and groups in that directory.

You have to disable a directory before you can remove it. Removing a directory will remove the details from the database.




*Screenshot above: Configuring user directories*

**RELATED TOPICS**

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
- Managing Nested Groups
- Synchronising Data from External Directories
- Diagrams of Possible Configurations for User Management
- User Management Limitations and Recommendations
- Requesting Support for External User Management
- Disabling the Built-In User Management

- Adding and Inviting Users
- Managing Site-Wide Permissions and Groups

Administrators Guide Home Confluence Documentation Home

## Configuring the Internal Directory

The internal directory stores user and group information in the Confluence database.

### Overview

The internal directory is enabled by default at installation. When you create the first administrator during the setup procedure, that administrator's username and other details are stored in the internal directory.

If needed, you can configure one or more additional user directories. This is useful if you want to grant access to users and groups that are stored in a corporate directory or other directory server.

**On this page:**


- Overview
- Diagram of Possible Configuration


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⚠ *The information on this page does not apply to Confluence OnDemand.*

**Diagram of Possible Configuration**

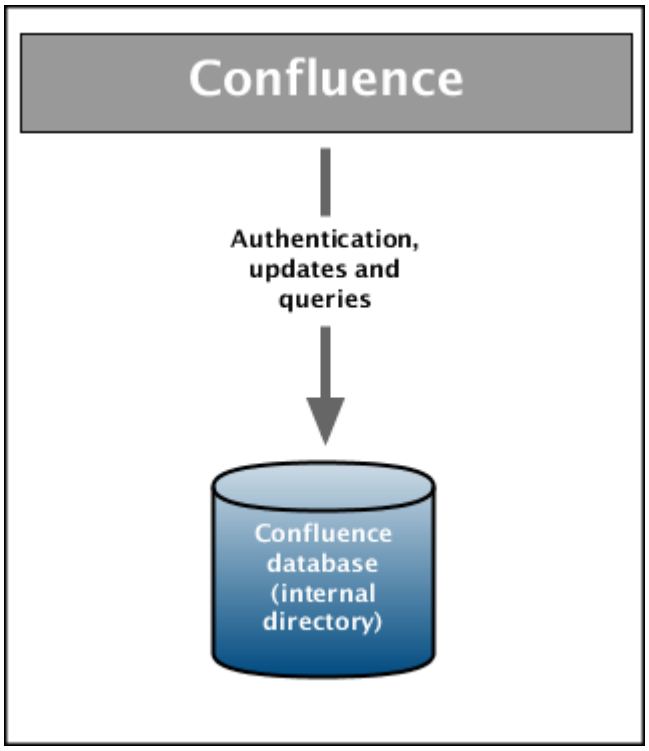



*Diagram above: Confluence using its internal directory for user management.*

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
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- Disabling the Built-In User Management

How to Reenable the Internal Directory (Knowledge base article)

## Connecting to an LDAP Directory

You can connect your Confluence application to an LDAP directory for authentication, user and group management.

**Overview**

An LDAP directory is a collection of data about users and groups. LDAP (Lightweight Directory Access Protocol) is an Internet protocol that web applications can use to look up information about those users and groups from the LDAP server.

We provide built-in connectors for the most popular LDAP directory servers:

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- Microsoft Active Directory
- Apache Directory Server (ApacheDS)
- Apple Open Directory
- Fedora Directory Server
- Novell eDirectory
- OpenDS
- OpenLDAP
- OpenLDAP Using Posix Schema
- Posix Schema for LDAP
- Sun Directory Server Enterprise Edition (DSEE)
- A generic LDAP directory server

**When to use this option:** Connecting to an LDAP directory server is useful if your users and groups are stored in a corporate directory. When configuring the directory, you can choose to make it read only, read only with local groups, or read/write. If you choose read/write, any changes made to user and group information in the application will also update the LDAP directory.

#### Connecting to an LDAP Directory in Confluence

**To connect Confluence to an LDAP directory:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Click **User Directories** in the left-hand panel.
3. **Add** a directory and select one of these types:
    - **Microsoft Active Directory** – This option provides a quick way to select AD, because it is the most popular LDAP directory type.
    - **LDAP** – You will be able to choose a specific LDAP directory type on the next screen.
4. Enter the values for the settings, as described below.
5. Save the directory settings.
6. Define the **directory order** by clicking the blue up- and down-arrows next to each directory on the 'User Directories' screen. Here is a summary of how the directory order affects the processing:
    - The order of the directories is the order in which they will be searched for users and groups.
    - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

    For details see Managing Multiple Directories.

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**On this page:**


- Overview
- Connecting to an LDAP Directory in Confluence
- Server Settings
- Schema Settings
- Permission Settings
  - Adding Users to Groups Automatically
- Advanced Settings
- User Schema Settings
- Group Schema Settings
- Membership Schema Settings
- Diagrams of Some Possible Configurations
- Notes


**Related pages:**

Configuring User Directories


- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
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- Synchronising Data from External Directories
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- Disabling the Built-In User Management


⚠ *The information on this page does not apply to Confluence OnDemand.*

### Server Settings

| Setting | Description |
|---|---|
| Name | Enter a meaningful name to help you identify the LDAP directory server. Examples:<br>• `Example Company Staff Directory`<br>• `Example Company Corporate LDAP` |
| Directory Type | Select the type of LDAP directory that you will connect to. If you are adding a new LDAP connection, the value you select here will determine the default values for many of the options on the rest of screen. Examples:<br>• `Microsoft Active Directory`<br>• `OpenDS`<br>• And more. |

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| | |
|---|---|
| Hostname | The host name of your directory server. Examples:<br>• `ad.example.com`<br>• `ldap.example.com`<br>• `opends.example.com` |
| Port | The port on which your directory server is listening. Examples:<br>• `389`<br>• `10389`<br>• `636` (for example, for SSL) |
| Use SSL | Check this if the connection to the directory server is an SSL (Secure Sockets Layer) connection. Note that you will need to configure an SSL certificate in order to use this setting. |
| Username | The distinguished name of the user that the application will use when connecting to the directory server. Examples:<br>• `cn=administrator,cn=users,dc=ad,dc=example,dc=com`<br>• `cn=user,dc=domain,dc=name`<br>• `user@domain.name` |
| Password | The password of the user specified above. |

#### Schema Settings

| Setting | Description |
|---|---|
| Base DN | The root distinguished name (DN) to use when running queries against the directory server. Examples:<br>• `o=example,c=com`<br>• `cn=users,dc=ad,dc=example,dc=com`<br>• For Microsoft Active Directory, specify the base DN in the following format: `dc=domain1,dc=local`. You will need to replace the `domain1` and `local` for your specific configuration. Microsoft Server provides a tool called `ldp.exe` which is useful for finding out and configuring the the LDAP structure of your server. |
| Additional User DN | This value is used in addition to the base DN when searching and loading users. If no value is supplied, the subtree search will start from the base DN. Example:<br>• `ou=Users` |
| Additional Group DN | This value is used in addition to the base DN when searching and loading groups. If no value is supplied, the subtree search will start from the base DN. Example:<br>• `ou=Groups` |

#### Permission Settings

**Note:** You can only assign LDAP users to local groups when 'External Management User Management' is not

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selected.

| Setting | Description |
| --- | --- |
| Read Only | LDAP users, groups and memberships are retrieved from your directory server and can only be modified via your directory server. You cannot modify LDAP users, groups or memberships via the application administration screens. |
| Read Only, with Local Groups | LDAP users, groups and memberships are retrieved from your directory server and can only be modified via your directory server. You cannot modify LDAP users, groups or memberships via the application administration screens. However, you can add groups to the internal directory and add LDAP users to those groups. |
| Read/Write | LDAP users, groups and memberships are retrieved from your directory server. When you modify a user, group or membership via the application administration screens, the changes will be applied directly to your LDAP directory server. Please ensure that the LDAP user specified for the application has modification permissions on your LDAP directory server. |

#### *Adding Users to Groups Automatically*

| Setting | Description |
| --- | --- |

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| | |
|---|---|
| Default Group Memberships | *Option available in Confluence 3.5 and later, and JIRA 4.3.3 and later.* This field appears if you select the 'Read Only, with Local Groups' permission. If you would like users to be automatically added to a group or groups, enter the group name(s) here. To specify more than one group, separate the group names with commas.<br>*In Confluence 3.5 to Confluence 3.5.1:* Each time a user logs in, their group memberships will be checked. If the user does not belong to the specified group(s), their username will be added to the group(s). If a group does not yet exist, it will be added locally.<br>*In Confluence 3.5.2 and later, and JIRA 4.3.3 and later:* The first time a user logs in, their group memberships will be checked. If the user does not belong to the specified group(s), their username will be added to the group(s). If a group does not yet exist, it will be added locally. On subsequent logins, the username will *not* be added automatically to any groups. This change in behaviour allows users to be removed from automatically-added groups. In Confluence 3.5 and 3.5.1, they would be re-added upon next login.<br><br>Please note that there is no validation of the group names. If you mis-type the group name, authorisation failures will result – users will not be able to access the applications or functionality based on the intended group name.<br><br>Examples:<br>• `confluence-users`<br>• `confluence-users,jira-users,jira-developers` |

**Advanced Settings**

| Setting | Description |
|---|---|
| Enable Nested Groups | Enable or disable support for nested groups. Some directory servers allow you to define a group as a member of another group. Groups in such a structure are called 'nested groups'. If you are using groups to manage permissions, you can create nested groups to allow inheritance of permissions from one group to its sub-groups. |
| Use Paged Results | Enable or disable the use of the LDAP control extension for simple paging of search results. If paging is enabled, the search will retrieve sets of data rather than all of the search results at once. Enter the desired page size – that is, the maximum number of search results to be returned per page when paged results are enabled. The default is 1000 results. |

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| | |
|---|---|
| Follow Referrals | Choose whether to allow the directory server to redirect requests to other servers. This option uses the node referral (JNDI lookup `java.naming.referral`) configuration setting. It is generally needed for Active Directory servers configured without proper DNS, to prevent a 'javax.naming.PartialResultException: Unprocessed Continuation Reference(s)' error. |
| Naive DN Matching | If your directory server will always return a consistent string representation of a DN, you can enable naive DN matching. Using naive DN matching will result in a significant performance improvement, so we recommend enabling it where possible.<br><br>This setting determines how your application will compare DNs to determine if they are equal.<br><br>• If this check box is selected, the application will do a direct, case-insensitive, string comparison. This is the default and recommended setting for Active Directory, because Active Directory guarantees the format of DNs.<br>• If this check box is not selected, the application will parse the DN and then check the parsed version. |
| Enable Incremental Synchronisation | Enable incremental synchronisation if you only want changes since the last synchronisation to be queried when synchronising a directory.<br><br>⚠ Please be aware that when using this option, the user account configured for synchronisation must have read access to:<br><br>• The `uSNChanged` attribute of all users and groups in the directory that need to be synchronised.<br>• The objects and attributes in the Active Directory deleted objects container (see Microsoft's Knowledge Base Article No. 892806 for details).<br><br>If at least one of these conditions is not met, you may end up with users who are added to (or deleted from) the Active Directory not being respectively added (or deleted) in JIRA.<br><br>This setting is only available if the directory type is set to "Microsoft Active Directory". |
| Synchronisation Interval (minutes) | Synchronisation is the process by which the application updates its internal store of user data to agree with the data on the directory server. The application will send a request to your directory server every x minutes, where 'x' is the number specified here. The default value is 60 minutes. |
| Read Timeout (seconds) | The time, in seconds, to wait for a response to be received. If there is no response within the specified time period, the read attempt will be aborted. A value of 0 (zero) means there is no limit. The default value is 120 seconds. |

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| | |
|---|---|
| Search Timeout (seconds) | The time, in seconds, to wait for a response from a search operation. A value of 0 (zero) means there is no limit. The default value is 60 seconds. |
| Connection Timeout (seconds) | This setting affects two actions. The default value is 0.<br>• The time to wait when getting a connection from the connection pool. A value of 0 (zero) means there is no limit, so wait indefinitely.<br>• The time, in seconds, to wait when opening new server connections. A value of 0 (zero) means that the TCP network timeout will be used, which may be several minutes. |

#### User Schema Settings

| Setting | Description |
|---|---|
| User Object Class | This is the name of the class used for the LDAP user object. Example:<br>• `user` |
| User Object Filter | The filter to use when searching user objects. Example:<br>• `(&(objectCategory=Person)(sAMAccountName=*))` |
| User Name Attribute | The attribute field to use when loading the username. Examples:<br>• `cn`<br>• `sAMAccountName`<br>NB: In Active Directory, the 'sAMAccountName' is the 'User Logon Name (pre-Windows 2000)' field. The User Logon Name field is referenced by 'cn'. |
| User Name RDN Attribute | The RDN (relative distinguished name) to use when loading the username. The DN for each LDAP entry is composed of two parts: the RDN and the location within the LDAP directory where the record resides. The RDN is the portion of your DN that is not related to the directory tree structure. Example:<br>• `cn` |
| User First Name Attribute | The attribute field to use when loading the user's first name. Example:<br>• `givenName` |
| User Last Name Attribute | The attribute field to use when loading the user's last name. Example:<br>• `sn` |
| User Display Name Attribute | The attribute field to use when loading the user's full name. Example:<br>• `displayName` |

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| | |
|---|---|
| User Email Attribute | The attribute field to use when loading the user's email address. Example:<br>• `mail` |
| User Password Attribute | The attribute field to use when loading a user's password. Example:<br>• `unicodePwd` |
| User Unique ID Attribute *(JIRA only)* | The attribute used as a unique immutable identifier for user objects. This is used to track username changes and is optional. If this attribute is not set (or is set to an invalid value), user renames will not be detected — they will be interpreted as a user deletion then a new user addition.<br>This should normally point to a UUID value. Standards-compliant LDAP servers will implement this as 'entryUUID' according to RFC 4530. This setting exists because it is known under different names on some servers. |

#### Group Schema Settings

| Setting | Description |
|---|---|
| Group Object Class | This is the name of the class used for the LDAP group object. Examples:<br>• `groupOfUniqueNames`<br>• `group` |
| Group Object Filter | The filter to use when searching group objects. Example:<br>• `(&(objectClass=group)(cn=*))` |
| Group Name Attribute | The attribute field to use when loading the group's name. Example:<br>• `cn` |
| Group Description Attribute | The attribute field to use when loading the group's description. Example:<br>• `description` |

#### Membership Schema Settings

| Setting | Description |
|---|---|
| Group Members Attribute | The attribute field to use when loading the group's members. Example:<br>• `member` |
| User Membership Attribute | The attribute field to use when loading the user's groups. Example:<br>• `memberOf` |

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| | |
|---|---|
| Use the User Membership Attribute, when finding the user's group membership | Check this if your directory server supports the group membership attribute on the user. (By default, this is the '`memberOf`' attribute.)<br>• If this checkbox is selected, your application will use the group membership attribute on the user when **retrieving the list of groups to which a given user belongs**. This will result in a more efficient retrieval.<br>• If this checkbox is not selected, your application will use the members attribute on the group ('`member`' by default) for the search.<br>• If the **Enable Nested Groups** checkbox is seleced, your application will ignore the **Use the User Membership Attribute** option and will use the members attribute on the group for the search. |
| Use the User Membership Attribute, when finding the members of a group | Check this if your directory server supports the user membership attribute on the group. (By default, this is the '`member`' attribute.)<br>• If this checkbox is selected, your application will use the group membership attribute on the user when **retrieving the members of a given group**. This will result in a more efficient search.<br>• If this checkbox is not selected, your application will use the members attribute on the group ('`member`' by default) for the search. |

#### Diagrams of Some Possible Configurations

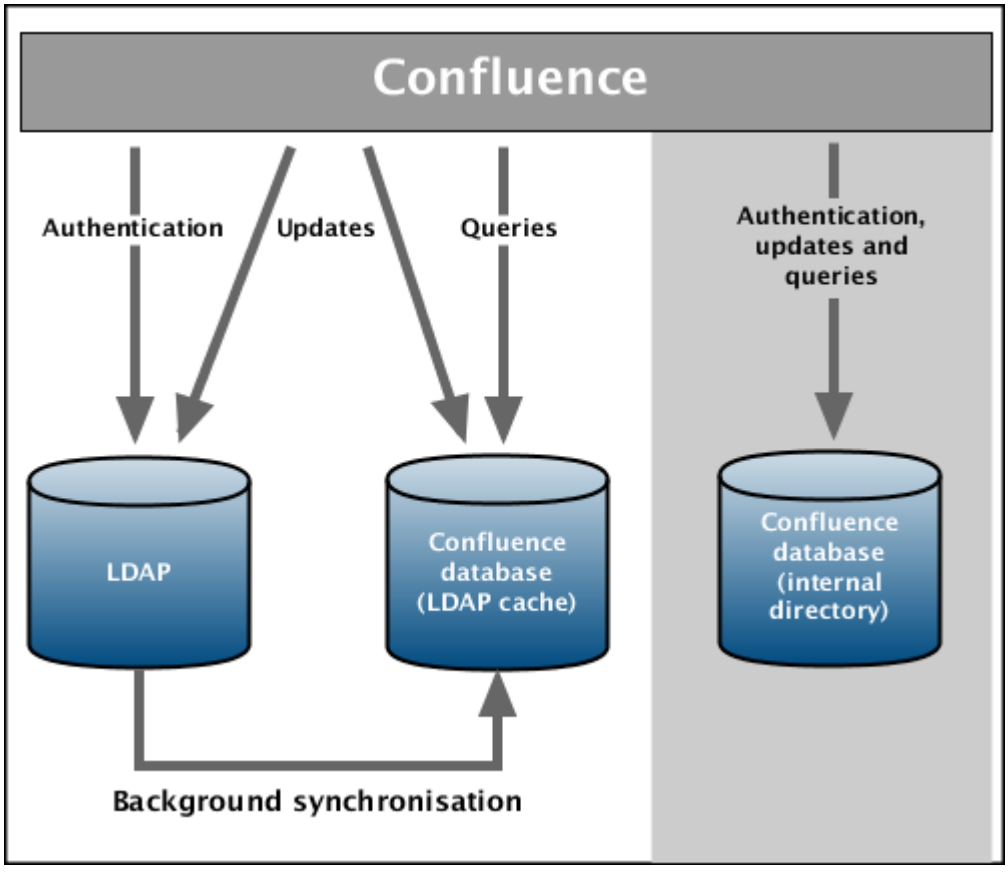



*Diagram above: Confluence connecting to an LDAP directory.*

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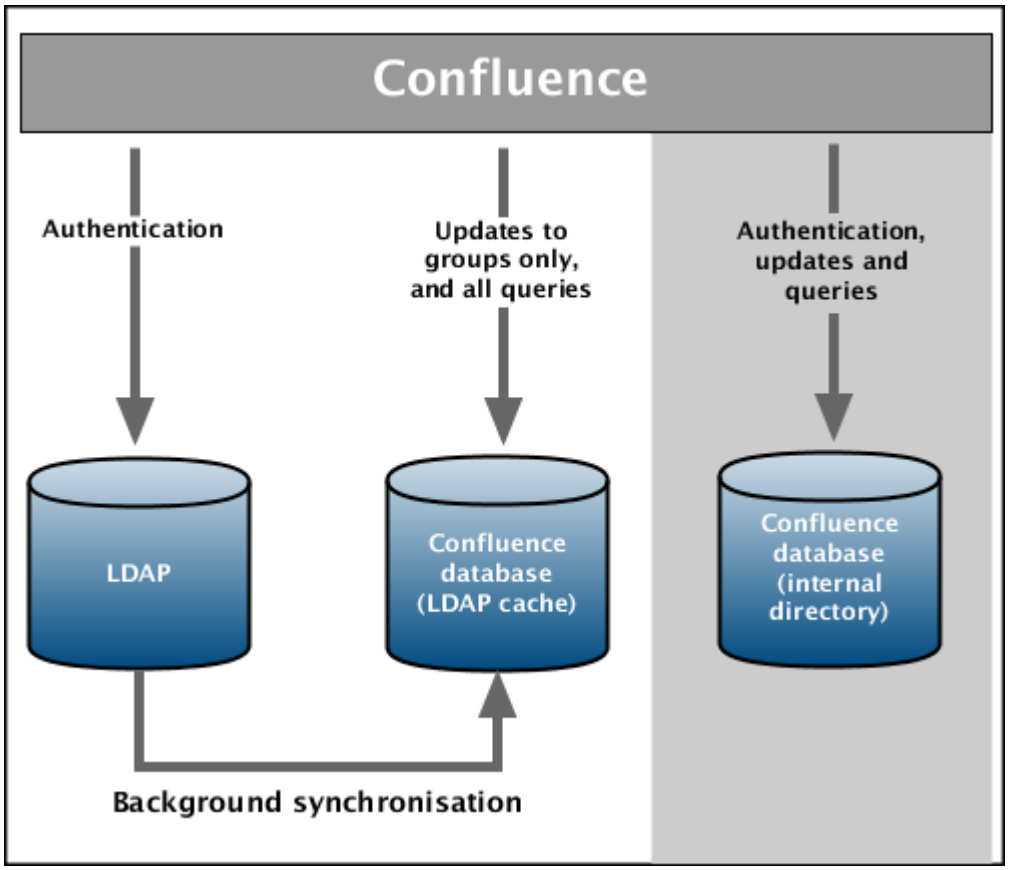



*Diagram above: Confluence connecting to an LDAP directory with permissions set to read only and local groups.*

**Notes**

Currently there is a bug which causes a system error if the username and password are not correct. This also happens if you are accessing anonymously, but the directory server does not support anonymous access. If you get a system error message, try checking the username and password credentials. You can watch this issue to see updates on this bug:

CONF-25961 - NPE when defining LDAP directory and having wrong password (Resolved)

### Configuring the LDAP Connection Pool

When connection pooling is enabled, the LDAP directory server maintains a pool of connections and assigns them as needed. When a connection is closed, the directory server returns the connection to the pool for future use. This can improve performance significantly.

**To configure your LDAP connection pool:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click '**User Directories**' in the left-hand panel.
3. Click '**LDAP Connection Pool Configuration**' in the 'Additional Configuration' section.

| Setting | Description | Default Value |
|---|---|---|
| Initial Pool Size | The number of LDAP connections created when initially connecting to the pool. | `1` |
| Preferred Pool Size | The optimal pool size. LDAP will remove idle connections when the number of connections grows larger than this value. A value of `0` (zero) means that there is no preferred size, so the number of idle connections is unlimited. | `10` |

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| | | |
|---|---|---|
| Maximum Pool Size | The maximum number of connections. When the number of connections reaches this value, LDAP will refuse further connections. As a result, requests made by an application to the LDAP directory server will be blocked. A value of `0` (zero) means that the number of connections is unlimited. | `0` |
| Pool Timeout (seconds) | The length of time, in seconds, that a connection may remain idle before being removed from the pool. When the application is finished with a pooled connection, the connection is marked as idle, waiting to be reused. A value of `0` ( zero) means that the idle time is unlimited, so connections will never be timed out. | `30` |
| Pool Protocol | Only these protocol types will be allowed to connect to the LDAP directory server. If you want to allow multiple protocols, enter the values separated by a space. Valid values are:<br>• `plain`<br>• `ssl` | `plain ssl`<br>(Both plain and ssl) |
| Pool Authentication | Only these authentication types will be allowed to connect to the LDAP directory server. If you want to allow multiple authentication types, enter the values separated by a space. See RFC 2829 for details of LDAP authentication methods. Valid values are:<br>• `none`<br>• `simple`<br>• `DIGEST-MD5` | `simple` |

**Notes:**

- The connection pool settings are system wide and will be used to create a new connection pool for every configured LDAP directory server.
- You must restart your application server for these settings to take effect.

RELATED TOPICS

Connecting to an LDAP Directory
Configuring User Directories

Administrators Guide Home Confluence Documentation Home

### Configuring an SSL Connection to Active Directory

If you want to configure a read/write connection with Microsoft Active Directory, you will need to install an SSL certificate, generated by your Active Directory server, onto your Confluence server and then install the certificate into your JVM keystore.

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**On this page:**


- Prerequisites
- Step 1. Install the Active Directory Certificate Services
- Step 2. Obtain the Server Certificate
- Step 3. Import the Server Certificate


There's a Confluence SSL plugin that facilitates this process.

Updating user, group, and membership details in Active Directory requires that your Atlassian application be running in a JVM that trusts the AD server. To do this, we generate a certificate on the Active Directory server, then import it into Java's `keystore`.

#### *Prerequisites*

To generate a certificate, you need the following components installed on the Windows Domain Controller to which you're connecting.

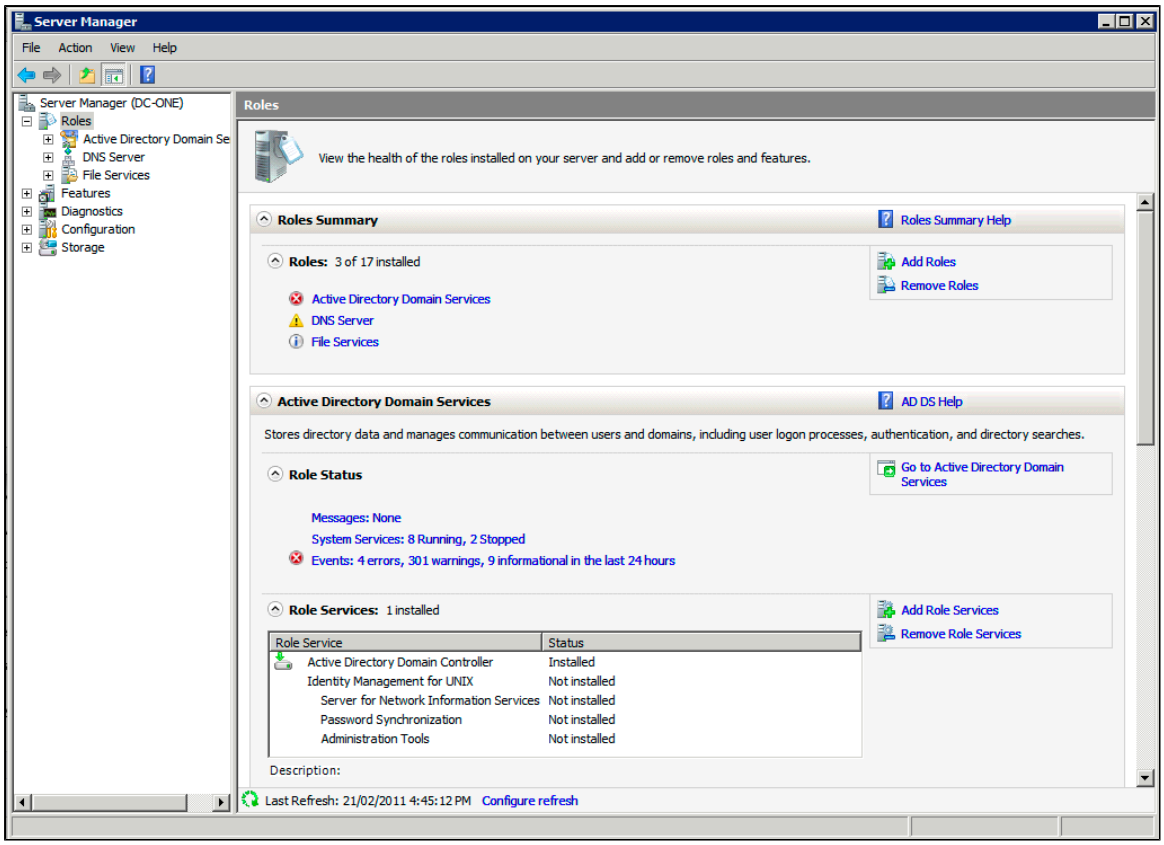
| Required Component | Description |
|---|---|
| Internet Information Services (IIS) | This is required before you can install Windows Certificate Services. |
| Windows Certificate Services | This installs a certification authority (CA) which is used to issue certificates. Step 1, below, explains this process. |
| Windows 2000 Service Pack 2 | Required if you are using Windows 2000 |
| Windows 2000 High Encryption Pack (128-bit) | Required if you are using Windows 2000. Provides the highest available encryption level (128-bit). |

#### *Step 1. Install the Active Directory Certificate Services*

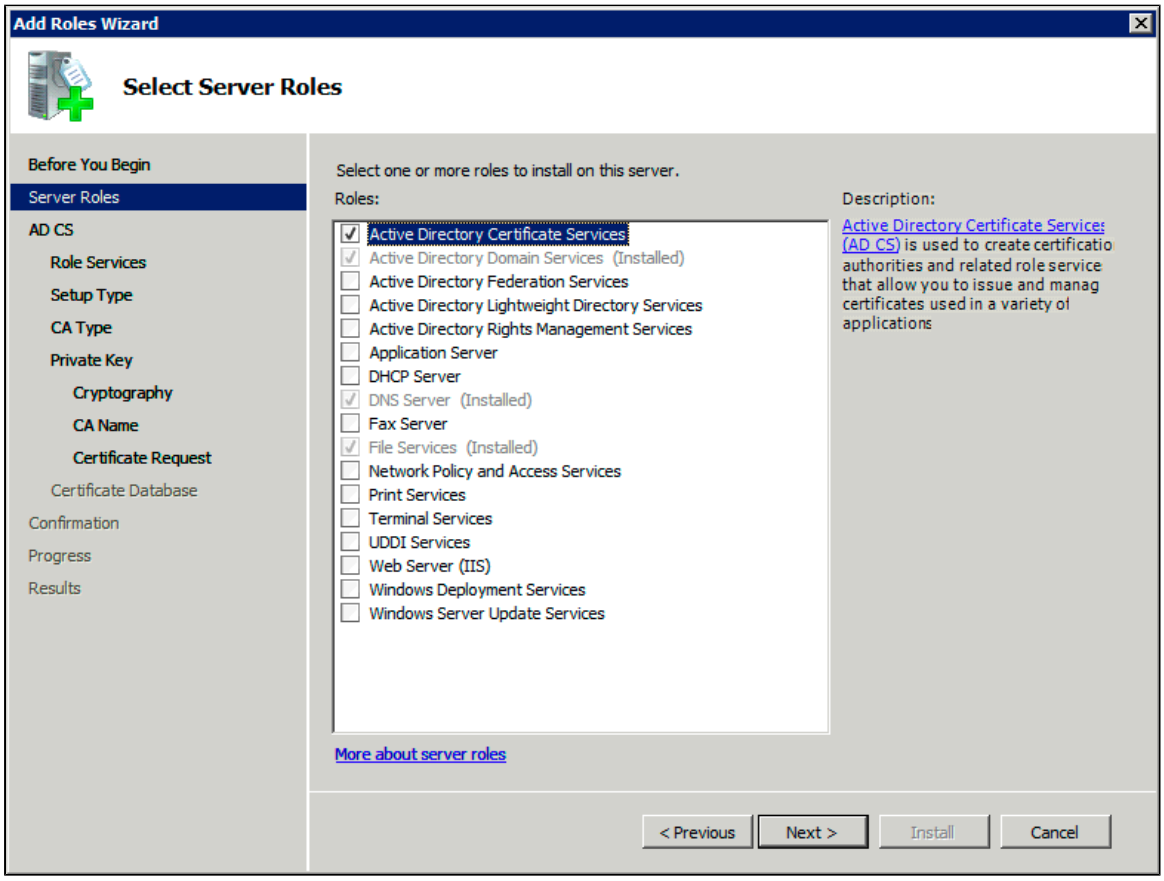
If Certificate Services are already installed, skip to step 2, below. The screenshots below are from Server 2008, but the process is similar for Server 2000 and 2003.

1. Log in to your Active Directory server as an administrator.
2. Click **Start**, point to **Administrative Tools**, and then click **Server Manager**.
3. In the **Roles Summary** section, click **Add Roles**.

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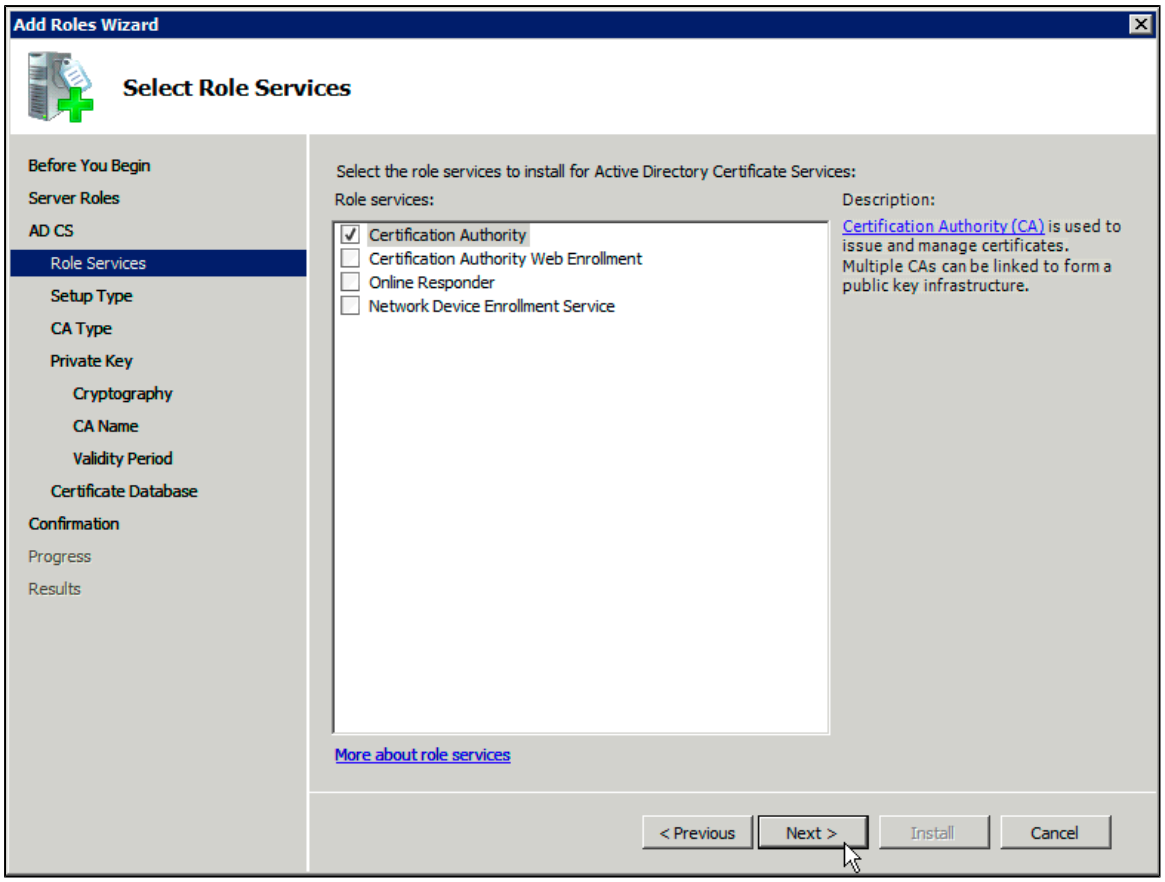



4. On the **Select Server Roles** page, select the **Active Directory Certificate Services** check box. Click **Next** twice.

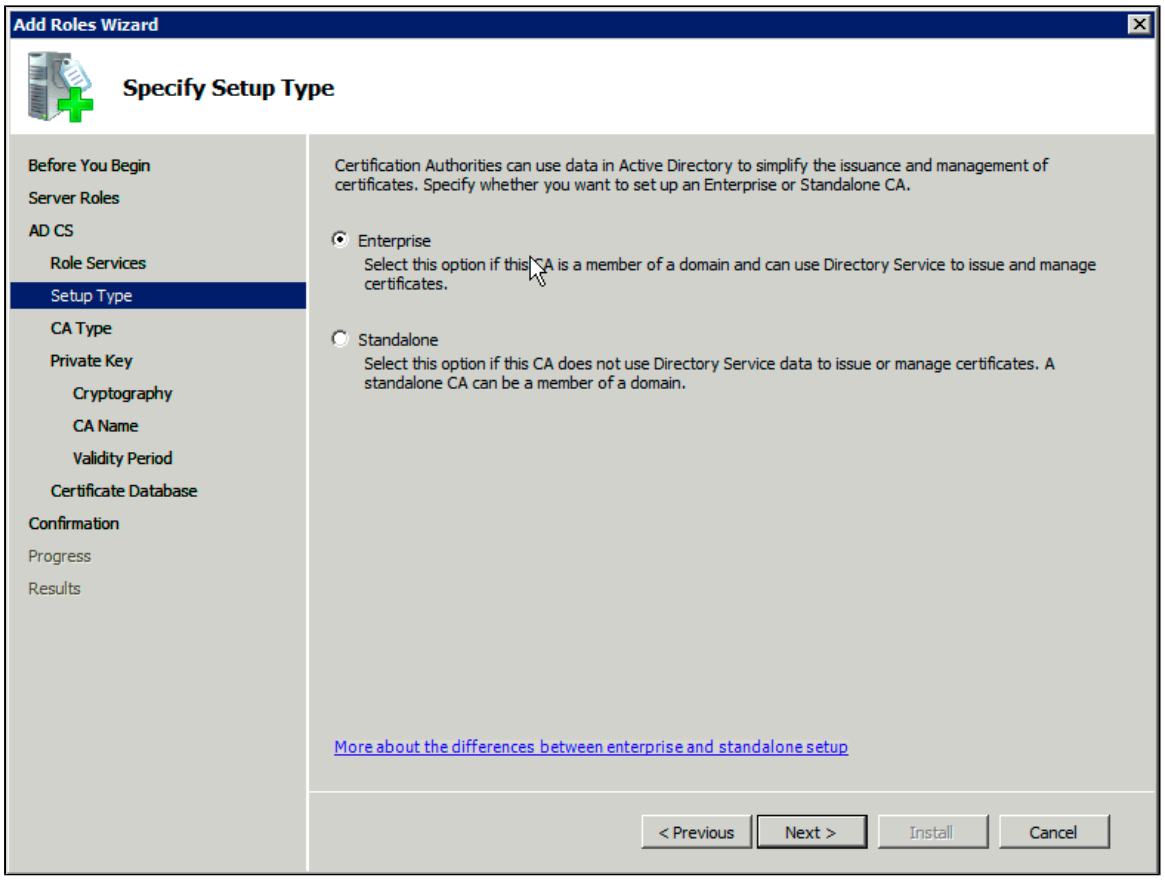



5. On the **Select Role Services** page, select the **Certification Authority** check box, and then click **Next**.

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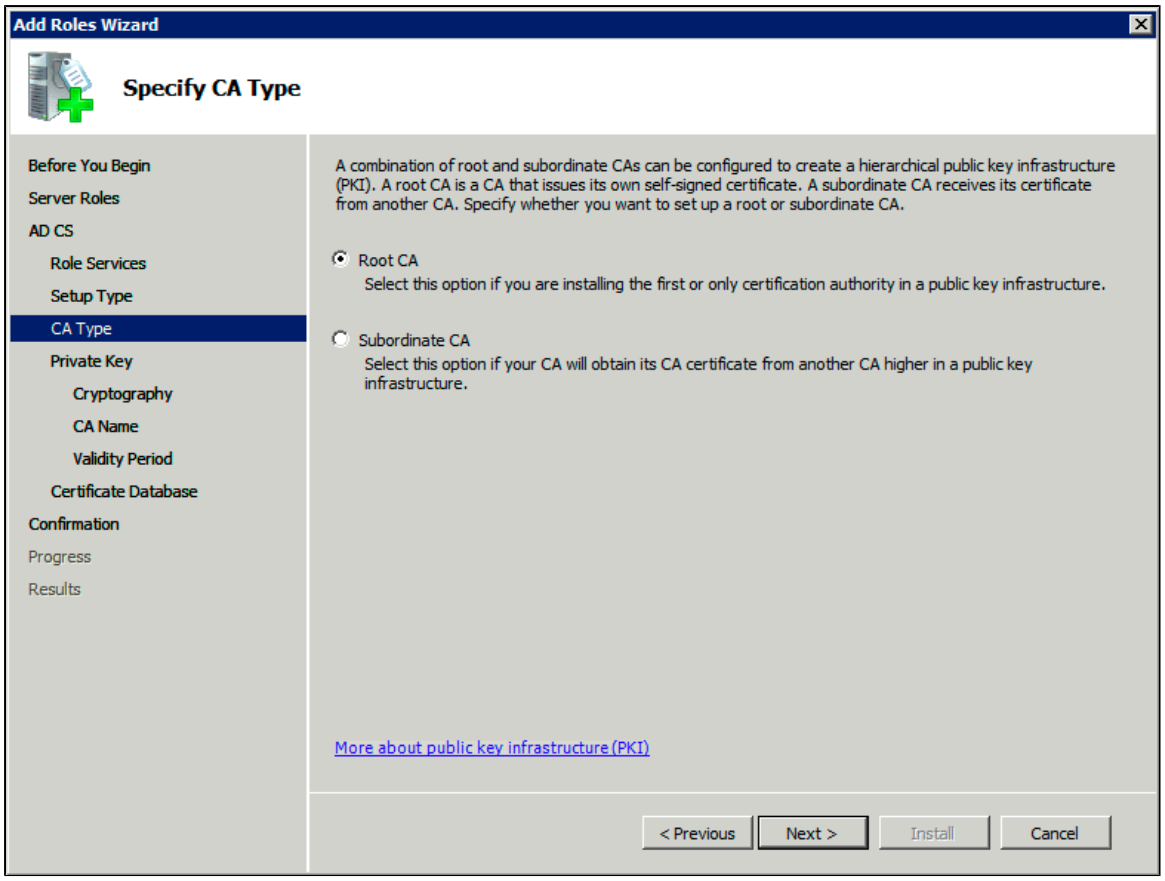



6. On the **Specify Setup Type** page, click **Enterprise**, and then click **Next**.

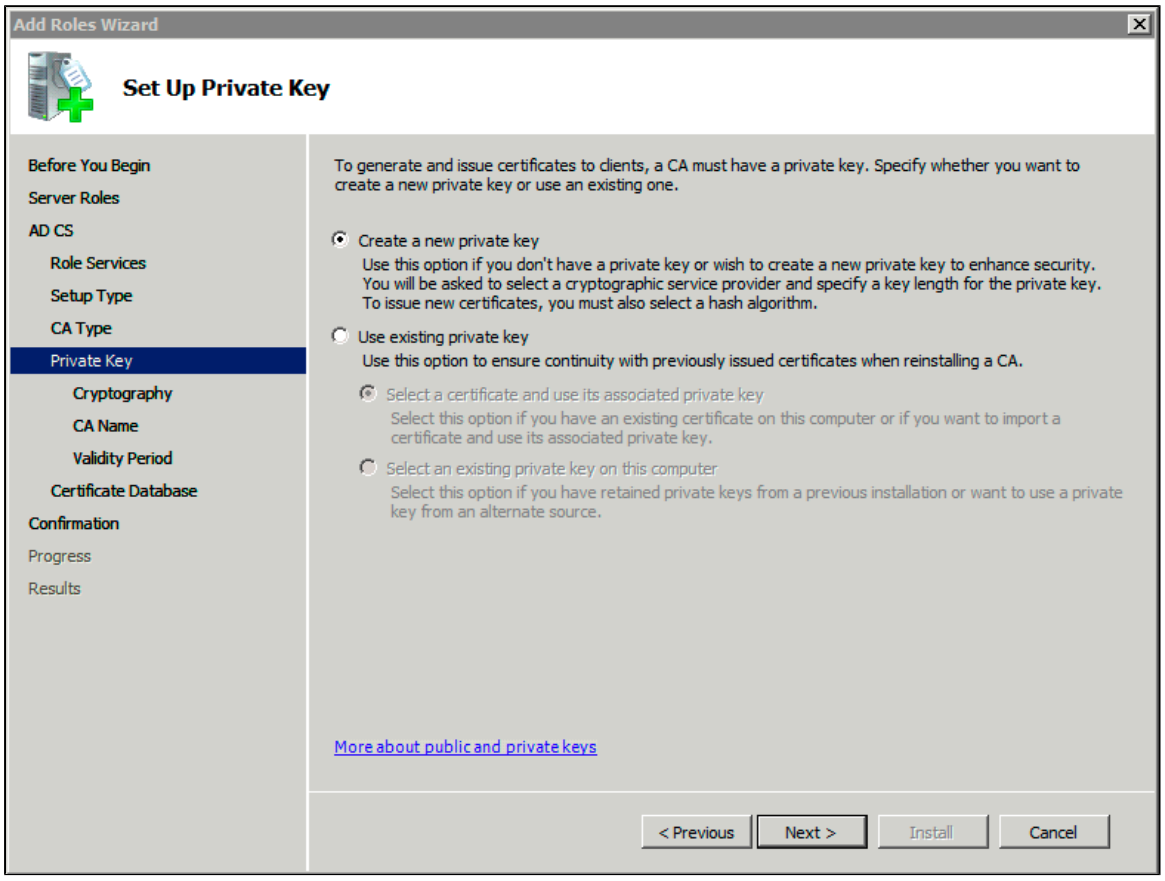



7. On the **Specify CA Type** page, click **Root CA**, and then click **Next**.

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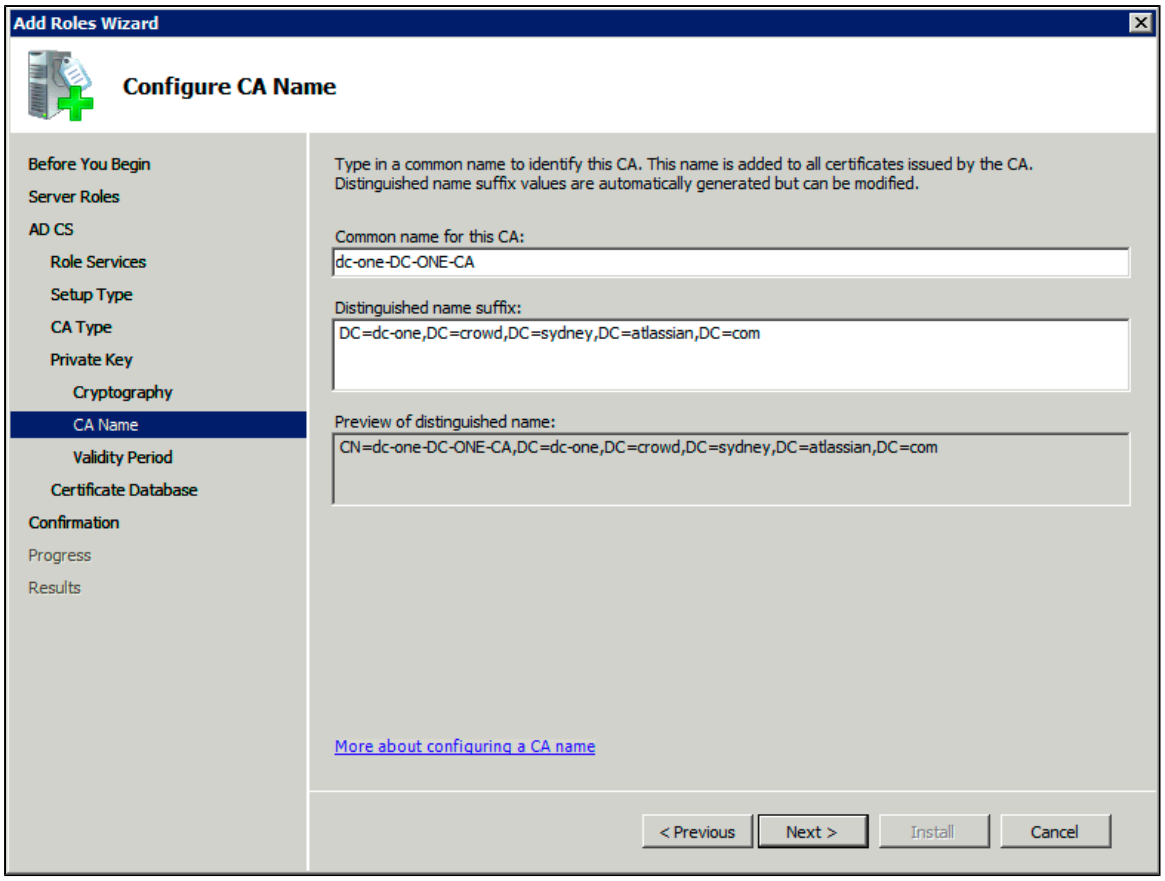



8. On the **Set Up Private Key** and **Configure Cryptography for CA** pages, you can configure optional configuration settings, including cryptographic service providers. However, the default values should be fine. Click **Next** twice.



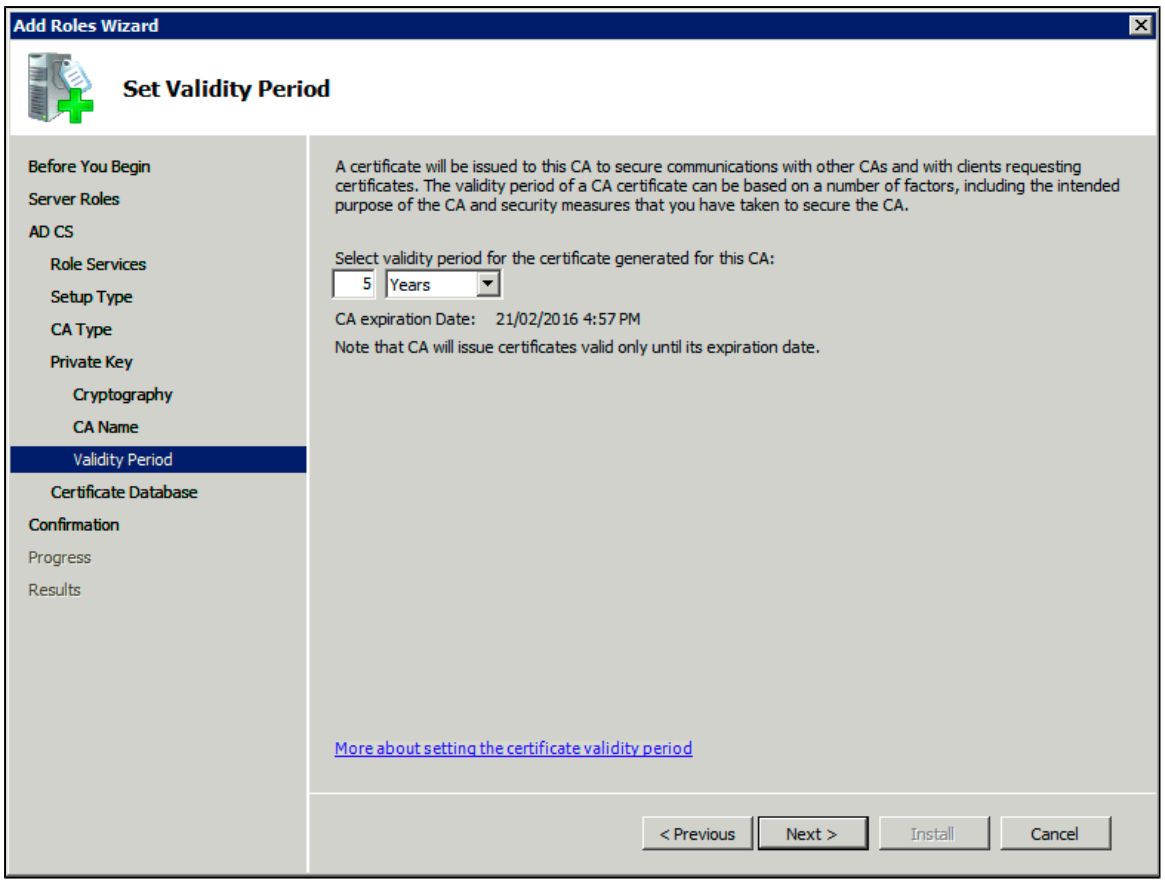

9. In the **Common name for this CA** box, type the common name of the CA, and then click **Next**.

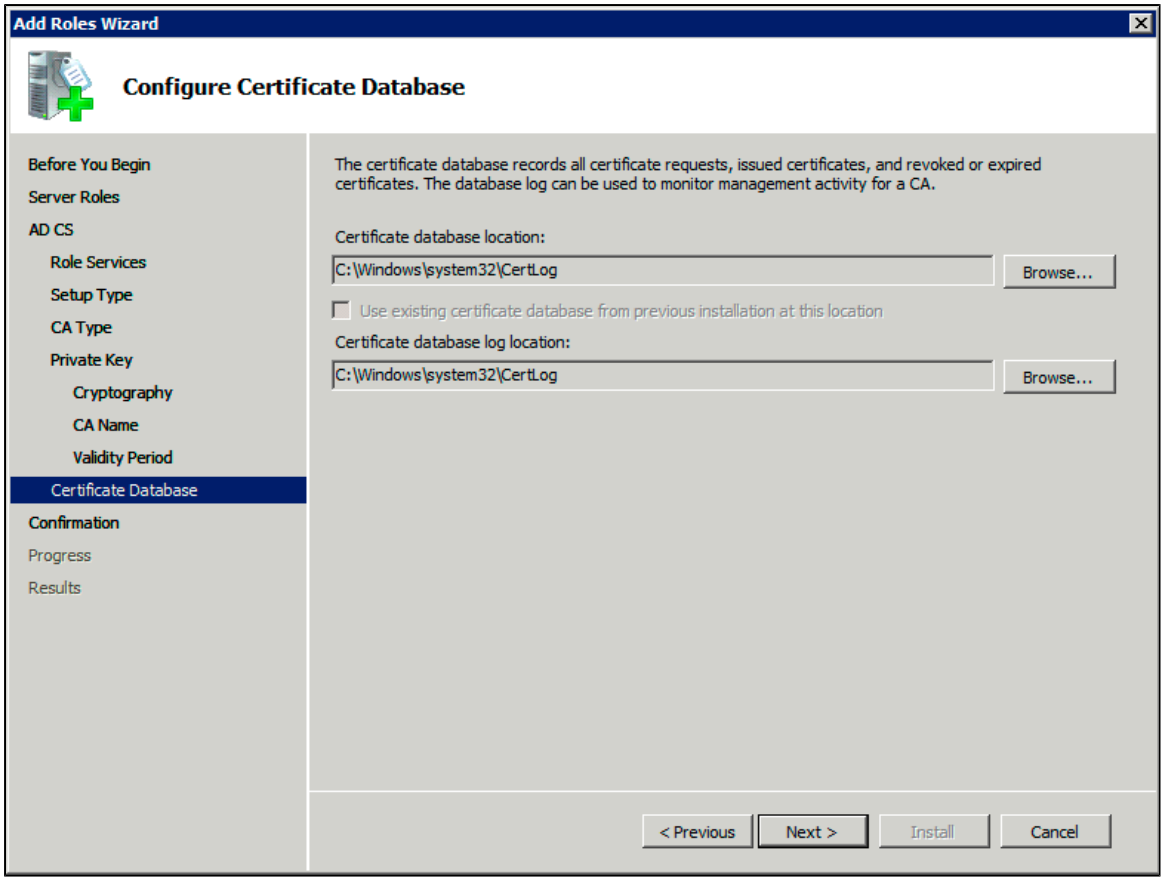
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10. On the **Set Validity Period** page, accept the default values or specify other storage locations for the certificate database and the certificate database log, and then click **Next**.

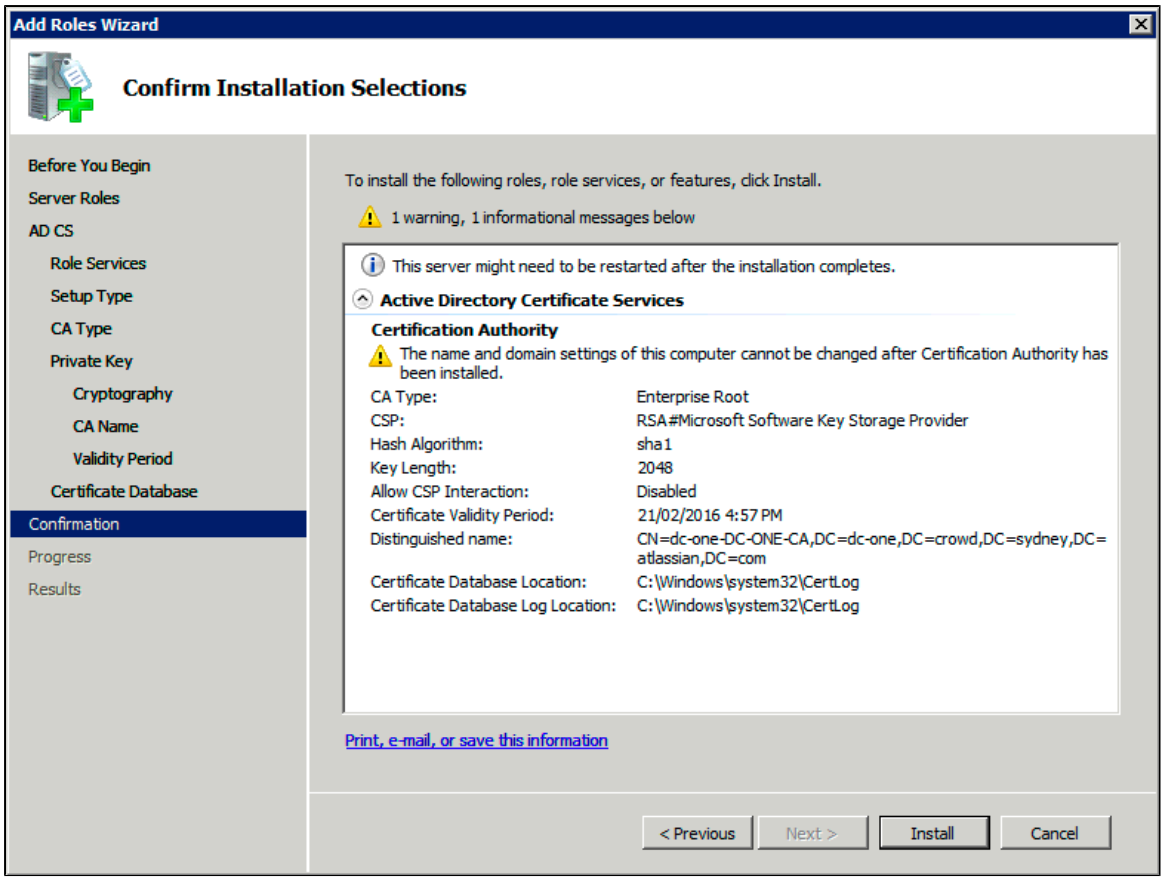
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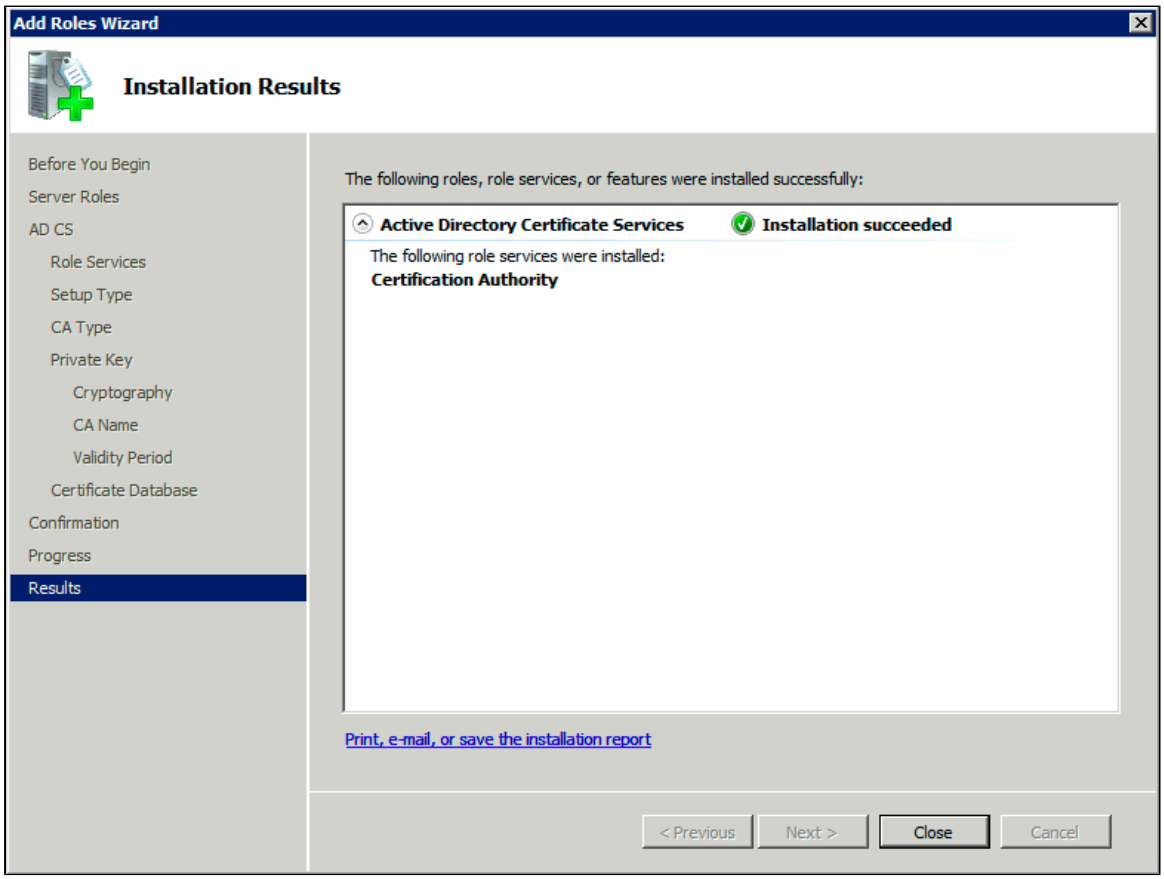




11. After verifying the information on the **Confirm Installation Selections** page, click **Install**.

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12. Review the information on the results screen to verify that the installation was successful.




***Step 2. Obtain the Server Certificate***

The steps above describe how to install the certification authority (CA) on your Microsoft Active Directory server. Next, you will need to add the Microsoft Active Directory server's SSL certificate to the list of accepted

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certificates used by the JDK that runs your application server.

The Active Directory certificate is automatically generated and placed in root of the C:\ drive, matching a file format similar to the tree structure of your Active Directory server. For example: `c:\ad2008.ad01.atlassian.com_ad01.crt`.

You can also export the certificate by executing this command on the Active Directory server:

```
certutil -ca.cert client.crt
```

#### *Step 3. Import the Server Certificate*

For an application server to trust your directory's certificate, the certificate must be imported into your Java runtime environment. The JDK stores trusted certificates in a file called a keystore. The default keystore file is called `cacerts` and it lives in the `jre\lib\security` sub-directory of your Java installation.

In the following examples, we use `server-certificate.crt` to represent the certificate file exported by your directory server. You will need to alter the instructions below to match the name actually generated.

Once the certificate has been imported as per the below instructions, you will need to restart the application to pick up the changes.

##### *Windows*

1. Navigate to the directory in which Java is installed. It's probably called something like `C:\Program Files\Java\jdk1.5.0_12`.
2. Run the command below, where `server-certificate.crt`is the name of the file from your directory server:

```
keytool -import -keystore .\jre\lib\security\cacerts -file
server-certificate.crt
```

3. `keytool` will prompt you for a password. The default keystore password is `changeit`.
4. When prompted `Trust this certificate? [no]:` enter `yes`to confirm the key import:

```
Enter keystore password:  changeit
Owner: CN=ad01, C=US
Issuer: CN=ad01, C=US
Serial number: 15563d6677a4e9e4582d8a84be683f9
Valid from: Tue Aug 21 01:10:46 ACT 2007 until: Tue Aug 21 01:13:59
ACT 2012
Certificate fingerprints:
         MD5:  D6:56:F0:23:16:E3:62:2C:6F:8A:0A:37:30:A1:84:BE
         SHA1:
73:73:4E:A6:A0:D1:4E:F4:F3:CD:CE:BE:96:80:35:D2:B4:7C:79:C1
Trust this certificate? [no]:  yes
Certificate was added to keystore
```

You may now use the '**Secure SSL**' option when connecting your application to your directory server.

##### *UNIX*

1. Navigate to the directory in which Java is installed. `cd $JAVA_HOME` will usually get you there.
2. Run the command below, where `server-certificate.crt`is the name of the file from your directory server:

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```
sudo keytool -import -keystore ./jre/lib/security/cacerts -file
server-certificate.crt
```

3. `keytool` will prompt you for a password. The default keystore password is `changeit`.
4. When prompted `Trust this certificate? [no]:` enter `yes`to confirm the key import:

```
Password:
Enter keystore password:  changeit
Owner: CN=ad01, C=US
Issuer: CN=ad01, C=US
Serial number: 15563d6677a4e9e4582d8a84be683f9
Valid from: Tue Aug 21 01:10:46 ACT 2007 until: Tue Aug 21 01:13:59
ACT 2012
Certificate fingerprints:
         MD5:  D6:56:F0:23:16:E3:62:2C:6F:8A:0A:37:30:A1:84:BE
         SHA1:
73:73:4E:A6:A0:D1:4E:F4:F3:CD:CE:BE:96:80:35:D2:B4:7C:79:C1
Trust this certificate? [no]:  yes
Certificate was added to keystore
```

You may now use the '**Secure SSL**' option when connecting your application to your directory server.

#### *Mac OS X*

1. Navigate to the directory in which Java is installed. This is usually `/Library/Java/Home`.
2. Run the command below, where `server-certificate.crt`is the name of the file from your directory server:

```
sudo keytool -import -keystore ./jre/lib/security/cacerts -file
server-certificate.crt
```

3. `keytool` will prompt you for a password. The default keystore password is `changeit`.
4. When prompted `Trust this certificate? [no]:` enter `yes`to confirm the key import:

```
Password:
Enter keystore password:  changeit
Owner: CN=ad01, C=US
Issuer: CN=ad01, C=US
Serial number: 15563d6677a4e9e4582d8a84be683f9
Valid from: Tue Aug 21 01:10:46 ACT 2007 until: Tue Aug 21 01:13:59
ACT 2012
Certificate fingerprints:
         MD5:  D6:56:F0:23:16:E3:62:2C:6F:8A:0A:37:30:A1:84:BE
         SHA1:
73:73:4E:A6:A0:D1:4E:F4:F3:CD:CE:BE:96:80:35:D2:B4:7C:79:C1
Trust this certificate? [no]:  yes
Certificate was added to keystore
```

You may now use the '**Secure SSL**' option when connecting your application to your directory server.

RELATED TOPICS

Connecting to an LDAP Directory

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Configuring User Directories

# Connecting to an Internal Directory with LDAP Authentication

You can connect your Confluence application to an LDAP directory for delegated authentication. This means that Confluence will have an internal directory that uses LDAP for authentication only. There is an option to create users in the internal directory automatically when they attempt to log in, as described in the settings section.

### Overview

An internal directory with LDAP authentication offers the features of an internal directory while allowing you to store and check users' passwords in LDAP only. Note that the 'internal directory with LDAP authentication' is separate from the default 'internal directory'. On LDAP, all that the application does is to check the password. The LDAP connection is read only. Every user in the internal directory with LDAP authentication must map to a user on LDAP, otherwise they cannot log in.

**When to use this option:** Choose this option if you want to set up a user and group configuration within your application that suits your needs, while checking your users' passwords against the corporate LDAP directory. This option also helps to avoid the performance issues that may result from downloading large numbers of groups from LDAP.

**On this page:**


- Overview
- Connecting Confluence to an Internal Directory with LDAP Authentication
- Server Settings
  - Copying Users on Login
- Schema Settings
- Advanced Settings
- User Schema Settings
- Group Schema Settings
- Membership Schema Settings
- Diagrams of Possible Configurations


### Connecting Confluence to an Internal Directory with LDAP Authentication

**To connect to an internal directory but check logins via LDAP:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Click '**User Directories**' in the left-hand panel.
3. **Add** a directory and select type '**Internal with LDAP Authentication**'.
4. Enter the values for the settings, as described below.
5. Save the directory settings.
6. If you want LDAP users to be used in place of existing internal users, move the 'Internal with LDAP Authentication' directory to the top of the list. You can define the **directory order** by clicking the blue up- and down-arrows next to each directory on the '**User Directories**' screen. Here is a summary of how the directory order affects the processing:
   - The order of the directories is the order in which they will be searched for users and groups.
   - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

   For details see Managing Multiple Directories.
7. Add your users and groups in Confluence. See Adding and Inviting Users and Managing Site-Wide Permissions and Groups .

### Server Settings

| Setting | Description |
|---|---|

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| | |
|---|---|
| Name | A descriptive name that will help you to identify the directory. Examples:<br>• `Internal directory with LDAP Authentication`<br>• `Corporate LDAP for Authentication Only` |
| Directory Type | Select the type of LDAP directory that you will connect to. If you are adding a new LDAP connection, the value you select here will determine the default values for some of the options on the rest of screen. Examples:<br>• `Microsoft Active Directory`<br>• `OpenDS`<br>• And more. |
| Hostname | The host name of your directory server. Examples:<br>• `ad.example.com`<br>• `ldap.example.com`<br>• `opends.example.com` |
| Port | The port on which your directory server is listening. Examples:<br>• `389`<br>• `10389`<br>• `636` (for example, for SSL) |
| Use SSL | Select this check box if the connection to the directory server is an SSL (Secure Sockets Layer) connection. Note that you will need to configure an SSL certificate in order to use this setting. |
| Username | The distinguished name of the user that the application will use when connecting to the directory server. Examples:<br>• `cn=administrator,cn=users,dc=ad,dc=example,dc=com`<br>• `cn=user,dc=domain,dc=name`<br>• `user@domain.name` |
| Password | The password of the user specified above. |

***Copying Users on Login***

| Setting | Description |
|---|---|

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| | |
|---|---|
| Copy User on Login | This option affects what will happen when a user attempts to log in. If this check box is selected, the user will be created automatically in the internal directory that is using LDAP for authentication when the user first logs in and their details will be synchronised on each subsequent log in. If this check box is not selected, the user's login will fail.<br><br>If you select this check box the following additional fields will appear on the screen, which are described in more detail below:<br><br>• Default Group Memberships<br>• Synchronise Group Memberships<br>• User Schema Settings (described in a separate section below) |
| Default Group Memberships | This field appears if you select the **Copy User on Login** check box. If you would like users to be automatically added to a group or groups, enter the group name(s) here. To specify more than one group, separate the group names with commas. Each time a user logs in, their group memberships will be checked. If the user does not belong to the specified group(s), their username will be added to the group(s). If a group does not yet exist, it will be added to the internal directory that is using LDAP for authentication.<br><br>Please note that there is no validation of the group names. If you mis-type the group name, authorisation failures will result – users will not be able to access the applications or functionality based on the intended group name.<br><br>Examples:<br><br>• `confluence-users`<br>• `bamboo-users,jira-users,jira-developers` |
| Synchronise Group Memberships | This field appears if you select the **Copy User on Login** check box. If this check box is selected, group memberships specified on your LDAP server will be synchronised with the internal directory each time the user logs in.<br><br>If you select this check box the following additional fields will appear on the screen, both described in more detail below:<br><br>• Group Schema Settings (described in a separate section below)<br>• Membership Schema Settings (described in a separate section below) |

Note: 'Copy Users on Login' must be enabled if you want to be able to change usernames.

#### Schema Settings

| Setting | Description |
|---|---|

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| | |
|---|---|
| Base DN | The root distinguished name (DN) to use when running queries against the directory server. Examples:<br>• `o=example,c=com`<br>• `cn=users,dc=ad,dc=example,dc=com`<br>• For Microsoft Active Directory, specify the base DN in the following format: `dc=domain1,dc=local`. You will need to replace the `domain1` and `local` for your specific configuration. Microsoft Server provides a tool called `ldp.exe` which is useful for finding out and configuring the the LDAP structure of your server. |
| User Name Attribute | The attribute field to use when loading the username. Examples:<br>• `cn`<br>• `sAMAccountName` |

#### Advanced Settings

| Setting | Description |
|---|---|
| Enable Nested Groups | Enable or disable support for nested groups. Some directory servers allow you to define a group as a member of another group. Groups in such a structure are called 'nested groups'. If you are using groups to manage permissions, you can create nested groups to allow inheritance of permissions from one group to its sub-groups. |
| Use Paged Results | Enable or disable the use of the LDAP control extension for simple paging of search results. If paging is enabled, the search will retrieve sets of data rather than all of the search results at once. Enter the desired page size – that is, the maximum number of search results to be returned per page when paged results are enabled. The default is 1000 results. |
| Follow Referrals | Choose whether to allow the directory server to redirect requests to other servers. This option uses the node referral (JNDI lookup `java.naming.referral`) configuration setting. It is generally needed for Active Directory servers configured without proper DNS, to prevent a 'javax.naming.PartialResultException: Unprocessed Continuation Reference(s)' error. |

#### User Schema Settings

Note: this section is only visible when **Copy User on Login** is enabled.

| Setting | Description |
|---|---|
| Additional User DN | This value is used in addition to the base DN when searching and loading users. If no value is supplied, the subtree search will start from the base DN. Example:<br>• `ou=Users` |

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| | |
|---|---|
| User Object Class | This is the name of the class used for the LDAP user object. Example:<br>• `user` |
| User Object Filter | The filter to use when searching user objects. Example:<br>• `(&(objectCategory=Person)(sAMAccountName=*))` |
| User Name RDN Attribute | The RDN (relative distinguished name) to use when loading the username. The DN for each LDAP entry is composed of two parts: the RDN and the location within the LDAP directory where the record resides. The RDN is the portion of your DN that is not related to the directory tree structure. Example:<br>• `cn` |
| User First Name Attribute | The attribute field to use when loading the user's first name. Example:<br>• `givenName` |
| User Last Name Attribute | The attribute field to use when loading the user's last name. Example:<br>• `sn` |
| User Display Name Attribute | The attribute field to use when loading the user's full name. Example:<br>• `displayName` |
| User Email Attribute | The attribute field to use when loading the user's email address. Example:<br>• `mail` |

#### Group Schema Settings

Note: this section is only visible when both **Copy User on Login** and **Synchronise Group Memberships** are enabled.

| Setting | Description |
|---|---|
| Additional Group DN | This value is used in addition to the base DN when searching and loading groups. If no value is supplied, the subtree search will start from the base DN. Example:<br>• `ou=Groups` |
| Group Object Class | This is the name of the class used for the LDAP group object. Examples:<br>• `groupOfUniqueNames`<br>• `group` |
| Group Object Filter | The filter to use when searching group objects. Example:<br>• `(objectCategory=Group)` |

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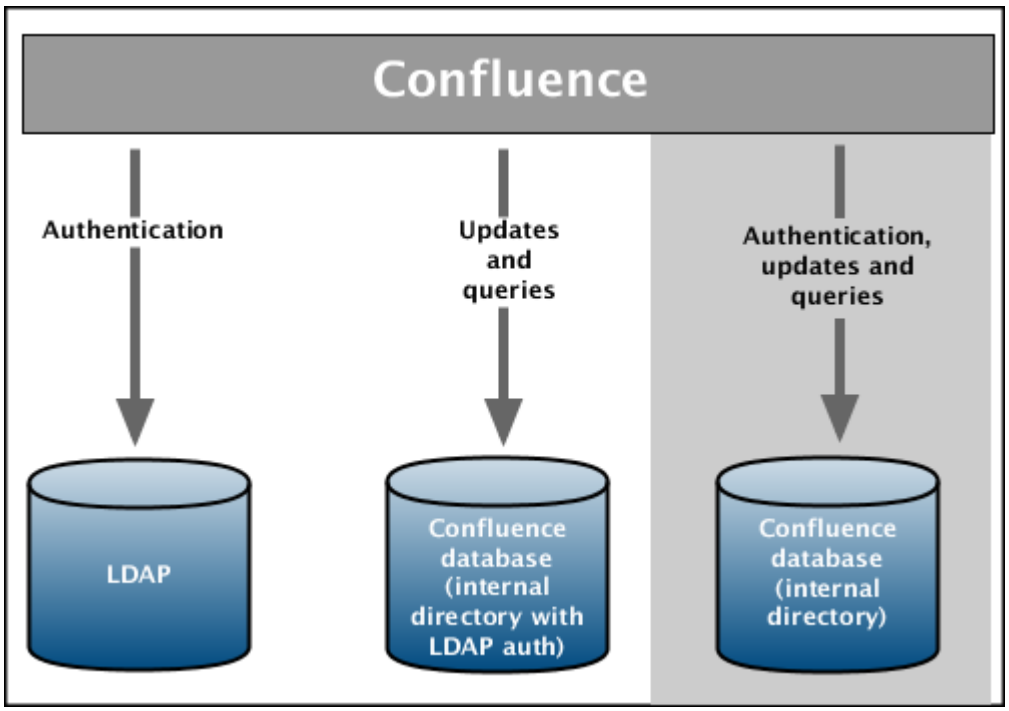
| | |
|---|---|
| Group Name Attribute | The attribute field to use when loading the group's name. Example:<br>• `cn` |
| Group Description Attribute | The attribute field to use when loading the group's description. Example:<br>• `description` |

#### Membership Schema Settings

Note: this section is only visible when both **Copy User on Login** and **Synchronise Group Memberships** are enabled.

| Setting | Description |
|---|---|
| Group Members Attribute | The attribute field to use when loading the group's members. Example:<br>• `member` |
| User Membership Attribute | The attribute field to use when loading the user's groups. Example:<br>• `memberOf` |
| Use the User Membership Attribute, when finding the user's group membership | Select the check box if your directory server supports the group membership attribute on the user. (By default, this is the 'memberOf' attribute.)<br>• If this check box is selected, your application will use the group membership attribute on the user when **retrieving the members of a given group**. This will result in a more efficient retrieval.<br>• If this check box is not selected, your application will use the members attribute on the group ('member' by default) for the search. |

#### Diagrams of Possible Configurations




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*Diagram above: Confluence connecting to an LDAP directory for authentication only.*

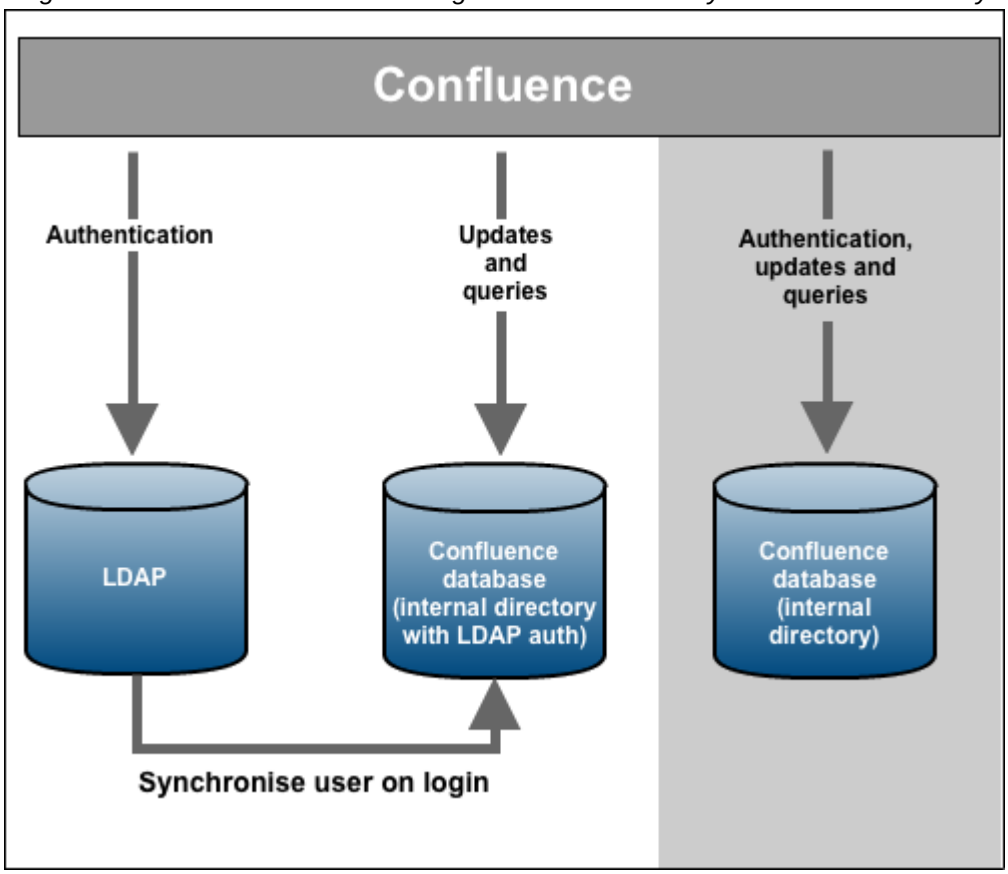



*Diagram above: Confluence connecting to an LDAP directory for authentication only, with each user synchronised with the internal directory that is using LDAP authentication when they log in to Confluence.*

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
- Managing Nested Groups
- Synchronising Data from External Directories
- Diagrams of Possible Configurations for User Management
- User Management Limitations and Recommendations
- Requesting Support for External User Management
- Disabling the Built-In User Management

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## Connecting to Crowd or JIRA for User Management

You can connect your Confluence application to Atlassian Crowd or to JIRA (version 4.3 or later) for management of users and groups, and for authentication (verification of a user's login).

**On this page:**


- Connecting Confluence to Crowd for User Management
- Connecting Confluence to JIRA for User Management
- Diagrams of Some Possible Configurations
- Troubleshooting


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> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Connecting Confluence to Crowd for User Management

Atlassian Crowd is an application security framework that handles authentication and authorisation for your web-based applications. With Crowd you can integrate multiple web applications and user directories, with support for single sign-on (SSO) and centralised identity management. The Crowd Administration Console provides a web interface for managing directories, users and their permissions. See the Crowd Administration Guide.

**When to use this option:** Connect to Crowd if you want to use the full Crowd functionality to manage your directories, users and groups. You can connect your Crowd server to a number of directories of all types that Crowd supports, including custom directory connectors.

**To connect Confluence to Crowd:**

1. Go to your **Crowd Administration Console** and define the Confluence application to Crowd. See the Crowd documentation: Adding an Application.
2. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
3. Click '**User Directories**' in the left-hand panel.
4. **Add** a directory and select type '**Atlassian Crowd**'. Enter the settings as described below.
5. Save the directory settings.
6. Define the **directory order** by clicking the blue up- and down-arrows next to each directory on the '**User Directories**' screen. Here is a summary of how the directory order affects the processing:
   - The order of the directories is the order in which they will be searched for users and groups.
   - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

   For details see Managing Multiple Directories.
7. If required, configure Confluence to use Crowd for single sign-on (SSO) too. See the Crowd documentation: Integrating Crowd with Atlassian Confluence.

***Crowd Settings in Confluence***

| Setting | Description |
|---|---|
| Name | A meaningful name that will help you to identify this Crowd server amongst your list of directory servers. Examples:<br>• `Crowd Server`<br>• `Example Company Crowd` |
| Server URL | The web address of your Crowd console server. Examples:<br>• `http://www.example.com:8095/crowd/`<br>• `http://crowd.example.com` |
| Application Name | The name of your application, as recognised by your Crowd server. Note that you will need to define the application in Crowd too, using the Crowd administration Console. See the Crowd documentation on adding an application. |
| Application Password | The password which the application will use when it authenticates against the Crowd framework as a client. This must be the same as the password you have registered in Crowd for this application. See the Crowd documentation on adding an application. |

***Crowd Permissions***

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| Setting | Description |
|---|---|
| Read Only | The users, groups and memberships in this directory are retrieved from Crowd and can only be modified via Crowd. You cannot modify Crowd users, groups or memberships via the application administration screens. |
| Read/Write | The users, groups and memberships in this directory are retrieved from Crowd. When you modify a user, group or membership via the application administration screens, the changes will be applied directly to Crowd. Please ensure that the application has modification permissions for the relevant directories in Crowd. See the Crowd documentation: Specifying an Application's Directory Permissions. |

***Advanced Crowd Settings***

| Setting | Description |
|---|---|
| Enable Nested Groups | Enable or disable support for nested groups. Before enabling nested groups, please check to see if the user directory or directories in Crowd support nested groups. When nested groups are enabled, you can define a group as a member of another group. If you are using groups to manage permissions, you can create nested groups to allow inheritance of permissions from one group to its sub-groups. |
| Synchronisation Interval (minutes) | Synchronisation is the process by which the application updates its internal store of user data to agree with the data on the directory server. The application will send a request to your directory server every x minutes, where 'x' is the number specified here. The default value is 60 minutes. |

#### Connecting Confluence to JIRA for User Management

Note that the license tiers for JIRA and Confluence do not need to match to use this feature. For example, you can manage a Confluence 50 user license with JIRA, even if JIRA only has a 25 user license.

Subject to certain limitations, you can connect a number of Atlassian web applications to a single JIRA server for centralised user management.

**When to use this option:** You can only connect to a server running **JIRA 4.3 or later**. Choose this option as an alternative to Atlassian Crowd, for simple configurations with a limited number of users.

*If you are running JIRA 4.2 or earlier, please see Connecting to JIRA 4.2 or Earlier for User Management.*

**To connect Confluence to JIRA 4.3 or later:**

1. Go to your **JIRA administration screen** and define the Confluence application to JIRA:
    - For JIRA 4.3.x, select **'Other Applications'** from the **'Users, Groups & Roles'** section of the 'Administration' menu.
    - For JIRA 4.4 or later, select **'Users' > 'JIRA User Server'** in Administration mode.
    - Click **'Add Application'**.
    - Enter the **application name** and **password** that Confluence will use when accessing JIRA.

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- Enter the **IP address** or addresses of your Confluence server. Valid values are:
  - A full IP address, e.g. `192.168.10.12`.
  - A wildcard IP range, using CIDR notation, e.g. `192.168.10.1/16`. For more information, see the introduction to CIDR notation on Wikipedia and RFC 4632.
- **Save** the new application.

2. Set up the JIRA user directory in Confluence:
   - Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
   - Click '**User Directories**' in the left-hand panel.
   - **Add** a directory and select type '**Atlassian JIRA**'.
   - Enter the settings as described below. When asked for the **application name** and **password**, enter the values that you defined for your Confluence application in the settings on JIRA.
   - Save the directory settings.
   - Define the **directory order** by clicking the blue up- and down-arrows next to each directory on the '**User Directories**' screen. Here is a summary of how the directory order affects the processing:
     - The order of the directories is the order in which they will be searched for users and groups.
     - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

     For details see Managing Multiple Directories.
3. In order to use Confluence, users must be a member of the `confluence-users` group or have Confluence 'can use' permission. Follow these steps to configure your Confluence groups in JIRA:
   a. Add the `confluence-users` and `confluence-administrators` groups in JIRA.
   b. Add your own username as a member of both of the above groups.
   c. Choose one of the following methods to give your existing JIRA users access to Confluence:
      - Option 1: In JIRA, find the groups that the relevant users belong to. Add the groups as members of one or both of the above Confluence groups.
      - Option 2: Log in to Confluence using your JIRA account and go to the Confluence **Administration Console**. Click '**Global Permissions**' and assign the '**can use**' permission to the relevant JIRA groups.



Ensure that you have added Confluence URL into JIRA Whitelist in `JIRA Administration >> System >> Security >> Whitelist`. For example: https://confluence.atlassian.com/ or refer to this guide: Configuring the Whitelist

***JIRA Settings in Confluence***

| Setting | Description |
|---|---|
| Name | A meaningful name that will help you to identify this JIRA server amongst your list of directory servers. Examples:<br>• `JIRA Server`<br>• `My Company JIRA` |
| Server URL | The web address of your JIRA server. Examples:<br>• `http://www.example.com:8080`<br>• `http://jira.example.com` |
| Application Name | The name used by your application when accessing the JIRA server that acts as user manager. Note that you will also need to define your application to that JIRA server, via the '**Other Applications**' option in the 'Users, Groups & Roles' section of the 'Administration' menu. |
| Application Password | The password used by your application when accessing the JIRA server that acts as user manager. |

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#### *JIRA Permissions*

| Setting | Description |
|---|---|
| Read Only | The users, groups and memberships in this directory are retrieved from the JIRA server that is acting as user manager. They can only be modified via that JIRA server. |

#### *Advanced JIRA Settings*

| Setting | Description |
|---|---|
| Enable Nested Groups | Enable or disable support for nested groups. Before enabling nested groups, please check to see if nested groups are enabled on the JIRA server that is acting as user manager. When nested groups are enabled, you can define a group as a member of another group. If you are using groups to manage permissions, you can create nested groups to allow inheritance of permissions from one group to its sub-groups. |
| Synchronisation Interval (minutes) | Synchronisation is the process by which the application updates its internal store of user data to agree with the data on the directory server. The application will send a request to your directory server every x minutes, where 'x' is the number specified here. The default value is 60 minutes. |

### Diagrams of Some Possible Configurations

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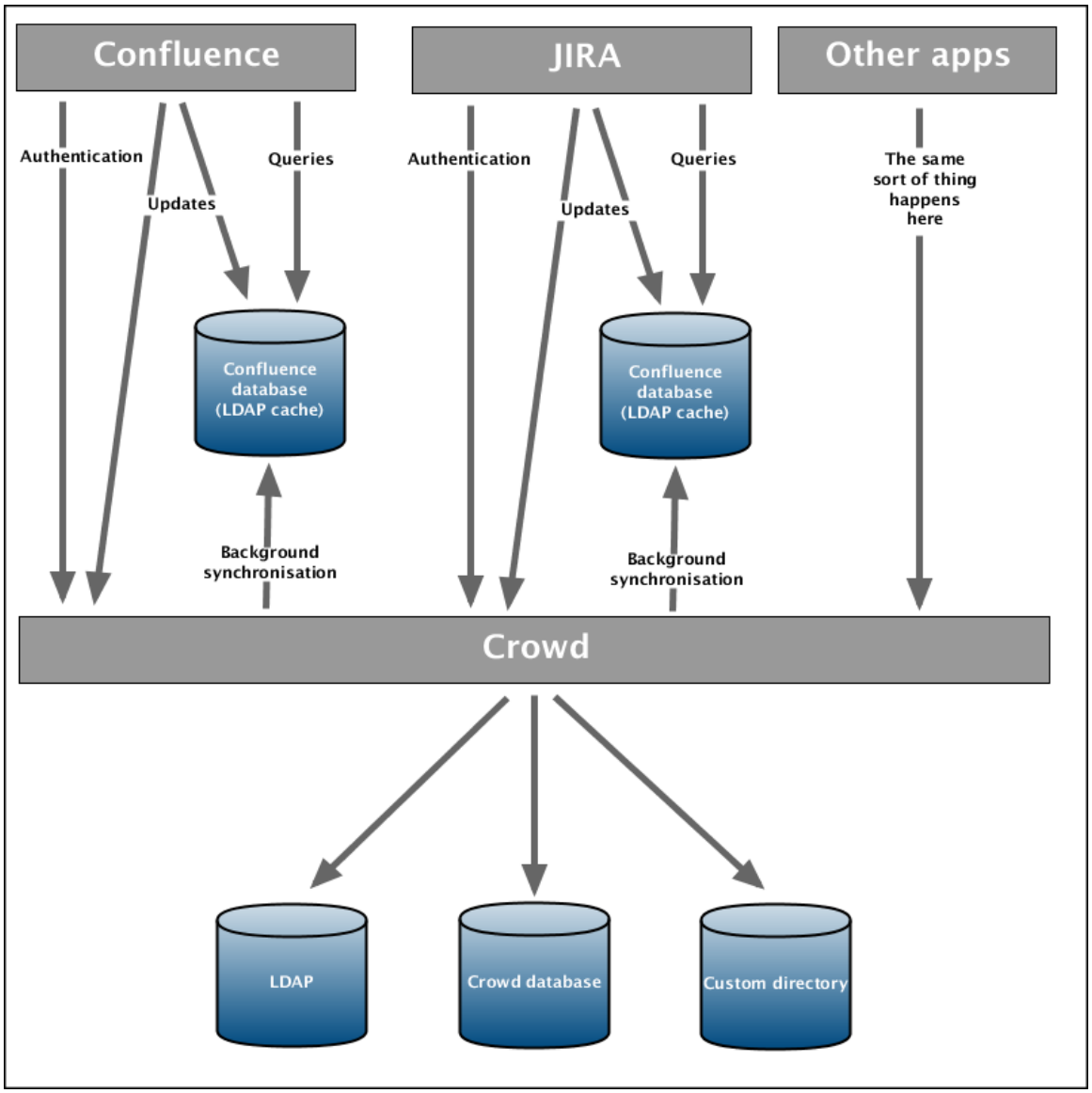



*Diagram above: Confluence, JIRA and other applications connecting to Crowd for user management.*

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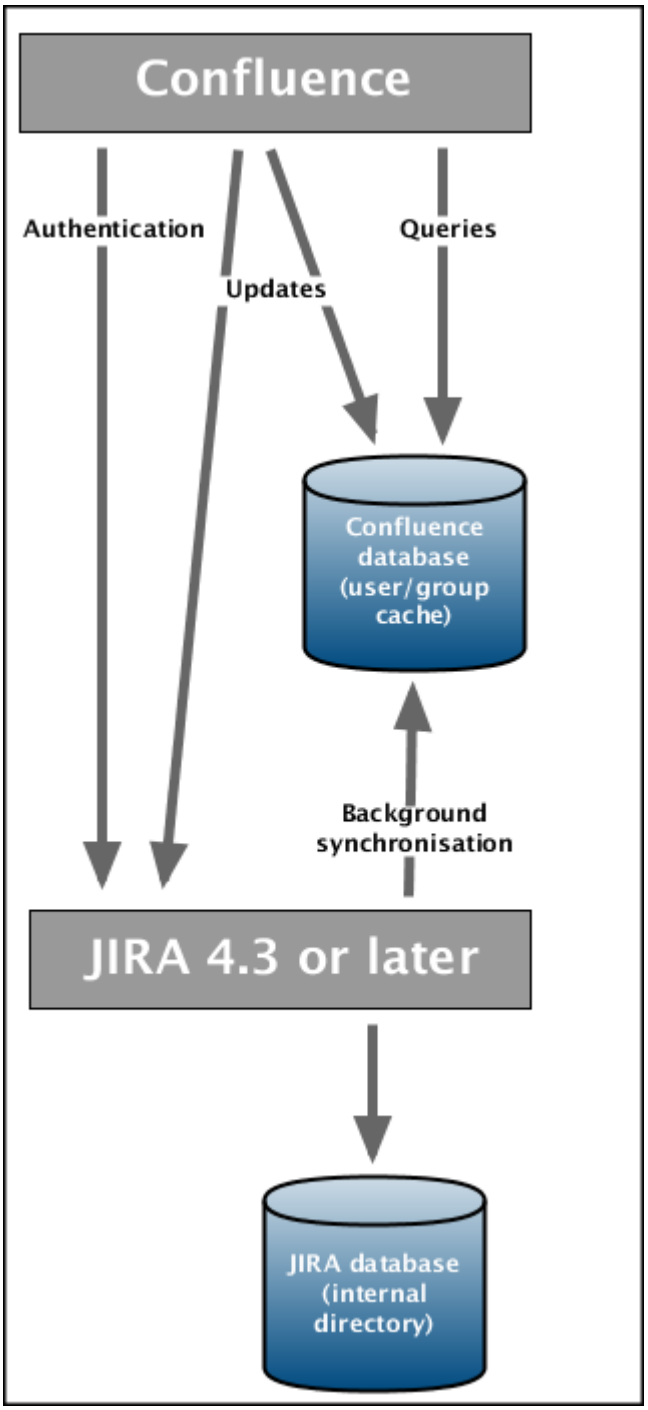



*Diagram above: Confluence connecting to JIRA for user management.*

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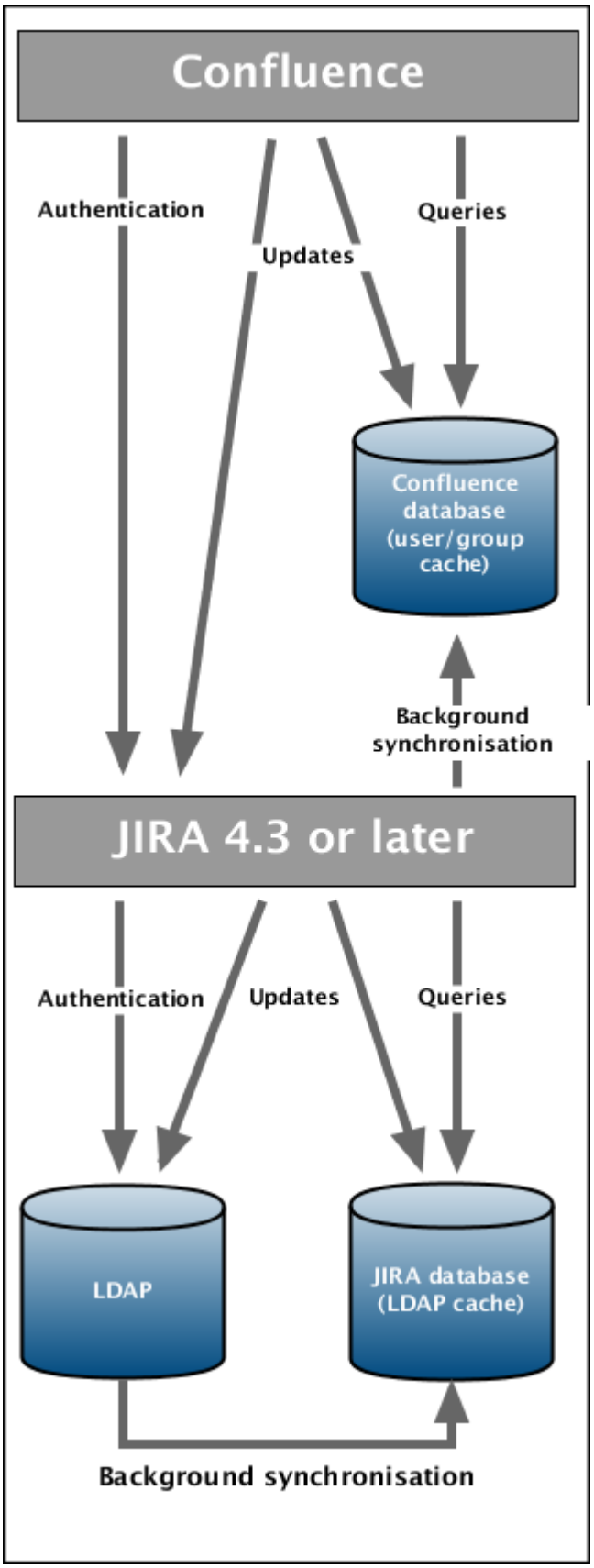



*Diagram above: Confluence connecting to JIRA for user management, with JIRA in turn connecting to LDAP.*

### Troubleshooting

Below are some error messages you may encounter. If you run into problems, you should turn on WARN logging for the relevant class. See Configuring Logging.

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| Error | Message | Cause |
|---|---|---|
| error.jirabaseurl.connection.refused | Connection refused. Check if an instance of JIRA 4.3 or later is running on the given url | This may be because:<br>• JIRA url is incorrect<br>• JIRA instance is not running on the specified url.<br>• JIRA instance running on the specified url is not 4.3 or later. |
| error.applicationlink.connection.refused | Failed to establish application link between JIRA server and Confluence server. | Unable to create an application link between JIRA and Confluence. This may be because:<br>• Confluence or JIRA url is incorrect<br>• the instance is not running on the specified url<br>• credentials are incorrect.<br>Refer to the Confluence log files for further troubleshooting information. |
| error.jirabaseurl.not.valid | This is not a valid url for JIRA 4.3 or later. | A runtime exception has occured. Refer to the Confluence log files for further troubleshooting information. |

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
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## Reverting from Crowd or JIRA to Internal User Management

If your Confluence site currently uses JIRA or Crowd for user management, you can revert to internal user management as described below. If your Confluence instance has only a few users, it is easier to recreate the users and groups in Confluence manually. If you have a large number of users and groups, it is more efficient to migrate the relevant users and groups into the Confluence Internal directory.



Both options provided below will reset the affected users' passwords. When done, be sure to notify them to use the 'Reset My Password' link on the Confluence log in page before they attempt to log in.

**On this page:**


- Option 1 – Manually Recreate Users and Groups in Confluence
- Option 2 – Transfer Crowd/JIRA Users and Groups to the Confluence Database


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#### *Option 1 – Manually Recreate Users and Groups in Confluence*

Use this option if you have only a few users and groups.

1. Log in to Confluence as a Confluence system administrator.
2. Go to the user directories administration screen and move the **internal** directory to the top of the list of directories, by clicking the arrows in the '**Order**' column.
3. Make sure that you have at least one user from the **internal** directory in each of the `confluence-users` and `confluence-administrators` groups.
4. Make sure that you have a username in the **internal**directory with Confluence system administrator permissions.
    - If you do not have such a user, add a new one now, and log out of Confluence.
    - Log back in as the user you just added, and go back to the user directories administration screen.
5. Disable the '**Atlassian Crowd**' directory.
6. Manually add the required users and groups in Confluence. They will be added to the internal directory, because you have moved it to the top of the list of directories.
    - If you have assigned Confluence permissions 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 in Confluence, you must also create that user in Confluence.
7. Add the users to the required groups.

#### *Option 2 – Transfer Crowd/JIRA Users and Groups to the Confluence Database*

Use this option to migrate External Application (Crowd or JIRA) users into the Confluence database. You need a knowledge of SQL to perform this task.

The SQL commands given below are tailored for **MySQL**. If you are using a database other than MySQL, you will need to modify the SQL to work in your database.

##### Step 1. Create Backups

Creating backups is the only way to restore your data if something goes wrong.

1. From Confluence, create a full XML site backup including attachments.
2. Stop Confluence.
3. Make a backup copy of the Confluence home and installation directories.
4. Repeat the above steps for your External Application.
5. From your MySQL administration tool, create a database backup for the Crowd/JIRA and Confluence databases.

##### Step 2. Replace Confluence User Management

Use the SQL below to move groups and users from your External Application to Confluence by transferring table content. The SQL provided is specific to MySQL and must be modifed for other databases.
Find the IDs for your Directories

1. Run the following command and take note of the resulting number. It will be referenced throughout the following instructions as <Confluence Internal ID>.

```
select id from cwd_directory where directory_name='Confluence Internal
Directory';
```

2. From the User Directories administration page, find the name of the directory who's users/groups you want to move. Run the following command and take note of the resulting number. It will be referenced throughout the following instructions as <External Application ID>.

```
select id from cwd_directory where directory_name='<External Directory Name>';
```

Move Groups to Confluence

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1. It is possible that you have several groups in your Internal Directory that have the same name as groups in your External Application. To find these, run:

```
select distinct a.id, a.directory_id, a.group_name, d.directory_name from
cwd_group a join cwd_group b on a.group_name=b.group_name join cwd_directory d
on d.id=a.directory_id where a.directory_id != b.directory_id;
```

   a. If you have results from the previous query, for each of the group names that have duplicates, find the id for the group in the Confluence Internal Directory (<internal group id>) and the External Application (<external group id>). Run the following:

```
update cwd_group_attribute set group_id=<internal group id>,
directory_id=<Confluence Internal Id> where group_id=<external group
id>;
update cwd_membership set child_group_id=<internal group id> where
child_group_id=<external group id>;
update cwd_membership set parent_id=<internal group id> where
parent_id=<external group id>;
delete from cwd_group where id=<external group id>;
```

2. Move all the groups in the External Application to the Confluence Internal Directory.

```
update cwd_group set directory_id=<Confluence Internal ID> where
directory_id=<External Application ID>;
```

Move Users to Confluence

1. It is possible that you have several users in your Internal Directory that have the same name as users in your External Application. To find these, run:

```
select distinct a.id, a.directory_id, a.user_name, d.directory_name from
cwd_user a join cwd_user b on a.user_name=b.user_name join cwd_directory d on
d.id=a.directory_id where a.directory_id != b.directory_id;
```

   a. If you have results from the previous query, for each of the user names that have duplicates, find the id for the user in the Confluence Internal Directory (<internal user id>) and the External Application (<external user id>). Run the following:

```
update cwd_membership set child_user_id=<internal user id> where
child_user_id=<external user id>;
update cwd_user_credential_record set user_id=<internal user id> where
user_id=<external user id>;
update cwd_user_attribute set user_id=<internal user id>,
directory_id=<Confluence Internal ID> where user_id=<external user id>;
delete from cwd_user where id=<external user id>;
```

2. Move all the users in the External Application to the Confluence Internal Directory.

```
update cwd_user set directory_id=<Confluence Internal ID> where
directory_id=<External Application ID>;
```

Delete the External Application directory

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1. You need to change the order of your directories so that the Internal directory is at the top, and active.
    a. If you have only two directories - the Internal and the External Application directory you are deleting, then do the following:

```
update cwd_app_dir_mapping set list_index = 0 where directory_id =
<Confluence Internal ID>;
```

    b. If you have more than two directories, you need to rearrange them so the Internal Directory is at the top (list_index 0) and the External Application directory you are deleting is at the bottom.
        - List the directories and their order using

```
select d.id, d.directory_name, m.list_index from cwd_directory d
join cwd_app_dir_mapping m on d.id=m.directory_id order by
m.list_index;
```

        - Change the list indexes so that they are in the order you want. Directory order can be rearranged using

```
update cwd_app_dir_mapping set list_index = <position> where
directory_id = <directory id>;
```

    c. Check that the internal directory is enabled.
        - List the internal directory. An enabled directory will have its 'active' column set to 'T'

```
select id, directory_name, active from cwd_directory where id =
<Internal Directory id>;
```

        - If the internal directory is not active, activate it by

```
update cwd_directory set active = 'T' where id = <Internal
Directory id>;
```

2. When the directories are ordered correctly, delete the External Application directory from the directory order:

```
delete from cwd_app_dir_operation where app_dir_mapping_id = (select id from
cwd_app_dir_mapping where directory_id = <External Application ID>);
delete from cwd_app_dir_mapping where directory_id = <External Application
ID>;
```

3. The External Application directory is referenced in several other tables in the database. You need to remove the remaining references to it:

```
delete from cwd_directory_attribute where directory_id=<External Application
ID>;
delete from cwd_directory_operation where directory_id=<External Application
ID>;
```

4. All references to the External Directory should now have been removed. Delete the directory using:

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```
delete from cwd_directory where id = <External Application ID>;
```

Reset passwords

1. All users who were in the External Directory you deleted, including admins, will be unable to log in. Their passwords need to be reset by choosing the 'Forgot your password?' link on the login page. Alternatively, use the instructions at Restoring Passwords To Recover Admin User Rights to reset the administrator password, then set the users' passwords for them via the Manage Users page in the administration screen.

RELATED TOPICS

Configuring User Directories

## Connecting to JIRA 4.2 or Earlier for User Management

Atlassian JIRA is an issue and project tracking tool. Like Confluence, JIRA offers the ability to store its users and groups in its database. You can configure Confluence to look for its users and groups in the JIRA database. This page describes the **legacy JIRA database connector**, which provides a direct connection to the JIRA database.

**When to use this option:** Choose the legacy JIRA database connector if your JIRA server is **JIRA 4.2 or earlier**, for backwards compatibility with the already-existing option for Confluence to use JIRA for user management.

*If you are using **JIRA 4.3 or later**, you cannot use the legacy JIRA database connector. Instead, choose the '**Atlassian JIRA**' directory type.*

**On this page:**


- Connecting Confluence to JIRA
- JIRA Settings in Confluence


### Connecting Confluence to JIRA

**To connect Confluence to JIRA 4.2 or earlier:**

1. Edit the Confluence `server.xml` file, to construct the datasource location, as described below.
2. Restart Confluence.
3. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
4. Click **User Directories** in the left-hand panel.
5. **Add** a directory and select type **Legacy Atlassian JIRA (4.2 and earlier)**. Enter the settings as described below.
6. Save the directory settings.
7. Define the directory order by clicking the blue up- and down-arrows next to each directory on the 'User Directories' screen. Here is a summary of how the directory order affects the processing:
   - The order of the directories is the order in which they will be searched for users and groups.
   - Changes to users and groups will be made only in the first directory where the application has permission to make changes.

   For details see Managing Multiple Directories.
8. In order to use Confluence, users must be a member of the `confluence-users` group or have Confluence 'can use' permission. Follow these steps to configure your Confluence groups in JIRA:
   a. Add the `confluence-users` and `confluence-administrators` groups in JIRA.
   b. Add your own username as a member of both of the above groups.
   c. Choose one of the following methods to give your existing JIRA users access to Confluence:
      - Option 1: In JIRA, find the groups that the relevant users belong to. Add the groups as members of one or both of the above Confluence groups.
      - Option 2: Log in to Confluence using your JIRA account and go to the Confluence **Administration Console**. Click '**Global Permissions**' and assign the '**can use**' permission to the relevant JIRA groups.

### JIRA Settings in Confluence

| Setting | Description |
|---|---|

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| | |
|---|---|
| Name | A meaningful name that will help you to identify this JIRA server amongst your list of directory servers. Examples:<br>• `JIRA`<br>• `Example Company JIRA` |
| Datasource Location | The JNDI name of the JIRA datasource configured in your application server. Example: `java:comp/env/jdbc/YourJiraDatasource`<br><br>In JIRA standalone distributions (using the default application server, Tomcat 6) you can construct the datasource location as follows:<br>1. Open your `<jira_install>/conf/server.xml` file in a text editor.<br>2. Look for the database setup section in that file. It looks something like this:<br>`<Resource auth="Container" driverClassName="com.mysql.jdbc.Driver" maxActive="20" name="*jdbc/JiraDS*" password="jirauser" type="javax.sql.DataSource" url="jdbc:mysql://localhost/jiradb?useUnicode=true&characterEncoding=UTF8" username="jirauser" validationQuery="select 1"/>`<br>3. Copy the above lines (the 'Resource' section) and paste it to your Confluence's `server.xml` file (located at `<confluence_install>/conf/server.xml`), under the `Context path`. This will then expose the value of the name attribute as the JNDI resource locator.<br>4. Copy the JNDI name from the `name` parameter. In this example, the datasource location is: `java:comp/env/jdbc/JiraDS` |

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
- Managing Nested Groups
- Synchronising Data from External Directories
- Diagrams of Possible Configurations for User Management
- User Management Limitations and Recommendations
- Requesting Support for External User Management
- Disabling the Built-In User Management

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# Managing Multiple Directories

This page describes what happens when you have defined more than one user directory in Confluence. For example, you may have an internal directory and you may also connect to an LDAP directory server and/or other types of user directories. When you connect to a new directory server, you also need to define the **directory order**.

**Avoid duplicate usernames across directories**. If you are connecting to more than one user directory, we recommend that you ensure the usernames are unique to one directory. For example, we do not recommend that you have a user `jsmith` in both 'Directory1' and 'Directory2'. The reason is the potential for confusion, especially if you swap the order of the directories. Changing the directory order can change the user that a given username refers to.

## Overview

Here is a summary of how the directory order affects the processing:

- The order of the directories is the order in which they will be searched for users and groups.
- Changes to users and groups will be made only in the first directory where the application has permission to make changes.

**On this page:**


- Overview
- Configuring the Directory Order
- Effect of Directory Order
  - Login
  - Permissions
  - Updating Users and groups


## Configuring the Directory Order

You can change the order of your directories as defined to Confluence. Select '**User Directories**' from the Confluence Administration Console and click the blue up- and down-arrows next to each directory.

| Directory Name | Type | Order |
|---|---|---|
| Confluence Internal Directory | Internal | |
| OpenLDAP | OpenLDAP (Read-Write) | |

Notes:

- Please read the rest of this page to understand what effect the directory order will have on authentication (login) and permissions in Confluence, and what happens when you update users and groups in Confluence.

## Effect of Directory Order

This section summarises the effect the order of the directories will have on login and permissions, and on the updating of users and groups.

### *Login*

The directory order is significant during the authentication of the user, in cases where the same user exists in multiple directories. When a user attempts to log in, the application will search the directories in the order specified, and will use the credentials (password) of the *first occurrence of the user* to validate the login attempt.

### *Permissions*

The directory order is significant when granting the user permissions based on group membership. If the same username exists in more than one directory, the application will look for group membership only in the first directory where the username appears, based on the directory order.

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Example:

- You have connected two directories: The Customers directory and the Partners directory.
- The Customers directory is first in the directory order.
- A username `jsmith` exists in both the Customers directory and the Partners directory.
- The user `jsmith` is a member of group `G1` in the Customers directory and group `G2` in the Partners directory.
- The user `jsmith` will have permissions based on membership of `G1` only, not `G2`.

#### *Updating Users and groups*

If you update a user or group via the application's administration screens, the update will be made in the first directory where the application has write permissions.

Example 1:

- You have connected two directories: The Customers directory and the Partners directory.
- The application has permission to update both directories.
- The Customers directory is first in the directory order.
- A username `jsmith` exists in both the Customers directory and the Partners directory.
- You update the email address of user `jsmith` via the application's administration screens.
- The email address will be updated in the Customers directory only, not the Partners directory.

Example 2:

- You have connected two directories: A read/write LDAP directory and the internal directory.
- The LDAP directory is first in the directory order.
- All new users will be added to the LDAP directory. It is not possible to add a new user to the internal directory.

#### *RELATED TOPICS*

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
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## Managing Nested Groups

Some directory servers allow you to define a group as a member of another group. Groups in such a structure are called 'nested groups'. If you are using groups to manage permissions, you can create nested groups to allow inheritance of permissions from one group to its sub-groups.
This page describes how Confluence handles nested groups that exist in one or more of your directory servers.

### Enabling Nested Groups

You can enable or disable support for nested groups on each directory individually. Go to the '**User Directories**' section of the Confluence Administration Console, **edit** the directory and select '**Enable Nested Groups'**. See Configuring User Directories.

Notes:

- Before enabling nested groups for a specific directory type in Confluence, please make sure that your directory server supports nested groups.
- Please read the rest of this page to understand what effect nested groups will have on authentication

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(login) and permissions in Confluence, and what happens when you update users and groups in Confluence.

**On this page:**


- Enabling Nested Groups
- Effect of Nested Groups
  - Login
  - Permissions
  - Viewing Lists of Group Members
  - Adding and Updating Group Memberships
- Examples
  - Example 1: User is Member of Sub-Group
  - Example 2: Sub-Groups as Members of the 'jira-developers' group
  - Example 3: Sub-Groups as Members of the 'confluence-users' group
- Notes


⚠ *The information on this page does not apply to Confluence OnDemand.*

## Effect of Nested Groups

This section summarises the effect nested groups will have on login and permissions, and on the viewing and updating of users and groups.

### *Login*

When a user logs in, they will be allowed access to the application if they belong to an authorised group or any of its sub-groups.

### *Permissions*

The user will be allowed access to a function if they belong to a group that has the necessary permissions, or if they belong to any of its sub-groups.

### *Viewing Lists of Group Members*

If you ask to view the members of a group, you will see all users who are members of the group and all users belonging its sub-groups, consolidated into one list. We call this a '**flattened**' list.

You cannot view or edit the nested groups themselves. You will not be able to see that one group is a member of another group.

### *Adding and Updating Group Memberships*

If you add a user to a group, the user is added to the named group and not to any other groups.

If you try to remove a user from a flattened list, the following will happen:

- If the user is a member of the top group in the hierarchy (tree) of groups contained in the flattened list, the user will be removed from the group.
- Otherwise, you will see an error message stating that the user is not a direct member of the group.

## Examples

### *Example 1: User is Member of Sub-Group*

Let's assume that the following two groups exist in your directory server:

- `staff`
- `marketing`

Memberships:

- The `marketing` group is a member of the `staff` group.

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- User `jsmith` is a member of `marketing`.

You will see that `jsmith` is a member of both `marketing` and `staff`. You will not see that the two groups are nested. If you assign permissions to the `staff` group, then `jsmith` will get those permissions.

***Example 2: Sub-Groups as Members of the 'jira-developers' group***

In an LDAP directory server, we have groups '**engineering-group**' and '**techwriters-group**'. We want to grant both groups developer-level access to our JIRA site.

- Add a group called '**jira-developers**'.
- Add the '**engineering-group**' as a sub-group of '**jira-developers**'.
- Add the '**techwriters-group**' as a sub-group of '**jira-developers**'.

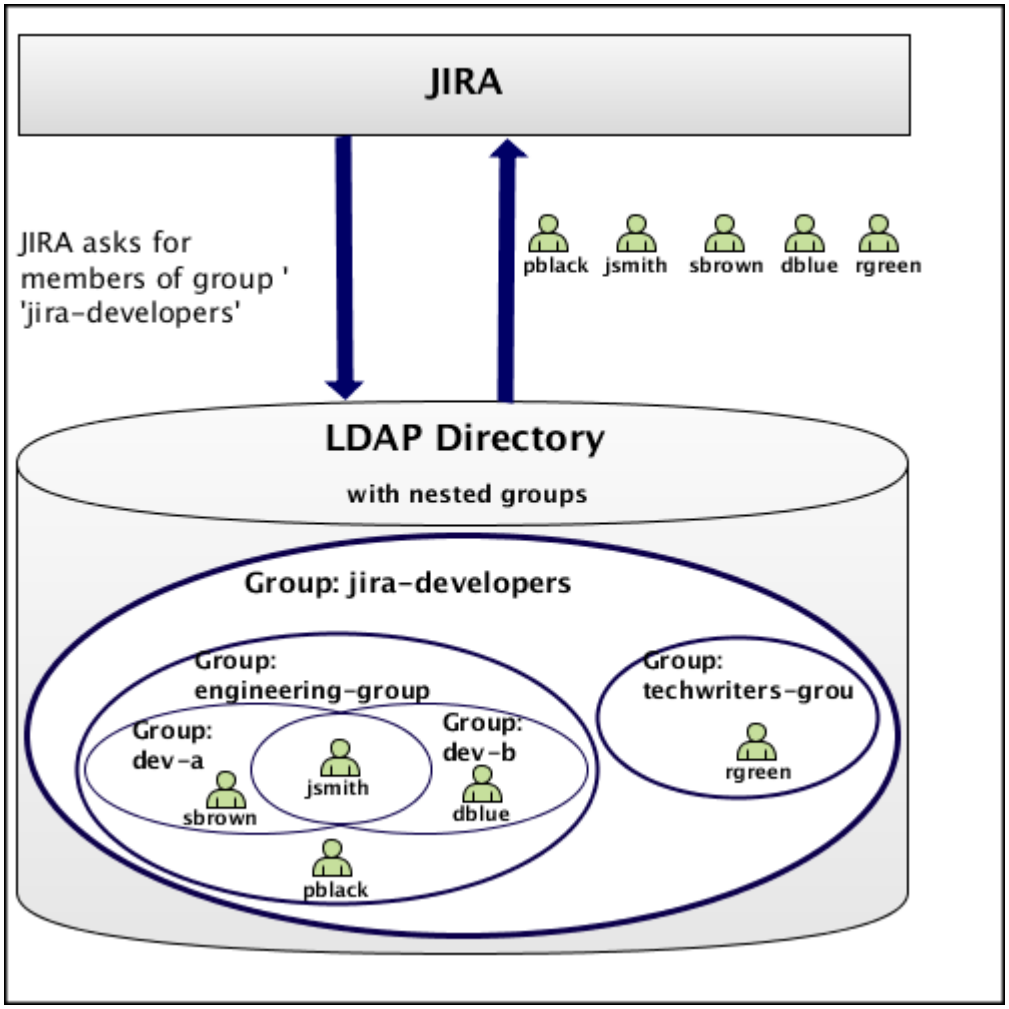
Group memberships are now:

- **jira-developers** — sub-groups: **engineering-group**, **techwriters-group**
- **engineering-group** — sub-groups: **dev-a**, **dev-b**; users: **pblack**
- **dev-a** — users: **jsmith**, **sbrown**
- **dev-b** — users: **jsmith**, **dblue**
- **techwriters-group** — users: **rgreen**

When JIRA requests a list of users in the '**jira-developers**' group, it will receive the following list:

- **pblack**
- **jsmith**
- **sbrown**
- **dblue**
- **rgreen**

*Diagram: Sub-groups as members of the 'jira-developers' group*




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***Example 3: Sub-Groups as Members of the 'confluence-users' group***

In an LDAP directory server, we have groups '**engineering-group**' and '**payroll-group**'. We want to grant both groups access to our Confluence site.

- Add a group called '**confluence-users**'.
- Add the '**engineering-group**' as a sub-group of '**confluence-users**'.
- Add the '**payroll-group**' as a sub-group of '**confluence-users**'.

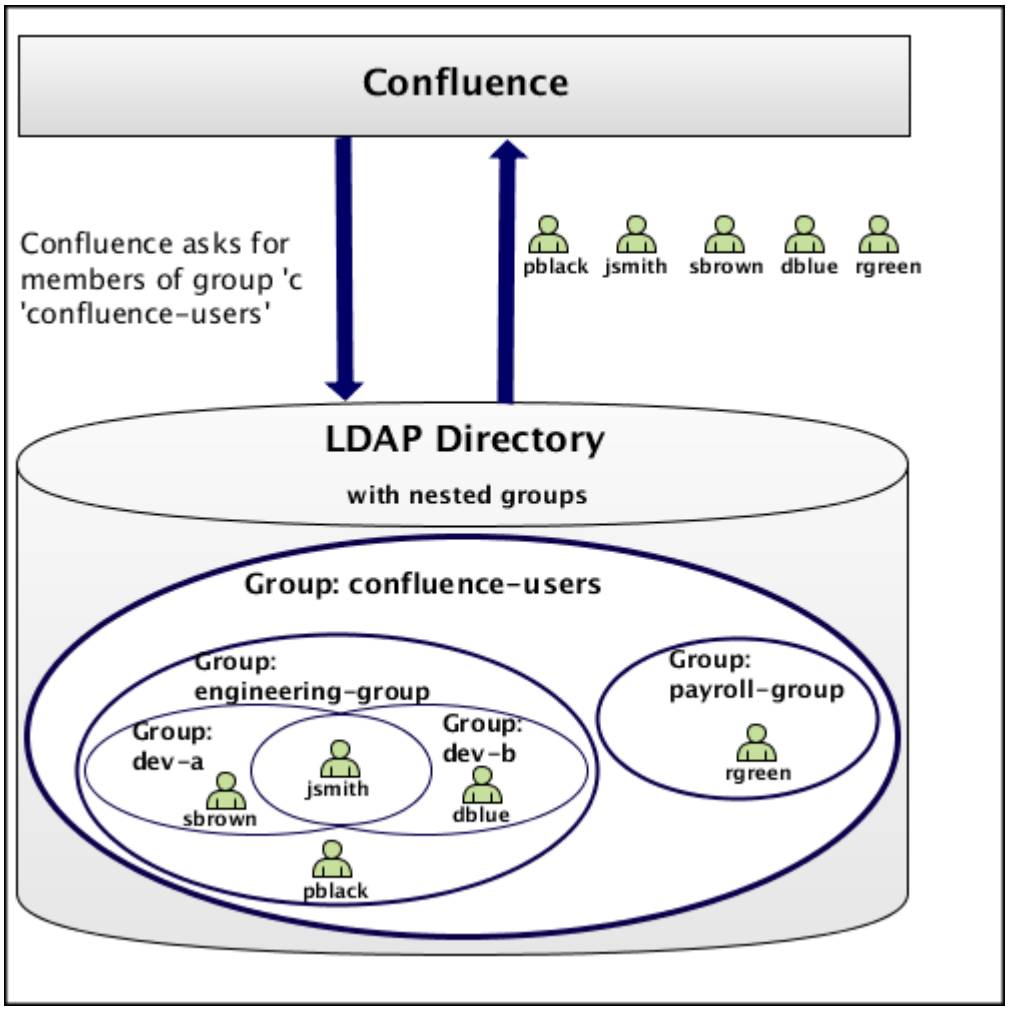
Group memberships are now:

- **confluence-users** — sub-groups: **engineering-group**, **payroll-group**
- **engineering-group** — sub-groups: **dev-a**, **dev-b**; users: **pblack**
- **dev-a** — users: **jsmith**, **sbrown**
- **dev-b** — users: **jsmith**, **dblue**
- **payroll-group** — users: **rgreen**

When Confluence requests a list of users in the '**confluence-users**' group, it will receive the following list:

- **pblack**
- **jsmith**
- **sbrown**
- **dblue**
- **rgreen**

*Diagram: Sub-groups as members of the 'confluence-users' group*




**Notes**

- **Possible impact on performance.** Enabling nested groups may result in slower user searches.
- **Definition of nested groups in LDAP.** In an LDAP directory, a nested group is defined as a child group

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entry whose DN (Distinguished Name) is referenced by an attribute contained within a parent group entry. For example, a parent group '**Group One**' might have an `objectClass=group` attribute and one or more `member=DN` attributes, where the DN can be that of a user *or* that of a group elsewhere in the LDAP tree:

```
member=CN=John Smith,OU=Users,OU=OrgUnitA,DC=sub,DC=domain
member=CN=Group Two,OU=OrgUnitBGroups,OU=OrgUnitB,DC=sub,DC=domain
```

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
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## Synchronising Data from External Directories

For certain directory types, Confluence stores a cache of directory information (users and groups) in the application database, to ensure fast recurrent access to user and group data. A synchronisation task runs periodically to update the internal cache with changes from the external directory.

**On this page:**


- Affected Directory Types
- How it Works
- Finding the Time Taken to Synchronise
- Manually Synchronising the Cache
- Configuring the Synchronisation Interval


### Affected Directory Types

Data caching and synchronisation apply to the following user directory types:

- **LDAP** (Microsoft Active Directory and all supported LDAP directories) where permissions are set to **read only**.
- **LDAP** (Microsoft Active Directory and all supported LDAP directories) where permissions are set to **read only, with local groups**.
- **LDAP** (Microsoft Active Directory and all supported LDAP directories) where permissions are set to **read/write**.
- **Atlassian Crowd**.
- **Atlassian JIRA**.

Data caching and synchronisation do not occur for the following user directory types:

- **LDAP** (Microsoft Active Directory and all supported LDAP directories) where permissions are set to **authentication only, with local groups**.
- **Internal Directory with LDAP Authentication**.
- **Internal Directory**.

### How it Works

Here is a summary of the caching functionality:

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- The caches are held in the application database.
- When you connect a new external user directory to the application, a synchronisation task will start running in the background to copy all the required users, groups and membership information from the external directory to the application database. This task may take a while to complete, depending on the size and complexity of your user base.
- Note that a user will not be able to log in until the synchronisation task has copied that user's details into the cache.
- A periodic synchronisation task will run to update the database with any changes made to the external directory. The default synchronisation interval, or polling interval, is one hour (60 minutes). You can change the synchronisation interval on the directory configuration screen.
- You can manually synchronise the cache if necessary.
- If the external directory permissions are set to read/write: Whenever an update is made to the users, groups or membership information via the application, the update will also be applied to the cache and the external directory immediately.
- All authentication happens via calls to the external directory. When caching information from an external directory, the application database does not store user passwords.
- All other queries run against the internal cache.

#### Finding the Time Taken to Synchronise

The '**User Directories**' screen shows information about the last synchronisation operation, including the length of time it took.

#### Manually Synchronising the Cache

You can manually synchronise the cache by clicking '**Synchronise**' on the '**User Directories**' screen. If a synchronisation operation is already in progress, you cannot start another until the first has finished.

*Screen snippet: User directories, showing information about synchronisation*




#### Configuring the Synchronisation Interval

*Note:* The option to configure the synchronisation interval for Crowd and JIRA directories is available in **Confluence 3.5.3 and later**. Earlier versions of Confluence allow you to configure the interval for LDAP directories only.

You can set the '**Synchronisation Interval**' on the directory configuration screen. The synchronisation interval is the period of time to wait between requests for updates from the directory server.

The length you choose for your synchronisation interval depends on:

- The length of time you can tolerate stale data.
- The amount of load you want to put on the application and the directory server.
- The size of your user base.

If you synchronise more frequently, then your data will be more up to date. The downside of synchronising more frequently is that you may overload your server with requests.

If you are not sure what to do, we recommend that you start with an interval of 60 minutes (this is the default setting) and reduce the value incrementally. You will need to experiment with your setup.

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories

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- Managing Nested Groups
- Synchronising Data from External Directories
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## Diagrams of Possible Configurations for User Management

The aim of these diagrams is to help people understand each directory type at a glance. We have kept the diagrams simple and conceptual, with just enough information to be correct.

Some things that we do **not** attempt to show:

- In most cases, we do not attempt to show that you can have multiple directory types mapped to Confluence at the same time. We illustrate that fact in just the first two LDAP diagrams.
- We have not included a diagram for Confluence's legacy connection to JIRA database.
- We do not attempt to show all of the possible configurations and layered connections that are available now that you can use JIRA as a directory manager.


**On this page:**

- Confluence Internal Directory
- Confluence with Read/Write Connection to LDAP
- Confluence with Read-Only Connection to LDAP, with Local Groups
- Confluence Internal Directory with LDAP Authentication
- Confluence with LDAP Authentication, Copy Users on First Login
- Confluence Connecting to JIRA
- Confluence Connecting to JIRA and JIRA Connecting to LDAP
- Confluence and JIRA Connecting to Crowd


### Confluence Internal Directory

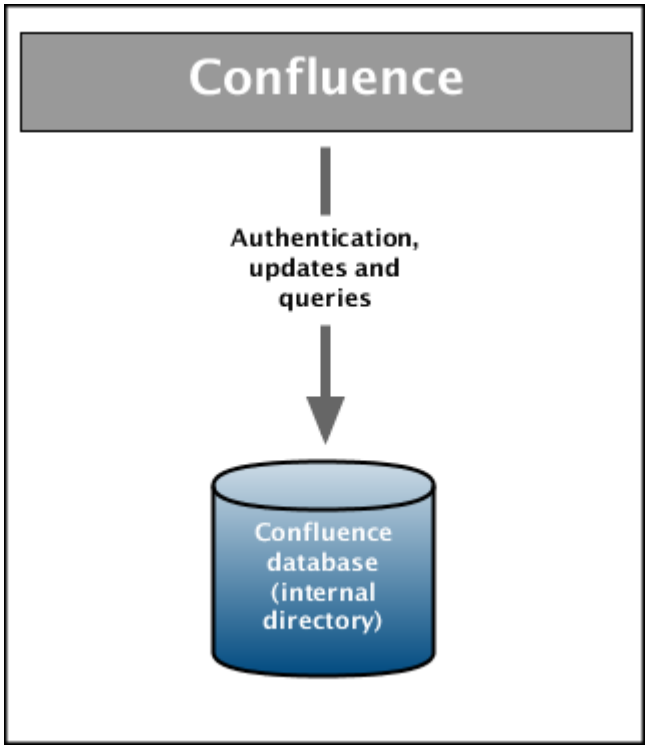



*Diagram above: Confluence using its internal directory for user management.*

### Confluence with Read/Write Connection to LDAP

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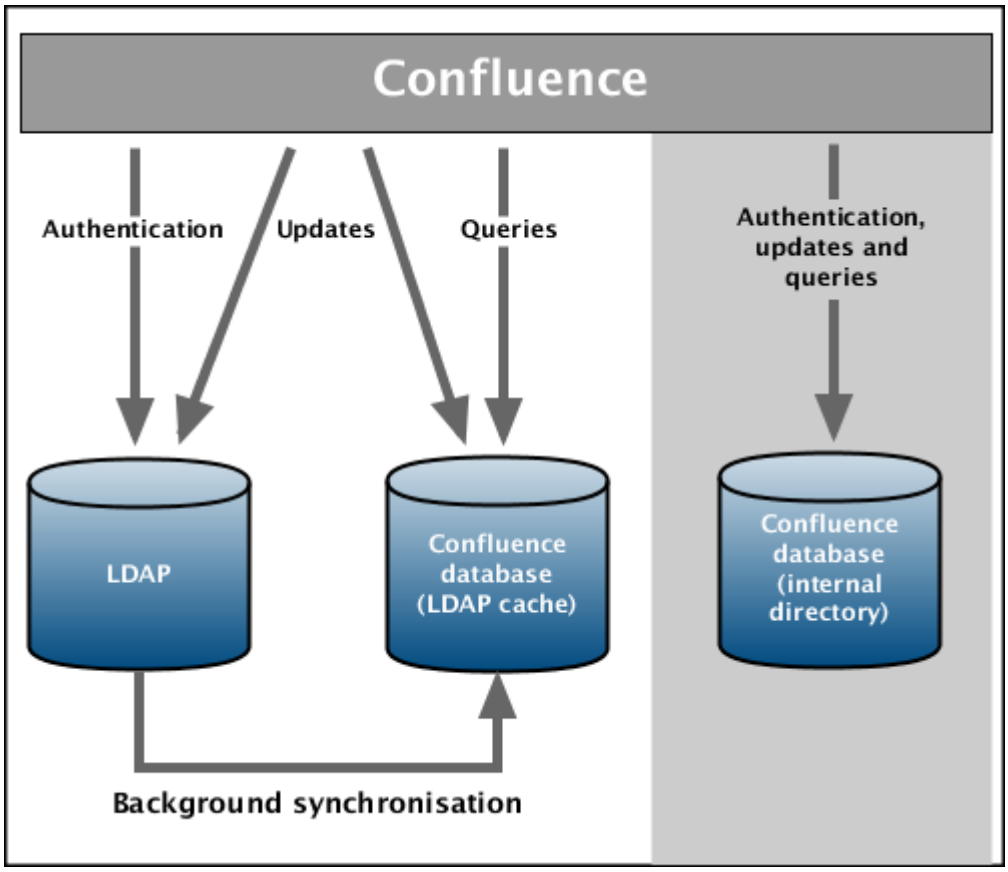



*Diagram above: Confluence connecting to an LDAP directory.*

**Confluence with Read-Only Connection to LDAP, with Local Groups**

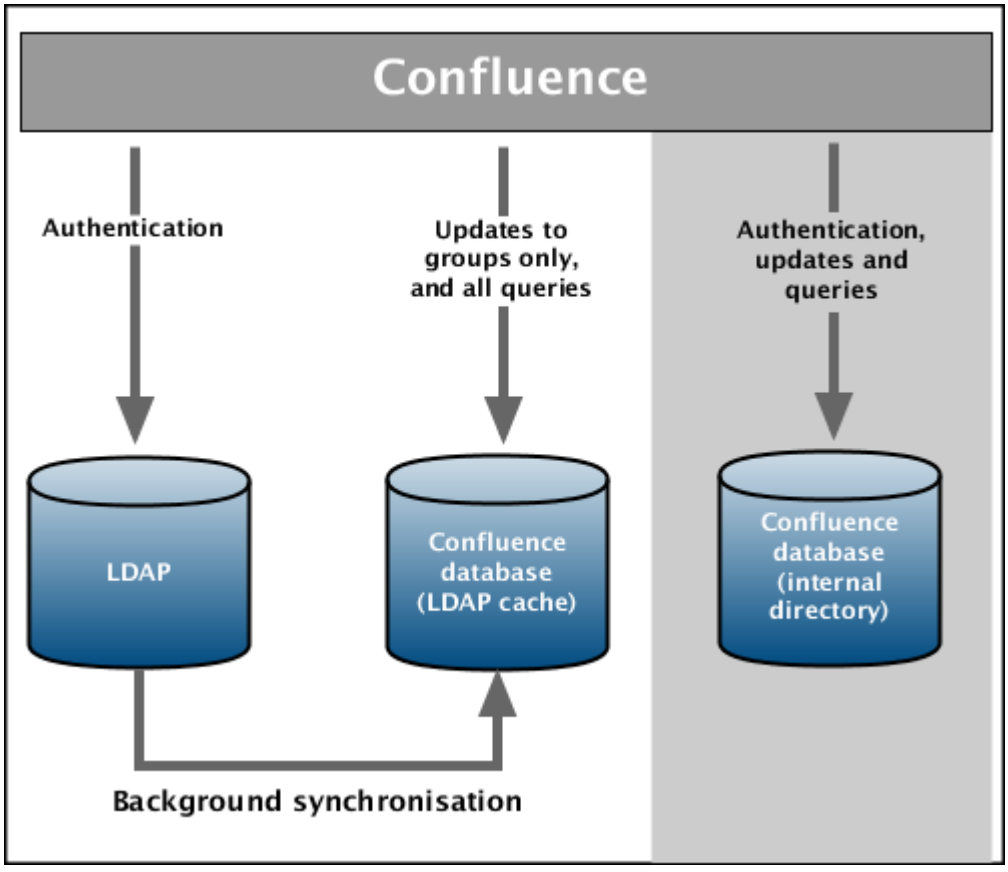



*Diagram above: Confluence connecting to an LDAP directory with permissions set to read only and local groups.*

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**Confluence Internal Directory with LDAP Authentication**

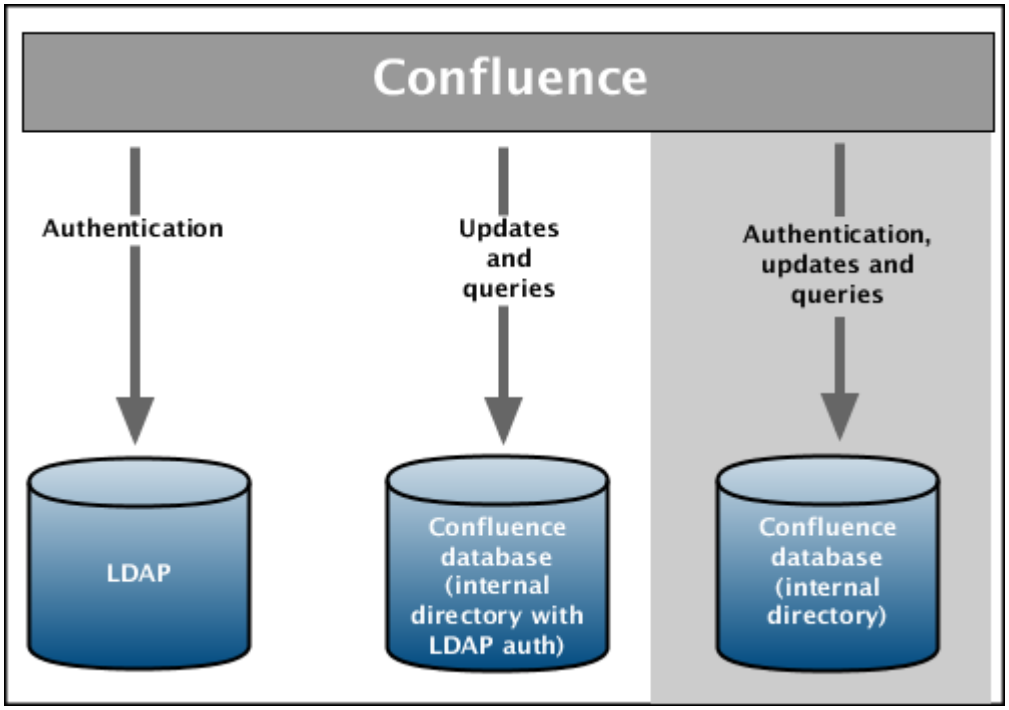



*Diagram above: Confluence connecting to an LDAP directory for authentication only.*

**Confluence with LDAP Authentication, Copy Users on First Login**

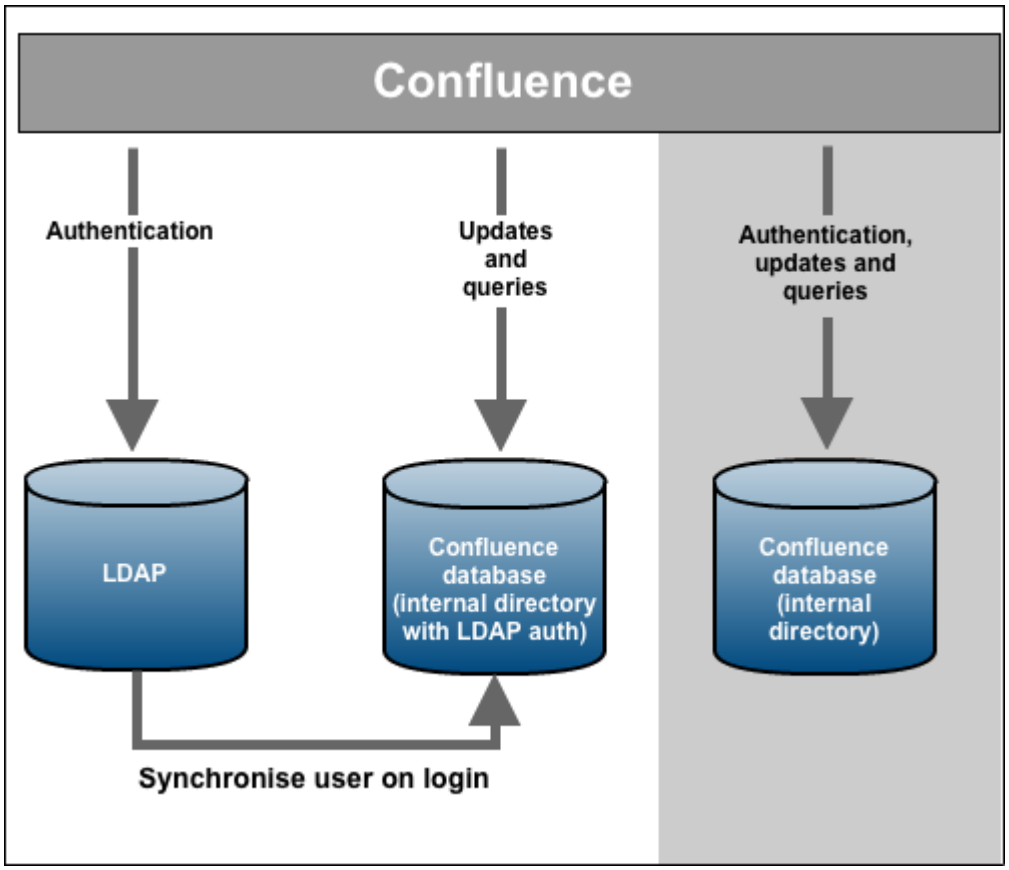



*Diagram above: Confluence connecting to an LDAP directory for authentication only, with each user synchronised with the internal directory that is using LDAP authentication when they log in to Confluence.*

**Confluence Connecting to JIRA**

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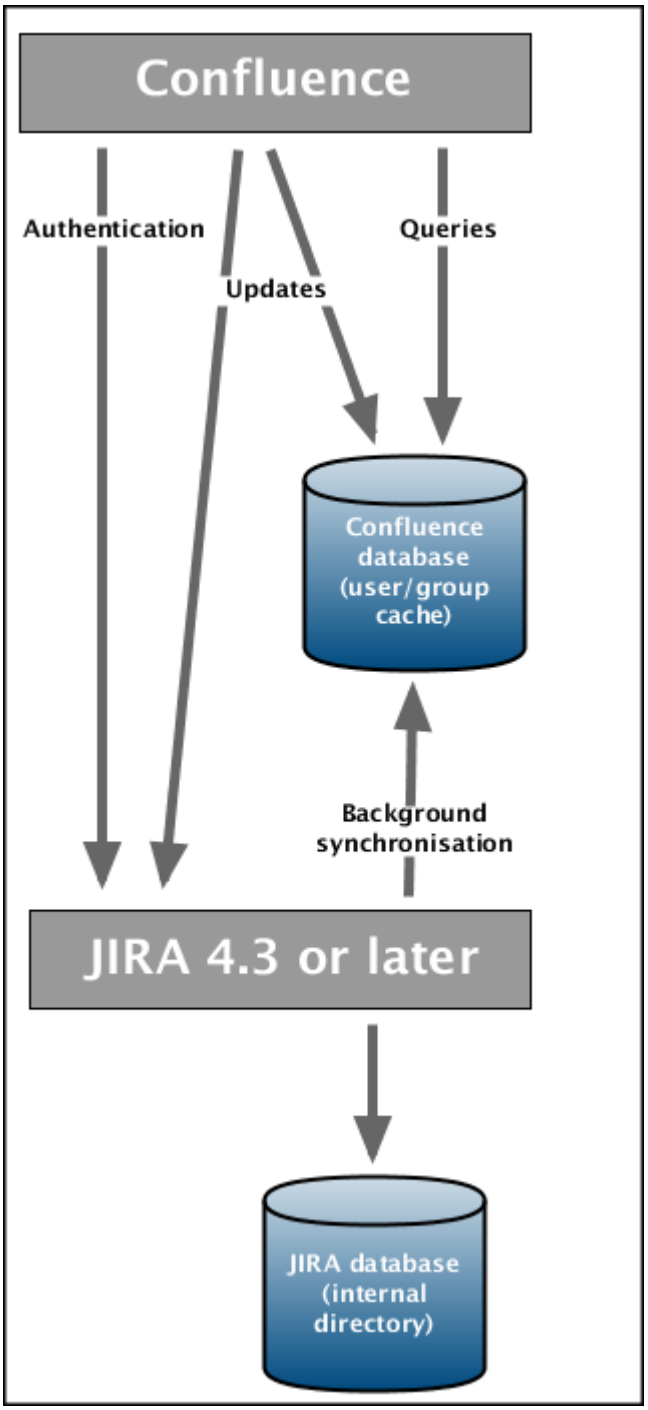



*Diagram above: Confluence connecting to JIRA for user management.*

**Confluence Connecting to JIRA and JIRA Connecting to LDAP**

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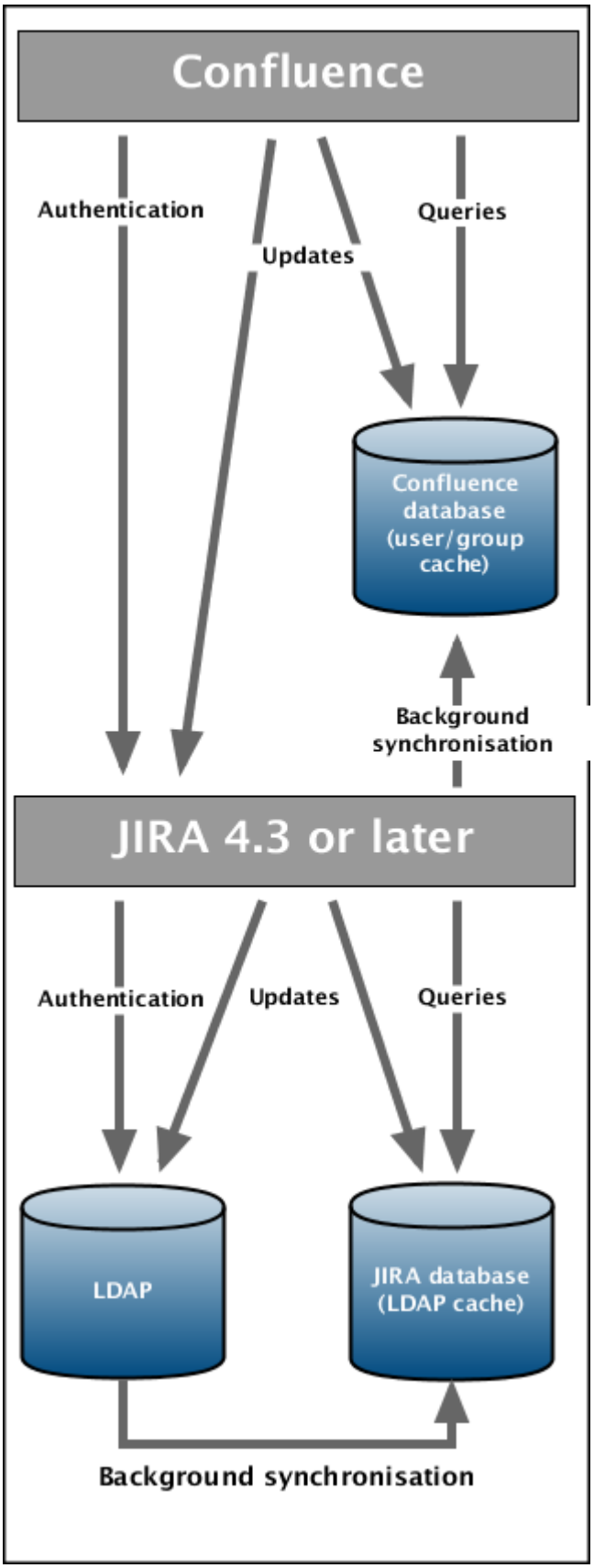



*Diagram above: Confluence connecting to JIRA for user management, with JIRA in turn connecting to LDAP.*

**Confluence and JIRA Connecting to Crowd**

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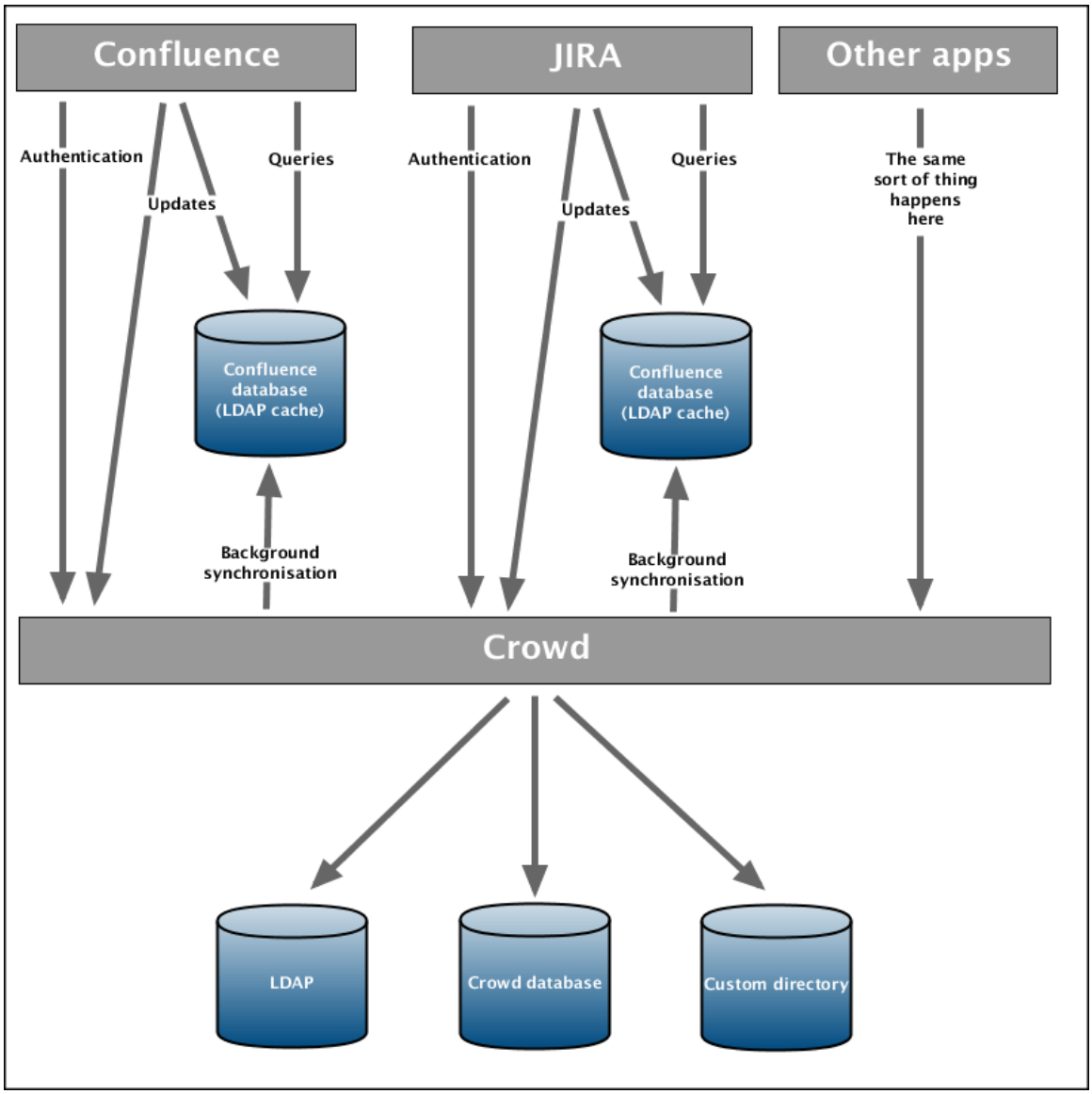



*Diagram above: Confluence, JIRA and other applications connecting to Crowd for user management.*

***RELATED TOPICS***

Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
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## User Management Limitations and Recommendations

This page describes the optimal configurations and limitations that apply to user management in Confluence.

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**On this page:**


- General Recommendations
- Recommendations for Connecting to LDAP
  - Optimal Number of Users and Groups in your LDAP Directory
  - Redundant LDAP is Not Supported
  - Specific Notes for Connecting to Active Directory
- Recommendations for Connecting to JIRA for User Management
  - Single Sign-On Across Multiple Applications is Not Supported
  - Custom Application Connectors are Not Supported
  - Custom Directories are Not Supported
  - Optimal Number of Users and Applications
  - Recommendations


## General Recommendations

- **Avoid duplicate usernames across directories**. If you are connecting to more than one user directory, we recommend that you ensure the usernames are unique to one directory. For example, we do not recommend that you have a user `jsmith` in both 'Directory1' and 'Directory2'. The reason is the potential for confusion, especially if you swap the order of the directories. Changing the directory order can change the user that a given username refers to.
- **Be careful when deleting users in remote directories**. If you are connecting to an LDAP directory, a Crowd directory or a JIRA directory, please take care when deleting users from the remote directory. If you delete a user that is associated with data in Confluence, this will cause problems in Confluence.

## Recommendations for Connecting to LDAP

Please consider the following limitations and recommendations when connecting to an LDAP user directory.

### *Optimal Number of Users and Groups in your LDAP Directory*

The connection to your LDAP directory provides powerful and flexible support for connecting to, configuring and managing LDAP directory servers. To achieve optimal performance, a background synchronisation task loads the required users and groups from the LDAP server into the application's database, and periodically fetches updates from the LDAP server to keep the data in step. The amount of time needed to copy the users and groups rises with the number of users, groups, and group memberships. For that reason, we recommended a maximum number of users and groups as described below.

This recommendation affects connections to LDAP directories:

- Microsoft Active Directory
- All other LDAP directory servers

The following LDAP configurations are **not** affected:

- Internal directories with LDAP authentication
- LDAP directories configured for 'Authentication Only, Copy User On First Login'

Please choose one of the following solutions, depending on the number of users, groups and memberships in your LDAP directory.

| Your environment | Recommendation |
|---|---|
| Up to 10 000 (ten thousand) users, 1000 (one thousand) groups, and 20 (twenty) groups per user | Choose the '**LDAP**' or '**Microsoft Active Directory**' directory type. You can make use of the full synchronisation option. Your application's database will contain all the users and groups that are in your LDAP server. |
| More than the above | Use LDAP filters to reduce the number of users and groups visible to the synchronisation task. |

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#### *Our Test Results*

We performed internal testing of synchronisation with an AD server on our local network consisting of 10 000 users, 1000 groups and 200 000 memberships.

We found that the initial synchronisation took about 5 minutes. Subsequent synchronisations with 100 modifications on the AD server took a couple of seconds to complete.

Please keep in mind that a number of factors come into play when trying to tune the performance of the synchronisation process, including:

- **Size of userbase.** Use LDAP filters to keep this to the minimum that suits your requirements.
- **Type of LDAP server.** We currently support change detection in AD, so subsequent synchronisations are much faster for AD than for other LDAP servers.
- **Network topology.** The further away your LDAP server is from your application server, the more latent LDAP queries will be.
- **Database performance.** As the synchronisation process caches data in the database, the performance of your database will affect the performance of the synchronisation.
- **JVM heap size.** If your heap size is too small for your userbase, you may experience heavy garbage collection during the synchronisation process which could in turn slow down the synchronisation.

#### *Redundant LDAP is Not Supported*

The LDAP connections do not support the configuration of two or more LDAP servers for redundancy (automated failover if one of the servers goes down).

#### *Specific Notes for Connecting to Active Directory*

When the application synchronises with Active Directory (AD), the synchronisation task requests only the changes from the LDAP server rather than the entire user base. This optimises the synchronisation process and gives much faster performance on the second and subsequent requests.

On the other hand, this synchronisation method results in a few limitations:

1. **Externally moving objects out of scope or renaming objects causes problems in AD.** If you move objects out of scope in AD, this will result in an inconsistent cache. We recommend that you do not use the external LDAP directory interface to move objects out of the scope of the sub-tree, as defined on the application's directory configuration screen. If you do need to make structural changes to your LDAP directory, manually synchronise the directory cache after you have made the changes to ensure cache consistency.
2. **Synchronising between AD servers is not supported.** Microsoft Active Directory does not replicate the uSNChanged attribute across instances. For that reason, we do not support connecting to different AD servers for synchronisation. (You can of course define multiple different directories, each pointing to its own respective AD server.)
3. **Synchronising with AD servers behind a load balancer is not supported.** As with synchronising between two different AD servers, Microsoft Active Directory does not replicate the uSNChanged attribute across instances. For that reason, we do not support connecting to different AD servers even when they are load balanced. You will need to select one server (preferably one that is local) to synchronise with instead of using the load balancer.
4. **You must restart the application after restoring AD from backup.** On restoring from backup of an AD server, the uSNChanged timestamps are reverted to the backup time. To avoid the resulting confusion, you will need to flush the directory cache after a Active Directory restore operation.
5. **Obtaining AD object deletions requires administrator access.** Active Directory stores deleted objects in a special container called cn=Deleted Objects. By default, to access this container you need to connect as an administrator and so, for the synchronisation task to be aware of deletions, you must use administrator credentials. Alternatively, it is possible to change the permissions on the cn=Deleted Objects container. If you wish to do so, please see this Microsoft KB Article.
6. **The User DN used to connect to AD must be able to see the uSNChanged attribute.** The synchronisation task relies on the uSNChanged attribute to detect changes, and so must be in the appropriate AD security groups to see this attribute for all LDAP objects in the subtree.

### Recommendations for Connecting to JIRA for User Management

Please consider the following limitations and recommendations when connecting to a JIRA server for user management.

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#### *Single Sign-On Across Multiple Applications is Not Supported*

When you connect to JIRA for user management, you will not have single sign-on across the applications connected in this way. JIRA, when acting as a directory manager, does not support SSO.

#### *Custom Application Connectors are Not Supported*

JIRA, Confluence, FishEye, Crucible and Bamboo can connect to a JIRA server for user management. Custom application connectors will need to use the new REST API.

#### *Custom Directories are Not Supported*

Earlier versions of JIRA supported OSUser Providers. It was therefore possible write a special provider to obtain user information from any external user directory. This is no longer the case.

#### *Optimal Number of Users and Applications*

Please consider the following limitations when connecting to a JIRA server for user management:

- Maximum 500 users.
- Maximum 5 connected applications.

#### *Recommendations*

| Your environment | Recommendation |
| --- | --- |
| If **all** the following are true:<br>• You have fewer than 500 users.<br>• You want to share user and group management across just a few applications, such as one JIRA server and one Confluence server, or two JIRA servers.<br>• You do not need single sign-on (SSO) between JIRA and Confluence, or between two JIRA servers.<br>• You do not have custom application connectors. Or, if you do have them, you are happy to convert them to use the new REST API.<br>• You are happy to shut down all your servers when you need to upgrade JIRA. | Your environment meets the optimal requirements for using JIRA for user management. |
| If **one or more** of the following are true:<br>• You have more than 500 users.<br>• You want to share user and group management across more than 5 applications.<br>• You need single sign-on (SSO) across multiple applications.<br>• You have custom applications integrated via the Crowd SOAP API, and you cannot convert them to use the new REST API.<br>• You are not happy to shut down all your servers when you need to upgrade JIRA. | We recommend that you install Atlassian Crowd for user management and SSO. |

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| | |
|---|---|
| If you are considering creating a custom directory connector to define your own storage for users and groups... | Please see if one of the following solutions will work for you:<br>• If you have written a custom provider to support a specific LDAP schema, please check the supported LDAP schemas to see if you can use one of them instead.<br>• If you have written a custom provider to support nested groups, please consider enabling nested groups in the supported directory connectors instead.<br>• If you have written a custom provider to connect to your own database, please consider loading the data into the application's database instead.<br>• If you need to keep the custom directory connection, please consider whether Atlassian Crowd meets your requirements. See the documentation on Creating a Custom Directory Connector. |

***RELATED TOPICS***

Connecting to an LDAP Directory
Connecting to Crowd or JIRA for User Management
Configuring User Directories

## Requesting Support for External User Management

This page gives guidelines on how to request help from the Atlassian support team if you are having problems with external user management. External user management includes connections to Active Directory, other LDAP servers, Atlassian Crowd or Atlassian JIRA for user management. The information on this page is provided in addition to the more general page on Troubleshooting Problems and Requesting Technical Support.

The cause of such problems may be:

- The LDAP server is not responding.
- The application password is incorrectly configured, causing the LDAP server or other directory to return an authentication error.
- Other LDAP settings are incorrectly configured.

**On this page:**


- Troubleshooting the Connection to your External User Directory
- Problems During Initial Setup
- Complex Authentication or Performance Problems


### Troubleshooting the Connection to your External User Directory

The configuration screen for external directories in Confluence has a '**Test Settings**' button. This will help you to diagnose problems with user management in Active Directory and other LDAP servers.

**To test your directory connection:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Click '**User Directories**' in the left-hand panel.
3. **Edit** the relevant directory.
4. Click '**Test Settings**'.
5. The results of the test will appear at the top of the screen.

Please refer to our knowedge base articles for troubleshooting user management and login issues.

If the above resources do not help, continue below.

### Problems During Initial Setup

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Raise a support request and include the following information.

- Download an LDAP browser to make sure you have the right settings in your LDAP directory. Atlassian recommends LDAP Studio. Include screenshots of your user and group DNs.
- If you can start up Confluence and access the Administration Console, review your directory settings. See Connecting to an LDAP Directory. Attach screenshots of all your settings.

#### Complex Authentication or Performance Problems

Raise a support request and include the following information.

##### Confluence Server

Log in to Confluence and access the Administration Console.

- Take a screenshot of the '**System Information**' screen, or save the page as HTML.
- Take a screenshot of the '**Global Permissions**' screen, if people are having problems with logging in.
- Go to '**Space Admin**' for the relevant space and take a screenshot of the '**Permissions**' page, if you are having problems with space or page permissions.

##### Confluence Configuration Files

- If you have implemented a custom authenticator or in any way modified `seraph-config.xml` or `seraph-paths.xml`, please provide the modified file.

##### User Management System

- Include the name and version of your LDAP server.
- Does your LDAP server use dynamic or static groups?
- Review your directory settings. See Connecting to an LDAP Directory. Attach screenshots of all your settings.

##### Diagnostics

- Enable profiling. See Performance Tuning.
- Enable detailed user management logging, by editing `confluence/WEB-INF/classes/log4j.properties`.
  Change this section:

```
###
# Atlassian User
###
#log4j.logger.com.atlassian.user=DEBUG
#log4j.logger.com.atlassian.confluence.user=DEBUG
#log4j.logger.bucket.user=DEBUG
#log4j.logger.com.atlassian.seraph=DEBUG
#log4j.logger.com.opensymphony.user=DEBUG
```

  Remove the '#' signs at the beginning of the lines, so that it looks like this:

```
###
# Atlassian User
###
log4j.logger.com.atlassian.user=DEBUG
log4j.logger.com.atlassian.confluence.user=DEBUG
log4j.logger.bucket.user=DEBUG
log4j.logger.com.atlassian.seraph=DEBUG
log4j.logger.com.opensymphony.user=DEBUG
```

- 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.The logs

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subdirectory is located in your Confluence Home directory.

***RELATED TOPICS***

Troubleshooting Problems and Requesting Technical Support
Configuring User Directories

- Configuring the Internal Directory
- Connecting to an LDAP Directory
- Connecting to an Internal Directory with LDAP Authentication
- Connecting to Crowd or JIRA for User Management
- Connecting to JIRA 4.2 or Earlier for User Management
- Managing Multiple Directories
- Managing Nested Groups
- Synchronising Data from External Directories
- Diagrams of Possible Configurations for User Management
- User Management Limitations and Recommendations
- Requesting Support for External User Management
- Disabling the Built-In User Management

Administrators Guide Home Confluence Documentation Home

## Disabling the Built-In User Management

By selecting the '**External user management**' option in Confluence, you can disable the group and user management screens in Confluence. You need system administrator permissions to set this option.

You will find it useful to select external user management under the following circumstances:

- When 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, see Connecting to Crowd or JIRA for User Management.
- If you are using JIRA for user management, we recommend that you turn on Confluence's external user management setting. This centralises user management in JIRA. See Connecting to Crowd or JIRA for User Management and Connecting to JIRA 4.2 or Earlier for User Management.

**To disable management of users and groups within Confluence:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click '**Security Configuration**' in the left-hand panel.
3. The '**Edit Security Configuration**' screen will appear. Click '**Edit**'.
4. Tick the '**External user management**' check box.
5. Click '**Save**'.

**Notes**

- Please refer to the following bugs and improvement requests:
  - CONF-16709 – When the External User Management check box is ticked, the group and user management screens are still functional.
  - CONF-21158 – Enabling both public signup and external user management renders a blank screen during signup.
  - CONF-9830 – This is a request to rename this feature to better reflect its functionality.

***RELATED TOPICS***

Disabling the Built-In User Management

Administrators Guide Home Confluence Documentation Home

# Managing Add-ons and Macros

An **add-on** is a separately installed component that enhances or modifies Confluence. Some add-ons are shipped with Confluence, others are available for you to install yourself. An add-on that specifically plugs into the

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architecture of an Atlassian application such as Confluence is sometimes called a **plugin**, although the terms 'pl ugin' and 'add-on' are often used interchangeably.

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.

You need System Administrator permissions in order to install and configure plugins.

## Installing and configuring add-ons and macros


- About Add-ons
  - Add-on loading strategies in Confluence
  - Removing Malfunctioning Add-ons
- Enabling and Configuring Macros
  - Configuring the User List Macro
  - Enabling HTML macros
    - Enabling the html-include Macro
  - Troubleshooting the Gallery Macro
- Adding, Editing and Removing User Macros
  - Writing User Macros
    - Best Practices for Writing User Macros
    - Examples of User Macros
      - Hello World Example of User Macro
      - Error Box Macro - Example of a User Macro
      - Colour and Size Macro - Example of a User Macro
      - NoPrint Example of a User Macro
      - Panel Preformatted with Specific Colours - Example of a User Macro
      - Preformatted Table - Example of a User Macro
    - Guide to User Macro Templates
- Configuring the Office Connector


# About Add-ons

An add-on is an installable component that supplements or enhances the functionality of Confluence in some way. For example, the Team Calendars for Confluence is an add-on that lets users embed team calendars into Confluence pages. Other Confluence add-ons are available for creating charts, tracking usage and modifying the Confluence visual theme.

Confluence comes with many pre-installed add-ons (called system add-ons). You can install more add-ons either by acquiring an add-on from the Atlassian Marketplace or by uploading an add-on from your file system. This means that you can install add-ons that you have developed yourself. For information about developing your own add-ons for Confluence, see the Confluence Developer documentation.

### About the Universal Plugin Manager

The Universal Plugin Manager (UPM) is itself an add-on that you use to administer add-ons from the Confluence Administration Console. UPM works across Atlassian applications, providing a consistent interface for administering add-ons in Confluence, Crucible, Fisheye, JIRA, Stash or Bamboo.

UPM comes pre-installed in recent versions of all Atlassian applications, so you do not normally need to install it yourself. However, like other add-ons, the UPM software is subject to regular software updates. Before administering add-ons in Confluence, therefore, you should verify your version of the UPM and update it if needed.

### Administering Add-ons in Confluence

You can update UPM, or any add-on, from the UPM's own add-on administration pages. Additionally, you can perform these tasks from the administration pages:

- Install or remove add-ons
- Configure add-on settings
- Discover and install new add-ons from the Atlassian Marketplace
- Enable or disable add-ons and their component modules

If the add-on request feature is enabled in your Atlassian application, non-administrative users can also discover

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add-ons on the Atlassian Marketplace. Instead of installing the add-ons, however, the users have the option of requesting the add-ons from you, the administrator of the Atlassian application. For an end-user's view of the add-on request feature in Confluence, see Requesting Add-ons.

For more information on administering this feature and performing other add-on administration tasks, see the Universal Plugin Manager documentation.

For add-on information specific to Confluence, see these pages:

- Add-on loading strategies in Confluence
- Removing Malfunctioning Add-ons

**Related pages:**

- Confluence Plugin Guide for Developers
- Adding, Editing and Removing User Macros

## Add-on loading strategies in Confluence

**The categories**

Confluence add-ons have different behaviour based on how they are loaded by Confluence. The add-ons 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* add-on is in can vary with Confluence version or circumstance. The examples mentioned here describe the way particular add-ons are loaded by default in Confluence 2.8.

⚠ *The information on this page does not apply to Confluence OnDemand.*

| Category | Description | Example |
|---|---|---|
| ***Static*** | **cannot be installed or upgraded without a Confluence restart** | |
| *Core* | Included with Confluence and cannot be uninstalled. The classes and plugin.xml are not bundled into add-on distribution JAR files, but are mixed in with Confluence source on the main classpath. Additionally, the plugin.xml definitions are not called "atlassian-plugin.xml" as they are everywhere else, but are named for the add-on, e.g., "basic-macros.xml". We would like to separate some of them out and turn them into *Bundled* add-ons. | Admin Sections |

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| | | |
|---|---|---|
| *WEB-INF/lib* | Confluence also places some add-on JAR files inside **WEB-INF/lib**. They are inserted during the build process by Maven. These add-ons, likewise, cannot be uninstalled. In ancient times, this was the only way to install add-ons, so users were also free to install add-ons here. We now discourage this installation method, however. As of version 3.0, most of the JAR files in this directory are library dependencies, not add-on files. | |
| ***Dynamic*** | **the opposite of static, these can be installed/upgraded while Confluence is running** | |
| *Bundled* | Bundled add-ons can be administered from the Manage Add-ons page in the application's Administration Console. You can upload or disable them there.<br><br>*Bundled* add-ons are included in a ZIP archive of JAR files 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 **$CONFLUENCE_HOME/bundled-plugins** directory, from whence they are loaded. To remove a bundled add-on (you shouldn't normally have to do this), remove the add-on from the atlassian-bundled-plugins.zip file and the bundled-plugins directory, otherwise Confluence will just put it back in place on the next startup. In versions later than 2.6, you'll have to recreate the .jar file (if the jar file is from the lib folder) or recreate the zip folder(if its in the classes folder). Bundled add-ons can be upgraded or disabled. | Office Connector |
| *Uploaded* | Installed by the user via the plugin repository or the Universal Plugin Manager. These add-ons are stored in the database and then copied to the **$CONFLUENCE_HOME/plugins-cache** folder on each Confluence node. | could be anything |

To summarise the relationships of categories in the table, all add-ons are either *Static* or *Dynamic*. *Static* add-ons can be further categorised into *Core* or *WEB-INF/lib*. *Dynamic* add-ons are divided into *Bundled* and *Uploaded*.

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#### 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* add-ons are called "System Add-ons". Add-ons can be designated as "System" by adding a flag to the add-on 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* add-on files do.

All the *Core* add-ons were once labeled "System", but the convention has faded over time. If an add-on is designated as "System", it cannot be enabled/disabled in the Manage Add-ons page. However, it *will* show up in the Plugin Repository Client, where it can be disabled; allowing disabling there is probably incorrect behavior.

*Static* add-ons 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* add-ons 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 add-ons are *Bundled* and which add-ons are *Uploaded*, so we know which add-ons are *Uploaded* though this specific term is never used in the Confluence UI. Instead, they are called *Dynamic*.

#### Updating add-on versions

- *Core* add-ons cannot be upgraded.
- *WEB-INF/lib* add-ons can be upgraded by replacing the JAR in WEB-INF/lib and restarting Confluence.
- *Bundled* add-ons can be upgraded using the Universal Plugin Manager or from the Plugin Repository Client. A new add-on JAR is uploaded and stored as an *Uploaded* add-on. Confluence compares the version number with the *Bundled* add-on and uses the newer.
- *Uploaded* add-ons are upgradable using the Universal Plugin Manager or from the Plugin Repository Client. When a new add-on JAR file is uploaded, the previous version is discarded from the database and the `$CONFLUENCE_HOME/plugin-cache` directory.

#### *RELATED TOPICS*

Removing Malfunctioning Add-ons

## Removing Malfunctioning Add-ons

Confluence goes to some lengths to prevent itself being unusable due to a problematic add-on. However, sometimes an add-on will manage to do this anyway. This page describes what to do if an add-on cannot be disabled or deleted from the administration console (from **Administration** > **Manage Add-ons**).

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *Add-on Loading Strategies*

1. Read through Plugin loading strategies in Confluence.
2. Determine where your add-on file is located. The usual locations 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 add-on loading issues.

> ✓ Check the How do I display the Confluence System Classpath? FAQ and the Knowledge Base Article on plugin loading problems for more information on troubleshooting add-on loading issues.

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#### *Deleting an add-on from the Database*

**To remove an add-on 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` value for the offending add-on, run the following:

```
delete from PLUGINDATA where plugindataid='XXXXXX';
```

   where XXXXXX is the `plugindataid` value.
4. Restart Confluence.

#### *Disabling an add-on from the database*

**To disable the add-on in the database,**

Run the following query on your Confluence database:

```
select BANDANAVALUE from BANDANA where BANDANAKEY =
'plugin.manager.state.Map'
```

This will return a value like:

```
<map>
  <entry>
    <string>com.atlassian.confluence.ext.usage</string>
    <boolean>true</boolean>
  </entry>
</map>
```

Edit the value `boolean` to have **false**:

```
<map>
  <entry>
    <string>com.atlassian.confluence.ext.usage</string>
    <boolean>false</boolean>
  </entry>
</map>
```

#### *Deleting a Bundled Add-on*

Bundled add-ons can be administered from the Manage Add-ons page in the application's Administration Console. You can upload or disable them there.

*Bundled* add-ons are included in a ZIP archive of JAR files 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 add-on (you shouldn't normally have to do this), remove the add-on from the atlassian-bundled-plugins.zip file

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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 add-ons can be upgraded or disabled.

If you need to remove a bundled add-on, 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 add-on is getting loaded along with the properly bundled one, but if you need to remove a bundled add-on, check Add-on 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

**RELATED TOPICS:**

- Configuring the User List Macro
- Enabling HTML macros
  - Enabling the html-include Macro
- Troubleshooting the Gallery Macro

### Configuring the User List Macro

The User List macro has an optional **Display Online** parameter. If the User Listener plugin is configured to allow this feature, then the page author can select **Display Online** to show a list of all online users.

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

**To enable the Display Online filter in the User List macro:**

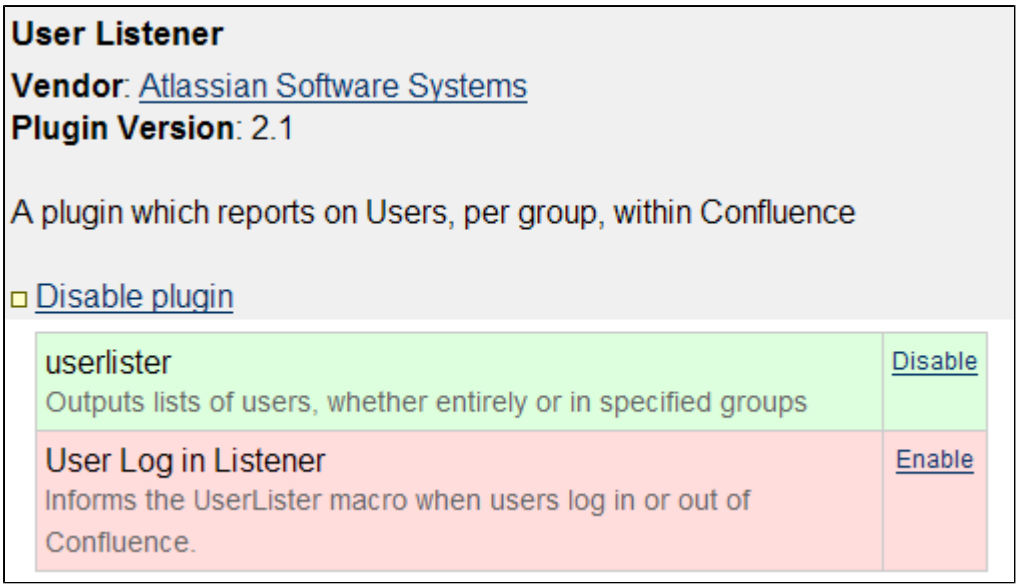
1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select **Plugins** in the left-hand panel. This will list the currently installed plugins.
3. Scroll down and click **User Listener**. The User Listener plugin panel will appear at the top of the screen.
4. Enable the User Log In Listener module by clicking **Enable** on its right.
5. Restart Confluence.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

> ⓘ **List of online users can be misleading**
> When the **Display Online** parameter 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*

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***Related Topics***

User List Macro
Enabling and Configuring Macros

## 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 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.

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 System Administrator permissions in order to perform this function.

**Related pages:**

- Working with Macros
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

**To enable the HTML macros:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Manage Add-ons** in the left-hand panel. This will display the installed add-ons on this Confluence installation.
3. Choose **Show System Add-ons**.
4. Choose **Confluence HTML Macros**
5. Expand the **x of 11 modules enabled** to see the list of modules in the plugin.
6. Enable one or both of the following modules:
   - The **html (html-xhtml)** module for the HTML Macro.
   - The **html-include (html-include-xhtml)** module for the HTML Include Macro.

You will need to configure one or more allowed sources for this macro by adding them to the whitelist.

### Enabling the html-include Macro

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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.

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### *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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
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**'.

If the plugin is already enabled please click on the + sign to expand the modules. Ensure that each relevant module is enabled by hovering over the "disabled" dialog and clicking the enable button that appears.

**To embed an external page,**

Use the following syntax:

```
{html-include:url=http://www.example.com}
```

**To include HTML inline,**

Use the following syntax:

```
{html}
<b>I like cheese</b>
{html}
```

RELATED TOPICS

HTML Include Macro

- Adding, Editing and Removing User Macros
- Enabling HTML macros
- Enabling the html-include Macro
- Include Page Macro

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Writing User Macros

Administrators Guide Home Confluence Documentation Home

## Troubleshooting the Gallery Macro

For guidelines on using the macro, see 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

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## Adding, Editing and Removing User Macros

User macros are short pieces of code that perform an often-used function or add some custom formatting to a page. People can call the macro into action by adding the macro keyword to their Confluence pages. You can write a 'user macro' by adding code on a screen in the Confluence Administration Console.

Notes:

- You need System Administrator permissions in order to perform this function.
- See Shared User Macros for a list of community-donated macros.
  Be careful when installing user macros from unknown authors.
- If you remove a user macro that is in use on Confluence pages, you will need to remove the macro from the pages manually. When you remove the user macro, the usage of the macro on the page will become invalid. *Hint:* Use the Confluence search to find all occurrences of the macro on pages and blog posts.

*The information on this page does not apply to Confluence OnDemand.*

**To add a user macro:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click **User Macros** in the left-hand panel.
3. Click **Create a User Macro** at the top of the list of macros.
4. Enter the macro details as explained in the guide to writing user macros.
5. Click **Add**.

**To edit a user macro:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select **User Macros** in the left-hand panel. This will list the currently configured user macros.
3. Click **Edit** next to the relevant macro.
4. Update the macro details as explained in the guide to writing user macros.
5. Click **Save**.

**To delete a user macro:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.

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2. Select **User Macros** in the left-hand panel. This will list the currently configured user macros.
3. Click **Delete** next to the relevant macro.

**Related Pages**

Best Practices for Writing User MacrosExamples of User MacrosConfluence Administrator's Guide

# Writing User Macros

User macros are short pieces of code that perform an often-used function or add some custom formatting to a page. People can add the macro to a page by choosing it from the Macro Browser when editing a Confluence page. The macro is run when the page is loaded by the browser. You can write a user macro by adding code on a screen in the Confluence Administration Console.

You need to have System Administrator permissions in order to create user macros.

**Do you need a plugin instead?**
If you want to distribute your user macro as a plugin, please refer to the developer's guide to the User Macro plugin module. If you want to create more complex, programmatic macros in Confluence, you may need to write a Macro plugin.

**On this page:**


- Creating a User Macro
- Examples and Best Practices
- Related Topics


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## Creating a User Macro

**To create a user macro:**

1. Go to the **Confluence Administration Console** and click **User Macros** in the left-hand panel.
2. Click **Create a User Macro**.
3. Supply the information in the input fields as explained below, then click **Add**.

The sections below tell you about each of the input fields.

### *Macro Name*

Enter the text that people will see when looking for the macro in the Macro Browser.

### *Visibility*

Set the visibility options to specify who can see this macro when they are searching using the Macro Browser or Autocomplete.

User macros must have parameters defined in order to appear in the Confluence 4.0 Macro Browser.

The options are as follows:

| Visibility Option | Meaning |
|---|---|
| Visible to all users | All users will see this macro when searching for a macro using the Macro Browser or Autocomplete. |

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| | |
|---|---|
| Visible only to system administrators | Choose this option if you want the macro to be 'hidden' from most users when the users are looking for a macro to add to a page. Note that this does not completely hide the macro. Instead, it is useful if you want to avoid cluttering the Macro Browser and Autocomplete with unnecessary macros. Specifically, if you are:<br>• **Editing a page and inserting a macro using the Macro Browser:** Only system administrators will see this macro in the Macro Browser. For other users, the macro will not show up in the Macro Browser when the user searches for a macro to add to a page.<br>• **Editing a page and inserting a macro using Autocomplete:** Only system administrators will see this macro in Autocomplete. For other users, the macro will not show up in the Autocomplete list when the user searches for a macro to add to a page.<br>• **Viewing the page:** The macro output will be visible to all users who have permission to see the page.<br>• **Editing a page that already contains the macro:** Provided a user has permission to edit the page, the macro will be visible to all users when editing the page, and all users who have permission to edit the page will also be able to edit or remove the macro.<br>Please note that all the macro information will also be discoverable, including the macro title, description, parameter names and other metadata. Do not include confidential data anywhere in the definition of a user macro, even if it is marked as visible only to system administrators. |

#### *Macro Title*

Enter the text that should appear in the Macro Browser and in Autocomplete, to identify this macro when people are looking for it to insert onto a page.

#### *Description*

Enter the text that should appear in the Macro Browser describing this macro. Note that the Macro Browser's search will pick up matches in the description as well as in the title.

#### *Categories*

Select one or more categories for your macro. To select more than one category, hold down the 'Ctrl' key while selecting. These are the categories that appear in the Macro Browser, helping users to choose a macro from a logical set.

#### *Icon URL*

If you would like the Macro Browser to display an icon for your macro, enter the URL here. You can enter an absolute URL or a path relative to the Confluence base URL. For example:

- Absolute URL:

```
http://mysite.com/mypath/status.png
```

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- Relative URL:

```
/images/icons/macrobrowser/status.png
```

#### *Documentation URL*

Enter the URL pointing to the online help or other documentation for your macro.

#### *Macro Body Processing*

Specify how you want Confluence to process the body of your macro before passing it to your macro. Below is an explanation of the macro body and the options available.

##### *What is the macro body?*

The macro body is the content that is displayed on the wiki page. If the macro allows a body, users will be able to enter body content when configuring the macro in the Macro Browser.

##### *How can I use the macro body?*

If you specify that your macro has a body, you will be able to pass text to the macro when you invoke it from within a page.

If your macro has a body, any body content that the user enters will be available to the macro in the `$body` variable. See the section about the template below. In addition, the options below allow you to tell Confluence to pre-process the body before it is placed in the macro output.

##### *What are the options for macro body?*

| Body Processing Option | Meaning |
|---|---|
| No macro body | Select this option if your macro does not need a body. |
| Escaped | If your macro has a body, and you make use of the body as `$body` in your template, Confluence will add escape characters to the HTML markup in the macro body. You could use this if you want to show the HTML markup in the rendered page. For example, if the body is:<br>`<b>Hello World</b>`<br>Then value of $body will be:<br>`<b>Hello World</b>`<br>This will render as:<br>`<b>Hello World</b>` |

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| | |
|---|---|
| Unrendered | If your macro has a body, and you make use of the body as `$body` in your template, HTML in the body will be processed within the template before being output. Ensure that HTML is ultimately output by the template. |
| Rendered | If your macro has a body, and you make use of the body as `$body` in your template, Confluence will recognise HTML in the macro body. For example, if the body is:<br>`<b>Hello World</b>`<br>Then value of $body will be:<br>`<b>Hello World</b>`<br>This will render as:<br>**Hello World** |

***Template***

Enter code to specify what the macro will do. For example, to add a macro inside the macro you are writing, you would write:

```
<ac:macro ac:name="someOtherMacro" />
```

**Quick guide:**

- Use HTML and Confluence-specific XML elements in the macro template. Details of Confluence's storage format are in Confluence Storage Format.
- You can use the Velocity templating language. Here is more information on the Velocity project.
- If your macro has a body, your template can refer to the macro body text by specifying '`$body`'.
- Each parameter variable you use must have a matching metadata definition. Use `@param` to define metadata for your macro parameters.
- When using the information passed using parameters, refer to your parameters as $paramXXX where 'XXX' is the parameter name that you specifed in the `@param` metadata definition.
- Use `@noparams` if your macro does not accept parameters.

See our detailed guide to writing a user macro template.

#### Examples and Best Practices

See:

- Examples of User Macros
- Best Practices for Writing User Macros

#### Related Topics

**Developer documentation:**

- User Macro Module
- Macro Module
- Confluence Plugin Guide

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### Community contributions

- Blog post: On converting wiki markup based user macros for use with Confluence 4
- Library of user-contributed user macros: Shared User Macros



Be careful when installing user macros. Ideally use only macros from authors and sources that are well known to you.

## Best Practices for Writing User Macros

This section contains tips and suggestions for best practice in macro coding. To see how to write a user macro and add it to your Confluence site, take a look at our guide to writing user macros.



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#### *Add a Descriptive Header to your Macro Template*

We recommend that you include a short description of your macro via comments at the top of the **Template** field as shown below. You can see an excellent example in the 'Image rollover' user macro.

```
## Macro title: My macro name
## Macro has a body: Y or N
## Body processing: Selected body processing option
## Output: Selected output option
##
## Developed by: My Name
## Date created: dd/mm/yyyy
## Installed by: My Name

## Short description of what the macro does
```

#### *Expose your Parameters in the Macro Browser*

Confluence offers great options for making your macro look good in the macro browser. You can specify the macro category, link to an icon, define the parameters that the macro browser will use to prompt the user for information, and more.

In particular, read the documentation on defining the macro parameters to be displayed in the macro browser.

#### *Supply Default Values for Macro Parameters*

You cannot guarantee that a user will supply parameters, so one of the first things to do in the macro is check that you have received some value if you expect to rely on it later on in the macro code.

In the example below, the macro expects three parameters. It substitutes sensible defaults if they are not supplied:

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```
#set($spacekey= $paramspacekey)
#set($numthreads= $paramnumthreads)
#set($numchars= $paramnumchars)

## Check for valid space key, otherwise use current
#if (!$spacekey)
  #set ($spacekey=$space.key)
#end

## Check for valid number of threads, otherwise use default of 5
#if (!$numthreads)
  #set ($numthreads=5)
#end

## Check for valid excerpt size, otherwise use default of 35
#if (!$numchars)
  #set ($numchars=35)
#end
```

***Related Topics***

Writing User Macros

## Examples of User Macros

Below are some sample user macros. To see how to write a user macro and add it to your Confluence site, take a look at our guide to writing user macros.

***Example 1: A macro that displays 'Hello World'***

Take a look at an example of a 'Hello World' macro.

***Example 2: The 'Error' macro that creates a red box***

Let's write a simple macro that creates a red box (using an existing Confluence style) around some text. See Error Box Macro - Example of a User Macro.

***Example 3: A macro that demonstrates the use of parameters***

See Colour and Size Macro - Example of a User Macro.

***Example 4: A macro that prevents text from being printed***

See NoPrint Example of a User Macro.

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**On this page:**


- Example 1: A macro that displays 'Hello World'
- Example 2: The 'Error' macro that creates a red box
- Example 3: A macro that demonstrates the use of parameters
- Example 4: A macro that prevents text from being printed
- Example 5: A macro that creates a preformatted panel
- Example 6: A macro that creates a preformatted table
- Community-contributed user macros


**Related pages:**

- Writing User Macros
- Guide to User Macro Templates
- Guide to User Macro TemplatesWorking with Macros

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#### *Example 5: A macro that creates a preformatted panel*

This user macro creates a panel preformatted with specific colours. See Panel Preformatted with Specific Colours - Example of a User Macro.

#### *Example 6: A macro that creates a preformatted table*

This user macro creates a table with predefined headings. See Preformatted Table - Example of a User Macro.

#### *Community-contributed user macros*

You may want to take a look at the library of shared user macros.
⚠ Be careful when installing user macros from unknown authors.

### Hello World Example of User Macro

This page tells you how to create a user macro that displays the text 'Hello World!' and any text that the user places in the body of the macro. For full details about creating a user macro, see the guide to writing user macros.

#### Defining the 'Hello World' user macro

**To create the 'Hello World' user macro:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **User Macros** in the left-hand panel.
3. Choose **Create a User Macro** at the bottom of the list of macros.
4. Enter the macro attributes as follows:
    - Macro Name: `helloworld`
    - Visibility: `Visible to all users in the Macro Browser`
    - Macro Title: `Hello World`
    - Description: `Displays "Hello World" and the macro body.`
    - Categories: `Confluence Content`
    - Icon URL: You can leave this field empty.
    - Documentation URL: You can leave this field empty.
    - Macro Body Processing: `Rendered`
    - Template:

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```
## @noparams
Hello World!
$body
```

5. Choose **Save**.

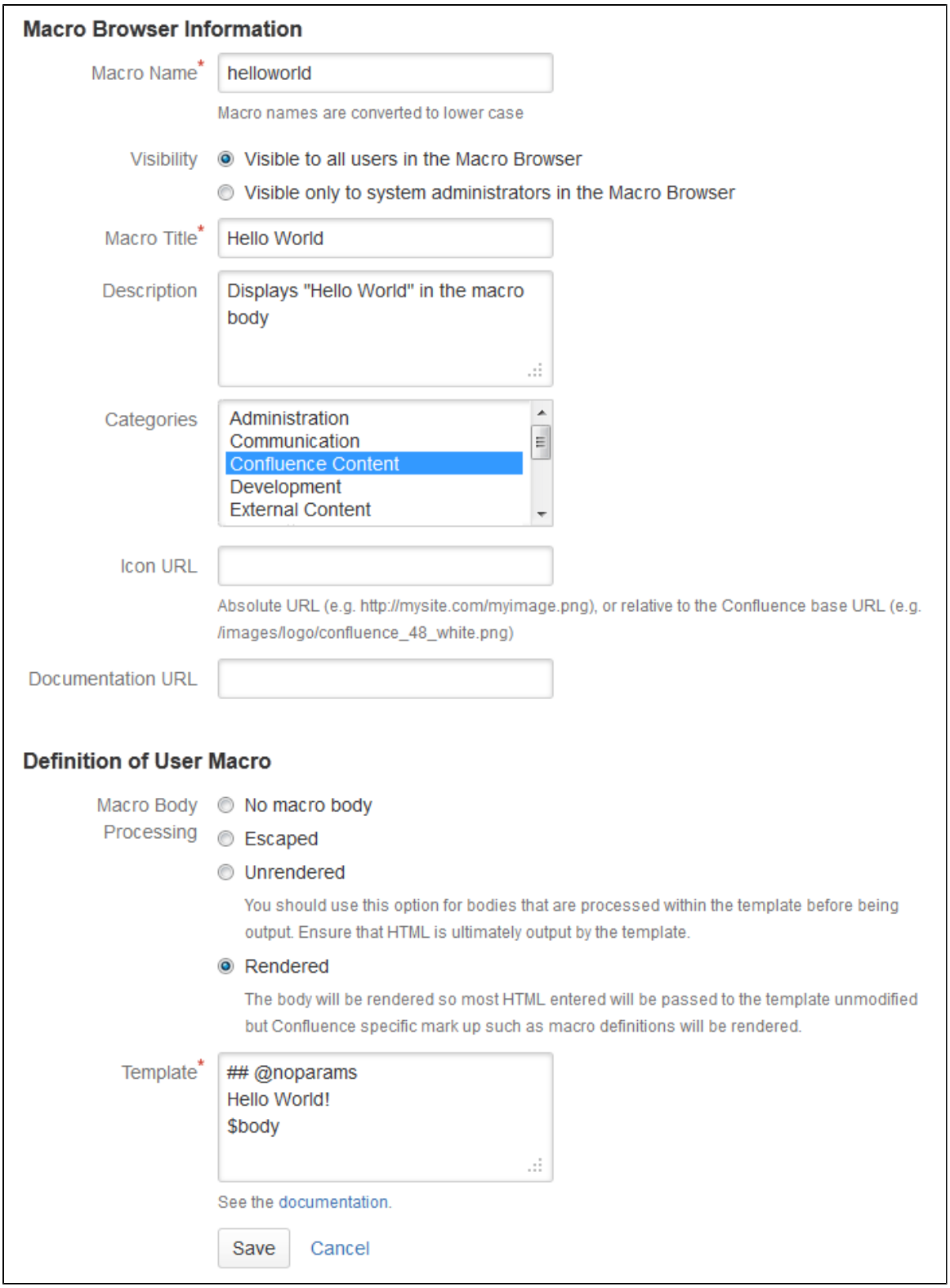
**Related pages:**

- Writing User Macros
- Guide to User Macro Templates
- Examples of User Macros

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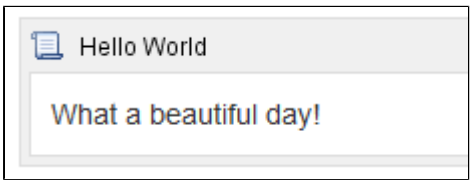
*Screenshot: Defining the 'Hello World' user macro*

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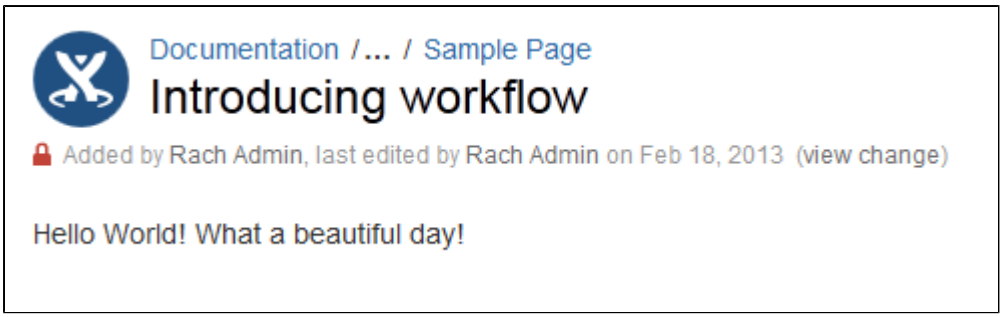

**Using the 'Hello World' macro on a page**

Now you can add the macro to your Confluence page using the Macro Browser.




The result is:

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You can also use autocomplete to add the macro onto your page: start typing '{hello' in the editor, and select the 'Hello World' macro from the list of suggestions that appears.

### Error Box Macro - Example of a User Macro

Let's write a simple macro that creates a red box (using an existing Confluence style) around some text. This may be useful for writing about error conditions, for example. For full details about creating a user macro, see the guide to writing user macros.

#### Defining the 'Error' user macro

**To create the 'Error' user macro:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **User Macros** in the left-hand panel.
3. Choose **Create a User Macro** at the bottom of the list of macros.
4. Enter the macro attributes as follows:
    - Macro Name: `error`
    - Visibility: `Visible to all users in the Macro Browser`
    - Macro Title: `Error`
    - Description: `Displays a red box around some text`
    - Categories: `Confluence Content`
    - Icon URL: You can leave this field empty.
    - Documentation URL: You can leave this field empty.
    - Macro Body Processing: `Rendered`
    - Template:

```
## @noparams
<div class="error">$body</div>
```

5. Choose **Save**.

**Related pages:**

- Writing User Macros
- Guide to User Macro Templates
- Examples of User Macros

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#### Using the 'Error' macro on a page

To add the macro to a page, edit the page and choose **Insert** > **Other Macros** and find the 'Error' macro. (Or use autocomplete: start typing '{err' in the editor, and select the 'Error' macro from the list of suggestions that appears.)

Your page will display an error box, like this:

(Write your error message here.)

### Colour and Size Macro - Example of a User Macro

This example demonstrates how you can pass parameters into your macro. Let's say you want to write your own

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font colour macro, with a parameter allowing the user to specify the colour. Then perhaps you want to add another parameter, that allows the user to specify the font size.

For full details about creating a user macro, see the guide to writing user macros.

#### Defining the 'Colour' user macro

This example uses a single parameter.

**To create the 'Colour' user macro:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **User Macros** in the left-hand panel.
3. Choose **Create a User Macro** at the bottom of the list of macros.
4. Enter the macro attributes as follows:
    - Macro Name: `colour`
    - Visibility: `Visible to all users in the Macro Browser`
    - Macro Title: `Colour`
    - Description: `Colours a block of text`
    - Categories: `Confluence Content`
    - Icon URL: You can leave this field empty.
    - Documentation URL: You can leave this field empty.
    - Macro Body Processing: `Rendered`
    - Template:

```
## @param 0:title=colour|type=string
<span style="color: $param0">$body</span>
```

5. Choose **Save**.

**Related pages:**

- Writing User Macros
- Guide to User Macro Templates
- Examples of User Macros

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#### Using the 'Colour' macro on a page

To add the macro to a page, edit the page and choose **Insert** > **Other Macros** and find the 'Colour' macro. (Or use autocomplete: start typing '{colo' in the editor, and select the 'Colour' macro from the list of suggestions that appears.)

#### Defining the 'Stylish' user macro

If your macro requires more than one parameter, you can use variables $param0 to $param9 to represent them. Let's say that you want to add a parameter that allows the user to specify the size of the text.

Enter the macro attributes as follows:

- Macro Name: `stylish`
- Visibility: `Visible to all users in the Macro Browser`
- Macro Title: `Stylish`
- Description: `Applies colour and size to text`
- Categories: `Confluence Content`
- Icon URL: You can leave this field empty.
- Documentation URL: You can leave this field empty.
- Macro Body Processing: `Rendered`
- Template:

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```
## @param 0:title=colour|type=string
## @param 1:title=size|type=string
<span style="color: $param0; font-size: $param1">$body</span>
```

#### Naming your parameters

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.

```
## @param Colour:title=colour|type=string
## @param Size:title=size|type=string
<span style="color: $paramColour; font-size: $paramSize">$body</span>
```

### NoPrint Example of a User Macro

This page gives an example of a user macro, the 'NoPrint' macro, that you can use to prevent text from being printed. For full details about creating a user macro, see the guide to writing user macros.

#### Defining the 'NoPrint' user macro

**To create the 'NoPrint' user macro:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **User Macros** in the left-hand panel.
3. Choose **Create a User Macro** at the bottom of the list of macros.
4. Enter the macro attributes as follows:
    - Macro Name: `noprint`
    - Visibility: `Visible to all users in the Macro Browser`
    - Macro Title: `NoPrint`
    - Description: `Hides text from printed output.`
    - Categories: `Confluence Content`
    - Icon URL: You can leave this field empty.
    - Documentation URL: You can leave this field empty.
    - Macro Body Processing: `Rendered`
    - Template:

```
## @noparams
<div class="noprint">$body</div>
```

5. Choose **Save**.

**Related pages:**

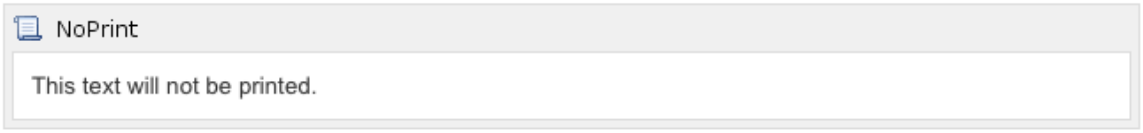
- Writing User Macros
- Guide to User Macro Templates
- Examples of User Macros

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#### Using the 'NoPrint' Macro on a page

Now you can add the macro to your Confluence page using the Macro Browser. Text entered into the body of the macro placeholder will not be printed, but will appear when the page is viewed online.

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#### Making the PDF export recognise the NoPrint macro

See Advanced PDF Export Customisations.

### Panel Preformatted with Specific Colours - Example of a User Macro

This user macro creates a panel pre-formatted to specific colours. It will create a panel that looks like this:

| (Title) |
| --- |
| |

**Note:** The panel's title will be empty if the user does not give a value for the title parameter**.**

**Related pages:**

- Writing User Macros
- Guide to User Macro Templates
- Examples of User Macros

*The information on this page does not apply to Confluence OnDemand.*

#### Defining the 'Formatted Panel' user macro

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **User Macros** in the left-hand panel.
3. Choose **Create a User Macro** at the bottom of the list of macros.
4. Enter the macro attributes as follows:
    - Macro Name: `formpanel`
    - Visibility: `Visible to all users in the Macro Browser`
    - Macro Title: `Formatted Panel`
    - Description: `Creates a panel preformatted with specific colours`
    - Categories: `Formatting`
    - Icon URL: You can leave this field empty.
    - Documentation URL: You can leave this field empty.
    - Macro Body Processing: `Escaped`
    - Template:

```
## @param Title:title=Title|type=string|desc=Title

<ac:macro ac:name="panel">
        <ac:parameter ac:name="titleBGColor">#ccc</ac:parameter>
        <ac:parameter ac:name="borderStyle">solid</ac:parameter>
        <ac:parameter ac:name="borderColor">#6699CC</ac:parameter>
        <ac:parameter ac:name="borderWidth">2</ac:parameter>
        <ac:parameter ac:name="titleColor">#000000</ac:parameter>
    <ac:parameter ac:name="title">$!paramTitle</ac:parameter>
    <ac:rich-text-body>$body</ac:rich-text-body>
</ac:macro>
```

5. Choose **Save**.

#### Explanation of the code in the macro template

| Item | Description |
| --- | --- |

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| | |
|---|---|
| `## @param Title:title=Title\|type=string\|desc=Title` | @param defines the metadata for your macro parameters. When users select this macro, the macro will contain a parameter called "Title" where they can enter data. A macro dialog window appears when the user selects this macro using **Insert > Other Macros** or when a user clicks the macro placeholder and chooses **Edit**. The macro will, later on, use the data stored in this parameter to enter data in the title section of the Panel macro.<br><br>`@param Title`<br><br>This parameter is called "Title".<br><br>`title=Title`<br><br>defines the parameter title that will appear in the macro dialog window as "Title".<br><br>`type=string`<br><br>defines the field type for the parameter as a text field.<br><br>`desc=Title`<br><br>defines the description of the parameter. |
| `<ac:macro ac:name="panel">` | This command activates the Confluence Panel macro .<br><br>Hint: To discover the code name of a Confluence macro, see Confluence Storage Format for Macros. If the macro you want is not documented there, follow these steps:<br><br>1. Create and save a page containing a Confluence macro you want to investigate.<br>2. Choose **Tools** > **View Storage Format**. This option is available to Confluence administrators only, and shows the XML source code for the page. (See Confluence Storage Format.)<br>3. A Confluence macro starts with the following string: `<ac: macro ac:name=` |
| `<ac:parameter ac:name="titleBGColor">#ccc</ac:parameter>`<br>`<ac:parameter ac:name="borderStyle">solid</ac:parameter>`<br>`<ac:parameter ac:name="borderColor">#6699CC</ac:parameter>`<br>`<ac:parameter ac:name="borderWidth">2</ac:parameter>`<br>`<ac:parameter ac:name="titleColor">#000000</ac:parameter>` | Sets the parameters for the macro: the background colour, border style, border colour, border width and title colour.<br><br>Hint: To discover the names of the parameters for a Confluence macro, see Confluence Storage Format for Macros. If the macro you want is not documented there, follow these steps:<br><br>1. Create and save a page containing a Confluence macro you want to investigate.<br>2. Choose **Tools** > **View Storage Format**. This option is available to Confluence administrators only, and shows the XML source code for the page. (See Confluence Storage Format.)<br>3. The macro parameters start with the following string: `<ac: parameter ac:name` |
| `<ac:parameter ac:name="title">$!paramTitle</ac:parameter>` | Enters the value stored in the 'Title' parameter into the title section of the macro.<br><br>The ! tells the macro to leave the title blank, when there is no data in the "Title" parameter. |

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| | |
|---|---|
| `<ac:rich-text-body>$body</ac:rich-text-body>` | Users can enter data that is stored in the body of the macro. This line enables the macro to access and store the body content passed to your macro. |
| `</ac:macro>` | This command marks the end of the macro. |

#### Preformatted Table - Example of a User Macro

This user macro creates a 2 x 2 table, with the headings defined as 'Parameter' and 'Description'. It will create a table that looks like this:

| Parameter | Description |
|---|---|
| | |

Note: As the macro is written, the user cannot amend the heading titles when using the macro on a Confluence page.

**Related pages:**

- Writing User Macros
- Guide to User Macro Templates
- Examples of User Macros

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Defining the 'Formatted Table' user macro

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **User Macros** in the left-hand panel.
3. Choose **Create a User Macro** at the bottom of the list of macros.
4. Enter the macro attributes as follows:
    - Macro Name: `formtable`
    - Visibility: `Visible to all users in the Macro Browser`
    - Macro Title: `Formatted Table`
    - Description: `Creates a simple 2 x 2 table with the column headings filled in`
    - Categories: `Formatting`
    - Icon URL: You can leave this field empty.
    - Documentation URL: You can leave this field empty.
    - Macro Body Processing: `Escaped`
    - Template:

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```
## @param Head1:type=string|desc=Heading
## @param Head2:type=string|desc=Heading
## @param Cell1:type=string|desc=cell
## @param Cell2:type=string|desc=cell
#set ($paramHead1 ="Parameter")
#set ($paramHead2 ="Description")

<div id="preformattedtable">
<table>
<tr>
<th>$paramHead1</th>
<th>$paramHead2</th>
</tr>
<tr>
<td>$!paramCell1</td>
<td>$!paramCell2</td>
</tr>
</table>
</div>
```

5. Choose **Save**.

#### Using the macro on a Confluence page

**To add the macro to a page:**

1. In the Confluence editor, choose **Insert** > **Other Macros**.
2. Find and select the 'Formatted Table' macro.
3. Enter the cell contents into the form.
4. Choose **Insert**.

#### *Amending the contents of the table*

To change the content in the cells of the table:

1. Edit the page.
2. Click the macro placeholder for the 'Formatted Table' macro, to see the properties panel.
3. Choose **Edit**.
4. Enter the cell contents into the form.
5. Choose **Save**

**Note:** Content entered into the body of the 'Formatted Table' macro will not appear on the page.

## Guide to User Macro Templates

You can create a user macro in Confluence by typing it into a screen in the Confluence Administration Console. The 'template' is one of the fields that you define when writing a user macro. (See the rest of the guide to writing user macros.) This page gives you guidelines about the code you can enter in a user macro template.

**Quick guide to user macro templates:**

- Use HTML and Confluence-specific XML elements in the macro template. Details of Confluence's storage format are in Confluence Storage Format.
- You can use the Velocity templating language. Here is more information on the Velocity project.
- If your macro has a body, your template can refer to the macro body text by specifying '`$body`'.
- Each parameter variable you use must have a matching metadata definition. Use `@param` to define metadata for your macro parameters.
- When using the information passed using parameters, refer to your parameters as $paramXXX where 'XXX' is the parameter name that you specifed in the `@param` metadata definition.
- Use `@noparams` if your macro does not accept parameters.

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**On this page:**


- Accessing your macro's body
- Using parameters in your user macro
- Objects available to your macro
- Controlling parameter appearance in the editor placeholder


**Related pages:**

- Writing User Macros
- Examples of User Macros

⚠ *The information on this page does not apply to Confluence OnDemand.*

### *Accessing your macro's body*

Use the `$body` object within your user macro template to access the content passed to your macro in the macro body.

The `$body` object is available if you have specified that your macro has a body (in other words, if you have *not* selected **No macro body**).

**Example:** Let's assume your macro is called `helloworld`.
Enter the following code in your template:

```
Hello World: $body
```

A user, when editing a Confluence page, chooses your macro in the macro browser and then enters the following in the macro placeholder that is displayed in the edit view:

```
From Matthew
```

The wiki page will display the following:

> *Hello World: From Matthew*

### *Using parameters in your user macro*

You can specify parameters for your macro, so that users can pass it information to determine its behaviour on a Confluence page.

#### How your macro's parameters are used on a Confluence page

When adding a macro to a Confluence page, the macro browser will display an input field for each of your macro's parameters. The field type is determined by the parameter type you specify for each parameter.

#### Defining the parameters

A parameter definition in the template contains:

- `@param`
- The parameter name
- A number of attributes (optional)

Format:

```
## @param MYNAME:title=MY TITLE|type=MY TYPE|desc=MY
DESCRIPTION|required=true|multiple=true|default=MY DEFAULT VALUE
```

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Additional notes:

- The order of the parameters in the template determines the order in which the macro browser displays the parameters.
- We recommend that you define the parameters at the top of the template.
- There may be additional attributes, depending on the parameter type you specify.

The sections below describe each of the attributes in detail.

| Attribute name | Description | Required / Recommended / Optional |
|---|---|---|
| (an unnamed, first attribute) | A unique name for the parameter. The parameter name is the first attribute in the list. The name attribute itself does not have a name. See the section on name b elow. | Required |
| title | The parameter title will appear in the macro browser. If you do not specify a title, Confluence will use the parameter name. | Recommended |
| type | The field type for the parameter. See the section on type below. | Recommended |
| desc | The parameter description will appear in the macro browser. | Optional |
| required | Specifies whether the user must enter information for this parameter. Defaults to 'false'. | Optional |
| multiple | Specifies whether the parameter accepts multiple values. Defaults to 'false'. | Optional |
| default | The default value for the parameter. | Optional |

#### *Parameter name*

The parameter name is the first attribute in the list. The name attribute itself does not have a name.

**Example:** The following code defines 2 parameters, named 'foo' and 'bar':

```
## @param foo
## @param bar
```

#### *Parameter type*

The field type for the parameter. If you do not specify a type, the default is `string`.

| Parameter type | Description |
|---|---|
| boolean | Displays a checkbox to the user and passes the value 'true' or 'false' to the macro as a string. |

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| | |
|---|---|
| enum | Offers a list of values for selection. You can specify the values to appear in a dropdown in the macro browser. Example of specifying the enum values:<br>`## @param colour:title=Colour\|type=enum\|enumValues=Grey,Red,Yellow,Green`<br>*Note about i18n:* Confluence does not support internationalisation of the enum values.The value the user sees is the one passed to the macro as the parameter value, with the capitalisation given. In this case 'Grey', 'Red', etc. |
| string | A text field. This is the default type. Example with a required field:<br>`## @param status:title=Status\|type=string\|required=true\|desc=Status to display` |
| confluence-content | Offers a control allowing the user to search for a page or blog post. Example:<br>`## @param page:title=Page\|type=confluence-content\|required=true\|desc=Select a page do use` |
| username | Search for user.<br>`## @param user:title=Username\|type=username\|desc=Select username to display` |
| spacekey | Offers a list of spaces for selection. Passes the space key to the macro. Example:<br>`## @param space:title=Space\|type=spacekey` |

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| | |
|---|---|
| date | Confluence accepts this type, but currently treats it in the same way as 'string'. Example:<br>`## @param fromDate:title=From Date\|type=date\|desc=Date to start from. Format: dd/mm/YYYY`<br>*Note about dates:* A user can enter a date in any format, you should validate the date format in your user macro. |
| int | Confluence accepts this type, but currently treats it in the same way as 'string'. Example with a default value:<br>`## @param numPosts:title=Number of Posts\|type=int\|default=15\|desc=Number of posts to display` |
| percentage | Confluence accepts this type, but currently treats it in the same way as 'string'. Example:<br>`## @param pcent:title=Percentage\|type=percentage\|desc=Number of posts to display` |

#### Using the parameters in your macro code

The parameters are available in your template as `$paramfoo`, `$parambar` for parameters named "foo" and "bar".

Normally, a parameter like `$paramfoo` that is missing will appear as '$paramfoo' in the output. To display nothing when a parameter is not set, use an exclamation mark after the dollar sign like this: `$!paramfoo`

#### Using no parameters

If your macro does not accept parameters, you should use `@noparams` in your template. That will let Confluence know that it need not display a parameter input field in the macro browser.

If the user macro contains no parameters and does not specify `@noparams`, then the macro browser will display a free-format text box allowing users to enter undefined parameters. This can be confusing, especially if the macro does not accept parameters.

**Example:** Add the following line at the top of your template:

```
## @noparams
```

### *Objects available to your macro*

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Including the macro body and parameters, the following Confluence objects are available to the macro:

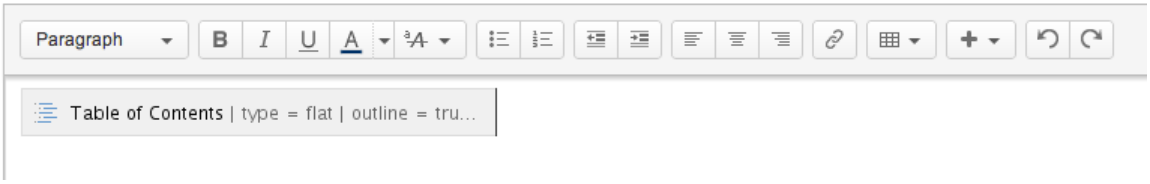
| Variable | Description | Class Reference |
|---|---|---|
| `$body` | The body of the macro (if the macro has a body) | String |
| `$paramfoo`, `$parambar`, ... `$param<name>` | Named parameters ("foo", "bar") passed to your macro. | String |
| `$config` | The `BootstrapManager` object, useful for retrieving Confluence properties. | BootstrapManager |
| `$renderContext` | The `PageContext` object, useful for (among other things) checking `$renderContext.outputType` | PageContext |
| `$space` | The `Space` object that this content object (page, blog post, etc) is located in (if relevant). | Space |
| `$content` | The current `ContentEntity` object that this macro is a included in (if available). | ContentEntityObject |

Macros can also access objects available in the default Velocity context, as described in the developer documentation.

***Controlling parameter appearance in the editor placeholder***

You can determine which macro parameters should appear in the placeholder in the Confluence editor.

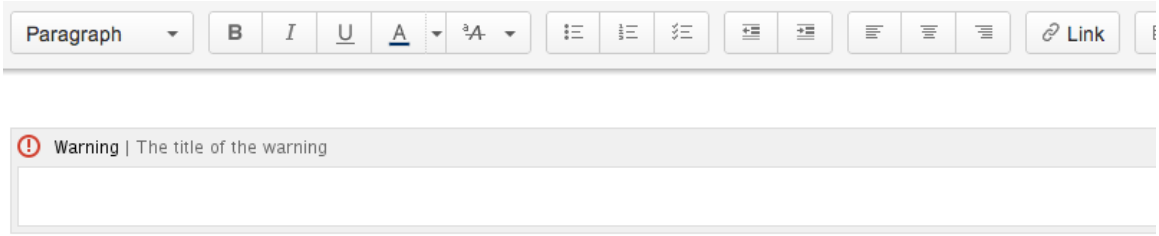
By default as many parameters as can fit will be displayed in the placeholder, as shown here:




You can control which parameters you want to display here, to ensure the most relevant information is visible to the author.

For example, the Confluence Warning macro has two parameters, *title* and *icon*. We consider *title* to be the most interesting parameter, so we have configured the Warning macro to show only the value of the *title* parameter.

Let's assume an author adds the Warning macro to a page, and gives it a title of 'The title of the warning'. The macro configuration leads to a placeholder as shown here:




To configure the macro placeholder for a user macro, you will add attributes to the @param entry in the template.

For example, if our Warning macro is a user macro, the configuration for the *title* parameter is as follows:

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```
## @param
title:type=string|option-showNameInPlaceholder=false|option-showValueInP
laceholder=true
```

The attribute `showNameInPlaceholder` specifies that the *title* parameter's *name* should not be shown.

The attribute `showValueInPlaceholder` specifies that the *title* parameter's *value* should be shown.

If none of the parameters in a macro include any of the above attributes, then the default behaviour is to show all the parameters that fit in the placeholder: full title and value.

If one or more parameters has either attribute set, then all parameters that do not include the attributes will default to false (that is, they will not be shown).

## Configuring the Office Connector

The Office Connector is a Confluence add-on 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 and import content from an Office document into Confluence. Please refer to the User Guide for details of these interactions.

The Office Connector add-on is shipped with Confluence. A System Administrator can enable or disable parts of the Office Connector and can configure options as described below.

### Enabling and Disabling the Office Connector and its Modules

The Office Connector is bundled with Confluence, 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 **Manage Add-ons** in the left-hand panel of the Confluence Administration Console.
2. Click **Show system add-ons** under 'System Add-ons'.
3. Enter 'Office Connector' in the **Filter Visible add-ons** field to quickly find the Office Connector add-on.
4. Open the details view of the add-on by clicking on the Office Connector add-on in the system add-ons list.
5. From the details view, you can:
    - Click **Configure** to specify preferences for the Office Connector. This open the configuration screen described below.
    - Click **Disable** to disable all modules of the add-on.
    - View the **modules** that make up the add-on by expanding the modules list. You can enable or disable certain Office Connector modules.

**On this page:**

- Enabling and Disabling the Office Connector and its Modules
- Configuring the Office Connector Options

**Related pages:**

- Office Connector Prerequisites
- Office Connector Limitations and Known Issues
- Working with the Office Connector
- Managing Add-ons and Macros

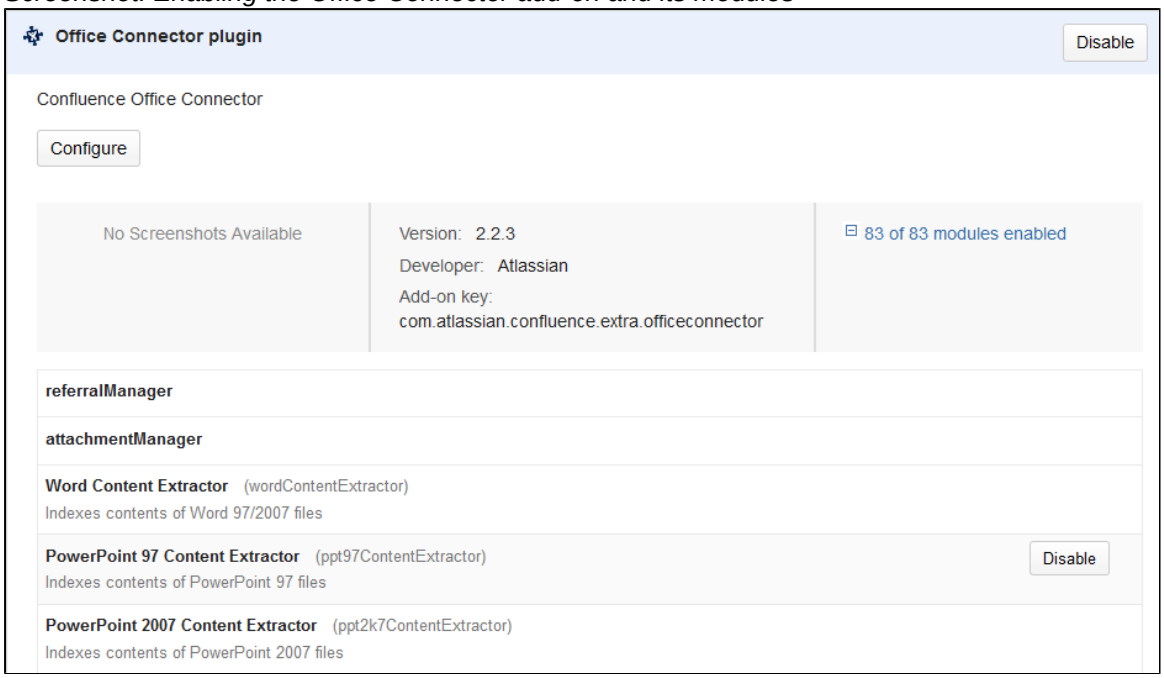
⚠ *The information on this page does not apply to Confluence OnDemand.*

**To disable or enable a module:**

1. Open the details view for the Office Connector add-on in the 'Manage Add-ons' page.
2. Epand the active modules link. The text of this link indicates the number of enabled modules out of the total modules in the add-on.

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*Screenshot: Enabling the Office Connector add-on and its modules*




3. Hover over the module in the list to make the **Enable** or **Disable** button visible, and click the button to apply the action.

Only certain Office Connector modules can be disabled. Modules that are integral to the operation of the add-on cannot be disabled, and do not have an **Enable** or **Disable** button. Modules that can be disabled include the button and provide a brief, on-screen description of the module.

### Configuring the Office Connector Options

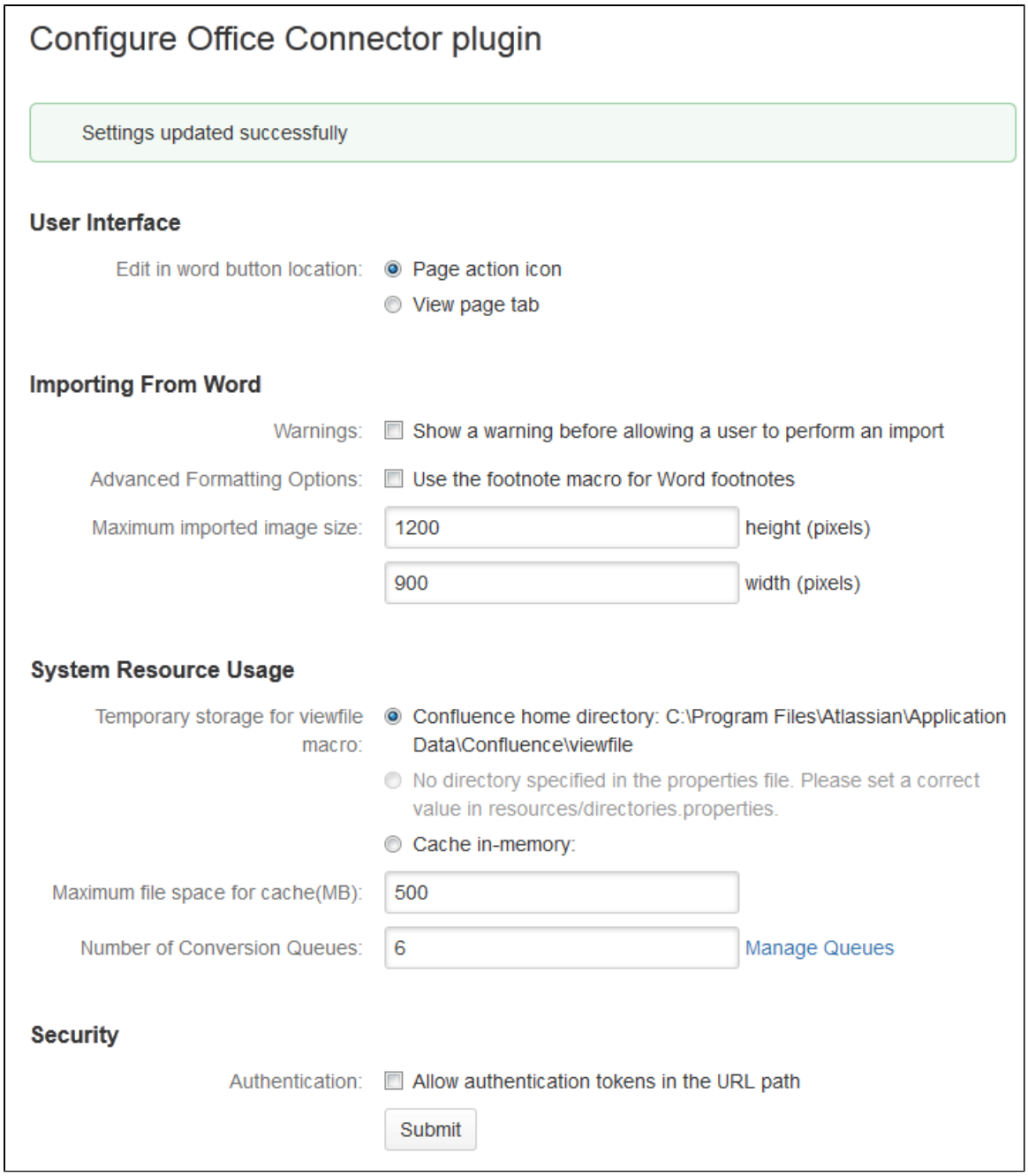
Confluence administrators can configure settings that control the behaviour of the Office Connector on your Confluence site.

**To set the configuration options for the Office Connector:**

1. Select **Office Connector** under 'Configuration' in the left-hand panel of the 'Confluence Administration Console'. The 'Configure Office Connector plugin' screen appears.

*Screenshot: Configuring the Office Connector options*

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2. Set the configuration options as described in the table below.

The configuration options are described in the table below:

| Option | Default Value | Description |
|---|---|---|
| Edit in word button location | Page action icon | Where the button for editing the content in Word is located. You can configure the button to appear in the page action icon or from the view page tab. |
| 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. |

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| | | |
|---|---|---|
| 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 add-on onto your Confluence site. For more information about this add-on and macro, please refer to the Footnotes add-on. |
| 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. Available settings are:<br>• **Confluence home directory** – The temporary file will be stored in your Confluence Home directory.<br>• **A directory specified in the `directories.properties` file** – You can specify a location by editing the Office Connector's `directories.properties` file:<br>1. Go to the `bundled-plugins` directory in your Confluence Home directory.<br>2. Copy the Office Connector JAR file to a temporary location: `OfficeConnector-x.xx.jar`, where 'x.xx' is the version number. |

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3. Unzip the JAR file and find the `directories.properties` file in the `resources`directory. The content of the file looks like this:

```
#Complete the following line to set a custom cache directory.
#If resetting to blank, don't delete anything before or including the '='
com.benryan.confluence.word.edit.cacheDir=
```

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| | | |
|---|---|---|
| | | 4. Edit the last line, adding the path to your required temporary location directly after the '=' character. For example:<br>• On Windows:<br>`com.benryan.confluence.word.editcacheDir=c:\my\path\`<br>• On Linux:<br>`com.benryan.confluence.word.editcacheDir=/home/myusername/my/path`<br>5. Save the file, recreate the JAR and put it in the `bundled-plugins` directory in your Confluence Home directory, overwriting the original JAR.<br>• **Cache in-memory** – The temporary file will be held in memory. We recommend this option if you are running in a clustered environment. |
| Maximum file space for cache (MB) | 500 | This is the maximum size of the cache used by the {viewfile} macro. (See above.) |

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| | | |
|---|---|---|
| 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 **Manage Queues** to view attachments that are still pending conversion. |

# Customising your Confluence Site

This page is an introduction to customising Confluence at site level. This is of interest to Confluence administrators – people with System Administrator or Confluence Administrator permissions.

For guidelines on customisations at a personal and space level, see the user's guide to Customising Confluence.

We have documented the customisations under two broad headings:

- You can change the **appearance** of Confluence by customising the dashboard, adjusting the colours, adding a site logo, and more. See Changing the Look and Feel of Confluence.
- You can determine the **default behaviour** by setting various options, or define the **default content** that appears in new spaces, on the dashboard, and in other Confluence locations. See Changing the Default Behaviour and Content in Confluence.

**Related pages:**

- Managing Add-ons and Macros (*Not applicable to Confluence OnDemand.*)
- Integrating Confluence with Other Applications (*Not applicable to Confluence OnDemand.*)
- Tracking Customisations Made to your Confluence Installation (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

## Changing the Look and Feel of Confluence

You can customise the 'look and feel' of Confluence at both the site (global) and space levels.

Any changes you make to the look and feel at site 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.

**Ways to customise the look and feel of your site:**

- Change the appearance of the **dashboard**. See Customising the Confluence Dashboard. *Not applicable to Confluence OnDemand.*
- Add your own site logo. See Changing the Site Logo.
- Change the **colour scheme** of the user interface. See Customising Colour Schemes.
- Use **themes** for advanced layout customisation. See Working with Themes.
- Change the **site or space layouts**, which determine how the controls are laid out in the site. This does not change the actual page layouts, but it does change the way the surrounding controls appear in the page. See Customising Site and Space Layouts. *Not applicable to Confluence OnDemand.*
- Apply more advanced configurations – see the children of this page.

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**Related pages:**

- Working With Decorator Macros (*Not applicable to Confluence OnDemand.*)
- Customising a Specific Page (*Not applicable to Confluence OnDemand.*)
- Upgrading Customised Site and Space Layouts (*Not applicable to Confluence OnDemand.*)
- Administering Site Templates
- Confluence Administrator's Guide

## Customising the Confluence Dashboard

If you are a Confluence Administrator, you can customise the site dashboard, affecting the way all users will see the dashboard. Some of the actions below require Confluence Administrator permissions, whereas others require System Administrator permissions.

Confluence users can customise their own view of the dashboard too. See the user's guide.

#### Sending users to a space home page instead of the dashboard

See Configuring the Site Home Page.

#### Editing the top left-hand section of the dashboard

See Editing the Site Welcome Message.

#### Disabling the 'Popular' tab on the dashboard

In some environments, you may prefer not to display the 'Popular' tab on the dashboard. For example, if your wiki allows only a small group of people to log in and contribute content or comments, then the tab may not be relevant to you.

To prevent the tab from appearing, you can disable the relevant plugin module. You need System Administrator permissions to do this. Go to the **Dashboard Macros** plugin (See Configuring a Plugin), choose **Manage plugin modules** and disable the **Popular Tab** module.

**On this page:**


- Sending users to a space home page instead of the dashboard
- Editing the top left-hand section of the dashboard
- Disabling the 'Popular' tab on the dashboard
- Advanced customisations
  - Editing the bottom left-hand section of the dashboard
  - Editing the top right-hand action bar
  - Modifying the global template or layout


**Related pages:**

- Customising your Personal Dashboard
- Changing the Look and Feel of Confluence

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Advanced customisations

These configurations require knowledge of plugin development and/or the Velocity template language. See our guide to the Atlassian Plugin SDK and our introduction to Velocity.

##### *Editing the bottom left-hand section of the dashboard*

This section can be updated using Confluence web panels. You can add items to the dashboard by including a web panel with the key `atl.dashboard.left`:

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```
<web-panel key="{key}" location="atl.dashboard.left">
                    <resource name="view" type="velocity"
location="{location}"/>
                </web-panel>
```

You can remove the existing entities panel by disabling the global-entities-panel plugin from the dashboard macros plugin.

#### *Editing the top right-hand action bar*

You can add more links to the top right navigation bar by adding web items to `system.dashboard.button`:

```
<web-item key="{key}" name="{name}" section="system.dashboard.button">
                    <label key="{label}"/>
                    <link/>
                    <styleClass/>
                </web-item>
```

#### *Modifying the global template or layout*

You can also modify files to add content to the global dashboard.

To make modifications to the dashboard, modify the global template `/confluence/decorators/global.vm` d or the layout at **Confluence Admin** > **Layouts** > **Global Layout**.

For example, search the global layout for these macros:

```
$helper.renderConfluenceMacro("{recently-updated-dashboard:dashboard|sho
wProfilePic=true}")
```

To modify the bundled plugin macros used in the Confluence dashboard:

1. Modify the `atlassian-bundled-plugins.zip` file located at `<Confluence install>/confluence/WEB-INF/classes/com/atlassian/confluence/setup`.
2. Update the `confluence-dashboard-macros-x.x.jar` file, rezip it and then put it back to `<Confluence install>/confluence/WEB-INF/classes/com/atlassian/confluence/setup`. Refer to How to Edit Files in Confluence JAR Files
3. Delete the JAR from `<confluence-home>/bundled-plugins`.
4. Restart Confluence.

To customise the space list, you can work with `spacelist.vm`.

## Changing the Site Logo

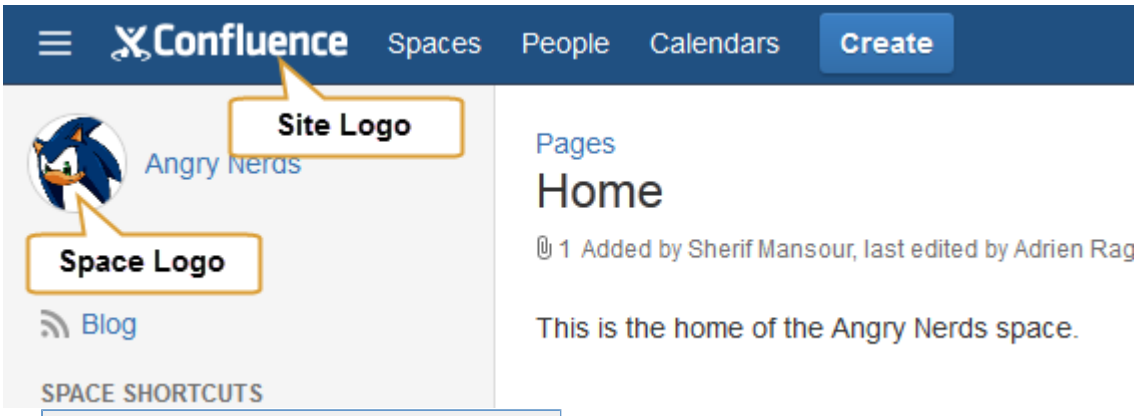
You can customise the look and feel of your Confluence site by changing the logos.

You can change:

- the **site logo**
- the **default space logo** for all spaces
- the **space logo** for individual spaces.

*Screenshot: Location of the Site Logo and Space Logo in Confluence.*

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**On this page:**


- Changing the site logo
- Changing the default space logo
- Changing a specific space logo


**Related pages:**

- Changing the Look and Feel of Confluence
- Customising Colour Schemes
- Confluence Administrator's Guide

### Changing the site logo

The Site Logo appears in the header and is visible throughout Confluence.

You need to be a Confluence Administrator to change the site logo.

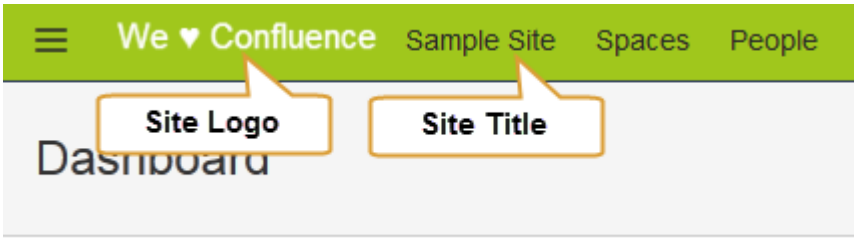
**To change the site logo:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Site Logo** in the left-hand panel.
3. Choose **Browse** to upload a new logo
4. Choose **Show Logo Only** or **Show Logo and Title** depending on whether you wish the SIte Title to display in the header
5. Choose **Save**.

Confluence's Auto Look and Feel will detect the colours in your new logo, and change the site colour scheme to match.

If you would prefer to use the default colour scheme with your custom logo go to **Confluence Admin** > **Colour Scheme** > **Edit** and then choose **Reset** to revert back to the default scheme.

*Screenshot: Header showing Site Logo, Site Title and auto look and feel changes to the colour of the header*




### Changing the default space logo

The Space Logo appears in the sidebar and as an icon in the Sites Directory. If you are using the Documentation theme the Space Logo displays beside the Space Title.

The default space logo applies to all spaces that do not have a custom space logo applied - see Changing a

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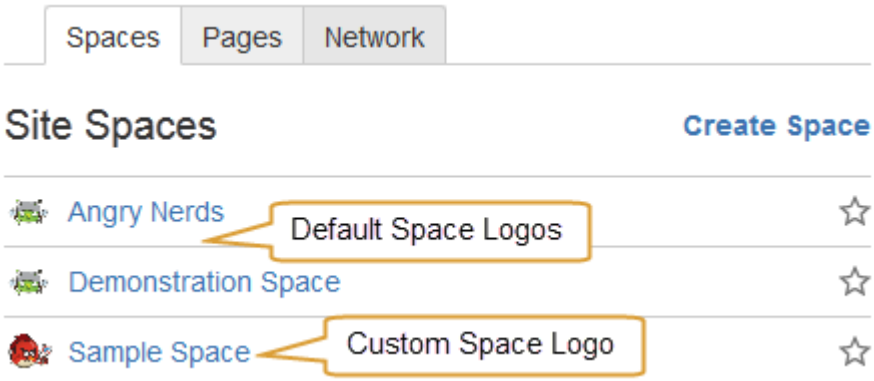
Space's Logo.

You need to be a Confluence Administrator to change the default space logo.

**To change the default space logo:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Default Space Logo** in the left-hand panel.
3. Choose **Logo:ON**
4. Choose **Browse** to upload a new logo
5. Choose **Upload Logo**
6. Choose **Save**.

*Screenshot: Confluence spaces showing the default logo, and a space with a customised logo*




Changing a specific space logo

Space Administrators can change the logo for their space. This overrides the default space logo and any change s to the default space logo will not appear in these spaces. See example above - 'Sample Space' has a custom logo.

See Changing a Space's Logo to find out how to change the logo in a specific space.

## Customising Colour Schemes

Confluence administrators can configure a new colour scheme for the site. The default colour scheme for the site will also become the default for all spaces within it. Space administrators can configure a different colour scheme for spaces. The space colour scheme will override the site-wide colour scheme.

**To change the site's colour scheme:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Colour Scheme** in the left-hand panel.
3. Choose **Edit**.
4. Enter standard HTML/CSS2 colour codes, or use the colour-picker to choose a new colour from the palette provided.
5. Choose **Save**. Any changes you make will immediately be reflected across the Confluence site.

**On this page**


- Reset your colour scheme after uploading a site logo
- Notes


**Related pages:**

- Working with Templates
- Working with Themes
- Changing the Look and Feel of Confluence
- Confluence Administrator's Guide

Some UI elements below are for specific themes, and colour changes may not take effect for other themes.

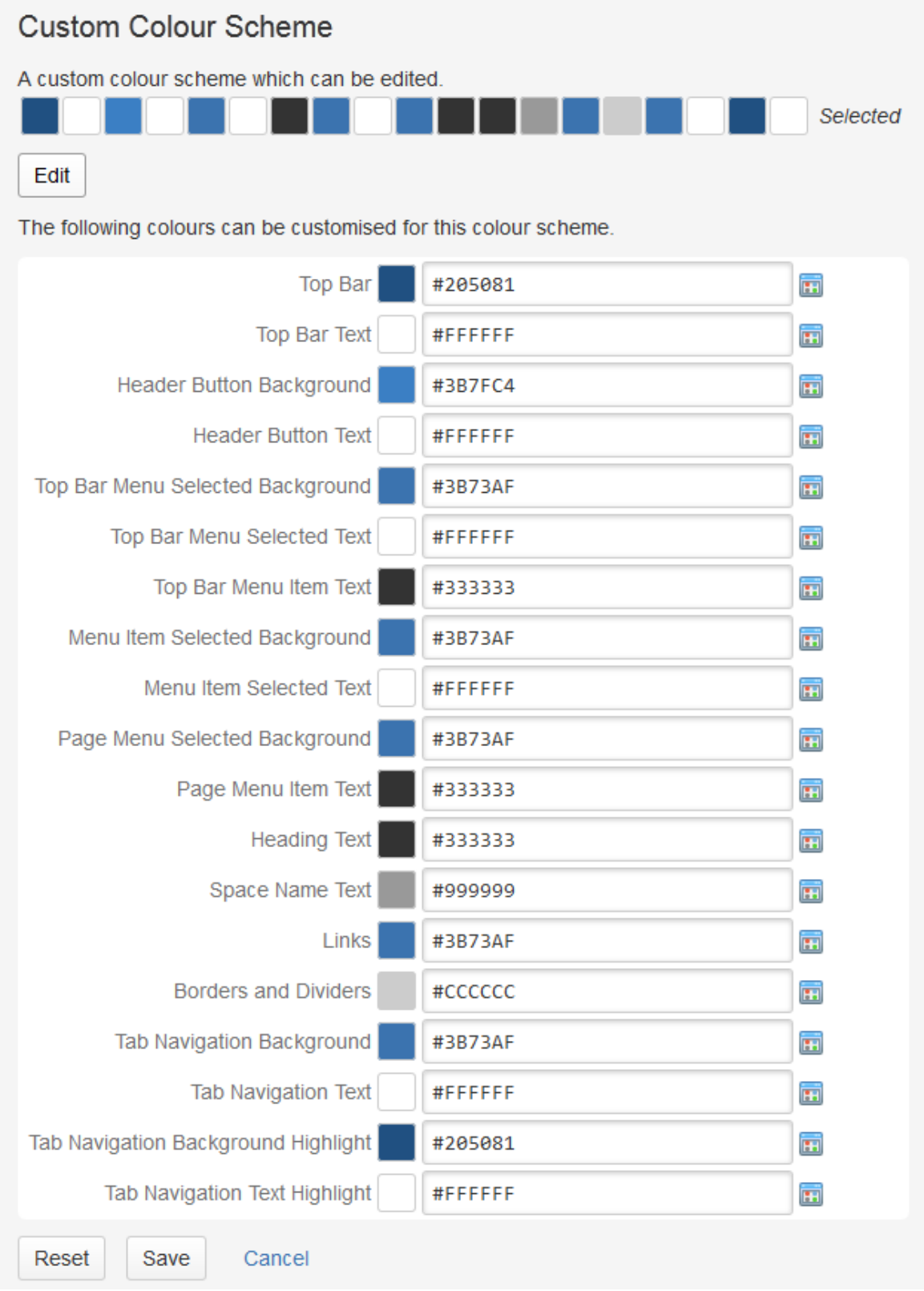
- **Top Bar** - the top navigation bar background
- **Top Bar Text** - the text on the top navigation bar

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- **Header Button Background** - buttons on the top navigation bar (e.g. Create button)
- **Header Button Text** - the text on buttons on the top navigation bar
- **Top Bar Menu Selected Background** - background colour of top navigation bar menu items when selected (e.g. spaces)
- **Top Bar Menu Selected Text** - text colour of top navigation bar menu items when selected
- **Top Bar Menu Item Text** - text on top navigation bar drop down menus (e.g. help or cog)
- **Menu Item Selected Background** - highlight colour on top navigation bar drop down menu items
- **Menu Item Selected Text** - text colour on highlighted top navigation bar drop down menu items
- **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
- **Heading Text** - all heading tags throughout the space
- **Space Name Text** - the text of the current space name located above the page title
- **Links** - all links throughout the space
- **Borders and Dividers** - table borders and dividing lines
- **Tab Navigation Background** - the background colour of the tab navigation
- **Tab Navigation Text** - the text of the tab navigation when highlighted
- **Tab Navigation Background Highlight** - the background colour of the tab navigation when highlighted
- **Tab Navigation Text Highlight** - the text of the tab navigation elements when highlighted

*Screenshot: Editing the colour scheme*

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**Reset your colour scheme after uploading a site logo**

When you upload a site logo, Confluence automatically detects the colours in your logo and customises the colour scheme for you.

You can change the colour scheme as above, or reset your colour scheme back to the default (and still keep your new site logo).

To reset the colour scheme:

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.

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2. Choose **Colour Scheme** in the left-hand panel.
3. Choose **Edit**.
4. Choose **Reset.**

#### Notes

- If you make a mistake, just choose **Reset** and then try again.
- Some UI elements are specific to the default theme and may not take effect for other themes.

## Working with Themes

Themes are pre-defined style sets that you can apply to Confluence, to alter the appearance of your site. This is a way of personalising the 'look and feel' of Confluence. You can apply a theme to your entire Confluence site and to individual spaces. Choose a specific theme if you want to add new functionality or significantly alter the appearance of Confluence.

Confluence comes with a selection of themes. In addition, a site administrator can install new themes as add-ons via the Confluence Administration Console. Provided that the theme is installed on your Confluence site, any space administrator can apply a theme to a space.

By default when you create a new space, the space will have the Confluence default theme.

**To look at the themes installed on your Confluence site:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Themes** in the left-hand panel.
3. You will see a list of all installed themes.

#### *Useful add-ons*

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

Visit the Atlassian Marketplace to search for additional themes you can add to your site.

**Related pages:**

- Applying a Theme to a Space
- Applying a Theme to a Site
- Configuring the Documentation Theme
- Creating a Theme (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

### Applying a Theme to a Site

You can use a theme to personalise the 'look and feel' of Confluence. Some themes simply change the basic styling, others add new functionality or significantly alter the appearance of Confluence. You can apply a theme to your entire Confluence site and to individual spaces.

Confluence comes with a selection of themes. In addition, a site administrator can install new themes as plugins via the Confluence Administration Console. (*Not applicable to Confluence OnDemand.*)

Provided that the theme is installed into your Confluence site, any space administrator can apply a theme to a space. By default when you create a new space, the space will have the Confluence default theme.

**To apply a theme across the site:**

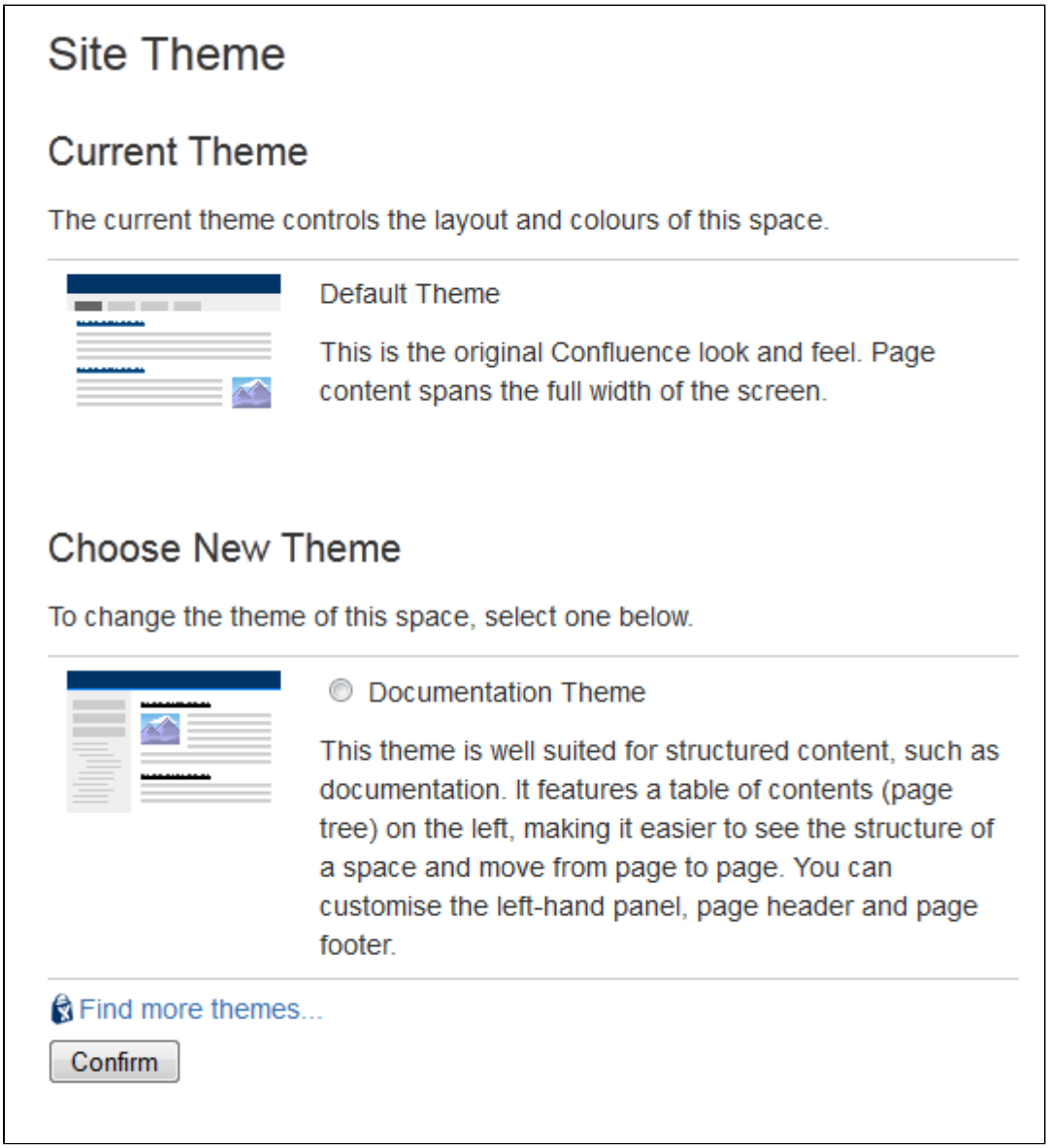
1. Ensure that the theme you wish to use has been installed as a plugin, if it is not shipped with Confluence. See Managing Add-ons and Macros. (*Not applicable to Confluence OnDemand.*)
2. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
3. Choose **Themes** in the left-hand panel.
4. The screen will display all available themes. Select a radio button to choose a theme.
5. Choose **Confirm**.

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**Related pages:**

- Applying a Theme to a Space
- Configuring the Documentation Theme
- Creating a Theme (*Not applicable to Confluence OnDemand.*)
- Confluence Administrator's Guide

*Screenshot: Applying a theme*




### Creating a Theme

If you want to create your own theme, you will need to write a Confluence plugin. Please refer to the following pages in our developer documentation:

- Get started with plugin development.
- Follow the developer's tutorial for writing a Confluence theme.
- Create a theme using the theme plugin module.

**Related pages:**

- Applying a Theme to a Site
- Applying a Theme to a Space
- Configuring the Documentation Theme
- Confluence Administrator's Guide

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## Customising Site and Space Layouts

You can modify Confluence's look and feel by editing the 'decorator' (layout) files. Modifying these files allows you to change the look and feel of:

- The Confluence site as a whole, which includes all spaces within the Confluence site.
- An individual space within the Confluence site.

This page tells you how to customise the layout files for your Confluence site as a whole. These customisations:

- Modify the default 'decorator' files of each space in your site.
- Are reflected in every space unless the space's own equivalent layout files have been customised.

You need System Administrator permissions to perform these customisations.

You can also customise the layout files for a given space. For more information, refer to Customising Space Layouts. Space layout customisations override the equivalent site customisations.

**Note:** 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. For more information on updating your customisations, please refer to Upgrading Customised Site and Space Layouts.

**On this page:**


- Editing a site decorator file
- Using Velocity macros
- Advanced customisations


**Related pages:**

- Velocity Template Overview
- Basic Introduction to Velocity
- Customising your Confluence Site
- Confluence Administrator's Guide

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

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 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 in Confluence are grouped into the following categories:

- **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 blog posts. They do not 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. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.

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2. Select **Layouts** under **Look and Feel** in the left-hand navigation panel.
    - Click **View Default** to view the `.vmd` file.
    - Click **Create Custom** to edit the default `.vmd` file. This will open 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.

#### Advanced customisations

##### Overriding Velocity templates

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.

##### Location of Velocity files

You will find the Velocity files in your Confluence installation directory. The primary Velocity files are located in the `<CONFLUENCE-INSTALLATION>\confluence\decorators` directory. For example, you will find the following files in that directory: `main.vmd, space.vmd, form-aui.vmd, global.vmd`, and more.

##### Finding the layout via the URL

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.

### Upgrading Customised Site and Space Layouts

As Confluence evolves, so do the default site and space layouts that drive the rendering of every page. As new functionality is added or current functionally is changed, the default layouts are modified to support these changes.



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 layouts from your current version of Confluence.
2. Reapply your customisations to the new default layouts.



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#### *Step 1. Obtain your Custom Layouts*

Ideally, you should keep a record of each customisation you have applied to each of your Confluence site or space layouts.

If not, you should be able to find your customisations using the following method. This method extracts all site- and space-level layouts from your Confluence site as a single output. From this output, you should be able to identify your customisations.

This method is handy to use if you have:

- Many spaces with space layout customisations, or
- Do not have an independent record of your site or space layout customisations.

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:

```
mysql> select SPACEKEY,DECORATORNAME,BODY from DECORATOR;
+----------+---------------------+------+
| SPACEKEY | DECORATORNAME       | BODY |
+----------+---------------------+------+
| NULL     | decorators/main.vmd | ...  |
+----------+---------------------+------+
1 row in set (0.03 sec)
```

*This example was tested on **MySQL**, but should be applicable to all SQL databases.*

#### *Step 2. Reapply your Customisations*

When you upgrade Confluence to another major release of Confluence, you will need to manually reapply any customisations you made to any site-wide or space-specific layouts. Unless otherwise stated, you should not need to reapply customisations after conducting a minor release upgrade of Confluence.

**What are 'major' and 'minor' releases?** Major release upgrades are ones where the 1st digit of Confluence's version number or the 1st digit after the 1st decimal place differ after the upgrade, for example, when upgrading from Confluence 3.0 to 3.1, or 2.8 to 3.0. Minor release upgrades are ones where the 1st digit of Confluence's version number and the 1st digit after the 1st decimal place remain the same after the upgrade, for example, when upgrading Confluence 3.0 to 3.0.1.

If you have made Confluence site-wide layout customisations:

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select **Layouts** in the left-hand navigation panel. The decorators are grouped under **Site**, **Content** and **E xport** layouts.
3. Ensure you have all your customisations available (preferably in a form which can be copied and pasted).
4. Click **Reset Default** next to the layout whose customisations need to be reapplied.
5. Click **Create Custom** next to the same layout and reapply your customisations (by copying and pasting them) into the appropriate locations within the new default layout.
6. Click the **Save** button.
7. Repeat this procedure from step 4 for each layout whose customisations need to be reapplied.

If you have made space-specific layout customisations:

1. Go to the space and choose **Space tools** > **Look and Feel** on the sidebar.
2. Choose **Layout**. The decorators are grouped under **Site**, **Content** and **Export** layouts.
3. Ensure you have all your customisations available (preferably in a form which can be copied and pasted).
4. Click **Reset Default** next to the layout whose customisations need to be reapplied.
5. Click **Create Custom** next to the same layout and reapply your customisations (by copying and pasting them) into the appropriate locations within the new default layout.
6. Click the **Save** button.

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7. Repeat this procedure from step 5 for each layout whose customisations need to be reapplied.

If your space is using the Documentation theme:

1. Go to a page in the space.
2. Choose **Browse** > **Space Admin** at the top of the screen.
   *Note:* The 'Space Admin' option appears only if you are a space administrator for the space or you are a super user (a member of the `confluence-administrators` group).
3. Choose **Layout** from the left hand panel.
4. Follow the steps above.

#### *Step 3. 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.

#### *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.

The `velocity.properties` file is available in the `confluence-x.x.x.jar` file, where `x.x.x` is the Confluence version number. 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-x.x.x.jar` file.
6. Relocate the JAR file to the appropriate directory.
7. Restart Confluence.

RELATED TOPICS

Customising Site and Space Layouts

## 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

| Macro | Usage |
|---|---|
| `#breadcrumbs()` | Draws the "You are here" breadcrumbs list, like the one found above the page name in the default template. |

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| | |
|---|---|
| `#includePage(pageTitle)` | 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. |
| `#searchbox()` | Inserts a search box into the page, like the one to the far right of the breadcrumbs in the default template. |
| `#globalnavbar(type)` | 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: |
| `#globalnavbar("table")` | Displays the navigation bar in its default mode: drawn as a table of links with coloured backgrounds and mouse-over effects. |
| `#globalnavbar("text")` | Displays the navigation bar as series of text links separated by<br>\|<br>characters. |
| `#usernavbar()` | 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. |
| `#helpicon()` | Draws the  help icon, and link to the Confluence help page. |
| `#printableicon()` | On pages where a printable version is available, draws the  printable page icon, linking to the printable version of the page. Otherwise, draws nothing |
| `#pagetitle(class)` | When you are viewing a page in a Confluence space, draws the name of the space that page is in. Otherwise, writes the word "CONFLUENCE".The "class" 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 "spacenametitle" as the class: `#pagetitle("spacenametitle")` |
| `#poweredby()` | Writes out the "Powered by Confluence" and Confluence version-number boilerplate found at the bottom of the default template. |
| `#bottomshadow()` | Draws the fading shadow-effect found at the bottom of the content area in the default template. |
| `#dashboardlink()` | Inserts a link to the dashboard page. |

RELATED TOPICS

- Adding, Editing and Removing User Macros
- Enabling HTML macros
- Enabling the html-include Macro
- Include Page Macro
- Writing User Macros

**Custom Decorator Templates**

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#### 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 unuseable, the administrative pages should still be available for you to fix the template.



*The information on this page does not apply to Confluence OnDemand.*

#### 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:

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```
<html>
<head>
     <title>$title - Confluence</title>

     #standardHeader()
</head>
<body onload="placeFocus()">

<div id="Content">
     <table border="0" cellpadding="0" cellspacing="0" width="100%">
         <tr>
             <td width="60%" rowspan=2
class="logocell">#pagetitle("spacenametitle")</td>

             <td width="40%" align="right" valign="top">#globalnavbar("table")</td>
         </tr>
         #if ($setup.isSetupComplete())
         <tr>
             <td align=right valign="bottom">
                 #usernavbar()
                 #printableicon()
                 #helpicon()
             </td>
         </tr>
         #end
     </table>

     #breadcrumbsAndSearch()

     <table border="0" cellpadding="5" cellspacing="0" width="100%"><tr><td>
<table border="0" cellpadding="0" cellspacing="0" width="100%"><tr>

     <td valign="top" class="pagebody">
## The "toolbar-style" page operations
## #if ($page.getProperty("page.operations"))
## <table align="right" class="toolbar"><tr><td>
## $page.getProperty("page.operations")
## </td></tr></table>
## #end

         #if ($page.getProperty("page.surtitle"))
             $page.getProperty("page.surtitle")
         #end

         #if (!$page.getProperty("page.no-page-header"))
             <div class="pageheader">
                 <span class="pagetitle">$title</span>
             </div>
         #end

         $body
     </td>

#parse ("/decorators/includes/complete_footer.vmd")
```

We can add our logo, changing the "logocell" table cell:

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```
<td width="60%" rowspan=2 class="logocell">
<img align="right"
src=http://www.atlassian.com/images/atlassian_logo.gif
width="203" height="60">#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 in the DECORATOR table in the database. If you have somehow managed to render Confluence completely unuseable through editing your templates, delete the relevant entries from the DECORATOR table.

#### 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 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`.
2. Browse to <confluence-install>/confluence/WEB-INF/lib/confluence-x.y.jar. Copy the file.
3. Unzip or unjar the file using a standard unzipper or the java 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:

```
<action name="administrators"
class="com.atlassian.confluence.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

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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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

***RELATED CONTENT***

- Upgrading Customised Site and Space Layouts
- Customising a Specific Page
- Changing the Look and Feel of Confluence
- Customising Colour Schemes
- Administering Site Templates
- Customising Site and Space Layouts
- Working With Decorator Macros

## Customising the Login Page

This page gets you started on customising the Confluence login page, to add your own logo or custom text. This will not customise the login *process*, just what users sees when they log in.

**Notes:**

- 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.
- Please test your changes on a **test** Confluence site first.

Only administrators with access to the server where Confluence is running can modify the Confluence login page.

**Related pages:**

- Changing the Site Logo
- Velocity Template Overview
- Customising Site and Space Layouts
- Changing the Look and Feel of Confluence
- Modify Confluence Interface Text

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

**To change the login page:**

1. Shut down your Confluence server.
2. In the Confluence installation directory, 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 contains a mixture of HTML and Velocity. See Velocity Template Overview (in our developer documentation).
5. Start Confluence and test your changes.

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.

## 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.

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The UI text file is `ConfluenceActionSupport.properties`. From your Confluence install directory:

```
\confluence\WEB-INF\lib\confluence-x.x.x.jar

Replace "x.x.x" with your Confluence version, for example for 4.3.2, it
will be named "confluence-4.3.2.jar".
Within this File, the relevant file to edit is
:\com\atlassian\confluence\core\ConfluenceActionSupport.properties.
```

Refer to Editing jar files for reference.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

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-x.x.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.

   > ✓ If you re-bundle the JAR file, rather than re-deploy the class in the `WEB-INF\classes` directory, make sure to move the backup JAR file out of the /lib directory, or the backup may be deployed by mistake.
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`

#### *Common Modifications*

| Task | Search For | Notes |
|---|---|---|

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| | | |
|---|---|---|
| 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.

## 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.

*The information on this page does not apply to Confluence OnDemand.*

#### *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

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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 Site and Space Layouts
- Changing the Look and Feel of Confluence
- Modify Confluence Interface Text

## Changing the Default Behaviour and Content in Confluence

Confluence comes with some handy default settings that determine what people see when they first enter the Confluence site, and the default content that is put into new spaces and other areas of Confluence.

Confluence administrators can change the settings to customise the behaviour and the default content of their Confluence site:

- Administering Site Templates
- Importing Templates
- Changing the Site Title
- Choosing a Default Language
- Configuring the Administrator Contact Page
- Configuring the Site Home Page
- Configuring the What's New Dialog
- Customising Default Space Content
- Customising the Getting Started Guide on the Dashboard
- Editing the Site Welcome Message

**Related pages:**

- Changing the Look and Feel of Confluence
- Customising your Confluence Site
- Confluence Administrator's Guide

### Administering Site Templates

A template is a predefined page that can be used as a prototype when creating new pages. Templates are useful for giving pages a common style or format. See Working with Templates.

Administrators can import templates, to make them available to other people using Confluence. See Importing Templates.

Confluence also provides 'system templates' which contain default content for the site welcome message (see Editing the Site Welcome Message) and default space content (see Customising Default Space Content).

**Related pages:**

- Customising your Confluence Site *Not applicable to Confluence OnDemand.*
- Confluence Administrator's Guide

### Importing Templates

A template is a predefined page that can be used as a prototype when creating new pages. Templates are useful for giving pages a common style or format.

You can create your own templates within Confluence. See Adding a Template.

In addition, you can download pre-defined templates from the Atlassian Marketplace in the form of a template bundle. Each template bundle contains one or more templates, created by Atlassian or third parties. Here is a summary of the steps required:

- Download the template bundle from the Atlassian Marketplace.
- Install the template bundle into your Confluence site.
- Make the templates available by importing them into the site or into an individual space.

You need 'System Administrator' permission to install template bundles into your Confluence site. You need 'Confluence Administrator' permission to manage the existing template bundles on your Confluence site. See Global Permissions Overview.

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### Step 1. Check the template bundles installed on your Confluence site

**To see the template bundles that are currently available for import on your Confluence site:**

1. Log in to Confluence as a System Administrator or Confluence Administrator.
2. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
3. Choose **Import Templates** in the left-hand panel. You will see a list of the template bundles installed on your Confluence site, and the templates included in each bundle.

**On this page:**

- Step 1. Check the template bundles installed on your Confluence site
- Step 2. (Optional) Download and install additional template bundles from the Atlassian Marketplace
- Step 3. Import the templates to make them available to users
- Notes

**Related pages:**

- Creating Content
- Working with Templates
- Confluence Administrator's Guide

### Step 2. (Optional) Download and install additional template bundles from the Atlassian Marketplace

Follow the steps below if you want to add more template bundles to your site.

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

**To upload more templates:**

1. Go to the Atlassian Marketplace and download the template bundle that you need. It will be in the form of a JAR file. Save the JAR file somewhere in your file system.
2. Log in to Confluence as a System Administrator.
3. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
4. Choose **Manage Add-ons** in the left-hand panel.
5. Choose **Upload Add-on**.
6. Browse to find the template bundle that you downloaded, and upload it to Confluence. The template bundle will appear in the list under 'User-installed Add-ons'.

### Step 3. Import the templates to make them available to users

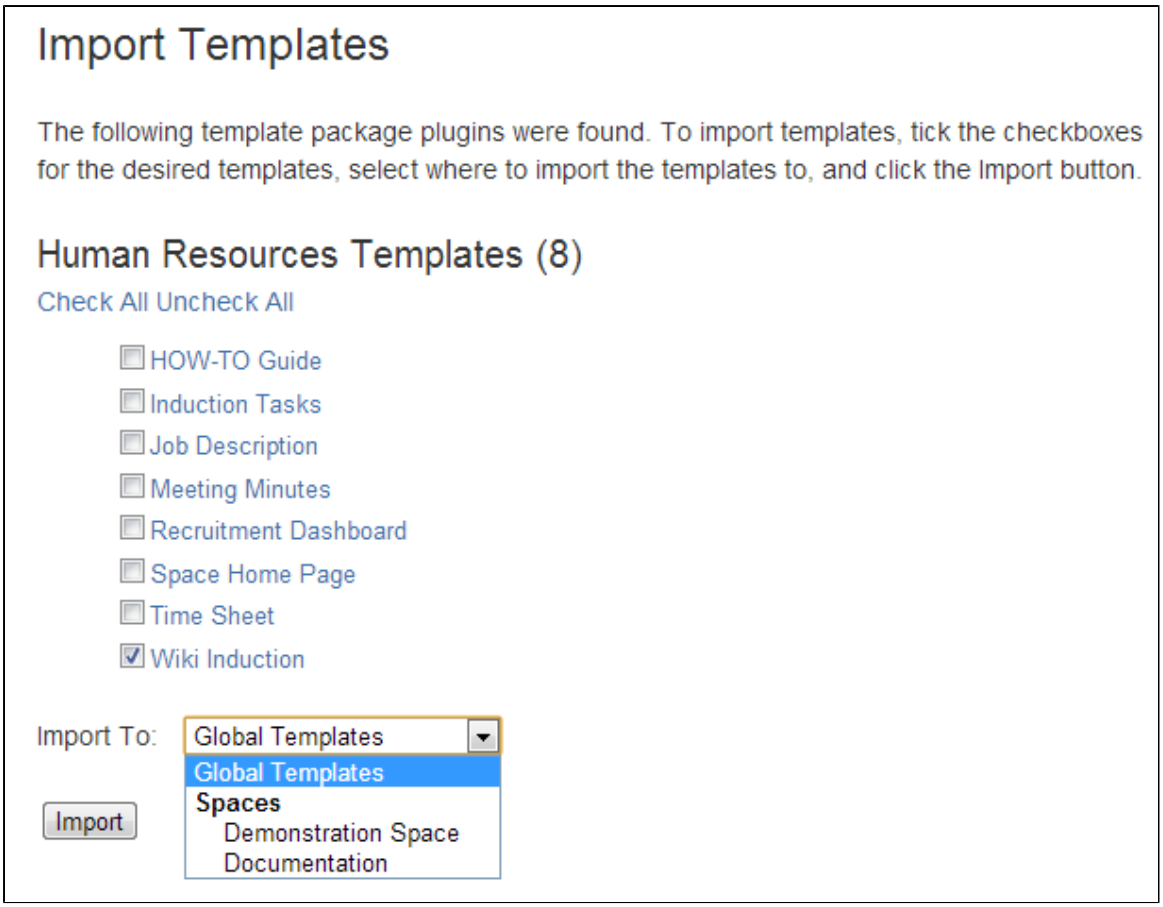
You now have one or more template bundles on your site. The templates are not available until you have 'imported' them.

**To import a template:**

1. Log in to Confluence as a System Administrator or Confluence Administrator.
2. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
3. Choose **Import Templates** in the left-hand panel. You will see the template bundles installed on your Confluence site and the templates included in each bundle.
   Note: You can see a preview of the template by choosing the template name.
4. Select the templates to be imported by ticking the check boxes next to the relevant template names.
5. Choose the import destination for the templates in the **Import To** dropdown menu. If you want the templates to be available to only a specific space, choose the name of the space, otherwise choose **Global Templates** to make the templates available to all spaces.
6. Choose **Import**.

*Screenshot: Importing a template*

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Notes

- **Building your own template bundles.** You can build a template bundle as an add-on (also called a 'plugin') and then upload it to your Confluence site. You can then import the templates from your custom template bundle, as described above. You will need some programming knowledge to develop a template bundle. See Creating A Template Bundle.
- **Duplicate template names.** If a template with the same name already exists on import, a duplicate template of the same name will be created. You will need to check the templates and rename them manually.
- **Removing the template.** Removing the add-on that contains a template will not remove the template from your Confluence site if you have already imported it. You will need to remove the template manually via the administration console or space administration screen.

## Changing 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 site:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**General Configuration**' in the left-hand panel.
3. Choose '**Edit**' at the top of the '**Site Configuration**' screen.
4. Enter a new title for your site in the input field next to '**Site Title**'.
5. Choose '**Save**'.

**Related pages:**

- Changing the Site Logo
- Editing the Site Welcome Message
- Customising your Confluence Site
- Confluence Administrator's Guide

## Choosing a Default Language

Administrators can define a default language to be applied to all spaces in your Confluence site. Note that

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individual users can select a language preference for their session.
**Related pages:**

- Editing User Settings
- Recognised System Properties
- Configuring Indexing Language
- Installing a Language Pack

*The information on this page does not apply to Confluence OnDemand.*

#### Setting the Default Language

**To change the default language for the Confluence site:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select '**Languages**' in the 'Configuration' section of the left-hand panel.
3. The '**Language Configuration**' screen will appear. Select the language that you want to use as the default language for your Confluence site.

#### Other Settings that Affect the Language

Individual users can choose the language that Confluence will use to display screen text and messages. Note that the list of supported languages depends on the language packs installed on your Confluence site.

The language used for your session will depend on the settings below, in the following order of priority from highest to lowest:

- The language preference defined in your user profile. Note that you need to be logged in for this setting to take effect.
- The language that you choose by clicking an option at the bottom of the Confluence login screen. Confluence stores this value in a cookie. When the cookie expires, the setting will expire too.
- The language set in your browser. The browser sends a header with a prioritised list of languages. Confluence will use the first supported language in that list. Your Confluence administrator can disable this option by setting a system property.
- The default language for your site, as defined by your Confluence site administrator.

#### Showing User Interface Key Names for Translation

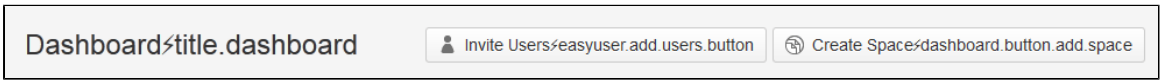
This feature is useful if you are working on creating translations of the Confluence user interface. After opening the Confluence dashboard, you can add this text to the end of your Confluence URL:

```
?i18ntranslate=on
```

Then press Enter.

This will cause each element of the user interface to display its special **key name**. This makes it easier to find the context for each key within the user interface. You can then search for the key on http://translations.atlassian.com where you can enter an appropriate translation for your custom language pack.

The key names are displayed with a 'lightning bolt' graphic. For example:




To turn off the translation view, add this code to the end of the Confluence URL:

```
?i18ntranslate=off
```

## Configuring the Administrator Contact Page

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The administrator contact page is a form that allows a user of Confluence to send a message to the administrators of their Confluence site. (In this context, administrators are those users who are members of the *'confluence-administrators'* group. See the explanation of site administrators.)

The title of the administrator contact page is 'Contact Site Administrators'. Typically, Confluence users may get to this page by clicking a link on an error screen such as the '500 error' page.

### Customising the Administrator Contact Message

You can customise the message that is presented to the user on the '**Contact Site Administrators**' page.

**To edit the administrator contact message:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit** at the top of the 'Site Configuration' section.
4. Enter your text in the **Custom Contact Administrators Message** box. You can enter any text or Confluence wiki markup .
5. Choose **Save**.

**On this page:**

- Customising the Administrator Contact Message
- Disabling the Administrator Contact Form
- Configuring Spam Prevention

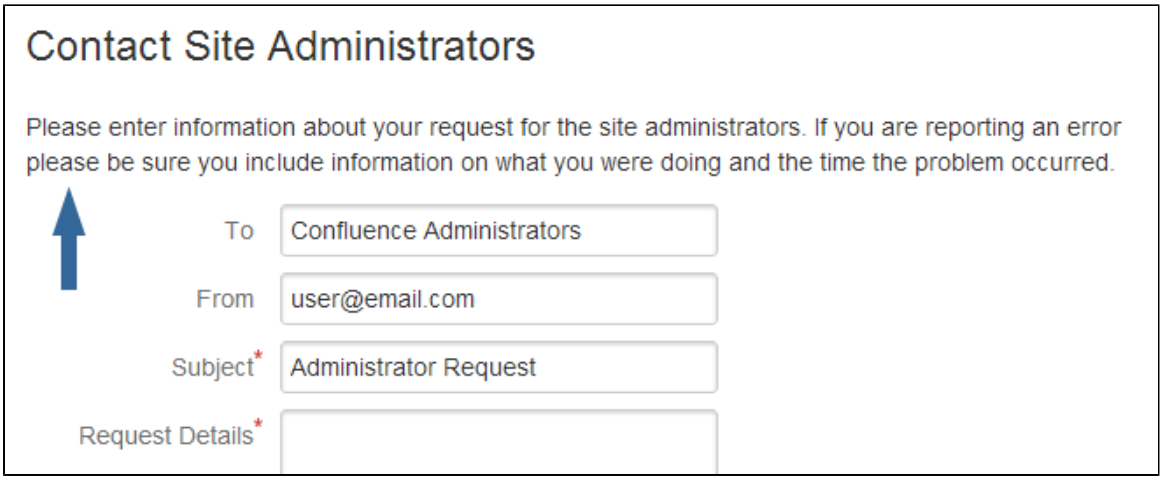
**Related pages:**

- Contacting Confluence Administrators
- Configuring Captcha for Spam Prevention

#### The Default Administrator Contact Message

By default, the 'contact administrators message' looks much like the highlighted area in the screenshot below, starting with 'Please enter information...'.

*Screenshot: The default 'Contact Site Administrators' message*




To restore the message to its default simply remove the custom message you entered when following the instructions above, so that the 'Custom Contact Administrators Message' field is empty.

### Disabling the Administrator Contact Form

If you prefer to disable the ability for users to send an email message to the site administrators, you can disable the form portion of this screen. You can only disable the form if you first provide a 'Custom Contact Administrators Message' as described above.

**To enable or disable the administrator contact form:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.

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2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit** at the top of the 'Site Configuration' section.
4. Select **on** or **off** for the 'Contact Administrators Form'.
5. Choose **Save**.

#### Configuring Spam Prevention

You can configure Confluence to use Captcha to help prevent spam, including the spamming of Confluence administrators. The administrator contact form is covered by the site-wide Captcha settings as documented in Configuring Captcha for Spam Prevention.

## Configuring the Site Home Page

You can configure Confluence to send people to any space home page when they log in or click the site logo, rather than to the dashboard.

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

- The site home page must be accessible to the 'confluence-users' or 'users' group.
- If the site allows anonymous access, the site home page must also be accessible to anonymous users, that is, people who have not logged in to Confluence.

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

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Select a space from the **Site Homepage** dropdown menu.
   When users log in or click the site logo, Confluence will go to the home page of the space you choose here.
5. Choose **Save**.

**Related pages:**

- Editing the Site Welcome Message
- Changing the Site Title
- Customising Default Space Content
- Changing the Site Logo
- Confluence Administrator's Guide

#### Accessing the dashboard with a site homepage set

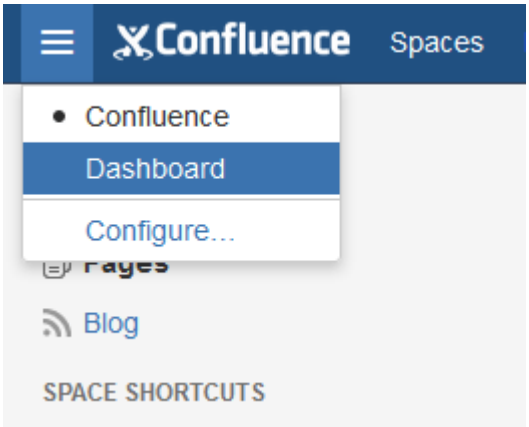
If you choose to set a space homepage as your site homepage but would like your users to still be able to access the Confluence dashboard, you can add a link to the Application Navigator.

**To add the Confluence Dashboard to the Application Navigator:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Application Navigator**.
3. Enter the name for your link, for example, 'Dashboard'.
4. Enter the URL for your site dashboard, for example, `https://yoursite.com/wiki/dashboard.action`.
5. Choose **Add**.

A link to the dashboard will now appear in the Application Navigator.

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**Notes**

- The user's personal settings will override the global setting.
- If you allow anonymous access to the dashboard, but not anonymous access to the site home page, then when logging on to the site, users will be redirected to the original dashboard instead of the site home page. To avoid this, either make the site home page accessible anonymously, or make the dashboard not accessible anonymously.

## Configuring the What's New Dialog

The 'What's New' dialog pops up automatically when a user logs in for the first time after a major Confluence upgrade (such as an upgrade to Confluence 4.3). The dialog displays a summary of the new features for the release, sourced from the Atlassian website (by default).

Confluence administrators can configure the behaviour of the 'What's New' dialog, as follows:

- Change the URL that the 'What's New' dialog retrieves information from.
- Disable the dialog.

**On this page:**

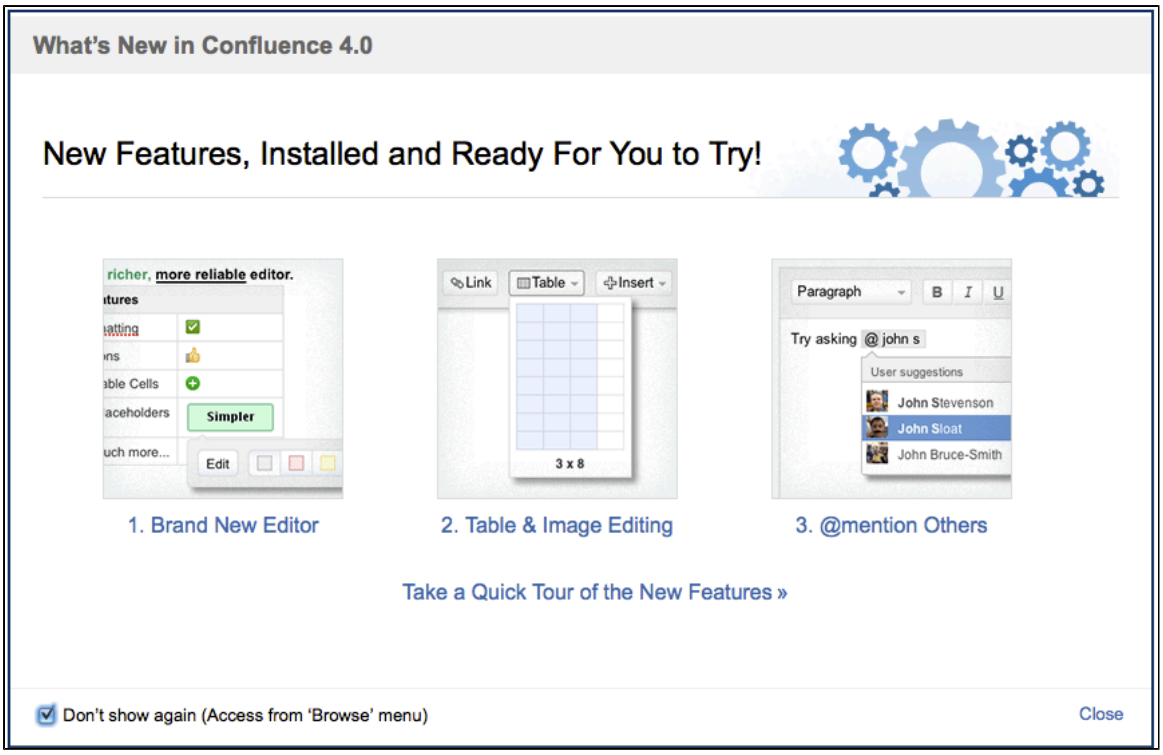

- Changing the 'What's New' Dialog URL
- Disabling the 'What's New' Dialog


**Related pages:**

- Disabling and Enabling Add-ons
- Local Confluence Documentation

⚠ *The information on this page does not apply to Confluence OnDemand.*

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*Screenshot above: An example of the 'What's New' dialog*

#### Changing the 'What's New' Dialog URL

The 'What's New' dialog URL is stored in your Confluence `help-paths.properties` file. This URL is a concatenation of the `help.prefix` property with the `help.whats.new.iframe.link`.

**Note:** The `help.prefix` property also defines the base URL for Confluence help links, i.e. help links in the Confluence application.

**To change the 'What's New' Dialog URL:**
Follow the instructions in the 'Changing the Links for Individual Help Pages' section on Local Confluence Documentation. You will need to update the '`help.prefix`' and '`help.whats.new.iframe.link`' properties, as desired.

For example, you may have installed your Confluence documentation behind a firewall at `http://www.example.com/` and created a page `http://www.example.com/whatsnew` that you use for change management. In this case, you would do the following:

- Set `help.prefix` to `http://www.example.com/`
- Set `help.whats.new.iframe.link` to `whatsnew`

There is an additional property '`help.whats.new.full.link`'. This is only used if the content pointed to by the updated URL isn't loaded in 10 seconds, in which case a 'timeout' screen is displayed with a link to the full 'What's New' content. For locally-hosted pages you can just set this property to the same value as `help.whats.new.iframe.link`.

#### Disabling the 'What's New' Dialog

The 'What's New' dialogue is enabled via a plugin. To disable the 'What's New' dialogue, you need to disable the '**Confluence What's New**' plugin in Confluence.

**To disable the 'Confluence What's New' plugin:**
Follow the instructions on Disabling and Enabling Add-ons. Please note, the '**Confluence What's New**' plugin is a 'System Plugin'. Click '**Show System Plugins**' on the Manage Add-ons administration page to display the system plugins.

## Customising Default Space Content

Confluence Administrators can edit the template that is used to create the home page for new sites. This default content appears on the home page when a new space is created. There is a different template for site spaces, personal spaces and space blueprints.

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The default content in the template only appears for new spaces (those that are created after you have defined the content). Changes to the template do not affect existing home pages.

#### Edit the default home page for a blank space

**To edit the default (blank) space content template:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand panel.
3. Choose **Edit** next to 'Default Space Content' or 'Default Personal Space Content' depending on whether you want to customise the content for new site space or personal space home pages.
4. Enter the content that you want to appear on the home page for new blank spaces. you can add variables, macros and other content in the saw way as edited a page template.
5. Choose **Save**.

**On this page:**

- Edit the default home page for a blank space
- Reset the original default content

**Related pages:**

- Working with Spaces
- Working with Templates
- Confluence Administrator's Guide

The following variables are available to be added to the default space content templates.

- **$spaceKey** - inserts the space key into the site space homepage
- **$spaceName** - inserts the space name into the site space homepage
- **$userFullName** - inserts the user (owner of the personal space) into the personal space homepage
- **$userEmail** - inserts the email address of the user (owner of the personal space) into the personal space homepage.

Default space templates differ from ordinary page templates in that they do not present the user with a form to complete, so variables should be limited to those listed in the **Variables** menu.

Some macros, such as the Table of Contents macro, may not display correctly when you preview the template as they are designed to work on a page. The macros will display correctly on the home page when you create a new space. For more information on editing a template, including adding macros see - Adding Content to a Template.

#### Reset the original default content

**To reset the original default content:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Template** in the left-hand panel.
3. Choose **Reset to default** next to the template you wish to reset.

From this point on, all new space home pages will be created with the original default content.

*Screenshot: Global Templates showing the 'Default Space Content' or 'Default Personal Space Content' system templates.*

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## Customising the Getting Started Guide on the Dashboard

By default, the Confluence dashboard displays a quick-start guide for administrators under the site welcome message on the left. This section of the dashboard is visible to Confluence administrators and system administrators only. It is not configurable via the web interface, but you can update or remove it by editing the site layout as described below.

You need System Administrator permissions to perform this customisation.

#### Editing or removing the getting-started section

**To customise the getting-started guide on the dashboard:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Layouts** in the left-hand panel.
3. Choose **Create custom** (or **Edit**) next to **Global Layout**.
   Note: If the global layout has already been customised, the 'Edit' option will be available. Otherwise, you will need to create the custom layout now, by choosing 'Create custom'.
4. Find the following code:

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```
#if($permissionHelper.isConfluenceAdministrator($remoteUser))
                    <div class="dashboard-item wiki-content">
                        <h2>$i18n.getText("getstarted.heading")</h2>
                        <ol id="dashboard-get-started">
                            <li class="create-space">
                                <h3><a
href="$req.contextPath/spaces/createspace-start.action">$i18n.getText("getstar
ted.add.space")</a></h3>

<p>$i18n.getText("getstarted.add.space.desc")</p>
                            </li>
                            <li class="add-users">
                                <h3><a
href="$req.contextPath/admin/users/browseusers.action">$i18n.getText("getstart
ed.add.users")</a></h3>

<p>$i18n.getText("getstarted.add.users.desc")</p>
                            </li>
                            <li class="user-profile">
                                <h3><a
href="$req.contextPath/users/editmyprofilepicture.action">$i18n.getText("getst
arted.choose.profile.picture")</a></h3>

<p>$i18n.getText("getstarted.choose.profile.picture.desc")</p>
                            </li>
                        </ol>
                    </div>
                    #end
```

5. Update the code as required:
   - To remove the 'get started' section, delete the entire block of text shown above.
   - Alternatively, edit the code to suit your requirements. See Customising Site and Space Layouts for guidelines.
6. Choose **Save**.

#### The default getting-started section

By default, the getting-started guide looks more or less like the screenshot below, starting with the heading 'Get started'.

**To restore the default getting-started guide:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Layouts** in the left-hand panel.
3. Choose **Reset Default** next to **Global Layout**.
   Note: This well reset any other customisations applied to this layout too.

**On this page:**

- Editing or removing the getting-started section
- The default getting-started section
- Notes

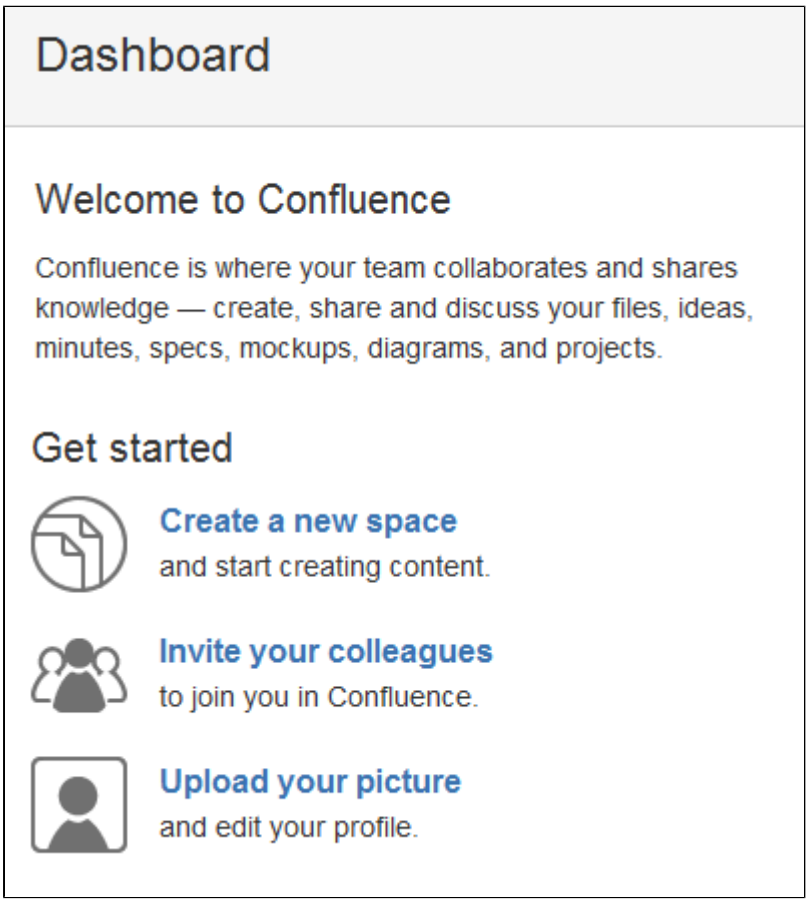
**Related pages:**

- Customising Site and Space Layouts
- Editing the Site Welcome Message
- Configuring the Site Home Page
- Changing the Site Title
- Changing the Site Logo
- Confluence Administrator's Guide

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⚠ *The information on this page does not apply to Confluence OnDemand.*

*Screenshot: The getting-started guide on the dashboard*




**Notes**

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. For more information on updating your customisations, please refer to Upgrading Customised Site and Space Layouts.

## Editing the Site Welcome Message

The site welcome message appears at the top left of the Confluence dashboard. You can change the default message by editing the appropriate system template. For example, you may want the welcome message to display an introduction to your site or a message of the day.

**To edit the site welcome message:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand panel.
3. Choose **Edit** next to **Default Welcome Message**.
4. Type your message into the template editor.
5. Choose **Save**.

**The default site welcome message**

By default, the site welcome message looks more or less like the screenshot below, starting with the heading 'Welcome to Confluence' and ending with '...diagrams, and projects'.

**To restore the default site welcome message:**

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1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Global Templates** in the left-hand panel.
3. Choose **Reset to default** next to **Default Welcome Message**.

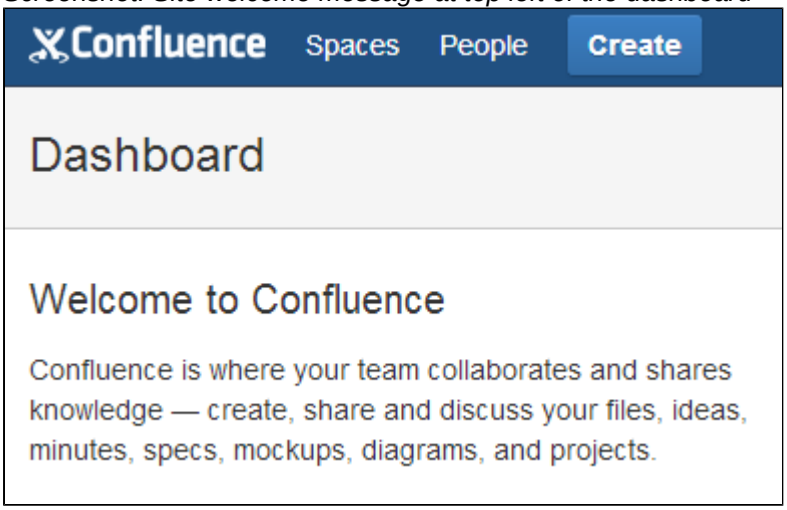
**On this page:**


- The default site welcome message
- Using the template editor
- Including content from another page


**Related pages:**

- Configuring the Site Home Page
- Changing the Site Title
- Changing the Site Logo
- Customising Default Space Content
- Confluence Administrator's Guide

*Screenshot: Site welcome message at top left of the dashboard*




### Using the template editor

Enter text into the body of the template, and use the editor toolbar to apply styles, layout and formatting. You can add links and macros. In general, you can use the Confluence editor in the same way as on a page.

**Notes:**

- You cannot use template variables in the welcome message template.
- You cannot attach an image or other file to a template. Instead, attach the file to another page, and insert it into the body of the template.

  For example:
  - You can attach an image to a page and then choose **Insert** > **Image** to embed the image into the template.
  - You can attach a PDF file to a page and then choose **Insert** > **Other Macros** > **PDF** to embed the PDF file into the template.

### Including content from another page

It may be useful to write your welcome message on a normal Confluence page and include the page into the welcome message template. Using a normal page means that you can allow other people, who are not Confluence administrators, to change the welcome message.

To include content from another page:

1. Create a Confluence page as usual and add your welcome message as the page content. Remember to limit the size of the content, because it must fit nicely onto the dashboard. For this example, let's assume the title of your page is 'Dashboard Message'. You can put it in any space you like.
2. Add page restrictions or space permissions to the 'Dashboard Message' page or space, to suit your requirements. You may want to restrict the editing of the page to a group of people, or you may want to

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allow any employee to edit the page. This will determine who can update the welcome message on the dashboard.
3. Edit the welcome message template, and add the Include Page macro to display the content from your 'Dashboard Message' page.
4. Save the welcome message template. The dashboard will display the content of the template immediately, including the content of your 'Dashboard Message' page. Similarly, if you or anyone else edits the page, the welcome message on the dashboard will change as soon as the page is saved.

# Integrating Confluence with Other Applications

You can integrate Confluence with other applications using **Application Links**. The Application Links feature allows you to link Confluence to applications like JIRA. Linking two applications allows you to share information and access one application's functions from within the other. For example, you could use the JIRA Issues Macro to display JIRA issues on a Confluence page.

**Related Topics**

- Linking to Another Application
- Configuring Workbox Notifications
- Integrating JIRA and Confluence
- Registering External Gadgets

## Linking to Another Application

Application Links (sometimes called "AppLinks") is a bundled plugin that allows you to link Atlassian applications to each other. Linking two applications allows you to share information and access one application's functions and resources from within the other.

Linking Confluence to other applications allows you to include information from those applications in pages or blogs that you create in Confluence. For example, you could link Confluence to your JIRA server and view JIRA issues in a Confluence page using the JIRA Issues Macro.

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Application Links** in the left-hand panel. The Application Links configuration page appears and lists any links you already have set up.
3. In the **Application URL** box, supply the URL of the application you want to link to and then select **Create new link**.
4. Use the wizard to finish configuring the link. If the application you are linking to does not have the Application Links plugin, you must supply additional information so the link can be set up. This information is required to set up a link with OAuth authentication; see Configuring OAuth for more information about that type of authentication.

When you complete the wizard, the Application Links plugin will create the link between your applications using the most secure authentication method that is supported between the two application types. After the link has been set up, it will appear on the "Configure Application Links" page. You can use this page to change the configuration of application links to make them more secure or to change the link settings:

- To edit the settings of the application link (for example, to change the authentication type of the link), select **Configure**.
- If you've set up multiple links to the same type of application (for example, multiple JIRA servers), you can use the **Make Primary** link to specify which application is the default instance. See Making a Primary Link for Links to the Same Application Type for more information.
- After you've linked applications, you also connect the areas of those applications that contain information relating to your project or team (for example, you can connect a project's Confluence space with a JIRA project). These types of links are called project links.

## Configuring Workbox Notifications

People can view and manage in-app notifications and tasks in their Confluence workbox. This page tells you how to enable in-app notifications and configure some related settings.

In addition, people can receive notifications from JIRA and other Confluence servers in their Confluence workbox. To make this possible, your Confluence server must be linked to the other server(s) via application links.

Possible configurations:

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- Your Confluence server provides in-app notifications and displays them in its own workbox. There are two sub-configurations here:
  - This Confluence server is the only server involved.
  - Alternatively, this Confluence server displays its own in-app notifications, and also displays notifications from JIRA and/or other Confluence servers.
- Your Confluence server does not provide or display in-app notifications.
- Your Confluence server sends in-app notifications to another Confluence server.

Notes:

- **Workbox includes notifications and tasks:** When you enable in-app notifications, personal tasks are also enabled in the workbox. When you disable in-app notifications, the workbox no longer appears and personal tasks are therefore not available on this server.

**On this page:**


- Which notifications are included?
- Enabling Confluence workbox and in-app notifications
- Configuring the polling intervals
- Including notifications from JIRA
- Stopping JIRA from sending notifications to Confluence
- Including notifications from another Confluence server
- Sending Confluence notifications to another Confluence server
- Disabling workbox and in-app notifications in Confluence


**Related pages:**


- Managing Notifications in Confluence
- Managing Tasks in Confluence
- Confluence Administrator's Guide
- Configuring Application Links


## Which notifications are included?

The workbox displays a notification when someone does one of the following in Confluence:

- Shares a page or blog post with you.
- Mentions you in a page, blog post or comment.
- Assigns you a task by mentioning you in a task list.
- Comments on a page or blog post that you are watching.
- Likes a page or blog post that you are watching.

The workbox does **not** show notifications triggered because you are watching a space. Only watches on pages and blog posts are relevant here.

The notification in your workbox appears as 'read' if you have already viewed the page or blog post.

If your Confluence site is linked to JIRA, you will also see the following JIRA notifications in your workbox:

- Comments on issues that you are watching.
- Mentions.
- Shares of issues, filters and searches.

## Enabling Confluence workbox and in-app notifications

Confluence workbox and in-app notifications are disabled by default.

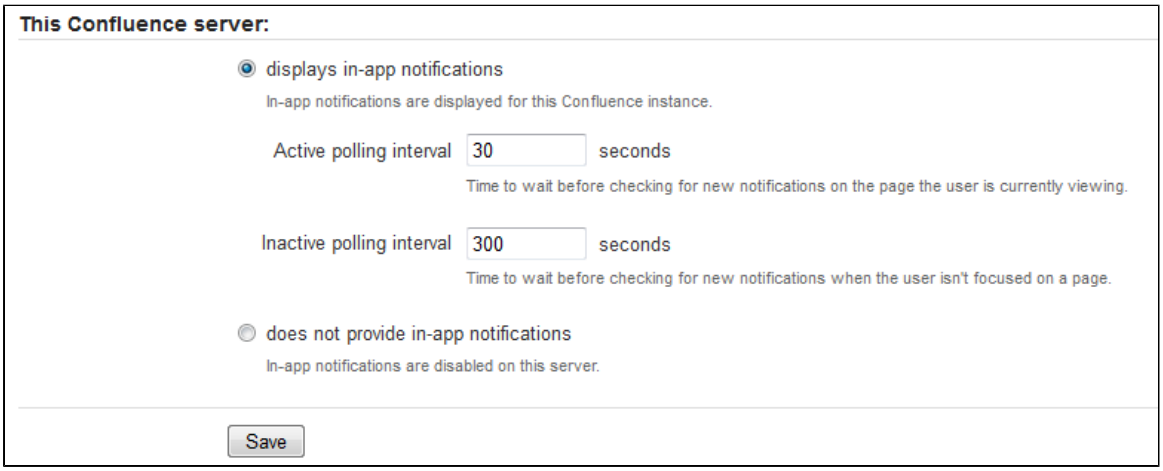
**To enable workbox and in-app notifications:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **In-app Notifications** in the left-hand panel.
3. Choose **displays in-app notifications** (or **displays in-app notifications from other servers**). The

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workbox icon will appear in the Confluence top menu bar and will be visible to all users.

*Screenshot: Simple configuration with Confluence workbox and in-app notifications enabled for this server only*




### Configuring the polling intervals

The polling intervals are used by the Confluence server that displays in-app notifications and tasks in its workbox.

| Option | Description |
|---|---|
| Active polling interval | This is the number of seconds that Confluence will wait before checking (polling) for new notifications relevant to the page that the user is currently viewing. This setting applies to the page open in the browser tab that currently has focus. It does not matter whether the user has the workbox open or not. |
| Inactive polling interval | This is the number of seconds that Confluence will wait before checking (polling) for new notifications relevant to all pages that are not currently in focus. These pages may be on the Confluence server that displays the workbox, or on other Confluence or JIRA servers that send their notifications to this server.<br><br>This setting defines an upper limit. For inactive pages, Confluence starts with a polling interval equal to the active polling interval, then gradually increases the interval between polls until it reaches the limit defined here. |

### Including notifications from JIRA

Confluence workbox can include notifications from your JIRA issue tracker. In Confluence OnDemand, you can do this if you have JIRA OnDemand too.

**To include notifications from JIRA:**

1. Connect JIRA and Confluence via application links: (*Not applicable to Confluence OnDemand.*)
    - Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
    - Choose **Application Links** in the left-hand panel.
    - Set up the link as described in Adding an Application Link.
    - If your JIRA server is linked to more than one Confluence server, make sure that the **primary** link is the Confluence server that will display the in-app notifications in its workbox. See the JIRA guide to making an application link the primary link.
2. Choose **In-app Notifications** in the left-hand panel of the Confluence administration console.
3. Choose **displays in-app notifications from other servers**.

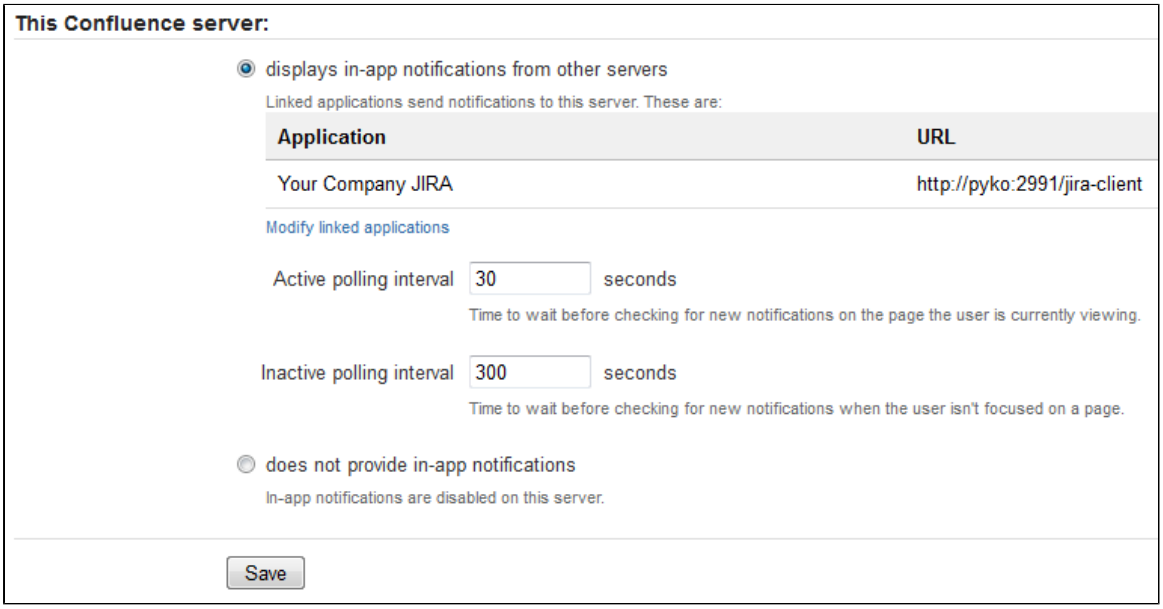
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- Your JIRA server will appear in the list of linked applications below this option.
- People will see JIRA notifications in their workbox, as described in Managing Notifications in Confluence.

**Notes:**

- JIRA sends its notifications to the Confluence server that is configured as the **primary** application link.
- Your JIRA server must be running **JIRA 5.2 or later**.
- The following plugins must be present and enabled in JIRA. The plugins are shipped with JIRA 5.2 and later:
  - 'Workbox – Common Plugin'
  - 'Workbox – JIRA Provider Plugin'
- You do not need to configure JIRA. The plugins are enabled by default in JIRA, and JIRA will automatically send notifications to Confluence.
- Confluence can display notifications from more than one server.

*Screenshot: This Confluence server displays in-app notifications from itself and from JIRA*




### Stopping JIRA from sending notifications to Confluence

You may wish to configure Confluence to display its own notifications in its workbox, but prevent notifications from JIRA from appearing in the workbox, even when JIRA and Confluence are linked via application links.

The JIRA administration interface does not offer a way of disabling notifications sent to Confluence.

**To stop JIRA from sending notifications to Confluence:** Disable the following plugins in JIRA. (See the Universal Plugin Manager guide to disabling plugins.)

- 'Workbox – Common Plugin'
- 'Workbox – JIRA Provider Plugin'

### Including notifications from another Confluence server

Confluence workbox can include notifications from another Confluence server. *Not applicable to Confluence OnDemand.*

Let's assume that you have two Confluence servers, *ConfluenceChatty* and *ConfluenceQuiet*. Let's also assume that you want *ConfluenceChatty* to display a workbox, and to include notifications from *ConfluenceQuiet*.

**To include notifications from other Confluence servers:**

1. Connect *ConfluenceChatty* and *ConfluenceQuiet* via application links. In *ConfluenceChatty*:
   - Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
   - Choose **Application Links** in the left-hand panel.
   - Set up the link as described in Adding an Application Link.

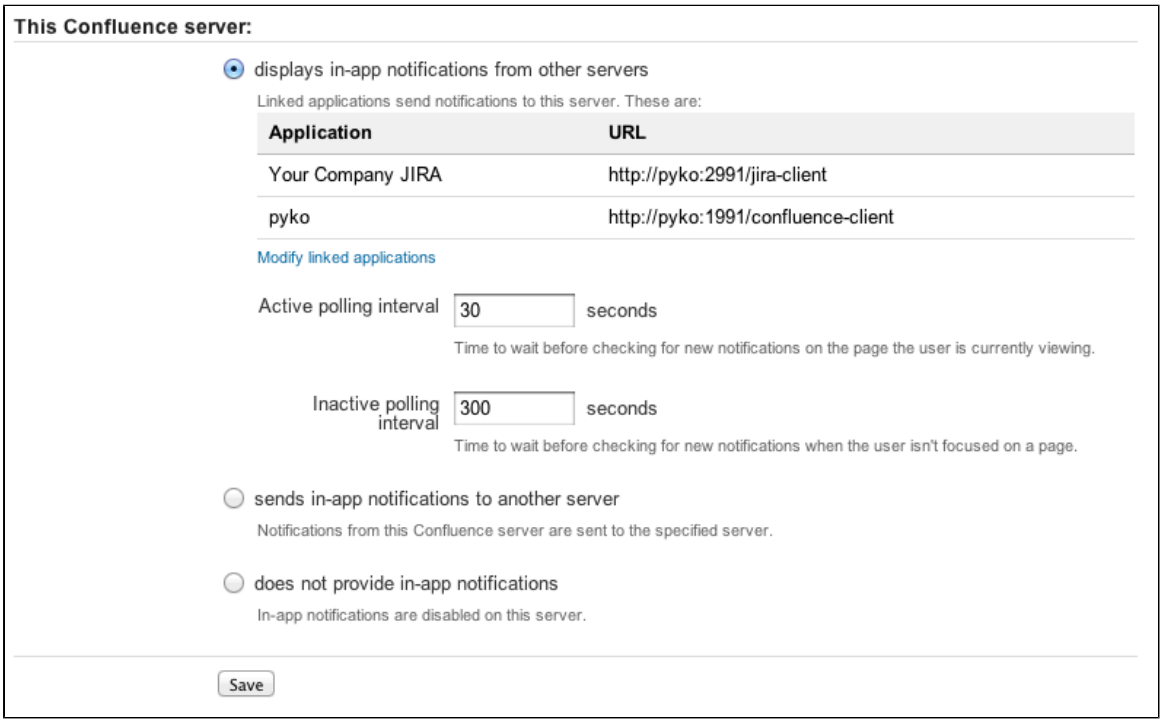
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2. Configure the notification settings in *ConfluenceChatty*:
    - Choose **In-app Notifications** in the left-hand panel of the Confluence administration console.
    - Choose **displays in-app notifications from other servers**.
3. Configure the notification settings in *ConfluenceQuiet*:
    - Choose **In-app Notifications** in the left-hand panel of the Confluence administration console.
    - Choose **sends in-app notifications to another server**.
    - Select the Confluence server that will display the workbox – in our example, this is *ConfluenceChatty*. (The entry for *ConfluenceChatty* will appear here only if you have already configured *ConfluenceChatty* to display in-app notifications.)

**Notes:**

- Your Confluence servers must be running **Confluence 4.3.3 or later**.
- Confluence can display notifications from more than one server.
- Confluence can send notifications to only one server.
- Only one of the linked Confluence servers can display the in-app notifications.

*Screenshot: This Confluence server displays in-app notifications from itself, from JIRA, and from another Confluence server*



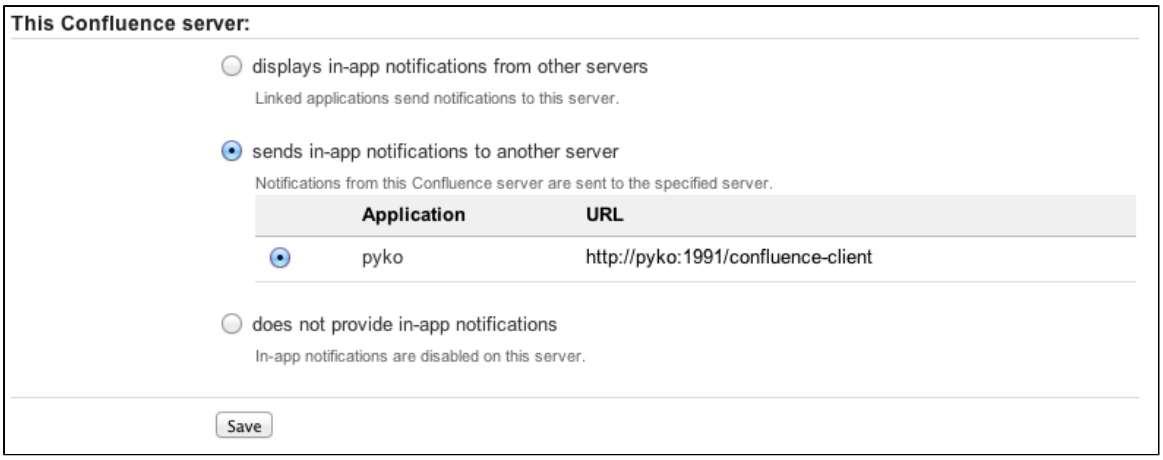

### Sending Confluence notifications to another Confluence server

You can configure Confluence to send all notifications to a different Confluence server. In this case, the current Confluence server will not display the workbox.

**To send notifications to another Confluence server:** Follow the instructions in our example for *ConfluenceQuiet* above.

*Screenshot: This Confluence server sends its in-app notifications to another Confluence server*

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### Disabling workbox and in-app notifications in Confluence

If you choose **does not provide in-app notifications**:

- The Confluence workbox icon will no longer be visible and people will be unable to access their workboxes on this server.
- This Confluence server will no longer send notifications to its workbox, and will not send notifications to any other Confluence server.

## Integrating JIRA and Confluence

Please refer to the guide to Installing Confluence and JIRA Together.

JIRA and Confluence are designed to complement each other. 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.

Below are some ways you can get JIRA and Confluence working together.

### Setting Up Trusted Communication between JIRA and Confluence

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 (for example, a list of JIRA issues) into another application (for example, a Confluence page).

Read more about trusted communication.

### Inserting JIRA issues

You can insert issues from a JIRA site onto your Confluence page using the 'Insert JIRA Issue' dialogue box. You can also use this dialogue box to create a new issue on the JIRA site. See the JIRA Issues Macro.

**On this page:**

- Setting Up Trusted Communication between JIRA and Confluence
- Inserting JIRA issues
- Viewing Confluence Content in JIRA or JIRA Content in Confluence
- Integrating JIRA and Confluence User Management
- Useful Plugins

**Related pages:**

- Integrating Confluence with Other Applications
- Confluence Administrator's Guide

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> ⚠ *The information on this page does not apply to Confluence OnDemand.*

### Viewing Confluence Content in JIRA or JIRA Content in Confluence

#### *Using Gadgets*

You can embed a Confluence activity stream or a Confluence page in JIRA's dashboard. Likewise, JIRA gadgets can be rendered on a Confluence page. See Adding a Confluence Gadget to a JIRA Dashboard and Gadget Macro for information on how to set up gadgets.

#### *Using the JIRA Issues macro*

For versions earlier than Confluence 3.1 and JIRA 4.0, use the {jiraissues} macros to embed JIRA reports and portlets into your Confluence site

Any JIRA search result can be embedded in a Confluence page using the JIRA Issues macro with your choice of included fields and field ordering, and any JIRA gadgets can be embedded in a Confluence page by Registering External Gadgets.

### Integrating JIRA and Confluence User Management

To save you having to enter users into both JIRA and Confluence, you may benefit from using Atlassian Crowd a s the user repository for both applications. Alternatively you can configure Confluence to use JIRA's user database. See Connecting to Crowd or JIRA for User Management.

### Useful Plugins

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

The JIRA Linker plugin provides a custom field that helps you find an URL, particularly a Confluence page, so you can add a page link into a JIRA issue.

## Installing Confluence and JIRA Together

This page describes Atlassian's recommendation for installing JIRA and Confluence on the same server. Refer to Here Be Dragons for instructions on integrating all Atlassian applications.

⚠ **Do not deploy multiple Atlassian applications in a single Tomcat container** —
Deploying multiple Atlassian applications in a single Tomcat container is **not supported.** We do not test this configuration and upgrading any of the applications (even for point releases) is likely to break it. There are also a number of known issues with this configuration (see this FAQ for more information).

We also do not support deploying multiple Atlassian applications to a single Tomcat container for a number of practical reasons. Firstly, you must shut down Tomcat to upgrade any application and secondly, if one application crashes, the other applications running in that Tomcat container will be inaccessible.

Finally, we recommend not deploying *any other applications* to the same Tomcat container that runs Confluence, especially if these other applications have large memory requirements or require additional libraries in Tomcat's `lib` subdirectory.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Recommended Setup - Separate Stand-Alone Installations

Atlassian recommends running JIRA and Confluence in separate stand-alone instances running behind an Apache Web Server. See the guides for:

- Installing Confluence
- Running Confluence behind Apache

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- Installing JIRA
- Integrating JIRA with Apache

Advantages

- Each application 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.
- Apache HTTP Web Server is well suited for running publicly available sites, with extensive modules for security and efficiency. It also allows for flexibility with URLs (ie http://confluence.atlassian.com, http://confluence, and so on).


Apache Web Server is recommended and reliable. It is also a third-party product, and therefore not developed nor supported by Atlassian. See Atlassian Support Offerings for details.

## 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.

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


**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.

#### Prerequisites

The following setup is required:

- JIRA 4.2.0 or later.
- Confluence 3.5.0 or later.
- In order to authenticate successfully against JIRA, the Confluence user must also be registered as a JIRA user with the same username.

**Note:** 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.

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**On this page:**


- Prerequisites
- Why do we need Trusted Communication?
- Overview
- Configuring JIRA to trust Confluence
- Adding the macro to a Confluence page
- Viewing the Confluence page
- Security Risks
- Troubleshooting


**Related pages:**

- JIRA Issues Macro
- Troubleshooting the JIRA Issues Macro and Trusted Applications
- Connecting to LDAP or JIRA or Other Services via SSL
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

### Why do we need Trusted Communication?

The JIRA Issues macro allows 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. You many not 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 or Confluence system administrator configures JIRA to trust Confluence.
- 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.

You can use Application Links to enable trust relationships between two applications. Linking two applications allows you to share information and access one application's functions from within the other.

You can configure an application link to use Trusted Applications as the authentication mechanism. For instructions, see Configuring Trusted Applications Authentication for an Application Link.

### Adding the macro to a Confluence page

The Confluence user can add and edit the macros as described on the following page: JIRA Issues macro.

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

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the Confluence page:

| What you want to do | Macro parameter | URL parameter | Comments |
|---|---|---|---|
| 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 **enable d**, 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=MYNAM E&os_password=MYPA SSWORD` | **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. |

#### Viewing the Confluence page

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

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- 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 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.**
- Ensure that you **specify an IP address** for your Confluence site when configuring trusted applications in JIRA. Do not use the wild card `*.*.*.*` as the IP address. Failure to configure IP address restrictions is a security vulnerability, allowing an unknown site to log into your JIRA site under a user's login ID.
- 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 macro.

| Warning Message | Cause | Solution | Warning Message Can be Turned Off? |
|---|---|---|---|
| `javax.net.ssl.SSLHandshakeException: sun.security.validator.ValidatorException: PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target` | JIRA is running over SSL | Add JIRA's SSL Certificate to the Java Keystore | **No** |

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| | | | |
|---|---|---|---|
| `The JIRA server does not recognise your user name. Issues have been retrieved anonymously.` | The logged-in Confluence user is not registered in the JIRA user base. | Add the username to your JIRA user base. It is **highly recommended** th at your JIRA and Confluence instances share a common user base. | **No** |
| `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:<br>• Configure JIRA to trust Confluence.<br>• Disable trusted communications for the JIRA macros in Confluence.<br>• Use the `anonymous` parameter in all your JIRA Issues 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:<br>• Download the latest version of JIRA and then configure JIRA t o trust Confluence.<br>• Disable trusted communications for the JIRA macros in Confluence.<br>• Use the `anonymous` parameter in all your JIRA Issues macros. | Yes |
| `Failed to login trusted application: confluence:14159892 due to: com.atlassian.security.auth.trustedapps.CertificateTooOldException: OLD_CERT; Certificate too old.` | There is a date/time difference between the JIRA server and Confluence server. | • Certificate Too Old KnowledgeBase Entry | - |

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

## Registering External Gadgets

You can register gadgets from external web sites (such as JIRA, iGoogle or Gmail) with your Confluence installation, so that the gadgets appear in the macro browser and people can add them to Confluence pages via a gadget macro.

Choose one of the following ways to register the external gadgets on Confluence:

- **Subscribe to all of the external application's gadgets:** You can add all the gadgets from your JIRA, Ba mboo, FishEye or Crucible site – or from another Confluence site – to your Confluence gadget directory.

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People can then pick and choose the gadgets to add to their Confluence pages.
- **Register the external gadgets one by one:** If you cannot subscribe to an application's gadgets, you will need to add the gadgets one by one. This is necessary for applications and websites that do not support gadget subscription, and for applications where you cannot establish a trusted relationship via Application Links.

Both methods are described below. First, consider whether you need to set up a trust relationship between Confluence and the other application.

### Setting up a trust relationship with the other application

In addition to registering the external gadgets, we recommend that you set up an OAuth or Trusted Application relationship between the application that serves the gadget (the service provider) and Confluence (the consumer). The trust relationship is required for gadgets that access restricted data from the external web application.

See how to configure OAuth or Trusted Applications Authentication, using Application Links.

If the external web application provides anonymous access to all the data you need in the gadgets, then you do not need a trust relationship.

For example, if your gadgets will retrieve data from JIRA and your JIRA server includes projects and issues that are restricted to logged-in users, then you will need a trust relationship between Confluence and JIRA. If you do not set up the trust relationship, then the gadgets will show only the information that JIRA makes visible to anonymous users.

### Subscribing to all of the application's gadgets

You can add all the gadgets from your JIRA, Bamboo, FishEye or Crucible site – or from another Confluence site – to your Confluence gadget directory. People can then pick and choose the gadgets to add to their Confluence pages.

**To subscribe to another site's gadgets:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **External Gadgets** in the left-hand panel.
3. **Click** the **Gadget Feeds** tab.
4. Enter the base URL of the application you want to subscribe to, in the text box labelled **Gadget Feed URL**. For example, `http://example.com/jira` or `http://example.com/confluence`.
5. Choose **Add**. Confluence will convert the URL to a gadget feed and place it in the list of 'Added Gadget Feeds'.

**On this page:**


- Setting up a trust relationship with the other application
- Subscribing to all of the application's gadgets
- Registering individual gadgets
- Removing access to external gadgets

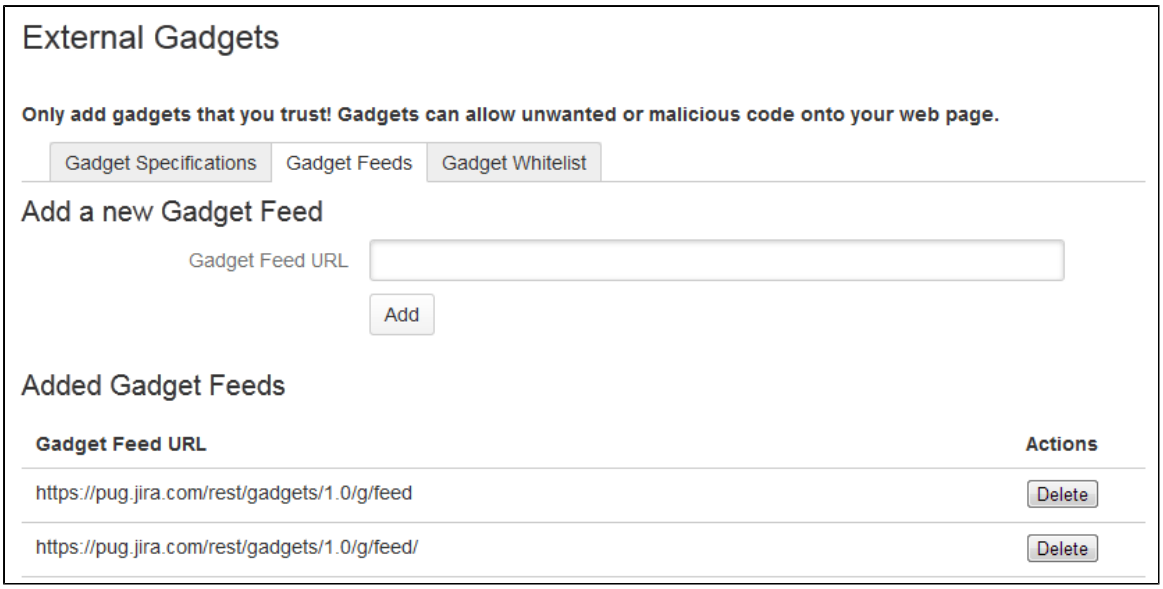

**Related pages:**

- Configuring the Whitelist
- The big list of Atlassian gadgets
- Adding JIRA Gadgets to a Confluence Page
- Configuring Application Links

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Subscribing to a gadget feed*

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### Registering individual gadgets

If you cannot subscribe to an application's gadgets, you will need to register the gadgets one by one. This is necessary for applications and websites that do not support gadget subscription, and for applications where you cannot establish a trusted relationship via Application Links.

First you will need to obtain that gadget's URL and copy it to your clipboard.

#### *Getting a gadget's URL from an Atlassian application*

If your web application is another Atlassian application such as Confluence or JIRA:

A gadget's URL points to the gadget's XML specification file. In general, a gadget's URL looks something like this:

```
http://example.com/my-gadget-location/my-gadget.xml
```

If the gadget is supplied by a plugin, the URL will have this format:
`http://my-app.my-server.com:port/rest/gadgets/1.0/g/my-plugin.key:my-gadget/my-path/my-gadget.xml`
For example:
`http://mycompany.com/jira/rest/gadgets/1.0/g/com.atlassian.streams.streams-jira-plugin:activitystream-gadget/gadgets/activitystream-gadget.xml`

**To find a gadget's URL in JIRA:**

- Go to your dashboard by clicking the **Dashboards** link at the top left of the screen.
- Click **Add Gadget** to see the list of gadgets in the directory.
- Find the gadget you want, using one or more of the following tools:
  - Use the scroll bar on the right to move up and down the list of gadgets.
  - Select a category in the left-hand panel to display only gadgets in that category.
  - Start typing a key word for your gadget in the **Search** textbox. The list of gadgets will change as you type, showing only gadgets that match your search term.
- Right-click the **Gadget URL** link for that gadget and copy the gadget's URL into your clipboard.

**To find a gadget's URL in Confluence:**

- Choose **Help** > **Confluence Gadgets** to see the list of available Confluence gadgets.
- Find the gadget you want.
- Right-click the **Gadget URL** link for that gadget and copy the gadget's URL into your clipboard.

#### *Getting a gadget's URL from another application*

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If the gadget comes from a non-Atlassian web application or web site, please consult the relevant documentation for that application to obtain the gadget's URL.

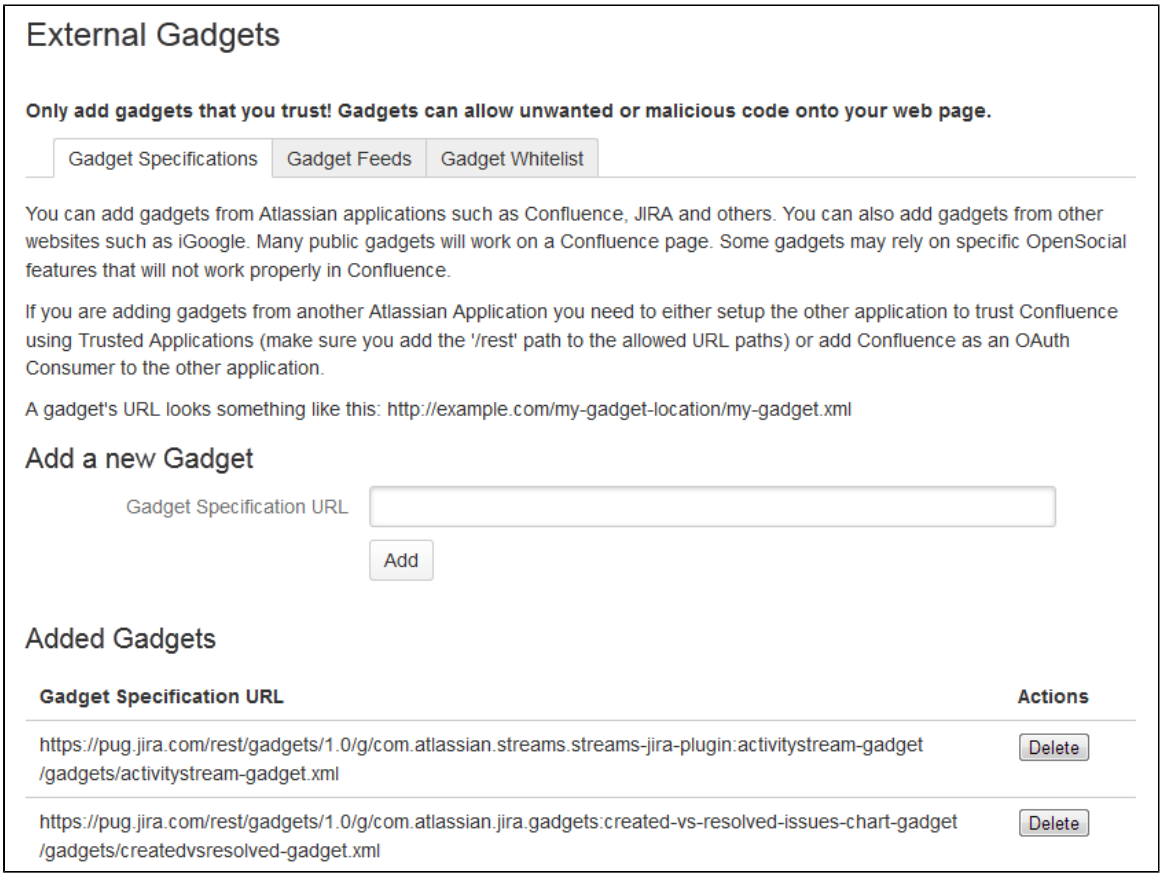
***Registering the gadget for use in Confluence***

Now that you have the gadget's URL, you can register it in Confluence, so that people can add it to their pages.

**To register the gadget in Confluence:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **External Gadgets** in the left-hand panel.
3. Paste your gadget's URL into the **Gadget Specification URL** field in the 'Add a new Gadget' section.
4. Choose **Add**. Your gadget will be shown in the list of registered gadgets below and it will also become available in the macro browser.

*Screenshot: Registering external gadgets one by one*




### Removing access to external gadgets

To remove a single gadget from Confluence, click the **Delete** button next to the gadget URL.

If you have subscribed to an application's gadgets, you will need to remove the entire subscription. You cannot unregister a single gadget. Click the **Delete** button next to the gadget feed URL.

The gadget(s) will no longer be available in the macro browser, and people will not be able to add them using the Gadget macro. Any pages that already use the gadget will show a broken gadget link.

## Managing your Confluence License

The license on your Confluence site entitles you to run Confluence and to have Atlassian support for a specified period. It also defines the number of users who are entitled to log in to the Confluence site.

Read how to find the details of your existing license, and get a Confluence license if you do not have one already.

Are too many people authorised to use your site, exceeding the number allowed by the license? Try reducing the user count, or see the licensing and pricing overview on the Atlassian website if you want to upgrade to a higher

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user count.

You may also need to find the support entitlement number (SEN) when dealing with the Atlassian support team.

**Related pages:**

- Upgrading Beyond Current Licensed Period
- Confluence Installation and Upgrade Guide
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

## Viewing and Editing License Details

When you upgrade or renew your Confluence license, you will receive a new license key. You will need to update your Confluence installation with the new license key.

You can access your existing license key, or generate an evaluation license key, at http://my.atlassian.com.

### Updating your license details in Confluence

**To update your Confluence license:**

1. If you do not already have a license key, get your existing license key, or generate an evaluation license key, at http://my.atlassian.com.
2. Log in to Confluence as a user with Confluence Administrator or System Administrator permissions.
3. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
4. Choose **License Details** in the left-hand panel.
5. Enter your new license details into the **License** field.
6. Choose **Save**.

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.

**On this page:**


- Updating your license details in Confluence
- Viewing your license details
- Understanding the user count for your Confluence license
- Downgrading your Confluence license to pay for fewer users

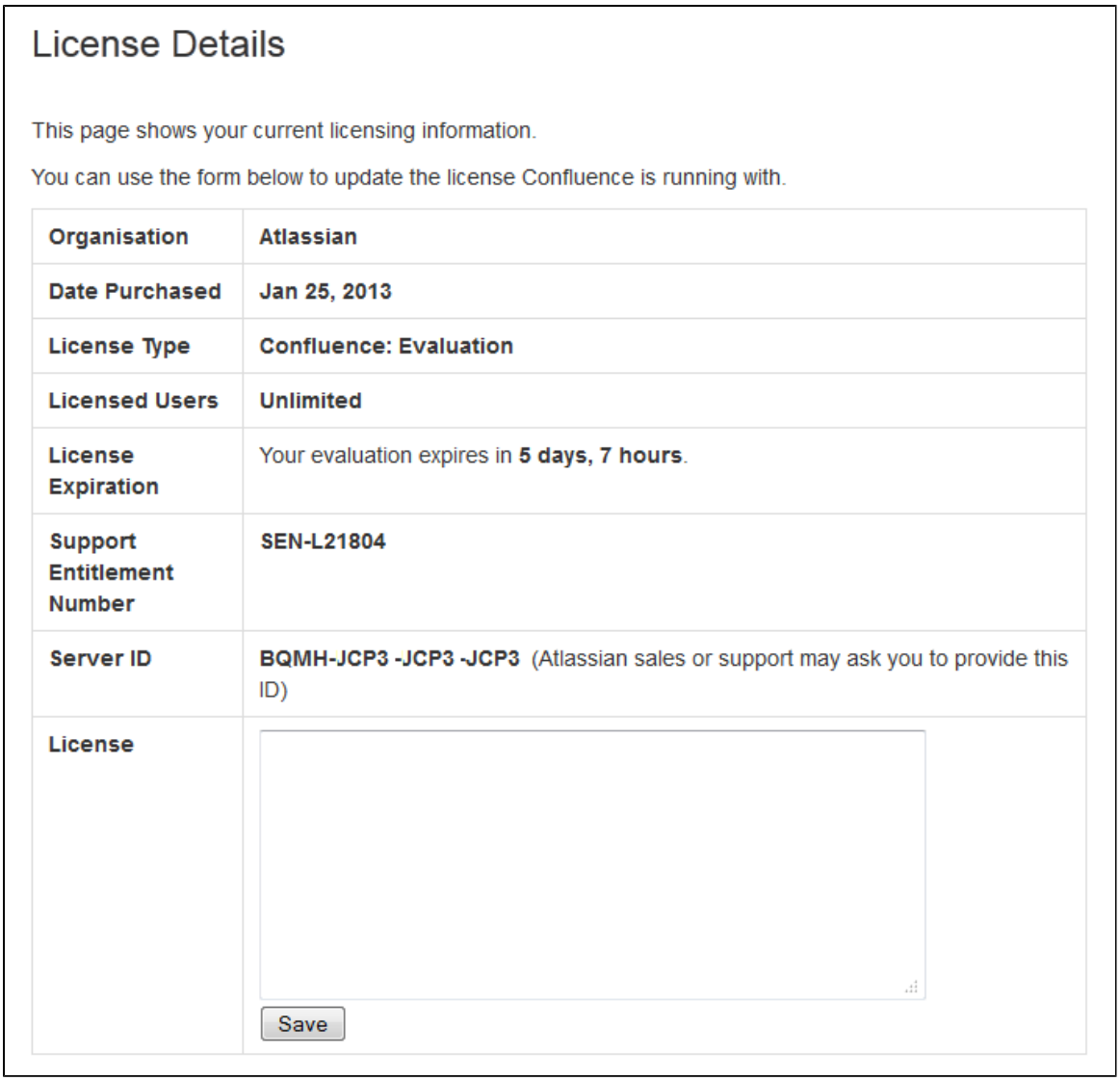

**Related pages:**

- Reducing the User Count for your Confluence License
- Managing Confluence Users
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: License details*

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### Viewing your license details

**To view the details of your Confluence license:**

1. Log in to Confluence as a user with Confluence Administrator or System Administrator permissions.
2. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
3. Choose **License Details** in the left-hand panel.

The 'License Details' screen tells you:

- What type of license you have (for example: Commercial, Academic, Community, or Evaluation).
- How many users your Confluence site is licensed to support, and how many are currently registered ('signed up currently'). See below for more about the user count.
  Choose **Refresh** to make sure you see the latest count.
- 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 installation
  - survives an upgrade
  - is held in the database
  - is not bound to a specific license
  - is the same for all servers in a cluster.

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### Understanding the user count for your Confluence license

The number of registered users allowed on your Confluence site may be limited, depending on your license type. See the licensing and pricing overview on the Atlassian website. If you have an 'unlimited' license, then the number of registered users is not significant.

The number of registered users is also called the 'user count' or the number of users 'signed up currently'. It is determined as follows:

- It includes only those users who have the 'can use' global permission for the Confluence site. (See Global Permissions Overview for more about the 'can use' permission.)
- It does not include anonymous users, who may access your Confluence site if you have allowed anonymous access. (See Setting Up Public Access for more about allowing anonymous access.)
- It does not include deactivated users.

### Downgrading your Confluence license to pay for fewer users

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

- View your license details as described above.
- Check whether 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 reducing the user count.
- When the number of users 'signed up currently' is lower than the number allowed by your new license, you can add the new license key to Confluence as described above.

## Getting a Confluence License

Need a Confluence license or license key?

- If you do not yet have a license, you can get a free multi-user evaluation license or a 10-user starter license immediately.
- If you already have a Confluence license, you can retrieve your key or generate a new key from the license viewer.
- For enterprise, non-profit, open source and educational licenses, see Confluence licensing and pricing.
- If you cannot find your key or are having problems, contact sales@atlassian.com.

**Related pages:**

- Viewing and Editing License Details
- Reducing the User Count for your Confluence License
- Confluence Administrator's Guide

## Reducing the User Count for your Confluence License

This page tells you how to reduce the number of users that count towards your Confluence license. You may want to reduce your user count in Confluence if you have exceeded your license limit, or if you want to change to a lower-tier license to reduce costs.

### Understanding the user count for your Confluence license

The number of registered users allowed on your Confluence site may be limited, depending on your license type. See the licensing and pricing overview on the Atlassian website. If you have an 'unlimited' license, then the number of registered users is not significant.

The number of registered users is also called the 'user count' or the number of users 'signed up currently'. It is determined as follows:

- It includes only those users who have the 'can use' global permission for the Confluence site. (See Global Permissions Overview for more about the 'can use' permission.)
- It does not include anonymous users, who may access your Confluence site if you have allowed anonymous access. (See Setting Up Public Access for more about allowing anonymous access.)
- It does not include deactivated users.

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**On this page:**


- Understanding the user count for your Confluence license
- Reducing the user count


**Related pages:**

- Viewing and Editing License Details
- Managing Confluence Users
- Confluence Administrator's Guide

### Reducing the user count

The recommended method for reducing your user count is to remove or deactivate the users. You can remove users who do not require access to Confluence and have never created content in Confluence. You can deactivate users who have created content but no longer require access to Confluence. See Deleting or Deactivating Users.

Alternatively, if you have connected Confluence to an LDAP directory, you may want configure Confluence to synchronise a subset of users from LDAP rather than all users. This is described in the following knowledge base article: Changing the Number of Users Synchronized from LDAP to Confluence. This can be a complicated procedure and we recommend that you do not use this method unless necessary.

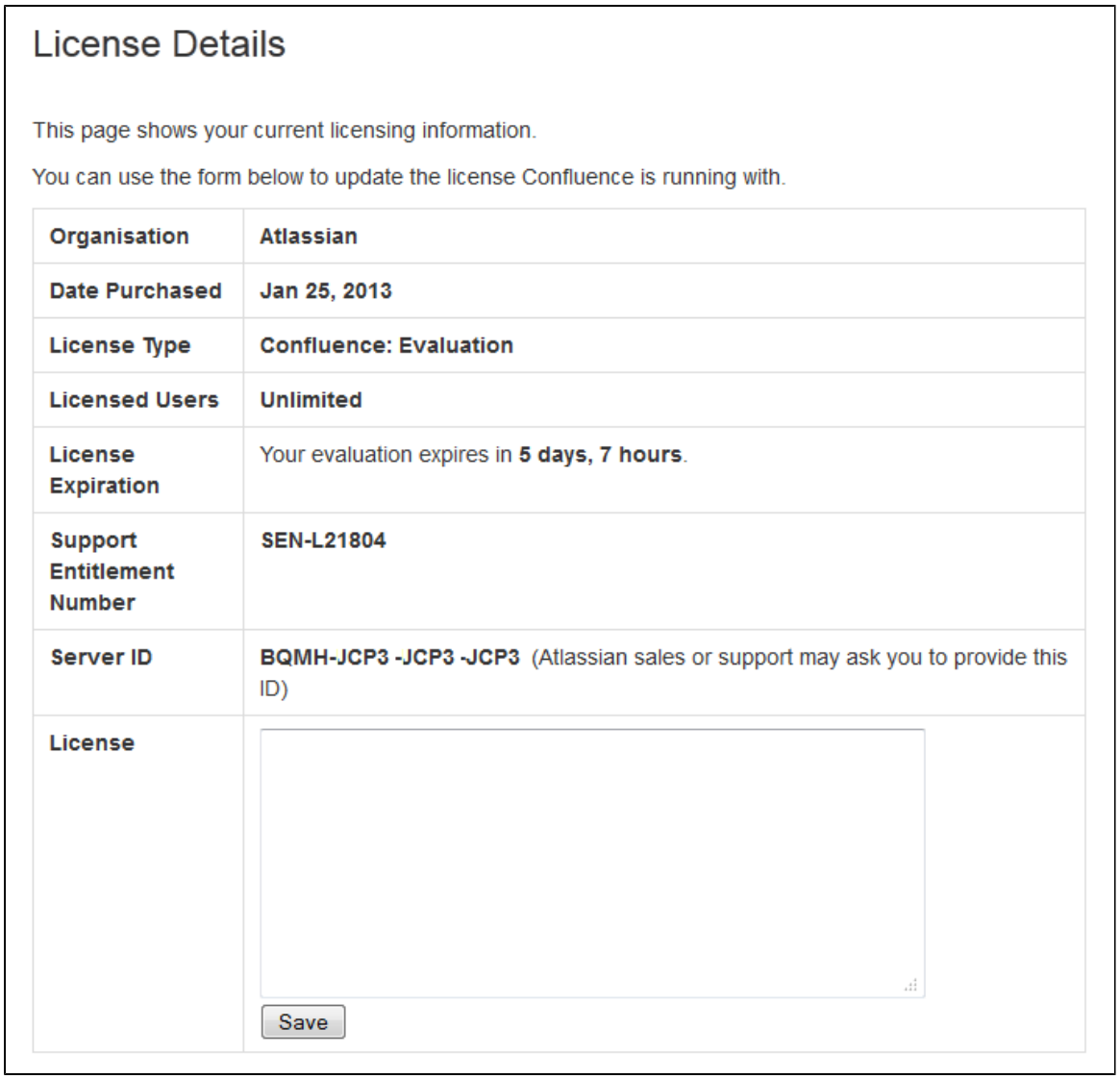
## Finding Your Confluence Support Entitlement Number (SEN)

There are three ways to find your Support Entitlement Number (SEN):

Method 1: Check in the Confluence Administration Interface

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **License Details** in the left-hand panel. The SEN is shown:

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License Details

This page shows your current licensing information.

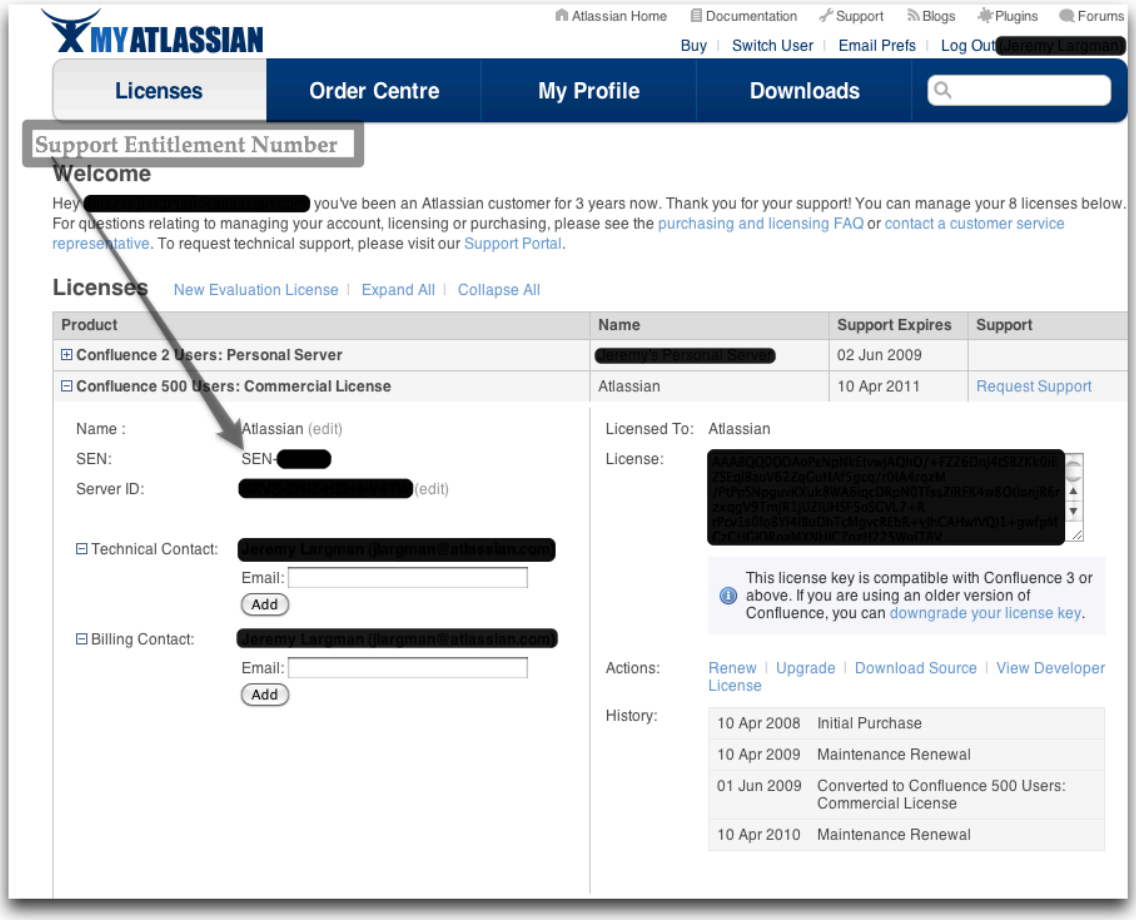
You can use the form below to update the license Confluence is running with.

| | |
|---|---|
| **Organisation** | **Atlassian** |
| **Date Purchased** | **Jan 25, 2013** |
| **License Type** | **Confluence: Evaluation** |
| **Licensed Users** | **Unlimited** |
| **License Expiration** | Your evaluation expires in **5 days, 7 hours**. |
| **Support Entitlement Number** | **SEN-L21804** |
| **Server ID** | **BQMH-JCP3 -JCP3 -JCP3** (Atlassian sales or support may ask you to provide this ID) |
| **License** | Save |

Method 2: Log into my.atlassian.com as the Account Holder or Technical Contact

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**Your Support Entitlement Number is available in http://my.atlassian.com:**




### Method 3: Atlassian Invoice

Your Support Entitlement Number (SEN) appears on the third page of your Atlassian invoice.

See Finding Your Support Entitlement Number in the support space for more general information about how Atlassian Support uses this number.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

# Managing Confluence Data

This page is an overview of recommended techniques for managing the data on your Confluence site. This is of interest to Confluence administrators – people with System Administrator or Confluence Administrator permissio ns.

- Database Configuration
- Site Backup and Restore
- Attachment Storage Configuration
- Confluence Data Model
- Finding Unused Spaces
- Data Import and Export

**Related pages:**

- Managing Add-ons and Macros
- Integrating Confluence with Other Applications
- Getting Started as Confluence Administrator
- Confluence Administrator's Guide

## Database Configuration

This document provides information on connecting Confluence to an external database.

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### The embedded HSQLDB 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` directory under your Confluence Home Directory. See also Important Directories and Files.

**Note: The embedded HSQLDB database is not suitable for production Confluence sites.**

Production sites should use an external database. See our guide to database configuration. When using the default HSQLDB database, you run the risk of irrecoverable data loss because HSQLDB is not transaction safe.

- Corruption is occasionally encountered after sudden power loss. It can usually be corrected using the data recovery procedure documented in our knowledge base.
- HSQLDB is suitable for evaluation purposes, but the risk can only be eliminated by switching databases. This is essential when you move from an evaulation to a production site. External databases may also provide superior speed and scalability.

**On this page:**

- The embedded HSQLDB database for evaluation purposes
- Selecting an external database
- Database setup
- Optimising database performance
- Database troubleshooting
- Notes

**Related pages:**

- Database JDBC Drivers
- Supported Platforms
- Embedded HSQLDB Database
- Managing Confluence Data
- Confluence Administrator's Guide

### Selecting an external database

**Note:** Take time to choose your database wisely. The XML backup built into Confluence is not suited for migration or backup of large data sets. If you need to migrate later, you will need to use a third party database migration tool.

Below is more information on selecting and migrating to an external database:

- Migrating to a Different Database
- List Of Supported Databases
- Database Troubleshooting

### Database setup

Here are the setup instructions for the supported databases:

- Database Setup for Oracle
- Database Setup For MySQL
- Database Setup for PostgreSQL
- Database Setup for SQL Server

### Optimising database performance

To improve database responsiveness:

- Improving Database Performance
- Database Troubleshooting

### Database troubleshooting

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For solving database-related problems:

- Troubleshooting External Database Connections
- Troubleshooting the Embedded HSQLDB Database
- Interpreting DB2 error codes
- Database Troubleshooting

Obtain technical support from Troubleshooting Problems and Requesting Technical Support.

### Notes

Issue CONF-12599 requests a more robust strategy for migrating large Confluence sites.

## Database JDBC Drivers

This page provides the download links for the JDBC drivers for all databases currently supported for Confluence. You will need to make the driver available to your application server, as described in the appropriate setup guide .

**Note:** We bundle some JDBC drivers with Confluence, as shown below. If you are using a direct JDBC connection, you do not need to download or install the drivers that are bundled. If you are connecting via a datasource, or if you are using a database whose driver is not bundled, you will need to download and install the drivers manually.

**Related pages:**

- Database Configuration
- Supported Platforms
- Confluence Administrator's Guide

| Database | JDBC driver bundled with Confluence? | JDBC drivers | More information |
|---|---|---|---|
| PostgreSQL | ✓ | 8.4-701.jdbc3<br>The JDBC 3 driver will work under the 1.6 JVM. If you want to use the JDBC 4 driver, you can download it from the PostgreSQL website. However, we recommend that you use the bundled JDBC 3 driver. | Database Setup for PostgreSQL |

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| | | | |
|---|---|---|---|
| Microsoft SQL Server |  | jTDS 1.2.2<br><br>The above version is the version bundled with Confluence. All our testing is done on that version. We do not know of any issues with later versions., so you are free to use them if you have tested them and find there are no issues in your environment. However, later versions are technically not supported. That means that if you do run into any problems, Atlassian Support may require you to move back to the above fully- tested version for troubleshooting. | Database setup for Microsoft SQL Server |
| MySQL |  | 5.1.11<br><br>Note: In Confluence 5.1 and later, the MySQL drivers are no longer included in the Confluence distribution. For more information please refer to the Confluence 5.1 Upgrade Notes. | Database setup for MySQL |
| Oracle |  | JDBC driver downloads<br><br>• For Oracle 11.1, use the 10.2.0.4 or 11.1.0.7.0 driver (Java 6 ojdbc6.jar).<br>• For Oracle 11.2, use the 11.2.0.1.0 driver (Java 6 ojdbc6.jar).<br><br>We recommend using the thin drivers only.<br><br>Tip: Search for the JAR file name on the download site.<br><br>See the Oracle JDBC driver FAQ. | Database setup for Oracle |

## Database Setup for Oracle

This page provides instructions for configuring Confluence to use an Oracle database. The setup process involves configuration of your Oracle server and your Confluence site.

#### Step 1. Check the prerequisites

Check the following before you start:

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- Make sure your version of Oracle is supported. See Supported Platforms. If your version of Oracle is not supported, please upgrade to a supported version before installing Confluence.
- If you have been evaluating Confluence and wish to transfer your data to a new database, consult the following guide first: Migrating to Another Database.
- If you are migrating from another database, consult the following guide first: Migrating to Another Database.
- **Note:** This database can only be set up by an Oracle database administrator (DBA). Oracle is difficult to set up. If you are not a DBA, and you do not have access to an experienced Oracle DBA, we recommend that you choose an alternative database. For a list of supported databases, see Supported Platforms. If you are evaluating Confluence, we recommend that you start with an alternative database and only consider migrating to Oracle after approval from your DBA. If you request Atlassian's technical support for difficulties with Oracle setup, we will assume you have the high level of skill required for an Oracle setup.

**On this page:**


- Step 1. Check the prerequisites
- Step 2. Install your Oracle server
- Step 3. Set up your Oracle user with schema-creation privileges
- Step 4. Install Confluence
- Step 5. Determine your JDBC URL
- Step 6. Download and install the Oracle database driver
- Step 7. Set up your database connection in the Confluence Setup Wizard
- Troubleshooting


**Related pages:**

- Database Configuration
- Known Issues for Oracle
- Confluence Installation and Upgrade Guide

### Step 2. Install your Oracle server

If you do not already have an operational Oracle database server, download the installation package from the Oracle download page and follow the instructions in the Oracle documentation.

Then follow the steps below, to deploy Confluence to a schema in your Oracle server.

### Step 3. Set up your Oracle user with schema-creation privileges

In this step you will create a Confluence user in Oracle and grant the appropriate roles to the user, so that the user can set up a connection, can create objects in its own schema, and can configure the schema.

**To create the user and assign its privileges:**

1. Access the command line interface to Oracle via the '`sqlplus`' command.

   ```
   sqlplus user/password <as sysdba|as sysoper>
   ```

   You must add the '`as sysdba`' or '`as sysoper`' option if you are logging in with the user '`sys`'. This determines which sys role you are using.
   Once logged in, you can type arbitrary SQL commands.
2. Create a Confluence user (`<user>`) in Oracle, and grant the appropriate roles only to the user:
   - `connect` role is required to set up a connection.
   - `resource` role is required to allow the user to create objects in its own schema.
   - `Create table, sequence` and `trigger` are required to configure the schema.

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```
create user <user> identified by <password> default tablespace
<tablespace_name> quota unlimited on <tablespace_name>;
grant connect to <user>;
grant resource to <user>;
grant create table to <user>;
grant create sequence to <user>;
grant create trigger to <user>;
```

**Notes:**

- Do not grant the user the `select any table` permission. That permission can cause problems with other schemas. See the bug report CONF-3613.
- When you create a user, specify the `tablespace` for the table objects as shown above.

3. Add a local `all_objects` view to the user's schema, to prevent a conflict that can occur when a table exists in another schema with the same name as one of the Confluence tables. This is a workaround for the bug CONF-3613:

```
create view <user>.all_objects as
select *
from sys.all_objects
where owner = upper('<user>');
```

#### Step 4. Install Confluence

Install Confluence if you have not done so already. See the Confluence Installation Guide. **Stop immediately after the installation, before opening the Confluence Setup Wizard in your browser**, and follow the steps below.

If you have already got part-way through the Confluence Setup Wizard, stop at the database setup step and follow the steps below. You will be able to restart the setup wizard at the same step later.

#### Step 5. Determine your JDBC URL

The JDBC thin driver for Oracle use three different styles of URL:

- New style:

**New Style**

```
jdbc:oracle:thin:@//[HOST][:PORT]/SERVICE
```

- Old style:

**Old Style**

```
jdbc:oracle:thin:@[HOST][:PORT]:SID
```

- 'tnsnames' style:

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**tnsnames**

```
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)))
```

**Notes:**

- The `tnsnames` style is required for connecting to an Oracle RAC cluster. For easy reading, we have split the example above over multiple lines, but you should compact it into a single line. These values may need more analysis than documented here, so you should seek the assistance of an experienced DBA.
- If you use the new style URL, then SERVICE can be either an SID or Service Name.
- If you use the old style URL, then SERVICE can only be the SID.

To determine the host, port, service name, and/or SID, execute the following command as the user running Oracle. (By default, the user is "oracle"):

```
lsnrctl status
```

For reference, here is a sample output:

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```
SNRCTL for Linux: Version 11.2.0.2.0 - Beta on 29-JUN-2012 15:20:59
Copyright (c) 1991, 2010, Oracle.  All rights reserved.
Connecting to (DESCRIPTION=(ADDRESS=(PROTOCOL=IPC)(KEY=EXTPROC_FOR_XE)))
STATUS of the LISTENER
------------------------
Alias                     LISTENER
Version                   TNSLSNR for Linux: Version 11.2.0.2.0 - Beta
Start Date                06-JUN-2012 08:36:34
Uptime                    23 days 6 hr. 44 min. 25 sec
Trace Level               off
Security                  ON: Local OS Authentication
SNMP                      OFF
Default Service           XE
Listener Parameter File
/u01/app/oracle/product/11.2.0/xe/network/admin/listener.ora
Listener Log File
/u01/app/oracle/diag/tnslsnr/<HOSTNAME>/listener/alert/log.xml
Listening Endpoints Summary...
  (DESCRIPTION=(ADDRESS=(PROTOCOL=ipc)(KEY=EXTPROC_FOR_XE)))
  (DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<HOSTNAME>)(PORT=1521)))

(DESCRIPTION=(ADDRESS=(PROTOCOL=tcp)(HOST=<HOSTNAME>)(PORT=8080))(Presentation=HTTP
)(Session=RAW))
Services Summary...
Service "PLSExtProc" has 1 instance(s).
  Instance "PLSExtProc", status UNKNOWN, has 1 handler(s) for this service...
Service "XE" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
Service "XEXDB" has 1 instance(s).
  Instance "XE", status READY, has 1 handler(s) for this service...
The command completed successfully
```

Notes:

- The host and port are determined by the line containing `PROTOCOL=tcp`, **without** `Presentation=HTTP`.
- Under `Services Summary`, each service which has an instance with READY status is a connectable service. The name following `Service` is a service name for connecting to the database name following `Instance` on the next line.
- The SID is the name of the database instance, as defined by the `$ORACLE_SID` variable when you have sourced the Oracle environment to your shell.

For example, assuming that you are running Confluence on the same server as the Oracle database, with the above `lsnrctl` status output, you would use one of the following URLs:

```
jdbc:oracle:thin:@//localhost:1521/XE
jdbc:oracle:thin:@localhost:1521:XE
```

The URL can be used in either a direct JDBC connection or using a Tomcat datasource.

For further information on Oracle JDBC URLs, see the Oracle JDBC FAQ.

#### Step 6. Download and install the Oracle database driver

Decide whether you will set up a **direct JDBC connection or a datasource connection** to Oracle, to suit your environment. If unsure, choose direct JDBC.

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**To set up a direct JDBC connection:**

If you plan to set up a direct JDBC connection to Oracle, you will need to copy the Oracle JDBC driver to your Confluence installation.

1. Download the latest compatible database driver. Links to the appropriate database drivers are available on this page: Database JDBC Drivers.
2. Copy the driver JAR file to the `<Confluence installation>/confluence/WEB-INF/lib` folder in your new Confluence installation.

**To set up a datasource connection:**

If you plan to set up a datasource connection to Oracle, follow the steps described in Configuring an Oracle Datasource in Apache Tomcat.

#### Step 7. Set up your database connection in the Confluence Setup Wizard

Start Confluence, and go to the Confluence Setup Wizard in your browser. Follow these steps to set up the new configuration:

1. Follow the initial steps in the Confluence Setup Guide.
2. When prompted to choose an evaluation or production installation, choose **production installation**.
3. When prompted to choose an embedded or external database, select **Oracle xx** from the dropdown list, where 'xx' is your Oracle version, and choose **External Database**.
4. Choose either the direct JDBC or the datasource connection, to suit the choice you made earlier when setting up the Oracle database driver.
    - For the JDBC connection: Enter the **database URL** to match the JDBC URL you determined in the previous section. Enter the **user name** (for example, `confluenceuser`) and **password** you chose when adding the Confluence database to Oracle.
    - For a datasource connection: Set the JNDI name to `java:comp/env/jdbc/confluence.`
5. Wait a while, as Confluence will create the schema in Oracle.

Congratulations! Confluence is now using your Oracle database to store its data.

#### Troubleshooting

- The following page contains common issues encountered when setting up your Oracle database to work with Confluence: Known Issues for Oracle.
- If Confluence complains that it is missing a class file, you may have placed the JDBC driver in the wrong folder.
- If none of the above describes your issue, please create a support ticket at http://support.atlassian.com a nd be sure to include your logs (found in `<CONFLUENCE-INSTALLATION>/logs` and `<CONFLUENCE-HO ME>/logs`).

## Configuring an Oracle Datasource in Apache Tomcat

This page tells you how to set up an Oracle datasource connection for Confluence.

#### *Step 1. Shut down Tomcat*

1. Run `bin/shutdown.sh` or `bin/shutdown.bat` to bring Tomcat down while you are making these changes.
2. Make a backup of your `<CONFLUENCE_HOME>/confluence.cfg.xml` file and your `<CONFLUENCE_IN STALLATION>/conf/server.xml` file, so that you can easily revert if you have a problem.

#### *Step 2. Install the Oracle database driver*

1. Download the Oracle JDBC driver. Links are available on this page: Database JDBC Drivers.
2. Copy the driver JAR file into the `lib` folder of your Tomcat installation: `<TOMCAT-INSTALLATION>/lib`.

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**On this page:**


- Step 1. Shut down Tomcat
- Step 2. Install the Oracle database driver
- Step 3. Configure Tomcat
- Step 4. Configure the Confluence web application
- Step 5. Restart Tomcat


**Related pages:**


- Database Setup For Oracle
- Important Directories and Files
- Confluence Installation and Upgrade Guide


#### *Step 3. Configure Tomcat*

1. If you are using the Confluence distribution, edit the `conf/server.xml` file in your Tomcat installation. If you are running your own Tomcat instance, edit the XML file where you declared the Confluence Context descriptor.
2. Find the `Context` element in the `Host` element:

```
<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. Insert the DataSource `Resource` element into the `Context` element, directly after the opening `<Context.../>` line, before `Manager`, as shown here:

```
<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.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 your Oracle login.
5. Change the `url` to match the URL for your Oracle database. See how to find your Oracle URL. For example:

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```
jdbc:oracle:thin:@example.atlassian.com:1521:confluencedb
```

6. If required, choose different `maxActive` and `maxIdle` values. These define the number of database connections that will be allowed at one time, and the number that will be kept open even when there is no database activity.

#### *Step 4. Configure the Confluence web application*

Configure Confluence to use this datasource:

1. Edit this file in your Confluence installation: `<CONFLUENCE_INSTALLATION>/confluence/WEB-INF/web.xml`.
2. Insert the following element just before `</web-app>` near the end of the file:

```
<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>
```

#### *Step 5. Restart Tomcat*

Run `bin/startup.sh` or `bin/startup.bat` to start Tomcat with the new settings.

## Database Setup for SQL Server

This page provides instructions for configuring Confluence to use the Microsoft SQL Server database.

#### Step 1. Check the prerequisites

Check the following before you start:

- Check that your version of SQL Server is supported. See Supported Platforms. If your version is not supported, please upgrade to a supported version of SQL Server before installing Confluence.
- If you have been evaluating Confluence and wish to transfer your data to a new database, consult the following guide first: Migrating to Another Database.
- If you are migrating from another database, consult the following guide first: Migrating to Another Database.

#### Step 2. Install SQL Server

If you do not already have an operational SQL Server database, download the installation package from the Microsoft SQL Server download page and follow the instructions on MSDN.

**On this page:**


- Step 1. Check the prerequisites
- Step 2. Install SQL Server
- Step 3. Set up your SQL Server database and user
- Step 4. Install Confluence and the SQL Server database driver
- Step 5. Set up your database connection in the Confluence Setup Wizard
- Troubleshooting


**Related pages:**

- Database Configuration
- Known issues for SQL Server
- Confluence Installation and Upgrade Guide

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#### Step 3. Set up your SQL Server database and user

In this step you will create a database within SQL Server to hold your Confluence data, and a database user with authority to access that database.

1. Identify which character encoding to use. To do this, check the encoding currently used by your application server and Confluence. All three must use compatible encoding. For example, the default SQL Server encoding of UCS-2 is compatible with UTF-8.
2. Using your SQL administrator permissions, create a new database in SQL Server.
3. If you set your application server and Confluence to use an encoding incompatible with UCS-2, specify that character encoding for the database.
4. Set the default collation for the database to be 'SQL_Latin1_General_CP1_CS_AS' (**case sensitive**). You can do this by issuing the following SQL query:

```
ALTER DATABASE <database_name> COLLATE SQL_Latin1_General_CP1_CS_AS
```

   Note: if you receive an error stating 'The database could not be exclusively locked to perform the operation', you may need to prevent other connections by setting the mode to single user for the transaction:

```
ALTER DATABASE <database_name> SET SINGLE_USER WITH ROLLBACK IMMEDIATE;
<your ALTER DATABASE query>
ALTER DATABASE <database_name> SET MULTI_USER;
```

5. Configure the database to use the isolation level, 'Read Committed with Row Versioning'. You can do this by issuing the following SQL query:

**Determine if READ_COMMITTED_SNAPSHOT is enabled**

```
SELECT is_read_committed_snapshot_on FROM
sys.databases WHERE name= 'YourDatabase'
```

   Return value:
   1 = READ_COMMITTED_SNAPSHOT option is ON. Read operations under the read-committed isolation level are based on snapshot scans and do not acquire locks.

   0 = READ_COMMITTED_SNAPSHOT option is OFF (default). Read operations under the read-committed isolation level use share locks.

```
ALTER DATABASE <database_name>
   SET READ_COMMITTED_SNAPSHOT ON
   WITH ROLLBACK IMMEDIATE;
```

6. Using your SQL administrator permissions, create a new SQL user account for Confluence (for example, `confluenceuser`). Give this user full create, read and write permissions for the database tables. Note that Confluence must be able to create its own schema.

#### Step 4. Install Confluence and the SQL Server database driver

Decide whether you will set up a **direct JDBC connection or a datasource connection** to SQL Server, to suit your environment. If unsure, choose direct JDBC.

Install Confluence if you have not done so already. See the Confluence Installation Guide.

- If you plan to set up a **direct JDBC connection** to SQL Server, you can run the Confluence installation

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and move directly on to the Confluence Setup Wizard, as described below. The SQL Server JDBC driver is bundled with Confluence, as documented on this page: Database JDBC Drivers.

- If you plan to set up a **datasource connection** to SQL Server:
  - Stop immediately after the Confluence installation, before opening the Confluence Setup Wizard in your browser. If you have already got part-way through the Confluence Setup Wizard, stop at the database setup step. You will be able to restart the setup wizard at the same step later.
  - Follow the steps described in Configuring a SQL Server Datasource in Apache Tomcat.

#### Step 5. Set up your database connection in the Confluence Setup Wizard

Start Confluence, and go to the Confluence Setup Wizard in your browser. Follow these steps to set up the new configuration:

1. Follow the initial steps in the Confluence Setup Guide.
2. When prompted to choose an evaluation or production installation, choose **production installation**.
3. When prompted to choose an embedded or external database, select **Microsoft SQL Server** from the dropdown list and choose **External Database**.
4. Choose either the direct JDBC or the datasource connection, to suit the choice you made earlier when setting up the SQL Server database driver.
   - For the JDBC connection:
     - When prompted for a **Driver Class Name,** enter the following:

       ```
       net.sourceforge.jtds.jdbc.Driver
       ```

     - When prompted for the **Database URL**, use this format:

       ```
       jdbc:jtds:sqlserver://<server>:<port>/<database>
       ```

       If MS SQL is clustered, use this format:

       ```
       jdbc:jtds:sqlserver://<server>:<port>/<database>;instance=<instance>
       ```

     - Enter the username (for example, `confluenceuser`) and password you chose earlier.
   - For a datasource connection: Set the **Datasource Name** to `java:comp/env/jdbc/confluence`

Congratulations! Confluence is now using your SQL Server database to store its data.

#### Troubleshooting

- If you get the following error message, verify that you have given the `confluenceuser` user all the required database permissions when connecting from `localhost`.

  ```
  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)'
  ```

- The following page contains common issues encountered when setting up your SQL Server database to work with Confluence: Known Issues for SQL Server.
- If Confluence complains that it is missing a class file, you may have placed the JDBC driver in the wrong folder.
- If none of the above describes your issue, please create a support ticket at http://support.atlassian.com a

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nd be sure to include your logs (found in `<CONFLUENCE-INSTALLATION>/logs` and `<CONFLUENCE-HOME>/logs`).

## Configuring a SQL Server Datasource in Apache Tomcat

This page tells you how to set up a SQL Server datasource connection for Confluence.

### *Step 1. Shut down Tomcat*

1. Run `bin/shutdown.sh` or `bin/shutdown.bat` to bring Tomcat down while you are making these changes.
2. Make a backup of your `<CONFLUENCE_HOME>/confluence.cfg.xml` file and your `<CONFLUENCE_INSTALLATION>/conf/server.xml` file, so that you can easily revert if you have a problem.

### *Step 2. Install the SQL Server database driver*

1. Download the SQL Server JDBC driver:
   - Links are available on this page: Database JDBC Drivers.
   - Unpack the archive file you have downloaded, and find the JAR file called something like this: `jtds-x.x.x.jar`, where `x.x.x` is a version number.
2. Alternatively, you can get the driver from your Confluence installation: `/confluence/WEB-INF/lib/jtds-x.x.x.jar`.
3. Put the JAR file into the `lib` folder of your Tomcat installation: `<TOMCAT-INSTALLATION>/lib`.

**On this page:**

- Step 1. Shut down Tomcat
- Step 2. Install the SQL Server database driver
- Step 3. Configure Tomcat
- Step 4. Configure the Confluence web application
- Step 5. Restart Tomcat

**Related pages:**

- Database Setup for SQL Server
- Important Directories and Files
- Confluence Installation and Upgrade Guide

### *Step 3. Configure Tomcat*

1. Edit the `conf/server.xml` file in your Tomcat installation.
2. 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 -->
```

3. Insert the DataSource `Resource` element inside the `Context` element, directly after the opening `<Context.../>` line, before `Manager`:

```
<Resource name="jdbc/confluence" auth="Container" type="javax.sql.DataSource"
    username="yourDatabaseUser"
    password="yourDatabasePassword"
    driverClassName="net.sourceforge.jtds.jdbc.Driver"
    url="jdbc:jtds:sqlserver://localhost:1433/yourDatabaseName"
    maxActive="20"
    maxIdle="10"
    validationQuery="select 1" />
```

   - Replace the `username` and `password` parameters with the correct values for your database
   - In the `url` parameter, replace the word '`yourDatabaseName`' with the name of the database your Confluence data will be stored in.

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Notes:

- If switching from a direct JDBC connection to datasource, you can find the above details in your `<CONFLUENCE_HOME>/confluence.cfg.xml` file.
- Here are the configuration properties for Tomcat's standard data source resource factory (`org.apache.tomcat.dbcp.dbcp.BasicDataSourceFactory`):
  - 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.
- Why is the `validationQuery` element needed? When a database server reboots, or there is a network failure, all the connections in the connection pool are broken and this normally requires a Application Server reboot. However, the Commons DBCP (Database Connection Pool) which is used by the Tomcat application server can validate connections before issuing them by running a simple SQL query, and if a broken connection is detected, a new one is created to replace it. To do this, you will need to set the "validationQuery" option on the database connection pool.

#### *Step 4. Configure the Confluence web application*

1. Edit this file in your Confluence installation: `<CONFLUENCE_INSTALLATION>/confluence/WEB-INF/web.xml`.
2. Insert the following element just before `</web-app>` near the end of the file:

```
<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>
```

**If you are changing an existing Confluence installation over to using a Tomcat datasource:**

1. Edit the `<CONFLUENCE_HOME>/confluence.cfg.xml` file.
2. Delete any line that contains a property that begins with `hibernate.`
3. Insert the following at the start of the `<properties>` section.

```
<property name="hibernate.setup">true</property>
<property
name="hibernate.dialect">net.sf.hibernate.dialect.SQLServerIntlDialect</proper
ty>
<property
name="hibernate.connection.datasource">java:comp/env/jdbc/confluence</property
>
```

#### *Step 5. Restart Tomcat*

Run `bin/startup.sh` or `bin/startup.bat` to start Tomcat with the new settings.

## Database Setup For MySQL

This page provides instructions for configuring Confluence to use the MySQL database.

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### Step 1. Check the prerequisites

Check the following before you start:

- Check that your version of MySQL is supported. See Supported Platforms.
- If you have been evaluating Confluence and wish to transfer your data to a new database, consult the following guide first: Migrating to Another Database.
- If you are migrating from another database, consult the following guide first: Migrating to Another Database.

### Step 2. Install MySQL Server

If you do not already have an operational MySQL database server, install 'MySQL Community Edition'. Download the installation package from the MySQL download page and follow the instructions in the MySQL documentation.

**On this page:**

- Step 1. Check the prerequisites
- Step 2. Install MySQL Server
- Step 3. Configure MySQL Server
- Step 4. Set up your MySQL database and user
- Step 5. Install Confluence
- Step 6. Download and install the MySQL database driver
- Step 7. Check settings for internationalisation
- Step 8. Set up your database connection in the Confluence Setup Wizard
- Troubleshooting

**Related pages:**

- Configuring Database Character Encoding
- Database Configuration
- Known Issues for MySQL
- Confluence Installation and Upgrade Guide

### Step 3. Configure MySQL Server

In this step, you will configure your MySQL database server.

***Note:*** *If you intend to connect Confluence to an existing MySQL database server, we strongly recommend that you reconfigure this database server by running through the configuration steps in the MySQL installation wizard as described below.*

**To configure MySQL Server:**

1. Run the MySQL installation wizard:
    a. If you are connecting Confluence to your existing MySQL server, choose **Reconfigure Instance**.
    b. Choose **Advanced Configuration**.
    c. 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 MySQL documentation f or further information.
    d. Choose **Transactional Database Only** to ensure 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.*
    e. Set the **InnoDB Tablespace** settings to your requirements. (The default settings are acceptable.)
    f. Set the approximate **number of concurrent connections** permitted to suit your Confluence usage requirements. You can use one of the presets or enter a number manually. Refer to the MySQL documentation for further information.
    g. For the **networking options**, ensure the **Enable TCP/IP Networking** and **Enable Strict Mode** opt ions are selected (default). Refer to the MySQL documentation on setting the networking and serve r SQL modes for further information.
    h. For the MySQL server's **default character set**, choose **Best Support For Multilingualism** (in other words, UTF-8). This will ensure Confluence's support for internationalisation. For more information, see Configuring Database Character Encoding.

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i. For the Windows configuration option, choose whether or not to install the MySQL Server as a Windows service. If your hardware is going to be used as a dedicated MySQL Server, you may wish to choose the options to **Install As Windows Service** (and **Launch the MySQL Server automatically**). Refer to the MySQL documentation for further information.
***Note:*** *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.*
j. Select **Modify Security Settings** to enter and set your MySQL Server (root) access password.

2. Edit the `my.cnf` file (often named `my.ini` on Windows operating systems) in your MySQL server. Locate the `[mysqld]`section in the file, and add or modify the following parameters:
   - Specify the default character set to be UTF-8:

**MySQL 4.1.3 and above**

```
[mysqld]
...
character-set-server=utf8
collation-server=utf8_bin
...
```

**MySQL 4.1.2 and below**

```
[mysqld]
...
default-character-set=utf8
default-collation=utf8_bin
...
```

   - Set the default storage engine to InnoDB:

```
[mysqld]
...
default-storage-engine=INNODB
...
```

   - Specify the value of `max_allowed_packet` to be at least 32M:

```
[mysqld]
...
max_allowed_packet=32M
...
```

   (Refer to MySQL Option Files for detailed instructions on editing `my.cnf` and `my.ini`.)
3. Restart your MySQL server for the changes to take effect:
   - On Windows, use the Windows Services manager to restart the service.
   - On Linux:
     - Run one of the following commands, depending on your setup: '`/etc/init.d/mysqld stop`' or '`/etc/init.d/mysql stop`' or '`service mysqld stop`'.
     - Then run the same command again, replacing '`stop`' with '`start`'.
   - On Mac OS X, run '`sudo /Library/StartupItems/MySQLCOM/MySQLCOM restart`'.

#### Step 4. Set up your MySQL database and user

In this step you will create a database within MySQL to hold your Confluence data, and a database user with authority to access that database.

**To create the database and user privileges:**

1. Run the '`mysql`' command as a MySQL super user. The default user is 'root' with a blank password.
2. Create an empty Confluence database schema by running this command:

```
CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;
```

3. Create the Confluence database user by running this command. Replace 'confluenceuser' and

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'confluencepass' with a username and password of your choice. If Confluence is not running on the same server as your MySQL database server, replace 'localhost' with the hostname or IP address of the Confluence server:

```
GRANT ALL PRIVILEGES ON confluence.* TO 'confluenceuser'@'localhost'
IDENTIFIED BY 'confluencepass';
```

#### Step 5. Install Confluence

Install Confluence if you have not done so already. See the Confluence Installation Guide. **Stop immediately after the installation, before opening the Confluence Setup Wizard in your browser**, and follow the steps below.

If you have already got part-way through the Confluence Setup Wizard, stop at the database setup step and follow the steps below. You will be able to restart the setup wizard at the same step later.

#### Step 6. Download and install the MySQL database driver

If you are **upgrading Confluence to a later version, and you are already using the recommended MySQL driver** (JDBC Connector/J 5.1), you can skip the instructions in this section. The Confluence upgrade task will automatically copy over your existing driver to the upgraded installation.

If you are installing Confluence, or you are upgrading Confluence and not using the recommended MySQL driver (JDBC Connector/J 5.1), follow the steps below.

Choose whether you will set up a **direct JDBC connection or a datasource connection** to MySQL, to suit your environment. If unsure, choose direct JDBC.

**To set up a direct JDBC connection:**

If you plan to set up a direct JDBC connection to MySQL, you will need to copy the MySQL JDBC driver to your Confluence installation.

1. Get the MySQL driver:
    - If you are **installing Confluence**, download the recommended MySQL driver . Links to the appropriate database drivers are available on this page: Database JDBC Drivers.
      You can download either the `.tar.gz` or the `.zip` archive. Extract the driver JAR file (for example, `mysql-connector-java-x.x.x-bin.jar`, where `x.x.x` is a version number) from the archive.
    - If you are **upgrading Confluence to a later version, and you are not using the recommended MySQL driver** (JDBC Connector/J 5.1), copy the driver JAR file from your existing Confluence installation before you upgrade. The driver will be in the `<Confluence installation>/confluence/WEB-INF/lib` folder.
2. Copy the driver JAR file to the `<Confluence installation>/confluence/WEB-INF/lib` folder in your new or upgraded Confluence installation.

**To set up a datasource connection:**

If you plan to set up a datasource connection to MySQL, follow the steps described in Configuring a MySQL Datasource in Apache Tomcat.

#### Step 7. Check settings for internationalisation

If you are using a existing database, use the **`status`** command to verify database character encoding information. The results should be UTF-8. See Configuring Database Character Encoding.

#### Step 8. Set up your database connection in the Confluence Setup Wizard

Start Confluence, and go to the Confluence Setup Wizard in your browser. Follow these steps to set up the new configuration:

1. Follow the initial steps in the Confluence Setup Guide.
2. When prompted to choose an evaluation or production installation, choose **production installation**.
3. When prompted to choose an embedded or external database, select **MySQL** from the dropdown list and

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choose **External Database**.
Choose either the direct JDBC or the datasource connection, to suit the choice you made earlier when setting up the MySQL database driver.

- For the JDBC connection: Enter the username (for example, `confluenceuser`) and password you chose earlier.
- For a datasource connection: Set the JNDI name to `java:comp/env/jdbc/confluence`

Congratulations! Confluence is now using your MySQL database to store its data.

#### Troubleshooting

- If you get the following error message, verify that you have given the `confluenceuser` user all the required database permissions when connecting from `localhost`.

```
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)'
```

- The following page contains common issues encountered when setting up your MySQL database to work with Confluence: Known Issues for MySQL
- If Confluence complains that it is missing a class file, you may have placed the JDBC driver in the wrong folder.
- If none of the above describes your issue, please create a support ticket at http://support.atlassian.com a nd be sure to include your logs (found in `<CONFLUENCE-INSTALLATION>/logs` and `<CONFLUENCE-HO ME>/logs`).

### Configuring a MySQL Datasource in Apache Tomcat

This page tells you how to set up a MySQL datasource connection for Confluence.

#### *Step 1. Shut down Tomcat*

1. Run `bin/shutdown.sh` or `bin/shutdown.bat` to bring Tomcat down while you are making these changes.
2. Make a backup of your `<CONFLUENCE_HOME>/confluence.cfg.xml` file and your `<CONFLUENCE_IN STALLATION>/conf/server.xml` file, so that you can easily revert if you have a problem.

#### *Step 2. Install the MySQL database driver*

1. Download the MySQL JDBC driver. Links are available on this page: Database JDBC Drivers.
2. Unpack the archive file you have downloaded, and find the JAR file called something like this: `mysql-co nnector-java-x.x.x-bin.jar`, where `x.x.x` is a version number.
3. Copy the JAR file into the `lib` folder of your Tomcat installation: `<TOMCAT-INSTALLATION>/lib`.

**On this page:**


- Step 1. Shut down Tomcat
- Step 2. Install the MySQL database driver
- Step 3. Configure Tomcat
- Step 4. Configure the Confluence web application
- Step 5. Restart Tomcat


**Related pages:**

- Database Setup For MySQL
- Important Directories and Files
- Confluence Installation and Upgrade Guide

#### *Step 3. Configure Tomcat*

1. Edit the `conf/server.xml` file in your Tomcat installation.
2. Find the following lines:

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```
<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 -->
```

3. Insert the DataSource `Resource` element within the `Context` element, directly after the opening `<Context.../>` line, before `Manager`:

```
<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?useUnicode=true&amp;characterEncod
ing=utf8"
         maxActive="15"
         maxIdle="7"
         defaultTransactionIsolation="READ_COMMITTED"
         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, add "`&useUnicode=true&characterEncoding=utf8`" on the end of the above URL.

Notes

- If switching from a direct JDBC connection to a datasource connection, you can find the above details in your `<CONFLUENCE_HOME>/confluence.cfg.xml` file.
- The configuration properties for Tomcat's standard datasource 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 your JDBC driver.
  - `url` – Connection URL to be passed to your JDBC driver. (For backwards compatibility, the property `driverName` is also recognised.)
  - `user` – Database username to be passed to your 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.
- Why is the `validationQuery` element needed? When a database server reboots, or there is a network failure, all the connections in the connection pool are broken and this normally requires an application server reboot. However, the Commons DBCP (Database Connection Pool) which is used by the Tomcat application server can validate connections before issuing them by running a simple SQL query, and if a broken connection is detected, a new one is created to replace it. To do this, you will need to set the `validationQuery` option on the database connection pool.

***Step 4. Configure the Confluence web application***

1. Edit this file in your Confluence installation: `<CONFLUENCE_INSTALLATION>/confluence/WEB-INF/web.xml`.
2. Insert the following element just before `</web-app>` near the end of the file:

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```
<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>
```

**If you are changing an existing Confluence installation over to using a Tomcat datasource:**

1. Edit the `<CONFLUENCE_HOME>/confluence.cfg.xml` file.
2. Delete any line that contains a property that begins with `hibernate.`
3. Insert the following at the start of the `<properties>` section.

```
<property name="hibernate.setup"><![CDATA[true]]></property>
<property
name="hibernate.dialect"><![CDATA[net.sf.hibernate.dialect.MySQLDialect]]></pr
operty>
<property
name="hibernate.connection.datasource"><![CDATA[java:comp/env/jdbc/confluence]
]></property>
```

#### *Step 5. Restart Tomcat*

Run `bin/startup.sh` or `bin/startup.bat` to start Tomcat with the new settings.

## Database Setup for PostgreSQL

This page provides instructions for configuring Confluence to use a PostgreSQL database.

#### Step 1. Check the prerequisites

Check the following before you start:

- Check that your version of PostgreSQL is supported. See Supported Platforms. If your version is not supported, please upgrade to a supported version of PostgreSQL before installing Confluence.
- If you have been evaluating Confluence and wish to transfer your data to a new database, consult the following guide first: Migrating to Another Database.
- If you are migrating from another database, consult the following guide first: Migrating to Another Database.

#### Step 2. Install PostgreSQL

If you do not already have an operational PostgreSQL database, install it now.

1. Download PostgreSQL. For the simplest installation, choose a graphical installer.
2. Install PostgreSQL. If you chose one of the PostgreSQL graphical installers, this is simple: Run the executable that you downloaded and follow the prompts. If necessary, you can refer to the PostgreSQL installation instructions. Please note the following information when installing PostgreSQL:
    - The **password** that you are prompted to provide during the installation process is for the 'postgres' account, which is the database root-level account, sometimes called the super user ('postgres'). Remember this username and password. You will need it each time you log in to the database.
    - The **default port** for PostgreSQL is 5432. If you decide to change the default port, please ensure that your new port number does not conflict with any services running on that port. You will also need to remember to update all further mentions of the database port.
    - Choose the **locale** that best fits your geographic location.
    - Do **not** launch **Stack Builder** at the completion of the installer.

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**On this page:**


- Step 1. Check the prerequisites
- Step 2. Install PostgreSQL
- Step 3. Set up your PostgreSQL database and user
- Step 4. Install Confluence and the PostgreSQL database driver
- Step 5. Set up your database connection in the Confluence Setup Wizard
- Notes
- Troubleshooting


**Related pages:**


- Database Configuration
- Known issues for PostgreSQL
- Confluence Installation and Upgrade Guide


### Step 3. Set up your PostgreSQL database and user

In this step you will create a database within PostgreSQL to hold your Confluence data, and a database user with authority to access that database.

Below we show you how to set up the database using the command line, and also how to use pgAdmin III as an alternative to the command line.

**Option 1: Set up your database using the command line**

Assuming that you are using the default installation directory of `/opt/PostgreSQL/8.4/bin/`, enter the following commands:

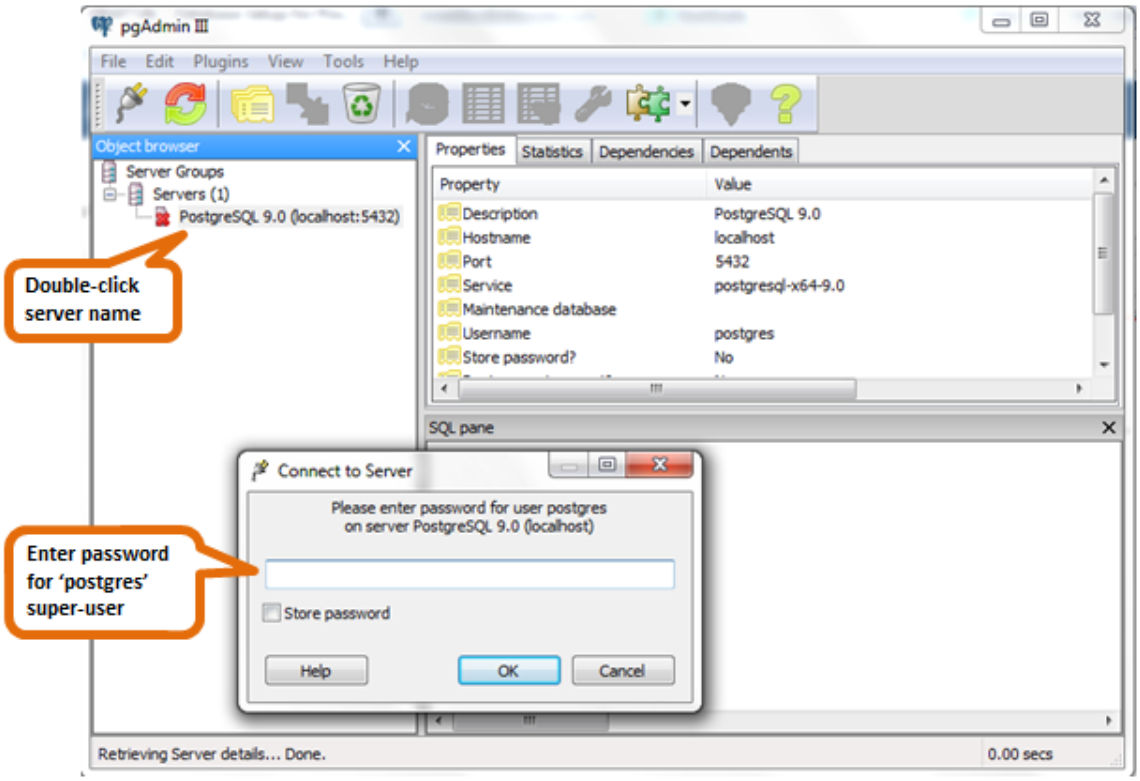
```
sudo -s -H -u postgres
# Create the Confluence user:
/opt/PostgreSQL/8.4/bin/createuser -S -d -r -P -E confluenceuser
# Create the Confluence database:
/opt/PostgreSQL/8.4/bin/createdb --owner confluenceuser --encoding utf8
confluence
exit
```

**Option 2: Set up your database using pgAdmin III**

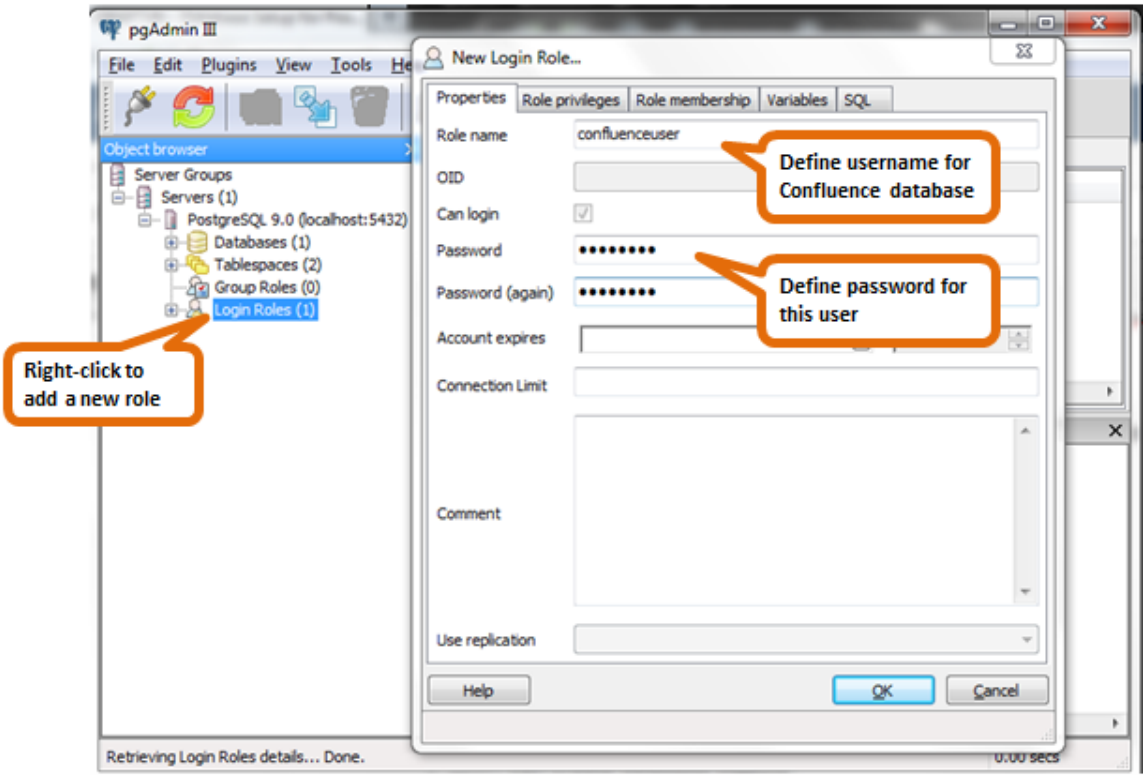
Instead of the command line, you can use pgAdmin III, the administration user interface supplied with PostgreSQL. If you used the graphical installer when installing PostgreSQL, pgAdmin III will be already installed on your computer.

1. Start **pgAdmin III**.
2. Right-click (or double-click) the database server name and log in using the password that you specified for the 'postgres' super user.

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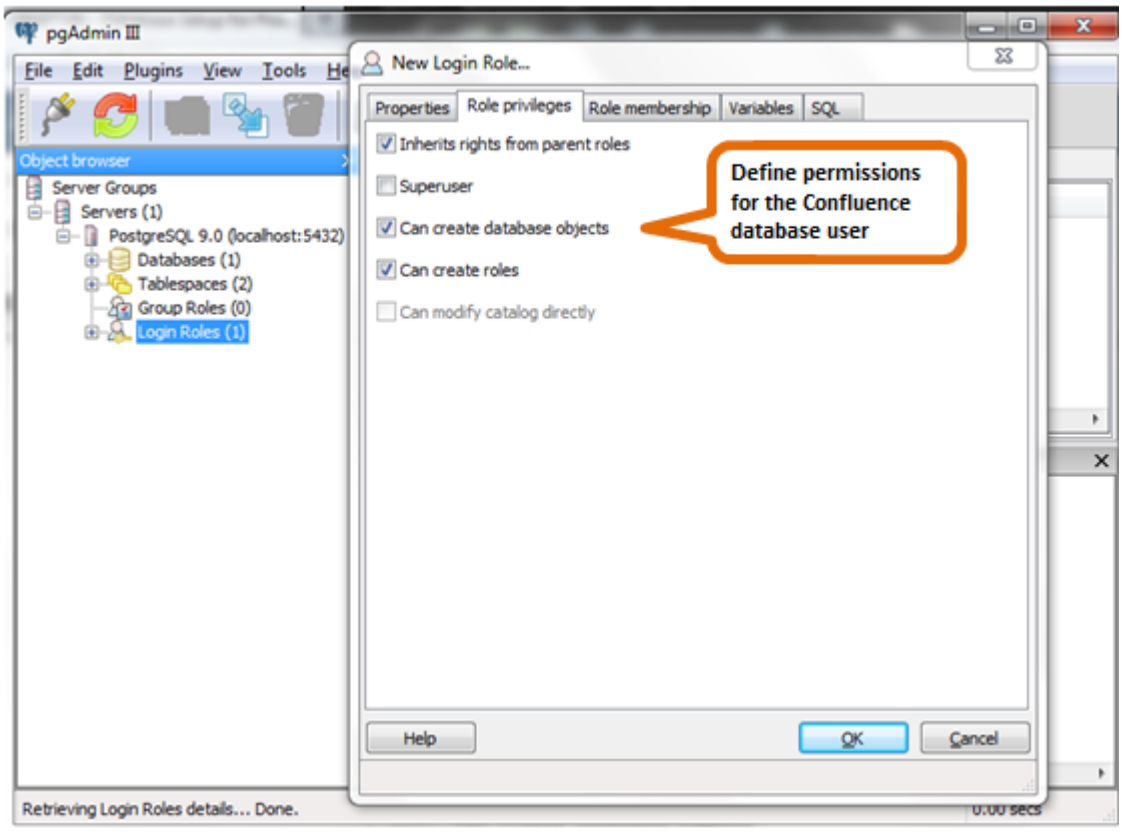



3. Add a new login role for Confluence. For example, `confluenceuser`:
    - Right-click **Login Roles** and select **New Login Role**.
    - Enter the role **Role name**: `confluenceuser`
    - Enter a **Password** and enter it again to confirm it.
    - Take note of the role name and password you define here. You will use them again in the Confluence Setup Wizard, to connect Confluence to your database.

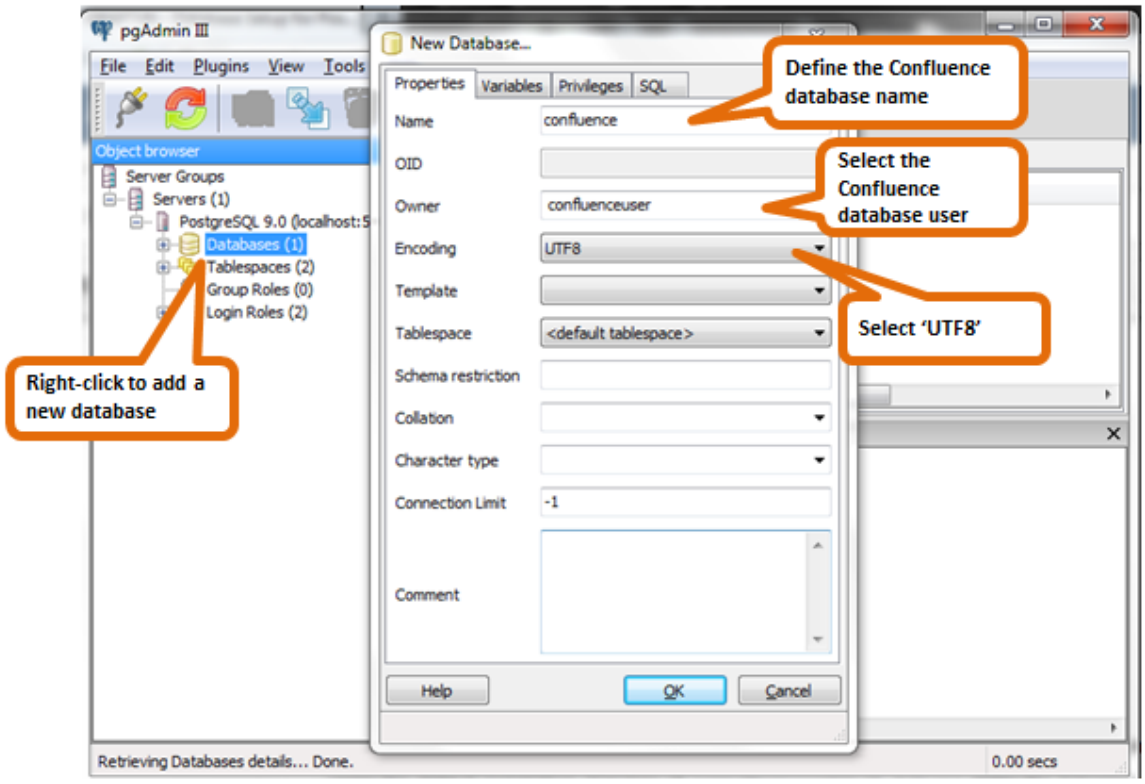



4. Set the permissions for the new role:
    - Click the **Role privileges** tab.
    - Select **Can create database objects**.
    - Select **Can create roles**.
    - Click **OK** to create the user.

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5. Add a new database called `confluence`:
    - Right-click **Databases** and select **New Database**.
    - Enter the database **Name**: `confluence`
    - Select the **Owner**: `confluenceuser`
    - Select the **Encoding**: `UTF8`
    - Click **OK** to create the database.




### Step 4. Install Confluence and the PostgreSQL database driver

Decide whether you will set up a **direct JDBC connection or a datasource connection** to PostgreSQL, to suit

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your environment. If unsure, choose direct JDBC.

Install Confluence if you have not done so already. See the Confluence Installation Guide.

- If you plan to set up a **direct JDBC connection** to PostgreSQL, you can run the Confluence installation and move directly on to the Confluence Setup Wizard, as described below. The PostgreSQL JDBC driver is bundled with Confluence, as documented on this page: Database JDBC Drivers.
- If you plan to set up a **datasource connection** to PostgreSQL:
  - Stop immediately after the Confluence installation, before opening the Confluence Setup Wizard in your browser. If you have already got part-way through the Confluence Setup Wizard, stop at the database setup step. You will be able to restart the setup wizard at the same step later.
  - Follow the steps described in Configuring a PostgreSQL Datasource in Apache Tomcat.

#### Step 5. Set up your database connection in the Confluence Setup Wizard

Start Confluence, and go to the Confluence Setup Wizard in your browser. Follow these steps to set up the new configuration:

1. Follow the initial steps in the Confluence Setup Guide.
2. When prompted to choose an evaluation or production installation, choose **production installation**.
3. When prompted to choose an embedded or external database, select **PostgreSQL** from the dropdown list and choose **External Database**.
4. Choose either the **direct JDBC or the datasource connection**, to suit the choice you made earlier.
   - **For the JDBC connection**:
     - When prompted for a **Driver Class Name,** enter the following:

       ```
       org.postgresql.Driver
       ```

     - When prompted for the **Database URL**, use this format:

       ```
       jdbc:postgresql://<server>:<port>/<database>
       ```

       For example:

       ```
       jdbc:postgresql://localhost:5432/confluence
       ```

       **Note:** If you need to connect to an SSL database, add the `ssl=true` parameter in the database URL. For example:

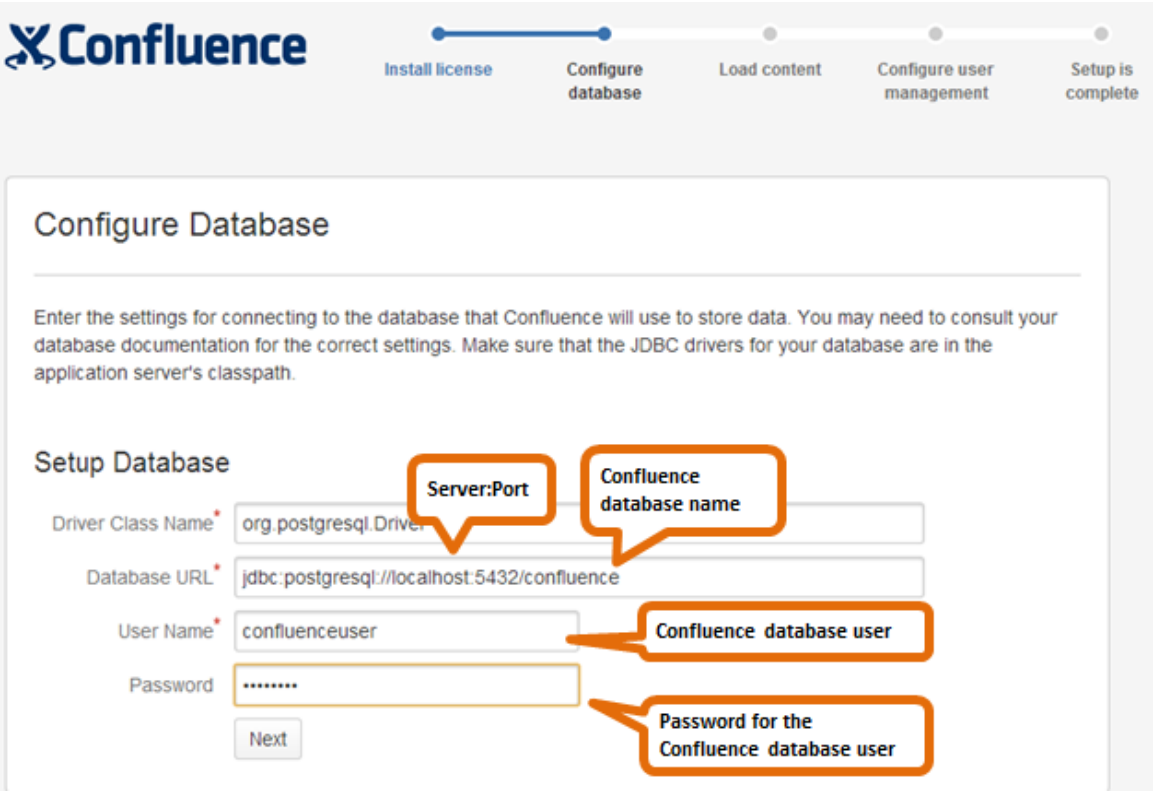
       ```
       jdbc:postgresql://localhost:5432/confluence?ssl=true
       ```

     - Enter the username (for example, `confluenceuser`) and password you chose earlier when setting up your Confluence database.
   - **For a datasource connection**: Set the **Datasource Name** to the following: `java:comp/env/jdbc/confluence`

Congratulations! Confluence is now using your PostgreSQL database to store its data.

*Screenshot: Setting up the PostgreSQL JDBC connection in the Confluence Setup Wizard*

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**Notes**

- 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. Please 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 PostgresSQL server will fail.
- Running SQL queries: For ongoing maintenance of your server, you can continue to use PGAdmin III as your SQL browser.

**Troubleshooting**

- If you get the following error message, verify that you have given the `confluenceuser` user all the required database permissions when connecting from `localhost`.

```
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)'
```

- If Confluence complains that it is missing a class file, you may have placed the JDBC driver in the wrong folder.
- 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.
- The following page contains common issues encountered when setting up your PostgreSQL database to work with Confluence: Known issues for PostgreSQL.
- If none of the above describes your issue, please create a support ticket at http://support.atlassian.com a nd be sure to include your logs (found in `<CONFLUENCE-INSTALLATION>/logs` and `<CONFLUENCE-HO ME>/logs`).

## Configuring a PostgreSQL Datasource in Apache Tomcat

This page tells you how to set up a PostgreSQL datasource connection for Confluence.

***Step 1. Shut down Tomcat***

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1. Run `bin/shutdown.sh` or `bin/shutdown.bat` to bring Tomcat down while you are making these changes.
2. Make a backup of your `<CONFLUENCE_HOME>/confluence.cfg.xml` file and your `<CONFLUENCE_INSTALLATION>/conf/server.xml` file, so that you can easily revert if you have a problem.

#### *Step 2. Install the SQL Server database driver*

1. Download the SQL Server JDBC driver JAR file.
   - Links are available on this page: Database JDBC Drivers.
   - Alternatively, you can get the driver from your Confluence installation: `/confluence/WEB-INF/lib/postgresql-x.x-x.jdbcx.jar`, where 'x' represents a version number.
2. Copy the JAR file into the `lib` folder of your Tomcat installation: `<TOMCAT-INSTALLATION>/lib`.

**On this page:**

- Step 1. Shut down Tomcat
- Step 2. Install the SQL Server database driver
- Step 3. Configure Tomcat
- Step 4. Configure the Confluence web application
- Step 5. Restart Tomcat

**Related pages:**

- Database Setup for PostgreSQL
- Important Directories and Files
- Confluence Installation and Upgrade Guide

#### *Step 3. Configure Tomcat*

1. Edit the `conf/server.xml` file in your Tomcat installation.
2. 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 -->
```

3. Insert the DataSource `Resource` element inside the `Context` element, directly after the opening `<Context.../>` line, before `Manager`:

```
<Resource name="jdbc/confluence" auth="Container" type="javax.sql.DataSource"
          username="postgres"
          password="postgres"
          driverClassName="org.postgresql.Driver"
          url="jdbc:postgresql://localhost:5432/yourDatabaseName"
          maxActive="20"
          maxIdle="10"
          validationQuery="select 1" />
```

   - Replace the `username` and `password` parameters with the correct values for your database
   - In the `url` parameter, replace the word '`yourDatabaseName`' with the name of the database your Confluence data will be stored in.

**Notes:**

- If switching from a direct JDBC connection to datasource, you can find the above details in your `<CONFLUENCE_HOME>/confluence.cfg.xml` file.
- Here are the configuration properties for Tomcat's standard data source resource factory (`org.apache.tomcat.dbcp.dbcp.BasicDataSourceFactory`):
  - 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.

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- 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.

- Why is the `validationQuery` element needed? When a database server reboots, or there is a network failure, all the connections in the connection pool are broken and this normally requires a Application Server reboot. However, the Commons DBCP (Database Connection Pool) which is used by the Tomcat application server can validate connections before issuing them by running a simple SQL query, and if a broken connection is detected, a new one is created to replace it. To do this, you will need to set the "validationQuery" option on the database connection pool.

#### *Step 4. Configure the Confluence web application*

1. Edit this file in your Confluence installation: `<CONFLUENCE_INSTALLATION>/confluence/WEB-INF/web.xml`.
2. Insert the following element just before `</web-app>` near the end of the file:

```
<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>
```

**If you are changing an existing Confluence installation over to using a Tomcat datasource:**

1. Edit the `<CONFLUENCE_HOME>/confluence.cfg.xml` file.
2. Delete any line that contains a property that begins with `hibernate.`
3. Insert the following at the start of the `<properties>` section:

```
<property name="hibernate.setup"><![CDATA[true]]></property>
<property
name="hibernate.dialect"><![CDATA[net.sf.hibernate.dialect.PostgreSQLDialect]]
></property>
<property
name="hibernate.connection.datasource"><![CDATA[java:comp/env/jdbc/confluence]
]></property>
```

#### *Step 5. Restart Tomcat*

Run `bin/startup.sh` or `bin/startup.bat` to start Tomcat with the new settings.

### 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` directory under your Confluence Home Directory. See also Important Directories and Files.

**Note: The embedded HSQLDB database is not suitable for production Confluence sites.**

Production sites should use an external database. See our guide to database configuration. When using the default HSQLDB database, you run the risk of irrecoverable data loss because HSQLDB is not transaction safe.

- Corruption is occasionally encountered after sudden power loss. It can usually be corrected using the

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data recovery procedure documented in our knowledge base.
- HSQLDB is suitable for evaluation purposes, but the risk can only be eliminated by switching databases. This is essential when you move from an evaulation to a production site. External databases may also provide superior speed and scalability.

**Related pages:**

- Important Directories and Files
- Database Configuration

## 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

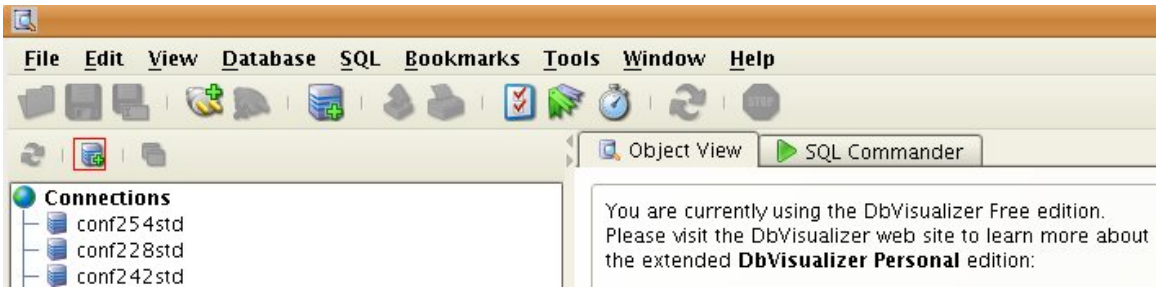
1. Download and install the latest copy of DBVisualizer.
2. You will also need to download a copy (preferably the latest version) of HSQLDB
3. Extract the contents of the HSQLDB archive
4. Ensure that Confluence is not running.

#### 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***

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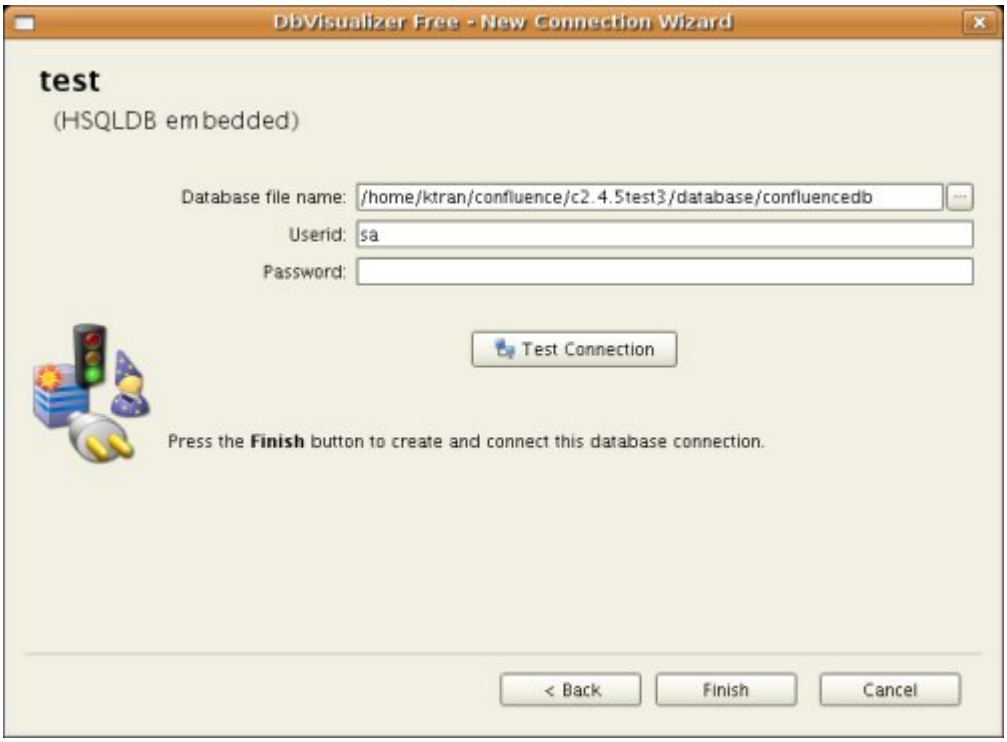

1. From the drop down list select **HSQLDB Embedded**
2. Click on Load Driver Files
3. Browse to directory where the `HSQLDB.jar` file is located. Confluence bundles this and it can be found at `<confluence-installation>/confluence/WEB-INF/lib/hsqldb-*.jar`.

#### *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*

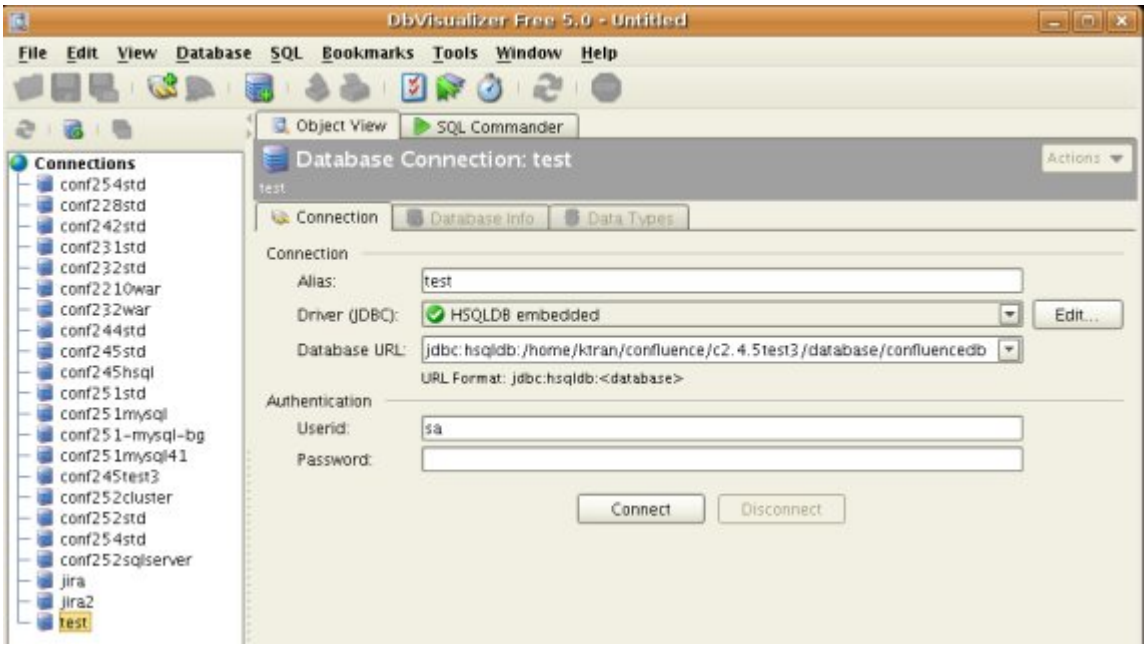
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1. Remove the "**.properties**" from the end of `confluencedb`
2. Type in sa for the username
3. Leave the password field blank

*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.

#### HSQL 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.

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**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.



Right Click and Select *Save Link As* here to download this image.

### Troubleshooting the Embedded HSQLDB Database

**Note:** HSQLDB should not be used as a production database. It is included for evaluation purposes only. For more information, see Embedded HSQLDB Database.

#### *Resolving the error: "User not found: SA"*

Please refer to our knowledge base article.

#### *Hibernate logging*

You may find it useful to enable detailed Hibernate logging when debugging problems with HSQLDB.

#### *Connecting to HSQLDB*

You may need to connect to the database to retrieve information, or for troubleshooting purposes. Please follow the instructions on Connecting to HSQLDB using DBVisualizer.

**Related pages:**

- Database Configuration
- Confluence Administrator's Guide

## Migrating to Another Database

This document describes how to migrate your Confluence data from your existing database to another database. The instructions are designed primarily for migrating from an evaluation to a production database. Large data sets will require third party database migration tools.

This page covers the following scenarios:

- You should use this page when moving from the embedded database to an external database.
- Provided your dataset is not large, you may use this method to move from one type of external database to another. For example, from Oracle to PostgreSQL.
- Similarly, if the dataset is not large, you can use this method to . Note: You do not need to migrate your upgrade your database to a new version of the same databasedata if you are upgrading the database in

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place.

**Note:** If you are simply moving your database 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).

### Limitations of database migration

**Note:** The XML export built into Confluence is not suited for the backup or migration of large data sets. There are a number of third party tools that may be able to assist you with the data migration. If you would like help in selecting the right tool, or help with the migration itself, we can put you in touch with one of the Atlassian Experts .

### Database migration

There are two ways you can perform the migration, both described on this page:

1. **Method one** is the standard procedure.
2. Use **method two** if the total size of attachments in your installation exceeds 500MB.

**On this page:**


- Limitations of database migration
- Database migration
- Method one – standard procedure
  - Step 1: Take note of your add-ons
  - Step 2: Back up your data
  - Step 3: Set up the new database
  - Step 4. Install Confluence (same version number) in a new location
  - Step 5. Download and install the database driver if necessary
  - Step 6. Run the Confluence setup wizard and copy your data to your new database
  - Step 7. Re-install your add-ons
  - Step 8. Check settings for new machine
- Method two – for installations with a large volume of attachments
  - Before you start
  - Step 1: Take note of your add-ons
  - Step 2: Back up your data
  - Step 3: Set up the new database
  - Step 4. Install Confluence (same version number) in a new location
  - Step 5. Download and install the database driver if necessary
  - Step 6. Run the Confluence setup wizard and copy your data to your new database
  - Step 7: Copy your attachments across
  - Step 8. Re-install your add-ons
  - Step 9. Check settings for new machine
- A note about case sensitivity in your database
- Troubleshooting


**Related pages:**

- Database Configuration
- Confluence Installation Guide
- About Add-ons
- Confluence Home Directory
- Confluence Administrator's Guide

### Method one – standard procedure

#### Step 1: Take note of your add-ons

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Take note of the add-ons (plugins) currently installed and enabled in Confluence, so that you can reinstate them later. Make a note of the following for each add-on:

- Add-on name
- Version
- Enabled or disabled status. This is useful if you have enabled or disabled modules yourself, making your configuration differ from the default.

#### Step 2: Back up your data

1. Create an XML backup of your existing data, via the **Confluence administration console**. See Manually Backing Up the Site. Make a note of the location where you put the XML file. You will need it later to import your Confluence data into your new database.
2. Shut down Confluence.
3. Make a copy of the Confluence Home Directory. This is a precautionary measure, to ensure you can recover your data if it is mistakenly overwritten.
4. If you are using an external database, make a separate backup using the utilities that were installed with that database. This also is a precautionary measure.

#### Step 3: Set up the new database

Choose the database setup instructions for your new database, and follow those instructions to do the following:

- Install the database server.
- Perform any required configuration of the database server, as instructed.
- Add the Confluence database and user. Make a note of the username and password that you define in this step. You will need them later, when running the Confluence Setup Wizard.

#### Step 4. Install Confluence (same version number) in a new location

Now you will install Confluence again, with a different home directory path and installation path.

**Note:** You must use the same version of Confluence as the existing installation. (If you want to upgrade Confluence, you must do it as a separate step.) For example, if your current site is running Confluence 5.1.2, your new installation must also be Confluence 5.1.2.

When running the Confluence installer:

- Choose **Custom Install**. (Do **not** choose to upgrade your existing installation.)
- Choose a **new destination directory**. This is the installation directory for your new Confluence. It must not be the same as the existing Confluence installation.
- Choose a **new home directory**. This is the data directory for your new Confluence. It must not be the same as the existing Confluence installation.

#### Step 5. Download and install the database driver if necessary

Note that Confluence bundles some database drivers, but you'll need to install the driver yourself if it is not bundled. Follow the database setup instructions for your new database, to download and install the database driver if necessary.

#### Step 6. Run the Confluence setup wizard and copy your data to your new database

When running the Confluence setup wizard:

- Enter your license key, as usual.
- Choose **Production Installation** as the installation type.
- In the database configuration step, choose your new database type from the dropdown menu, then choose **External Database**.
- Choose the connection type: **Direct JDBC** or **Datasource**. If you are not sure which, choose 'Direct JDBC'. This is the most common connection type.
- When prompted for the database **user and password**, supply the credentials you defined earlier when adding the Confluence database to your database server.
- On the load content step, choose **Restore From Backup**. This is where you will import the data from your XML backup. There are two options for accessing the XML file:
  - Browse to the location of your XML backup on your network, and choose **Upload and Restore**.
  - Alternatively, put the XML file in the Confluence home directory of the new site (`<CONFLUENCE-HO`

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ME-DIRECTORY>\restore) then choose **Restore**.

**Note:** If you choose not to restore during the Confluence setup wizard, you can do the import later. Go to the Confluence administration console and choose to restore an XML backup. See Site Backup and Restore.

Re-install any add-ons (plugins) that are not bundled with Confluence.

- Use the same version of the add-on as on your old Confluence site.
- The data created by the add-ons will already exist in your new Confluence site, because it is included in the XML backup.

**Step 8. Check settings for new machine**

If you are moving Confluence to a different machine, you need to check the following settings:

- nfigure your new base URL. See Configuring the Server Base URL.
- Check your application links. See Configuring Application Links.
- Update any gadget subscriptions from external sites pointing to this Confluence site. For example, if your JIRA site subscribes to Confluence gadgets, you will need to update your JIRA site. See Adding JIRA Gadgets to a Confluence Page.
- Review any other resources that other systems are consuming from Confluence.

#### Method two – for installations with a large volume of attachments

##### Before you start

Before proceeding with these instructions please check the following.

- Your existing installation must be Confluence 2.2 or later.
- Your attachments must be stored in the file system, *not in your database.* (To migrate between attachment storage systems, see Attachment Storage Configuration.)

The instructions below will only work if both of the above are true.

##### Step 1: Take note of your add-ons

Take note of the add-ons (plugins) currently installed and enabled in Confluence, so that you can reinstate them later. Make a note of the following for each add-on:

- Add-on name
- Version
- Enabled or disabled status. This is useful if you have enabled or disabled modules yourself, making your configuration differ from the default.

##### Step 2: Back up your data

1. Create an XML backup of your existing data, via the **Confluence administration console**. See Manually Backing Up the Site. Make a note of the location where you put the XML file. You will need it later to import your Confluence data into your new database.
2. Shut down Confluence.
3. Make a copy of the attachments directory (<CONFLUENCE-HOME-DIRECTORY>\attachments) in your Confluence Home directory. You will need it later to copy your Confluence attachments data into your new Confluence installation.
4. If you are using an external database, make a separate backup using the utilities that were installed with that database. This also is a precautionary measure.

##### Step 3: Set up the new database

Choose the database setup instructions for your new database, and follow those instructions to do the following:

- Install the database server.
- Perform any required configuration of the database server, as instructed.
- Add the Confluence database and user. Make a note of the username and password that you define in this step. You will need them later, when running the Confluence Setup Wizard.

##### Step 4. Install Confluence (same version number) in a new location

Now you will install Confluence again, with a different home directory path and installation path.

**Note:** You must use the same version of Confluence as the existing installation. (If you want to upgrade Confluence, you must do it as a separate step.) For example, if your current site is running Confluence 5.1.2,

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your new installation must also be Confluence 5.1.2.

When running the Confluence installer:

- Choose **Custom Install**. (Do **not** choose to upgrade your existing installation.)
- Choose a **new destination directory**. This is the installation directory for your new Confluence. It must not be the same as the existing Confluence installation.
- Choose a **new home directory**. This is the data directory for your new Confluence. It must not be the same as the existing Confluence installation.

#### Step 5. Download and install the database driver if necessary

Note that Confluence bundles some database drivers, but you'll need to install the driver yourself if it is not bundled. Follow the database setup instructions for your new database, to download and install the database driver if necessary.

#### Step 6. Run the Confluence setup wizard and copy your data to your new database

When running the Confluence setup wizard:

- Enter your license key, as usual.
- Choose **Production Installation** as the installation type.
- In the database configuration step, choose your new database type from the dropdown menu, then choose **External Database**.
- Choose the connection type: **Direct JDBC** or **Datasource**. If you are not sure which, choose 'Direct JDBC'. This is the most common connection type.
- When prompted for the database **user and password**, supply the credentials you defined earlier when adding the Confluence database to your database server.
- On the load content step, choose **Restore From Backup**. This is where you will import the data from your XML backup. There are two options for accessing the XML file:
  - Browse to the location of your XML backup on your network, and choose **Upload and Restore**.
  - Alternatively, put the XML file in the Confluence home directory of the new site (`<CONFLUENCE-HOME-DIRECTORY>\restore`) then choose **Restore**.

**Note:** If you choose not to restore during the Confluence setup wizard, you can do the import later. Go to the Confluence administration console and choose to restore an XML backup. See Site Backup and Restore.

Copy the contents of the attachments directory (`<CONFLUENCE-HOME-DIRECTORY>\attachments`) from your old Confluence Home directory to your new Confluence Home directory.

#### Step 8. Re-install your add-ons

Re-install any add-ons (plugins) that are not bundled with Confluence.

- Use the same version of the add-on as on your old Confluence site.
- The data created by the add-ons will already exist in your new Confluence site, because it is included in the XML backup.

#### Step 9. Check settings for new machine

If you are moving Confluence to a different machine, you need to check the following settings:

- nfigure your new base URL. See Configuring the Server Base URL.
- Check your application links. See Configuring Application Links.
- Update any gadget subscriptions from external sites pointing to this Confluence site. For example, if your JIRA site subscribes to Confluence gadgets, you will need to update your JIRA site. See Adding JIRA Gadgets to a Confluence Page.
- Review any other resources that other systems are consuming from Confluence.

#### 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.

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This is the default collation type used by many database systems.

Note: Even if the database is configured for case sensitive collation, Confluence reduces all usernames to lower case characters before storing them in the database. For example, this means that 'joebloggs', 'joeBloggs' and 'JoeBloggs' will be treated as the same username.
Migrating an Existing Confluence Instance to a Different Database

The default Confluence configuration uses case sensitive database collation. This is typical of databases created under default conditions. 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 are unable to restore your XML backup, consult our troubleshooting guide.

## Configuring Database Character Encoding

The database used with Confluence should be configured to use the same character encoding as Confluence. **The recommended encoding is Unicode UTF-8 (the equivalent for Oracle databases is AL32UTF8).**

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.

**On this page:**


- JDBC connection settings
- Creating a UTF-8 database
- Updating existing database to UTF-8


*The information on this page does not apply to Confluence OnDemand.*

#### JDBC connection settings

##### MySQL

Append "useUnicode=true to your JDBC URL:

```
jdbc:mysql://hostname:port/database?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 syntax when the XML is parsed. An effective URL could be similar to:

```
<property name="hibernate.connection.url">jdbc:mysql://hostname:port/database?useUnicode=true&amp;characterEncoding=utf8</property>
```

#### Creating a UTF-8 database

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#### MySQL

1. Create a UTF-8 database with binary UTF-8 collation.
   Binary UTF-8 provides case-sensitive collation.

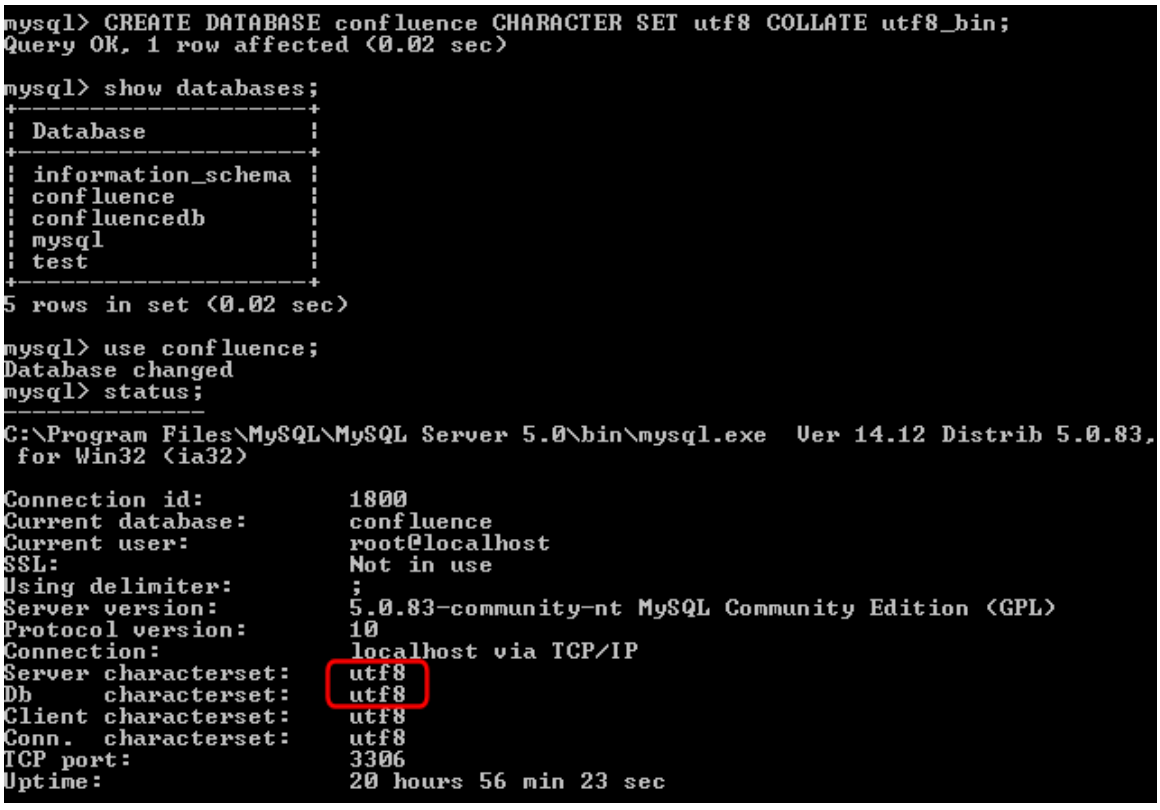
   ```
   CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;
   ```

2. You will also need to set the `Server Characterset` 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]`:

   ```
   [mysqld]
   default-character-set=utf8
   ```

   If the above option does not work, try using *character_set_server=utf8* in lieu of *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*

   
   
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:

   ```
   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:

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```
ALTER TABLE tablename CONVERT TO CHARACTER SET utf8 COLLATE utf8_bin;
```

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

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 `pgsql` 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>` (`en_AU.UTF8` for example).

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

**For an existing database**
If you're using a existing database, confirm the Character Encoding by executing the query:
*SHOW VARIABLES LIKE 'character%';* and *SHOW VARIABLES LIKE 'collation%';*.
The results should be UTF-8.

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⚠ Before proceeding with the following changes, please **backup your database**.

This example shows how to change your database from latin1 to utf8, where your database is named "confluence".

1. Dump the database (except the plugindata table) to a text file using the mysqldump tool from the command-line :
   ```
   mysqldump -p --default-character-set=latin1 -u <username> --skip-set-charset
   --ignore-table='`confluence`.plugindata'
   --ignore-table='`confluence`.attachmentdata' confluence >
   confluence_database.sql
   ```
2. Dump the plugindata and attachmentdata tables to a text file using mysqldump separately. This is done separately as the recode step below can corrupt the binary data in these tables :
   ```
   mysqldump -p --default-character-set=latin1 -u <username> --skip-set-charset
   confluence attachmentdata plugindata > confluence_blobtables.sql
   ```
3. copy `confluence_database.sql` to `confluence_utf8.sql`
4. Open `confluence_utf8.sql` in a text editor and change all character sets from 'latin1' to 'utf8'
5. Encode all the latin1 characters as UTF-8:
   `recode latin1..utf8 confluence_utf8.sql` (the recode utility is described at http://directory.fsf.org/recode.html; it can actually be downloaded from http://recode.progiciels-bpi.ca/, and is available for Ubuntu via `apt-get`)

In MySQL:

1. `DROP DATABASE confluence;`
2. `CREATE DATABASE confluence CHARACTER SET utf8 COLLATE utf8_bin;`

Reimport the UTF-8 text file, and also the plugindata and attachmentdata dumps:

1. `mysql -u <username> -p --default-character-set=utf8 --max_allowed_packet=64M confluence < /home/confluence/confluence_utf8.sql`
2. `mysql -u <username> -p --default-character-set=latin1 --max_allowed_packet=64M confluence < /home/confluence/confluence_blobtables.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.

Finally, since the plugindata and attachmentdata tables were not actually converted before, you need to instruct MySQL to convert all the text fields manually:

1. `ALTER TABLE plugindata CONVERT TO CHARACTER SET utf8;`
2. `ALTER TABLE attachmentdata CONVERT TO CHARACTER SET utf8;`

#### *Testing database encoding*

See Troubleshooting Character Encodings for a number of tests you can run to ensure your database encoding is correct.

#### *RELATED TOPICS:*

Configuring Character Encoding
Known Issues for MySQL

## 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/`.

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3. Edit `confluence/WEB-INF/classes/databaseSubsystemContext.xml` to add the defaultTimeout property to the "transactionManager" bean:

```
<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 External Database Connections

A common administration issue when configuring Confluence is identifying database connectivity problems. This page tells you about a helper utility, in the form of a JSP page, that can help you to isolate database connectivity issues. It checks whether you can connect to a database with your application server. If your application server cannot connect to the database, Confluence will not be able to connect to the database either.

#### *Introduction to the Atlassian Database Check Utility*

You can use this utility to:

- 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.

This is what the utility does:

- 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 set up Confluence completely

1. Download the attached testdatabase.jsp to your `<confluence-install>\confluence` directory.
2. Restart Confluence
3. Go to http://MY-CONF-SERVER:MY-CONF-PORT/testdatabase.jsp.
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` directory (for Confluence version 2.10 onwards) or `<confluence-install>\common\lib` (for earlier versions). Here are some 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 set up 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.

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2. Download the attached testdatabase.jsp to your `<confluence-install>\confluence` directory.
3. Rename your `<confluence-install>\confluence\WEB-INF\web.xml` file 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` directory as described in these 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 `<confluence-install>\confluence\WEB-INF\backup web.xml` back to `web.xml`.

#### *Notes*

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 instructions that might be helpful for troubleshooting, please refer to the following links:

- PostgreSQL
- MySQL

#### *Requesting Technical Support*

If you are still stuck after attempting the suggestions above, lodge a free technical support request with information on your database setup.

## 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:

```
"http-8080-Processor150" daemon prio=1 tid=0x08543368 nid=0x11aa in
Object.wait() [0x665a4000..0x665a51b0]
at java.lang.Object.wait(Native Method)
- waiting on <0x83140488> (a
com.mchange.v2.resourcepool.BasicResourcePool)
at
com.mchange.v2.resourcepool.BasicResourcePool.awaitAcquire(BasicResource
Pool.java:968)
at
com.mchange.v2.resourcepool.BasicResourcePool.checkoutResource(BasicReso
urcePool.java:208)
- locked <0x83140488> (a com.mchange.v2.resourcepool.BasicResourcePool)
```

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.

#### *Upgrade your hardware*

Atlassian does not offer specific recommendations on hardware for database performance. Use good judgment and native OS and database tools for your assessment.

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#### 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 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));
```

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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:

- http://msdn.microsoft.com/en-us/library/aa258260(SQL.80).aspx
- http://blogs.msdn.com/psssql/archive/2009/03/09/how-to-use-computed-columns-to-improve-query-performance.aspx

#### 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:

- http://dev.mysql.com/doc/refman/5.1/en/create-index.html

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**, 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 or Windows

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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
- CONF-10030: Queries that use 'lower' do not use index because of case sensitivity

## Surviving Database Connection Closures

When a database server reboots or a network failure has occurred, all connections in the database connection pool are broken. To overcome this issue, Confluence would normally need restarting (or for Confluence WAR distributions, the application server running Confluence would need restarting).

However, database connections in the database connection pool can be validated by running a simple SQL query. If a broken database connection is detected in the pool, a new one is created to replace it.

To do this, you can specify an optional validation query for your database connection. Depending on whether you are using a direct JDBC URL, or a data source, this is configured differently.

### Determining the validation query SQL for your database type

Different database types have slightly different SQL syntax requirements for their validation query. The validation query should be as simple as possible, as this is run every time a connection is retrieved from the pool.

The following validation queries are recommended for the following types of databases:

| Database Type | Validation Query |
|---|---|
| MySQL | `select 1` |
| Microsoft SQL Server | `select 1` |
| Oracle | `select 1 from dual` |
| PostgreSQL | `select 1` |

### Enabling validation query using direct JDBC

**To ensure Confluence validates database connections in the database connection pool:**

1. Shut down Confluence
2. Edit the `confluence.cfg.xml` file at the root of your Confluence Home Directory
3. Add the property "hibernate.c3p0.validate" and set it to "true", and add the property "hibernate.c3p0.preferredTestQuery" and set it to the value of the query you determined above for your database type. See this excerpt of the file with the two added properties for details:

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**confluence.cfg.xml (excerpt)**

```
...
<property name="hibernate.c3p0.acquire_increment">1</property>
<property name="hibernate.c3p0.idle_test_period">100</property>
<property name="hibernate.c3p0.max_size">30</property>
<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.validate">true</property>
<property name="hibernate.c3p0.preferredTestQuery">select 1</property>
...
```

4. Save `confluence.cfg.xml`
5. Restart Confluence

### Ensuring validation query using a data source

**To ensure Confluence validates database connections in the database connection pool:**

1. Shut down Confluence (or the Tomcat installation running Confluence).
2. Edit the `conf/server.xml` file in your Confluence Install Directory, or in the Tomcat installation's CATALINA_HOME directory.
3. Find the Resource element for your data source, and add the "validationQuery" field, with the value of the query you determined above for your database type. See this excerpt of the file with this added for details:

**server.xml (excerpt)**

```
...
<Resource name="jdbc/confluence" auth="Container" type="javax.sql.DataSource"
          username="postgres"
          password="postgres"
          driverClassName="org.postgresql.Driver"
          url="jdbc:postgresql://localhost:5432/yourDatabaseName"
          maxActive="20"
          maxIdle="10"
          validationQuery="select 1" />
...
```

4. Save `conf/server.xml`
5. Restart Confluence (or the Tomcat installation running Confluence).

### Results and Considerations

You should now be able to recover from a complete loss of all connections in the database connection pool without the need to restart Confluence or the application server running Confluence.

⚠ **Performance Considerations:**

- Setting this option has a performance impact. The overall decrease in performance should be minimal, as the query itself is quick to run. In addition, the query will only execute when you make a connection. Thus, if the connection is kept for the duration of a request, the query will only occur once per request.
- If you are running a large Confluence installation, you may wish to assess the performance impact of this change before implementing it.

## Site Backup and Restore

⚠ Atlassian recommends establishing a backup strategy using a native database tool for production installations of Confluence.

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By default, Confluence backs up all data and attachments once a day to an XML backup file. These files are called XML site backups, and are stored in the `backups` directory of Confluence home. You can also create XML site backups manually. This mechanism is intended for small to medium-sized deployments of Confluence. It is not intended for use with large deployments with lots of pages and attachments (see below).

- Restore your site from an XML site backup
- Manually create an XML site backup
- Configuring Backups
- User Submitted Backup & Restore Scripts

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 may find that backups become slow to create and use large amounts of disk space.

**Note:** Plugins are not included in the XML backup. After importing your backup into a new Confluence site, you will need to re-install all plugins (add-ons) that are not bundled with Confluence. (The plugindata table is not backed up in a manual backup.)

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

### Backups for large installations

XML site backups are unsuitable for installations 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 GB instance of Confluence is backed up daily, it will create 30 GB 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.

| Creation Delay | Disk Usage | Recommended Backup Method |
|---|---|---|
| Acceptable | Acceptable | XML site backup with attachments |
| Acceptable | Unacceptable | XML site backup minus attachments, plus manual backup of attachments |
| Unacceptable | Unacceptable | Manual backup of database and attachments |

**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.

## Production Backup Strategy

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Confluence automatic daily XML backup is suitable if you:

- are evaluating Confluence
- do not have database administration familiarity, and your Confluence installation is small

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. The built in backup functionality requires a lot of memory to run and is less reliable when restoring data.
**Related pages:**

- Site Backup and Restore
- Backup FAQ

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Establishing a production system backup solution

Atlassian recommends establishing an alternative database backup strategy:

- Create a backup or dump of your database using tools provided by your database
  ⚠ To avoid any data inconsistency and corruption, it is recommended to shut down Confluence before creating a database backup or dump.
- Create a file system backup of your Confluence home directory

Once this is in place, disable the daily backups through the scheduled jobs feature via **'Administration Console > Administration > Scheduled Jobs'**.

We want to stress that creating these two backups is *better* than having a Confluence XML backup. It is more robust and far more reliable 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. See Restoring Data from other Backups.

##### *Which files need to be backed up?*

Backing up the whole home directory is the safest option, however most files and directories are populated on startup and can be ignored. At minimum, these files/directories *must* be backed up:

- **attachments** – but If you store your attachments in the database then you can ignore the attachments directory
- **confluence.cfg.xml**

The rest of the directories will be auto-populated on start up. You may also like to backup these directories:

- **config** – if you have modified your ehcache.xml file.
- **index** – if your site is large or reindexing takes a long time – this will avoid the need for a full reindex when restoring.

##### *How do I restore?*

Take a look a 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 above will work for those processes too.

- Our upgrade guide does not require the use of an XML backup (although the earlier Confluence upgrade procedure, and the JIRA upgrade guide, do use XML backups).
- Our migrate server procedure– used to set up a test server – can use a SQL dump as well.
- The database migration procedure uses the XML backup for small data sets. Large data sets will require third party database migration tools.

**Note:** The XML export built into Confluence is not suited for the backup or migration of large data sets. There

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are a number of third party tools that may be able to assist you with the data migration. If you would like help in selecting the right tool, or help with the migration itself, we can put you in touch with one of the Atlassian Experts .

## Configuring Backups

Confluence backs up your data regularly into a zipped XML file. By default, this backup is performed at 2.00 a.m. each day and the backup files are stored in the `backups` folder under the Confluence Home directory. The default naming convention for the backup files is '`backup-yyyy_MM_dd`'. Confluence can write backups to both local and mapped network drives.

From the **Backup Administration** section of Confluence's administration console, you can:

- Include or exclude attachments in backups.
- Configure a different path to store backup files. (By default, this option is not available. See below for information about enabling the configuration option.)
- Change the naming format used for the files.

You can also change the schedule of this backup using Confluence's scheduled jobs feature.

You need to have System Administrator permissions in order to configure these options.

**On this page:**


- Configuring Confluence Backups
- Enabling Backup Path Configuration
- Notes


**Related pages:**

- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

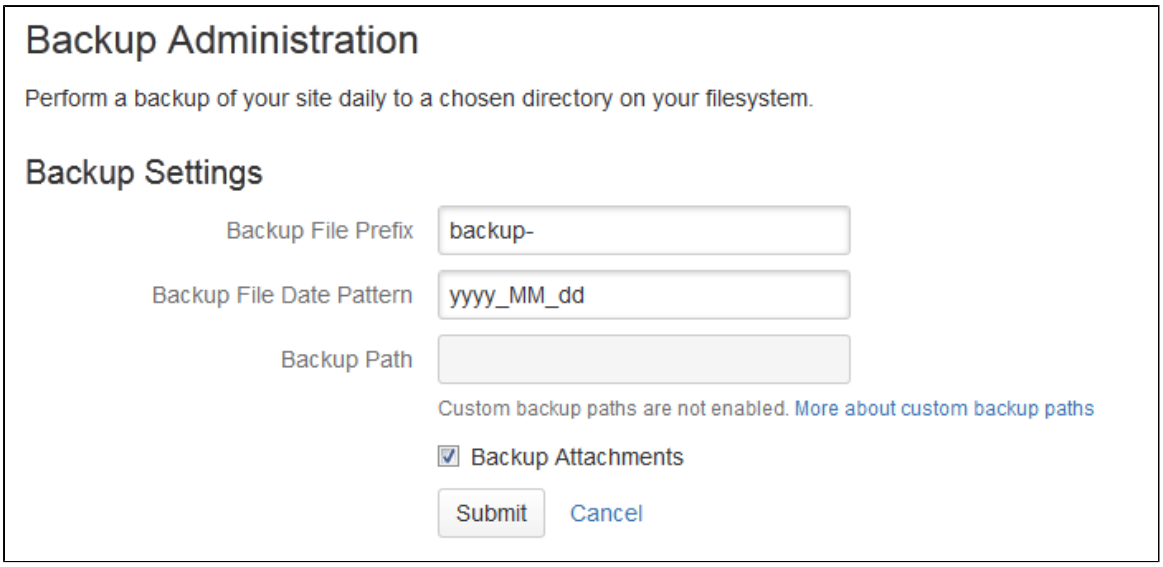
### Configuring Confluence Backups

**To configure Confluence backups:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click '**Backup Administration**' in the '**Configuration**' section.
3. Click the '**Edit**' button on the '**Backup Administration**' screen.
4. Now you can do the following:
    - 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.
    - To exclude attachments from backups — Deselect '**Backup Attachments**'. By default, this feature is 'On'.
    - To specify an alternate path to store backup files (if enabled) — Select '**Custom**' and then enter the path. The directory must be on either a local drive or a mounted network drive.
      Notes:
        - By default, this option is not available. See below for information about enabling the configuration option.
        - Please ensure the mapped drive is on a physical server, not a Virtual Machine image.
5. '**Save**' your changes.

You can disable Confluence backups through the scheduled jobs feature.

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*Screenshot above: Editing the Backup Configuration*

#### Enabling Backup Path Configuration

By default, it is not possible to specify a backup path via the Confluence Administration Console. This feature is disabled by default for security reasons. Administrators can restore this functionality by updating the relevant configuration property as described below. However, we recommend that you turn the feature **off** in production environments. For production environments, please review our Production Backup Strategy.

**To enable the configuration option:**

1. Edit the `confluence.cfg.xml` file found in the Confluence Home Directory.
2. Set the value of property `admin.ui.allow.daily.backup.custom.location` to '`true`' (without the quotation marks).

**confluence.cfg.xml**

```
<property name="admin.ui.allow.daily.backup.custom.location">true</property>
```

3. Restart Confluence.

If the value of the above configuration property is 'true', it will be possible to specify a backup path via the Confluence Administration Console. If the value of this property is 'false' or the property is not present in the configuration file, the backup path is not configurable.

#### Notes

***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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click '**System Information**' in the left-hand panel and look at the '**System Time**'.

***Backup strategy for large Confluence sites***

Consider using the production backup strategy if your Confluence site is large or you are encountering problems with your automated backup.

### 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 Atlassian Answers.

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Feel free to submit new scripts or post updates by logging in and adding them to the page as a comment.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

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

This script examines backup filename and deletes them if necessary, it may need to be edited.

```
'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)
```

#### 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.

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```
#!/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

```
export d=`date +%u`
mkdir -p /home/backup/postgres/$d

sudo -u postgres pg_dumpall | bzip2 > /home/backup/postgres/$d/sql.bz2
```

#### Related Topics

- Site Backup and Restore
- Backup FAQ

## Manually Backing Up the Site

Confluence is configured to back up its data automatically, as a zipped XML file. You can also manually perform this backup from the **Administration Console**.

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

**Note:**

- Atlassian recommends that you follow the Production backup strategy if your Confluence site is large or you are encountering problems with your automated backup.
- Plugins are not included in the XML backup. After importing your backup into a new Confluence site, you will need to re-install all plugins (add-ons) that are not bundled with Confluence. (The plugindata table is not backed up in a manual backup.)

#### Creating the site backup

**To manually back up your site:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Backup & Restore** in the left-hand panel.
3. Choose **Archive to backups folder** to store a copy of the backup in the same folder as Confluence's bac

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kups.
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. Choose **Backup attachments** to include attachments in your backup.
5. Choose **Backup**.
The process will take a few minutes.

**Related pages:**

- Restoring a Site
- Configuring Backups
- Production Backup Strategy
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

#### Retrieving the Backup File

Confluence stores the backup as a zipped XML file in the '`backups`' directory under the Confluence Home directory on your Confluence server. To find your Confluence Home directory, see the documentation. You will need access to the Confluence server in order to retrieve this file.

#### Enabling the download of the backup file via the administration console

By default, it is not possible to retrieve the backup file via the Confluence Administration Console. This feature is disabled for security reasons.

Administrators can enable this functionality by updating the relevant configuration property as described below. If this functionality is enabled, Confluence will prompt you to download the backup file when the backup process finished. However, we recommend that you turn the feature **off** in production environments.

**To enable download of the backup file from the Administration Console:**

1. Edit the `confluence.cfg.xml` file found in the Confluence Home Directory.
2. Set the value of property `admin.ui.allow.manual.backup.download` to '`true`' (without the quotation marks).
3. Restart Confluence.

If the value of the above configuration property is 'true', it will be possible to download the backup file after manually backing up the site via the Confluence Administration Console. If the value of this property is 'false' or the property is not present in the configuration file, you will need to retrieve the backup file from the file system on the Confluence server. By default, the value is 'false'.

#### Notes

If you experience timeout errors, please consider bypassing Apache and creating the export directly from Tomcat. This will speed up the process and prevent timeouts. For example, your URL might be something like `http://<domain>.com`. To bypass this and access Tomcat directly, use this URL: `http://localhost:8080/confluence/admin/backup.action`.

## Restoring a Site

**CAUTION:** Restoring a backup of an entire confluence site will:

- Wipe out all Confluence content in the database. Please ensure that your database is backed up before you start.
- Log you out after the restoration process. Please make sure you know the login details contained in the data that you are about to restore.

This page describes how to restore data from an XML backup file into an existing Confluence installation. If you want to restore data into a new site, follow the instructions on restoring from backup during setup.

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

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**Notes before you start:**

- **All content replaced.** Restoring a site from backup will replace all your content, as described in the warning above.
- **Selective space restoration not possible.** You cannot select a single space to restore from the entire site backup when the backup contains more than one space.
- **Backward version compatibility.** Confluence supports backward compatibility for site backups (but **not** f or space backups). You can successfully restore backups of a site from an older version of Confluence to a newer version of Confluence. You cannot restore backups from a newer version to an older version. For example, if you create a site backup in Confluence 2.4.3, it cannot be restored into a Confluence 2.2.2 site. 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.

**Related pages:**

- Production Backup Strategy
- Manually Backing Up the Site
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

#### Restoring data from an XML backup

You can restore data from an XML backup file located somewhere on your local computer or a shared drive, or you can copy the XML file into the Confluence installation and restore it from there. The second option is recommended for large backup files. Both options are described below.

**To restore data from an XML backup located outside Confluence:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Backup and Restore** in the left-hand panel.
3. Choose **Choose File** and browse for the backup file.
4. Uncheck **Build Index** if you want to create the index at a later stage.
5. Choose **Upload and Restore**.

**To restore data from an XML backup located in your Confluence installation:**

1. Copy your XML backup zip file into the `restore` directory in your Confluence home directory. For example:
   - On UNIX: `/opt/java/src/confluence/deployments/conf.atlassian.com/home/restore`
   - On Windows: `C:\Program Files\Atlassian\Application Data\Confluence x.x\restore`
2. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
3. Choose **Backup and Restore** in the left-hand panel.
4. The zip file that you copied in step 1 will appear in the list of files under the heading **Restore a backup from the Confluence Home Directory** on your Confluence Administration Console. Select the zip file.
5. Uncheck **Build Index** if you want to create the index at a later stage.
6. Choose **Restore**.

#### Notes

- **Production backup strategy preferred.** Atlassian recommends that you follow the Production Backup Strategy for your production Confluence site, because Confluence XML backups are not recommended for non-evaluation sites.
- **Restoring from other backups.** If your daily backup zip files cannot be restored for some reason, but you have backups of both your database and your Confluence home directory, then it is still possible to re store from these backups.

## 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.

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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, restore this zip file as described below.

You need to have System Administrator permissions in order to restore a space from an XML zip file.

### Before you start

Before you start, please check the following important notes.

#### *Note 1: You cannot restore to a previous version*

Let's assume you are importing a space from site A to site B. In this case, site B must be running the same version of Confluence as site A, or a later version than site A. The space import is not backwards compatible.

#### *Note 2: You cannot restore to a different major Confluence version*

Confluence only supports compatibility for space import and export when executed within the **same major version** of Confluence. (This issue is logged as CONF-26111.)

Clarifying our terminology: By **major version**, we mean the version defined in the first two sections of the release number. For example, Confluence 2.2 and Confluence 2.3 are different major versions. Confluence 2.2.1 and Confluence 2.2.6 are the same major version.

**Restoration data must share the same major version number**. This means that a space export created in one major version of Confluence cannot be imported into a different major version of Confluence. For example, if you create a space export in Confluence 2.3.5, it cannot be imported into a Confluence 2.4.1 site. It can be however imported into 2.3.7. Similarly, a space export created in 5.0 can not be imported into 5.1.2. However, it can be restored into a Confluence 5.0.2 site.

If you need to import a space from a different major version, see the workaround described below.

**On this page:**


- Before you start
  - Note 1: You cannot restore to a previous version
  - Note 2: You cannot restore to a different major Confluence version
  - Note 3: Make sure the space does not already exist
- Restoring a space from an XML backup
- Workaround for restoring spaces between major releases

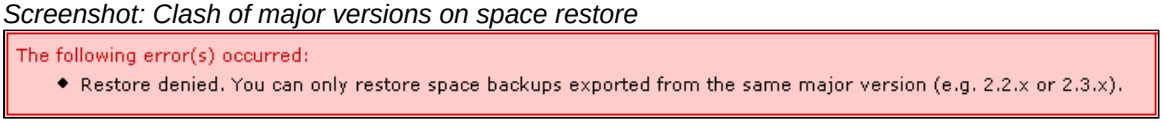

**Related pages:**

- Restoring a Site
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

If you try to restore a space from a different major version of Confluence, you will see an error message similar to the one below and the import action will stop.

*Screenshot: Clash of major versions on space restore*




#### *Note 3: Make sure the space does not already exist*

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

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the new one.

#### Restoring a space from an XML backup

You can restore data from an XML backup file located somewhere on your local computer or a shared drive, or you can copy the XML file into the Confluence installation and restore it from there. The second option is recommended for large backup files. Both options are described below.

**To restore data from an XML backup located outside Confluence:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Backup and Restore** in the left-hand panel.
3. Choose **Choose File** and browse for the backup file.
4. Uncheck **Build Index** if you want to create the index at a later stage.
5. Choose **Upload and Restore**.

**To restore data from an XML backup located in your Confluence installation:**

1. Copy your XML backup zip file into the `restore` directory in your Confluence home directory. For example:
   - On UNIX: `/opt/java/src/confluence/deployments/conf.atlassian.com/home/restore`
   - On Windows: `C:\Program Files\Atlassian\Application Data\Confluence x.x\restore`
2. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
3. Choose **Backup and Restore** in the left-hand panel.
4. The zip file that you copied in step 1 will appear in the list of files under the heading **Restore a backup from the Confluence Home Directory** on your Confluence Administration Console. Select the zip file.
5. Uncheck **Build Index** if you want to create the index at a later stage.
6. Choose **Restore**.

#### Workaround for restoring spaces between major releases

If you need to import a space from an earlier major version, you can use a temporary Confluence installation to upgrade the space export to the right version number:

1. Download the same version of Confluence as the version you exported the space from. You can get older versions of Confluence at the Confluence Downloads Archive.
2. Install that version of Confluence on a temporary server.
3. Import the space into this temporary Confluence site.
4. Upgrade Confluence on your temporary site to same version as the site where you want to import the space. See Upgrading Confluence.
5. Export the space from your temporary Confluence site. It will now have the correct version number.
6. Import the space into your production Confluence site.

## Restoring a Test Instance from Production

 See Migrating Confluence Between Servers for a more comprehensive explanation.

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.

 *The information on this page does not apply to Confluence OnDemand.*

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

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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:

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

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

```
SELECT * FROM BANDANA WHERE BANDANAKEY =
'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

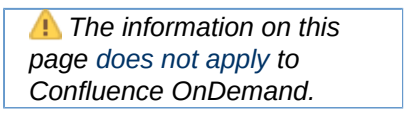
## Restoring Data from other Backups

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).




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### 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

Administrators Guide Home Confluence Documentation Home

## Retrieving File Attachments from a Backup

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

Both automated and manual backups allow this, as long as the 'Include attachments' property was set. If you want to restore pages, spaces or sites, see the Confluence Administrator's Guide instead.

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

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### 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

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\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"><![CDATA[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"><![CDATA[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.

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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.

## 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?

| Problem | Solution |
|---|---|
| Exception while creating backup | Follow instructions below |
| Exception while importing backup | Follow Troubleshooting XML backups that fail on restore instead |

> *The information on this page does not apply to Confluence OnDemand.*

#### 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 Production Backup Strategy is a very reliable and 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 - use the 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

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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.propertiesand` 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=fals
e
```

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 `confluence-home/logs/atlassian-confluence.log`. Scroll to the bottom of the file.
9. Do a search for 'ObjectNotFoundException'. You should see an error similar to this:

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```
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,
07 of class:
com.atlassian.confluence.core.ContentEntityObject>net.sf.hibernate.
ObjectNotFoundException:
08 No row with the given identifier exists: 2535, of class:
com.atlassian.confluence.core.ContentEntityObject
09 at
net.sf.hibernate.ObjectNotFoundException.throwIfNull(ObjectNotFound
Exception.java:24)
10 at
net.sf.hibernate.impl.SessionImpl.immediateLoad(SessionImpl.java:19
46)
11 at
net.sf.hibernate.proxy.LazyInitializer.initialize(LazyInitializer.j
ava:53)
12 at
net.sf.hibernate.proxy.LazyInitializer.initializeWrapExceptions(Laz
yInitializer.java:60)
13 at
net.sf.hibernate.proxy.LazyInitializer.getImplementation(LazyInitia
lizer.java:164)
14 at
net.sf.hibernate.proxy.CGLIBLazyInitializer.intercept(CGLIBLazyInit
ializer.java:108)
15 at
com.atlassian.confluence.core.ContentEntityObject$$EnhancerByCGLIB$
$cc2f5557.hashCode(<generated>)
16 at java.util.HashMap.hash(HashMap.java:261)
17 at java.util.HashMap.containsKey(HashMap.java:339)
18 at
com.atlassian.confluence.importexport.impl.XMLDatabinder.toGenericX
ML(XMLDatabinder.java:155)
```

10. Open a DBA tool such as DbVisualizer and connect to your database instance. Scan the table names in the schema. You will have to modify a row in one of these tables.
11. To work out which table, open `catalina.out`, check the first line of the exception. This says there was

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an error writing the `ContentPermission` object with id 5 into XML. This translates as *the row with primary key 5 in the CONTENTLOCK table*needs fixing. 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
    - More information can be found in the schema documentation
12. Now you must find the primary key of the incorrect row in this table. In this case, you can check the first line and see that the row has a primary key of 5.
13. Each property is written to a column, so the last property that was being written has the incorrect value. The row being written to when the exception was thrown was `CONTENT` (line 5) with a value of `2535` (line 6). Now you know the column and value. This value `2535` is the id of an entry that no longer exists.
14. 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.
15. Restart Confluence.
16. 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#bucket.user.propertyset.B
ucketPropertySetItem@a70067d3]; 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 Reoccuring*

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

Administrators Guide Home Confluence Documentation Home

## Migrating from HSQLDB to MySQL



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

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### *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.

*The information on this page does not apply to Confluence OnDemand.*

### *Resources needed*

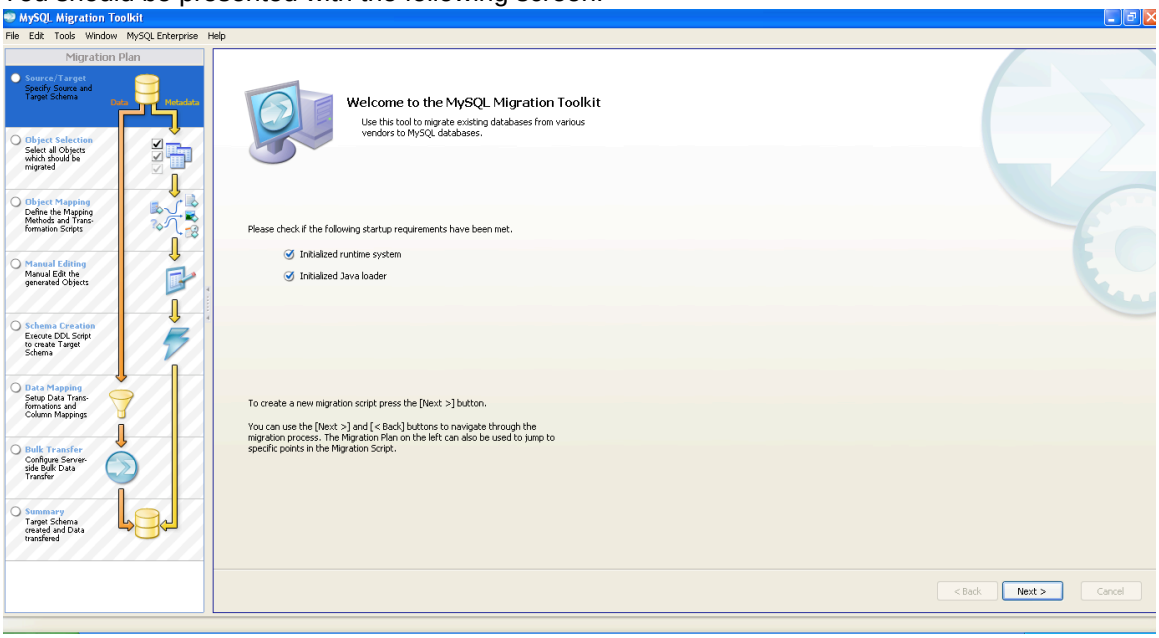
- Empty MySQL DB with appropriate credentials to allow creation, deletion, and insertion of tables and rows.
- A Windows machine that can both communicate to the Confluence server and the destination DB.
- MySQL Migration Toolkit
- HSQL Database Engine

### *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

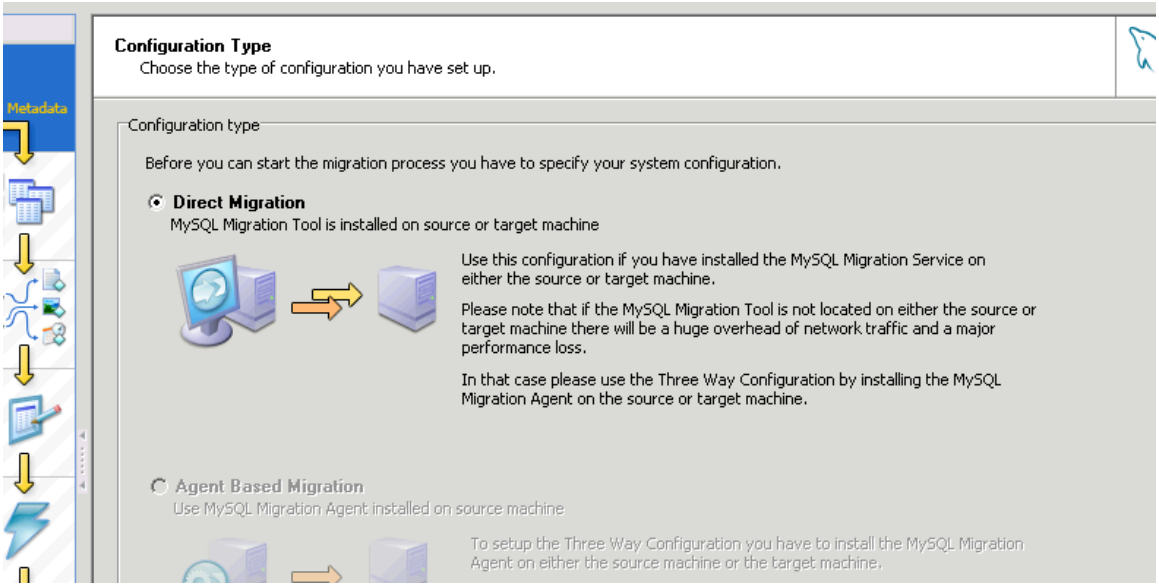
### *Running the Migration Toolkit*

You should be presented with the following screen.

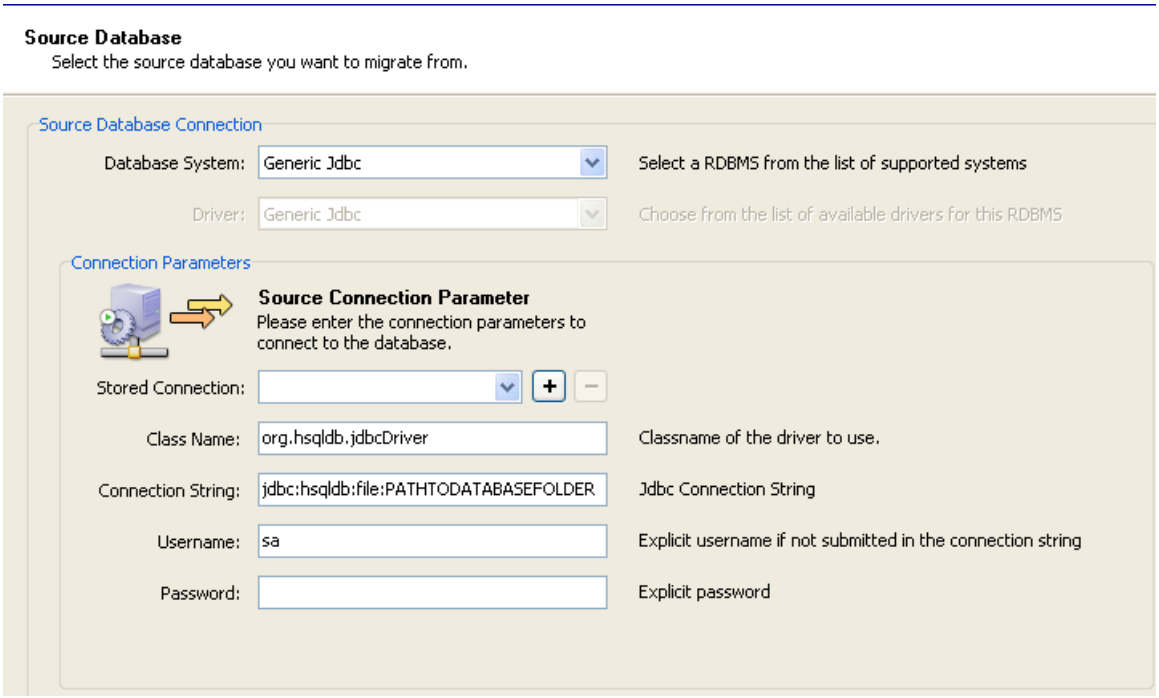



**Choose Direct Migration**

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**Source Database**



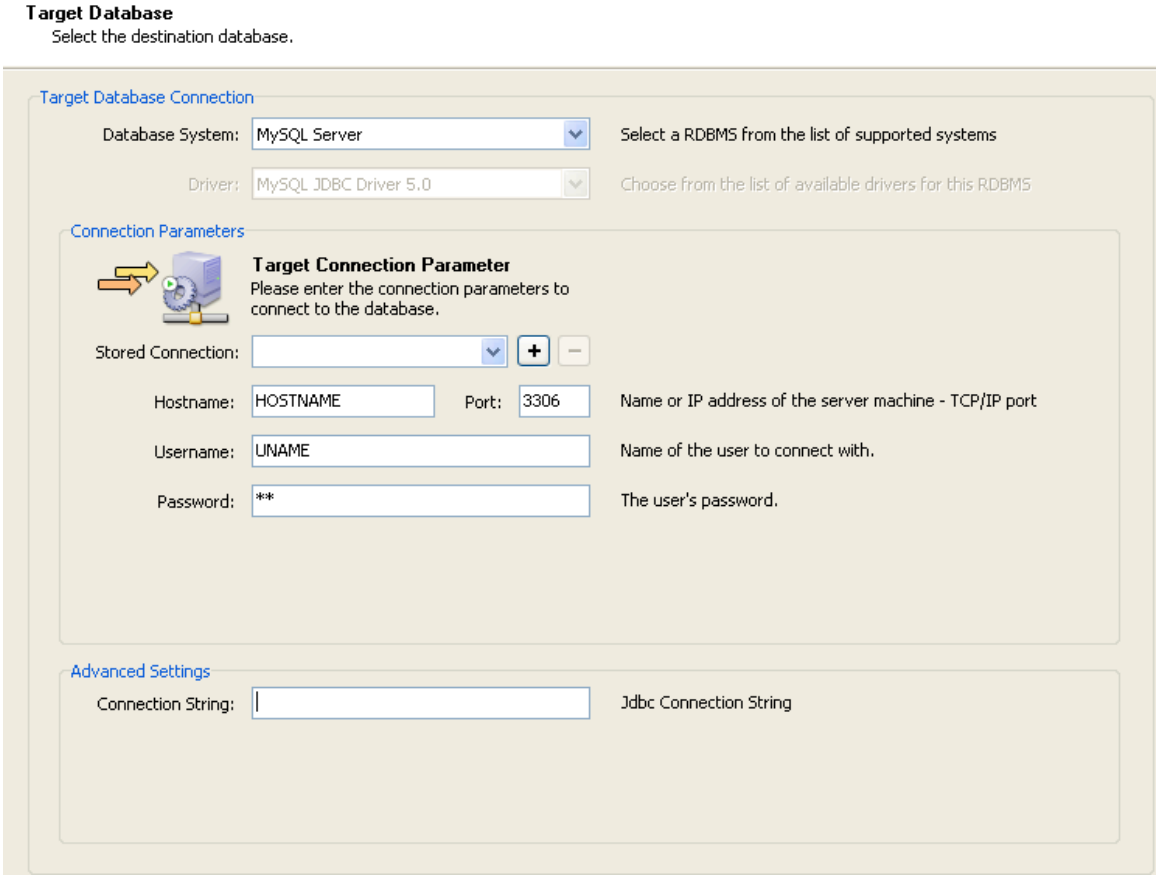

| | |
|---|---|
| **Database System:** | Generic JDBC |
| **Connection String:** | jdbc:hsqldb:<br>file:PATHTODATABASEFOLDER\confluencedb<br>\\ |
| **Username:** | sa |
| **Password:** | *No password. Leave this field blank* |

**Destination Database**

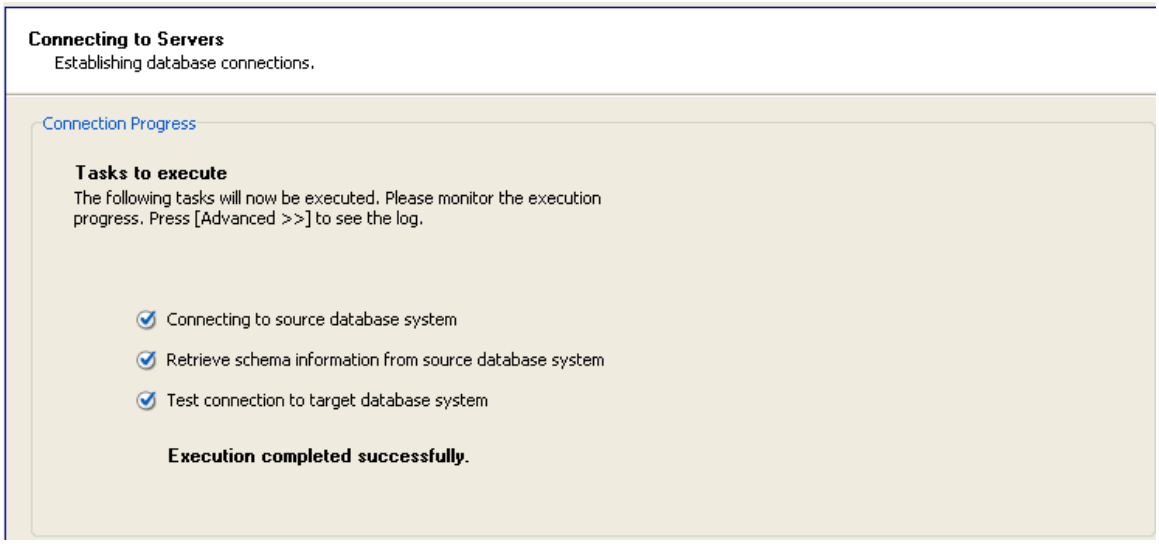
Please make sure that the computer that is running MySQL Toolkit is able to access the MySQL server and that the user listed has the ability to create, drop, insert, and update tables.

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If your MySQL user has a $ character in the password (such as 'pa$sword'), please change the password or create a temporary account with full permissions. If you do not, the toolkit will throw an "Illegal group reference" error and you will not be able to proceed with the migration.




**Connecting to Servers**

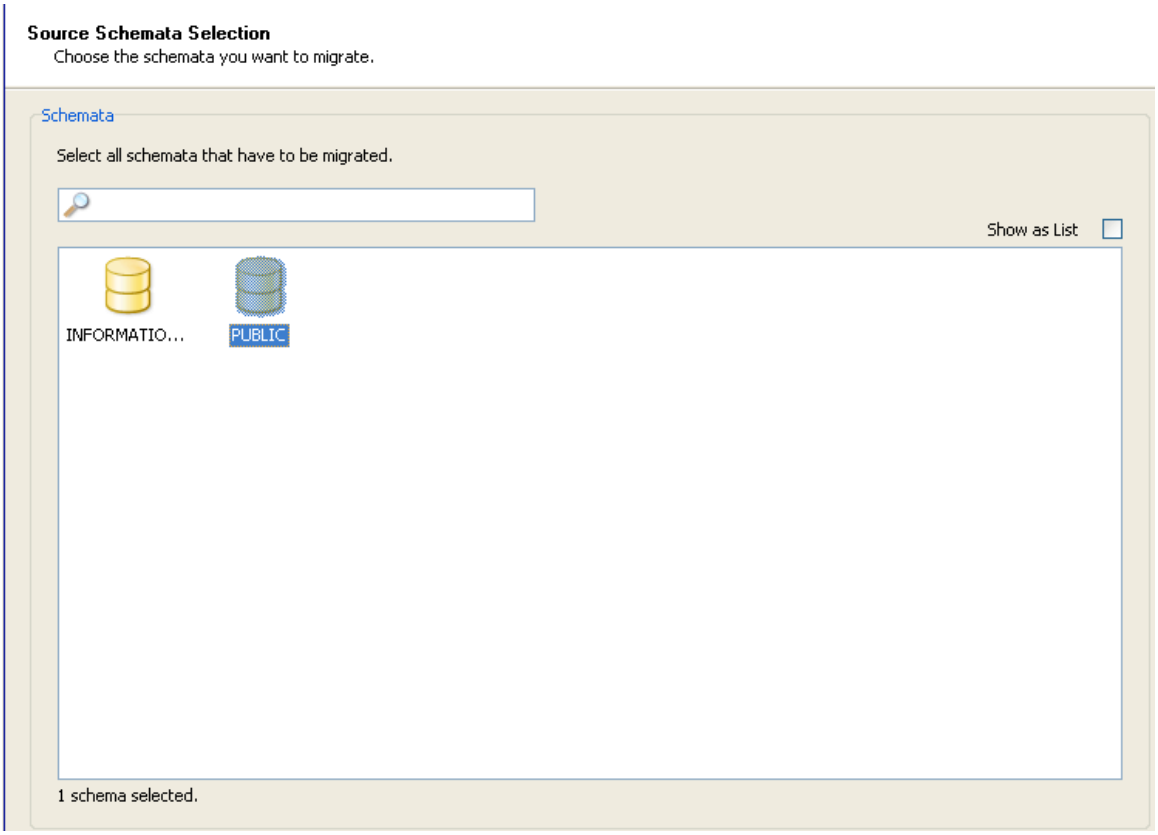



You should see the toolkit trying to connect. If you have problems, please click on the advanced options and sql will show you debugging information. Click Advanced to see the log. If you see "Java Heap Space: Out of Memory", you can start the *MySQL Migration Toolkit* with a -Xmx flag to allocate more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

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

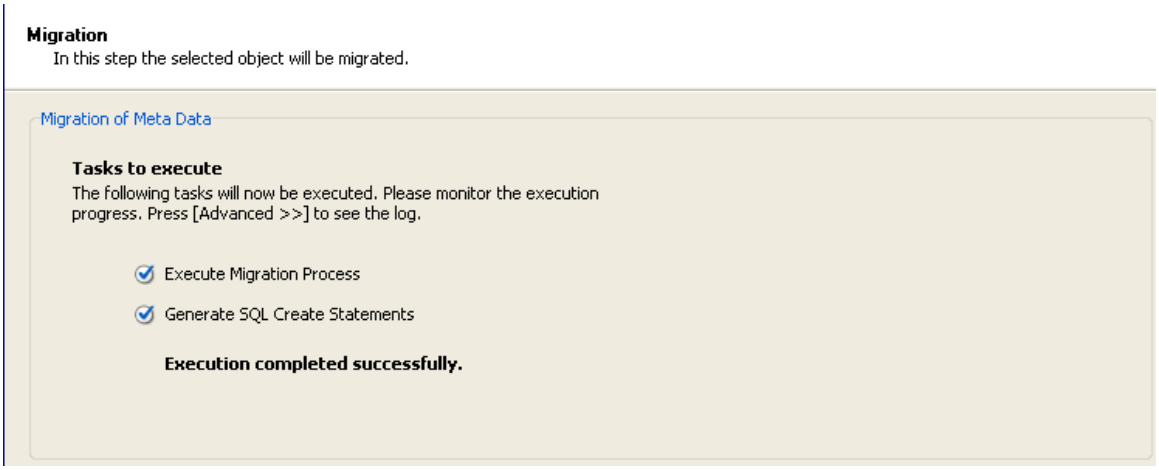
**Source Schemata Selection**

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

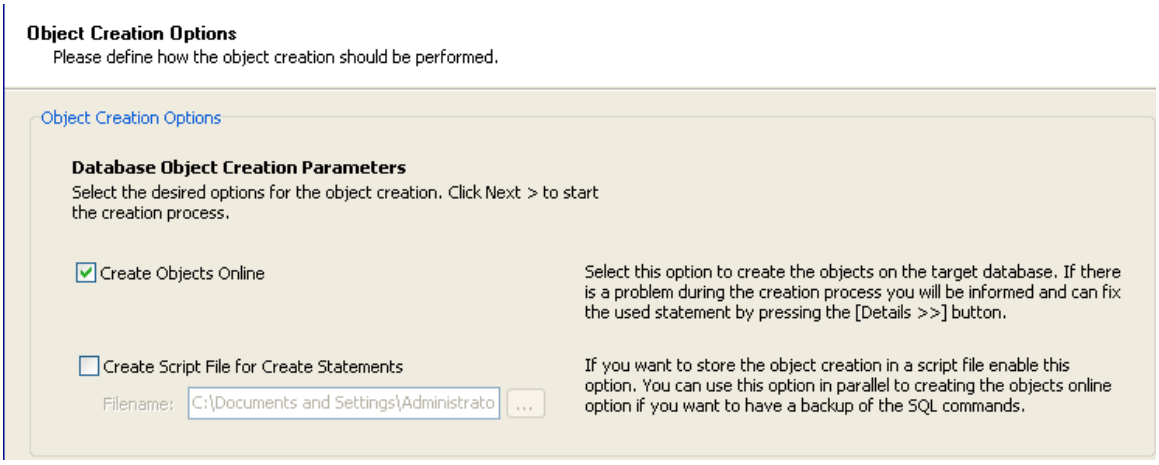
#### Object Type Selection




Click Next.

#### Object Type Mapping

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Click **Show Details** on both sections. For **Migration Method for Type Schema**, choose **Multilanguage**. For **Migration Method for Type Table**, choose **Data Consistancy/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.

## 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 Production 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?

| Problem | Solution |
|---|---|
| Exception while creating backup | Follow Troubleshooting failed XML site backups instead |
| Exception while importing backup | Follow instructions below |

*The information on this page does not apply to Confluence OnDemand.*

### *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 distribution 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:

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```
2006-07-13 09:32:33,372 ERROR
[confluence.importexport.impl.ReverseDatabinder] endElement
net.sf.hibernate.exception.ConstraintViolationException:
  could not insert: [com.atlassian.confluence.pages.Attachment#38]
net.sf.hibernate.exception.ConstraintViolationException: could not
insert: [com.atlassian.confluence.pages.Attachment#38]
...
Caused by: java.sql.SQLException: ORA-01400: cannot insert NULL
into ("CONFUSER"."ATTACHMENTS"."TITLE")
at
oracle.jdbc.driver.DatabaseError.throwSqlException(DatabaseError.ja
va:112)
at oracle.jdbc.driver.T4CTTIoer.processError(T4CTTIoer.java:331)
at oracle.jdbc.driver.T4CTTIoer.processError(T4CTTIoer.java:288)
```

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.
13. Restart Confluence.

#### Troubleshooting "Duplicate Entry" for key "cp_" or "cps_"

If you are encountering an error message such as:

```
com.atlassian.confluence.importexport.ImportExportException: Unable to
complete import because the data does not match the constraints in the
Confluence schema. Cause: MySQLIntegrityConstraintViolationException:
Duplicate entry '1475804-Edit' for key 'cps_unique_type'
```

This indicates that the XML export came from a version of Confluence with a corrupt permissions database, caused by some 3rd party plugin. This is an issue that was fixed when CONF-22123 was implemented in Confluence 3.5.2. The simplest workaround is to export the space again after upgrading the instance to 3.5.2 or above. If that is not an option, then either the export will need to be edited manually to remove the duplicate permission entries or the source instance will need to have the offending entries removed. The following SQL queries can be used to look for such entries:

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```
SELECT * FROM CONTENT_PERM WHERE USERNAME IS NULL AND GROUPNAME IS NULL;

SELECT cp.ID, cp.CP_TYPE, cp.USERNAME, cp.GROUPNAME, cp.CPS_ID, cp.CREATOR,
cp.CREATIONDATE, cp.LASTMODIFIER, cp.LASTMODDATE
FROM CONTENT_PERM cp
WHERE cp.USERNAME IS NOT NULL AND cp.GROUPNAME IS NOT NULL;

SELECT cps1.ID, cps1.CONTENT_ID, cps1.CONT_PERM_TYPE FROM CONTENT_PERM_SET cps1,
CONTENT_PERM_SET cps2
WHERE cps1.ID <> cps2.ID AND
cps1.CONTENT_ID = cps2.CONTENT_ID AND
cps1.CONT_PERM_TYPE = cps2.CONT_PERM_TYPE
ORDER BY cps1.CONTENT_ID, cps1.CONT_PERM_TYPE, cps1.CREATIONDATE ASC;

SELECT cp.ID, cp.CP_TYPE, cps.CONTENT_ID,
(SELECT scps.ID FROM CONTENT_PERM_SET scps WHERE scps.CONTENT_ID = cps.CONTENT_ID
AND scps.CONT_PERM_TYPE = cp.CP_TYPE) AS suggested_cps_id
FROM CONTENT_PERM cp, CONTENT_PERM_SET cps
WHERE cp.CPS_ID = cps.ID AND
cp.CP_TYPE <> cps.CONT_PERM_TYPE;

SELECT DISTINCT cp1.ID, cp1.CP_TYPE, cp1.USERNAME, cp1.GROUPNAME, cp1.CPS_ID,
cp1.CREATOR, cp1.CREATIONDATE, cp1.LASTMODIFIER, cp1.LASTMODDATE
FROM CONTENT_PERM cp1, CONTENT_PERM_SET cps1, CONTENT_PERM cp2, CONTENT_PERM_SET
cps2
WHERE
cp1.CPS_ID = cps1.ID AND
cp2.CPS_ID = cps2.ID AND
cp1.ID <> cp2.ID AND
cps1.CONTENT_ID = cps2.CONTENT_ID AND
cp1.CP_TYPE = cp2.CP_TYPE AND
cp1.USERNAME = cp2.USERNAME
ORDER BY cp1.CPS_ID, cp1.CP_TYPE, cp1.USERNAME, cp1.CREATIONDATE;

SELECT DISTINCT cp1.ID, cp1.CP_TYPE, cp1.USERNAME, cp1.GROUPNAME, cp1.CPS_ID,
cp1.CREATOR, cp1.CREATIONDATE, cp1.LASTMODIFIER, cp1.LASTMODDATE
FROM CONTENT_PERM cp1, CONTENT_PERM_SET cps1, CONTENT_PERM cp2, CONTENT_PERM_SET
cps2
WHERE
cp1.CPS_ID = cps1.ID AND
cp2.CPS_ID = cps2.ID AND
cp1.ID <> cp2.ID AND
cps1.CONTENT_ID = cps2.CONTENT_ID AND
cp1.CP_TYPE = cp2.CP_TYPE AND
cp1.GROUPNAME = cp2.GROUPNAME
ORDER BY cp1.CPS_ID, cp1.CP_TYPE, cp1.GROUPNAME, cp1.CREATIONDATE;

SELECT * FROM CONTENT_PERM_SET
WHERE ID NOT IN (SELECT DISTINCT CPS_ID FROM CONTENT_PERM);
```

Remove all matching entries and perform the export again.

#### Troubleshooting "Duplicate Key" related problems

If you are encountering an error message such as:

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```
could not insert:
[bucket.user.propertyset.BucketPropertySetItem#bucket.user.propertyset.B
ucketPropertySetItem@a70067d3]; 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
```

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

If you're receiving a message like:

```
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
Confluence Administrator's Guide

## 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**'.

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

**On this page:**


- Attachment Storage Options
  - Local File System
  - Database
  - WebDAV
- Migration between Attachment Storage Systems
- Troubleshooting


**Related pages:**

- Working with Confluence Logs
- Working with Confluence LogsConfluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

## 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.

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### Migration between Attachment Storage Systems

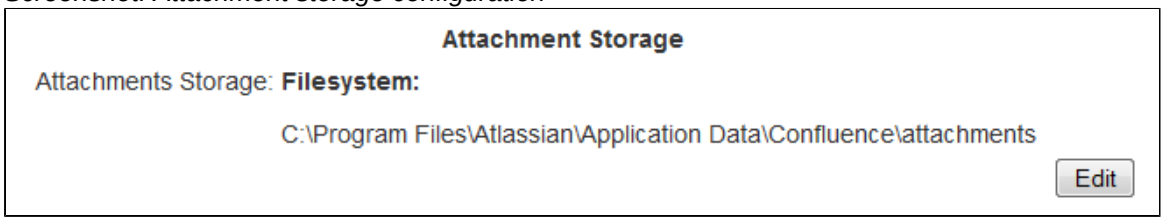
You can 'migrate' your attachments from one storage system to another. All existing attachments will be moved over to the new attachment storage system.

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.

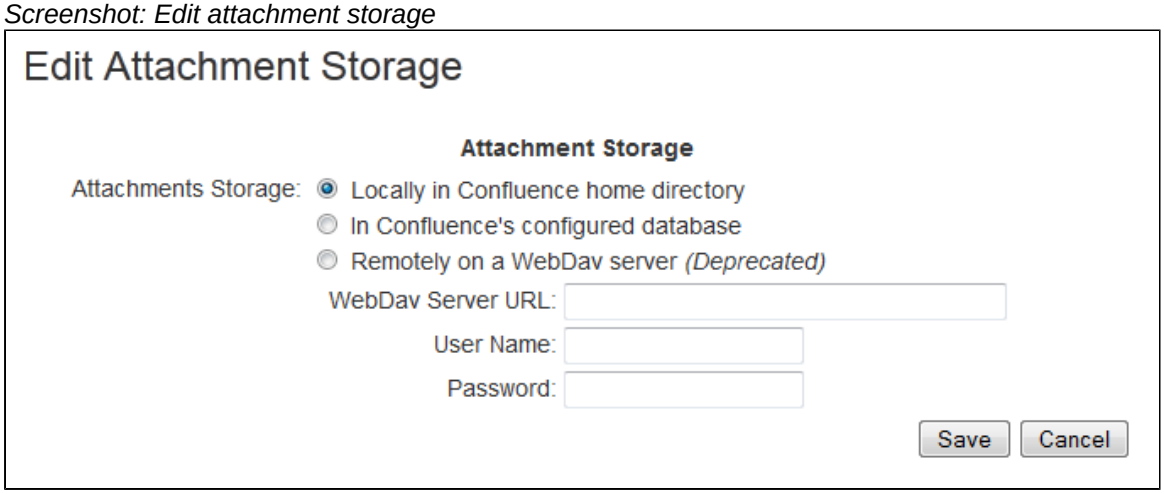
When migrating attachments from your database to a filesystem, the attachments are removed from the database after migration. However, when migrating attachments from a filesystem to your database, the attachments remain on the filesystem after migration. If you wish to change this function's behaviour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

**To perform a migration, follow the steps below:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click '**Attachment Storage**' in the left-hand panel. The current configuration will be displayed.
   *Screenshot: Attachment storage configuration*

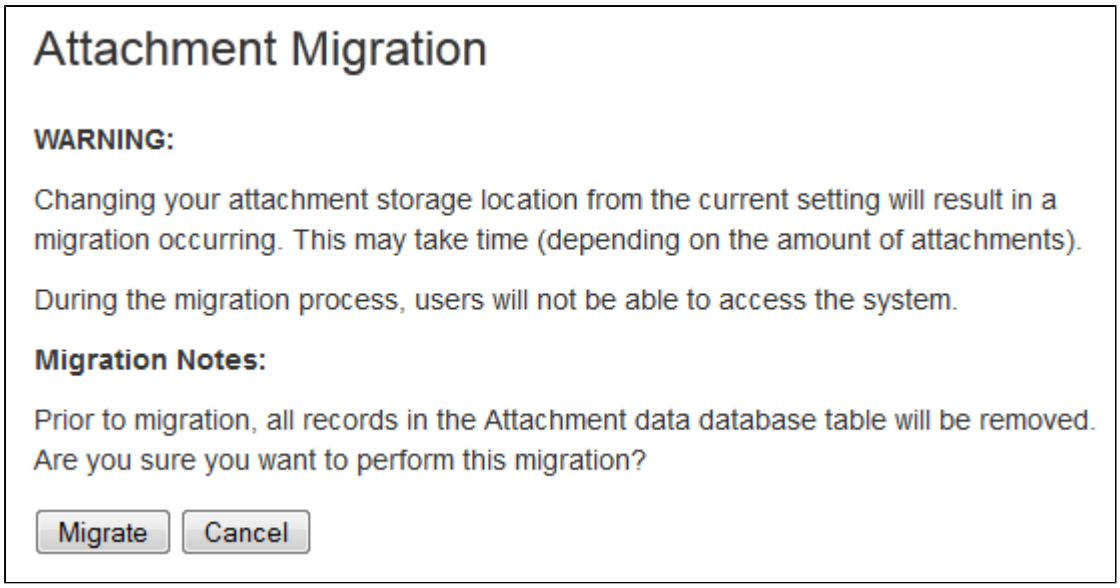



3. Click the '**Edit**' button to modify the configuration.
4. Select the storage system you desire.
   *Screenshot: Edit attachment storage*




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.
   *Screenshot: migration warning*

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### 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
```

For more about log file configuration, see Working with Confluence Logs.

## 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:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Enter the maximum size next to **Attachment Maximum Size**'. The default is 10 MB.
5. Choose **Save**.

**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`

**Related pages:**

- Recognised System Properties *Not applicable to Confluence OnDemand.*
- Working with Attachments
- Confluence Administrator's Guide

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#### *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 issue in our issue tracker: CONF-10512.

## Hierarchical File System Attachment Storage

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 information on this page does not apply to Confluence OnDemand.*

> **Backup Confluence Home**
> Before upgrading to Confluence 3.0, as with any upgrade you must ensure you have a backup of your Confluence home directory before you proceed.

### 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 *con tent 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:

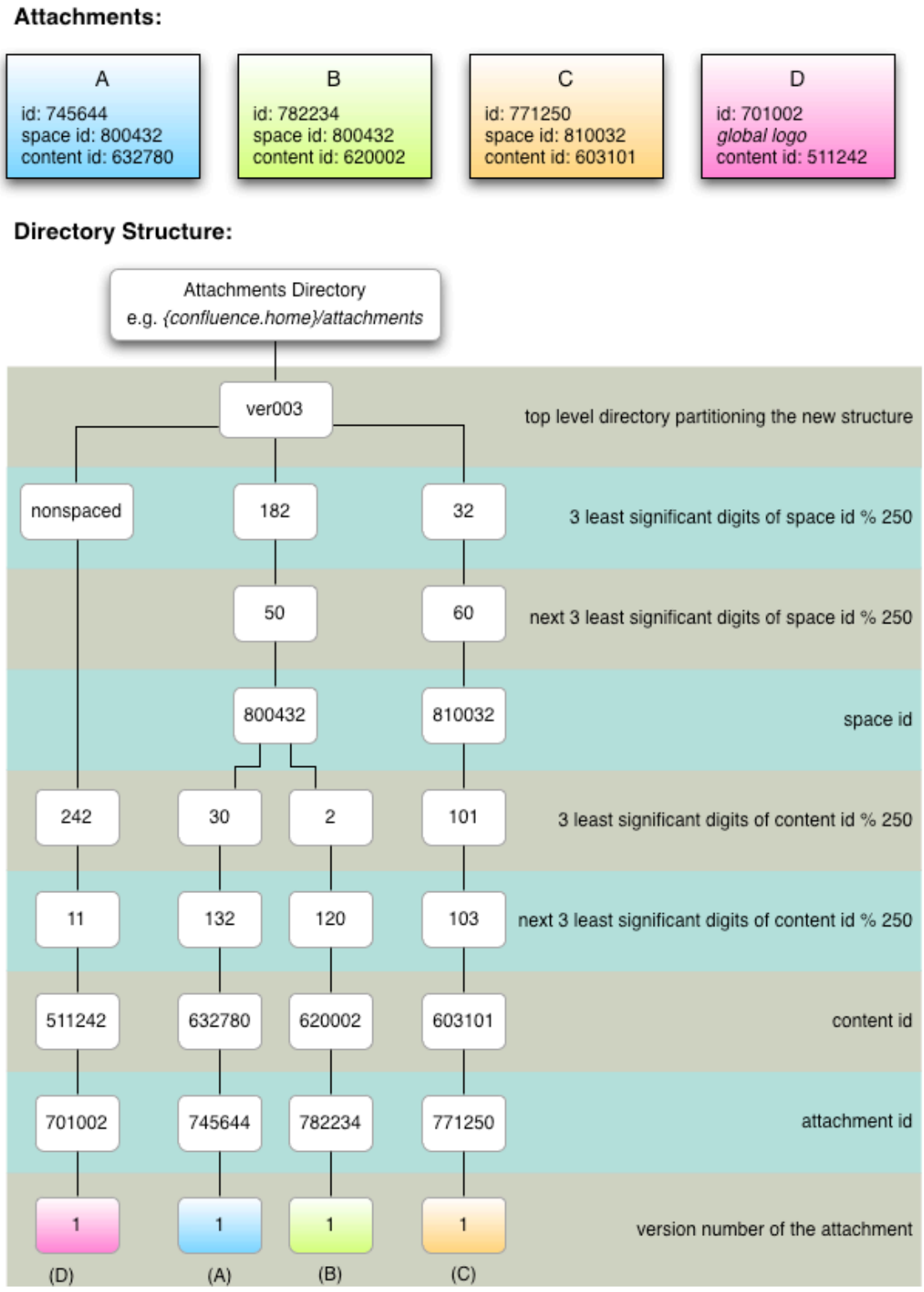
| level | Derived From |
|---|---|
| 1 (top) | Always 'ver003' indicating the Confluence version 3 storage format |
| 2 | The least significant 3 digits of the *space id*, modulo 250 |
| 3 | The next 3 least significant digits of the *space id*, modulo 250 |
| 4 | The full *space id* |
| 5 | The least significant 3 digits of the *content id*, modulo 250 |

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| | |
|---|---|
| 6 | The next 3 least significant digits of the *content id*, modulo 250 |
| 7 | The full *content id* |
| 8 | The full *attachment id* |

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

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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 -

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```
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 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.

| Example Message | Description |
|---|---|

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| | |
|---|---|
| The configured attachment directory <directory name> could not be found or was not a directory. | 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. |
| It is not possible to migrate the attachments to the new structure since files already exist which the attachment process may need to create. | 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. |
| Couldn't find current Confluence content for the id <content Id>. The attachment is a non-spaced attachment (e.g. global logo, draft attachment, etc) and will be migrated to the nonspaced directory. | This is a normal message indicating that the attachment being migrated does not belong to a space e.g. global logo, global description, personal information (on profile pages) and attachments on draft content. |
| Problem while accessing the database for content id content Id so its attachments will not be migrated. | It was not possible to access the database at this point during the migration. You will need restore your Confluence attachment directory from the backup and attempt the upgrade again, once the database is accessible again. |
| Could not create the new attachment directory directory. | The upgrade task could not create the new directory to contain the attachment being moved. Does the server user have sufficient permission to perform this operation in the indicated directory? Is there sufficient disk space? |
| Failed to move the current attachment directory <some path> to the new location of <some other path>. | The upgrade task could not move the directory. Does the server user have sufficient permission to perform this operation in the indicated directory? |

## Confluence Data Model

This document provides a diagram of the Confluence schema and a conceptual overview of the data model.

**Notes:**

- The Hibernate mapping files are the authoritative reference for the Confluence data model. These are the `*.hbm.xml` files which you will find in the main Confluence JAR file (`<CONFLUENCE-INSTALLATION>\confluence\WEB-INF\lib\confluence-5.1.1.jar`).
- The tables, columns and other attributes are likely to change with each major release of Confluence. To find the exact DDL of your Confluence site, please run a query after installation.

### Database diagrams

#### *Detailed diagrams*

The following SVG images (Scalable Vector Graphics) include all the tables in the Confluence database. Click the links below to open the images in your browser, or download the SVG files for later use. You can use the browser's zoom (Ctrl++ or Cmd++) to see more detail in the diagrams:

- ConfluenceTables-KeysOnly.svg – Shows all tables, with primary keys only for each table.
- ConfluenceTables-AllColumns.svg – Shows all tables, and all columns for each table.

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**On this page:**


- Database diagrams
- Database tables and references
- Authentication
- Content
- Clustering
- System information
- Spaces
- Appearance
- Miscellaneous

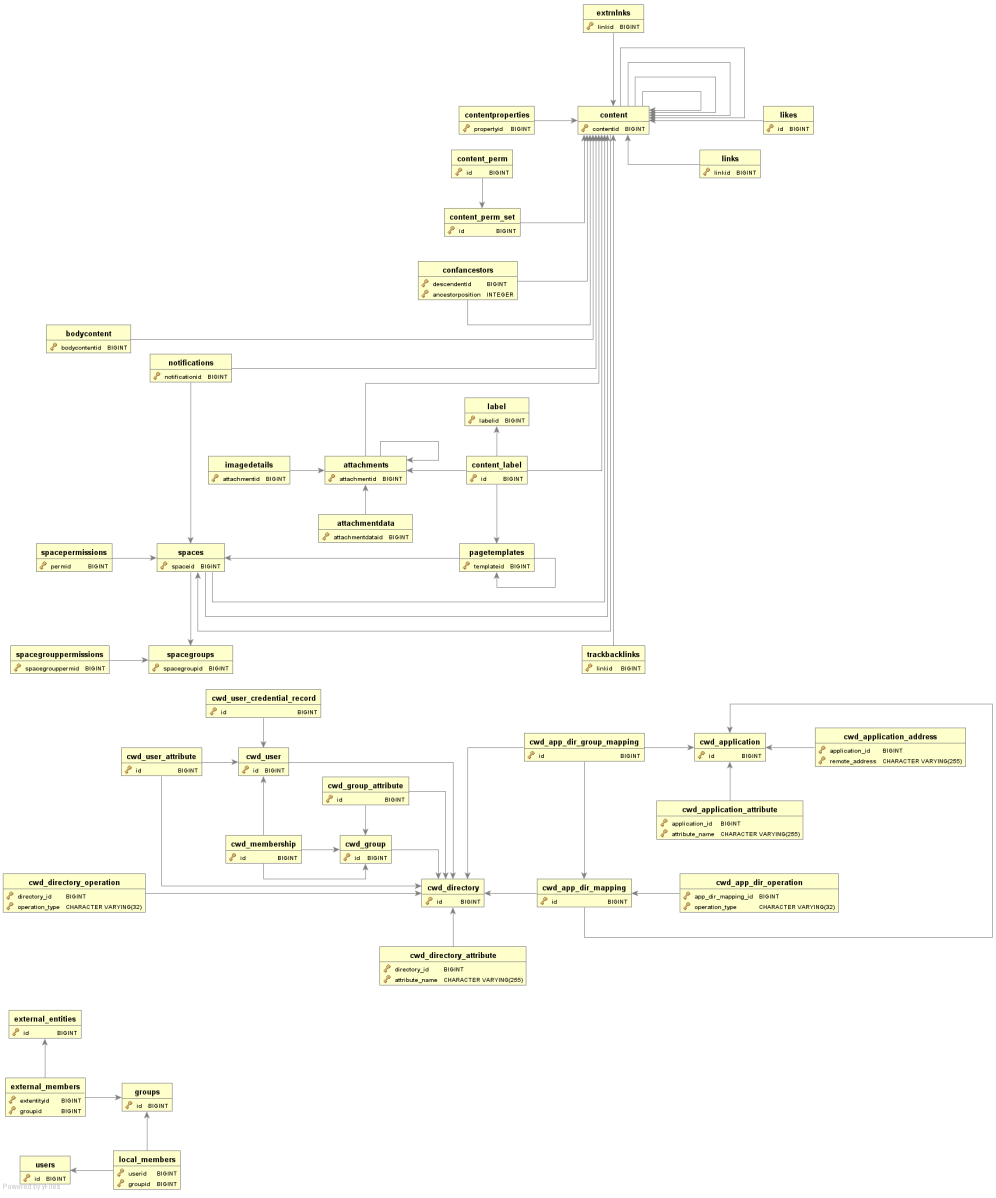

**Related pages:**

- Managing Confluence Data
- Connecting to HSQLDB using DBVisualizer
- Confluence Administrator's Guide

***Overview diagram***

This image shows the core tables. Note that the image is very large. You may need to download it (right-click on the image) and view it in an image viewer. Alternatively, use the SVG images linked in the previous section.

Click here to show/hide the image...




## Database tables and references

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Expand the link below to see a table of the primary and foreign keys for each table.

Click here to show/hide the table...

| Primary key table name | Primary key column name | Foreign key table name | Foreign key column name | Foreign key name | Primary key name |
|---|---|---|---|---|---|
| AO_9412A1_AOUSER | ID | AO_9412A1_USER_APP_LINK | USER_ID | fk_ao_9412a1_user_app_link_user_id | AO_9412A1_AOUSER_pkey |
| attachments | attachmentid | attachmentdata | attachmentid | fk9dc3e34d34a4917e | attachments_pkey |
| attachments | attachmentid | attachments | prevver | fk54475f9017d4a070 | attachments_pkey |
| attachments | attachmentid | content_label | attachmentid | fkf0e7436e34a4917e | attachments_pkey |
| attachments | attachmentid | imagedetails | attachmentid | fka768048734a4917e | attachments_pkey |
| content | contentid | attachments | pageid | fk54475f908c38fbea | content_pkey |
| content | contentid | bodycontent | contentid | fka898d4778dd41734 | content_pkey |
| content | contentid | confancestors | ancestorid | fk9494e23c37e35a2e | content_pkey |
| content | contentid | confancestors | descendentid | fk9494e23cc45e94dc | content_pkey |
| content | contentid | content | prevver | fk6382c05917d4a070 | content_pkey |
| content | contentid | content | parentid | fk6382c05974b18345 | content_pkey |
| content | contentid | content | parentcommentid | fk6382c059b97e9230 | content_pkey |
| content | contentid | content | pageid | fk6382c0598c38fbea | content_pkey |
| content | contentid | content_label | contentid | fkf0e7436e8dd41734 | content_pkey |
| content | contentid | content_perm_set | content_id | fkbf45a7992caf22c1 | content_pkey |
| content | contentid | contentproperties | contentid | fk984c5e4c8dd41734 | content_pkey |
| content | contentid | extrnlnks | contentid | fk97c10fe78dd41734 | content_pkey |
| content | contentid | likes | contentid | fk4514b9c8dd41734 | content_pkey |
| content | contentid | links | contentid | fk45157998dd41734 | content_pkey |
| content | contentid | notifications | pageid | fk594acc88c38fbea | content_pkey |

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| | | | | | |
|---|---|---|---|---|---|
| content | contentid | spaces | homepage | fk9228242d11b7bfee | content_pkey |
| content | contentid | spaces | spacedescid | fk9228242d2c72d3d2 | content_pkey |
| content | contentid | trackbacklinks | contentid | fkf6977a478dd41734 | content_pkey |
| content_perm_set | id | content_perm | cps_id | fkbd74b31676e33274 | content_perm_set_pkey |
| cwd_app_dir_mapping | id | cwd_app_dir_group_mapping | app_dir_mapping_id | fk_app_dir_group_mapping | cwd_app_dir_mapping_pkey |
| cwd_app_dir_mapping | id | cwd_app_dir_operation | app_dir_mapping_id | fk_app_dir_mapping | cwd_app_dir_mapping_pkey |
| cwd_application | id | cwd_app_dir_group_mapping | application_id | fk_app_dir_group_app | cwd_application_pkey |
| cwd_application | id | cwd_app_dir_mapping | application_id | fk52050e2fb347aa6a | cwd_application_pkey |
| cwd_application | id | cwd_application_address | application_id | fk_application_address | cwd_application_pkey |
| cwd_application | id | cwd_application_attribute | application_id | fk_application_attribute | cwd_application_pkey |
| cwd_directory | id | cwd_app_dir_group_mapping | directory_id | fk_app_dir_group_dir | cwd_directory_pkey |
| cwd_directory | id | cwd_app_dir_mapping | directory_id | fk_app_dir_dir | cwd_directory_pkey |
| cwd_directory | id | cwd_directory_attribute | directory_id | fk_directory_attribute | cwd_directory_pkey |
| cwd_directory | id | cwd_directory_operation | directory_id | fk_directory_operation | cwd_directory_pkey |
| cwd_directory | id | cwd_group | directory_id | fk_directory_id | cwd_directory_pkey |
| cwd_directory | id | cwd_group_attribute | directory_id | fk_group_attr_dir_id | cwd_directory_pkey |
| cwd_directory | id | cwd_user | directory_id | fk_user_dir_id | cwd_directory_pkey |
| cwd_directory | id | cwd_user_attribute | directory_id | fk_user_attr_dir_id | cwd_directory_pkey |
| cwd_group | id | cwd_group_attribute | group_id | fk_group_attr_id_group_id | cwd_group_pkey |
| cwd_group | id | cwd_membership | parent_id | fk_parent_grp | cwd_group_pkey |
| cwd_group | id | cwd_membership | child_group_id | fk_child_grp | cwd_group_pkey |
| cwd_user | id | cwd_membership | child_user_id | fk_child_user | cwd_user_pkey |
| cwd_user | id | cwd_user_attribute | user_id | fk_user_attribute_id_user_id | cwd_user_pkey |

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| | | | | | |
|---|---|---|---|---|---|
| cwd_user | id | cwd_user_credential_record | user_id | fk76f874f73aee0f | cwd_user_pkey |
| external_entities | id | external_members | extentityid | fkd8c8d8a5f25e5d5f | external_entities_pkey |
| groups | id | external_members | groupid | fkd8c8d8a5117d5fda | groups_pkey |
| groups | id | local_members | groupid | fk6b8fb445117d5fda | groups_pkey |
| keystore | keyid | trustedapp | public_key_id | fkddb119ca9c85adb1 | keystore_pkey |
| label | labelid | content_label | labelid | fkf0e7436e27072aef | label_pkey |
| os_group | id | os_user_group | group_id | fk932472461e2e76db | os_group_pkey |
| os_user | id | os_user_group | user_id | fk93247246f73aee0f | os_user_pkey |
| pagetemplates | templateid | content_label | pagetemplateid | fkf0e7436ed32042e4 | pagetemplates_pkey |
| pagetemplates | templateid | pagetemplates | prevver | fkbc7ce96a17d4a070 | pagetemplates_pkey |
| spacegroups | spacegroupid | spacegroupperm issions | spacegroupid | fk487d958b16994414 | spacegroups_pkey |
| spacegroups | spacegroupid | spaces | spacegroupid | fk9228242d16994414 | spacegroups_pkey |
| spaces | spaceid | content | spaceid | fk6382c059b2dc6081 | spaces_pkey |
| spaces | spaceid | notifications | spaceid | fk594acc8b2dc6081 | spaces_pkey |
| spaces | spaceid | pagetemplates | spaceid | fkbc7ce96ab2dc6081 | spaces_pkey |
| spaces | spaceid | spacepermissions | spaceid | fkd33f23beb2dc6081 | spaces_pkey |
| trustedapp | trustedappid | trustedapprestriction | trustedappid | fke8496ba235d1d865 | trustedapp_pkey |
| users | id | local_members | userid | fk6b8fb445ce2b3226 | users_pkey |

The following sections describe the principal tables involved in each logical area of Confluence – authentication, content, system information, and so on.

### Authentication

This section describes the tables involved in user authentication, which is implemented via the Atlassian Crowd framework embedded in Confluence.

| Table | Description |
|---|---|
| `cwd_user` | Information for each user in Confluence. |

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| | |
|---|---|
| cwd_group | The groups to which users can belong. |
| cwd_membership | Mapping the membership of users to groups. |
| cwd_directory | The user directories in your Confluence site. Examples of directories are the Confluence internal directory, or an LDAP directory. |
| cwd_application | The applications (JIRA, Confluence, and so on) defined in the authentication framework. |

### Content

This section describes the tables involved in storing content. Content is the information that Confluence users are storing and sharing.

| Table | Description |
|---|---|
| attachmentdata | The binary data for attached files. This table is only used when Confluence is configured to store attachments in the database. Otherwise, attachments are stored in the local file system. |
| attachments | Metadata for the files attached to Confluence pages. |
| bodycontent | The content of Confluence pages. No version information or other metadata is stored here. That is all in the content table. |
| content | A persistence table for the ContentEntityObject class of objects. The subclass is indicated by the contenttype column. |
| content_label | Arbitrary text labels for content. |
| label | The other half of the content_label system. |
| content_perm | Content-level permissions objects. |
| content_perm_set | A one-to-many mapping for content items and their permissions, with added metadata. |
| pagetemplates | The back end of the templates feature. |
| likes | The pages and other content liked by a particular user. |
| follow_connections | A mapping of users who are following other users. |

### Clustering

The following table contains information about clustered Confluence sites.

| Table | Description |
|---|---|
| clustersafety | Normally, this table only contains one row. The value of the safetynumber is what Confluence uses to find out whether another Confluence site is sharing its database without being part of the cluster. |

### System information

These tables store data related to the status and configuration of the Confluence site.

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| Table | Description |
|---|---|
| confversion | Used by the upgrade system to determine what to expect from the database, so as to negotiate upgrades. |
| plugindata | A record of the plugins that have been installed, and when.<br>data is a blob of the actual plugin JAR file. This is principally cluster-related. |

### Spaces

This table is related to the management of spaces.

| Table | Description |
|---|---|
| spaces | Information about the spaces themselves: key, human-friendly name and numeric ID. |

### Appearance

The following table contains information about the look and feel of your Confluence site.

| Table | Description |
|---|---|
| decorator | The custom display templates used to customise Velocity layouts. |

### Miscellaneous

This section includes other tables worth commenting on.

| Table | Description |
|---|---|
| os_propertyentry | Arbitrary association of entities and properties. |
| bandana | A catch-all persistence layer. This table 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. |
| extrnlnks | Referral links. |
| hibernate_unique_key | Used by the high/low ID generator – the subsystem which generates our primary keys.<br>If you interfere with this table, you may not be able to create objects in Confluence. |
| indexqueueentries | Manages full-content indexing across the system. The table generally contains the last 12 hours (approximately) of updates, to allow re-syncing of cluster nodes after restarts. |
| keystore | Used by the trusted apps framework to store the server's private key, and other servers' public keys. |
| links | Tracks links within the server (that is, across and within spaces). |
| notifications | Stores page- and space-level watches. |

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| | |
|---|---|
| `trackbacklinks` | Trackback links. |
| `confancestors` | Used to speed up permissions checks, by allowing quick lookup of all a page's ancestors. |

## 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 can provide hints, it 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:

```
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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

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

```
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 using the Plugin Exchange. 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:

```
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:

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**Space activity:**

| space | lastmodified |
|---|---|
| Private Space | 2007-10-11 11:34:04.914 |
| Another space | 2007-10-11 11:39:39.716 |
| More space | 2007-10-11 11:40:11.688 |

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

## Data Import and Export

Confluence administrators and users can import data into Confluence from a number of sources. The permissions required differ, depending on the scope of the import. See Importing Content Into Confluence.

You can also export Confluence content to various formats. See Exporting Confluence Pages and Spaces to Other Formats.

**Related pages:**

- Managing Confluence Data
- Confluence Administrator's Guide

# Configuring a Confluence Environment

This section describes the external setup of your Confluence installation. It includes information on configuring the web server, application server, directories and files – everything to do with the environment that Confluence runs in. For guidelines on modifying settings inside the application, see Configuring Confluence instead.

Confluence is a J2EE web application. On the client side, users access Confluence primarily via a web browser. For a list of important files on the server side, see Important Directories and Files.

This section contains the following guidelines:

- Important Directories and Files
- Application Server Configuration
- Web Server Configuration
- Starting Confluence Automatically on System Startup

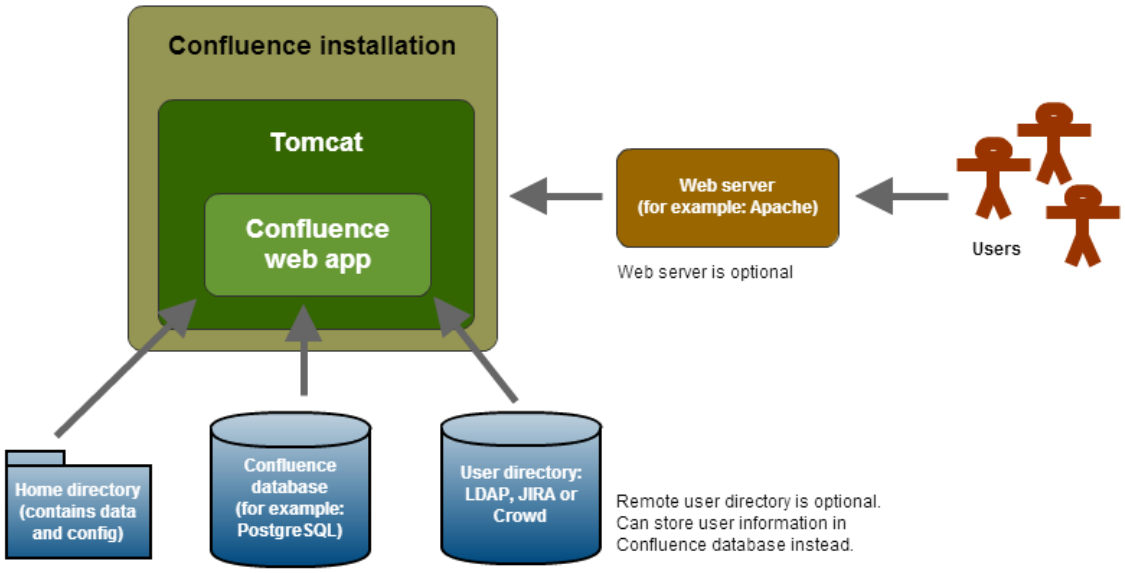
**Related pages:**

- Getting Started as Confluence Administrator
- Supported Platforms
- Confluence Administrator's Guide

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*Diagram: A Confluence installation*

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# 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 Managing Confluence Users.
- `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 Managing Confluence Users.
- `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
- `confluence/WEB-INF/classes/styles/site-css.vm` : Confluence's main stylesheet, modify at your own risk
- `conf/server.xml` : SSL configuration.

## 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** — `bin/setenv.bat`
  - **Confluence Installer** — `wrapperwin32.conf`
- Mac/Linux Users
  - **Confluence** — `bin/setenv.sh`
  - **Confluence Installer** — `wrapperosx.conf`

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#### The Temp Directory

The temp directory is configured in the Java runtime and some Confluence components write temporary files or lockfiles into this directory.

For EAR/WAR installations typically, this directory is `/tmp` on Linux systems, or `C:\Temp` on Windows.

For Standalone installations the temp directory is located in the installation directory as /temp.

To change the location of this directory, 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 are 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.

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**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
Embedded HSQLDB Database
Database Configuration

Administrators Guide Home Confluence Documentation Home

## 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 `<MY-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.

*The information on this page does not apply to Confluence OnDemand.*

#### 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 (/).

#### Linux/Solaris Configuration

On any Linux-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.

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#### *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

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 are 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 information on this page does not apply to Confluence OnDemand.*

#### 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. The property that determines this is `confluence.home`, for example:

```
confluence.home=/var/atlassian/application-data/confluence
```

Once Confluence is running you can find the Confluence Home directory via the Administration console, under Administration > System Information > Confluence Information - Confluence Home.

#### Content of the Confluence Home Directory

The Confluence home directory contains some of the configuration data used by Confluence. Other data is stored in the database. This section outlines the purpose of the files and directories in the Confluence home directory.

##### *`confluence.cfg.xml`*

This file 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.

Since Confluence 3.0, the directory structure has been defined by the Hierarchical File System Attachment Storage method.

For versions before Confluence 3.0, paths within this directory had the following structure:

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

You can specify an alternative directory 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
```

You can specify an alternative directory for backups by setting the `daily.backup.dir` property in `confluence.cfg.xml`.

#### *bundled-plugins*

Confluence ships 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. In such cases this directory contains all Confluence runtime data. Installations 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*

All Confluence plugins are 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. 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.

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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.

#### *RELATED TOPICS*

Confluence Installation Directory
Important Directories and Files
Embedded HSQLDB Database

### 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'.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *RELATED TOPICS*

Confluence Home Directory
Important Directories and Files

## Application Server Configuration

The following pages contain information about configuring your application server for Confluence:

- Configuring URL Encoding on Tomcat Application Server
- Managing Application Server Memory Settings
- Switching to Apache Tomcat
- Java Policy Settings for Enterprise or Webhosting Environments

### Configuring URL Encoding on Tomcat Application Server

Application servers may have different settings for character encodings. We strongly recommend **UTF-8** where possible.

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 the names of attachments or pages.

**To configure the URL encoding in Tomcat:**

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="8090"/>
```

2. Add a `URIEncoding="UTF-8"`property to the connector:

```
<Connector port="8090" URIEncoding="UTF-8"/>
```

3. Restart Tomcat

#### If you are using mod_jk

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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 your Apache mod_jk configuration:

```
<Connector port="8009" protocol="AJP/1.3" URIEncoding="UTF-8"/>
```

```
JkOptions +ForwardURICompatUnparsed
```

#### More information using Apache with Tomcat

For comprehensive examples of how to use Tomcat and Apache with Confluence, see Running Confluence behind Apache.

## 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.



For a comprehensive overview of memory management, and memory tuning in Confluence under Sun JRE, please read Garbage Collector Performance Issues

#### *Testing For Optimum Memory Settings*

In the general case, both JIRA & Confluence users will benefit from setting the minimum and maximum values identical. In larger installations, there is benefit to memory tuning, if there is a perceived performance issue. If you are experiencing Out of Memory Heap errors, try increasing the -Xmx and -Xms values for your installation to see if this resolves or helps resolve your issue. It's best to increase in small increments (eg 512mb at a time), to avoid having too large a heap, which can cause different problems. If increasing the memory does not help, please lodge a support ticket as there may be other factors contributing.

Memory usage is most likely to be maximised under peak load, and when creating a site XML backup. In many cases, the backup can be the cause of the OOM, so increase -Xmx values and verify if a backup was occurring at the time of OOM. A quick rule of thumb for gauging the success of a memory adjustment is using simple anecdotal evidence from users. Is it snappier? The same? How does it handle while a backup is occurring?



Atlassian recommends in normal use, to disable the XML backup and use a Production 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

#### *Applying Memory Settings*

See How to Fix Out of Memory Errors by Increasing Available Memory.

#### *Related Topics*

- Garbage Collector Performance Issues
- How to 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

## Switching to Apache Tomcat

Apache Tomcat is the only application server supported for Confluence. To move Confluence from an application server (e.g. WebSphere) to Tomcat using the same database, follow the instructions below.

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Please note, you cannot simply copy the WAR file or expanded WAR directory from an old Confluence EAR/WAR version in the old application server to Tomcat. **This will not work.**

Follow these instructions:


- 1. Before You Start
- 2. Backing Up
- 3. Switching Application Servers
- 4. Applying Customisations
  - Confluence Server
  - Plugins
  - Look and Feel
  - Performance
  - Advanced Customisations
- 5. Testing Confluence


#### 1. Before You Start

1. The following instructions will only work if you are running the same major version of Confluence on both application servers. If you are running different major versions of Confluence, you will need to upgrade Confluence before you can switch to Tomcat.
2. Note that you need current software maintenance, as the process for changing application servers involves installing Confluence or Confluence EAR-WAR.
3. If the environment (e.g. the database system, the operating system and so on) that you are running Confluence in has changed, please ensure it still complies with the Confluence System Requirements.
4. If you are using an external database, familiarise 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.
5. Note any customisations that you have made to Confluence, e.g. enabled/installed plugins, modified layouts, custom themes, etc. You will need to reapply these after you have switched to Tomcat. You can view the list of customisations in the Reapplying Customisations section below.
6. We recommend that you **do not** run any other applications in your Tomcat application server that is running Confluence, to prevent performance issues.

#### 2. Backing Up

Before you switching to Tomcat, 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 are 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 check that the backup was 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 that the backup worked before proceeding. This recommendation is not specific to Confluence usage, but it is good practice to ensure that your database backup is not broken.
   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) **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'.

#### 3. Switching Application Servers

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1. Install Confluence on your new application server. We recommend that you install Confluence (from the zip file) as it is preconfigured with Tomcat. If you want more control over the installation process, you can install Confluence EAR-WAR on Tomcat however this requires more manual configuration.
   Regardless of which method you choose, as part of the installation process:
   - If you are connecting to your database via a standard JDBC connection, enter the URL, username and password for your existing database.
   - If you are connecting to your database via datasource, use the settings for your existing database when you configure the JDBC datasource in your new server. Refer to the appropriate guide below:
     - Configuring a MySQL Datasource in Apache Tomcat
     - Configuring a SQL Server Datasource in Apache Tomcat
     - Configuring a PostgreSQL Datasource in Apache Tomcat
2. Copy the following files from your old Confluence installation to your new one:
   - `{CONFLUENCE_INSTALL}\confluence\WEB-INF\classes\confluence-init.properties`
   - `{CONFLUENCE_INSTALL}\confluence\WEB-INF\classes\atlassian-user.xml`
   - `{CONFLUENCE_INSTALL}\confluence\WEB-INF\classes\osuser.xml` *(copy this over if you are using JIRA user management)*
   - `{CONFLUENCE_INSTALL}\confluence\WEB-INF\classes\seraph-config.xml` *(copy this over if you using custom SSO)*
   - `{CONFLUENCE_INSTALL}\confluence\WEB-INF\web.xml` *(copy this over if you have previously modified it, e.g. to configure a datasource)*
3. Make sure you shutdown the old server before you startup the new one.
4. If you are running the new application server on a different machine to the old one, carry out the following actions as soon as you start the new server:
   - Re-index your data.
   - Make sure that the attachments location is valid for the new server.
5. If you have applied special settings to their Confluence server and/or Confluence look and feel, you will need to reapply these customisations as described in below.

#### 4. Applying Customisations

After switching to Tomcat, you need to review any customisations and other special configurations you previously used for your Confluence instance, and re-apply if necessary. This section also contains some Tomcat-specific customisations that you may wish to considering applying, if you haven't used Confluence with Tomcat before.

> ⚠ **Before you apply customisations**
> Please ensure that your Confluence installation works correctly on Tomcat without any customisations before you apply any of customisations listed below. This will make it easier to identify problems, if you run into trouble during the switch to Tomcat.

##### Confluence Server

- 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.
- If you are using the Confluence edition 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 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.

##### Plugins

- If you were previously using any **plugins**, install the latest compatible version and disable any plugins that are incompatible with your new instance of Confluence. The easiest way to do this is to use the Universal Plugin Manager in the Confluence Administration Console.

##### Look and Feel

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- 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. Please do not just copy your VM (velocity) files across. Ensure that Confluence works without your custom layouts then apply the layout via the Confluence Administration console.

#### Performance

- If the load on your Confluence instance is high, you may need more simultaneous connections to the database. Read more about this in the Performance Tuning guide.
- 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. See How to Fix Out of Memory Errors by Increasing Available Memory for more information.

#### Advanced Customisations

- If you were previously running **Confluence over SSL**, you will need to reapply your configuration as described in Running Confluence Over SSL or HTTPS.
- If you were using a custom SSO authenticator, change seraph-config.xml to the correct authenticator.
- If you had changed the Confluence interface text, you will need to copy over the ConfluenceActionSupport.properties file.
- If you had previously modified the Confluence **source code**, you will need to reapply your changes to the new version.

#### 5. Testing Confluence

Make sure you **test Confluence on the new server** before deploying it in production.

The Working with Confluence Logs document contains the locations for the application logs, if you need to refer to them.

## Java Policy Settings for Enterprise or Webhosting Environments

Confluence relies on a number of Java libraries. Some of these libraries 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 cannot function.

**Related pages:**

- Application Server Configuration
- Confluence Administrator's Guide

When you attempt to run Confluence, you may get the following error:

```
java.security.AccessControlException: access denied (java.lang.RuntimePermission
accessDeclaredMembers)
        at
java.security.AccessControlContext.checkPermission(AccessControlContext.java(Compil
ed Code))
        at
java.security.AccessController.checkPermission(AccessController.java(Compiled
Code))
        at java.lang.SecurityManager.checkPermission(SecurityManager.java(Compiled
Code))
```

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.

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```
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";
};
```

## Web Server Configuration


- Configuring Web Proxy Support for Confluence
- Running Confluence behind Apache
  - General Apache Configuration Notes
  - Using Apache with mod_proxy
  - Using Apache with virtual hosts and mod_proxy
  - Using Apache with mod_jk
  - Using mod_rewrite to Modify Confluence URLs
  - Configuring Apache to Cache Static Content via mod_disk_cache


### Configuring 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 Oracle:

- http.proxyHost
- http.proxyPort (default: 80)
- http.nonProxyHosts (default: <none>)
- https.proxyHost
- https.proxyPort

At a minimum, you need to define `http.proxyHost` to configure an HTTP proxy, and `https.proxyHost` to configure an HTTPS proxy. System property configuration is described in the Configuring System Properties.

Properties `http.proxyHost` and `http.proxyPort` indicate the proxy server and port that the http protocol handler will use, and `https.proxyHost` and `https.proxyPort` indicate the same for the https protocol handler.

```
-Dhttp.proxyHost=proxy.example.org -Dhttp.proxyPort=8080
-Dhttps.proxyHost=proxy.example.org -Dhttps.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 pipe character | . In addition, a wildcard character (asterisk) * 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.

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If the `http.nonProxyHosts` property is not configured, all web requests will be sent to the proxy.

Please note that any command line parameters set are visible from the process list, and thus anyone who has the approriate access to view the process list will see the proxy information in the clear. To avoid this, you can set these properties in the catalina.properties file, located in `confluence-install/conf/`. Add this to the end of the file:

```
http.proxyHost=yourProxyURL
http.proxyPort=yourProxyPort
http.proxyUser=yourUserName
http.proxyPassword=yourPassword
https.proxyHost=yourProxyURL
https.proxyPort=yourProxyPort
https.proxyUser=yourUserName
https.proxyPassword=yourPassword
```

#### *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

#### *HTTP proxy (Microsoft ISA) NTLM authentication*

Confluence supports NTLM authentication for outbound HTTP proxies when Confluence is running on a Windows server.

This means that 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*

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 -Dhttps.proxyAuth=basic,ntlm
```

#### *Troubleshooting*

1. There's a diagnostic jsp file in CONF-9719 for assessing the connection parameters.
2. '**Status Code [407]**' errors are described in APR-160.

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3. Autoproxies are not supported. See CONF-16941.

## Running Confluence behind Apache



This page documents a configuration of Apache, rather than of Confluence itself. Atlassian will support Confluence with this configuration, but we cannot guarantee to help you debug problems with Apache. Please be aware that this material is provided for your information only, and that you use it at your own risk.

#### *Introduction*

For improved performance in high-load environments, you should run Confluence behind a web server. 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**.

| Connection type | Unique features | Common features to both mod_proxy and mod_jk |
|---|---|---|
| mod_proxy (also known as reverse proxy) | • **recommended connection method**<br>• simple HTTP proxy to application server<br>• works with all application servers<br>• if application paths are consistent, there is minimal load on the web server | • application paths must be consistent to avoid complex and slow URL rewriting<br>• works with name-based virtual hosting, both on web server and app server<br>• web server keeps a pool of connections to application server |
| mod_jk (also known as AJP) | • uses the AJP binary protocol<br>• provides failover (and load balancing, which Confluence supports only with a clustered license)<br>• only works with some application servers (typically Tomcat)<br>• if application paths are consistent, there is some load on the web server to translate requests to AJP | |

#### *Configuration Guides*



Please choose one configuration. Trying to configure for both mod_proxy and mod_jk will only lead to confusion and tears.

- **Using Apache with mod_proxy**
- **Using Apache with mod_jk**
- **Using Apache with virtual hosts and mod_proxy**

#### *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

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mod_proxy or mod_jk for international characters to work correctly in Confluence.

#### *Caching static content via mod_disk_cache*

To improve performance of a large Confluence site, we recommend that you move the caching of static content from the JVM into Apache. This will prevent the JVM from having a number of long running threads serving up static content. See Configuring Apache to Cache Static Content via mod_disk_cache.

#### *Other related documentation*

- Configuring Tomcat's URI encoding
- Running Confluence Over SSL or HTTPS

## 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
DeflateCompressionLevel 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 go. For anyone using an XP machine SP2 or above, it is safe to allow keepalive for MSIE 6 and above.

Remove the following lines:

```
SetEnvIf User-Agent ".*MSIE.*" \
   nokeepalive ssl-unclean-shutdown \
   downgrade-1.0 force-response-1.0
```

Add these in their place:

```
BrowserMatch "MSIE [1-5]" nokeepalive ssl-unclean-shutdown downgrade-1.0
force-response-1.0
BrowserMatch "MSIE [6-9]" ssl-unclean-shutdown
```

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RELATED TOPICS

Running Confluence behind Apache
Configuring Tomcat's URI encoding
Running Confluence Over SSL or HTTPS

## 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 use the configuration:

- You have an existing Apache-based website, and want to add Confluence to the mix (for example, **http://www.example.com/confluence**).
- You have two or more Java applications, each running in their own application server on different ports, for example, **http://example:8090/confluence** and **http://example:8080/jira**. By setting up Apache with mod_proxy, you can have both available on the regular HTTP port (80) – for example, at **http://www.example.com/confluence** and **http://www.example.com/jira**. This allows each application to be restarted, managed and debugged separately.

**Note:** This page documents a configuration of Apache, rather than of Confluence itself. Atlassian will support Confluence with this configuration, but we cannot guarantee to help you debug problems with Apache. Please be aware that this material is provided for your information only, and that you use it at your own risk.

### *Base configuration*

In these examples, we use the following:

**http://www.example.com/confluence** - your intended URL

**http://example:8090** - the hostname and port Confluence is currently installed to

**/confluence** - the intended context path (the part after hostname and port)

Please substitute the examples below with your intended URL's in your own server. Copy/pasting these suggestions will not work on your server.

#### Set the context path

Set your Confluence application path (the part after hostname and port). 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://example:8090/confluence**

#### Set the URL for redirection

Set the URL for redirection. In the same `conf/server.xml` file, locate this code segment:

```
<Connector port="8090" maxHttpHeaderSize="8192"
               maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
               enableLookups="false" redirectPort="8443" acceptCount="100"
               connectionTimeout="20000" disableUploadTimeout="true" />
```

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And append the last line:

```
<Connector port="8090" maxHttpHeaderSize="8192"
               maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
               enableLookups="false" redirectPort="8443" acceptCount="100"
               connectionTimeout="20000" disableUploadTimeout="true"
               proxyName="www.example.com" proxyPort="80" />
```

If this isn't working for you and you're using SSL, try adding a scheme attribute to your Connector tag: **scheme="https"**.

Now we have two options:

- If you want a URL like **http://www.example.com/confluence**, follow the simple configuration.
- If you want a URL like **http://confluence.example.com**, go to the complex configuration.

#### Simple Configuration

##### *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://www.example.com/confluence
ProxyPassReverse /confluence http://www.example.com/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 .

#### Complex configuration

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:

| | |
|---|---|
| **Externally accessible (Apache) URL** | http://confluence.example.com/ |

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| Application server URL | http://app-server.internal.example.com:8090/confluence/ |
|---|---|

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.

```
# Put this after the other LoadModule directives
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_http_module modules/mod_proxy_http.so
LoadModule proxy_html_module modules/mod_proxy_html.so

<VirtualHost *>
    ServerName confluence.example.com

    # 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 / http://app-server.internal.example.com:8090/confluence
    ProxyPassReverse / http://app-server.internal.example.com:8090/confluence

    ProxyHTMLURLMap / /confluence/

    <Location />
        Order allow,deny
        Allow from all
    </Location>
</VirtualHost>
```

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.

#### *Final Configuration Steps*

##### Restart your Apache server

This is needed to pick up on the new configuration. This can be done by running the following on your command line/terminal/shell:

```
sudo apachectl graceful
```

##### Disable HTTP Compression

Having compression run on both the proxy and Tomcat can cause problems integrating with other Atlassian applications, such as JIRA. Please disable HTTP compression as per our Compressing an HTTP Response within Confluence docs.

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#### Set the Confluence Base URL

The last stage is to set the Base URL to the address you're using within the proxy. In this example, it would be **http://www.example.com/confluence**

#### *Adding SSL*

If you're running Apache in front of Tomcat, it's a good idea to terminate your SSL configuration at Apache, then forward the requests to Tomcat over HTTP. You can set up Apache to terminate the SSL connection and use the ProxyPass and ProxyPassReverse directives to pass the connection through to Tomcat (or the appropriate application server) which is running Confluence.

1. Create a new SSL host by creating a virtual host on 443
2. The standard http connection on apache could be used to redirect to https if you want or it could just be firewalled.
3. Within the VirtualHost definition:
    a. define the SSL options (SSLEngin and SSLCertificateFile)
    b. define the ProxyPass and ProxyPassReverse directives to pass through to Tomcat.

Most of the relevant Apache Config:

```
Listen 443

NameVirtualHost *:443
<VirtualHost *:443>
    SSLEngine On
    SSLCertificateFile /etc/apache2/ssl/apache.pem
    ProxyPass / http://localhost:8090/
    ProxyPassReverse / http://localhost:8090/
</VirtualHost>
```

Apart from the Apache configuration there are a couple of things you will need to do before you get your server working:

1. You will have to change your base URL to point to https addresses. See the documentation on configuring the server base URL.
2. We need to set up the connector to use https. In your installation directory, edit the file server.xml and add this attributes to your connector:

```
proxyName="proxy.example.com" proxyPort="443" scheme="https"
```

#### 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.

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## Using Apache with virtual hosts and mod_proxy

**Note:** This page documents a configuration of Apache, rather than of Confluence itself. Atlassian will support Confluence with this configuration, but we cannot guarantee to help you debug problems with Apache. Please be aware that this material is provided for your information only, and that you use it at your own risk.

#### 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 /.

| | |
|---|---|
| **JIRA external URL** | http://jira.example.com/ |
| **JIRA application server URL** | http://jira-app-server.internal.example.com:8080/ |
| **Confluence external URL** | http://confluence.example.com/ |
| **Confluence application server URL** | http://confluence-app-server.internal.example.com:8090/ |

Add the following to your Apache httpd.conf:

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```
# 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 *>
        Order deny,allow
        Allow from all
    </Proxy>

    ProxyPass / http://confluence-app-server.internal.example.com:8090/
    ProxyPassReverse / http://confluence-app-server.internal.example.com:8090/
    <Location />
        Order allow,deny
        Allow from all
    </Location>
</VirtualHost>
<VirtualHost *>
    ServerName jira.example.com

    ProxyRequests Off
    <Proxy *>
        Order deny,allow
        Allow from all
    </Proxy>

    ProxyPass / http://jira-app-server.internal.example.com:8080/
    ProxyPassReverse / http://jira-app-server.internal.example.com:8080/
    <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.

### Using Apache with mod_jk



- The preferred configuration is Using Apache with mod_proxy. This 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.
- This page documents a configuration of Apache, rather than of Confluence itself. Atlassian will support Confluence with this configuration, but we cannot guarantee to help you debug problems with Apache. Please be aware that this material is provided for your information only, and that you use it at your own risk.

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#### 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:

| | |
|---|---|
| **Externally accessible (web server) URL** | http://www.example.com/confluence/ |
| **Application server URL (HTTP)** | http://app-server.internal.example.com:8090/confluence/ |

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 a nd put the mod_jk.so file in your Apache modules directory.

Next, add the following in **httpd.conf** directly or included from another file:

```
# 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

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your server.xml.

```
<Server port="8000" shutdown="SHUTDOWN">
  <Service name="Catalina">

    <!-- Define a HTTP/1.1 Connector on port 8090 -->
    <Connector port="8090" />

    <!-- Define an AJP 1.3 Connector on port 8009 -->
    <Connector port="8009" protocol="AJP/1.3" />

    <Engine name="Catalina" defaultHost="localhost">
      <Host name="localhost" appBase="webapps">
 <Context path="/confluence" docBase="/opt/webapps/confluence-2.2/confluence"/>
        <Logger className="org.apache.catalina.logger.FileLogger"/>
      </Host>
    </Engine>
  </Service>
</Server>
```

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 has complete documentation on workers.properties and Apache configuration. You can also find information there on how to use mod_jk with IIS.

### Using mod_rewrite to Modify Confluence URLs

**Note:** This page documents a configuration of Apache, rather than of Confluence itself. Atlassian will support

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Confluence with this configuration, but we cannot guarantee to help you debug problems with Apache. Please be aware that this material is provided for your information only, and that you use it at your own risk.

Confluence requires URL rewriting for proper functionality, if Confluence is accessible via different domain names. If Confluence is configured for multiple domains *without* URL rewriting, you will experience an array of problems. See Various Issues Caused when Server Base URL Does Not Match the URL Used to Access Confluence.

An example of why you may want to access Confluence from different domains:

- From an internal network:
  http://wiki
- The externally visible domain:
  http://wiki.domain.com

#### *Using URL rewriting to access Confluence over multiple domains*

**To configure Confluence over multiple domains:**

1. Add a DNS entry mapping http://wiki to the externally visible IP address of the Confluence server.
2. Set Confluence's server base URL to http://wiki.domain.com.
3. Add Apache HTTP proxy, using the instructions from Running Confluence behind Apache.
4. Add the mod_rewrite module to change the URL.

#### *Further information*

You may be interested in the UrlRewriteFilter that is Java web filter that works in a similar way of the **Apache's mod_rewrite**.

## Configuring Apache to Cache Static Content via mod_disk_cache

To improve performance of a large Confluence site, we recommend that you move the caching of static content from the JVM into Apache. This will prevent the JVM from having a number of long running threads serving up static content.

Static content in Confluence includes most JavaScript, CSS and image files which are included with the application or an installed plugin. This content will be cached by Apache in this configuration. User-provided content like space logos, attachments or embedded images are not considered static content and will not be cached.

**Note:** This page documents a configuration of Apache, rather than of Confluence itself. Atlassian will support Confluence with this configuration, but we cannot guarantee to help you debug problems with Apache. Please be aware that this material is provided for your information only, and that you use it at your own risk.

#### *Configuring Apache mod_disk_cache*

**To configure Apache to cache static Confluence content:**

1. Add a `mod_disk_cache` stanza to the virtual host configuration:

```
<IfModule mod_disk_cache.c>
  # "/s" is where Confluence serves "static" stuff. Instruct Apache
to cache it:
  CacheEnable disk /s
  CacheIgnoreHeaders Set-Cookie
  CacheRoot "/var/cache/mod_proxy"
</IfModule>
```

2. Configure Apache to load `mod_disk_cache`. For example, in our server configuration this is done in `/etc/httpd/conf/httpd.conf`:

```
LoadModule disk_cache_module modules/mod_disk_cache.so
```

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3. Restart Apache after both modifications are complete.

***Notes***

- Please refer to the Apache documentation for mod_disk_cache.
- If you encounter problems where users are served stale content, you may need to purge the Apache cache directory (`/var/cache/mod_proxy` in the above configuration) after a Confluence or plugin upgrade. This is a simple 3 step process:
  - Shut down Apache.
  - Clear the cache directory. For example: `sudo rm -r /var/cache/mod_proxy/*`
  - Restart Apache.
- Ensure that you are running the `htcacheclean` daemon in order to prevent excessive use of disk space. In our situation we ran it like this:

```
sudo htcacheclean -d30 -n -t -p /var/cache/mod_proxy -l 512M
```

  This will purge content once the cache reaches 512M every 30 minutes. See the Apache documentation for htcacheclean for details of the options.

## Starting Confluence Automatically on System Startup

You can configure Confluence to start automatically on system startup, allowing it to recover automatically after a reboot.

Start Confluence Automatically on Linux
Start Confluence Automatically on Windows as a Service

### Start Confluence Automatically on Linux

On Linux/Solaris, 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 Linux/Solaris:

1. Create a `confluence` user for instance, using the following command:

```
sudo useradd --create-home -c "Confluence role account" confluence
```

2. Create a directory to install Confluence into:

```
sudo mkdir /usr/local/confluence
sudo chown confluence: /usr/local/confluence
```

3. Log in as the `confluence` user to install Confluence:

```
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
```

4. Edit <<CONFLUENCE_INSTALL_DIRECTORY>>/confluence/WEB-INF/classes/confluence-init.properties file, and set confluence.home=/usr/local/confluence/<Confluence_Data_Home> (ensure you have removed the comment '#')
5. 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).

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⚠️ If you are running Ubuntu Jaunty (or later) do not perform this step. Please use the instructions further down this page.

```
#!/bin/sh -e
# Confluence startup script
#chkconfig: 2345 80 05
#description: Confluence

# Define some variables
# Name of app ( JIRA, Confluence, etc )
APP=confluence
# Name of the user to run as
USER=confluence
# Location of application's bin directory
CATALINA_HOME=/usr/local/confluence/current
# Location of Java JDK
export JAVA_HOME=/usr/lib/jvm/java-6-sun

case "$1" in
  # Start command
  start)
    echo "Starting $APP"
    /bin/su -m $USER -c "$CATALINA_HOME/bin/startup.sh &> /dev/null"
    ;;
  # Stop command
  stop)
    echo "Stopping $APP"
    /bin/su -m $USER -c "$CATALINA_HOME/bin/shutdown.sh &> /dev/null"
    echo "$APP stopped successfully"
    ;;
   # Restart command
   restart)
        $0 stop
        sleep 5
        $0 start
        ;;
  *)
    echo "Usage: /etc/init.d/$APP {start|restart|stop}"
    exit 1
    ;;
esac

exit 0
```

6. Make this file executable:

```
sudo chmod +x /etc/init.d/confluence
```

7. Set this file to run at the appropriate runleve. For example, use `sudo chkconfig --add confluence` on Redhat-based systems, `sudo update-rc.d confluence defaults` or `rcconf` on Debian-based systems.
8. You should now be able to start Confluence with the init script. A successful startup output typically looks like this:

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```
$ sudo /etc/init.d/confluence start
Starting Confluence:
If you encounter issues starting up Confluence, 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.
```

You should then see this running at http://<server>:8090/
The port for this will be whatever is defined in your Confluence `server.xml` file.

#### 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:

   ```
   #!/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:

   ```
   #!/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. Karmic and later: Create two text files in `/etc/init/` called `confluence-up.conf` and `confluence-down.conf`:

   `confluence-up`:

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```
start on runlevel [2345]

script

 date >> /tmp/confluence-startup.out
 exec sudo -u confluence /usr/local/confluence/start >>
/tmp/confluence-startup.out 2>&1

end script
```

`confluence-down`:

```
start on runlevel [16]

expect fork
respawn

exec sudo -u confluence /usr/local/confluence/stop >>
/tmp/confluence-shutdown.out 2>&1
```

... and make them readable to all users:
`sudo chmod a+r /etc/init/confluence-up.conf /etc/init/confluence-down.conf`

1. Jaunty, Intrepid: Create two text files in `/etc/event.d/` called `confluence-up` and `confluence-down`:

   `confluence-up`:

   ```
   start on runlevel 2
   start on runlevel 3
   start on runlevel 4
   start on runlevel 5

   exec sudo -u confluence /usr/local/confluence/start >>
   /tmp/confluence-startup.out 2>&1
   ```

   `confluence-down`:

   ```
   start on runlevel 1
   start on runlevel 6

   exec sudo -u confluence /usr/local/confluence/stop >>
   /tmp/confluence-shutdown.out 2>&1
   ```

   ... and make them readable to all users:
   `sudo chmod a+r /etc/event.d/confluence-up /etc/event.d/confluence-down`

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*RELATED TOPICS*

Starting 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.

There are two ways to install the Confluence distribution as a service: using the Confluence installer or manually as described below.

**On this page:**


- Reasons for Starting Confluence as a Service
- Changing the User Running the Service
- Manually Installing the Confluence Distribution as a Service
- Managing Confluence as a Service
- Upgrading Confluence
- Troubleshooting Confluence while Running as a Windows Service
- Requesting Support


**Problem with 64-bit Windows**
If you are running 64-bit Windows, please note that you may encounter problems with Apache Tomcat running as a Windows service if you are using a 64-bit JDK. Refer to our knowledge base article for more information.

## 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.

## Changing the User Running the Service

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 <CONFLUENCE-INSTALL> and <CONFLUENCE-HOME> directories, and all subfolders. Note that any network drives must be specified by UNC and not letter mappings (eg. `\\backupserver\confluence` not `z:\confluence`) .

For more detail, see Creating a Dedicated User Account on the Operating System to Run Confluence.

## Manually Installing the Confluence Distribution as a Service

From your Windows-based server:

1. Open a command prompt in the `<CONFLUENCE-INSTALL>/bin` directory.
2. Confirm that the JAVA_HOME variable is set to the JDK base directory with the command:

   ```
   echo %JAVA_HOME%
   ```

   Note that any directory in the path with spaces (eg. `C:\Program Files` must be converted to its eight-character equivalent (e.g. `C:\Progra~1`).
3. If you are installing Confluence on a Windows 2008 server, be sure to run the command prompt using 'run

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as administrator'. (Otherwise running 'service.bat', as described in the next step, will fail.)

4. Use the following command to install the service with default settings:

```
service.bat install Confluence
```

NB: This will create a service called **Apache Tomcat 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 megs using:

```
tomcat6 //US//Confluence --JvmMx 512
```

7. If you do not have any JVM parameters that you pass to your 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.

Confluence is now installed as a service, but will not automatically start up until the next server reboot

10. 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

- Check the Knowledge Base articles:
  Getting 'The image file tomcat6.exe is valid, but is for a machine type other than the current machine'

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- Unable to Install Service on Windows Vista
- Confluence Does Not Start Due to Windows Firewall
- Unable to Start Confluence Windows Service After Allocating JVM Memory
- Unable to Configure Confluence to Run as a Service on Tomcat 5

- If none of the above solves your problem, please refer to the complete list of known issues in our Knowledge Base.
- 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"
```

- The Confluence 2.9 installer does not work when installed as service, due to a missing semi-colon in `service.bat`. Please refer to reported issue CONF-12785.
- You can use a Sysinternals tool called **`Procmon.exe`** from the The Microsoft Windows Sysinternals Team, to check that the error occurred at the specific time when the Confluence service started. You need to match the time when Tomcat failed, as captured by this tool, against the time in the Windows Event Viewer.

> **Note**
> We do not recommend that you run this tool for too long as it may disrupt other Atlassian applications. Once you have captured the required information you will need to press `Ctrl + E` to stop capturing.

#### Requesting Support

If, after following the troubleshooting guide above, you still cannot make Confluence run as a Windows Service or if there is an error when setting the JVM configuration for the service, you can create a support request.

Please provide the following information when creating your support request, because we will need it 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 distribution?
- Your atlassian-confluence.log file.

#### *RELATED TOPICS*

Starting Confluence Automatically on System Startup
How to Fix Out of Memory Errors by Increasing Available Memory

## Configuring Confluence

This section focuses on settings and configurations within the Confluence application. For guidelines on external configuration, see Configuring a Confluence Environment. (*Not applicable to Confluence OnDemand.*)

Would you like a full list of the pages in the administrator's guide? Here it is: Table of Contents for Confluence Administrator's Guide. (*Not applicable to Confluence OnDemand.*)

If you cannot find what you are looking for, try searching this documentation via the search box at top right of the screen.

- Viewing System Information
- Configuring the Server Base URL
- Configuring the Confluence Search and Index
- Configuring Mail

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- Configuring Character Encoding
- Other Settings
- Configuring System Properties
- Working with Confluence Logs
- Configuring Confluence Security
- Scheduled Jobs
- Configuring the Whitelist

**Related pages:**

- Managing Confluence Users
- Managing Add-ons and Macros (*Not applicable to Confluence OnDemand.*)
- Customising your Confluence Site
- Confluence Administrator's Guide

## Viewing System Information

The System Information screen provides information about Confluence's configuration, and the environment in which Confluence has been deployed.

**To view your system information:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **System Information** in the left-hand panel.

**Notes:**

- The handy **memory graph** helps you keep track of Confluence's memory usage.
- Your system configuration information is helpful to Atlassian Support when diagnosing errors you may face using Confluence. When logging a **support request** or **bug report**, please provide as much detail as possible about your installation and environment.

**Related pages:**

- Cache Statistics
- Viewing Site Statistics
- Viewing and Editing License Details
- About Add-ons
- Live Monitoring Using the JMX Interface
- Tracking Customisations Made to your Confluence Installation
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

## Live Monitoring Using the JMX Interface

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.

⚠ *The information on this page does not apply to Confluence OnDemand.*

***What is JMX?***

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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 the supported 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** and 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.

   JConsole, or any JMX client, will not see applications which are not owned by the same user. For example under Windows, if an application is started as a service, it is the System User which owns the process, and not the Current User.
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.

| Property name | Function | Values |
|---|---|---|
| Flushing | Shows state of cache (i.e. flushing, or not). | True/False |
| LastElapsedMilliseconds | Time taken during last indexing. | Milliseconds |

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| | | |
|---|---|---|
| LastElapsedReindexing | Time taken during last re-indexing. | Milliseconds |
| TaskQueueLength | Shows number of tasks in the queue. | Integer |

#### SystemInformation

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

| Property name | Function | Values |
|---|---|---|
| DatabaseExampleLatency | Shows the latency of an example query performed against the database. | Milliseconds |

#### RequestMetrics

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

| Property name | Function | Values |
|---|---|---|
| AverageExecutionTimeForLastTenRequests | Average execution time for the last ten requests. | Milliseconds |
| CurrentNumberOfRequestsBeingServed | Number of requests being served at this instant. | Integer |
| ErrorCount | Number of times the Confluence error page was served. | Integer |
| NumberOfRequestsInLastTenSeconds | Obviously, the Number Of Requests In the Last Ten Seconds. | Integer |

#### 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.

| Property name | Function | Values |
|---|---|---|
| EmailsAttempted | The number of email messages Confluence has tried to send. | Integer |
| EmailsSent | The number of email messages sent successfully. | Integer |

#### MailTaskQueue

This MBean shows information related to the email workload.

| Property name | Function | Values |
|---|---|---|
| ErrorQueueSize | Number of errors in the queue. | Integer |
| Flushing | Shows state (i.e. flushing, or not) | True/False |
| FlushStarted | Time that operation began. | Time |
| RetryCount | The number of retries that were performed. | Integer |

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| | | |
|---|---|---|
| TaskSize | Number of email messages queued for dispatch. | Integer |

#### 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.

> Please note, adding live monitoring to a production instance may itself have an impact on performance.

#### *Related Topics*

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

## Tracking Customisations Made to your Confluence Installation

The '**Modification**' section of the Confluence '**System Information**' screen lists the files that have been changed since your Confluence application was installed. You will find this information particularly useful when upgrading Confluence to a new version, because you will need to re-apply all customisations after the upgrade.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

**To see the modifications made to files in your Confluence installation,**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select '**System Information**' in the 'Administration' section of the left-hand panel.
3. Scroll down to the section titled '**Modification**'.

*Screenshot: Modifications tracker on the Confluence System Information screen*

| Modification | |
|---|---|
| Modified | decorators/main.vmd, pages/page-breadcrumbs.vm, template/includes/macros.vm, decorators/mail.vmd, decorators/space.vmd, template/includes/personal-sidebar.vm |
| Removed | No files removed |

Notes

- The modification tracker does not detect changes to class files from the `confluence.jar` or other JAR files. If you modify classes, the Confluence modification detection does not report the modification. See issue CONF-20993.

#### *RELATED TOPICS*

Administrators Guide Home Confluence Documentation Home

## Viewing Site Statistics

Note that the site activity information is **disabled by default**. See notes below.

If enabled, the global activity screen displays statistics on the activity in your Confluence site. These include:

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- How many pages and blog posts have been viewed, added or updated over a given period.
- Which spaces are the most popular (most frequently viewed).
- Which spaces are the most active (most frequently edited).
- Which people are the most active contributors/editors of content.

**To view the activity on your site:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Global Activity**' in the 'Administration' section of the left-hand panel (only appears if enabled - see below).

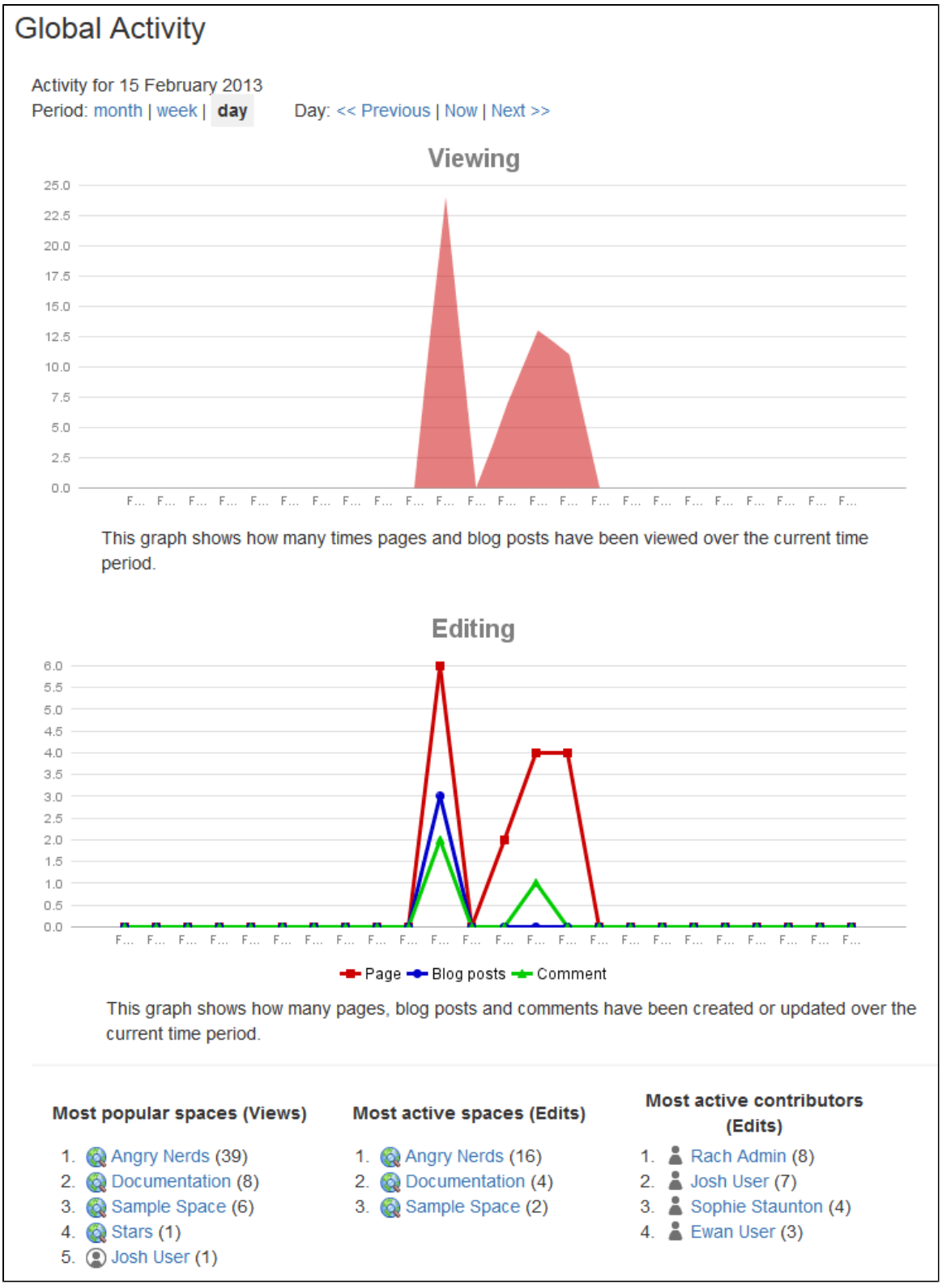
**Related pages:**

- How Do I Get More Statistics from Confluence?
- Cache Statistics
- Viewing Space Activity
- Live Monitoring Using the JMX Interface
- Installing and Configuring Plugins
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Global Activity*

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The top ten most popular and most active pages and/or blog posts will be listed, with a link to each.

**Notes**

- The Confluence Usage Stats plugin, which provides the 'Global Activity' screen, is known to cause performance problems on large installations. This plugin is **disabled by default**. A status report on the progress of the performance issues with this plugin is available in this issue: USGTRK-15.
- Your Confluence system administrator can enable the plugin, but please be aware of the possible impact upon your site's performance.
- The plugin is sometimes called 'Confluence Usage Tracking'.
- If your Confluence site is clustered, the global activity information will not be available.

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### Viewing System Properties

After adding memory, setting a proxy, or changing other Java options, it can be difficult to diagnose whether the system has picked them up. This page tells you how to view the system properties that your Confluence site is using.

You can see the expanded system properties on the 'System Information' screen of the Confluence Administration Console. You do not need to restart Confluence before viewing the information.

**To see the system properties recognised by your Confluence installation:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **System Information** in the left-hand panel.
3. Scroll down to the section titled **System Properties**.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

## 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

**To configure the Server Base URL:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Enter the new URL in the **Server Base URL** text box.
5. Choose **Save**.

#### 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
```

then the server base URL should be:

```
http://www.foobar.com/confluence
```

#### Notes

- **Using different URLs.** 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.
- **Changing the context path.** If you change the context path of your base URL, you may also need to edit the web server's `server.xml`file to reflect the new path:
    1. Stop the Confluence server.
    2. Go to your Confluence 'destination directory'. This is the directory where the Confluence installation

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files are stored. For example, `C:\Program Files\Atlassian\Confluence`. Let's call this directory '{CONFLUENCE_INSTALLATION}'.
3. Edit the configuration file at {CONFLUENCE_INSTALLATION}\conf\server.xml.
4. Change the value of the `path` attribute in the `Context` element to reflect the context path. For example, if Confluence is running at `http://www.foobar.com/confluence`, then your `path` a ttribute should look like this:

```
<Context path="/confluence" docBase="../confluence" debug="0" reloadable=
```

5. Save the file.

- **Proxies**. If you are running behind a proxy, ensure that the proxy name matches the base URL. For example: `proxyName="foobar.com" proxyPort="443" scheme="https"`. This will make sure we are passing the information correctly.

> This information needs to be added in the `Connector` element at {CONFLUENCE_INSTALLATIO N}\conf\server.xml.

**RELATED TOPICS**

- Changing the Site Title
- Editing the Site Welcome Message
- Customising Default Space Content
- Configuring the Site Home Page
- Changing the Site Logo
- Configuring the Server Base URL

## Configuring the Confluence Search and Index

Confluence administrators can adjust the behaviour of the Confluence search, and manage the index used by the search.

- Configuring Indexing Language
- Configuring Quick Navigation
- Content Index Administration
- Enabling OpenSearch
- Rebuilding the Ancestor Table
- Setting Up Confluence to Index External Sites
- Setting Up an External Search Tool to Index Confluence

**Related pages:**

- Searching Confluence
- Confluence Administrator's Guide

### Configuring Indexing Language

Changing the indexing language defined in Confluence may improve the accuracy of Confluence search results, if the majority of the content of your site is in some language other than English. Confluence supports content indexing in English (default), German, Russian, Chinese, CJK, Custom Japanese, French, Brazilian, Czech and Greek.

**To configure the indexing language:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Select the **Indexing Language** from the dropdown list in the **Formatting and International Settings** sec tion.
5. Choose **Save**.

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**Related pages:**

- Choosing a Default Language
- Installing a Language Pack
- Content Index Administration
- Creating a Lowercase Page Title Index
- Rebuild the Content Indices from Scratch
- Confluence Administrator's Guide

## Configuring Quick Navigation

When a user is searching Confluence (see Searching Confluence) 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. 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.

**Related pages:**

- Searching Confluence
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

**To configure the quick navigation feature:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. To disable this feature, remove the tick in the check box 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. Choose **Save**.

## Content Index Administration

The content index, also called the search index, supports Confluence's search functionality. It is 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 the index for some of its functionality.

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

### Viewing the content index summary

**To see information about your Confluence site's content indexing:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Content Indexing**' under the heading '**Administration**' in the left-hand panel.

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**On this page:**

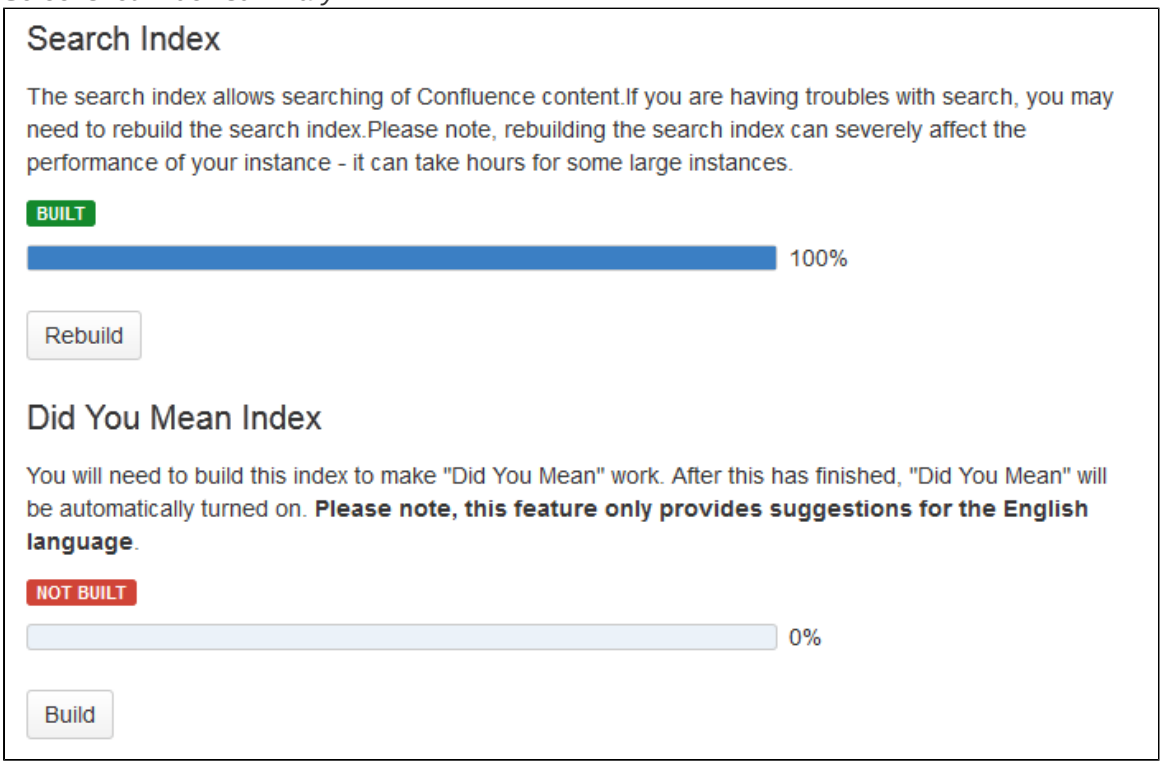

- Viewing the content index summary
- Rebuilding the search index
- The 'Did You Mean' index is no longer relevant
- Slow reindexing
- Viewing the index browser
- More hints and tips


**Related pages:**

- Scheduled Jobs
- Searching Confluence
- Configuring the Confluence Search and Index
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Index summary*




### Rebuilding the search index

The search index is maintained automatically, but you may need to rebuild it manually under circumstances such as these:

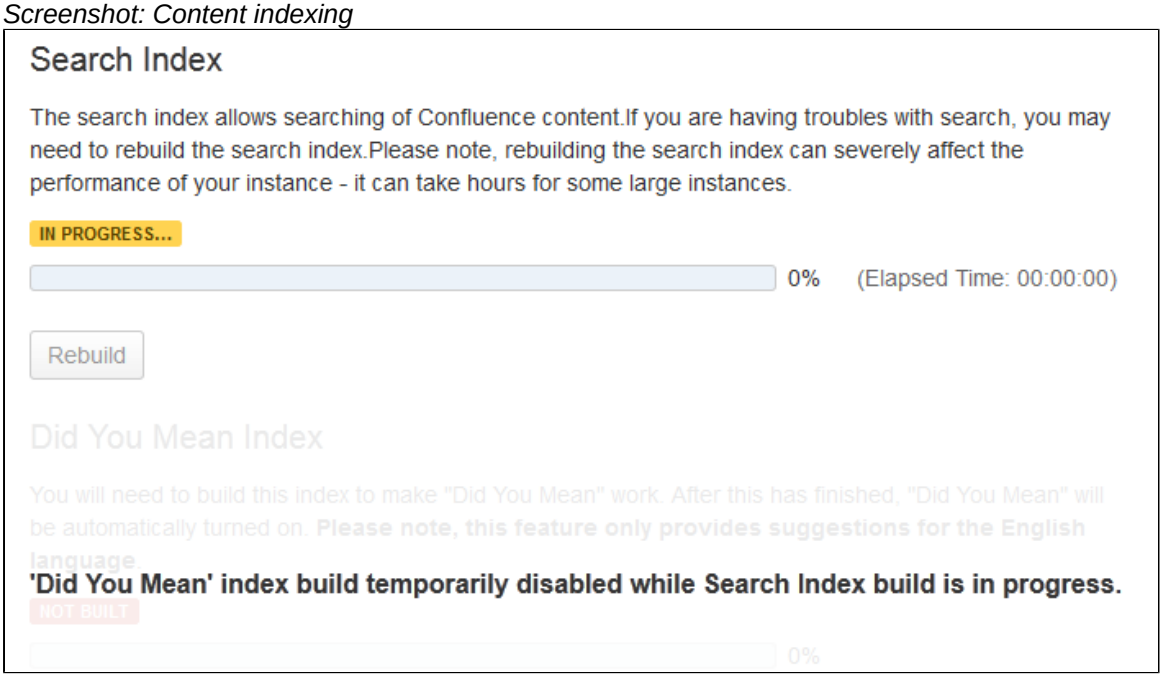
- Your searching and mail threading are malfunctioning.
- After an upgrade. If a re-index is required after an upgrade, it will be noted in an upgrade subsection of the relevant Confluence Release Notes.

**To rebuild the search index:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Content Indexing**' under the heading '**Administration**' in the left-hand panel.
3. Choose the '**Rebuild**' button in either the 'Search Index' section.
   (If the indexes has never been built, its button will indicate 'Build' instead of 'Rebuild.)

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*Screenshot: Content indexing*




#### The 'Did You Mean' index is no longer relevant

The 'Did You Mean' feature is no longer available in Confluence. This index is therefore redundant, and will be removed at some time in the future.

#### 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

Confluence uses a search engine called Lucene. If you need to see more details of the indexed pages in your Confluence site, you can download and run Luke. Luke is a development and diagnostic tool that accesses existing Lucene indexes and allows you to display and modify their content in several ways.

Start Luke and use it to open the `index` directory, located in your Confluence Home directory. For example: `c:\confluence\data\confluence-home\index`.

**Note:** Confluence 5.2 (and later) use Lucene 4.3 (or later). If the Luke library has not been updated to support the latest version of Lucene, you can compile Luke yourself, from the fork on Github – please read the warnings and notes in the README file of that repository.

#### 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.

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## 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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Add a tick in the check box beside **Open Search** to enable this feature, or remove the tick to disable the feature.
5. Choose **Save**.

**Related pages:**

- Searching Confluence
- Confluence Administrator's Guide

## Rebuilding the Ancestor Table

In Confluence, the ancestor table defines what pages are ancestors or descendants of other pages (which can be used by search restrictions with the ancestorids restriction). Occasionally, the ancestor table will become out of sync. When this happens, you can rebuild the table to restore everything to normal.

Access this URL:

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

After rebuilding the ancestor table, you'll need to flush the "Inherited Content Permissions" cache in Cache Statistics, otherwise the inherited permissions may not be applied immediately to all pages. You may also need to rebuild the content index so that the permissions take effect in search results.

**Related pages:**

- Searching Confluence
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Page level permissions*




## Setting Up Confluence to Index 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***

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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.

#### *Embedding 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 an d use it embed the external content inside normal Confluence pages.

**Related pages:**

- Setting Up an External Search Tool to Index Confluence
- Configuring the Confluence Search and Index
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

#### *Replacing the 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.

## Setting Up an 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.

External applications can also use the search function in the Confluence remote API.

**Related pages:**

- Setting Up Confluence to Index External Sites
- Configuring the Confluence Search and Index
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

# Configuring Mail

- Configuring a Server for Outgoing Mail
- Setting Up a Mail Session for the Confluence Distribution
- Configuring the Recommended Updates Email Notification
- The Mail Queue

Customising the eMail Templates

Administrators Guide Home Confluence Documentation Home

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> ⚠ *The information on this page does not apply to Confluence OnDemand.*

## Configuring a Server for Outgoing Mail

Configuring your Confluence server to send email messages allows your Confluence users to:

- Receive emailed notifications and daily reports of updates.
- Send a page via email.

You can personalise email notifications by configuring the 'From' field to include the name and email address of the Confluence user who made the change.

You need System Administrator permissions in order to configure Confluence's email server settings.

**On this page:**


- Configuring Confluence to send email messages
- Testing the email settings
- Troubleshooting


**Related pages:**

- The Mail Queue
- Setting Up a Mail Session for the Confluence Distribution

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

### Configuring Confluence to send email messages

**To configure Confluence to send outgoing mail:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Select **Mail Servers** under **Configuration** in the left-hand panel. This will list all currently configured SMTP servers.
3. Click **Add New SMTP Server** (or **edit** an existing server).
4. Edit the following fields as required:
   - **Name**: By default, this is simply 'SMTP Server'.
   - **From Address**: Enter the email address that will be displayed in the 'from' field for email messages originating from this server.
     This field is mandatory. You will not be able to complete the Confluence mail server configuration until this field has been specified.
   - **From Name**: Enter the name that will be displayed in the 'from' field for email messages originating from this server. This is the text which appears before the user's registered email address (in angled brackets).
     This field accepts the following variables, which reference specific details defined in the relevant Confluence user's profile:

| Variable | Description |
|---|---|
| ${fullname} | The user's full name. |
| ${email} | The user's email address. |
| ${email.hostname} | The domain/host name component of the user's email address. |

     The default is '`${fullname} (Confluence)`'.
     Hence, if Joe Bloggs made a change to a page he was watching and the Confluence site's 'From

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Address' was set to `confluence-administrator@example-company.com`, then the 'From' field in his email notification would be: `Joe Bloggs (Confluence) <confluence-administrator@example-company.com>`.
- **Subject Prefix**: Enter some text to appear at the beginning of the subject line.

5. Manually enter your **Host Address**, **User Name** and **Password** details (recommended)

   **OR**

   Specify the **JNDI location** of a mail session configured in your application server. For more information on how to set up a JNDI mail session, see Setting Up a Mail Session for the Confluence Distribution.

#### Testing the email settings

A Confluence administrator can test the email server as follows:

1. Set up a mail server at **Confluence Admin** > **Mail Servers**, as described above
2. Click **Send Test Email** to check that the server is working. Check that you get the test email in your inbox.
3. You can flush the email queue to send the email message immediately. Go to **Confluence Admin** > **Mail Queue**, and click **Flush Mail Queue**. See The Mail Queue.

A user can test that notifications are working as follows:

1. Go to your user profile (using the **Settings** link) and edit your email preferences. See Subscribing to Email Notifications of Updates to Confluence Content.
2. Enable **Notify On My Actions**. (By default, Confluence does not send you notifications for your own changes.)
3. Go to a page you wish to get notifications about.
4. Choose **Tools** > **Watch**. See Watching Pages, Spaces and Blogs.
5. Edit the page, make a change, and save the page.
6. Check your email inbox. You may need to wait a while for the email message to arrive.

#### 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: Please move (not copy) the two jar files from the `<Confluence-Install>/confluence/WEB-INF/lib` directory to `<confluence-install>/lib` and restart Confluence.

## Setting Up a Mail Session for the Confluence Distribution

Set up a mail session for the Confluence distribution to use Gmail as follows:

1. Stop Confluence.
2. Move (don't copy) activation-1.0.2.jar and mail-1.4.1.jar from <confluence-install>/confluence/WEB-INF/lib to <confluence-install>/lib.
   **Note:** The version numbers on these jar files may vary, but that should not matter. As of Confluence 5.2.3, activation-1.0.2.jar no longer exists, and does not need to be moved or downloaded
3. Add the following to your server.xml file found in <confluence-install>/conf/ (add it just before the </Context> tag):

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**For Confluence 3.5.x**

```
<Resource name="mail/GmailSMTPServer"
    auth="Container"
    type="javax.mail.Session"
    mail.smtp.host="smtp.gmail.com"
    mail.smtp.port="465"
    mail.smtp.auth="true"
    mail.smtp.user="yourEmailAddress@gmail.com"
    password="yourPassword"
    mail.smtp.starttls.enable="true"
    mail.transport.protocol="smtps"
    mail.smtp.socketFactory.class="javax.net.ssl.SSLSocketFactory"
/>
```

4. Restart Confluence.
5. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
6. Choose **Mail Servers**.
7. Choose either **Edit an existing configuration**, or **Add a new SMTP mail server**.
8. Edit the server settings as necessary, and set the **JNDI Location** as:

```
java:comp/env/mail/GmailSMTPServer
```

   Note that the JNDI Location is case sensitive and must match the resource name specified in server.xml.
9. Submit, and send a test email.

## Configuring the Recommended Updates Email Notification

Confluence sends a regular email report to subscribers, containing the top content that is relevant to the person receiving the message, from spaces they have permission to view. This is called the 'Recommended Updates' notification.

If you have Confluence Administrator or System Administrator permissions, you can configure the default settings that determine how often the Recommended Updates notification is sent. When new users are added to Confluence, the default settings will be applied to their user profiles.

Confluence users can choose their personal settings, which will override the defaults. See Subscribing to Email Notifications of Updates to Confluence Content.

#### Initial settings of the defaults

When you install Confluence, the initial values of the default settings are as follows:

- The default frequency is weekly.
- If your Confluence site has public signup enabled, the Recommended Updates notification is disabled by default. If public signup is not enabled, the notification is enabled by default.

You can change the above settings, specifying a different default value for the site.

**Notes:**

- The Recommended Updates notification is sent only to people who have a user profile in Confluence. If your Confluence site uses external user management, such as LDAP, then people will receive the report only after they have logged in for the first time. (The first login creates their user profile.)
- The daily email message is sent at 1 p.m. in the user's configured time zone.
- The weekly email message is sent at 1 p.m. on Thursdays in the user's configured time zone.

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**On this page:**


- Initial settings of the defaults
- Configuring the Recommended Updates notification
- Disabling the Recommended Updates notification for the entire site


**Related pages:**

- Subscribing to Email Notifications of Updates to Confluence Content
- Confluence Administrator's Guide

#### Configuring the Recommended Updates notification

You can set the the default send option (send / do not send) and the default schedule (daily or weekly).

**To configure the Recommended Updates email notification:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Click **Recommended Updates Email** in the left-hand panel.

#### Disabling the Recommended Updates notification for the entire site

You can also turn off the **recommended updates** notification for the entire site, by disabling the 'Confluence daily summary email' plugin. See Disabling and Enabling Add-ons.

## The Mail Queue

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

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

**To view the mail queue:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Mail Queue** in the left-hand panel. This will display the email messages currently in the queue.
3. Choose **Flush Mail Queue** to send all email messages immediately.
4. Choose **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 you can **Delete** them from here.

**Related pages:**

- Configuring a Server for Outgoing Mail
- Setting Up a Mail Session for the Confluence Distribution

*The information on this page does not apply to Confluence OnDemand.*

# Configuring Character Encoding

This page explains the encoding settings that are applicable in Confluence and how they relate to application behaviour.

To avoid problems with character encoding, make sure the encoding used across the different components of your system are the same. In general, **always set all character encodings to UTF-8**:

- Database – see Configuring Database Character Encoding. *Not applicable to Confluence OnDemand.*
- Application server – see Configuring URL Encoding on Tomcat Application Server. *Not applicable to Confluence OnDemand.*
- Confluence character encoding – described below.

#### Configuring the Confluence character encoding

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

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

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.

**To change the Confluence character encoding via the UI:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Enter the new character encoding of your choice in the text box next to **Encoding**.
5. Choose **Save**.

**Note:** At runtime, the character encoding is available in `Settings.defaultEncoding`.

### More details about character encoding

There are three places where 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.

In certain cases (for example, Microsoft Windows), it might not be possible to use a fully Unicode filesystem (that is, a default Windows installation does not support Unicode filenames properly). If so, keep 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.

**On this page:**


- Configuring the Confluence character encoding
- More details about character encoding
  - Java character encoding
  - Confluence character encoding
  - Database encoding
  - Filesystem encoding
- Problems with character encodings
- Notes


**Related pages:**

- Configuring Confluence
- Application Server Configuration *Not applicable to Confluence OnDemand.*
- Database Configuration *Not applicable to Confluence OnDemand.*
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Java character encoding

Java *always* uses the multibyte UTF-16 character encoding for all `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 UTF-16 format into some other format that the browser, filesystem or database might understand.

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So when a request comes in to Confluence, we convert it from the request encoding to UTF-16. Then we store that data into the database, converting from UTF-16 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.

*A `char` represents single Unicode code point from the Base Multilingual Plane (BMP), encoded as UTF-16. Multiple `chars` are used as surrogate pairs for characters beyond U+FFFF.

#### Confluence character encoding

The Confluence character encoding is 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 URLDecode. Different browsers have different support for character sets in URLs, so it's uncertain how much benefit this provides.

See Configuring Confluence Character Encoding (described above.)

#### Database encoding

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 UTF-16). 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 UTF-16 and vice-versa.

See Configuring Database Character Encoding.

#### Filesystem encoding

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 InputStreamWriter 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.

### 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

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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 page to render properly. Broken URLs when linking to pages or attachments with non-ASCII characters.

See Troubleshooting Character Encodings.

**Notes**

- 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.
- This is a good article by Joel Spolsky: The Absolute Minimum Every Software Developer Absolutely, Positively Must Know About Unicode and Character Sets (No Excuses!)

## 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.

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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

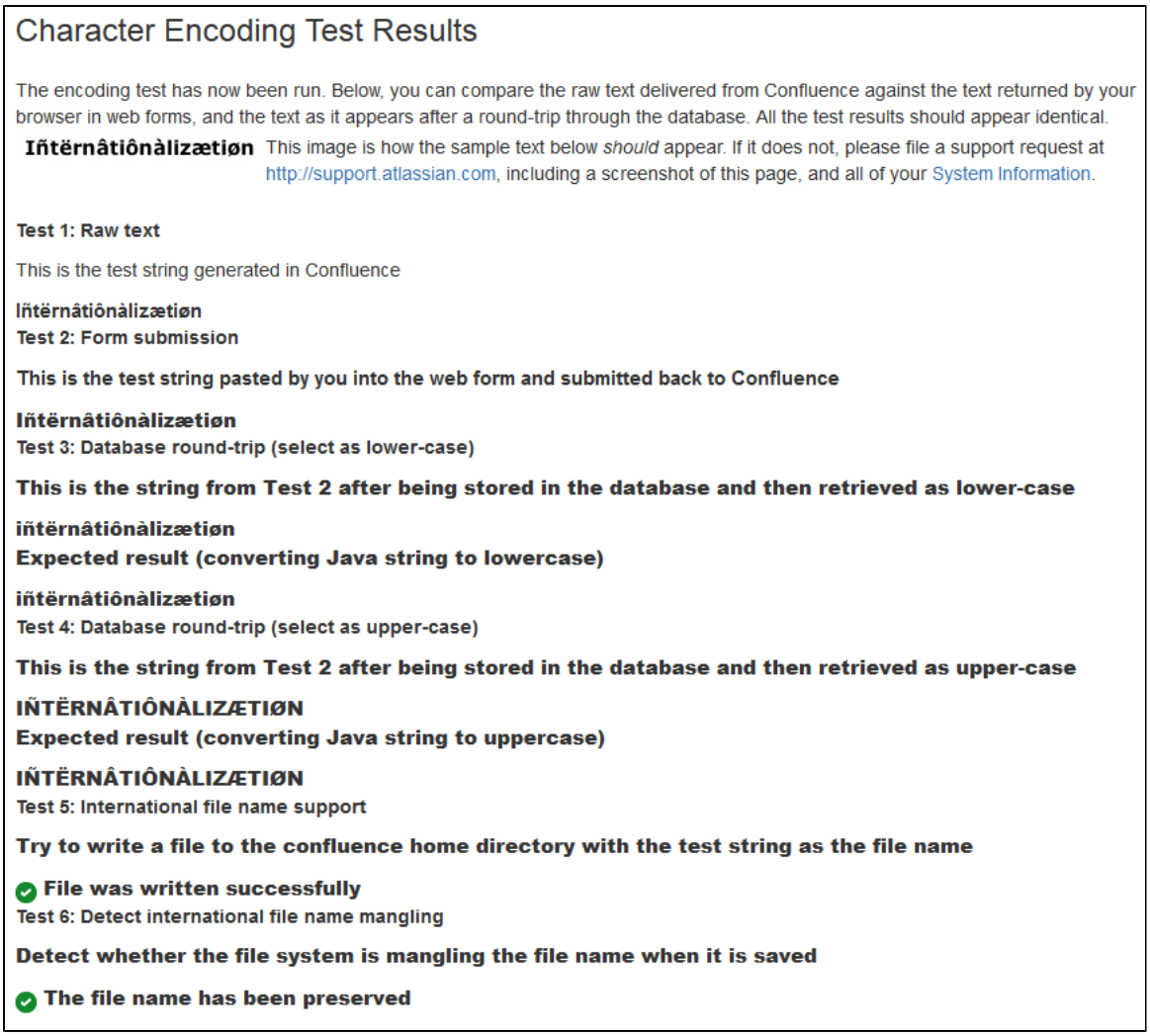
```
http://<host address>:<port>/admin/encodingtest.action
```

> ⊘ 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:

*Screenshot: Successful encoding test*

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**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 not displaying properly

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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.

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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.

Please ensure that you set the character encoding to UTF-8 for all the entities of your system as advised in this guide.

### 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

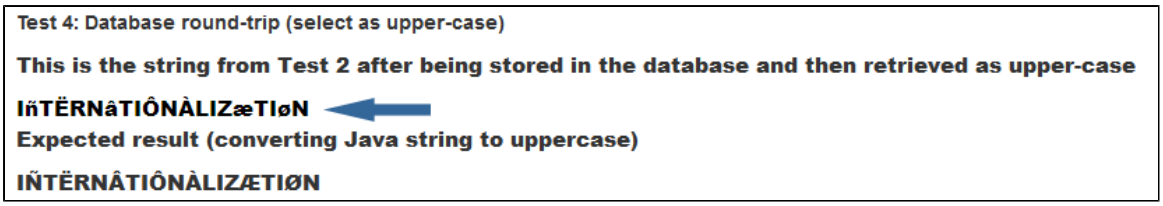
1. Follow the instructions for Troubleshooting Character Encodings.
2. If the upper- and lower-cased strings displayed on the Encoding Test are different, then your database is probably affected.

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

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*Screenshot: Encoding Test Output (excerpt)*

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**Solution**

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

## Other Settings


- Configuring a WebDAV client for Confluence
- Configuring HTTP Timeout Settings
- Configuring Number Formats
- Configuring Shortcut Links
- Configuring Time and Date Formats
- Enabling the Remote API
- Enabling Threaded Comments
- Enabling Trackback
- Installing a Language Pack
- Installing Patched Class Files


## Configuring a WebDAV client for Confluence

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.

#### Introduction to Confluence's WebDAV Client Integration

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**' screen in the Confluence Administration Console, 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.

**Note:**

- The 'WebDav Configuration' page is only be available if the WebDAV plugin has been enabled. 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.

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**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
- Using a WebDAV Client to Work with Pages
- Known Issues


**Related pages:**


- Global Permissions Overview
- Disabling and Enabling Add-ons
- Disabling or Enabling Confluence Add-ons
- Attachment Storage Configuration


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

```
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
```

**Note:** 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:**

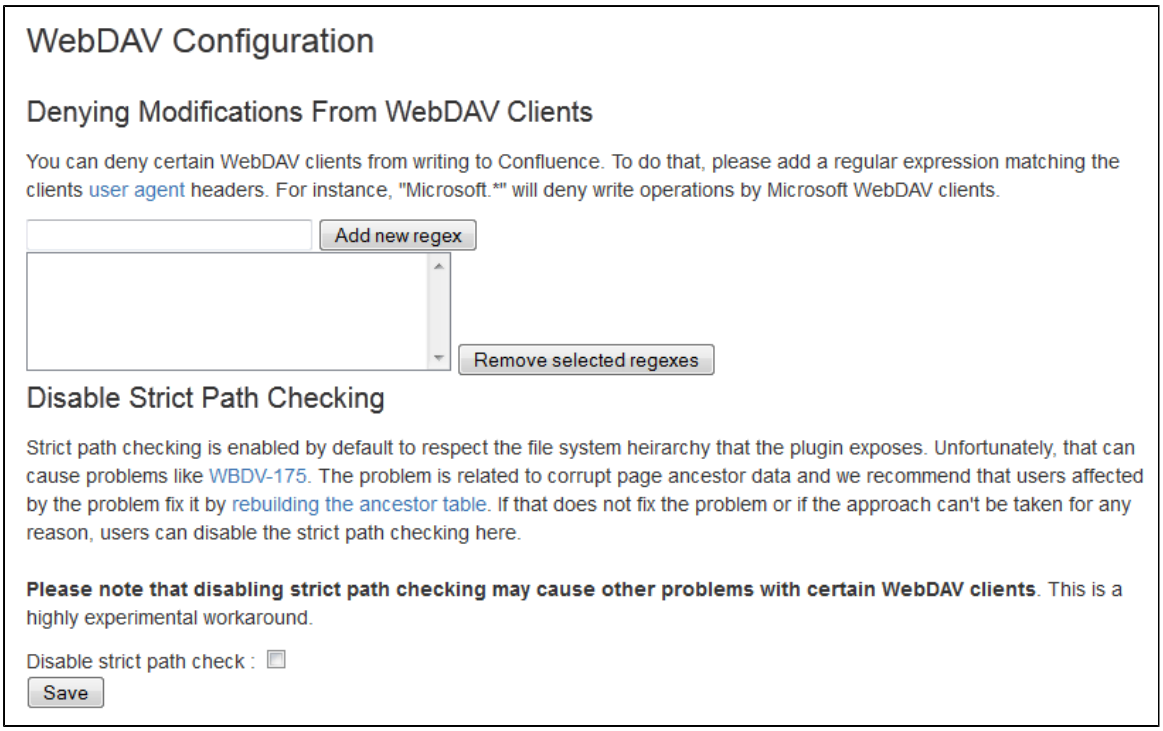
1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**WebDav Configuration**' in the left panel. The 'WebDAV Configuration' page is displayed.
3. Enter a regex that matches a specific component of the user agent header sent by the WebDAV client you want 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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
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.

*Screenshot: WebDAV configuration*

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#### 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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
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.
   You can re-enable this option at a later point in time by simply selecting this check box.
4. 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.

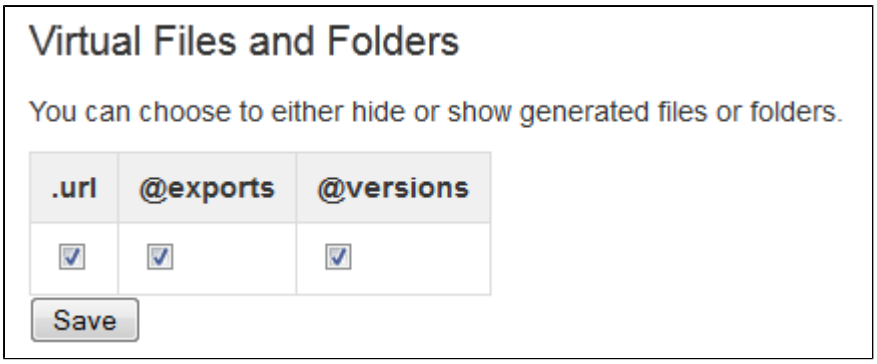
**Note:**

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*

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**To enable or disable access to virtual files and folders:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
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.

#### Using a WebDAV Client to Work with Pages

The following sections tell you how to 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, 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.

If you run into any problems with the procedures in this section, please refer to the Troubleshooting WebDAV pa ge.

###### 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 EAR / WAR installations, or 8090, the default for Confluence distributions)
- Has no context root
- There is an issue (WBDV-208) that can prevent Network Drives from being mapped. Please use the Network Folders steps below as a workaround.

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:

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- **Drive:** `<Any drive letter>` (for example, `Z:`)
- **Folder:** `\\<hostname>\webdav` (for example, `\\localhost\webdav`)

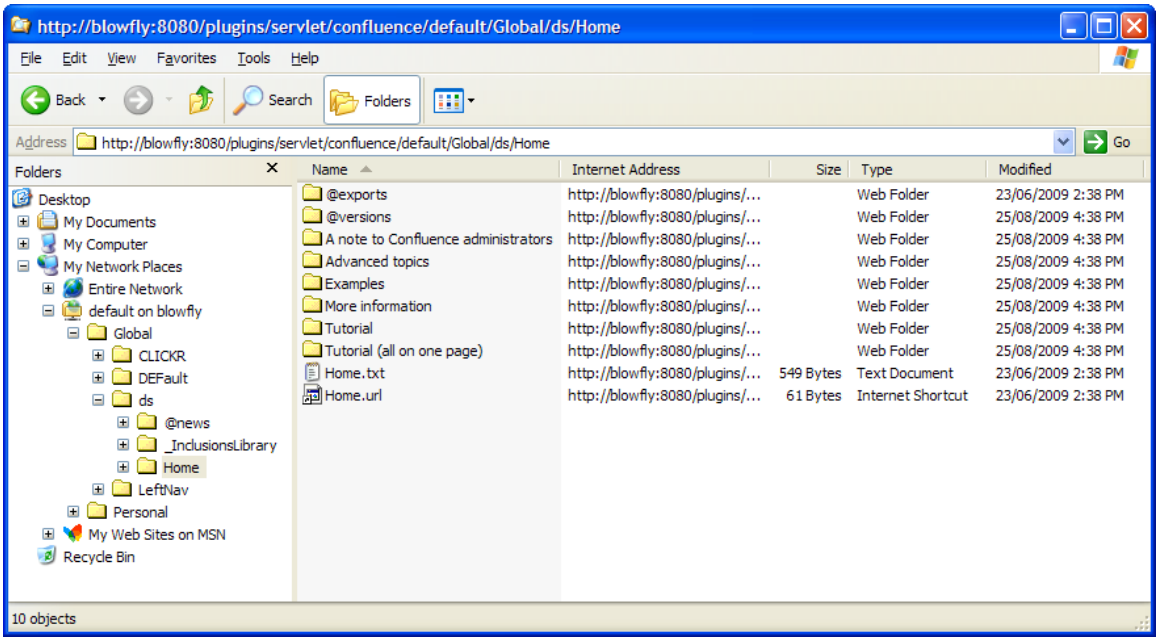
3. Click '**Finish**'.
   When prompted for login credentials, specify your Confluence username and password.

#### 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` 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 network location/web folder and proceed with the remainder of the wizard.
5. Click '**Finish**'.

#### *Setting up a WebDAV client in Linux or Solaris*

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.

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**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.

#### Known Issues

Please refer to the WebDAV plugin documentation for a description of the known issues and suggested workarounds.

#### *RELATED TOPICS*

- Configuring a WebDAV client for Confluence (Confluence Latest)
- Important Directories and Files (Confluence Latest)
- Attachment Storage Configuration (Confluence Latest)

Administrators Guide Home Confluence Documentation Home

## 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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
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:
   - **Adjust External connections enabled**: This setting allows system administrators to disable external connections so macros like the RSS Macro wont 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).

## Configuring Number Formats

There are two number format settings in Confluence:

- Long number format. For example: ###############
- Decimal number format. For example: ###############.##########

Confluence uses the guidelines in this Java document from Oracle: Class NumberFormat.

**To change the number formats in Confluence:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Update the **Long Number Format** and **Decimal Number Format** to suit your requirements.
5. Choose **Save**.

## Configuring Shortcut Links

Shortcut links provide a quick way of linking to resources that are frequently referenced from Confluence. When

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you create a shortcut link, you assign a key to an URL so that, when editing, a user can type just the key instead of the complete URL.

**Example: Creating a shortcut to Google**

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=`**`searchterms`**, they can just type `[`**`searchterms`**`@google]` instead.

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

| Key | Expanded Value | Default Alias | Operations |
|---|---|---|---|
| cache | http://www.google.com/search?q=cache: | | Remove |
| imdb | http://us.imdb.com/Title? | | Remove |
| jira | http://jira.atlassian.com/secure/QuickSearch.jspa?searchString= | JIRA Issue %s | Remove |
| googlegroups | http://groups.google.com/groups?q= | | Remove |
| google | http://www.google.com/search?q= | | Remove |
| dictionary | http://www.dict.org/bin/Dict?Database=*&Form=Dict1&Strategy=*&Query= | | Remove |

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

**On this page:**


- Creating shortcut links
- Using shortcut links
- Deleting shortcut links


**Related pages:**

- Working with Links
- Confluence Administrator's Guide

### Creating shortcut links

**To create a shortcut link:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Shortcut Links** in the left-hand panel.
3. Enter a **Key** for your shortcut. This is the shortcut name a user will use to reference the URL.
4. 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.
5. *(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'.
6. Choose **Submit**.

### Using shortcut links

Enter a shortcut link on the **Advanced** tab of the Insert Link dialog. See Linking to Pages for details.

Specify in the link what should be appended to 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:

| To link to... | Type this | Resulting URL | Demonstration |
|---|---|---|---|
| a JIRA issue | CONF-1000@JIRA | http://jira.atlassian.com/secure/QuickSearch.jspa?searchString=CONF-1000 | CONF-1000 |
| a Google search | Atlassian Confluence@Google | http://www.google.com/search?q=Atlassian+Confluence | Atlassian Confluence@Google |

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### Deleting shortcut links

Shortcut links are listed on the **Shortcut Links** tab of the Administration Console. Click **Remove** to delete the shortcut.

## Configuring Time and Date Formats

You can localise the formats that Confluence uses to display dates and times within the web interface. The settings use the syntax of Java's SimpleDateFormat class, as described in this document: Java 1.4.2 SimpleDateFormat API.

There are three time and date format settings:

- Time format: Used when displaying only the time of day. For example, when a blog post is published. Example of configuration: `h:mm a`
- Date time format: Used when displaying both the date and the time of day. For example, in historical versions of pages. Example of configuration: `MMM dd, yyyy HH:mm`
- Date format: Used when displaying only the date. For example, the creation and most recent modification dates of pages. Example of configuration: `MMM dd, yyyy`

**To change the time and date formats:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **General Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Enter the values for **Time Format**, **Date Time Format** and **Date Format**, to suit your requirements.
5. Choose **Save**.

**Related pages:**

- Choosing a Default Language *Not applicable to Confluence OnDemand.*
- Installing a Language Pack *Not applicable to Confluence OnDemand.*
- Confluence Administrator's Guide

## Enabling the Remote API

Confluence provides XML-RPC and SOAP remote APIs (application programming interfaces). You need to enable the APIs from the **Administration Console** before you can access Confluence remotely.

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

**To enable the remote API:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Click **General Configuration** in the left-hand panel.
3. Click **Edit**.
4. Click the check box next to **Remote API (XML-RPC & SOAP)**.
5. Click **Save**.

**Related pages:**

Confluence Remote API Reference

⚠ *The information on this page does not apply to Confluence OnDemand.*

## Enabling Threaded Comments

Comments on pages or blog posts 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. A Confluence Administrator (see Global Permissions

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Overview) can enable or disable the threaded view for the entire Confluence site.

**To enable or disable the threaded view:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Select **General Configuration** in the left-hand panel.
3. Click **Edit**.
4. Check **Threaded Comments** to enable threaded mode. Clear the check box to disable threaded mode and display all comments in flat mode.
5. Click **Save**.

**Related pages:**

- Commenting on pages and blog posts
- Confluence Administrator's Guide

## 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. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Select '**General Configuration**' in the left panel.
3. In the '**Feature Settings**' screen, click '**Edit**'.
4. Select "**On**' beside '**Trackback**' and click '**Save**'.

## Installing a Language Pack

Confluence ships with a number of bundled language packs. These languages appear as options on the 'Language Configuration' screen in the Administration Console when choosing a default language and as 'Language' options for users in their user settings. You can make additional languages available for selection by installing language packs. Please note, you must be a Confluence administrator to install a language pack.

Language packs are plugins. The process of installing a language pack is the same as installing a new plugin.

**Related pages:**

- Choosing a Default Language
- Configuring Indexing Language
- Installing Add-ons

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Installing a Language Pack using the Universal Plugin Manager

**To install a language pack using the Universal Plugin Manager:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Find New Add-ons** in the left-hand panel.
3. Find the language pack on the Atlassian Marketplace.
4. Choose **Install** to install the language pack.

#### Installing a Language Pack Manually

To install a language pack manually, you will need to upload the language pack plugin as described below. The language pack plugin will be enabled by default once you have installed it.

Plugins are distributed as JAR or OBR (OSGi Bundle Repository) files. To install a plugin:

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1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Manage Add-ons**.
3. Choose **Upload Plugin**.
4. Choose **Browse** to find the plugin file you wish to install from your hard drive and select it, or enter a network location by URL.
5. Choose **Upload**.
   The plugin will be uploaded to Confluence and will be automatically installed.
6. Check the list of user-installed plugins to ensure that the add-on is available.
7. 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 'Manage Add-ons' page.)

#### Finding more Language Packs

- You can download official language packs from the Atlassian Marketplace. You can also download language packs developed by the Confluence user community from the Language Pack Translations page.

#### Showing User Interface Key Names for Translation

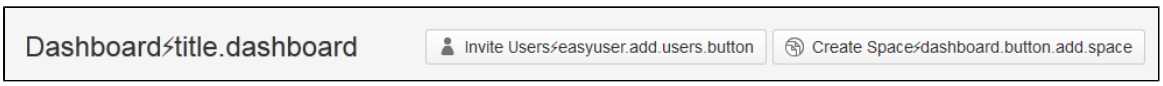
This feature is useful if you are working on creating translations of the Confluence user interface. After opening the Confluence dashboard, you can add this text to the end of your Confluence URL:

```
?i18ntranslate=on
```

Then press Enter.

This will cause each element of the user interface to display its special **key name**. This makes it easier to find the context for each key within the user interface. You can then search for the key on http://translations.atlassian.com where you can enter an appropriate translation for your custom language pack.

The key names are displayed with a 'lightning bolt' graphic. For example:




To turn off the translation view, add this code to the end of the Confluence URL:

```
?i18ntranslate=off
```

## 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Installation Instructions for the Confluence Distribution

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

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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.

#### Reverting the patch

To revert the patch, simply remove the class files from the `<installation-directory>/confluence/WEB-INF/classes/` folder (taking care to only remove those that apply to the patch you wish to revert), then restart the instance.

Once the issue that the patch relates to is resolved, you should upgrade to the version of Confluence that contains the fix, and revert the patch. Patches are often naive and untested and may not solve the problem in the most efficient way. As such, an official fix should be preferred in all cases.

***RELATED TOPICS***

How to Edit Files in Confluence JAR Files

Administrators Guide Home Confluence Documentation Home

## Configuring System Properties

This page describes how to set Java properties and options on startup for Confluence Stand-alone and EAR/WAR versions.

See How to Fix Out of Memory Errors by Increasing Available Memory for specific instructions for OutOfMemory Errors.

**On this page:**


- Linux
- Windows (starting from .bat file)
- Windows Service
  - Setting Properties for Windows Services via Command Line
  - Setting Properties for Windows Services via the Windows Registry
- Verifying Your Settings
- Recognised System Properties
  - RELATED TOPICS


*The information on this page does not apply to Confluence OnDemand.*

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### Linux

**To Configure System Properties in Linux Installations,**

1. From `<confluence-install>/bin` (Stand-alone) or `<Tomcat-home>/bin` (EAR-WAR installation), open **setenv.sh**.
2. Find the section **JAVA_OPTS=**
3. Refer to the list of parameters below.

Add all parameters in a space-separated list, inside the quotations.

### Windows (starting from .bat file)

**To Configure System Properties in Windows Installations When Starting from the .bat File,**

1. From `<confluence-install>/bin` (Stand-alone) or `<Tomcat-home>/bin` (EAR-WAR installation), open **setenv.bat**.
2. Find the section **set JAVA_OPTS=%JAVA_OPTS%**
3. Refer to the list of parameters below.

Add all parameters in a space-separated list. Make sure to keep the string %JAVA_OPTS% in place.

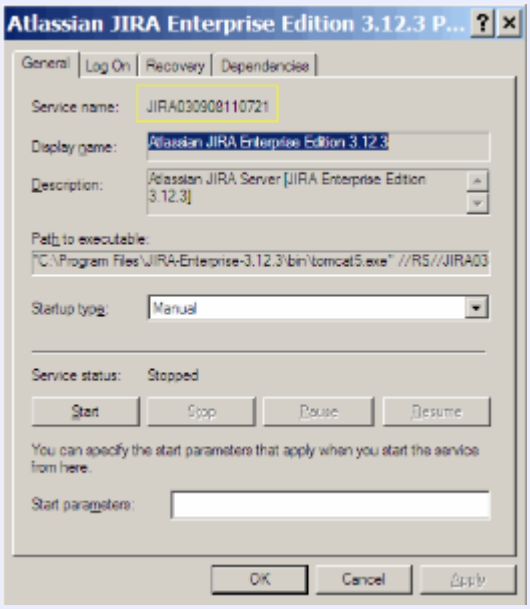
### Windows Service

There are two ways to configure system properties when you Start Confluence Automatically on Windows as a Service, either via command line or in the Windows Registry

#### Setting Properties for Windows Services via Command Line

**Setting Properties for Windows Services via Command Line**

1. Identify the name of the service that Confluence is installed as in Windows ( `Control Panel > Administrative Tools > Services` ):




In the above example, the **SERVICENAME** is: `JIRA030908110721`. Find the Confluence equivalent.

2. Open the command window from `Start >> Run >> type in 'cmd' >> Enter`
3. `cd` to the `bin` directory of your Confluence instance, or the `bin` directory of your Tomcat installation if your are running Confluence EAR/WAR.

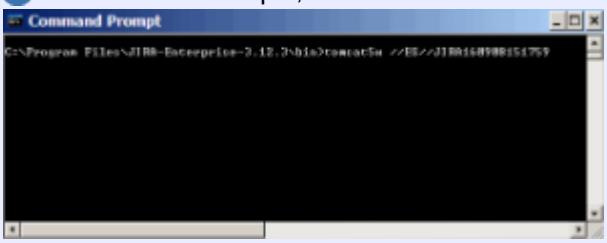
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4. Run:

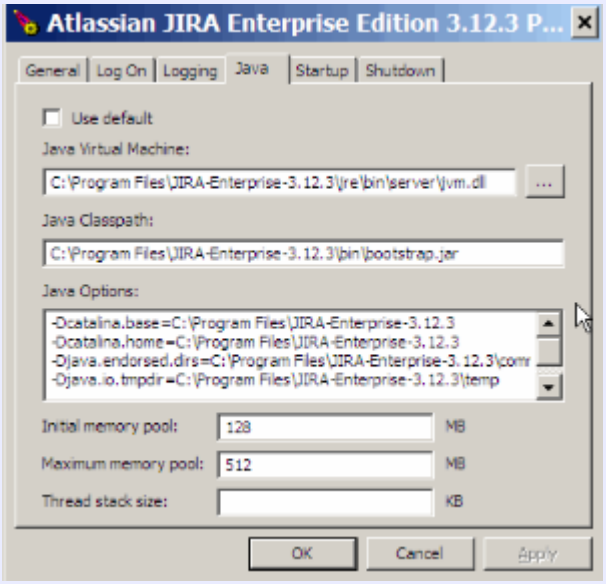
```
tomcat6w //ES//%SERVICENAME%
```

.

In the above example, it would be `tomcat6w //ES//JIRA030908110721`




5. Click on the `Java` tab to see the list of current start-up options:




6. Append any new option on its own new line by adding to the end of the existing Java Options. Refer to the list of parameters below.

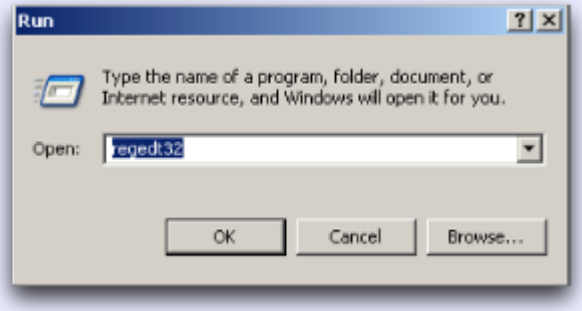
### Setting Properties for Windows Services via the Windows Registry

In some versions of Windows, there is no option to add Java variables to the service. In these cases, you must add the properties by viewing the option list in the registry.

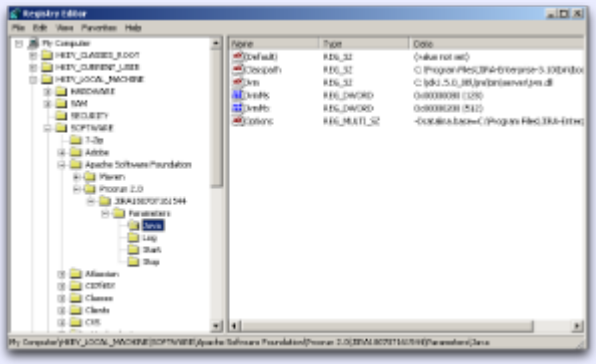
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**To Set Properties for Windows Services via the Windows Registry,**

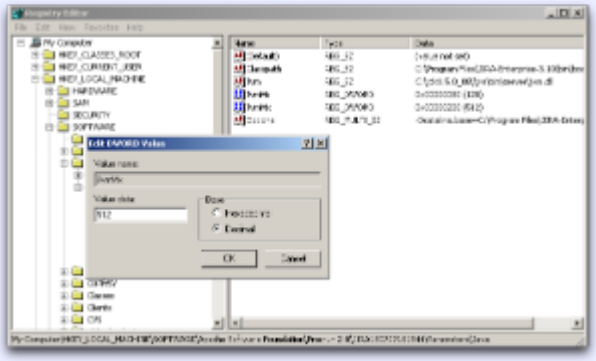
1. Go to `Start >> Run`, and run "regedit32.exe".



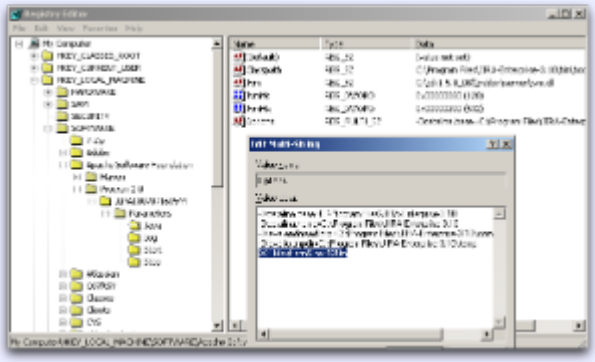

2. Find the Services entry:
   **32-bit**: `HKEY_LOCAL_MACHINE >> SOFTWARE >> Apache Software Foundation >> Procrun 2.0 >> Confluence`
   **64-bit**: `HKEY_LOCAL_MACHINE >> SOFTWARE >> Wow6432Node >> Apache Software Foundation >> Procrun 2.0 >> Confluence`



3. To change existing properties, especially increasing Xmx memory, double-click the appropriate value.



4. To change additional properties, double-click options.



5. Refer to the list of parameters below. Enter each on a separate line.

## Verifying Your Settings

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

### Recognised System Properties

| Property | Since | Default Value | Module... | Effect |
|---|---|---|---|---|
| `atlassian.forceSchemaUpdate` | 1.0 | `false` | atlassian-config | 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. |
| `confluence.home` | 1.0 | Any filesystem path | Confluence and atlassian-config | 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. |
| `confluence.devmode` | 1.0 | `false` | Confluence | Enables additional debugging options that may be of use to Confluence developers (additionally it changes spring bean creation to use lazy initialization by default to decrease startup time). Do not enable this flag on a production system. |
| `confluence.disable.mailpolling` | 2.4 | `false` | Confluence | If set to "true", will prevent Confluence from retrieving mail for archiving within spaces. Manually triggering "check for new mail" via the web UI will still work. This property has no effect on outgoing mail |

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| | | | | |
|---|---|---|---|---|
| `confluence.i18n.reloadbundles` | 1.0 | `true` | Confluence | 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 *insanely slowly*. |
| `confluence.ignore.debug.logging` | 1.0 | `true` | Confluence | 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. |
| `confluence.jmx.disabled` | 3.0 | `false` | Confluence | If set to "true", will disable Confluence's JMX monitoring. This has the same effect as setting the "enabled" property to false in `WEB-INF/classes/jmxContext.xml` |
| `confluence.optimize.index.modulo` | 2.2 | `20` | Confluence | Number of index queue flushes before the index is optimised. |

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| | | | | |
|---|---|---|---|---|
| confluence.plugins.bundled.disable | 2.9 | false | Confluence | 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. |
| atlassian.mail.fetchdisabled | 3.5 | false | Confluence | Disables mail fetching services for IMAP and POP |
| atlassian.mail.senddisabled | 3.5 | false | Confluence and atlassian-mail | Disables sending of mail |
| atlassian.disable.caches | 2.4 | true | atlassian-plugins, atlassian-cache-servlet | 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 devlopment if you are frequently changing static resources and don't want to continually flush your browser cache. |
| confluence.html.encode.automatic | 2.9 | | Confluence | Setting this property forces the antixss encoding on or off, overriding the behaviour dictated by settings. The default behaviour differs between Confluence versions. |

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| | | | | |
|---|---|---|---|---|
| `org.osgi.framework.bootdelegation` | 2.10 | empty | atlassian-plugins | Comma-separated list of package names to provide from application for OSGi plugins. Typically required when profiling Confluence. For example: "com.jprofiler.**,com.yourkit.**". |
| `confluence.diff.pool.size` | 3.1 | `20` | Confluence | Maximum number of concurrent diffs. When that number is exceeded, additional attempts by RSS feeds to create diffs are ignored and logged. (The RSS requests succeed, they are just missing diffs). |
| `confluence.diff.timeout` | 3.1 | `1000` | Confluence | Number of milliseconds to wait for a diff operation (comparing two page versions) to complete before aborting with an error message. |
| `confluence.html.diff.timeout` | 4.0 | `10000` | Confluence | Number of milliseconds to wait for a diff operation (comparing two page versions) to complete before aborting with an error message. |

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| | | | | |
|---|---|---|---|---|
| `atlassian.user.experimentalMapping` | 2.10 | `false` | Confluence | Setting this property changes the relationship between local users and local groups to reduce performance degradation when adding a local user to a local group with a large number of users. Please note, setting this property can slow down other user management functions. We recommend that you set it only if you are experiencing performance problems when adding local users to large local groups. Please refer to CONF-12319, fixed in Confluence 3.1.1. |
| `confluence.import.use-experimental-importer` | 3.2 | `false` | Confluence | Setting this property changes Confluence to use the Experimental XML Importer. It is designed to be a more stable implementation but, at the time of the release of 3.2, the importer is largely untested and thus not supported. |
| `atlassian.webresource.disable.minification` | 3.3 | `false` | atlassian-plugins | Disables automatic minification of JavaScript and CSS resources served by Confluence. |

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| | | | | |
|---|---|---|---|---|
| `index.queue.thread.count` | 3.3 | *See "Effect"* | Confluence | Sets the number of threads to be used for the reindex job. The value has to be in the range of 1 to 10 (inclusive), i.e. at least one thread but no more than 10 threads will be used. There is no default value, i.e.<br>• If you don't set `index.queue.thread.count`, the number of threads to be used are calculated based on the number of objects that need to be reindexed and the number of processors available (a maximum of 10 threads will be used).<br>• If you set `index.queue.thread.count=2`, then two threads will be used to reindex the content (regardless of the number of objects to be reindexed or the number of processors available)<br>• If you set `index.queue.thread.count=200`, then ten threads (the maximum allowed) will be used to reindex the content. |

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| | | | | |
|---|---|---|---|---|
| `index.queue.batch.size` | 3.3 | 1500 | Confluence | Size of batches used by the indexer. Reducing this value will reduce the load that the indexer puts on the system, but indexing takes longer. Increasing this value will cause indexing to be completed faster, but puts a higher load on the system. Normally this setting does not need tuning. |
| `password.confirmation.disabled` | 3.4 | `false` | Confluence | This property disables the password confirmation functionality that Confluence uses as an additional security measure. With this property set, Confluence will *not* require password confirmation for the following actions: administrative actions, change of email address and Captcha for failed logins. Disabling password confirmations is useful if you are using a custom authenticator. |

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| | | | | |
|---|---|---|---|---|
| confluence.browser.language.enabled | 3.5 | true | Confluence | Setting this property to "false" disables the detection of browser language headers, effectively restoring Confluence behaviour to that of earlier releases. Setting this property to "true" enables the detection of the language headers sent by the browser. Confluenc will change the UI language based on the browser headers. See documentation on how users can choose a language preference. |
| upm.pac.disable | Universal Plugin Manager 1.5 | false | Universal Plugin Manager (UPM) | When this property is set to true, then UPM will not try to access the Atlassian Plugin Exchange. This is useful for application servers that do not have access to the Internet. See the UPM documentation. |
| confluence.reindex.documents.to.pop | 3.5.9 | 20 | Confluence | Indicates how many objects each indexing thread should process at a time during a full re-index. Please note that this number does not include attachments |
| confluence.reindex.attachments.to.pop | 3.5.9 | 10 | Confluence | Indicates how many attachments each indexing thread should process at a time during a full re-index. |

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| | | | | |
|---|---|---|---|---|
| `confluence.upgrade.active.directory` | 3.5.11 | `false` | Confluence | Forces Confluence to treat any LDAP directories it migrates as Active Directory, rather than relying on looking for sAMAccountName in the username attribute. This is necessary if you are upgrading from before Confluence 3.5, and need to use an attribute other than sAMAccountName to identify your users and are seeing `LDAP: error code 4 - Sizelimit Exceeded` exceptions in your logs. For more details, see Unable to Log In with Confluence 3.5 or Later Due to 'LDAP error code 4 - Sizelimit Exceeded' |
| `confluence.context.batching.disable` | 4.0 | `false` | Confluence | Disables batching for web resources in contexts (e.g. editor, main, admin). Useful for diagnosing the source of javascript or CSS errors. |
| `com.atlassian.logout.disable.session.invalidation` | 4.0 | `false` | Confluence | Disables the session invalidation on log out. As of 4.0 the default behaviour is to invalidate the JSession assigned to a client when they log out. If this is set to true the session is kept active (but the user logged out). This may be valuable when using external authentication systems, but should generally not be needed. |

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| | | | | |
|---|---|---|---|---|
| `officeconnector.spreadsheet.xlsxmaxsize` | 4.0.5 | $2^{21}$ | Office Connector | Indicates the maximum size in bytes of an Excel file that can be viewed using the `viewxls` macro. If empty, the maximum size defaults to 2Mb. See CONF-21043 for more details. |
| `com.atlassian.confluence.extra.calendar3.display.events.calendar.maxpercalendar` | | 200 | Team Calendars | Specifies the maximum number of events per calendar. This property is effective only if the Team Calendars plugin is installed on your Confluence site. |
| `com.atlassian.confluence.allow.downgrade` | 4.3.2, 5.0-OD-10 | `false` | Confluence | Allows Confluence to start up against the home directory of a newer version of Confluence. Note that running Confluence like that is unsupported. You should only turn this on if you know what you are doing. See After Downgrading, Confluence Will No Longer Run for details. |

**RELATED TOPICS**

Recognised System Properties
How to Fix Out of Memory Errors by Increasing Available Memory

## Recognised System Properties

Confluence supports some 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. See the full instructions: Configuring System Properties.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

| Property | Since | Default Value | Module... | Effect |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| `atlassian.forceSchemaUpdate` | 1.0 | `false` | atlassian-config | 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. |
| `confluence.home` | 1.0 | Any filesystem path | Confluence and atlassian-config | 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. |
| `confluence.devmode` | 1.0 | `false` | Confluence | Enables additional debugging options that may be of use to Confluence developers (additionally it changes spring bean creation to use lazy initialization by default to decrease startup time). Do not enable this flag on a production system. |
| `confluence.disable.mailpolling` | 2.4 | `false` | Confluence | If set to "true", will prevent Confluence from retrieving mail for archiving within spaces. Manually triggering "check for new mail" via the web UI will still work. This property has no effect on outgoing mail |

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| | | | | |
|---|---|---|---|---|
| `confluence.i18n.reloadbundles` | 1.0 | `true` | Confluence | 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 *insanely slowly*. |
| `confluence.ignore.debug.logging` | 1.0 | `true` | Confluence | 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. |
| `confluence.jmx.disabled` | 3.0 | `false` | Confluence | If set to "true", will disable Confluence's JMX monitoring. This has the same effect as setting the "enabled" property to false in `WEB-INF/classes/jmxContext.xml` |
| `confluence.optimize.index.modulo` | 2.2 | `20` | Confluence | Number of index queue flushes before the index is optimised. |

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| | | | | |
|---|---|---|---|---|
| confluence.plugins.bundled.disable | 2.9 | false | Confluence | 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. |
| atlassian.mail.fetchdisabled | 3.5 | false | Confluence | Disables mail fetching services for IMAP and POP |
| atlassian.mail.senddisabled | 3.5 | false | Confluence and atlassian-mail | Disables sending of mail |
| atlassian.disable.caches | 2.4 | true | atlassian-plugins, atlassian-cache-servlet | 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 devlopment if you are frequently changing static resources and don't want to continually flush your browser cache. |
| confluence.html.encode.automatic | 2.9 | | Confluence | Setting this property forces the antixss encoding on or off, overriding the behaviour dictated by settings. The default behaviour differs between Confluence versions. |

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| | | | | |
|---|---|---|---|---|
| `org.osgi.framework.bootdelegation` | 2.10 | empty | atlassian-plugins | Comma-separated list of package names to provide from application for OSGi plugins. Typically required when profiling Confluence. For example: "com.jprofiler.**,com.yourkit.**". |
| `confluence.diff.pool.size` | 3.1 | `20` | Confluence | Maximum number of concurrent diffs. When that number is exceeded, additional attempts by RSS feeds to create diffs are ignored and logged. (The RSS requests succeed, they are just missing diffs). |
| `confluence.diff.timeout` | 3.1 | `1000` | Confluence | Number of milliseconds to wait for a diff operation (comparing two page versions) to complete before aborting with an error message. |
| `confluence.html.diff.timeout` | 4.0 | `10000` | Confluence | Number of milliseconds to wait for a diff operation (comparing two page versions) to complete before aborting with an error message. |

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| | | | | |
|---|---|---|---|---|
| `atlassian.user.experimentalMapping` | 2.10 | `false` | Confluence | Setting this property changes the relationship between local users and local groups to reduce performance degradation when adding a local user to a local group with a large number of users. Please note, setting this property can slow down other user management functions. We recommend that you set it only if you are experiencing performance problems when adding local users to large local groups. Please refer to CONF-12319, fixed in Confluence 3.1.1. |
| `confluence.import.use-experimental-importer` | 3.2 | `false` | Confluence | Setting this property changes Confluence to use the Experimental XML Importer. It is designed to be a more stable implementation but, at the time of the release of 3.2, the importer is largely untested and thus not supported. |
| `atlassian.webresource.disable.minification` | 3.3 | `false` | atlassian-plugins | Disables automatic minification of JavaScript and CSS resources served by Confluence. |

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| | | | | |
|---|---|---|---|---|
| `index.queue.thread.count` | 3.3 | *See "Effect"* | Confluence | Sets the number of threads to be used for the reindex job. The value has to be in the range of 1 to 10 (inclusive), i.e. at least one thread but no more than 10 threads will be used. There is no default value, i.e.<br>• If you don't set `index.queue.thread.count`, the number of threads to be used are calculated based on the number of objects that need to be reindexed and the number of processors available (a maximum of 10 threads will be used).<br>• If you set `index.queue.thread.count=2`, then two threads will be used to reindex the content (regardless of the number of objects to be reindexed or the number of processors available)<br>• If you set `index.queue.thread.count=200`, then ten threads (the maximum allowed) will be used to reindex the content. |

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| | | | | |
|---|---|---|---|---|
| `index.queue.batch.size` | 3.3 | 1500 | Confluence | Size of batches used by the indexer. Reducing this value will reduce the load that the indexer puts on the system, but indexing takes longer. Increasing this value will cause indexing to be completed faster, but puts a higher load on the system. Normally this setting does not need tuning. |
| `password.confirmation.disabled` | 3.4 | `false` | Confluence | This property disables the password confirmation functionality that Confluence uses as an additional security measure. With this property set, Confluence will *not* require password confirmation for the following actions: administrative actions, change of email address and Captcha for failed logins. Disabling password confirmations is useful if you are using a custom authenticator. |

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| | | | | |
|---|---|---|---|---|
| confluence.browser.language.enabled | 3.5 | true | Confluence | Setting this property to "false" disables the detection of browser language headers, effectively restoring Confluence behaviour to that of earlier releases. Setting this property to "true" enables the detection of the language headers sent by the browser. Confluenc will change the UI language based on the browser headers. See documentation on how users can choose a language preference. |
| upm.pac.disable | Universal Plugin Manager 1.5 | false | Universal Plugin Manager (UPM) | When this property is set to true, then UPM will not try to access the Atlassian Plugin Exchange. This is useful for application servers that do not have access to the Internet. See the UPM documentation. |
| confluence.reindex.documents.to.pop | 3.5.9 | 20 | Confluence | Indicates how many objects each indexing thread should process at a time during a full re-index. Please note that this number does not include attachments |
| confluence.reindex.attachments.to.pop | 3.5.9 | 10 | Confluence | Indicates how many attachments each indexing thread should process at a time during a full re-index. |

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| | | | | |
|---|---|---|---|---|
| `confluence.upgrade.active.directory` | 3.5.11 | `false` | Confluence | Forces Confluence to treat any LDAP directories it migrates as Active Directory, rather than relying on looking for sAMAccountName in the username attribute. This is necessary if you are upgrading from before Confluence 3.5, and need to use an attribute other than sAMAccountName to identify your users and are seeing `LDAP: error code 4 - Sizelimit Exceeded` exceptions in your logs. For more details, see Unable to Log In with Confluence 3.5 or Later Due to 'LDAP error code 4 - Sizelimit Exceeded' |
| `confluence.context.batching.disable` | 4.0 | `false` | Confluence | Disables batching for web resources in contexts (e.g. editor, main, admin). Useful for diagnosing the source of javascript or CSS errors. |
| `com.atlassian.logout.disable.session.invalidation` | 4.0 | `false` | Confluence | Disables the session invalidation on log out. As of 4.0 the default behaviour is to invalidate the JSession assigned to a client when they log out. If this is set to true the session is kept active (but the user logged out). This may be valuable when using external authentication systems, but should generally not be needed. |

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| | | | | |
|---|---|---|---|---|
| officeconnector.spreadsheet.xlsxmaxsize | 4.0.5 | $2^{21}$ | Office Connector | Indicates the maximum size in bytes of an Excel file that can be viewed using the viewxls macro. If empty, the maximum size defaults to 2Mb. See CONF-21043 for more details. |
| com.atlassian.confluence.extra.calendar3.display.events.calendar.maxpercalendar | | 200 | Team Calendars | Specifies the maximum number of events per calendar. This property is effective only if the Team Calendars plugin is installed on your Confluence site. |
| com.atlassian.confluence.allow.downgrade | 4.3.2, 5.0-OD-10 | false | Confluence | Allows Confluence to start up against the home directory of a newer version of Confluence. Note that running Confluence like that is unsupported. You should only turn this on if you know what you are doing. See After Downgrading, Confluence Will No Longer Run for details. |

***RELATED TOPICS***

Configuring System Properties

## Working with Confluence Logs

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.

If you request help from Atlassian Support, we will almost always ask for the `atlassian-confluence.log` from the `confluence-home/logs` directory. You can access the logs from the Confluence Administration Console, via the support tool. If you cannot access the Confluence Administration Console, check the properties file at `<confluence-installation>/confluence/WEB-INF/classes/confluence-init.properties`, look for the `confluence.home` setting in that file, then find the logs in the Confluence home directory.

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**On this page:**


- Finding the Confluence Log Files
- Finding the Log Configuration File
- Changing the Destination of the Log Files
- Changing the Logging Levels
- Using Some Specific Confluence Logging Options
- Scanning Log Files for Known Problems
- Notes


*The information on this page does not apply to Confluence OnDemand.*

## Finding the Confluence Log Files

This section describes Confluence's default logging behaviour, assuming that you have not changed the destination of the logs. In order to unify logging across different application servers, Confluence uses the `atlassian-confluence.log` as its primary log, not the application server log.

Both the Confluence and Confluence 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 log in the Confluence home directory as 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 the Confluence **home directory**, not the application server's log file. The home directory is specified in `<confluence-installation>/confluence/WEB-INF/classes/confluence-init.properties`.

## 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, 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
  - MaxBackupIndex
- `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.

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### 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.

### Scanning Log Files for Known Problems

Confluence provides an inbuilt log scanner that will check your Confluence logs for errors and attempt to match them against known issues in our knowledge base and bug tracker. See Troubleshooting Problems and Requesting Technical Support.

### Notes

- **Finding the 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
Troubleshooting Problems and Requesting Technical Support

Administrators Guide Home Confluence Documentation Home

## 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. In some rare circumstances you may *also* need to configure the logging.properties file.

**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`.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

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#### 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 logging properties file instead.

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

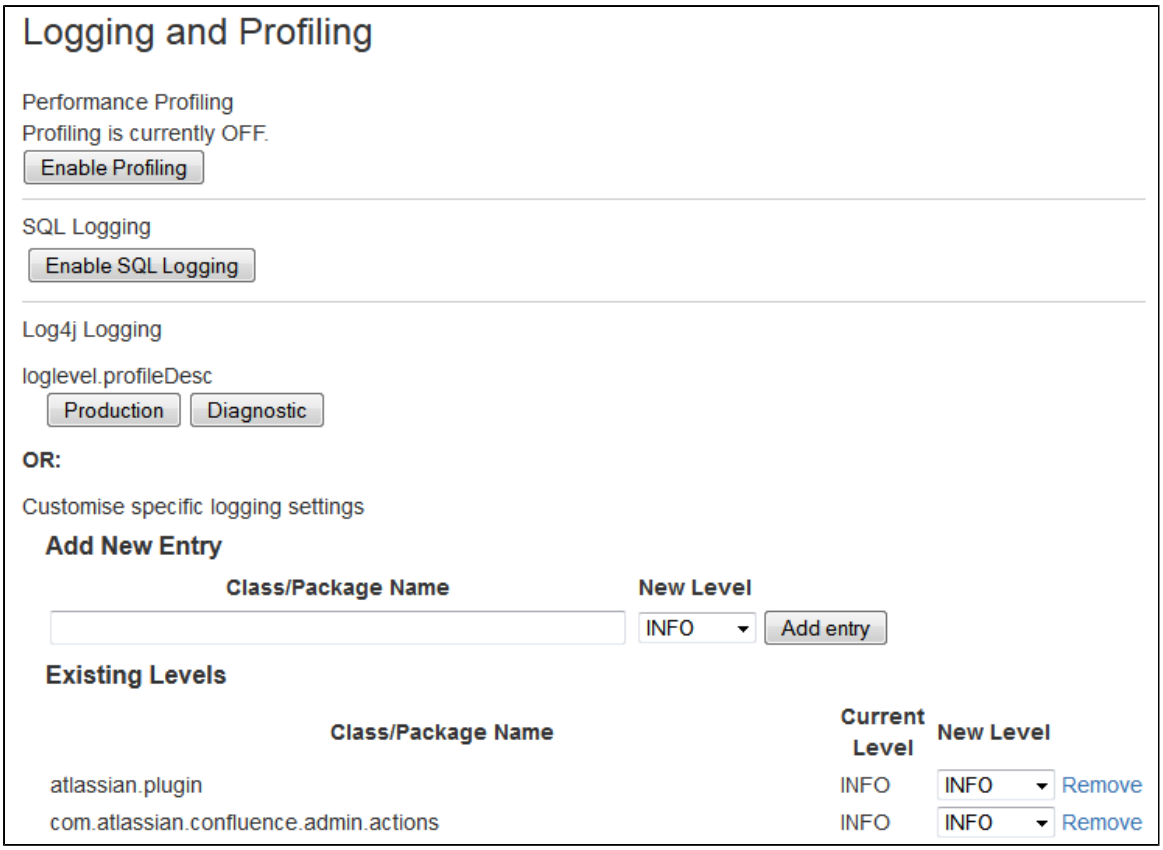
- Turn page profiling on or off.
- Turn detailed SQL logging on or off.
- Add a new logger for a class/package name.
- Remove a logger for a class/package name.
- Set the logging level (INFO, WARN, FATAL, ERROR or DEBUG) for each class or package name.
- Reset all logging levels to a predefined profile.

Changing the logging configuration

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select '**Logging and 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 '**Logging and 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:
     - The '**Production**' profile is a fairly standard profile, recommended for normal production conditions.
     - The '**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*

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#### 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.

#### Configuring Levels for java.util.logging in logging.properties

A few libraries used by Confluence use java.util.logging rather than log4j or slf4j. These libraries include:

- com.sun.jersey
- org.apache.shindig
- net.sf.ehcache

Confluence's `logging.properties` file is set to redirect java.util.logging at specific levels to log4j via slf4j.

To increase logging levels for these libraries you must first configure the `logging.properties` file in `<CONFLUENCE-INSTALL>/confluence/WEB-INF/classes/`. The logging levels are different from log4j and are listed here.
For example, to increase logging for shindig change the following line in the `logging.properties` file:

```
org.apache.shindig.level = INFO
```

to

```
org.apache.shindig.level = FINE
```

And then use one of the methods above **as well** to configure the log4j level.

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## 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.

*The information on this page does not apply to Confluence OnDemand.*

### 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

## 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:

```
org.springframework.dao.DataIntegrityViolationException: (HibernateTemplate): data
integrity violated by SQL ''; nested exception is java.sql.BatchUpdateException:
Duplicate entry '1234' for key 1
 at
org.springframework.jdbc.support.SQLStateSQLExceptionTranslator.translate(SQLStateS
QLExceptionTranslator.java:88)
caused by: java.sql.BatchUpdateException: Duplicate entry '1234' for key 1
 at
com.mysql.jdbc.ServerPreparedStatement.executeBatch(ServerPreparedStatement.java:64
7)
```

or

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```
(HibernateTemplate): data integrity violated by SQL ''; nested exception is
java.sql.BatchUpdateException: ORA-00001: unique constraint
(CONFLUENCE.SYS_C0012345) violated
```

This document outlines the steps to take to increasing 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

## log hibernate prepared statement parameter values
#log4j.logger.net.sf.hibernate.type=DEBUG
```

   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.
6. Open `confluence/WEB-INF/classes/log4j.properties` again and remove the 4 lines you added in step 1. (The additional logging will impact performance and should be disabled once you have completed this procedure.)

***RELATED TOPICS***

Enabling Detailed SQL Logging
Working with Confluence Logs
Troubleshooting failed XML site backups

## Configuring Confluence Security

This section gives guidelines on configuring the security of your Confluence site:

- Confluence Security Overview and Advisories
- Confluence Cookies
- Configuring Secure Administrator Sessions
- Using Fail2Ban to limit login attempts
- Securing Confluence with Apache
- Managing External Referrers
- Best Practices for Configuring Confluence Security
- Hiding the People Directory
- Configuring Captcha for Spam Prevention
- Hiding External Links From Search Engines
- Configuring Captcha for Failed Logins
- Configuring XSRF Protection
- User Email Visibility
- Anonymous Access to Remote API
- Running Confluence Over SSL or HTTPS
- Connecting to LDAP or JIRA or Other Services via SSL

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- Configuring RSS Feeds
- Preventing and Cleaning Up Spam

**Related pages:**

- Giving People Access to Content
- Configuring a Confluence Environment *Not applicable to Confluence OnDemand.*
- Confluence Administrator's Guide

## Confluence Security Overview and Advisories

This document is for system administrators who want to evaluate the security of the Confluence web application. The page addresses overall application security and lists the security advisories issued for Confluence. As a public-facing web application, Confluence's application-level security is important. This document answers a number of questions that commonly arise when customers ask us about the security of our product.

Other topics that you may be looking for:

- For information about user management, groups and permissions, please refer to the internal security overview.
- For guidelines on configuring the security of your Confluence site, see the administrator's guide to configuring Confluence security.

### 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 reset password link 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.

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**On this page:**


- Application Security Overview
- Finding and Reporting a Security Vulnerability
- Publication of Confluence Security Advisories
- Severity Levels
- Our Patch Policy
- Published Security Advisories


**Related pages:**

- Security Patch Policy
- Severity Levels for Security Issues
- How to Report a Security Issue
- Configuring Confluence Security
- Confluence Administrator's Guide

*The information on this page does not apply to Confluence OnDemand.*

#### 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: Running Confluence Over SSL or HTTPS

#### 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. 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

Atlassian's approach to reporting security vulnerabilities is detailed in How to Report a Security Issue.

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### Publication of Confluence Security Advisories

Atlassian's approach to releasing security advisories is detailed in Security Advisory Publishing Policy.

### Severity Levels

Atlassian's approach to ranking security issues is detailed in Severity Levels for Security Issues.

### Our Patch Policy

Atlassian's approach to releasing patches for security issues is detailed in Security Patch Policy.

### Published Security Advisories

- Confluence Security Advisory 2013-08-05
- Confluence Security Advisory 2012-09-11
- Confluence Security Advisory 2012-09-04
- Confluence Security Advisory 2012-05-17
- Confluence Security Advisory 2011-05-31
- Confluence Security Advisory 2011-03-24
- Confluence Security Advisory 2011-01-18
- Confluence Security Advisory 2010-11-15
- Confluence Security Advisory 2010-10-12
- Confluence Security Advisory 2010-09-21
- Confluence Security Advisory 2010-08-17
- Confluence Security Advisory 2010-07-06
- Confluence Security Advisory 2010-06-02
- Confluence Security Advisory 2010-05-04
- Confluence Security Advisory 2009-12-08
- Confluence Security Advisory 2009-10-06
- Confluence Security Advisory 2009-08-20
- Confluence Security Advisory 2009-06-16
- Confluence Security Advisory 2009-06-01
- Confluence Security Advisory 2009-04-15
- Confluence Security Advisory 2009-02-18
- Confluence Security Advisory 2009-01-07
- Confluence Security Advisory 2008-12-03
- Confluence Security Advisory 2008-10-14
- Confluence Security Advisory 2008-09-08
- Confluence Security Advisory 2008-07-03
- Confluence Security Advisory 2008-05-21
- Confluence Security Advisory 2008-03-19
- Confluence Security Advisory 2008-03-06
- Confluence Security Advisory 2008-01-24
- Confluence Security Advisory 2007-12-14
- Confluence Security Advisory 2007-11-27
- Confluence Security Advisory 2007-11-19
- Confluence Security Advisory 2007-08-08
- Confluence Security Advisory 2007-07-26
- Confluence Security Advisory 2006-06-14
- Confluence Security Advisory 2006-01-23
- Confluence Security Advisory 2006-01-20
- Confluence Security Advisory 2005-12-05
- Confluence Security Advisory 2005-02-09
- Confluence Community Security Advisory 2006-01-19

### 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.

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**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 offical 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):

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```
<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-stack>
```

3. Locate the "autowire" and "params" entries:

```
            <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:

```
<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="params"/>
    <interceptor-ref name="autowire"/>
    <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-stack>
```

5. Restart Confluence.

## Confluence Security Advisory 2005-12-05

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 2.0.2

#### 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.

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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 initally 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.

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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 betwen 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.

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#### 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
- Number of labels that can be added to a page is not restricted
- Input when editing navigation themes is not validated
- Viewing of space content alphabetically is not validated
- Input when editing Space Name is not validated
- Input when viewing attachments by file-type is not validated


### Input in the RSS Feed Builder 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 Permissions 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.

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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 a 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 editing Space Name 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

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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** w ho 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 with to upgrade at this time, the new `atlassian-renderer` JAR should resolve this issue. For more information, please see C ONF-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

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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**, 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
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix


### *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.

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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.

*Please let us know what you think of the format of this security advisory and the information we have provided.*

## Confluence Security Advisory 2008-01-24

**In this advisory:**


- XSS Vulnerability in Dashboard Action
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix


### *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:

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- 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

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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 signup) 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.

> Our thanks to **Neeraj Jhanji**, 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 2008-03-19

**In this advisory:**


- XSS Vulnerabilities in Various Confluence Actions
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix


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### *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 signup) 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.

| Confluence Actions | Affected Confluence Versions | More Details | Reporter (If Not Atlassian) |
|---|---|---|---|
| Create, edit or copy a page or news item | From **2.2 to 2.7.2** inclusive | CONF-11027 | |
| Add a comment | From **2.2 to 2.7.2** inclusive | CONF-11027 | |
| Create a space | From **2.2 to 2.7.2** inclusive | CONF-11042 | Wyatt Crossin |
| Sign up for an account | From **2.2 to 2.7.2** inclusive | CONF-11005 | |
| Choose a page (page picker) | From **2.2 to 2.7.2** inclusive | CONF-11137 | |
| View a user | From **2.2 to 2.7.2** inclusive | CONF-11002 | |
| Insert an image or link | From **2.2 to 2.7.2** inclusive | CONF-11141 | |
| Choose a user or group (user picker and group picker) | From **2.2 to 2.7.2** inclusive | CONF-11040 | Jean Marois |

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| | | | |
|---|---|---|---|
| Add a user to favourites | From **2.0 to 2.7.2** inclusive | CONF-11026 | |
| HTTP 500 error page | From **1.3 to 2.7.2** inclusive | CONF-11019 | |
| Add bookmark | 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. | CONF-11153 | |

#### *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**.

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#### 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 signup) 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.

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## 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 signup) 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.

| Confluence Actions | Affected Confluence Versions | More Details | Reporter (If Not Atlassian) |
|---|---|---|---|
| Create, edit or copy a page or news item | 2.8.0 and 2.8.1 | CONF-11985 | James Rinker |
| Page picker and space picker | 2.2.0 to 2.8.1 inclusive | CONF-11137 | |

#### *Fix*

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.

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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.

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#### 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

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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.

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#### *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.

> Our thanks to **Neeraj Jhanji** from Atlassian Partner ImaHima, who reported the copy and diff page issues to Atlassian. We fully support the reporting of vulnerabilities and we appreciate it when people work with us towards identifying and solving a problem.

### Confluence Security Advisory 2008-10-14

**In this advisory:**


- Parameter Injection Vulnerability in Confluence
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- XSS Vulnerability in Various Confluence Actions and Plugins
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Privilege Escalation Vulnerability in Confluence Watches
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix
- Privilege Escalation Vulnerability in Confluence Favourites
  - Severity
  - Risk Assessment
  - Risk Mitigation
  - Vulnerability
  - Fix


#### *Parameter Injection Vulnerability in Confluence*

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#### 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), which you can download from the download centre.

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 on our JIRA site. For more information, please refer to 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 signup) 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 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

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be executed when a user invokes the URL.

For more details please refer to the related JIRA issue, also shown in the table below.

| Confluence Actions | Affected Confluence Versions | More Details | Reporter (If Not Atlassian) |
|---|---|---|---|
| View children via the Pagetree plugin (bundled with Confluence) | 2.8.0 to 2.9.1 inclusive | CONF-13043 | Thomas Jaehnel |
| Update bookmark via the Social Bookmarking plugin (bundled with Confluence) | 2.6.0 to 2.9.1 inclusive | CONF-13041 | Thomas Jaehnel |
| Build RSS feed | 2.0 to 2.9.1 inclusive | CONF-13042 | Thomas Jaehnel |
| Search via Search macro | All versions from 1.0 to 2.9.1 inclusive | CONF-13040 | Thomas Jaehnel |
| Search | All versions from 1.0 to 2.9.1 inclusive | CONF-12944 | |

#### *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 downlo

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ad 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.

#### *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 downlo ad 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.

### 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*

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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 signup) 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.

| Affected Confluence Functionality | Affected Confluence Versions | Fix Availability | More Details | Reporter (If Not Atlassian) |
|---|---|---|---|---|
| Handling of error messages. (Vulnerability in the DWR code library used by Confluence.) | 2.7.3 to 2.9.2 inclusive | 2.9.2 and 2.10 | CONF-11808 | Bjoern Froebe |
| Attachments macro. | 2.8 to 2.9.2 inclusive | 2.8.2, 2.9.2 and 2.10** | CONF-13713 | |
| Uploading of attachments. | 2.6 to 2.9.2 inclusive | 2.8.2, 2.9.2 and 2.10 | CONF-13717 | |
| Inserting images as thumbnails. | 2.8 to 2.9.2 inclusive | 2.8.2, 2.9.2 and 2.10 | CONF-13625 | |
| Log events listed in the Confluence 500 error page. | 2.9 to 2.9.2 inclusive | 2.10 only | CONF-13584 | |
| Wiki Markup link rendering. | 2.7 to 2.9.2 inclusive | 2.7.x, 2.8.x, 2.9.x, 2.10 | CONF-13451 | |

** 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 do

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wnload 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*

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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 in Disabling and Enabling Add-ons.
- If you judge it necessary, you can disable public access (e.g. anonymous access and public signup) 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 using the Universal Plugin Manager (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 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.

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- 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.

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#### 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 signup) 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.

For more information, please refer to CONF-14753 and CONF-14337.

> Our thanks to **Igor Minar**, 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.

### 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.

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- 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 signup) 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.

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- 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 signup) 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.

| Affected Confluence Functionality | Affected Confluence Versions | Fix Availability | More Details |
|---|---|---|---|
| Concurrent page edit message | All versions (1.0 to 2.10.3 inclusive) | 2.9.2 and 2.10.3 | CONF-15883 |
| Gallery Macro (Confluence Advanced Macros Plugin) | All versions (1.0 to 2.10.3 inclusive) | 2.10.3 | CONF-15376 |
| View File Macro (Office Connector Plugin) | 2.10.0 to 2.10.3 inclusive * | 2.10.3 | CONF-15402 |
| Instant Messenger Macro | All versions (1.0 to 2.10.3 inclusive) | 2.8.2, 2.9.2 and 2.10.3 | CONF-15397 |
| Contributors Macro | 2.3 to 2.10.3 inclusive | 2.9.2 and 2.10.3 | CONF-15399 |
| JIRA Issues Macro | All versions (1.0 to 2.10.3 inclusive) | 2.10.3 | CONF-15754 |

* 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


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#### 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 signup) 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


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- 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 signup 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.

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#### *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 signup) 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.

| Confluence action | Affected Confluence Versions | Fix Availability | More Details |
|---|---|---|---|
| Clicking a username link | 3.0.0 | 3.0.0 and 3.0.1 | CONF-15970 |
| Moving pages between spaces | 2.8 to 2.10.3 inclusive | 2.10.x and 3.0.1 | CONF-16019*<br>CONF-16135* |
| Entering content into the WebDAV Configuration page | 3.0.0<br>2.10.x with version 2.0 of the WebDAV plugin | 2.10.x, 3.0.0 and 3.0.1 | CONF-16136 |
| Entering content into the PDF Export Stylesheet | 3.0.0 | 3.0.0 and 3.0.1 | 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 do wnload centre.

If you do not wish to upgrade to Confluence 3.0.1, you can patch your existing installation by downloading and in stalling 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*

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#### 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 signup) 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

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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 signup) 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.

| Confluence action | Affected Confluence Versions | Fix Availability | More Details |
|---|---|---|---|
| Pagetree Macro | 2.8.0 – 3.0.1 | 2.10.0 – 3.0.2 inclusive | CONF-16651 |
| Userlister Macro | 2.6.0 – 3.0.1 | 2.10.0 – 3.0.2 inclusive | CONF-16644 |
| Content by Label Macro | 2.10.0 – 3.0.1 | 2.10.0 – 3.0.2 inclusive | CONF-15440 |

#### *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).

## Confluence Security Advisory 2009-12-08

**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 Severity Levels for Security Issues. 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 that could occur when creating a page or blog post in a personal space, using the `indexbrowser.jsp` form and when using the gallery macro.

- 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*

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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 signup) 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.

| Confluence action | Affected Confluence Versions | Fix Availability | More Details |
|---|---|---|---|
| Page or blog post creation in a personal space | 2.10 – 3.0.2 | 3.0.0 – 3.1 inclusive | CONF-17031 |
| Using the `indexbrowser.jsp` form | All versions prior to and including 3.0.2 | 3.0.0 – 3.1 inclusive | CONF-17165 |
| Gallery macro | 2.9 – 3.0.2 | 3.0.0 – 3.1 inclusive | CONF-17361 |
| Page tree and page tree search macros | 2.9 – 3.0.2 | 2.8 – 3.1 inclusive | CONF-17967 |
| Status updates tab of the user profile area | 3.0.0 – 3.0.2 | 3.0.0 – 3.1 inclusive | CONF-17933 |

#### *Fix*

These issues have been fixed in Confluence 3.1 (see the release notes), which you can download from the download centre.

If you do not wish to upgrade to Confluence 3.1, 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).

### Confluence Security Advisory 2010-05-04

This advisory announces a number of security vulnerabilities in earlier versions of Confluence that we have found and fixed in Confluence 3.2.1. In addition to releasing Confluence 3.2.1, we also provide patches for the most important vulnerabilities mentioned. You will be able to apply these patches to older versions of Confluence. There will, however, be a number of security improvements in Confluence 3.2.1 that cannot be patched or backported. We recommend upgrading to Confluence 3.2.1 rather than applying the patches.

**In this advisory:**


- XSS Vulnerabilities
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
- XSS Vulnerability in Database Check Utility (Not Bundled with Confluence)
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation


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    - Fix
- Unnecessary Exposure of and Access to Information
    - Severity
    - Risk Assessment
    - Vulnerability
    - Risk Mitigation
    - Fix
- General Tightening of the Confluence Security Model
    - Severity
    - Risk Assessment
    - Vulnerability
    - Risk Mitigation
    - Fix
- Available Patches and Plugin Upgrades
    - Step 1 of the Patch Procedure: Install the Patches
    - Step 2 of the Patch Procedure: Upgrade your Plugins
    - Step 3 of the Patch Procedure: Remove the Database Check Utility if Previously Installed


### *XSS Vulnerabilities*

#### Severity

Atlassian rates these vulnerabilities as **high**, according to the scale published in Severity Levels for Security Issues. 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 exposed in the Confluence functions described in the table below.

- An attacker might take advantage of the vulnerability to steal other users' session cookies or other credentials, by sending the credentials back to such an attacker's own web server.
- An 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.

#### Vulnerability

We identified and fixed vulnerabilities in the Confluence features described in the table below.

| Confluence Feature | Affected Confluence Versions | Fix Availability | More Details | Severity |
|---|---|---|---|---|
| Index browser JSP (JavaServer Page) | 2.7.0 – 3.2.0 | 3.2.1 and patch | CONF-19404 | High |
| A JSP that provides an administrator with the location on the file system where the attachments for a given space are stored | 2.8.3 – 3.2.0 | 3.2.1 and patch | CONF-19404 | High |

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| | | | | |
|---|---|---|---|---|
| A JSP that allows and administrator to reset null emails addresses to dummyvalue@nowhere.org | 2.8.3 – 3.2.0 | 3.2.1 and patch | CONF-19404 | High |
| Colour scheme settings | 3.1.2 – 3.2.0 | 3.2.1 and patch | CONF-19384 | High |
| Error messages | 2.7.0 – 3.2.0 | 3.2.1 and patch | CONF-19390 and CONF-19402 | High |
| Searching Confluence | 2.7.4 – 3.2.0 | 3.2.1 and patch | CONF-19382 | High |
| Attachment upload | 3.0.2 – 3.2.0 | 3.2.1 and patch | CONF-19388 | High |
| Content rendering | 3.0.0 – 3.2.0 | 3.2.1 and patch | CONF-19441 | High |
| Advanced Macros plugin | 3.1.0 – 3.2.0 | 3.2.1 and plugin upgrade | CONF-19403 | High |
| Social Bookmarking plugin | 3.0.0 – 3.2.0 | 3.2.1 and plugin upgrade | CONF-19381 | High |

#### 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 upgrade or patch immediately and you judge it necessary, you can disable public access (such as anonymous access and public signup) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

#### Fix

Confluence 3.2.1 fixes all of these issues. See the release notes. You can download Confluence 3.2.1 from the download centre.

If you cannot upgrade to Confluence 3.2.1, you can patch your existing installation using the patches and plugin upgrades listed below. We strongly recommend upgrading to 3.2.1 however, since it adds even more security features than the patches.
Changed behaviour in Confluence

We have removed the `indexbrowser.jsp` and the `viewdocument.jsp` pages that used to provide access to the Confluence index browser. Instead, if you need to see more details of the indexed pages in your Confluence site, you can download and run Luke. Luke is a development and diagnostic tool that accesses existing Lucene indexes and allows you to display and modify their content in several ways. See our document on content index administration.

> Our thanks to **Brett Porter** of **The Apache Software Foundation** and to **David Belcher** of **Research in Motion**, who reported some of the vulnerabilities mentioned above. 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 Database Check Utility (Not Bundled with Confluence)*

#### Severity

Atlassian rates this vulnerability as **high**, according to the scale published in Confluence Security.

#### Risk Assessment

We have identified and fixed a cross-site scripting (XSS) vulnerability in the Atlassian database check utility that

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some customers may have installed. The utility is a JSP file, supplied as an attachment to a documentation page .

Note that this utility is not bundled with Confluence. This vulnerability applies to you only if you have downloaded and installed the JSP.

#### Vulnerability

An attacker can inject their own JavaScript when invoking the database check utility. The rogue JavaScript will be executed when a user invokes the URL. For more details, please refer to CONF-19406.

#### Risk Mitigation

If you have previously downloaded and installed the `testdatabase.jsp` utility from the documentation page, you should now remove the `testdatabase.jsp` file from your `<confluence-install>\confluence` directory.

When you need to use the utility again, you can download the updated version from the same documentation page.

#### Fix

If you have previously downloaded and installed the `testdatabase.jsp` utility from the documentation page, you should now remove the `testdatabase.jsp` file from your `<confluence-install>\confluence` directory.

When you need to use the utility again, you can download the updated version from the same documentation page.

> **This fix is not part of Confluence 3.2.1**
> Because the JSP file is not shipped with the Confluence installation, there is no patch for this vulnerability and there is no fix for it in Confluence 3.2.1. Please check your installation and remove or update the JSP if present.

### *Unnecessary Exposure of and Access to Information*

#### Severity

Atlassian rates these vulnerabilities as **high** and **moderate**, according to the scale published in Confluence Security.

#### Risk Assessment

We have identified a number of areas where Confluence exposes an unnecessary amount of information that may be useful to an attacker if such an attacker gained access to the information.

#### Vulnerability

We have identified a number of areas where Confluence exposes an unnecessary amount of information, including sensitive information such as usernames and passwords. If an attacker gains access to such information, it may allow such an attacker to gain access to administrative areas and functions of Confluence that they are not authorised to use. Details of each vulnerability are in the table below.

For more details please refer to the related JIRA issues, also shown in the table below.

| Confluence action | Affected Confluence Versions | Fix Availability | More Details | Severity |
|---|---|---|---|---|

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| | | | | |
|---|---|---|---|---|
| Support request form | 3.1.0 – 3.2.0 | 3.2.1 only | The Confluence support request form automatically generates a zip file containing system information and log files, and submits the file to a given email address along with the support request. The zip file includes configuration files containing usernames, passwords and license details. See CONF-19391 | High |
| Support request form | 2.7.0 – 3.2.0 | 3.2.1 only | The Confluence support request form offers a 'CC' email address, allowing the support request and all attached information to be sent to any email address. In addition, it is also possible to set the default email address to any email address, via the Confluence Administration Console. See CONF-19392 | High |
| XML site backup | 2.7.0 – 3.2.0 | 3.2.1 only | It is possible to download an XML backup of the Confluence site from the Confluence Administration Console. See CONF-19393 | High |

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| | | | | |
|---|---|---|---|---|
| Daily site backup | 2.7.0 – 3.2.0 | 3.2.1 only | The path to the daily site backup is configurable via the Confluence Administration Console. It is possible to set the daily backup path and (partial) name through the web UI. This allows an attacker to put the backup in a location that is served by the application server. See CONF-19397 | Moderate |
| SOAP and XML-RPC APIs | 2.7.0 – 3.2.0 | 3.2.1 only | The SOAP and XML-RPC APIs give too much information when returning an error about an incorrect login. See CONF-19398 | High |
| Information about Confluence administrators | 2.7.0 – 3.2.0 | 3.2.1 only | The list of Confluence administrators is accessible via a URL and shows the username, full name and email address of all administrators. See CONF-19395 | Moderate |

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities. Please see the 'fix' section below.

Alternatively, if you are not in a position to upgrade or patch immediately, consider applying these measures:

- Control the access to your administrator accounts, as described in our document on best practices for configuring Confluence security.
- Disable access to the SOAP and XML-RPC APIs, if these remote APIs are not required. (Remote API access is disabled by default.) See the page about enabling remote APIs.
- Manually remove the list of Confluence administrators that is accessible via a URL, by editing the relevant Velocity template file as follows:
    1. Edit the `administrators.vm` file, located in `{confluence-install}/confluence` for standalone installations, or at the root of the web app for WAR installations.
    2. Replace the content with a message that you would like to be displayed whenever someone accesses this URL. For example:

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```
<html>
  <head>
    <title>$action.getText("title.administrators")</title>
  </head>
  <body>
    The list of Confluence administrators is no longer available. If you
would like to contact an administrator, please email admins at example
dot com.
  </body>
</html>
```

3. Save the file. (There is no need to restart Confluence.)

#### Fix

Confluence 3.2.1 fixes these issues. See the release notes. You can download Confluence 3.2.1 from the download centre.
Changed Behaviour in Confluence

In order to fix these problems, we have changed Confluence's behaviour as follows:

- We have removed all license, username and password information from the zip file generated by the Confluence support request form.
- It is no longer possible to specify a 'CC' email address on the Confluence support request form.
- By default, it is no longer possible to specify a site support email address in the 'General Configuration' section of the Confluence Administration Console. Administrators can restore this functionality by updating the `confluence.cfg.xml` file found in the Confluence Home Directory. Confluence now recognises a new property in this configuration file, called `admin.ui.allow.site.support.email`. If the value of the property is 'true', it will be possible to specify a site support email address via the Confluence Administration Console. If the value of this property is 'false' or the property is not present in the file, the email address is not configurable. By default in Confluence 3.2.1 and later, the value is 'false'.
- By default, the path to the daily site backup is no longer configurable via the Confluence Administration Console. Confluence now recognises a new property called `admin.ui.allow.daily.backup.custom.location` in the `confluence.cfg.xml` file. If the value of this property is 'true', the administrator can change the daily backup path. If the value of this property is 'false' or the property is not present in the file, the backup path is not configurable. By default in Confluence 3.2.1 and later, the value is 'false'.
- By default, it is no longer possible to download an XML backup of the Confluence site from the Confluence Administration Console. Instead, you need access to the Confluence server machine in order to retrieve the XML site backup file. Confluence now recognises a new property called `admin.ui.allow.manual.backup.download` in the `confluence.cfg.xml` file. If the value of this property is 'true', the Administration Console provides an option to download the XML site backup file. If the value of this property is 'false' or the property is not present in the file, the XML download is not available from the Administration Console. By default in Confluence 3.2.1 and later, the value is 'false'.
- On invalid login attempts, the SOAP and XML-RPC APIs no longer give away the specific information that the user does not exist or that the password is invalid.
- The `administrators.action` URL no longer opens a page showing the list of Confluence administrators. Instead, the URL will now present a form which you can use to email all the administrators of the site. This is preferable since it does not give the user any information about who these administrators are. See our documentation on configuring the administrator contact page.

### *General Tightening of the Confluence Security Model*

#### Severity

Atlassian rates these vulnerabilities as **high** and **moderate**, according to the scale published in Confluence Security.

#### Risk Assessment

We have improved the security of the following areas in Confluence:

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- Prevention of brute force attacks by imposing a maximum number of repeated login attempts.
- Handling of decorator layouts.

#### Vulnerability

We have identified and fixed a problem where Confluence allows an unlimited number of repeated login attempts, potentially opening Confluence to a brute force attack. We have also improved the security around the handling of decorator layouts. Details of each improvement are in the table below.

For more details please refer to the related JIRA issues, also shown in the table below.

| Confluence action | Affected Confluence Versions | Fix Availability | More Details | Severity |
|---|---|---|---|---|
| Site and space decorator layouts | All versions up to and including 3.2.0 | 3.2.1 and patch | The BootstrapManager exposed in site and space layout templates should be read only. See CONF-19401 | High |
| Login | All versions up to and including 3.2.0 | 3.2.1 only | Confluence does not set a maximum to the number of repeated login attempts. This makes Confluence vulnerable to a brute force attack. See CONF-19396 | Moderate |

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities. Please see the 'fix' section below.

Alternatively, if you are not in a position to upgrade immediately, you can patch your existing installation using the patches listed below. The patch will fix the problem with the decorator layouts.

You can prevent brute force attacks by following our guidelines on using Fail2Ban to limit login attempts.

#### Fix

Confluence 3.2.1 fixes these issues. See the release notes. You can download Confluence 3.2.1 from the download centre.

Alternatively, if you are not in a position to upgrade immediately, you can patch your existing installation using the patches listed below. The patch will fix the problem with the decorator layouts.
Changed Behaviour in Confluence

In order to fix these problems, we have changed Confluence's behaviour as follows:

- We have improved the security in the way Confluence handles decorator layouts. The BootstrapManager is now read only.
- After three failed login attempts, Confluence will display a Captcha form asking the user to enter a given word when attempting to log in again. This will prevent brute force attacks via the login screen. In addition, after three failed login attempts via the XML-RPC or SOAP API, an error message will be returned instructing the user to log in via the web interface. Captcha will automatically be activated when they attempt this login.

#### *Available Patches and Plugin Upgrades*

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If for some reason you cannot upgrade to Confluence 3.2.1, you can apply the following patches and plugin upgrades to fix the most pressing vulnerabilities described in this security advisory.

#### Step 1 of the Patch Procedure: Install the Patches

Patches are available for Confluence 3.2.0, 3.1.2, 3.0.2, 2.10.4, 2.9.3 and 2.8.3. You need to upgrade to the specified bug-fix release of the relevant major version before applying the patches. For example, if your version is Confluence 3.0.0, first upgrade to 3.0.2 and then apply the relevant patch.

The available patches address the following issues:

- XSS in search (CONF-19382).
- XSS in attachment upload (CONF-19388).
- XSS in the index browser JSP (CONF-19404).
- XSS in the JSP that provides an administrator with the location on the file system where the attachments for a given space are stored (CONF-19404).
- XSS in the JSP that allows an administrator to reset null emails addresses (CONF-19404).
- XSS in colour scheme settings (CONF-19384).
- XSS in error messages (CONF-19390 and CONF-19402).
- XSS in content rendering (CONF-19441).
- Secure handling of site and space decorator layouts (CONF-19401).

Each patch covers all of the above issues, and is applicable to the specific version of Confluence. To install the patch, download the appropriate version and follow the instructions below.

| Your Confluence Version | File |
|---|---|
| 3.2.0 | confluence-project-3.2.0-stable.zip |
| 3.1.2 | confluence-project-3.1-stable.zip |
| 3.0.2 | confluence-project-3.0-stable.zip |
| 2.10.4 | confluence-project-2.10-stable.zip |
| 2.9.3 | confluence-project-2.9-stable.zip |
| 2.8.3 | confluence-project-2.8-stable.zip |

Applying the patch

If you are using the Standalone distribution of Confluence:

1. Make a backup of the `<confluence_install_dir>/confluence/` directory.
2. Download the `confluence-x-patch.zip` file from the location given in the table above, for your version of Confluence.
3. Expand the zip file into `<confluence_install_dir>/confluence/`, overwriting the existing files in that location.
4. Restart Confluence.

If you are using the WAR distribution of Confluence:

1. Make a backup of the `<confluence_exploded_war>/confluence/ directory`.
2. Download the `confluence-x-patch.zip` file from the location given in the table above, for your version of Confluence.
3. Expand the zip file into `<confluence_exploded_war>/confluence/`, overwriting the existing files in that location.
4. Run '`build.sh clean`' on UNIX, or '`build.bat clean`' on Windows.
5. Run '`build.sh`' on UNIX or '`build.bat`' on Windows.
6. Redeploy the Confluence web app into your application server.

#### Step 2 of the Patch Procedure: Upgrade your Plugins

Two of the above vulnerabilities exist in plugins and are therefore not included in the patch. To fix these vulnerabilities, you will need to upgrade the affected plugin to get the fixed version. You can upgrade the plugins in the normal manner, via the **Confluence Plugin Repository**. Please refer to the documentation for more

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details on installing plugins.

1. If you are running **Confluence 3.1.0 or later**, you will need to install the latest version of the Confluence Advanced Macros plugin. Earlier versions of Confluence are not affected and therefore do not need an upgraded plugin.
2. If you are running **Confluence 3.0.0 or later**, you will need to install the latest version of the Social Bookmarking plugin. Earlier versions of Confluence are not affected and therefore do not need an upgraded plugin.

#### Step 3 of the Patch Procedure: Remove the Database Check Utility if Previously Installed

If you have previously downloaded and installed the `testdatabase.jsp` utility from the documentation page, you should now remove the `testdatabase.jsp` file from your `<confluence-install>\confluence` directory. See above for more details of this utility.

## Confluence Security Advisory 2010-06-02

This security advisory announces a vulnerability in the Confluence Mail Page plugin that may expose a Confluence site to XSS (cross-site scripting) attacks, if it is enabled (note, the Confluence Mail Page plugin is disabled by default). If you do not have this plugin enabled, your site will not be affected. However, we recommend that you still read the advisory below.

**In this advisory:**


- XSS Vulnerability in Confluence Mail Page Plugin
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix


### *XSS Vulnerability in Confluence Mail Page Plugin*

#### *Severity*

Atlassian rates this vulnerability as **high**, according to the scale published in Severity Levels for Security Issues. 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 flaw is a cross-site scripting (XSS) vulnerability that could occur if you have the Confluence Mail Page plugin enabled. The Confluence Mail Page plugin is bundled with Confluence, although it is disabled by default.

- 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.

#### *Vulnerability*

An attacker can execute their own JavaScript when a user enters a custom URL into the browser address bar (e.g. the user clicks a crafted link in an email). The rogue JavaScript will be executed when the user invokes the URL. For more details, please refer to CONF-19802.

#### *Risk Mitigation*

We recommend installing the updated Confluence Mail Page plugin into your Confluence installation to fix this 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 the Confluence Mail Page plugin (note, the plugin is disabled by default). You may also wish to disable public access (e.g. anonymous access and public signup) to your wiki until you have applied the necessary

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patch or upgrade. For even tighter control, you could restrict access to trusted groups.

#### *Fix*

These issues have been fixed in the latest version (v1.10) of the Confluence Mail Page plugin, which you can download from the Atlassian Plugin Exchange. Installation instructions are available on the plugin documentation page.

Please note, version 1.10 of the Confluence Mail Page plugin will only work with Confluence 3.2. You will need to upgrade to Confluence 3.2 before installing the updated plugin.

## Confluence Security Advisory 2010-07-06

This advisory announces a number of security vulnerabilities in earlier versions of Confluence that we have found and fixed in Confluence 3.3. In addition to releasing Confluence 3.3, we also provide patches (in the form of plugin upgrades) for the vulnerabilities mentioned. You will be able to apply these plugin upgrades to older versions of Confluence. There will, however, be a number of security improvements in Confluence 3.3 that cannot be patched or backported. We recommend upgrading to Confluence 3.3 rather than applying the plugin upgrades.

**In this advisory:**


- XSS Vulnerabilities
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix


### *XSS Vulnerabilities*

#### Severity

Atlassian rates the severity level of these vulnerabilities as **high**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

#### Risk Assessment

We have identified and fixed a number of cross-site scripting (XSS) vulnerabilities which may affect Confluence instances in a public environment. These vulnerabilities are exposed in the Confluence functions described in the table below.

- An attacker might take advantage of the vulnerability to steal other users' session cookies or other credentials, by sending the credentials back to such an attacker's own web server.
- XSS vulnerabilities potentially allow an attacker to embed their own JavaScript into a Confluence page. An attacker's text and script might be displayed to other people viewing the 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.

#### Vulnerability

We have identified and fixed vulnerabilities in the Confluence features described in the table below.

| Confluence Feature | Affected Confluence Versions | Issue Tracking |
|---|---|---|
| PDF export | 3.1.0 – 3.2.1 | CONF-20121 |
| Clickr theme | 2.7.0 – 3.2.1 | CONF-20126 |
| Tasklist macro | 2.8.0 – 3.2.1 | CONF-20119 |
| Contributors plugin (Contributors macro and Contributors Summary macro) | 3.0.0 – 3.2.1 | CONF-20122<br>CONF-20125 |

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#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities. Please see the 'fix' section below.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can apply one or both of the following mitigations:

- Disable every one of the affected plugins, as listed below. You can disable plugins via the Confluence Administration Console. See our Universal Plugin Manager Documentation.
- Disable public access (such as anonymous access and public signup) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

In addition, please refer to our guidelines on best practices for configuring Confluence security. In particular, please read our guidelines on using Apache to limit access to the Confluence administration interface.

#### Fix

Please choose one of the options below that best suits your Confluence version and your ability to upgrade immediately.

##### *Option 1 (Recommended): Upgrade to Confluence 3.3*

We recommend that you upgrade to **Confluence 3.3**, which fixes all of the security issues reported in this advisory. See the Confluence 3.3 release notes. You can download Confluence 3.3 from the download centre.

##### *Option 2: Upgrade or Disable the Affected Plugins*

If you cannot upgrade your Confluence installation, you can upgrade or disable the affected plugins to fix the vulnerabilities described in this security advisory.

- You can upgrade the plugins in the normal manner, via the **Confluence Plugin Repository** or by manually uploading the JAR. Please refer to the documentation for more details on installing plugins.
- You can disable plugins via the Confluence Administration Console. See Universal Plugin Manager Documentation.

| Affected Feature | Confluence Versions that Can Update the Plugin | Upgrade or Disable Plugin |
|---|---|---|
| PDF export plugin | 3.1 – 3.3 | If you cannot upgrade to Confluence 3.3:<br>• If you are running Confluence 3.1.x or 3.2.x, you should install version 1.9 of the PDF Export plugin.<br>• If you are running Confluence 3.0.2 or earlier, you do not need to take any action as these versions are not affected by the security flaw. |
| Clickr theme | 3.2 – 3.3 | If you cannot upgrade to Confluence 3.3:<br>• If you are running Confluence 3.2.x, you should install version 2.10 of the Clickr Theme plugin.<br>• If you are running Confluence 3.1.2 or earlier, you should **dis able** the 'Clickr Theme' plugin. |

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| | | |
|---|---|---|
| Tasklist macro | 3.1 – 3.3 | If you cannot upgrade to Confluence 3.3:<br>• If you are running Confluence 3.1.x or 3.2.x, you should install version 3.2.5.2 of the Dynamic Task List 2 plugin.<br>• If you are running Confluence 2.8.x to 3.0.x, you should **disable** the 'Dynamic Task List 2' plugin.<br>• If you are running Confluence 2.7.x or earlier, you do not need to take any action as these versions are not affected by the security flaw. |
| Contributors plugin | 3.0 – 3.3 | If you cannot upgrade to Confluence 3.3:<br>• If you are running Confluence 3.0.x to 3.2.x, you should install version 1.2.6 of the Contributors plugin.<br>• If you are running Confluence 2.10.4 or earlier, you do not need to take any action as these versions are not affected by the security flaw. |

## Confluence Security Advisory 2010-08-17

This advisory announces a security vulnerability in Confluence 3.3 that we have found and fixed in Confluence 3.3.1. We recommend that you upgrade to Confluence 3.3.1 to fix this vulnerability.

**In this advisory:**


- Secure Administrator Session Vulnerability
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix


### *Secure Administrator Session Vulnerability*

#### Severity

Atlassian rates this vulnerability as **high**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank a vulnerability as critical, high, moderate or low.

#### Risk Assessment

We have identified and fixed a vulnerability in the Secure Administrator Sessions feature, introduced in Confluence 3.3, that allows it to be bypassed.

#### Vulnerability

If an attacker is able to gain access to a session with administrator privileges, they will be able to access all administrator functions without having to re-authenticate.

This vulnerability exists in **Confluence 3.3 only**.

See CONF-20508 for more details.

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#### Risk Mitigation

We recommend upgrading your Confluence installation to fix these vulnerabilities. Please see the 'fix' section below.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable public access (such as anonymous access and public signup) to your wiki until you have applied the necessary upgrade. For even tighter control, you could restrict access to trusted groups.

#### Fix

Confluence 3.3.1 fixes this issue. See the release notes. You can download Confluence 3.3.1 from the download centre.

## Confluence Security Advisory 2010-09-21

This advisory announces a number of security vulnerabilities in earlier versions of Confluence that we have found and fixed in Confluence 3.3.3. We recommend that you upgrade to Confluence 3.3.3 to fix these vulnerabilities.

**In this advisory:**


- Path Traversal Vulnerability in Various Confluence Actions
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
- Configuration of Office Connector Temporary Storage Location
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
- XSS Vulnerability in the Office Connector
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
- XSRF Vulnerability in Confluence Mail Page Plugin
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
- Available Patches and Plugin Upgrades
  - Step 1 of the Patch Procedure: Install the Patch
  - Step 2 of the Patch Procedure: Update your Plugins


### *Path Traversal Vulnerability in Various Confluence Actions*

#### Severity

Atlassian rates this vulnerability as **critical**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank a vulnerability as critical, high, moderate or low.

#### Risk Assessment

We have identified and fixed a path traversal vulnerability in various Confluence actions. By exploiting a path traversal vulnerability, attackers may be able to retrieve any file on the server that is running Confluence, based on the permissions of the user under which Confluence is running. Path traversal attacks are also called 'directory traversal' or 'dot-dot-slash' (../) attacks.

The degree to which a Confluence instance is vulnerable depends on a number of factors in the implementation of the instance. See the mitigation strategies below, for details of how you can reduce your vulnerability.

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You can read more about path traversal attacks at Open Web Application Security Project (OWASP) and other places on the web.

#### Vulnerability

The path traversal vulnerability exists in various Confluence actions, in **all versions of Confluence up to and including 3.3.1**.

See CONF-20668 for issue tracking.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately, please consider the following mitigation strategies:

- Make sure that you do not start Confluence from the root directory when starting Confluence automatically. Instead, start it from a reduced-scope directory such as the `{Confluence-installation}/bin` directory.
- Upgrade your Tomcat version to 6.0.26 or later. This is relevant if you are using a WAR distribution of Confluence in your own Tomcat server.
- If you are running Confluence under UNIX, you should run Confluence inside a `chroot` jail. See Best Practices for UNIX chroot() Operations from Steve Friedl.
- In addition, please refer to our guidelines on Tomcat security best practices. (This is a JIRA document but the principles apply to Confluence.) In particular, you should restrict the file access of the username under which Confluence is running.

#### Fix

Confluence 3.3.3 fixes this issue. See the release notes. You can download Confluence 3.3.3 from the download centre.

If you cannot upgrade to Confluence 3.3.3, you can patch your existing installation using the patches listed below.

> Our thanks to **Warren Leung** of **UCLA**, 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.

### *Configuration of Office Connector Temporary Storage Location*

#### Severity

Atlassian rates this vulnerability as **high**, according to the scale published in Severity Levels for Security Issues.

#### Risk Assessment

Earlier versions of Confluence allow the administrator to set the temporary storage location for the View File macro, part of the Office Connector. Provided an attacker has gained administrative access to the system in some way, they could then exploit this vulnerability to save malicious files onto the file system.

#### Vulnerability

This vulnerability exists in the Office Connector configuration, made available to Confluence administrators via the Confluence Administration Console and the related Confluence action.

This vulnerability affects **versions of Confluence from 2.8 up to and including 3.3.1**, where the Office Connector is installed. Please note that the Office Connector is bundled in Confluence 2.10 and later.

See CONF-20669 for issue tracking.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can choose one of the following mitigration strategies:

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- Disable the Office Connector plugin. You can disable plugins via the Confluence Administration Console. See our documentation on installing and configuring plugins.
- Disable public access (such as anonymous access and public signup) to your wiki until you have applied the necessary upgrade. For even tighter control, you could restrict access to trusted groups.

In addition, please refer to our guidelines on best practices for configuring Confluence security.

#### Fix

Confluence 3.3.3 fixes this issue. Administrators must edit a properties file to configure the path. See the release notes for more information. You can download Confluence 3.3.3 from the download centre.

If you cannot upgrade to Confluence 3.3.3, you can patch your existing installation using the patches listed below.

### *XSS Vulnerability in the Office Connector*

#### Severity

Atlassian rates the severity level of this vulnerability as **high**, according to the scale published in Severity Levels for Security Issues.

#### Risk Assessment

We have identified and fixed a cross-site scripting (XSS) vulnerability which may affect Confluence instances, including publicly available instances.

- An attacker might take advantage of the vulnerability to steal other users' session cookies or other credentials, by sending the credentials back to such an attacker's own web server.
- XSS vulnerabilities potentially allow an attacker to embed their own JavaScript into a Confluence page. An attacker's text and script might be displayed to other people viewing the 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.

#### Vulnerability

The XSS vulnerability is exposed in the document import function of the Confluence Office Connector.

This vulnerability exists in **Confluence 3.3.1 only**, where the Office Connector is enabled. Please note that the Office Connector is bundled in Confluence.

See CONF-20670 for issue tracking.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable the Office Connector plugin. You can disable plugins via the Confluence Administration Console. See our documentation on installing and configuring plugins.

In addition, please refer to our guidelines on best practices for configuring Confluence security. In particular, please read our guidelines on using Apache to limit access to the Confluence administration interface.

#### Fix

Confluence 3.3.3 fixes this issue. See the release notes. You can download Confluence 3.3.3 from the download centre.

### *XSRF Vulnerability in Confluence Mail Page Plugin*

#### Severity

Atlassian rates the severity level of this vulnerability as **high**, according to the scale published in Severity Levels for Security Issues.

#### Risk Assessment

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We have identified and fixed a cross-site request forgery (XSRF) vulnerability which may affect Confluence instances, including publicly available instances.

An attacker might take advantage of the vulnerability to trick users into emailing the contents of restricted pages to an arbitrary address without their knowledge. An XSRF attack works by exploiting the trust that a site has for the user. If a user is logged in to Confluence and an attacker tricks their browser into making a request to a Confluence URL, then the task is performed as the logged in user.

You can read more about XSRF attacks at cgisecurity and other places on the web.

#### Vulnerability

The XSRF vulnerability is exposed in the Confluence Mail Page plugin.

This vulnerability exists in **versions of Confluence from 2.4 up to and including 3.3.1**, where the Mail Page plugin is enabled. Note that the Mail Page plugin is disabled by default. If you do not have this plugin enabled, your site will not be affected.

See CONF-20671 for issue tracking.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation, or install the updated Confluence Mail Page plugin into your Confluence installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable the Confluence Mail Page plugin. (Note that the plugin is disabled by default).

#### Fix

Confluence 3.3.3 fixes this issue. See the release notes. You can download Confluence 3.3.3 from the download centre.

The latest version (v1.12) of the Confluence Mail Page plugin also fixes this issue. You can download the plugin from the Atlassian Marketplace. Please refer to the documentation for instructions on installing plugins.

### *Available Patches and Plugin Upgrades*

If for some reason you cannot upgrade to Confluence 3.3.3, you can apply the following patches and plugin upgrades to fix the vulnerabilities described in this security advisory.

#### Step 1 of the Patch Procedure: Install the Patch

A patch is available for Confluence 3.2.1. (That is, the Confluence 3.2.1_01 distribution.) If you have Confluence 3.2.0, you need to upgrade to Confluence 3.2.1 before applying the patch.

The patch addresses the following issue:

- Path traversal vulnerability (CONF-20668).

Applying the patch

If you are using the Confluence 3.2.1 distribution:

1. Shut down Confluence.
2. Make a backup of the `<confluence_install_dir>/confluence/` directory.
3. Download the confluence-3.2.1-to-3.3.2-security-patch.zip file.
4. Expand the zip file into `<confluence_install_dir>/confluence/`, overwriting the existing files.
5. Restart Confluence.

If you are using the WAR distribution of Confluence:

1. Shut down Confluence.
2. Make a backup of the `<confluence_exploded_war>/confluence/ directory`.
3. Download the confluence-3.2.1-to-3.3.2-security-patch.zip file.
4. Expand the zip file into `<confluence_exploded_war>/confluence/`, overwriting the existing files.
5. Run '`build.sh clean`' on UNIX, or '`build.bat clean`' on Windows.
6. Run '`build.sh`' on UNIX or '`build.bat`' on Windows.
7. Redeploy the Confluence web app into your application server.

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8. Restart Confluence.

#### Step 2 of the Patch Procedure: Update your Plugins

Some of the above vulnerabilities exist in plugins and are therefore not included in the patch. To fix these vulnerabilities, you will need to update the affected plugin to get the fixed version. You can update the plugins in the normal manner, via the Universal Plugin Manager. Please refer to the documentation for more details on installing plugins.

1. Install the latest version (v1.12) of the Mail Page plugin.
2. Install version 1.7.1 of the Office Connector plugin.

## Confluence Security Advisory 2010-10-12

This advisory announces a number of security vulnerabilities in earlier versions of Confluence that we have found and fixed in Confluence 3.4. In addition to releasing Confluence 3.4, we also provide patches for the vulnerabilities mentioned below. You will be able to apply these patches to existing installations of Confluence 3.3.3. However, we recommend that you upgrade to Confluence 3.4 to fix these vulnerabilities.

**In this advisory:**


- XSS Vulnerabilities
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
- Available Patches and Plugin Upgrades
  - Step 1 of the Patch Procedure: Install the Patch
  - Step 2 of the Patch Procedure: Upgrade the Affected Plugins


### *XSS Vulnerabilities*

#### Severity

Atlassian rates the severity level of these vulnerabilities as **high**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

#### Risk Assessment

We have identified and fixed a number of cross-site scripting (XSS) vulnerabilities which may affect Confluence instances, including publicly available instances.

- An attacker might take advantage of an XSS vulnerability to steal other users' session cookies or other credentials, by sending the credentials back to such an attacker's own web server.
- XSS vulnerabilities potentially allow an attacker to embed their own JavaScript into a Confluence page. An attacker's text and script might be displayed to other people viewing the 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.

#### Vulnerability

The table below describes the parts of Confluence affected by the XSS vulnerabilities.

| Confluence Feature | Affected Confluence Versions | Issue Tracking |
|---|---|---|
| Space names | 2.9 – 3.3.3 | CONF-20740 |
| Office Connector | 3.0 – 3.3.3 | CONF-20963 |
| Tasklist macro | 1.3 – 3.3.3 | CONF-20964 |

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities.

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Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable public access (such as anonymous access and public signup) to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

We also recommend that you read our guidelines on best practices for configuring Confluence security and using Apache to limit access to the Confluence administration interface.

#### Fix

Confluence 3.4 fixes these issues. For a full description of this release, see the release notes. You can download Confluence 3.4 from the download centre.

If you cannot upgrade to Confluence 3.4, you can patch your existing installation using the patches listed below.

### *Available Patches and Plugin Upgrades*

If for some reason you cannot upgrade to Confluence 3.4, you can apply the following patches and plugin upgrades to fix the vulnerabilities described in this security advisory.

#### Step 1 of the Patch Procedure: Install the Patch

A patch is available for Confluence 3.3.3.

The patch addresses the following issues:

- XSS vulnerability in space names (CONF-20740).
- XSS vulnerability in Office Connector (CONF-20963).

If you are using the Confluence distribution:

1. Shut down Confluence.
2. Make a backup of the `<confluence_install_dir>/confluence/` directory.
3. Download the confluence-3.3.3-to-3.4-security-patch.zip file.
4. Expand the zip file into `<confluence_install_dir>/confluence/`, overwriting the existing files.
5. Restart Confluence.

If you are using the WAR distribution of Confluence:

1. Shut down Confluence.
2. Make a backup of the `<confluence_exploded_war>/confluence/` directory.
3. Download the confluence-3.3.3-to-3.4-security-patch.zip file.
4. Expand the zip file into `<confluence_exploded_war>/confluence/`, overwriting the existing files.
5. Run '`build.sh clean`' on UNIX, or '`build.bat clean`' on Windows.
6. Run '`build.sh`' on UNIX or '`build.bat`' on Windows.
7. Redeploy the Confluence web app into your application server.
8. Restart Confluence.

#### Step 2 of the Patch Procedure: Upgrade the Affected Plugins

Some of the above vulnerabilities exist in plugins and are therefore not included in the patch. To fix these vulnerabilities, you will need to upgrade the affected plugins. You can upgrade the plugins in the normal manner, via the **Confluence Plugin Repository**. Please refer to the documentation for more details on installing plugins.

- Install the latest version (v3.3.1) of the Dynamic Tasklist 2 plugin.
- Install the latest version (v1.2.2) of the Documentation Theme plugin.

## Confluence Security Advisory 2010-11-15

### *Security Vulnerability in Confluence Remote API*

#### Severity

Atlassian rates the severity level of this vulnerability as **critical**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

#### Risk Assessment

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We have identified and fixed a vulnerability in the Remote API which affects Confluence instances, including publicly available instances. The Remote API allows an attacker to escalate user privileges, excluding the level of system administrator privileges.

#### Vulnerability

The table below describes the Confluence versions and the specific functionality affected by the RPC vulnerability.

| Confluence Feature | Affected Confluence Versions | Fixed Version | Issue Tracking |
|---|---|---|---|
| User Access | 2.7 – 3.4 | 3.4.2 | CONF-21162 |

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix this vulnerability.

We strongly advise that you disable the remote APIs until your Confluence instance is patched or upgraded. If the Remote API is vital, we recommend you disable anonymous access to the remote API.

We also recommend that you read our guidelines on best practices for configuring Confluence security.

#### Fix

Confluence 3.4.2 fixes this issue. For a full description of this release, see the release notes. You can download Confluence 3.4.2 from the download centre.

If you cannot upgrade to Confluence 3.4.2, you can patch your existing installation using the patch listed below.

#### *Available Patch*

If for some reason you cannot upgrade to the latest version of Confluence, you can apply the following patch to fix the vulnerability described in this security advisory.

| Vulnerability | Patch |
|---|---|
| Security vulnerability in Confluence Remote API | confluence-3.4.2-security-patch-for-2.7-to-3.4.1.zip |

#### Patch Procedure: Install the Patch

A patch is available for Confluence 2.7 – 3.4.1.

The patch addresses the following issue:

- Security vulnerability in Confluence RPC (CONF-21162).

Applying the patch

If you are using the Confluence 2.7 – 3.4.1 distributions:

1. Shut down Confluence.
2. Make a backup of the `<confluence_install_dir>/confluence/` directory.
3. Download the confluence-3.4.2-security-patch-for-2.7-to-3.4.1.zip file.
4. Expand the zip file into `<confluence_install_dir>/confluence/`, overwriting the existing files.
5. Restart Confluence.
6. Visit <Confluence base url>/admin/patch342applied.jsp and confirm that it reports: "The Patch for Confluence 3.4.2 has been correctly applied."

If you are using the WAR distribution of Confluence:

1. Shut down Confluence.
2. Make a backup of the `<confluence_exploded_war>/confluence/ directory`.
3. Download the confluence-3.4.2-security-patch-for-2.7-to-3.4.1.zip file.
4. Expand the zip file into `<confluence_exploded_war>/confluence/`, overwriting the existing files.

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5. Run '`build.sh clean`' on UNIX, or '`build.bat clean`' on Windows.
6. Run '`build.sh`' on UNIX or '`build.bat`' on Windows.
7. Redeploy the Confluence web app into your application server.
8. Restart Confluence.
9. Visit <Confluence base url>/admin/patch342applied.jsp and confirm that it reports: "The Patch for Confluence 3.4.2 has been correctly applied."

### Confluence Security Advisory 2011-01-18

This advisory announces a number of security vulnerabilities that we have found and fixed in recent versions of Confluence. We also provide patches that you will be able to apply to existing installations of Confluence to fix these vulnerabilities. However, we recommend that you upgrade your Confluence installation rather than applying the patches. Enterprise Hosted customers should request an upgrade by raising a support request at http://support.atlassian.com. JIRA Studio is not vulnerable to any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerabilities listed in this advisory have been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

**In this advisory:**


- XSS Vulnerabilities
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
  - Patches


#### *XSS Vulnerabilities*

##### Severity

Atlassian rates the severity level of these vulnerabilities as **high**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

##### Risk Assessment

We have identified and fixed a number of cross-site scripting (XSS) vulnerabilities which may affect Confluence instances, including publicly available instances (that is, internet-facing servers). XSS vulnerabilities potentially allow an attacker to embed their own JavaScript into a Confluence page. You can read more about XSS attacks at cgisecurity.com, The Web Application Security Consortium and other places on the web.

##### Vulnerability

The table below describes the Confluence versions and the specific functionality affected by the XSS vulnerabilities.

| Confluence Feature | Affected Confluence Versions | Issue Tracking |
|---|---|---|
| Code macro | 2.7 – 3.4 | CONF-21098 |
| Attachments macro | 3.3 – 3.4 | CONF-21099 |
| Bookmarks macro | 3.1 – 3.4.3 | CONF-21390 |
| Global Reports macro | 2.7 – 3.4.3 | CONF-21391 |
| Recently Updated macro | 3.0 - 3.4.3 | CONF-21392 |
| Pagetree macro | 2.7 - 3.4.3 | CONF-21393 |
| Create Space Button macro | 2.7 - 3.4.3 | CONF-21394 |
| Documentation Link macro | 2.7 – 3.4.5 | CONF-21508 |

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Our thanks to **dave b**, who reported the vulnerability in the Documentation Link macro. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable public signup to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

We also recommend that you read our guidelines on best practices for configuring Confluence security.

#### Fix

Confluence 3.4.6 fixes these issues. For a full description of this release, see the release notes. You can download the latest version of Confluence from the download centre.

#### Patches

If for some reason you cannot upgrade to the latest version of Confluence, you can apply patches to fix the vulnerabilities described in this security advisory. The patches are attached to the relevant issues, as listed in the table above.

Please note that we have released a number of advisories about Confluence recently. We recommend that you review them and upgrade to the most recent release of the product or apply external security controls if you cannot. Most of the disclosed vulnerabilities are not critical and often present less risk when used in a corporate environment with no access from the Internet.

We usually provide patches only for vulnerabilities of critical severity, as an interim solution until you can upgrade. You should not expect that you can continue patching your system instead of upgrading. Our patches are often non-cumulative – we do not recommend that you apply multiple patches from different advisories on top of each other, but strongly recommend to upgrade to the most recent version regularly.

**We recommend patching only when you can neither upgrade nor apply external security controls.**

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Code Macro | atlassian-renderer-6.2.jar | CONF-21098 | Download |
| 3.3.x | Code Macro | atlassian-renderer-6.0.6.jar | CONF-21098 | Download |

Customers running Confluence 3.4.x:

Please replace the following JAR file with the updated atlassian-renderer-6.2.jar:

```
CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/lib/atlassian-renderer.jar
```

Customers running Confluence 3.3.x:

Please replace the following JAR file with the updated atlassian-renderer-6.0.6.jar:

```
CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/lib/atlassian-renderer.jar
```

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Attachments macro | attachments-table.vm-3.4.x.zip | CONF-21099 | Download |

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| | | | | |
|---|---|---|---|---|
| 3.3.x | Attachments macro | attachments-table.vm.zip | CONF-21099 | Download |

Customers running Confluence 3.4.x:

Please replace the following *vm* file with the updated attachments-table.vm-3.4.x.zip:

```
CONFLUENCE_INSTALL_DIR/confluence/pages/includes/attachments-table.vm
```

Customers running Confluence 3.3.x:

Please replace the following *vm* file with the updated attachments-table.vm:

```
CONFLUENCE_INSTALL_DIR/confluence/pages/includes/attachments-table.vm
```

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x, 3.3.x | Bookmarks macro | socialbookmarking-1.3.4.jar | CONF-21390 | Download |

Update the *.jar* file with the fix contained in the file archive (*zip*). Follow these steps to do so:

- Browse to `CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/classes/com/atlassian/confluence/setup`
- Open the file **atlassian-bundled-plugins.zip**
- Decompress the contents into another location
- Replace the current **socialbookmarking.jar** with the correct file according to your version.
- Compress all the *jar* files into another zip with the same name as the original file (*atlassian-bundled-plugins.zip*)
- Please note, make sure you place the files directly inside the *zip*, not contained inside another folder.

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Global Reports Macro | confluence-dashboard-macros-3.4.4.jar | CONF-21391 | Download |
| 3.3.x | Global Reports Macro | confluence-dashboard-macros-1.13.1.jar | CONF-21391 | Download |

Update the *.jar* file with the fix contained in the file archive (*zip*). Follow these steps to do so:

- Browse to `CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/classes/com/atlassian/confluence/setup`
- Open the file **atlassian-bundled-plugins.zip**
- Decompress the contents into another location
- Replace the current **confluence-dashboard-macros.jar** the correct file according to your version.
- Compress all the *jar* files into another zip with the same name as the original file (*atlassian-bundled-plugins.zip*)
- Please note, make sure you place the files directly inside the *zip*, not contained inside another folder.

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Code Macro | confluence-advanced-macros-1.12.3.jar | CONF-21392 | Download |

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| | | | | |
|---|---|---|---|---|
| 3.3.x | Code Macro | confluence-advanced-macros-1.9.2.jar | CONF-21392 | Download |

Update the *.jar* file with the fix contained in the file archive (*zip*). Follow these steps to do so:

- Browse to `CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/classes/com/atlassian/confluence/setup`
- Open the file **atlassian-bundled-plugins.zip**
- Decompress the contents into another location
- Replace the current **confluence-advanced-macros.jar** with the correct file according to your version.
- Compress all the *jar* files into another zip with the same name as the original file (*atlassian-bundled-plugins.zip*)
- Please note, make sure you place the files directly inside the *zip*, not contained inside another folder.

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Pagetree Macro | pagetree-1.20.jar | CONF-21393 | Download |

Update the *.jar* file with the fix contained in the file archive (*zip*). Follow these steps to do so:

- Browse to `CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/classes/com/atlassian/confluence/setup`
- Open the file **atlassian-bundled-plugins.zip**
- Decompress the contents into another location
- Replace the current **pagetree.jar** with the correct file according to your version.
- Compress all the *jar* files into another zip with the same name as the original file (*atlassian-bundled-plugins.zip*)
- Please note, make sure you place the files directly inside the *zip*, not contained inside another folder.

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Create Space Button macro | confluence-dashboard-macros-3.4.4.jar | CONF-21394 | Download |
| 3.3.x | Create Space Button macro | confluence-dashboard-macros-1.13.1.jar | CONF-21394 | Download |

Update the *.jar* file with the fix contained in the file archive (*zip*). Follow these steps to do so:

- Browse to `CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/classes/com/atlassian/confluence/setup`
- Open the file **atlassian-bundled-plugins.zip**
- Decompress the contents into another location
- Replace the current **confluence-dashboard-macros.jar** with the correct file according to your version.
- Compress all the *jar* files into another zip with the same name as the original file (*atlassian-bundled-plugins.zip*)
- Please note, make sure you place the files directly inside the *zip*, not contained inside another folder.

| Supported Version | Confluence Feature | File Name | Issue Tracking | Download Security Update |
|---|---|---|---|---|
| 3.4.x | Documentation Link macro | confluence-advanced-macros-1.12.3.jar | CONF-21508 | Download |
| 3.3.x | Documentation Link macro | confluence-advanced-macros-1.9.2.jar | CONF-21508 | Download |

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Update the *.jar* file with the fix contained in the file archive (*zip*). Follow these steps to do so:

- Browse to `CONFLUENCE_INSTALL_DIR/confluence/WEB-INF/classes/com/atlassian/confluence/setup`
- Open the file **atlassian-bundled-plugins.zip**
- Decompress the contents into another location
- Replace the current **confluence-advanced-macros.jar** with the correct file according to your version.
- Compress all the *jar* files into another zip with the same name as the original file (*atlassian-bundled-plugins.zip*)
- Please note, make sure you place the files directly inside the *zip*, not contained inside another folder.

## Confluence Security Advisory 2011-03-24

This cumulative advisory announces a number of security vulnerabilities that we have found in Confluence and fixed in recent versions of Confluence. We also provide upgraded plugins and patches that you will be able to apply to existing installations of Confluence to fix these vulnerabilities. However, we recommend that you upgrade your complete Confluence installation rather than upgrading only the affected plugins. **Enterprise Hosted** customers should request an upgrade by raising a support request at http://support.atlassian.com. **JIRA Studio** is not vulnerable to any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerabilities listed in this advisory have been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

**In this advisory:**


- XSS Vulnerabilities
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
  - Patches


### *XSS Vulnerabilities*

#### Severity

Atlassian rates the severity level of these vulnerabilities as **high**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

These vulnerabilities are **not** critical. This is an independent assessment and you should evaluate its applicability to your own IT environment.

#### Risk Assessment

We have identified and fixed a number of cross-site scripting (XSS) vulnerabilities which may affect Confluence instances, including publicly available instances (that is, Internet-facing servers). XSS vulnerabilities allow an attacker to embed their own JavaScript into a Confluence page. You can read more about XSS attacks at cgisecurity.com, The Web Application Security Consortium and other places on the web.

#### Vulnerability

The table below describes the Confluence versions and the specific functionality affected by each of the XSS vulnerabilities.

| Confluence Feature | Affected Confluence Versions | Issue Tracking |
|---|---|---|
| Include Page macro | 2.7 – 3.4.6 | CONF-21604 |
| Activity Stream gadget | 3.1 – 3.4.6 | CONF-21606 |
| Action links of attachments lists | 2.7 – 3.4.7 | CONF-21766 |
| Table of Contents macro | 2.9 – 3.4.8 | CONF-21819 |

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Our thanks to **Dave B**, who reported the vulnerability in the action links of attachments lists. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable public signup to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

We also recommend that you read our guidelines on best practices for configuring Confluence security.

#### Fix

Confluence 3.4.9 or later fixes all of these issues. Some issues have been fixed in earlier versions as described in the table above. For a full description of this release, see the release notes. You can download the latest version of Confluence from the download centre. The most recent version at the time of this advisory is Confluence 3.5.

#### Patches

If for some reason you cannot upgrade to the latest version of Confluence, you can upgrade the relevant plugins (below) in your Confluence installation to fix the vulnerabilities described in this security advisory.

For details on upgrading Confluence's plugins using the plugin manager, see:

- Upgrading your Existing Plugins (for Confluence 3.4.x) or
- Installing and Configuring Plugins using the Plugin Repository Client (for Confluence 3.3.x).

Patches are also attached to the relevant issues (listed in the table above) if you need to apply these fixes manually.



Please note that we have released a number of advisories about Confluence recently. We recommend that you review them and upgrade to the most recent release of the product or apply external security controls if you cannot. Most of the disclosed vulnerabilities are not critical and often present less risk when used in a corporate environment with no access from the Internet.

We usually provide patches only for vulnerabilities of critical severity, as an interim solution until you can upgrade. You should not expect that you can continue patching your system instead of upgrading. Our patches are often non-cumulative – we do not recommend that you apply multiple patches from different advisories on top of each other, but strongly recommend to upgrade to the most recent version regularly.

**We recommend patching only when you can neither upgrade nor apply external security controls.**

Include Page Macro

| Supported Confluence Versions | Issue Tracking | File Name | Downloadable Patch |
|---|---|---|---|
| 3.4.x | CONF-21604 | confluence-advanced-macros-1.12.4.jar | Download |
| 3.3.x | CONF-21604 | confluence-advanced-macros-1.9.3.jar | Download |

To apply this fix, use the plugin manager to upgrade the **Advanced Macros** plugin to a version greater than or equal to that specified in the file name above.
Activity Stream Gadget

| Supported Confluence Versions | Issue Tracking | File Name | Downloadable Patch |
|---|---|---|---|

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| | | | |
|---|---|---|---|
| 3.3.x | CONF-21606 | streams-confluence-plugin-3.3-CONF-21606.jar | Download |
| 3.4.x | CONF-21606 | streams-confluence-plugin-3.4.6.jar | Download |

It's currently not possible to upgrade the Activity Streams Plugin automatically using the 3.4 plugin manager or the 3.3 plugin repository. Instead, you will need to manually install the plugin as follows:

1. Download the JAR file for your version of Confluence (see above).
2. Install the plugin manually using the "Upload Plugin" link on the "Install" tab of the plugin manager.

Action links of attachments lists

| Supported Confluence Versions | Issue Tracking | File Name | Downloadable Patch |
|---|---|---|---|
| 3.3.x, 3.4.x | CONF-21766 | confluence-attachments-plugin-2.20.jar | Download |

To apply this fix, use the plugin manager to upgrade the **Confluence Attachments Plugin** plugin to a version greater than or equal to that specified in the file name above.
Table of Contents macro

| Supported Confluence Versions | Issue Tracking | File Name | Downloadable Patch |
|---|---|---|---|
| 3.3.x, 3.4.x | CONF-21819 | toc-plugin-2.4.12.jar | Download |

To apply this fix, use the plugin manager to upgrade the **Table of Contents Plugin** plugin to a version greater than or equal to that specified in the file name above.

### Confluence Security Advisory 2011-05-31

It has been incorrectly advised previously that CONF-22479 (User Preferences) affects all versions starting 2.7 while in fact it is exploitable only in 3.5 and above. Our sincere apologies, this will not happen again.

You can still apply the patch to 3.4 in order to remove the root cause of this bug and potentially prevent other similar vulnerabilities from appearing

This advisory announces security vulnerabilities that we have found in Confluence and fixed in a recent version of Confluence. We also provide upgraded plugins and patches that you will be able to apply to existing installations of Confluence to fix these vulnerabilities. However, we recommend that you upgrade your complete Confluence installation rather than upgrading only the affected plugins. **Enterprise Hosted** customers should request an upgrade by raising a support request at http://support.atlassian.com. **JIRA Studio** is not vulnerable to the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerabilities listed in this advisory have been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

In this advisory:


- XSS Vulnerabilities
  - Severity
  - Risk Assessment
  - Vulnerability
  - Risk Mitigation
  - Fix
  - Patches
  - Patch Procedure: Install the Patch


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        - Applying the patch
- XSRF Vulnerability
    - Severity
    - Risk Assessment
    - Vulnerability
    - Risk Mitigation
    - Fix
    - Patches
    - Patch Procedure: Install the Patch
        - Applying the patch


## XSS Vulnerabilities

### Severity

Atlassian rates the severity level of both these vulnerabilities as **high**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, medium or low. These vulnerabilities are **not** critical. This is an independent assessment and you should evaluate its applicability to your own IT environment.

### Risk Assessment

We have identified and fixed cross-site scripting (XSS) vulnerabilities that may affect Confluence instances, including publicly available instances (that is, Internet-facing servers). XSS vulnerabilities allow an attacker to embed their own JavaScript into a Confluence page. You can read more about XSS attacks at cgisecurity.com, The Web Application Security Consortium and other places on the web.

### Vulnerability

The table below describes the Confluence versions and the specific functionality affected by the XSS vulnerabilities.

| Confluence Feature | Affected Confluence Version | Fixed Version | Issue Tracking |
|---|---|---|---|
| Login | 3.5 – 3.5.2 | 3.5.3 | CONF-22402 |
| User Preferences | 3.5 – 3.5.2 | 3.5.3 | CONF-22479 |

> Our thanks to Marian Ventuneac (http://www.ventuneac.net) who reported the vulnerabilities mentioned above. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable public signup to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

We also recommend that you read our guidelines on best practices for configuring Confluence security.

### Fix

These vulnerabilities (CONF-22402 and CONF-22479) are both fixed in Confluence 3.5.3, and later versions. For a full description of the latest version of Confluence, see the release notes. You can download the latest version of Confluence from the download centre.

If you cannot upgrade to the latest version of Confluence, you can temporarily patch your existing installation using the patch listed below. We strongly recommend upgrading and not patching.

### Patches

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If you are running Confluence 3.5, we highly recommend that you upgrade to Confluence 3.5.3, or later.
If you are running Confluence 3.4, you can apply the following patch to fix the CONF-22479 vulnerability. The CONF-22402 vulnerability does not affect Confluence 3.4.

| Vulnerability | Patch | Patch File Name |
|---|---|---|
| User Preferences | Attached to issue CONF-22479 | CONF-22479_patch.zip |

#### Patch Procedure: Install the Patch

A patch is available for Confluence 3.4 – 3.4.9.

The patch addresses the following issue:

Security vulnerability in Confluence User Preferences (CONF-22479).
Applying the patch

If you are using Confluence 3.4 – 3.4.9:

1. Download the CONF-22479_patch.zip file that is attached to the CONF-22479 issue.
2. Stop Confluence.
3. Make a backup of the <confluence_install_dir> directory.
4. Expand the downloaded zip file into <confluence_install_dir>, overwriting the existing files.
5. Check that the following files were created:
    - confluence/WEB-INF/classes/com/atlassian/confluence/core/ConfluenceActionSupport.properties
    - confluence/WEB-INF/classes/com/atlassian/confluence/languages/DefaultLocaleManager.class
    - confluence/WEB-INF/classes/com/atlassian/confluence/user/actions/EditMySettingsAction.class
6. Restart Confluence.

### XSRF Vulnerability

#### Severity

Atlassian rates the severity level of both this vulnerability as **medium**, according to the scale published in Severity Levels for Security Issues for Security Issues. The scale allows us to rank the severity as critical, high, medium or low.
This vulnerability is **not** critical. This is an independent assessment and you should evaluate its applicability to your own IT environment.

#### Risk Assessment

We have identified and fixed a cross-site request forgery (XSRF) vulnerability that may affect Confluence instances, including publicly available instances (that is, Internet-facing servers). XSRF vulnerabilities allow an attacker to trick users into unintentionally adding bookmarks to Confluence spaces. You can read more about XSRF attacks at http://www.cgisecurity.com/csrf-faq.html and other places on the web.

#### Vulnerability

The table below describes the Confluence versions and the specific functionality affected by the XSRF vulnerability.

| Confluence Feature | Affected Confluence Version | Fixed Version | Issue Tracking |
|---|---|---|---|
| Social Bookmarking plugin | 3.0 – 3.4.9 | 3.5 | CONF-22565 |

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix these vulnerabilities.

Alternatively, if you are not in a position to upgrade immediately and you judge it necessary, you can disable public signup to your wiki until you have applied the necessary patch or upgrade. For even tighter control, you could restrict access to trusted groups.

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We also recommend that you read our guidelines on best practices for configuring Confluence security for configuring Confluence security.

#### Fix

This vulnerability (CONF-22565) is fixed in Confluence 3.5, and later versions.
For a full description of the latest version of Confluence, see the release notes. You can download the latest version of Confluence from the download centre.

If you cannot upgrade to the latest version of Confluence, you can temporarily patch your existing installation using the patch listed below. We strongly recommend upgrading and not patching.

#### Patches

If you are running Confluence 3.5, the CONF-22565 vulnerability is already fixed, but we highly recommend that you upgrade to the latest version of Confluence.
If you are running Confluence 3.4, you can apply the following patch to fix the CONF-22565 vulnerability.

For details on upgrading Confluence's plugins using the plugin manager, see:

- Upgrading your Existing Plugins

| Vulnerability | Patch | Patch File Name |
|---|---|---|
| Social Bookmarking plugin | Attached to issue CONF-22565 | socialbookmarking-1.3.9.jar |

#### Patch Procedure: Install the Patch

A patch is available for Confluence 3.4 – 3.4.9.

The patch addresses the following issue:

- Security vulnerability in Confluence Settings Social Bookmarking plugin (CONF-22565).

Applying the patch

If you are using Confluence 3.4 – 3.4.9, use the plugin manager to upgrade the Social Bookmarking plugin to a version equal to or greater than that specified in the file name above.
For details on using the plugin manager, see Upgrading your Existing Plugins.

## Confluence Security Advisory 2012-05-17

This advisory discloses a **critical** security vulnerability that exists in all versions of Confluence up to and including 4.1.9.

- **Customers who have downloaded and installed Confluence** should upgrade their existing Confluence installations to fix this vulnerability.
- **Enterprise Hosted customers** need to request an upgrade by raising a support request at http://support.atlassian.com in the "Enterprise Hosting Support" project.
- **JIRA Studio and Atlassian OnDemand customers** are not affected by any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerability listed in this advisory has been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

If you have questions or concerns regarding this advisory, please raise a support request at http://support.atlassian.com/.

**In this advisory:**


- Critical XML Parsing Vulnerability
  - Severity
  - Description
  - Risk Mitigation
  - Fix


#### *Critical XML Parsing Vulnerability*

Created in 2013 by Atlassian. Licensed under a Creative Commons Attribution 2.5 Australia License.

#### Severity

Atlassian rates the severity level of this vulnerability as **critical**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

This is an independent assessment and you should evaluate its applicability to your own IT environment.

#### Description

We have identified and fixed a vulnerability in Confluence that results from the way third-party XML parsers are used in Confluence. This vulnerability allows an attacker to:

- execute denial of service attacks against the Confluence server, or
- read all local files readable to the system user under which Confluence runs.

The attacker does not need to have an account with the affected Confluence instance.

All versions of Confluence **up to and including 4.1.9** are affected by this vulnerability. This issue can be tracked here: **CONF-25077** - XML Vulnerability in Confluence (Resolved)

The Gliffy for Confluence plugin is also vulnerable to this exploit. If you are using the Gliffy plugin for Confluence with *any* version of Confluence, you will need to upgrade it (see 'Fix' section below) or disable it.

#### Risk Mitigation

We recommend that you upgrade your Confluence installation to fix this vulnerability.

Alternatively, if you are not in a position to upgrade immediately, you should do **all** of the following until you can upgrade. Please note, these measures will only limit the impact of the vulnerability, they will not mitigate it completely.

- Disable access to the SOAP and XML-RPC APIs, if these remote APIs are not required. Note, remote API access is disabled by default. See enabling remote APIs for instructions.
  Disable the following plugins/plugin modules (see Disabling and Enabling Add-ons):
  - Office Connector plugin
  - JUnitReport macro module of the confluence-advanced-macros plugin (called "Advanced Macros" in the interface)
  - confluence-jira3-macros plugin (called "JIRA Macros" in the interface)
  - WebDAV
- Disable public access (such as anonymous access and public signup) to Confluence until you have upgraded.
- Ensure that your Confluence system user is restricted as described in best practices for configuring Confluence security.

#### Fix

### Upgrade

1. Upgrade to Confluence 4.2 or later which fixes this vulnerability. For a full description of this release, see the Confluence 4.2 Release Notes. The following releases have also been made available to fix these issues in older Confluence versions. You can download these versions of Confluence from the download centre.
   - Confluence 4.1.10 for Confluence 4.1
   - Confluence 4.0.7 for Confluence 4.0
   - Confluence 3.5.17 for Confluence 3.5
2. Upgrade the following Confluence third-party plugins, if you are using them. The table below describes which version of the plugin you should upgrade to, depending on your Confluence version. See Updating Add-ons for instructions on how to update a plugin.

| Plugin | Confluence 4.2 | Confluence 4.1 | Confluence 4.0 | Confluence 3.5 |
|---|---|---|---|---|
| Gliffy plugin for Confluence | 4.2 | 4.2 | 4.2 | 4.2 |

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### Patches

There are no patches available for this vulnerability. Due to the extent of the changes required to fix the vulnerability, it is not possible to provide patches that resolve the issue without compromising the reliability of Confluence. You must upgrade to fix this vulnerability.

### Confluence Security Advisory 2012-09-04

This advisory can be found here: Confluence Security Advisory 2012-09-11.

### Confluence Security Advisory 2012-09-11

This advisory discloses security vulnerability that we have found and fixed in a recent version of Confluence.

- **Customers who have downloaded and installed Confluence** should upgrade their existing Confluence installations to fix this vulnerability.
- **Enterprise Hosted customers** need to request an upgrade by raising a support request. See Enterprise Hosting Upgrade Time Windows for instructions.
- **Atlassian OnDemand and JIRA Studio customers** are not affected by any of the issues described in this advisory.

Atlassian is committed to improving product security. The vulnerability listed in this advisory has been discovered by Atlassian, unless noted otherwise. The reporter may also have requested that we do not credit them.

If you have questions or concerns regarding this advisory, please raise a support request at http://support.atlassian.com/.

**In this advisory:**


- XSS Vulnerability


#### *XSS Vulnerability*

##### Severity

Atlassian rates the severity level of this vulnerability as **High**, according to the scale published in Severity Levels for Security Issues. The scale allows us to rank the severity as critical, high, medium or low.
This is an independent assessment and you should evaluate its applicability to your own IT environment. This vulnerability is **not** of Critical severity.

##### Description

We have identified and fixed a reflected, or non-persistent, cross-site scripting (XSS) vulnerability that affects Confluence instances, including publicly available instances (that is, Internet-facing servers). XSS vulnerabilities allow an attacker to embed their own JavaScript into a Confluence page when it is viewed by the victim's browser. An attacker does not need an account on Confluence server. A successful attack does not necessarily modify any server content.

We recommend you to read about XSS attacks at Wikipedia, The Web Application Security Consortium and other places on the web before considering specific mitigations for this vulnerability.

This vulnerability affects all versions of Confluence earlier than 4.1.8. It has been fixed in Confluence 4.1.9 and later. This issue can be tracked here:

**CONF-26366** - Cross Site Scripting Vulnerability ( Resolved)

##### Risk Mitigation

We strongly recommend upgrading your Confluence installation to fix this vulnerability. Please see the 'Fix' section below.

One possible workaround is to block requests to certain URLs before they reach Confluence. HTTP GET requests to any Confluence URLs where the file name is ".vm" should be blocked. For example, if you use Apache web server to front Confluence and your Confluence is under /wiki path, then you can set up the following rules to block XSS attempts:

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```
<LocationMatch ^/wiki/.*\.vm\?.* >
   Deny from all
</LocationMatch>

<LocationMatch ^/wiki/.*\.vm$ >
   Deny from all
</LocationMatch>
```

We recommend that you read the links above about how XSS attacks work before applying any workarounds. This code is only an example.

#### Fix

### Upgrade

The vulnerability and fix version are described in the 'Description' section above.

We recommend that you upgrade to Confluence 4.1.9 or later, if possible. For a full description of the latest version of Confluence, see the release notes. You can download the latest version of Confluence from the download centre.

**Update 13 Sep 2012:** Patch for Confluence 3.5.x is now available. See the issue CONF-26366 - Cross Site Scripting Vulnerability (Resolved) for patch files and instructions. Please note this patch goes beyond our current Security Patch Policy and you should not expect availability of similar patches in the future. Patching is a measure of last resort when you cannot upgrade.

> Our thanks to **D. Niedermaier** of **Intrest SEC** who reported the XSS vulnerability described in this advisory. 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 2013-08-05

This advisory discloses a critical security vulnerability that we have found in Confluence and fixed in a recent version of Confluence.

- **Customers who have downloaded and installed Confluence** should upgrade their existing Confluence installations or apply the patch to fix this vulnerability.
- **Atlassian OnDemand customers** have been upgraded with the fix for the issue described in this advisory.
- No other Atlassian products are affected.

The vulnerability affects all versions of Confluence up to and including 5.1.4.

Atlassian is committed to improving product security. We fully support the reporting of vulnerabilities and we appreciate it when people work with us to identify and solve the problem.

If you have questions or concerns regarding this advisory, please raise a support request at http://support.atlassian.com.

#### *OGNL double evaluation in atlassian-xwork*

#### Severity

Atlassian rates the severity level of this vulnerability as **critical**, according to the scale published in Severity Levels of Security Issues. The scale allows us to rank the severity as critical, high, moderate or low.

This is an independent assessment and you should evaluate its applicability to your own IT environment.

#### Description

We have fixed a vulnerability in our version of Xwork. In specific circumstances, attackers can use this vulnerability to execute Java code of their choice on systems that use these frameworks. The attacker needs to be able to access the Confluence web interface. In cases when anonymous access is enabled, a valid user

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account is not required to exploit this vulnerability.

The vulnerability affects all versions of Confluence up to and including 5.1.4. It has been fixed in 5.1.5. The issue is tracked in CONF-30221 - OGNL double evaluation in atlassian-xwork (Resolved) .

Our thanks to Reginaldo Silva (http://www.ubercomp.com/) who reported the vulnerability in this advisory.

#### Risk Mitigation

If you are unable to upgrade or patch your Confluence server you can do the following as a **temporary workaround**:

- Block access to all URLs on a Web Application Firewall or a reverse proxy that contain a string "${" in URL parameters or request body. Note that this string can be URL-encoded. Do not apply this or a similar filter together with the patch provided below, as the login page will break.
- Block access to your Confluence server web interface from untrusted networks, such as the Internet.

#### Fix

This vulnerability can be fixed by upgrading Confluence. There is also a patch available for this vulnerability for all supported versions of Confluence. If you have any questions, please raise a support request at http://support.atlassian.com. We recommend upgrading.

The Security Patch Policy describes when and how we release security patches and security upgrades for our products.

##### *Upgrading Confluence*

Upgrade to Confluence 5.1.5 or a later version, which fixes this vulnerability. For a full description of these releases, see the Confluence Release Notes. You can download these versions of Confluence from the download centre. If you have migrated from Atlassian OnDemand and are using Confluence 5.x-OD, you should upgrade to 5.2-OD-13-1.

##### *Patches*

We recommend patching **only** when you cannot upgrade or cannot apply external security controls. Patches are usually only provided for vulnerabilities of critical severity (as per our Security Patch Policy) as an interim solution until you can upgrade. You should not expect that you can continue patching your system instead of upgrading. Our patches are often non-cumulative – we do not recommend that you apply multiple patches from different advisories on top of each other, but strongly recommend upgrading to the most recent version regularly.

If for some reason you cannot upgrade to the latest version of Confluence, you must apply the patch provided below to fix the vulnerability described in this advisory. It has been tested for all supported versions of Confluence and may work for unsupported versions as well.

1. Download the patch file.

| Version | Patch | Tracking issue |
|---|---|---|
| Confluence 3.5 - 5.1.4 | xwork-1.0.3.6.jar | CONF-30221 - OGNL double evaluation in atlassian-xwork (Resolved) |

   MD5 (xwork-1.0.3.6.jar) = 59c8950b1129637bb63aea94b4139d7f
2. Shutdown Confluence.
3. Move file `<CONFLUENCE-INSTALL>/confluence/WEB-INF/lib/xwork-1.x.x.x.jar` to a location outside the `<CONFLUENCE-INSTALL>` folder.
4. Add the downloaded xwork-1.0.3.6.jar file to folder `<CONFLUENCE-INSTALL>/confluence/WEB-INF/lib/`.
5. Start up Confluence again.

To confirm that you have applied the patch successfully, check the version of the xwork jar that has been loaded into Confluence as follows.

1. Log in as administrator.

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2. Navigate to /admin/classpath.action URL on your instance and search for "/xwork-".
3. There should be a single hit: xwork-1.0.3.6.jar. This confirms that the patch has been correctly applied.

**Note:** This patch has the following side effect.

If you have configured **all** of the below:

1. allowed anonymous access in global permissions
2. allowed anonymous view in space permissions
3. restricted some content in that space so that anonymous cannot view it

then any time a non-logged-in user tries to view the restricted content they will be redirected to a login page normally, but once they are logged in they will be redirected to the site homepage, not their original destination.

**Workaround:** Once the user has logged in, they should manually navigate back to the page they intended to view.

## Confluence Cookies

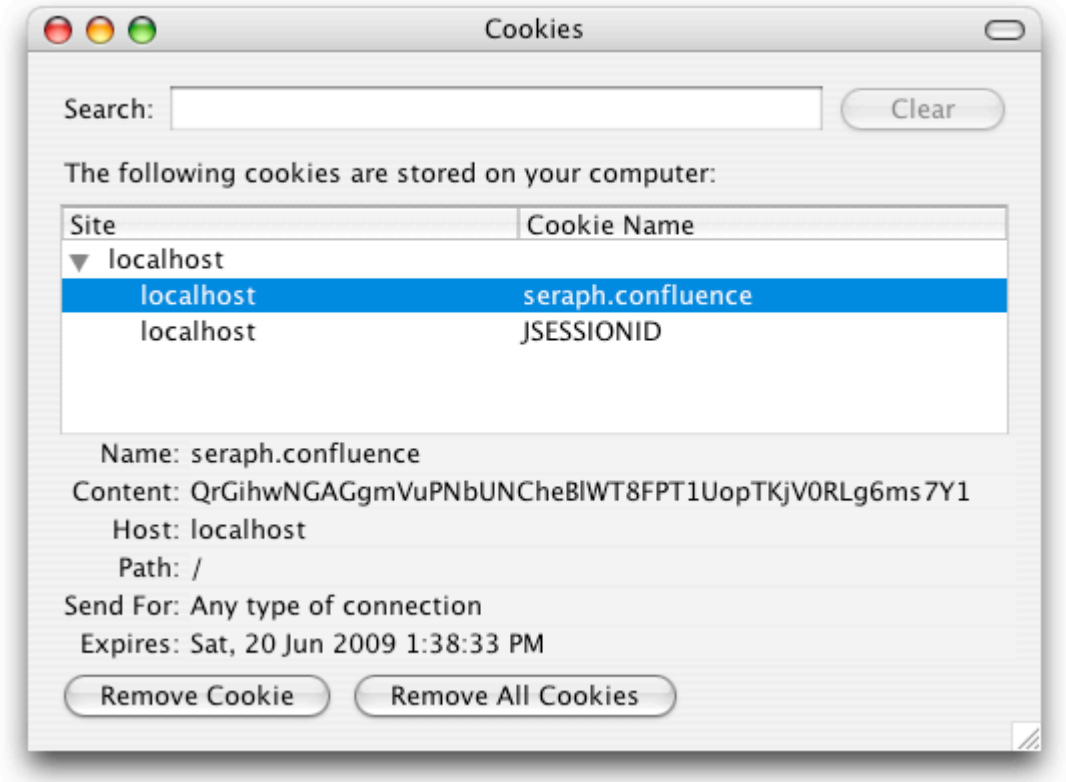
This page lists cookies stored in Confluence users' browsers which are generated by Confluence itself. This page does not list cookies that may originate from 3rd-party Confluence plugins.

### Authentication cookies

Confluence uses Seraph, an open source framework, for HTTP cookie authentication. Confluence uses two types of cookies for user authentication:

- The JSESSIONID cookie is created by the application server and used for session tracking purposes. This cookie contains a random string and the cookie expires at the end of every session or when the browser is closed.
- The 'remember me' cookie, `seraph.confluence`, is generated by Confluence when the user selects the **Remember me** check box on the login page.

You can read about cookies on the Wikipedia page about HTTP cookies.




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**On this page:**


- Authentication cookies
  - The 'remember me' cookie
- Other Confluence cookies
- Notes


*The information on this page does not apply to Confluence OnDemand.*

#### *The 'remember me' cookie*

The 'remember me' cookie, `seraph.confluence`, is a long-lived HTTP cookie. This cookie can be used to authenticate an unauthenticated session. Confluence generates this cookie when the user selects the **Remember me** check box on the login page.

##### *Cookie key and contents*

By default, the cookie key is `seraph.confluence`, which is defined by the `login.cookie.key` parameter in the `CONFLUENCE-INSTALLATION/confluence/WEB-INF/classes/seraph-config.xml` file.

The cookie contains a unique identifier plus a securely-generated random string (i.e. token). This token is generated by Confluence and is also stored for the user in the Confluence database.

##### *Use of cookie for authentication*

When a user requests a web page, if the request is not already authenticated via session-based authentication or otherwise, Confluence will match the 'remember me' cookie (if present) against the token (also if present), which is stored for the user in the Confluence database.

If the token in the cookie matches the token stored in the database and the cookie has not expired, the user is authenticated.

##### *Life of 'remember me' cookies*

You can configure the maximum age of the cookie. To do that you will need to modify the `CONFLUENCE-INSTALLATION/confluence/WEB-INF/classes/seraph-config.xml` file and insert the following lines below the other `init-param` elements:

```
<init-param>
 <param-name>autologin.cookie.age</param-name>
 <param-value>2592000</param-value><!-- 30 days in seconds -->
</init-param>
```

##### *Automatic cleanup of 'remember me' tokens*

Every cookie issued by Confluence has a corresponding record in the database. A scheduled job runs on the 20th of every month to clean up expired tokens. The name of the trigger is `clearExpiredRememberMeTokensTrigger`.

*Note:* The only purpose of this job is to prevent the database table from growing too big. For authentication purposes, Confluence will ignore expired tokens even if they still exist in the database.

##### *Is it possible to disable the 'remember me' feature?*

Confluence does not offer an option for disabling the 'Remember Me' feature. See the workaround.

#### Other Confluence cookies

There are several cookies that Confluence uses to store basic 'product presentation' states. Confluence users'

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authentication details are not stored by these cookies.

| Cookie Key | Purpose | Cookie Contents | Expiry |
|---|---|---|---|
| **doc-sidebar** | Remembers the user's preference for the width of the navigation sidebar in the Confluence documentation theme. | The width of the sidebar in pixels. For example, 300px | One year from the date it was set or was last updated. |
| **confluence.list.pages.cookie** | Remembers the user's last chosen tab in the "list pages" section. | The name of the last selected tab. For example, list-content-tree | One year from the date it was set or was last updated. |
| **confluence.browse.space.cookie** | Remembers the user's last chosen tab in the "browse space" section | The name of the last selected tab. For example, space-pages | One year from the date it was set or was last updated. |
| **confluence-language** | Remembers the user's language chosen on the login page. This cookie relates to a feature that allows a user to change Confluence's language from (and including) the login page, when the language presented to the user prior to logging in is not appropriate. | A locale relating to the chosen language. For example, de_DE | 360 days from the date it was set or was last updated. |
| **AJS.conglomerate.cookie** | Tracks which general tabs were last used or expansion elements were last opened or closed. | One or more key-value strings which indicate the states of your last general tab views or expansion elements. | One year from the date it is set or was last updated. |

**Notes**

- The *autocomplete* feature in browser text fields (which are typically noticeable when a user logs in to Confluence) is a browser-specific feature, not a Confluence one. Confluence cannot enable or disable this autocompletion, which is typically set through a browser's settings.

***RELATED TOPICS***

Administrators Guide Home Confluence Documentation Home

## Configuring Secure Administrator Sessions

Confluence protects access to its administrative functions by requiring a secure administration session to use the Confluence administration console or administer a space. When a Confluence administrator (who is logged into Confluence) attempts to access an administration function, they are prompted to log in again. This logs the administrator into a temporary secure session that grants access to the Confluence/space administration console.

The temporary secure session has a rolling timeout (defaulted to 10 minutes). If there is no activity by the administrator in the Confluence/space administration console for a period of time that exceeds the timeout, then the administrator will be logged out of the secure administrator session (note, they will remain logged into Confluence). If the administrator does click an administration function, the timeout will reset.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

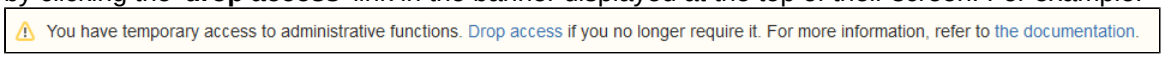
**To configure secure administrator sessions:**

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1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Security Configuration** in the left-hand panel.
3. Choose **Edit**.
4. Configure the setting as follows:
    - To disable secure administrator sessions, uncheck the **Enable** check box next to **Secure administrator sessions**. When this setting is disabled, administrators will no longer be required to log into a secure session to access the administration console.
    - To change the timeout for secure administrator sessions, update the value next to **minutes before invalidation**. The default timeout for a secure administration session is 10 minutes.
5. Choose **Save**.

**Notes**

- **Disabling password confirmation.** Confluence installations that use a custom authentication mechanism may run into problems with the Confluence security measure that requires password confirmation. If necessary, you can set the `password.confirmation.disabled` system property to disable the password confirmation functionality. See Recognised System Properties. See issue CONF-20958 "Confluence features that require password confirmation (websudo, captcha) do not work with custom authentication".
- **WebSudo.** The feature that provides secure administrator sessions is also called 'WebSudo'.
- **Manually ending a secure session.** An administrator can choose to manually end their secure session by clicking the '**drop access**' link in the banner displayed at the top of their screen. For example:




- **Note for developers.** Secure administrator sessions can cause exceptions when developing against Confluence or deploying a plugin. Please read this FAQ: How do I develop against Confluence with Secure Administrator Sessions? Note: The Confluence XML-RPC and REST APIs are not affected by secure administration sessions.

## Using Fail2Ban to limit login attempts

#### *What is Fail2Ban?*

We need a means of defending sites against brute-force login attempts. Fail2Ban is a Python application which trails logfiles, looks for regular expressions and works with Shorewall (or directly with iptables) to apply temporary blacklists against addresses that match a pattern too often. This can be used to limit the rate at which a given machine hits login URLs for Confluence.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *Prerequisites*

- Requires Python 2.4 or higher to be installed
- Needs a specific file to follow, which means your Apache instance needs to log your Confluence access to a known logfile. You **should adjust the configuration below** appropriately.

#### *How to set it up*

*This list is a skeletal version of the instructions*

- There's an RPM available for RHEL on the download page, but you can also download the source and set it up manually
- Its configuration files go into `/etc/fail2ban`
- The generic, default configuration goes into `.conf` files (`fail2ban.conf` and `jail.conf`). Don't change these, as it makes upgrading difficult.
- Overrides to the generic configuration go into `.local` files corresponding to the `.conf` files. These only need to contain the specific settings you want overridden, which helps maintainability.
- Filters go into `filter.d` — this is where you define regexps, each going into its own file
- Actions go into `action.d` — you probably won't need to add one, but it's handy to know what's available
- "jails" are a configuration unit that specify one regexp to check, and one or more actions to trigger when the threshold is reached, plus the threshold settings (e.g. more than 3 matches in 60 seconds causes that

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address to be blocked for 600 seconds)
- Jails are defined in `jail.conf` and `jail.local`. Don't forget the `enabled` setting for each one — it can be as bad to have the wrong ones enabled as to have the right ones disabled.

#### *Running Fail2Ban*

- Use `/etc/init.d/fail2ban {start|stop|status}` for the obvious operations
- Use `fail2ban-client -d` to get it to dump its current configuration to STDOUT. Very useful for troubleshooting.
- Mind the CPU usage; it can soak up resources pretty quickly on a busy site, even with simple regexp
- It can log either to syslog or a file, whichever suits your needs better

#### *Common Configuration*

**jail.local**

```
# The DEFAULT allows a global definition of the options. They can be
override
# in each jail afterwards.

[DEFAULT]

# "ignoreip" can be an IP address, a CIDR mask or a DNS host. Fail2ban
will not
# ban a host which matches an address in this list. Several addresses
can be
# defined using space separator.
# ignoreip = <space-separated list of IPs>

# "bantime" is the number of seconds that a host is banned.
bantime  = 600

# A host is banned if it has generated "maxretry" during the last
"findtime"
# seconds.
findtime  = 60

# "maxretry" is the number of failures before a host get banned.
maxretry = 3


[ssh-iptables]

enabled  = false


[apache-shorewall]

enabled  = true
filter   = cac-login
action   = shorewall
logpath = /var/log/httpd/confluence-access.log
bantime = 600
maxretry = 3
findtime = 60
backend = polling
```

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#### *Configuring for Confluence*

⚠ The following is an example only, and you should adjust it for your site.

**filter.d/confluence-login.conf**

```
[Definition]

failregex = <HOST>.*"GET /login.action

ignoreregex =
```

## Securing Confluence with Apache

The following outlines some basic techniques to secure a Confluence instance using Apache. These instructions are basic to-do lists and should not be considered comprehensive. For more advanced security topics see the "Further Information" section below.

- Using Apache to limit access to the Confluence administration interface
- Using Fail2Ban to limit login attempts

#### *Further Information*

Running Confluence behind Apache

⚠ *The information on this page does not apply to Confluence OnDemand.*

### Using Apache to limit access to the Confluence administration interface

#### Limiting administration to specific IP addresses

The Confluence administration interface is a critical part of the application; anyone with access to it can potentially compromise not only the Confluence instance but the entire machine. As well as limiting access to users who really need it, and using strong passwords, you should consider limiting access to it to certain machines on the network or internet. If you are using an Apache web server, this can be done with Apache's **Location** functionality as follows:

⚠ *The information on this page does not apply to Confluence OnDemand.*

##### *1. Create a file that defines permission settings*

This file can be in the Apache configuration directory or in a system-wide directory. For this example we'll call it "sysadmin_ips_only.conf". The file should contain the following:

```
Order Deny,Allow
 Deny from All

 # Mark the Sysadmin's workstation
 Allow from 192.168.12.42
```

##### *2. Add the file to your Virtual Host*

In your Apache Virtual Host, add the following lines to restrict the administration actions to the Systems Administrator:

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This configuration assumes you've installed Confluence under '/confluence'. If you have installed under '/' or elsewhere, adjust the paths accordingly.

```
<Location /confluence/admin>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/consumers/list>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/view-consumer-info>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/service-providers/list>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/service-providers/add>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/consumers/add>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/consumers/add-manually>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/plugins/servlet/oauth/update-consumer-info>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/pages/templates/listpagetemplates.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/pages/templates/createpagetemplate.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/spacepermissions.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/pages/listpermissionpages.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/removespace.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/importmbox.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/viewmailaccounts.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/addmailaccount.action?>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/importpages.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/flyingpdf/flyingpdf.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/exportspacehtml.action>
  Include sysadmin_ips_only.conf
</Location>
<Location /confluence/spaces/exportspacexml.action>
  Include sysadmin_ips_only.conf
```

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```
</Location>
<Location /confluence/plugins/servlet/embedded-crowd>
  Include sysadmin_ips_only.conf
</Location>
```

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```
<Location /confluence/plugins/servlet/upm>
  Include sysadmin_ips_only.conf
</Location>
```

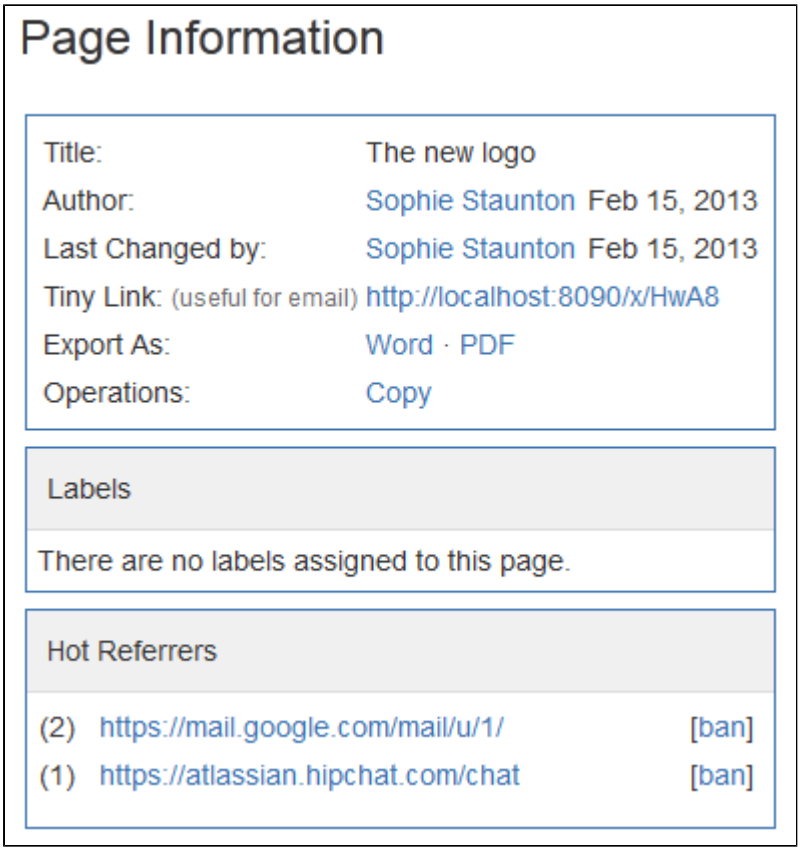
## Managing External Referrers

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. 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.

*Screenshot: hot referrers on the page information screen.*




**To manage your external referrers:**

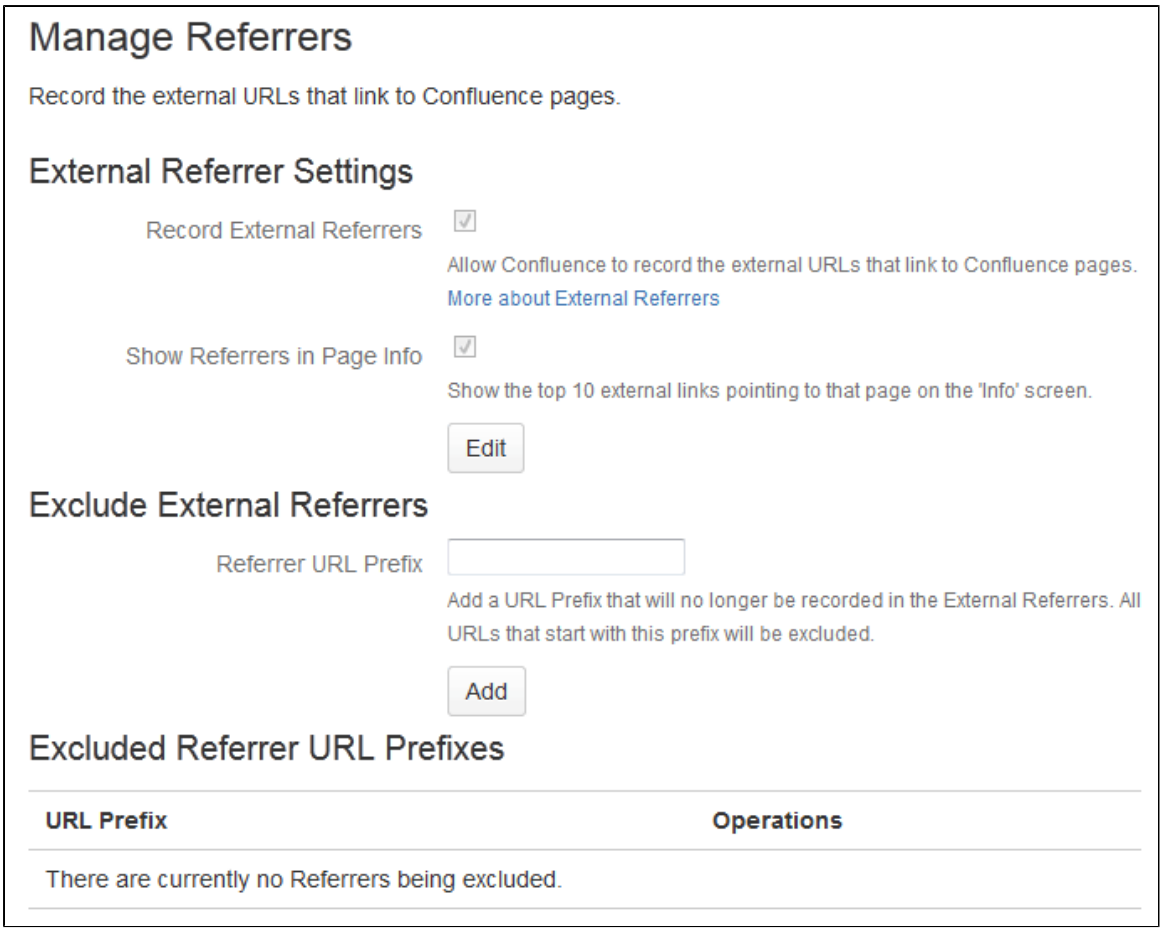
1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Manage Referrers**'.

**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: Manage external referrers*

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### 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.

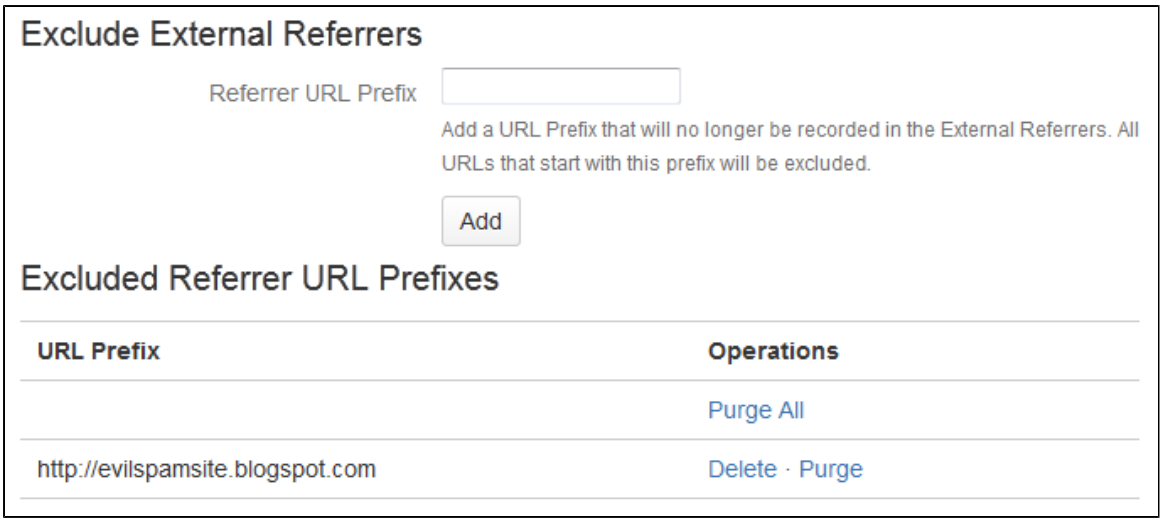
You need to be a Confluence administrator and to know the URL of the site to add it to the excluded referrers list.

**To add a URL to the excluded referrers list:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Manage Referrers**
3. Enter the URL in the **Referrer URL Prefix** field (you must include http://)
4. Choose **Add**.

You can add multiple URLs to the list.

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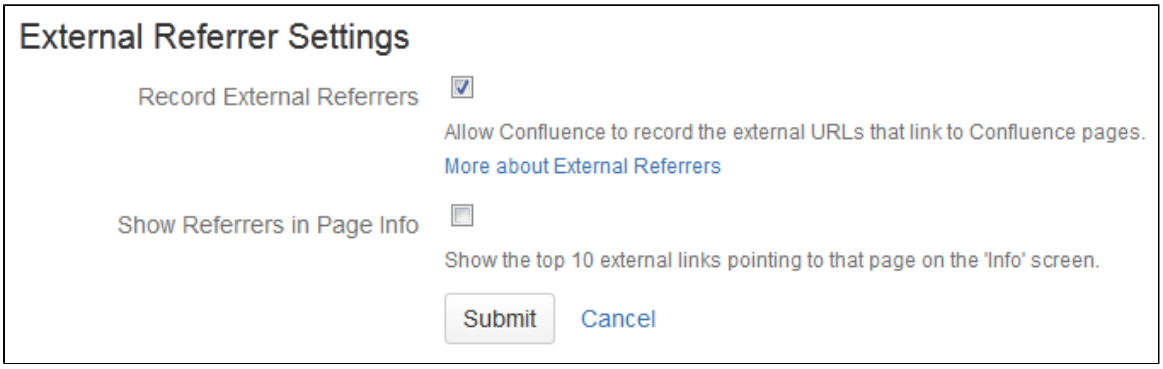

### Hiding external referrers

By default, Confluence lists the external referrers as '**Hot Referrers**' on the page information screen for a page. If you turn this option off, external referrers will not be listed on the page.

**To hide external referrers:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Manage Referrers**'.
3. Deselect '**Show Referrers in Page Info**'.

*Screenshot: Managing external referrers*




Related Topics

- Configuring the Administrator Contact Page
- Anonymous Access to Remote API
- Configuring Captcha for Failed Logins
- User Email Visibility
- Hiding External Links From Search Engines
- Configuring Captcha for Spam Prevention
- Excluding external referrers
- Hiding external referrers
- Ignoring External Referrers
- Managing External Referrers
- Hiding the People Directory
- Running Confluence Over SSL or HTTPS

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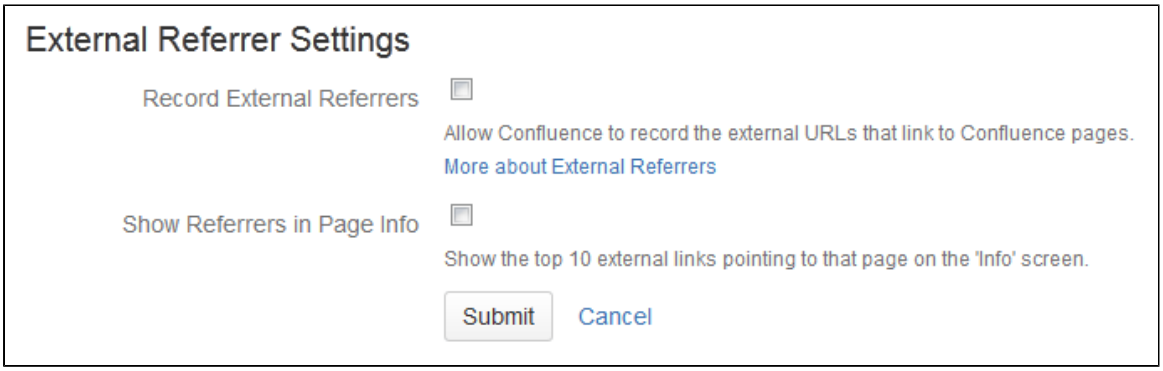
### Ignoring External Referrers

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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Manage Referrers**' in the left-hand panel.
3. Deselect '**Record External Referrers**'.

*Screenshot: Managing external referrers*




## Best Practices for Configuring Confluence Security

The best way to harden a system is to look at each of the involved systems individually. Contact your company's security officer or department to find out what security policies you should be using. There are many things to consider, such as the configuration of your underlying operating systems, application servers, database servers, network, firewall, routers, etc. It would be impossible to outline all of them here.

This page contains guidelines on good security practices, to the best of our knowledge.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Configuring the Web Server

Please refer to the following guides for system administrators:

- How to configure Apache to lock down the administration interface to those people who really need it: Using Apache to limit access to the Confluence administration interface.
- How to reduce the risk of brute force attacks: Using Fail2Ban to limit login attempts.

#### Configuring the Application Server

See the following system administrator guide for general hints on the application server level:

- Tomcat security best practices

#### Configuring the Application

The way you set up Confluence roles, permissions and processes makes a big difference in the security of your Confluence site.

Below are some more Confluence-specific items to consider. None of these provides 100% security. They are measures to reduce impact and to slow down an intruder in case your system does become compromised.

- Keep the number of Confluence administrators extremely low. For example, 3 system administrator accounts should be the maximum.
- Similarly, restrict the number of users with powerful roles or group memberships. If only one department should have access to particularly sensitive data, then do restrict access to the data to those users. Do not let convenience over-rule security. Do not give all staff access to sensitive data when there is no

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need.
- The administrators should have separate Confluence accounts for their administrative roles and for their day to day roles. If John Doe is an administrator, he should have a regular user account without administrator access to do his day to day work (such as writing pages in the wiki). This could be a 'john.doe' account. In addition, he should have an entirely separate account (that cannot be guessed by an outsider and that does not even use his proper name) for administrative work. This account could be 'jane smith' – using a username that is so obscure or fake that no outsider could guess it. This way, even if an attacker singles out the actual person John Doe and gets hold of his password, the stolen account would most likely be John's regular user account, and the attacker cannot perform administrative actions with that account.
- Lock down administrative actions as much as you can. If there is no need for your administrators to perform administrative actions from outside the office, then lock down access to those actions to known IP adresses, for example. See Using Apache to limit access to the Confluence administration interface.
- Put documented procedures in place for the case of employees leaving the company.
- Perform security audits regularly. Know who can help in case a security breach occurs. Perform 'what if' planning exercises. ('What is the worst thing that could happen if a privileged user's password were stolen while he's on vacation? What can we do to minimise damage?').
- Make sure the Confluence database user (and all datasource database users) only has the amount of database privileges it really needs.
- Monitor your binaries. If an attacker compromises an account on your system, he will usually try to gain access to more accounts. This is sometimes done by adding malicious code, such as by modifying files on the system. Run routine scripts that regularly verify that no malicious change has been made.

As another precaution:

- Regularly monitor the above requirements. There are many things that could start out well, but deteriorate over time:
  - A system may start out with just 3 administrators, but over the course of a year this could grow to 30 administrators if no one prevents expansion.
  - Apache administration restrictions may be in place at the start of the year, but when the application server is migrated after a few months, people may forget to apply the rules to the new system.

Again, keep in mind that the above steps may only be a fraction of what could apply to you, depending on your security requirements. Also, keep in mind that none of the above rules can guarantee anything. They just make it harder for an intruder to move quickly.

## 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
```


*The information on this page does not apply to Confluence OnDemand.*

This workaround will prevent the People directory from appearing on the dashboard, but if you navigate to the profile of a user, and then click on the "People" in the breadcrumb link (Dashboard >> **People** >> FullName >> Profile) or you go to the URL directly `<CONFLUENCE_INSTALL>/browsepeople.action`, you will be able to access the people directory.

To workaround this, set up your Apache webserver in front of Confluence and redirect requests to this URL.

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***Related Topics***

- Configuring the Administrator Contact Page
- Anonymous Access to Remote API
- Configuring Captcha for Failed Logins
- User Email Visibility
- Hiding External Links From Search Engines
- Configuring Captcha for Spam Prevention
- Excluding external referrers
- Hiding external referrers
- Ignoring External Referrers
- Managing External Referrers
- Hiding the People Directory
- Running Confluence Over SSL or HTTPS

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## Configuring Captcha for Spam Prevention

You need to be a Confluence administrator to configure Captcha for spam prevention in Confluence.

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.
- Send a request to the Confluence administrators.

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. You can read more about Captcha on Wikipedia.

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.

*Screenshot: Example of a Captcha test*




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 for spam prevention is disabled. If you enable it, the default is that Captcha for spam prevention will apply to anonymous users only. Only anonymous users will have to perform the Captcha test when creating comments or editing pages. Captcha images will not be shown to logged-in users.

**Related pages:**

- Configuring Confluence Security
- Confluence Administrator's Guide

**To enable Captcha for spam prevention in Confluence:**

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1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Spam Prevention** in the left-hand panel.
3. Choose **ON** to turn on Captcha.
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 **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. Choose **Save**.

## 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.

> *The information on this page does not apply to Atlassian OnDemand sites with multiple apps. If you are using Confluence-only OnDemand, the information does apply.*

**To hide external links from search engines:**

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Click '**Security Configuration**' in the left panel.
3. This will display the '**Security Configuration**' screen. Click '**Edit**'.
4. Check the '**Hide External Links From Search Engines**' checkbox.
5. Click the '**Save**' button.

> **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.

***Related Topics***

- Configuring the Administrator Contact Page
- Anonymous Access to Remote API
- Configuring Captcha for Failed Logins
- User Email Visibility
- Hiding External Links From Search Engines
- Configuring Captcha for Spam Prevention
- Excluding external referrers
- Hiding external referrers
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- Managing External Referrers
- Hiding the People Directory
- Running Confluence Over SSL or HTTPS

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## Configuring Captcha for Failed Logins

If you have confluence administrator permissions, you can configure Confluence to impose a maximum number of repeated login attempts. After a given number of failed login attempts (the default is three) Confluence will display a Captcha form asking the user to enter a given word when attempting to log in again. This will prevent brute force attacks on the Confluence login screen.

Similarly, after three failed login attempts via the XML-RPC or SOAP API, an error message will be returned instructing the user to log in via the web interface. Captcha will automatically be activated when they attempt this login.

'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. You can read more about Captcha on Wikipedia.

When Captcha is activated, 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.

*Screenshot: example of a Captcha test*




**On this page:**


- Enabling, Disabling and Configuring Captcha for Failed Logins
- Notes


**Related pages:**

- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

### Enabling, Disabling and Configuring Captcha for Failed Logins

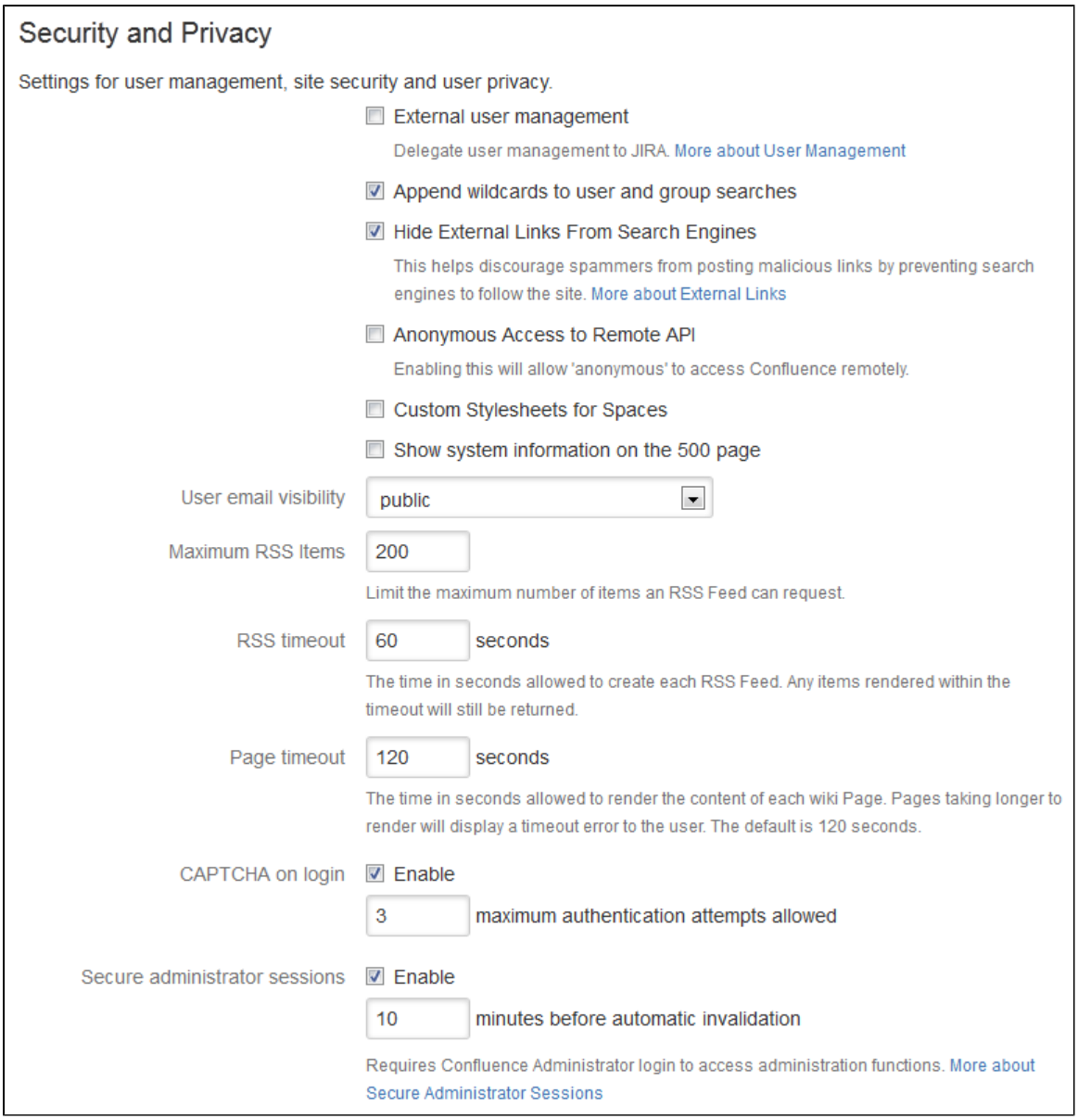
By default, Captcha for failed logins is enabled and the number of failed login attempts is set to three.

**To enable, disable and configure Captcha for failed logins:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Security Configuration**' from the left menu.
3. Choose '**Edit**'.
4. To enable Captcha:
   - Select the '**Enable**' checkbox next to '**CAPTCHA on login**'.
   - Set the maximum number of failed logins next to '**Maximum Authentication Attempts Allowed**'. You must enter a number greater than zero.
5. To **disable** Captcha, deselect the '**Enable**' checkbox.
6. Choose '**Save**'.

*Screenshot: Configuring Captcha for failed logins*

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**Notes**

- **Disabling all password confirmation requests, including Captcha on login.** Confluence installations that use a custom authentication mechanism may run into problems with the Confluence security measure that requires password confirmation. If necessary, you can set the `password.confirmation.disabled` system property to disable the password confirmation functionality on administrative actions, change of email address and Captcha for failed logins. See Recognised System Properties.

## Configuring XSRF Protection

Confluence requires an XSRF token to be present on comment creation, to prevent users being tricked into unintentionally submitting malicious data. All the themes bundled with Confluence have been designed to use this feature. However, if you are using a custom theme that does not support this security feature, you can disable it.

⚠ **Please carefully consider the security risks before you disable XSRF protection for comments in your Confluence installation.**

Read more about XSRF (Cross Site Request Forgery) at cgisecurity.com.

**To configure XSRF protection for comments:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Security Configuration** in the left-hand panel.
3. Choose **Edit**.

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4. Uncheck the **Adding Comments** checkbox in the **XSRF Protection** section, to disable XSRF protection.
5. Choose **Save**.

**Related pages:**

- Configuring Confluence Security
- Confluence Administrator's Guide
- Developer documentation on XSRF protection in Confluence

*Some functionality described on this page is restricted in Confluence OnDemand.*

## 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).

*The information on this page does not apply to Confluence OnDemand.*

**To configure user email visibility:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Security Configuration**'.
3. Choose '**Edit**'. The fields on the '**Security Configuration**' screen will be editable.
4. Select one of the options from the '**User email visibility**' dropdown: '**public**', '**masked**', or '**only visible to site administrators**'.
5. Choose '**Save**'.

*Screenshot: Email Visibility*




***Related Topics***

- Configuring the Administrator Contact Page
- Anonymous Access to Remote API
- Configuring Captcha for Failed Logins
- User Email Visibility
- Hiding External Links From Search Engines
- Configuring Captcha for Spam Prevention

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Excluding external referrers
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## Anonymous Access to Remote API

Administrators may wish to disable anonymous access to the  Confluence remote API. to make it harder for malicious users to write 'bots' that perform bulk changes to the site.

**To disable anonymous access to the remote API:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Security Configuration** in the left-hand panel. The **Security Configuration** screen will appear.
3. Choose **Edit**.
4. Uncheck the **Anonymous Access to API** check box.
5. Choose **Save**.

**Notes**

This page is about access to the remote API. If you are looking for information about preventing anonymous users from accessing Confluence, see Global Permissions Overview.

## Running Confluence Over SSL or HTTPS

> This page documents configuration of SSL, rather than of Confluence itself. Atlassian will support Confluence with this configuration, but we cannot guarantee to help you debug problems with SSL. Please be aware that this material is provided for your information only, and that you use it at your own risk.

This document tells you how to configure Confluence to enable access via HTTPS (HTTP over SSL), so that your Confluence logins and data are encrypted during transport to and from Confluence. SSL encryption is a good way to safeguard your Confluence data and user logins from being intercepted and read by outsiders.

These instructions apply to the following platforms:

- **Confluence or Confluence WAR distribution using Tomcat.** Apache Tomcat is the application server shipped with Confluence, and is the only supported application server. If you are using a different application server or Apache HTTP Server ("httpd"), see the page on Apache with mod_proxy for instructions on how to terminate an SSL connection at the Apache web server.
- **Java 7.** JDK 1.7 is the supported Java version for Confluence. Note that you need the JDK, since it includes the `keytool` utility used in the instructions below. The JRE is not enough. If you are using JDK 1.6 or older, please refer to the Java SE documentation to see the differences in the `keytool` utility from your JDK to JDK 1.7.

The default connector port for Confluence is 8090, while a plain Tomcat installation (used for EAR / WAR distribution) will default to 8080.

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**On this page:**


- Step 1. Create or Request a New SSL Certificate
- Step 2. Modify the Server Configuration File in your Confluence Installation
- Step 3. Specify the Location of your Certificate
- Step 4. Change your Confluence Base URL to HTTPS
- Step 5. Add a Security Constraint to Redirect All URLs to HTTPS
- Notes
- Troubleshooting


⚠ *The information on this page does not apply to Confluence OnDemand.*

### Step 1. Create or Request a New SSL Certificate

You will need a valid SSL certificate before you can enable HTTPS. If you already have a certificate prepared, skip to step 2 below.

You can choose to create a self-signed certificate or to use a certificate issued by a certificate authority (CA, sometimes also called a 'certification authority'). We described both options below.

#### *Certificate Option 1 – Create a Self-Signed Certificate*

Self-signed certificates are useful if you require encryption but do not need to verify the identity of the requesting website. In general, you might use a self-signed certificate on a test environment and on internal corporate networks (intranets).

Because the certificate is not signed by a certificate authority (CA), users may receive a message that the site is not trusted and may have to perform several steps to accept the certificate before they can access the site. This usually will only occur the first time they access the site.

Follow the steps below to generate a certificate using Java's `keytool` utility. This tool is included in the JDK.

1. Use Java's `keytool`utility to generate the certificate:

   ⓘ Many SSL issuers (including but not limited to GoDaddy and RapidSSL) are now requiring a 2048-bit key size. To generate a key with 2048-bit encryption, add '-keysize 2048' to these queries.

   - On Windows, run the following command at the command prompt:

     ```
     "%JAVA_HOME%\bin\keytool" -genkeypair -alias tomcat -keyalg RSA
     ```

   - On OS X or UNIX-based systems, run the following command at the command prompt:

     ```
     $JAVA_HOME/bin/keytool -genkeypair -alias tomcat -keyalg RSA
     ```

2. When asked for a **password**:
   - Specify the password you want to use for the certificate (private key). Note that the password text will not appear as you type it.
   - Make a note of the password you choose, because you will need it in the next step when editing the configuration file.
   - The default password is '`changeit`'.
3. Follow the prompts to specify your name, organisation and location. This information is used to construct the X.500 Distinguished Name (DN) of the entity. The CN ("What is your first and last name?") must

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match the fully-qualified hostname of the server running Confluence, otherwise Tomcat will not be able to use the certificate for SSL. For example for a Confluence running on a server named "confluence.example.com":
`CN=confluence.example.com, OU=Java Software Division, O=Sun Microsystems Inc, C=US`
4. Enter 'y' to confirm the details.
5. When asked for the **password** for '`tomcat`' (the alias you entered in the keytool command above), press the 'Enter' key. This specifies that your keystore entry will have the **same password** as your private key. You MUST use the same password here as was used for the keystore password itself. This is a restriction of the Tomcat implementation.
6. You certificate is now ready. Go to step 2 below.

***Certificate Option 2 – Use a Certificate Issued by a Certificate Authority***

When running Confluence in a production environment, you will need a certificate issued by a certificate authority (CA, sometimes also called a 'certification authority') such as VeriSign, Thawte or TrustCenter. The instructions below are adapted from the Tomcat documentation.

First you will generate a local certificate and create a 'certificate signing request' (CSR) based on that certificate. You will submit the CSR to your chosen certificate authority. The CA will use that CSR to generate a certificate for you.

1. Use Java's `keytool` utility to generate a local certificate, as described in the previous section.
2. Use the `keytool` utility to generate a CSR, replacing the text `<MY_KEYSTORE_FILENAME>` with the path to and file name of the `.keystore`file generated for your local certificate:

```
keytool -certreq -keyalg RSA -alias tomcat -file certreq.csr -keystore
<MY_KEYSTORE_FILENAME>
```

3. Submit the generated file called `certreq.csr` to your chosen certificate authority. **Refer to the documentation on the CA's website to find out how to do this.**
4. The CA will send you a certificate.
5. Import the new certificate into your local keystore:

```
keytool -importcert -alias tomcat -keystore <MY_KEYSTORE_FILENAME> -file
<MY_CERTIFICATE_FILENAME>
```

**Please note that some CAs require you to install an intermediate certificate before importing your certificate. Please refer to your CA documentation to successfully install your certificate.**

If you receive an error, and you use Verisign or GoDaddy, you may need to export the certificate to PKCS12 format along with the private key.

1. First, remove the certificate added above from the keystore:

```
keytool -delete -alias tomcat -keystore <MY_KEYSTORE_FILENAME>
```

2. Then export to PKCS12 format:

```
openssl pkcs12 -export -in <MY_CERTIFICATE_NAME> -inkey
<MY_PRIVATEKEY_NAME> -out <MY_PKC12_KEYSTORE_NAME> -name tomcat -CAfile
<MY_ROOTCERTIFICATE_NAME-alsoCalledBundleCertificateInGoDaddy> -caname
root
```

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3. Then import from PKCS12 to jks:

```
keytool -importkeystore -deststorepass <MY_DESTINATIONSTORE_PASSWORD>
-destkeypass <MY_DESTINATIONKEY_PASSWORD> -destkeystore
<MY_KEYSTORE_FILENAME> -srckeystore <MY_PKC12_KEYSTORE_NAME>
-srcstoretype PKCS12 -srcstorepass <MY_PKC12_KEYSTORE_PASSWORD> -alias
tomcat
```

#### Step 2. Modify the Server Configuration File in your Confluence Installation

1. Edit the server configuration file at this location: {CONFLUENCE-INSTALLATION}>/conf/server.xml.
2. Uncomment the following lines:

```
<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" SSLEnabled="true"
                   URIEncoding="UTF-8"
keystorePass="<MY_CERTIFICATE_PASSWORD>"/>
```

3. Replace the text <MY_CERTIFICATE_PASSWORD> with the password you specified for your certificate.
4. Make sure that the attribute-value pair SSLEnabled="true" is part of the Connector element, as shown above. If this attribute is not present, attempts to access Confluence will time out.
5. Save the server configuration file.

#### Step 3. Specify the Location of your Certificate

By default, Tomcat expects the keystore file to be named .keystore and to be located in the user home directory under which Tomcat is running (which may or may not be the same as your own home directory). This means that, by default, Tomcat will look for your SSL certificates in the following location:

- On Windows: C:\Documents and Settings\\#CURRENT_USER#\.keystore
- On OS X and UNIX-based systems: ~/.keystore

You may decide to move the certificate to a custom location. If your certificate is not in the default location, you will need to update your server configuration file as outlined below, so that Tomcat can find the certificate.

1. Edit the server configuration file at this location: {CONFLUENCE-INSTALLATION}>/conf/server.xml
2. Add the attribute keystoreFile="<MY_CERTIFICATE_LOCATION>" to the Connectorelement, so that the element looks like this:

```
<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" SSLEnabled="true"
                   URIEncoding="UTF-8"
keystorePass="<MY_CERTIFICATE_PASSWORD>"
                   keystoreFile="<MY_CERTIFICATE_LOCATION>"/>
```

3. Replace the text <MY_CERTIFICATE_LOCATION> with the path to your certificate, including the path and the name of the .keystore file.

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4. Save the server configuration file.

#### Step 4. Change your Confluence Base URL to HTTPS

1. In your browser, go to the Confluence Administration Console.
2. Change the Server Base URL to HTTPS. See the documentation on configuring the server base URL.
3. Restart Tomcat and access Confluence on `https://<MY_BASE_URL>:8443/`.

#### Step 5. Add a Security Constraint to Redirect All URLs to HTTPS

Although HTTPS is now activated and available, the old HTTP URLs (http://localhost:8090) are still available. Now you need to redirect the URLs to their HTTPS equivalent. You will do this by adding a security constraint in `web.xml`. This will cause Tomcat to redirect requests that come in on a non-SSL port.

1. Check whether your Confluence site uses the **RSS macro**. If your site has the RSS macro enabled, you may need to configure the URL redirection with a firewall rule, rather than by editing the `web.xml` file. Skip the steps below and follow the steps on the RSS Feed Macro page instead.
2. Otherwise, Edit the file at `<CONFLUENCE_INSTALLATION>/confluence/WEB-INF/web.xml`.
3. Add the following declaration to the end of the file, **before** the `</web-app>`tag:

```
<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>
```

4. Restart Confluence and access http://localhost:8090. You should be redirected to https://localhost:8443/login.action.

Confluence has two web.xml files. The other one is at `<CONFLUENCE_INSTALLATION>/conf/web.xml`. Please only add the security constraints to `<CONFLUENCE_INSTALLATION>/confluence/WEB-INF/web.xml`, as described above.

#### Notes

- **Background information on generating a certificate:** The '`keytool -genkeypair`' command generates a key pair consisting of a public key and the associated private key, and stores them in a keystore. The command packages the public key into an X.509 v3 self-signed certificate, which is stored as a single-element certificate chain. This certificate chain and the private key are stored in a new keystore entry, identified by the `alias` that you specify in the command. The Java SE documentation has a good overview of the utility.
- **Custom SSL port:** If you have changed the port that the SSL connector is running on from the default 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.
- **Multiple instances on the same host:** When running more than one instance on the same host, it is important to specify the *address* attribute in the `<CONFLUENCE_INSTALLATION>/conf/server.xml` file because by default the connector will listen on **all available network interfaces**, so specifying the address will prevent conflicts with connectors running on the same default port. See the Tomcat Connector documentation for more about setting the address attribute: http://tomcat.apache.org/tomcat-5.5-doc/config/http.html

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```
<Connector port="8443" address="your.confluence.url.com"
maxHttpHeaderSize="8192"
                   maxThreads="150" minSpareThreads="25" maxSpareThreads="75"
                   enableLookups="false" disableUploadTimeout="true"
                   acceptCount="100" scheme="https" secure="true"
                   clientAuth="false" sslProtocol="TLS" SSLEnabled="true"
                   URIEncoding="UTF-8"
keystorePass="<MY_CERTIFICATE_PASSWORD>"
                   keystoreFile="<MY_CERTIFICATE_LOCATION>"/>
```

- **Protection for logins only or for individual spaces:** As of Confluence 3.0, Atlassian does not support HTTPS for logins only or for specific pages. We support only site-wide HTTPS. To see the reasoning behind this decision, please see CONF-18120 and CONF-4116.

#### Troubleshooting

- Check the Confluence knowledge base articles on troubleshooting SSL.
- If any of your users will access Confluence from **Internet Explorer 7 on Vista**, please note the following additional points when using Java's `keytool`utility:
  - Make sure that you specify the `-keyalg RSA` option, as shown in the example of the `keytool` command above. The default is the SHA1 algorithm, which results in an error 'Internet Explorer cannot display the webpage' on IE7 on Vista.
  - You may also need to specify the `-sigalg MD5withRSA` option. Otherwise, SHA1 will be used even if you specify the `-keyalg RSA` option. See this Atlassian blogpost for more information.
- Problems with **Internet Explorer being unable to download attachments**: Applying SSL site wide can prevent IE from downloading attachments correctly. To fix this problem, edit `<CONFLUENCE_INSTALLATION>/conf/server.xml` and add the following line within the `<Context ... />`element:

```
<Valve className="org.apache.catalina.authenticator.NonLoginAuthenticator"
       disableProxyCaching="true" securePagesWithPragma="false" />
```

#### *Related Topics*

- SSL Configuration HOW-TO in the Apache Tomcat 6.0 documentation
- SSL Configuration HOW-TO in the Apache Tomcat 5.5 documentation
- keytool - Key and Certificate Management Tool in the Java SE documentation
- Connecting to LDAP or JIRA or Other Services via SSL
- Supported Platforms

## Connecting to LDAP or JIRA or Other Services via SSL

This page describes how to get Confluence connecting to external servers over SSL, via the various SSL-wrapped protocols.

Here are some examples of when you may need to connect to an external server over SSL/HTTPS:

- You need to connect to an LDAP server, such as Active Directory, if the LDAP server is running over SSL.
  **For specific instructions for Active Directory, see Configuring an SSL Connection to Active Directory.**
- You want to set up JIRA as a trusted application in Confluence, when JIRA is running over SSL.
- You want to refer to an https://... URL in a Confluence macro.

If you want to run Confluence itself over SSL, see Running Confluence Over SSL or HTTPS.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

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There's a Confluence SSL plugin that facilitates this process.

### Importing SSL Certificates

The following commands apply to JDK 1.5. For commands/syntax relevant to JDK 1.6, please refer to this document from Oracle.

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/jre/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. 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. 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
(Unix/Linux)
keytool -list -keystore /Library/Java/Home/lib/security/cacerts
(Mac)
```

4. Ensure that you have updated JAVA_OPTS to specify the path to the keystore, as specified in Connecting to SSL services, before restarting Tomcat/Confluence.
   There is 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 the following knowledge base articles:

- Unable to Connect to SSL Services due to PKIX Path Building Failed sun.security.provider.certpath.SunCertPathBuilderException
- SSL troubleshooting articles

#### *Related Topics*

Configuring an SSL Connection to Active Directory
Configuring Web Proxy Support for Confluence
Running Confluence Over SSL or HTTPS

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## Configuring RSS Feeds

A Confluence System Administrator can configure the following aspects of RSS feeds:

- The maximum number of items that Confluence returns to an RSS feed request.
- The maximum time period that Confluence allows to respond to an RSS feed request.

Both of these are set in the 'Edit Security Configuration' screen.

**To configure RSS feeds:**

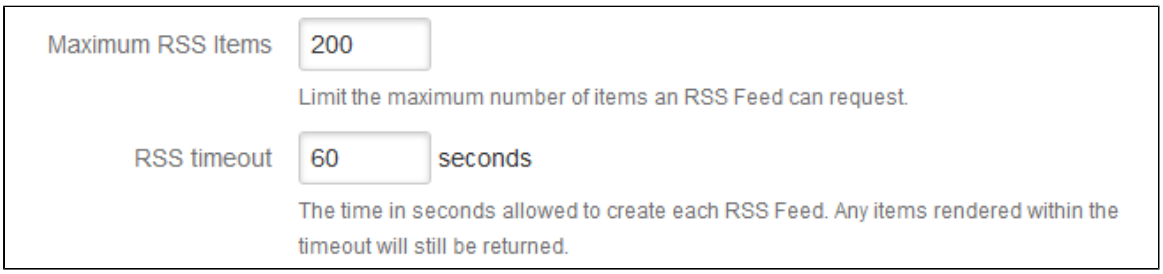
1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose **Security Configuration**.
3. Choose **Edit**.
4. Enter a value for **Maximum RSS Items**. The default value is 200.
5. Enter a value for **RSS timeout**.
6. Choose **Save**.

**On this page:**
- Notes

**Related pages:**
- Using the RSS Feed Builder

*The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Configuring RSS feeds*




### Notes

- When using the RSS Feed Builder, a user could potentially enter such a large value for the number of feed items returned that Confluence would eventually run out of memory.
- When using the Feed Builder, if a users a value greater than this setting (or less than 0) they will get a validation error.
- If any pre-existing feeds are set to request more than the configured maximum, they will be supplied with only the configured maximum number of items. This is done silently - there is no logging and no message is returned to the RSS reader.
- If Confluence times out when responding to an RSS feed request, any items already rendered are returned.

## Preventing and Cleaning Up Spam

If you have a public-facing Confluence site, your site may be affected by spammers.

### Stopping Spammers

**To prevent spammers:**

1. Enable Captcha. See Configuring Captcha for Spam Prevention.
2. Run Confluence behind an Apache webserver and create rules to block the spammer's IP address.

### Blocking Spam at Apache or System Level

If a spam bot is attacking your Confluence site, they are probably coming from one IP address or a small range

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of IP addresses. To find the attacker's IP address, follow the Apache access logs in real time and filter for a page that they are attacking.

For example, if the spammers are creating users, you can look for `signup.action`:

```
$ tail -f confluence.atlassian.com.log | grep signup.action
1.2.3.4 - - [13/Jan/2010:00:14:51 -0600] "GET /signup.action HTTP/1.1"
200 9956 "-" "Mozilla/4.0 (compatible; MSIE 6.0; Windows NT 5.1; SV1)"
37750
```

Compare the actual spam users being created with the log entries to make sure you do not block legitimate users. By default, Apache logs the client's IP address in the first field of the log line.

Once you have the offender's IP address or IP range, you can add it to your firewall's blacklist. For example, using the popular Shorewall firewall for Linux you can simply do this:

```
# echo "1.2.3.4" >> /etc/shorewall/blacklist
# /etc/init.d/shorewall reload
```

To block an IP address at the Apache level, add this line to your Apache vhost config:

```
Deny from 1.2.3.4
```

You can restart Apache with a "graceful" command which will apply the changes without dropping any current sessions.

If this still does not stop the spam, then consider turning off public signup.

#### Deleting Spam

##### Profile Spam

By 'profile spam', we mean spammers who create accounts on Confluence and post links to their profile page.

If you have had many such spam profiles created, it is easier to delete them via SQL, as described below.

**To delete a spam profile:**

1. Shut down Confluence and back up your database. **Note:** This step is essential before you run any SQL commands on your Confluence dattabase.
2. Find the last real profile:

```
SELECT bodycontentid,body FROM bodycontent WHERE contentid IN
  (SELECT contentid FROM content WHERE contenttype='USERINFO')
  ORDER BY bodycontentid DESC;
```

3. Look through the bodies of the profile pages until you find where the spammer starts. You may have to identify an number of ranges.
4. Find the killset:

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```
CREATE TEMP TABLE killset AS SELECT
bc.bodycontentid,c.contentid,c.username FROM
  bodycontent bc JOIN content c ON bc.contentid=c.contentid WHERE
  bodycontentid >= BOTTOM_OF_SPAM_RANGE AND bodycontentID <=
TOP_OF_SPAM_RANGE
  AND  c.contenttype='USERINFO';

DELETE FROM bodycontent WHERE bodycontentid IN (SELECT
bodycontentid FROM killset);

DELETE FROM links WHERE contentid IN (SELECT contentid FROM
killset);

DELETE FROM content WHERE prevver IN (SELECT contentid FROM
killset);

DELETE FROM attachments WHERE pageid IN (SELECT contentid FROM
killset);

DELETE FROM content WHERE contentid IN (SELECT contentid FROM
killset);

DELETE FROM os_user_group WHERE user_id IN (SELECT id FROM killset
k JOIN os_user o ON o.username=k.username);

DELETE FROM os_user WHERE username IN (SELECT username FROM
killset);
```

5. Once the spam has been deleted, restart Confluence and rebuild the index. This will remove any references to the spam from the search index.

#### Notes

- See CONF-1469. Your comments that issue are very much appreciated.

## Scheduled Jobs

The administration console allows you to schedule various administrative jobs in Confluence, so that they are executed at regular time intervals. The types of jobs which can be scheduled cover:

- Confluence site backups
- Storage optimisation jobs to clear Confluence's temporary files and caches
- Index optimisation jobs to ensure Confluence's search index is up to date
- Mail queue optimisation jobs to ensure Confluence's mail queue is maintained and notifications have been sent.

You need to have System Administrator permissions in order to configure and execute jobs.

### Accessing Confluence's Scheduled Jobs Configuration

**To access Confluence's Scheduled Jobs configuration page:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Scheduled Jobs**' to open the 'Scheduled Jobs' page. For each job listed down this page, the following information is shown:
   - **Job** — the name of a job.
   - **Status** — the job's status, which is either 'Scheduled' (it it is currently enabled) or 'Disabled'. See below for details on disabling or re-enabling a job.

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- **Last Execution** — the date and time when the job was last executed. This field will be empty of the job was never executed.
- **Next Execution** — the date and time when the job is next scheduled to be executed. This field will contain dash symbol ('-') if the job is disabled.
- **Avg. Duration** — the length of time (in milliseconds) that it took to complete the job's last execution.
- **Actions** — allows you to configure the job, execute it manually, view a history of previous executions or disable the job.

**On this page:**

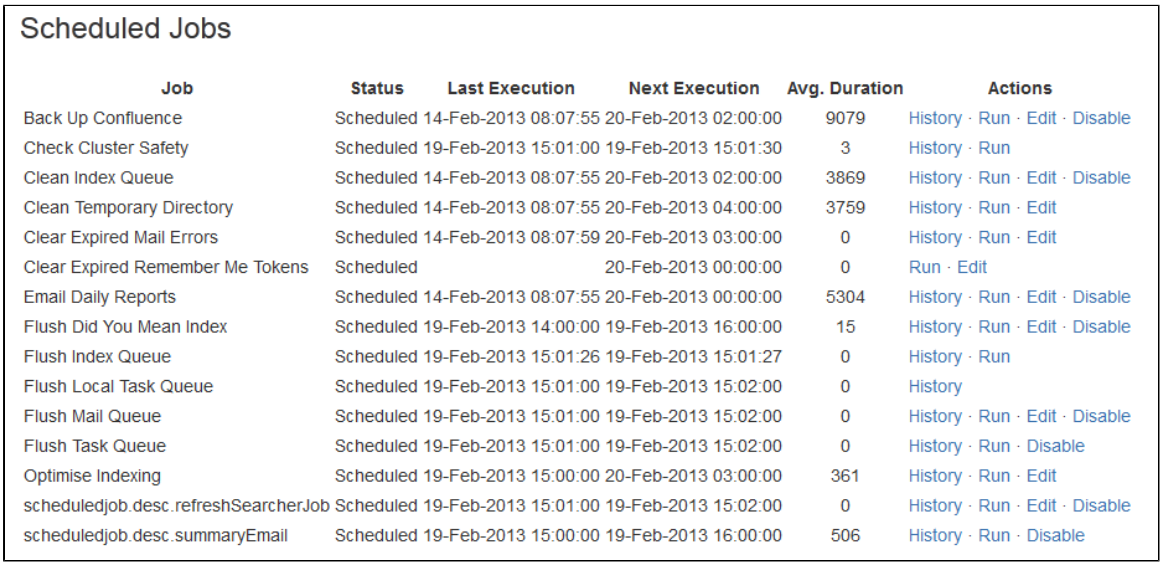

- Accessing Confluence's Scheduled Jobs Configuration
- Executing a Job Manually
- Configuring a Job's Schedule
- Disabling/Re-enabling a Job
- Viewing a Job's Execution History
- Types of Jobs
- Cron Expressions


**Related pages:**

- Trigger Module
- Configuring Backups

⚠ *The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Scheduled Jobs*




### Executing a Job Manually

1. Access the 'Scheduled Jobs' configuration page (above).
2. Locate the job you wish to execute manually and click its '**Run**' link in the 'Actions' column. The job will be run immediately.
   Refer to 'Types of Jobs' (below) for detailed descriptions about each job.

   Not all jobs can be run manually.

### Configuring a Job's Schedule

1. Access the 'Scheduled Jobs' configuration page (above).
2. Locate the job whose schedule you wish to configure and click its '**Edit**' link in the 'Actions' column. The job's 'Edit Schedule for job' dialog box opens.
   Refer to 'Types of Jobs' (below) for detailed descriptions about each job.
3. Enter an appropriate cron expression to define the frequency with which the job is executed.

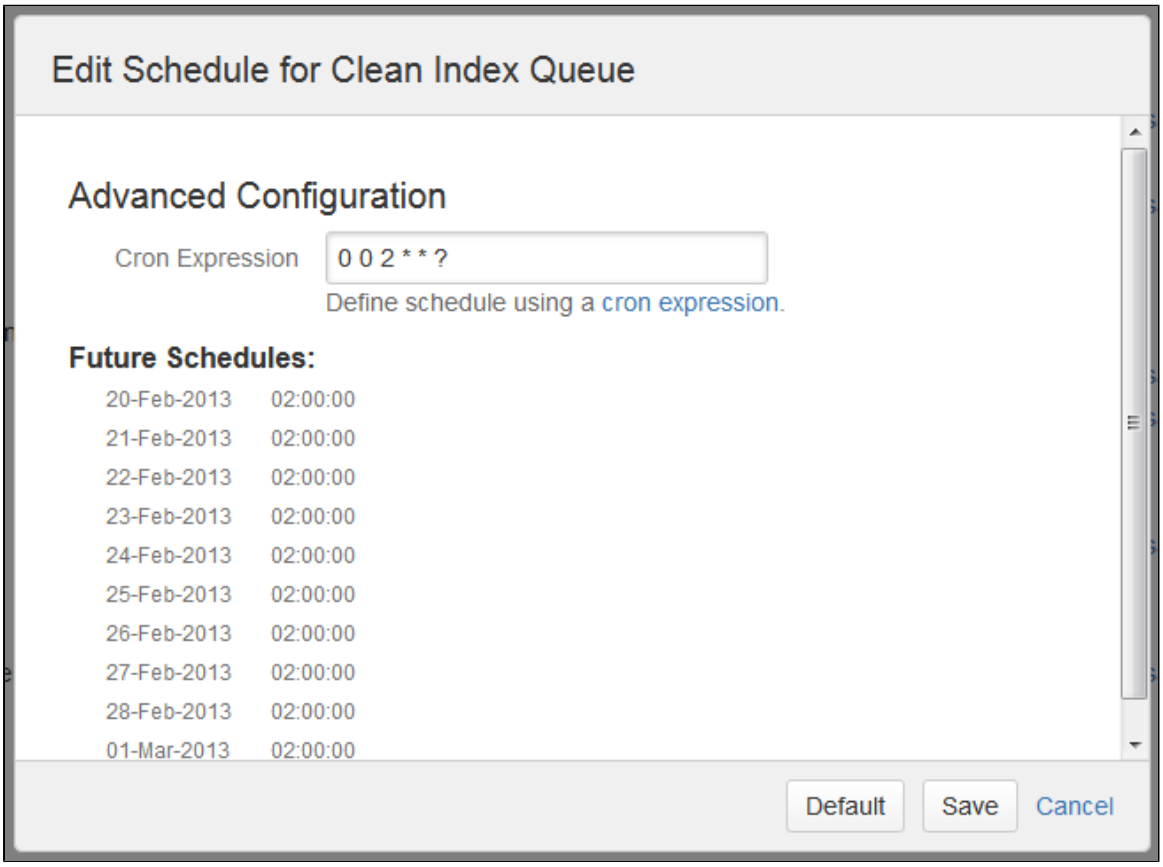
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Refer to 'Cron Expressions' (below) for more details about their syntax. To revert the job's schedule back to its default settings, click the '**Default**' button.

4. Click '**Save**' to record your job's new schedule.

Not all jobs' schedules are configurable.

*Screenshot: Configuring a Job Schedule*




### Disabling/Re-enabling a Job

By default, all jobs in Confluence are enabled.

1. Access the 'Scheduled Jobs' configuration page (above).
2. Locate the job you wish to disable/re-enable.
   Refer to 'Types of Jobs' (below) for detailed descriptions about each job.
   - If a job is enabled, click its '**Disable**' link in the 'Actions' column to disable the job.
   - If a job is disabled, click its '**Enable**' link in the 'Actions' column to enable the job.

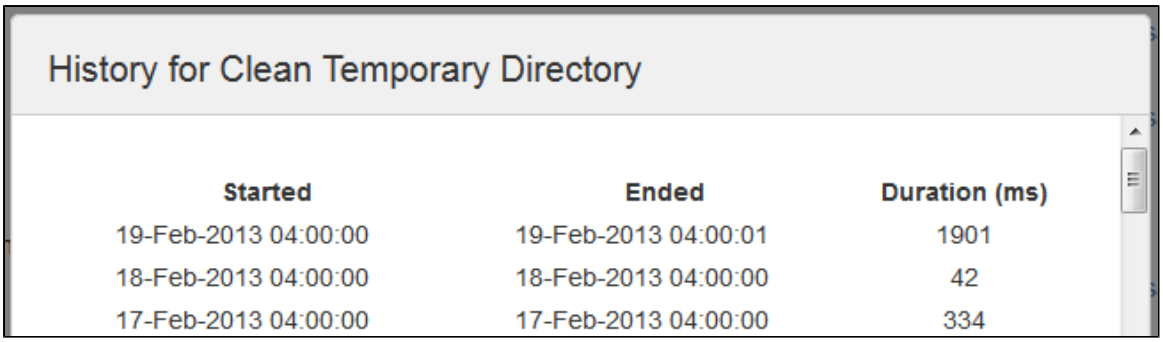
   Not all jobs in Confluence can be disabled.

### Viewing a Job's Execution History

1. Access the 'Scheduled Jobs' configuration page (above).
2. Locate the job whose execution history you wish to view and click the '**History**' link.
   If a job has not completed at least one execution, its 'History' link will not be available.
   Refer to 'Types of Jobs' (below) for detailed descriptions about each job.
   The 'History for job' dialog box opens, showing a list of previous executions of the job in reverse chronological order, including the:
   - Start date and time
   - End date and time
   - The length of time (in milliseconds) that it took to complete the job

*Screenshot: Job Execution History*

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### Types of Jobs

| Job Name | Description | Execution Behaviour | Default Schedule |
|---|---|---|---|
| Back Up Confluence | Performs a backup of your entire Confluence site. | Per cluster | At 2am every day |
| Check Cluster Safety | For clustered Confluence installations, this job ensures that only one Confluence instance in the cluster writes to the database at a time. For standard (non-clustered) editions of Confluence, this job is useful for alerting customers who have accidentally connected a second Confluence instance to a Confluence database which is already in use. | Per cluster | Every 30 seconds |
| Clean Index Queue | Triggers a periodical clean of the index queue to ensure that its size does NOT grow indefinitely. | Per cluster | At 2am every day |
| Clean Temporary Directory | Cleans up temporary files generated in the 'temp' subdirectory of the Confluence home directory. This temp directory may be created by exports etc. This does not include the temp directory located in the confluence install directory. | Per node | At 4am every day |
| Clear Expired Mail Errors | Clears notification errors in the mail error queue. A notification error is sent to the mail error queue whenever the notification fails to be sent due to an error. | Per cluster | At 3am every day |

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| | | | |
|---|---|---|---|
| Clear Expired Remember Me Tokens | Clears all expired 'Remember Me' tokens from the Confluence site. Remember Me tokens expire after two weeks. | Per cluster | On the 20th of each month |
| Email Daily Reports | Emails a daily summary report of all Confluence changes to all subscribers.<br>Since each email report only records changes from the last 24-hour period, it is recommended that you only change the time of this job whilst keeping the job's frequency to 24 hours. | Per cluster | At 12am every day |
| Flush Did You Mean Index | **Note:** The 'Did You Mean' feature is no longer available in Confluence. This job is therefore redundant, and will be removed at some time in the future.<br>Flushes changes to the 'Did You Mean' index, which keeps the 'Did You Mean' feature up to date. Confluence records each content update in the 'Did You Mean' index. | Per node | Every 2 hours from 12 am |
| Flush Index Queue | Flushes changes to Confluence's index so that Confluence's search results are up to date. Confluence records each content update in its search index. | Per node | Every minute |
| Flush Local Task Queue | Flushes the local task queue. (These are internal Confluence tasks that are typically flushed at a high frequency.) | Per node | Every minute |
| Flush Mail Queue | Sends notifications that have been queued up in the mail queue. | Per cluster | Every minute |
| Flush Task Queue | Flushes the task queue. (These are internal Confluence tasks that are typically flushed at a high frequency.) | Per node | Every minute |

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| | | | |
|---|---|---|---|
| Optimise Indexing | Compacts the confluence indexes to maintain searching performance. This task is demanding on system resources and does not need to be performed too regularly. If you see Confluence performance deteriorate around 3pm, try scheduling this job for 3am only and check if search performance remains reasonable. | Per node | At 3am and 3pm every day |
| Poll Mail | Polls POP accounts on all spaces that have them configured. | Per cluster | Every minute |

### Cron Expressions

A cron expression is a string of 6-7 'time interval' fields that defines the frequency with which a job is executed. Each of these fields can be expressed as either a numerical value or a special character and each field is separated by at least one space or tab character.

The table below is shows the order of time interval fields in a cron expression and each field's permitted numerical values.

You can specify a special character instead of a numerical value for any field in the cron expression to provide flexibility in defining a job's frequency. Common special characters include:

- '*' — a 'wild card' that indicates 'all permitted values'.
- '?' — indicates 'ignore this time interval' in the cron expression. That is, the cron expression will not be bound by the time interval (such as 'Month', 'Day of week' or 'Year') to which this character is specified.

For more information about cron expressions, please refer to the Cron Trigger tutorial on the Quartz website.

| Order in cron expression | Time interval field | Permitted values* | Required? |
|---|---|---|---|
| 1 | Seconds | 0-59 | Yes |
| 2 | Minutes | 0-59 | Yes |
| 3 | Hours | 0-23 | Yes |
| 4 | Day of month | 1-31 | Yes |
| 5 | Month | 1-12 or JAN-DEC | Yes |
| 6 | Day of week | 1-7 or SUN-SAT | Yes |
| 7 | Year | 1970-2099 | No |

* Excluding special characters.

## Configuring the Whitelist

Confluence administrators can choose to allow incoming and outgoing connections and content from specified sources for use in the RSS macro, HTML Include macro and gadgets, by adding URLs to the whitelist.

Confluence will display an error if content has been added that is not from an allowed source, and prompt the user to add the URL to the whitelist.

Application links are automatically added to the whitelist. You do need to manually add them.

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Note: The HTML Include macro is disabled by default in Confluence. See enabling HTML macros.

### Add allowed URLs to the whitelist

To add a URL to the whitelist:

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Whitelist**.
3. Enter the URL or expression you want to allow.
4. Choose the **Type** of expression (see below for examples of the types available).
5. Choose **Allow Incoming** if you need to allow CORS requests (see below).
6. Choose **Add**.

Your URL or expression appears in the whitelist.

To test that your whitelisted URL is working as expected you can enter a URL in the **Test a URL** field. Icons will indicate whether incoming and / or outgoing traffic is allowed for that URL.

### Expression Types

When adding a URL to the whitelist, you can choose from a number of expression types.

| Type | Description | Example |
|---|---|---|
| Domain name | Allows all URLs from the specified domain. | `http://www.example.com` |
| Exact match | Allows only the specified URL. | `http://www.example.com/thispage` |
| Wildcard Expression | Allows all matching URLs. Use the wildcard * character to replace one or more characters. | `http://*example.com` |
| Regular Expression | Allows all URLs matching the regular expression. | `http(s)?://www\.example\.com` |

### Allow Incoming

**Allow Incoming** enables CORS requests from the specified origin. The URL must match the format `scheme://host[:port]`, with no trailing slashes (`:port` is optional). So `http://example.com/` would not allow CORS requests from the domain `example.com`.

### Disabling the whitelist

The whitelist is enabled by default. You can choose to disable the whitelist however this will allow all URLs, including malicious content, and is not recommended.

To disable the whitelist:

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Choose **Whitelist**.
3. Choose **Turn off whitelist**.
4. Choose **Confirm**.

All URLs will now be allowed. Unless your instance is running in an environment without internet access, we do not recommend disabling the whitelist.

## 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.

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# 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.

**On this page:**


- Motivation for Presenting these Guidelines
- Who should Read these Guidelines?
- Dedicated Hardware for Confluence
- Dedicated Qualified Staff
- Constant Monitoring of Production Systems
- Adherence to Strict Upgrade Procedures
- Testing of Upgrades before Production Implementation
- Enforcing Security Guidelines
- Load-Testing Environments
- Tuning
- Related Topics


⚠ *The information on this page does not apply to Confluence OnDemand.*

# 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.

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## 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 not 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.

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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:

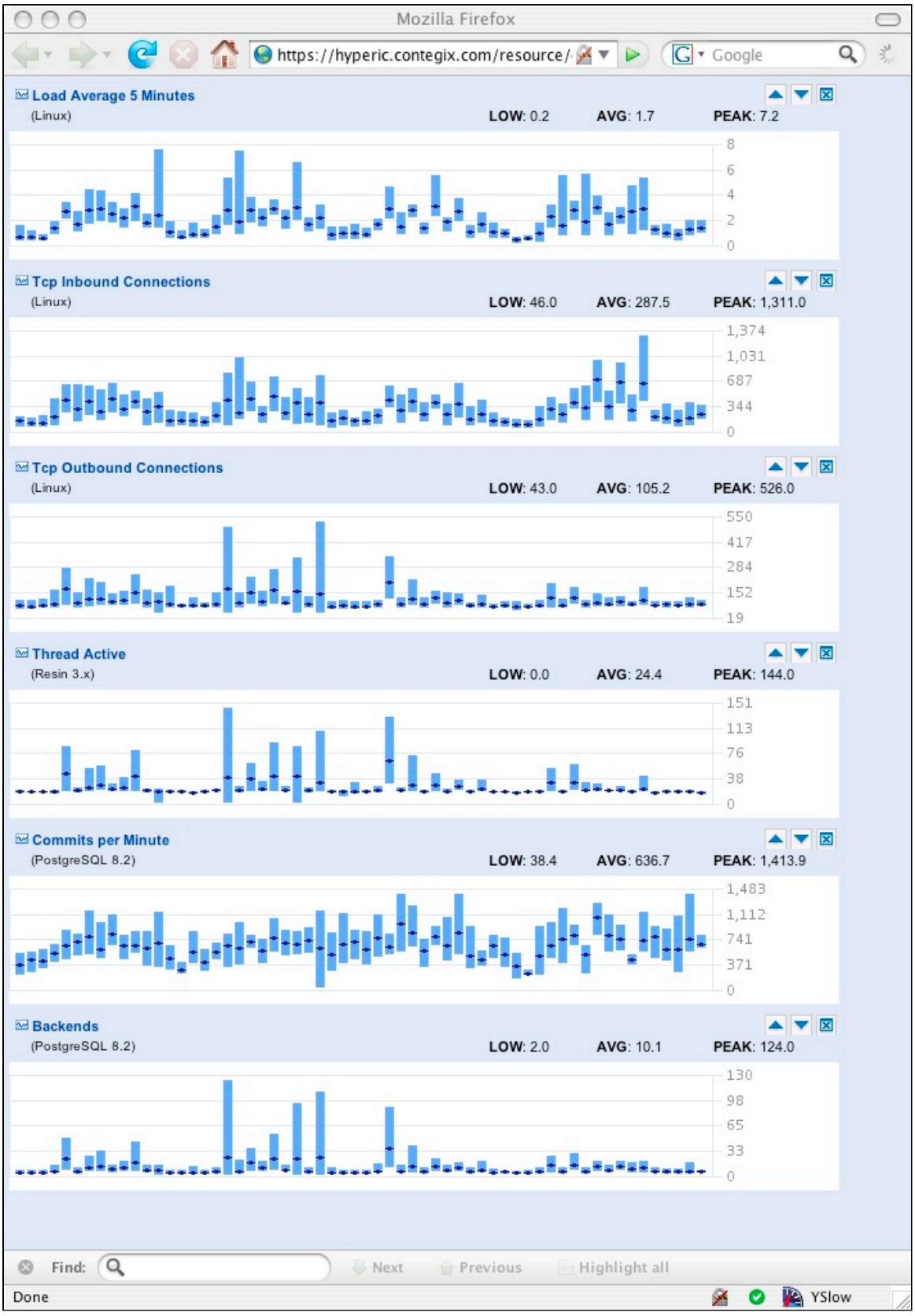
- Monitoring log files.
- Checking for HTTP-availability and performance (e.g. by getting the same page every five minutes and displaying the time on a graph).
- Looking at many different parameters such as load, connections, IO, database-trends, and so on.
- Charting long-term trends.
- Keeping an access 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.

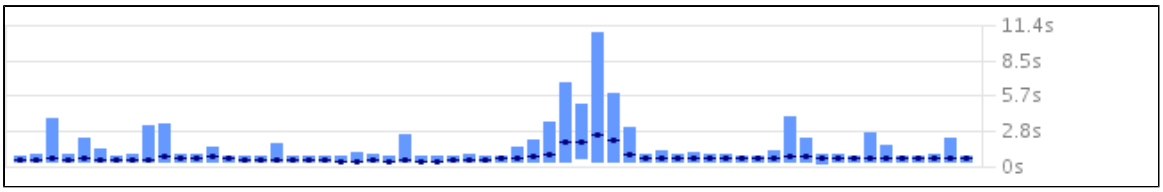
As an example of what our monitoring UI looks like, have a look at this screenshot:

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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.

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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)**

- Commited 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 Confluence 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` — the server that

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hosts this very page.

| Sydney time | Server time | Event | Reason/Purpose (including JIRA issues) |
|---|---|---|---|
| | 2008-03-25 22:18 | Started upgrade to 2.8-m9-r3 (build #1314) | |
| | 2008-03-25 22:25 | App server brought down due to failed database upgrade | |
| | 2008-03-26 00:51 | Server brought back up after database restored from backup. Running 2.8-m9-r3. | |
| | 2008-03-28 04:18 | GC algorithm changed from concurrent to parallel collector. Max heap increased from 1.4 GB to 2.0 GB | |
| | 2008-04-24 | Hyperic agent started with connection to Resin. | |
| | 2008-05-08 20:30 - 22:30 | Manual updates to menu.css, comments.js and comments.css in webapp | Temporary fix for @JIRA, @JIRA which was impacting performance |
| | 2008-05-12 | Updated cache sizes for five caches, bounced server. | Cache efficiency was low on these caches. |
| 2008-05-13 18:00-18:20 | 2008-05-13 03:00-03:20 | Upgrade from Resin 3.0 to Tomcat 5.5 | |
| 2008-05-14 16:30-17:00 | | Upgrade from Confluence 2.8.1-rc2 to 2.8.1-rc3 | |
| | 2008-05-14 20:30 | Install new cronjob as j2ee for automating access log analysis | @JIRA |

## 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

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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**
Confluence Knowlege Base: How Can I Get a License for a Staging Environment?

## Enforcing Security Guidelines

Security is one of the most important issues for Confluence. We are constantly spending large amounts of effort to keep up with security threats and to Confluence's security model. We treat security breaches with utmost priority, and the recent releases have been improved to fend off advanced attack vectors like cross-site scripting (XSS), cross-site request forgery (XSRF) and header injection flaws. Altogether we believe that Confluence is a very secure product. But of course as with any software there are occasional bugs, and we are fixing security issues whenever they come up. We regularly release minor software releases that contain security fixes. This means you should upgrade your system frequently. Obviously this can affect your system's uptime. You should also make sure your whole infrastructure around Confluence is made robust as well (consider operating systems, webservers, application servers, networks, social engineering aspects, etc).

As with any other distributed system, you need to decide on a case by case basis if classified documents can be stored in it. It is common practice to store the most secure documents on computers that are not even connected to the physical intranet. Please contact your company's security officer to learn more about your enterprise's security procedures.

Make sure to have qualified staff around, so you can deal with security issues quickly. Once a security patch becomes available or a security incident happens, speed is essential.

Please refer to our dedicated Configuring Confluence Security page for more technical details.

## Load-Testing Environments

Many customers ask us,

> *So, how many users and spaces can I put into Confluence, and what is the best hardware do to 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.

## Tuning

You may need to be able to tune your installation in the ways mentioned below.

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#### 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. See Customising the Confluence Dashboard.
- 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.

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### Related Topics

Performance Tuning
Configuring a Large Confluence Installation
Confluence Clustering Overview
Requesting Performance Support
Confluence Administrator's Guide
Configuring Confluence
Server Hardware Requirements Guide
How to Fix Out of Memory Errors by Increasing Available Memory

# 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 Production 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.

### Performance Tuning

Check our guides for Performance Tuning.

### Choosing User Management and Single Sign-On

We recommend that you choose and configure your user management solution as soon as possible, rather than adding it to your Confluence installation at a later date.

It is possible to integrate with an LDAP repository, such as Microsoft Active Directory, or add a single sign-on solution later (especially with the addition of Crowd). But if possible it is best to configure your user management system up front. You can configure access for only a specific group or set of groups, thereby keeping the gradual rollout.

Please refer to our detailed guide to Configuring User Directories and examine the User Management Limitations and Recommendations.

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## 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

### Troubleshooting 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:

| Java VM Memory Statistics | |
|---|---|
| **Total Memory** | 313 MB |
| **Free Memory** | 140 MB |
| **Used Memory** | 173 MB |
| **Memory Graph** |  **45 % Free** |

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.

To improve performance of a large Confluence site, we recommend that you move the caching of static content from the JVM into Apache. This will prevent the JVM from having a number of long running threads serving up static content. See Configuring Apache to Cache Static Content via mod_disk_cache.

**RELATED TOPICS**

Operating Large or Mission-Critical Confluence Installations
Performance Tuning
Confluence Clustering Overview
Requesting Performance Support
Managing Confluence Users

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# 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.

> *The information on this page does not apply to Confluence OnDemand.*

### 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

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Requesting Performance Support
Confluence Administrator's Guide
Configuring Confluence

# Technical Overview of Clustering in Confluence

**Overview of clustering documentation**
Refer to the overview of Confluence clustering in the *Administrators' Guide*.

*The information on this page does not apply to Confluence OnDemand.*

### *Introduction*

From version 2.3, Confluence has had the ability to configure and run multiple copies of itself in a cluster, so that clients can connect to any copy and see the same information. In effect, a Confluence cluster behaves as a single, powerful Confluence installation. While we have tried to make clustering Confluence as easy and administrator-friendly as possible, it is a major architectural change from earlier versions (or non-clustered installations) and consequently, requires extra planning for deployment and upgrades.

This document will give a technical overview of clustering in Confluence, 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.

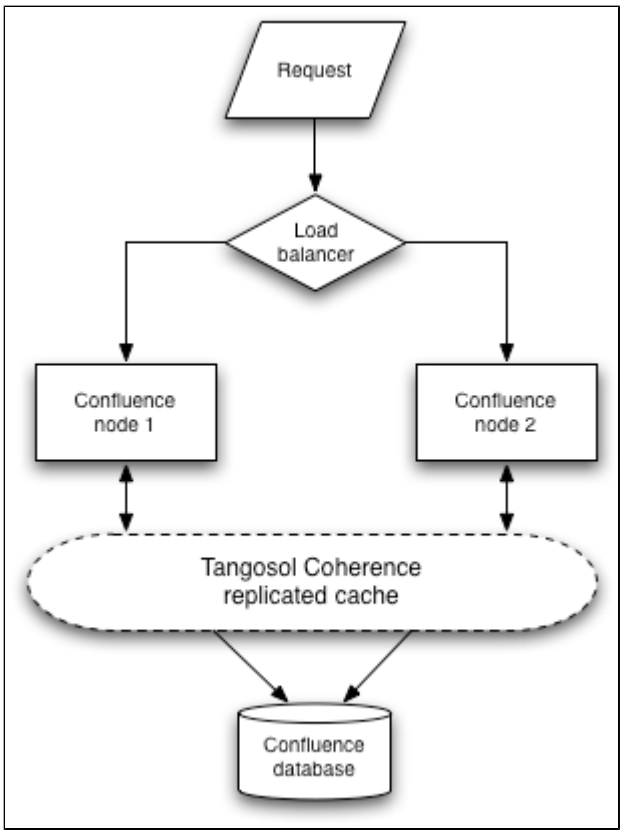
### *Cluster topology*

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.




**Confluence cluster topology (simplified)**

### *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. If you do want to go down that path, you will need to configure Coherence yourself. Atlassian Support won't be able to support that kind of a configuration, but you can always enlist an Atlassian Expert to help.

### *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:

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- 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

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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

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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.

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#### *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 TOPICS*

Server Hardware Requirements Guide
Overview of Confluence Clusters
Developers' Guide to Clustering

## 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### 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

See 'Database is being updated by an instance which is not part of the current cluster' Error Message

#### 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.

## 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.

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⚠ 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *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*

ℹ Done.

#### *RELATED PAGES*

Overview of Confluence Clusters

## Cluster Troubleshooting

This page covers troubleshooting for a clustered installation of Confluence.

- For information about clustering in general, refer to the overview of Confluence clustering.
- If you're experiencing Cluster Panic messages in non-clustered installation of Confluence, visit the Knowledge Base article 'Database is being updated by an instance which is not part of the current cluster' Error Message.

**On this page:**


- Symptoms
- Confluence cluster debugging tools
- Didn't find a solution?
- Related


> ⚠ *The information on this page does not apply to Confluence OnDemand.*

### Symptoms

Below is a list of potential problems with a Confluence cluster, and their likely solutions. The solutions are listed below.

| Problem | Likely solutions |
|---|---|
| `Database is being updated by an instance which is not part of the current cluster` errors on a stand-alone | 'Database is being updated by an instance which is not part of the current cluster' Error Message |

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| | |
|---|---|
| `Database is being updated by an instance which is not part of the current cluster` errors on a cluster | Add multicast route, Check firewall |
| `Cannot assign requested address` on startup, featuring an IPv6 address | Prefer IPv4 |
| Error in log: `The interface is not suitable for multicast communication` | Change multicast interface, Add multicast route |
| Multicast being sent, but not received (detectable with Multicast Test) | Check firewall, Check intermediate routers, Increase multicast TTL |
| Any issue not covered here | Contact support |

#### 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.

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```
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:

| Tool | Information provided |
|---|---|
| `netstat -gn` | Lists multicast groups. Does not work on Mac OS X. |
| `netstat -rn` | Lists system routing table. |
| Multicast Test | Coherence tool for testing multicast traffic from one node to another. |
| `tcpdump -i` *`interface`* | Captures network traffic on the given interface. Most useful on an interface that only receives cluster traffic. |

#### *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:

```
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.

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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`:

```
<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 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?

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***Check Related Articles from the Confluence Knowledge Base***

- Changing Datasources Manually in a Cluster
- Confluence Clustering Overview
- Upgrading a Confluence Cluster
- Cluster Troubleshooting
- Viewing and Editing License Details
- Cluster Administration page
- Cluster safety mechanism
- Apache and Tomcat load balancing
- Recommended network topology
- Technical Overview of Clustering in Confluence
- Confluence Cluster Installation

***Open JIRA Features and Bug Reports***

| Type | Key | Summary | Assignee | Reporter | Priority | Status | Resolution | Created | Updated | Due |
|---|---|---|---|---|---|---|---|---|---|---|
| | CONF-23223 | Remove the option to store attachments on filesystem when using a cluster | Unassigned | Carlos Alberto Feijo Scheddler [Atlassian] | | Open | Unresolved | Sep 14, 2011 | Sep 15, 2011 | |
| | CONF-27248 | WorkBox (notifications and tasks) support for Confluence clustered | Unassigned | Chris Hubing | | Open | Unresolved | Nov 14, 2012 | Jul 31, 2013 | |
| | CONF-21670 | Confluence should explicitly check for other confluence instan | Unassigned | Don Willis [Atlassian] | | Open | Unresolved | Jan 20, 2011 | Jan 25, 2011 | |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | ces using the same home directory | | | | | | | | |
| | CONF-12287 | Coherence cache fails while retrieving profile picture metadata (dashboard or view page shows Unexpected RollbackException) | Unassigned | Matt Ryall [Atlassian] | | Open | Unresolved | Jul 01, 2008 | Apr 05, 2011 |
| | CONF-12689 | Support Confluence cluster upgrades without an outage | Unassigned | Igor Minar | | Open | Unresolved | Aug 06, 2008 | Jun 24, 2012 |
| | CONF-14120 | Hibernates UpdateTimestampsCache doesn't handle concurrent writes | Unassigned | Chris Kiehl [Atlassian] | | Open | Unresolved | Jan 06, 2009 | May 06, 2009 |
| | CONF-9297 | Confluence should be | Unassigned | Gary Weaver | | Open | Unresolved | Aug 27, 2007 | Apr 12, 2012 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | able to automatically recover from cluster panics | | | | | | | | |
| | CONF-8959 | Attachment migration does not happen when upgrading to a clustered license | Unassigned | Nicholas Ilacqua [Atlassian] | ↑ | Open | Unresolved | Jul 19, 2007 | Feb 25, 2013 |
| | CONF-25867 | Page diffs fail because the confluence-coherence-cache-config-clustered.xml file is not being updated in clustered upgrades | Unassigned | Robert Chang [Atlassian] | ↑ | Open | Unresolved | Jun 27, 2012 | Aug 26, 2013 |
| | CONF-23033 | Viewfile macro does not work in Confluence Clustered when Office | Unassigned | Roy Hartono [Atlassian] | ↑ | Open | Unresolved | Aug 09, 2011 | Oct 16, 2012 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Connector is configured to use Cache in Memory for temporary storage | | | | | | | | |
| | CONF-30411 | Gliffy stops working on other cluster nodes after re-enablement | Unassigned | Fabian Kraemer [Atlassian] | | Open | Unresolved | Aug 15, 2013 | Sep 03, 2013 |
| | CONF-25211 | Plugin installation breakes clustered cache | Unassigned | Thomas Krug | | Open | Unresolved | Apr 14, 2012 | Apr 16, 2012 |
| | CONF-14657 | Retrieving the global settings in a clustered environment causes a lot of contention | Unassigned | Chris Kiehl [Atlassian] | | Open | Unresolved | Feb 22, 2009 | Nov 09, 2009 |
| | CONF-10325 | Viewing the members of a group in a clustered environment | Unassigned | Partha Kamal [Atlassian] | | Open | Unresolved | Dec 27, 2007 | Jul 02, 2009 |

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| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | works only on one node and not the other. | | | | | | | | |
| | CONF-13421 | Layout customisations are not propagated to other cluster nodes | Unassigned | Matt Ryall [Atlassian] | | Open | Unresolved | Oct 16, 2008 | Dec 10, 2008 |
| | CONF-10868 | Node that can not join cluster due to license restriction causes cluster panic | Unassigned | Ivan Benko [Atlassian] | | Open | Unresolved | Feb 29, 2008 | Sep 03, 2008 |
| | CONF-10980 | Cluster debugging/troubleshooting tools | Unassigned | Ivan Benko [Atlassian] | | Open | Unresolved | Mar 07, 2008 | Apr 12, 2012 |
| | CONF-12486 | ClassNotFoundException logged on cluster node startup | Unassigned | Anatoli Kazatchkov [Atlassian] | | Open | Unresolved | Jul 18, 2008 | Aug 26, 2009 |
| | CONF-12614 | Intermittent Concu | Unassigned | Anatoli Kazat | | Open | Unresolved | Jul 30, 2008 | Apr 01, 2009 |

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| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | rrentModificationException in cluster | | chkov [Atlassian] | | | | | |
| | CONF-9813 | Disable attachments migration to Filesystem in Cluster | Unassigned | Gurleen Anand [Atlassian] | | Open | Unresolved | Oct 25, 2007 | Sep 05, 2011 |

16 more issues

***Contact Atlassian support***

We have dedicated staff on hand to support your installation of Confluence. Please follow the instructions for raising a support request and mention that you're having trouble setting up your Confluence cluster.

**Related**

Cluster Safety Mechanism

**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 download the Coherence for Java from Oracle's website. You will need to sign up for a free Oracle account and sign the license agreement, before downloading the 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.

The Multicast Test will use the multicast address of 237.0.0.1:9000 by default. Confluence creates a unique address based on the cluster name that you enter during setup. As such, you should include the -group flag in your multicast testing to ensure your tests are broadcasting across the same address as your Confluence nodes.

*The information on this page does not apply to Confluence OnDemand.*

RELATED TOPICS

Cluster Troubleshooting
Confluence Clustering Overview

## Clustering for Scalability vs Clustering for High Availability (HA)

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.

***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

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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.

Confluence's clustering is not designed to solve this problem, and does not provide high availability.

***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.

**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'?
  - RELATED TOPICS


*The information on this page does not apply to Confluence OnDemand.*

***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.

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

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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:

- 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

## 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.

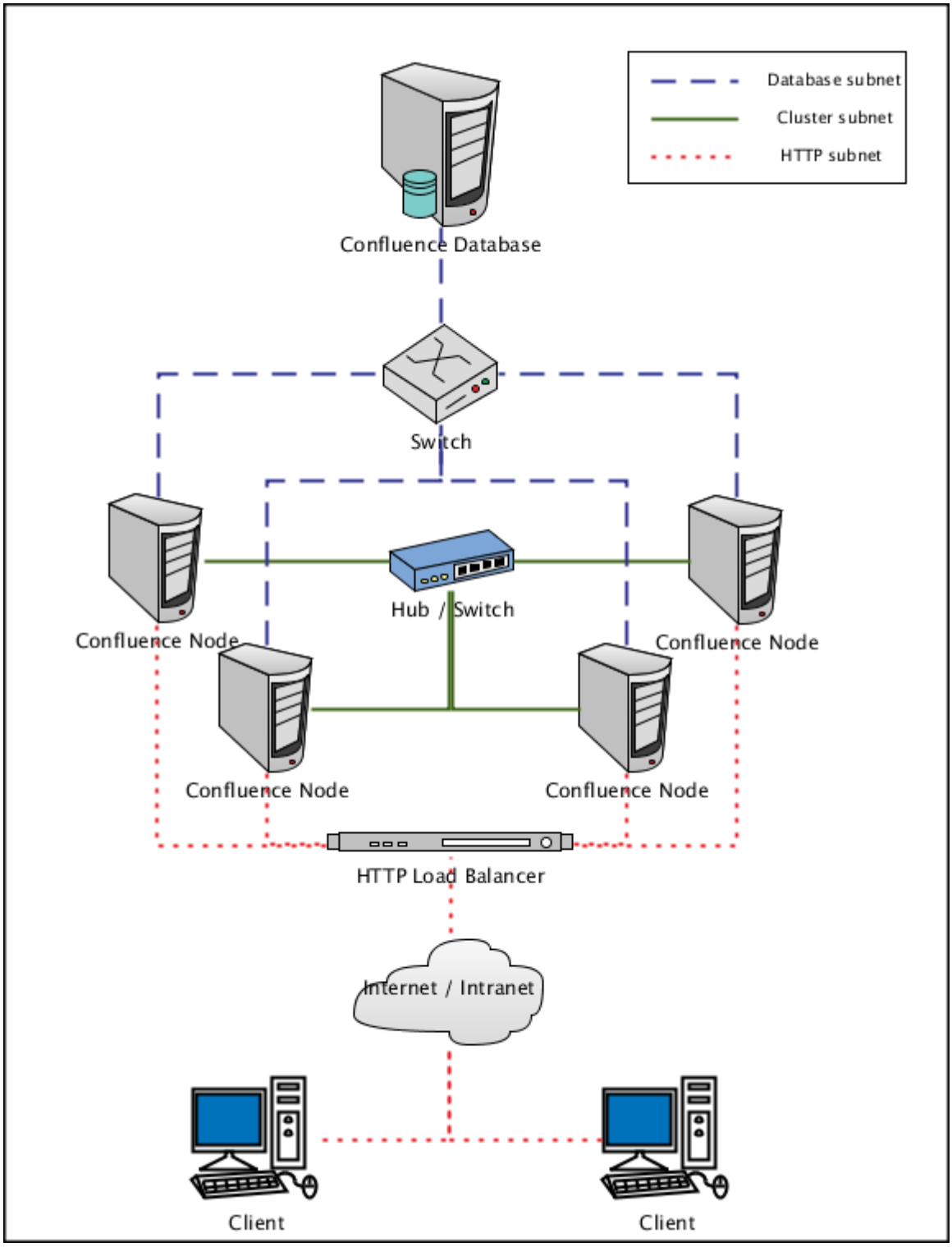
The most important aspect is that cluster, database and HTTP (client) traffic are all carried on separate subnets. It is possible, on a sufficiently fast network, to carry cluster and database traffic on the same subnet but we do strongly recommend that HTTP traffic be always confined to a separate subnet 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.

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⚠ *The information on this page does not apply to Confluence OnDemand.*

**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.




## Cluster Administration page

***Overview***

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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. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
2. Click '**Cluster Configuration**' in the left-hand menu, in the section called 'Clustering'.

*The information on this page does not apply to Confluence OnDemand.*

**On this page:**


- Overview
- Availability


**Related pages:**

- Overview of Confluence Clusters
- Confluence Cluster Installation
- Cluster Troubleshooting

***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.

The 'Cluster Administration' 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.

## 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.

**Note:** 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

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requires extra planning for deployment and upgrades. Please consider the information below and then consult Atlassian Sales before making your final decision.

### 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.

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.

**On this page:**


- Purpose of this Document
- Assumed Knowledge
- General Considerations
- Server Setup
- Database Setup
- Network Setup
- Staging Environment


**Related pages:**

- Running Confluence in a Virtualised Environment
- Confluence Cluster Installation
- Confluence Clustering Overview
- Recommended network topology
- Apache and Tomcat load balancing
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

### 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. | |

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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

ℹ 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 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.

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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, and want to roll out the clustered version of Confluence 3.0, you must first upgrade to Confluence 3.0 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 you 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

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balancers or putting a software
loadbalancer onto its on 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

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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.

## Performance Tuning

This document describes tuning your application for improved performance. It is not a guide to troubleshooting Confluence outages. Check Troubleshooting Confluence Hanging or Crashing for help if Confluence is crashing.

#### 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 **out of the box**.

#### 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 C luster 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.

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**On this page:**


- Description
- Use the latest version of your tools
- Avoid swapping due to not enough RAM
- Being aware of other systems using the same infrastructure
- Choice of database
- Database connection pool
- Database in general
- Database indexes
- Database statistics and query analysers
- Cache tuning in Confluence and Apache
- Antivirus software
- Enabling HTTP compression
- Virtual operating systems
- Performance testing
- Access logs
- Built-in profiler
- Application server memory settings
- Web server configuration
- Parallel GC
- Troubleshooting possible memory leaks
- Plugins




*The information on this page does not apply to Confluence OnDemand.*

### Being aware of other systems using the same infrastructure

It may sound tempting: Just have one powerful server hosting your database and/or application server, and run **all** your crucial programs on that server. **If** the system is set up perfectly, then you might be fine. Chances are however that you are missing something, and then one application's bug might start affecting other applications. So if Confluence is slow every day around noon, then maybe this is because another application is using the shared database to generate complicated reports at that time? Either make sure applications can't harm each other despite sharing the same infrastructure, or get these systems untangled, for example by moving them to separate instances that can be controlled better.

### 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.

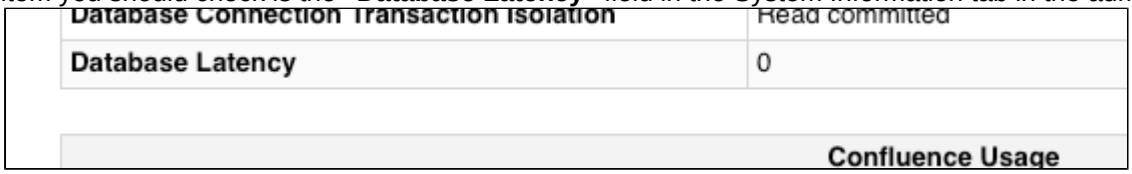
To assess whether you need to tune your database connection pool, take thread dumps during different times (including peak usage). Inspect how many threads have concurrent database connections.

### Database in general

If Confluence is running slowly, one of the most likely cause is that there is some kind of bottleneck in (or around) the database.

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The first item you should check is the **"Database Latency"** field in the System Information tab in the admin console.




The latency is calculated by sending a trivial request to the database, querying a table which is known to have only one column and one row. ("select * from CLUSTERSAFETY"). Obviously this query should be blazing fast, and return within 1 or 2 milliseconds. If the value displayed is between 3 and 5 milliseconds, you might already have an issue. If the value is above 10ms, then you **definitely** need to investigate and improve something! A few milliseconds may not sound so bad, but consider that Confluence sends quite a few database queries per page request, and those queries are a lot more complex too! High latency might stem from all sorts of problems (slow network, slow database, connection-pool contention, etc), so it's up to you to investigate. Don't stop improving until latency is below 2ms on average.

Obviously, latency is just the very first thing to look at. You may get zero latency and still have massive database problems, e.g. if your tables are poorly indexed. **So don't let a low latency fool you either.**

### Database indexes

Especially if you have more than a few thousand active users, and all most obvious measures have been tried out but the database still seems to be under high load, you should consider engaging 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)

### Database statistics and query analysers

Modern databases have query optimisers based on collecting statistics on the current data. Using the SQL EXPLAIN statement will provide you information on how well the query optimiser is performing. If the cost estimate is wildly inaccurate then you will need to run statistics collection on the database. The exact command will depend on your database and version. In most cases you can run statistics collection while Confluence is running, but due to the increased load on the database it's best to do this after normal hours or on a week-end.

### Cache tuning in Confluence and Apache

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).

Please have a look at our documentation on Cache Performance Tuning for information on how to tune Confluence caches.

To improve performance of a large Confluence site, we recommend that you move the caching of static content from the JVM into Apache. This will prevent the JVM from having a number of long running threads serving up static content. See Configuring Apache to Cache Static Content via mod_disk_cache.

### 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 bottlenecking 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.

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Take note of 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. Refer to the list of supported operating systems for Confluence in the Supported Platforms topic.

**Note:** In some situation the VMTools can crash, cause a excessive context switches and interrupts causing the JVM to run slowly and Confluence to start up very slowly.

### Performance testing

You should try out all configuration changes on a demo system. Ideally, you should run and customize loadtests that simulate user behaviour.

### 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.

### Application server memory settings

See How to Fix Out of Memory Errors by Increasing Available Memory.

### Web server configuration

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.

### Troubleshooting 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.

### Plugins

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.

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**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
Confluence Administrator's Guide
Configuring Confluence

## 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.

The cache performance information for your Confluence installation is available under **Administration > Cache Statistics**. For more information about the numbers displayed on that screen, see Cache Statistics.

**Notes:**

- To improve performance of a large Confluence site, we recommend that you move the caching of static content from the JVM into Apache. This will prevent the JVM from having a number of long running threads serving up static content. See Configuring Apache to Cache Static Content via mod_disk_cache.
- If you only need to modify Confluence's maximum cache sizes, you can do this through the Cache Statistics feature of the Administration Console.

### Cache tuning example

As an example of how to tune Confluence's caches, let's have a look at the following table:

| Caches | % Used | % Effectiveness | Objects/Size | Hit/Miss/Expiry |
|---|---|---|---|---|
| Attachments | 87% | 29% | 874/1000 | 78226/189715/187530 |
| Content Attachments | 29% | 9% | 292/1000 | 4289/41012/20569 |
| Content Bodies | 98% | 81% | 987/1000 | 28717/6671/5522 |
| Content Label Mappings | 29% | 20% | 294/1000 | 4693/18185/9150 |
| Database Queries | 96% | 54% | 968/1000 | 105949/86889/83334 |
| Object Properties | 27% | 18% | 279/1000 | 5746/25386/8102 |
| Page Comments | 26% | 11% | 261/1000 | 2304/17178/8606 |
| Users | 98% | 5% | 982/1000 | 6561/115330/114279 |

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%)

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- 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.

**On this page:**


- Cache tuning example
- Finding the configuration file
- Cache key mappings
- Standard editions of Confluence
- Clustered editions of Confluence
- Reference of Internal names to Human readable names
- Important caches
- Cache tuning follow-up
- Notes


**Related pages:**

- Cache Performance Tuning for Specific Problems
- Confluence Cache Schemes
- Working with Confluence Logs
- Operating Large or Mission-Critical Confluence Installations
- Confluence Clustering Overview
- Requesting Performance Support
- Confluence Administrator's Guide
- Configuring Confluence

*The information on this page does not apply to Confluence OnDemand.*

### 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:**

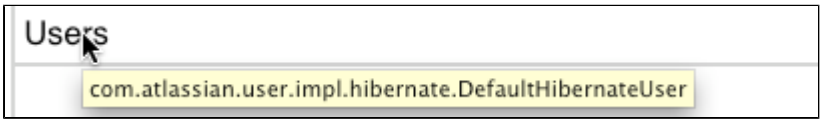
- Due to a license agreement change,Confluence is now available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
    **If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.**
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).
- 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, please ensure that you download only a cluste

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red 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.
   ℹ 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.
      ℹ 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.

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   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.

| Coherence Element | Ehcache Attribute |
|---|---|
| `high-units` | `maxElementsInMemory` |
| `expiry-delay` > 0s | `timeToIdleSeconds` - Use this attribute for expiry delays greater than 0s along with the `eternal` attribute set to 'false' |
| `expiry-delay` = 0s | `eternal` - For expiry delays of 0s, set this attribute to 'true'. |

#### 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-mapping>...</caching-scheme-mapping>` tags:

```
<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>...</caching-schemes>` tags.

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```
<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 cases, their parameters will be inherited from `scheme-ref` scheme, which is the `default` scheme in our case.

#### Reference of Internal names to Human readable names

The names in the Cache statistics screen are mapped to internal names (as per the ehcache/coherence-override file) as follows:

| | |
|---|---|
| bucket.user.persistence.dao.hibernate.BucketUserDAO.findUserByUsername() | Users (Username) |
| bucket.user.propertyset.BucketPropertySetItem | Object Properties |
| bucket.user.providers.CachingAccessProvider.handles() | Groups (OSUser) |
| bucket.user.providers.CachingAccessProvider.inGroup() | User Group Mappings (OSUser) |
| bucket.user.providers.CachingCredentialsProvider | Users (OSUser Credentials) |
| com.atlassian.bandana.BandanaPersister | Settings (Persistence) |
| com.atlassian.confluence.core.BodyContent | Content Bodies |
| com.atlassian.confluence.core.ContentEntityObject | Content Objects |
| com.atlassian.confluence.core.ContentEntityObject.attachments | Content Attachments |
| com.atlassian.confluence.core.ContentEntityObject.bodyContents | Content Body Mappings |
| com.atlassian.confluence.core.ContentEntityObject.labellings | Content Label Mappings |
| com.atlassian.confluence.core.ContentEntityObject.outgoingLinks | Content Links (Outgoing) |
| com.atlassian.confluence.core.ContentEntityObject.permissions | Content Permission Mappings |
| com.atlassian.confluence.core.ContentEntityObject.previousVersions | Content Versions |
| com.atlassian.confluence.core.ContentEntityObject.referralLinks | Content Links (Referral) |
| com.atlassian.confluence.core.ContentEntityObject.trackbackLinks | Content Links (Trackback) |
| com.atlassian.confluence.diffs | Page Diffs |
| com.atlassian.confluence.html.diffs | Html Page Diffs |

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| | |
|---|---|
| com.atlassian.confluence.plugins.like.notifications.dao.NotificationDao | Likes Notification DAO |
| com.atlassian.confluence.security.ContentPermission | Content Permissions |
| com.atlassian.confluence.core.PersistentDecorator | Layouts (Database) |
| com.atlassian.confluence.labels.Label | Labels |
| com.atlassian.confluence.labels.Labelling | Label Content Mappings |
| com.atlassian.confluence.pages.Attachment.labellings | "Attachment Label Mappings" |
| com.atlassian.confluence.pages.AttachmentDownloadPathCache | Attachment Download Paths |
| com.atlassian.confluence.pages.templates.PageTemplate.labellings | "Page Template Label Mappings" |
| com.atlassian.confluence.links.ReferralLink | Links (External) |
| com.atlassian.confluence.links.TrackbackLink | Links (Trackback) |
| com.atlassian.confluence.core.ContentEntityObject.comments | Comments |
| com.atlassian.confluence.pages.Attachment.previousVersions | Attachment Versions |
| com.atlassian.confluence.pages.Comment.children | Comment Relationships |
| com.atlassian.confluence.pages.Draft | Drafts |
| com.atlassian.confluence.pages.Page.ancestors | Page Ancestors |
| com.atlassian.confluence.pages.Page.children | Page Children |
| com.atlassian.confluence.pages.templates.PageTemplate.previousVersions | Template Versions |
| com.atlassian.confluence.pages.attachments.ImageDetailsDto | Image Details |
| com.atlassian.confluence.security.SpacePermission | Space Permissions (by ID) |
| com.atlassian.confluence.setup.bandana.ConfluenceBandanaRecord | Settings |
| com.atlassian.confluence.spaces.Space | Spaces |
| com.atlassian.confluence.user.persistence.dao.CachingPersonalInformationDao.usernameToId | User Information By Username |
| com.atlassian.confluence.util.velocity.ConfluenceVelocityResourceCache | UI Templates |
| com.atlassian.user.impl.hibernate.DefaultHibernateExternalEntity | Users (External Mappings) |
| com.atlassian.user.impl.hibernate.DefaultHibernateExternalEntity.groups | Users (External Groups) |
| com.atlassian.user.impl.hibernate.DefaultHibernateGroup | Groups |
| com.atlassian.user.impl.hibernate.DefaultHibernateGroup.externalMembers | Groups (External Members) |

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| | |
|---|---|
| com.atlassian.user.impl.hibernate.DefaultHibernateGroup.localMembers | Groups (Local Members) |
| com.atlassian.user.impl.hibernate.DefaultHibernateUser | Users |
| com.atlassian.user.impl.hibernate.DefaultHibernateUser.groups | User Group Mappings |
| com.atlassian.user.impl.hibernate.CachingExternalEntityDAO.externalEntityName | Users (External Mappings) |
| com.opensymphony.user.provider.hibernate.impl.HibernateGroupImpl | Groups (OSUser) |
| com.opensymphony.user.provider.hibernate.impl.HibernateUserImpl | Users (OSUser) |
| com.opensymphony.user.provider.hibernate.impl.HibernateUserImpl.groups | User Group Mappings (OSUser Hibernate) |
| net.sf.hibernate.cache.StandardQueryCache | Database Queries |
| net.sf.hibernate.cache.UpdateTimestampsCache | Object Timestamps |
| com.atlassian.confluence.lock-cache | Locks |
| com.atlassian.confluence.rpc.auth.TokenAuthenticationManager.tokens | Remote Auth Tokens |
| bucket.user.providers.CachingProfileProvider.getPropertySet() | Bucket Property Set |
| bucket.user.providers.CachingProfileProvider.handles() | Profile Providers Handles |
| com.atlassian.confluence.cluster.safety.DefaultClusterSafetyManager.safetyNumber | Cluster Safety Numbers |
| com.atlassian.confluence.security.PermissionCheckDispatcher.isPermitted() | User Authorized URLs |
| com.atlassian.confluence.security.persistence.dao.hibernate.legacy.HibernateKey | Hibernate Keys |
| com.atlassian.confluence.security.trust.ConfluenceTrustedApplication | Trusted Applications |
| com.atlassian.confluence.security.trust.ConfluenceTrustedApplication.restrictions | Trusted Application Restrictions (Foreign Keys) |
| com.atlassian.confluence.security.trust.TrustedApplicationRestriction | Trusted Application Restrictions (Objects) |
| com.atlassian.confluence.themes.persistence.hibernate.DefaultPersistentDecoratorDao | Decorators |
| com.atlassian.confluence.util.i18n.I18NBeanFactory.by.locale | Internationalisation Bean Factories |
| com.atlassian.confluence.core.CachingInheritedContentPermissionManager.getInheritedContentPermissionSets() | Inherited Content Permissons |
| com.atlassian.confluence.pages.persistence.dao.PageDao.getPage() | Pages |

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| | |
|---|---|
| com.atlassian.confluence.security.CachingSpacePermissionManager.permissions | Space Permissions (by Type, Scope & Entity) |
| com.atlassian.confluence.spaces.persistence.dao.SpaceDao.getSpace() | Spaces (by key) |
| com.atlassian.confluence.util.UserChecker | Number Of Registered Users |
| com.atlassian.confluence.cache.jcaptcha.ConfluenceCachingCaptchaStore | Captchas |
| com.atlassian.confluence.core.DefaultContentPropertyManager | Content Properties |
| com.atlassian.confluence.spaces.SpaceGroup | Space Groups |
| com.atlassian.confluence.hosted.SpaceGroupPermission | Space Group Permissions |
| com.atlassian.confluence.spaces.persistence.dao.SpaceGroupDao.getSpaceGroup() | Space Groups (Hibernate) |
| com.atlassian.confluence.core.ContentEntityObject.contentPermissionSets | Permission Set Collections in Content Entity Objects |
| com.atlassian.confluence.security.ContentPermissionSet | Content Permission Sets |
| com.atlassian.confluence.security.ContentPermissionSet.contentPermissions | Permissions in Content Permission Sets |
| com.atlassian.confluence.published-cache | Objects Published to All Cluster Members |
| com.atlassian.confluence.core.DefaultHeartbeatManager.activities | Page Edit Activities for Heartbeat Tracking |
| com.atlassian.confluence.pages.Attachment | Attachments |
| com.atlassian.confluence.pages.attachments.AttachmentCache | Attachment IDs |
| com.atlassian.confluence.security.persistence.dao.hibernate.AliasedKey | Encryption Keys |
| com.atlassian.user.impl.hibernate.properties.HibernatePropertySetFactory.propertysets | Hibernate User Properties |
| com.atlassian.confluence.follow.Connection | Connection |
| com.atlassian.confluence.user.DefaultUserAccessor.deactivatedUsers | Disabled Users |
| com.atlassian.confluence.links.DefaultReferralManager.hotReferrers | Hot Referrers |
| com.atlassian.confluence.extra.jira.OldRssMacro | Old Rss Macro |
| com.atlassian.confluence.security.login.DefaultLoginManager | Login Manager: Login attempts for unknown users |
| com.atlassian.confluence.user.persistence.dao.ConfluenceRememberMeToken | RememberMe Tokens |
| com.atlassian.confluence.locale.requestLang | Browser language cache |
| com.atlassian.confluence.security.persistence.dao.hibernate.UserLoginInfo | User Login Information |
| com.atlassian.confluence.like.LikeEntity | Likes |

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| | |
|---|---|
| com.atlassian.crowd.integration-groupnames | Crowd Group Names |
| com.atlassian.crowd.integration-user | Crowd Users |
| com.atlassian.crowd.integration-group-membership | Crowd Group Memberships |
| com.atlassian.crowd.integration-all-group-members | Crowd All Group Members |
| com.atlassian.crowd.integration-groupname-case | Crowd Group Name Case |
| com.atlassian.crowd.integration-all-memberships | Crowd All Memberships |
| com.atlassian.crowd.integration-username-case | Crowd User Name Case |
| com.atlassian.crowd.integration-parentgroup | Crowd Parent Groups |
| com.atlassian.crowd.integration-usernames | Crowd User Names |
| com.atlassian.crowd.integration-group | Crowd Groups |
| com.atlassian.crowd.integration-is-user-or-group | Crowd User Or Group Cache |
| com.atlassian.crowd.integration-user-with-attributes | Crowd users with Attributes |
| 1. Embedded Crowd cache friendly names | |
| com.atlassian.crowd.model.user.InternalUserAttribute | Embedded Crowd Internal User Attribute |
| com.atlassian.crowd.model.user.InternalUser | Embedded Crowd Internal User |
| com.atlassian.crowd.model.application.ApplicationImpl.directoryMappings | Embedded Crowd Application Directory Mappings |
| com.atlassian.crowd.model.directory.DirectoryImpl.attributes | Embedded Crowd Directory Attributes |
| com.atlassian.crowd.model.directory.DirectoryImpl.allowedOperations | Embedded Crowd Directory Allowed Operations |
| com.atlassian.crowd.model.application.ApplicationImpl | Embedded Crowd Application |
| com.atlassian.crowd.model.directory.DirectoryImpl | Embedded Crowd Directory |
| com.atlassian.crowd.model.application.DirectoryMapping | Embedded Crowd Directory Mapping |
| com.atlassian.crowd.model.group.InternalGroup | Embedded Crowd Internal Group |
| com.atlassian.crowd.embedded.hibernate2.HibernateMembership | Embedded Crowd Group Membership |
| com.atlassian.crowd.model.application.DirectoryMapping.allowedOperations | Embedded Crowd Directory Mapping Allowed Operations |
| com.atlassian.crowd.model.user.InternalUser.credentialRecords | Embedded Crowd Internal User Credential Records |
| com.atlassian.crowd.model.application.ApplicationImpl.attributes | Embedded Crowd Application Attributes |
| com.atlassian.crowd.model.application.DirectoryMapping.authorisedGroups | Embedded Crowd Directory Mapping Authorised Groups |
| com.atlassian.crowd.model.application.ApplicationImpl.remoteAddresses | Embedded Crowd Application Remote Addresses |
| com.atlassian.crowd.model.user.InternalUserCredentialRecord | Embedded Crowd Internal User Credential Record |

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| | |
|---|---|
| com.atlassian.crowd.model.application.GroupMapping | Embedded Crowd Group Mapping |
| com.atlassian.crowd.model.group.InternalGroupAttribute | Embedded Crowd Internal Group Attribute |
| com.atlassian.confluence.user.crowd.DefaultApplicationCache | Embedded Crowd Immutable Application |
| com.atlassian.confluence.user.crowd.CachedCrowdUserDao.USER_CACHE | Embedded Crowd Users |
| com.atlassian.confluence.user.crowd.CachedCrowdUserDao.ATTRIBUTE_CACHE | Embedded Crowd User Attributes |
| com.atlassian.confluence.user.crowd.CachedCrowdGroupDao.GROUP_CACHE | Embedded Crowd Groups |
| com.atlassian.confluence.user.crowd.CachedCrowdGroupDao.ATTRIBUTE_CACHE | Embedded Crowd Group Attributes |
| com.atlassian.confluence.user.crowd.CachedCrowdMembershipDao.STRING_PARENT_CACHE | Embedded Crowd String Parent Memberships |
| com.atlassian.confluence.user.crowd.CachedCrowdMembershipDao.GROUP_PARENT_CACHE | Embedded Crowd Group Object Parent Memberships |
| com.atlassian.confluence.user.crowd.CachedCrowdMembershipDao.GROUP_CHILD_CACHE | Embedded Crowd Group Object Child Memberships |
| confluence.fifo.buffer.mail | Mail Queue (only flushable individually) |
| confluence.fifo.buffer.task | Task Queue (only flushable individually) |
| confluence.fifo.buffer.mail-error | Mail Error Queue (only flushable individually) |
| com.atlassian.user.impl.hibernate.HibernateGroupManager.hibernateRepository.groups | Hibernate Groups |
| com.atlassian.user.impl.hibernate.HibernateGroupManager.hibernateRepository.groups_getGroupsForUser | Hibernate User Groups (Group Side) |
| com.atlassian.user.impl.hibernate.HibernateGroupManager.hibernateRepository.groups_hasMembership | Hibernate Membership |
| com.atlassian.user.impl.hibernate.HibernateGroupManager.hibernateRepository.repositories | Hibernate Group Repository |
| com.atlassian.user.impl.hibernate.HibernateUserManager.hibernateRepository.users | Hibernate Users |
| com.atlassian.user.impl.hibernate.HibernateUserManager.hibernateRepository.groups_getGroupsForUser | Hibernate User Groups (User Side) |
| com.atlassian.user.impl.hibernate.HibernateUserManager.hibernateRepository.repository | Hibernate User Repository |
| com.atlassian.user.impl.hibernate.HibernateUserManager.hibernateRepository.users_ro | Hibernate User Read-Only Flags |
| com.atlassian.user.impl.hibernate.HibernateUserManager.ldapRepository.users | Hibernate-LDAP Users |
| com.atlassian.user.impl.hibernate.HibernateUserManager.ldapRepository.groups_getGroupsForUser | Hibernate-LDAP Groups for Users (User Side) |

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| | |
|---|---|
| com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.ldapRepository.groups | LDAP Groups |
| com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.ldapRepository.groups_getGroupsForUser | LDAP User Groups (Group Side) |
| com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.ldapRepository.groups_hasMembership | LDAP Membership |
| com.atlassian.user.impl.ldap.LDAPGroupManagerReadOnly.ldapRepository.repositories | LDAP Group Repository |
| com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.ldapRepository.users | LDAP Users |
| com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.ldapRepository.groups_getGroupsForUser | LDAP User Groups (User Side) |
| com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.ldapRepository.repository | LDAP User Repository |
| com.atlassian.user.impl.ldap.LDAPUserManagerReadOnly.ldapRepository.users_ro | LDAP User Read-Only Flags |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdGroupManager.embeddedCrowd.groups | Embedded Crowd Groups |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdGroupManager.embeddedCrowd.groups_getGroupsForUser | Embedded Crowd User Groups (Group Side) |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdGroupManager.embeddedCrowd.groups_hasMembership | Embedded Crowd Membership |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdGroupManager.embeddedCrowd.repositories | Embedded Crowd Group Repository |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdUserManager.embeddedCrowd.users | Embedded Crowd Users |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdUserManager.embeddedCrowd.groups_getGroupsForUser | Embedded Crowd User Groups (User Side) |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdUserManager.embeddedCrowd.repository | Embedded Crowd User Repository |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdUserManager.embeddedCrowd.users_ro | Embedded Crowd User Read-Only Flags |
| com.atlassian.crowd.embedded.atlassianuser.EmbeddedCrowdPropertySetFactory.propertysets | Embedded Crowd Properties |
| com.atlassian.confluence.schedule.ScheduledJobStatus | Scheduled Job Status |

#### 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.

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- **`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 `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 `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.crowd.model.user.InternalUser** (known as **Embedded Crowd Internal User** cache)
  should be set to the number of users you have in the internal directory. You can discover this number by using the following SQL:

```
SELECT
    COUNT(*)
FROM
    cwd_user u
JOIN
    cwd_directory d
ON
    u.directory_id = d.id
AND d.directory_name = 'Confluence Internal Directory';
```

- **com.atlassian.confluence.user.crowd.CachedCrowdUserDao.USER_CACHE** (known as the **Embedded Crowd Users** cache) should be set to the number of rows in the cwd_user table.

```
SELECT
COUNT(*)
FROM
cwd_user u;
```

- **`com.atlassian.confluence.security.SpacePermission`** (known as **Space Permissions (by ID)** 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 `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.

#### Notes

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.

### 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.

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#### *"Edit Page" screen takes a long time to load*

If your installation of Confluence is suffering from this problem, it may be due to a 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:

```
> select count(*) from SPACEPERMISSIONS
```

Now locate the cache entry for SpacePermissions in your `confluence-coherence-cache-config.xml`:

```
<local-scheme>

<scheme-name>cache:com.atlassian.confluence.security.CachingSpacePermissionManager.
permissions</scheme-name>
        <scheme-ref>default</scheme-ref>
        <high-units>10000</high-units>
        <expiry-delay>0s</expiry-delay>
</local-scheme>
```

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:

   ```
   <local-scheme>
   <scheme-name>cache:com.atlassian.confluence.core.ContentEntityObjec
   t.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:

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```
<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
Confluence Cache Schemes
Working with Confluence Logs
Operating Large or Mission-Critical Confluence Installations
Confluence Clustering Overview
Requesting Performance Support
Confluence Administrator's Guide
Configuring Confluence

## 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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### *Viewing Cache Statistics and Modifying Cache Sizes*

To view the cache statistics:

1. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
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.

| Name | Percent Used | Effectiveness | Objects / Size | Hit / Miss / Expiry | Adjust Size | Flush |
|---|---|---|---|---|---|---|
| Content Object | 80% | 73% | 4023 / 5000 | 374550 / 140460 / 55044 | *Adjust Size* | *Flush* |

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About the generated numbers:

| | |
|---|---|
| **Percent Used:** | =(Objects)/(Size) |
| **Effectiveness:** | =(Hits)/(Hits + 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**:

```
Percent Used = Objects / Size

Percent Used = 4023/5000 = 80%
```

To calculate **Effectiveness**:

```
Effectiveness = (Hits)/(Hits + Misses)

Effectiveness = 374550 / (374550 + 140460) = 73%
```



The clustered versions of Confluence use distributed cache called Tangosol Coherence.

#### *Watching the Cache Contents*

To see the specific items in the caches, view the cache statistics at `<baseUrl>/admin/cachecontents.jsp` .

#### *Additional Notes about Configurable Caches*

Changes to cache size configurations persist across confluence restarts as they are saved in the `<confluence-home>/config/ehcache.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 `/config/confluence-coherence-cache-config-clustered.xml` 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.

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

Administrators Guide Home Confluence Documentation Home

## 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:

```
<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.

> ⚠ *The information on this page does not apply to Confluence OnDemand.*

#### Common Schemes

In addition to the default scheme, there are also common schemes used in Confluence caches:

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```
<!-- 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
Confluence Administrator's Guide
Configuring Confluence

## 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 an external database.

#### 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. 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.

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To increase the amount of memory available to Confluence, see How to Fix Out of Memory Errors by Increasing Available Memory.

**On this page:**


- Increasing the amount of memory available to Confluence
- Embedded database
- Caching
- Mail error queue
- Attachments
- System backup and restore
- Known issues that we do not have control over
- Confluence is taking long periods of time to respond to some actions


**Related pages:**

- Performance Tuning
- Requesting Performance Support
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

#### 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. 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 and restore

The Confluence backup and restore 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 an `OutOfMemoryError` during either a backup or restore processes, then we strongly recommend that you choose and Production Backup Strategy.

If you encounter an `OutOfMemoryError` while restoring a backup and wish to overcome this issue by increasing memory, how much more will you need to make this process 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. To increase the amount of memory available to Confluence, see How to 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 are having problems that appear to result from a memory leak, log an issue on http://support.atlassian.com. Our memory profiler of choice is YourKit. It would be helpful to us if you can provide us with a memory dump from that tool showing the leak.

#### Confluence is taking long periods of time to respond to some actions

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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.

To enable gc (garbage collection) logging, start Confluence with the option `-XX:+PrintGCDetails -XX:+PrintGCTimeStamps -verbose:gc -Xloggc:gc.log`. Replace `gc.log` with an absolute path to a `gc.log` file.

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/ 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 optimise performance.

#### Requesting basic performance support

If the above 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.

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**On this page:**


- Basic performance troubleshooting steps
- Requesting basic performance support
- Advanced performance troubleshooting


**Related pages:**

- Memory Usage and Requirements
- Operating Large or Mission-Critical Confluence Installations
- Confluence Administrator's Guide

⚠ *The information on this page does not apply to Confluence OnDemand.*

## 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, to 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?

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- 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**

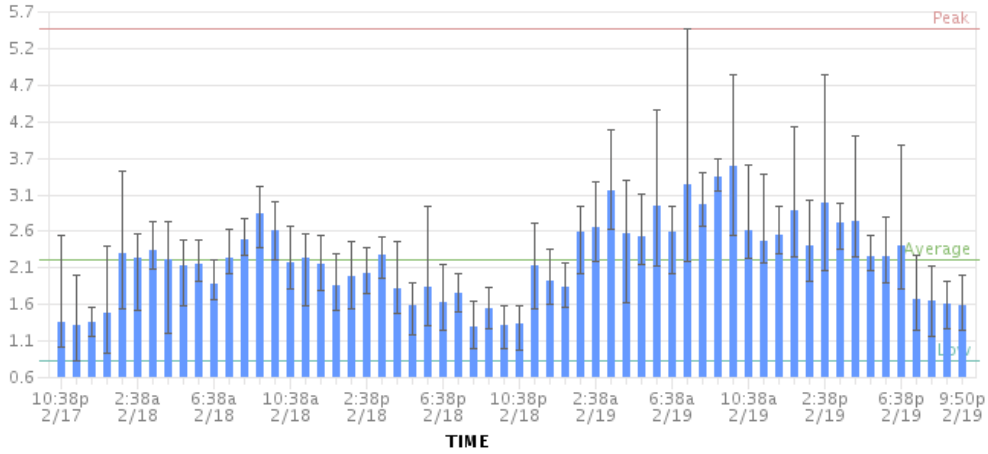
- Which pages are slow to load?
  - If it is a specific wiki page, attach the wiki source-code for that page
- Are they always slow to load, or is the slowness intermittent?

**Monitoring data**

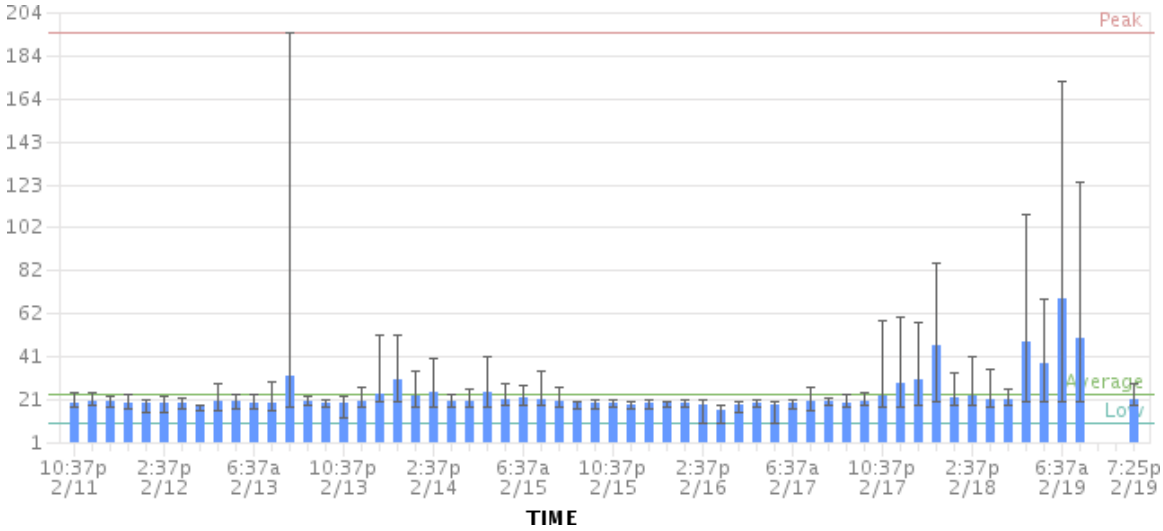
Before drilling down into individual problems, helps a lot to understand the nature of the performance problem. Do we deal with sudden spikes of load, or is it a slowly growing load, or maybe a load that follows a certain pattern (daily, weekly, maybe even monthly) that only on certain occasions exceeds 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.

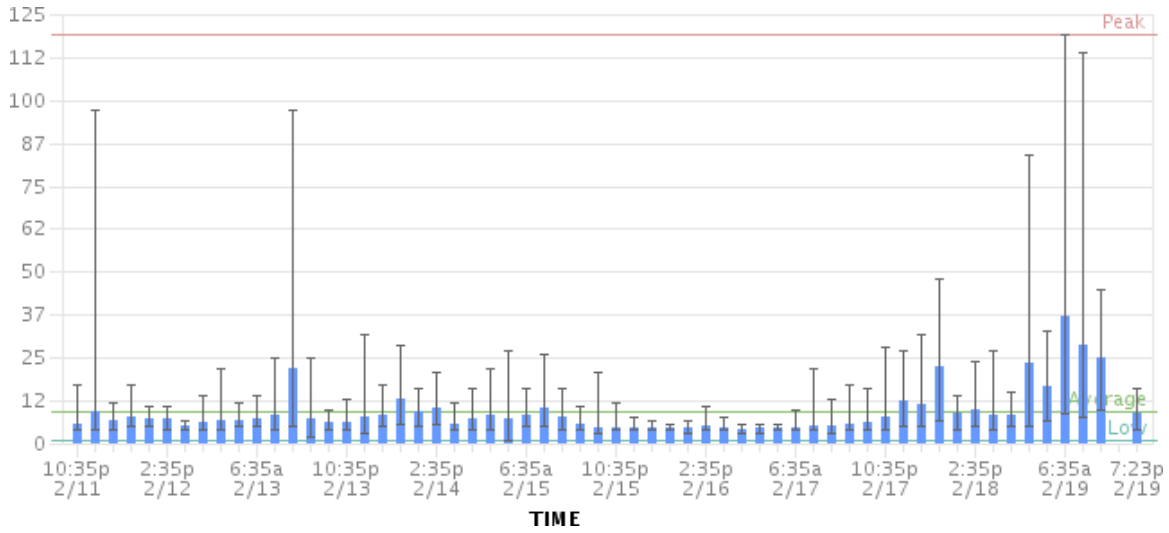



**Resin threads and database connections**




*Active number of Java Threads*
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.

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*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 Enable 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.

#### Site 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.

### Access Log Scripts

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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.

*The information on this page does not apply to Confluence OnDemand.*

**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')`

## 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.

#### *Enabling Page-Request Profiling*

To see just the slow performing macros, see Identifying Slow Performing Macros.

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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Logging and Profiling**' in the left-hand panel.
3. The '**Logging and Profiling**' screen appears. Choose '**Enable Profiling**'.
   If profiling is already enabled, the button will be labelled 'Disable Profiling'.

**To disable page profiling:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Choose '**Logging and Profiling**' in the left-hand panel.
3. The '**Logging and Profiling**' screen appears. Choose '**Disable Profiling**'.
   If profiling is already disabled, the button will be labelled 'Enable Profiling'.

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**On this page:**

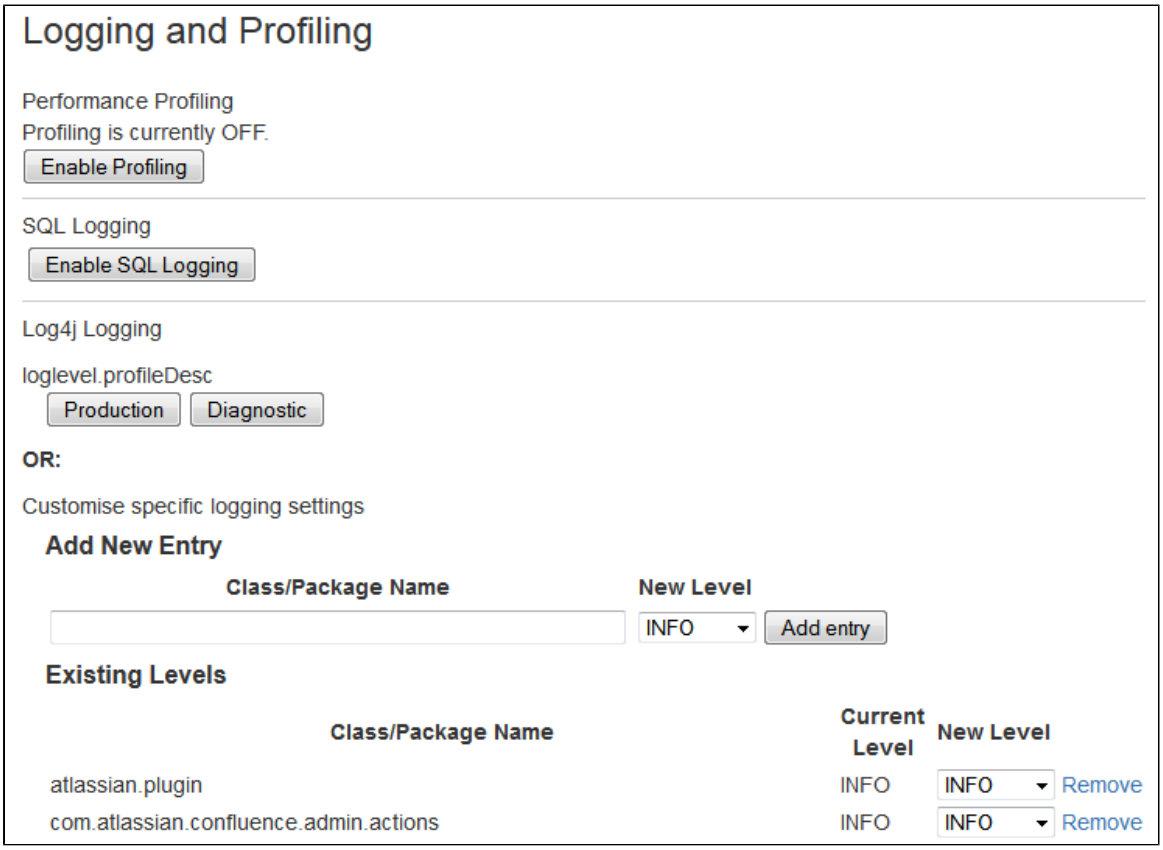

- Enabling Page-Request Profiling
- Profiling an Activity
- Example of a Profile
- Start Confluence with Profiling Enabled


**Related pages:**

- Requesting Performance Support
- Working with Confluence Logs

⚠ *The information on this page does not apply to Confluence OnDemand.*

*Screenshot: Changing Log Levels and Profiling*




***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.

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#### *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] - SiteMesh: parsePage:
http://localhost:8080/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 -->
            <!-- if not specified - defaults to "profile.filter" -->
            <param-name>activate.param</param-name>
            <param-value>profile</param-value>
        </init-param>
        <init-param>
            <!-- specify the whether to start the filter automatically
-->
            <!-- if not specified - defaults to "true" -->
            <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.

### Identifying Slow Performing Macros

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Page Profiling gives good detail on what operations are slow in a page load. In addition, you can add debug level logging:
Version 3.1 and Later

Set the package name `com.atlassian.renderer.v2.components.MacroRendererComponent` to DEBUG in Administration >> Logging and Profiling.
Prior to version 3.1

Download WikiMarkupParser.class, available from the attachments to this page. This will result in logs like:

```
2009-04-23 10:27:54,789 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Entering macro rendering. Processed
text: {spaces}
2009-04-23 10:27:55,768 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Exiting macro text rendering. Total
time: 979ms
2009-04-23 10:27:55,785 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Entering macro rendering. Processed
text: {create-space-button}
2009-04-23 10:27:55,857 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Exiting macro text rendering. Total
time: 72ms
2009-04-23 10:27:55,862 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Entering macro rendering. Processed
text: {recently-updated-dashboard:dashboard|showProfilePic=true}
2009-04-23 10:27:56,704 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Exiting macro text rendering. Total
time: 842ms
2009-04-23 10:27:56,707 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Entering macro rendering. Processed
text: {favpages:maxResults=10}
2009-04-23 10:27:56,889 DEBUG [http-8080-1]
[atlassian.renderer.v2.WikiMarkupParser] parse Exiting macro text rendering. Total
time: 182ms
```

**To add the class:**

1. Add this line to the file <confluence-install>/confluence/WEB-INF/classes/log4j.properties:
   log4j.logger.com.atlassian.renderer=DEBUG
2. Add the appropriate WikiMarkupParser.class to /confluence/WEB-INF/classes/com/atlassian/renderer/v2. You'll have to make the renderer and v2 folders.

In combination with page profiling, this should give good specifics on the amount of time various plugins take. You can also use this utility to Search Confluence for Uses of a Macro.

***Resolution***

Experiment with the tips from the performance tuning page, or open an enhancement request about the specific macro. In some instances there is no resolution - you'll just be aware of the overhead of various macros.

## 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.

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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.

*The information on this page does not apply to Confluence OnDemand.*

**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. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select '**General Configuration**' in the left-hand panel.
3. 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/htmltext
- 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
Confluence Administrator's Guide

## Garbage Collector Performance Issues

This document relates broadly to memory management with Oracle's Hotspot JVM. These are recommendations based on Support's successful experiences with customers and their large Confluence instances.

Please **do not** use the Concurrent Mark Sweep (CMS) Collector with Confluence, unless otherwise advised by Atlassian Support. It requires extensive manual tuning and testing, and is likely to result in degraded performance.

*The information on this page does not apply to Confluence OnDemand.*

#### Summary

1. Set the Young space up to 30-40% of the overall heap: `-XX:NewSize=<between 30% and 40% of your Xmx value, eg, 384m>`

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2. Use a parallel collector: `-XX:+UseParallelOldGC` (make sure this is **Old** GC)
3. limit the Tomcat connector's spare thread counts to minimize impact
4. *effectively* disable explicit garbage collection triggered from distributed remote clients `-Dsun.rmi.dgc.client.gcInterval=900000 -Dsun.rmi.dgc.server.gcInterval=900000`
5. Disable remote clients from triggering a full GC event `-XX:+DisableExplicitGC`
6. set the minimum and maximum Xmx and Xms values as the same (eg. `-Xms1024m -Xmx1024m`) to discourage address map swapping
7. Turn on GC logging (details found at Enable Garbage Collection Logging) and submit the logs in a support ticket
8. Use Java 1.6
9. Read below if heap > 2G

See Configuring System Properties for how to add these properties to your environment.

#### Background

Performance problems in Confluence, and in rarer circumstances for JIRA, 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 Bad Things Happen
- 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
- Restrict ability of Tomcat to 'cache' incoming requests
- Disable remote (distributed) garbage collection by Java clients
- 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 < 2GB
- JVM core dumps can be instigated by memory pressures
- Artificial Windows memory limit
- Instigate useful monitoring techniques
- Tuning the frequency of full collections
- Performance tuning works


#### Why Bad Things Happen

Confluence can be thought of like a gel or a glue, a tool for bringing things together. Multiple applications, data-types, social networks and business requirements can be efficiently amalgamated, leading to more effective collaboration. The real beauty of Confluence, however, is its agility to mould 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 its 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.

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#### 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 its 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 a mediocre option in respect to resource contention and allocation and struggle along with ofttimes 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.

The Oracle JVM *by default* splits the heap into three *spaces*

1. Young (New, divided into Eden and Survivor)
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 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 capable of suffering outages during peak periods.



For *larger instances with performance issues*, it is recommended to tune Confluence such that there is a

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large Young 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 Oracle Java as default, uses the *serial* garbage collector on the Full Tenured heap. The Young 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 then *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, Oracle provide a CMS, Concurrent Mark-Sweep Collector (`-XX:+UseConcMarkSweepGC`), which is optimized for higher-throughput, server-grade instances. As a general rule, the Parallel Collector (-XX:+UseParallelOldGC) is the right choice for JIRA or Confluence installations, unless otherwise advised by support.

#### Restrict ability of Tomcat to 'cache' incoming requests

Quite often the fatal blow is swung by the 'backlog' of accumulated web requests whilst some critical resource (say the index) is held hostage by a temporary, expensive job. Even if the instance is busy garbage collecting due to load, Tomcat will still trigger new http requests and cache internally, as well as the operating system beneath which is also buffering incoming requests in the socket for Tomcat to pick up the next time it gets the CPU.

```
<Connector port="8090" protocol="HTTP/1.1"
      maxHttpHeaderSize="8192" maxThreads="150" minSpareThreads="25"
maxSpareThreads="75" useBodyEncodingForURI="true"
      enableLookups="false" redirectPort="8443" acceptCount="100"
connectionTimeout="20000" disableUploadTimeout="true"/>
```

Here the Tomcat Connector is configured for 150 "maxThreads" with an "acceptCount" of 100. This means up to 150 threads will awaken to accept (but importantly not to *complete*) web requests during performance outages, and 100 will be cached in a queue for further processing when threads are available. That's 250 threads, many of which can be quite expensive in and of themselves. Java will attempt to juggle all these threads concurrently and become extremely inefficient at doing so, exacerbating the garbage collection performance issue.

Resolution: reduce the number of `maxThreads` and `acceptCount` to something slightly higher than normal 'busy-hour' demands.

#### Disable remote (distributed) garbage collection by Java clients

Many clients integrate third-party or their own custom applications to interrogate, or add content to Confluence via its RPC interface. The Distributed Remote Garbage Collector in the client uses RMI to trigger a remote GC event in the Confluence server. Unfortunately, as of this writing, a `System.gc()` call via this mechanism triggers a full, serial collection of the entire Confluence heap (as it needs to remove references to remote client objects in its own deterministic object graph). This is a deficiency in the configuration and/or implementation of the JVM. It has the potential to cause severe impact if the remote client is poorly written, or operating within a constricted JVM.

This can be disabled by using the flag `-XX:+DisableExplicitGC` at startup.

#### Virtual Machines are Evil

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Vmware Virtual Machines, whilst being extremely convenient and fantastic, also cause particular problems for Java applications because it's very easy for host operating system resource constraints such as temporarily insolvent memory availability, or I/O swapping, to cascade into the Java VM and manifest as extremely unusual, frustrating and seemingly illogical problems. We already document some disk I/O metrics with VMware images. 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 action should be to remove any virtualization. Emulation will never beat the real thing and always introduces more 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. 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 should 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, Oracle also build a "Performance" branch in which specifically optimized performance features can be enabled; it is available on the Java SE page after a brief survey. These builds are certified production grade.

Some blogs have suggested a 25% performance gain and a reduction in heap size when using this parameter. The use and function of the `-XX:+UseCompressedOops` parameter is more deeply discussed on Oracle's Official Wiki (which itself uses 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 < 2GB

Using a 64bit JRE when the heap is under 2GB will cause substantial degradation in heap size and performance. This is because nearly every object, reference, primitive, class and variable will use twice as much memory to be addressed.

A 64bit JRE/JDK is only recommended if heaps greater than 2GB are required. If so, use `CompressedOops`.

#### JVM core dumps can be instigated by memory pressures

If your instance of Confluence is throwing Java core dumps, it's known that memory pressure and space/generation sizings can influence the frequency and occurrence of this phenomena.

If your Tomcat process completely disappears and the logs record similar to:

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```
#
# 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=0x00000001 O6=0xc24ff0b0 O7=0x00008000
 G1=0xfe9bb80c G2=0xf5999a48 G3=0x0a67677d G4=0xf5999882
 G5=0xc24ff380 G6=0x00000000 G7=0xfdbc3800 Y=0x00000000
 PC=0xfe9bb960 nPC=0xfe9bb964
```

then you should upgrade the JVM. See SIGSEGV Segmentation Fault JVM Crash.

#### Artificial Windows memory limit

On Windows, the maximum heap allocatable to the Tomcat 32bit wrapper process is around 1400MB. If the instance is allocated too close to this limit, **chronic garbage collection is likely to result**, often producing JAVA core dumps similar to:

```
#
# A fatal error has been detected by the Java Runtime Environment:
#
# java.lang.OutOfMemoryError: requested 8388608 bytes for GrET in
C:\BUILD_AREA\jdk6_18\hotspot\src\share\vm\utilities\growableArray.cpp.
Out of swap space?
#
#  Internal Error (allocation.inline.hpp:39), pid=11572, tid=12284
#  Error: GrET in
C:\BUILD_AREA\jdk6_18\hotspot\src\share\vm\utilities\growableArray.cpp
#
# JRE version: 6.0_18-b07
# Java VM: Java HotSpot(TM) Server VM (16.0-b13 mixed mode windows-x86 )
# If you would like to submit a bug report, please visit:
#   http://bugreport.sun.com/bugreport/crash.jsp
#

---------------  T H R E A D  ---------------

Current thread (0x002af800):  GCTaskThread [stack:
0x00000000,0x00000000] [id=12284]
```

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or,

```
#
# A fatal error has been detected by the Java Runtime Environment:
#
# java.lang.OutOfMemoryError: requested 123384 bytes for Chunk::new. Out
of swap space?
#
#  Internal Error (allocation.cpp:215), pid=10076, tid=4584
#  Error: Chunk::new
#
# JRE version: 6.0_18-b07
# Java VM: Java HotSpot(TM) Server VM (16.0-b13 mixed mode windows-x86 )
# If you would like to submit a bug report, please visit:
#   http://bugreport.sun.com/bugreport/crash.jsp
#

---------------  T H R E A D  ---------------

Current thread (0x6ca4d000):  JavaThread "CompilerThread1" daemon
[_thread_in_native, id=4584, stack(0x6cd10000,0x6cd60000)]
```

Workarounds include:

- changing the server OS to something other than Windows. For example, Linux
- switching to the 64 bit Tomcat wrapper (this is not supported)
- reducing memory allocation to the Tomcat process. Try backing off 100MB at a time and observe the results.

#### 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 **tremendously** at Atlassian 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 excellent VisualVM, documentation.
- Thread Dump Analyzer - a great all-round thread debugging tool, particularly for identifying deadlocks.
- Samurai, an excellent alternative thread analysis tool, good 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 GC analysis tool written by members of the Sun Garbage Collection team.

Documentation:

- Sun's White Paper on Garbage Collection in Java 6.
- 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 constricted systems. Highly recommended for additional reading.
- The complete list of JRE 6 options
- I strongly recommend viewing George Barnett's Summit 2010 performance presentation, Pulling a Rabbit from a Hat.

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Atlassian recommends at the very least to get VisualVM up and running (you willneed 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 space (it is typically larger than the Young space), and the natural probability of objects within tenured not being eligible for collection, i.e. they are still alive.

Some installations can trundle along, only ever collecting in Young space. As time goes on, some object will survive the initial Young object collection 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 that fewer swapping/object collections will occur 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 these kinds of changes in general.

#### Performance tuning works

Atlassian has a number of high profile and some *extremely* high demanding, mission-critical clients who have successfully, usually through trial and error, applied these recommendations to production instances and have significantly improved their instances. For more information, please file a support case at support.atlassian.com.

# Data Collection Policy

DRAFT page only - restricted to Atlassian-Staff

See also draft for JIRA - Data collection policy

## Why does Confluence collect anonymous data usage?

When anonymous usage data collection is enabled for an instance of Confluence a variety of information is collected to help us improve the user experience. The information we collect includes the number of uses of various features and functions as well as the configuration related to those functions. None of the information we collect includes any personally identifiable information. We use this anonymous data to determine which features are being used and how best to improve them.

## Enabling/disabling anonymous data collection

During the initial Confluence setup we ask you whether or not you wish to help us improve Confluence by allowing us to capture anonymous usage data. This choice can be changed at any time by logging into Confluence with administration privileges and navigating to the following location:

**Confluence Admin** > **General Configuration** > **Enable Atlassian analytics**

This only applies to the downloaded version of Confluence 5.3 onwards, previous versions did not capture any usage data and will not have this administration setting.

Some Confluence Add-Ons[1] that were compatible with Confluence versions prior to 5.3 have their own analytics settings. The above setting will not change the analytics option for those older Add-On versions.

Please note that this setting does not apply to our OnDemand service. Our OnDemand End User Agreement can be found here (specifically section 3.4).

[1] JIRA Agile , JIRA Importers , and InProduct Translation . ## any for Confluence?

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### Anonymous data collection methods

Confluence uses two different methods to collect anonymous usage data:

1. Atlassian Analytics
2. Google Analytics

#### Atlassian Analytics

At this time the Atlassian infrastructure to capture anonymous usage data is not yet built. We plan to have this ready by late 2013 or early 2014. Atlassian plans to anonymously store all the Confluence system and user events in a file under the Confluence home directory. This file will then be periodically sent to Atlassian and then emptied. If there is no internet connection available then no data will be sent. Atlassian will store any sent data in a private and secure database that can only be accessed by Atlassian staff. We will not share this data externally nor will we sell it to any third party companies.

As the Atlassian Analytics infrastructure does not exist yet, the above section will be updated with the most accurate information when our system becomes live.

#### Google Analytics

Atlassian also uses a third party service provided by Google to capture anonymous usage data, this service is Google Analytics.

The data captured from Google Analytics is stored within Google directly and is only available to Atlassian staff. Neither Google or Atlassian will share this data externally nor will we sell it to any third party companies.

We use Google Analytics to capture any option that is clickable in the Confluence (and Add-Ons) interface. By default Google Analytics also captures the number of page hits, how much time is spent on each page, where users come from and leave to, demographics, and browser information.

# Confluence Installation and Upgrade Guide

### About this document

This guide contains information on how to install a new Confluence site, or how to upgrade an existing site to the latest version of Confluence. You can also examine the release notes to see what has changed since the last time you installed or upgraded your Confluence wiki.

If you still have a question that has not been answered, please ask us.

### Downloads




You can download the Confluence documentation in PDF, HTML and XML formats.

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## More resources

Visit the Confluence Administrator's Guide for information on how to administer and configure your Confluence site, or go to the Confluence Documentation Home for a list of further resources.

## In this guide

**System Requirements**

**Confluence Installation Guide**

**Confluence Setup Guide**

**Upgrading Confluence**

**Supported Platforms**

**Migrating Confluence Between Servers**

# System 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 platforms 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 platforms that have been released within the last one to two years (or the latest version of that platform if no new version of it was released in that period). This does not necessarily mean that you will need to upgrade your database or

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application server every time you upgrade Confluence. However, if you do run into problems with an unsupported version of a database or application server, we may have to ask you to upgrade to something newer.

Please refer to our Supported Platforms topic for details on platforms that we currently support in this version of Confluence and our Supported Platforms FAQ topic for details on our support handling procedures.

**On this page:**


- Confluence Software Requirements
  - Operating Systems
  - Application Servers
  - Databases
  - Java
  - Please Note: Impact of Antivirus Software
- Confluence Hardware Requirements
- Atlassian Hosted Solutions – Atlassian OnDemand


## Confluence Software Requirements

Please read the Supported Platforms page for Confluence. That page contains a list of specific software that Confluence will work with.

### Operating Systems

Atlassian supports the operating systems listed on the Supported Platforms page.

If you would like to run Confluence on virtualised hardware, please read our Running Confluence in a Virtualised Environment document first.

### Application Servers

An application server is required to run Confluence. Apache Tomcat is bundled with the distribution.

Atlassian only supports the application servers listed on the Supported Platforms page, provided they are running on Windows, Linux, or Solaris. If you are using a different application server or earlier version, we may ask you to migrate to one of the supported application servers before we can provide you with further support.

### Databases

A database is required to run Confluence. Atlassian supports the databases listed on the Supported Platforms p age.

When evaluating Confluence, you can use the embedded database included in the Confluence installation.

When moving to a production installation, you must set up an external database server. If you have no preference for a particular database, we highly recommend using PostgreSQL. This is a scalable, robust and free database server that is also easy to set up. For database setup information, please refer to Database Configuration.

### Java

Confluence requires the Java Runtime Environment (JRE) installed.

If using the zip or archive distribution of Confluence, you will need to install a supported JRE. The automated installer bundles Java and will install this for you.
For instructions on installing the JRE for Windows and Linux/Solaris, please refer to Installing Java for Confluence.

### Please Note: Impact of Antivirus Software

The presence of antivirus software on your operating system running Confluence greatly decreases the performance of Confluence. Antivirus software that intercepts access to the hard disk is particularly detrimental

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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

⚠ This recommendation above is particularly important if you are running Confluence on Windows. No matter how fast your hardware is, antivirus software will almost always have a negative impact on Confluence's performance and may render Confluence impossible to use.

### Confluence Hardware Requirements

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.

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.

### Atlassian Hosted Solutions – Atlassian OnDemand

If you do not have the resources to set up and maintain a Confluence installation locally, consider Atlassian hosted solutions. Atlassian can run and maintain your installation of Confluence, handling all the testing, monitoring and upgrading processes for you. For more information, please refer to the information about Confluence OnDemand on our website.

***Related Topics***

End of Support Announcements for Confluence
Confluence Installation Guide
Confluence Setup Guide
Installing Confluence on Windows
Installing the Confluence EAR-WAR Edition
Confluence Cluster Installation
Example Size and Hardware Specifications From Customer Survey
Installing Confluence and JIRA Together
Confluence Documentation Home
Server Hardware Requirements Guide
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 pages in Confluence. 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

The values below refer to the minimum available hardware required to run Confluence only, eg the minimum heap size to allocate to Confluence is 512mb. You will need additional physical hardware, of at least the minimum amount required by your Operating System, and any other applications that run on the server. Also please note that these are a guide only, and your configuration may require more.

On small instances, server load is primarily driven by peak visitors.

5 Concurrent Users

- 2GHz+ CPU
- 512MB RAM

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- 5GB database space

25 Concurrent Users

- Quad 2GHz+ CPU
- 2GB+ RAM
- 10GB database space

**Note:** 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. Confluence typically will not perform well in a tightly constrained, shared environment - examples include an AWS micro.t1 instance. Please be careful to ensure that your choice of hosting platform is capable of supplying sustained processing and memory capacity for the server, particularly the processing-intense startup process.

**On this page:**


- Minimum hardware requirements
- Example hardware specifications
- Server load and scalability
- Maximum reported usages
- Hard disk requirements
- Professional assistance
- Example - https://confluence.atlassian.com/


**Related pages:**

- Confluence Installation Guide
- Operating Large or Mission-Critical Confluence Installations
- Managing Application Server Memory Settings
- Confluence Clustering Overview
- Running Confluence in a Virtualised Environment

### Example hardware specifications

These are example hardware specifications for non-clustered Confluence instances. It is 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.

| Accounts | Spaces | Pages | CPUs | CPU (GHz) | RAM (Meg) | Notes |
|---|---|---|---|---|---|---|
| 150 | 30 | 1,000 | 1 | 2.6 | 1,024 | |
| 350 | 100 | 15,000 | 2 | 2.8 | 1,536 | |
| 5,000 | 500 | | 4 | 3 | 2,024 | |
| 10,000 | 350 | 16,000 | 2 | 3.8 | 2,024 | |
| 10,000 | 60 | 3,500 | 2 | 3.6 | 4,048 | |
| 21,000 | 950 | | 2 | 3.6 | 4,048 | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| 85,000 | 100 | 12,500 | 4 | 2.6 | 4,048 | 3 machines total: application server, database server, Apache HTTPD + LDAP tunnel server. See Accenture's slides and video for full details (That link isn't working, but the slides can be found here) |

#### Server load and 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, and check out the performance tuning guides.

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 2.8 GB of database space and 116 GB of disk space. The more attachments you have, the more disk space you will require.

## Private and public comparison

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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:

| Use Case | Spaces | User Accounts | Editors | Editor To Viewer Ratio | Pages | Page Revisions | Attachments | Comments | Total Data Size (GB) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| Online Documentation | 140 | 11,500 | 1,000 | 9% | 8,800 | 65,000 | 7,300 | 11,500 | 10.4 | |
| Private Intranet | 130 | 180 | 140 | 78% | 8,000 | 84,000 | 3,800 | 500 | 4.5 | |
| Company-Wide Collaboration | 100 | 85,000 | 1,000+ | 1%+ | 12,500 | 120,000 | 15,000 | | | Accenture - see slides and video for full details<br>(That link isn't working, but the slides can be found here.) |

#### Professional assistance

For large instances, it may be worthwhile contacting an Atlassian Expert for expertise on hardware sizing, testing and performance tuning. Simply contact a local Expert directly or email our Experts team for a recommendation.

#### Example - https://confluence.atlassian.com/

Here is a breakdown of the disk usage and memory requirements for this wiki, as at April 2013:

| | |
|---|---|
| **Database size** | 2827 MB |
| **Home directory size** | 116 GB |
| **Average memory in use** | 1.9 GB |

##### Size of selected database tables

| Data | Relevant Table | Rows | Size |
|---|---|---|---|
| Attachment metadata | `attachments` | 193903 | 60 MB |
| Content and user properties | `os_propertyentry (?)` | 639737 | 255 MB |

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| | | | |
|---|---|---|---|
| Content bodies (incl. all versions of blogs, pages and comments) | `bodycontent` | 517520 | 1354 MB |
| Content metadata (incl. title, author) | `content` | 623155 | 459 MB |
| Labels | `label (5982, 1264 kB),`<br>`content_label (134151, 46 MB)` | 140133 | 47.2 MB |
| Users | `users` | 38766 | 6200 kB |

**Note: not all database tables or indexes are shown, and average row size may vary between instances.**

**Size of selected home directory components**

| Data | Files | Size |
|---|---|---|
| Attachments (incl. all versions) | 207659 | 105 GB |
| Did-you-mean search index | 10 | 14 MB |
| Office Connector cache | 3506 | 456 MB |
| Plugin files | 1851 | 669 MB |
| Search index | 448 | 3.9 GB |
| Temporary files | 14232 | 5 GB |
| Thumbnails | 86516 | 1.7 GB |
| Usage index (now disabled) | 239 | 2.6 GB |

Note: not all files are shown, and average file size may vary between instances.

## Example Size and 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.

| Num Users | Length of time in production | Database | Application Server | Num CPUs/Cores | Physical Memory/RAM | Operating System | Satisfaction with Confluence Performance |
|---|---|---|---|---|---|---|---|
| **Banking/Finance** | | | | | | | |
| 26 - 50 | 3-6 Months Ago | Microsoft SQL Server | Confluence distribution /Apache Tomcat | 2 | 2G | Windows | Neutral |
| 26 - 50 | 2 Years Ago | Sybase ASE | Weblogic | >8 | >16G | Unix | Satisfied |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 51 - 250 | 3-6 Months Ago | Oracle | Confluence distribution /Apache Tomcat | 2 | 4G | Unix | Neutral |
| 501 - 1,000 | 3-6 Months Ago | Microsoft SQL Server | Websphere | 2 | 2G | AIX | Satisfied |
| 1,001 - 5,000 | 3-6 Months Ago | Oracle | Confluence distribution /Apache Tomcat | 2 | 4G | Windows | Satisfied |
| 1,001 - 5,000 | 2 Years Ago | Oracle | Websphere | 4 | >16G | Solaris | Extremely Satisfied |
| 5,001 - 10,000 | 10-12 Months Ago | Microsoft SQL Server | Confluence distribution /Apache Tomcat | 4 | 16G | Linux | Satisfied |
| **Education** | | | | | | | |
| 1-25 | 2 Years Ago | DB2 | Confluence distribution /Apache Tomcat | 2 | 2G | Linux | Satisfied |
| 26 - 50 | 10-12 Months Ago | MySQL | Confluence distribution /Apache Tomcat | 2 | 2G | Linux | Extremely Satisfied |
| 51 - 250 | <3 Months Ago | Oracle | Confluence distribution /Apache Tomcat | | 1G | Windows | Unsatisfied |
| 51 - 250 | 10-12 Months Ago | Oracle | Confluence distribution /Apache Tomcat | 1 | 2G | Unix | Extremely Satisfied |
| **Engineering/Aerospace** | | | | | | | |
| 251 - 500 | 7-9 Months Ago | Oracle | Confluence distribution /Apache Tomcat | 1 | 1G | Mac OS X | Satisfied |
| 1,001 - 5,000 | 7-9 Months Ago | Microsoft SQL Server | JBoss | 2 | 4G | Linux | Satisfied |
| **Entertainment** | | | | | | | |
| 1,001 - 5,000 | 10-12 Months Ago | PostgreSQL | Confluence distribution /Apache Tomcat | 2 | 8G | Linux | Extremely Satisfied |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Government** | | | | | | | |
| 51 - 250 | 2 Years Ago | MySQL | Confluence distribution /Apache Tomcat | 2 | 2G | Mac OS X | Extremely Satisfied |
| **Technology** | | | | | | | |
| 501 - 1,000 | 7-9 Months Ago | MySQL | Confluence distribution /Apache Tomcat | 1 | 2G | Linux | Satisfied |
| **Telecommunications & Media** | | | | | | | |
| 1-25 | 3-6 Months Ago | Confluence distribution /HSQL | Confluence distribution /Apache Tomcat | 1 | | Linux | Satisfied |
| 1-25 | 7-9 Months Ago | MySQL | Confluence distribution /Apache Tomcat | 1 | 2G | Linux | Satisfied |
| 26 - 50 | 10-12 Months Ago | MySQL | Confluence distribution /Apache Tomcat | 2 | 2G | Linux | Satisfied |

## Running Confluence in a Virtualised Environment

This page provides pointers for things to look at when running Confluence on virtualised hardware.

### Summary

Running Confluence in a virtual machine (VM) requires specialised skills to set up and manage the virtualised environment. In particular, the performance of Confluence can be affected by the activity of other VMs running on the same infrastructure, as well as how you configure the Confluence VM itself.

Atlassian supports Confluence sites running on a virtualised environment, but we can only offer support for problems which are unrelated to the environment itself. You will need to understand and be prepared to manage your own virtualised environment if you wish to run Confluence on such a platform.

**On this page:**


- Summary
- Recommendations
- Further help


**Related pages:**

- Server Hardware Requirements Guide
- Operating Large or Mission-Critical Confluence Installations
- Confluence Installation Guide

### Recommendations

The following recommendations come from our experience in running and testing Confluence in virtualised environments like VMWare and KVM, and our experience in working with customers running on these platforms.

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- **Know your platform.** Consult the documentation for your operating system and your chosen virtualisation technology, for details on setting up a reliable VM (virtual machine) image.
- **Allocate enough memory.** As a Java web application, Confluence requires a relatively large memory allocation, compared to some other web technologies. Ensure that your VM images have enough physical memory allocated to run Confluence without swapping.
- **Handle high I/O.** Under normal usage, Confluence requires a significant number of input/output (I/O) operations to the database and home directory for each web request. Ensure that you use the correct drivers and consider how you make storage available to your VMs to optimise this access.
- **Handle peak CPU and memory usage.** For certain operations (including PDF export, Office document processing, and displaying large pages) Confluence requires a significant amount of CPU and memory. Ensure that your virtualisation infrastructure has the flexibility and capacity to deal with peak load, not just idle load.
- **Synchronise time correctly.** Some customers have had problems with time synchronisation between the VM and the host system. This causes problems in Confluence due to irregularities in the execution of scheduled tasks. We strongly recommend checking your VM time sync if you have issues with scheduled tasks in a virtualised environment.

#### Further help

For further assistance in setting up a virtualised environment for running Confluence, you may want to consult an Atlassian Expert. Several experts have experience with installation and performance tuning, and can help you with your Confluence configuration.

# Confluence Installation Guide

## Prerequisites

Before beginning to install Confluence, please check that:

- Your system meets the minimum system requirements to run Confluence.
- This version of the Confluence documentation matches the version of Confluence that 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.

If you have chosen a package that includes add-ons such as Team Calendars or the SharePoint Connector you will need to install these from within Confluence after your setup is complete. See Finding New Add-ons for information on how to find and install the add-ons.

## Choose the Confluence Installation Type

Choose the type of Confluence installation you'd like from the table below, and follow the link(s) to the installation instructions.

| Installation Type | Description |
|---|---|
| • Installing Confluence on Windows<br>• Installing Confluence on Linux | Install Confluence via the Atlassian installer. This is the easiest method of installing Confluence.<br>This is the best option for evaluators. |
| • Installing from a Zip File on Windows<br>• Installing From an Archive File on Linux | This option requires you to manually carry out installing the files and configuring system properties.<br>Use this option if there is no specific installer for your operating system. |
| EAR/WAR distribution (Zip Archive) | This distribution allows you to deploy Confluence onto your own existing application server, instead of the Apache Tomcat server bundled with the regular distribution. |

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| | |
|---|---|
| Confluence Clusters (Zip Archive) | Install Confluence as a series of clusters, to improve performance or availability. Please read the Confluence Clustering Overview and the Cluster Checklist before you consider installing Confluence in a cluster. |

Please read Running Confluence in a Virtualised Environment if you are interested in running Confluence in a virtual machine.
If you wish to upgrade Confluence, see Upgrading Confluence.

***Related Topics***

Upgrading Confluence
System Requirements

## Installing Confluence

Choose the type of Confluence installion 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.

| Installation Type | Description |
|---|---|
| • Installing Confluence on Windows<br>• Installing Confluence on Linux | Install Confluence via the Atlassian installer. This is the easiest method of installing Confluence.<br>This is the best option for evaluators. |
| • Installing from a Zip File on Windows<br>• Installing From an Archive File on Linux | This option requires you to manually carry out installing the files and configuring system properties.<br>Use this option if there is no specific installer for your operating system. |

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.

Take me back to the Confluence Installation Guide.

### Installing Confluence on Windows

This guide describes how to install a new Confluence installation on Windows using the automated 'Windows Installer'. You can also install Confluence from a 'zip' archive — see Installing Confluence on Windows from Zip File for details.
If you are upgrading Confluence, please refer to the Upgrading Confluence guide.

**Please Note:**

- Some anti-virus or other Internet security tools may interfere with the Confluence installation process and prevent the process from completing successfully. If you experience or anticipate experiencing such an issue with your anti-virus/Internet security tool, disable this tool first before proceeding with the Confluence installation.
- Before you begin installing Confluence, please read the System Requirements page.

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**On this page:**


- Using the Installation Wizard
  - 1. Download and Run the Confluence 'Windows Installer'
  - 2. Starting Confluence
  - 3. Run the Setup Wizard
  - 4. Next Steps
- Performing an Unattended Installation
  - Download and Run the Confluence 'Windows Installer' in Unattended Mode


## Using the Installation Wizard

Use the installation wizard if you are installing Confluence on your server for the first time or you wish to specify your installation options.

If you have previously installed Confluence using the installation wizard and wish to re-install Confluence again with the same installation options, you can re-install Confluence in 'unattended mode' without any user input required (see below for details).

### 1. Download and Run the Confluence 'Windows Installer'

To install Confluence as a service, the Windows Installer must be run using a Windows administrator account. While you can run the Windows Installer with a non-administrator account, your installation options will be much more limited.

1. Download the **Confluence 'Windows Installer'** (.exe) file from the Confluence Download page.
2. Run the installer file to start the installation wizard.
   If a Windows 7 (or Vista) 'User Account Control' dialog box requests if you want to allow the installation wizard to make changes to your computer, click '**Yes**'. If you do not, the installation wizard will have restricted access to your operating system and any subsequent installation options will be limited.
3. Choose between the '**Express Install**' or '**Custom Install**' options:
   a. **Express Install** — If you choose this option, Confluence will be installed with default settings which are shown in the next step of the installation wizard. If you want to customise any of these options, click the '**Back**' button and choose the '**Custom Install**' option instead.
   b. **Custom Install** — If you choose this option, Confluence will prompt you to specify the following options (which are presented during subsequent steps of the installation wizard and pre-populated with default values):
      - The 'Destination Directory' in which to install Confluence.
      - The Confluence Home Directory (which must be unique for each Confluence installation).
      - The Windows 'Start' menu folder options.
      - The *TCP ports* (i.e. an HTTP connector port and a control port) that Confluence will operate on.
      - If you are running the installer using an administrator account, you will be prompted to 'Install Confluence as a service' (recommended). You can also do this manually later, as described in Start Confluence Automatically on Windows as a Service.
        If you installed Confluence as a service, you must start Confluence through the Windows 'Start' menu, since Confluence will not start if you run `start-confluence.bat` at the Windows Command Prompt.
4. The installation wizard will install Confluence onto your operating system and will start Confluence automatically when the wizard finishes. Confluence will also be launched automatically in your browser window if you chose this option.

**Please Note:**

- If you chose to install Confluence as a service, the Confluence service will be run as the Windows 'SYSTEM' user account. To change this user account, see Changing the Windows user that the Confluence service uses.

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- If you do not install Confluence as a service, then once started, Confluence will be run as the Windows user account under which Confluence was installed.
- If you use Confluence running on a Windows Server in production, we strongly recommend creating a dedicated user account (e.g. with username 'confluence') for running Confluence.
    - For more information about creating a dedicated user account and defining which directories this account should have write access to, refer to our guidelines.
      If your Windows Server is operating under Microsoft Active Directory, ask your Active Directory administrator to create a dedicated user account that you can use to run Confluence (with no prior privileges).
    - If Confluence is installed as a service, do not forget to change the user account that runs the Confluence service to your dedicated user account for running Confluence.

#### 2. Starting Confluence

If Confluence is not already started, you can start Confluence using the appropriate Windows 'Start' menu shortcut or command prompt option.

Once Confluence is started, you can access Confluence from the appropriate Windows 'Start' menu shortcut or a browser on any computer with network access to your Confluence server.

##### *2.1 Windows 'Start' Menu Shortcuts*

The Installer will have created the following Windows 'Start' menu shortcuts:

- **Access Confluence** — opens a web browser window to access your Confluence application.
  Your Confluence server must have been started for this shortcut to work.
- **Start Confluence Service** — starts up the Apache Tomcat application server which runs your Confluence installation, so that you can access Confluence through your web browser.
- **Stop Confluence Service** — stops the Apache Tomcat application server which runs your Confluence installation. You will not be able to access Confluence through your web browser after choosing this shortcut.
- **Uninstall Confluence** — uninstalls Confluence from your Windows operating system.

##### *2.2 Starting and Stopping Confluence from a Command Prompt*

Enter the `bin` subdirectory of your Confluence installation directory and run the appropriate file:

- `start-confluence.bat` (to start Confluence)
- `stop-confluence.bat` (to stop Confluence)

If you followed our guidelines for running Confluence with a dedicated user account, then to run Confluence as this user account (e.g. 'confluence'), use the `runas` command to execute `start-confluence.bat`. For example:

- `> runas /env /user:<DOMAIN>\confluence start-confluence.bat`
  (where `<DOMAIN>` is your Windows domain or computer name.)

##### *2.3 Accessing Confluence from a Browser*

You can access Confluence from any computer with network access to your Confluence server by opening a supported web browser on the computer and visiting this URL:

- `http://<computer_name_or_IP_address>:<HTTP_port_number>`

where:

- `<computer_name_or_IP_address>` is the name or IP address of the computer on which Confluence is installed and
- `<HTTP_port_number>` is the HTTP port number specified when you installed Confluence (above).

If Confluence does not appear in your web browser, you may need to change the port that Confluence runs on.

#### 3. Run the Setup Wizard

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See the Confluence Setup Guide.

#### 4. Next Steps

- See Confluence 101.
- If you did not install Confluence as a service, you will need to start Confluence manually every time you restart your computer. To change your Confluence installation to run as a service, please see Start Confluence Automatically on Windows as a Service.
- To get the most out of Confluence, please see Performance Tuning.

### Performing an Unattended Installation

If you have previously installed Confluence using the installation wizard (above), you can use a configuration file from this Confluence installation (called `response.varfile`) to re-install 'unattended mode' without any user input required.

Installing Confluence in unattended mode saves you time if your previous Confluence installation was used for testing purposes and you need to install Confluence on multiple server machines based on the same configuration.

**Please Note:**

- The `response.varfile` file contains the options specified during the installation wizard steps of your previous Confluence installation. Hence, do not uninstall your previous Confluence installation just yet.
- If you intend to modify the `response.varfile` file, please ensure all directory paths specified are absolute, for example, `sys.installationDir=C\:\\Program Files\\Atlassian\\Confluence` Unattended installations will fail if any relative directory paths have been specified in this file.

#### Download and Run the Confluence 'Windows Installer' in Unattended Mode

1. Download the **Confluence 'Windows Installer'** (.exe) file from the Confluence Download Center to a suitable location.
2. Open the Windows command prompt and perform the remaining steps in the command prompt.
3. `copy` the `response.varfile` file located in the `.install4j` subdirectory of your previous Confluence installation directory, to the same location as the downloaded 'Windows Installer' file.
   You can uninstall your previous Confluence installation after this step. Save your `response.varfile` if you need to install Confluence on multiple machines.
4. Change directory (`cd`) to the location of the 'Windows Installer' file and run the following command:

   ```
   atlassian-confluence-X.Y.exe -q -varfile response.varfile
   ```

   Where:
   - `X.Y` — refers to the version of Confluence you are about to install.
   - `-q` — instructs the installer to operate in unattended mode (i.e. 'quietly').
   - `-varfile response.varfile` — specifies the configuration file containing the configuration options used by the installer. The location and name of the configuration file should be specified after the `-varfile`option.
5. Confluence will start automatically when the silent installation finishes. Continue from step 2 Starting Confluence (above).

## Installing Confluence on Windows from Zip File

**These instructions apply to:**

- Confluence distributed as an archive file. This distribution includes Apache Tomcat as the application server.
- **Windows** systems. For other operating systems please refer to the Confluence Installation Guide .
- Manual installation and configuration using a **zipped download file**. For a simpler installation process, please use the Confluence Installer instead.

Also, please check that the version of Confluence which you are installing coincides with the version that this documentation is written for.

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**On this page:**


#### 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 refer to our Supported Platforms topic and for further details, our System Requirements topic.
2. Have your Confluence license key ready. You can obtain a trial, free or commercial license now, or retrieve your existing license key.

#### 2. Install Java

Please refer to Installing Java for Confluence. If you are certain that this has already been installed and that the `JAVA_HOME` environment variable has been correctly configured, then proceed to the next step.

#### 3. Download the Confluence Installation File

1. If you have not downloaded Confluence already, download the zip file.
2. Please check your unzip program before extracting the downloaded 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 of these 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 easier upgrades.

**Examples of Installation and Home Directories**
Installation directory: `c:\confluence\confluence-vX.X`
Home directory: `c:\confluence\data`

1. Open your Confluence Installation directory (created when you unzipped Confluence — see above).
2. Under the Installation directory, open this file: `confluence\WEB-INF\classes\confluence-init.properties` in a text editor such as Notepad.
3. Scroll to the bottom of the text and find this line:

```
# confluence.home=c:/confluence/data
```

4. 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`
5. 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
```


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#### 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 an 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 '8090'. If this port is already in use in your installation, follow these instructions to change the ports:

- To change the ports for Confluence, 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="8090" 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 8090) to ports that are free on your machine. The server port is required by Tomcat but is not user facing in any way. The connector port is what your users will use to access Confluence, eg in the snippet above, the URL would be http://example.com:8090.

  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 '8020' and '8099':

  **Modified conf/server.xml using ports 8020 and 8099**

  ```
  <Server debug="0" shutdown="SHUTDOWN" port="8020">
      <Service name="Tomcat-Standalone">
          <Connector className="org.apache.coyote.tomcat4.CoyoteConnector"
  port="8099" 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:8099/.

  > You should also ensure at this point that if you are using a firewall, it is configured to allow http/https traffic over the port you have chosen.

You will find more information on this page.

#### 6. Select an External Database

This step is optional for users evaluating Confluence. However, if you are installing Confluence for production purposes, this step is mandatory. Please refer to the database requirements listed on our System Requirements topic for help in choosing an external database.

External databases are those listed on our Supported Platforms topic, excluding HSQLDB, which is bundled

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with Confluence and should not be used in production.

When you have chosen your external database, follow the the appropriate database setup guide to set up your database to work with Confluence.

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 Troubleshooting section of the Confluence Knowledge Base.
3. Once Confluence is running, open a web browser and visit http://localhost:8090/.
   ✓ If you changed the port earlier, use the port you specified in step 5 above.
   ℹ 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.

#### 9. Start Confluence automatically on Windows as a Service

Confluence should be run as a service.
Related Topics

Change listen port for Confluence
Running Confluence Over SSL or HTTPS
Confluence Setup Guide
Configuring Confluence
Confluence Documentation Home

## Uninstalling Confluence from Windows

This page describes the procedure for uninstalling an instance of Confluence which has been installed using the Windows Installer.

**To uninstall Confluence from Windows:**

1. Log in to Windows as the same user that was used to install Confluence with the Windows Installer.
2. Start the uninstaller by doing either of the following:
   - Click the Windows **Start Menu** > **All Programs** > **Confluence** > **Uninstall Confluence**
   ***OR***
   - Open the Windows Control Panel, choose **Add or Remove Programs** (on Windows XP) or **Programs and Features** on (Windows 7, Vista) and then select **Confluence X.Y** from the list of applications and click **Uninstall/Change**.

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***OR***

- Open the Windows command prompt and do the following:
  a. Change directory to your Confluence installation directory
  b. Run the `uninstall.exe` file

3. Follow the prompts to uninstall Confluence from your computer.

Please note:

- The uninstaller will not delete the Confluence Home Directory.
- All log files that were generated while Confluence was running will not be deleted.
- All files within the Confluence Installation Directory will be deleted (with the exception of the Tomcat `log` f older located in the Confluence Installation Directory).
- The uninstaller can be made to operate in unattended mode by specifying the `-q` option at the Windows command prompt — i.e. `uninstall -q`
- If you wish to re-install Confluence in 'unattended mode', do not uninstall your previous installation of Confluence just yet. See Using the Silent Installation Feature for more information.

## Installing Confluence on Linux

This guide describes how to install a new Confluence installation on Linux using the automated 'Linux Installer'. You can also install from a 'zip' archive — see Installing Confluence on Linux from Archive File for details.
If you are upgrading Confluence, please see Upgrading Confluence.

**Please Note:**

- It is possible that any anti-virus or other Internet security tools installed on your Linux operating system may interfere with the Confluence installation process and prevent the process from completing successfully. If you experience or anticipate experiencing such an issue with your anti-virus/Internet security tool, disable this tool first before proceeding with the Confluence installation.
- You may also wish to consider disabling the Linux OutOfMemory Killer (OOM Killer). This is a Linux function that can kill processes when memory on the server becomes low, and sometimes targets Confluence.
- Before you begin installing Confluence, please read the System Requirements page.

### Using the Console Wizard

Use the console wizard if you are installing Confluence on your server for the first time or you wish to specify your installation options.

If you have previously installed Confluence using the installation wizard and wish to re-install Confluence again with the same installation options, you can re-install Confluence in 'unattended mode' without any user input required (see below for details).

#### 1. Download and Install the Confluence 'Linux Installer'

If you execute the Linux Installer with 'root' user privileges, the installer will create and run Confluence using a dedicated user account. You can also execute the Linux Installer without 'root' user privileges, although your installation options will be much more limited and a dedicated user account (to run Confluence) will not be created. To run Confluence as a service, the Linux Installer must be executed with 'root' user privileges.

1. Download the appropriate **Confluence 'Linux 64-bit / 32-bit Installer'** (.bin) file from the Confluence Download page.
   **Please Note:**
   - To access the 32-bit installer, you may need to click the '**Show all**' link on the 'Confluence Download' page to access the other installation packages.
   - The difference between the 64-bit / 32-bit .bin installers relates to their bundled Java platforms that run Confluence. Bear in mind that a Confluence installation installed using the 64-bit installer may require additional memory (to run at a similar level of performance) to a Confluence installation installed using the 32-bit installer. This is because a 64-bit Java platform's object references are twice the size as those for a 32-bit Java platform.
2. Open a Linux console and change directory (`cd`) to the '.bin' file's directory.
   If the '.bin' file is not executable after downloading it, make it executable, for example:
   `chmod a+x atlassian-confluence-X.Y.bin`
   (where X.Y represents your version of Confluence)

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3. Execute the '.bin' file to start the console wizard.
4. When prompted to choose between '**Express Install**', '**Custom Install**' or '**Upgrade an existing Confluence installation**', choose either the '**Express Install**' or '**Custom Install**' options:
    - **Express Install** — If you choose this option, Confluence will be installed with default settings which are shown in the next step of the console wizard.
      **Please Note:**
        - If you are running the installer with 'root' user privileges, Confluence will be installed as a service.
        - If you want to customise any of these options:
            i. Enter '**e**' to exit the console wizard.
            ii. Execute the console wizard again (step 3 above).
            iii. Choose the '**Custom Install**' option instead.
    - **Custom Install** — If you choose this option, Confluence will prompt you to specify the following options (which are presented during subsequent steps of the console wizard and pre-populated with default values):
        - The 'Destination Directory' in which to install Confluence.
        - The Confluence Home directory (which must be unique for each Confluence installation).
        - The *TCP ports* (i.e. an HTTP and a Control port) that Confluence will run through.
        - If you are running the installer with 'root' user privileges, you will be prompted to 'Run Confluence as a service' (recommended). You can also do this manually later, as described in Start Confluence Automatically on Linux.
5. The console wizard will install Confluence onto your operating system and will start Confluence automatically when the wizard finishes.

**Please Note:**

If you executed the Linux Installer with 'root' user privileges, the Linux Installer creates a dedicated Linux user account with username 'confluence', which is used to run Confluence. This account has only:

- Full write access to your Confluence Home Directory.
- Limited write access to your Confluence Installation Directory.

If you executed the Linux Installer without 'root' user privileges, be aware that Confluence can still be run with 'root' privileges. However, to protect the security of your operating system, *this is not recommended*.

#### 2. Start Confluence

If Confluence is not already started, you can start Confluence using the appropriate command at the Linux console.

Once Confluence is started, you can access Confluence from a browser on any computer with network access to your Confluence server.

##### *2.1 Starting and Stopping Confluence manually*

In the Linux console, enter the `bin` subdirectory of your Confluence installation directory and execute the appropriate file:

- `start-confluence.sh` (to start Confluence)
- `stop-confluence.sh` (to stop Confluence)

Confluence will be ready to access (from a browser window) when the following message appears in the application's log file:

```
**************************************************
 ... You can now access Confluence through your web browser.
**************************************************
```

##### *2.2 Accessing Confluence from a Browser*

You can access Confluence from any computer with network access to your Confluence server by opening a supported web browser on the computer and visiting this URL:

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- `http://<computer_name_or_IP_address>:<HTTP_port_number>`

where:

- `<computer_name_or_IP_address>` is the name or IP address of the computer on which Confluence is installed and
- `<HTTP_port_number>` is the HTTP port number specified when you installed Confluence (above).

If Confluence does not appear, you may need to change the port that Confluence runs on.

Note: Application server logs (i.e. for Apache Tomcat) will be written to `logs/catalina.out`.

#### 3. Run the Setup Wizard

See the Confluence Setup Guide.

#### 4. Next Steps

- See Confluence 101.
- If you did not install Confluence to run as a service, you will need to start Confluence manually every time you restart your computer. To change your Confluence installation to run as a service, please see Start Confluence Automatically on Linux.
- To get the most out of Confluence, please see Performance Tuning.

### Performing an Unattended Installation

If you have previously installed Confluence using the console wizard (above), you can use a configuration file from this Confluence installation (called `response.varfile`) to re-install Confluence in 'unattended mode' without any user input required.

Installing Confluence in unattended mode saves you time if your previous Confluence installation was used for testing purposes and you need to install Confluence on multiple server machines based on the same configuration.

**Please Note:**

- The `response.varfile` file contains the options specified during the installation wizard steps of your previous Confluence installation. Hence, do not uninstall your previous Confluence installation just yet.
- If you intend to modify the `response.varfile` file, please ensure all directory paths specified are absolute, for example, `sys.installationDir=/opt/atlassian/confluence`
  Unattended installations will fail if any relative directory paths have been specified in this file.

#### Download and Run the Confluence 'Linux Installer' in Unattended Mode

1. Download the **Confluence 'Linux Installer'** (.bin) file from the Confluence Download Center to a suitable location.
2. Open a Linux console.
3. Copy (`cp`) the file `.install4j/response.varfile` located in your previous Confluence installation directory, to the same location as the downloaded 'Linux Installer' file.
   You can uninstall your previous Confluence installation after this step. Save your `response.varfile` if you need to install Confluence on multiple machines.
4. Change directory (`cd`) to the location of the 'Linux Installer' file and execute the following command:

   ```
   atlassian-confluence-X.Y.bin -q -varfile response.varfile
   ```

   Where:
   - `X.Y` — refers to the version of Confluence you are about to install.
   - `-q` — instructs the installer to operate in unattended mode (i.e. 'quietly').
   - `-varfile response.varfile` — specifies the configuration file containing the configuration options used by the installer. The location and name of the configuration file should be specified after the `-varfile`option.
5. Confluence will start automatically when the silent installation finishes. Continue from the step above, Star

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ting Confluence.

### Installing Confluence on Linux from Archive File

**These instructions apply to:**

- Confluence distributed as an archive file. The distribution includes Apache Tomcat as the application server.
- **Linux or Solaris** systems. If you are installing Confluence on a different system, please refer to Installing 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.

**Hint: If you are evaluating Confluence on Solaris or you are unsure which version to install, this is the one to use.**

**On this page:**


- 1. Before you Start
- 2. Install Java
- 3. Download and Extract the Confluence Installation File
- 4. Define your Confluence Home Directory
- 5. Check the Ports
- 6. Select an External Database
- 7. Start Confluence
- 8. 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 - Solaris and AIX are known to have problems with zip, because they use their own (old) versions instead of the Gnu version.

#### 2. Install Java

Please refer to the Supported Platforms for the required version of Java. (OpenJDK is currently **not** supported. A JIRA issue to request support for this JDK has been created.)

1. If you are not sure whether you have Java installed correctly, please confirm by doing the following:
   a. Open a shell console.
   b. Type `echo $JAVA_HOME` in the shell console and then press Enter
   c. View the result:
      - If a line is displayed such as `/opt/jdk1.6.0_12` or `/usr/lib/jvm/java-6-sun`, then Java is installed and properly configured.
      - If nothing is displayed, then you either need to install Java or set the `$JAVA_HOME` environment variable. You can set this environment variable in your user account's 'profile' file. Alternatively, you can set this after installing Confluence (in step 4 below) by defining this path in your Confluence installation's `setenv.sh` file, usually located in the Confluence `bin` directory.
      - If you have installed an unsupported JDK and you want to use SSL then you need to install the Sun JSSE package.
2. If you need to install Java, follow these instructions:
   - Go to the Java download page.
   - Download the latest JRE or JDK that is listed on the Confluence Supported Platforms page. (Confluence works with either the JDK or the JRE.)

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- When the download has finished, run the Java installer. Detailed installation instructions are provided on Oracle's website.
  *Note:* you will be asked to choose an installation directory. Make a note of this directory for use later.

#### 3. Download and Extract the Confluence Installation File

1. If you have not downloaded Confluence already, download the TAR.GZ file.

Use your unzip program to unzip the installation file to a directory such as `/home/jsmith/confluence-2.7.0-std/`.

Most Linux/Solaris users can use any unzip program (such as GNU Tar) to extract the Confluence installer. However, Solaris users should not use the Solaris Tar program due to a known issue associated with its use in extracting Confluence. Use another application such as GNU Tar instead.

For example, change directory to your home directory in Linux and enter the following commands in the shell console:

- `gunzip confluence-<version>-std.tar.gz`
- `tar -xf confluence-<version>-std.tar`
  (where `<version>` refers to the Confluence version you downloaded.)

As usual on Linux/Solaris-based operating systems, avoid using 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:

- Installation directory: `/usr/local/confluence/`

  If you wish to install or maintain multiple versions of Confluence, you can add a version number to the Confluence installation directory name like `/usr/local/confluence-3.1-std/` and optionally, create the symbolic link `/usr/local/confluence/` that points to `/usr/local/confluence-3.1-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/
```

#### 5. Check the Ports

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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 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 '8090'. If this port is already in use in your installation, follow these instructions to change the ports:

- To change the ports for Confluence, 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="8090" 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 8090) to ports that are free on your machine. The server port is required by Tomcat but is not user facing in any way. The connector port is what your users will use to access Confluence, eg in the snippet above, the URL would be http://example.com:8090.

  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 '8020' and '8099':

  **Modified conf/server.xml using ports 8020 and 8099**

  ```
  <Server debug="0" shutdown="SHUTDOWN" port="8020">
      <Service name="Tomcat-Standalone">
          <Connector className="org.apache.coyote.tomcat4.CoyoteConnector"
  port="8099" 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:8099/.

  > You should also ensure at this point that if you are using a firewall, it is configured to allow http/https traffic over the port you have chosen.

You will find more information on this page.

#### 6. Select an External Database

This step is optional for users evaluating Confluence. However, if you are installing Confluence for production purposes, this step is mandatory. Please refer to the database requirements listed on our System Requirements topic for help in choosing an external database.

External databases are those listed on our Supported Platforms topic, excluding HSQLDB, which is bundled with Confluence and should not be used in production.

When you have chosen your external database, follow the appropriate database setup guide to set up your database to work with Confluence.

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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: `start-confluence.sh`.
3. Once Confluence is running, open a web browser and visit http://localhost:8090/.
   Hint: If you changed the port earlier, use the port you specified in step 6 above.

#### 8. 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.

Related Topics

Change listen port for Confluence
Running Confluence Over SSL or HTTPS
Confluence Setup Guide
Configuring Confluence
Documentation Home

## Uninstalling Confluence from Linux

This page describes the procedure for uninstalling Confluence, which had been installed using the Linux Installer .

**To uninstall Confluence from Linux:**

1. Open a Linux console.
2. Change directory (`cd`) to your Confluence installation directory.
3. Execute the command `uninstall`. This command must be executed as the same user account that was used to install Confluence with the Linux Installer.
4. Follow the prompts to uninstall Confluence from your computer.

Please note:

- The uninstaller will not delete the Confluence Home Directory.
- All log files that were generated while Confluence was running will not be deleted.
- All files within the Confluence Installation Directory will be deleted (with the exception of the Tomcat `log` folder located in the Confluence Installation Directory).
- The uninstaller can be made to operate in unattended mode by specifying the `-q` option — i.e. `uninstall -q`
- If you wish to re-install Confluence in 'unattended mode', do not uninstall your previous installation of Confluence just yet. See Using the Silent Installation Feature for more information.

## Change listen port for Confluence

***Problem***

This page tells you what to do if you get errors like the following when starting Confluence, when you can't access Confluence on port **8090**.

If you see this error:

```
java.net.BindException: Address already in use: JVM_Bind:8090
```

This means you are running other software on Confluence's default port of **8090**. This may be another other process running on the same port. 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`**

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```
-a : Displays all active TCP connections and the TCP and UDP ports on
which the computer is listening.
 -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 **8090**.

#### *Solution: Change the Ports which Confluence Listens On*

To change the ports for Confluence, 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="8090" 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 8090) to ports that are free on your machine. The server port is required by Tomcat but is not user facing in any way. The connector port is what your users will use to access Confluence, eg in the snippet above, the URL would be http://example.com:8090.

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 '8020' and '8099':

**Modified conf/server.xml using ports 8020 and 8099**

```
<Server debug="0" shutdown="SHUTDOWN" port="8020">
    <Service name="Tomcat-Standalone">
        <Connector className="org.apache.coyote.tomcat4.CoyoteConnector"
port="8099" 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:8099/.

You should also ensure at this point that if you are using a firewall, it is configured to allow http/https traffic over the port you have chosen.

***NOTES***

[1] For more information on netstat, see using netstat on Windows, or netstat man page (Linux).

[2] The JIRA distribution runs on port **8080** by default. If you're looking to change the port of the JIRA distribution, see Changing JIRA Standalone's port.

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***RELATED PAGES***

Installing Confluence
Documentation Home

# 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 need to know how to deploy a web application on an existing application server. If not, please use the Confluence distribution instead.

**On this page:**


- Step 1. Check the System Requirements and Known Issues
- Step 2. Download and Extract EAR-WAR Installation File
- Step 3. Review Application Server Memory Allocation
- Step 4. Configure `confluence-init.properties`
- Step 5. Edit Tomcat Context Descriptors
- Step 6. Add UTF-8 Encoding
- Step 7. (Optional) Configure Tomcat to Run on a Different Port
- Step 8. (Optional) Configure Confluence to Run as a Windows Service
- Step 8. Run the Confluence Setup Wizard
- Notes


## Step 1. Check the System Requirements and Known Issues

1. Please check the Confluence system requirements.
2. In addition to the above requirements, the EAR-WAR distribution requires the Apache Tomcat application server. For more information on Confluence's supported application servers, please refer to our Supported Platforms page.
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. Deploying multiple Atlassian applications in a single Tomcat container is **not supported.** We do not test this configuration and upgrading any of the applications (even for point releases) is likely to break it. There are also a number of known issues with this configuration (see this FAQ for more information).

   We also do not support deploying multiple Atlassian applications to a single Tomcat container for a number of practical reasons. Firstly, you must shut down Tomcat to upgrade any application and secondly, if one application crashes, the other applications running in that Tomcat container will be inaccessible.

   Finally, we recommend not deploying *any other applications* to the same Tomcat container that runs Confluence, especially if these other applications have large memory requirements or require additional libraries in Tomcat's `lib` subdirectory.
6. 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.
4. You have now unzipped your *Confluence installation directory*, which should contain the version number e.g. `confluence-4.0.1` or `confluence-4.0.2`. 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*.

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### Step 3. Review Application Server Memory Allocation

Confluence requires a maximum heap allocation (Xmx) of at least 256 MB for normal operation. Also, remember to set the maximum PermGen memory allocation (XX:MaxPermSize). 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 4. 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'.
   ⚠ Make sure the user that runs Tomcat has full write access to the Confluence Home directory

### Step 5. Edit Tomcat Context Descriptors

1. Create a file called `confluence.xml` and save in the conf/`Catalina/localhost` sub-directory of Tomcat. If these directories don't exist you can create them manually.
2. Open your new `confluence.xml` file and add these lines:

```
<Context path="/confluence"
docBase="<CONFLUENCE_INSTALLATION_DIRECTORY_PATH>/confluence" debug="0"
reloadable="true">
</Context>
```

> **More on Context Path**
> To run Confluence *without* a context path, change the path in the `Context` tag to an empty string (""). **If not using a context path, your config will need to be saved as `ROOT.xml` rather than `confluence.xml`.**
>
> In Tomcat, a context path name follows the name of its xml file (except for `ROOT.xml` where no context path is used. Hence if you wish to change the context path to a different name, change both the context path and the name of the xml file. eg. "/wiki" context path should be saved in file `wiki.xml`.

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 6. 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"/>
```

2. Add a `URIEncoding="UTF-8"`property to the connector:

```
<Connector port="8080" URIEncoding="UTF-8"/>
```

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### Step 7. (Optional) Configure Tomcat to Run on a Different Port

See Switching to Apache Tomcat.

### Step 8. (Optional) Configure Confluence to Run as a Windows Service

Confluence can be run as a service.

### Step 8. Run the Confluence Setup Wizard

Once Confluence is running, open a web browser and visit http://localhost:8080/ (Tomcat default port).

If you changed the port earlier, use the port you specified. Note that the Confluence installer normally uses port 8090 as the default, to avoid conflicts with JIRA (using port 8080).

The Confluence Setup Wizard should appear in your web browser, prompting you to enter your license key. Follow the instructions on screen, and read more guidelines on the Confluence Setup Wizard.

### Notes

- 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. It may cause a Cluster Panic error.
- If you deploy Confluence on an unsupported server, server-related issues cannot be covered by Atlassian technical support. You can try Atlassian Answers for assistance instead.

## Known Issues for Apache Tomcat

**On this page:**


- Supported Application Servers
- Tomcat Documentation
- Known Issues


#### *Supported Application Servers*

Check the list of supported application servers on the Supported Platforms topic.

#### *Tomcat Documentation*

An excellent resource for Tomcat configuration is the Apache documentation.

#### *Known Issues*

- Unable to Install Service on Windows Vista
- 'All threads (150) are currently busy, waiting. Increase maxThreads (150) or check the servlet status' Due to High Volume Transactions
- Unable to Start Tomcat after Confluence User Management Delegation to JIRA
- Installing UPM 2.7.2 or later on versions of Tomcat prior to 6 fails
- Confluence Does Not Start due to 'Error deploying configuration descriptor'
- Setup Fails Creating MySQL Schema Due to Tomcat Incompatibility
- Fix 'Not supported by BasicDataSource' Setup or Startup Error
- Confluence will not update or install add-ons
- Tomcat 6.0.26 or higher Shutdown Reports 'A web application created a ThreadLocal .... ThreadLocal has been forcibly removed'
- Login Fails After Upgrade
- NotSerializableException on Shutdown
- Unable to Enable Workbox's Notifications and Tasks - Host Plugin Due to NoClassDefFoundError
- "NoSuchMethodError: javax.servlet.ServletContext.getContextPath()" when starting Confluence
- Universal Plugin Manager stops working after upgrade to v4.3.5 or v4.3.6
- HTML Macros Fail after Upgrading to 3.4 or Later Due to External URL References to Local Resources

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- Confluence Can't Start and Doesn't Create Logfiles due to CATALINA_HOME Being Set
- Confluence Startup Referencing a Different Tomcat
- Tomcat fails to start with "The system could not find the environment option that was entered."
- Confluence Does Not Start Due to NullPointerException in FelixOsgiContainerManager
- Confluence Deadlocks when Running under Tomcat 6.0.24-6.0.32
- Unable to Configure Confluence to Run as a Service on Tomcat 5
- Confluence Menus Do Not Work, or Confluence Fails to Start when Running in the Same Application Server as JIRA 4.0, 4.0.1 or Crowd 2.0.x
- Application Servers Troubleshooting
- Installation or Upgrade of Confluence 4.0 EAR-WAR Fails on Red Hat or CentOS
- 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 Java for Confluence

This page contains instructions for installing a Java Development Kit (JDK). This is a manual step that is only required for Confluence installations where you are installing from a zip or archive file.

If you are using the automated installer, the required Java files are bundled and will be automatically put in place, hence you will not need to follow the instructions on this page.

Please refer to our Supported Platforms topic for details of the Java versions that are supported for Confluence.

### Installing the JDK

A JDK (Java Development Kit) needs to be installed on the same server machine that will have Confluence installed.

For Windows: (click to expand)

#### Installing the JDK on Windows

1. If you are not sure whether you have a JDK installed, please confirm by doing the following:
   - Check **Control Panel > Programs and Features** in Windows 7 (just Programs on older version of Windows).
   - Java should appear as a line item in the list. If not, you do not have Java installed.
2. To install the JDK, follow these instructions:
   - Go to the Java download page.
   - Download the version entitled 'Java SE Update XX (JDK)', where 'XX' stands for some number. (The latest version will be available 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.
3. Check that the `JAVA_HOME` environment variable has been set correctly.
   - Open the **Start** menu, choose **Run**, type `cmd` in the **Run** dialog box and click **OK**.
   - In the command prompt window, type `echo %JAVA_HOME%` and then press *Enter*.
   - View the result:
     - If a directory path is displayed that looks similar to one of the following examples, with the letters 'JDK' immediately preceding a series of version numbers, and this path matches the location where you installed the JDK in step 2, then your JDK has been successfully installed and your `JAVA_HOME` environment variable has been set correctly.
       *Examples of typical `JAVA_HOME` environment variable values:*
       - `C:\Program Files\Java\JDK7`
       - `C:\Progra~1\Java\JDK7`
       - `C:\Java\JDK7`
       - `C:\JDK7`
     - If nothing is displayed or you do not see 'JDK' immediately followed by a series of version numbers (like one of the examples above), then you need to set the `JAVA_HOME`

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environment variable. 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.

**Note:** Any Java or JDK version numbers on this page are **examples only**. Please refer to the **Supported Platforms** page for the supported versions of Java.

For Linux: (click to expand)

#### Installing the JDK on Linux

1. If you are not sure whether you have JDK installed correctly, please confirm by doing the following:
    a. Open a shell console.
    b. Type `echo $JAVA_HOME` in the shell console and then press Enter
    c. View the result:
        - If a line is displayed such as /opt/JDK7 or /usr/lib/jvm/java-7, then your JDK is installed and properly configured.
        - If nothing is displayed, then you either need to install the JDK or set the $JAVA_HOME environment variable. You can set this environment variable in your user account's 'profile' file. Alternatively, you can set this after installing Confluence, by defining this path in your Confluence installation's setenv.sh file, usually located in the Confluence bin directory.
        - If you have installed an unsupported JDK and you want to use SSL then you need to install the Sun JSSE package.
2. If you need to install the JDK, follow these instructions:
    - Go to the Java download page.
    - Download the version entitled 'Java SE Update XX (JDK)', where 'XX' stands for some number. (The latest version is available on that page.)
    - When the download has finished, run the Java installer. Detailed installation instructions are provided on Oracle's website.

**Note:** Any Java or JDK version numbers on this page are **examples only**. Please refer to the **Supported Platforms** page for the supported versions of Java.

### 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 Runtime Environment (JRE) in Windows, you must set the JAVA_HOME environment variable to point to the JRE installation directory.

#### Stage 1. Locate the JRE Installation Directory

If you already know the installation path for the Java Runtime Environment, go to *Stage 2* below. Otherwise, find the installation path by following these instructions:

1. If you didn't change the installation path for the Java Runtime Environment 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 C:\Program Files\Java\jre6.

#### Stage 2. Set the JAVA_HOME Variable

Once you have identified the JRE 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.
    - If your Java installation directory has a space in its path name, you should use the shortened path name (e.g. C:\Progra~1\Java\jre6) in the environment variable instead.

> **Note for Windows users on 64-bit systems**

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```
Progra~1 = 'Program Files'
Progra~2 = 'Program Files(x86)'
```

7. Click **OK**.
8. Click **Apply Changes**.
9. Close any command window which was open before you made these changes, and open a new command window. There is no way to reload environment variables from an active command prompt. If the changes do not take effect even after reopening the command window, restart Windows.
10. If you are running the Confluence EAR/WAR distribution, rather than the regular Confluence distribution, you may need to restart your application server.

Related Topics

Starting Tomcat as a Windows Service
Installing Confluence in Linux

## 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,Confluence is now available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
    ⚠ **If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.**
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).
- 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, 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 have a clustered license.
- You must use an external database.

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- You must use a load balancer with session affinity in front of the cluster.

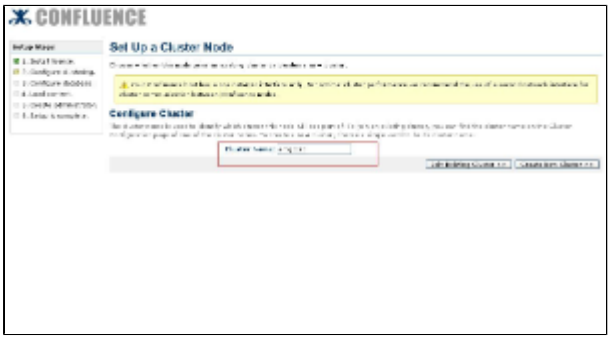
Clustered commercial licenses may be purchased through Confluence website. Clustered evaluation licenses may be obtained by emailing sales@atlassian.com.

A cluster can run using two copies of Confluence. 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*

> **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.
5. If the node #1 and node #2 filesystem structures are different, update the /confluence/WEB-INF/classes/confluence-init.properties file on in the web application directory of node #2 to point to the Confluence home directory path on 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

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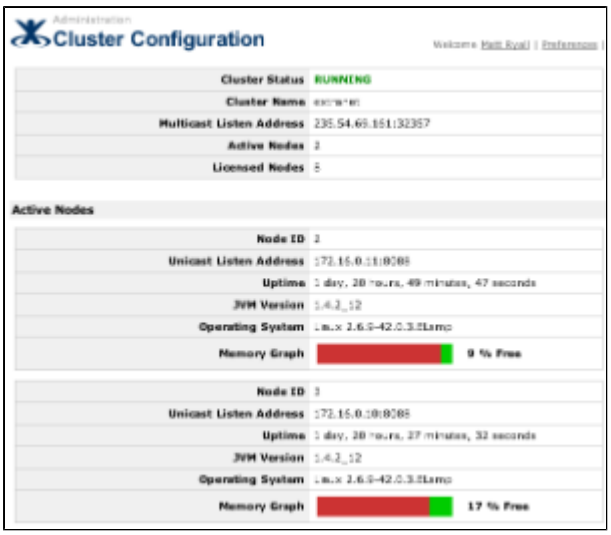
For the most stable start-up process, it is important to start Confluence one server at a time.

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.




*Cluster Administration page*

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

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Overview of Confluence Clusters
Clustering in Confluence
Confluence Cluster Installation with Existing Data
Confluence Installation Guide
Upgrading a Confluence Cluster
Cluster Administration page

# 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,Confluence is now available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
    ⚠ **If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.**
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).
- 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, 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*

BEFORE ATTEMPTING THIS, PLEASE MAKE A BACKUP. To upgrade an existing copy of Confluence to run in a two-node cluster, you must do the following:

1. Ensure that your version of the Confluence distribution 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 to 2.7.1) and make sure everything works fine (e.g. for a week) before switching (e.g. from Confluence 2.7.1 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. Do this by going to Admin> Licence Details. Confluence should warn you that this version of Confluence is not capable of clustering.
5. Shutdown Confluence. Deploy a clustered version of Confluence (Do not attempt to install any version of Confluence that is not the Clustered equivalent to your current release). Edit confluence-init.properties (confluence-ver-clustered/confluence/WEB-INF/classes/confluence-init.properties) to set confluence.home to the same path as the old home. Start the first node, and verify that things are working correctly.
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:

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- 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 the Confluence distribution. 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.

| | |
|---|---|
| **Organisation** | **Atlassian** |
| **Date Purchased** | **Aug 15, 2006** |
| **License Type** | **Confluence: Commercial Server** |
| **Licensed Users** | **Unlimited** |
| **Licensed Clustered Nodes** | **8 nodes** (2 nodes currently clustered). |

*License Details page shows the number of cluster nodes permitted*

#### *3. Migrate your attachments to the Database*

You can do this by navigating to Admin> Attachment Storage > Edit, and changing it to "Database".

#### *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.

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***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,Confluence is now available in two editions:
  - **Standard Edition** — Confluence with Ehcache's caching technology (available to customers with non-clustered Confluence licenses).
    **If you are currently running a clustered installation of Confluence, please do not upgrade it with a standard edition of Confluence.**
  - **Clustered Edition** — Confluence with Oracle's Coherence clustering and distributed caching technology (available to customers with Confluence clustered licenses only).
- 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, 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 Configuring Confluence 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

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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

## Apache and Tomcat load balancing

#### *Overview*

The following is a description of how to set up a Confluence Cluster on a Windows machine using Apache and mod_jk to handle the load-balancing.

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

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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 JK-1.2.19.)
3. Download and extract one copy of the ZIP distribution of Apache Tomcat. (Tested with Tomcat 5.5.)
4. Download JDBC drivers for the external database you will be using. Put the drivers in Tomcat's common/lib/ directory. (Tested with Postgresql 8.1, postgresql-8.1-404.jdbc3.jar).

#### *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*.

```
worker.list=loadbalancer

worker.tomcat1.port=18081
worker.tomcat1.host=localhost
worker.tomcat1.type=ajp13
worker.tomcat1.lbfactor=1

worker.tomcat2.port=28081
worker.tomcat2.host=localhost
worker.tomcat2.type=ajp13
worker.tomcat2.lbfactor=1

worker.loadbalancer.type=lb
worker.loadbalancer.balance_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

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- 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 directorty
- 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)

**tomcat1/startup.bat**:

```
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
```

**tomcat2/startup.bat**:

```
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*

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**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**

http://raibledesigns.com/tomcat/ http://httpd.apache.org/

**Tomcat Clustering support**

http://tomcat.apache.org/tomcat-5.0-doc/cluster-howto.html http://tomcat.apache.org/tomcat-5.0-doc/balancer-howto.html 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

## Creating a Dedicated User Account on the Operating System to Run Confluence

This step is optional if you are evaluating Confluence, but should be mandatory for Confluence installations used in production. If you have used the Confluence installer on Linux, this user will be created automatically.

A dedicated user should be created to run Confluence, because Confluence runs as the user it is invoked under and therefore can potentially be abused. For example:

- If your operating system is *nix-based (for example, Linux or Solaris), type the following in a console:
  ```
  $ sudo /usr/sbin/useradd --create-home --comment "Account for running Confluence" --shell /bin/bash confluence
  ```
- If your operating system is Windows:
  1. Create the dedicated user account by either:
     - Typing the following at the Windows command line:
       ```
       > net user confluence mypassword /add /comment:"Account for running Confluence"
       ```
       (This creates a user account with user name 'confluence' and password 'mypassword'. You should choose your own password.)
     - Opening the Windows 'Computer Management' console to add your 'confluence' user with its own password.
  2. *(Optional)* Use the Windows 'Computer Management' console to remove the 'confluence' user's membership of all unnecessary Windows groups, such as the default 'Users' group.
     If Windows is operating under Microsoft Active Directory, ask your Active Directory administrator to create your 'confluence' account (with no prior privileges).

Ensure that *only the following directories* can be written to by this dedicated user account (e.g. 'confluence'):

- The following subdirectories of your Confluence Installation Directory:
  - `logs`
  - `temp`
  - `work`
- Your Confluence Home Directory.

Do not make the Confluence Installation Directory itself writeable by the dedicated user account.

See also Best Practices for Configuring Confluence Security.

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# Confluence Setup Guide

Before running the Confluence Setup Wizard, as described below, you should have already completed 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.

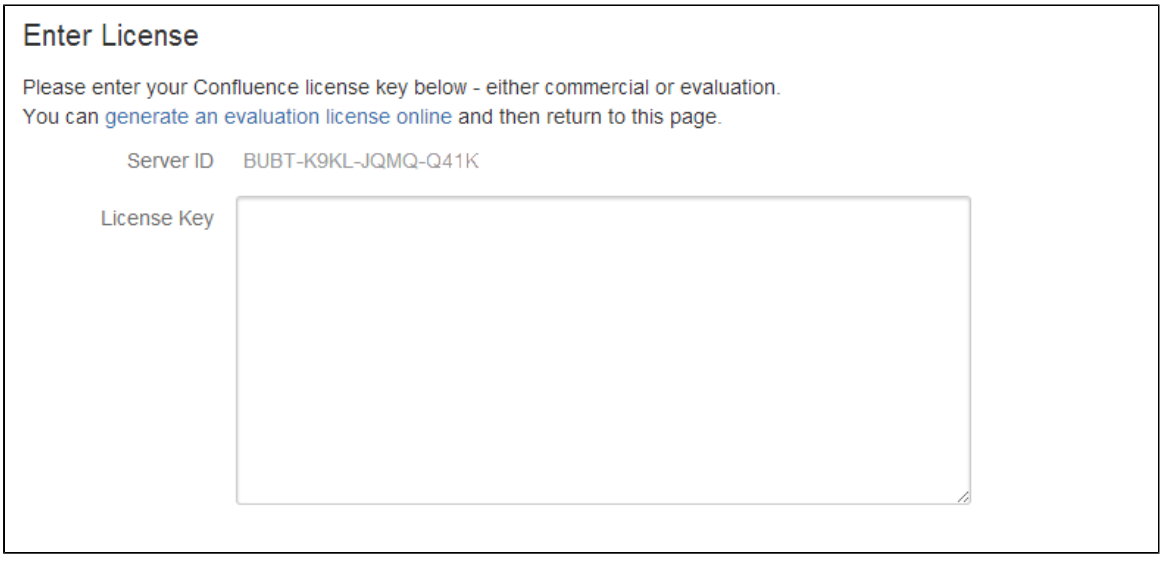
## 1. Start the Setup Wizard

1. If Confluence is not already running, start it now:
    - If you are running the Confluence distribution on Windows, click **Start** > **Programs** > **Confluence** > **Start Confluence Server**.
    - Or, run the start-up script found in the `bin` folder of your installation directory:
        - `start-confluence.bat` for Windows.
        - `start-confluence.sh` for Linux-based systems.
2. Go to the following web address in your web browser: http://localhost:8090
   The above web address uses port '8090'. If you chose a different port during installation, change '8090' to the number you chose.
    - You should see the licensing screen described below.
    - If an error message appears, first check that you are using the port which you specified during installation. Then check the Installation FAQ.

**On this page:**


- 1. Start the Setup Wizard
- 2. Enter your License Key
- 3. Choose your Installation Type
- 4. Production Installation: Database Configuration
- 5. Production Installation: External Database
- 6. Production Installation: Load Content
- 7. Production Installation: Restore Data from Backup
- 8. Production Installation: Set Up User Management
- 9. Production Installation: Connect to JIRA
- 10. Set Up System Administrator
- 11. Setup is Complete
    - 12. Install add-ons (optional)


## 2. Enter your License Key




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*Screenshot above: License key*

Hint: The above image and all the images on this page are screenshots. Clicking an image will not configure Confluence.

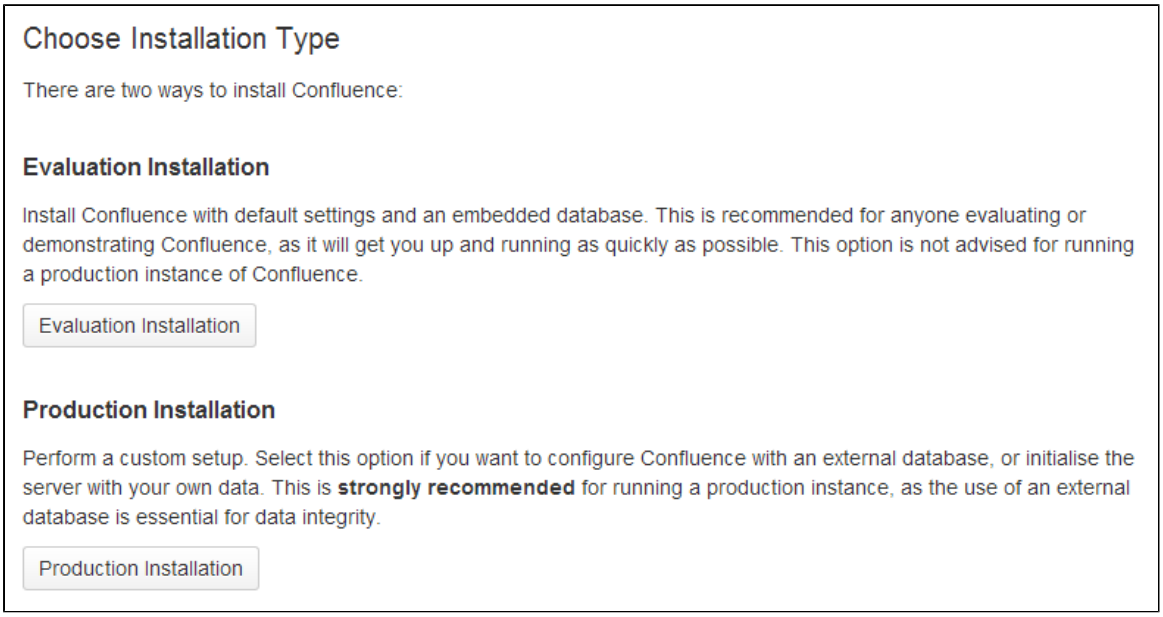
Find your Confluence license key and paste it into the **License Key** field, shown on the screenshot above.

If you already have a license key, you can retrieve it from the Atlassian website.

If you do not already have a Confluence license, you can obtain one now:

- To get a free evaluation license:
  1. Click **generate an evaluation license online** on the setup wizard, shown on the screenshot above.
  2. Follow the prompts to generate your license key and insert it into the setup wizard's licensing screen automatically.
- To get a commercial, academic, non-profit or open source license:
  1. Copy your **Server ID** from the setup wizard's licensing screen, shown on the screenshot above.
  2. Choose the license type you need from the list on the Atlassian website.
  3. Complete the online order form.

## 3. Choose your Installation Type




*Screenshot above: Choosing your installation type*

In this step, you will choose whether you want an evaluation or a production installation.

**Option 1: Evaluation 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.

Who should choose this option?

- Choose the evaluation 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 evaluation installation is therefore not suitable for production environments.

Next, you will be asked for details of your system administrator. Go to step 10 below. Yes, you really can skip all the steps between.

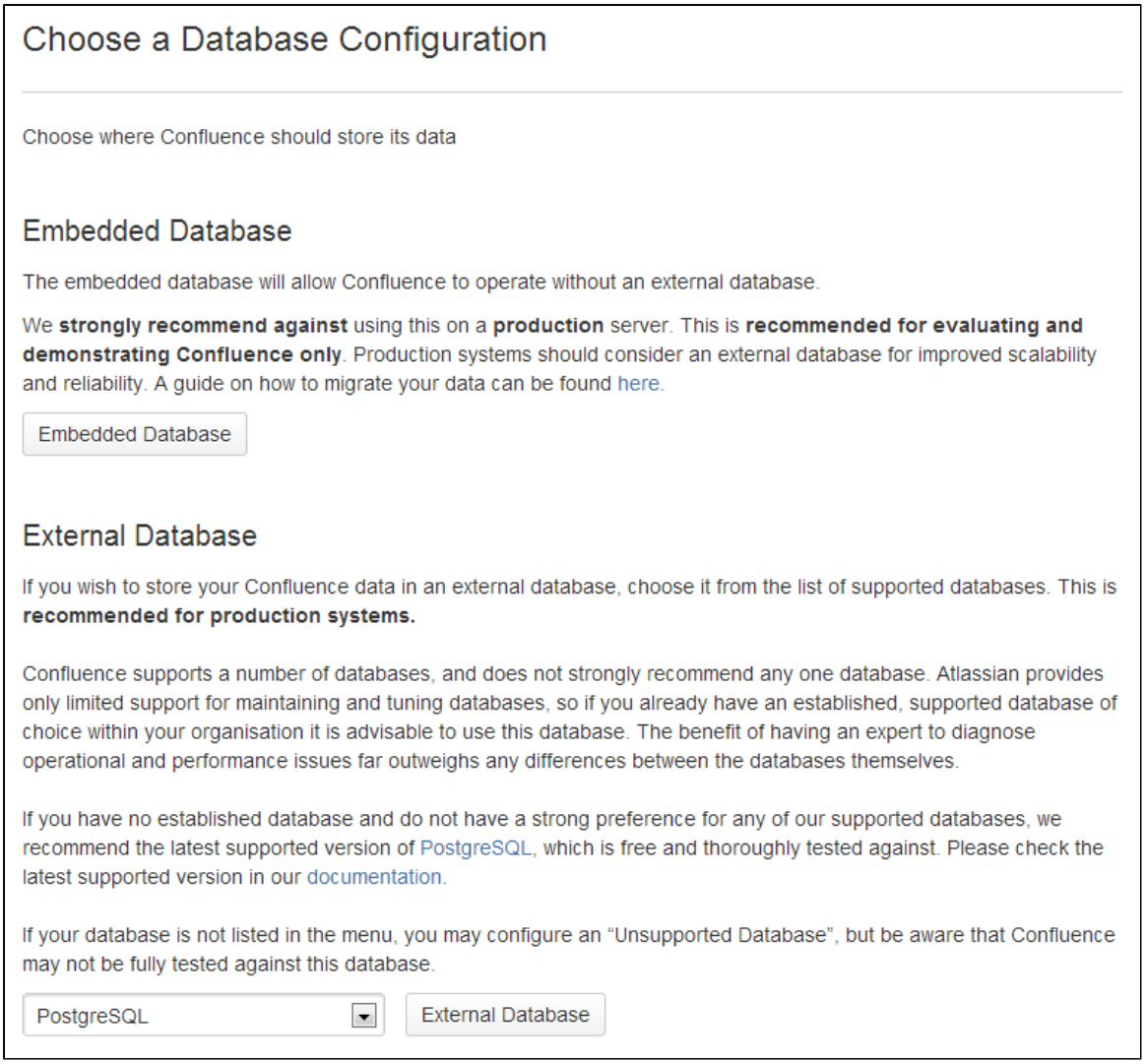
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**Option 2: Production Installation** — Customise your Confluence instance to use your own database and your own data.

The production installation offers the following options:

- Connect Confluence to an external database. **Recommended for Confluence used in production environments**.
- Restore data from an existing Confluence database.
- Install Confluence without the demonstration content.

## 4. Production Installation: Database Configuration




*Screenshot above: Database configuration*

The above screen appears if you have chosen a production 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 for the purposes of ***evaluating*** or ***demonstrating*** the use of Confluence. You can migrate to an external database later on if you wish.
- **Option 2: External Database** — If you wish Confluence to use an external database, select your database type from the dropdown list and then click the '**External Database**' button.
  - For production purposes, you ***should use an external database*** to ensure your data is kept safe and consistent.
  - If you choose **PostgreSQL**, please make sure that the version you install is supported by Atlassian. It is possible that we do not yet support the latest version of PostgreSQL.
  - Read the page about supported platforms for more information about which databases are supported. For details about choosing an external database, refer to the page on system

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requirements. For information about configuring an external database, see Database Configuration .

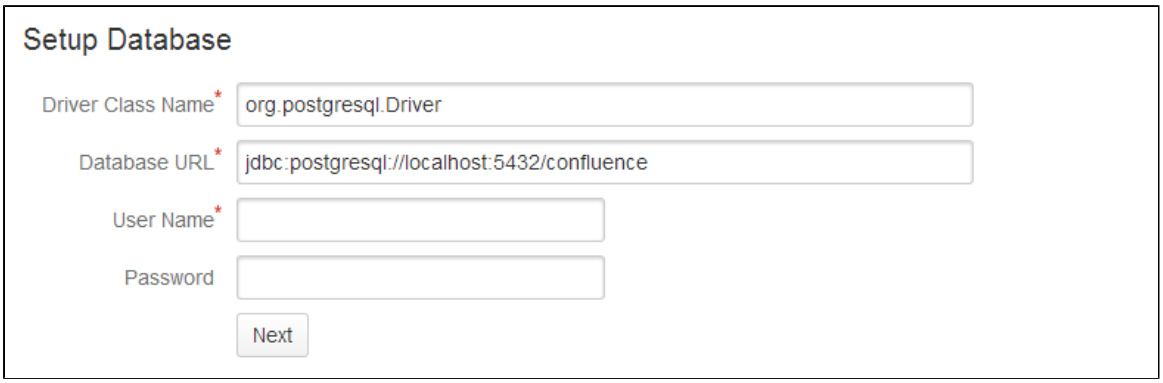
## 5. Production Installation: External Database

**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 how you wish Confluence to connect to your database - via a direct JDBC connection or via a server-managed datasource connection. Choose one of the two options below.

**Option 1: Direct JDBC** — This uses a standard JDBC database connection. Connection pooling is handled within Confluence.




*Screenshot above: Standard (JDBC) connection*

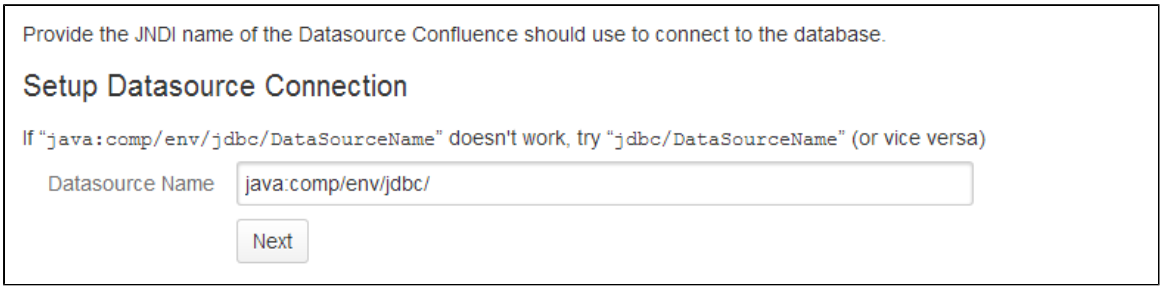
Supply the following information:

- **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. Note that Confluence bundles some database drivers, but you'll need to install the driver yourself if it is not bundled. See Database JDBC Drivers for details.
- **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** — This asks the Java application server for a database connection. You will need to have configured a datasource in your application server. For information about configuring an external database, see Database Configuration.




*Screenshot above: Datasource connection*

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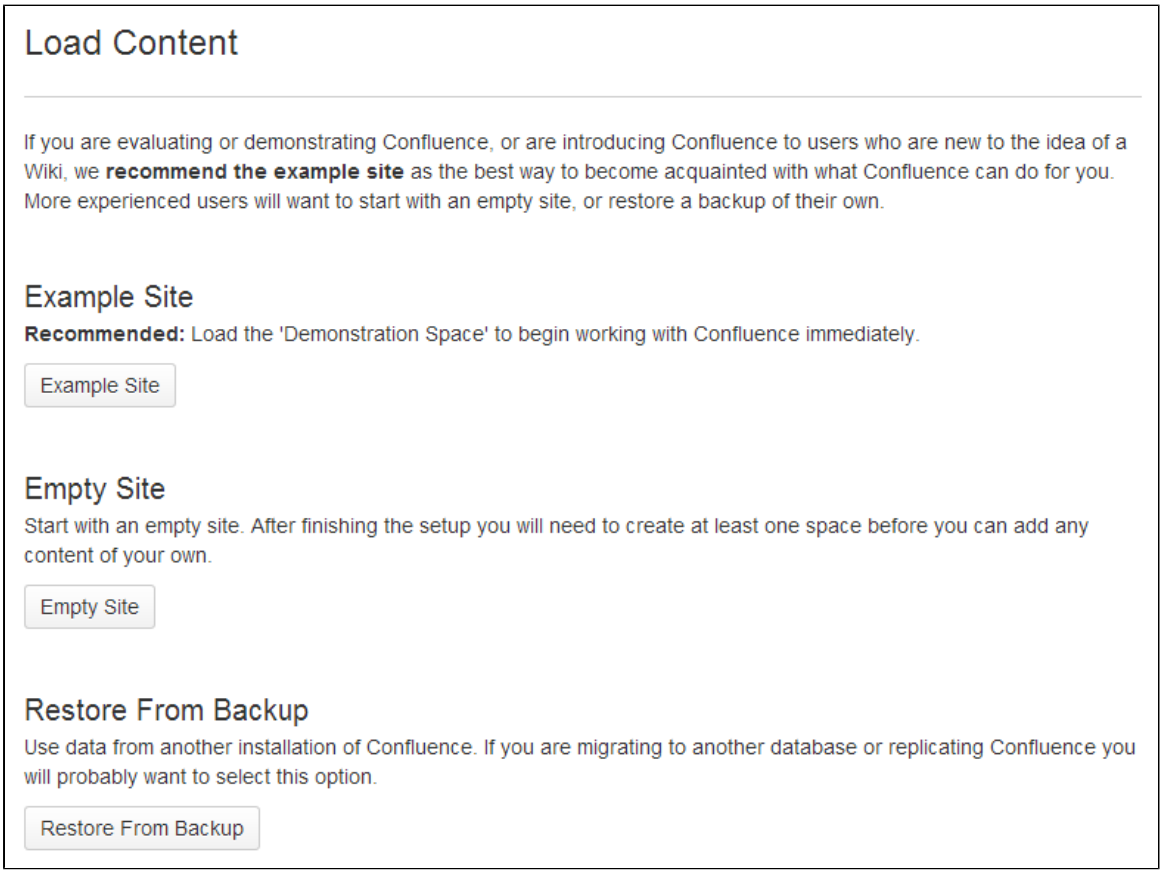
Supply the following information:

- **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. Production Installation: Load Content




*Screenshot above: 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. Production Installation: Restore Data from Backup

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:

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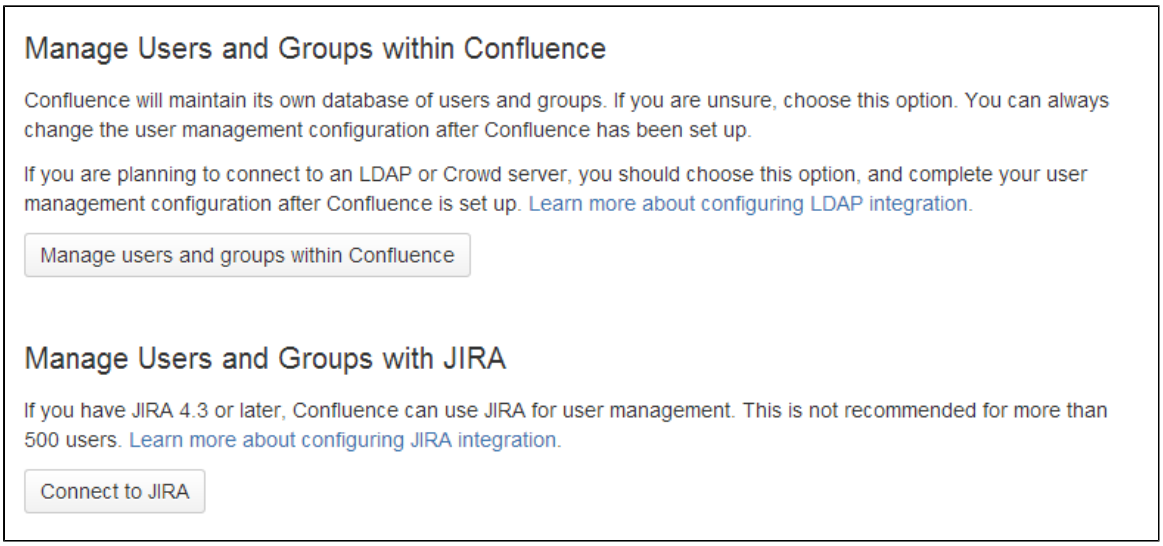
1. Browse for the relevant daily backup file or a file you have created via a manual backup.
2. Check '**Build Index'** to build the data index, used for the search.
3. Click the '**Upload and Restore**' button.

**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 XML 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.

## 8. Production Installation: Set Up User Management



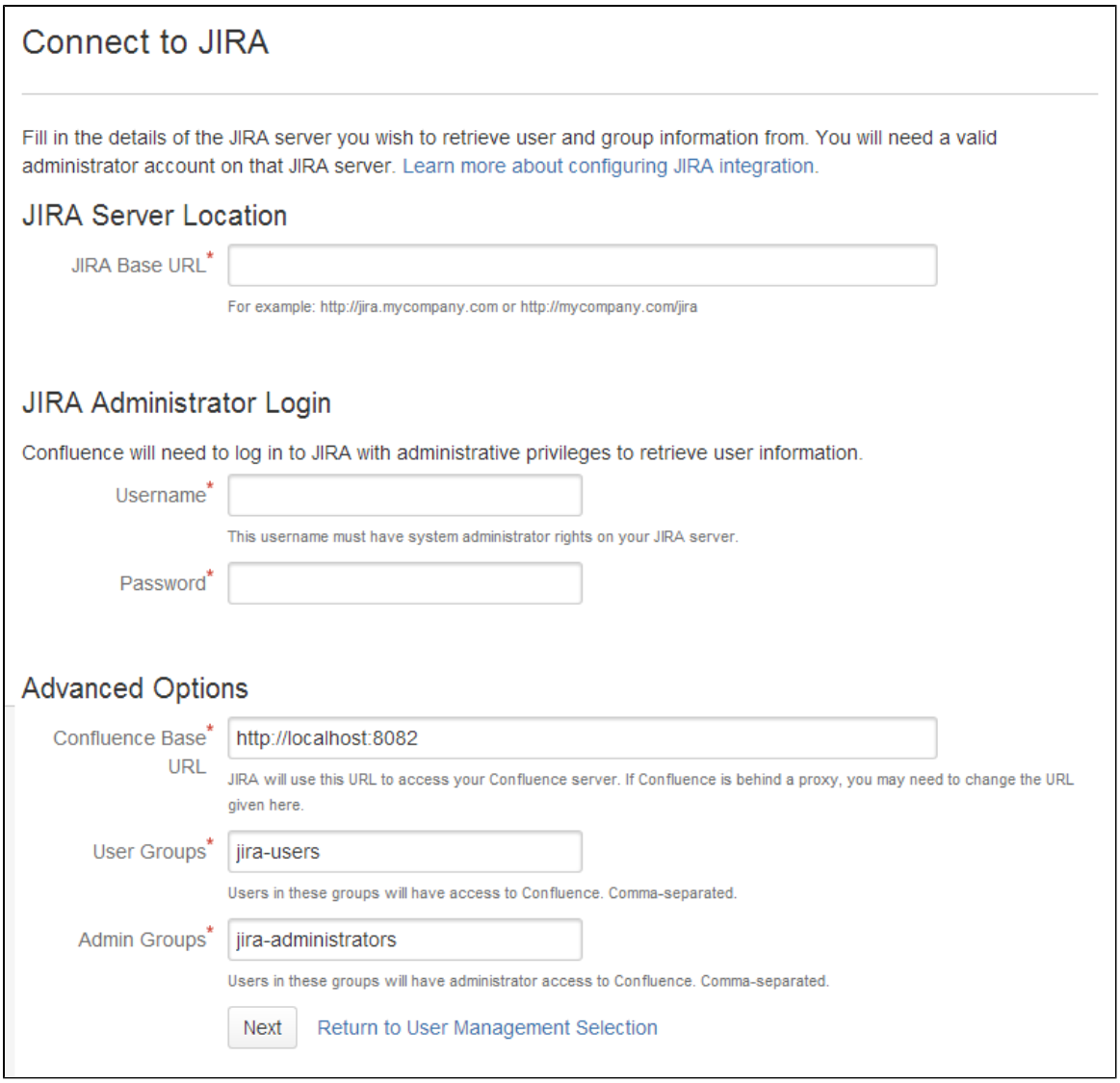

*Screenshot above: User management*

You can choose to manage Confluence's users and groups inside Confluence or in JIRA.

- If you do not have Atlassian JIRA installed, or if you would prefer to set up external user management later, choose **Manage users and groups within Confluence**.
- If you have JIRA installed, the setup wizard gives you the opportunity to configure the JIRA connection automatically. This is a quick way of setting up your JIRA integration with the most common options. It will configure a JIRA user directory for Confluence, and set up application links between JIRA and Confluence for easy sharing of data. Choose **Connect to JIRA**.

## 9. Production Installation: Connect to JIRA

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*Screenshot above: Connecting to JIRA in the Confluence setup wizard*

Enter the following information:

- **JIRA Base URL**– The web address of your JIRA server. Examples:

```
http://www.example.com:8080/jira/
http://jira.example.com
```

- **JIRA Administrator Login: Username** – Enter the username of a user with the 'JIRA System Administrators' global permission in JIRA.
- **JIRA Administrator Login: Password** – Enter the password that the above user uses to sign in to JIRA.
- **Confluence Base URL** – JIRA will use this URL to access your Confluence server. The URL you give here will override the base URL specified in your Confluence administration console, for the purposes of the JIRA connection.
- **User Groups** – Specify one or more JIRA groups whose members should be able to use Confluence. The default group is `jira-users`. (These groups will receive the 'can use' permission in Confluence.)
- **Admin Groups** – Specify one or more JIRA groups whose members should have administrative access to Confluence. The default group is `jira-administrators`. (These groups will receive the 'Confluence system administrator' and 'Confluence administrator' permissions in Confluence.)

For full details and a troubleshooting guide, see Configuring JIRA Integration in the Setup Wizard.

## 10. Set Up System Administrator

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The system administrator has full administrative power over your Confluence instance. This person will be able to add more users, create spaces, and set further Confluence options. Please refer to the overview of global permissions for more information.

Hint: If you are evaluating Confluence, set yourself as the 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**'.

## 11. Setup is Complete

Congratulations! You have installed and set up Confluence. Click **Start using Confluence** to open the **Demonstration space** in your Confluence wiki. This space contains some sample content and ideas, to help you get started quickly.

Click **Further Configuration** if you want to go directly to the Administration Console and complete administrator's tasks including configuring a mail server, adding users, changing the base URL and more. Refer to the Confluence Administrator's Guide for more information.

## 12. Install add-ons (optional)

If you have chosen a package that includes add-ons such as Team Calendars or the SharePoint Connector you can now install these from within Confluence.

In the Administration Console go to **Find New Add-ons** and search for your add-on. Follow the prompts to install the add-on.

See Finding New Add-ons for more information on how to find and install the add-ons.

# Configuring JIRA Integration in the Setup Wizard

This page describes the **Connect to JIRA** step in the Confluence setup wizard.

### Overview

You can connect your application to a JIRA server, to manage your users via JIRA and share information with JIRA. When you are installing the application, the setup wizard gives you the opportunity to configure the JIRA connection automatically. This is a quick way of setting up your JIRA integration with the most common options.

You can also configure the JIRA connections via the application administration screens. In that case, you will need to set up connections individually. There are two parts to the integration process:

- A peer-to-peer link between JIRA and the application for sharing information and facilitating integration features. This link is set up via Application Links.
- A client-server link between the application and JIRA for delegating user and group management to your JIRA server.

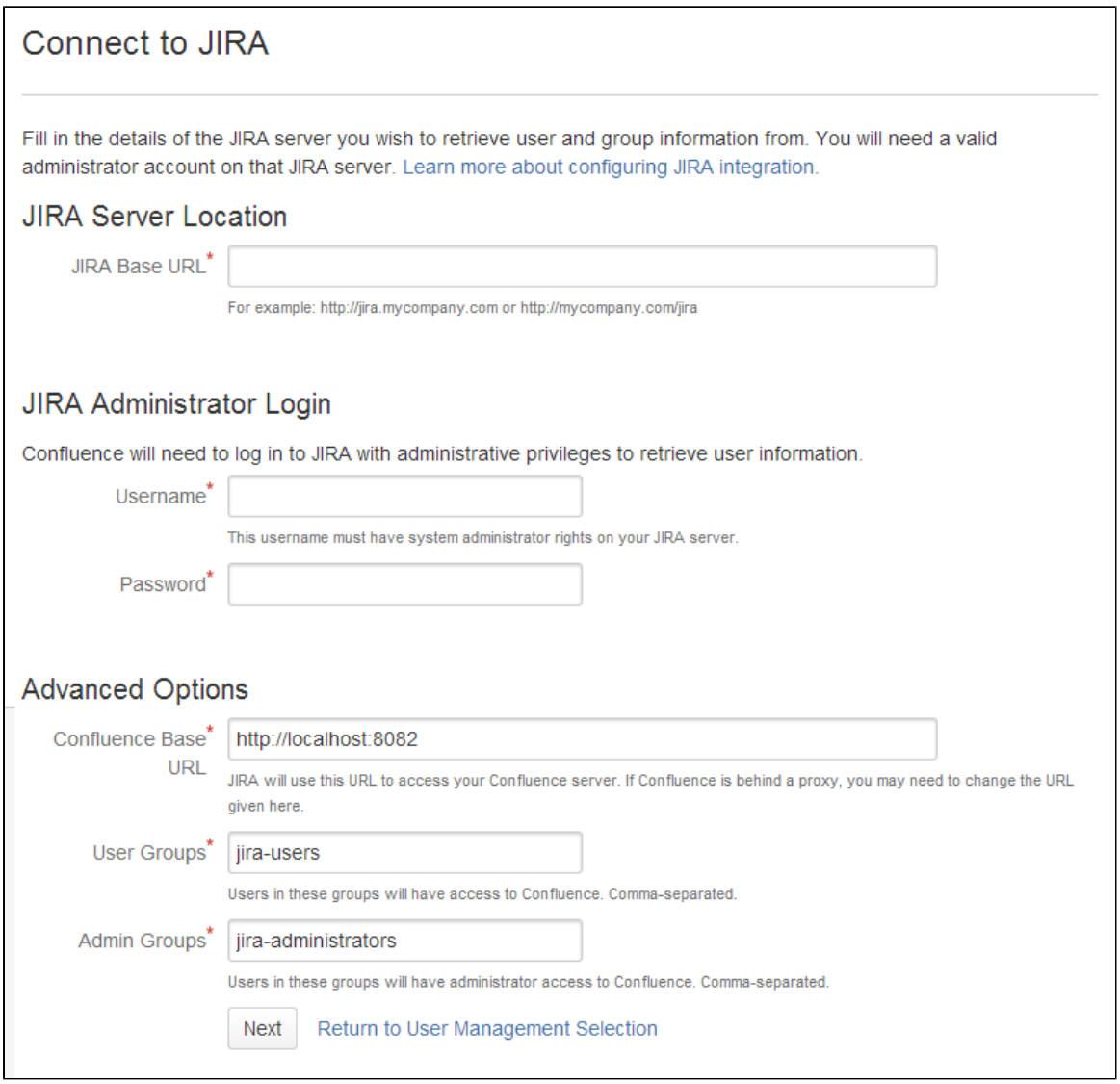
**Requirements:** You need JIRA 4.3 or later.

**On this page:**


- Overview
- Connecting to JIRA in the Setup Wizard
- Troubleshooting
  - Solution 1: Removing a Partial Configuration – The Easiest Way
  - Solution 2: Removing a Partial Configuration – The Longer Way
- Notes


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### Connecting to JIRA in the Setup Wizard




*Screenshot above: Connecting to JIRA in the Confluence setup wizard*

Enter the following information:

- **JIRA Base URL**– The web address of your JIRA server. Examples:

```
http://www.example.com:8080/jira/
http://jira.example.com
```

- **JIRA Administrator Login: Username** – Enter the username of a user with the 'JIRA System Administrators' global permission in JIRA.
- **JIRA Administrator Login: Password** – Enter the password that the above user uses to sign in to JIRA.
- **Confluence Base URL** – JIRA will use this URL to access your Confluence server. The URL you give here will override the base URL specified in your Confluence administration console, for the purposes of the JIRA connection.
- **User Groups** – Specify one or more JIRA groups whose members should be able to use Confluence. The default group is `jira-users`. (These groups will receive the 'can use' permission in Confluence.)
- **Admin Groups** – Specify one or more JIRA groups whose members should have administrative access to Confluence. The default group is `jira-administrators`. (These groups will receive the 'Confluence system administrator' and 'Confluence administrator' permissions in Confluence.)

### Troubleshooting

This section describes the possible problems that may occur when integrating your application with JIRA via the

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setup wizard, and the solutions for each problem.

| Symptom | Cause | Solution |
|---|---|---|
| The setup wizard displays one of the following error messages:<br>• Failed to create application link from JIRA server at <URL> to this <application> server at <URL>.<br>• Failed to create application link from this <application> server at <URL> to JIRA server at <URL>.<br>• Failed to authenticate application link from JIRA server at <URL> to this <application> server at <URL>.<br>• Failed to authenticate application link from <application> server at <URL> to this JIRA server at <URL>. | The setup wizard failed to complete registration of the peer-to-peer application link with JIRA. JIRA integration is only partially configured. | Remove the partial configuration if it exists, try the 'Connect to JIRA' step again, and then continue with the setup. Detailed instructions are below. |
| The setup wizard displays one of the following error messages:<br>• Failed to register <application> configuration in JIRA for shared user management. Received invalid response from JIRA: <response><br>• Failed to register <application> configuration in JIRA for shared user management. Received: <response> | The setup wizard failed to complete registration of the client-server link with JIRA for user management. The peer-to-peer link was successfully created, but integration is only partially configured. | Remove the partial configuration if it exists, try the 'Connect to JIRA' step again, and then continue with the setup. Detailed instructions are below. |
| The setup wizard displays the following error message:<br>• Error setting Crowd authentication | The setup wizard successfully established the peer-to-peer link with JIRA, but could not persist the client-server link for user management in your `config.xml` file. This may be caused by a problem in your environment, such as a full disk. | Please investigate and fix the problem that prevented the application from saving the configuration file to disk. Then remove the partial configuration if it exists, try the 'Connect to JIRA' step again, and then continue with the setup. Detailed instructions are below. |
| The setup wizard displays the following error message:<br>• Error reloading Crowd authentication | The setup wizard has completed the integration of your application with JIRA, but is unable to start synchronizing the JIRA users with your application. | Restart your application. You should then be able to continue with the setup wizard. If this solution does not work, please contact Atlassian Support. |
| The setup wizard displays the following error message:<br>• An error occurred: java.lang.IllegalStateException : Could not create the application in JIRA/Crowd (code: 500). Please refer to the logs for details. | The setup wizard has not completed the integration of your application with JIRA. The links are only partially configured. The problem occurred because there is already a user management configuration in JIRA for this <application> URL. | Remove the partial configuration if it exists, try the 'Connect to JIRA' step again, and then continue with the setup. Detailed instructions are below. |

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| | | |
|---|---|---|
| No users can log in after you have set up the application with JIRA integration. | Possible causes:<br>• There are no users in the group that you specified on the 'Connect to JIRA' screen.<br>• For FishEye: There are no groups specified in the 'groups to synchronize' section of your administration console.<br>• For Stash: You may not have granted any JIRA groups or users permissions to log in to Stash. | Go to JIRA and add some usernames to the group.<br>• For FishEye: Go to the FishEye administration screens and specify at least one group to synchronize. The default is '**jira-users**'.<br>• For Stash: Grant the **Stash User** permission to the relevant JIRA groups on the Stash Global permissions pag e.<br>If this solution does not work, please contact Atlassian Support. |

#### Solution 1: Removing a Partial Configuration – The Easiest Way

If the application's setup wizard fails part-way through setting up the JIRA integration, you may need to remove the partial configuration from JIRA before continuing with your application setup. Please follow the steps below.

Remove the partial configuration if it exists, try the 'Connect to JIRA' step again, and then continue with the setup wizard:

1. Log in to JIRA as a user with the '**JIRA System Administrators**' global permission.
2. Click the '**Administration**' link on the JIRA top navigation bar.
3. Remove the application link from JIRA, if it exists:
    a. Click '**Application Links**' in the JIRA administration menu. The 'Configure Application Links' page will appear, showing the application links that have been set up.
    b. Look for a link to your application. It will have a base URL of the application linked to JIRA. For example:
        - If you want to remove a link between JIRA and FishEye, look for the one where the '**Applica tion URL**' matches the base URL of your FishEye server.
        - If you want to remove a link between JIRA and Confluence, look for the one where the '**Appl ication URL**' matches the base URL of your Confluence server.
        - If you want to remove a link between JIRA and Stash, look for the one where the '**Applicati on URL**' matches the base URL of your Stash server.
    c. Click the '**Delete**' link next to the application link that you want to delete.
    d. A confirmation screen will appear. Click the '**Confirm**' button to delete the application link.
4. Remove the user management configuration from JIRA, if it exists:
    a. Go to the JIRA administration screen for configuring the applications that have been set up to use JIRA for user management:
        - In JIRA 4.3: Click '**Other Applications**' in the '**Users, Groups & Roles**' section of the JIRA administration screen.
        - In JIRA 4.4: Select **'Administration' > 'Users' > 'JIRA User Server'**.
    b. Look for a link to your application. It will have a name matching this format:

```
<Type> - <HostName> - <Application ID>
```

For example:

```
FishEye / Crucible - localhost -
92004b08-5657-3048-b5dc-f886e662ba15
```

Or:

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```
Confluence - localhost - 92004b08-5657-3048-b5dc-f886e662ba15
```

If you have multiple servers of the same type running on the same host, you will need to match the application ID of your application with the one shown in JIRA. To find the application ID:

- Go to the following URL in your browser:

  ```
  <baseUrl>/rest/applinks/1.0/manifest
  ```

  Replace `<baseUrl>` with the base URL of your application.
  For example:

  ```
  http://localhost:8060/rest/applinks/1.0/manifest
  ```

- The application links manifest will appear. Check the application ID in the `<id>` element.

c. In JIRA, click '**Delete**' next to the application that you want to remove.

5. Go back to the setup wizard and try the 'Connect to JIRA' step again.

#### Solution 2: Removing a Partial Configuration – The Longer Way

If solution 1 above does not work, you may need to remove the partial configruration and then add the full integration manually. Please follow these steps:

1. Skip the 'Connect to JIRA' step and continue with the setup wizard, to complete the initial configuration of the application.
2. Log in to JIRA as a user with the '**JIRA System Administrators**' global permission.
3. Click the '**Administration**' link on the JIRA top navigation bar.
4. Remove the application link from JIRA, if it exists:
   a. Click '**Application Links**' in the JIRA administration menu. The 'Configure Application Links' page will appear, showing the application links that have been set up.
   b. Look for a link to your application. It will have a base URL of the application linked to JIRA. For example:
      - If you want to remove a link between JIRA and FishEye, look for the one where the '**Application URL**' matches the base URL of your FishEye server.
      - If you want to remove a link between JIRA and Confluence, look for the one where the '**Application URL**' matches the base URL of your Confluence server.
      - If you want to remove a link between JIRA and Stash, look for the one where the '**Application URL**' matches the base URL of your Stash server.
   c. Click the '**Delete**' link next to the application link that you want to delete.
   d. A confirmation screen will appear. Click the '**Confirm**' button to delete the application link.
5. Remove the user management configuration from JIRA, if it exists:
   a. Go to the JIRA administration screen for configuring the applications that have been set up to use JIRA for user management:
      - In JIRA 4.3: Click '**Other Applications**' in the '**Users, Groups & Roles**' section of the JIRA administration screen.
      - In JIRA 4.4: Select **'Administration' > 'Users' > 'JIRA User Server'**.
   b. Look for a link to your application. It will have a name matching this format:

      ```
      <Type> - <HostName> - <Application ID>
      ```

      For example:

      ```
      FishEye / Crucible - localhost -
      92004b08-5657-3048-b5dc-f886e662ba15
      ```

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Or:

```
Confluence - localhost - 92004b08-5657-3048-b5dc-f886e662ba15
```

If you have multiple servers of the same type running on the same host, you will need to match the application ID of your application with the one shown in JIRA. To find the application ID:

- Go to the following URL in your browser:

  ```
  <baseUrl>/rest/applinks/1.0/manifest
  ```

  Replace `<baseUrl>` with the base URL of your application.
  For example:

  ```
  http://localhost:8060/rest/applinks/1.0/manifest
  ```

- The application links manifest will appear. Check the application ID in the `<id>` element.

c. In JIRA, click '**Delete**' next to the application that you want to remove.

6. Add the application link in JIRA again, so that you now have a two-way trusted link between JIRA and your application:
   a. Click '**Add Application Link**'. Step 1 of the link wizard will appear.
   b. Enter the **server URL** of the application that you want to link to (the 'remote application').
   c. Click the '**Next**' button.
   d. Enter the following information:
      - '**Create a link back to this server**' – Tick this check box to add a two-way link between the two applications.
      - '**Username**' and '**Password**' – Enter the credentials for a username that has administrator access to the remote application.
        *Note:* These credentials are only used to authenticate you to the remote application, so that Application Links can make the changes required for the new link. The credentials are not saved.
      - '**Reciprocal Link URL**' – The URL you give here will override the base URL specified in your remote application's administration console, for the purposes of the application links connection. Application Links will use this URL to access the remote application.
   e. Click the '**Next**' button.
   f. Enter the information required to configure authentication for your application link:
      - '**The servers have the same set of users**' – Tick this check box, because the users are the same in both applications.
      - '**These servers fully trust each other**' – Tick this check box, because you trust the code in both applications and are sure both applications will maintain the security of their private keys.
        *For more information about configuring authentication, see Configuring Authentication for an Application Link_OLD.*
   g. Click the '**Create**' button to create the application link.
7. Configure a new connection for user management in JIRA:
   a. Go to the JIRA administration screen for configuring the applications that have been set up to use JIRA for user management:
      - In JIRA 4.3: Click '**Other Applications**' in the '**Users, Groups & Roles**' section of the JIRA administration screen.
      - In JIRA 4.4: Select **'Administration' > 'Users' > 'JIRA User Server'**.
   b. **Add** an application.
   c. Enter the **application name** and **password** that your application will use when accessing JIRA.
   d. Enter the **IP address** or addresses of your application. Valid values are:
      - A full IP address, e.g. `192.168.10.12`.
      - A wildcard IP range, using CIDR notation, e.g. `192.168.10.1/16`. For more information, see the introduction to CIDR notation on Wikipedia and RFC 4632.
      - **Save** the new application.
8. Set up the JIRA user directory in the application.

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- For Confluence:
  a. Go to the **Confluence Administration Console**.
  b. Click '**User Directories**' in the left-hand panel.
  c. **Add** a directory and select type '**Atlassian JIRA**'.
  d. Enter the following information:
     - **Name** – Enter the name of your JIRA server.
     - **Server URL** – Enter web address of your JIRA server. Examples:

```
http://www.example.com:8080/jira/
http://jira.example.com
```

     - **Application name** and **Application password** – Enter the values that you defined for Confluence in the settings on JIRA.
  e. Save the directory settings.
  f. Define the **directory order** by clicking the blue up- and down-arrows next to each directory on the '**User Directories**' screen.
  For details see Connecting to Crowd or JIRA for User Management.
- For FishEye/Crucible:
  a. Click **Authentication** (under 'Security Settings').
  b. Click **Setup JIRA/Crowd authentication**. Note, if LDAP authentication has already been set up, you will need to remove that before connecting to JIRA for user management.
  c. Make the following settings:

| | |
|---|---|
| **Authenticate against** | Select **a JIRA instance** |
| **Application name** and **password** | Enter the values that you defined for your application in the settings on JIRA. |
| **JIRA URL** | The web address of your JIRA server. Examples:<br>`http://www.example.com:8080/jira/`<br>`http://jira.example.com` |
| **Auto-add** | Select **Create a FishEye user on successful login** so that your JIRA users will be automatically added as a FishEye user when they first log in. |
| **Periodically synchronise users with JIRA** | Select **Yes** to ensure that JIRA will synchronize all changes in the user information on a regular basis. Change the value for **Synchronise Period** if required. |
| **When Synchronisation Happens** | Select an option depending on whether you want to allow changes to user attributes from within FishEye. |
| **Single Sign On** | Select **Disabled**. SSO is not available when using JIRA for user management and if enabled will make the integration fail. |

  d. Click **Next** and select at least one user group to be synchronised from JIRA. If necessary, you could create a new group in JIRA, such as 'fisheye-users', and select this group here.
  e. Click **Save**.
- For Stash:

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a. Go to the Stash administration area.
b. Click **User Directories** in the left-hand panel.
c. **Add** a directory and select type **Atlassian JIRA**.
d. Enter the following information:
    - **Name** – Enter the name of your JIRA server.
    - **Server URL**– Enter web address of your JIRA server. Examples:

```
http://www.example.com:8080/jira/
http://jira.example.com
```

    - **Application name** and **Application password** – Enter the values that you defined for Stash in the settings on JIRA.
e. Save the directory settings.
f. Define the directory order by clicking the blue up- and down-arrows next to each directory on the 'User Directories' screen.
For details see Connecting Stash to JIRA for user management.

#### Notes

- When you connect to JIRA in the setup wizard, the setup procedure will configure **Trusted Applications authentication** for your application. Please be aware of the following security implications:
    - Trusted applications are a **potential security risk**. When you configure Trusted Applications authentication, you are allowing one application to access another as any user. This allows all of the built-in security measures to be bypassed. Do not configure a trusted application unless you know that all code in the application you are trusting will behave itself at all times, and you are sure that the application will maintain the security of its private key.
- In the next step, you will specify the username and password of your **Confluence system administrator**. If you have connected to JIRA, the setup wizard will add the Confluence administrator's username and password to both JIRA and Confluence. This is done so that you can still access Confluence even if JIRA is down. Please note that the password in Confluence is not linked to the password in JIRA. If you subsequently change the administrator's password, only the password in JIRA will change. This is because the JIRA user directory is placed first in the list of user directories. See Managing Multiple Directories.

#### Related Topics

User Management Limitations and Recommendations
Confluence Setup Guide
Configuring Application Links

## Upgrading Confluence

This document describes the procedure for upgrading to the latest version of Confluence, on Windows or Linux.

**Notes:**

- **Incremental upgrades across major versions.** If you want to upgrade from one major version (first digit of version number) of Confluence to another, we recommend that you upgrade incrementally – do not skip a major version. For example, if you want to move from Confluence 3.x to Confluence 5.x, you should first upgrade from 3.x to 4.x, then from 4.x to 5.x. Note that there is no need for incremental upgrading when moving from one minor or point release to another within the same series. For example, you can move from Confluence 4.0.x directly to Confluence 4.3.x.

    ⚠ The only exception to this rule is if you are upgrading from 3.5.x to 5.0.x or above, and you have file system links in your pages. In this case, we recommend that you go directly to 5.0.3 from 3.5.x.

    For more information see:

    **CONF-23575** - Links to filesystem are lost after upgrade to Confluence 4.x or upon saving the page in the new editor (Resolved)

- **Last point release recommended.** We strongly recommend that you upgrade to the latest available

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point version of your target version. For example, if you want to move from Confluence 3.x to Confluence 4.3.x, you should choose Confluence 4.3.7 rather than 4.3.6.

- **Upgrading from an early version of Confluence.** If you are upgrading from a version earlier than Confluence 3.5, you must use the manual upgrade procedure. See Upgrading Confluence Manually.
- **Moving to a different OS, database or file location.** If you are changing the operating system that will run Confluence, the database it is using, or the location of its files, you must use the manual upgrade procedure. See Upgrading Confluence Manually.
- **Clustered Confluence.** The automatic installer/upgrader does not support upgrading clustered installatio ns of Confluence. See Upgrading a Confluence Cluster.

**Upgrading to Confluence 5.3?**
If so, please review the Confluence 5.3 Release Notes for important information about this version of Confluence. Ensure that you have read the Confluence 5.3 Known Issues in the Confluence Knowledge Base.

Also, we strongly recommend 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 for recent major versions of Confluence are accessible from the Upgrade Notes Overview page.

Finally, please check the Supported Platforms page to ensure that your Java version, operating system, application server, database and browser are supported for this release of Confluence. The End of Support Announcements for Confluence page has important information regarding supported platforms.

**On this page:**


- Before you Start
- Backing Up
- Testing the Upgrade in a Test Environment
  - Upgrade Overview
  - Performing the Upgrade
    - Upgrading Confluence on Windows
    - Upgrading Confluence on Linux
  - Upgrade Check List
    - Back Up Your External Database
    - Check Plugin Compatibility


## Before you Start

1. 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.
2. Note that you need current software maintenance to perform the upgrade.
3. Confirm that your license support period is still valid before you try to upgrade.
4. 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.
5. 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 pa ge. (Each upgrade notes page is a 'child' of its respective release notes page.)
6. 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.
7. If you are using Confluence EAR-WAR edition, check Installing the Confluence EAR-WAR Edition to see if there is anything extra you will need to do to get Confluence running.
8. If you are using an external database, familiarise yourself with all known issues for your specific database. Also make sure the Confluence database connector principal (the database user account) has sufficient permissions to modify the database schema.

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9. Note which plugins (add-ons) are installed and enabled on your current Confluence site. Please verify whether a compatible version of the plugin is available in the version of Confluence you are upgrading to. This information is available via the **Confluence Upgrade Check** in the plugin administration section of Confluence. See the documentation: Checking Add-on Compatibility with Application Updates. You can also check the respective home pages for these plugins on the Atlassian Plugin Exchange. Once you have confirmed the availability of compatible versions, you should upgrade your plugins after successfully upgrading Confluence. Please test these first by applying them to the latest Confluence version in a test environment.
10. 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. You can see the customisations applied to your Confluence installation.
11. Some anti-virus or other Internet security tools may interfere with the Confluence upgrade process and prevent the process from completing successfully. If you experience or anticipate experiencing such an issue with your anti-virus/Internet security tool, disable this tool first before proceeding with the Confluence upgrade.
12. After upgrading, Confluence may need to rebuild its indexes. If this happens, there may be some extra load placed on the server following the upgrade. Make sure to schedule any upgrade of production Confluence outside of hours where people need to use it.

## 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 are 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. The Confluence installer will automatically prompt you to run a backup, storing the files in a .zip archive at the same level as your Confluence Home 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, simply restore the backup to a different system to ensure the backup worked before proceeding. This recommendation is generally a good best practice. Surprisingly, many companies get in trouble for broken database backups because they skip this basic but vital "smoke test" of the operation.
   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 Confluence home directory. You should not be using this database for production systems at all, so if you happen to be using HSQLDB in a production system, please migrate to a proper database **before** the upgrade. Read about the various shortcomings of HSQLDB.
3. **Back up your Confluence Installation directoryor your Confluence webapp** (if you are using Confluence EAR-WAR edition). The Confluence installer will automatically back up these files, storing the files in a .zip archive at the same level as your 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'.

## 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.

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**XML imports**
⚠ Importing an old XML backup file to a new major version (for example, Confluence 3.5 to Confluence 4.0) **is not recommended**. Please recreate your production instance in a test environment first.

2. Perform the upgrade on your cloned environment.

3. Test all your unsupported plugins (add-ons) and any customisations with the new version before proceeding on your production server. You can read more about supported and unsupported plugins.

***RELATED TOPICS***

Upgrading Confluence

## Upgrade Overview

The upgrade feature of the Linux and Windows Installers automates the following tasks for you:

1. Backs up the Installation and Home Directories of the existing Confluence installation to be upgraded.
2. Installs **Confluence 5.3** whilst migrating the following from your existing Confluence installation to the new **Confluence 5.3** installation:
   - TCP port values in your existing Confluence installation's `server.xml` file. ⚠ Be aware that other configurations or customisations in this file are not migrated during upgrade, and will need to be re-applied.
   - Custom values in your existing Confluence installation's `confluence-init.properties` (confluence.home property) and `setenv.sh` / `setenv.bat` files (JAVA_OPTS parameters)

The upgrade feature detects and notifies you of any files in the `confluence` subdirectory of your existing Confluence Installation Directory which have been deleted, added or modified from a 'default' Confluence installation. This informs you of any customisations you will need to migrate manually over to your upgraded Confluence installation directory. Note that modifications to files in directories other than `confluence` will not be detected when you upgrade to Confluence 4.0, for example any modifications to start-up scripts under the `bin` directory will not be detected. The next time you upgrade (e.g. to version 4.0.1) the the upgrade feature will cover modifications across the whole Confluence Installation Directory.

**Please Note:**

- The upgrade process requests that you conduct a backup of your database using your database's backup utilities. If your database does not support online backups, you can stop the upgrade process, shut down Confluence, perform your database backup and then restart the upgrade process to continue on.
- If you have made customisations to your `server.xml` file or any other files in your Confluence installation directory which are not handled by the upgrade wizard, these must be re-applied manually.
- If your attachments and index files are located outside your Confluence Home Directory, then backups of these directories must be performed manually.

## Performing the Upgrade

Refer to the appropriate upgrade instructions below for your operating system:

#### Upgrading Confluence on Windows

1. Download the **Confluence Windows Installer** (.exe) file (for the new version of Confluence) from the Confluence Download Center.
2. Run the .exe file to start the upgrade wizard.
   If a Windows 7 (or Vista) 'User Account Control' dialog box requests if you want to allow the upgrade wizard to make changes to your computer, specify '**Yes**'. If you do not, the installation wizard will have restricted access to your operating system and any subsequent installation options will be limited.
3. At the 'Upgrading Confluence?' step, choose the '**Upgrade an existing Confluence installation**' option.
4. In the 'Existing Confluence installation directory' field, specify the Confluence Installation Directory of your Confluence installation to be upgraded.
   The upgrade wizard will attempt to find an existing Confluence installation and use its location to

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pre-populate this field. However, always verify this location, particularly if you have multiple Confluence installations running on the same machine.

5. During subsequent steps of the upgrade wizard, you will be prompted to specify or do the following options:
    a. At the 'Back up Confluence directories' step, ensure the '**Back up Confluence home**' option is selected. This creates 'zip' archive file backups of your existing Confluence Installation and Confluence Home Directories in their respective parent directory locations.
    **Please Note: Choosing this option is strongly recommended!**
    b. At this point, the upgrade wizard notes any customisations in your existing Confluence Installation Directory which it cannot automatically migrate to your upgraded Confluence installation. If you are notified by the installer about any files containing such customisations, please make a note of the locations of these files as you will need to manually migrate their customisations (which are not mentioned in the overview above) to your upgraded Confluence installation. One relatively common customisation that the upgrade wizard cannot automatically migrate is an SSL configuration defined in the `conf/server.xml` file of the Confluence Installation Directory.
    **Please Note:** when upgrading from the version that was not installed by the installer the customisations can only be detected in the `confluence` subdirectory of your existing Confluence Installation Directory. Modifications to files in directories other than `confluence` will not be detected when you upgrade, for example, modifications to `conf/server.xml`. However the next time you upgrade (e.g. to version 4.1.1) the upgrade feature will cover modifications across the whole Confluence Installation Directory.
    c. At the 'Upgrade Check List' step, perform the following steps if you have not already done so:
        - Back up your external database.
        - If your Confluence site includes third-party plugins (add-ons), check that they will be compatible with your upgraded Confluence version. See the documentation: Checking Add-on Compatibility with Application Updates.
    d. Choose '**Next**', your existing Confluence installation will be shut down if it is still running. The upgrade wizard will then:
        i. Back up your existing Confluence installation.
        ii. Delete the contents of the existing Confluence Installation Directory.
        iii. Install the new version of Confluence to the existing Confluence Installation Directory.
        iv. Starts your new (upgraded) Confluence installation.
        ⚠ If you noted any files that contain customisations which must be migrated manually to your upgraded Confluence installation (above), then:
            1. Stop the upgraded Confluence installation.
            2. Migrate the customisations from these files into the upgraded Confluence Installation Directory.
            3. Restart the upgraded Confluence installation.
6. At the last step of the upgrade wizard, select the option to launch the upgraded Confluence installation in a browser so you can check the upgrade.

Congratulations, you have completed upgrading your Confluence installation on Windows!

#### Upgrading Confluence on Linux

1. Download the appropriate **Confluence 'Linux 64-bit / 32-bit Installer'** (.bin) file that suits your operating system (for the new version of Confluence) from the Confluence Download Center.
2. Open a Linux console and change directory (`cd`) to the '.bin' file's directory.
    ⚠ If the '.bin' file is not executable after downloading it, make it executable, for example:
    `chmod a+x atlassian-confluence-X.Y.bin`
    (where X.Y represents your version of Confluence)
3. Execute the '.bin' file to start the upgrade wizard.
4. When prompted to choose between creating a new Confluence installation or upgrading an existing installation, choose the '**Upgrade an existing Confluence installation**' option.
5. Specify the Confluence Installation Directory of your Confluence installation to be upgraded.
    The upgrade wizard will attempt to find an existing Confluence installation and will provide its location as a choice. However, always verify this location, particularly if you have multiple Confluence installations running on the same machine.
6. During subsequent steps of the upgrade wizard, you will be prompted to specify or do the following options:
    a. Choose the option to back up Confluence's directories. This creates 'zip' archive file backups of

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your existing Confluence Installation and Confluence Home directories in their respective parent directory locations.
**Please Note: Choosing this option is strongly recommended!**

b. At this point, the upgrade wizard notes any customisations in your existing Confluence Installation Directory which it cannot automatically migrate to your upgraded Confluence installation. If you are notified of any files containing such customisations, please make a note of the locations of these files as you will need to manually migrate their customisations (which are not mentioned in the over view above) to your upgraded Confluence installation. One relatively common customisation that the upgrade wizard cannot automatically migrate is an SSL configuration defined in the `conf/server.xml` file of the Confluence Installation Directory.
**Please Note:** when upgrading from the version that was not installed by the installer the customisations can only be detected in the `confluence` subdirectory of your existing Confluence Installation Directory. Modifications to files in directories other than `confluence` will not be detected when you upgrade, for example, modifications to `conf/server.xml`. However the next time you upgrade (e.g. to version 4.1.1) the upgrade feature will cover modifications across the whole Confluence Installation Directory.

c. At the 'Upgrade Check List' step, perform the following steps if you have not already done so:
   - Back up your external database.
   - If your Confluence site includes third-party plugins (add-ons), check that they will be compatible with your upgraded Confluence version. See the documentation: Checking Add-on Compatibility with Application Updates.

d. Upon proceeding, your existing Confluence installation will be shut down if it is still running. The upgrade wizard will then:
   i. Back up your existing Confluence installation.
   ii. Delete the contents of the existing Confluence installation directory.
   iii. Install the new version of Confluence to the existing Confluence installation directory.
   iv. Starts your new (upgraded) Confluence installation.
   ⚠ If you noted any files that contain customisations which must be migrated manually to your upgraded Confluence installation (above), then:
      1. Stop the upgraded Confluence installation.
      2. Migrate the customisations from these files into the upgraded Confluence Installation Directory.
      3. Restart the upgraded Confluence installation.

7. The last step of the upgrade wizard provides you with a link to launch the upgraded Confluence installation in a browser, so you can check the upgrade.

Congratulations, you have completed upgrading your Confluence installation on Linux!

## Upgrade Check List

The upgrade wizard requests that you perform the following tasks before it actually commences the upgrade of your existing Confluence installation.

#### Back Up Your External Database

Perform a backup of your external database (using your database's native backup tools) and verify that the backup was created correctly.

- If your database's native backup tools support 'online backups' (i.e. which would typically create a 'snapshot' of your Confluence database while the database is still in use), you can leave the upgrade wizard running while you perform the database backup and then continue on with the wizard after verifying that the database backup was created correctly.
- If your database's native backup tools do not allow you to perform an 'online backup' of your Confluence database, you should:
  1. Quit the upgrade wizard now.
  2. Use your database's native backup tools to perform an 'offline backup' of your Confluence database and verify that this backup was created correctly.
  3. Re-run the Linux / Windows Installer to start the upgrade wizard again and continue from where you left off.
- If you are using HSQLDB as the Confluence internal database, please note that this should be used for evaluating Confluence only. If you happen to accidentally use the HSQLDB database for a production system, quit the upgrade wizard now and use the Migrating Confluence Between Servers procedure to

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upgrade Confluence.

⚠ **Inconsistent database backups may not restore correctly!** If you are unfamiliar with your database's native backup/restore facilities, then test your database backup's integrity by doing the following:

1. Restoring the database backup to a different (test) system,
2. Connecting a test instance of your current Confluence version to this restored database.

Alternatively, use the Migrating Confluence Between Servers procedure to upgrade Confluence instead.

#### Check Plugin Compatibility

If you have installed any third-party Confluence plugins (add-ons) (in other words, plugins that are not shipped with Confluence), please verify that they will be compatible with the version of Confluence you are upgrading to. This information is available via the **Confluence Upgrade Check** in the plugin administration section of Confluence. See the documentation: Checking Add-on Compatibility with Application Updates. You can also check the respective home pages for these plugins on the Atlassian Plugin Exchange. Once you have confirmed the availability of compatible versions, you should upgrade your plugins after successfully upgrading Confluence. Please test these first by applying them to the latest Confluence version in a test environment.

## 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.

#### License warnings

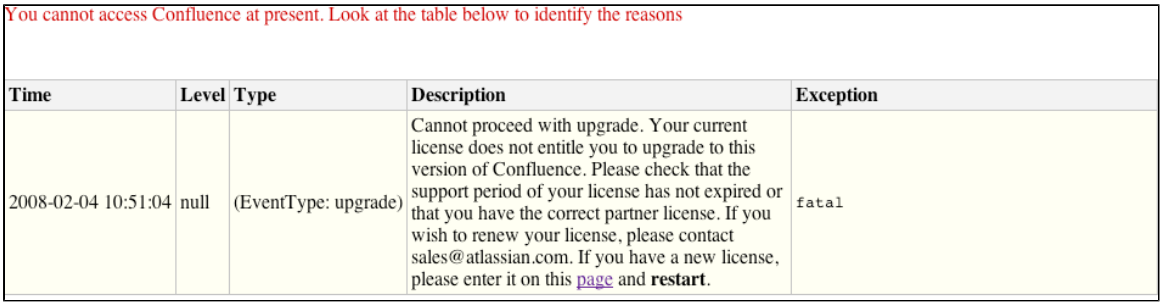
During an upgrade an obvious indication that your license has expired can be found in your log file. You will see a 'WARN' level entry similar to this:

```
[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.
```

**Related pages:**

- Upgrading Confluence
- Working with Confluence Logs
- Confluence Administrator's Guide

When you try to access the Confluence site in your browser, you will see the following warning screen:



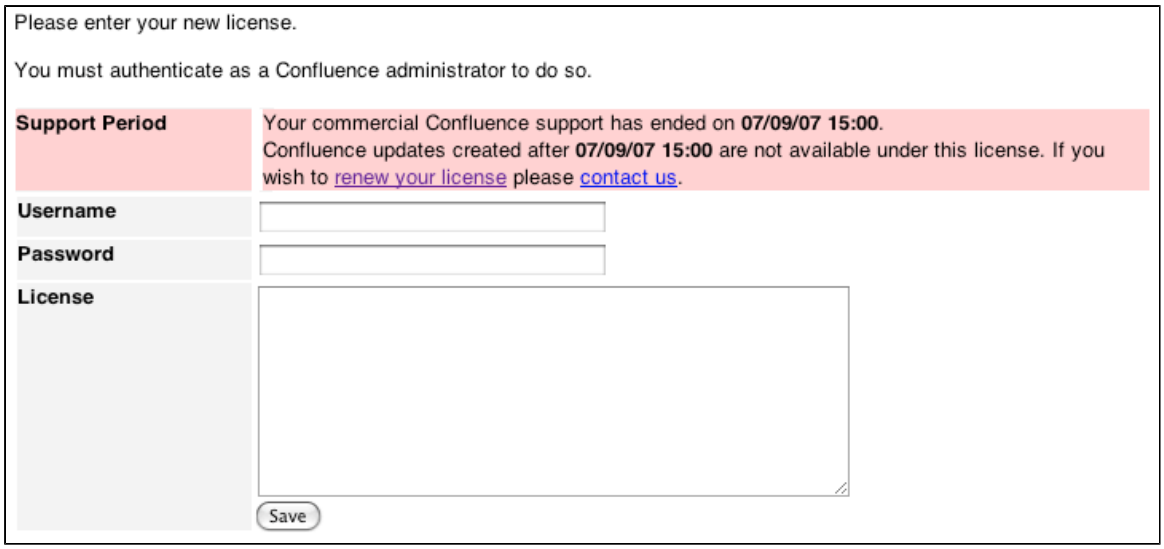
You cannot access Confluence at present. Look at the table below to identify the reasons

| Time | Level | Type | Description | Exception |
|---|---|---|---|---|
| 2008-02-04 10:51:04 | null | (EventType: upgrade) | 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 sales@atlassian.com. If you have a new license, please enter it on this page and **restart**. | `fatal` |

#### Updating the Confluence license

1. Contact Atlassian Sales 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 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 choose **Save**.

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3. Restart Confluence to continue the upgrade.

# Confluence Post-Upgrade Checks

This article provides a list of items for Confluence Administrators to check after a Confluence upgrade to ensure that it has completed successfully. This list is not exhaustive, but it does cover common upgrade mistakes.

**On this page:**


- Before You Begin
- Upgrade Checklist
  - 1. Layout and Menu
  - 2. Search
  - 3. Permissions
  - 4. Attachments
  - 5. Plugins


## Before You Begin

After you have completed an upgrade, you should see the following message in the `atlassian-confluence.log` file:

```
2010-03-08 08:03:58,899 INFO [main]
[atlassian.confluence.upgrade.AbstractUpgradeManager] upgradeFinished
Upgrade completed successfully
```

If you do not see the line in your log similar to the one above, this means that your upgrade has not completed successfully. Please check our Upgrade Troubleshooting documentation to check for a suitable recommendation or fix. If there are no errors logged or if none of the errors are referenced in the the Troubleshooting Upgrades documentation, please contact Atlassian Support using the Support Utilities in your administration console.

## Upgrade Checklist

Below is a recommended list of items to check after completing an upgrade.

### *1. Layout and Menu*

Visit the Confluence dashboard and check that it is accessible and displays as expected. Test the different Internet browsers that you have in use in your environment. In addition, confirm that the layout appears as expected and that the menus are clickable and functioning.

### *2. Search*

Try searching for content, for example pages, attachments or user names. Check that the expected results are

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returned.

#### 3. Permissions

Confirm that you can visit a page that has viewing restrictions, but you have permission to view. Confirm that you can edit a page that has edit restrictions but you have permission to edit. Make sure that the permissions of child pages are functioning as well. Involve as many space administrators as possible to confirm they are working. Confirm that anonymous or forbidden users cannot access or modify restricted pages.

#### 4. Attachments

Confirm that attachments are accessible and searchable.

#### 5. Plugins

Outdated third-party plugins can cause upgrade failure. Quite often, they will just be incompatible and simply do not work anymore. If you discover that your plugin is no longer working, please check for the latest version for your plugin in the Atlassian Plugin Exchange.

**Universal Plugin Manager**
Use the Universal Plugin Manager to easily check for plugin compatibility.

RELATED TOPICS

Upgrade Troubleshooting
Upgrading Confluence

## 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 the regular Confluence distribution, which includes Apache Tomcat as the application server, please refer to Upgrading Confluence instead.

Please also check the following before you start using this guide:

- The **version of Confluence** that you will be upgrading to. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.
- The **supported platforms** for the version that you will be upgrading to. Please see the Supported Platforms page for the version of Confluence that you will be upgrading to, as well as the End of Support Announcements for Confluence.
- If you are running **Confluence on a cluster**, please see Upgrading a Confluence Cluster instead of this document.

**Upgrading to Confluence 5.3?**
If so, please review the Confluence 5.3 Release Notes for important information about this version of Confluence. Ensure that you have read the Confluence 5.3 Known Issues in the Confluence Knowledge Base.

Also, we strongly recommend 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 for recent major versions of Confluence are accessible from the Upgrade Notes Overview page.

Finally, please check the Supported Platforms page to ensure that your Java version, operating system, application server, database and browser are supported for this release of Confluence. The End of Support Announcements for Confluence page has important information regarding supported platforms.

**On this page:**


- Before you Start
- Backing Up
- Testing the Upgrade in a Test Environment


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- Performing the Upgrade
- Reapplying Customisations to your New Confluence
- Checking for Known Issues and Troubleshooting the Confluence Upgrade

## Before you Start

1. 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.
2. Note that you need current software maintenance to perform the upgrade.
3. Confirm that your license support period is still valid before you try to upgrade.
4. 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.
5. 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 pa ge. (Each upgrade notes page is a 'child' of its respective release notes page.)
6. 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.
7. If you are using Confluence EAR-WAR edition, check Installing the Confluence EAR-WAR Edition to see if there is anything extra you will need to do to get Confluence running.
8. If you are using an external database, familiarise yourself with all known issues for your specific database. Also make sure the Confluence database connector principal (the database user account) has sufficient permissions to modify the database schema.
9. Note which plugins (add-ons) are installed and enabled on your current Confluence site. Please verify whether a compatible version of the plugin is available in the version of Confluence you are upgrading to. This information is available via the **Confluence Upgrade Check** in the plugin administration section of Confluence. See the documentation: Checking Add-on Compatibility with Application Updates. You can also check the respective home pages for these plugins on the Atlassian Plugin Exchange. Once you have confirmed the availability of compatible versions, you should upgrade your plugins after successfully upgrading Confluence. Please test these first by applying them to the latest Confluence version in a test environment.
10. 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. You can see the customisations applied to your Confluence installation.
11. Some anti-virus or other Internet security tools may interfere with the Confluence upgrade process and prevent the process from completing successfully. If you experience or anticipate experiencing such an issue with your anti-virus/Internet security tool, disable this tool first before proceeding with the Confluence upgrade.
12. After upgrading, Confluence may need to rebuild its indexes. If this happens, there may be some extra load placed on the server following the upgrade. Make sure to schedule any upgrade of production Confluence outside of hours where people need to use it.

## 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 are 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. ℹ The Confluence installer will automatically prompt you to run a backup, storing the files in a .zip archive at the same level as your Confluence Home directory.
2. **Back up your database.** Perform a manual backup of your external database before proceeding with the

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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, simply restore the backup to a different system to ensure the backup worked before proceeding. This recommendation is generally a good best practice. Surprisingly, many companies get in trouble for broken database backups because they skip this basic but vital "smoke test" of the operation.
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 Confluence home directory. You should not be using this database for production systems at all, so if you happen to be using HSQLDB in a production system, please migrate to a proper database **before** the upgrade. Read about the various shortcomings of HSQLDB.

3. **Back up your Confluence Installation directoryor your Confluence webapp** (if you are using Confluence EAR-WAR edition). The Confluence installer will automatically back up these files, storing the files in a .zip archive at the same level as your 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'.

## 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.

**XML imports**
Importing an old XML backup file to a new major version (for example, Confluence 3.5 to Confluence 4.0) **is not recommended**. Please recreate your production instance in a test environment first.

2. Perform the upgrade on your cloned environment.

3. Test all your unsupported plugins (add-ons) 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

If you are migrating servers or migrating databases, perform those operations in separate steps.

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 Center, 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-<version>`.
   - 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 `confluence-init.properties` file found at: `<Installation-Directory>\confluence\WEB-INF\classes\confluence-init.properties`

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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 **tomcat 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-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).

   **Upgrading to Confluence 3.5+ and using JIRA user management?**
   Please review our KB article first: Upgrade to Confluence 3.5 with JIRA User Management Fails

   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-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.
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` to `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.

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## 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 the Confluence distribution 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.
- 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 Running Confluence Over SSL or HTTPS.
- 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, change seraph-config.xml to the correct authenticator.

## Checking for Known Issues and Troubleshooting the Confluence Upgrade

After you have completed the steps required to upgrade your Confluence installation, check all the items on the **Confluence post-upgrade checklist** to ensure that everything works as expected. If something is not working correctly, please check for known Confluence issues and try troubleshooting your upgrade as described below:

- **Check for known issues**. Sometimes we find out about a problem with the latest version of Confluence after we have released the software. In such cases we publish information about the known issues in the Confluence Knowledge Base. Please check the known issues for the relevant release on this page of the Knowledge Base and follow the instructions to solve the problem.
- **Check for answers from the community.** Other users may have encountered the same issue. You can check for answers from the community at Atlassian Answers.
- **Did you encounter a problem during the Confluence upgrade?** Please refer to the guide to troubleshooting upgrades in the Confluence Knowledge Base.

**RELATED TOPICS**

Upgrading Confluence
Upgrading Confluence

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Confluence Installation Guide
Important Directories and Files
Site Backup and Restore
Database Configuration

# Migration from Wiki Markup to XHTML-Based Storage Format

If you are upgrading **to Confluence 4.0 or later** from an older version (From Confluence 3.5.x or earler) then as part of the upgrade an automatic migration of your content will take place. This is a non-destructive process. Your existing content is not overwritten. Instead, the migration process will create a new version of each wiki markup page. The new version will use the new XHTML-based storage format, so that you can edit the page in the Confluence rich text editor.

In addition, if you are **upgrading to Confluence 4.3 or later** from an older version then as part of the upgrade an automatic migration of your page templates will take place. See Migration of Templates from Wiki Markup to XHTML-Based Storage Format.

**Note:** Even though the process is non-destructive, you must be sure to perform a backup of your database and home directory prior to starting the new version of Confluence, as we recommend for any Confluence upgrade.

## Migration process

Depending on the size of your Confluence installation, the migration from wiki markup to the new XHTML-based storage format could prove time consuming. The duration of the migration is difficult to estimate; this is due to a number of site specific factors. As a rough guide, a test dataset we migrated was 130,000 pages, totalling approximately 700Mb, which took six minutes.

**On this page:**

- Migration process
- Watching the migration logs during the upgrade
- Re-running the migration – for content that completely failed the migration
- Re-attempting the migration – for content in 'unmigrated-wiki-markup' macro
- Notes

**Related pages:**

- Migration of Templates from Wiki Markup to XHTML-Based Storage Format
- Upgrading Confluence

The following properties that can be modified to allow finer control over the migration process:

| Property | Purpose | Default |
|---|---|---|
| confluence.wiki.migration.threads | The number of concurrent worker threads migrating content | 4 |
| confluence.wiki.migration.batch.size | The number of items migrated in each batch of work | 500 |
| confluence.wiki.migration.versioncomment | The comment associated with the newly migrated version of each piece of content | "Migrated to Confluence 4.0" |

(For instructions on setting Confluence system properties see this document.)

Again, due to the large variability in Confluence installations it is hard to give specific recommendations for the above settings. One point to note though that both increasing batch size and the number of threads (or both) will increase the peak memory required for migration. If memory is an issue then as you increase one of these settings consider decreasing the other.

Another factor to be aware of if modifying these defaults is that of the cache settings employed in your site. The migration will quickly populate certain Confluence caches so be sure that if you have customised caches as described here that there is enough memory on the server for these caches should they reach maximum capacity.

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### Watching the migration logs during the upgrade

To monitor the progress of a site migration you should watch the output in the application log.

Typical logging progress will be shown by multiple log entries at the INFO level of the following format:

```
WikiToXhtmlMigrationThread-n - Migrated 2500 of 158432 pages, this batch
migrated 500/500 without error
```

There may be a wide array of messages logged from each individual page but any errors are also collected for display in a single migration report once all content has been processed. Here is a typical example of such a report:

```
Wiki to XHTML Exception Report:
Summary:
 0 settings values failed.
 0 PageTemplates failed.
 2 ContentEntityObjects failed.
Content Exceptions:
 1) Type: page, Id: 332, Title: Release Notes 1.0b3, Space: DOC -
Confluence 4.0 Beta. Cause:
com.atlassian.confluence.content.render.xhtml.migration.exceptions.Unkno
wnMacroMigrationException: The macro link is unknown.. Message: The
macro link is unknown.
 2) Type: comment, Id: 6919, Title: null, Global Scope. Cause:
com.atlassian.confluence.content.render.xhtml.migration.exceptions.Unkno
wnMacroMigrationException: The macro mymacro is unknown.. Message: The
macro mymacro is unknown.
```

Each entry in the report will identify the content that caused migration exceptions as well as displaying the exceptions themselves.

In almost all cases any content reported as errored will have been migrated to the new XHTML-based storage format, but will actually consist of wiki markup content wrapped within an XML 'unmigrated-wiki-markup' macro. This content will still be viewable in Confluence and editable within the new Confluence Editor.

However, in some cases a batch of content may actually have completely failed to migrated. This is most typically due to an unhandled exception causing a database transaction rollback. This would be reported in the log with a message like this:

```
Unable to start up Confluence. Fatal error during startup sequence:
confluence.lifecycle.core:pluginframeworkdependentupgrades (Run all the
upgrades that require the plugin framework to be available) -
com.atlassian.confluence.content.render.xhtml.migration.exceptions.Migra
tionException: java.util.concurrent.ExecutionException:
org.springframework.transaction.UnexpectedRollbackException: Transaction
rolled back because it has been marked as rollback-only
```

Confluence provides no further report about this scenario and will also allow Confluence to restart as normal without retrying a migration. If a user tries to view any such unmigrated content they will see an exception similar to this:

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```
java.lang.UnsupportedOperationException: The body of this
ContentEntityObject ('Page Title') was 'WIKI' but was expected to be
'XHTML'
```

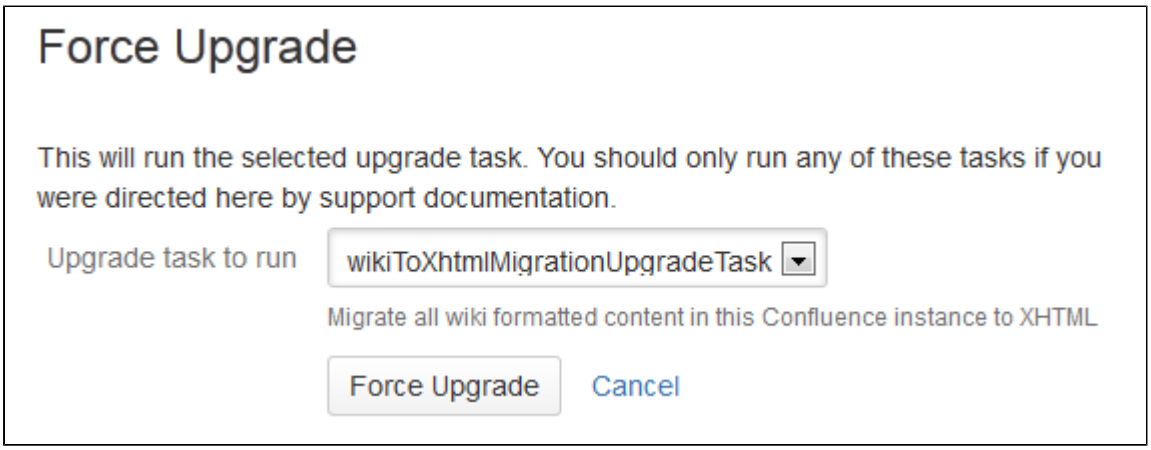
The solution is to ensure you manually re-run the site migration after the restart.

### Re-running the migration – for content that completely failed the migration

A Confluence Administrator can restart the site migration if there was any content that failed migration (see previous section). Only the content that is still formatted in wiki markup will be migrated, so typically a re-migration will take less time than the original migration.

To manually re-run migration:

1. Open this URL in your browser: `<Confluence Address>/admin/force-upgrade.action`
2. Select **wikiToXhtmlMigrationUpgradeTask** in the **Upgrade task to run** dropdown list.
3. Choose **Force Upgrade**.




### Re-attempting the migration – for content in 'unmigrated-wiki-markup' macro

The previous section was about dealing with the exceptional circumstance where certain content was left completely unmigrated. The most common migration problem is that the content was migrated but remains formatted as wiki markup on the page, within the body of an 'unmigrated-wiki-markup' macro. Any content which is referenced in the migration report will be found in this state. This content is still viewable and editable but since it is wiki markup it cannot be edited using the full feature set of the rich text editor.

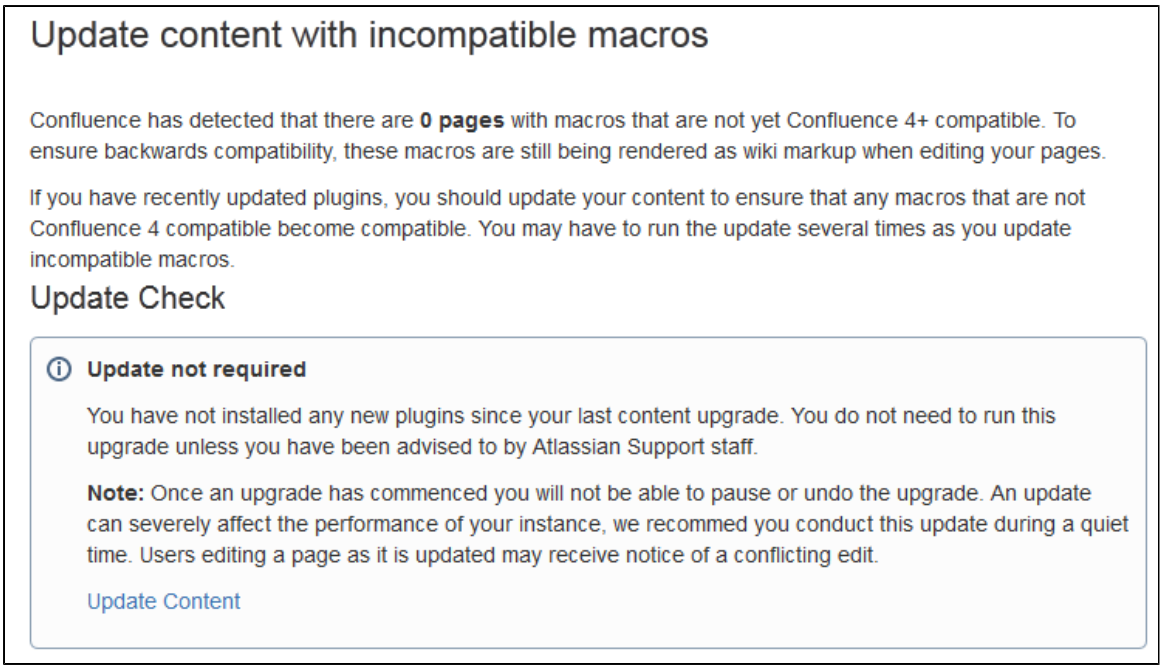
The most common reason for content to be in this state is that the page contains an unknown macro, or a macro that is not compatible with Confluence 4.x.

There are two possible fixes for this situation:

1. Install a version of the macro that is compatible with Confluence 4.x. See Plugin Development Upgrade FAQ for 4.0.
2. Edit the page and remove the problematic macro.

Regardless of the solution you choose, you can then force a re-migration of all the content (including content in templates) that was left wrapped in an 'unmigrated-wiki-markup' macro. This feature is found at `<Confluence Address>/admin/unmigratedwikicontent.action`

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### Notes

We refer to the Confluence storage format as 'XHTML-based'. To be correct, we should call it XML, because the Confluence storage format does not comply with the XHTML definition. In particular, Confluence includes custom elements for macros and more. We're using the term 'XHTML-based' to indicate that there is a large proportion of HTML in the storage format.

## Migration of Templates from Wiki Markup to XHTML-Based Storage Format

If you are **upgrading to Confluence 4.3 or later from an older version** (from Confluence 4.2.x or earlier) then as part of the upgrade an automatic migration of your page templates will take place. This is a non-destructive process. Your existing content is not overwritten. Instead, the migration process will create a new version of each space template and each global template on your Confluence site. The new version will use the new XHTML-based storage format, so that you can edit the template in the Confluence rich text editor.

**Note:** Nevertheless, you must be sure to perform a backup of your database and home directory prior to starting the new version of Confluence, as we recommend for any Confluence upgrade.

### Watching the migration logs during the upgrade

To monitor the progress of a site migration you should watch the output in the application log.

A typical logging progress will be shown by multiple log entries at the INFO level of the following format:

```
WikiToXhtmlMigrationThread-n - Migrated 22 of 29 PageTemplates.
```

**On this page:**
- Watching the migration logs during the upgrade
- Re-running the migration
- Notes

**Related pages:**
- Migration from Wiki Markup to XHTML-Based Storage Format
- Working with Templates
- Upgrading Confluence

There may be a wide array of messages logged from each individual template, but any errors are also collected for display in a single migration report once all content has been processed. Here is a typical example of such a report:

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```
Wiki to XHTML Exception Report:
Summary:
 0 settings values failed.
 2 PageTemplates failed.
 0 ContentEntityObjects failed.
Content Exceptions:
 1) Type: page, Id: 332, Title: Release Notes 1.0b3, Space: DOC -
Confluence 4.0 Beta. Cause:
com.atlassian.confluence.content.render.xhtml.migration.exceptions.Unkno
wnMacroMigrationException: The macro link is unknown.. Message: The
macro link is unknown.
 2) Type: comment, Id: 6919, Title: null, Global Scope. Cause:
com.atlassian.confluence.content.render.xhtml.migration.exceptions.Unkno
wnMacroMigrationException: The macro mymacro is unknown.. Message: The
macro mymacro is unknown.
```

Each entry in the report will identify the content that caused migration exceptions as well as displaying the exceptions themselves.

In almost all cases any content reported as errored will have been migrated to the new XHTML-based storage format, but will actually consist of wiki markup content wrapped within an XML 'unmigrated-wiki-markup' macro. This content will still be viewable in Confluence and editable within the Confluence rich text editor.

However, in some cases a batch of content may actually have completely failed to migrate. This is most typically due to an unhandled exception causing a database transaction rollback. This would be reported in the log with a message like this:

```
Unable to start up Confluence. Fatal error during startup sequence:
confluence.lifecycle.core:pluginframeworkdependentupgrades (Run all the
upgrades that require the plugin framework to be available) -
com.atlassian.confluence.content.render.xhtml.migration.exceptions.Migra
tionException: java.util.concurrent.ExecutionException:
org.springframework.transaction.UnexpectedRollbackException: Transaction
rolled back because it has been marked as rollback-only
```

Confluence provides no further report about this scenario and will also allow Confluence to restart as normal without retrying a migration. If a user tries to view or edit an unmigrated template, the wiki template editor will be used.

The solution is to manually re-run the site migration after the restart, as described below.

### Re-running the migration

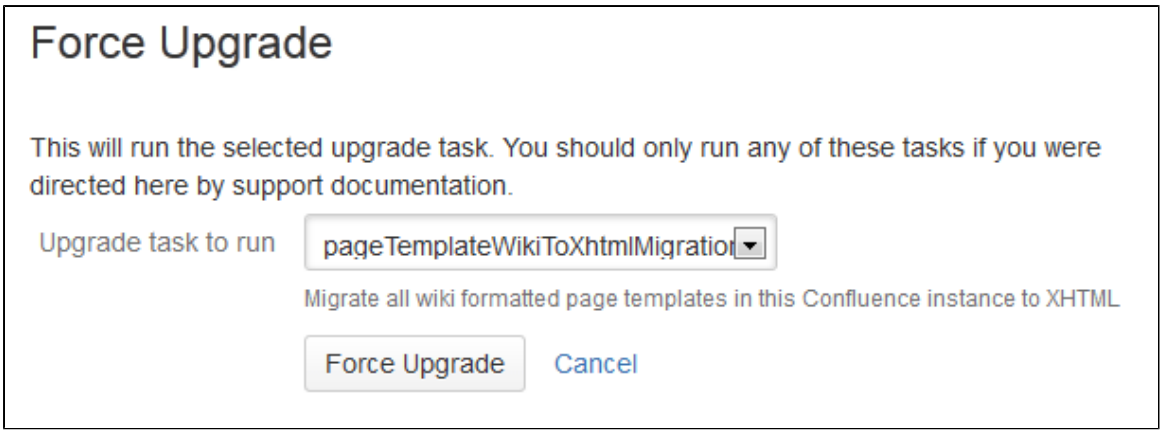
A Confluence administrator can restart the template migration if any templates have failed the migration (see previous section). Only the templates that are still formatted in wiki markup will be migrated again. Typically, a re-migration will take less time than the original migration.

**To manually re-run the migration:**

1. Open this URL in your browser: `<Confluence Address>/admin/force-upgrade.action`
2. Select **pageTemplateWikiToXhtmlMigrationUpgradeTask** in the **Upgrade task to run** dropdown list.
3. Choose **Force Upgrade**.

*Screenshot: The 'Force Upgrade' screen in the Confluence administration console*

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**Notes**

We refer to the Confluence storage format as 'XHTML-based'. To be correct, we should call it XML, because the Confluence storage format does not comply with the XHTML definition. In particular, Confluence includes custom elements for macros and more. We're using the term 'XHTML-based' to indicate that there is a large proportion of HTML in the storage format.

## Upgrading Confluence Manually

This document tells you how to upgrade from one version of Confluence to a later version. This document refers to the Confluence distribution that includes Apache Tomcat as the bundled 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 instead.

Please also check the following before you start using this guide:

- The **version of Confluence** that you will be upgrading to. Refer to the documentation home page to verify the latest Confluence version and to find documentation for older versions.
- The **supported platforms** for the version that you will be upgrading to. Please see the Supported Platforms page for the version of Confluence that you will be upgrading to, as well as the End of Support Announcements for Confluence.
- If you are running **Confluence on a cluster**, please see Upgrading a Confluence Cluster instead of this document.

**Upgrading to Confluence 5.3?**
If so, please review the Confluence 5.3 Release Notes for important information about this version of Confluence. Ensure that you have read the Confluence 5.3 Known Issues in the Confluence Knowledge Base.

Also, we strongly recommend 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 for recent major versions of Confluence are accessible from the Upgrade Notes Overview page.

Finally, please check the Supported Platforms page to ensure that your Java version, operating system, application server, database and browser are supported for this release of Confluence. The End of Support Announcements for Confluence page has important information regarding supported platforms.

**On this page:**


- Before you Start
- Backing Up
- Testing the Upgrade in a Test Environment
- Performing the Upgrade
- Reapplying Customisations to your New Confluence
- Checking for Known Issues and Troubleshooting the Confluence Upgrade
- Useful Plugins


### Before you Start

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1. 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.
2. Note that you need current software maintenance to perform the upgrade.
3. Confirm that your license support period is still valid before you try to upgrade.
4. 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.
5. 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 pa ge. (Each upgrade notes page is a 'child' of its respective release notes page.)
6. 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.
7. If you are using Confluence EAR-WAR edition, check Installing the Confluence EAR-WAR Edition to see if there is anything extra you will need to do to get Confluence running.
8. If you are using an external database, familiarise yourself with all known issues for your specific database. Also make sure the Confluence database connector principal (the database user account) has sufficient permissions to modify the database schema.
9. Note which plugins (add-ons) are installed and enabled on your current Confluence site. Please verify whether a compatible version of the plugin is available in the version of Confluence you are upgrading to. This information is available via the **Confluence Upgrade Check** in the plugin administration section of Confluence. See the documentation: Checking Add-on Compatibility with Application Updates. You can also check the respective home pages for these plugins on the Atlassian Plugin Exchange. Once you have confirmed the availability of compatible versions, you should upgrade your plugins after successfully upgrading Confluence. Please test these first by applying them to the latest Confluence version in a test environment.
10. 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. You can see the customisations applied to your Confluence installation.
11. Some anti-virus or other Internet security tools may interfere with the Confluence upgrade process and prevent the process from completing successfully. If you experience or anticipate experiencing such an issue with your anti-virus/Internet security tool, disable this tool first before proceeding with the Confluence upgrade.
12. After upgrading, Confluence may need to rebuild its indexes. If this happens, there may be some extra load placed on the server following the upgrade. Make sure to schedule any upgrade of production Confluence outside of hours where people need to use it.

## 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 are 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 `confl uence/WEB-INF/classes` directory in your Confluence Installation directory. ℹ The Confluence installer will automatically prompt you to run a backup, storing the files in a .zip archive at the same level as your Confluence Home 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, simply restore the backup to a different system to ensure the backup worked before proceeding. This recommendation is generally a good best practice. Surprisingly, many companies get in trouble for broken database backups because they skip this basic but vital "smoke test" of the operation.
   ℹ The 'embedded database' is the HSQLDB database supplied with Confluence for evaluation purposes.

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You don't need to back it up since it is stored in the Confluence home directory. You should not be using this database for production systems at all, so if you happen to be using HSQLDB in a production system, please migrate to a proper database **before** the upgrade. Read about the various shortcomings of HSQLDB.

3. **Back up your Confluence Installation directoryor your Confluence webapp** (if you are using Confluence EAR-WAR edition). The Confluence installer will automatically back up these files, storing the files in a .zip archive at the same level as your 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'.

## 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.

**XML imports**

Importing an old XML backup file to a new major version (for example, Confluence 3.5 to Confluence 4.0) **is not recommended**. Please recreate your production instance in a test environment first.

2. Perform the upgrade on your cloned environment.

3. Test all your unsupported plugins (add-ons) 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

If you are migrating servers or migrating databases, perform those operations in separate steps.

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 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-4.0.0-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.

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- 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 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 the Confluence 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 installation to the new Confluence installation. The jdbc driver jar file in the old Confluence 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 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 configuration file from your old Confluence installation to your new Confluence installation: `<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

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starting up, you can set the system property `hibernate.hbm2ddl.skip_creating_missing_indexes` to `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

**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 the Confluence distribution 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.
- 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 Running Confluence Over SSL or HTTPS.
- 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, change seraph-config.xml to the correct authenticator.

## Checking for Known Issues and Troubleshooting the Confluence Upgrade

After you have completed the steps required to upgrade your Confluence installation, check all the items on the **Confluence post-upgrade checklist** to ensure that everything works as expected. If something is not working correctly, please check for known Confluence issues and try troubleshooting your upgrade as described below:

- **Check for known issues**. Sometimes we find out about a problem with the latest version of Confluence after we have released the software. In such cases we publish information about the known issues in the Confluence Knowledge Base. Please check the known issues for the relevant release on this page of the Knowledge Base and follow the instructions to solve the problem.
- **Check for answers from the community.** Other users may have encountered the same issue. You can check for answers from the community at Atlassian Answers.
- **Did you encounter a problem during the Confluence upgrade?** Please refer to the guide to troublesho

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oting upgrades in the Confluence Knowledge Base.

### Useful Plugins

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

- Appfire's Upgrade Assistant for Confluence (UAC) is a commercial plugin that simplifies the upgrade process into an easy-to-use wizard.

**RELATED TOPICS**

Upgrading Confluence
Upgrading Confluence EAR-WAR Distribution
Confluence Installation Guide
Important Directories and Files
Site Backup and Restore
Database Configuration

## Supported Platforms

This page describes the supported platforms for Confluence. Please review them before installing Confluence. The information on this page applies to **Confluence 5.3**.

Further information:

- End of support for various platforms and browsers when used with Confluence: End of Support Announcements for Confluence.
- More information about these supported platforms and hardware requirements: System Requirements.

**Related pages:**

- Confluence Installation Guide
- Confluence Setup Guide
- Installing Confluence and JIRA Together
- Server Hardware Requirements Guide
- Supported Platforms FAQ
- Confluence Documentation Home

**Key**: ✓ = Supported. ✗ = Not Supported

| | |
|---|---|
| ***Java version*** | |
| Oracle JRE / JDK | ✓ 1.7 |
| ***Operating systems for Confluence server installation*** | |
| Microsoft Windows (including 64-bit)(1) | ✓ (Microsoft Supported Versions only) |
| Linux / Solaris (1, 2) | ✓ |
| Apple Mac OS X | ✗ Not supported as server. ✓ Supported as client platform. |
| ***Application servers*** | |
| Apache Tomcat | ✓ 6.0.x |

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| ***Databases*** | |
|---|---|
| PostgreSQL | ✓ 8.3, 8.4, 9.0 |
| MySQL [3] | ✓ 5.1, 5.5 |
| Oracle | ✓ 11.1, 11.2 |
| Microsoft SQL Server | ✓ 2008, 2008 R2, 2012 |
| HSQLDB [4] | ✓ (for evaluation purposes only) |
| ***Web browsers – desktop*** | |
| Microsoft Internet Explorer (Windows) [5, 6] | ✓ 8, 9,10 |
| Mozilla Firefox (all platforms) | ✓ Latest stable version supported |
| Google Chrome (Windows and Mac) [7] | ✓ Latest stable version supported |
| Safari (Mac) | ✓ Latest stable version supported |
| ***Web browsers – mobile*** | |
| Mobile Safari (iOS) [8] | ✓ Latest stable version supported<br>✓ Tested with iOS 5.1 |
| Android (Android) [9] | ✓ The default browser on Android 4.0.3 (Ice Cream Sandwich) |
| Chrome (Android and iOS) [8, 9] | ✓ Latest stable version supported |

1. Confluence is a pure Java application and should run on this platform provided the JRE or JDK requirement is satisfied.
2. 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.
3. Ensure that you configure your Confluence MySQL database to use the InnoDB storage engine as the MyISAM storage engine could lead to data corruption.
4. Confluence ships with a built-in HSQL database. While this database is fine for evaluation purposes, it is somewhat susceptible to data loss during system crashes. Hence, for production environments, we recommend that you configure Confluence to use an external database.
5. Internet Explorer 8 and 9 do not support the drag-and-drop functionality of HTML5. As Confluence relies on this functionality, the drag-and-drop experience in Internet Explorer 8 and 9 is not complete. Internet Explorer 10 in 'desktop' mode **does** support the drag-and-drop functionality, and the implementation of drag-and-drop in Confluence works as expected with Internet Explorer 10 'desktop' mode. The 'modern' mode of Internet Explorer 10 does not support drag-and-drop.
6. Confluence is tested with these versions of Internet Explorer in standards-compliant rendering mode, not compatibility mode. Enabling compatibility mode may cause problems because it emulates older, unsupported rendering modes.
7. Chrome does not have WEBDAV / plugin support so features such as Edit in Word for attachments will not work. Please refer to CONF-23322 for information on the progress of the issue.
8. Confluence does not support editing in Mobile Safari on iOS devices (such as iPhone and iPad). Please refer to CONF-19523 for information on the progress of this issue.
9. Confluence does not support editing on Android devices.

## End of Support Announcements for Confluence

This page contains announcements of the end of support for various platforms and browsers when used with Confluence. This is summarised in the table below. Please see the sections following for the full announcements.

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***End of Support Matrix for Confluence***

The table below summarises information regarding the end of support announcements for **upcoming** Confluence releases. If a platform (version) has already reached its end of support date, it is **not** listed in the table.

| Platform | Confluence End of Support |
|---|---|
| | There are currently no upcoming end of support announcements |

**Why is Atlassian ending support for these platforms?**
Atlassian is committed to delivering improvements and bug fixes as fast as possible. We are also committed to providing world class support for all the platforms our customers run our software on. However, as the complexity of our applications grows, the cost of supporting multiple platforms increases exponentially. Each new feature has to be tested on several combinations of application servers, databases, web browsers, etc, with setup and ongoing maintenance of automated tests. Moving forward, we want to reduce the time spent there to increase Confluence development speed significantly.

**On this page (most recent announcements first):**


- Deprecated Databases for Confluence (13 August 2013)
- Deprecated Tomcat platform for Confluence (29 August 2012)
- Deprecated Java platform for Confluence (6 August 2012)
- Deprecated Databases for Confluence (1 May 2012)
- Deprecated Databases for Confluence (13 March 2012)
- Deprecated Operating Systems for Confluence (21 July 2011)
- Deprecated Databases for Confluence (7 January 2011)
- Deprecated Web Browsers for Confluence (7 January 2011)
- Deprecated Databases for Confluence (12 October 2010)
- Deprecated Web Browsers for Confluence (12 October 2010)
- Deprecated Databases for Confluence (6 July 2010)
- Deprecated Web Browsers for Confluence (6 July 2010)
- Deprecated Databases for Confluence (24 March 2010)
- Deprecated Application Servers for Confluence (27 January 2010)
- Deprecated Java Platforms for Confluence (27 January 2010)
- Deprecated Web Browsers for Confluence (14 December 2009)


## Deprecated Databases for Confluence (13 August 2013)

This section announces the end of Atlassian support for certain databases for Confluence. End of support means that Atlassian will not fix bugs related to the specified database past the support end date for your version of Confluence.

The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **MS SQL 2005** | When Confluence 5.3 is released, due in late 2013 |

**MS SQL 2005 notes:**

- Confluence 5.2 is the last version that will support MS SQL 2005.
- Confluence 5.2 and previously-released versions will continue to work with MS SQL 2005. However, we will not fix bugs affecting MS SQL 2005 after the end-of-life date for your version of Confluence.
- Confluence 5.3 will not be tested with MS SQL 2005.

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### Deprecated Tomcat platform for Confluence (29 August 2012)

This section announces the end of Atlassian support for Tomcat 5.5.x for Confluence. Please note: Apache have announced that support for Apache Tomcat 5.5.x will end on 30 September 2012: End of life for Apache Tomcat 5.5.x.

End of support means that Atlassian will not fix bugs related to the specified version of Tomcat, past the support end date for your version of Confluence. The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Tomcat 5.5.x Support***

| Platform | Support End Date |
|---|---|
| **Tomcat 5.5.x** | When Confluence 5.0 is released, due in early 2013 |

**Tomcat 5.5.x notes:**

- Confluence 4.3 is the last major version that will support Tomcat 5.5.x. The Confluence 4.3.x bug-fix releases will also continue to support Tomcat 5.5.x.
- Tomcat 6.0.x will still be supported in Confluence 5.0.
- Confluence 4.3.x and previously-released versions will continue to work with Tomcat 5.5.x. However, we will not fix bugs affecting Tomcat 5.5.x after the end-of-life date for your version of Confluence.
- Confluence 5.0 will not be tested with Tomcat 5.5.x.

### Deprecated Java platform for Confluence (6 August 2012)

This section announces the end of Atlassian support for Java 6 for Confluence. Please note that Oracle has announced the end of public updates for Java 6: Java SE 6 End of Public Updates Notice.

End of support means that Atlassian will not fix bugs related to the specified version of Java, past the support end date for your version of Confluence. The details are below. Please refer to the list of supported platforms fo r details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Java 6 Support***

| Platform | Support End Date |
|---|---|
| **Java 6 (JRE and JDK 1.6)** | When Confluence 5.0 is released, due in early 2013 |

**Java 6 notes:**

- Confluence 4.3 is the last major version that will support Java 6. The Confluence 4.3.x bug-fix releases will also continue to support Java 6.
- Java 7 (JRE and JDK 1.7) will still be supported in Confluence 5.0.
- Confluence 4.3.x and previously-released versions will continue to work with Java 6. However, we will not fix bugs affecting Java 6 after the end-of-life date for your version of Confluence.
- Confluence 5.0 will not be tested with Java 6.

### Deprecated Databases for Confluence (1 May 2012)

This section announces the end of Atlassian support for certain databases for Confluence. End of support means that Atlassian will not fix bugs related to the specified database past the support end date for your version of Confluence.

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The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **PostgreSQL 8.2** | When Confluence 4.3 is released, due in mid 2012 |

**PostgreSQL 8.2 notes:**

- Confluence 4.2 is the last version that will support version 8.2 of PostgreSQL.
- Versions 8.3, 8.4 and 9.0 will still be supported in Confluence 4.3.
- Confluence 4.2 and previously-released versions will continue to work with PostgreSQL 8.2. However, we will not fix bugs affecting PostgreSQL 8.2 after the end-of-life date for your version of Confluence.
- Confluence 4.3 will not be tested with PostgreSQL 8.2.

### Deprecated Databases for Confluence (13 March 2012)

This section announces the end of Atlassian support for certain databases for Confluence. End of support means that Atlassian will not fix bugs related to the specified database past the support end date for your version of Confluence.

The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **DB2** | When Confluence 4.3 is released, due in mid 2012 |

**DB2 notes:**

- Confluence 4.2 is the last version that will support DB2.
- From Confluence 4.3, no versions of DB2 will be supported.
- Confluence 4.2 and previously-released versions will continue to work with DB2. However, we will not fix bugs affecting DB2 after the end-of-life date for your version of Confluence.
- Confluence 4.3 will not be tested with DB2.
- For help with moving from DB2 to a supported database, please refer to the list of supported databases and the guide to migrating to another database.

### Deprecated Operating Systems for Confluence (21 July 2011)

This section announces the end of Atlassian support for certain operating systems for Confluence. End of support means that Atlassian will not fix bugs related to running Confluence server on that operating system past the support end date.

We will stop supporting the following operating systems from Confluence 4.0, due in late 2011:

- Mac OS X (as a Confluence server platform).

The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

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***End of Life Announcement for Operating System Support***

| Operating System | Support End Date |
|---|---|
| **Mac OS X** (as a Confluence server platform) | When Confluence 4.0 releases, due in late 2011 |

- **Mac OS X Notes:**
  - Atlassian intends to end support for Mac OS X (as a server platform) in Confluence 4.0 (due for release in late 2011). Confluence 3.5 is the last version that will support Mac OS X.
  - The Sun/Oracle JDK/JRE 1.6 is the only JDK platform officially supported by Atlassian. This means that Apple Mac OS X is not a supported operating system for the Confluence server, as the Sun/Oracle JDK does not run on Mac OS X.
  - Accessing Confluence as a user from Mac OS X via a compatible web browser will still be supported for the forseeable future.

### Deprecated Databases for Confluence (7 January 2011)

This section announces the end of Atlassian support for certain database versions for Confluence. End of support means that Atlassian will not fix bugs related to certain database versions past the support end date.

We will **stop supporting the following database versions** from Confluence 4.0, due in late 2011:

- MySQL 5.0.

The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **MySQL (version 5.0 only)** | When Confluence 4.0 releases, due in late 2011 |

- **MySQL Notes:**
  - Atlassian intends to end support for MySQL 5.0 in Confluence 4.0 (due for release in the middle of 2011). Confluence 3.5 is the last version that will support MySQL 5.0.
  - MySQL 5.1 will still be supported.
  - 'Support End Date' means that Confluence 3.5 and previously released versions will continue to work with MySQL 5.0. However, we will not fix bugs affecting MySQL 5.0 past the support end date.
  - Confluence 4.0 will not be tested with MySQL 5.0.

### Deprecated Web Browsers for Confluence (7 January 2011)

This section announces the end of Atlassian support for certain web browser versions for Confluence. End of support means that Atlassian will not fix bugs related to certain web browser versions past the support end date.

We will **stop supporting the following web browser versions** from Confluence 4.0, late middle of 2011:

- Microsoft Internet Explorer 7 (IE7).
- Safari 4.
- Firefox 3.5.

The details are below. Please refer to the list of supported platforms for details of platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Web Browser Support***

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| Web Browser | Support End Date |
|---|---|
| **Microsoft Internet Explorer (version 7 only)** | When Confluence 4.0 releases, late the middle of 2011 |
| **Safari (version 4 only)** | When Confluence 4.0 releases, due in late of 2011 |
| **Firefox (version 3.5 only)** | When Confluence 4.0 releases, due in late of 2011 |

- **Internet Explorer Notes:**
  - Atlassian intends to end support for IE7 in Confluence 4.0 (due for release in the middle of 2011). Confluence 3.5 is the last version that will support IE7.
  - IE8 will still be supported.
  - 'Support End Date' means that Confluence 3.5 and previously released versions will continue to work with IE7. However, we will not fix bugs affecting IE7 past the support end date.
  - Confluence 4.0 will not be tested with IE7.
- **Safari Notes:**
  - Atlassian will introduce support for Safari 5 in Confluence 3.5.
  - We intend to end support for Safari 4 in Confluence 4.0 (due for release in the middle of 2011). Confluence 3.5 is the last version that will support Safari 4.
  - 'Support End Date' means that Confluence 3.5 and previously released versions will continue to work with Safari 4. However, we will not fix bugs affecting Safari 4 past the support end date.
  - Confluence 4.0 will not be tested with Safari 4.
- **Firefox Notes:**
  - Atlassian will end support for Firefox 3.0 in Confluence 3.5, as previously announced.
  - We intend to end support for Firefox 3.5 in Confluence 4.0 (due for release in the middle of 2011). Confluence 3.5 is the last version that will support Firefox 3.5.
  - Firefox 3.6 will still be supported.
  - 'Support End Date' means that Confluence 3.5 and previously released versions will continue to work with Firefox 3.5. However, we will not fix bugs affecting Firefox 3.5 past the support end date.
  - Confluence 4.0 will not be tested with Firefox 3.5.

### Deprecated Databases for Confluence (12 October 2010)

This section announces the end of Atlassian support for certain database versions for Confluence. End of support means that Atlassian will not fix bugs related to certain database versions past the support end date.

We will **stop supporting the following database versions**:

- From Confluence 3.5, due in the first half of 2011, Confluence will no longer support PostgreSQL 8.1. *Note, PostgreSQL 8.2 and PostgreSQL 8.4 will still be supported.*

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **PostgreSQL (version 8.1 only)** | When Confluence 3.5 releases, due in the first half of 2011 |

- **PostgreSQL (version 8.1 only) End of Support Notes:**
  - Atlassian intends to end support for PostgreSQL 8.1 in Confluence 3.5 (due to release in the first half of 2011), with the final support for these platforms in Confluence 3.4. PostgreSQL 8.2 and PostgreSQL 8.4 will still be supported.
  - 'Support End Date' means that Confluence 3.4 and previous released versions will continue to work with the PostgreSQL 8.1 However, we will not fix bugs affecting PostgreSQL 8.1 past the

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support end date.
- Confluence 3.5 (due to release in the first half of 2011) will not be tested with PostgreSQL 8.1.

### Deprecated Web Browsers for Confluence (12 October 2010)

This section announces the end of Atlassian support for certain web browser versions for Confluence. End of support means that Atlassian will not fix bugs related to certain web browser versions past the support end date.

We will **stop supporting the following web browser versions**:

- From Confluence 3.5, due in the first half of 2011, Confluence will no longer support Firefox 3.0.
  *Note, Firefox 3.5 and Firefox 3.6 will still be supported.*

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Web Browser Support***

| Web Browser | Support End Date |
|---|---|
| **Firefox (version 3.0 only)** | When Confluence 3.5 releases, due in the first half of 2011 |

- **Firefox (version 3.0 only) End of Support Notes:**
  - Atlassian intends to end support for Firefox 3.0 in Confluence 3.5 (due to release in the first half of 2011), with the final support for these platforms in Confluence 3.4. Firefox 3.5 and Firefox 3.6 will still be supported.
  - 'Support End Date' means that Confluence 3.4 and previous released versions will continue to work with Firefox 3.0. However, we will not fix bugs affecting Firefox 3.0 past the support end date.
  - Confluence 3.5 (due to release in the first half of 2011) will not be tested with Firefox 3.0.

### Deprecated Databases for Confluence (6 July 2010)

This section announces the end of Atlassian support for certain database versions for Confluence. End of support means that Atlassian will not fix bugs related to certain database versions past the support end date.

We will **stop supporting the following database versions**:

- From Confluence 3.4, due in the second half of 2010, Confluence will no longer support Oracle 10g (i.e. Oracle 10.1 and Oracle 10.2).
  *Note, Oracle 11g (i.e. Oracle 11.1 and Oracle 11.2) will still be supported.*

We have made these decisions in line with Oracle's decision to stop support for Oracle 10g, as per the "Oracle Database (RDBMS) Releases Support Status Summary [ID 161818.1]" article on the Oracle Support site (note, you will need an Oracle Support account to find and view the article). This also will reduce the testing time required for each release and help us speed up our ability to deliver market-driven features. We are committed to helping our customers understand this decision and assist them in upgrading to Oracle 11g if needed.

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **Oracle (version 10.1 and 10.2 only)** | When Confluence 3.4 releases, due in the second half of 2010 |

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- **Oracle (version 10.1 and 10.2 only) End of Support Notes:**
  - Atlassian intends to end support for Oracle 10.1 and Oracle 10.2 in Confluence 3.4 (due to release in the second half of 2010), with the final support for these platforms in Confluence 3.3 . Oracle 11.1 and Oracle 11.2 will still be supported.
  - 'Support End Date' means that Confluence 3.3 and previous released versions will continue to work with the Oracle 10.1 and Oracle 10.2. However, we will not fix bugs affecting Oracle 10.1 or Oracle 10.2 past the support end date.
  - Confluence 3.4 (due to release in the second half of 2010) will not be tested with Oracle 10.1 and Oracle 10.2.

### Deprecated Web Browsers for Confluence (6 July 2010)

This section announces the end of Atlassian support for certain web browser versions for Confluence. End of support means that Atlassian will not fix bugs related to certain web browser versions past the support end date.

We will **stop supporting the following web browser versions**:

- From Confluence 3.4, due in the second half of 2010, Confluence will no longer support Safari 3 or Safari 3.1.
  *Note, Safari 4 will still be supported.*

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Web Browser Support***

| Web Browser | Support End Date |
|---|---|
| **Safari (version 3 and 3.1 only)** | When Confluence 3.4 releases, due in the second half of 2010 |

- **Safari (version 3 and 3.1 only) End of Support Notes:**
  - Atlassian intends to end support for Safari 3 and Safari 3.1 in Confluence 3.4 (due to release in the second half of 2010), with the final support for these platforms in Confluence 3.3. Safari 4 will still be supported.
  - 'Support End Date' means that Confluence 3.3 and previous released versions will continue to work with the Safari 3 and Safari 3.1. However, we will not fix bugs affecting Safari 3 and Safari 3.1 past the support end date.
  - Confluence 3.4 (due to release in the second half of 2010) will not be tested with Safari 3 and Safari 3.1.

### Deprecated Databases for Confluence (24 March 2010)

This section announces the end of Atlassian support for certain database versions for Confluence. End of support means that Atlassian will not fix bugs related to certain database versions past the support end date.

We will **stop supporting the following database versions**:

- From Confluence 3.3, due in Q3 2010, Confluence will no longer support DB2 8.2.
  *Note, DB2 9.7 will still be supported.*

We are reducing our database support to reduce the amount of testing time and help us speed up our ability to deliver market-driven features. We are committed to helping our customers understand this decision and assist them in upgrading to DB2 9.7 if needed.

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

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***End of Life Announcement for Database Support***

| Database | Support End Date |
|---|---|
| **DB2 (version 8.2 only)** | When Confluence 3.3 releases, due Q3 2010 |

- **DB2 (version 8.2 only) End of Support Notes:**
  - Atlassian intends to end support for DB2 8.2 in Q3 2010, with the final support for these platforms in Confluence 3.2. DB2 9.7 will still be supported.
  - 'Support End Date' means that Confluence 3.2 and previous released versions will continue to work with the DB2 8.2. However, we will not fix bugs affecting DB2 8.2 past the support end date.
  - Confluence 3.3 (due to release in Q3 2010) will not be tested with DB2 8.2.

### Deprecated Application Servers for Confluence (27 January 2010)

This section announces the end of Atlassian support for certain application servers for Confluence. End of support means that Atlassian will not fix bugs related to certain application servers past the support end date.

We will **stop supporting the following application servers**:

- From Confluence 3.2, due late Q1 2010, Confluence will no longer support JBoss application servers.
- From Confluence 3.3, due in Q3 2010, Confluence will no longer support Oracle WebLogic, IBM WebSphere or Caucho Resin.

We are reducing our application server platform support to reduce the amount of testing time and help us speed up our ability to deliver market-driven features. We are committed to helping our customers understand this decision and assist them in migrating to Tomcat, our supported application server.

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Application Server Support***

| Application Servers | Support End Date |
|---|---|
| **JBoss 4.2.2** | When Confluence 3.2 releases, due late Q1 2010 |
| **Oracle WebLogic 9.2** | When Confluence 3.3 releases, due Q3 2010 |
| **IBM WebSphere 6.1** | When Confluence 3.3 releases, due Q3 2010 |
| **Caucho Resin 3.0, 3.1.6, 3.1.7** | When Confluence 3.3 releases, due Q3 2010 |

- **JBoss End of Support Notes:**
  - 'Support End Date' means that Confluence 3.1 and previous released versions will continue to work with stated application servers. However, we will not fix bugs affecting JBoss application servers.
  - Confluence 3.2 will not support JBoss application servers.
- **WebLogic, WebSphere and Resin End of Support Notes:**
  - Atlassian intends to end support for Oracle WebLogic, IBM WebSphere, and Caucho Resin in Q3 2010, with the final support for these platforms in Confluence 3.2.
  - 'Support End Date' means that Confluence 3.2 and previous released versions will continue to work with the stated application servers. However, we will not fix bugs affecting Oracle WebLogic, IBM WebSphere, and Caucho Resin application servers past the support end date.
  - Confluence 3.3 (due to release in Q3 2010) will only be tested with and support Tomcat 5.5.20+ and 6.0.
  - If you have concerns with this end of support announcement, please email `eol-announcement at atlassian dot com`.

***Why is Atlassian doing this?***

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We have chosen to standardise on Tomcat, because it is the most widely used application server in our user population. It is fast, robust, secure, well-documented, easy to operate, open source, and has a huge community driving improvements. It is the de facto industry standard, with several companies available that specialise in providing enterprise grade support contracts for it, ranging from customisations to 24/7 support.

### Deprecated Java Platforms for Confluence (27 January 2010)

This section announces the end of Atlassian support for certain Java Platforms for Confluence.

We will **stop supporting the following Java Platforms**:

- From Confluence 3.3, due Q3 2010, support for Java Platform 5 (JDK/JRE 1.5) will end.

We are ending support for Java Platform 5, in line with the Java SE Support Roadmap (i.e. "End of Service Life" for Java Platform 5 dated October 30, 2009). We are committed to helping our customers understand this decision and assist them in updating to Java Platform 6, our supported Java Platform.

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Java Platform Support***

| Java Platform | Support End Date |
|---|---|
| **Java Platform 5 (JDK/JRE 1.5)** | When Confluence 3.3 releases, due Q3 2010 |

- **Java Platform 5 End of Support Notes:**
  - Atlassian intends to end support for Java Platform 5 in Q3 2010.
  - 'Support End Date' means that Confluence 3.2.x and previous released versions will continue to work with Java Platform 5 (JDK/JRE 1.5), however we will not fix bugs related to Java Platform 5 past the support end date.
  - Confluence 3.3 will only be tested with and support Java Platform 6 (JDK/JRE 1.6).
  - If you have concerns with this end of support announcement, please email `eol-announcement at atlassian dot com`.

### Deprecated Web Browsers for Confluence (14 December 2009)

This section announces the end of Atlassian support for certain web browsers for Confluence.

We will **stop supporting older versions of web browsers** as follows:

- From Confluence 3.2, due late Q1 2010, support for Firefox 2 and Safari 2 will end.
- From 13 July 2010, in line with Microsoft's Support Lifecycle policy, support for IE6 will end.

The details are below. Please refer to the Supported Platforms for more details regarding platform support for Confluence. If you have questions or concerns regarding this announcement, please email `eol-announcement at atlassian dot com`.

***End of Life Announcement for Web Browser Support***

| Web Browsers | Support End Date |
|---|---|
| Firefox 2 | When Confluence 3.2 releases, late Q1 2010 |
| Safari 2 | When Confluence 3.2 releases, late Q1 2010 |
| Internet Explorer 6 | When Confluence 3.3 releases (target Q3 2010) or 13 July 2010, whichever is sooner |

- **Firefox 2 and Safari 2 Notes:**
  - Confluence 3.1 is the last version to officially support Firefox 2 and Safari 2.

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    - You may be able to use these older browser for the most common use cases like viewing and editing content, but official support for these browsers will end once you upgrade to Confluence 3.2.
    - Confluence 3.2 is currently targeted to release late Q1 2010 and will not be tested with Firefox 2 and Safari 2. After the Confluence 3.2 release, Atlassian will not provide fixes in older versions of Confluence for bugs affecting Firefox 2 and Safari 2.

- **Internet Explorer 6 Notes:**
    - Confluence 3.2 (due late Q1 2010) will be the last version to officially support Internet Explorer 6.
    - Confluence 3.3 is currently targeted to release Q3 2010 and will **not** support IE6.
    - Atlassian will support IE6 in Confluence until the 13th of July 2010, in line with Microsoft's Support Lifecycle policy. Beyond that date, released versions of Confluence will continue working with IE6 just as they did before, but we will not fix bugs affecting Internet Explorer 6.
    - You may be able to use Internet Explorer 6 for the most common use cases like viewing and editing content, but official support for this browser will end once you upgrade to Confluence 3.3.

## Supported Platforms FAQ

**Q: How does Atlassian choose which JRE versions, application servers and databases to support?**

For application servers and databases, we try to pick a good cross-section of open source options and popular commercial platforms. We then choose which JRE versions to support based on the recommended environments for these servers.

**Q: What is a supported platform?**

A supported platform is one that:

- Confluence is regularly tested on during the development cycle
- One that is available within Atlassian for support technicians and developers to reproduce problems
- Bugs raised against it 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 provide assistance with customising or tuning that application server or database. (Atlassian support is not a substitute for a good database administrator.)

**Q: Can I get assistance with running Confluence on a platform that is *not* supported?**

If you are running Confluence on an unsupported platform, then we can not guarantee providing any support for it. Furthermore, we will recommend that you switch to a platform which is supported.

**Q: If you write your application to standards like J2EE, JDBC and SQL, doesn't that mean it should run on any compliant server?**

Confluence is a complicated application and we commonly encounter interesting edge-cases where different servers have interpreted the specifications differently. Then again, each server has its own different collection of bugs.

**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 for it.

Please be aware that your interest alone will not be enough for us to add support for your application server or database. We would need to see a significant number of votes on the issue raised in our public JIRA site or a significant level of interest in our forums, before considering supporting that platform.

**Q: My organisation has standardised on an operating environment that Confluence does not support. What can I do?**

In this situation, you have the following two options:

1. Run Confluence in the unsupported environment, with the caveats mentioned above.
2. Make an exception to your standardised operating environment and set up Confluence based on its supported platforms.

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# Confluence Accessibility

This page is a draft and under discussion. – Matt Ryall, 27 December 2012

Atlassian aims to make Confluence accessible to everyone by complying with relevant accessibility guidelines and modern web standards.

With all work done in Confluence, we aim to comply with Section 508 standards and WCAG 2.0. However, some legacy pages may not yet conform to these standards.

#### *Accessibility features*

Confluence contains the following accessibility features:

- general adherence to modern web standards (HTML5) and best practices for semantic and meaningful markup
- separation of concerns, using CSS and JavaScript for progressive enhancement as far as possible
- compliance with Section 508 and WCAG with limited exceptions
- textual equivalents for images and icons used in the application
- forms correctly marked up with labels and legends to enable assistive technology
- keyboard access for most functionality, with alternatives for functionality which is not accessible via keyboard
- skip links to allow screen readers to jump quickly to content, action menus and other sections of the document.

We are always looking to improve our accessibility features. See the *Reporting issues* section below if you have ideas on how we can do better.

#### *Accessibility resources*

The following documents are available related to accessibility in Confluence:

- Confluence Section 508 VPAT

#### *Note on accessibility testing tools*

Automated testing tools (like the Firefox Accessibility Extension) may make the situation in Confluence appear far worse by showing violations that are either:

- Not actually stipulated by the relevant standards, and possibly out of date (e.g. requiring table summary attributes), or
- Not related to Confluence itself, but due to the user-generated content which is hosted by Confluence (e.g. heading nesting violations, lang attributes).

We aim to make Confluence itself compliant with the relevant guidelines and standards, but can't control or vouch for the accessibility of user-generated content. We will not attempt to enforce accessibility guidelines on the content created by our users, as we believe doing so often hurts accessibility rather than helping it (e.g. users putting in bogus alternative text for images).

#### *Reporting issues*

If you notice an accessibility issue with Confluence, please raise an issue in our public bug tracker at https://jira.atlassian.com.

We prioritise accessibility issues affecting real people with their actual use of the product. As noted above, issues discovered by automating testing tools often do not represent a genuine accessibility problem with the product and will be treated with a lower priority.

## Confluence Section 508 VPAT

#### *Voluntary Product Accessibility Template*

This template describes compliance with Section 508 of the Rehabilitation Act.

Date: **27 December 2012**
Product Name: **Atlassian Confluence**

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Product Version: **As noted in space title**

**Summary Table**

| Criteria | Level of Support & Supporting Features | Remarks and explanations |
|---|---|---|
| Section 1194.21 Software Applications and Operating Systems | Refer to table below | |
| Section 1194.22 Web-based Internet Information and Applications | Refer to table below | |
| Section 1194.23 Telecommunications Products | Not Applicable | |
| Section 1194.24 Video and Multi-media Products | Not Applicable | |
| Section 1194.25 Self-Contained, Closed Products | Not Applicable | |
| Section 1194.26 Desktop and Portable Computers | Not Applicable | |
| Section 1194.31 Functional Performance Criteria | Refer to table below | |
| Section 1194.41 Information, Documentation and Support | Refer to table below | |

**Section 1194.21 Software Applications and Operating Systems - Detail Voluntary Product Accessibility Template**

| Criteria | Level of Support & Supporting Features | Remarks and explanations |
|---|---|---|
| (a) When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually. | Partially supported. | Keyboard navigation supported for all core functionality. |
| (b) Applications shall not disrupt or disable activated features of other products that are identified as accessibility features, where those features are developed and documented according to industry standards. Applications also shall not disrupt or disable activated features of any operating system that are identified as accessibility features where the application programming interface for those accessibility features has been documented by the manufacturer of the operating system and is available to the product developer. | Supported | |

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| | | |
|---|---|---|
| (c) A well-defined on-screen indication of the current focus shall be provided that moves among interactive interface elements as the input focus changes. The focus shall be programmatically exposed so that Assistive Technology can track focus and focus changes. | Partially supported | Focus indicators are shown for interface elements in many functions. |
| (d) Sufficient information about a user interface element including the identity, operation and state of the element shall be available to Assistive Technology. When an image represents a program element, the information conveyed by the image must also be available in text. | Supported | |
| (e) When bitmap images are used to identify controls, status indicators, or other programmatic elements, the meaning assigned to those images shall be consistent throughout an application's performance. | Supported | |
| (f) Textual information shall be provided through operating system functions for displaying text. The minimum information that shall be made available is text content, text input caret location, and text attributes. | Supported | |
| (g) Applications shall not override user selected contrast and color selections and other individual display attributes. | Supported | |
| (h) When animation is displayed, the information shall be displayable in at least one non-animated presentation mode at the option of the user. | Supported | Animated icons have text equivalents when images are not shown. Other animations do not have any information content. |
| (i) Color coding shall not be used as the only means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. | Supported | |
| (j) When a product permits a user to adjust color and contrast settings, a variety of color selections capable of producing a range of contrast levels shall be provided. | Supported | Users can adjust fonts and colours in their browser.<br><br>Colour schemes can be set by administrators to facilitate content with higher contrast. |

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| | | |
|---|---|---|
| (k) Software shall not use flashing or blinking text, objects, or other elements having a flash or blink frequency greater than 2 Hz and lower than 55 Hz. | Supported | |
| (l) When electronic forms are used, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues. | Partially supported | All forms are marked up to support assistive technology.<br>Ability to use all features of the Confluence editor depends on the assistive technology being used. |

**Section 1194.22 Web-based Intranet and Internet information and Applications - Detail Voluntary Product Accessibility Template**

| Criteria | Level of Support & Supporting Features | Remarks and explanations |
|---|---|---|
| (a) A text equivalent for every non-text element shall be provided (e.g., via "alt", "longdesc", or in element content). | Partially supported | Text equivalents are available for all non-text elements in core functionality. Some legacy functionality has non-text icons without text equivalents.<br>User-generated content may contain non-text elements without text equivalents. |
| (b) Equivalent alternatives for any multimedia presentation shall be synchronized with the presentation. | Supported with exceptions for user-generated content | No multimedia are found in the product, but user-generated content may contain multimedia without synchronized alternatives. |
| (c) Web pages shall be designed so that all information conveyed with color is also available without color, for example from context or markup. | Supported | |
| (d) Documents shall be organized so they are readable without requiring an associated style sheet. | Supported | |
| (e) Redundant text links shall be provided for each active region of a server-side image map. | Not applicable | |
| (f) Client-side image maps shall be provided instead of server-side image maps except where the regions cannot be defined with an available geometric shape. | Not applicable | |
| (g) Row and column headers shall be identified for data tables. | Supported | |

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| | | |
|---|---|---|
| (h) Markup shall be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers. | Not applicable except with user-generated content | No data tables with multiple header levels are found in the product, but user-generated content may contain tables which do not comply. |
| (i) Frames shall be titled with text that facilitates frame identification and navigation | Not applicable | |
| (j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz. | Supported | |
| (k) A text-only page, with equivalent information or functionality, shall be provided to make a web site comply with the provisions of this part, when compliance cannot be accomplished in any other way. The content of the text-only page shall be updated whenever the primary page changes. | Not applicable | Compliance should be high enough that a text-only page wouldn't provide any accessibility benefit. |
| (l) When pages utilize scripting languages to display content, or to create interface elements, the information provided by the script shall be identified with functional text that can be read by Assistive Technology. | Supported | |
| (m) When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to a plug-in or applet that complies with 1194.21(a) through (l). | Supported with exceptions | Support for viewing Office and PDF documents is provided by a Flash component which does not comply. |
| (n) When electronic forms are designed to be completed on-line, the form shall allow people using Assistive Technology to access the information, field elements, and functionality required for completion and submission of the form, including all directions and cues. | Supported | |
| (o) A method shall be provided that permits users to skip repetitive navigation links. | Supported | Skip links are provided to navigate directly to the content and other parts of the document. |
| (p) When a timed response is required, the user shall be alerted and given sufficient time to indicate more time is required. | Supported | |

**Section 1194.31 Functional Performance Criteria – Detail**
**Voluntary Product Accessibility Template**

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| Criteria | Level of Support & Supporting Features | Remarks and explanations |
|---|---|---|
| (a) At least one mode of operation and information retrieval that does not require user vision shall be provided, or support for Assistive Technology used by people who are blind or visually impaired shall be provided. | Supported | Requires non-visual web browser or browser with magnifying functionality. |
| (b) At least one mode of operation and information retrieval that does not require visual acuity greater than 20/70 shall be provided in audio and enlarged print output working together or independently, or support for Assistive Technology used by people who are visually impaired shall be provided. | Supported | Content can be magnified by the user. |
| (c) At least one mode of operation and information retrieval that does not require user hearing shall be provided, or support for Assistive Technology used by people who are deaf or hard of hearing shall be provided | Supported | Product can be used with a non-visual web browser. |
| (d) Where audio information is important for the use of a product, at least one mode of operation and information retrieval shall be provided in an enhanced auditory fashion, or support for assistive hearing devices shall be provided. | Not applicable | |
| (e) At least one mode of operation and information retrieval that does not require user speech shall be provided, or support for Assistive Technology used by people with disabilities shall be provided. | Not applicable | |
| (f) At least one mode of operation and information retrieval that does not require fine motor control or simultaneous actions and that is operable with limited reach and strength shall be provided. | Not applicable | |

**Section 1194.41 Information, Documentation and Support – Detail**
**Voluntary Product Accessibility Template**

| Criteria | Level of Support & Supporting Features | Remarks and explanations |
|---|---|---|
| (a) Product support documentation provided to end-users shall be made available in alternate formats upon request, at no additional charge | Supported | Product documentation is available in multiple formats at https://confluence.atlassian.com |

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| | | |
|---|---|---|
| (b) End-users shall have access to a description of the accessibility and compatibility features of products in alternate formats or alternate methods upon request, at no additional charge. | Supported | Accessibility and compatibility information available at https://confluence.atlassian.com |
| (c) Support services for products shall accommodate the communication needs of end-users with disabilities. | Supported | Atlassian support is done via an online system which is accessible via email and a web interface. |

# Migrating Confluence Between Servers

This page describes how to move Confluence between physical servers. It is distinct from other functions. It does not cover database migration, application server migration, or upgrading. Atlassian suggests doing each of these steps separately. See also:

- Upgrading Confluence
- Migrating to Another Database
- Switching to Apache Tomcat

## How to Create a Test or Development Site

Administrators may need to move a Confluence site from one server to another for upgrades or downtime. This page tells you how to copy a Confluence site 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 migrating.** If you are planning to switch databases, application servers or Confluence versions, firstly perform the application transfer in isolation, and test that it was successful before making other changes.
- Development licenses are available for any Commercial or Academic license. Create one or contact Atlassian for help.

**On this page:**


- How to Create a Test or Development Site
- Transferring Confluence To Another Server Using The Same Operating System
- Transferring Confluence To Another Server Using a Different Operating System
- Ensuring no contact with production systems
- Migrating from HTTPS to HTTP
- Notes


*The information on this page does not apply to Confluence OnDemand.*

## 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

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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:
    - For users of the *internal database*, the database content is stored inside the home directory. You should switch to an external database after the transfer is successful. The internal database is for evaluation only and is not recommended for use in Production systems.
    - For *external 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.
    - For *external databases hosted locally (ie. localhost)*: on the original server, create a manual database backup using a native db dump backup tool. Copy the database backup to the new server.
5. On the new server, install or upgrade the database version to match the original server.
6. Import the database backup.
7. Add a database user account with the same username and password as the original.
8. Provide the database user with the full access to the imported database.
9. Use a database administration tool to confirm that the user can login from the localhost.
10. This step depends on your database connection:
    a. If you use JDBC (the default option) to connect to the database, 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.**
    b. If you use a data source, follow the instructions for your database type and ensure the data source points to the new database: PostgreSQL, MySQL, SQL Server or Oracle.
11. 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 site, set up a test of your JIRA site or LDAP server so as not to disrupt production systems and change the server.xml or atlassian-user.xml files (Confluence 3.4 and below), or modify the directory settings in Confluence Admin > User Directories (Confluence 3.5 and above) to point to the appropriate test servers. Note that it might be acceptable to use a production connection here, as users won't be logging on to the test system in high volume.
12. If appropriate, make sure no emails are sent out from the test system.
13. Start Confluence.
14. 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 How Can I Get a License for a Staging Environment?.
15. If you configured Confluence as a Windows service, repeat those instructions.
16. Add your development license key.
17. 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.

## Transferring Confluence To Another Server Using a Different Operating System

#### Migrating from Windows to Linux

You will need to replace the backslash with forward slash in the following lines in `confluence.cfg.xml`:

```
<property
name="attachments.dir">${confluenceHome}/attachments</property>
    <property name="lucene.index.dir">${confluenceHome}/index</property>
    <property
name="webwork.multipart.saveDir">${confluenceHome}/temp</property>
```

#### Using database tools (preferred option)

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

1. Download the proper distribution (**the same one you have from your original site**) from the Download Archive.
2. Copy your Confluence *home* (not install) directory from your original server (even if it was a different OS).
3. 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='.
4. For external databases stored locally, on the original server, create a manual database backup using a native db dump backup tool.
5. Copy the database backup to the new server.
6. On the new server, install or upgrade the database version to match the original server.
7. Import the database backup.
8. Add a database user account with the same username and password as the original.
9. Provide the user with the full access to the imported database.
10. Use a database administration tool to confirm that the user can login from the localhost.
11. 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.**
12. 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.
13. Copy server.xml, atlassian-user.xml, osuser.xml, any patches, and any other customized files velocity or properties files. 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 site, set up a test of your JIRA site or LDAP server so as not to disrupt production systems and change the server.xml or atlassian-user.xml files to point to the appropriate test servers. Note that it might be acceptable to use a production connection here, as users won't be logging on to the test system in high volume.
14. If appropriate, make sure no emails are sent out from the test system.
15. Start Confluence.
16. 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 How Can I Get a License for a Staging Environment? .
17. If you configured Confluence as a Windows service, repeat those instructions.
18. Add your development license key.
19. 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.

#### Using XML data backups (only for small to medium sized installations)

**Note:** The XML export built into Confluence is not suited for the backup or migration of large data sets. There are a number of third party tools that may be able to assist you with the data migration. If you would like help in selecting the right tool, or help with the migration itself, we can put you in touch with one of the Atlassian Experts .

If you're not yet using the Production backup strategy, you can migrate Confluence to a different server machine by creating an XML data backup as usual, and then importing that to Confluence on the new server.

1. Create an XML data backup from Confluence as follows:
    a. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
    b. Select **Backup & Restore**.
    c. Check the **Backup Attachments** option and click **Backup**.
2. Identify the version of Confluence that you are currently using. This is displayed at the bottom of each Confluence page.
3. Download Confluence to the new server. Get the version of Confluence that you identified above, but for the operating system of the new server. You may be using either the latest Confluence version, or an older version.
4. Install Confluence on the new server.
5. Go to **Administration** > **License Details** and add your development license key. You can generate a license at http://my.atlassian.com. You can find more details in How Can I Get a License for a Staging

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Environment?.
6. Restore your XML data backup from **Administration** > **Backup and Restore**.
7. If appropriate, make sure that no email contact can be made with the test system.
8. 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 rebuild your content indices after performing a migration.

### 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:

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

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

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

### Migrating from HTTPS to HTTP

You may want to migrate from a server secured by SSL to one which is not secured by SSL. For example, this may be useful if you are copying a Confluence site from a production to a test site.

To migrate from HTTPS to HTTP, undo the HTTPS-specific settings that are described on this page: Adding SSL for Secure Logins and Page Security.

### Notes

- Ricky Sheaves (calebscreek) has written an interesting blog post on Moving Confluence from Windows to (Ubuntu) Linux.
- If you wish to **merge** two Confluence sites, you can consider using the remote import plugin. This plugin is currently not supported. The supported method would be to export a space and then import each space one by one. The two Confluence sites must be running the same version of Confluence.

## From Confluence Evaluation through to Production Installation

So, you want to try Confluence on an evaluation installation, then move to a production installation when you are ready? This page gives an overview of the steps to follow.

Assumptions:

- This page starts with telling you how to install an evaluation Confluence site. If you have already finished evaluating Confluence, you can safely skip steps 1 to 3.
- Your production installation will be an installed version of Confluence, **not** a Confluence OnDemand site.
- You will evaluate Confluence on an installed version too, not a Confluence OnDemand site.

If you are using Confluence OnDemand to evaluate Confluence, please refer to the following guide when you want to move to an installed version: Migrating from Confluence OnDemand to a Confluence Installed Site.

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**On this page:**


- Step 1. Set up your evaluation Confluence site
- Step 2. Add users and content to your evaluation site
- Step 3. Look for interesting add-ons as part of your evaluation
- Step 4. Set up your production Confluence site


**Related pages:**

- Supported Platforms
- Embedded HSQLDB Database
- Adding and Inviting Users
- About Add-ons
- Getting Started as Confluence Administrator
- Confluence Installation and Upgrade Guide

## Step 1. Set up your evaluation Confluence site

If you have already set up an evaluation Confluence site, you can skip this step.

Below is a summary of the installation and setup procedure, focusing on the choice of database.

**To install Confluence:**

1. Download the automatic installer from the Confluence download site.
   Note: If you are using a Mac or another unsupported platform for your evaluation, you will need to install from a zip file. Details are in the full installation guide.
2. Run the installer and choose the express or custom installation. If you are not sure, choose **Express Install**.
   - The **express** option will install Confluence with default settings.
   - The **custom** option allows you to choose the Confluence installation directory, home (data) directory, ports and other options.
3. When prompted, choose the option to **open Confluence in your browser**, where you can complete the setup.

**To set up Confluence, including the database:**

1. Follow the prompts in the browser-based setup wizard, to get your Confluence license.
2. Choose the **evaluation** or **production** installation type. If you are not sure, choose **Evaluation Installation**.
   - The **evaluation** option will install Confluence with default settings, including the embedded database.
   - If you decide to do a **production** installation for increased flexibility during evaluation, the setup wizard will prompt you for various options. When choosing a database, we recommend the **embed ded database** for evaluation purposes, because it is simpler and faster to set up.
   - When you move to a production installation, you will be able to move your Confluence data to a production-ready database, as described below.

## Step 2. Add users and content to your evaluation site

If you have finished evaluating Confluence, you can skip this step.

Depending on your choices during the Confluence setup, your evaluation site may include sample content. The example pages, blog posts and attachments are in the 'Demonstration space'. This space is present if:

- You chose the 'Evaluation Installation' during setup.
- Or you chose the 'Production Installation', then chose to include the 'Example Site'.

You can update the sample content, and create more of your own. You can also invite people to join you on the site.

When you move to a production site, you can choose to copy the content and users to the new site.

**To create content in your evaluation site:**

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- Choose **Spaces** > **Create Space** to add a space, which is like a library of pages.
- Choose **Create** to add pages and blog posts.

**To add users:** Choose the **cog** icon  then choose **User Management**.

For more tips about getting started, see Confluence 101.

### Step 3. Look for interesting add-ons as part of your evaluation

If you have finished evaluating Confluence, you can skip this step.

Add-ons, also called plugins, provide additional features that you can install into your Confluence site. Some of them are provided free of charge. Many of the commercial add-ons are available free for an evaluation period.

You can browse and download add-ons on the Atlassian Marketplace. You can also find add-ons via the Confluence user interface, which interacts with the Atlassian Marketplace for you.

**To find useful add-ons via the Confluence user interface:**

1. Choose the **cog** icon  then choose **Add-ons**.
2. Choose **Find new add-ons**.

### Step 4. Set up your production Confluence site

When you are ready to move from an evaluation site to a production site, you need to migrate to a production-ready database. This involves installing a new Confluence site with a new database, and instructing Confluence to copy the data from your evaluation site to the new site. You will also need to check some important configuration settings, and define your backup strategy. The instructions below lead you through all the steps required.

**Migrating your data to a production database:**

1. Choose a database carefully, with a focus on reliability and backups. See our list of supported databases. If you are unsure which one to choose, we recommend PostgreSQL.
2. Install a new database and a new Confluence site, by following our guide to migrating to another database. The guide will lead you through the following steps:
    - Setting up your database server.
    - Adding a Confluence database (schema) to your database server.
    - Installing a new, production-ready Confluence site.
    - Copying your Confluence data from your evaluation site to your new production site.

**Setting important configuration options on your production site:**

- Set the base URL. See Configuring the Server Base URL.
- Make sure you have configured an email server. See Configuring a Server for Outgoing Mail.
- Decide on proxy setup and other settings that determine where Confluence fits into your network. See Web Server Configuration.
- Consider setting up a secure connection via SSL. See Running Confluence Over SSL or HTTPS.
- Read our guidelines on security. See Best Practices for Configuring Confluence Security.
- Decide whether you will manage your users in Confluence or connect to an external LDAP directory. See Configuring User Directories.
- Decide whether you want to allow public (anonymous) access to your site. See Setting Up Public Access.
- Set up your permission scheme. See Giving People Access to Content.
- Connect Confluence to JIRA and other applications. See Configuring Application Links.

**Defining your backup strategy:**

By default, Confluence will create daily XML backups of your content and user data. This is suitable when you are evaluating Confluence. When you move to a production site, you need more robust backup procedures and technologies. See Production Backup Strategy.

## Migrating from Confluence OnDemand to a Confluence Installed Site

This page is for people who are currently using a Confluence OnDemand site, and wish to move to a Confluence site that is hosted on their own servers.

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For migrating an Installed Site to Confluence OnDemand, see Importing wiki data.

### Summary

You will need to download and install a special **OnDemand release** of Confluence (for example, 'Confluence 5.0-OD-1') and then move your data from your hosted Confluence OnDemand site into your newly installed site. You cannot move your data from Confluence OnDemand to a site installed from the standard Confluence download.

### Instructions

**Note:** You must do the data export and the Confluence download (both described in the steps below) **on the same day**. This will ensure that your data and your Confluence installation are of the same version and are therefore compatible.

**To migrate from Confluence OnDemand to a Confluence installed site:**

1. Export the data from your Confluence OnDemand site, using the Confluence backup manager.
    - For instructions, see this page in the Confluence OnDemand documentation: Exporting wiki data.
    - You now have a backup file, also called an XML export, of your Confluence OnDemand data.
2. Download the OnDemand release of Confluence. Go to the Confluence OnDemand download page and get the latest 'OD' release for your operating system. The latest downloads are at the top of the list. For example, get the following files, replacing 'x' with the latest number available:
    - **For Windows 64-bit:** Get '5.x-OD-x - Windows Installer (64 bit)'
    - **For Windows 32-bit:** Get '5.x-OD-x - Windows Installer (32 bit)'
    - **For Linux 64-bit:** Get '5.x-OD-x - Linux Installer (64 bit)'
    - **For Linux 32-bit:** Get '5.x-OD-x - Linux Installer (32 bit)'
    - To install Confluence from an archive on UNIX or Mac OS X: Get '5.x-OD-x - Standalone (TAR.GZ Archive)'
    - To install Confluence from an archive on Windows: Get '5.x-OD-x - Standalone (ZIP Archive)'
    - EAR/WAR archives are also available.
3. Install Confluence as described in the Confluence Installation Guide.
4. Import the data from your backup file (XML export) into your new Confluence installation. See Restoring a Site.
5. Log in to your new Confluence site, using the following credentials:
    - Username: `sysadmin`
    - Password: `sysadmin`
6. Change the password immediately after logging in.

**On this page:**


- Summary
- Instructions
- Background
- Support, limitations, and recommendations
    - Upgrading to an official release
    - Compatibility of third-party plugins
    - PostgreSQL database recommended
    - Confluence license


**Related pages:**

- Confluence Installation Guide
- Confluence Administrator's Guide

### Background

Backups taken from Confluence OnDemand are only compatible with the current OnDemand release (for example, 'Confluence 5.0-OD-1'). The reason is that Confluence OnDemand is typically ahead of the downloadable version of Confluence, meaning that you will have new features in Confluence OnDemand that are not yet available in the downloadable version.

It is therefore not possible to migrate your data to a Confluence site installed from the standard Confluence download. You will need to download and install the special OnDemand release of Confluence (for example,

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'Confluence 5.0-OD-1') as described above.

The advantage is that you will be able to keep the Confluence OnDemand features currently not available to other customers who are using the standard downloadable version of Confluence. However, there are a few major limitations as noted below.

### Support, limitations, and recommendations

Please note the following points about your Confluence site installed from an OnDemand release.

#### Upgrading to an official release

You must upgrade to an official release of Confluence as soon as one is available. For instance, if you use 5.2 OD-2, you must upgrade to 5.2 when it is formally released for public consumption. OD releases *are* supported, but only until the official release is available.

#### Compatibility of third-party plugins

Because Confluence OnDemand is typically ahead of the downloadable version of Confluence, most third-party plugins will not be compatible with the OnDemand release. You may have some problems with third-party plugins on your Confluence site, until you are able to upgrade to the full release. Note, however, that any third-party plugins that you were using in Confluence OnDemand should be compatible with your newly installed site too.

If you have any questions about the compatibility of third-party plugins with your OnDemand release, please contact the plugin vendors. Contact details are on the Atlassian Marketplace.

#### PostgreSQL database recommended

If you are uncertain about which database to choose for your Confluence site, we recommend PostgreSQL. See Database Setup for PostgreSQL. The Confluence OnDemand site runs on PostgreSQL, and we therefore know it to be compatible with your OnDemand release.

If you decide to choose another supported database and discover any problems with compatibitily, please contact Atlassian Support. For a list of supported databases, see Supported Platforms.

#### Confluence license

Your Atlassian OnDemand license cannot be used in a site installed from the downloadable version of Confluence. Please get your new Confluence license at https://my.atlassian.com.

# Getting Help and Support

Find an answer to your question. Looking for a real person to solve a problem? We're here too!

### Online help

Read the online documentation for detailed information about using and administering Confluence.

**Hint:** There are cute buttons at the bottom of every page, with links to useful locations. They are at the bottom of this page too.

### Support articles

Refer to the Confluence Knowledge Base for troubleshooting, technical announcements, known issues and workarounds.

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### Support team

For one-on-one help from our support team, add a support request in the Confluence Support (CSP) project at Atlassian Support. A support engineer will follow up with you quickly.

If you do not have an account yet, you can create one before adding the support request – follow the prompts on the Atlassian Support screen. When creating your support request, please provide as much detail as possible. This will help us resolve your issue faster. See Troubleshooting Problems and Requesting Technical Support.

### Online forum

If you cannot find what you need in the documentation, try asking a question in our discussion forum, Atlassian Answers. A number of skilled Atlassians, Atlassian Experts and customers are active participants on that forum.

### Features and bugs

We love to hear your requests for new features and improvements! You can a dd a request in the Confluence (CONF) project in our JIRA issue tracker.

Alas, bugs do happen. If you find one, we will do our best to fix it. Please lodge a bug report in the issue tracker.

### Other resources

Yes, there's more. 🙂

- Confluence Developer Documentation
- Confluence Resources
- Website Resources

## Confluence Resources

**Resources for evaluators**

- Free trial
- Feature tour

**Resources for administrators**

- Confluence knowledge base
- Guide to installing an Atlassian integrated suite
- The big list of Atlassian gadgets

**Resources for developers**

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- Atlassian Developers site
- Developer topics on Atlassian Answers

#### Downloadable documentation

- Confluence documentation in PDF, HTML and XML formats
- Setting up local online Confluence documentation

#### Add-ons and plugins

- Documentation for the Confluence SharePoint Connector
- Atlassian Marketplace

#### Support

- Atlassian Support
- Support policies

#### Training

- Atlassian training

#### Answers

- Confluence at Atlassian Answers

#### *Mailing lists*

- Visit http://my.atlassian.com to sign up for mailing lists relating to Atlassian products, such as technical alerts, product announcements and developer updates.

#### Feature requests and bug reports

- Issue tracker for Confluence

## Confluence Conceptual Overview

**Work in progress**

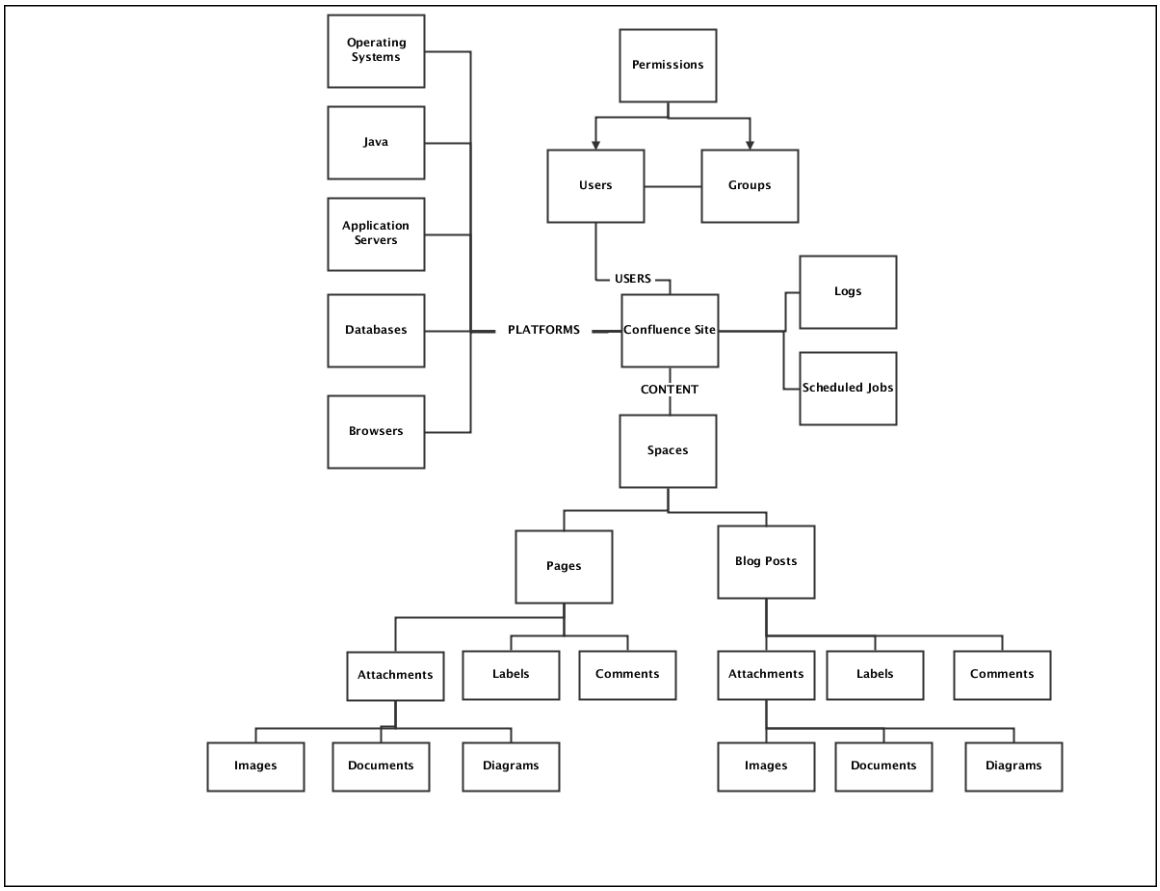
Purpose: Present Confluence concepts logically grouped together and linked to relevant documentation.

**On this page:**

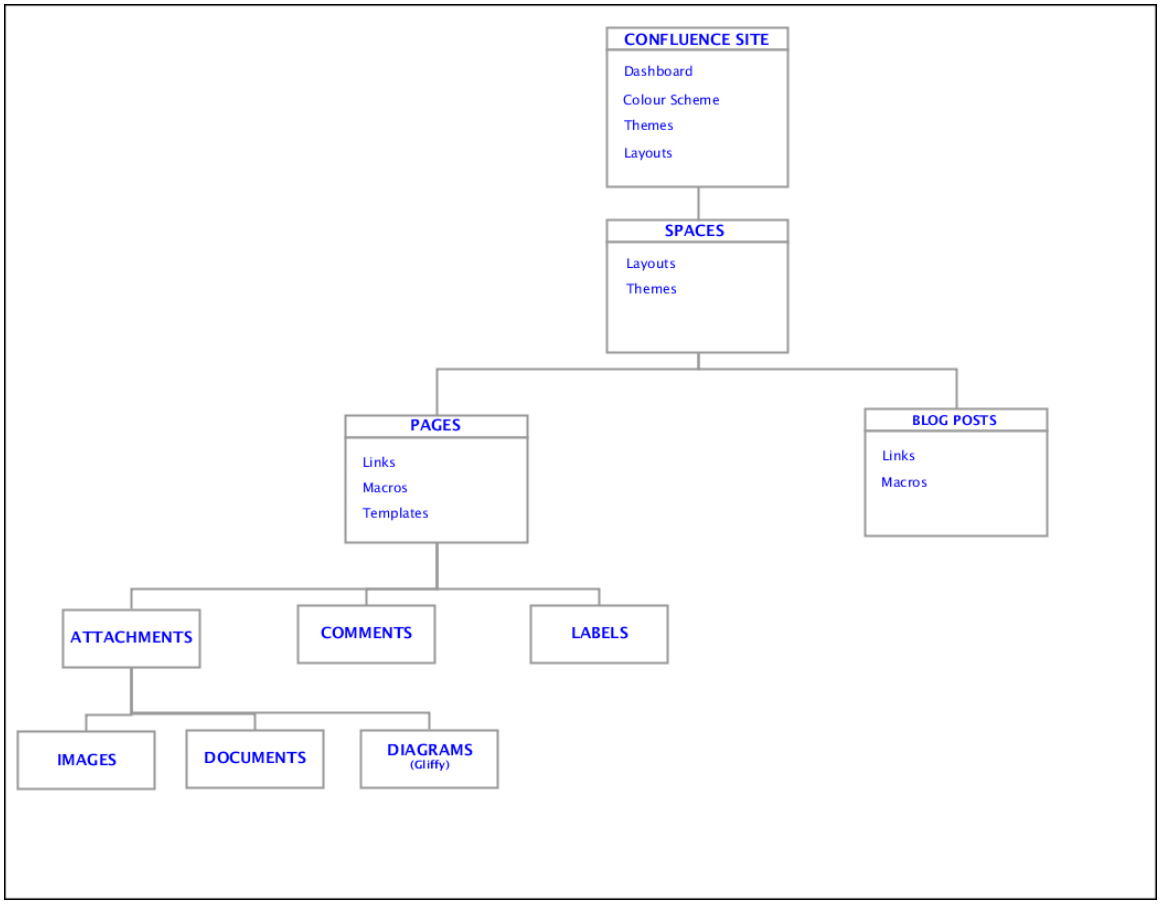

- Big Picture
- Proof of Concept


#### Big Picture

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### Proof of Concept




## Confluence Tutorial Videos

This page contains videos giving tutorials on some of the Confluence functionality. The videos are intended to

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supplement, not replace, the online Confluence documentation.

**Videos and Confluence version number**
The Confluence tutorial videos below are all recorded in Confluence 4.x. While there are commonalities between different versions of Confluence, you may find that the example scenarios in the tutorials differ from your Confluence site.

Watch a full product demonstration of Confluence on Atlassian's website

**On this page:**


- Confluence Overview
  - Content Structure
  - Space Directory
- Editor Features
  - Autocomplete for Links, Media, and Macros
  - Autoconvert for Pasted Links
  - Autoformatting of Wiki Markup
  - Drag and Drop File Sharing
  - How to Build a Kick Ass Confluence Wiki Page in 10 minutes
  - Inserting Links
  - Image Effects
  - Table and Image Editing
  - Using Macros
  - Autosave and Versioning
  - Commenting
- Sharing and Notifications
  - Share Button
  - Watch Content
  - Build a Network
- Search
  - Quick Navigation
  - Advanced Search
- Permissions
  - Global
  - Space
  - Page
- JIRA Integration
- Administration
  - Managing Groups
  - Installing Plugins
  - Importing and Exporting Content


## Confluence Overview

### Content Structure

### Space Directory

## Editor Features

### Autocomplete for Links, Media, and Macros

### Autoconvert for Pasted Links

### Autoformatting of Wiki Markup

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Drag and Drop File Sharing

How to Build a Kick Ass Confluence Wiki Page in 10 minutes

Inserting Links

Image Effects

Table and Image Editing

Using Macros

Autosave and Versioning

Commenting

Sharing and Notifications

Share Button

Watch Content

Build a Network

Search

Quick Navigation

Advanced Search

Permissions

Global

Space

Page

JIRA Integration

Administration

Managing Groups

Installing Plugins

Importing and Exporting Content

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# Local Confluence Documentation

This page tells you how to set up a copy of the Confluence documentation on your own local Confluence site.

## Reasons for Setting up your own Local Documentation

You may wish to run the documentation locally. In addition, you may want to point Confluence's links at your local documentation.

- If you are working in an environment without an internet connection, you will need a local copy of the documentation.
- If you have customised Confluence, you may wish to update the documentation to reflect your changes.
- You may want to change the look and feel of the documentation to integrate into your company's intranet.
- Confluence's interface contains links to help pages in the online documentation on confluence.atlassian.com. You may wish to point these help links to a different destination. Possible reasons include:
  - You want to point the help links to a destination behind your firewall.
  - You may want to link to a translated version of the documentation.

**On this page:**


- Reasons for Setting up your own Local Documentation
- Setting up your Local Online Documentation
  - Additional Documentation Spaces Required
- Redirecting Confluence's Help Links to your Local Documentation
  - Changing the Base URL for your Help Links
  - (Optional) Changing the Links for Individual Help Pages
  - Example of the Help Property File
  - Example of a Help Link
  - More Notes about Help Links


## Setting up your Local Online Documentation

**To set up your own Confluence site with a copy of our Confluence documentation:**

1. Install Atlassian Confluence, if you have not already installed it. (If you do not already have Confluence, ask for a free evaluation license or a starter license. You can use 'Anonymous' access to allow your users to view the documentation.)
2. Download the XML source code for the Confluence documentation. Note that the Confluence version of the XML source needs to be the same major Confluence version as your local Confluence site. For example, if the Confluence version in the XML is 3.0, you can import it into a Confluence site running version 3.0, 3.0.1 or 3.0.2. But you cannot import it into Confluence 2.9 nor into Confluence 3.1.
3. Import the XML file into your Confluence site. This will create a new space with key 'DOC'. *Note*: If there is already a 'DOC' space in your Confluence site, you must remove it before importing the new space. For detailed instructions, see the Confluence documentation on Restoring a Space.
4. Remove or adjust the customised header, footer and left-hand navigation bar in your new space.
   **Explanation:** When you create your new space from our XML source code, the space will inherit the Confluence 'Documentation' theme. The XML source code also includes the customisations we have made to the header, footer and left-hand navigation bar. These customisations include references to our Atlassian Documentationspace. Since your Confluence site does not have that space, you will see errors like this in the left-hand navigation bar, header and footer in your new space:

   ```
   Unable to render {include} Couldn't find a space with key: ALLDOC
   ```

   To fix these errors, take one of the following steps:
   - Customise the navigation, header and footer sections to suit your Confluence site or environment. See our documentation on configuring the Documentation theme.
   - Or restore the default left-hand navigation bar, by removing all content from the navigation, header and footer sections and selecting the '**Page Tree**' check box. See our documentation on configurin

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g the Documentation theme.
    - Or change the theme of your space to the Confluence default theme or another theme of your choice.
5. Download the XML source code for the additional documentation spaces listed below and import them into your Confluence site too.
6. *(Optional)* Follow the steps in the next section if you want to redirect Confluence's help links to point to your local documentation.

#### Additional Documentation Spaces Required

##### Why You Need the Additional Documentation Spaces

The Confluence documentation shares some content with other Atlassian products, such as JIRA. For the sake of efficiency, we reuse the same content across documentation spaces. You will notice that some of our pages contain an {include} macro that draws in content from another space.

For example, the following macro includes content from the Application Links (APPLINKS) space into the Confluence documentation space:

```
{include:APPLINKS:_securityTrustedApps}
```

You will need to import those documentation spaces into your Confluence site, to ensure that the reused content is accessible in your Confluence documentation.

##### Determining the Version Required

We supply different versions of the documentation, for each version of the software or plugin concerned. To see which version you need, take a look at the space key in the {include} macro concerned.

- If the space key has a number at the end, that number indicates the version. For example, `012` means version 1.2, and `011` means version 1.1.
- If the space key does not include a number, you need the latest version of the documentation.

Here is an example of an include macro that requires version 1.2 of the Application Links documentation:

```
{include:APPLINKS012:_securityTrustedApps}
```

This example requires the **latest** version of the Application Links documentation:

```
{include:APPLINKS:_securityTrustedApps}
```

##### List of Spaces Required

Retrieve the relevant version of the XML backups from these pages:

- Application Links
- User Management

### Redirecting Confluence's Help Links to your Local Documentation

In some parts of the Confluence user interface, you will see hyperlinks that point to the documentation for detailed information. These hyperlinks are Confluence's help links. You can redirect Confluence's help links to point to your local documentation.

There are two types of configuration changes you can make to the help property file:

- Change the base URL that determines the destination website of all your help links.
- (Optional) Change the page name for each individual help link.

#### Changing the Base URL for your Help Links

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The help links and base URL are contained in a property file. In summary, you will need to do the following:

- Make a copy of the property file that Confluence uses to control the help links.
- Place the copy in a given directory where it will override the default property file.
- Update the copy with your own values.

**To change the destination of your Confluence help links:**

1. Copy the `confluence-x.x.x.jar` file from your `{CONFLUENCE-INSTALLATION}\confluence\WEB-INF\lib` directory and place it in a temporary location.
   *Note:* Do not remove the JAR, just make a copy of it.
2. Unzip the `confluence-x.x.x.jar` file into your temporary location and copy the `help-paths.properties` file.
3. Put the copy of the `help-paths.properties` file into your `{CONFLUENCE-INSTALLATION}\confluence\WEB-INF\classes` directory.
   *Note:* The property file will override the file in the JAR.
4. Edit your new `help-paths.properties` file.
5. Change the help prefix, found at the top of the file. By default, the help prefix looks like this:

   ```
   help.prefix=http://docs.atlassian.com/confluence/docs-{0}/{1}
   ```

   If you want to point your help links the 'DOC' space in your local Confluence site, your URL prefix will look like this:

   ```
   help.prefix=http://confluence.mycompany.com/display/DOC/
   ```

   In addition, you can use the following special characters in the URL:

   - {0} – Optional. This value will be replaced with the version of Confluence running on your site.
   - {1} – Optional. This value will be replaced with the page name from the configuration file.

6. Restart Confluence.

#### (Optional) Changing the Links for Individual Help Pages

If necessary, you can also change the individual page names to point to specific pages in your local documentation. You may want to do this if you are using a translated version of the documentation, for example, or your own custom guide rather than a copy of the Atlassian documentation.

The help links for each page are contained in a the same property file as the help prefix, described above.

**To change the destination for each page:**

1. Follow steps 1 to 4 described above, to put your copy of the `help-paths.properties` file into your `{CONFLUENCE-INSTALLATION}\confluence\WEB-INF\classes` directory, and edit your new `help-paths.properties` file.
2. Change the individual page names to point to specific pages in your local documentation. In our example file below, the first key-value pair looks like this:

   ```
   help.restore.site=Restoring+a+site
   ```

   You could change it to something like this:

   ```
   help.restore.site=My+page+about+Restoring+Confluence
   ```

3. Restart Confluence.

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### Example of the Help Property File

Below is an example of part of the Confluence `help-paths.properties` file.

```
help.prefix=http://docs.atlassian.com/confluence/docs-{0}/{1}

## Page Names
help.restore.site=Restoring+a+site
help.manually.backup.site=Manually+Backing+Up+The+Site
help.configure.server.URL=Configuring+the+Server+Base+URL
help.configure.time.date.format=Configuring+Time+and+Date+Formats
help.edit.user.details=Editing+User+Details
```

The first line (`help.prefix`) shows the destination website of the help links. This value forms the first part of the destination URL.

- {0} – Optional. This value will be replaced with the version of Confluence running on your site.
- {1} – Optional. This value will be replaced with the page name from the configuration file.

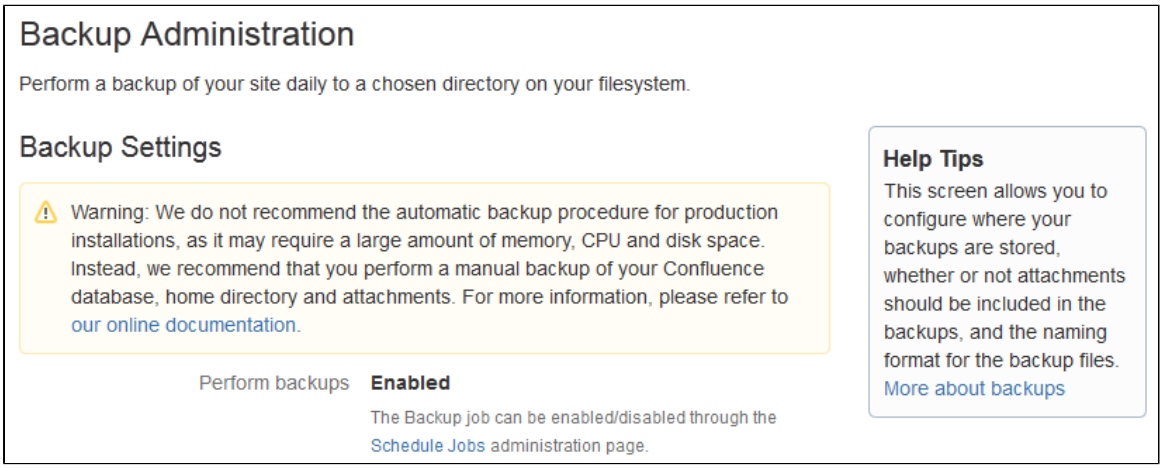
Below the description '## Page Names' there are a number of key-value pairs.

- The key (such as `help.restore.site`) is an identifier used by Confluence to find the help link for a specific screen or dialogue.
- The page name (such as `Restoring+a+site`) is the URL-encoded page name that forms the last part of the destination URL.

### Example of a Help Link

Here is an example of a Confluence screen with two help links, one on the words '**our online documentation**' and another on '**More about daily backups**':

*Screenshot: Example of help links in Confluence*




### More Notes about Help Links

- Make sure that you keep all the key-value pairs for the page names in the `help-paths.properties` fil e. If you want to point them all to the same location, you should retain all the keys and replace all the page names with the same name. For example:

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```
help.prefix=http://myguide.mycompany.com

## Page Names
help.restore.site=My+guide
help.manually.backup.site=My+guide
help.configure.server.URL=My+guide
help.configure.time.date.format=My+guide
help.edit.user.details=My+guide
```

- In the above instructions on configuring help links, we assume that you want to host your local documentation on your own Confluence site. Instead, you could choose to point the Confluence help links to an entirely different set of documentation, on a website or intranet. After reading through the instructions above, you will have an idea of how to adapt them for your own purposes.
- The `help-paths.properties` file is currently in the `confluence-x.x.x.jar` in the **WEB-INF/lib** dir ectory. Instead, it should be a config file in the **WEB-INF/classes** directory. This will make it easy for people to change the values in the file and repoint their help links. It will also standardise the help design with that of JIRA and other Atlassian applications. This issue is tracked at CONF-20105.

## Confluence SharePoint Connector

**Latest version of the Confluence SharePoint Connector**
Confluence SharePoint Connector 1.8.1 has now been released. See the SharePoint Connector 1.8.1 Release Notes.

With the Confluence SharePoint Connector you can combine Confluence's free-form, easy to edit wiki with the document management and workflow strengths of SharePoint.

- Display SharePoint document libraries, calendars, links, discussions and more on your Confluence wiki pages. Edit SharePoint's Office documents directly from Confluence and save them back to SharePoint.
- Embed Confluence pages and Confluence page trees into a SharePoint page. Click through from SharePoint to Confluence.
- Enjoy automatic login (single sign-on) between Confluence and SharePoint.
- Search Confluence and SharePoint content together, retrieving a unified set of results

Please refer to the SharePoint Connector documentation for more information.

## Support Policies

Welcome to the support policies index page. Here, you'll find information about how Atlassian Support can help you and how to get in touch with our helpful support engineers. Please choose the relevant page below to find out more.

- Bug Fixing Policy
- How to Report a Security Issue
- New Features Policy
- Patch Policy
- Security Advisory Publishing Policy
- Security Patch Policy
- Severity Levels for Security Issues

To request support from Atlassian, please raise a support issue in our online support system. To do this, visit support.atlassian.com, log in (creating an account if need be) and create an issue under Confluence. Our friendly support engineers will get right back to you with an answer.

### Bug Fixing Policy

***Summary***

- Atlassian Support will help with workarounds and bug reporting.
- Critical bugs will generally be fixed in the next maintenance release.
- Non critical bugs will be scheduled according to a variety of considerations.

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***Raising a Bug Report***

Atlassian Support is eager and happy to help verify bugs — we take pride in it! Please open a support request in our support system providing as much information as possible about how to replicate the problem you are experiencing. We will replicate the bug to verify, then lodge the report for you. We'll also try to construct workarounds if they're possible.

Customers and plugin developers are also welcome to open bug reports on our issue tracking systems directly. Use http://jira.atlassian.com for the stand-alone products and http://studio.atlassian.com for JIRA Studio and Atlassian OnDemand.

When raising a new bug, you should rate the priority of a bug according to our JIRA usage guidelines. Customers should watch a filed bug in order to receive e-mail notification when a "Fix Version" is scheduled for release.

***How Atlassian Approaches Bug Fixing***

Maintenance (bug fix) releases come out more frequently than major releases and attempt to target the most critical bugs affecting our customers. The notation for a maintenance release is the final number in the version (ie the 1 in 3.0.1).

If a bug is critical (production application down or major malfunction causing business revenue loss or high numbers of staff unable to perform their normal functions) then it will be fixed in the next maintenance release provided that:

- The fix is technically feasible (i.e. it doesn't require a major architectural change).
- It does not impact the quality or integrity of a product.

For non-critical bugs, the developer assigned to fixing bugs prioritises the non-critical bug according to these factors:

- How many of our supported configurations are affected by the problem.
- Whether there is an effective workaround or patch.
- How difficult the issue is to fix.
- Whether many bugs in one area can be fixed at one time.

The developers responsible for bug fixing also monitor comments on existing bugs and new bugs submitted in JIRA, so you can provide feedback in this way. We give high priority consideration to security issues.

When considering the priority of a non-critical bug we try to determine a 'value' score for a bug which takes into account the severity of the bug from the customer's perspective, how prevalent the bug is and whether roadmap features may render the bug obsolete. We combine this with a complexity score (i.e. how difficult the bug is). These two dimensions are used when developers self serve from the bug pile.

***Further reading***

See Atlassian Support Offerings for more support-related information.

## How to Report a Security Issue

#### Finding and Reporting a Security Issue

If you find a security issue in the product, open an issue on https://jira.atlassian.com in the relevant project.

- Set the **security level** of the bug to '**Reporters and Developers**'.
- Set the priority of the bug to 'Blocker'.
- Provide as much information on reproducing the bug as possible.

All communication about the security issue should be performed through JIRA, so that Atlassian can keep track of the issue and get a patch out as soon as possible.

If you cannot find the right project to file your issue in, email the details to security@atlassian.com.

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When reporting a security vulnerability, please keep in mind the following:

We need a technical description that allows us to assess exploitability and impact of the issue.

- Provide steps to reproduce the issue, including any URLs or code involved.
- If you are reporting an XSS, your exploit should at least pop up an alert in the browser. It is much better if the XSS exploit shows user's authentication cookie.
- If you are reporting an SQL injection, we want to see the exploit extracting database data, not just producing an error message.
- HTTP request / response captures or simply packet captures are also very useful to us.

Please refrain from sending us links to non-Atlassian web sites, or reports in PDF / DOC / EXE files. Image files are ok. Make sure the bug is exploitable by someone other than the user himself (e.g. "self-XSS").

Without this information it is not possible to assess your report and it is unlikely to be addressed.

We are not looking for the reports listing generic "best practice" issues such as:

- Specific cookies being not marked as Secure or HTTPOnly
- Presence or absence of HTTP headers (X-Frame-Options, HSTS, CSP, nosniff and so on)
- Clickjacking
- Mixed HTTP and HTTPS content
- Auto-complete enabled or disabled
- SSL-related issues

#### *Further reading*

See Atlassian Support Offerings for more support-related information.

## New Features Policy

#### *Summary*

- We encourage and display customer comments and votes openly in our issue tracking system, http://jira.atlassian.com.
- We do not publish roadmaps.
- Product Managers review our most popular voted issues on a regular basis.
- We schedule features based on a variety of factors.
- Our Atlassian Bug Fixing Policy is distinct from our Feature Request process.
- Atlassian provides consistent updates on the top 20 feature/improvement requests (in our issue tracker systems).

#### *How to Track what Features are Being Implemented*

When a new feature or improvement is scheduled, the 'fix-for' version will be indicated in the JIRA issue. This happens for the upcoming release only. We maintain roadmaps for more distant releases internally, but because these roadmaps are often pre-empted by changing customer demands, we do not publish them.

#### *How Atlassian Chooses What to Implement*

In every major release we *aim* to implement highly requested features, but it is not the only determining factor. Other factors include:

- **Customer contact**: We get the chance to meet customers and hear their successes and challenges at Atlassian Summit, Atlassian Unite, developer conferences, and road shows.
- **Customer interviews**: All product managers at Atlassian do customer interviews. Our interviews are not simply to capture a list of features, but to understand our customers' goals and plans.
- **Community forums**: There are large volumes of posts on answers, of votes and comments on jira.atlassian.com, and of conversations on community forums like groups on LinkedIn.
- **Customer Support**: Our support team provides clear insights into the issues that are challenging for customers, and which are generating the most calls to support
- **Atlassian Experts**: Our Experts provide insights into real-world customer deployments, especially for

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customers at scale.
- **Evaluator Feedback**: When someone new tries our products, we want to know what they liked and disliked and often reach out to them for more detail.
- **In product feedback**: The JIRA Issue Collectors that we embed our products for evaluators and our Early Access Program give us a constant pulse on how users are experiencing our product.
- **Usage data:** Are customers using the features we have developed?
- **Product strategy:** Our long-term strategic vision for the product.

#### *How to Contribute to Feature Development*

**Influencing Atlassian's release cycle**
We encourage our customers to vote on feature requests in JIRA. The current tally of votes is available online in our issue tracking system, http://jira.atlassian.com. Find out if your improvement request already exists. If it does, please vote for it. If you do not find it, create a new feature or improvement request online.

**Extending Atlassian Products**
Atlassian products have powerful and flexible extension APIs. If you would like to see a particular feature implemented, it may be possible to develop the feature as a plugin. Documentation regarding the plugin APIs is available. Advice on extending either product may be available on the user mailing-lists, or at Atlassian Answers.

If you require significant customisations, you may wish to get in touch with our partners. They specialise in extending Atlassian products and can do this work for you. If you are interested, please contact us.

#### *Further reading*

See Atlassian Support Offerings for more support-related information.

## Patch Policy

#### *Patch Policy*

Atlassian will only provide software patches in extremely unusual circumstances. If a problem has been fixed in a newer release of the product, Atlassian will request that you upgrade your instance to fix the issue.  If it is deemed necessary to provide a patch, a patch will be provided for the current release and the last maintenance release of the last major version only.

Patches are issued under the following conditions:

- The bug is critical (production application down or major malfunction causing business revenue loss or high numbers of staff unable to perform their normal functions).
  AND
- A patch is technically feasible (i.e., it doesn't require a major architectural change)
  OR
- The issue is a security issue, and falls under our Security Patch Policy.

Atlassian does not provide patches for non-critical bugs.

Provided that a patch does not impact the quality or integrity of a product, Atlassian will ensure that patches supplied to customers are added to the next maintenance release. Customers should watch a filed bug in order to receive e-mail notification when a "Fix Version" is scheduled for release.

Patches are generally attached to the relevant http://jira.atlassian.com issue.

#### *Further reading*

See Atlassian Support Offerings for more support-related information.

## Security Advisory Publishing Policy

#### Publication of Security Advisories

When a critical severity security vulnerability in an Atlassian product is discovered and resolved, Atlassian will inform customers through the following mechanisms:

- We will post a security advisory in the latest documentation of the affected product at the same time as releasing a fix for the vulnerability.

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- We will send a copy of all posted security advisories to the **'Technical Alerts' mailing list** for the product concerned.
  *Note:* To manage your email subscriptions and ensure you are on this list, please go to my.atlassian.com and click 'Communications Centre' near the top right of the page.
- If the person who reported the vulnerability wants to publish an advisory through some other agency, such as CERT, we will assist in the production of that advisory and link to it from our own.

If you want to track non-critical severity security vulnerabilities, you need to monitor the issue trackers for the relevant products on http://jira.atlassian.com. For example, https://jira.atlassian.com/browse/JRA for JIRA and https://jira.atlassian.com/browse/CONF for Confluence. Security issues in trackers will be marked with a "security" label. All security issues will be listed in the release notes of the release where they have been fixed, similar to other bugs.

One of the ways to monitor updates to security issues is subscribing to the results of a sample search via email or RSS.

#### *Further reading*

See Atlassian Support Offerings for more support-related information.

## Security Patch Policy

#### Product Security Patch Policy

Atlassian makes it a priority to ensure that customers' systems cannot be compromised by exploiting vulnerabilities in Atlassian products.

#### *Scope*

This page describes when and how we release security patches and security upgrades for our products. It does not describe the whole of disclosure process that we follow. It also excludes OnDemand, since OnDemand will always be patched by Atlassian without additional notifications.

#### *Critical vulnerabilities*

When a **Critical** security vulnerability is discovered by Atlassian or reported by a third party, Atlassian will do all of the following:

- Issue a new, fixed release for the current version of the affected product as soon as possible, usually in a few days.
- Issue a binary patch for the current release.
- Issue a binary patch for the latest maintenance release of the previous version of the product.
- Patches for older versions or releases normally will not be issued.

Patches will be attached to the relevant JIRA issue. You can use these patches as a "stop-gap" measure until you upgrade your installation in order to fully fix the vulnerability.

#### *Non-critical vulnerabilities*

When a security issue of a **High, Medium or Low** severity is discovered, Atlassian will do all of the following:

- Include the fix into the next scheduled release, both for the current and previous maintenance versions.
- Where practical, provide new versions of plugins or other components of the product that can be upgraded independently.

You should upgrade your installation in order to fix the vulnerability.

#### *Other information*

Severity level of vulnerabilities is calculated based on Severity Levels for Security Issues.

Visit our general Atlassian Patch Policy as well.

#### *Examples*

**Example 1:** A critical severity vulnerability is found in a (hypothetical current release) JIRA 5.3.2. The last bugfix release in 5.2.x branch was 5.2.3. In this case, a patch will be created for 5.3.2 and 5.2.3. In addition, new bugfix

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releases, 5.3.3 and 5.2.4, which are free from this vulnerability, will be created in a few days.

**Example 2:** A high or medium severity vulnerability is found in the same release as in the previous example. The fix will be included into the currently scheduled releases 5.3.3 and 5.2.4. Release schedule will not be brought forward and no patches will be issued. If the vulnerability is in a plugin module, then a plugin upgrade package may still be supplied.

#### *Further reading*

See Atlassian Support Offerings for more support-related information.

## Severity Levels for Security Issues

#### Severity Levels

Atlassian security advisories include a severity level. This severity level is based on our self-calculated CVSS score for each specific vulnerability. CVSS is an industry standard vulnerability metric. You can learn more about CVSS at FIRST.org web site.

CVSS scores are mapped into the following severity ratings:

- Critical
- High
- Medium
- Low

An approximate mapping guideline is as follows:

| CVSS score range | Severity in advisory |
|---|---|
| 0 – 2.9 | Low |
| 3 – 5.9 | Medium |
| 6.0 – 7.9 | High |
| 8.0 – 10.0 | Critical |

Below is a summary of the factors which illustrate types of vulnerabilities usually resulting in a specific severity level. Please keep in mind that this rating does not take into account details of your installation.

#### *Severity Level: Critical*

Vulnerabilities that score in the critical range usually have most of the following characteristics:

- 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.

For critical vulnerabilities, is advised that you patch or upgrade as soon as possible, unless you have other mitigating measures in place. For example, if your installation is not accessible from the Internet, this may be a mitigating factor.

#### *Severity Level: High*

Vulnerabilities that score in the high range usually have some of the following characteristics:

- The vulnerability is difficult to exploit.
- Exploitation does not result in elevated privileges.
- Exploitation does not result in a significant data loss.

#### *Severity Level: Medium*

Vulnerabilities that score in the medium range usually have some of the following characteristics:

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- Denial of service vulnerabilities that are difficult to set up.
- 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***

Vulnerabilities in the low range typically have very little impact on an organisation's business. Exploitation of such vulnerabilities usually requires local or physical system access.

***Further reading***

See Atlassian Support Offerings for more support-related information.

# Troubleshooting Problems and Requesting Technical Support

This document tells you how to troubleshoot problems in Confluence and how to obtain technical support from Atlassian.

## Troubleshooting a Problem

If you have a problem with Confluence, please follow the steps below.

**To diagnose a problem and search for a solution:**

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. Use the inbuilt log scanner (see below) to check your Confluence logs for errors and attempt to match them against known issues in our knowledge base and bug tracker.
3. Check our knowledge base for solutions to known issues.
4. Check our issue tracker for known bugs.
5. If your problem may be related to a plugin, you can enter plugin safe mode by temporarily disabling any third party plugins.
6. If you are having problems configuring a feature, please take a look at the appropriate guides:
    - Confluence Installation Guide
    - Confluence Setup Guide
    - Confluence Administrator's Guide
    - Configuring Confluence
    - Database Configuration
7. Check the following guides for troubleshooting specific problems:
    - Issues related to your database server: Database Troubleshooting.
    - Issues related to your application server: Installing the Confluence EAR-WAR Edition.
    - Issues related to user management: Requesting Support for External User Management.
    - Issues related to performance: Requesting Performance Support.
8. If the above tools and documentation do not solve your problem, please create a support request and attach your support zip file. If you believe you have found a bug, you may wish to create a bug report instead. Instructions for both are given below.

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**On this page:**


- Troubleshooting a Problem
- Scanning your Confluence Logs to Match Known Issues
- Raising a Support Request with a Plugin Author
- Raising a Support Request with Atlassian
  - Method 1: Using the Support Request Form via the Confluence Administration Console
  - Method 2 Raising a Support Request via the Internet
- Creating a Support Zip File via the Confluence Administration Console
- Logging a Bug Report


**Related pages:**


- Requesting Support for External User Management
- Requesting Performance Support
- Confluence Knowledge Base
- Confluence Administrator's Guide


## Scanning your Confluence Logs to Match Known Issues

Confluence provides an inbuilt log scanner that will check your Confluence logs for errors and attempt to match them against known issues in our knowledge base and bug tracker.

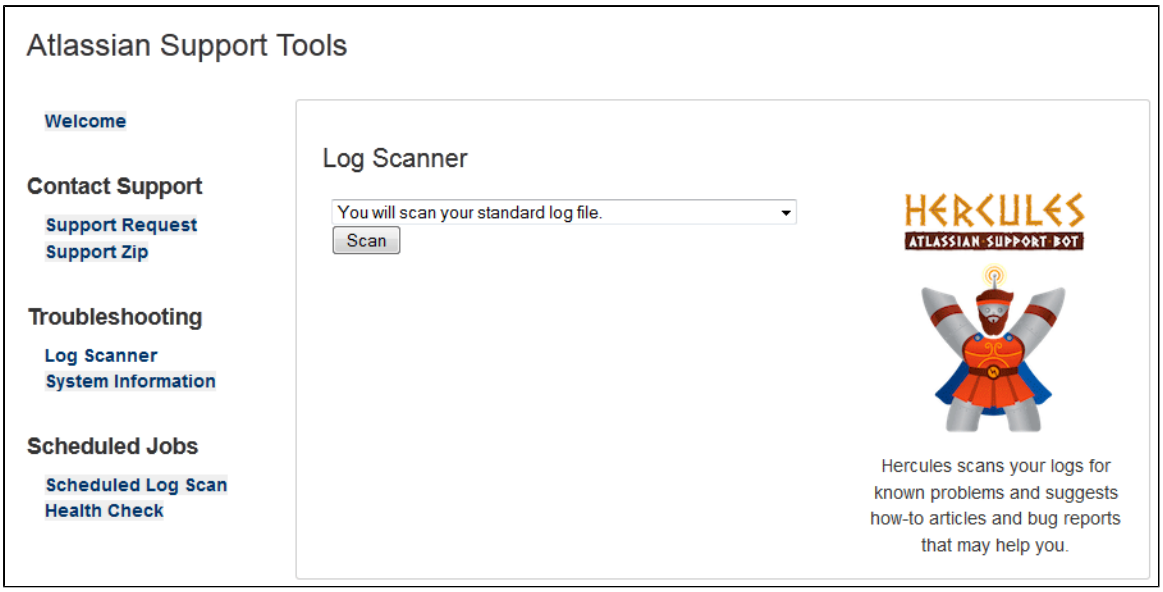
The log scanner is known as Hercules, or the Atlassian support bot. It uses a set of patterns that we have discovered in our knowledge base and issue tracker.

**To use the Confluence log scanner:**

1. Log in as a user with Confluence Administrator or System Administrator permissions.
2. Choose the **cog icon**  at top right of the screen, then choose **Confluence Admin**.
3. Choose '**Atlassian Support Tools**' in the left-hand panel.
4. Choose the '**Log Scanner**' tab.
5. Choose '**Scan**' to scan the Confluence log file in its default location, or change the location if necessary then choose '**Scan**'.
6. The log scanner will return a list of links, pointing to articles in our knowledge base and/or bug reports in our issue tracker.
   - The latest-reported problems are displayed first. By default only the most recent 10 matches are displayed. If you have more than 10 matches and want to display all results, click the 'Show All' link that appears on the top of the results page.
   - Choose a link to read the reported problem and possible solutions or workarounds.

*Screenshot: The log scanner*

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## Raising a Support Request with a Plugin Author

If you have a plugin-related issue, please check whether the plugin is supported by Atlassian or by the plugin developer.

- Visit the plugin's home page in the Atlassian Marketplace.
- Check the '**Supported By**' entry under the version information on the right side.
- If the plugin is not supported by Atlassian, you need to contact the plugin author directly.

You can read more about Atlassian support for plugins.

## Raising a Support Request with Atlassian

There are two ways to raise a support request with Atlassian:

- **Method 1:** *(Recommended)* Complete the support request form via your Confluence Administration Console, as described below. A possible problem with this method is that your mail may not be forwarded correctly, due to restrictions imposed by your mail server. For example, the zip of your log files might be too large for your mail server to forward.
- **Method 2:** Raise a support request via our support site on the Internet, as described below. Create a support zip file via your Confluence Administration Console, as described below, and attach the zip file to the support request.

### Method 1: Using the Support Request Form via the Confluence Administration Console

The advantage of this method is that it is convenient. The disadvantage is that your mail may not be forwarded correctly due to a problem (for example, the zip file is too large) or due to a security restriction on your mail server.

You can also use this method to append system information to an existing support request.

**To submit a support request via the Confluence Administration Console:**

1. Log in as a user with Confluence Administrator or System Administrator permissions.
2. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
3. Make sure that SMTP email is set up on your Confluence site and your mail server allows zip files.
4. Choose '**Atlassian Support Tools**' in the left-hand panel.
5. Choose the '**Support Request**' tab.
6. Provide as much information as possible, following these guidelines:
    - '**Contact Email**' – This will default to the email address of the logged-in user.
      **Note:** This email address will be used to find your support account on the Atlassian Support System. If no matching account is found, a new account will be created. Confluence will also send all further notifications and updates to this address.

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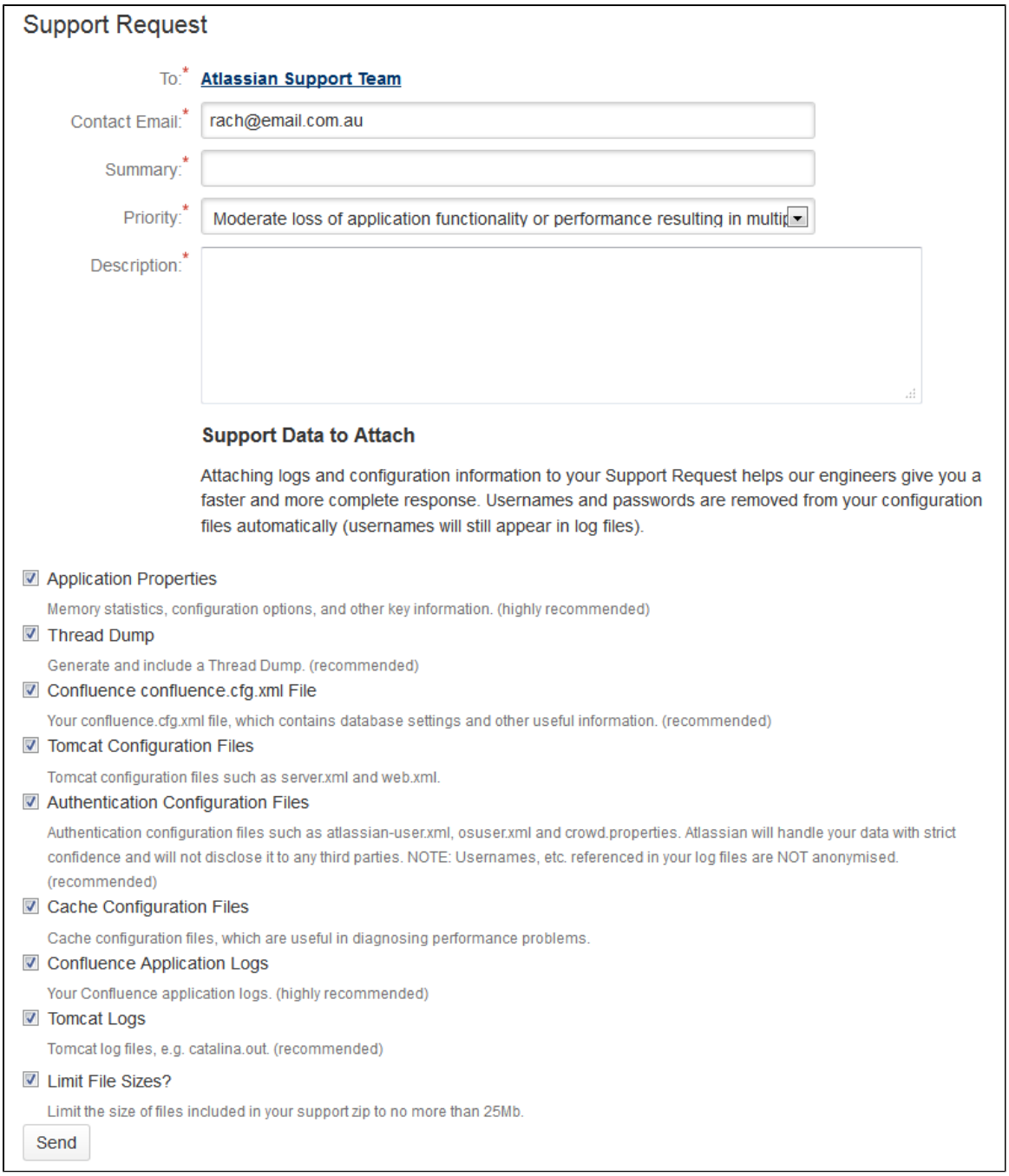
- '**Summary**' – Enter a short and meaningful description of the problem.
- '**Description**' – Enter as much information as possible, including any error messages that are appearing and any steps the support team can take to reproduce the problem.

7. In the section titled '**Support Data to Attach**', select the types of additional information you would like to be included in a zip file that will be attached to your support request.
8. Choose the '**Send**' button.
9. Confluence will submit your request via email to the Atlassian support site. 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.
   Log files can be very big. It is possible that your email server may bounce the message if it is 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 even larger. Please check whether the email message has been successfully sent, and consult your email administrator if you need special provisions for this email message.
10. Once you have submitted your support request, you will receive email updates about its progress. These emails will give you the support request 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.

*Screenshot: The support request form on the Confluence Administration Console*

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### Method 2 Raising a Support Request 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 request via the Atlassian Support System on the Internet.

**To raise a support request via the Internet:**

1. If you do not already have a free Atlassian support account, create one here.
2. Log in to https://support.atlassian.com and select '**Create New Issue**'.
3. Lodge a detailed description of your problem in the new support request.
4. Fill in all applicable information about your system, such as application server, database, etc.
5. If Confluence is running, go to the '**System Information**' screen in your **Administration Console** and copy the text of your system information into the request.
6. Create a support zip file, as described below to attach to the request. If your instance does not start up, refer to Working with Confluence Logs for information about the log files.
7. If your problem concerns user management or performance, please take a look at the additional requirements in Requesting Support for External User Management or Requesting Performance Support.
8. Once your request is lodged, wait to be notified by email of updates.

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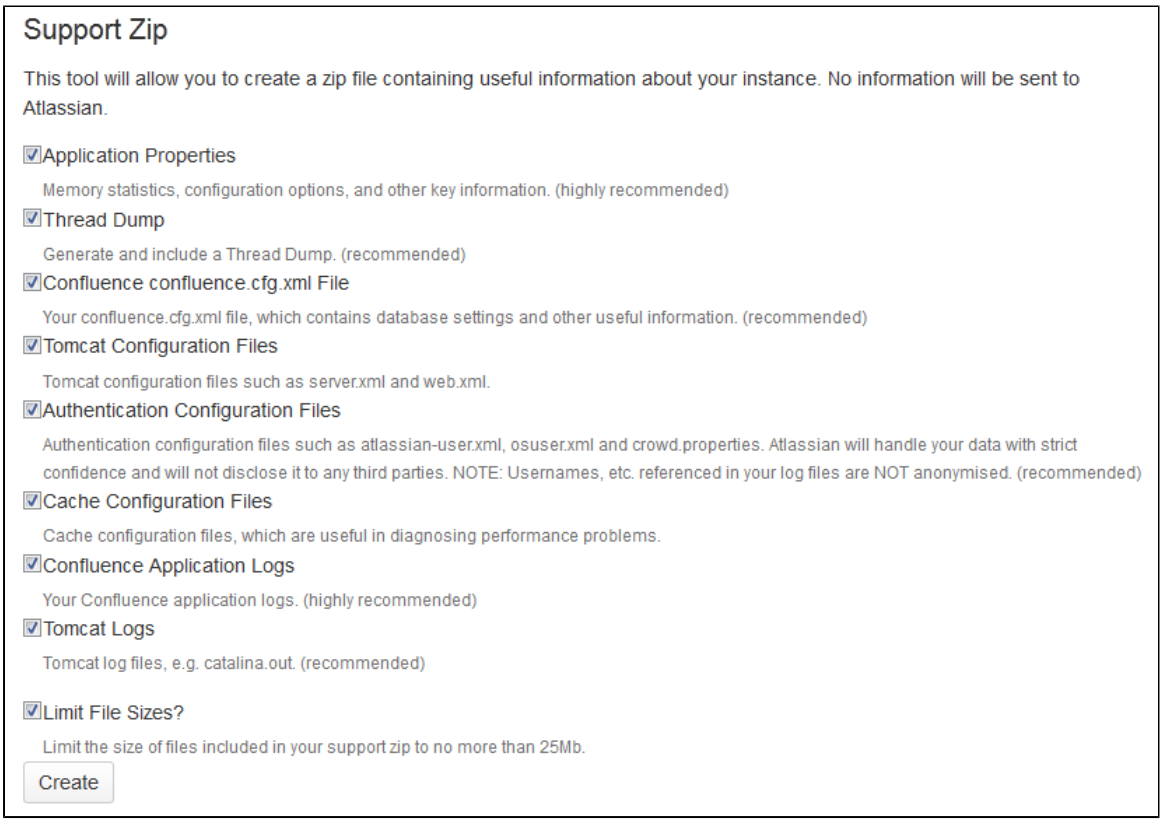
## Creating a Support Zip File via the Confluence Administration Console

We recommend that you attach a support zip file to every interaction with the Atlassian support team. You can use this method to append system information to an existing support request. The tool described below will also dump your system information to the logs before zipping them.

**To create a support zip file via the Confluence Administration Console:**

1. Log in as a user with System Administrator or Confluence Administrator permissions.
2. Go to the **Administration Console** and choose '**Atlassian Support Tools**' under '**Administration**' in the left-hand panel. Choose '**Support Zip**'. Ensure that everything is checked, then choose the '**Create**' button.
3. Confluence will create the support zip file and display its location on the screen. Log in to the Confluence server to retrieve the file.
4. Attach the zip file to the support case you raised on our support system, as described above.

*Screenshot: Creating a support zip file*




## 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 it as a support request, as described above.
- The Atlassian support team will confirm your bug and lodge a bug report.

Alternatively, you can check to see if anyone else has reported the bug, then log a bug report yourself.

**To log a bug report:**

1. Go to the Confluence issue tracker.
2. Type keywords for your problem into the search box on the left under '**Query**'.
3. Choose '**Search**' to find any existing bug reports that match your problem.
4. Read through the summaries of the bugs shown. If any summary describes your problem, you may wish to set a watch to be notified of updates.
5. If there are no existing bug reports that match your problem, log the new bug in the issue tracker. Include information on how to duplicate the problem.

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6. Sometimes it may be useful to include the result of the 500 error page, which you will find at this location:

```
https://<domain><host>:<port>/500page.jsp
```

7. Once your issue is lodged, wait to be notified by email of updates.

## Content Anonymiser for Data Backups

Atlassian may request a copy of the `entities.xml` file from a customer's exported zip file (backup file), in order to diagnose database corruption or to find a bug in Confluence.

If your data is confidential, you can run an anonymiser program over your `entities.xml` file to remove all your data and leaving only the structure of the export.

### Usage

To run the Content Anonymiser on your backup file:

1. Download the anonymiser JAR (attached to this page).
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
```

5. Re-ZIP `cleaned.xml` with its `exportDescriptor.properties` to ensure we (eg. Atlassian Support) knows exactly which version of Confluence does the XML backup exported from.

### How it works

The Content Anonymiser program 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 as the original file.

This release of the Content Anonymiser 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.

## 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 that are sent to the database by Hibernate. It is useful for troubleshooting the following events:

- 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

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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 change the following lines in `log4j.properties` from `ERROR` to `DEBUG`:

```
## log hibernate prepared statements/SQL queries (equivalent to setting
'hibernate.show_sql' to 'true')
## DEBUG, TRACE or ALL is required to see query strings
log4j.logger.net.sf.hibernate.SQL=DEBUG
```

#### To Log SQL Queries with Parameters

1. Stop Confluence
2. Uncomment the following lines in `log4j.properties`:

```
## log hibernate prepared statement parameter values. Note: due to
caching in net.sf.hibernate.type.NullableType, requires restart to
take effect
## TRACE or ALL is required to see parameter values
## Note that log4j.appender.confluencelog.Threshold (or other
appenders) also must be TRACE or ALL to see any trace messages in
the logs
log4j.logger.net.sf.hibernate.type=TRACE
```

3. Change the following lines in `log4j.properties` from `DEBUG` to `TRACE`:

```
log4j.appender.confluencelog.Threshold=TRACE
```

4. Restart Confluence

This needs to be done along with the changes to log SQL queries above (whether by the UI or by modifying the properties file).

#### 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>
```

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RELATED TOPICS

Troubleshooting SQL exceptions
Working with Confluence Logs

# Generating a Heap Dump

Sometimes you may see that Confluence is holding onto a chunk of memory over a period of time (for example, tenured space is increasing close to Xmx). In such a situation, it is useful to find out what is stacking up in the memory by analysing the heap dump.

**On this page:**


- Automatically Generating a Heap Dump when Confluence Hits OutOfMemory Error
- Manually Generating a Heap Dump when Confluence Stops Responding
- Submitting a Heap Dump to Atlassian Support


**Tips when getting a heap dump**
If you have a large Xmx size, please limit your Xmx size to 1024m. This will help to keep Confluence heap dump smaller while still containing sufficient information to analyse it.

### Automatically Generating a Heap Dump when Confluence Hits OutOfMemory Error

Typically, we would like to analyse the heap dump produced when Confluence died from an OutOfMemory Error. For this, you can add additional JVM parameters like below:

```
-XX:+HeapDumpOnOutOfMemoryError -XX:HeapDumpPath=<path to this heap dump file>
```

If you do not set the HeapDumpPath parameter, by default the heap dump will be saved in the folder where Tomcat is run from.

If you are setting these parameters in the Windows registry (when running Confluence on Windows as a service), be sure that each parameter is on its own line.

### Manually Generating a Heap Dump when Confluence Stops Responding

It is also possible to get a heap dump manually using a JDK bundled tool called jmap, although we recommend that you use the automatic method above for best result.

**For Linux/Solaris-based Operating Systems:**
Please execute the following command on Linux OS:

```
$JAVA_HOME/bin/jmap -dump:format=b,file=heap.bin <pid>
```

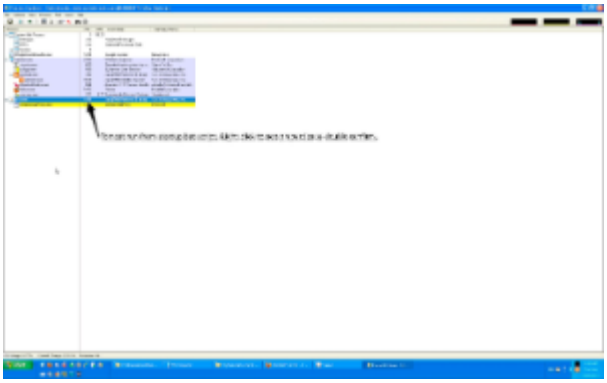
**For Windows:**
Please find your Confluence process ID (see below) and then execute the command below on a Windows command line:

```
%JAVA_HOME%\bin\jmap -dump:format=b,file=heap.bin <pid>
```

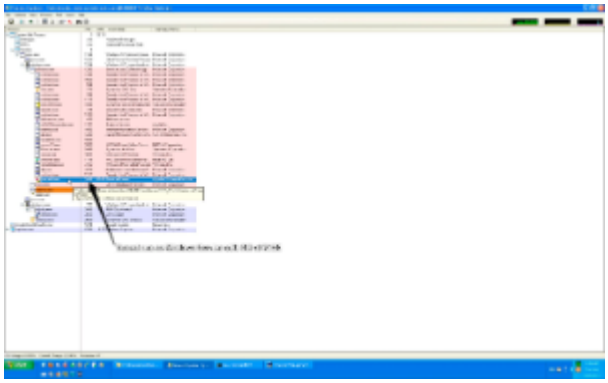
To find out the process ID for your Java process in Windows, you can use Process Explorer from Microsoft. This is what it looks like:

***Using Process Explorer to find your Tomcat process ID***

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Tomcat run from startup.bat script



Tomcat run as Windows Service

#### Submitting a Heap Dump to Atlassian Support

Please zip the file and then send it to Atlassian Support.

**RELATED TOPICS**

Getting Java Crash Log File
Memory Usage and Requirements
Garbage Collector Performance Issues
Generating a Thread Dump
How to Fix Out of Memory Errors by Increasing Available Memory

## Generating a Thread Dump


- Stack Traces and Security
- Method 1: Generating a Thread Dump Externally
- Method 2: Generating a Thread Dump 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.

#### Method 1: Generating a Thread Dump Externally

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.

Atlassian support may ask you to use this method if a thread dump generated using method 2 does not include enough information to diagnose the problem.

#### Method 2: 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

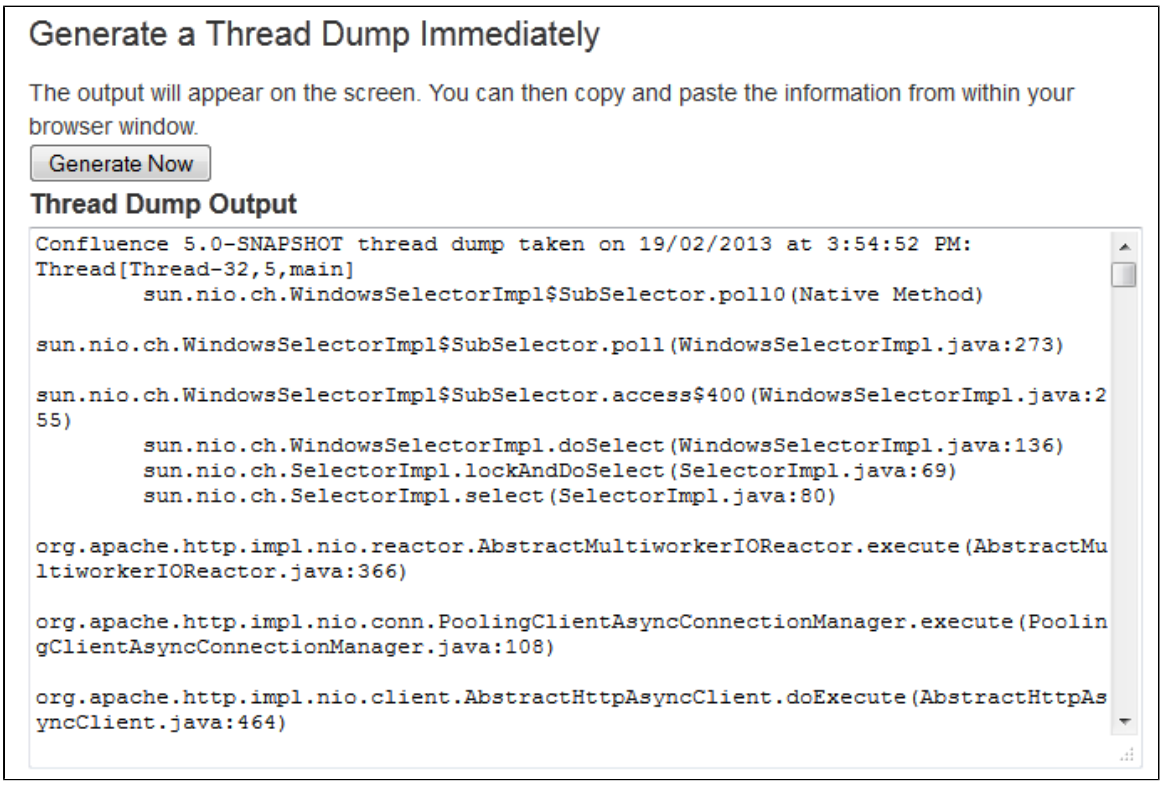
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documentation on Generating a Thread Dump Externally.

**To generate a Thread Dump from the Administration Console:**

1. Choose the **cog icon** at top right of the screen, then choose **Confluence Admin**.
2. Select '**Thread Dump**' in the left-hand panel.
3. 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.
4. Copy the contents of the thread dump in the text box and save it to a text file.

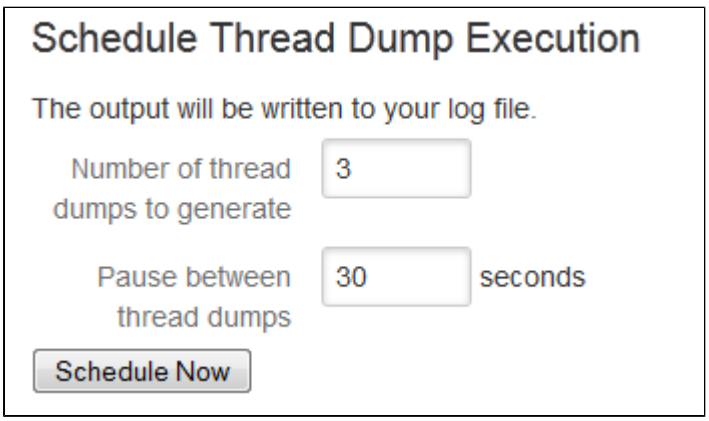
*Screenshot: Example of a generated thread dump from the Confluence administration console*




#### 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*




## 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

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information on locks being held or waited upon by threads.

**Take Multiple Thread Dumps**
Typically you'll want to take several dumps about 10 seconds apart, in which case you can generate several dumps and output the stack traces to a single file as follows:

#### *Generating a Thread Dump on Linux, including Solaris and other Unixes*

1. Identify the **java** process that Confluence is running in.: This can be achieved by running a command similar to:

```
ps -ef | grep java.
```

2. Find the process ID of the JVM and use the **ps** command to get list of all processes:

```
kill -3 <pid>
```

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).

#### *Generating Thread Dumps on Windows*

##### From the console

If you are running Confluence through a console, rather than as a service, you can click on the console and press <CTRL>+BREAK

##### Using jstack

The JDK ships with a tool named jstack for generating thread dumps.

1. Identify the process. Launch the task manager by, pressing `Ctrl + Shift + Esc` and find the Process ID of the Java (Confluence) process. You may need to add the PID column using `View` -> `Select Columns ...`
2. Run jstack <pid> to Capture a Single Thread Dump. This command will take one thread dump of the process id <pid>, in this case the pid is 22668:

```
adam@track:~$ jstack -l 22668 > threaddump.txt
```

This will output a file called threaddump.txt to your current directory.

Common issues with jstack:

- You must run jstack as the same user that is running Confluence
- If the jstack executable is not in your $PATH, then please look for it in your <JDK_HOME>/bin directory
- If you receive `java.lang.NoClassDefFoundError: sun/tools/jstack/JStack` check that tools.jar is present in your JDK's lib directory. If it is not, download a full version of the JDK.
- If you see the following message: 'Not enough storage is available to process this command,' see this article.

#### *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

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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 Analysis Tools*

- Samurai
- Thread Dump Analyzer TDA TDA 1.0 Final can be obtained from the `java.net`

## Getting Java Crash Log File

If you discovered that Confluence died without manual intervention, there may be something goes wrong during a local Java session. Java will produce a log file that looks like the following: `hs_err_pid20929.log`.

The location of this log file is usually in the directory where Tomcat is run eg. `/bin` folder. For Windows Services, it should be located in where Windows Services are run, eg. `c:\Windows\System32` if you are on 32 bit.

#### Useful VM Option

If using Java 6 or above, it's possible to define the path to the `hs_err_pid` file.

Add the following JVM Parameter to your existing ones:

```
-XX:ErrorFile=./hs_err_pid<pid>.log
```

#### RELEVANT TOPICS

Generating a Heap Dump
Java Crashes

## 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.

**On this page:**


- Configuring YourKit in your JVM
  - Windows Configuration
  - Linux/Mac OS X Configuration
- Performance Impact
- Installing the YourKit Plugin
- 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 and Tomcat installations with the Oracle (previously Sun) JDK. 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:

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```
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 the JDK, you add the `agentlib` parameter:

```
java -agentlib:yjpagent ...
```

You can add this to Tomcat's `bin/setenv.sh` like this:

```
JAVA_OPTS="-Xms128m -Xmx256m $JAVA_OPTS -Djava.awt.headless=true
-agentlib:yjpagent "
```

#### 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.

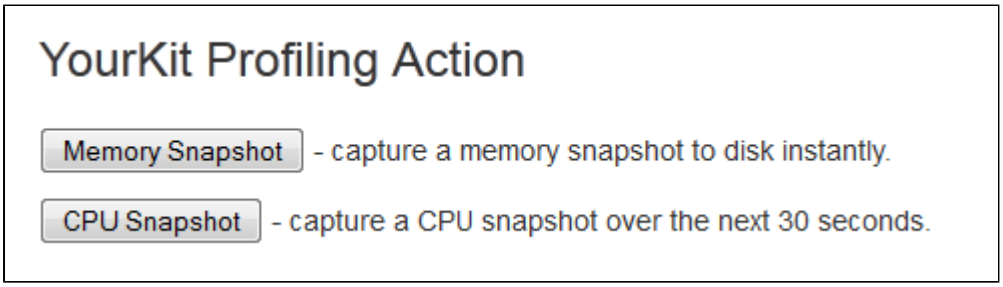
#### Installing the YourKit Plugin

Download the plugin and upload it into Confluence through the Administration, Plugins page.

A new menu option, "YourKit Profiling' will appear under the 'Administration' heading. Click it and you should see the options to take a memory or CPU snapshot.

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.

*Screenshot: You can take 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.

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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 `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.

```
-agentlib:yjpagent=onexit=memory
```

#### 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/.

# 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 Confluence Release Notes.

### Confluence 5.3 - 1 October 2013

- Space Blueprints including Knowledge Base space and Team space
- Shared Links blueprint
- Ability to change usernames
- Display page tree in the sidebar
- Request access to a restricted page
- Improved macros including Livesearch, Include Page, Labels List and Code Block
- More in the Confluence 5.3 Release Notes.

### Confluence 5.2 - 13 August 2013

- Faster and cleaner search
- Introducing the Decisions blueprint
- Blueprints keep getting better
- Add multiple layout sections to your pages
- Distraction free editing
- A single, smarter way of adding JIRA issues
- Collaborate with your team on the go
- Speedier interactions
- More in the Confluence 5.2 Release Notes.

### Confluence 5.1 – 27 March 2013

- Introducing blueprints
- Meeting Notes blueprint
- File List blueprint
- Product Requirements blueprint
- New template features
- HTML5 viewers for PDF and PowerPoint files

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- Page Properties Report macro
- Improved macros
- More in the Confluence 5.1 Release Notes

### Confluence 5.0 – 26 February 2013

- A visual refresh
- Updated global navigation
- Content creation made simple
- New sidebar for content discovery
- Editor improvements
- Quick access to recently viewed pages
- Redesigned space administration and space tools
- Improved theming and branding
- Improved user and group management for large sites
- More in the Confluence 5.0 Release Notes

### Confluence 4.3 – 4 September 2012

- Workbox notifications
- Personal tasks
- Tasks on pages
- Confluence mobile
- Table sorting and highlighting
- Draggable images and macros
- Rich text templates
- Space archiving
- Improved user invitations and signup options
- Default space permissions
- More in the Confluence 4.3 Release Notes

### Confluence 4.2 – 10 April 2012

- Page layouts
- Likes
- Quick comments
- Popular content on the dashboard
- Recommended content by email
- Labels on attachments
- Signup invitations via URL
- Easy upgrade, try and buy for plugins
- More in the Confluence 4.2 Release Notes

### Confluence 4.1 – 13 December 2011

- Autoconvert for Pasted Links
- Image effects
- Quick find and replace
- Follow Your Network On the Dashboard
- Space attachments macro
- Global PDF stylesheets
- Use any character in page titles
- New translation feature
- More in the release notes

### Confluence 4.0 – 19 September 2011

- Brand New Editor
- Simplified Editing Experience
- New Macros
- Faster Editing Experience
- Introducing @mentions

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- Improved Page Comparison Functionality
- Email Notification Improvements
- New Confluence Installer and Guided Upgrades
- New Editor Plugin Points for Developers
- More in the release notes

### Confluence 3.5 – 16 March 2011

- Easy, Powerful Connections to Active Directory, LDAP and Crowd
- Improved JIRA Integration
- Drag-and-Drop for HTML5 Browsers
- Autowatch and Improved Notification Settings
- Sharing Pages and Blog Posts
- Enhanced Code Macro
- More Administrative Improvements
- "What's New" Feature Tour
- Categories, a New Way of Organising Spaces
- Embedding Audio and Video with the Multimedia Macro
- Infrastructure Changes
- More in the release notes

### Confluence 3.4 – 12 October 2010

- New Keyboard Shortcuts, Mac-Friendly Too
- Keyboard Shortcut Dialog
- User Macros in Macro Browser and Autocomplete
- New Plugin Manager
- Improved Performance
- Infrastructure Changes
- More in the release notes

### Confluence 3.3 – 7 July 2010

- Confluence Page Gadget
- Autocomplete for Inserting Macros
- Property Panels for Links
- Property Panels for Images
- Manage Watchers
- Email Notifications for Network Activity and Blogs
- Blog Improvements
- Context-Sensitive Help Links
- Security Features
- Infrastructure Changes
- More in the release notes

### Confluence 3.2 – 24 March 2010

- Autocomplete for Inserting Links
- Autocomplete for Embedding Images and Documents
- A Link Browser that's Smarter, Smoother, Faster
- New Documentation Theme
- New Easy Reader Theme
- Template Bundles
- Reordering while Moving a Page
- New Keyboard Shortcuts and Editor Hints
- User Interface Enhancements
- More in the release notes

### Confluence 3.1 – 8 December 2009

- Introducing Gadgets

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- Drag-and-Drop
- Office 2007 Support
- New 'Move Page' Feature
- Enhanced Image Browser
- Draft Comparisons
- Page Restrictions Dialog Box
- Other Editor Enhancements
- New Web Browser Versions Supported
- More in 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

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- 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 ships with Tomcat 5.5
- More in the release notes

### Confluence 2.1 – 20 December 2005

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- Autosave
- Concurrent edit warnings
- LDAP integration with Atlassian User/POLIS
- More in the release notes

### Confluence 2.0 – 17 November 2005

- 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 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.

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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 Confluence Release Notes tha t 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 in the developer release notes. 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.

## Upgrade Notes Overview

Typically, each major release of Confluence comes with upgrade notes, which are 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 version to which you are upgrading, to make sure you do not miss something important.

Please read our general information about upgrading Confluence.

> **For example:**
> When upgrading from Confluence 3.4 to Confluence 4.0, read the upgrade notes for Confluence 3.5, as well as those for Confluence 4.0.

Also, we strongly recommend that you read the upgrade notes for any minor releases in-between, since they contain important information that will affect your Confluence upgrade.
Below is a list of upgrade notes for previous major releases of Confluence, as well as the upgrade notes for important minor releases:

- Confluence 5.3 Upgrade Notes
- Confluence 5.2 Upgrade Notes
- Confluence 5.1 Upgrade Notes
- Confluence 5.0 Upgrade Notes
- Confluence 4.3 Upgrade Notes
- Confluence 4.2 Upgrade Notes
- Confluence 4.1 Upgrade Notes
- Confluence 4.0 Upgrade Notes
- Confluence 3.5 Upgrade Notes

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- Confluence 3.4 Upgrade Notes
- Confluence 3.3 Upgrade Notes
- Confluence 3.2 Upgrade Notes
- Confluence 3.1 Upgrade Notes
- 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.

***Useful plugins***

*Before installing an add-on (also called a plugin) into your Confluence site, please check the add-on's information page to see whether it is supported by Atlassian, by another vendor, or not at all. See our guidelines on add-on support.*

***RELATED TOPICS***

Confluence Release Summary
Confluence Release Notes

# Confluence 5.3 Release Notes

**1 October 2013**

With great pleasure, Atlassian presents **Confluence 5.3**.

Download latest version

### Highlights of Confluence 5.3

- Introducing Space Blueprints
- Get a Knowledge Base up and running in no time
- Make a place to collaborate with your team
- Promote blueprints and templates
- A new way to share links with your team
- Change usernames
- See the whole page tree in the sidebar
- Request access to a restricted page
- Macro Improvements
- Infrastructure changes and API improvements

### More

- Read the upgrade notes for important info about this release.
- See the full list of issues resolved in this release.

### Thank you for your feedback

- Over 10 feature and improvement requests fulfilled.
- More than 930 votes satisfied.

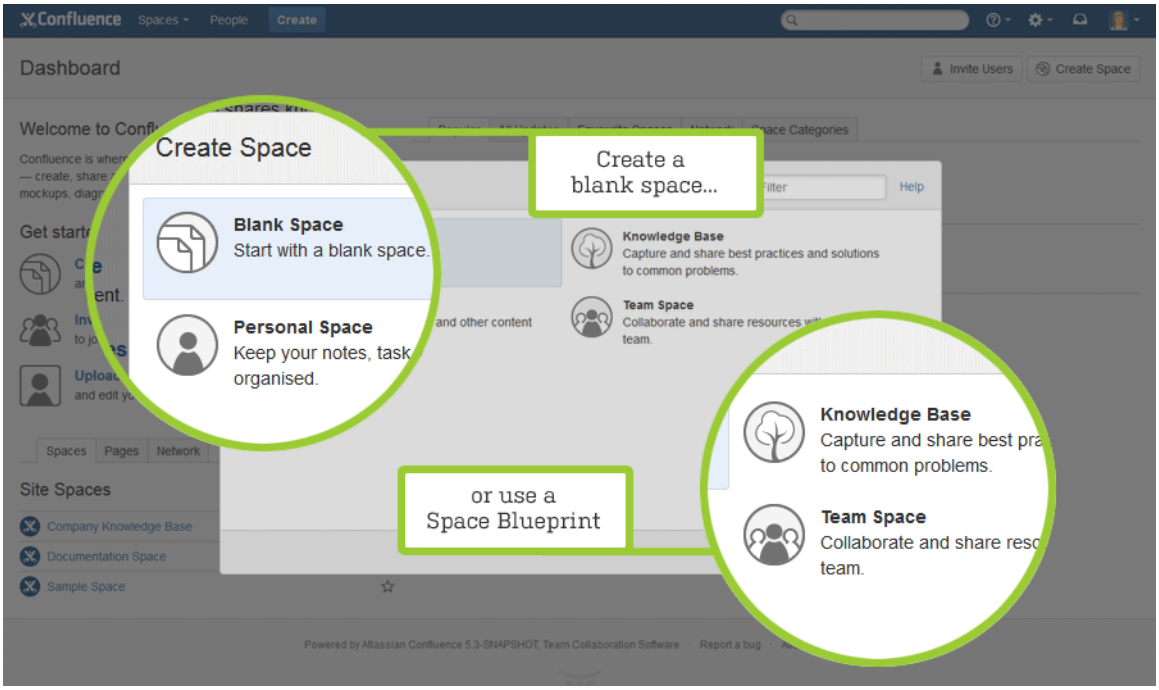
## Introducing Space Blueprints

In Confluence 5.1 blueprints solved the blank page problem. In 5.3 we are introducing Space Blueprints to solve the blank space problem.

A space created with a space blueprint will feature a customised homepage, sidebar and may contain useful page blueprints for creating content. The setup is all done for you.

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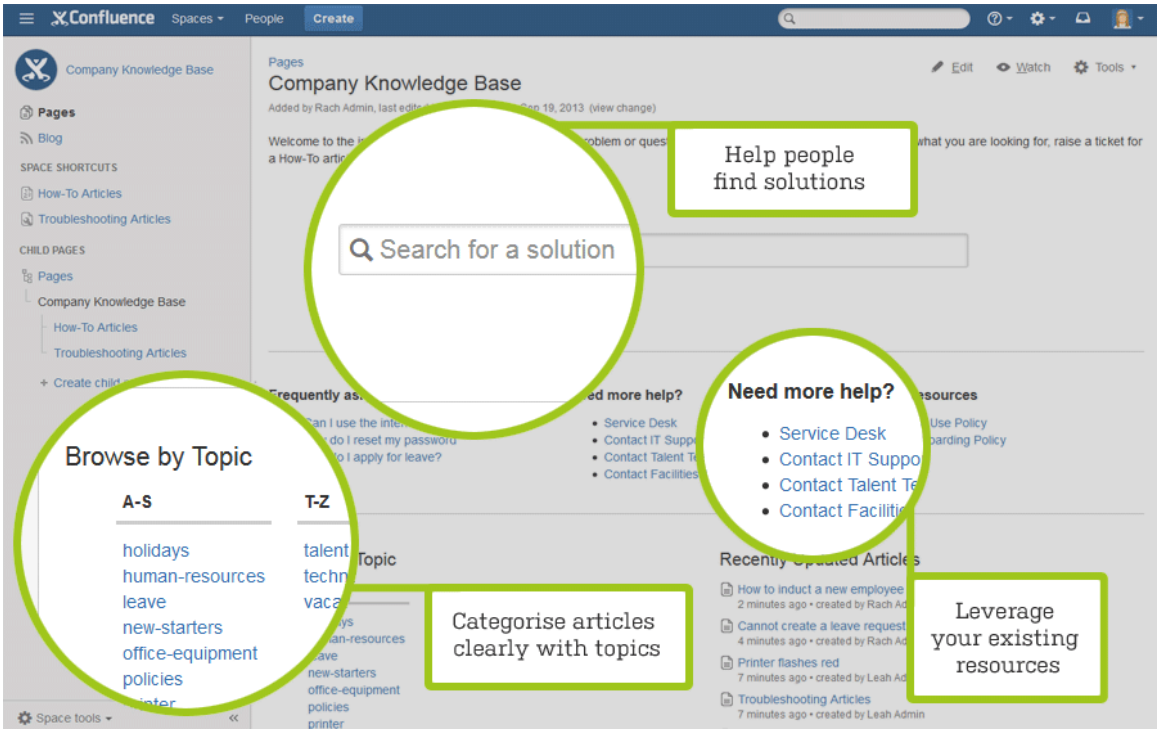
We have also introduced a brand new Create Space dialog so you can choose the type of space you would like to create. Choose from a blank space, knowledge base, team space and personal space (if you do not already have a personal space).




## Get a Knowledge Base up and running in no time

The Knowledge Base space blueprint has everything you need to create a great knowledge base for your product, organisation or team. Create how-to and troubleshooting articles using the included page blueprints, and make them easy to find by adding labels for common topics.

The search field on the knowledge base homepage is customised to only search for pages in your knowledge base space. The handy instructional text encourages your users to search for a solution to their problem, or they can browse all articles by topic, right from the Knowledge Base homepage.




## Make a place to collaborate with your team

The Team Space blueprint ships with a customised homepage that highlights the members of the team, and makes blogs prominent on the homepage. You will be prompted to enter the members of your team when

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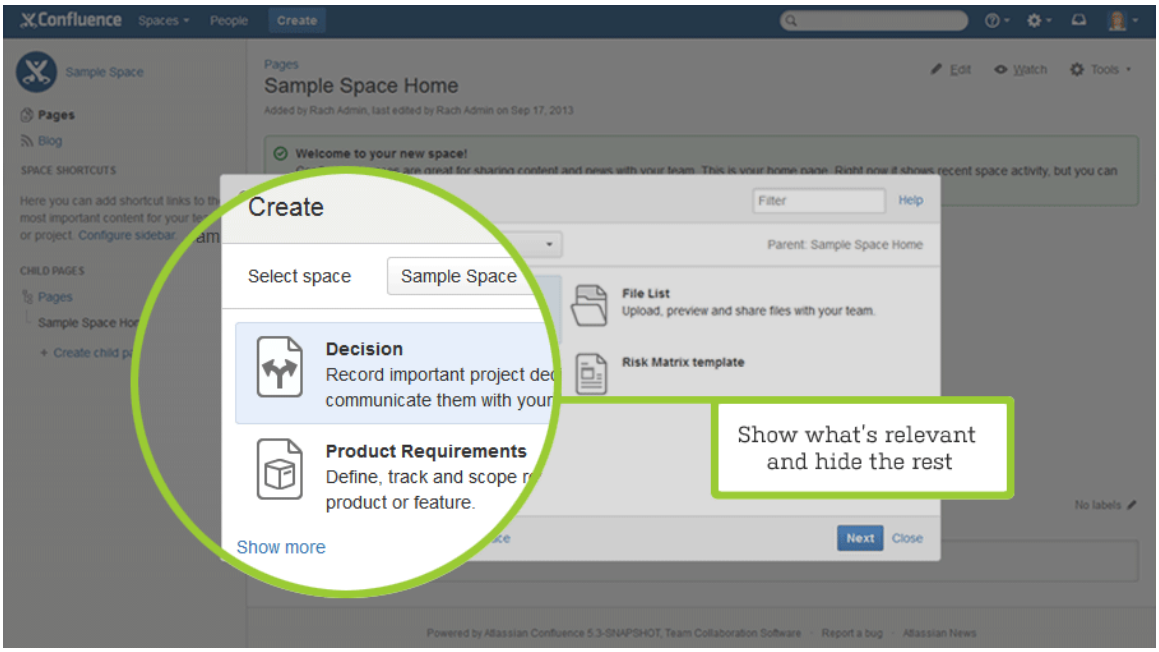
creating a Team Space. Your team members will be granted permissions, included on the space homepage and added as watchers of the space automatically.

## Promote blueprints and templates

We often get asked how to set a default template for a space, or how to discourage users from using a blank page when a template is available. To help with this we now allow space administrators to promote specific blueprints and templates so they feature prominently in the Create dialog for a space.

Users can select a promoted item or choose **Show more** to see all the available blueprints and templates in that space.

Go to **Space Tools** > **Content Tools** to promote blueprints and templates, or see it in action in the Knowledge Base space blueprint.

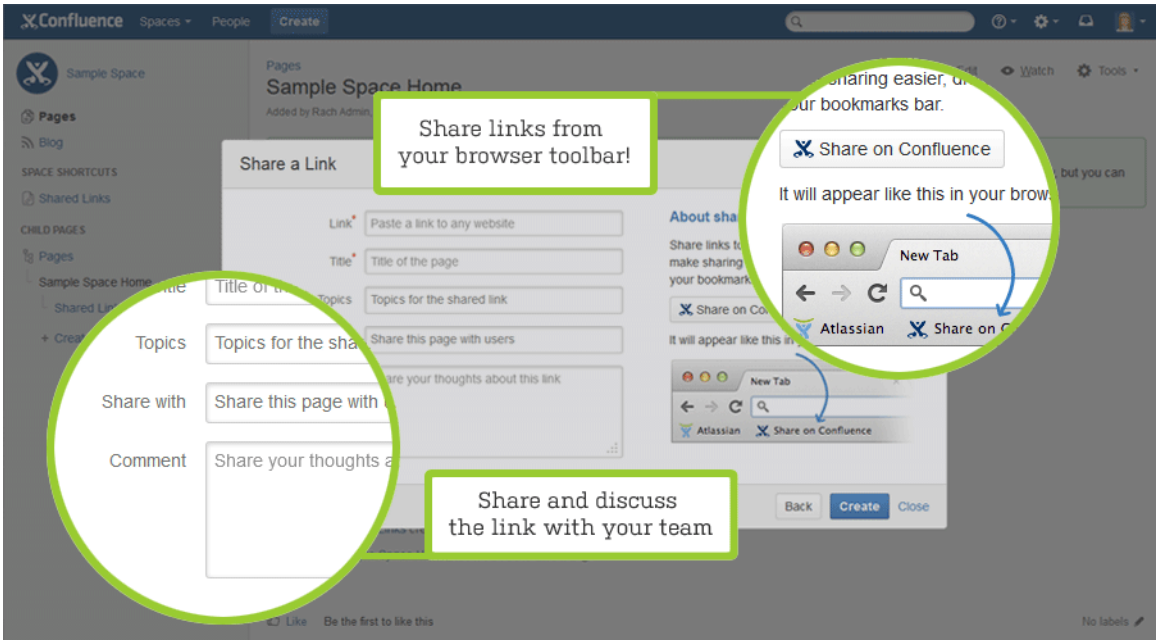



## A new way to share links with your team

We've introduced a brand new blueprint - Shared Links.

Choose **Create** > **Share a link** and share the great stuff you find on the web and discuss it with your team.

To make sharing links even faster, you can add a **Share on Confluence** button to your browser bookmark bar. Click this button and the webpage you are currently viewing will be added as a shared link!




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## Change usernames

Users with System Administrator or Confluence Administrator permissions can now change usernames. All users now have a unique, changeable username, and a unique, non-changing user key. Find out more...

The ability to change a username will depend on where your users are managed:

**Confluence's Internal directory**
If you manage your users in Confluence's internal directory you can change usernames directly.

Go to **User Management**, select a user and choose **Edit Details**. You can then update their username.

**Internal directory with LDAP authentication**
If you manage your users in Confluence's internal directory with LDAP authentication, and you have 'Copy User on Login' enabled you can make the change in your LDAP directory, and Confluence will detect the changes.

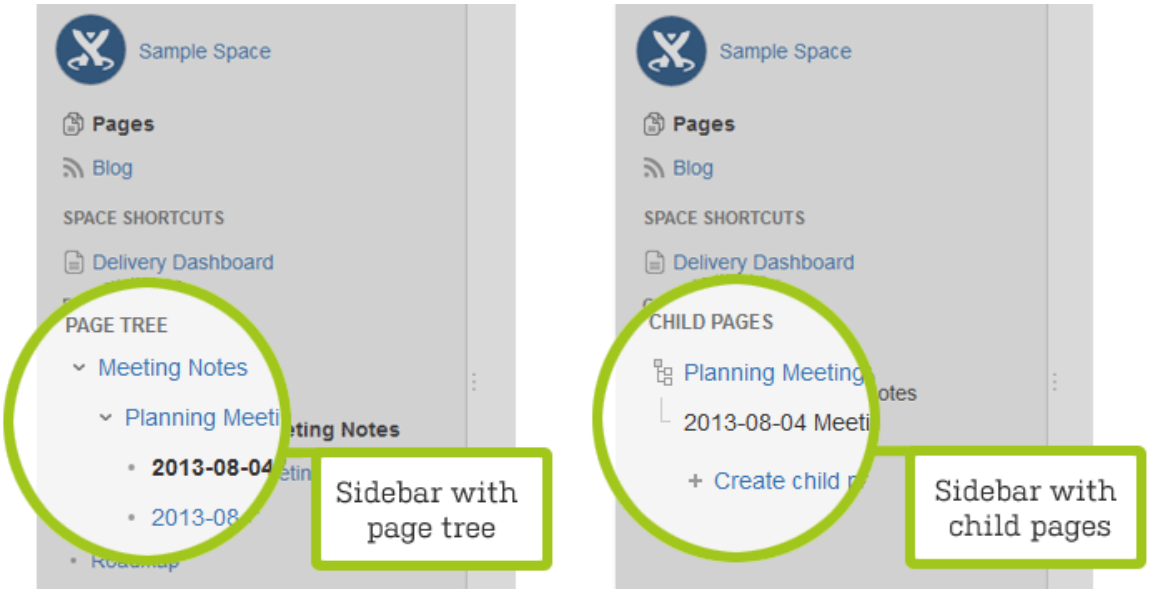
**External LDAP directory, Crowd 2.7 or JIRA 6.1**
If you manage your users in Crowd 2.7, JIRA 6.1 or an LDAP directory you can change usernames in the external directory directly, and Confluence will detect the changes.

Note: Personal space keys are not updated when you rename a user. Changed usernames will not be reflected in mentions on any page versions prior to Confluence 5.3. See the upgrade notes for more details.

## See the whole page tree in the sidebar

The sidebar keeps getting better! You now can choose to show the full page tree for your space in the sidebar.

Go to **Space Tools** > **Configure Sidebar** to switch between **Child pages** and **Page tree** modes.




## Request access to a restricted page

Have you been sent a link to a Confluence page that is restricted? You can now request access to view the page. Confluence will send an email to a user who can grant you access - this will be either the last user to edit the page, the page creator or a space admin. Access can be granted with just a few clicks, and you'll receive an email to let you know when its all done. Find out more...

You will need to have a mail server configured in Confluence to use this feature. Request access is not available on pages that have inherited restrictions from a parent page.

## Macro Improvements

We are continuing to improve our macros, and this release sees some great changes.

### Livesearch macro

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You can now restrict the search to specific labels, content types such as pages, blogs or comments, and choose to display additional information such as the space name or a page excerpt under each result.

You also have more control over the size of the search field, and the ability to add placeholder text to help guide your users towards the right search, for example 'Search all blogs'. See this macro in action on the Knowledge Base Space blueprint home page.

#### JIRA Issues macro

We have improved the handling of single issues. You can now display a single JIRA issue with or without the summary. This is particularly handy when you want to display just the issue  single issue inline with other texr or in a table cell. Simply select the JIRA Issues macro placeholder and choose **Hide Summary** or **Show Summary**.

#### Include Page and Excerpt Include macros

If you manage a lot of content chances are you use the **Include Page** and **Excerpt Include** macros to manage reusable content. These macros are now automatically updated when you change the name of the included page!

#### Labels List macro

We've given the Labels List macro a facelift, and added the ability to prevent specific labels from displaying.  Check it out in the Knowledge Base space blueprint.

#### Code Block macro

Additional configuration options are now available - choose a default theme and language for use across your whole site, or upload additional languages / environments. Go to **Confluence Admin** > **Configure Code Macro**.

## Infrastructure changes and API improvements

#### Whitelist and application links improvements

The existing whitelists for gadgets and macros in Confluence have been combined into a single, easier to use whitelist. Confluence Administrators can easily specify a domain, an exact URL, or use wildcards and regular expressions when adding to the whitelist. You can also test specific URLs to confirm whether content and connections are allowed. Go to **Confluence Admin** > **Whitelist**.

Application links have also been simplified. It is now easier to add and maintain links. Go to **Confluence Admin** > **Application links**.

#### Points of interest to add-on developers

- Confluence 5.3 is now using AUI 5.1.3. See the AUI release notes for more information.
- Storage format for macros has changed. See Macro Storage Format Changes for more information.

For a full description of these changes, please see our guide to  Preparing for Confluence 5.3.

## The Confluence 5.3 team

#### Development

Agnes Ro
Alexander Dickson
Alice Wang
Ángel Eduardo García Hernández
Anna Katrina Dominguez
Craig Petchell
Dave Loeng
David Ma
David Richard

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David Rizzuto
David Taylor
Don Willis
Duy Quoc Tran
Duy Truong Luong
Edith Tom
Esther Asenjo Reyes
Fabian Krämer
Hao Trung Ho
Hieu Ta
Huy Tuong Nguyen
Issac Gerges
Ivan Loire
Joe Xie
Julien Michel Hoarau
Kai Fung Chong
Kenny MacLeod
Khoa Pham
Lap Tran
Matthew Erickson
Mitermayer Reis
Nguyen Dang
Nhi Nguyen
Niraj Bhawnani
Olli Nevalainen
Patrick Saw
Paul Curren
Peggy Kuo
Petro Semeniuk
Quang Ho
Phong Hong Nguyen
Richard Atkins
Samuel Day
Steve Haffenden
Steven Lancashire
Ted Piotrowski
Tin Vuu
Truong Vu
Tue Dang
Vu Vo
Xavier Sanchez Taixe

**Architecture**
Charles Miller
Huy Tuong Nguyen

**Plugin updates**
David Chui
Kai Chong
Ong Kang Leng
Philip Cher

#### Management

**Product management**
Bill Arconati
John Masson
Sherif Mansour
Natasha Prasad
Geoffrey Bergdoll

**Product marketing management**
Matthew Hodges

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John Wetenhall
Ryan Anderson
Terrence Caldwell

**Development management**
Matt Ryall
Anatoli Kazatchkov
Chris Kiehl
Mark Schaschke
Martin Papy

#### Cross-product team

**Design**
Henry Tapia
Royce Wong
Valter Fatia

**Quality assistance**
Mark Hrynczak
Glenn Martin
Hai Nguyen
Joey Corea

**Technical writing**
Rachel Robins

#### Support

**Sydney support**
Michael Seager
Denise Unterwurzacher
David Mason
Lachlan Dally

**Amsterdam support**
Theodore Tzidamis
Alex Conde
John Inder
Peter Koczan
Ruchi Tandon
Shannon Mackie
Yilin Mo

**Brazil support**
Alyson Reis
Guilherme Heck
Rodrigo Adami
Bruna Griebeler
Luiz Carlos Junior
Giuliano de Campos
Bernardo Acevedo
William Zanchet
Deividi Luvison

**Japan support**

Adam Laskowski
Seiji Morita

**Kuala Lumpur support**
Joachim Ooi
Septa Cahyadiputra
Foogie Sim
Hanis Suhailah
Amalia Sanusi

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Jing Hwa Cheok
Houssein Toussi

**San Francisco support**
Rick Bal
Tim Wong
Robert Chang
Ryan Goodwin
Andrew Campbell
Brian Tom
Ann Worley

**Service enablement**
Renan Battaglin

# Confluence 5.3 Upgrade Notes

Below are some important notes on upgrading to **Confluence 5.3**. For details of the new features and improvements in this release, please read the Confluence 5.3 Release Notes.

**On this page:**


- Upgrade notes
  - Rename user page version limitation
  - Personal space keys are not changed when a user is renamed
  - Some translations not available in 5.3
  - Notifications refresh
  - End of support for MS SQL 2005
  - End of support for the Social Bookmarking plugin
- Preparing your team for Confluence 5
- Upgrade procedure
- Checking for known issues and troubleshooting the Confluence upgrade


## Upgrade notes

### Rename user page version limitation

As part of the work required to allow administrators to rename users a migration task will create a new version of each page / blog in your site. Only the latest version of each page / blog will be migrated. This means that when a username is changed, any user mentions in page versions prior to the 5.3 migration will contain that user's old username. This is a limitation of our migration framework.

### Personal space keys are not changed when a user is renamed

If a Confluence Administrator renames a user who has a personal space, the space key for that space will remain the user's original username. For example if jsmith's username is changed to jbrown, their personal space key will remain ~jsmith.

### Some translations not available in 5.3

Translations for several new features, including the new Create Space dialog, new blueprints, Whitelist and the Livesearch macro, are not available in this release. We hope to make these translations available shortly after this release in 5.3.1.  If you use a language pack other than English, we do not recommend you upgrade to Confluence 5.3 yet.

### Notifications refresh

In Confluence 5.2 we refreshed the look of our email notifications. As part of this work we have removed the Edit Space notification email.

### End of support for MS SQL 2005

As previously announced, from this release onwards we no longer offer support for MS SQL 2005. See End of Support Announcements for Confluence for more information.

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#### End of support for the Social Bookmarking plugin

As previously announced, from this release onwards we no longer support the Social Bookmarking Plugin. This functionality has been replaced by the Shared Links blueprint.

### Preparing your team for Confluence 5

Confluence 5.0 introduced a number of **significant changes to the user experience**: a new way of creating content, a redesigned header, a new sidebar, and other changes to the look and feel of your site. People in your organisation will need to be aware of the coming changes, so that they can plan and prepare for them. We have written a guide to help you: Planning for Confluence 5.

In addition, if you are **upgrading from Confluence 3.5 or earlier** please note that the change to the Confluence editing experience is significant. See the guide to Planning for Confluence 4.

### Upgrade procedure

**Note: Upgrade to a test environment first.** Test your upgrades in your test environment before rolling them 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 5.1, read the release notes and upgrade guides for **all releases** between your version and the latest version.
3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

### Checking for known issues and troubleshooting the Confluence upgrade

After you have completed the steps required to upgrade your Confluence installation, check all the items on the **Confluence post-upgrade checklist** to ensure that everything works as expected. If something is not working correctly, please check for known Confluence issues and try troubleshooting your upgrade as described below:

- **Check for known issues**. Sometimes we find out about a problem with the latest version of Confluence after we have released the software. In such cases we publish information about the known issues in the Confluence Knowledge Base. Please check the known issues for the relevant release on this page of the Knowledge Base and follow the instructions to solve the problem.
- **Check for answers from the community.** Other users may have encountered the same issue. You can check for answers from the community at Atlassian Answers.
- **Did you encounter a problem during the Confluence upgrade?** Please refer to the guide to troubleshooting upgrades in the Confluence Knowledge Base.
- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

## Issues Resolved in Confluence 5.3

Below are the issues resolved in Confluence 5.3, ordered by number of votes. For the full details of the fixes, improvements and new features, please take a look at our issue tracker. The Confluence 5.3 Release Notes describe the new features in this release.

#### Features and Improvements

| Type | Key | Summary | Status | Resolution | Votes |
|---|---|---|---|---|---|
| | CONF-4063 | Change usernames | Resolved | Fixed | 489 |

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| | | | | | |
|---|---|---|---|---|---|
| CONF-3697 | Allow default template to be specified | Resolved | Fixed | 71 |
| CONF-3649 | Generic link tracking and refactoring support for macros | Resolved | Fixed | 31 |
| CONF-30117 | It is not possible to insert a single JIRA issue or a empty JIRA issue search as a table with the new JIRA issues macro | Resolved | Fixed | 14 |
| CONF-30228 | Ability to automatically detect a changed username in Crowd | Resolved | Fixed | 3 |
| CONF-10668 | Live search to be able to only search labels in a specific space | Resolved | Fixed | 2 |
| CONF-21850 | Disable ehcache (and quartz?) phone-home timers. | Resolved | Fixed | 1 |
| CONF-30903 | API change: extend PermissionDelegate to allow checking whether a user can create within a target | Resolved | Fixed | 0 |
| CONF-30565 | Isaac Leslie Mansour | Resolved | Fixed | 0 |
| CONF-29346 | ImageFilterServlet re-throws java.net.SocketException: Broken pipe | Resolved | Fixed | 0 |
| CONF-28346 | 'Request Access' to page with restrictions | Resolved | Fixed | 0 |
| CONF-22844 | Recently | Resolved | Fixed | 0 |

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Viewed Tab: User expects to see most-recently viewed issue at the top

Authenticate to retrieve your issues

### Bugs Fixed

| Type | Key | Summary | Status | Resolution | Votes |
|---|---|---|---|---|---|
| | CONF-9293 | when a page is renamed, find and update instances of the {include} and {excerpt-include} | Resolved | Fixed | 95 |
| | CONF-29799 | Paste images into the editor from clipboard using Firefox 22.x and above does not work | Resolved | Fixed | 93 |
| | CONF-30410 | Labels not getting indexed as part of the page | Resolved | Fixed | 37 |
| | CONF-26542 | Mail should handle extension for embedded attachments. | Resolved | Fixed | 22 |
| | CONF-30749 | All user specific page restrictions lost when upgrading to Confluence 5.2.4 | Resolved | Fixed | 17 |
| | CONF-14442 | jiraissues macro does not display cascading select-list values properly | Resolved | Fixed | 16 |
| | CONF-29906 | 500 Internal Server Error upon visiting a page containing | Resolved | Fixed | 13 |

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| | | | | | |
|---|---|---|---|---|---|
| | | attachments via Confluence WebDAV | | | |
| | CONF-29763 | Template variable values are lost going into Edit Mode | Resolved | Fixed | 11 |
| | CONF-29810 | Macro browser sometimes does not load | Resolved | Fixed | 8 |
| | CONF-16965 | Livesearch is case sensitive | Resolved | Fixed | 6 |
| | CONF-27895 | Regular administrator users cannot see user license count in Confluence-only OnDemand instances | Resolved | Fixed | 4 |
| | CONF-30589 | Share by Group is suggesting it was successful but it doesn't actually work | Resolved | Fixed | 3 |
| | CONF-30202 | Space Activity screen fails to display Most Active Contributors | Resolved | Fixed | 3 |
| | CONF-30798 | StorageMacroV2Marshaller does not use old parameters array, macros created with deprecated method do not have parameters persisted | Resolved | Fixed | 2 |
| | CONF-30741 | Confluence Quick Reload Plugin Renders Confluence Unavailable | Resolved | Fixed | 2 |
| | CONF-29988 | Too many warnings in log: "Cannot find web | Resolved | Fixed | 2 |

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| | | | | | |
|---|---|---|---|---|---|
| | | resource module for: …" | | | |
| | CONF-26828 | Confluence 4.3 source distribution has some critical problems that prevent it from building | Resolved | Fixed | 2 |
| | CONF-26132 | Relative internal links wrongly become absolute when the linked page is renamed or moved to the same space | Resolved | Fixed | 2 |
| | CONF-30239 | Section and Column do not render correctly in Preview | Resolved | Fixed | 1 |
| | CONF-30232 | Livesearch does not further refine searches using after entered space terms | Resolved | Fixed | 1 |

Authenticate to retrieve your issues

20 more issues

# Confluence 5.2.5 Release Notes

**19 September 2013**

The Atlassian Confluence team announces the release of **Confluence 5.2.5**, which is a bug-fix release.

The complete list of fixes is at the bottom of this page.

**Don't have Confluence 5.2 yet?**

Take a look at the new features and other highlights in the Confluence 5.2 Release Notes.

Download Latest Version

## Release Notices

Upgrading from a previous version of Confluence should be fairly straightforward. Please read the Confluence 5.2.5 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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| Type | Key | Summary | Priority | Status | Resolution |
|---|---|---|---|---|---|
| | CONF-30461 | Remove unsupported databases from installation wizard | | Resolved | Fixed |
| | CONF-30749 | All user specific page restrictions lost when upgrading to Confluence 5.2.4 | | Resolved | Fixed |
| | CONF-26542 | Mail should handle extension for embedded attachments. | | Resolved | Fixed |
| | CONF-30420 | Uploading files "X" button style messed up | | Resolved | Fixed |
| | CONF-30315 | Section macro not rendering content correctly if content is not all contained within Column macro | | Resolved | Fixed |
| | CONF-30239 | Section and Column do not render correctly in Preview | | Resolved | Fixed |
| | CONF-27778 | Page creation or copying failed when there is an attachment draft directory that does not exist | | Resolved | Fixed |
| | CONF-30512 | Changing Color Scheme for Links does not change vertical navigation in some pages | | Resolved | Fixed |
| | CONF-30386 | Confluence Administrator pages are outputing | | Resolved | Fixed |

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| | | | | | |
|---|---|---|---|---|---|
| | | errors to the console | | | |
| | CONF-30349 | Include Excerpt Marco - The table line is missing in documentation theme | | Resolved | Fixed |
| | CONF-30091 | Incorrect links provided to customer on user management > add users screen | | Resolved | Fixed |
| | CONF-30066 | Table of Contents' links broken if Headers/Anchors contain special unicode characters | | Resolved | Fixed |
| | CONF-26151 | Safari - Copying text from a Info/Warning macro copies the entire macro and text. | | Resolved | Fixed |

Authenticate to retrieve your issues

# Confluence 5.2.5 Upgrade Notes

Below are some important notes on upgrading to **Confluence 5.2.5**. For details of the fixes in this release, please read 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**. The Confluence Home directory is the folder where Confluence stores its configuration information, search indexes and page attachments. If you are 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'. Read more about finding your Home directory.
2. If your version of Confluence is earlier than 5.2, read the release notes and upgrade guides for **all releases** between your version and the latest version.
   In particular:
   - Please read the Confluence 5.2 Upgrade Notes.
   - Please read the Confluence 5.1 Upgrade Notes.
   - If you are upgrading from 2.1 or earlier, please also read the 2.2 release notes.

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3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

# Confluence 5.2.4 Release Notes

**10 September 2013**

**Confluence 5.2.4 has a critical bug and should not be used. For more details, see User specific page restrictions are removed during upgrade to Confluence 5.2.4**

## Release Notices

This release is no longer available for download.

## Updates and Fixes in this Release

| Type | Key | Summary | Priority | Status | Resolution |
|---|---|---|---|---|---|
| | CONF-30840 | Link to JIRA-Issues should show the issue's title | | Resolved | Duplicate |
| | CONF-30537 | Spaces imported from 5.1.x into OnDemand lose user data | | Resolved | Fixed |
| | CONF-30384 | JIRA Issues Macro does not display any data in table view | | Resolved | Fixed |
| | CONF-29906 | 500 Internal Server Error upon visiting a page containing attachments via Confluence WebDAV | | Resolved | Fixed |
| | CONF-30443 | Static mode of jira issues macro (default) cannot handle capitalised column names | | Resolved | Fixed |
| | CONF-30429 | Existing JIRA Issues Macros display (${entries.size()} issues) | | Resolved | Fixed |

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| | | | | | |
|---|---|---|---|---|---|
| | | instead of issues after upgrading to 5.2.3 | | | |
| | CONF-30380 | Upgrade to 5.2.x fails due to MySQL collation mismatch on columns 'FOLLOW_CONNECTIONS.FOLLOWER' and 'user_mapping.user_key' | | Resolved | Fixed |
| | CONF-30318 | Reflected XSS in 'where' param of doSearchSite | | Resolved | Fixed |
| | CONF-30263 | XSS attack in macro rendering preview | | Resolved | Fixed |
| | CONF-29799 | Paste images into the editor from clipboard using Firefox 22.x and above does not work | | Resolved | Fixed |
| | CONF-29763 | Template variable values are lost going into Edit Mode | | Resolved | Fixed |
| | CONF-29653 | XSS vulnerability in Jira Macro *Existing* | | Resolved | Fixed |
| | CONF-30968 | Display URL is not used when inserting jira issue with JIRA Macro 5.x | | Resolved | Fixed |
| | CONF-30868 | Jira Macro language problem | | Resolved | Fixed |
| | CONF-30683 | Meeting Notes Save Button Disappears | | Resolved | Fixed |
| | CONF-30672 | Can't use translated | | Resolved | Fixed |

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| | | | | | |
|---|---|---|---|---|---|
| | | column name in JIRA Issue Macro | | | |
| | CONF-30648 | Buttons for "Insert JIRA Issue" dialogue truncated by forced line break for German Translation | | Resolved | Fixed |
| | CONF-30573 | Using a single quote on a heading causes the link in the TOC to not work | | Resolved | Fixed |
| | CONF-30534 | CSRF in doremoveblog post.action | | Resolved | Fixed |
| | CONF-30498 | Jira Macro update problem | | Resolved | Fixed |

Authenticate to retrieve your issues

24 more issues

## Confluence 5.2.4 Upgrade Notes

**Confluence 5.2.4 has a critical bug and should not be used. For more details, see User specific page restrictions are removed during upgrade to Confluence 5.2.4**

Below are some important notes on upgrading to **Confluence 5.2.4**. For details of the fixes in this release, please read the release notes.

### Upgrade Procedure

You should not upgrade to this version of Confluence.

# Confluence 5.2 Release Notes

**13 August 2013**

With great pleasure, Atlassian presents **Confluence 5.2**.

Download latest version

**Highlights of Confluence 5.2**

- Faster and cleaner search
- Introducing the Decisions blueprint
- Blueprints keep getting better
- Add multiple layout sections to your pages

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- Distraction free editing
- A single, smarter way of adding JIRA issues
- Collaborate with your team on the go
- Speedier interactions
- More goodness
- Infrastructure changes and API improvements

### More

- Read the upgrade notes for important information about this release.
- See the full list of issues resolved in this release.

### Thank you for your feedback

Over 30 feature and improvement requests fulfilled

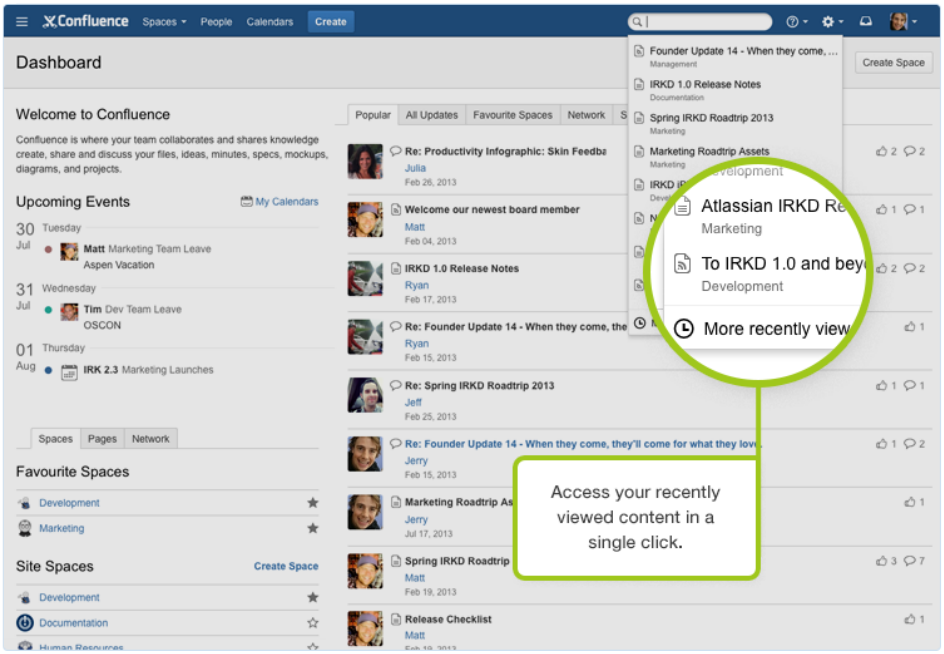
More than 870 votes satisfied.

### Video: Search Improvements in Confluence

## Faster and cleaner search

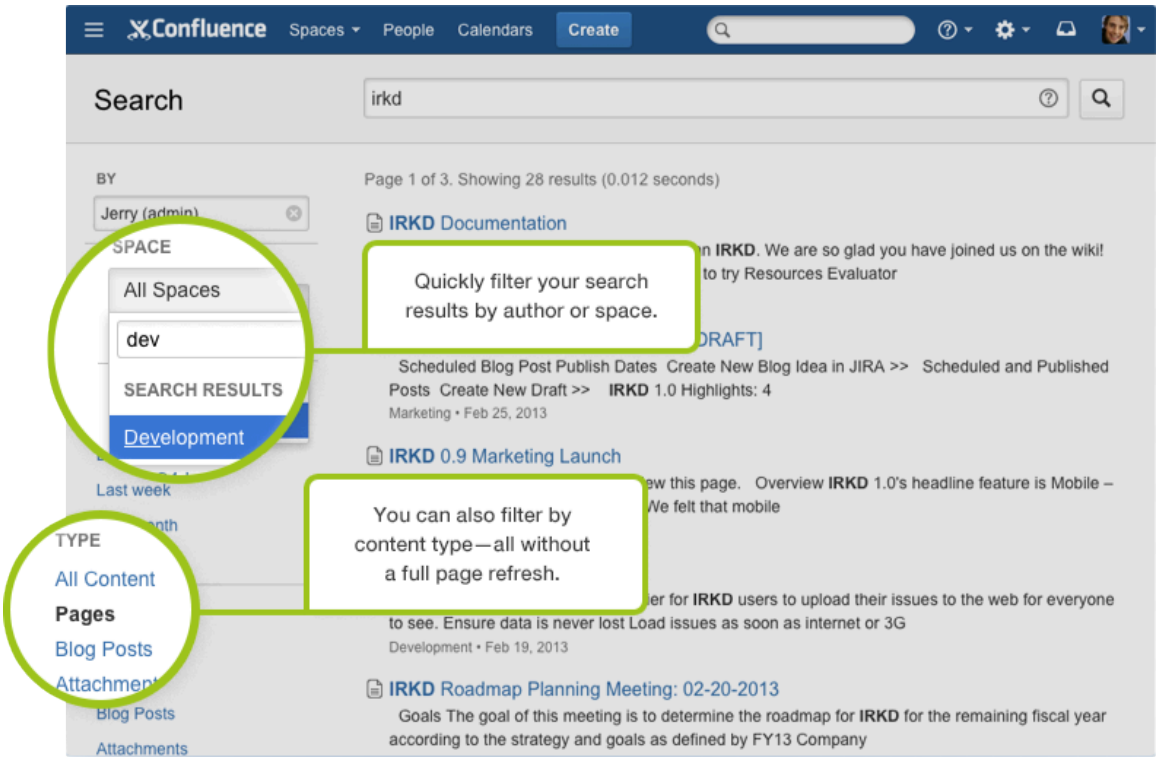
The search interface is now simpler and faster:

- **Access to recently viewed pages** - Users frequently search for pages they've recently viewed, so we've made it easier for them to access these pages from search. Just click into the search field and your recently viewed pages appear.




- **Redesigned filters**. We've redesigned the search filters on the search results page so you can see which filters are in effect. We also moved them to the left side of the screen to make them easier to find.

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- **Instant filters**. When you click a page filter or refine your search, it is instantly applied. You no longer need to click a 'filter' button or wait for the page to refresh.
- **Search syntax hints**. Choose the question mark icon in the search field for help with advanced search syntax including wildcards and searching for macros.
- **Improved phrase matching**. Confluence gives a higher ranking to results where your search terms appear close to each other in the matching content, and ranks exact matches higher still.

We've removed a few things too:

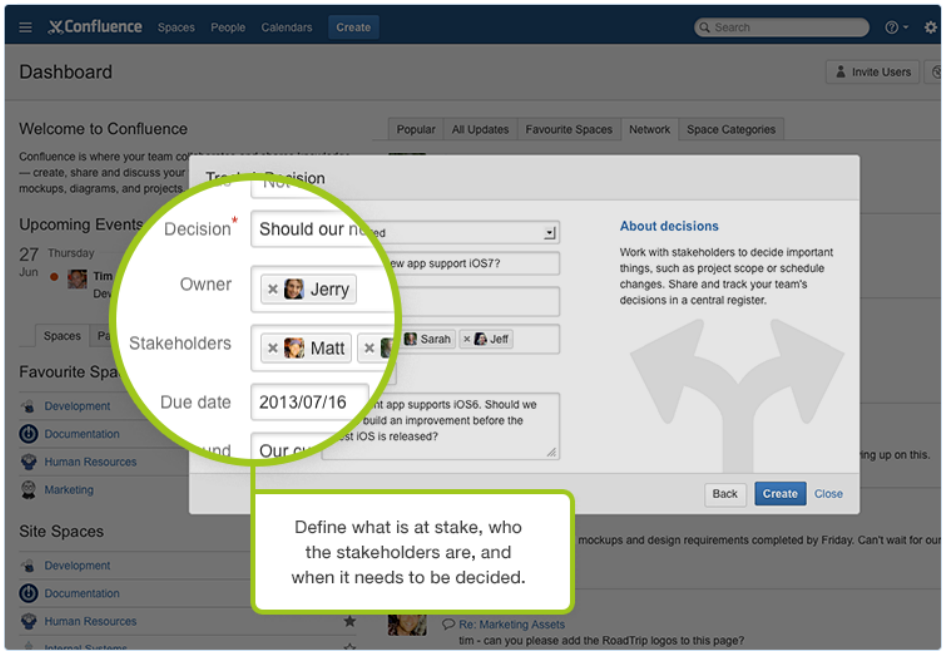
- 'Did you mean': We have removed the functionality that offered alternative search terms, such as correcting a spelling mistake to improve performance.
- Labels browser: We have removed the panel that displayed related labels on the search results page, and the search results no longer favours labels. You can still search for pages by their labels using the advanced search syntax `labelText:chocolate`.



## Introducing the Decisions blueprint

Make and record decisions with your team using the Decisions blueprint.

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Choose 'Create' > 'Decisions' and the blueprint will guide you through a suggested process. It creates a page, so there is plenty of room to record any background information and conduct a lively discussion.

See all your decisions in one place in the Decisions register. It's easy to find – the blueprint automatically creates a shortcut on your sidebar.

3

## Blueprints keep getting better

### Meeting Notes blueprint

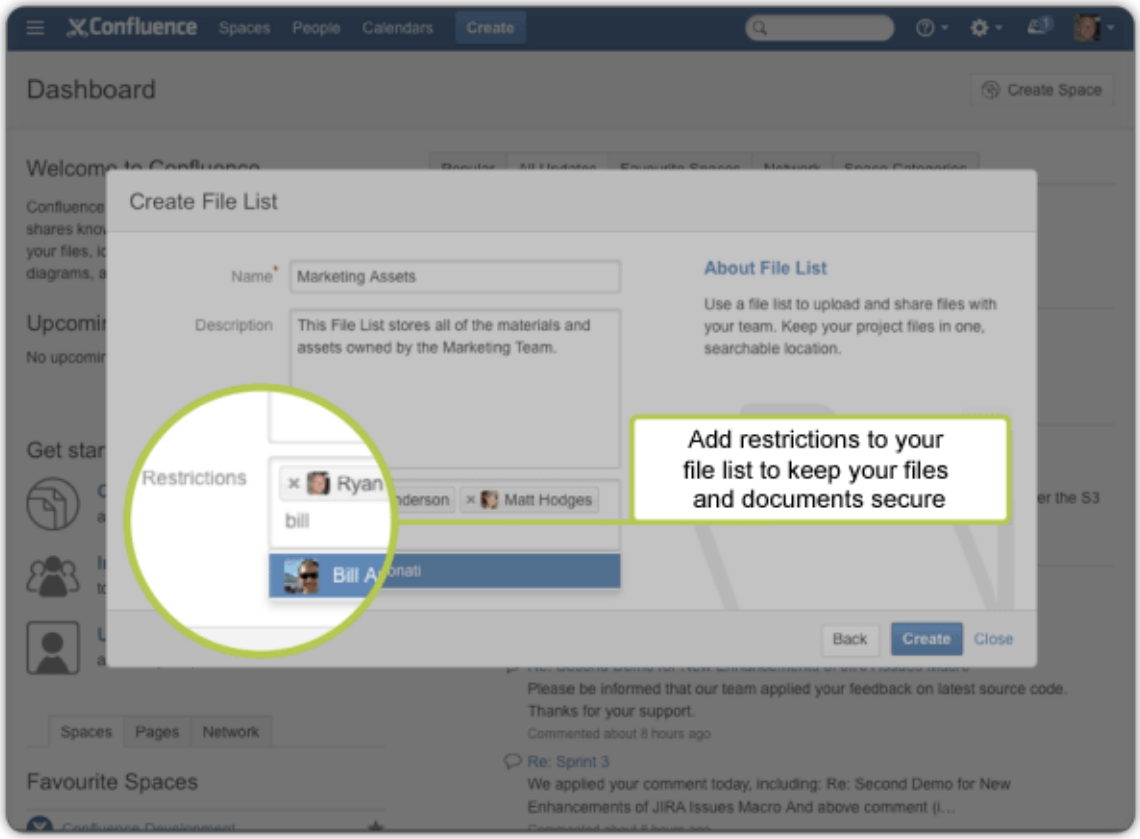
You are now automatically added as an attendee when you create a meeting notes page.

Do you have lots of meeting notes pages already? You can now specify the number of pages to display on the Meeting Notes index page. Simply edit the Content Report Table macro on the index page and specify the number of pages. A 'Find More' link appears where there are more pages to display.

### File List blueprint

Want to create a file list that only some users can see? You can now restrict your file list pages to specific users, right from the create dialog.

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As with the Meeting Notes blueprint, you can also now specify the number of file list pages to display on the File List index page.

### Product Requirements Blueprint

You are now automatically added as the document owner when you create a Product Requirements page.

### Translations

You can now use blueprints in French, German, Japanese and Spanish.

### Customise your page titles in Create From Template macro

The Create From Template macro allows you to add a button to any page to create a new page from a template or blueprint. You can now specify a default page title for all pages created using the button and even include variables such as the current date, space name or space key in the title. Find out more....

### Customise or Disable a blueprint across your whole site

Users with 'Confluence Administrator' permissions can now edit the default Index page template for each blueprint. Note: this will not change existing index pages, but applies to any new index pages created by the blueprint anywhere in your site. Find out more...

Users with 'Confluence Administrator' permissions can also disable a blueprint across the whole site. Disabled blueprints will not appear in the 'Create' dialog in any space. Find out more...



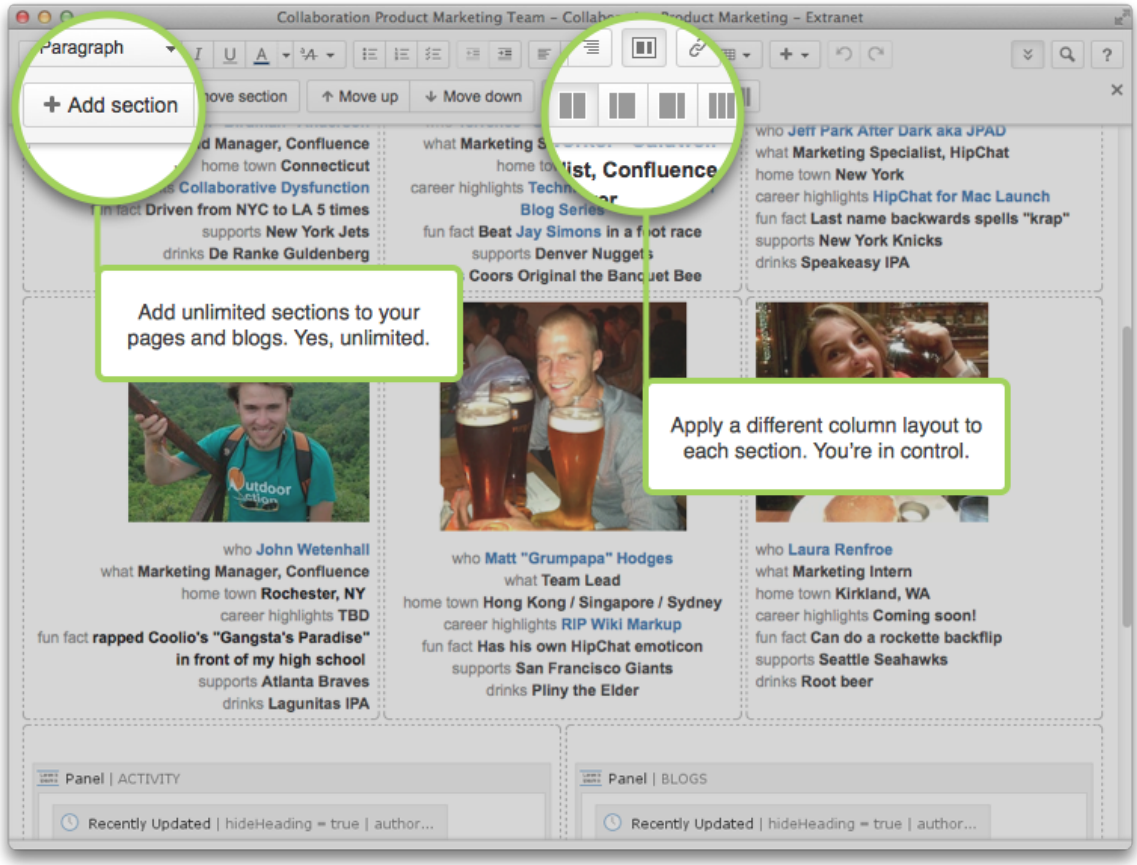
## Add multiple layout sections to your pages

Previously you needed to use the section and column macros to create advanced page layouts with multiple sections, now you can do it visually in the editor. Add any number of sections to the page then choose a column layout for each section. Find out more...

Pages using an existing page layout will be automatically migrated to the new, more flexible, page layouts format

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the first time you edit the page. Pages that use Section and Column macros will not be affected.




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## Distraction free editing

Maximise your editing area when working on long pages. Choose 'Hide Tools' on the toolbar (shortcut key Ctrl+Shift+F) for a distraction free editing experience. To restore, choose the 'Hide Tools' button or use the shortcut key again. Confluence will remember your distraction free editing preference when you save the page.

Watch the video to see the distraction free editor and other new editor features in action.

Note: The full-screen editing option is available in Firefox, Chrome and Safari. It is not supported in Internet Explorer.

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## A single, smarter way of adding JIRA issues

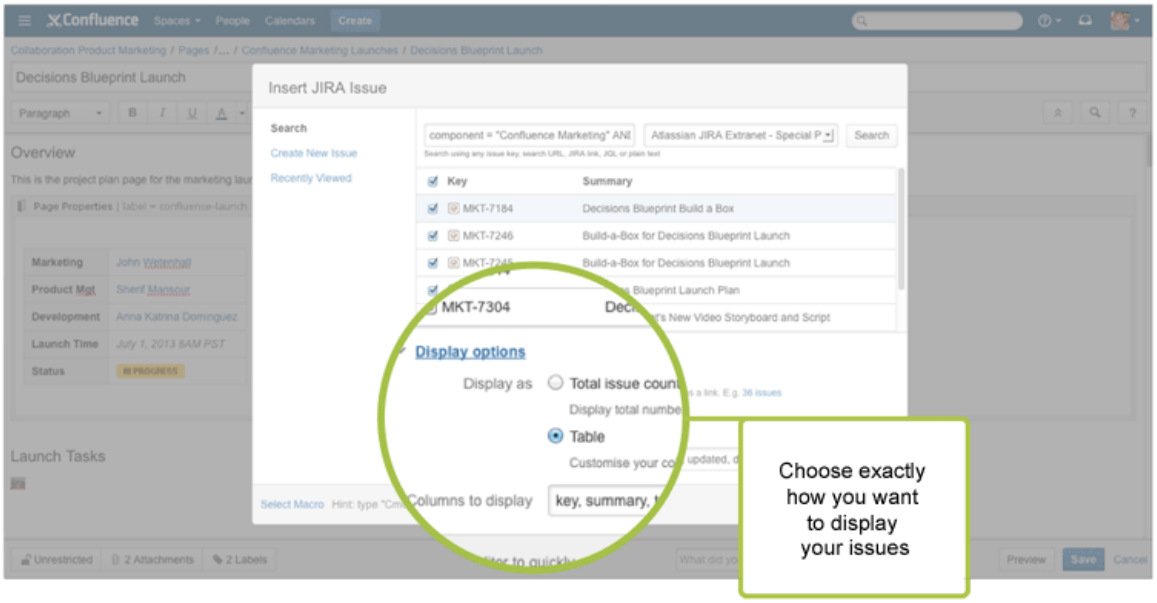
Reporting on your JIRA projects in your release notes and status report pages is now simpler and more intuitive.

We have merged the 'Insert' > 'JIRA Issues' option with the JIRA Issues macro, giving you a single way of inserting and displaying JIRA issues in Confluence. With the new JIRA Issues macro, you can:

- Display a table of JIRA issues on your page, based on the results of a search using JIRA Query Language (JQL) or using a JIRA URL.
- Display a single JIRA issue, or a subset of selected issues from your JIRA search results.
- Display a count of issues for any JIRA query.
- Create a new issue in JIRA and display it on your page.

The new macro is smarter and simpler to use. Find out more....

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## Collaborate with your team on the go

We've made some improvements to Confluence mobile to make it easier to stay up to date and discuss content:

- Use the new 'Watch' button to watch a blog or page.
- Reply directly to comments.
- View nested comments (up to two levels).
- Support for Chrome on Android.

Not using Confluence mobile? Find out more...

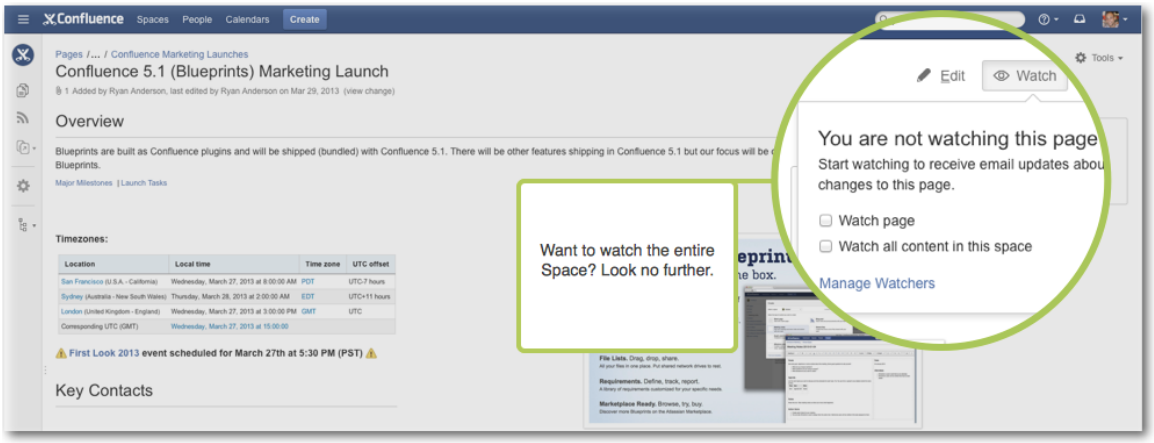
## 8

## Speedier interactions

We've made some frequently used functions faster and easier to access.

### Page and space watches

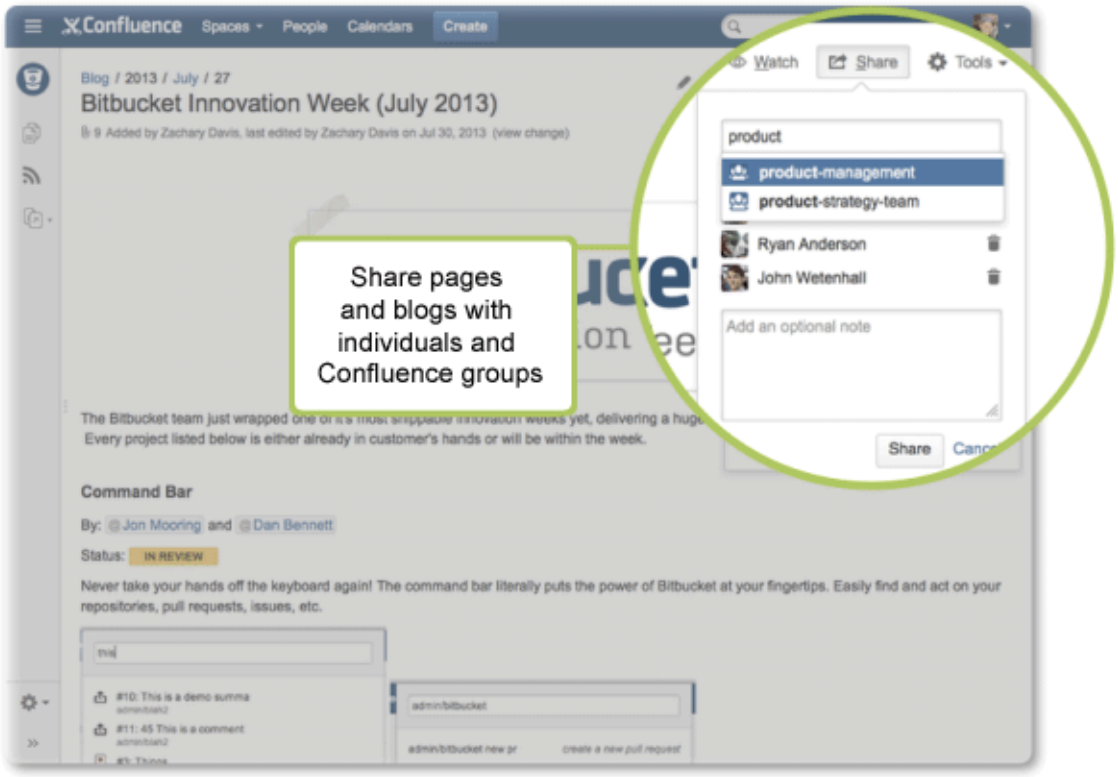
Choose the new 'Watch' button on the page for quick access to page and space watching.
To quickly watch something type `w`. Find out more...




### Share pages and blog posts with a group

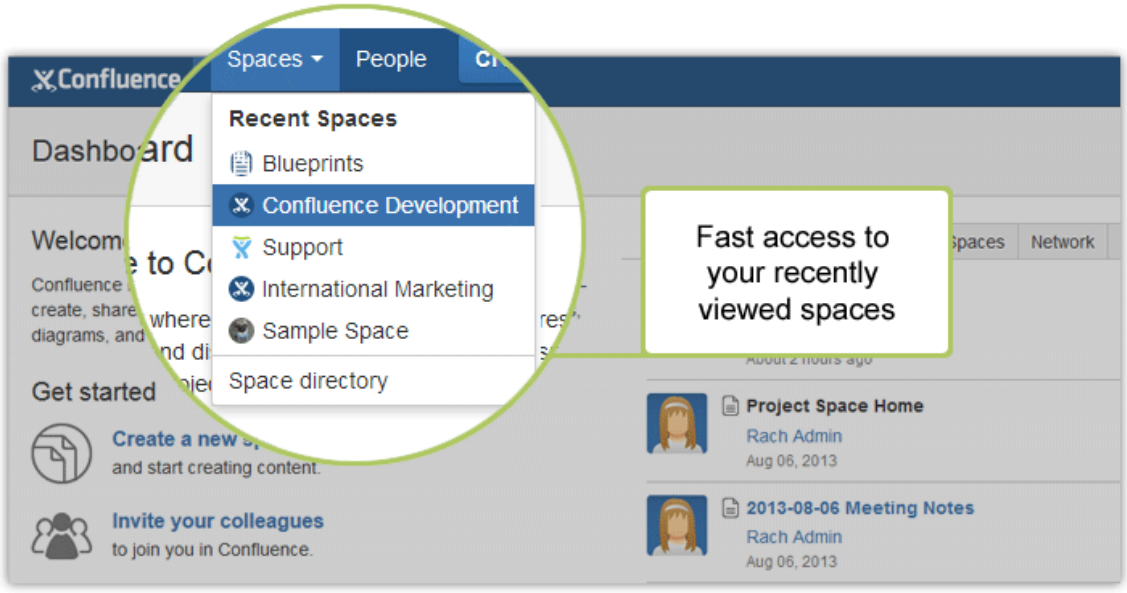
By popular demand, you can now share pages and blog posts with groups.

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### Get to your spaces faster

We've turned the Spaces button on the header into a handy drop down menu. See your last five visited spaces, or choose 'Space directory' to see all spaces in your site.




The Categories in the space directory are now sticky. This means Confluence will remember your selection when you next navigate back to the space directory. We've also added a new 'Space Details' icon ⓘ, so you can jump directly to the details of a space.

### View the space administrator for any space

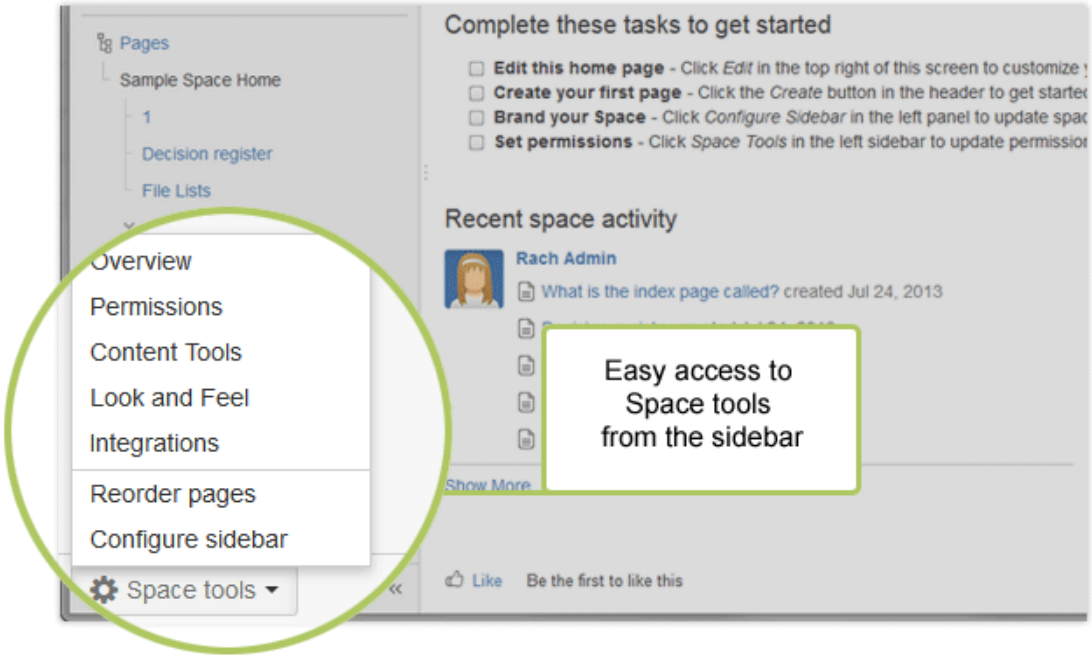
In the Spaces Directory, choose the new Space Details icon ⓘ, or go to 'Space Tools' > 'Overview' within a space to view a list of all the users who have 'Space Admin' permissions for that space.

### Faster access to Space Tools and other sidebar improvements

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We've listened to your feedback, and some options have moved to make them faster and easier to access.

The 'Space Tools' option has moved to the bottom of the sidebar in the default theme. A handy menu makes it easier to access each component. 'Reorder Pages' and 'Configure Sidebar' are now also accessed from the 'Space Tools' menu.




To help you know where you are in your space, the parent page of the page you are viewing is now displayed in the sidebar. This means you can easily navigate up to the current page's parent, right from the sidebar.

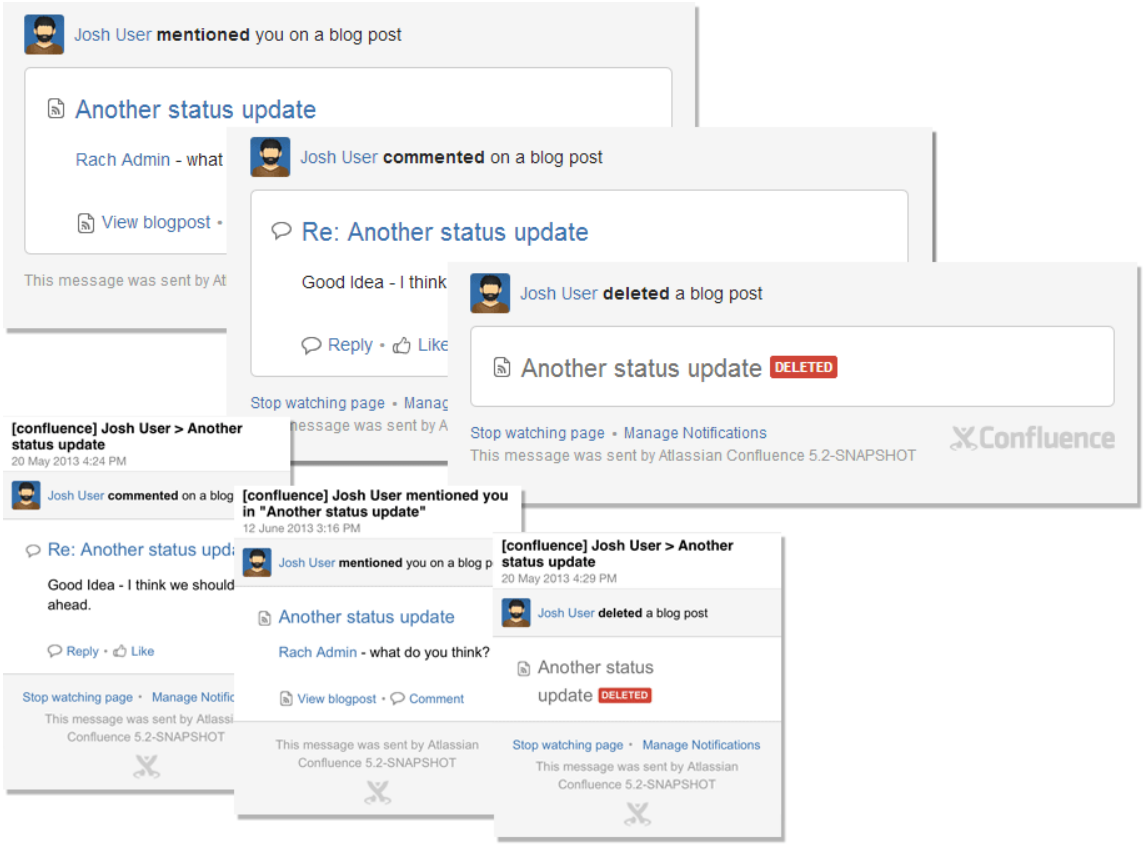


## More goodness

### A facelift for email messages

In Confluence 5.0 we introduced a new, fresh look to your Confluence site. Continuing on that work we've given our notification emails the same treatment. They also now look better in Outlook and on mobile devices. Check out some examples:

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### Delete your own comments

You can now delete your own comments, even if you do not have the 'Remove Comments' permission for that space. You can't delete the comment if someone has already replied to it.

### Terminology changed from 'Remove' to 'Delete'

We've renamed some options from 'Remove' to 'Delete', to clarify the functionality. For example, the option to delete a page is now at 'Tools' > 'Delete' (was 'Tools' > 'Remove'). The location and function of these options has not changed.




## Infrastructure changes and API improvements

These are points of interest to plugin and add-on developers. For a full description of these changes, please see our guide to preparing for Confluence 5.2.

### New pluggable 'About Confluence' dialog

A new dialog appears when you click the help icon  and choose 'About Confluence'. It shows information about your Confluence version and the licenses for various software libraries included in the Confluence distribution. Confluence add-on developers can include information in the dialog, using the new About Page Panel Module.

### Support for MS SQL Server 2012

We now support Microsoft SQL Server 2012. See Supported Platforms.

## Credits

Our customers play an important role in making Confluence better, so here's a shout out to those customers who

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gave up their time to help us make Confluence even more awesome:

- Mat Gauvin, AppFire (Expert)
- Hans-Peter Geier
- Andrew Houriet
- Kristian Peacocke
- Sera Prince
- Martin Seibert (Expert)

## The Confluence 5.2 team

Hi there! Click here to see our names...

**Development**

Adrien Ragot
Agnes Ro
Alexander Dickson
Alice Wang
Anatoli Kazatchkov
Ángel Eduardo García Hernández
Anna Katrina Dominguez
Chris Kiehl
Craig Petchell
Dave Loeng
David Ma
David Richard
David Rizzuto
David Taylor
Don Willis
Edith Tom
Esther Asenjo Reyes
Fabian Kraemer
Hieu Ta
Issac Gerges
Ivan Loire
Jesper Särnesjö
Joe Xie
Jonathan Raoult
Julien Michel Hoarau
Kai Fung Chong
Kenny MacLeod
Khoa Pham
Lap Tran
Matthew Erickson
Nguyen Dang
Nhi Nguyen
Niraj Bhawnani
Olli Nevalainen
Patrick Saw
Paul Curren
Peggy Kuo
Richard Atkins
Ryan Ackley
Sam Tardif
Steve Haffenden
Steven Lancashire
Ted Piotrowski
Wesley Walser
William Archinal
Xavier Sanchez Taixe

**Architecture**

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Charles Miller

**Plugin updates**
David Chui
Kai Chong
Ong Kang Leng
Philip Cher

#### Management

**Product management**
Bill Arconati
John Masson
Sherif Mansour

**Product marketing management**
John Wetenhall
Ryan Anderson
Terrence Caldwell
Matthew Hodges

**Development manager**
Matt Ryall

#### Support

**Sydney support**
Michael Seager
Denise Unterwurzacher
David Mason
Lachlan Dally

**Amsterdam support**
Alex Conde
John Inder
Peter Koczan
Ruchi Tandon
Theodore Tzidamis
Yilin Mo

**Brazil support**
Alyson Reis
Guilherme Heck
Rodrigo Adami
Bruna Griebeler
Luiz Carlos Junior
Giuliano de Campos
Bernardo Acevedo
William Zanchet

**Kuala Lumpur support**
Joachim Ooi
Septa Cahyadiputra
Foogie Sim
Hanis Suhailah
Amalia Sanusi
Cheok Jing Hwa
Hossein Lessan Toussi

**San Francisco support**
Adam Laskowski
Tim Wong
Robert Chang
Ryan Goodwin
Andrew Campbell
Daniel Borcherding

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**Service enablement**
Renan Battaglin

**Cross-product team**

**Design**

Henry Tapia
Valter Fatia

**Quality assistance**
Joey Corea
Mark Hrynczak
Glenn Martin

**Technical writing**
Sarah Maddox
Rachel Robins

# Confluence 5.2 Upgrade Notes

Below are some important notes on upgrading to **Confluence 5.2.3**. For details of the new features and improvements in this release, please read the Confluence 5.2 Release Notes.

**Note on version numbers**: The first publicly available release for this major version is **Confluence 5.2.3**. Confluence 5.2.0 to 5.2.2 were internal releases only.

**On this page:**


- Preparing your team for Confluence 5
- Upgrade notes
  - Changes in preparation for the ability to rename users
  - Lucene Upgrade
  - Advance notice: end of support for MS SQL 2005
  - Advance notice: end of support for the Social Bookmarking plugin
- Upgrade procedure
- Checking for known issues and troubleshooting the Confluence upgrade


## Preparing your team for Confluence 5

Confluence 5.0 introduced a number of **significant changes to the user experience**: a new way of creating content, a redesigned header, a new sidebar, and other changes to the look and feel of your site. People in your organisation will need to be aware of the coming changes, so that they can plan and prepare for them. We have written a guide to help you: Planning for Confluence 5.

In addition, if you are **upgrading from Confluence 3.5 or earlier** please note that the change to the Confluence editing experience is significant. See the guide to Planning for Confluence 4.

## Upgrade notes

### Changes in preparation for the ability to rename users

With Confluence **5.3**, we plan to provide the ability to change usernames. This functionality is not yet complete and won't be fully delivered in 5.2, however 5.2 will include the underlying schema changes necessary to support the feature. As of Confluence 5.2, users now have a new, unique, permanent key as well as the already-existing, unique username.

**For plugin developers:** There are a number of API changes, and your plugin will need to migrate its existing data to user keys instead of usernames. See our developer's guide to Preparing for Confluence 5.2, specifically Renamable Users in Confluence 5.2.

### Lucene Upgrade

With Confluence 5.2, we have upgraded the Lucene search library to version 4.3 as part of larger efforts to make

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search better and faster.

**For plugin developers:** If you have implemented the `Extractor` interface in your plugin, then this upgrade introduces breaking changes. To update your plugin. See How to fix broken Extractors.

#### Advance notice: end of support for MS SQL 2005

We are planning to end support for MS SQL 2005 in Confluence 5.3. See End of Support Announcements for Confluence for more information.

#### Advance notice: end of support for the Social Bookmarking plugin

We are planning to end support for the Social Bookmarking Plugin in Confluence 5.3.

### Upgrade procedure

**Note: Upgrade to a test environment first.** Test your upgrades in your test environment before rolling them 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 5.1, read the release notes and upgrade guides for **all releases** between your version and the latest version.
3. Download the latest version of Confluence.
4. Follow the instructions in the Upgrade Guide.

### Checking for known issues and troubleshooting the Confluence upgrade

After you have completed the steps required to upgrade your Confluence installation, check all the items on the **Confluence post-upgrade checklist** to ensure that everything works as expected. If something is not working correctly, please check for known Confluence issues and try troubleshooting your upgrade as described below:

- **Check for known issues**. Sometimes we find out about a problem with the latest version of Confluence after we have released the software. In such cases we publish information about the known issues in the Confluence Knowledge Base. Please check the known issues for the relevant release on this page of the Knowledge Base and follow the instructions to solve the problem.
- **Check for answers from the community.** Other users may have encountered the same issue. You can check for answers from the community at Atlassian Answers.
- **Did you encounter a problem during the Confluence upgrade?** Please refer to the guide to troubleshooting upgrades in the Confluence Knowledge Base.
- If you encounter a problem during the upgrade and cannot solve it, please create a support ticket and one of our support engineers will help you.

## Issues Resolved in Confluence 5.2

Below are the issues resolved in Confluence 5.2, ordered by number of votes. For the full details of the fixes, improvements and new features, please take a look at our issue tracker. The Confluence 5.2 Release Notes describe the new features in this release.

#### Features and Improvements

| Type | Key | Summary | Status | Resolution | Votes |
|---|---|---|---|---|---|
| | CONF-22430 | Share pages with groups | Resolved | Fixed | 184 |
| | CONF-3840 | Allow Users to Remove Own | Resolved | Fixed | 56 |

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| | | | | | |
|---|---|---|---|---|---|
| | | Comments | | | |
| | CONF-9261 | Improve search by promoting exact matches (for pages, users, spaces) to top of results | Resolved | Fixed | 25 |
| | CONF-14134 | Ability to make search return exact matches or at least prioritize exact matches in the search results | Resolved | Fixed | 22 |
| | CONF-13715 | Allow Titles to be part of a Page Template | Resolved | Fixed | 16 |
| | CONF-26725 | Add Confluence Mobile support for Chrome on Android | Resolved | Fixed | 12 |
| | CONF-26234 | Fullscreen edit | Resolved | Fixed | 11 |
| | CONF-1093 | User Defined Syntax Highlighting | Resolved | Fixed | 11 |
| | CONF-24558 | Make space admins discoverable to a user | Resolved | Fixed | 10 |
| | CONF-9081 | Improve search result ordering , giving prioity to pages that have the all the search works found closer together or as a phrase | Resolved | Fixed | 10 |
| | CONF-27832 | Code block macro: support for Objective-C | Resolved | Fixed | 9 |
| | CONF-4291 | Add query syntax help to search page. | Resolved | Fixed | 8 |
| | CONF-28548 | Internationalise Blueprints | Resolved | Fixed | 7 |
| | CONF-26049 | Add an option | Resolved | Fixed | 7 |

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| | | | | | |
|---|---|---|---|---|---|
| | | in User Directory settings to make an SSL LDAP connection but without verifying that the hostname and certificate match | | | |
| | CONF-13798 | Prevent Confluence startup if version of home directory and database do not match (to stop inadvertent attempt to upgrade via database backup) | Resolved | Fixed | 6 |
| | CONF-5337 | Include breadcrumbs in HTML export | Resolved | Fixed | 6 |
| | CONF-26655 | Allow multiple page layouts in a single page / nested page layouts | Resolved | Fixed | 5 |
| | CONF-23275 | Synchronize entering JIRA issues via the JIRA issues dialog with capabilities of macro when entering via wiki markup | Resolved | Fixed | 5 |
| | CONF-29409 | Remember Sidebar Collapse Beyond Browser Session | Resolved | Fixed | 4 |
| | CONF-27065 | Improve the discoverability of space watches | Resolved | Fixed | 2 |

Authenticate to retrieve your issues

19 more issues

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### Bugs Fixed

| Type | Key | Summary | Status | Resolution | Votes |
|---|---|---|---|---|---|
| | CONF-25599 | Generated images don't get exported to Word | Resolved | Fixed | 67 |
| | CONF-22002 | Confluence renders attachments with long filenames with an ellipsis rather than a presenting the information to the browser and using css to limit the fieldwidth | Resolved | Fixed | 46 |
| | CONF-29048 | Confluence fails to merge changes while editing page concurrently | Resolved | Fixed | 44 |
| | CONF-26597 | Changing category in Space List macro generates wrong URL | Resolved | Fixed | 27 |
| | CONF-20115 | Fix case sensitivity in wildcard searches | Resolved | Fixed | 25 |
| | CONF-28355 | Emoticons in PDF export are displayed wrong | Resolved | Fixed | 20 |
| | CONF-29865 | Unable to create a Confluence Space when a default space logo is configured - Page not found after the Create Space button is clicked | Resolved | Fixed | 11 |
| | CONF-27572 | Invalid XML characters in indexed Word | Resolved | Fixed | 10 |

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| | | | | | |
|---|---|---|---|---|---|
| | | documents cause Confluence to serve up invalid XML to JIRA | | | |
| | CONF-30115 | JIRA issues macro times out pages with lots of issues | Resolved | Fixed | 7 |
| | CONF-29276 | JUnit macro, is not rendering properly | Resolved | Fixed | 7 |
| | CONF-21185 | ancestorIds:pageid changes to "Did you mean ancestoring:pageid" | Resolved | Fixed | 7 |
| | CONF-26656 | Email notifications for uses the author's locale and not the recipients' | Resolved | Fixed | 6 |
| | CONF-28712 | Directory Sync Fails if there are Users or Groups with Curly Braces in their User/Groupname | Resolved | Fixed | 5 |
| | CONF-28405 | Cannot view anything other than first page of labels using non-ascii characters | Resolved | Fixed | 5 |
| | CONF-30350 | Can't save, create, delete, or add comments to pages. | Resolved | Fixed | 3 |
| | CONF-28482 | Look & Feel Editor for Documentation Theme Space is Broken | Resolved | Fixed | 3 |
| | CONF-25925 | Cursor jumps to the top of the editor | Resolved | Fixed | 3 |

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| | | | | | |
|---|---|---|---|---|---|
| | | window when aligning text in Safari | | | |
| | CONF-30251 | Backspace or delete no longer works in Confluence Editor with Chrome and Workbox disabled | Resolved | Fixed | 2 |
| | CONF-29286 | Attachments macro links to labels are inconsistent | Resolved | Fixed | 2 |
| | CONF-28742 | Mention @user sends email from personal mail instead of the default Confluence email | Resolved | Fixed | 2 |

Authenticate to retrieve your issues

53 more issues

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