Macrotone Issue Tracker Guide

Geoffrey S. Chapman, Macrotone Consulting UK Ltd.

Macrotone Issue Tracker Guide:

by Geoffrey S. Chapman

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Abstract

This book covers the use of the Macrotone Issue Tracker component which allows you to control issues or problem reports on your Joomla!™-powered web sites.

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Joomla

Issue Tracker

Component

Author:	G S Chapman
Date:	11th August 2015
Version:	1.6.8

DOCUMENT HISTORY

Version	Date	Changed By:	Remarks
1.0	26/03/2012	G S Chapman	Initial version
1.1	06/05/2012	G S Chapman	Bring in line with Release 1.1 of Issue Tracker. New Issue Type table, checkin/checkout functionality etc.
1.2	17/08/2012	G S Chapman	Updated for release 1.2.
	24/08/2012	G S Chapman	Add known issue for sample data.
1.2.1	05/09/2012	G S Chapman	Updated for release 1.2.1
	10/09/2012	G S Chapman	Add latest fixes
1.2.3	12/09/2013	G S Chapman	Update for release 1.2.3 (Never publicly released.)
1.3	26/02/2013	G S Chapman	Update for release 1.3.0. Design of the component has been split into a separate document.
1.3.1	15/04/2013	G.S.Chapman	Release 1.3.1 updates. Removal of old pre 1.2.0 release notes which no longer apply to current version.
1.3.4/1.4.2	02/10/2013	G.S.Chapman	Combined document for Release 1.3.4 and 1.4.2 which runs upon Joomla 3.x. Addition of Tranisfex details.
1.3.5	21/10/2013	G.S.Chapman	An optional update for Joomla 2.5 that would install upon a site where database privileges did not permit the creation of database procedures, triggers and views.
1.5.0	04/12/2013	G.S.Chapman	Document for Release 1.5.0 which runs upon Joomla 2.5 and 3.2.
1.6.0	25/02/2014	G.S.Chapman	Document for Release 1.6.0 which includes a restructured Progress History display and the ability to define Custom Fields.
	28/03/2014	G.S.Chapman	Updated for changes implemented after the earlier documentation was created to reflect actual release features. This adds the changes made as a result of user feedback.
1.6.2	14/06/2014	G.S.Chapman	Document for Release 1.6.2. This was mainly a bug fix and minor enhancements release, implementing some of the suggested improvements from our users.
1.6.5	13/11/2014	G.S.Chapman	Document for Release 1.6.5. This was mainly a minor enhancement release, but introduced the integration with AcySMS to enable sending of SMS

Version	Date	Changed By:	Remarks
			notifications.A number of the images have been updated to reflect their appearance in Joomla 3.3.
1.6.7	17/03/2015	G.S.Chapman	Document for Release 1.6.7. Updated to include recent changes and new features.
1.6.8	11/08/2015	G.S.Chapman	Document for Release 1.6.8. Updated to include recent changes and new features.

PURPOSE OF DOCUMENT

This documentation describes the release 1.6.8 version of the Joomla Issue Tracker component by Macrotone Consulting Ltd. The release runs on Joomla 2.5 and Joomla 3.x

The feature changes in this release include the a restructured Progress History and the ability for the site administrator to define Custom Fields for Issues.

Part I. Macrotone Issue Tracker

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Chapter 1. Overview

This document describes the Macrotone Consulting Issue Tracker component. It covers installation and usage of the component, along with suggested configuration options.

The planning, design and creation of the Joomla Issue Tracker component for Joomla! 2.5/3.x is available in a separate document. The component has its origin in a ‘Problem Management System (PMS)’ developed many years ago on an Oracle Database using Oracle Forms. It migrated to an Oracle Application Express (APEX) based application and incorporated ideas from a sample APEX application. This version takes the sample and implements it upon a MySQL database using Joomla 2.5/3.x as the interface. As time and circumstances permit some of the original program features may/will be re-implemented on toe new platform.

The completed Issue Tracker component is available on the Macrotone Consulting Ltd Website:

http://www.macrotoneconsulting.co.uk/index.php/Macrotone/joomla-extensions.html

Wikipedia defines an Issue Tracking system (ITS, trouble ticket system, support ticket or incident ticket system) as a Computer Software package that manages and maintains lists of Issues (computers), as needed by an organisation. Issue tracking systems are commonly used in an organisation's Customer Support / Call Centre to create, update, and resolve reported customer issues, or even issues reported by that organisation's other employees. An issue tracking system often also contains a Knowledge Base containing information on each customer, resolutions so common problems, and other such data. An issue tracking system is similar to a "bug tracker", and often, a software company will sell both, and some bug trackers are capable of being used as an issue tracking system, and vice versa. Consistent use of an issue or Bug Tracking System is considered one of the "hallmarks of a good software team".

This light-weight implementation is suitable for a small or medium sized organisation to record and efficiently respond to reported problems / issues.

Where ever possible the development tries to lever the supplied features provided in the Joomla core. This enables the same ‘look and feel’ as supplied by the standard Joomla components, ensuring user familiarity and making for easier implementation.

Chapter 2. Installation

Installation uses the standard Joomla install method.

Important

Do NOT uninstall Macrotone Issue Tracker before updating it! Uninstalling will remove all of your data, including all of your configuration information!

Note

The language (translation) files are NOT installed automatically. You can download and install them from our language download page. Do note that you will have to install both the component and the language packages for the component to work.

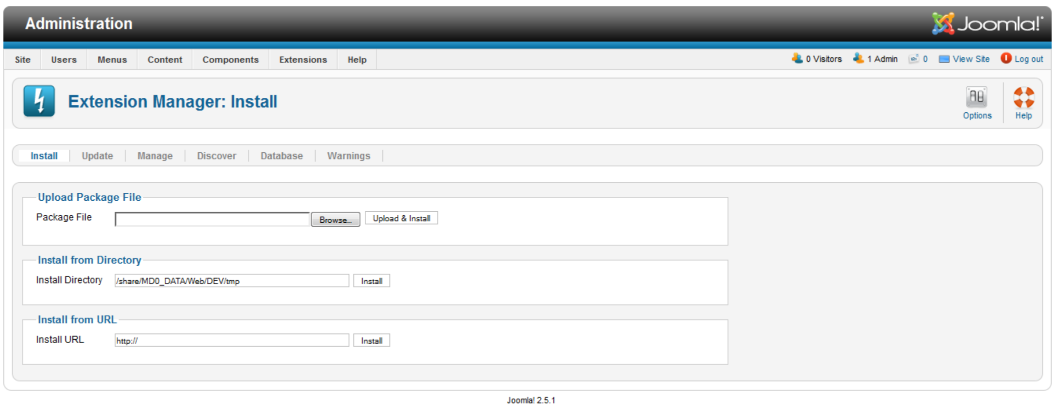
Macrotone Consulting Ltd only produces the English language files. All other languages are contributed freely by third parties. If you spot an error if the first instance please go to the translation project page to find the contact information of the translator. Abandoned languages will show the maintainer being our staff member "geoffc". In this case we will try to help you but our knowledge of foreign languages is very limited; if you would like to fix the language package you will need to create a Transifex account and to volunteer to take over the translation project for that language.

Download the Latest Version

Once you have downloaded the latest version, you are ready to install the component.

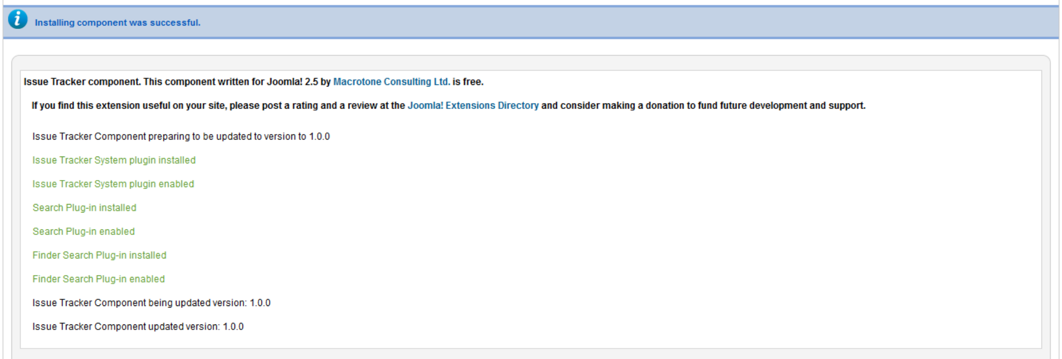
Step 1 of 3 - Install the Component: Login to your Joomla Administrative centre and in the Extensions menu, click on the Browse button and navigate to the file location where you downloaded the file. Click on the file and then click on the Install/Uninstall button.

Figure 2.1. Initial Installation Screen.



Step 2 of 3 - Once the Component is installed, the following screen will be displayed.

Figure 2.2. After installation screen



Note

Depending upon the Joomla version and the version of Issue Tracker being installed, there may be several messages indicating that some database privileges are not available (granted). In these situations depending upon the specific grants not provided, may result in some lose of functionality, mainly in the provision of the sample data.

Important

Release 1.4.2 introduced some checks upon the granted database privileges to the Joomla connection user. i.e. The user configured when the Joomla system was installed to make the database connection. If the user has not been granted the permissions to create database views, trigger and/or procedures the installation will still succeed. Formally installation would generate an error.

The consequence of these database privileges being missing is that some loss of functionality is inevitable.

Inability to create database views means that the finder search plug-in has to use a longer and more complicated join syntax. The plug-in will still function albeit perhaps slightly slower.

Inability to create database triggers means that the back up audit tracking will not be available. There is a first line audit tracking facility coded in the component itself. The back up facility is intended to capture changes that occur outside of the component.

Inability to create database procedure means that the sample data together with its installation and uninstall tasks will not be available.

The enhanced auditing feature requires database triggers to function. Absence of the correct database privileges to create database triggers means that this feature will be unavailable.

Release 1.6.5 introduces the ability to send SMS messages. In the release this is considered a proof of concept, more than a feature that will have wide spread usage. This is mainly due to the limited amount of testing that is possible. We do not have the ability (or knowledge) of all of the different SMS providers, and certainly cannot test SMS reception in the various countries of the world. We anticipate there will be changes in future versions as we receive feed back from our users.

Step 3 of 3 - Configure the Component: Navigate to the Component: Issue Tracker Control Page. Choose the Options icon ion the top right hand side of the page, and set as required. Settings are described in the documentation..

Using Live Update

Macrotone Issue Tracker integrates the Akeeba Live Update system. Log in to your site's back-end and go to Components, Macrotone Issue Tracker. Look towards the middle of the page. There should be an icon which reads "Update found" when there is a new version available. Click on it and then click on "Update now". The new version will be downloaded and installed automatically for you. In case this doesn't work, or if "Live Update not supported" is displayed below the icon, please make sure that your host's firewall allows TCP/IP communications over port 80 and 443 to `macrotoneconsulting.co.uk`. If your host requests IP addresses instead of domain names, please ask them to trace them from the server as they are multicast hostnames, which means that they resolve to a different IP depending on where in the world you are.

Upgrade Notes

Release 1.3.0 introduced a structuring of the Project table to become a fully nested table. The update will convert an existing pre-1.3.0 release projects table into the correct form, however it is important to check your installation carefully. In particular the 'order' of the projects and any sub-projects that may be present.

The default 'Unspecified Project' which formally had a id value of one (1) was changed to have an id value of ten (10). This should not create any problems since the first assigned project created on your site should have a starting id of eleven (11). All references from the issues and people tables to the 'Unspecified Project' will also have been changed. In some circumstances it may assume an id of nine (9) but this is not the norm.

The upgrade also introduces a 'Root' project which used the id of one (1). This is the parent of all first level projects, but will not be visible in the project displays as it is filtered out. [It will be visible if the table data is inspected using a tool such as phpadmin.] This is a deliberate design decision and enables the correct operation of the nested table.

Prior to release 1.4 the Latest Issues Modules was a separate download and installable item. Hence it was necessary to upgrade the version of the latest issues module (version 1.3.0 required) to reflect the project table change introduced with the component version 1.3.0 of issue tracker. Since release 1.4 the module has been included as standard and is automatically upgraded when the component is upgraded.

Chapter 3. Configuration

This chapter describes the Macrotone Consulting Issue Tracker component options.

Component Options

This section describes the various component options available.

There are a number of options available to configure the component. These are all accessed from the ‘Option’ icon in the top right hand side of most of the Administrator screens. Hovering over the option title will display took tips explaining what the action that the selected option setting performs.

General Options

Figure 3.1. General Option Settings

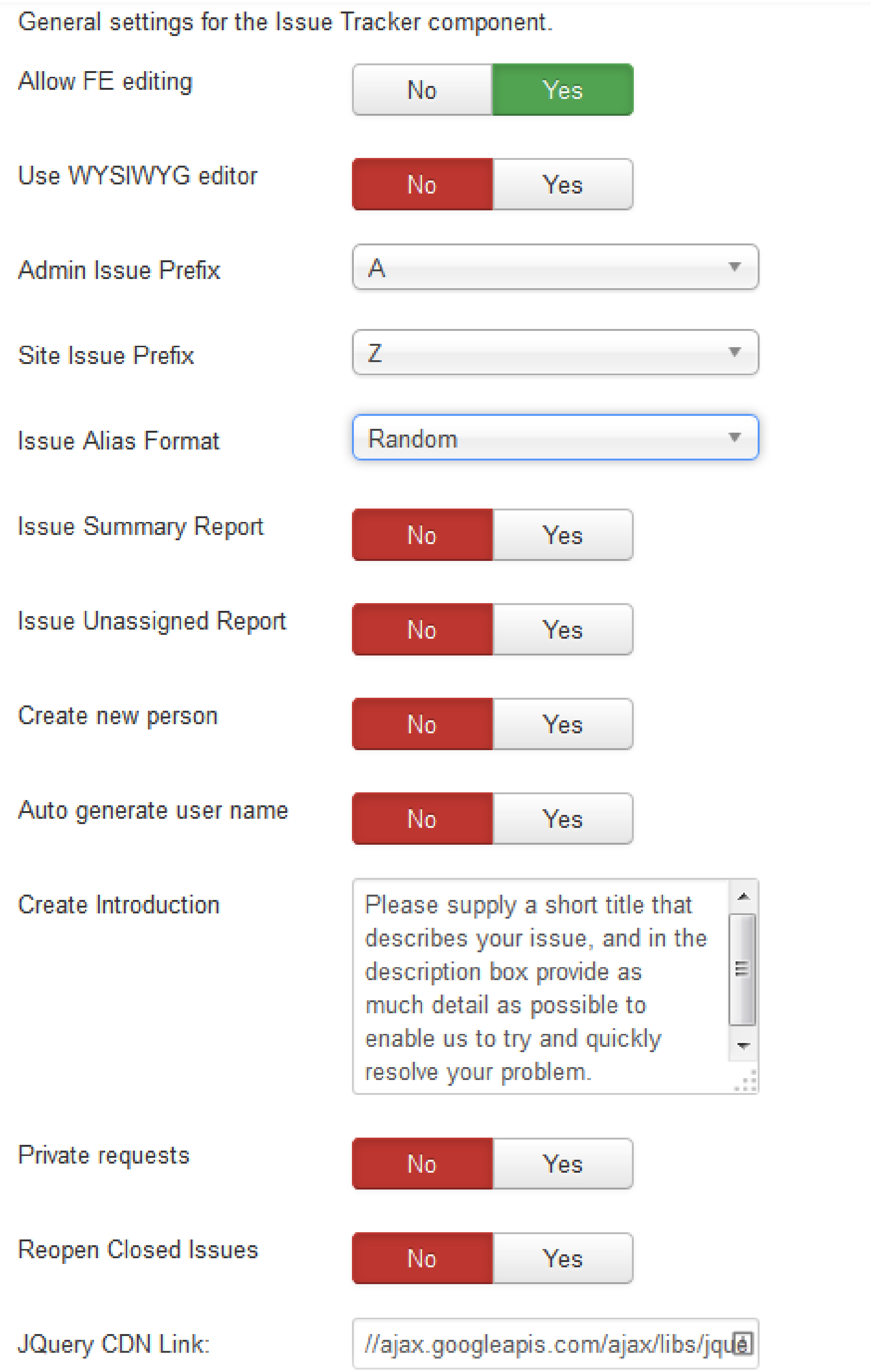
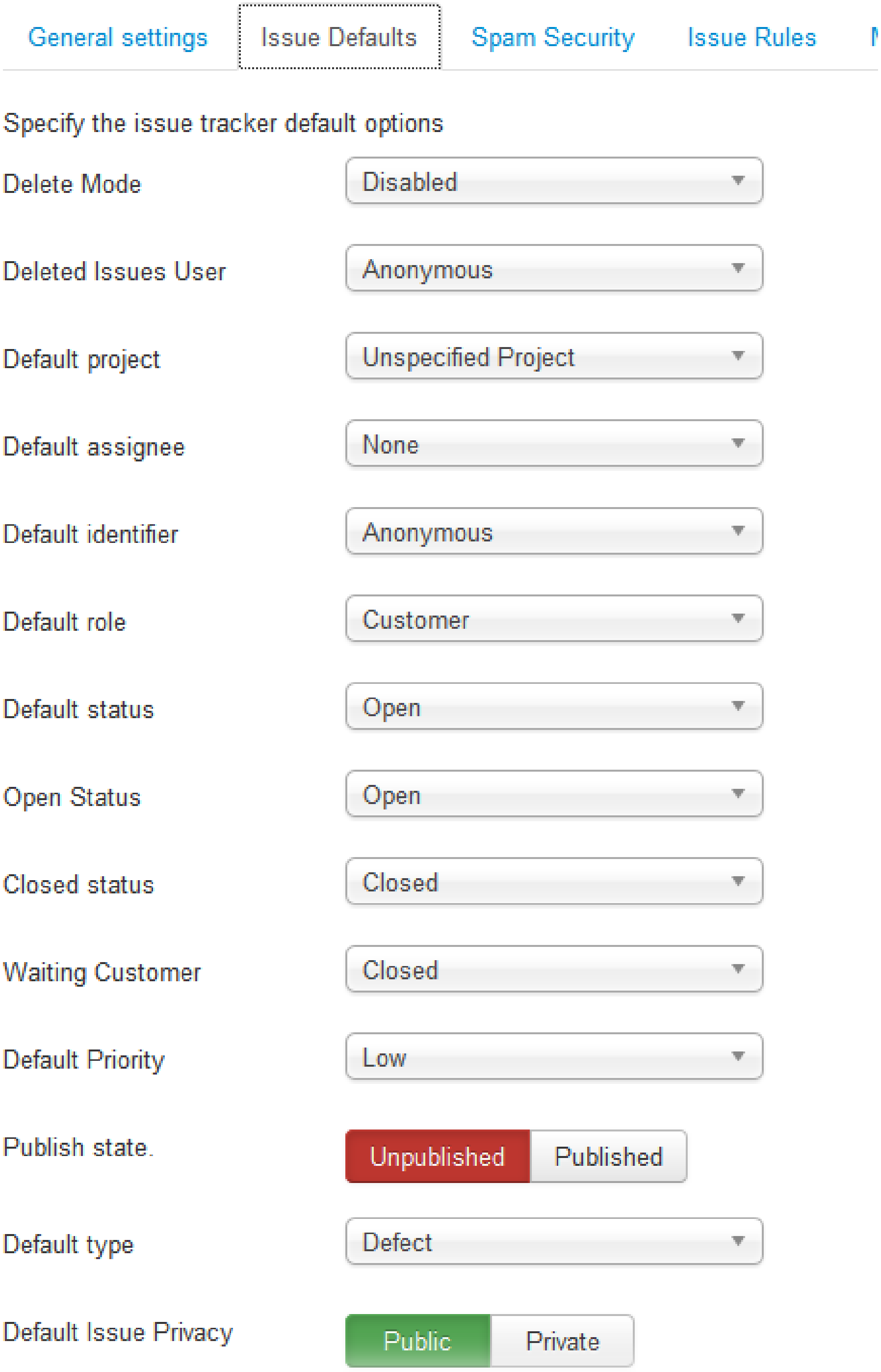


Figure 3.2. Issue Defaults



The general options specify the delete mode. In order to retain information and build up a knowledge base it may not be desirable to delete, issues, projects or people from the component. For that reason the default is that the delete mode is 'disabled'. The other options are for a 'Hard' or a 'Soft' delete. Depending upon what is being deleted will determine the action taken when these options are picked.

A hard delete will remove the record from the database.

a. If a project is being deleted then not only will the project be deleted, but al the issues associated with the project will also be deleted. In addition if the project is defined as the 'default project' for any user, then this will be modified for those users.

b. If an issue is being deleted then the issue will be deleted from the database.

c. If a user is hard deleted then all issues associated with the user will also be deleted along with the user.

Note

The Joomla registered entry is not affected.

A soft delete causes a re-assignment of associated record.

a A soft delete is really only relevant with user deletion, where all associated issues for that user will be change to refer to the specified default.

b For projects and issues a soft deleted is treated as a hard delete described above.

The deleted issue user is the user to whom all issues associated with ‘soft deleted’ users will be re-assigned.

The remaining options refer to the default values to be used for projects, project assignee and publishing state.

- For issues the default publishing state, default project and default assignee will all apply.
- For a user the default project will be used.
- For a project the default publishing state will apply.

Not show in the figure above but present in release 1.2.0 are the options to enable front end editing for issue administrators and registered users. Also available is an option to use a site defined WYSIWYG editor installed upon your site such as JCE. (Others are available.)

The default assignee was changed in release 1.2.0. The person defined as the default assignee must be a registered user (otherwise how could they ever update an issue) and they must be a staff member. The drop down list is configured to only show people who meet this criteria. Release 1.2.2 added a default of ‘None’ for the default assignee in the options. When an issue is created and a project allocated, the assignee for the project is determined initially based upon whether the assigned project has an assignee. It the project does not have a configured assignee the 'default assignee' is used instead.

Introduced in release 1.3.0 is a public/private flag. If the option is enabled then when an issue is created on the front end, the raiser has the option of making the issue 'private'. If defined as private the issue is classed as containing information that under no conditions should be made available for display on the front end. Information in these issues should only be visible to the person raising the issue and the support staff. Information that might fall into this category includes passwords etc. If the option is enabled then the back end issue list will show an additional flag indicating private or public, and the additional field will be displayed on the front end create an issue form..

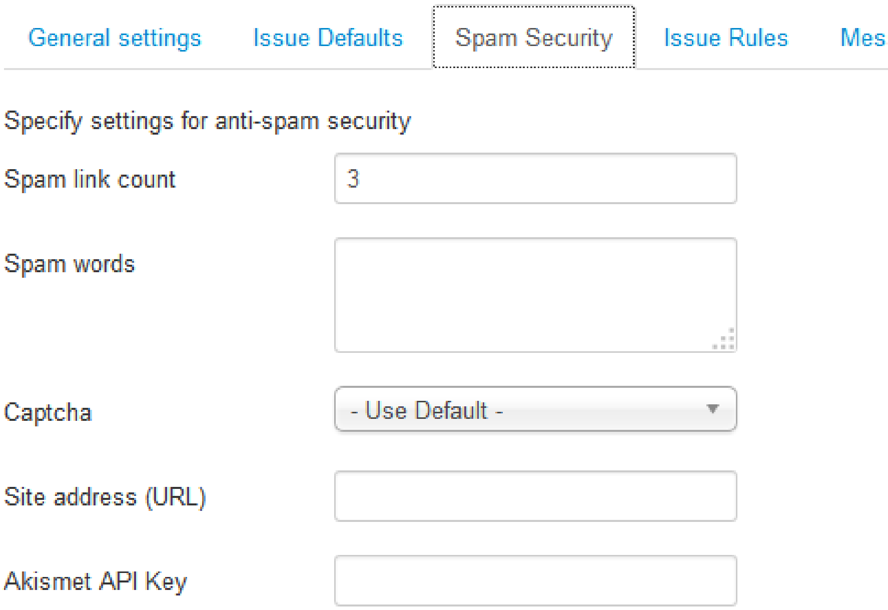
Important

An issue marked are private cannot be made public by design, not even by the issue administrator, even if the sensitive information is removed from the issue details itself. Private issue are not published by design, and it is not possible to change their state to published.

Release 1.6.8 introduced some additional default settings for the 'progress' record records such that it is now possible to specify the default state (published/unpublished), access level, and privacy (public/private) fields on each individual progress record. Formally the defaults were hard coded and the user had to 'opt' for the settings required from the droop down lists.

Spam Security Options

Figure 3.3. Spam Security Options



It is recognised that it is fact of life that there will always be someone who wished to create SPAM comments and the issue tracker if configured to allow to unregistered users to raise issues, it may also fall prey to this type of action. For that reason there is incorporated within the component the ability to filter out such entries.

The first line of defence is to make use of the Captcha facility provided in Joomla 2.5 and above. The component uses the inbuilt Joomla captcha thus automatically uses which ever version of Captcha is configured. This in itself is possibly not sufficient and there is therefore the ability to specify a limit upon the number of embedded links in the issue description an title. Experience indicates that more than 3 links is almost always SPAM. Finally we can check the issue summary and issue description entered for any specific words that we might deem contrary to what is acceptable.

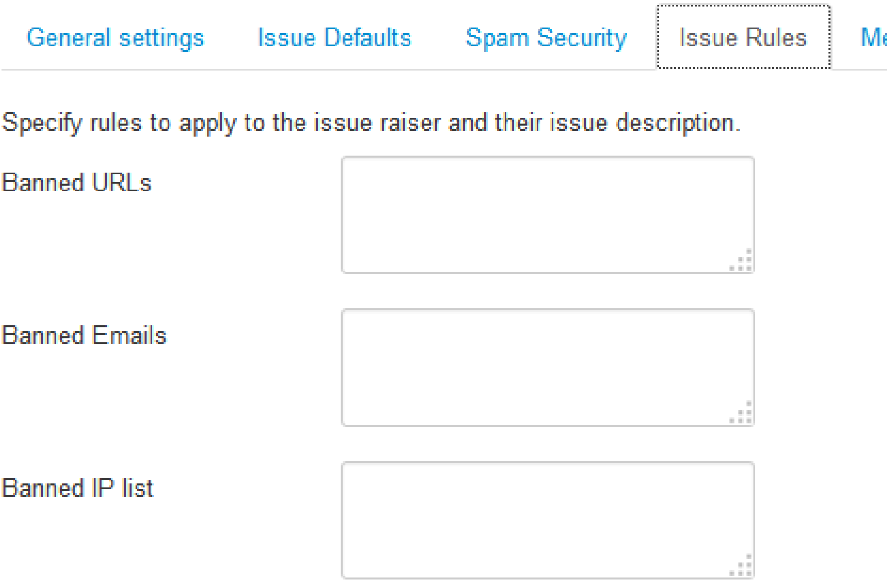
The Site address and the Akismet API key are both required if the site wants to make use of the Akismet integration. An incorrect API key will prevent the saving of the options until the correct key, is entered or if the field is left blank.

Important

The default value for the link count of 3 is more than suitable for most normal usage. However if the site is making use of scheduled email fetches to collect issues (and updates) via email, then it may well be required to increase this value. Doubling it is often sufficient. This is to allow for the situation where the user has 'replied' to an earlier notification email which will itself contain embedded links, to the raised (or updated) issue and to our website, plus any links incorprated by the email server itself.

Issue Option Rules

Figure 3.4. Issue Option rules



The issue rules further define what may or may not be acceptable. We have the ability to prohibit input from any set of URLs, or any of a list of specific email addresses and or any of a list of specific IP addresses.

In this way be have minimised the chances of recording ‘funny’ or otherwise undesirable issues raised by an unregistered user.

Message Options

Figure 3.5. Message Option settings (1)

This section was prior to release 1.6.5 named 'Email Options', now with the possibility to send SMS messages it is renamed 'Message Options'. The Message settings are used by the system to generate email and/or SMS messages. Release 1.2.0 introduced the ability to control emails send to users, assignees and administrators based and to easily configure them separately. Issue administrators are controlled by the settings in If enabled a message is set to all staff marked as ‘Issue Administrators’ in the People table. [See People Display above - People Manager]. The message contents are controlled by the templates provided in the main email type tabs described section Message Tab .

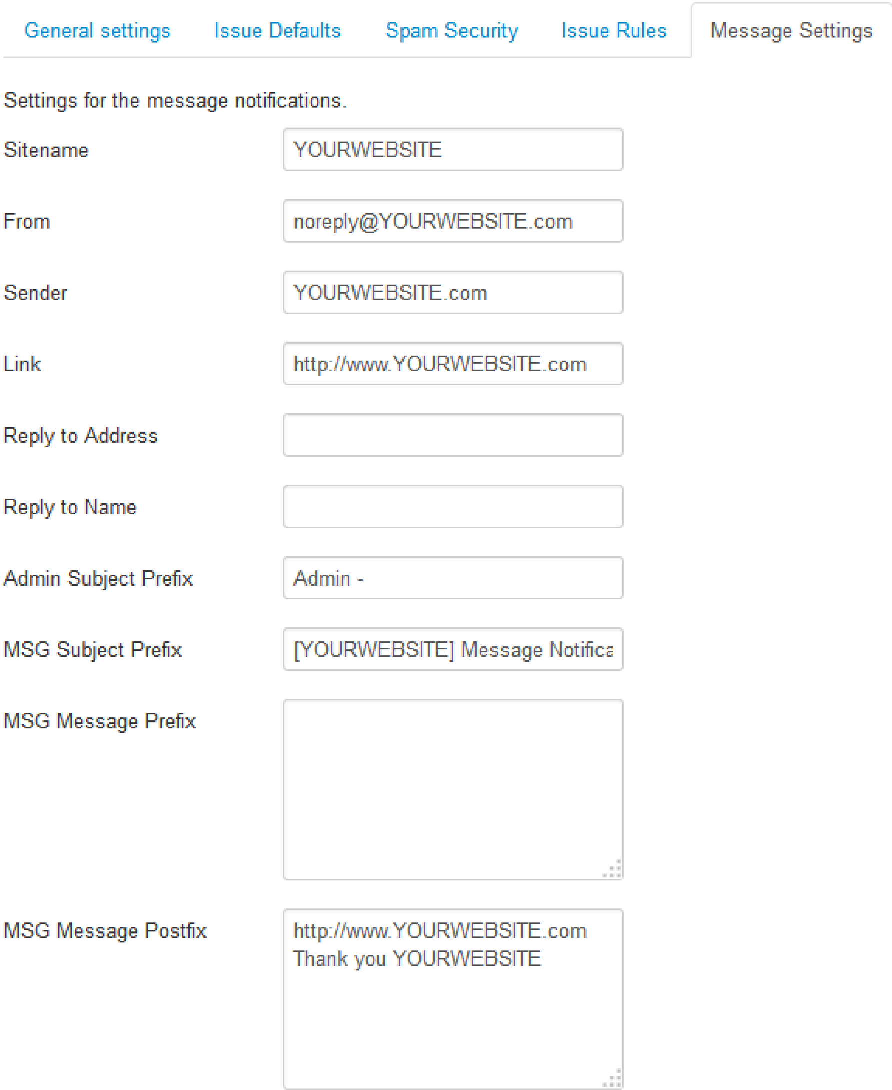
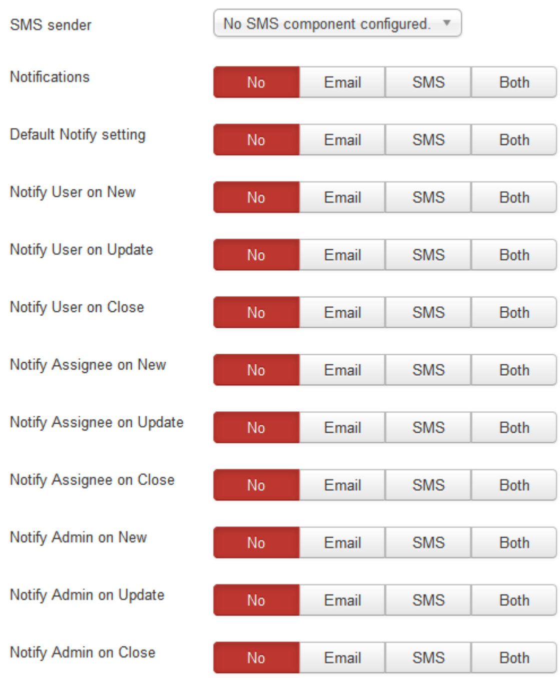


Figure 3.6. Message Options (2)



When an issue is raised on the front end, one of the required details is the users email address. If the user raising the issue is ‘registered’ to Joomla then the email address stored in the ‘People’ table is used as the address. If the issue raiser is a guest then the user is required to enter a valid email address, which is then used to send to the raiser a message providing a link to the issue and the issue number, and is either stored in the progress field of the raised issue, or it configured an entry is created in the it_people table creating what is known as an ‘unregistered user’.

The Front End issue raising form also asks whether the user wishes to be updates when the issue is changed. If the affirmative is given then an email address may or may not be sent depending upon the notifications settings above. For example it is possible to only send the user a closure email and/ or update messages.

Note

If an issue is ‘Closed’ and then updated again, a second email will be send. Every time an issue that is closed, is edited an email message will be generated so care should be taken to ensure that a ‘Closed’ issue is seldom if ever re-edited.

The 'Notification' switch takes priority over all of the following options. If it is set to 'No' then notifications, of any kind, will NOT be send from the component. If set to one of the other settings then the individual options will tend take effect. Whether a specific message is sent to a recipient will then be determined buy the specific settings for the user themselves. i.e. 'Email Notifications' and/or 'SMS Notify'.

Important

SMS notifications rely upon the presence on the site of the AcySMS component. If this is not installed upon the site then SMS notifications will not be possible independent of any SMS settings defined in the options. The implantation details of SMS messaging is described in the Issue Tracker Design Documentation.

There are some additional in-built rules that are used to prevent the sending of messages in specific circumstances. These are described below:

New Issues:

- Notify user and assignee if the issue is new **except** where it is closed immediately.
- Notify issue administrator **unless** an issue administrator actually opened the issue.
- Notify the assignee **except** if the assignee opened the issue and assigned it to themselves.
- Notify all issue administrators.

Closed Issues:

- If an issue administrator is closing the issue do **not** notify them.
- If user has requested it notify them of closure.
- If the assignee is closing the issue then do **not** notify them.

Updated Issues:

- Notify all issue administrators, **except** if an issue administrator updated it.
- Notify the user if requested.
- Notify the issue assignee of updates and closure **except** if the assignee made the change.

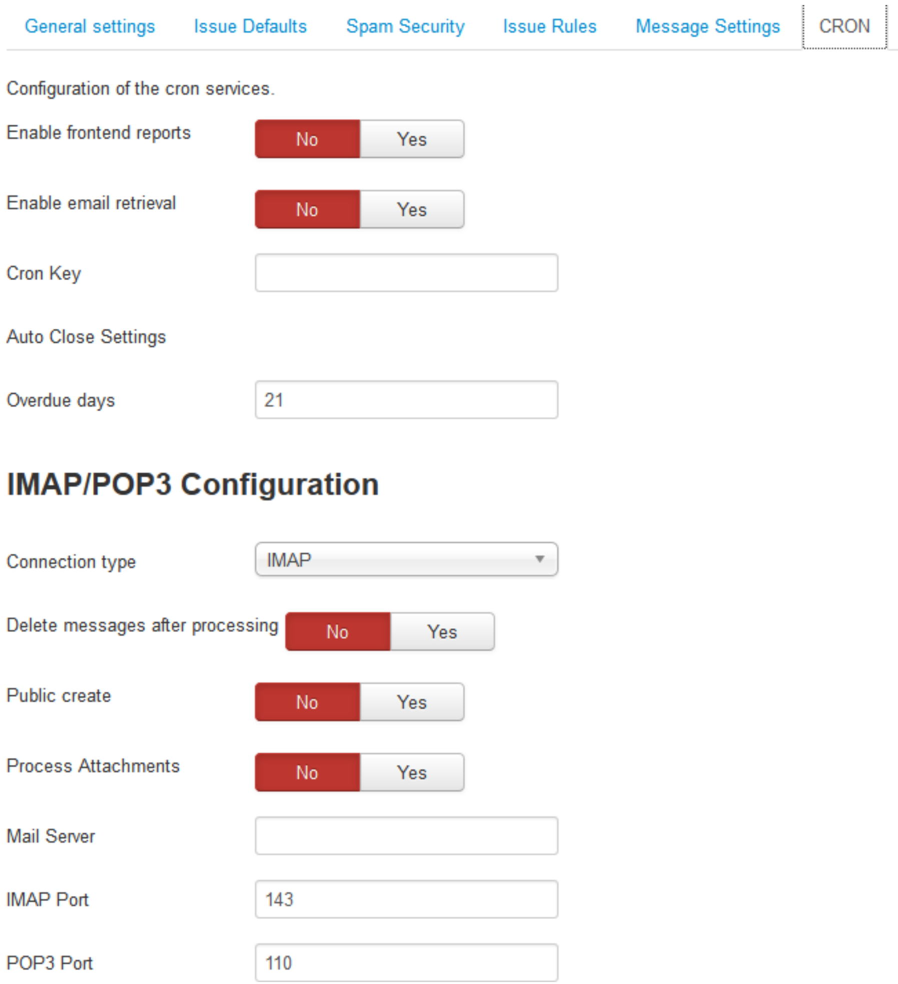
Important

To be able to receive email notifications the user has to have the email notifications flag enabled in the people table. If not enabled emails will not be sent to the individual.

Cron Control Options

Release 1.5 introduced the ability to use Cron based tasks primarily to enable the sending of scheduled emails containing typically summary reports , or overdue reports to staff members, but also to permit the receiving of emails to either raise new issues or update existing issues. If this facility is not required then most of the settings in this section can be ignored.

Figure 3.7. Cron Control options

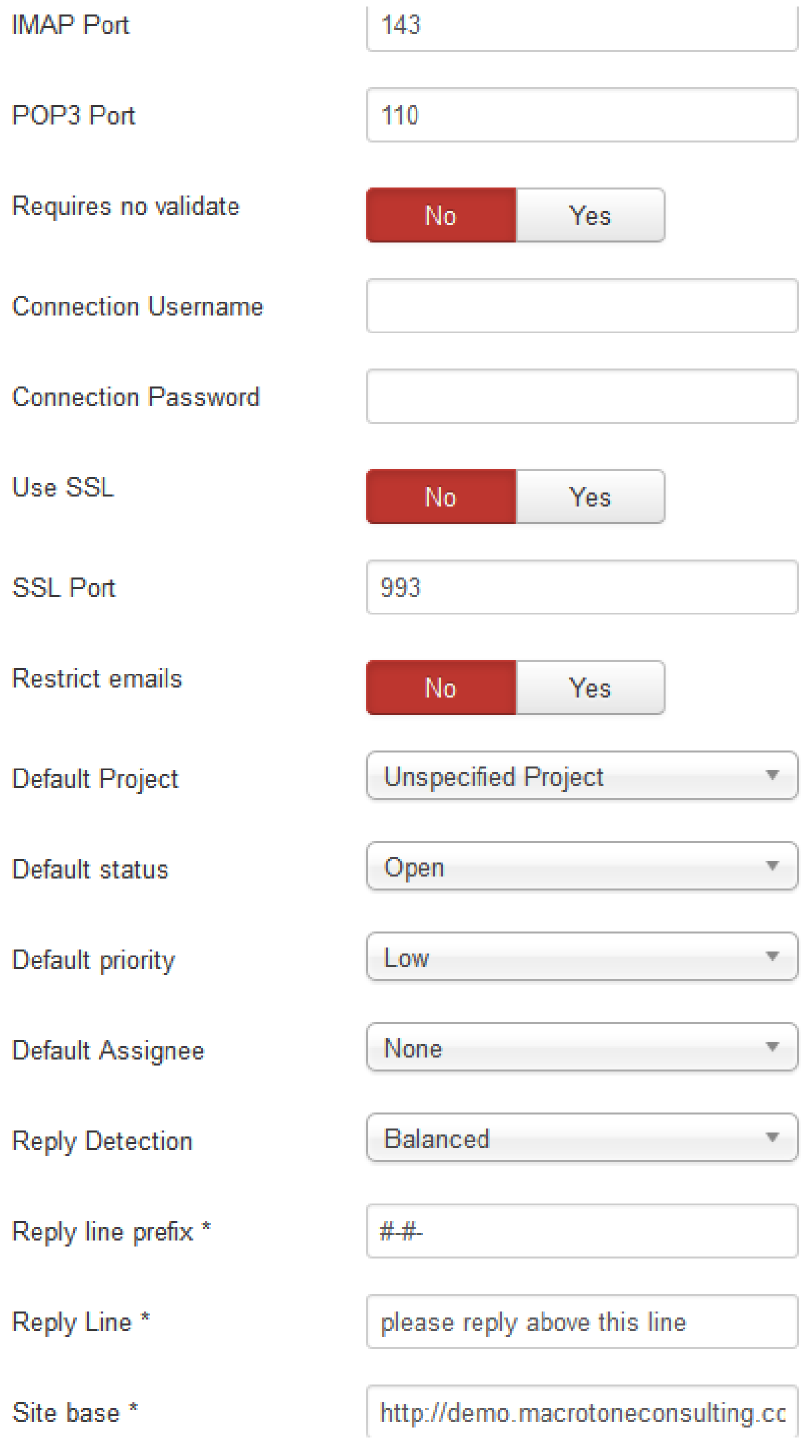


The CRON options control the running of scheduled task if invoked from the front end and also provide the default connection details for the scheduled fetching of 'issue' emails from a mail server.

The secret key is used by the front end scheduled cron tasks and has to be provided. It provides security to ensure that the tasks are only run when the parameter is provided on the invoking command line. It is not used by the scheduled PHP CLI tasks, as these cannot be invoked by a user.

The mail server details are required to obtain mail specifically addressed to a specifically named user account which is configured to be used for issues that are emailed in.

Figure 3.8. Cron Control options (2)



When processing email replies to issues there are options to control the strength of the email reply detection. There are checks to detect whether 'issue tracker bespoke' header entries are present in the email reply and these are used if present. Since a number of email servers strip these out of the reply message, we also perform checks upon the specification of the issue within the mail subject header. Three options are available:

- Strict: Accepts only the exact format that email notification uses. Which means "anything [Issue: xxxxxxxxxx] anything here". The full text is required, and the issue id has to be the exact length (def 10 chars). In addition the custom header fields have to be present in the reply. Spaces before and after the issue identifier are optional.

- Balanced: As Strict only the custom header fields may or may not be present. Spaces before and after the issue identifier are optional.

- Relaxed: Accepts email notification formatted subjects but also [xxxxxxxxxx] in the subject line. Custom header fields may or may not be present. Spaces before and after the issue identifier are optional.

The ability to process email attachments is optional and if enabled used the settings for the number of files and the file sizes from the component Attachments options (see below).

In order to extract replies to Issues from new issues several mechanisms are used. One of these is the use of a 'reply above this line' string in the reply text. The specific string used is specified in the options.

The site base field is usually populated by the component installed and it should not be necessary to change this field.

Note

The subject of setting up the email fetch routine is not trivial and often involves much trial and error to enable the correct parameters to be supplied. For that reason the following may prove useful.

The Joomla system itself does not understand the receipt of email, so it is necessary to set up a scheduled task (covered in this manual) using something like 'cron' on Unix systems to connect to a mail server and fetch the emails, Basically this is a simple shell script consisting of a few lines. The scheduled tasks either calls a specific web page on the front end (pseudo cron), or better yet calls a PHP CLI script (supplied and installed as standard) which does the mail fetch. Not all web hosts allow the use of PHP CLI binaries. There are examples of both are provided in this manual.

It is often desirable to have a separate specific email account/address on a mail server that is accessed so that only emails concerned with 'Issues' are retrieved. This avoids the complexity of sorting out 'real' issue/problem reports from generic emails from colleagues or other systems.

Once retrieved the email is inspected (by the issue tracker component code) and depending upon specific component settings and the message contents, it is accepted and entered into the database as a 'new' issue, where it does the usual things like assigning people, triggering emails etc. There are also entries made in the Issue Tracker log (accessible from the back end control panel), IF the component logging is turned on, which is recommended especially while you are testing, and probably as standard.

The email fetch also informs the mail server that it has fetched the email so that further attempts do not fetch the self same email over and over again. In the event of an email being fetched and failing to be entered into the system, it is usually possible to access the Mail server to indicate the email message that it is desirable to be fetched 'again' upon in a forthcoming scheduled.

Release 1,6,8 removed the 'reply line' text field so that it is possible to specify any text that one desires, since the code now only searched for the start and end 'Reply line prefix'. The release also introduced a new parameter 'Update handling' which controls how an update email is handled if the 'reply above' line is missing in the retrieved email.

The Issue Tracker log is very useful in assisting the resolution of problems encountered with the setting up and ongoing monitoring of the synchronised email fetch mechanism. The Issue Tracker log is accessed from the back end Control Panel Issue Tracker Log icon. If logging is turned on from the from the component options it should/will display messages that will assist in pinning down connection problems. The most common error is the settings for the Mail server and its connections. i.e. the connect name, password etc. The logging is ideal for resolving that type of error.

The table below lists known settings for Mail providers. It may/will be extended as more information is supplied. The entries are known to work and have been provided by current users. If your mail provider is not listed below, then the information can usually be supplier by the vendor upon request, if it isn't available on their web site already.

Table 3.1. Sample Email setups.

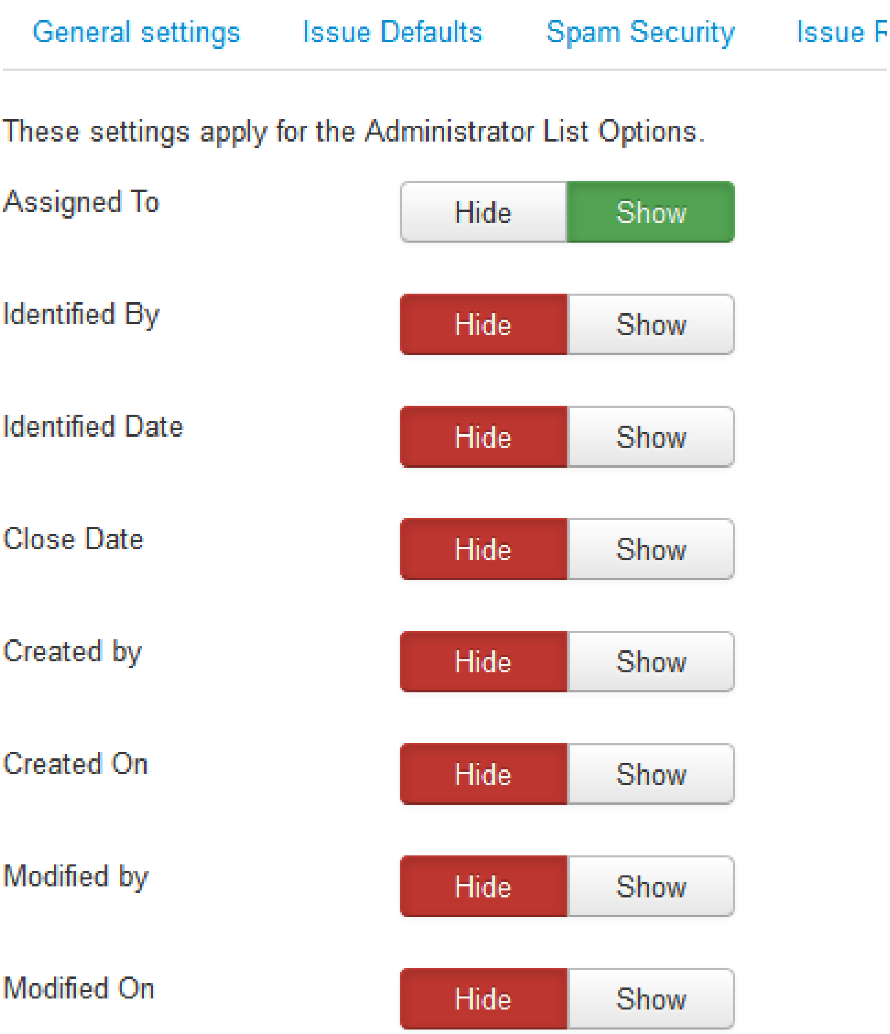
Mail Host	IMAP Port	POP Port	Requires Novalidate
imap.1and1.co.uk	143	110	Y

See the section below about Cron/Scheduled tasks for more details.

List Control Options

Introduced in release 1.2.1 the list control options allow for optional display of fields in the administrator issue list display. The field that is expected to be most displayed is the ‘identifier’ field, and it is expected that for small organisations they may not want to display the ‘Assignee’ field, especially if there is only ever one or perhaps two assignees.

Figure 3.9. List Control options



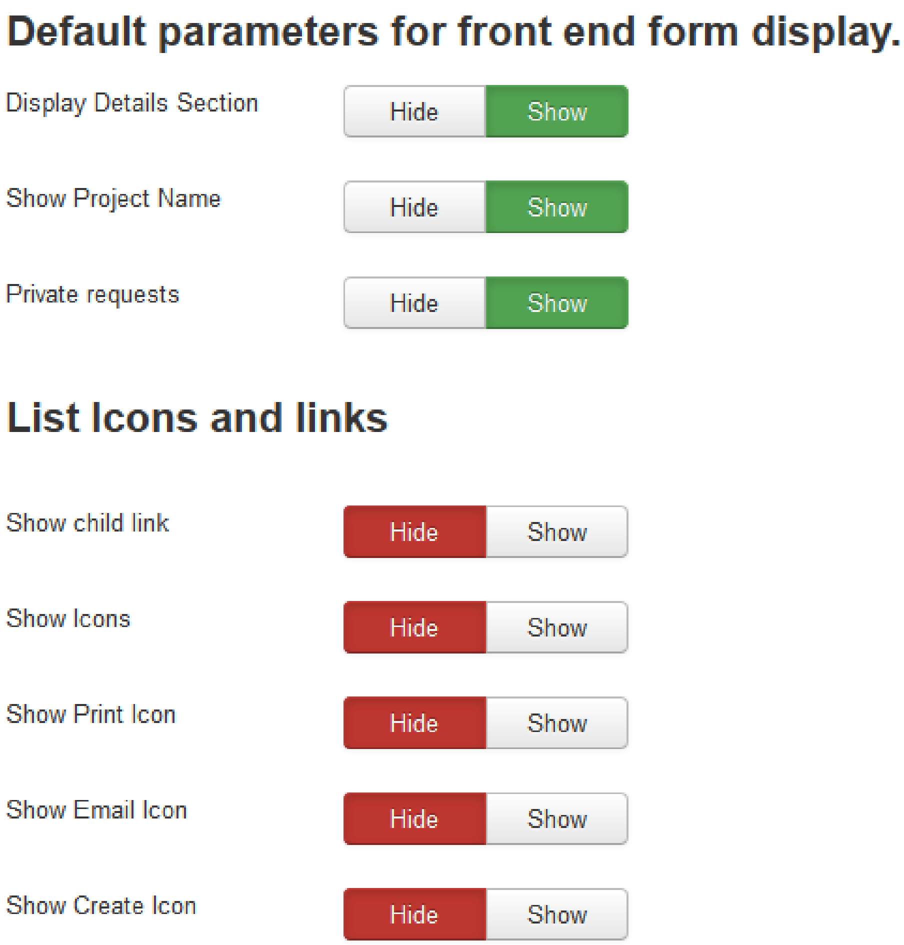
Release 1.3.0 introduced the identification date and the Actual resolution date (close date) to the above list of options field displayed. (Not shown on above figure.)

Front End Options

Introduced in release 1.3.0 the front end options provide parameter values for the front end displays. These defaults are used in the situations where the screen is reached via a link rather than from a menu item. If the front end screen is reached via a menu then the menu parameters take preference.

The front end options are split into several sections and these are displayed in the figures below.

Figure 3.10. Front End options - 1



Figure

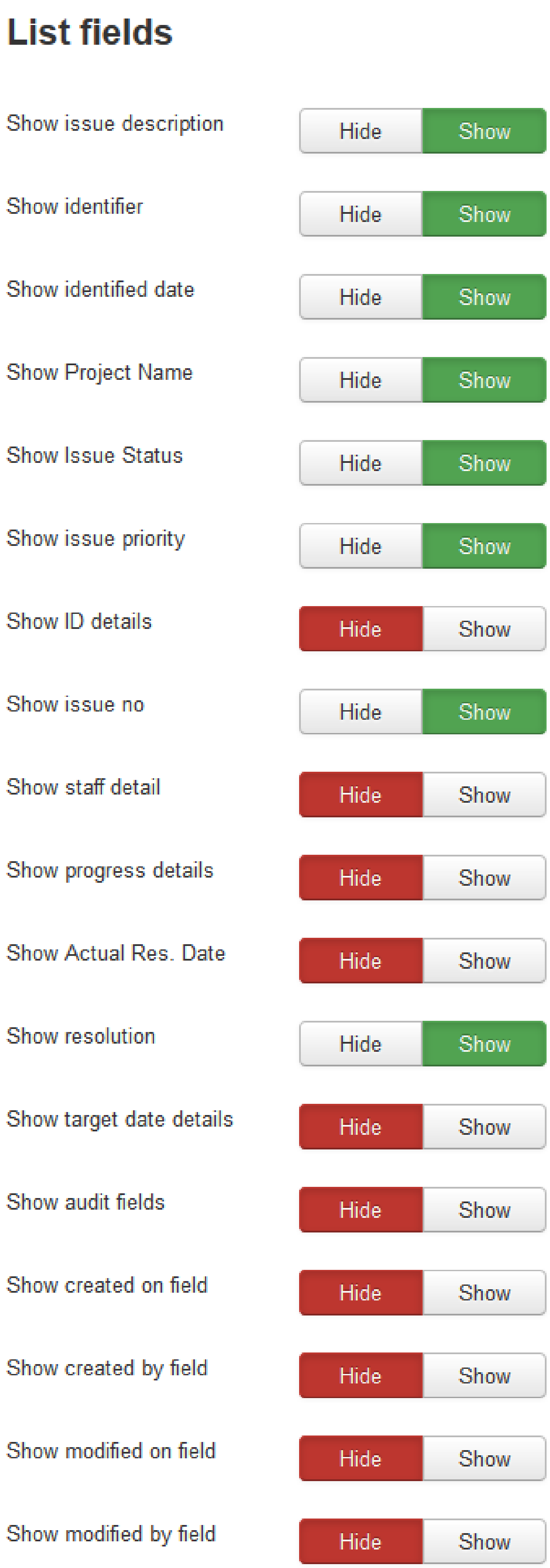

List fields
Show issue description
Hide
Show
Show identifier
Hide
Show
Show identified date
Hide
Show
Show Project Name
Hide
Show
Show Issue Status
Hide
Show
Show issue priority
Hide
Show
Show ID details
Hide
Show
Show issue no
Hide
Show
Show staff detail
Hide
Show
Show progress details
Hide
Show
Show Actual Res. Date
Hide
Show
Show resolution
Hide
Show
Show target date details
Hide
Show
Show audit fields
Hide
Show
Show created on field
Hide
Show
Show created by field
Hide
Show
Show modified on field
Hide
Show
Show modified by field
Hide
Show

Figure 3.12. Front End options - 3

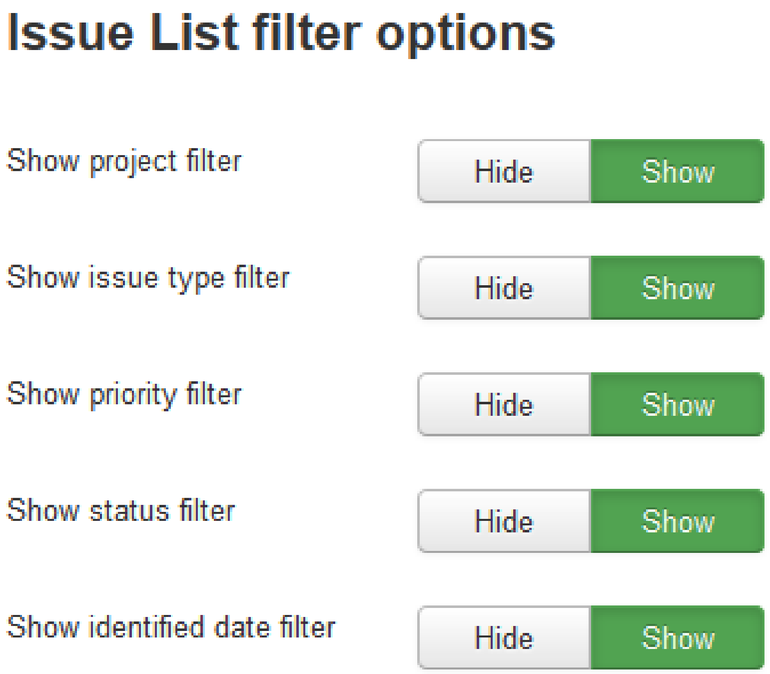


Figure 3.13. Front End options - 4a

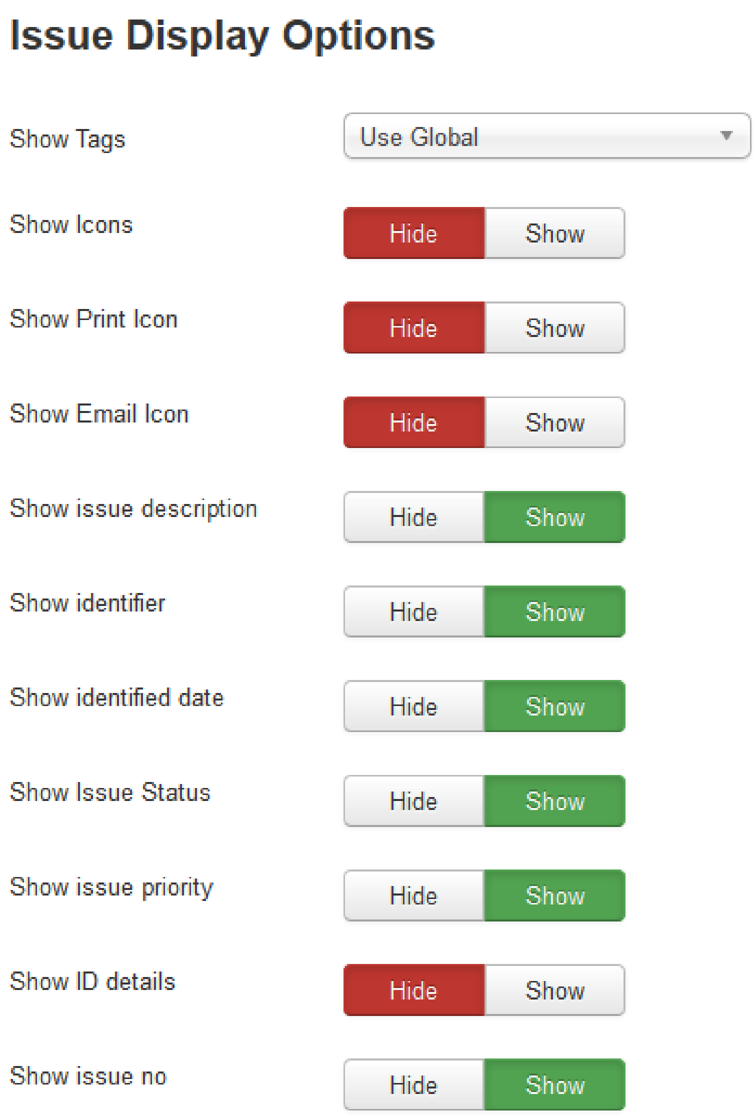
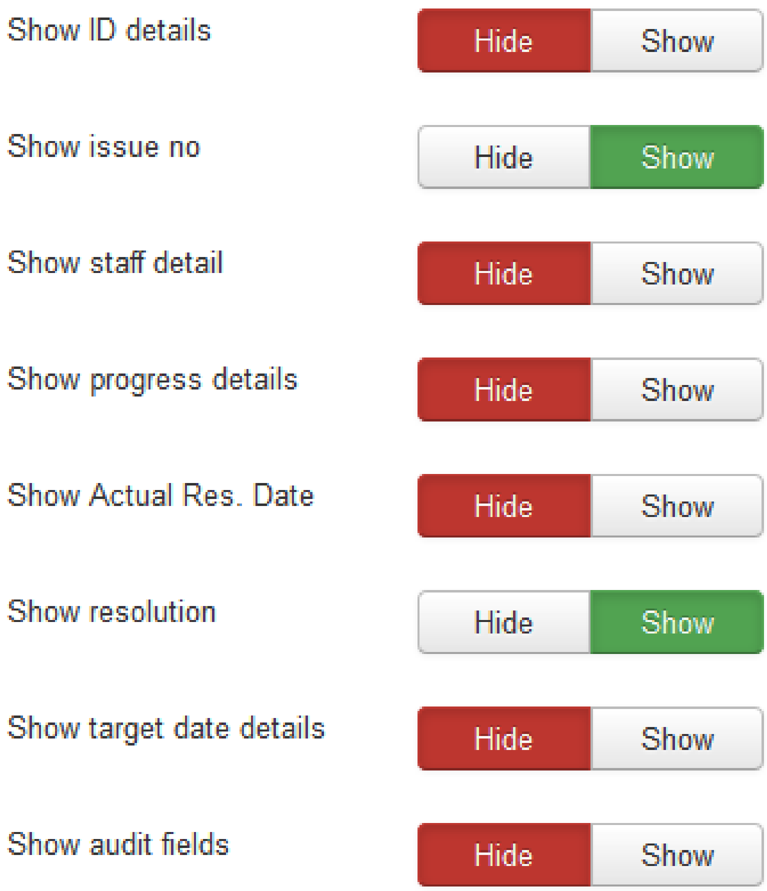


Figure 3.14. Front End options - 4b



All of the above screens are within the same tab and it is necessary to scroll down the list to find the appropriate section.

Note

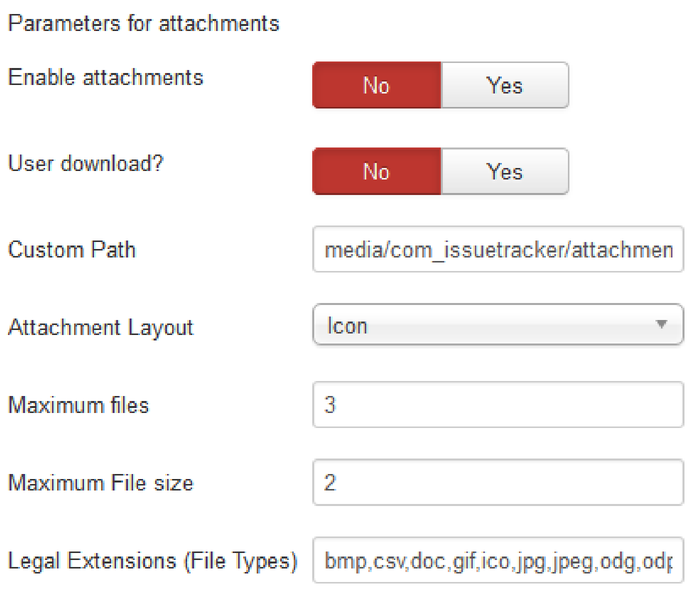
The options above that relate to the display of the progress and resolution fields for an issue are also used to control whether these fields are included in the Finder (Smart search) index. After all if they are not displayed why index them.

Attachment Options

Release 1.3 introduced the ability to attach 'files' to an issue. This particular tab provides general settings to control the ability to attach files and also the criteria for the attachment.

The field 'maximum files' is not enforced in the initial 1.3.0 release. It is used in the scheduled task processing for email attachment since release 1.5. The back end can add as many file attachments as they desire to an issue at one time. Release 1.6.0 removed the restriction which limited the number of files that could be attached via the front end. Prior to this release the limit was a single file.

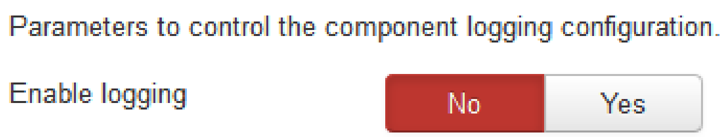
Figure 3.15. Attachment Options



Log Control Options

Release 1.3 also introduced a log facility. In this release it is used solely to provide details of the email notification messages sent as a result of the email configuration parameters.

Figure 3.16. Log Control Options

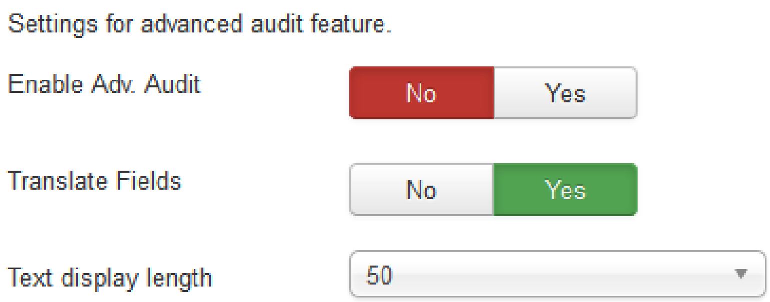


The logging option is used extensively by the front end scheduled task for the fetch of emailed issues. Future releases will expand upon the usage of the logging feature. Release 1.6.8 introduced a 'debug logging' option which is useful in tracking down some particularly difficult problems involved with the setting up and handling of email based issues handling. This specific setting is generally best left turned off.

Advanced Audit Options

This tab controls whether advanced auditing is to be used upon the site. Marking the audit as not enabled will restrict some of the fields displayed in the various list and item displays. See the section ion Advanced Audit for more specific details.

Figure 3.17. Advanced Audit Options

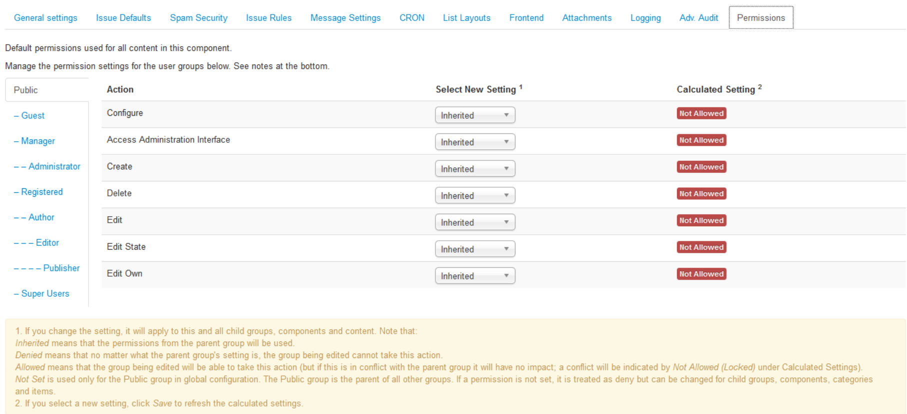


The advance audit feature requires certain database privileges to work, which may not be possible upon your site.

Permission Options

The final option enables the permissions to be specifically set for the user groups. See below for more information upon permitting public raising of issues on the front end.

Figure 3.18. Permissions Options



Chapter 4. Usage

Most of the maintenance work of the component is performed in the back end. Creation of projects, control of users and the maintenance of issues are all performed (currently) in the back end. Creation, and updates of issues can be performed in both the front end and within the back end.

A person defined as an issue administrator also has the full ability in the front end to be able to change and manage issues.

This section displays some of the screens available. From the Joomla back end the Components heading will reveal the Issue Tracker component. Either select the main title or any of the individually selectable sections.

Back End Screens

There are a number of screens available within the Administration part of the site. These may be presented as tabs within the Control Panel, or accessed directory from the Components drop down menu.

This section looks at each of these in turn and explains their structure and usage.

Help Icon

A number of the back end screens have a ‘help’ icon displayed in the top right hand corner of the screen. Clicking on the icon will invoke a small pop up window as shown below.

Clicking on each of the links will redirect the browser to the appropriate pages on the support website.

Figure 4.1. Help Screen

Control Panel

The main Control Panel is illustrated in Figure 4.2, “Control Panel (Joomla 2.5)”. There are a number of separate sections.

1. The main tabbed headings – Control Panel, Issues, People etc.

2. The icons separated into three specific types:

   a. Tools – The first three icons provide an alternative entry point to the three tabbed actions. The fourth the ‘Synchronise Users` enables the currently registered Joomla users to be easily brought into the Issue Tracker People table. More details of this are provided later.

   b. Updates – This provides an easy check to show that the latest version of the component is installed.

   c. Sample Data – When installed there is one default project created and one Anonymous user, which can is used to provide system defaults. The existing registered Joomla users are also entered in the People table. These icons enable some ‘sample data’ to be populated into the various issues, people and project tables to demonstrate how the system works. This is explained in more detail later in this document.

3. The panel which provides the most common type of reports required and provides an immediate overview of the status of the various issues.

   a. Issue Summary

   b. Latest Issues

   c. Overdue Issues

   d. Unassigned Issues

   e. About

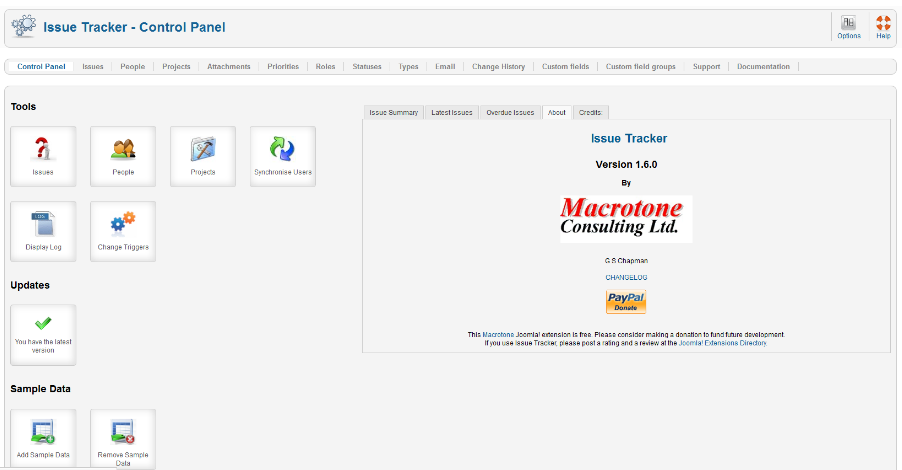
   f. Credits

Important

The sample data icons will not be shown if the database connection user has not been granted the privilege to create database procedures.

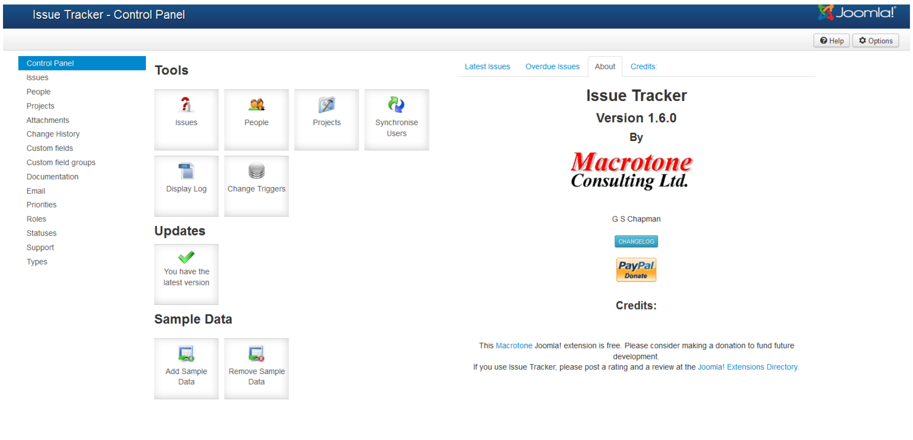
Control Panel Screens

Figure 4.2. Control Panel (Joomla 2.5)



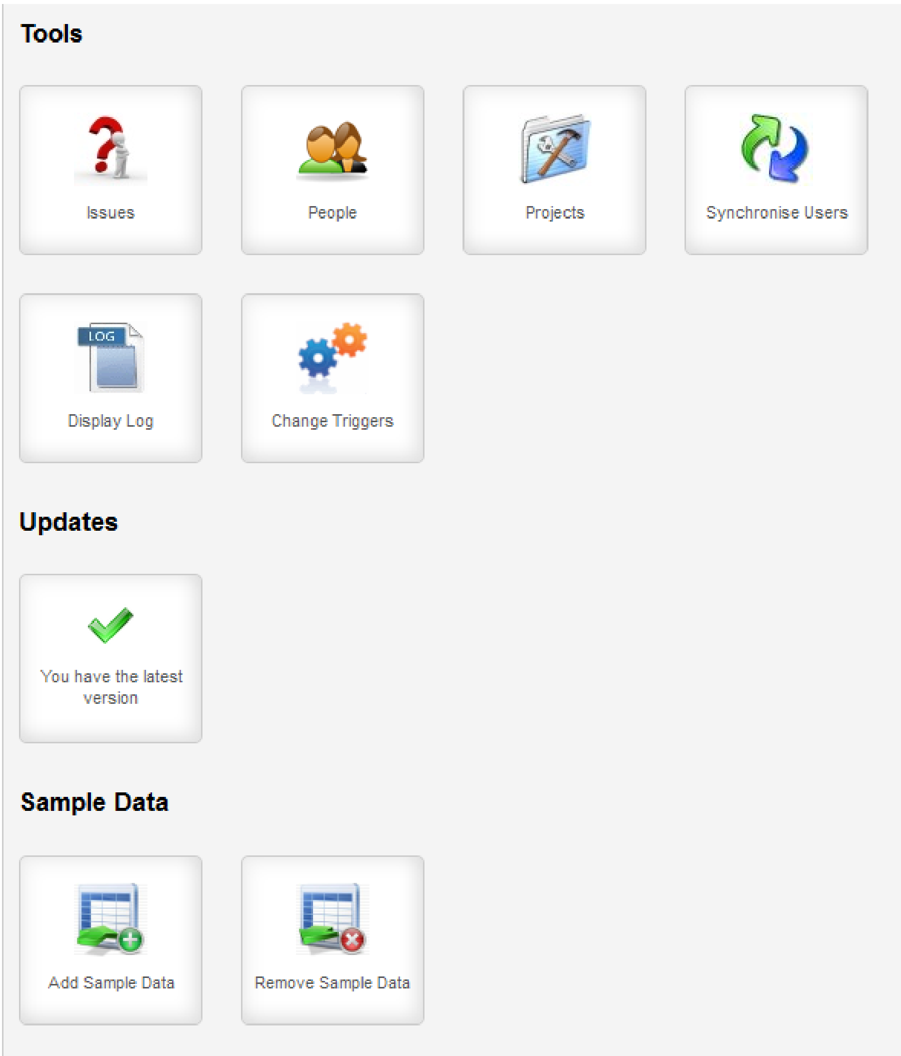
The figure below shows the same display as above for Joomla 3.x

Figure 4.3. Control Panel (Joomla 3.x)



The following figure displays the icons more clearly. Clicking on the icon will either initiate the associated action, i.e. Loading sample data; or redirect the user to the named tab display.

Figure 4.4. Control Panel Icons

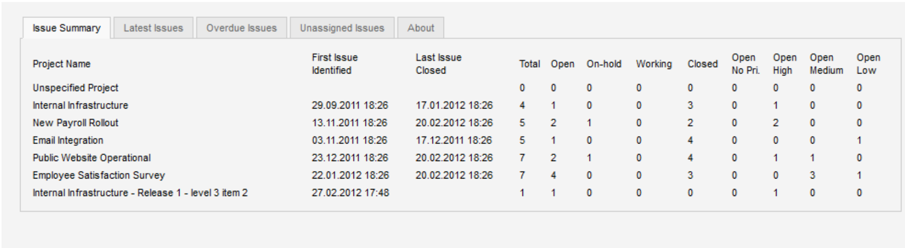


The following displays shows the sample data installed in the system soon after the system is installed. This illustrates the contents of the various tab (report)displays which would normally be populated by the details of the issues raised upon your site.

Depending upon the specific system upon which the component is running some of the icons may not be present. This reflects the privileges and configuration of the underlying system, more than the component itself.

See section Loading Demonstration Data for any known problems with the loading of sample data.

Figure 4.5. Control Panel Issue Summary Tab.



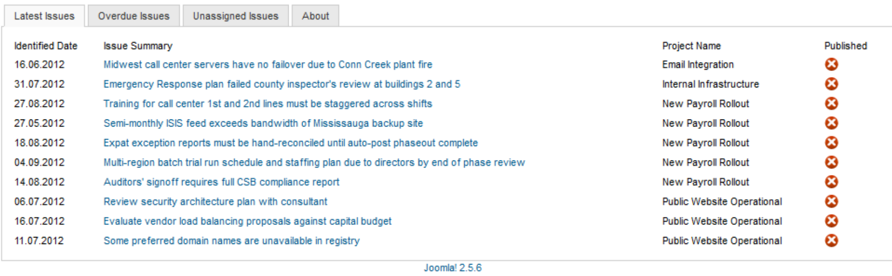
Project Name	First Issue Identified	Last Issue Closed	Total	Open	On-hold	Working	Closed	Open No Pri.	Open High	Open Medium	Open Low
Unspecified Project			0	0	0	0	0	0	0	0	0
Internal Infrastructure	29.09.2011 18:26	17.01.2012 18:26	4	1	0	0	3	0	1	0	0
New Payroll Rollout	13.11.2011 18:26	20.02.2012 18:26	5	2	1	0	2	0	2	0	0
Email Integration	03.11.2011 18:26	17.12.2011 18:26	5	1	0	0	4	0	0	0	1
Public Website Operational	23.12.2011 18:26	20.02.2012 18:26	7	2	1	0	4	0	1	1	0
Employee Satisfaction Survey	22.01.2012 18:26	20.02.2012 18:26	7	4	0	0	3	0	0	3	1
Internal Infrastructure - Release 1 - level 3 item 2	27.02.2012 17:48		1	1	0	0	0	0	1	0	0

The Issue Summary provides an immediate view of the overall status of all of the current projects, along with the total number of issues currently reported and their various statuses. The above figure shows the sample data installed.

Tip

The Issue Summary tab display is controlled from an option in the Options Panel.

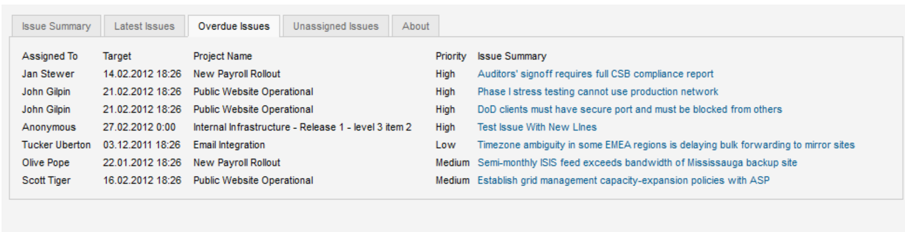
Figure 4.6. Latest Issues Control Panel Tab.



Identified Date	Issue Summary	Project Name	Published
16.06.2012	Midwest call center servers have no failover due to Conn Creek plant fire	Email Integration	
31.07.2012	Emergency Response plan failed county inspector's review at buildings 2 and 5	Internal Infrastructure	
27.08.2012	Training for call center 1st and 2nd lines must be staggered across shifts	New Payroll Rollout	
27.05.2012	Semi-monthly ISIS feed exceeds bandwidth of Mississauga backup site	New Payroll Rollout	
18.08.2012	Expat exception reports must be hand-reconciled until auto-post phaseout complete	New Payroll Rollout	
04.09.2012	Multi-region batch trial run schedule and staffing plan due to directors by end of phase review	New Payroll Rollout	
14.08.2012	Auditors' signoff requires full CSB compliance report	New Payroll Rollout	
06.07.2012	Review security architecture plan with consultant	Public Website Operational	
16.07.2012	Evaluate vendor load balancing proposals against capital budget	Public Website Operational	
11.07.2012	Some preferred domain names are unavailable in registry	Public Website Operational	

This specific report provides details of the ten most recently raised issues.

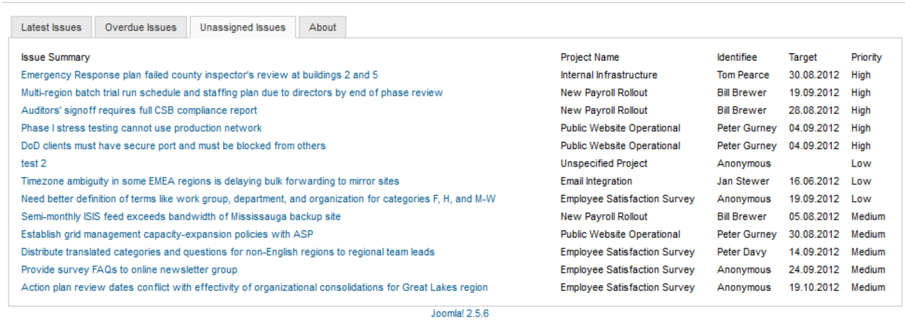
Figure 4.7. Overdue Issues Control Panel Tab.



Assigned To	Target	Project Name	Priority	Issue Summary
Jan Stewer	14.02.2012 18:26	New Payroll Rollout	High	Auditors' signoff requires full CSB compliance report
John Gilpin	21.02.2012 18:26	Public Website Operational	High	Phase I stress testing cannot use production network
John Gilpin	21.02.2012 18:26	Public Website Operational	High	DoD clients must have secure port and must be blocked from others
Anonymous	27.02.2012 0:00	Internal Infrastructure - Release 1 - level 3 item 2	High	Test Issue With New LInes
Tucker Uberton	03.12.2011 18:26	Email Integration	Low	Timezone ambiguity in some EMEA regions is delaying bulk forwarding to mirror sites
Olive Pope	22.01.2012 18:26	New Payroll Rollout	Medium	Semi-monthly ISIS feed exceeds bandwidth of Mississauga backup site
Scott Tiger	16.02.2012 18:26	Public Website Operational	Medium	Establish grid management capacity-expansion policies with ASP

The most overdue issues are shown in the ‘Overdue Issues’ panel above. They are ordered with the earliest reported issue shown first in the list.

Figure 4.8. Unassigned Issues Control Panel Tab

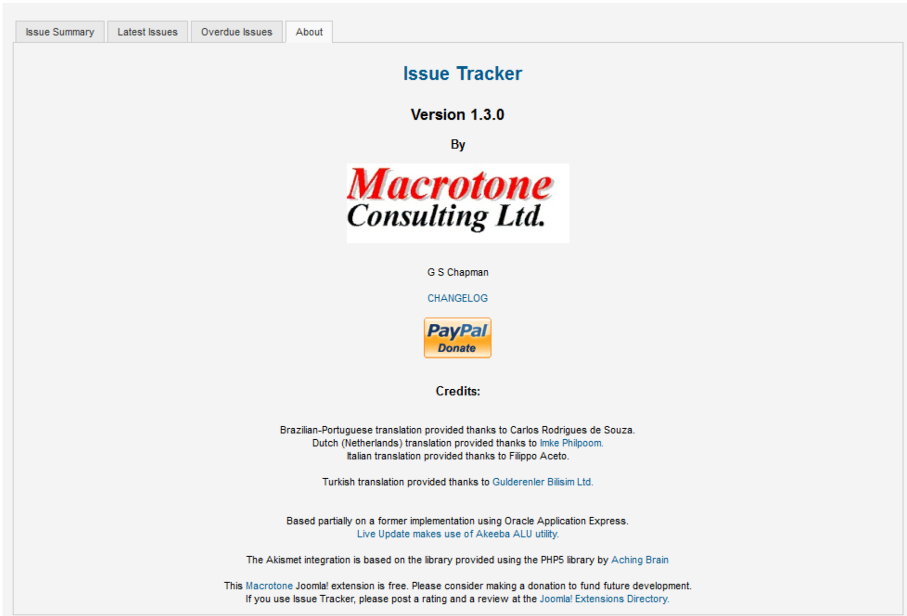


Issue Summary	Project Name	Identifiee	Target	Priority
Emergency Response plan failed county inspector's review at buildings 2 and 5	Internal Infrastructure	Tom Pearce	30.08.2012	High
Multi-region batch trial run schedule and staffing plan due to directors by end of phase review	New Payroll Rollout	Bill Brewer	19.09.2012	High
Auditors' signoff requires full CSB compliance report	New Payroll Rollout	Bill Brewer	28.08.2012	High
Phase I stress testing cannot use production network	Public Website Operational	Peter Gurney	04.09.2012	High
DoD clients must have secure port and must be blocked from others	Public Website Operational	Peter Gurney	04.09.2012	High
test 2	Unspecified Project	Anonymous		Low
Timezone ambiguity in some EMEA regions is delaying bulk forwarding to mirror sites	Email Integration	Jan Stewer	16.06.2012	Low
Need better definition of terms like work group, department, and organization for categories F, H, and M-W	Employee Satisfaction Survey	Anonymous	19.09.2012	Low
Semi-monthly ISIS feed exceeds bandwidth of Mississauga backup site	New Payroll Rollout	Bill Brewer	05.08.2012	Medium
Establish grid management capacity-expansion policies with ASP	Public Website Operational	Peter Gurney	30.08.2012	Medium
Distribute translated categories and questions for non-English regions to regional team leads	Employee Satisfaction Survey	Peter Davy	14.09.2012	Medium
Provide survey FAQs to online newsletter group	Employee Satisfaction Survey	Anonymous	24.09.2012	Medium
Action plan review dates conflict with effectivity of organizational consolidations for Great Lakes region	Employee Satisfaction Survey	Anonymous	19.10.2012	Medium

Joomla! 2.5.6

The unassigned issues tab displays what it is expected to display, the issues that have not been assigned to anyone to investigate and work.

Figure 4.9. About Control Panel Tab.



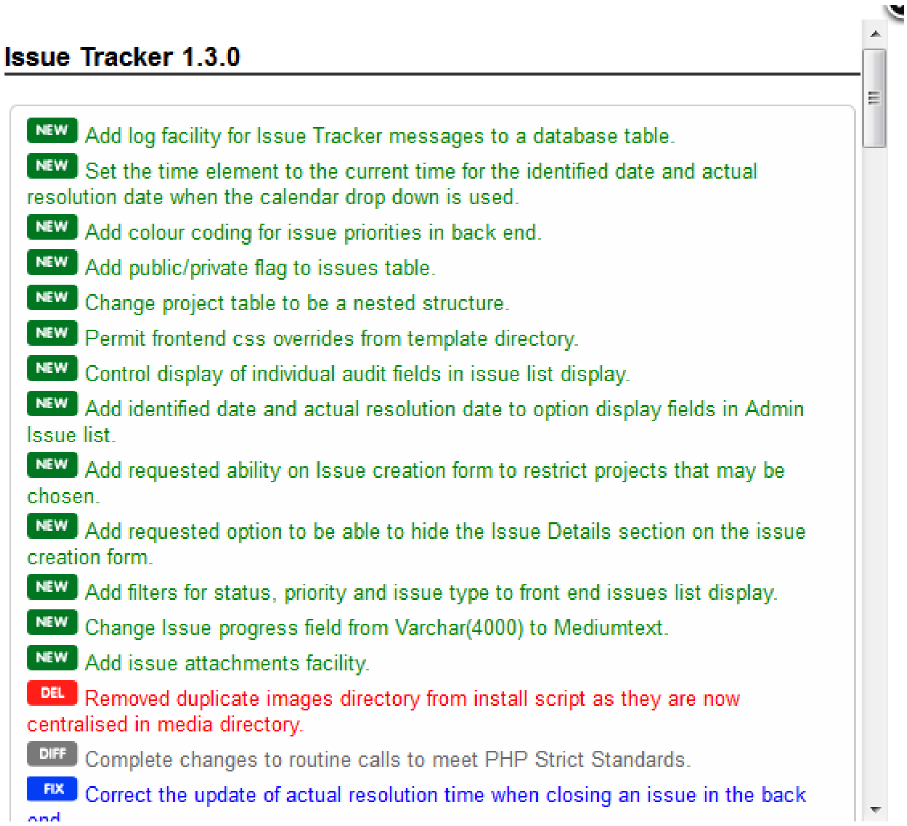
The 'About' panel provides company information. As mentioned the component is provided free, and the user is requested to make a donation if they find it useful upon their site. Users who make a donation will obtain preference if they request any enhancements to the product, over those who choose not to do so.

Support is also currently provided free within the Forum upon the web site. This may change in the future and there is no guarantee for free support..

Clicking on the 'PayPal' icon will open a new browser window on the Paypal site so that users may donate to the support of the component.

Clicking on the 'Changelog' icon within the 'About' panel will cause a popup window to be displayed with details of the changes applied to Issue Tracker for the various releases, with the latest release displayed first.

Figure 4.10. Changelog

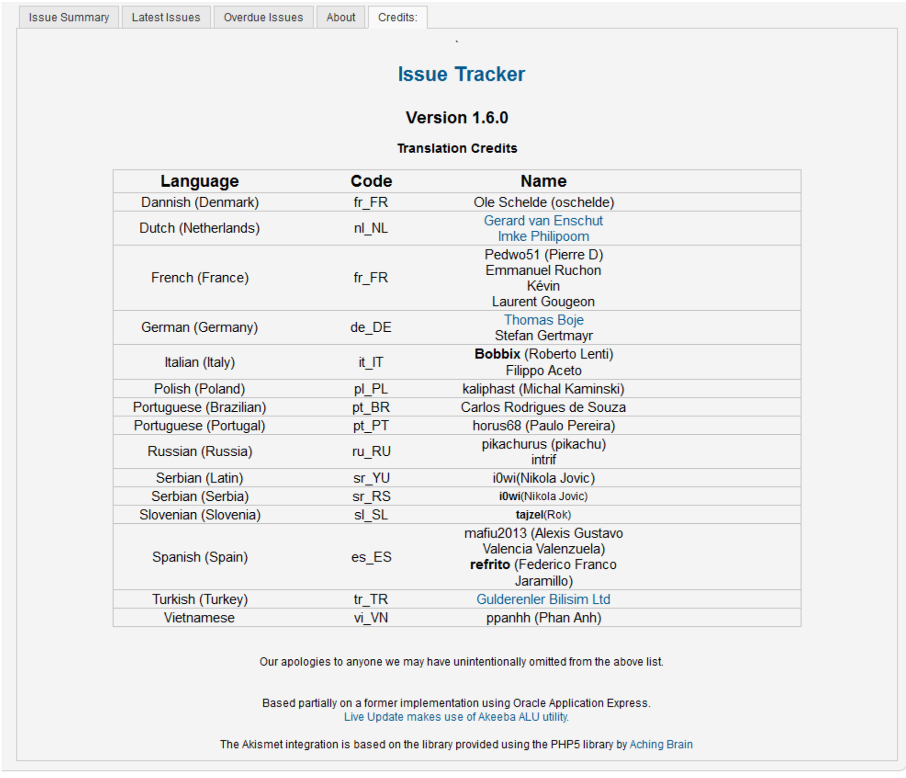


The 'Credit' panel provides details of some of the people who have assisted the Issue Tracker project by submitting translations via Transifex. The panel will be as up to date as that of the version of Issue Tracker currently installed. Please refer to the web site for information upon any other translations that may have been submitted after the release.

The panel also credits some of the sources that we have used to enable us to create the component and acknowledges that our work is built upon their previous efforts.

The Credits panel was added in Issue Tracker version 1.5.1. Prior to that release the credits were present upon the 'About' panel. Release 1.6.8 modified this and the details are now retrieved from our system for display in the panel. This means that the information is always as up to date as that upon our server.

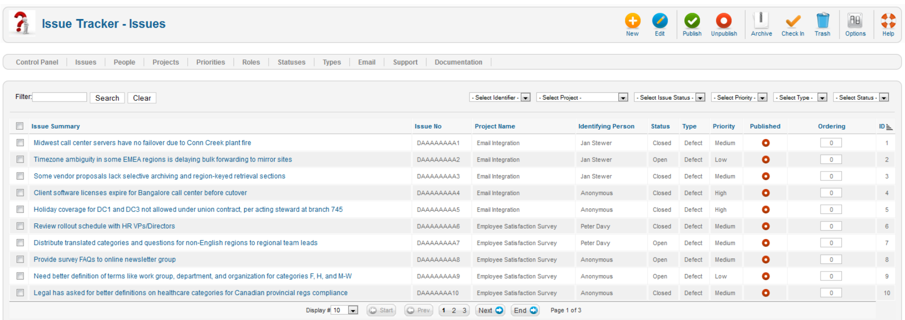
Figure 4.11. Credits



Issues

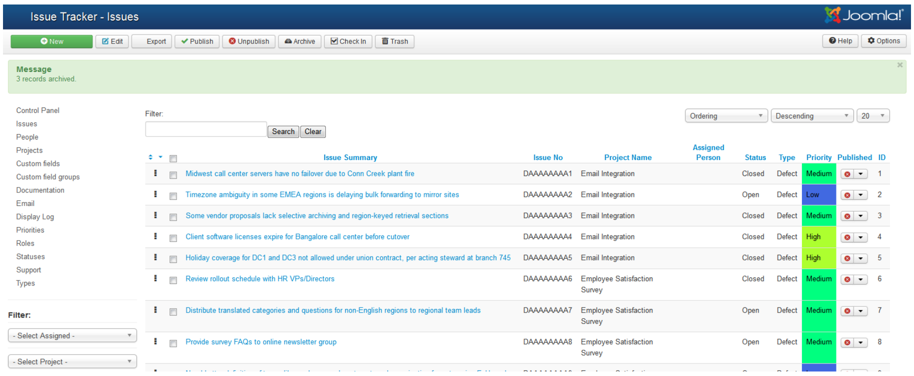
The back end Issue list display for a Joomla 2.5 installation is illustrated below:

Figure 4.12. Issues Display (Joomla 2.5)



The same display as shown in a Joomla 3.3 installation is illustrated below:

Figure 4.13. Issues Display (Joomla 3.3)



The Issue tab is the main display of the current issues recorded with the system. They are shown above ordered by id but clicking on any of the column headings will cause the display to re-order itself. The Issue Summary is shown highlighted and indicates that there is a ‘link’, which if clicked will enable the issue to be edited.

The icons on the top right hand side perform the expected actions enabling the editing, creation, deletion and publishing of issues.

Caution

Deleting an issue with attached files will also delete the associated attachments for that issue. There is no confirmation request!

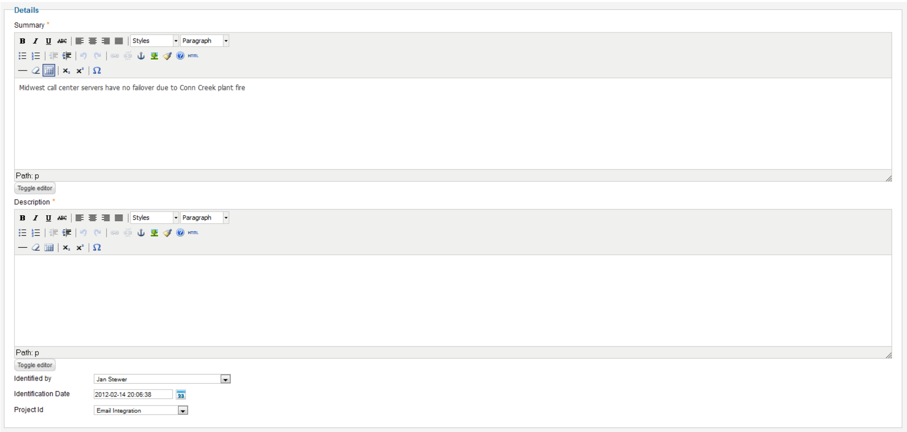
Note

- Generally only ‘published issues’ are ever visible in the front end of the site.
- If a front end registered user is viewing their own raised issues [menu option only], the published flag is ignored.
- Issue administrators have the ability to view all issues in the front end of the site.
- The 'public' field is visible depending upon whether 'private' issues are acceptable upon the site.

There are a few configurable options to permit the hiding or showing of other fields such as the identifier, identification date, actual resolution date and the audit fields in the above display. See the list options for more details. The edit screen is shown below.

Figure 4.14. Issue Editor (header)

Figure 4.15. Issue Editor (part 1)

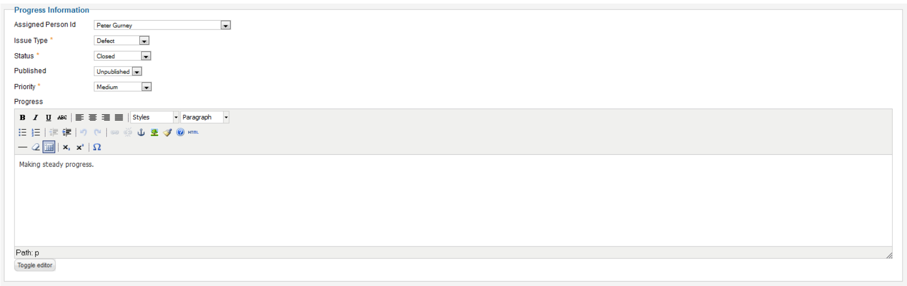


The edit screen is only one screen but is shown in this document in multiple parts for convenience. The top part illustrated above provides the information to report an issue. It consists, as can be seen of a title (or summary), along with a description of the issue or problem. The Identified by field is the person who has reported the problem, IF they are a registered Joomla user. If not then a configured default is used, often the ‘Anonymous’ user. Any issue raised by a front end user who is not logged in, or who chooses not to will have the configured default (often the ‘Anonymous user’) entered in this field.

The Identification date is the data the issue was first identified, or when first entered into the system, if not specifically provided.

The related project id is the project to which the issue is associated. If not explicitly provided, certain defaults are applied. If the issue is opened by a logged in user and they do not provide the project detail, then the ‘default project associated with that user’ is used. If there is no default for that user, then the ‘Unknown Project’ detail is entered. [If the issue was raised in the front end then the same logic applies with the exception of a issue created from the front end 'Projects List', in which case the project selected will be used.]

Figure 4.16. Issue Editor (part 2)

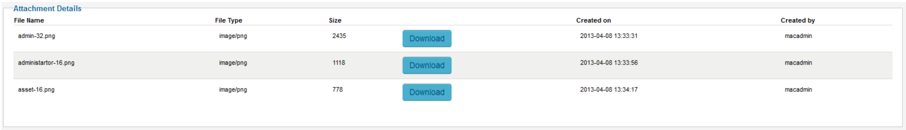


If there are any associated Custom Fields associated with the specific project (or sub-project) to which this issue is defined as being connected with, then there will be another panel displayed with the custom fields to be completed. This is discussed in more detail in the section Custom Fields on 'Custom Fields' later in this document.

If there are any attachments for the specified issue, an additional panel will be displayed immediately before the 'progress' panel. Absence of the panel indicates that there are no associated attachments.

Attachments are added to issues either via the front end when the issue is created or edited, which is the most common case, or via the back end 'attachments' screen. The illustration below shows a single attachment is associated with the issue being edited.

Figure 4.17. Issue Editor (attachments)



The next part of the issue edit screen contains details of the progress of the issue.

1. The person is assigned to investigate the issue or problem.

2. The type of issue relates to whether the issue is a ‘Defect’, ‘Documentation’ etc type.

3. The status of the issue. i.e. Open, Closed, On-Hold or In-Progress. If a status is not defined by the person raising the issue then the default status as defined in the configuration is used.

4. The publishing state of the issue. If published then the issue may be made visible in the front end of the site. If a published state is not explicitly set when the issue is opened then a default as specified in the configuration is applied.

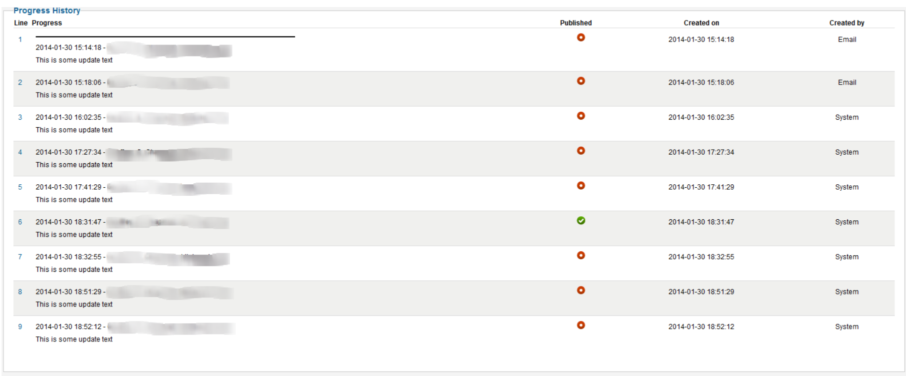
5. The assigned priority of the issue. i.e. Low, High, or Medium. If the priority is not explicitly stated when the issue is raised, then the default value as defined in the configuration is used.

6. The target resolution date is the date that the issue is expected to be resolved. This field is not currently mandatory although there is some logic built in. If the target resolution date is not specified or if the value greater than that for the associated project, the target resolution date is set to the target date of the associated project. However if the current date (when the issue is saved) is greater than the project target date then wt leave the field alone. The underlying assumption is that it is an issue defect that is being reported.

7. The details of the progress on the issue are recorded next. If the issue has been raised in the front end and the option to record additional details such as the Joomla version, database version etc (See options below), then these details will have been entered in the progress field.

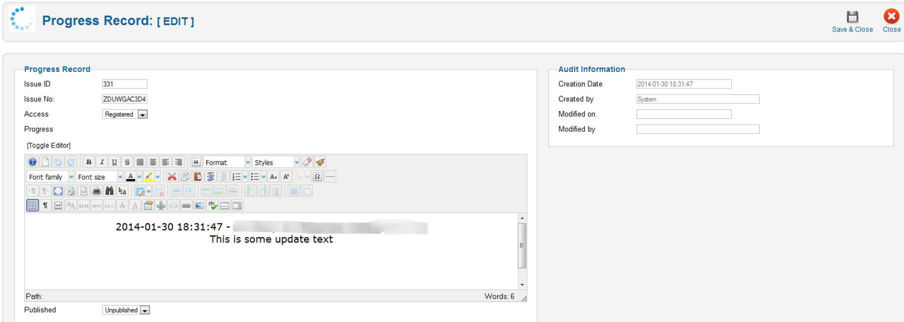
There are two parts of the progress information. The first is the history of previously entered progress information, which is displayed as a record grid.

Figure 4.18. Progress History Grid



The information in the progress history grid is usually considered to be 'unchangeable' as it records the previous actions performed, and as such is part of the 'Knowledge Base'. It is possible for an issue administrator to change these records however, and even delete them, although this very act will destroy the historic information about the issue.

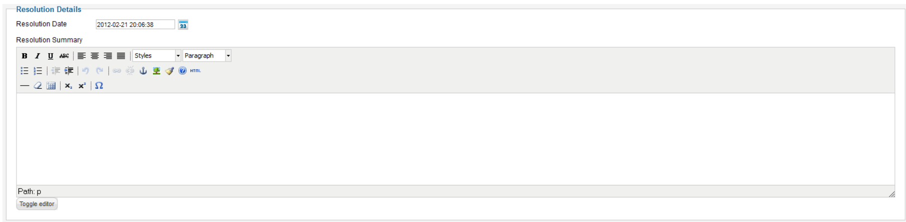
Figure 4.19. Progress History Editor



As can be seen in the above, it is possible to change the access criteria and the publishing state of an individual progress record. Not all sites desire or wish the progress history to be displayed publicly upon the front end of the site. With this ability it is possible to be selective as to which progress records may or may not be displayed and also to whom.

The next part of the progress history is the current progress information to be entered for the issue. Upon saving of the issue, this information would henceforth be considered as historic and would be subsequently displayed in the earlier 'progress history' grid.

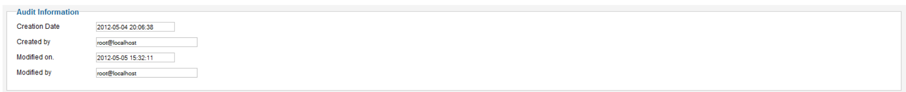
Figure 4.20. Issues Editor (part 3)



The next part of the editor screen records the resolution of the issue and the audit data recorded by the system.

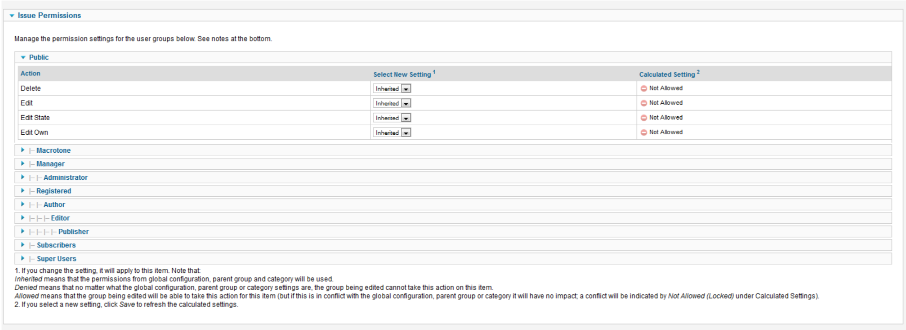
The main pieces of information are the actual resolution data and the actual resolution itself. The resolution should describe the solution to the problem, preferably in as much detail as possible, so that it may act as source of information should the same problem/issue be reported by another individual.

Figure 4.21. Issues Editor (Part 4)



The audit information is not editable in the component. It is automatically updated as and when the issue (together with people and project) data is created and updated during its lifetime. It is limited to displaying the creation data and the date of the last update, along with the username of the person involved in the change. This is generally sufficient in most cases for audit purposes.

Figure 4.22. Issues Editor (Part 5)



Release 1.2.0 introduced the ability to assign specific permissions to individual issues. This was introduced to control front end editing.

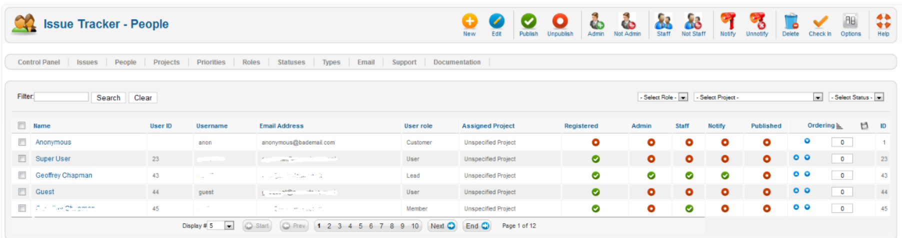
Note

Release 1.4 being based upon Joomla 3.1 introduced the ability to apply 'Tags' to specific projects (and issues). The implementation is the standard use of the supplied Tags API. If running upon Joomla 2.5 then the Tags feature is not available.

People

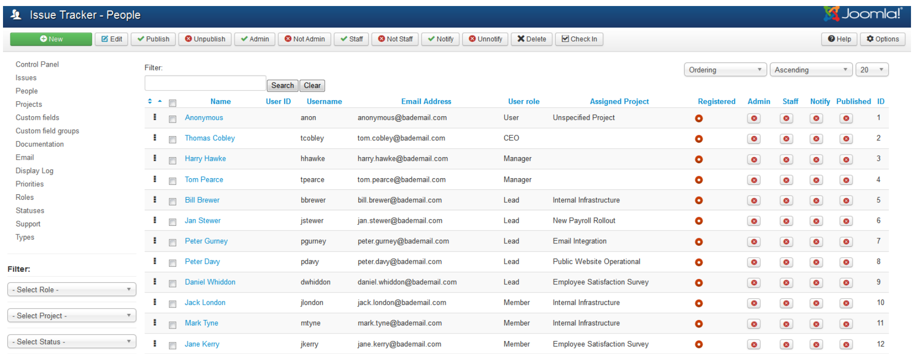
The people list display for a Joomla 2.5 installation is illustrated below:

Figure 4.23. People Manager *Joomla 2.5)



In a Joomla 3.3 installation the screen would look similar to that shown below:

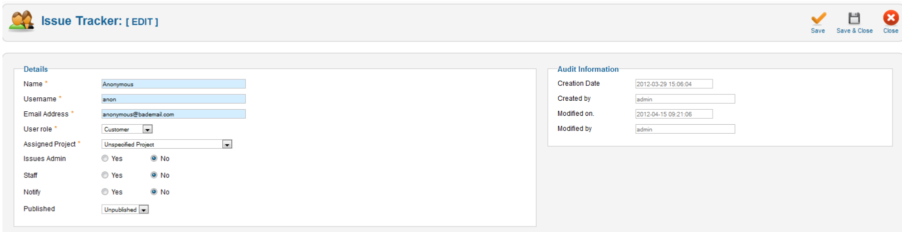
Figure 4.24. People Manager (Joomla 3.3)



The people manager list display is shown above. Most of the details are extracted from the Joomla user table. This may seem like a duplication of information but is necessary to ensure that records of issues/problems are complete. Users are added to the table automatically (via a plug-in) when they are added to the system. It should be noted that there is no ‘New’ icon in the top right hand corner.

The edit is described below, but it is worth mentioning that it is possible to remove users from this table. One of the configurable options is to decide what action to take if a user is deleted, and what should happen to any associated issues. This is described in more detail below, but basically associated issues may be re-assigned or removed. Deleting a user from this table does not remove them from the Joomla users table.

Figure 4.25. People Editor



The People editor provides the ability to change the name of the user, their email address and their username. These values are used by the Issue Manager and are effectively independent of the main Joomla registration values. What is not editable is the identifier which will always associate the user entry with the Joomla user registration. It is not expected that these specific values will be changed very often but the ability was requested and is thus provided.

The main uses of the screen are to assign a default project for the user, which is used when they omit the project when a new issue is created.

The other useful attribute is the 'role' of the user, which can be used to assist in defining issue priorities.

In release 1.2.0 the ability was added to create and edit non-registered users. i.e. Uses that are known only to the Issue Tracker component. These users may be created automatically (if configured) if the guest user creates an issue in the front end. This then enables the issues to have the correct user identification information entered. If this option is not configured the guest user details are stored in the progress field of the issue record. Users known only to the Issue Tracker have the additional information such as email address, username and name as editable fields.

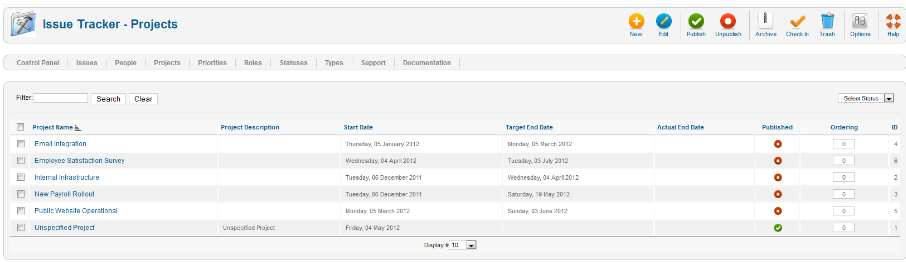
The registered flag is not shown in the editor view, only the list view. This is because there registration is handled by the standard Joomla user manager and the registered flag is merely an indicator for reference avoiding the need to change screens to obtain the information.

The 'staff' flag was introduced in release 1.3.3 and enabled support staff to be assigned without the full ability of an Issue administrator.

Projects

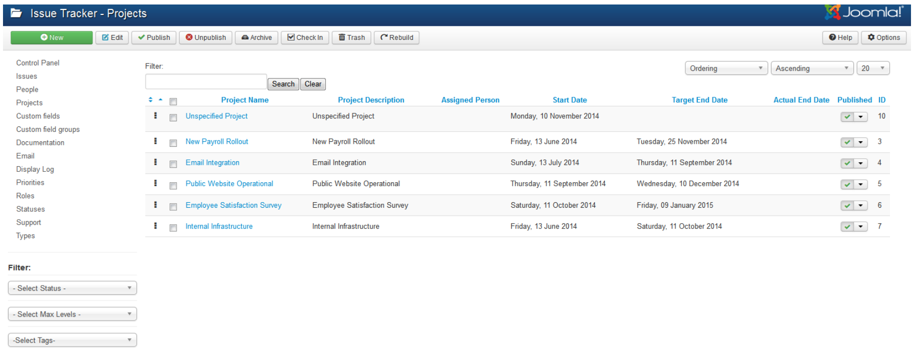
The projects list display for a Joomla 2.5 installation is illustrated below:

Figure 4.26. Projects Manager (Joomla 2.5)



A similar display on a Joomla 3.3. Installation is shown below:

Figure 4.27. Projects Manager (Joomla 3.3)



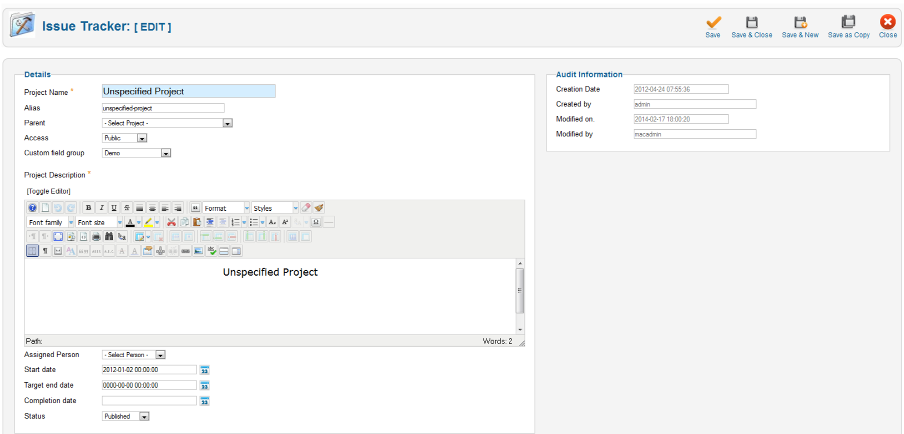
The project manager is the third of the main tabbed items, and is used to display the projects known to the system. Illustrated above is the provided default project ‘Unspecified Project’ and the sample data projects.

The projects display changes slightly in release 1.3.0 (shown above) due to a change in the underlying projects table structure.

Each of the entries may be edited in the usual manner and this is shown in the displays below.

It is expected that one of the first actions of an administrator will be to edit the default project to provide more appropriate details for their specific organisation.

Figure 4.28. Project Editor



The project edit screen is shown above. Each project has a specific name and an associated description.

The published field indicates whether the project details should be visible to the front end. If not visible then it would not be available to a front end user to raise an issue against.

Release 1.5.2 introduced the ability to define a specific assignee to newly raised issue, if not explicitly specified based upon the unique value defined for the project. If not specified or left empty the defined component default assignee is used instead.

The start data, target end date and actual end dates are as one would expect when the project was created, expected to be complete, and when it was actually completed.

Note

Release 1.3.0 changed the structure of the projects table to become a fully nested table. It introduced a new 'Root' project, which is not displayed since it is filtered out, which is the 'base/

root' project for all defined projects. To accommodate this change the 'Undefined Project' has had its identifier changed from a value of 1 to 10. This change should be made as part of the installation and is performed automatically with no changes required by the site administrator.

Note

Release 1.4 being based upon Joomla 3.1 introduced the ability to apply 'Tags' to specific projects (and issues). The implementation is the standard use of the supplied Tags API.

Attachments

The Attachments display illustrates in one screen all of the attachments that have been placed with raised issues.

Attachments are usually loaded with a specific issue's details from the front end of the site. It is however possible in the Back end to add an attachment to an existing issue, although it is not quite so common. It will also be noted that there is a 'download' button that enables the specific attachment to be downloaded onto the viewers PC for saving and further investigation, or for viewing Image files are not incorporated into any of the descriptive text fields of an issue.

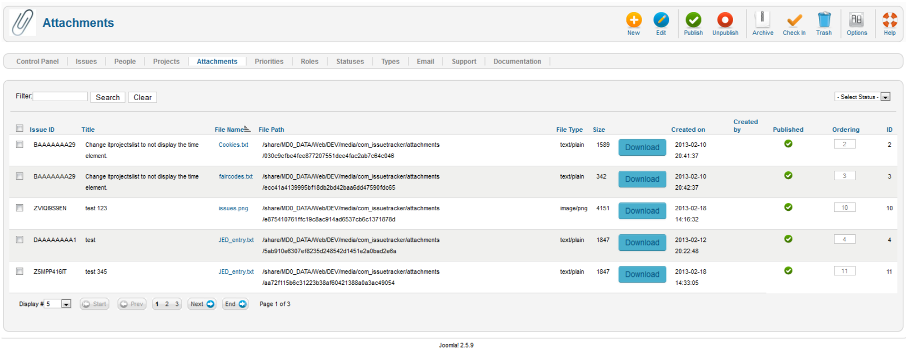
Caution

Deleting an issue with attached files will also delete the associated attachments for that issue.

Please Note:

The attachments feature is not intended to be a fully blown file uploader/downloader. There are a number of existing Joomla extensions for this purpose. Instead it is intended to be a feature for the easy control of files that are regarded as providing additional information for raised issues.

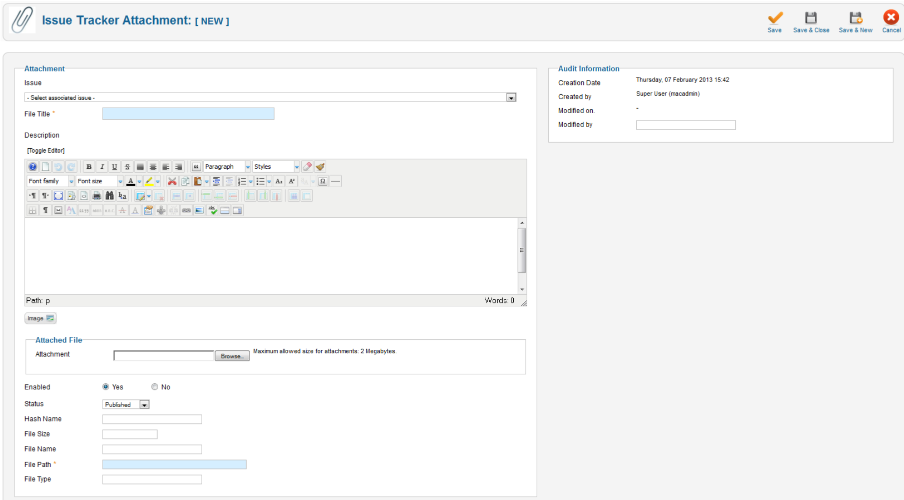
Figure 4.29. Attachments Display



The attachment editor enables the administrator to add a new attachment to an issue or to add additional information to an existing issue. For this reason the editor screen is slightly different depending upon which task is being performed.

The screen display when a new attachment is added from the back end is shown below. A number of the fields are disabled since they are populated with the details of the field selected for uploading/attaching to the chosen issue.

Figure 4.30. Add New Attachment Screen



The editing of an attachment screen is very similar to that displayed above for adding a new attachment. In this case the fields are populated with the details of the attached file. It is possible to change the assignment, and change the title and/or description of the attachment.

Note

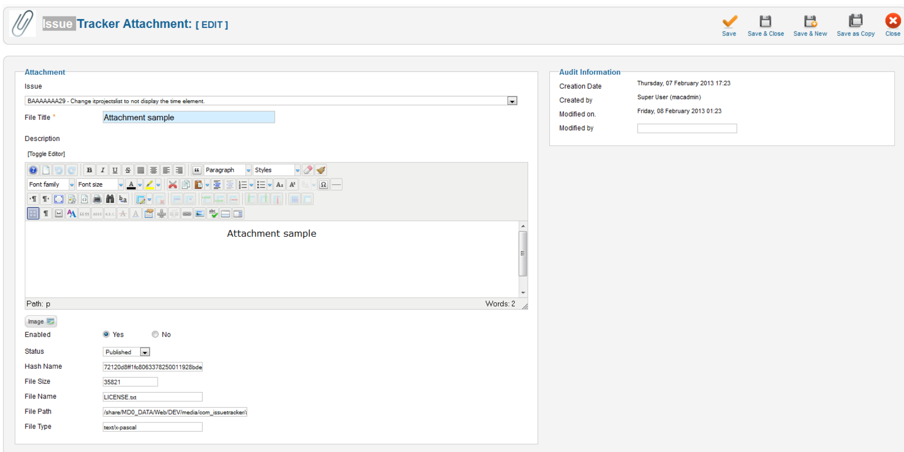
In release 1.3.0 the published flag is largely redundant and will be fully implemented in a later version update.

Attachments may be deleted from the list display and this will not impact the associated issue.

The title of the attachment is set to be the 'title' of the associated issue IF the attachment is added from the front end. If added in the back end the title may be changed or set to any desired text.

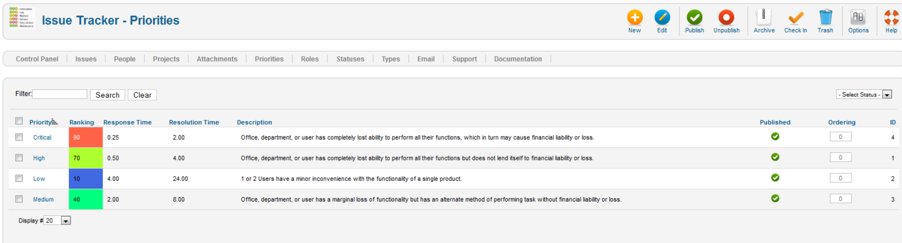
Release 1.3.1 removed the ability to create a copy of the attachment as this option really served no useful purpose. The 'create new' serves the more useful feature.

Figure 4.31. Edit Attachment Screen



Priorities

Figure 4.32. Priorities Display

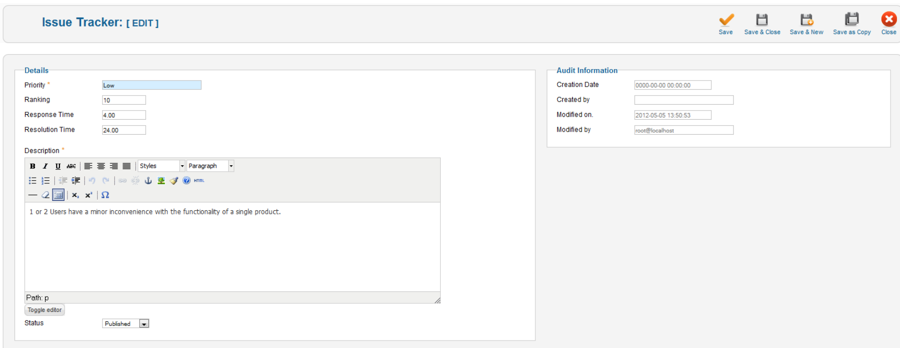


The Priorities display shows all the defined priorities known to the system. These are installed when the component is installed on the system. They may be edited and additional priorities may be added if desired. It is suggested that they are not deleted as there is some business logic that may/will be impacted if they are deleted or replaced. Attempts to delete a priority that is currently is use will be rejected. It is necessary to assign different priorities for the issues using the ‘priority’ it is desired to delete, before you may delete the desired priority.

Note

There is a default priority defined in the configuration and that it is not recommended to try and delete the ‘priority’ if it is defined default. The recommended usage is to modify the naming and description as required, possibly to represent a different language retaining the current meaning.

Figure 4.33. Priority Editor



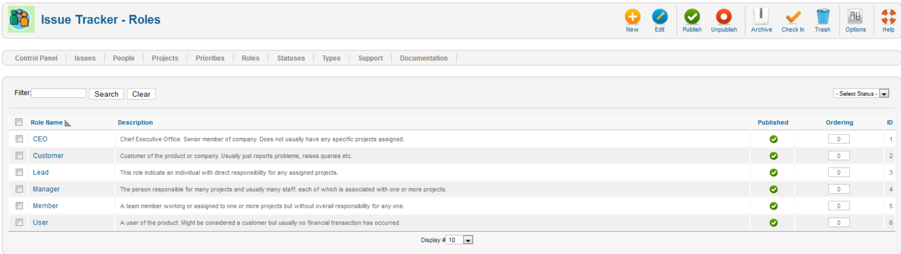
The Priority Editor is where the description and name are changed.

Note

The colour associated with a specific 'priority' is defined in the CSS style sheet and is assigned automatically based upon the priority value assigned. i.e. 1 -> 100. There are 20 possible colours defined. See the section later in this guide for details of the colours themselves used as default.

Roles

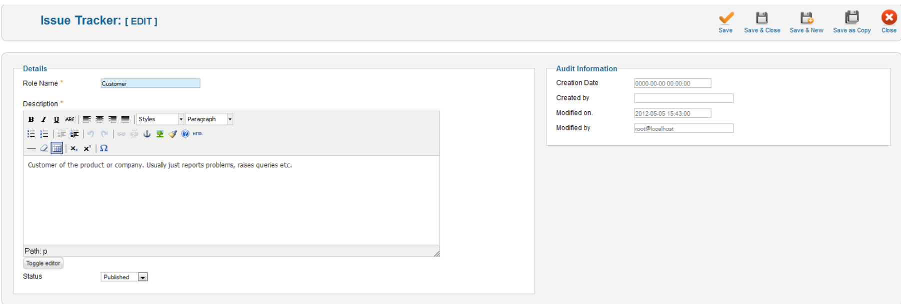
Figure 4.34. Roles Display



The Roles display is shown above. There are the six displayed roles supplied when the system is installed. Of the supplied roles the ‘CEO’ and ‘Manager’ roles are treated such that people assigned these roles do not accept a default project assignment. The application will reset the person's assigned project to NULL if they are ever assigned a default project. As such they are the only roles that have any ‘special’ business logic.

Roles may be deleted providing they are not currently in use. It is necessary to re-assign users using the desire role that is to be deleted to another defined role, before you may delete the given role.

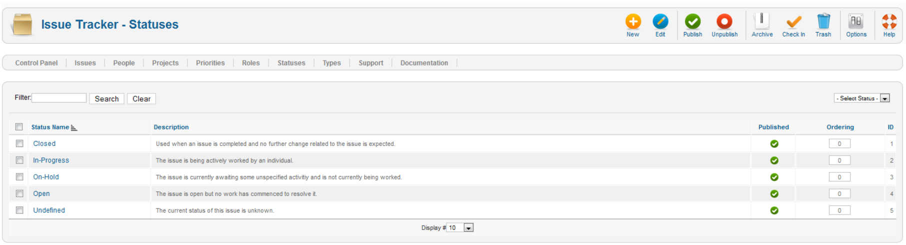
Figure 4.35. Roles Editor



The Roles editor, shown above enables the changing of the role name and description.

Statuses

Figure 4.36. Status Display



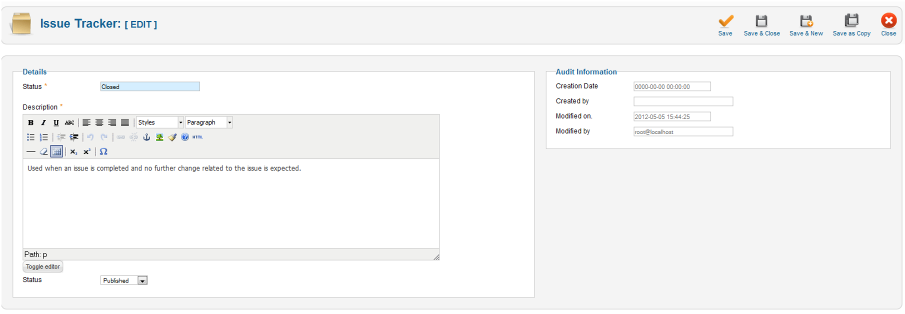
The Status displays illustrated above shows the known statuses supplied with the component.

Note

When an issue is specifically set to ‘Closed’ (using the unique status identifier of ‘1’) the issue ‘actual resolution date’ is set to the current date. In addition when an issue is created it is assigned the default status of ‘Open’, again using Status Id (4) defined above.

Statuses may be deleted but like other issue criteria, the ‘status’ to be deleted must not be assigned to any given issue. The issues must have that status re-assigned, before you may delete the required status.

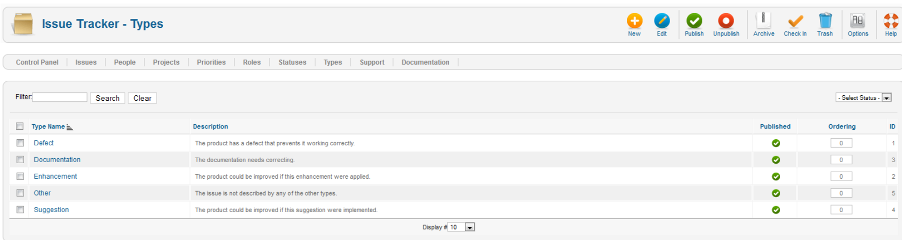
Figure 4.37. Status Editor



The status editor is shown above and follows the same logic as that of the Priorities and Role editor described earlier.

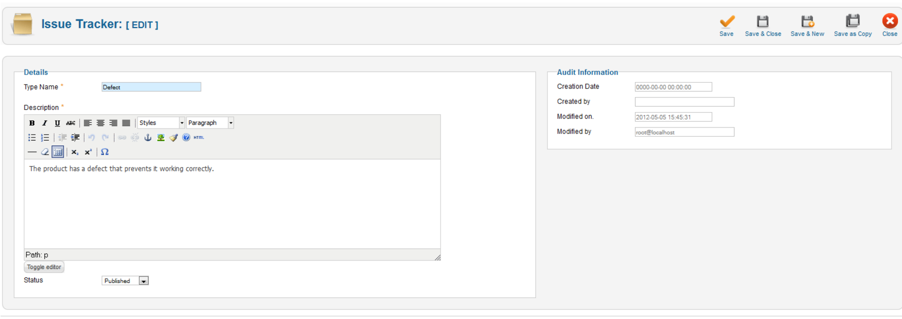
Issue Types

Figure 4.38. Issue Types display



The Types display illustrated above shows the known types supplied with the component. The default issue type is set to 1; i.e. ‘Defect’, unless the configuration option is set to some other value. The Issue type is always set when an issue is opened if not explicitly net by the issue raiser. Issue Types may be deleted however the ‘type’ may not be assigned to any recorded issue otherwise the delete will be rejected. Those issues must have their type changed to another value before you can proceed and delete the ‘type’.

Figure 4.39. Issue Type editor



It is possible to change the defined issue types using the editor. The screen above shows the specific entry for a ‘Defect’.

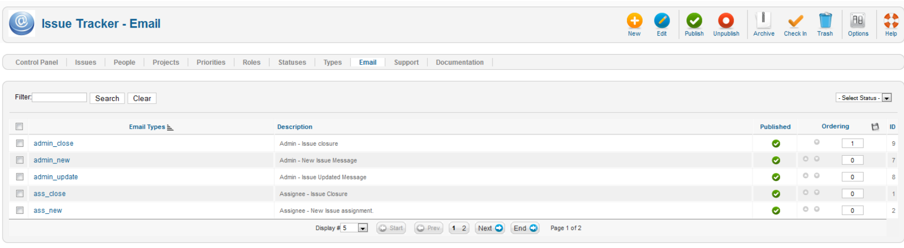
Note

Issue types may not be deleted if the issue type is associated with any issues. It is necessary to reassign those issues to another type before it is possible to delete the unwanted issue type.

Message Templates

This was formally named Email, but has been renamed to more accurately reflects the information that it is the templates that are used by the Email message or SMS messages sent from the site.

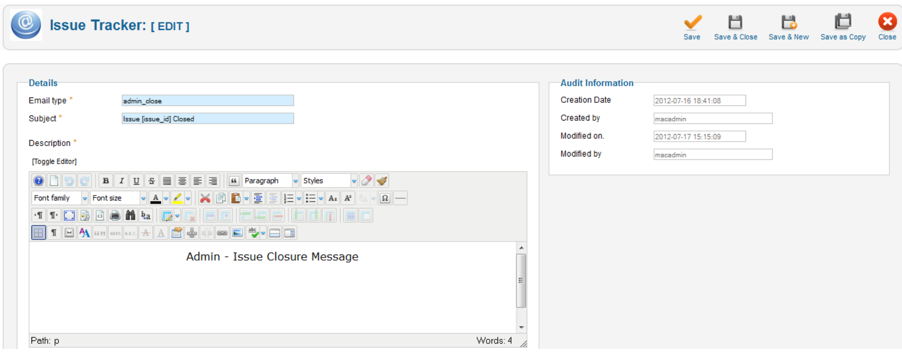
Figure 4.40. Message Templates Listing



Email and SMS generation is controlled via the configuration options, and makes use of the message types as show in the figure above. The 'email type' (message_type) name is hard coded into the component, but all other settings are configurable by the administrator. The description field as suggested by its name provides a descriptive explanation of the purpose of the email type.

The message type name is important since it has to be unique and is used within the code to initiate the sending of the specific email type. Additional message types are likely to be introduced in latest releases.

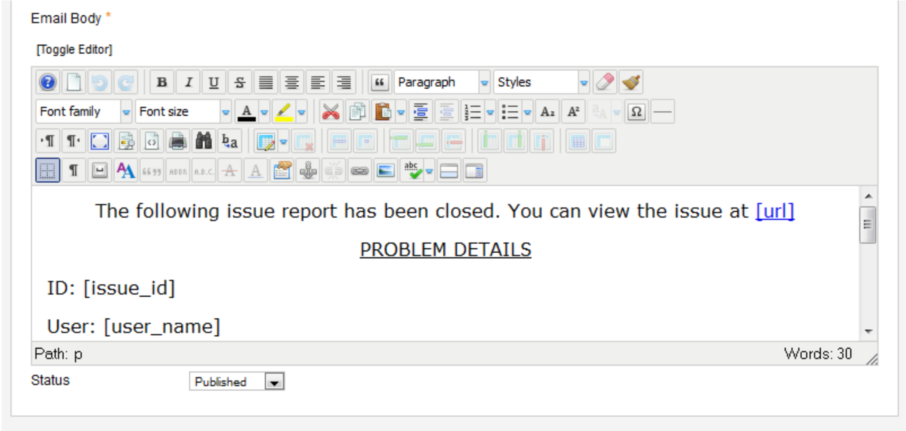
Figure 4.41. Message Template Edit (1)



The figure above illustrates the top of the 'message template edit' screen. The subject field reflects message subject field that is presented in the generated messages. Of more importance is the actual body of the message which is shown in the figure below. The body makes use of HTML codes, as the generated message is in HTML format. Consequently it is possible to make the text as attractive and detailed as is required.

The details of the issue are inserted into the message body by the use of 'tags'. These tags are substituted into the message body prior to sending.

Figure 4.42. Message Template Edit (2)



Tags are entered by using the words identified in the Message Template Tags table below surrounded by braces. The tags must be entered in lowercase letters otherwise they will not be recognised. Tags can be used in the subject field or in the body of the email. There is no limit to the number of tags that can be used and a tag may be used more than once, although this is often not required.

Despite the current name, this also includes the templates used for SMS notifications. The SMS templates are much shorter due to the restrictions usually due to the limitations imposed by the SMS providers. A message size of 160 characters is common for a lot of the SMS message providers. A component parameter permits a size limit to be specified (default 160), beyond which the message is truncated.

Note

An SMS message is built up by prefixing the message subject in front of the message body, so there is nothing to be gained by specifying the same 'tag' in both. The reasoning is that unlike with an email message there is no specific 'subject' for a SMS message, so it becomes part of the message itself.

One change that might be made by a site administrator is to add the Assignee details to the administrator message upon the opening of an issue. This has not been included as a default due to prior expressed preferences.

Note

It is not expected that the progress tag will be used in the email subject header.

It is also extremely unlikely that a progress tag would be included in a SMS message body either, since this is one easy way to exceed the SMS message length limitation. When a SMS message exceeds the specified length it is truncated and a message inserted in the component log, if logging is enabled.

Important

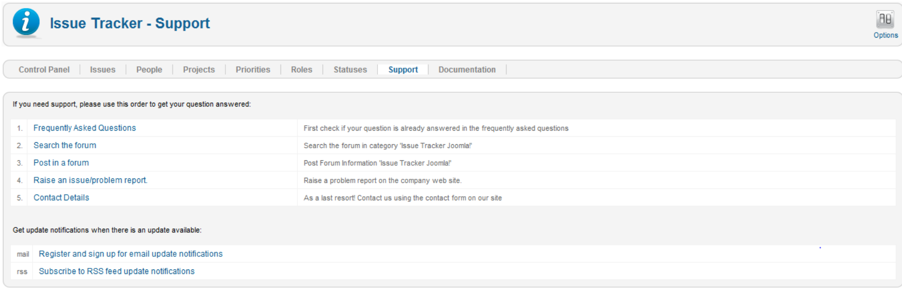
It is expected that some sites will wish to change the text of the messages into their own language. This is perfectly acceptable, only **DO NOT** change the message type since this would result in the message template not being found and hence no message of that type would be sent.

Custom Fields and Custom Fields Group Tabs

This is discussed and covered in more details in the separate section Custom Fields later in this document., and also in more detail in the Issue Tracker Customisation Guide.

Support Tab

Figure 4.43. Support Tab Control Panel



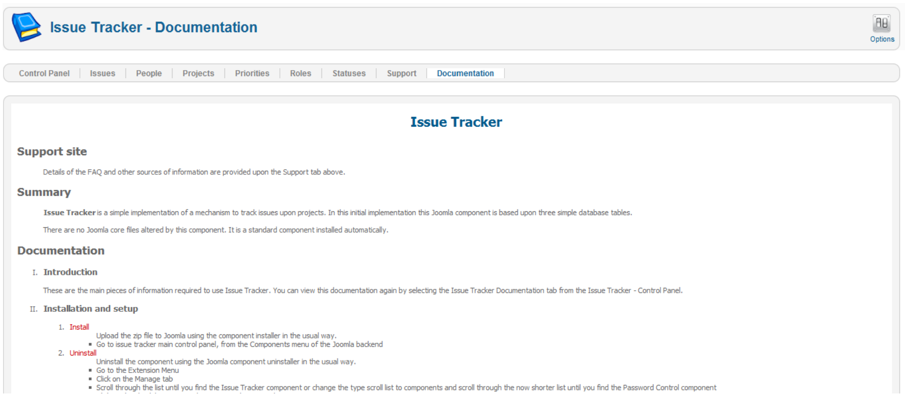
The ‘Support’ tab provides details of how additional information and/or assistance may be obtained on the product. As can be seen Macrotone provide a Frequently Asked Question (FAQ) on the company website, and additionally provide a Forum where users may raise questions.

There is also the ability on the company web site to raise an Issue, using this actual component itself.

Finally there is the ability to send an email which will be answered as and when circumstances permit. Preference is usually given to forum entries.

Documentation Tab

Figure 4.44. Documentation Tab Control Panel



There is some basic information about the component provided in the ‘Documentation’ tab, but the user is referred to the Macrotone site for the latest details since the installation of the product upon the user's website.

Front End Screens

The front end screens are not as extensive since there are not as many required. There are two ways in which the front end screens can be reached. Prior to release 1.3.0 a menu item was required for each screen and these will be described first.

Menu accessed screens

Each of the following can be configured as menu items. The first of these is the user ‘Create an Entry’. This has be opened up to registered or un-registered users. By default it is only registered users who may raise an issue and it is this screen that is displayed below. Un-registered users are presented with an additional entry box requesting user name, email address, an optional web site address and the Captcha box to complete. These details will be added to the issue progress details when the issue is saved to the database.

Not all the screens are displayed in this section, but rather a representative sample.

Figure 4.45. Front End Menu options

Create an Issue - Guest User

Figure 4.46. Create an Issue screen

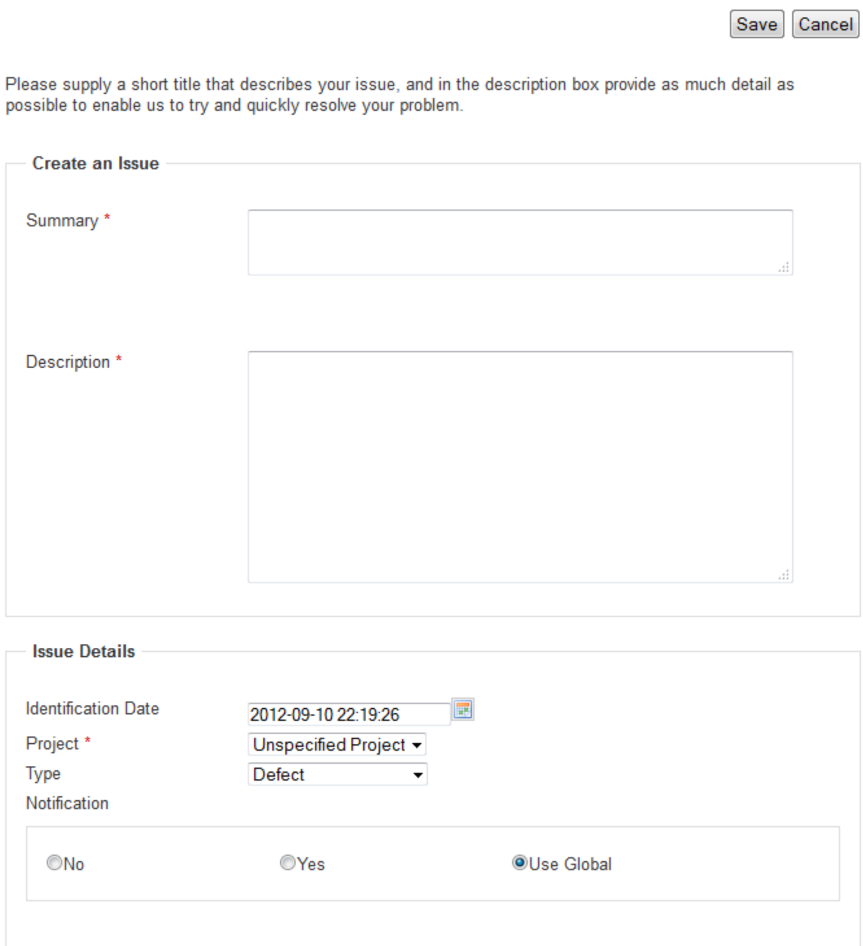
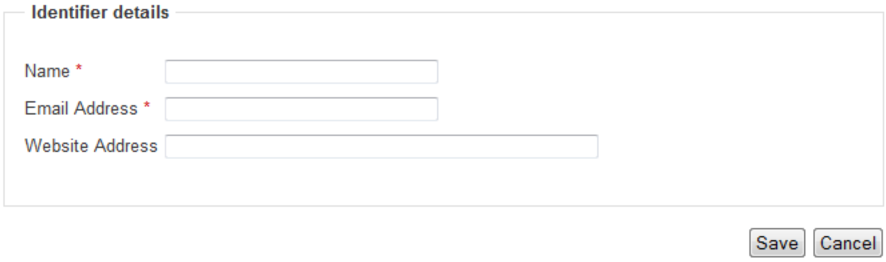


Figure 4.47. Create an Issue Screen (2)



In Issue Tracker 1.5 and earlier there was an optional section displayed to request for Joomla version and product version which was controlled by the component options. If specified they were/are added to the issue progress details when the issue is/was saved. In release 1.6 and above these are now part of a Custom Field Group (see the section Custom Fields later in this document), and controlled by the Custom Field Group published state. When entered the values are stored in with the other 'custom field' entries in with the issue details in the database record.

Note

For a guest user to be able to view the creation screen it is necessary to set the appropriate options for the public. The figure below illustrates the setting to enable creation of issues. Without this setting a 403 error message is displayed.

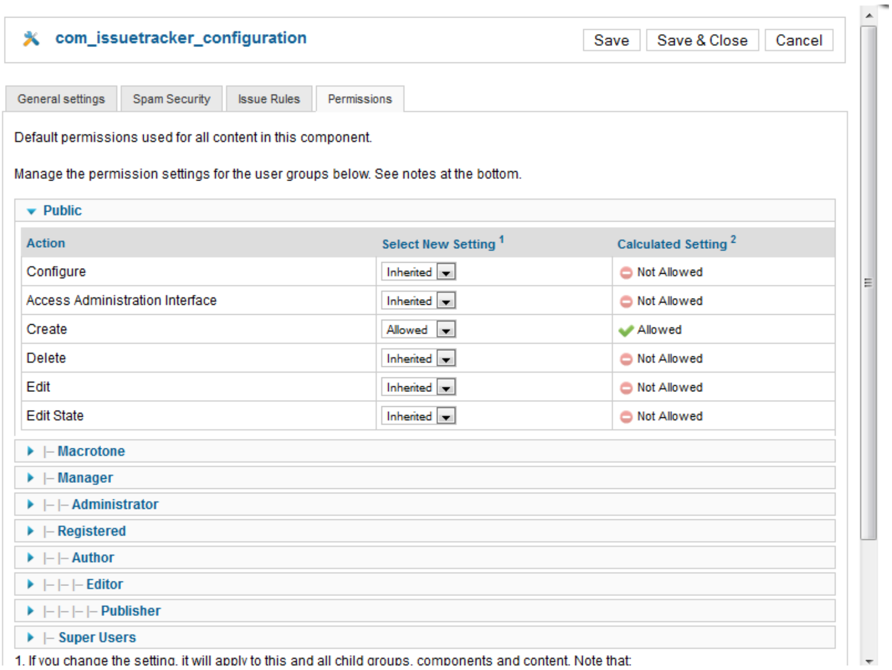
The display of the project selection in the Raise issues form is controlled by a menu option for the 'Create an issue' item. The default is to display the project selection.

Alternatively if it is not required that the public user should be able to raise issues, change the setting on the menu item to ‘registered’ (or what ever your desired ACL setting is) so that it does not apply to the public.

The ‘product details’ fields shown above are controlled by a component option and not necessarily displayed depending upon the option choice.

Included above is the options introduction text. Leave the option text blank of you do not want it displayed.

Figure 4.48. Permission to permit Guests to raise an issue.



If the guest user is permitted to raise issues then the following panel is also displayed to enable capture of the user's details. These are also stored in the progress field for the record within the database.

Figure 4.49. Additional entries required for guest users.

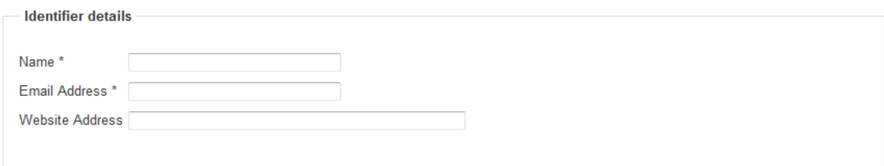


Figure 4.50. Identifier details with Captcha configured.

If Captcha is configured then the display above is displayed. The captcha is the default one supplied with Joomla! 2.5, and can be configured with the usual configuration options. If Joomla 3.4 is in use then it is possible to use version 2 of the Google captcha and this would be reflected in the captcha image displayed in the form.

Registered Users Create an Issue

Registered (and logged in users) can create issues and are presented with a ‘richer’ creation environment in Release 1.2.0. They are provided with an editor (dependant upon site configuration) and the ability to add an image to their raised issue.

Figure 4.51. Registered users create an issue (Part 1)

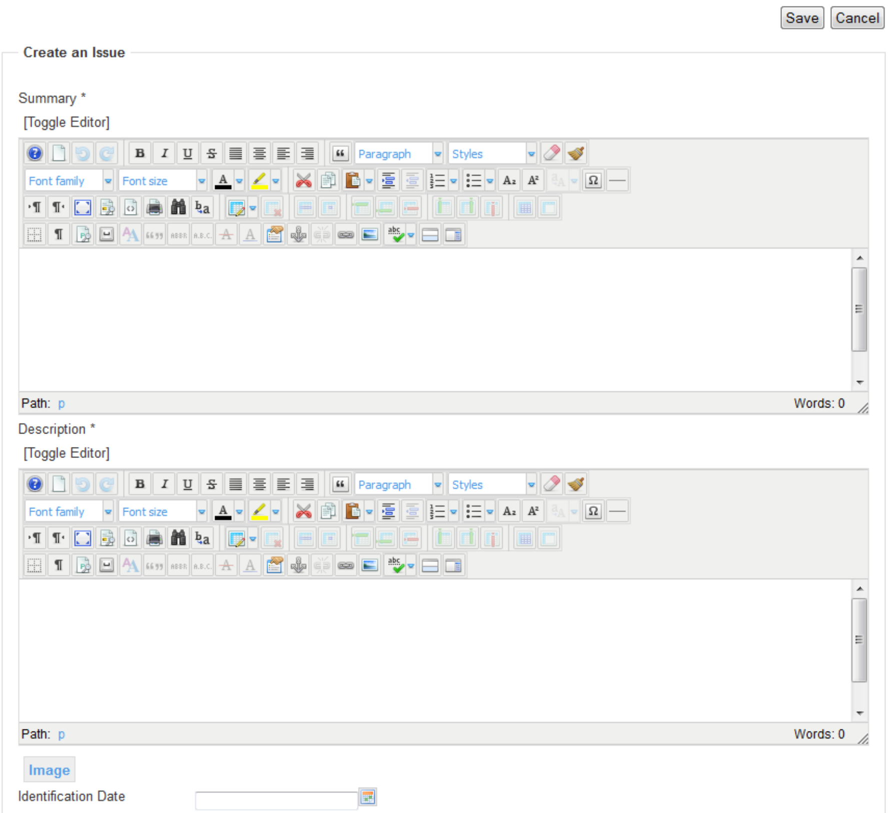
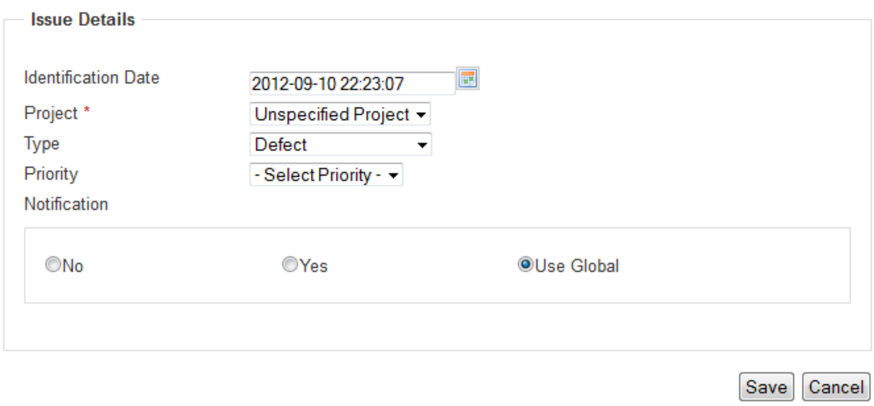


Figure 4.52. Registered users create an issue (Part 2)

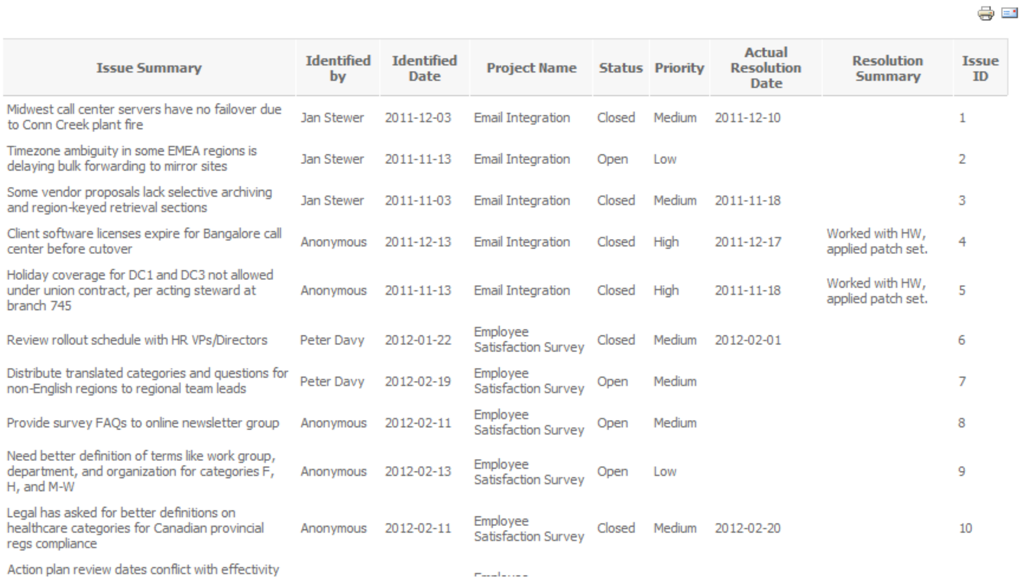


The editor shown above is the JCE editor but is a site configuration option as to which is enabled for front end users. The JCK editor is also a popular choice and provided good control over image placement when they are uploaded to the site.

If there are any associated Custom Fields associated with the specific project (or sub-project) to which this issue is defined as being connected with then there will be another panel displayed with the custom fields to be completed. This is discussed in more detail in the section Custom Fields later in this document. If the user is provided with the ability to select a specific project to record their issue against then the screen may refresh itself to display different custom field groups, depending upon the configuration and assignments of the defined custom field groups.

Front End Issue List Screen

Figure 4.53. Front End Issue List



Issue Summary	Identified by	Identified Date	Project Name	Status	Priority	Actual Resolution Date	Resolution Summary	Issue ID
Midwest call center servers have no failover due to Conn Creek plant fire	Jan Stewer	2011-12-03	Email Integration	Closed	Medium	2011-12-10		1
Timezone ambiguity in some EMEA regions is delaying bulk forwarding to mirror sites	Jan Stewer	2011-11-13	Email Integration	Open	Low			2
Some vendor proposals lack selective archiving and region-keyed retrieval sections	Jan Stewer	2011-11-03	Email Integration	Closed	Medium	2011-11-18		3
Client software licenses expire for Bangalore call center before cutover	Anonymous	2011-12-13	Email Integration	Closed	High	2011-12-17	Worked with HW, applied patch set.	4
Holiday coverage for DC1 and DC3 not allowed under union contract, per acting steward at branch 745	Anonymous	2011-11-13	Email Integration	Closed	High	2011-11-18	Worked with HW, applied patch set.	5
Review rollout schedule with HR VPs/Directors	Peter Davy	2012-01-22	Employee Satisfaction Survey	Closed	Medium	2012-02-01		6
Distribute translated categories and questions for non-English regions to regional team leads	Peter Davy	2012-02-19	Employee Satisfaction Survey	Open	Medium			7
Provide survey FAQs to online newsletter group	Anonymous	2012-02-11	Employee Satisfaction Survey	Open	Medium			8
Need better definition of terms like work group, department, and organization for categories F, H, and M-W	Anonymous	2012-02-13	Employee Satisfaction Survey	Open	Low			9
Legal has asked for better definitions on healthcare categories for Canadian provincial regs compliance	Anonymous	2012-02-11	Employee Satisfaction Survey	Closed	Medium	2012-02-20		10
Action plan review dates conflict with effectivity								

The front issue list display only shows the published issues. The items displayed are controlled by the menu display settings. It is possible to provide the link on the ‘issue summary’ to drill down to the specific issue details which will display the following screen. The above screen does not show the link, but it resembles that seen in the back end. There are link option display settings that are applied to any issues accessed from the link, when it is enabled.

It is possible to generate a front end issue display for, one, two or any number of specific projects. i.e. One can create separate issue displays for each individual project if it is so desired. When the menu item is created this is controlled by the menu options.

Release 1.2.1 allow for the list to be sorted by the viewer by clicking upon the column headers.

The display shown above (and all list displays) can be configured for a specific site using CSS styling. Release 1.3.0 permits the use of 'Custom CSS' . The component permits the override of all the component media files. Issue Tracker's media files are stored under media/com_issuetracker. To change the styling create a directory named media/com_issuetracker under the site template. Then copy the folders and files it is desired to override into the appropriate directory, Once in place, Issue Tracker will now load whatever is under the site template instead of what is in the media directory under the site's root.

Note

The default style sheet used by the front end is named 'issuetracker.css'. As supplied it uses the same theme as versions prior to 1.3.0. Edit the file and change the table styles as required.

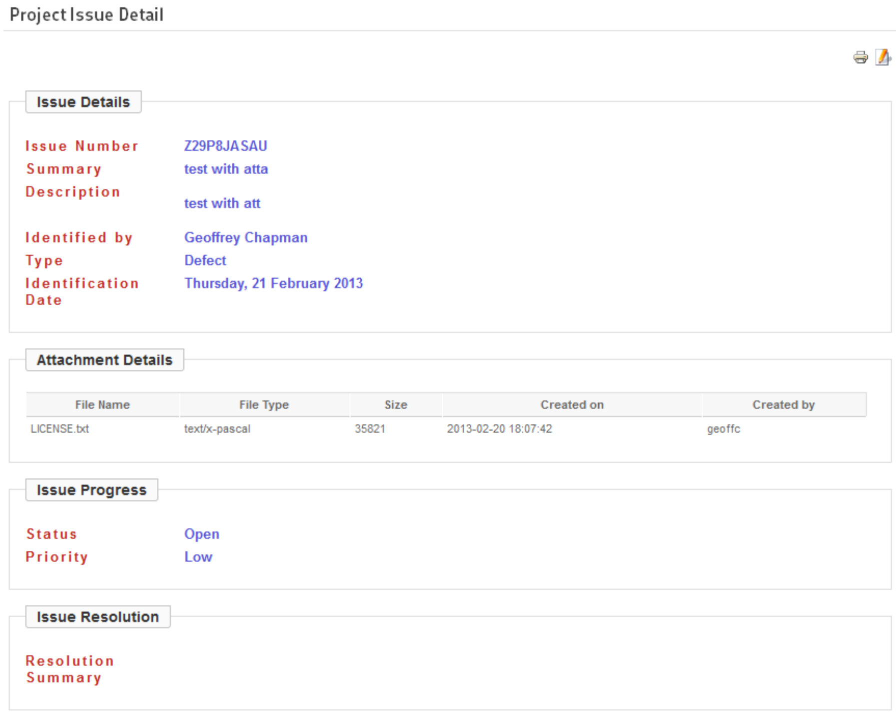
Front End Issue Detail Screen

The front end issue display can like all of the front end screens be modified to have a 'specific' 'look and feel'. Two examples are illustrated in this section.

Figure 4.54. Front End Issue Detail

Below is an alternative image of the issue display screen using some supplied CSS code, and also illustrating the display where there is an associated attachment. If there is more than one attachment the list within the attachment section will be slightly longer.

Figure 4.55. Front End Issue Detail (2)



The front end issue display is also configurable, just as the issue display is configurable to determine which fields are displayed. There are separate options for Issues displayed from the menu, and those displayed from a link from the main issues list display.

Note

Progress History may or may not be displayed depending upon the configuration settings. Even within the progress records themselves each record may be individually configured to be displayed or not, and even to whom it may be displayed based upon the access group of the user and that of the progress record.

Note

If there are any attachments for the displayed issue, then an additional grid will be shown with the attachment details.

Note

If the issue displayed does not have any resolution provided, i.e. the issue is still open or in progress, then the 'Resolution' information will not be displayed in Release 1.6.0 or later.

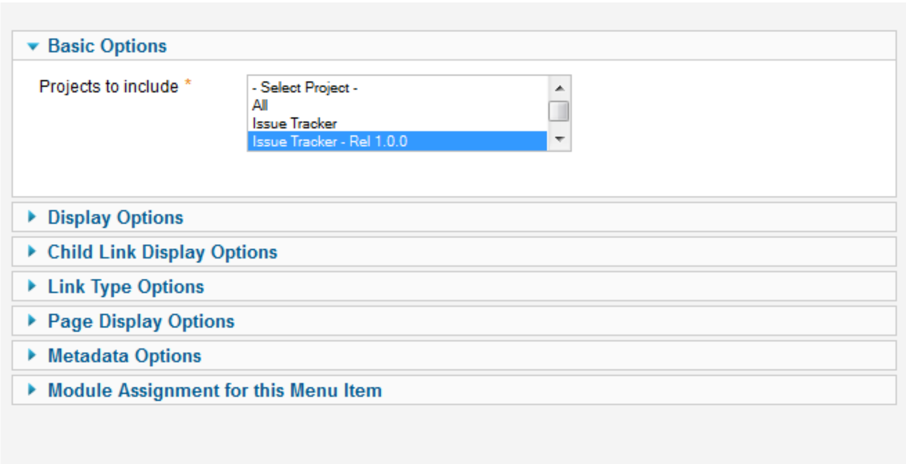
Custom fields may also be present and displayed if they are configured for the specific project to which the issue is attached.

The print and email (which send a page link to the recipients) icons are also optional. The display of the audit details for the record is optional, and is set in the Menu settings.

If the person viewing the issue detail is logged in (or an issue administrator) an additional edit icon may/will be displayed alongside the print and the email icons if the issue is one they are 'identified by' as raising the issue OR in they are an issue administrator. (See front end edition screens.)

This screen is also shown if the links are enabled for the all issues display, where the appropriately selected issue is then displayed.

Figure 4.56. Single Issue Menu Required Settings



The above display illustrates the only required setting for a single Issue Menu display. The various display options are shown in the following figure.

Figure 4.57. Single Issue Menu Display Options

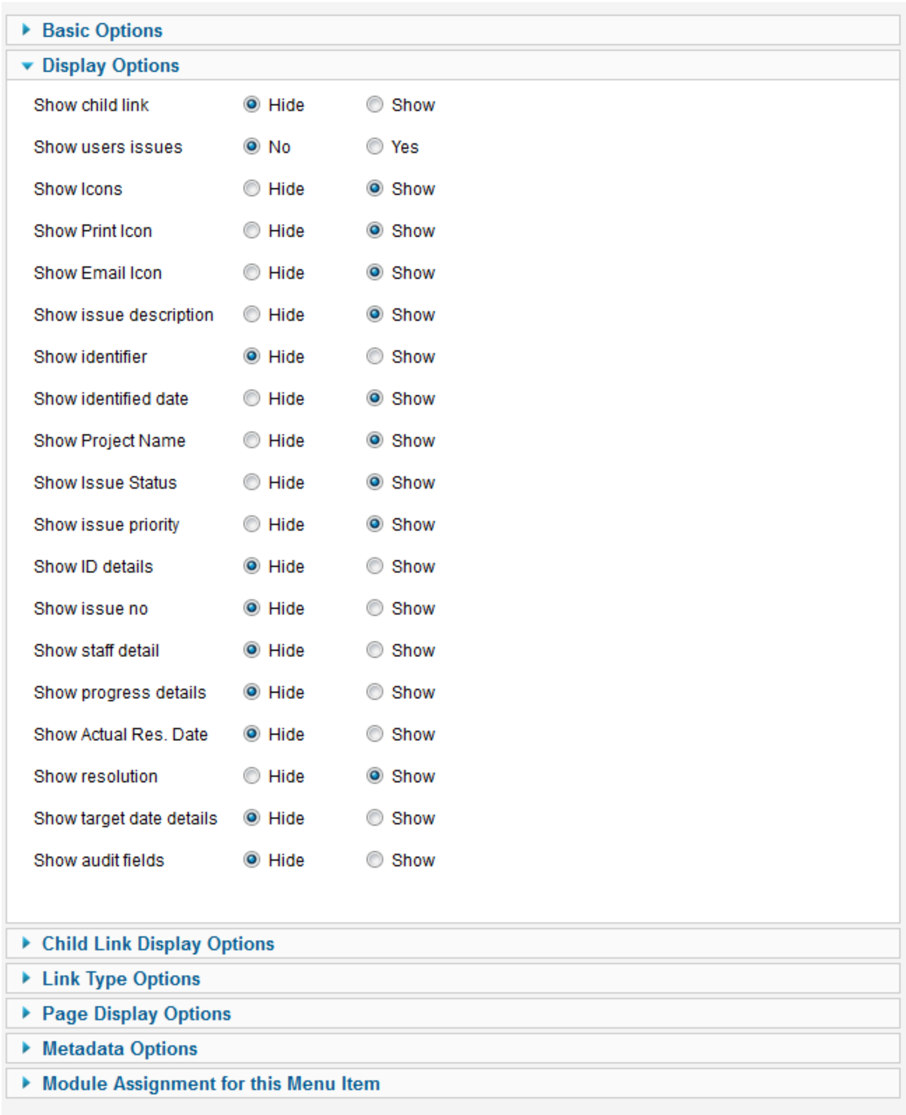
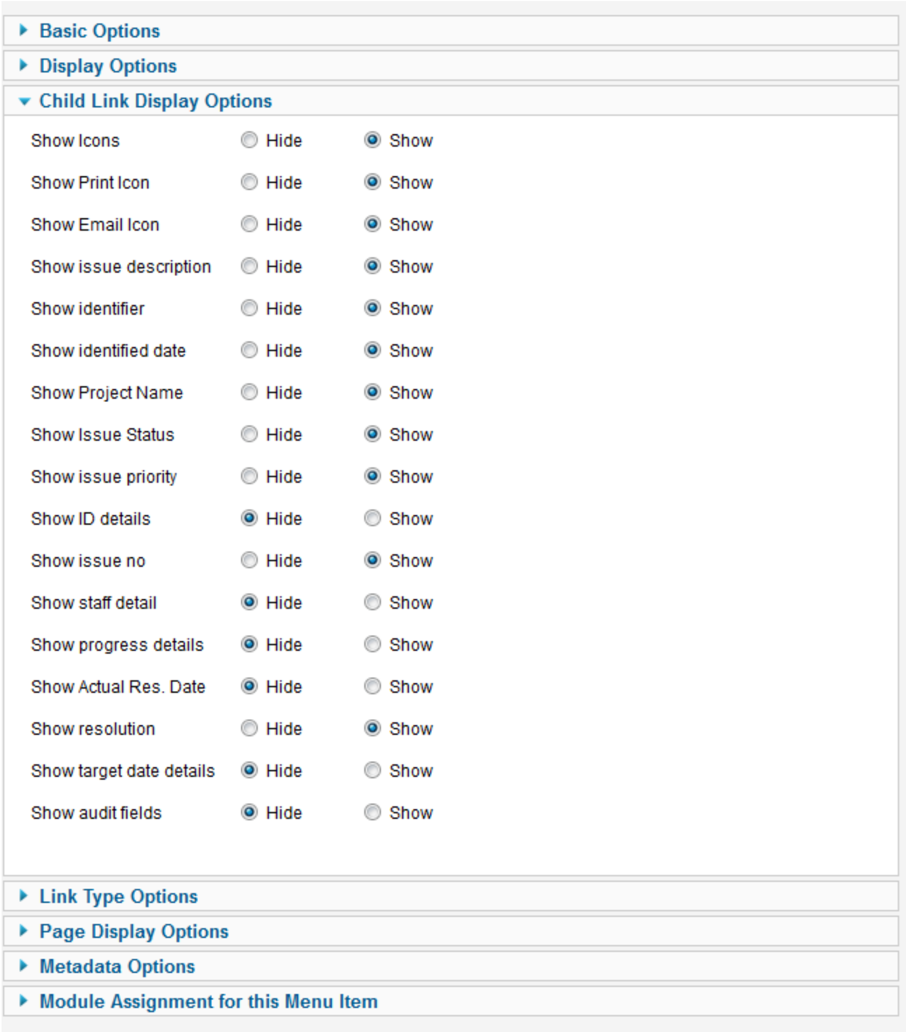


Figure 4.58. Child Link Display Option



The child link display options impact the display of any issues accessed from the link on the List Issues Display, if it is enabled.

If there are any associated Custom Fields associated with the specific project (or sub-project) to which this issue is defined as being connected with then there will be another panel displayed with the custom fields and their specified entries. This is discussed in more detail in the section Custom Fields later in this document.

Note

Take care if you decide to show the progress field to the general public. The reason is that if you use the default setting a guest user's email address will be inserted into the progress field and hence be visible to the general public. Release 1.2 introduced the idea of capturing the details in the it_people table as an alternative, in which case the user details are NOT stored in the progress field of the issue. If using release 1.6 one could simply choose to not publish this specific progress record.

Front End Issue Edit Screens

The screen that is displayed upon the front end for issue editing will depend upon the role of the person performing the edit. It an issue administrator is performing the edit they have access and the ability to edit ALL of the issue details. If the person editing the issue is the person who raised it in the first place as indicated by the ‘identified_by_person_id’ field within the issue record, they are presented with a slightly different screen display.

The specific issue shown is one that was raised internally whilst developing the feature and some of the text is just for example purposes.

The following figures illustrate the difference. In each case the same issue is being edited, first by an issue administrator, and the second by the person who raised the issue who is not an administrator. (For the example the issue administrator privilege was removed from the user to generate the second set of figures.

Note

The following information relates to releases prior to 1.6 of Issue Tracker.

If you look carefully at the issue description you will/may see several lines similar to the following:

```
username 2012-08-16 13:00:04: Test of checkin
```

The line represents the information of the user that performed the editing (which is always expected to be the user who identified the issue), followed by the date and time when the additional information was received, and finally the information provided. The fact that there are several lines just indicates that several updates have been performed by the raiser upon the issue.

These lines may be present also in the progress history record, only in this situation the entries would have been created by a version of Issue Tracker prior to release 1.6, and they would have been placed in the progress history when the component was upgraded.

In release 1.6 and later any additional information entered by the user who opened the issue is added to the progress history information. This additional information may or may not be displayed in the front end depending upon the settings upon the additional information progress record.

Note

Any edits performed by the issue administrator are written directly to which ever field is updated. The assumption is that the issue administrator will retain any information that is relevant. Adding information into the progress field adds the entered details into the 'progress history'.

The raiser of the issue has only a restricted set of things that they can change or add and these are detailed in section Front Editing Permissions.

You will also observe that there is an ‘Image’ button’ just below the editor. This is to enable the insertion of images into the editor text fields. This feature is a ‘stop gap’ measure until such time as the attachments feature is implemented permitting the association of files of any time with an issue. See the notes section more information.

NOTES:

- The ACL permission to ‘EDIT - OWN’ has to have been granted to the registered users to enable them to edit issues in the front end. Each site may be different so it is worth checking if your users are experiencing difficulties.
- The ACL permissions may not have been set if the issue was created in a pre- 1.2.0 release of Issue Tracker, and it will be necessary to edit (in the back end by an issue administrator) any pre-existing issues which may be required to be edited in the front end. See section ACL Permissions for more details.
- There are a number of editor available for installation upon a site, and include the installed default Tiny. MCE, and Code Mirror, but also JCE and JCK etc. We have shown JCE as the editor in the figures since that is our own editor of choice but you are not restricted. We are not that familiar with

the other editors so can assist in their configuration. In particular we found difficulties in getting JCK in use as a front screen editor, whether this is a problem with our particular template or some other reason we do not know. There are numerous reports on the web about problems with all editors so it seems we are probably not alone.

Figure 4.59. Front End Issue Edit - Administrator (Part 1)

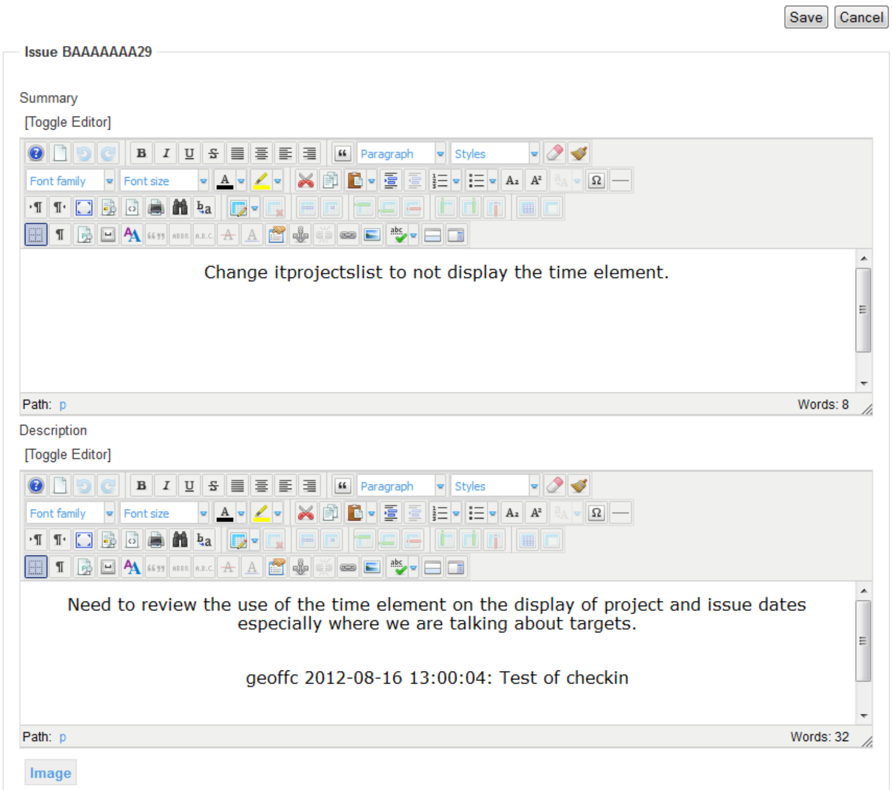


Figure 4.60. Front End Issue Edit - Administrator (Part 2)

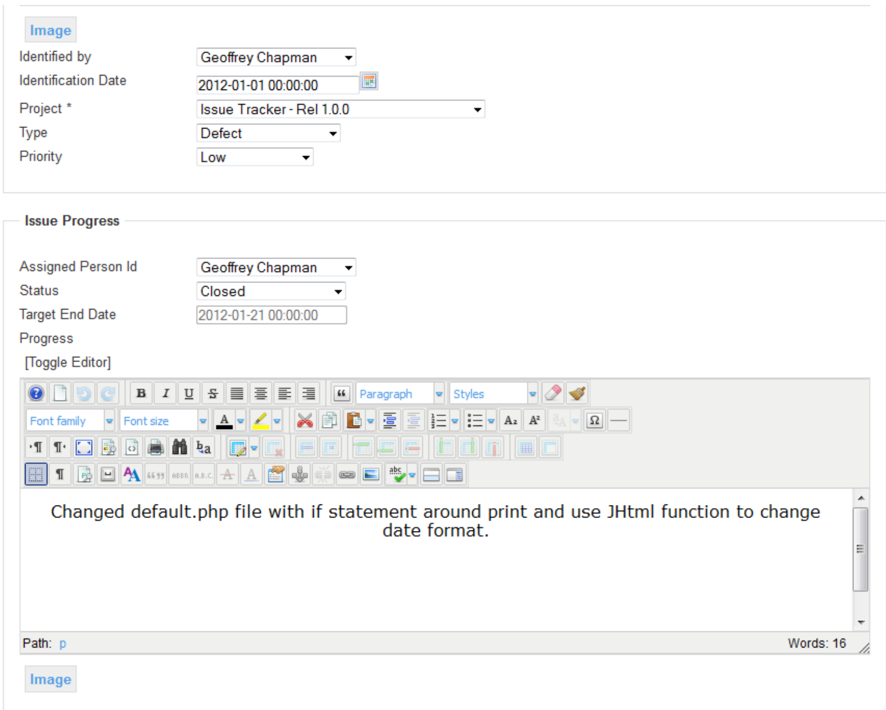
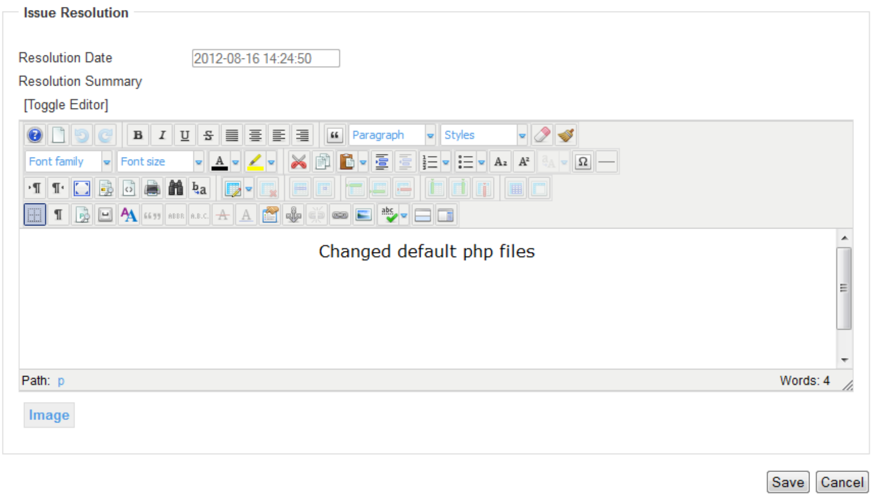


Figure 4.61. Front End Issue Edit - Administrator (Part 3)



If the person editing the issue is the person who raised it in the first place as indicated by the 'identified_by_person_id' field within the issue record, they are presented with a slightly different screen display.

Figure 4.62. Front End Issue Edit - Raiser (Part 1)

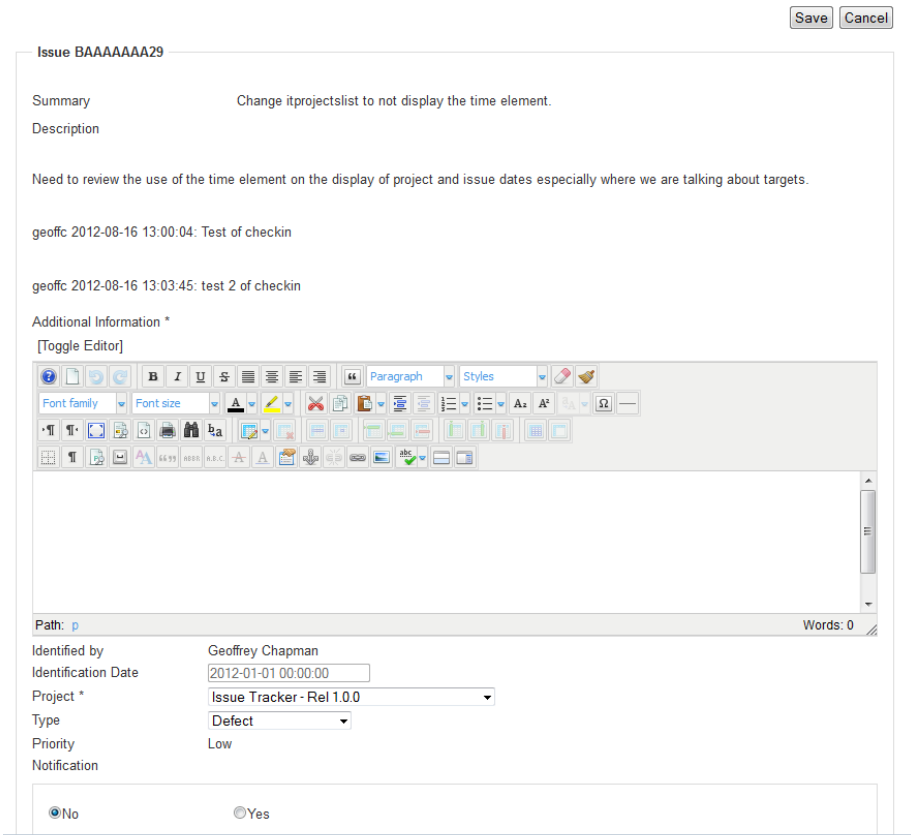
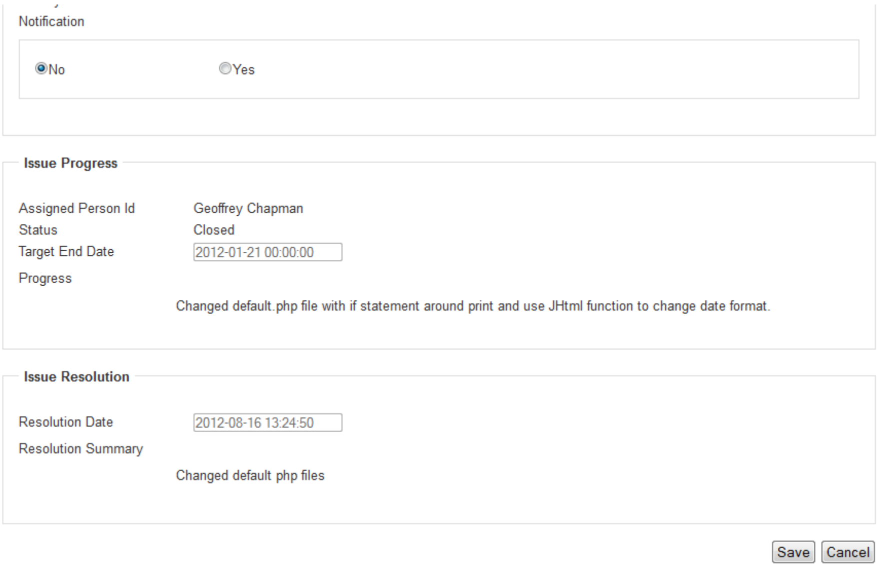


Figure 4.63. Front End Issue Edit - Raiser (Part 2)



Note

Release 1.2.1 modified the Front end edit screen layout for registered users entering additional information. The reason for this was to ensure that the form displayed the same upon both Chrome and Firefox browsers. This is not shown in the figures above.

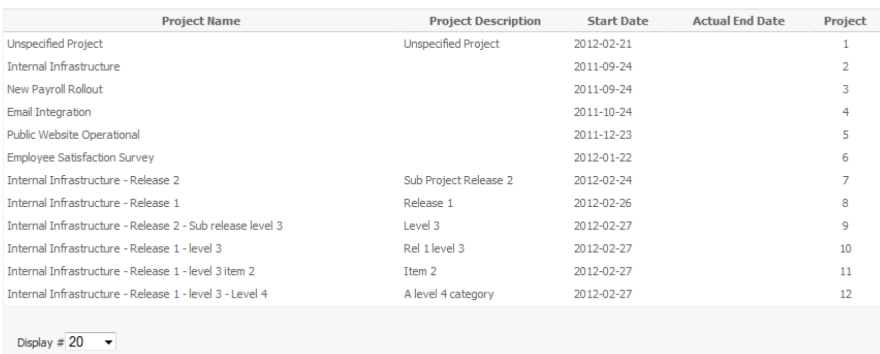
Issue administrators and staff members are presented with the ability to access and update most of the fields associated with an issue. One nice feature introduced in 1.6.7 was that when an identifying user is chosen/changed from the drop down list a check is made that the chosen individual is configured to receive notifications. If they are not then a message id presented and also a button that can be clicked to update the users notification flags to the system defined default.

Depending upon the configuration there may or may not be a section displaying the issue progress history. Likewise there may or may not be a section for the entry/edit of custom fields.

Front End Project List.

In release 1.3.0 the front end project list has been redesigned.

Figure 4.64. Front End Projects List (pre 1.3.0)



Project Name	Project Description	Start Date	Actual End Date	Project
Unspecified Project	Unspecified Project	2012-02-21		1
Internal Infrastructure		2011-09-24		2
New Payroll Rollout		2011-09-24		3
Email Integration		2011-10-24		4
Public Website Operational		2011-12-23		5
Employee Satisfaction Survey		2012-01-22		6
Internal Infrastructure - Release 2	Sub Project Release 2	2012-02-24		7
Internal Infrastructure - Release 1	Release 1	2012-02-26		8
Internal Infrastructure - Release 2 - Sub release level 3	Level 3	2012-02-27		9
Internal Infrastructure - Release 1 - level 3	Rel 1 level 3	2012-02-27		10
Internal Infrastructure - Release 1 - level 3 item 2	Item 2	2012-02-27		11
Internal Infrastructure - Release 1 - level 3 - Level 4	A level 4 category	2012-02-27		12

Display # 20

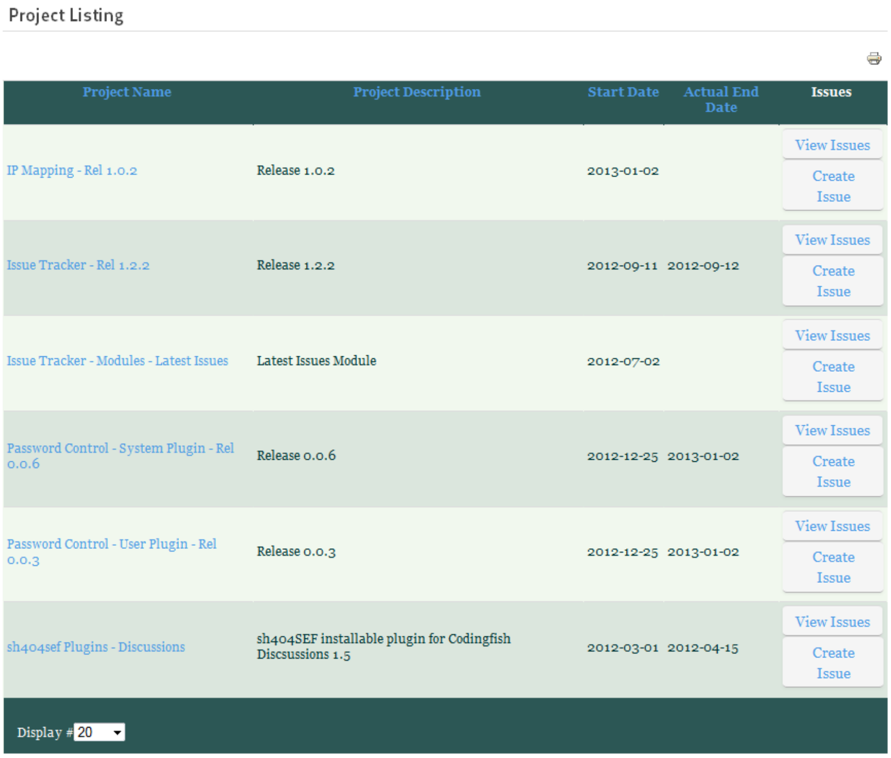
The front end projects list pre release 1.3.0 is show above. This display is only of the published projects. It is unlikely that this screen will be (was) used very often but is available just in case. Just as with the issues list screen above it is possible to configure which fields are displayed and also enable a link to drill down to the specific project details. This is not shown on the figure above.

As illustrated the sub-projects are clearly shown. The project description relates to the description for the specific sub project, the project name being composed of the various names for the project parents and its own sub-project name.

Release 1.2.0 allowed the sorting of the above list display by clicking on the column headings.

Release 1.3.0 redesigned the front end projects screen as shown below using the 'alternative colour style'.

Figure 4.65. Front End Projects List (1.3.0)



Project Listing

Project Name	Project Description	Start Date	Actual End Date	Issues
IP Mapping - Rel 1.0.2	Release 1.0.2	2013-01-02		View Issues Create Issue
Issue Tracker - Rel 1.2.2	Release 1.2.2	2012-09-11	2012-09-12	View Issues Create Issue
Issue Tracker - Modules - Latest Issues	Latest Issues Module	2012-07-02		View Issues Create Issue
Password Control - System Plugin - Rel 0.0.6	Release 0.0.6	2012-12-25	2013-01-02	View Issues Create Issue
Password Control - User Plugin - Rel 0.0.3	Release 0.0.3	2012-12-25	2013-01-02	View Issues Create Issue
sh404sef Plugins - Discussions	sh404SEF installable plugin for Codingfish Discsussions 1.5	2012-03-01	2012-04-15	View Issues Create Issue

Display # 20

It will be seen that in addition to the link to the project details, there is an additional column named 'Issues' with two button icons. The first display the list of all issues assigned to the specific project chosen. The second enable a direct link to the screen to enable the creation of a new issue.

These 'button' will enable navigation to the desired display (as described above) with selection criteria applied. This means that for example, clicking on the button to display issues for a specific project will only display issues for that project. Similarly an issue created via the 'Create Issue' link will have the associated project detail associated with the issue. The fields displayed are configured via the component 'front end' options. The displays themselves are identical to those accessed via the menu options. Note however that the applied 'CSS' styles will be those applied to the 'Projects List' screen itself. Page and title headings are set depending upon the language text specified in the component 'language files'

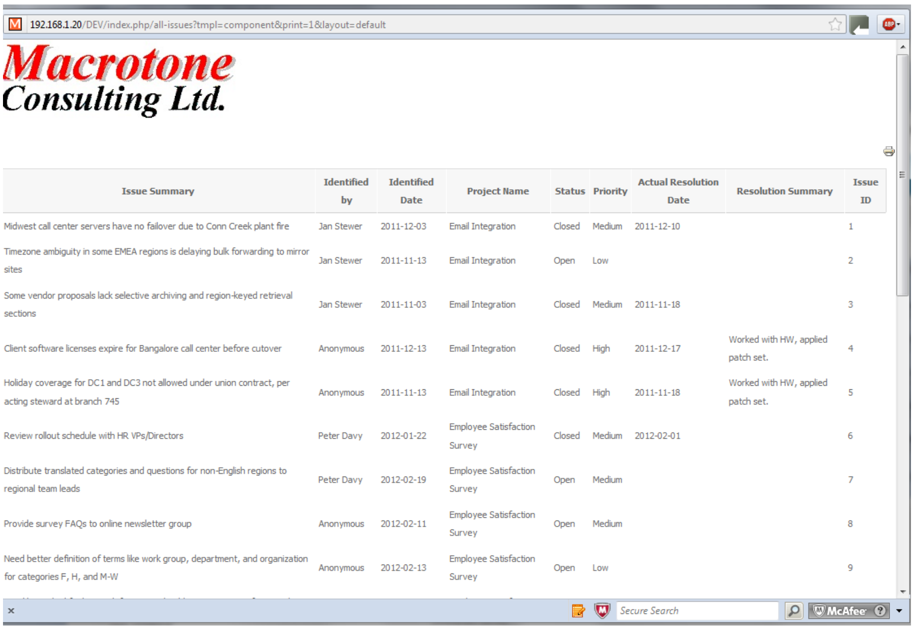
Note

Whether the 'Create Issue' button is displayed will depend upon the user having the correct permission.

Other screens

A print icon is available upon most of the front end display. Shown below is the pop-up window that appears when the print icon is clicked in the all-issues display. The icon that is shown within the printed out display is a Joomla configuration option and how to achieve it is described in section How to insert your logo into a print page.

Figure 4.66. Sample All Issues Print Pop-up Screen



Issue Summary	Identified by	Identified Date	Project Name	Status	Priority	Actual Resolution Date	Resolution Summary	Issue ID
Midwest call center servers have no failover due to Conn Creek plant fire	Jan Stewer	2011-12-03	Email Integration	Closed	Medium	2011-12-10		1
Timezone ambiguity in some EMEA regions is delaying bulk forwarding to mirror sites	Jan Stewer	2011-11-13	Email Integration	Open	Low			2
Some vendor proposals lack selective archiving and region-keyed retrieval sections	Jan Stewer	2011-11-03	Email Integration	Closed	Medium	2011-11-18		3
Client software licenses expire for Bangalore call center before cutover	Anonymous	2011-12-13	Email Integration	Closed	High	2011-12-17	Worked with HW, applied patch set.	4
Holiday coverage for DC1 and DC3 not allowed under union contract, per acting steward at branch 745	Anonymous	2011-11-13	Email Integration	Closed	High	2011-11-18	Worked with HW, applied patch set.	5
Review rollout schedule with HR VPs/Directors	Peter Davy	2012-01-22	Employee Satisfaction Survey	Closed	Medium	2012-02-01		6
Distribute translated categories and questions for non-English regions to regional team leads	Peter Davy	2012-02-19	Employee Satisfaction Survey	Open	Medium			7
Provide survey FAQs to online newsletter group	Anonymous	2012-02-11	Employee Satisfaction Survey	Open	Medium			8
Need better definition of terms like work group, department, and organization for categories F, H, and M-W	Anonymous	2012-02-13	Employee Satisfaction Survey	Open	Low			9

A configurable 'email' icon is also available, which enables the sending of an email containing the 'link' to the specific screen to be sent to other possibly interested people users.

There is also another ‘people list display’ which is not show that is similar to the pre-1.3.0 project display list above. This is generally not as useful and may be seen as a possible security risk by some as exposing the details. This also has a configurable drill down link if required.

Scheduled Tasks

Scheduled tasks upon Joomla systems usually make use of an operating daemon named 'cron'. This is because most are based upon UNIX operating systems, although a number do make use of Windows based operating systems. Since they are so common we have concentrated upon enabling the use of a cron based scheduling ability within the component.

Note

The Issue Tracker Design Guide contains more information upon the scheduling design and the interested reader is referred to that documents for more information.

Cron is basically a time-based job scheduler that runs in the background on UNIX systems. Typically a task requiring repetitive actions to be carried out on a regular (pre-determined) basis would be ideal candidates for using cron.

Joomla systems can offer a number of different mechanisms to perform repetitive actions, of which the one to be used is very dependant upon the facilities offered by the hosting supplier.

Pseudo-cron

It is possible to make use of a ‘bespoke’ plugin which can be invoked when someone accesses one or more pages upon a site and performs some predefined tasks. This is really a 'real' cron since there is no real way in which one can guarantee that there would be a site visitor at any predetermine time, and has an unavoidable side effect of slowing the site access for the specific visitor that happen to visit the site at or immediately after the desired time. For this reason we have not implemented such a mechanism, however for some other ‘short’ running tasks it might be suitable, so although not suitable for our implementation can in some circumstances provide a reasonable solution.

Front-end access

This mechanism makes use of the front end of the site and provides a task that may be invoked by a web browser, but more commonly by a utility accessing a web page such as wget or curl. Such tasks typically when invoked in this way do NOT provide progress details.

The front-end access URL's for cron tasks are not usually designed to be run from a normal web browser, but from an unattended cron script, utilising a server side executable as a means of accessing the function. Typically utilities such as wget, curl or lynx are used, which can be thought of as applications which simulates the behaviour of the browser. They typically try to access the cron supplied site URL so that the accessed page actions occur.

Normal web browsers tend to be "impatient". If a web page returns a bunch of redirection headers, the web browser thinks that the web server has had some sort of malfunction and stop loading the page. It will also show some kind of "destination unreachable" message. Remember, these browsers are meant to be used on web pages which are supposed to show some content to a human. This behaviour is normal. Most browsers will quit after they encounter the twentieth page redirect response, which is bound to happen. Using browsers such as Firefox, Internet Explorer, Chrome, Safari, Opera or any other browser are **not** intended to work with the front-end cron based features. They are **not** meant to work by design.

Command line utilities, by default, will also give up loading a page after it has been redirected a number of times. For example, wget gives up after 20 redirects, curl does so after 50 redirects. Depending upon the actual task being executed it may be advisable to configure the command line utility with a large number of redirects. The number will depend upon the task itself.

Tip

There are several locations upon the web that provide a free service enabling of scripts supporting CRON. There is a free service from Webcron that provides a simple interface, that we have tested out ourselves. There is also a paid service that Webcron.org provide that fully supports a number of front-end features and is reasonably cheap - you need to spend about 1 Euro for 1000 runs. Just make sure you set up your Webcron [http://webcron.org/] CRON job time limit to be at least 10% more than the time it takes for the script to execute upon your site. Don't know how much is that? No problem! Just run the script from your site's front end and average out the run times and add about 10% more to the required value.

It should be noted that IF your site uses any redirection component such as sh404SEF (and possibly .htaccess) that the URL specified in the Webcron service should be the 'redirected' URL and NOT the initial URL, otherwise a 301 error is seen.

One feature that is often included is the supply of a 'Secret key' or 'Pass Phrase'. It is a character based string which will allow the CRON job to ascertain that it has the right to request to run is acceptable. It can be thought of as an additional security feature.

Tip

Use only lower- and upper-case alphanumeric characters (0-9, a-z, A-Z) in your secret key. Other characters may need to be manually URL-encoded in the CRON job's command line.

This is error prone and can cause the backup to never start even though you'll be quite sure that you have done everything correctly.

Most hosts offer a CPanel of some kind. There will be a section named something like "CRON Jobs", "scheduled tasks" or the like. The help screen they provide should describe how to set up a scheduled job. The missing part would be the command to issue. Simply putting the URL in there is unlikely to work.

Warning

If your host only supports entering a URL in their "CRON" feature, this may not work with most cron scripts. There is no workaround. It is a hard limitation imposed by the host.

Important

Be careful with any caching that may be present upon the web site. If the specific page being accessed is present within the cache it will be delivered to the caller, BUT the underlying actions will NOT be invoked. It is better to disable cache for the specific page.

We wasted a lot of time with tracking down this specific problem, and have not found it mentioned anywhere else on the web.

UNIX System

The following examples assume that the command is referencing a Joomla component named 'com_component' and that the specific cron task to be performed is configured as 'cron.xxxx'. These will be dependant upon the specific task and component being used.

Note

We have tried to make this description generic, however in our specific implementation the component name to be used in the examples would be 'com_issuetracker'.

You can use one of the following commands depending on your server:

```
lynx -source "http://www.yourwebsite.com/index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey" > /dev/
null
```

Or

```
wget -O /dev/null -q "http://www.yourwebsite.com/index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey" > /dev/
null
```

If you access your website using an HTTPS protocol, you may want to use this command instead:

```
wget --no-check-certificate -O /dev/null
 "http://www.yourwebsite.com/index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey" > /dev/
null
```

Some hosting company block the lynx and wget command in which case you should use the curl instead:

```
curl --silent --compressed "http://www.yourwebsite.com/index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey" > /dev/
null 2>&1
```

or

```
curl -L -v "http://www.yourwebsite.com/index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey" > /dev/
null 2>&1
```

Depending upon the PATH setting in your session it may be necessary to specify the full path to the executable, and is probably a good idea to specify it as a default anyway.

```
i.e. /usr/bin/wget instead of wget.
```

Any line breaks which may be shown in the above examples are included for formatting clarity only. One should not have a line break in the command line!

Warning

Do not forget to surround the URL in double quotes. If you don't the script will fail. The reason is that the ampersand is also used in UNIX to separate multiple commands within a single command line. If one doesn't use the double quotes at the start and end of the script URL, your host will think that an attempt has been made to run multiple commands and load your site's home page instead of the front-end page URL.

Contact your host; they usually have a handy help page for all this stuff.

Important

Using a web browser (Internet Explorer, Google Chrome, ...) or wget version 1.10 and earlier may result into an error message concerning the maximum redirections limit being exceeded. This is not a bug. Most network software will stop dealing with a web site after it has redirected the request more than 20 times. This is a safety feature to avoid consuming network resources on misconfigured web sites which have entered an infinite redirection loop. To avoid this problem (if you encounter it, there is the option --max-redirect on wget version 1.11 and above.

Warning

Any ampersands entered in the crontab entries should be written as a single ampersand, not as an HTML entity (&). Failure to do so will result in a 403: Forbidden error message and the task will not run. This is not a bug, it's the way wget works.

Command Line Alternative

If you have access a the command-line version of PHP, scheduled tasks can use a different, probably better - and faster - way of scheduling.

In this situation a script which can be run from the command-line PHP interface (PHP CLI) is used. This doesn't require the front-end in order to work; it is self-contained, and can run even if the web server is down!

In order to schedule such a task, one has to use the following command line to the host's CRON interface:

```
/usr/local/bin/php /home/USER/webroot/cli/cron.php
```

where /usr/local/bin/php is the path to the site PHP CLI executable, /home/USER/webroot is the absolute path to your web site's root, and cron.php is the name of your script located in the 'cli' subdirectory. This information can be supplied by your host provider.

Important

We cannot know the path to your PHP CLI executable or the absolute path to your web site's root. This is the kind of information that only the people who have set up your server (your host) can possibly know.

Note

The use of the PHP CGI executable is not suitable. To check which version is available run the PHP command with the --v option which will display the executable specifics.

Sometimes hosts will give you the path to the PHP CGI binary. This will NOT work with CLI scripts. CGI (Common Gateway Interface) and CLI (Command Line Interface) are two completely separate things. The former is designed to run scripts which will be served as web pages. The latter is designed to run command line scripts, usually for use with CRON.

Securing the script

We earlier mentioned the use of a secret key to be provided when the script is run. There is also another alternative for PHP-CLI scripts. This is (if using Apache as your web server - most do) is to add some rules to your .htaccess file that prohibits anyone other than the local machine from running the script.

Note

For the following rules to work, you must have an Apache web server with mod_rewrite enabled.

For example: If the file you want to run is called 'script_name', you could add the following to your .htaccess file to ensure that nobody else can run the script:

```
RewriteEngine On
      RewriteCond %{REMOTE_ADDR} !^127\.0\.0\.0
      RewriteCond %{REMOTE_ADDR} !^x\.x\.x\.x
      RewriteCond %{QUERY_STRING} script_name [NC]
      RewriteRule ^(.*)$ index.php [F,L]
```

...where x.x.x.x is the actual IP address of your server (if you have an SSL certificate, this will be unique to your hosting account - otherwise the IP address might be shared with other hosting accounts on the same server). You can find the IP address of your domain by running a ping test against your domain name (in Windows, go to Start->Run, type in 'cmd' and press enter, then type 'ping www.mydomain.com' and press enter). If you wanted to allow yourself to run the script from a browser (useful for testing), you could add your own IP address as well. Please note, you must add a backslash before each dot of your IP address.

Cron Basics

Cron is a daemon that executes commands at specified intervals. These commands are called "cron jobs." The Cron daemon is available on Unix, Linux and Mac servers. Windows servers use a Scheduled Task to execute commands.

Cron Job Command Basics

The way you set up a CRON job on your server depends on what software you are using to manage your hosting account. Some web hosting control panels (such as cPanel or Plesk) offer a graphical user interface (GUI) which makes it much easier to set up the scheduled task. If you do not have a GUI available, you will have to enter the necessary commands using Telnet or SSH.

A quick search on the Internet for 'cron' followed by the name of your web control panel should yield plenty of articles that tell you how to physically set up a new CRON job, but it is usually fairly self-explanatory if using something like cPanel or Plesk.

In any case, a CRON job is made up of 2 main elements: a command to be run, and an interval definition (i.e. something that tells it how often to run). You might also be asked to provide an e-mail address to which any error messages or other output can be sent.

The command to run is made up of 4 parts:

- An executable (i.e. a program that is capable of running PHP scripts)
- One or more configuration options (specific to the executable)
- An output path (where to put any output from the script)
- A URL (the script to be called)

In the following example, the crontab command shown below will activate the cron tasks automatically on the hour:

```
0 * * * * wget -O - -q -t 1 "http://www.yourwebsite.com/index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey"
```

The 0 * * * * part in the example above is the time when the cron job is going to happen. The following schematic tries to explain the general crontab syntax:

```
# +---------------- minute (0 - 59)
      # | +------------- hour (0 - 23)
      # | | +---------- day of month (1 - 31)
      # | | | +------- month (1 - 12)
      # | | | | +---- day of week (0 - 7) (Sunday=0 or 7)
      # | | | | |
      * * * * * command to be executed
```

The frequency with which one wishes a specific script to run, should be carefully evaluated. Running it too often when there is nothing much to do is probably wasteful of system resources. On the other hand not running it frequently enough means that the expected actions are not 'up to date'. Generally once an hour is more than adequate in our tests, especially since we used to manually perform the task twice or three times a day.

Trouble shooting cron

If your cron task is not working, you should:

- Make sure your website can be triggered via your browser: Click on your cron URL. That will trigger it manually via your browser so you will see if this URL can be reached or not.
- If you use a third-party SEF component, your website may redirect the current page to the SEF one which will break the own cron service. So you can either configure your SEF component to not transform non-SEF into SEF URLs or directly write your SEF cron URL on the cron interface.
- Make sure your website can be triggered by the outside: If you have an .htaccess with password protection, your website will obviously not accept to be triggered by an anonymous user.
- If you use a security component on your Joomla website and use a remote cron facility, this component might block the cron task. If you are using RSFirewall, you could try disabling the DoS protection from the Components => RSFirewall => Configuration => Active scanner configuration options.
- Sometimes cron jobs can't trigger an URL including a "&" (see above) or can only trigger a script (instead of an URL). In that case, you should create a file with a suitable name at the root of your website including the code below:

  ```
  <?php
        $ch = curl_init();
  ```

```
      curl_setopt($ch, CURLOPT_URL,'http://www.yourwebsite.com/
index.php?
option=com_component&task=cron.xxxx&secret=YourSecretKey');
      curl_setopt($ch, CURLOPT_RETURNTRANSFER,1);
      curl_setopt($ch, CURLOPT_TIMEOUT, 10);
      curl_setopt($ch, CURLOPT_FOLLOWLOCATION,true);
      curl_setopt($ch, CURLOPT_AUTOREFERER,true);
      echo curl_exec($ch);
      curl_close($ch);
```

Then configure your cron to trigger that script.

Please don't forget to replace 'yourwebsite.com' by the URL of your own website, and also the correct component name, task parameters etc..

- Make sure that there is no system cache storing up your pages accessed by a front end based cron task. If there is the cron task will only work when the cache entries expire, which will depend upon the cache settings.
- We have seen circumstances where a cron job that executes fine in PHP with MySQL statements and echo statements, but when mail functions are added it fails with this error:

  ```
  sh: -t: command not found
  ```

  The CRON daemon can be picky about paths, and in these cases it is worth using absolute physical paths instead of absolute share paths. This is mainly because the CRON daemon is active before the shares are up, and why it is probably unable to process the commands/enumerate the path during the initialisation phase.

  It is also worth while adding the option to direct PHP to the initialisation file to be used, with the '-c' option, to prevent it running from shell context only. This will include the proper path to the sendmail alias and other information such as locales etc.

  ```
  * * * * * /usr/local/apache/bin/php -c /php.ini /
  path_to_cron_php_file/cron_file.php 2> /path_to_log_file/
  cron_error.txt
  ```

Joomla Warning Messages

The following messages coming from the Joomla core may occasionally be seen, and can safely be ignored:

```
Warning: session_start(): Cannot send session cookie -
 headers already sent by (output started at /...../cli/
issuetracker_imap.php:131) in /...../libraries/joomla/session/
session.php on line 532
```

The above message is coming from the JTable Joomla code, when the composed new issue record is stored into the database. It seems to occur on the first (initial) cal to the JTable store routine only.

```
Warning: mysqli_ping(): Couldn't fetch mysqli in /...../libraries/
joomla/database/database/mysqli.php on line 190
```

The above message is seen when exiting the cron task. The reason is not currently known, as we have not yet investigated the sequence of actions which cause the message to be generated.

Cron tasks and the Issue Tracker component

There are currently four specific cron enabled tasks that can be configured with the Issue Tracker component. There may be others introduced as the product evolves.

Table 4.1. Issue Tracker Scheduled Tasks.

Task Name	Description
autoclose	Intended to automatically close issues that are in a status identified as 'waiting for customer' and to which no update has been made for the specified number of days. The issue is set to a 'closed' status and an entry made in the progress record to that effect and also an entry made in the issue tracker log if component logging is enabled.
efetch	Fetches emailed messages that are then used to either create new issues in the system or to update existing issues.
esummary	Creates an Issue summary report that is then emailed out to the recipients.
eoverdue	Creates a report of overdue issues within the system and send each assigned person the list of their overdue issues.

The name of the task is the name required for entry in the URL address when the CRON mechanism is used for accessing the front end web page.

Auto Close of Issues waiting for user or customer

One common occurrence is that a user or customer reports a problem which is then followed as an 'issue' within Issue Tracker. The support staff update the issue as progress upon the issue is performed, until a situation is reached where the issue is considered resolved internally. At this stage it is usual to supply the 'solution' to the original reporter such that they may verify that the issue is indeed resolved to their satisfaction.

The Issue Tracker system will notify the raiser of the suggested resolution (provided notifications for the user is set, and the component options are suitably set) and the status is changed to a status such as 'Waiting for User'. It is however extremely common to then hear nothing from the raiser upon the problem what so ever. Repeated emails are silently ignored, and all the while the issue is sitting upon the system is a non-closed state.

The auto close scheduled task is intended to address this problem. Upon running it is supplied with the status code for the 'Waiting for user' status and the required number of days of no activity upon the issue that is to pass before the issue should be set to the 'closed' status.

Upon identifying an issue that matches the supplied criteria, the task will change the issue status to 'Closed'. It will also add a new progress entry to the issue noting the changed status. If the component logging option is set, it will also add an entry to the Issue Tracker log with the changed status information.

The script accepts one optional parameters, which is a value specified for the number of overdue days to check (olderthan). If not specified the default as given in the component parameters is used. The way in which the parameters are specified will depend upon whether the task is run from the front end or from the PHP CLI script.

If run from the PHP command line the parameters are specified as follows:

```
--olderthan xxxx
```

Where xxx is an integer value specifying the number of days to use for checking whether an issue has been in the 'Waiting for User' state.

If run from the front end then append the parameters to the end of the URL as shown below. Note that the defaults are as specified above.

```
&olderthan=xxxx
```

Release 1.6.7 added the sending of a message to the identifier of the issue upon a issue being auto closed by the cron task.

EMail Raising of Issues

It is possible to use a cron task to fetch emails, from a specific address, and to use the contents to create or update an issue upon the site automatically.

It is recommended that a separate email account is established solely for the purpose of receiving issue emails, be they 'new' or 'replies' to existing issues. By using a separate email account, one can more easily monitor received emails and ensure that messages that have been 'detected' as SPAM are correct and that something important has not be missed. If component logging is enabled then the log will contain details of messages received and various processing statistics. Most hosting suppliers permit a number of different email accounts and they are generally easy to set up and use.

The component needs to be configured with the details of the mail server from which the emails are to be fetched. Once configured the task will make contact with the email server, and read all of the 'UNSEEN' messages present for the connection user.

Each message is then processed. The first step is to inspect the message to determine whether this is a 'new' issue being reported or an 'update' to an already existing issue. This is achieved by checking the received email to see if there are any 'hidden' header tags which are recognised by Issue Tracker.

Note

All email notifications sent out by Issue Tracker include two specific custom header tags that identify the issue (about which the email is concerned), by its database unique identifier and it issue number. If the sent messages are used to create a reply then these fields can be checked for when a reply is made. Unfortunately a lot of email clients strip out the headers when they reply so that means they are not present for us to check, and hence can not be relied upon.

If the 'hidden' header tags are not present then the message subject (title) is inspected for a specific issue string. Depending upon the strength of the checking specified in the component options, the specific string would be '[Issue: xxxxxxxxxx]' or '[xxxxxxxxxx]' where xxxxxxxxxx represents the issue number. If neither of these pieces of information are present then the message is assumed to represent a new problem report.

Note

Consideration was given to implementing checks for other information in the email header for a response, but unfortunately different email clients may add "re" "RE" "Re" "Antwort" "AW" "?p" "?p??t?s?" or some other localised "reply" prefix OR SUFFIX in the message subject. It was considered virtually impossible to keep a track on all of the possibilities and would present a continual coding nightmare.

To complicate the problem there is always the situation where people change the subject of the email which would then result in a complex parsing exercise. For this reason no checks are performed to match the Email Subject title other than for the string mentioned above.

The message is also checked, using the currently implements spam checks. i.e. Are there any 'prohibited' words, the number of included web links etc. Optionally Akismet is also supported for checking of Spam.

Note

A lot of the commercial ticket/issue/problem reporting systems –e.g. GitHub– work based on a customised email address per problem. Unfortunately this is not an option for a Joomla! component. The other technique commonly used is the thread ID in the mail server which again is not an option.

This leaves one with possible hidden email header entries and a reply above line, both of which are implemented in the Issue Tracker email fetch feature.

New issue emails

When the message is determined to be a new 'problem report', some additional checks are made.

The email address of the sender is then analysed. If the email address is not currently known by the system, and we are accepting emails from 'guest' users then optionally a new 'unregistered' user is created in the component.

The message subject is stored as the 'issue summary' for the reported problem.

The contents of the message text are stored in plain (not HTML) format in the description field of the issue.

A confirmation email is sent to the sender and also to the (default) assignee for the issue when the issue has been saved in the database.

Updates for existing issues.

To be a (possible) reply to an existing issue,the header tags and/or the pseudo header tags are present.

Checks are then made to ensure that the 'extracted' issue details from the message subject or header tags, together with the email address of the sender match with the details recorded in the existing issue within the database, IF it exists. If the 'requested' issue does not exists, or is 'CLOSED' or is not identified as being originally identified as by the message sender, the message is rejected.

There are options to control the strength of the email reply detection. Three options are available:

- Strict: Accepts only the exact format that email notification uses. Which means "anything [Issue: xxxxxxxxxx] anything here". The full text is required, and the issue id has to be the exact length (def 10 chars). In addition the custom header fields have to be present in the reply. Spaces before and after the issue identifier are optional.
- Balanced: As Strict only the custom header fields may or may not be present. Spaces before and after the issue identifier are optional.
- Relaxed: Accepts email notification formatted subjects but also [xxxxxxxxxx] in the subject line. Custom header fields may or may not be present. Spaces before and after the issue identifier are optional.

A lot of email clients (e.g. Thunderbird) by default *appends* replies to the original text, and it is not desirable that this information should be added to existing issues, since it will cause unnecessary duplication. For that reason the message should include a 'reply above this line' (the precise text is a configuration option) string. If a user makes a mistake and does not enter text in the correct manner an empty reply may be generated, and in this situation the message should be discarded.

Release 1.6.8 made a few small modifications in the area of update handling. The search for the 'reply above line' was modified such that any string can be specified in between the two 'reply identifiers'. Default '#-#-'. This string searched for is thus build up and looks for something like the following:

```
'#-#- Any thing you like -#-#'
```

There is also a new parameter that controls what to do with the email message IF the 'reply above string' is not found in the message. Two options are available:

- Strict: The 'strict' setting will reject the email message IF the string is not found.
- Relaxed: The 'relaxed' setting will accept the email message in its entirety and place it in the progress record. This last setting should be used with care, since there is a lot of potential for 'unrequired' information being saved in the database record. The reason is that a number of email clients will 'append' the contents of the current message to the end (or front depending on email client setting) of

the outgoing reply message. These 'old' message history texts will be placed in the progress record of the issue, resulting in a lot of potentially unwanted text.

The message contents are appended to the issue progress field, immediately preceded by a line separator and the date and sender Name (extracted from the message) in HTML format.

Note

The script only fetches 'UNSEEN' messages from the mail server. In the event of an error being encountered upon processing the message, i.e. An issue may be in the state of being updated (edited), in which case the issue could not be updated, then the message would be left upon the mail server, even if it is configured to remove messages after processing.

Tip

The act of retrieving the email message from the server will often cause the email server to mark the message as 'SEEN' or 'READ', which means that if the next 'cron script' run tries to retrieve the message it will not be 'fetched'. To reprocess a message it is necessary to enter the email server and mark the desired messages as 'UNSEEN' or 'UNREAD', in which case they will be picked up by the 'cron script' and re-processed upon its next run.

Caution

If the option to delete processed emails is set, then all emails that have been successfully processed will be automatically removed from the email server and will be unavailable for re-processing.

Email that has not been processed for what ever reason will remain upon the email server, but not fetched again unless reset (on the mail server).

EMail sending of Issue Summary

It is possible to use a cron task to send an email containing a summary report upon raised issues. Usually these reports are used for management purposes to determine how the system is performing.

The script accepts two optional parameters, which are the start date (sdate) and the end date (edate) for the report. The way in which the parameters are specified will depend upon whether the task is run from the front end or from the PHP CLI script.

If run from the PHP command line the parameters are specified as follows:

```
--sdate 'YYYY-MM-DD' --edate 'YYYY-MM-DD'
```

Where YYYY is the required year, MM the required two digit date and DD the two digit day of the month. The default start date is a month prior to the date upon which the script is run, and the default end date is the current date.

If run from the front end then append the parameters to the end of the URL as shown below. Note that the defaults are as specified above.

```
&sdate='YYYY-MM-DD'&edate='YYYY-MM-DD'
```

EMail sending of overdue notifications

This is used to send issue 'assignees' an automated email when issues have exceeded specified criteria for resolving. The report displays all issues which are assigned to the receiver of the email (the issue assignee) that are still open and the number of days for which they have been awaiting completion, ordered by the issues opened longest being displayed first.

Chapter 5. Enhanced Auditing Feature

The 'basic' Joomla installation provides some tables with a record of who made the last change to an item (i.e. an article or a web link etc.) and when they made the change. Unfortunately it doesn't inform one of what was changed. It might have been something as simple as a correction of a typological error, or it may have been some thing much more extensive. Some sites require much more information about any given change, especially sites that may house data that could be considered 'sensitive'. The enhanced auditing feature component tries to address this requirement and provide a more comprehensive and extensive audit over all of the changes that have occurred upon the Issue Tracker table records.

This feature makes use of the underlying features of the database and creates 'database triggers' that record the changes after they are made in the database. In this way there is no need to change any of the Joomla libraries or core code, which avoids any problems if/when the core code is changed between releases.

A database trigger is procedural code that is automatically executed in response to certain events on a particular table or view in a database. The trigger is mostly used for maintaining the integrity of the information on the database. Most if not all databases provide support for database triggers. Whether a specific database user can create these triggers will depend upon the permissions granted to the database user. The database user that has to have the correct permission in the Joomla environment is the user that is used to perform all database connects as defined in the Joomla installation itself.

Note

Different databases implement database features such as database triggers in different way, and often with slightly different syntax. For that reason the current version only supports MySQL databases, the most commonly used database for Joomla systems.

The Issue Tracker Audit database triggers (by default) are all created as 'AFTER' triggers, which means that they all are executed 'after' the record has been saved to the database. The implication of this is that no information is saved IF the record itself is not saved in the database. It also means that for 'INSERT' triggers, any information automatically created by the database as a consequence of the insert, such as unique record identifiers are also recorded in the change history.

Note

It is possible to create BEFORE triggers although in practise they do not always hold all of the required information. An example of this would be the unique identifier (id) field which is usually populated automatically by the database upon a record insertion.

The 'back-up' basic audit feature of Issue Tracker uses 'BEFORE' triggers to populate required database fields if they are not populated by the component prior to storing in the database.

The change history created by the enhanced audit can be used to provide documentary evidence of the change activities that have affected at any time a specific table, or table column of any of the underlying Joomla database tables. The feature will prove useful for companies who need to apply audit trail (log) functionality on their Joomla sites.

For some organisations maintaining a complete audit trail for your database is important not only for internal analysis and process optimisation, but also for compliance with industry standards and regulations. One can view the ongoing activity history of a table record, including what action was taken, by whom, and the date and time the action occurred.

Complying with industry standards is important, time-consuming and expensive. Leveraging the Change History information tracking capabilities can reduce the time and effort it takes to gain and maintain any required certification, and dramatically increases the organisation's chances of successfully passing audits.

Key features:

- Any Issue Tracker table can be monitored.
- Any number of the columns of an Issue Tracker table can be monitored.
- No Joomla core code is modified.
- Transparent to any other installed Joomla extension.
- Transparent to any site users.

Please note that the enhanced audit feature is solely an administration product. It has no front end access at all and prevents modification of any collected change history even by the Joomla Administrator(s) themselves.

Important

It is still possible that a database administrator can modify the underlying data contained in the change history table. Tools such as phpadmin can still function and have the ability to disable triggers, make data changes and then enable the triggers, thus bypassing the change tracking. This is something that no Joomla component can possibly protect against.

Change History

The change history or Audit records result from the database triggers capturing information upon the monitored tables. There are three types of activity that can be captured:

Activity	Stored Information
Update	The data in the fields both before and after the change is recorded.
Insert	Only the 'new' information is present to be stored.
Delete	The 'old' information for the field is stored.

In addition to the field changes the following information is also stored for each 'change' or 'audit' record:

- Table name

  The name of the Issue Tracker table being modified.

- Column (Field) Name

  The name of the specific field being modified.

- Action

  The specific activity being performed.(Update, Insert or Delete) as described above.

- Record Key

  The primary key (where present) of the monitored table used in the SQL command. For example: WHERE 'id' = '6' where id is the primary key of the table.

- Record Key List

Where a monitored table has an 'Alias' field (often also known as a 'slug') this is also captured. Where this does not exists the primary key vale of the record is stored. This is often the same as the 'Record Key' above.

- User details

  Where it can be determined the details of the user (ID) name (or guest) that performed the activity is recorded. Unfortunately this is not always determinable and in these situations the Super User id is stored. See the section about determining who made a change later in this document.

- Date and Time of change

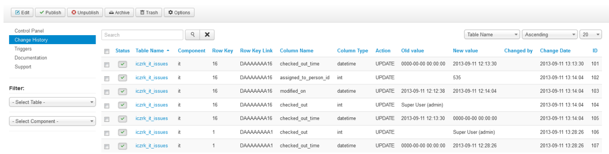
  Date Exact date and time (time stamp). Stored in the database as a UTC value (Joomla default).

Change History List

From this view you can view the actual audit records. The records may not be changed but they may be deleted.

The Change History list display shows all of the changes captured by the database triggers. It is possible to filter upon the individual tables to display the changes made upon the specified Issue Tracker table.

Figure 5.1. Change History List Display



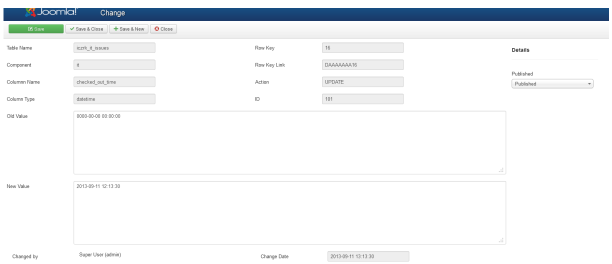
Change History Entry

The change history record is the actual details of a specific field changed in a table. The change record itself contains the details of the table and the specific table field (column) that was changed and the details of the specific change.

Changes may be the result of a new record being entered into a table, in which case the 'NEW' field value is populated, there being no 'OLD' value existing prior to the change. An update of a record will result in both a before (OLD) and an after (NEW) value being present for a field. The 'OLD' value may of course be NULL (empty) in which situation the NEW value would definitely not be NULL, or alternatively the 'NEW' value may be NULL in which case the 'OLD' value would not be NULL. When a record is deleted from a table there is no "NEW" value, but there may be an 'OLD' value.

If a value field is of a character type then the displayed information is a text box and scroll bars would be present to enable one to inspect the record entry.

Figure 5.2. Change History Entry



The change history records can not be edited by the component. The text area boxes are 'read only' which means that any changes made on the screen would be completely ignored.

Triggers

A database trigger is procedural code that is automatically executed in response to certain events on a particular table or view in a database. The trigger is mostly used for maintaining the integrity of the information on the database. For example, when a new record (representing a new worker) is added to the employees table, new records should also be created in the tables of the taxes, vacations and salaries.

Triggers List

The triggers list display shows the database table triggers created by the component.

It does not show any triggers created by another mechanism, unless they happen to contain the specific string 'audit' within their name.

Triggers are names after the table upon which they are applied, followed by the specific string '_audit_' and then by a two character string, the first of which indicates whether it is a 'BEFORE' (b) or 'AFTER' (a) trigger, and the second indicates whether it is applied on an 'INSERT' (i), 'UPDATE' (u) or 'DELETE' operation.'

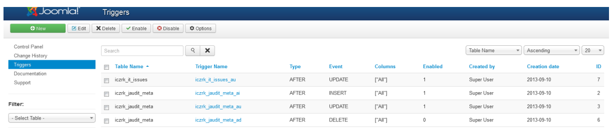
The screen also allows a single point where triggers may be enabled, which is where the trigger is created within the database. Disabling the trigger removes the trigger from the database.

Important

MySQL has a few restrictions upon triggers which may be briefly summarised as follows: Only one trigger of any specific type is possible upon any given table. Triggers if present are automatically enabled. Triggers can not be disabled. Disabling a trigger requires the trigger be deleted.

The screen can also used to delete triggers. Deletion of a trigger not only removes it from the database (disabling), but also removes all trace of the trigger from the component.

Figure 5.3. Triggers List

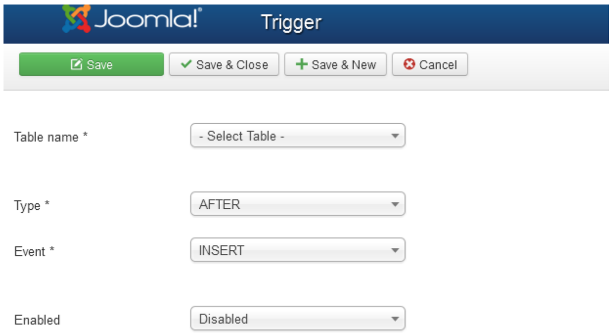


Trigger Entry

Creating a trigger is performed by clicking upon the 'NEW' icon button in the Trigger list display. This would then display the figure below, which has a few fields which need to be completed. These are the table upon which the trigger is to be placed, the type of trigger required (BEFORE or AFTER), the operation to be monitored (INSERT, UPDATE or DELETE), and whether the trigger should be applied immediately after being created.

The trigger created at the end of this stage would be based upon 'ALL' of the columns that are in the selected table.

Figure 5.4. Trigger entry (creation)



If the 'Save' icon button is pressed then the display is changed and a few additional fields are now available. The first of these is the 'Columns' field which has to be completed. It is this field where one selects the specific columns within the table that are to be monitored. The fields are selected from the drop down list and there is also the 'All' option if one wishes to retain the previously generated trigger upon all of the table columns. If the 'ALL' option is selected then any other selected fields are ignored.

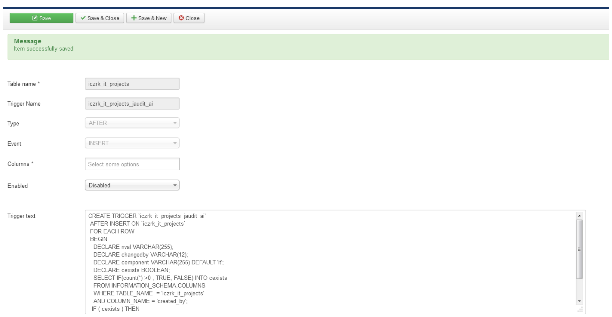
If the 'Save and Close' button is pressed the Trigger list display is shown and the 'columns' entry indicates '(array) All'. If the entry is edited then it is necessary to explicitly select the 'All from the columns drop down list as described above otherwise an error message indicating that the column must be specified is displayed..

Note

By design it is not possible to edit the generated trigger text.

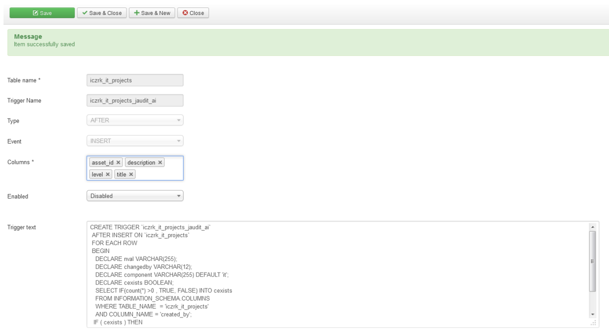
After supplying the required columns when the save button is pressed the trigger text is regenerated with the new selection.

Figure 5.5. Trigger entry (after save)



Note the entries in the 'columns' field when populated with desired values as shown in the figure below.

Figure 5.6. Trigger entry (edit columns)



When saved the selected columns field would be shown in the Triggers List as indicated in the figure below.

Figure 5.7. Columns field in the Triggers list display

The above is an example for a small selection of fields, which are stored in the table in JSON format.

Important

The feature does not have any ability to incorporate the contents of any existing trigger upon the Issue Tracker database table. This restriction should not provide a problem for most systems. The reason is that the Issue Tracker component is controlled by ourselves and any other trigger that might exist upon the table are almost certainly a 'site modified' change, and thus not supportable by ourselves.

Chapter 6. Custom Fields

This feature is worthy of a separate chapter of its own mainly due to the number of possibilities it offers but also because it is a feature that is not necessarily going to be used by all installations. It is also very powerful and customisable to meet most requirements, making use of Javascript and AJAX to provide the functionality. There is more information provided in the 'Issue Tracker Cuistomisation Guide'.

Note

A custom field belongs to a 'custom field group'.

A 'custom field group' can be assigned to one or more Issue Tracker Projects.

It is only possible to assign one Custom Field Group to any given project or sub project.

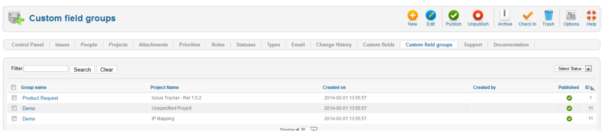
Important

It is necessary to define the required 'custom field groups prior to defining 'custom fields'.

Custom Field Groups

Custom Field Groups are accessed in the Back screens via one of the main tabs. The display is as shown in the image below. The groups are shown with the associated project(s) to which they are assigned. If there is no project shown next to a specific group then the project group is not in use. Custom Field Groups need to be published before they are available for display in the front or back end issue screens.

Figure 6.1. Custom Field Groups



A new Custom Field Group can be created by selecting the 'New' icon. A group can also be edited by selecting the desired group to edit and the following screen is displayed.

Figure 6.2. Custom Field Group - Edit

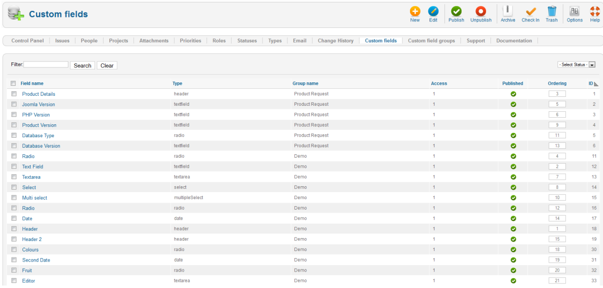
There are only a few specifications that can be made for a Custom Field Group, which are the group name, which will be used for display in the front and back end of the site, and the published state of the group.

The projects or sub-projects to which the group is associated are defied upon the Project edit screen.

Custom Fields

The Custom Fields are accessed in the back end via the 'Custom Fields tab'. The following grid display is presented.

Figure 6.3. Custom Field - Header



The display shows the supplied 'Product Request' custom group, and also a 'Demo' group which is used to illustrate some of the permutations possible using the feature.

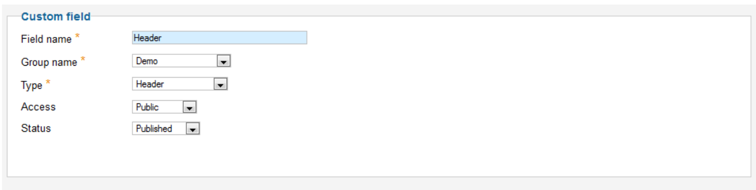
> **Note**
>
> Changing the field type will change the display shown to the user, and the screen will refresh. This is achieved by the use of javascript and AJAX calls to the underlying Joomla system. Whilst we have not experienced any problems with this, there is always a possibility that on some very slow systems a delay may be apparent before the screen refresh occurs.

Individual Field Types

There a number of different custom field types that can be defined and these are described below. They follow the standard field types as used in Joomla.As many or as few custom fields may be created and added to a specific custom field group. The only limitation is the size of the field which is used to store the captured information in each issue, which is unlikely to be exceeded except where the number of custom fields and the text information captured is very large.

The 'header' field type is a simple type that is used to display a 'header' record in the custom field group to which it is attached. More than one 'header' field type can be defined to split the individual fields in to separate sections which might reflect the different uses to which the fields are being employed.

Figure 6.4. Custom Field - Header

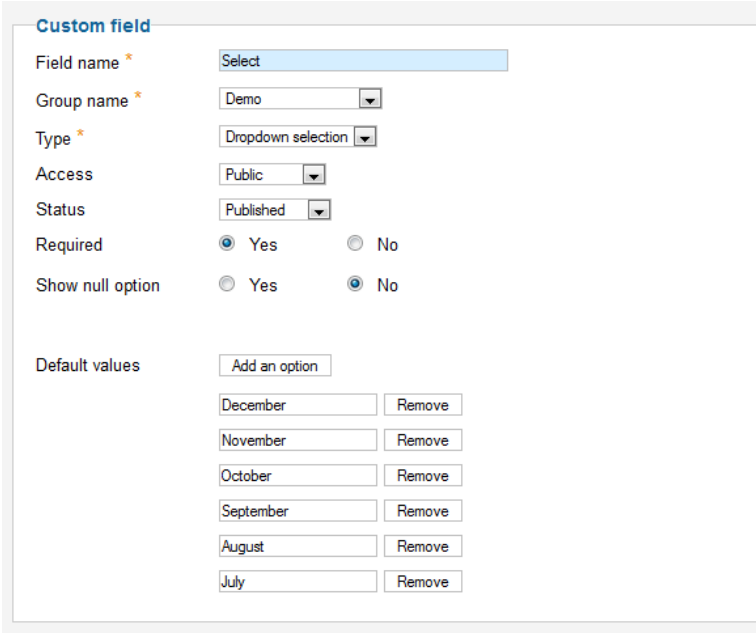


The data field is used to capture a specific date that is required to progress an issue. An example might be to capture the date upon which the problem was first seen, or the date upon when some specific event occurred.

Figure 6.5. Custom Field - Date

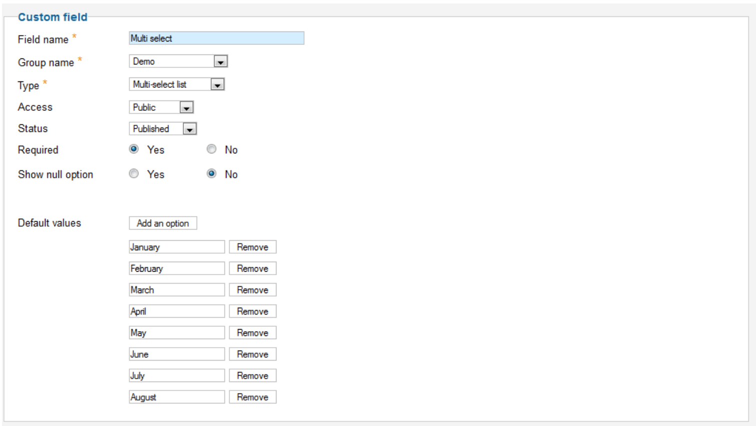
The 'select' field is used to capture one of a list of possible values that are presented. The list of values is defined when the field is created (or edited) as shown in the screen below.

Figure 6.6. Custom Field - Select



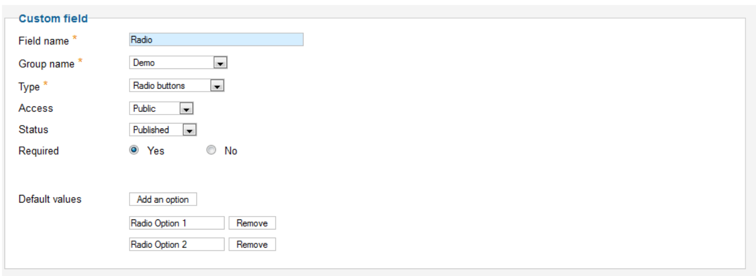
Similar to the 'select' field above, the 'multi select field' will enable the capture a multiple number of the selected values.

Figure 6.7. Custom Field - Multi Select



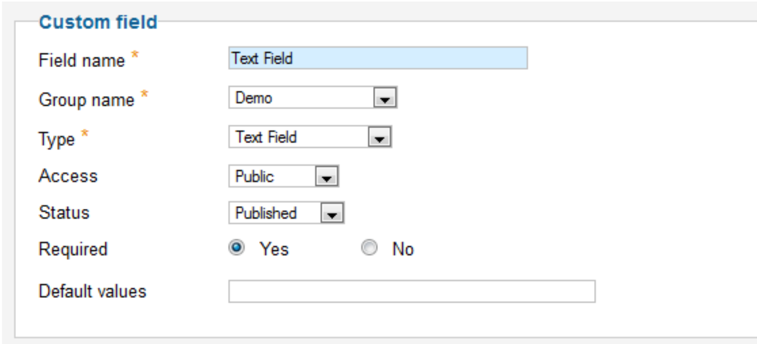
Radio buttons are very similar to the 'select' and 'multi-select' fields as described above, only the user is presented with a number of button.

Figure 6.8. Custom Field - Radio Buttons



The text field is used for capturing some user entered string which may be characters, numbers or any combination of the two.

Figure 6.9. Custom Field - Text

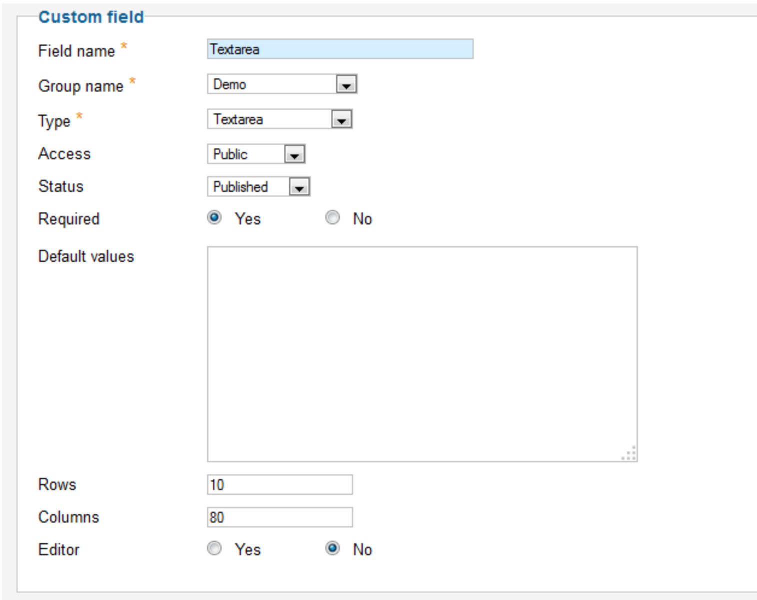


The text area field is possibly the more complex field type where the use is presented with a predefine box for them to enter information If defined then the box may be presented as a WYSIWYG editor.

Note

If the editor option is used, and you desire your users to use a WYSIWYG editor, ensure that the component is configured to show a WYSIWYG editor, otherwise it is a plain text area box that will be displayed on the front end.

Figure 6.10. Custom Field - Text Area



Note

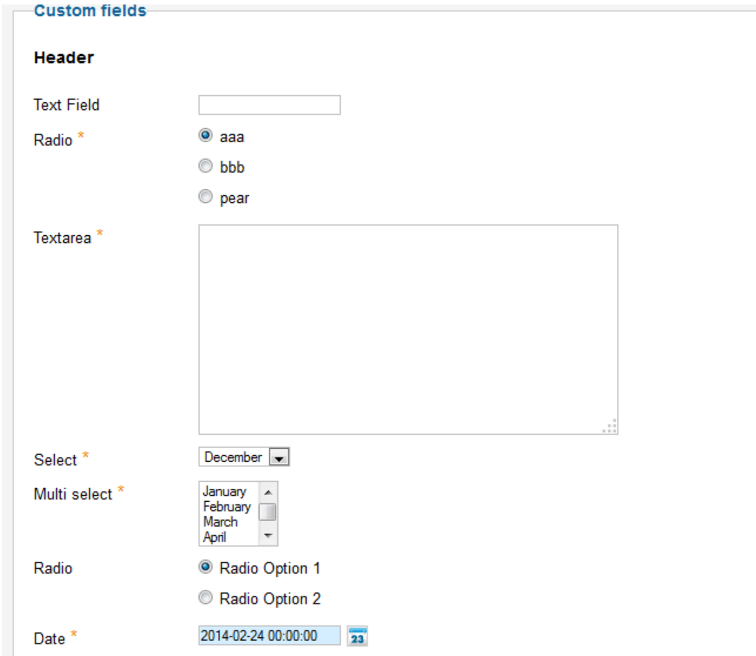
There is an additional field which is not shown in the above displays which is the text to be supplied for the field 'tool tip'. This information is displayed when the user cursor is located over the field name. It is typically used to provide additional guidance information to the user to aid is completing the field correctly.

Examples

The images below show how the different field types will look in the back end and the front end displays. They are showing the example named 'DEMO' custom group. Some of the fields are optional and others are 'required'. Note also the use of the 'editor' for the last 'text area' field shown in the second image.

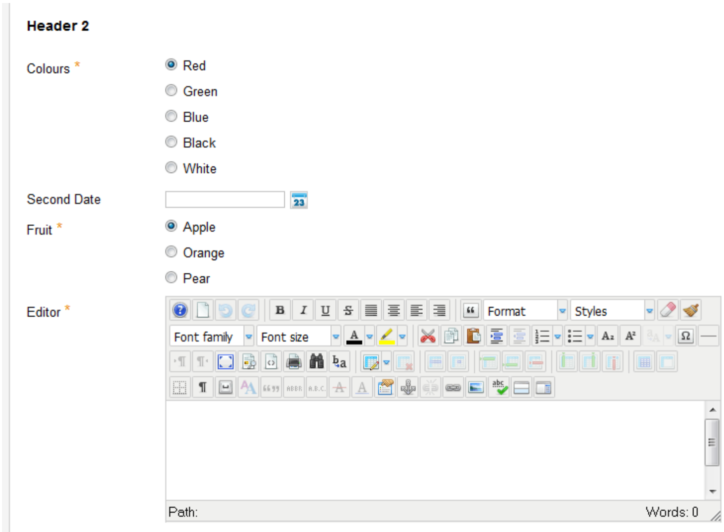
The order of the fields in the display is controlled by the 'ordering' field on the list display.

Figure 6.11. Example Custom Fields (1)



This second image is a continuation of the above image, shown separately for convenience.

Figure 6.12. Example Custom Fields (2)



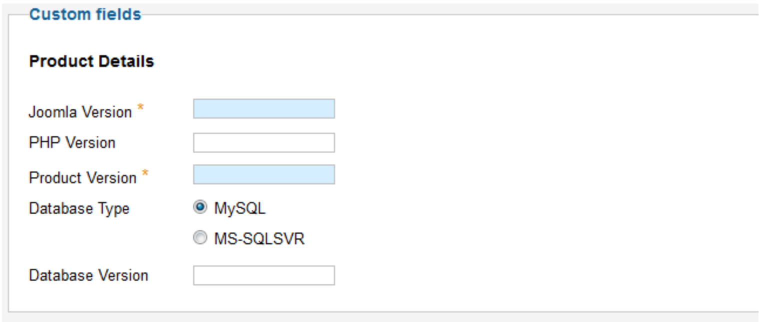
Product Request Capture

Releases of Issue Tracker prior to version 1.6 contained a separate area on the front end issue form to capture specific information upon Joomla version, product information, database type etc. This was a component configuration option.

With the release of version 1.6 of Issue Tracker this is no longer required. Instead it has been reworked and supplied as a 'custom field group', with associated 'custom fields'. The display is controlled via the 'published state' flag of the 'Product Request' Custom Group.

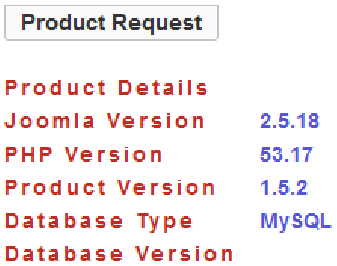
The following two screens display a sample set of the custom fields as they were presented in the back end of the site. The front end of the site will display very similarly, although the specific template and CSS in use of each site may result in some differences in the output display.

Figure 6.13. Back End Product Request Entry



The front end entry for the fields is similar but will vary depending upon the site template in use and the CSS settings in use.

Figure 6.14. Front End Product Request Display



As can be seen the above display matches that of the other displayed issue sections. i.e. Description, Resolution etc.

Something to be aware of.

Custom fields are stored in JSON format along with the issue details. If an issue is edited which has an associated custom field group, when the issue is saved the 'custom field' entry is populated automatically. One consequence of this is that if the custom field group only contains 'fields' that have a 'default' value these will be automatically applied. This may not be immediately expected if all of the custom fields are 'optionally' supplied. If viewed in the front end then the 'custom field group' display may only show the fields with the 'defaults'. This is not a problem but a consequence of the design choice for the custom field group fields.

Chapter 7. Issue Tracker Modules

There are a few modules that can be used with Issue Tracker and these are described in this section. Additional modules may be released between releases of the Issue Tracker component and heir details will be added to this document when the component update is released. Where there are any restriction on specific versions of the component that the module can be used against, this is highlighted in the text.

Latest issues module

The requirement was for a module to enable administrators to display a short list of issues within a module for display on the front end of the web site.

Note

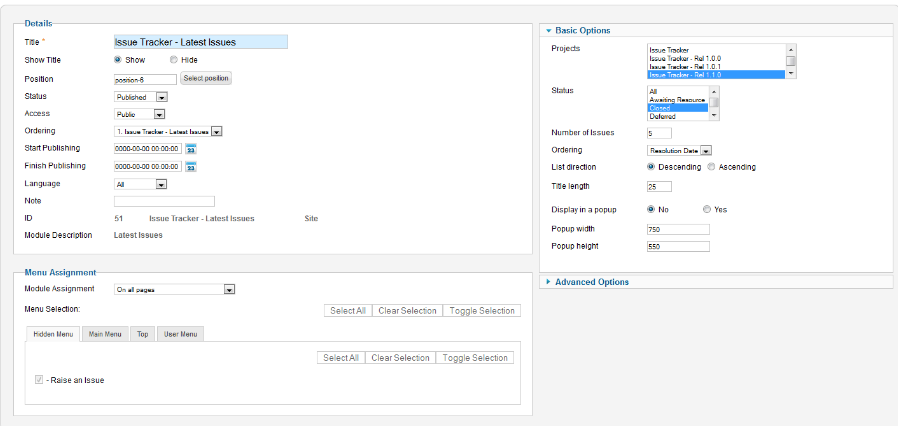
All issues selected for display have to have been published for visibility on the front end of the site. All other criteria fro the display selection is configured through the configuration for the module.

The module is installed in the standard Joomla manner and the configuration display for the module is as shown in Latest Issues Module Configuration below.

Note

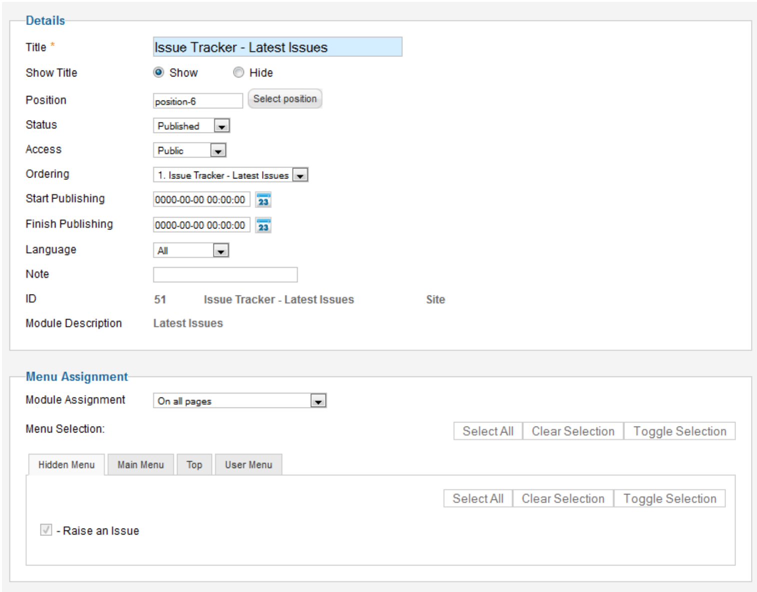
Release 1.4.2 (and later) includes the 'Latest Issues Module' as standard in the component installation file. It is therefore not necessary to install it separately.

Figure 7.1. Latest Issues Module Configuration



The main parameter setting where the module is published is show below. The title choice will possibly need to be changed to reflect the specific issues that are displayed.

Figure 7.2. Latest Issues Module details section



The main settings for the issues to be shown, is displayed below. The projects selection is multiple choice and it is possible to pick which projects (and subjects) to be selected.

The status field also allows for multiple selection, so for example it may be desired to only display ‘Closed’ and ‘Deferred’ issues. The ‘all’ selection will enable all issues within the selected projects to be displayed.

The number of issues to be displayed is used to limit the number of issues returned from the database call, and effects the ‘length’ of the module display.

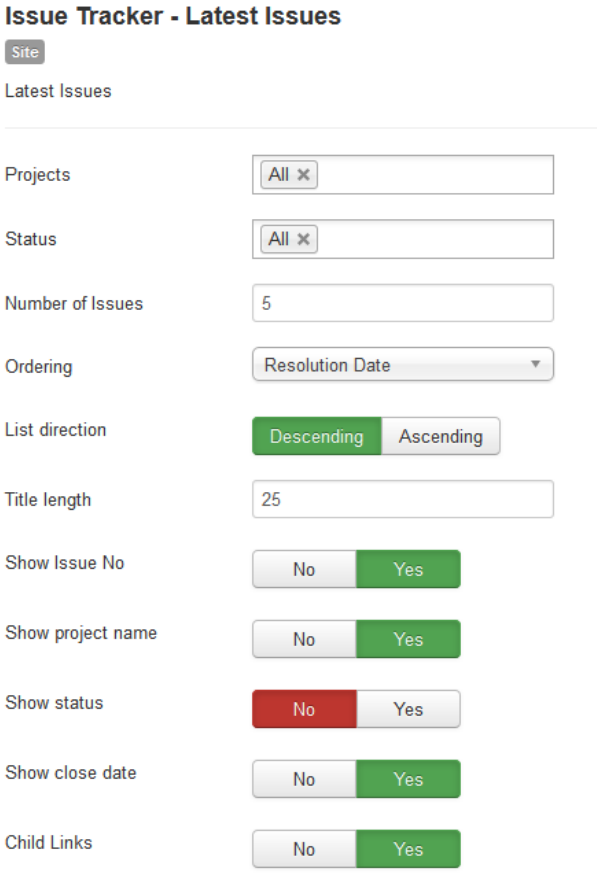
The Ordering field is the used to determine the order in which the selected issues are shown in the module list, whilst the list direction indicates the sort order of the issues.

The width of the module will ultimately determine whether the Issue summary (title) is wrapped, and to avoid issue summaries causing a large amount of overlap, the ‘tile length’ parameter restricts the length of the text displayed.

Optionally it may be desired to full issue information returned when the link is clicked in a modal (popup) window. The next three parameters) enable this, and specify the size of the displayed modal box.

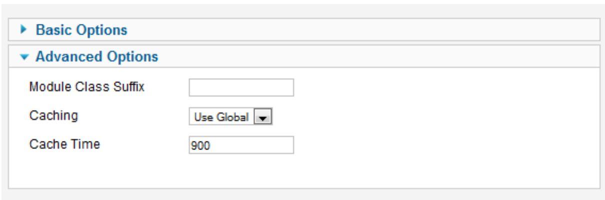
There is an option to disable the display of the child issue links, however it is suspected that this option is unlikely to be used since the whole purpose of the module is to show the most recent issue (depending upon selected criteria).

Figure 7.3. Latest Issues Basic Options



The advanced options control whether the module results are cached or not and also permit the use of site specific CSS settings. The module is supplied with some suitable values which it is hoped will be suitable for most sites, but for those who desire to use their own settings, this ‘module class suffix’ enables this to be achieved.

Figure 7.4. Latest Issues Advanced Options



A sample of the displayed module is show below. The issue close date is show underneath the Issue number, and the shortened length (title length parameter). When the title has been shortened the final character (default >) is indicated at the end of the title text.

The title (and associated issue number) are web links that when clicked will display the details of the issue as configured in the component settings.

Figure 7.5. Latest Issues Sample display

If it is desired to have additional modules to show issues for different projects, this is easily achieved by adding the module a second time in the ‘Extensions - Module Manager’. Each displayed module is independent. So for example if there were two specific projects that had to be displayed separately there could be two Latest Issues Modules used, one for each specific project. Alternatively both projects could be displayed on the same module if desired.

It is possible to apply a specified CSS style to the latest issues module as a configuration option to enable matching to the site 'style'

Note

It is advisable to ensure that the version of the 'latest issues module' is appropriate for the version of Issue Tracker deployed. This is due to the fact that changes in the underlying table structure in different releases may prevent 'older' module versions from displaying correctly. [This is not a concern with release 1.4.2 and later since the correct module is included with the component when it is installed.]

Front End Editing

If the module is being exercised by a logging in user then the issue displayed will provide the registered user with the ability to add some additional information to the issue. See section Front Editing Permissions for details.

Chapter 8. Usage Notes

How to insert your logo into a print page

Several of the displays on the front end provide a small print icon so that the displayed information may be easily printed. It is an easy change to ensure that the company (or web site) logo is displayed upon all print output.

The instructions are modified from an original article in Joomla Magazine September 2011 [http://magazine.joomla.org/issues/Issue-Sept-2011/item/548-logo-on-print-pdf]. It is included here so that others may make use of it. It describes how a company logo can be inserted into any printed document from the print icon on the site.

Adding a logo for print output

1. Copy the file "component.php" from the folder Joomla-installation/templates/system to the root of the template folder of your template that you are using: (for example: joomla-installation/templates/rhuk_milkyway/component.php).
2. If you need to overwrite some component.php in your new placed template folder, don't do it, as it may include code that the template needs to use (I don't know, but it's safer if you don't do this action in this case).
3. Now open the component.php file in your template folder (you can use wordpad)
4. Search for the line that states: <body class="contentpane"> around lines 47 on beez_20 template.
5. Now, copy and place this code right under it: To use a relative URL use it relative to the httd directory. i.e. src="<?php echo $this->baseurl ?>/templates/your-template-folder/your-image-map/logo.png" where you use the appropriate folder and logo name for your site.
6. Just change the source of the image so it matches exactly the image that you want included, and that's it!

Problems with Beez templates

During our testing a small problem was discovered on the front end displays when used with Beez based templates. Beez 2 and Beez 5 templates are part of the Joomla base release distribution and are used on a number of sites, along with other templates based upon variations of these. These templates have a panel upon the Right Hand Side (RHS) of the screen which can be opened or closed by clicking on a ‘Open Info’ or ‘Close Info’ link. This link is visible within these templates when a module is assigned to any of the RHS positions.

The problem manifests itself as a series of screen refreshes. Assuming that the RHS panel is visible and that one of the Issue Tracker front end displays is visible; when the ‘Close Info’ text is clicked causes the RHS panel to disappear and the central panel showing the Issue Tracker information is extended. Then soon after (a period that is probably dependant upon the power of the underlying server), the screen will then get refreshed and the Issue Tracker display gets replaced with some other display. Examples have been seen where the Home page gets displays, and also other apparently random or blank displays.

The cause of this strange behaviour has been tracked down, not to be a problem with the Issue Tracker component, since we have managed to reproduce it with other components, but with an installed version of the sh404SEF® component.

sh40SEF builds and manages SEF URL for the Joomla! CMS. It uses a plug-in system to adapt to various components. sh404SEF® is used in two ways: to "create" URLs and to "revert" URLs.

The nature of the SEF component is managing to capture and represent the Issue Tracker links in a manner that is not intended. There are two possible solutions to resolve this problem.

The method supplied provides a sh404SEF routine that is installed with the component.

The alternative if this does not suit your site involves reconfiguring the sh404SEF component so that it does not handle the Issue Tracker URLs. This is achieved by going to the sh404SEF Configuration panel in the Back End and choosing the ‘Components Panel’. Navigate down the list of components until the ‘Issue Tracker’ component is located. Change the first column value to ‘Use Joomla router’. Similarly change the fourth column value to be ‘Use Joomla router’. Finally change the fifth column to ‘disable shURL’.

Other SEF components may generate similar problems, but we currently have not seen any reported.

Popup Windows and Cookie Messages

Within the European Union it is now a requirement for Web Sites to display messages about session cookies and provide the user with the ability do ‘opt out’ of receiving them. There are many implementations of controlling the provision of the ability to opt out. Issue Tracker provides popup windows to provide the ability to print various screen displays and also to email link information to interested parties. Depending upon how the cookie management is provided the popup windows may also display the cookie information. This is not a problem with the Issue Tracker component and the specific cookie management component (or plug-in) may need to be reviewed if this is problem with a particular web site.

Warning about Backup and Restore

Most components written for Joomla are written almost totally in PHP, with very little (if any) use of the database except for reading and writing data. This does not make use of the various performance features of the underlying database, and can be detrimental to the performance of the application. Of course it one is running on a machine that is running slow, one can always get a faster machine.

Issue Tracker is slightly different, in that it tries to make some use of the underlying database features. It uses database triggers upon the tables to ensure that all changes are auditable, and database procedures to handle the sample data load and removal. For that reason it is necessary to be more aware of database backup and restore functionality and what ever limitations it may have.

All systems should of course have a comprehensive backup and restore policy, but regrettably for many it is usually something that is an after thought or simply forgotten. We strongly recommend using a backup/restore component such as Akeeba Backup [http://www.akeebabackup.com/] to protect your site.

Investigations have revealed that our preferred Backup and Restore component (Akeeba Backup) does not restore the database procedures or the table triggers by default. It is necessary to enter the configuration of the component and turn on the ’Backup Procedures, Functions and Triggers’ option. Even then this may not be sufficient, since a number of Hosting companies may not permit the user that Joomla uses to connect to the database the appropriate MySQL privileges to enable the viewing of database Procedures, Functions and Triggers. Of particular note is the database privilege ‘SHOW TRIGGERS’ which they are particularly loathe to grant.

This is not a problem specific to our chosen method all backup components are likely to require configuring similarly. There is another factor that has to be considered by those whose sites are hosted upon other vendors servers. Use of some database features is controlled by the use of database GRANTS. Not all third party hosting suppliers provide sufficient grants to the Joomla user, which connects to the database. This sometimes means that despite the backup mechanism being configured to backup all database objects, such as procedures, functions and triggers, the backup mechanism is still unable to ‘see’ the objects to include them in the backup media. One very specific grant used by MySQL databases is the ‘SHOW TRIGGERS’ privilege which is often not provided, meaning that database triggers are not in the backup media.

One work around to this problem, to get the ‘missing’ database objects back on Restored databases is to re-install the latest version of the product which will then recreate the triggers and procedures automatically. This is the recommended solution to use Issue Tracker on restored databases.

Important

Issue Tracker version 1.4.2 has been modified to check the database privileges granted to the Joomla connection user. If the appropriate database privileges have not been granted those some objects would not be installed.

Database procedures (MySQL privilege 'CREATE ROUTINE') are used to load and unload the sample data. If these procedures are not present in the database the sample data would not be available to load (or unload).

Database views are used to simplify the code within the Smart Search (Finder) plugin. If not present in the database a longer query is used instead.

Database triggers are used to provide a second line check for auditing table changes. If not available then only the component audit facility is used.

Search in Front End

There is an integrated search for Issues with the standard Joomla search facility. The fields that are searched are the issue summary, the issues description and the issue resolution fields. In addition the issue alias is searched, enabling users to search for their specific issue number.

Note

Issues have to be published before they are visible upon the front end on the site. The issue progress field is NOT searched.

A smart search (finder) plug-in is also provided and is also enabled on installation. There have been several improvements added to the plugin and it is fully functional for those sites that prefer this particular search mechanism.

Search Criteria.

The two search mechanisms provided in Joomla i.e. The 'old' search and the new 'Finder' (smart search) methods are similar. The main differences are that the 'Finder' (Smart search) method indexes all content in its own tables and delivers the results back to the invoker from its internal collections. For this reason the finder search plugin collects information upon the access permissions upon issues (and projects) so that the correct information is delivered meeting security criteria.

The 'old' search mechanism searches the issues and projects in real time so incorporates the selection criteria and security checks within the plugin directly.

The following criteria are responsible for determining whether an issue (or project) is included within the search results.

a. Is the issue published?

   All issues and projects need to be 'published' before they are available to be seen in search results.

b. Is the issue private?

   Issues can be marked private and may well contain information that should not be displayed at all. Information such as login and password details are typically classed as private. These types of issues are usually totally excluded from search results.

Filter in the access permissions of the user:

A user is associated with certain 'user groups'. Typically these would be groups such as 'Public', 'Registered', 'Author' etc. although there may be many other types of defined groups in a typical Joomla system.

Guest uses who are not registered upon a site are assigned to the 'Public' group.

Issues and projects (version 1.3.4 and over) are given a specific group when the issue or project is saved. By default this is usually the 'Public' group.

When a search is performed a check is made upon which groups the user is part of, and compared to the groups associated with the issue and the project.

a. The project to which the issue belongs.

b. The issue itself.

If the user is not part of the group to which the issue AND project are part that issue/project would not be part of the search results.

Important

The contents of the progress field of the issue by design is NOT searched and thus would not contribute to an entry in the search results.

Note

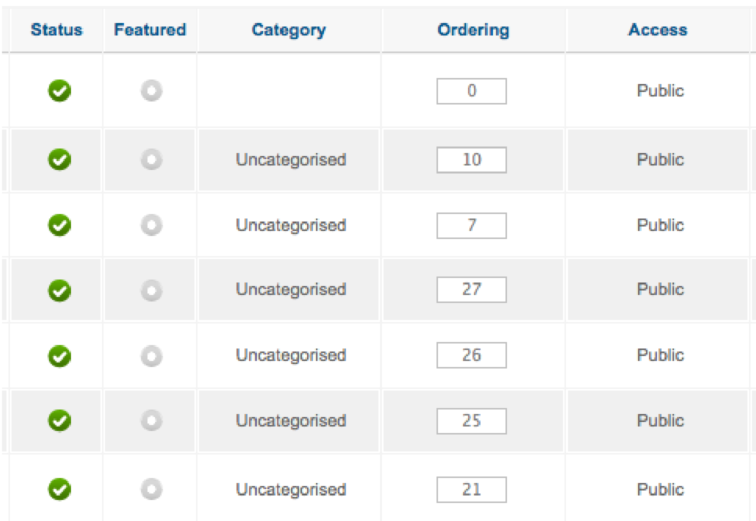
The issue summary, description, resolution and alias are used for the search.

Ordering Issues and Projects

The component provides the ability to choose your own preferred order for any of the record types in the Administrator part of the site. This is particularly useful with the projects display where we may well have sub projects. The following is relevant only for versions of Issue Tracker installed upon Joomla 2.5 and for installations on Joomla 3.x prior to release 1.6.5. Release 1.6.5 changed the manner of changing the order by using a drag and drop mechanism available in Joomla 3.3.

For those familiar with earlier versions of Joomla there are no immediately visible means of changing the order of the list items.

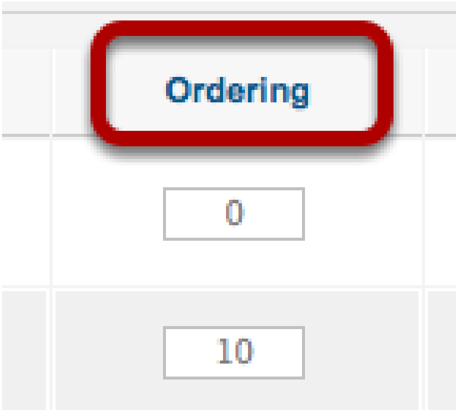
Figure 8.1. Ordering screen step 1



Status	Featured	Category	Ordering	Access
			0	Public
		Uncategorised	10	Public
		Uncategorised	7	Public
		Uncategorised	27	Public
		Uncategorised	26	Public
		Uncategorised	25	Public
		Uncategorised	21	Public

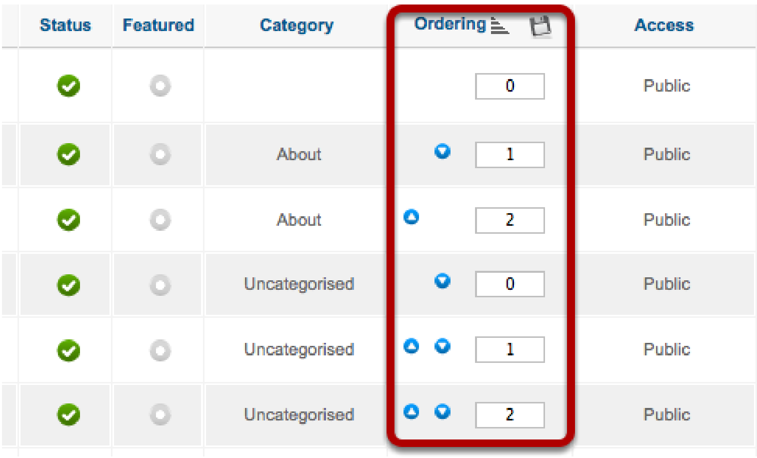
To solve this problem, you need to actually click on the "Ordering" label.

Figure 8.2. Ordering screen step 2



After clicking you'll now see the up and down arrows, the Save button and the boxes where you can type numbers.

Figure 8.3. Ordering screen step 3



You can rearrange the items in one of two ways. First, you can click on the up and down arrows as in the image below:

Figure 8.4. Ordering screen step 4

Second, you can enter the new number you would like to assign and click the Save icon at the top of the column.

Figure 8.5. Ordering screen step 5

Clicking the  icon will save the current state of the order column.

To move the item in spot 6 to spot 1, replace 6 with 1 and click .

Don't worry if there's already an item assigned to spot 1.

If the item does not go to the proper spot (it might be one place out) use the up/down arrows to nudge it into position. When you have found the menu-link you wish to reorder, you can click on the blue

Up or Down arrows under the ‘Order’ column to move its position within its current menu level. You can also manually adjust the positions of all menu-links in this level by changing the number to the order you want to apply, then click on the floppy disk icon at the top of the order column.

Note

There is one aspect of ordering items such as articles, projects, issues etc, which is not usually covered or mentioned in any documentation we have seen. This is that a Joomla list display, usually only shows items that are 'published' or 'unpublished'. This means that items that are marked as 'archived' or 'trashed' are not shown. If one then uses the 'ordering' column upon the list display to re-arrange the order of the various items they may appear to have no effect. So for example using the 'up arrow' upon an item may not 'move' the item within the display. The reason is that the 'hidden' items (which are marked as archived or trashed) are located above the item chosen to move. The item is in fact moved within the table in the database, which is often indicated by a message saving the ordering has been saved. This can be shown if the 'hidden' items are altered and marked as 'published' or 'unpublished'.

It can sometime be confusing when this situation is encountered and indeed we ourselves tend to mark Issue Tracker sub projects as 'archived' when they are no longer supported so were initially a little mystified until we have investigated further.

Checked Out State

Issue Tracker makes use of the ability of Joomla to control multi-user access on records. In our component we control all of the records types (issues, people, projects, priorities, statuses, issue types and roles). When a User edit an item, Joomla! changes the item's status to **Checked Out** (represented by the padlock icon). The record is locked and only the User who has checked it out can modify it. This is a safety/security feature that prevents two Users from editing an Item at the same time, thus preventing the loss of any data upon saving.

An Issue Tracker Item remains "Checked Out" until the User clicks *Apply*, *Save*, or *Cancel* while editing it. Once saved, the Issue Tracker Item is **Checked In**. However, if there's a connection error, such as when the User presses the browser's *Back* icon, or they choose another Issue Tracker Item without saving or cancelling the work in progress, the Issue Tracker Item remains Checked Out. This means no one else can edit it.

Using the Global Checkin can be used to unlock all Items that are currently Checked Out, or depending on the items marked only the specific item groups, across the whole site. It can only be performed by a Super administrator. The action commences as soon as the Issue Tracker Item is clicked.

WARNING: Performing a Global Checkin while Issue Tracker items are open for editing will result in data loss. **All** Checked Out Items will be checked in, and any unsaved changes will be lost.

When an issue is editing within the front end of the site, it also will create a ‘lock’ upon the issue so that it is evident in the back end that it is being edited. In the normal course of events where the issue is saved or cancelled the lock is automatically released. Occasionally situations may occur where a lock is retained even when the user editing the session is no longer logged into the system. In these rare situations the lock can be released either with the Issue Tracker issue list or from the Global Checkin.

Record Deletion

By default it is not possible to delete records from any of the Issue Tracker tables. This is so that a knowledge base of previous history can be maintained in the component.

There is a component option that can be set to perform either a hard delete or a soft delete of records.

A hard delete will remove the record from the database.

a. If a project is being deleted then not only will the project be deleted, but all the issues associated with the project will also be deleted. In addition if the project is defined as the ‘default project’ for any user, then this will be modified for those users.

b. If the item being deleted is an issue then the issue will be deleted from the database.

c. If a user is being hard deleted then all issues associated with the user will also be deleted along with the user.

Note

The Joomla registered entry is not affected.

A soft delete causes a re-assignment of associated record.

a. A soft delete is really only relevant with user deletion, where all associated issues for that user will be change to refer to the specified default.

b. For projects and issues a soft deleted is treated as a hard delete described above.

The deleted issue user is the user to whom all issues associated with ‘soft deleted’ users will be re-assigned.

Note

People records if deleted will only be removed from the it_people table. The users still remain within the main Joomla users table.

For all other Issue Tracker record types the component implements the standard Joomla mechanism for delete with the ability to change the ‘state’ of the record to ‘trashed’. Trashed items are visible if the state is set to ‘Trashed’ on the list displays. Trashed records can be deleted but still follow the ‘hard’ or ‘soft’ delete rules described above.

Note

In release 1.1.0 and above this was modified so that an item may be placed in the ‘trash’. The implementation of the feature permits items to be in a number of states (as with Joomla articles). To completely remove the items it is necessary to empty the ‘trash’, by displaying the items in the ‘trashed’ state and then by indicating which items are to be permanently removed.

Spam Checking

[This is taken from a Blog article made upon our Web site.]

A recent comment requested some additional anti-spam option in our Issue Tracker component. That triggered much though on a topic that obviously impact all website and their components, be it blogs, commenting systems etc. There are a number of different parts to preventing spam on a website and this is to expand upon our own particular take on the subject.

Spam is one of the many problem that face web sites today. It is basically the proverbial ‘pain in the neck’ and if not handled correctly can be very time consuming. How often have you viewed web sites where there are totally unrelated comments /registrations/ forums posts which has to make one think about the site's reputation and credibility.

Our site is not immune to this problem and the source is not restricted to any specific country although there does seem to be a preponderance from locations such as Turkey, China, Russian Federation and more recently Ukraine and Brazil.

Spam Types

Spam types can basically be broken down into two types:

Registration Spam

This is commonly where users try and register, and is of most importance but not restricted to, social sites especially if they go undetected. We ourselves have had attempts to register accounts which on checking show that the account details (user name) are also registered on other sites (where they have succeeded in being registered) and which are then used to post blog entries or comments on various unrelated topics, but mostly of a nature unrelated to the site interest. Such checking however can be very time consuming which presumably is why many site permit automatic registration relying on the captcha check to stop undesirables!

Comment and Forum Spam

A number of sites have a discussion forum and/or permit users to submit comments on articles. This undesired contents include ‘spam’ text and undesired links to other sites. This often includes advertising for a specific product.

Prevention Techniques

Active Protection

The most common technique for active protection is known as Captcha. There a number of ‘flavours’ such as ReCaptcha, Image Captcha (typically words), Picture identification Captcha, Mathematical captcha, Question Captcha etc.

All these methods rely on the fact that automated scripts are unable to read the Captcha and thus pass through the process. These methods can be effective in fighting ‘comment’ and ‘registration’ spam.

Where they fail is where a human being is manually adding the comments or registrations. Where labour is cheap if may be worth the ‘promoter’ paying for people to generate the spam.

Passive Protection

This typically includes techniques such as IP Blocks, White-lists and Black-Lists and Content Scanners. The spam is intended to insert links into your site. Passive protection focuses on using content scanners which validate the content, the source & method of delivery against extensive databases of bad links, emails, content, blacklisted IPs & domains to stop the spammer from getting his input in.

These checking databases are fed input from a huge number of sites and users that subscribe to using the databases and they in turn report malicious content. The important thing about these databases are that they are updated continuously and are true to the spirit of open source being contributed to on a everyday basis making them a comprehensive source of information.

There are many examples of such databases and include Akismet [http://akismet.com/], Mollom [http://tekdi.net/mollom.com], Project Honey Pot [http://www.projecthoneypot.org/home.php], Bad Behavior [http://www.bad-behavior.ioerror.us/]to came but a few.

This 'Captcha less' Spam protection can be very effective mainly since in most cases it helps the system become even more stronger. One downside is that on a busy site it can add some considerable overhead to the processing load, and possibly slow the user's site experience.

Our Take on Tools.

It should come as no surprise that our site is based on Joomla as we develop tools for the Joomla Extension Directory.

Captcha and Recaptcha

Joomla 2.5 includes ReCaptcha [http://www.google.com/recaptcha] as standard and all one has to do is enable it and it is present in the basic registration process. There are other plugins etc. and many components also offer different in-build captcha options. However do you really want more than one type of captcha solution on a site. We decided upon a single solution and following the Joomla core implement ReCaptcha in our components. One it is easy to implement and two it makes it easy for our component users, and site users to offer consistency throughout.

Passive Protection

We have already said that this can be very effective and there are a few options available to Joomla sites and component developers.

For example SH404 [http://anything-digital.com/sh404sef/seo-analytics-and-security-for-joomla.html] integrates Project Honey Pot, Akeeba Admin Tools [https://www.akeebabackup.com/products/admin-tools.html] implements Bad Behavior [http://www.teachmejoomla.net/news/latest/joomla-anti-spam.html] etc.

It has always struck us as strange that a lot of components all seem to implement the same tools in their products so that a site with many components from different suppliers ends up configuring the same technique over and over again. Surely it is better to have the protection ‘up front’ on a site ‘checking’ the input for desirability before it gets to any specific component. After that it would be up to the specific component perform its checking. Do you really want to add the ‘words to be filtered’ to your blog component and your forum component, and to your article commenting component? You may do, but I/we certainly have better things to do with our time.

A tool such as Akeeba Admin Tools Pro, provides such a solution and the Web Filtering option (which includes word filtering, IP blocking, Bad Behavior) is (in our opinion) the way to go. Most sites implement some form of SEO and SH404SEF is the most common, and it comes with Project Honey Pot integration.

Some of these tools costs money (in our opinion considered reasonable), but one has to ask one self ‘How much is our site reputation worth?’. That is not something we can answer for you.

We therefore are reluctant to ‘re-invent the wheel’ in our components beyond what is considered reasonable. The Issue Tracker component (which can best fit into the comment/forum data entry consideration), all versions implement, IP blocking, White lists, Black Lists, Word filtering end ReCaptcha. As a result of a specific request we have implemented Aksimet checking as well in Release 1.2.1, even though we do not make use of it ourselves.

If your site uses a good ‘passive solution’ up front then these (apart from the ReCaptcha) can be left unused, but of course not everyone agrees so these options will remain ‘just in case’.

Messages and Notifications

A number of templates have been provided to be used for generation of the email and SMS messages which are sent when an issue is opened, closed or updated. An update is considered to be any change where the issue state is not ‘open’, or ‘closed’. These states are defined in the component parameters. This information builds upon the details provided in the text above.

See also the Issue Tracker Customisation Guide for more details.

There are also a few miscellaneous templates used for specific tasks.

Table 8.1. Message templates.

Name	Notes
ass_close	Used when sending an email message indicating an issue assigned to the email recipient.

Name	Notes
ass_new	Used when sending an email message to the issue assignee when an issue is assigned to the email recipient.
ass_update	Used when sending an email message indicating an issue update to the issue assignee.
user_close	Used when sending an email message to the issue assignee when an issue is assigned to the email recipient.
user_new	Used when sending an email message to the issue identifier when the issue is opened.
user_update	Used for sending an email message to the issue raiser when the issue is updated.
admin_close	Used when sending an email message indicating an issue closure to the issue system administrators.
admin_new	Used when sending an email message to the issue administrators when an issue is initially created.
admin_update	Used when sending an email message indicating an issue update to the issue administrators.
sms_close	Used when sending a SMS message when an issue is closed. The same template is used irrespective of recipient due mainly to the limitation of the size of the message that may be send.
sms_new	Used when sending a SMS new message when an issue is initially created. The same template is used irrespective of recipient due mainly to the limitation of the size of the message that may be send.
sms_update	Used when sending a SMS update message to a recipient. The same template is used irrespective of recipient due mainly to the limitation of the size of the message that may be send.
auto_close	Used when sending an email message indicating an issue closed by the auto-close cron system to the issue originator/creator.
summary_report	Used for the scheduled summary report, dispatched via a scheduled cron task. ~Intended mainly for issue administrators to provide an overview of recent activity. If not present the summary report uses a predefined format.
overdue_report	Used by the scheduled overdue con tasks to keep issue assignees informed of issues that have exceeded the defined activity periods. If the template is not present then the task uses its own internal format.

The templates make use of substituted values where the details associated with the specific issue referred to in the message. The supplied email templates are larger than those supplied for SMS messages, mainly because SMS messages tend to be shorter and more concise that email messages.

The tags are represented by the string name indicated in the table below surrounded by square braces ‘[]’.

The template once updated with the specific issue values is then amended by adding the header detail and trailing detail as specified in the component options.

Table 8.2. Message template tags usable in generated notification messages.

Name	Source
url	Hard coded in routine. The URL to use for appending to the site name to provide a link to the specific issue.
issue_id	The alias of the issue (issue number).
title	The issue summary (or title) for the issue.

Name	Source
description	The issue description field.
user_name	The name of the user who identified (or raised) the issue, if not specified. If a guest user raised the issue then their details will have been captured and will be used, other wise the user identified as opening the issue will be used.
user_email	The email address of the user who raised the issue. See user_name above.
user_fullname	The full name of the user who raised the issue. See user_name above.
progress	The details of the progress field of the issue.
project	The name of the project to which the issue is attributed.
priority	The priority associated with the issue.
startdate	The date when the issue was identified.
closedate	The date when the issue was closed.
assignee_fullname	The full name of the person who is assigned to work the issue.
assignee_email	The email address of the person assigned to work the issue.
assignee_uname	The username of the person assigned to work the issue.
resolution	The resolution text of the issue.
status	The status of the issue.
REPORT	A special tag used by the scheduled report tasks: summary and overdue reports. Note this tag is in upper case to differentiate it from the other field tags.

Note

All fields should be specified in lower case, with the exception of the Custom field tags and the REPORT tag. Mixed case is not supported currently.

The notifications have a number of inbuilt rules which prevent emails from being sent in certain circumstances. They are briefly:

- An assignee email is not generated if the assignee is the one creating the issue.
- Issue administrators are not sent emails if an issue administrator is creating an issue.
- If an issue administrator is closing an issue then no issue administrators are not sent an email.
- If an assignee is closing or updating an issue they are not sent an email.
- If an issue administrator is updating an issue, then issue administrators are not sent emails.

Use of Custom Field tags

Release 1.6.7 introduced the ability to specify tags such that custom fields can be inserted into out going message notifications.

The mechanism is to place a tag in the message template such as [CFIELDx] where x is the id (number) of the custom field. When discovered the tag in the template is replaced with the 'field name' followed by a colon, a space and then the specified field value. For 'header' custom field types only the custom field name is inserted into the template.

Only custom field ids that are part of a group that is associated with the project, for which the issue is associated are valid for insertion into a message template.

If an invalid custom field identifier is specified, as would be the situation were the wrong or an invalid custom field id is used, then the entire custom field tag is removed from the outgoing notification.

An informative message is inserted into the component log notifying the system of this situation. By clearing out the invalid tag we ensure that the outgoing message is 'clean'. This also enables the use of the same message template with different projects, for which different custom fields may apply.

Note

We have chosen to only implement the use of tags in the body section of the message. The limitation on the length of a message header, means that it is unlikely that one would wish to place custom fields into the message header.

See RFC 2822, section 2.1.1 states:

There are two limits that this standard places on the number of characters in a line. Each line of characters MUST be no more than 998 characters, and SHOULD be no more than 78 characters, excluding the CRLF.

Note also that some email systems enforce a lower limit upon the subject length.

Table 8.3. Message template custom field tags - typical output.

Tag	Output example	Notes
CFIELD1	Product Details	This is a sample cf header field. [This is one of the default provided field.]
CFIELD5	Database Type: MySQL	This is a sample cf radio field. [This is one of the default provided field.]
CFIELD6	Database Version: any	This is a sample cf text field. [This is one of the default provided field.]
CFIELD24	DDDDD: 2015-02-19	This is a sample cf date field. We chose a name of DDDD for simplicity.
CFIELD25	EEEE: Second, Third	This is a sample checkbox field - multiple selection. Note we separate values by a comma. We chose a name of EEEE and provided three possible values of which we selected two.
CFIELD10		Output when an invalid field id is provided. Note that this is blank! On our test system this id is not used so we ensured that it was not valid.
CFIELD27	Select: BBBBB	This is a sample cf select field. We chose a name of 'Select', with possible selected values of AAAA, BBBB and CCCC, of which we chose the centre BBBB value.

Front End Editing and Issue Creation

Release 1.2 introduced the ability to edit existing issues in the front end of the site. Certain criteria have been applied to control who and what can be edited.

There are a few settings that need to be applied before an issue can be edited on the front end.

a. The component must have the ‘edit Own’ ACL permission assigned.

b. The issue to be edited must have the correct ACL permission. See ACL permissions in the next section.

c. There is a component option to prevent front end issue editing if it is not required upon a site, which must be enabled.

d. The issue to be edited has to have been ‘identified by’ the specific user before it can be edited unless the person performing the edit is an issue administrator. (setting in the people table.)

e. Ensure that the use of the editor is permitted within your chosen edit and assigned to the ‘Registered’ group, to whom all issue tracker users are assigned. Failure to do this may result in the presentation of a blank data entry box with no editor toolbars etc.

The editor used will depend upon the site default and the setting for the user in their own profile. We are familiar with the JCE editor and all of our testing has been performed using this WYSIWYG editor. Other editors are available but we cannot necessarily assist with editor problems. We discovered a few editor problems in our testing, which are not related to the Issue Tracker component itself. For that reason there is an option setting to provide a simple text area for input of details, until such time as any WYSIWYG editor problems have been resolved on your site.

An issue is edited by clicking on the ‘edit’ icon  on the issue display.

Note

If an issue is unpublished the icon is slightly different.

Unpublished issues are displayed upon the Menu items created with the ‘Show own issues’ option.] If front end editing is disabled then the icon will not be shown either for issue administrators OR for registered users.

An issue administrator can edit any issue and is presented with all of the same editing capabilities as in the back end of the site. The administrator can create and close an issue in one complete step, an ability that is not possible with any other user.

A registered (and logged in) user can edit their own raised issues only. The registered user can add additional information to the issue description, thus providing updates, but this is achieved by completing the ‘additional details’ panel, NOT by editing the issue description directly. Upon user save the issue description is updated.

Guest users cannot edit existing issues.

The following criteria are used to define the possible field entry or display in the front end issue screen.

Table 8.4. Table providing details of issue editing abilities per user group.

Ability	**Create**	**Editing**			
		Administrator	Staff	User	Guest
Change Issue title (summary) Field	**Y**	**Y**	**Y**	**N**	**N**
Change issue description details	**Y**	**Y**[6]	**Y**[6]	**N**[6]	**N**[6]
Complete Additional Details Field[3]	**N**	**N**	**N**	**Y**	**N**
Change Identified by	**N**[1]	**Y**	**Y**	**N**[1]	**N**[1]
Change Issue Type	**Y**	**Y**	**Y**	**Y**	**N**
Change Issue Status	**N**	**Y**	**Y**	**Y**[2]	**N**[2]
Change progress details	**N**	**Y**[6]	**Y**[6]	**N**	**N**
Change actual resolution date	**N**	**Y**	**Y**	**N**	**N**
Change resolution summary	**N**	**Y**[6]	**Y**[6]	**N**	**N**
Change Identification date	**Y**	**Y**	**Y**	**N**	**N**
Change project	**Y**	**Y**	**Y**	**Y**	**N**

Ability	**Create**		**Editing**		
Change user notification	**Y**	**Y**	**Y**	**Y**	**N**
Change published field	**Y**	**Y**	**Y**	**N**	**N**
Change issue priority	**N**	**Y**	**Y**	**N**	**N**
Change target resolution date	**N**	**Y**	**Y**	**N**	**N**
Delete Issue[9]	**N**	**Y**	**N**	**N**	**N**
Reopen Closed Issues[9]	**N**	**Y**	**N**[10]	**N**[10]	**N**
Audit fields[4]	**N**	**N**	**N**	**N**	**N**
Captcha challenge[5]	**Y**	**N**	**N**	**N**	**N**
User Details[5]	**Y**	**N**	**N**	**N**	**N**
User Email[5]	**Y**	**N**	**N**	**N**	**N**
User Website[5]	**Y**	**N**	**N**	**N**	**N**

Notes:

1. The identified by field is automatically entered as being the user who is creating and/or editing tee issue. Only the administrator can change the field.

2. The Issue Status can be changed by the user within certain criteria, such as being able to close (and possible re-open) and issue. All other status changes are only performed by an administrator. Note - not yet implemented.

3. The additional details field is only displayed for users editing their own raised issues. It is not displayed for an administrator who would update the appropriate table field directly.

4. Audit fields are not displayed and are therefore not editable in the front end.

5. Details of the entering user and the captcha challenge are only required for a new issue creation where the user has not identified themselves by logging onto the site. Updating of theses details is expected through the additional info field if the user updates the record. Captcha details are not currently presented for registered users. (This is a possible future enhancement.)

6. The choice of editor to be used for users and the administrator is configured within the standard Joomla users profile. Non registered users are not presented with the choice and are presented with a simple text editor.

7. The front end editing allows for the ‘checkin/checkout’ functionality already implemented in the back end. This means that the issues list display will show a padlock icon next to the issues being edited in the front end. Once the front end edit is completed, either by the saving or the cancelling out from the editor, the padlock would be removed from the back end issue list display against the specific issue id.

8. The ACL permissions applicable to the specific issue being edited are applied. See section ACL Permissions for more details.

9. Version 1.3.3 and above only.

10. Version 1.3.3 component option.

Attachments (WYSIWYG editor feature)

Release 1.3.0 introduces the attachments feature which permits user (if configured) to upload files and images which can be associated with specific issues. Release 1.2.0 allows ‘images’ to be inserted into issue description, progress and resolution field using the features of most WYSIWYG editors. All three can be updated by issue administrators, where as only the issue description can be used by registered users. This feature is retained as an alternative mechanism for those who do not wish to enable the attachments feature.

Most WYSIWYG editors implement image inclusion using the ‘Joomla Media Manager’. Depending upon the specific editors installed upon a site, will determine the control of the placement of the ‘uploaded’ images on the site. For example the JCE editor only offers limited placement, where as the CK editor is a lot more configurable.

This specific capability will be modified in later releases.

To disable the loading of images it is necessary to modify the form XML file in the front end and configure the editor on the site to prevent image upload. See your specific editor documentation for details.

ACL permissions

The component implements Joomla!'s powerful access control features and we recommend reading more about how Joomla! access control works if you are unsure:

- ACL concepts overview http://magazine.joomla.org/issues/issue-jan-2012/item/637-Joomla-1-6,-1-7,-and-2-5- ACL-Concepts-Overview [http://magazine.joomla.org/issues/issue-jan-2012/item/637-Joomla-1-6,-1-7,-and-2-5- ACL-Concepts-Overview] (beginners)
- Joomla! ACL: Access Levels http://magazine.joomla.org/issues/issue-feb-2012/item/639-Joomla-ACL-Access- Levels [http://magazine.joomla.org/issues/issue-feb-2012/item/639-Joomla-ACL-Access- Levels] (beginners; scroll all the way down for a very good video)
- A case for role-based ACL http://magazine.joomla.org/issues/Issue-Aug-2012/item/825-A-Case-for-Role-Based- ACL [http://magazine.joomla.org/issues/Issue-Aug-2012/item/825-A-Case-for-Role-Based- ACL] (advanced)
- Implementing role-based ACL http://magazine.joomla.org/issues/Issue-Sept-2012/item/856-Implementing-Role- Based-ACL [http://magazine.joomla.org/issues/Issue-Sept-2012/item/856-Implementing-Role- Based-ACL] (advanced)
- ACL Manager http://www.aclmanager.net [http://www.aclmanager.net/] is a third party commercial component which can help you effectively managing ACLs on complex sites.

Alternatively, you'll have to just take our word and follow our easy instructions below.

In order to create a fully functional front end editing ability the component has built upon the ACL permissions available within Joomla. Previously the ACL defaults were based upon the component itself. Release 1.2.0 extends this to provide control at the individual issue level.

Note

The component does not make use of the ‘categories’ which is used by other Joomla components. This does mean that there are changes in the use of the ACL rules.

This change includes adding an additional field to the it_issues table which is a reference to the Joomla assets table, which contains the permissions for the individual issue. When installed the 1.2.0 update will add the asset_id field but will not populate the field. When the issue is next edited the value will be automatically populated. The implication of this is that a user will be unable to edit their own issues UNTIL such time as the existing issue is updated.

All new issues have the field automatically populated.

So to repeat: an existing user will be unable to edit any existing issues created prior to release 1.2.0 being installed unless the issues have been edited since the upgrade.

One suggested method to do this without causing the generation of a lot of notification emails is to temporarily turn off all notifications via the options and then edit each issue in the back end and then immediately save and close the issue. Of course you may only want to enable editing on some of the existing issues, in which case choose only those issues to edit. Unfortunately we cannot think of any easier way to perform the task, ensuring the integrity of the internal Joomla linkages.

Creating a language translation for the component.

Transifex

One method that we have recently decided to make use of is the ‘Transifex’ project. To be truly multi-lingual most freely available Joomla component (including modules and plugins) relies on local communities to create language packs. We realise that is can be a very dirty job, that is very time consuming. Transifex provides a mechanism to make language translations faster but with less work. Making use of this mechanism we hope to be able to provide users with a wider variety of available languages ready to download.

Looking at the number of existing components already making use of Transifex, we are joining an already varied and wide ranging community.

Transifex comes with the options of a client or a web interface and also has an extensive help system.

One site that might provide useful to translators starting to get to grips with Transifex and its usage is provided here. Not being multilingual ourselves we cannot really make any valid comments upon how useful they specifically are, but they certainly appear to be informative and complete.

Basically the language files are placed upon the Transifex server by ourselves within a 'project' i.e 'Issue Tracker'. The translators have an account (free upon request) on Transifex and request access to a language, which if granted allows access to the specific language files. The translators can edit the language strings for their specific language directly online, or via the use of a 'Transifex client' (freely downloadable) download the files, perform the translation locally and then upload them back to the Transifex server.

On our end we are kept informed of the state of translations automatically and via the use of a Joomla component named CTransifex (Compojoom) which can automatically generate the required installable zip files and make them available for users to download.

This avoids the need to create multiple zip files manually making the distribution task much simpler and relieving the translators from the tedious task of maintaining zip files, and at the same time providing an easier translation tool.

There are more details upon our website http://macrotoneconsulting.co.uk/index.php/Macrotone/language-guide-extensions.html and also upon the Transifex web site https://www.transifex.com/.

Manual method.

Those unwilling or unable to make use of Transifex, we here describe a manual mechanism for creating an installable extension pack. For translating extensions for Joomla! 1.6, 1.7, 2.5 see this article: Creating language packs for extensions in Joomla 1.6/1.7: http://docs.joomla.org/Creating_language_packs_for_extensions_in_Joomla_1.6/1.7

For an example we will illustrate the build of the Portuguese Brazilian language for the Macrotone Issue Tracker component.

1) We will prepare folder structure for the new created translation. Create the following folders on your disc:

```
lang/admin
lang/site
```

Open text editor and paste the following content:

```
<HTML><body bgcolor="#FFFFFF"></body></html>
```

Save it as index.html in all folders (as lang/admin/index.html, lang/site/index.html and lang/index.html).

2) Unzip the Macrotone Issue Tracker component ZIP file somewhere on your disc.

Go to:

```
admin/language/en-GB/
```

(which is included in the unzipped Macrotone Issue Tracker structure) and open both files in your text editor:

```
en-GB.com_issuetracker.ini
en-GB.com_issuetracker.sys.ini
```

Translate the strings to your language and save them as (in our example we use Portuguese Brazilian prefixes):

```
lang/admin/pt-BR.com_issuetracker.ini
lang/admin/pt-BR.com_issuetracker.sys.ini
```

Go to:

```
site/language/en-GB/
```

(which is included in the unzipped Macrotone Issue Tracker structure) and open the file in your text editor:

```
en-GB.com_issuetracker.ini
```

Translate the strings to your language and save it as (in our example we use Portuguese Brazilian prefixes):

```
lang/site/pt-BR.com_issuetracker.ini
```

Files should be saved as UTF-8 without BOM encoding.

3) Open text editor and paste there the following content:

```
<?xml version="1.0" encoding="UTF-8"?>
<extension type="file" version="2.5" method="upgrade">
<name>pt-BR.com_issuetracker</name>
<tag>pt-BR</tag>
<version>1.1.0</version>
<creationDate>01/04/2012</creationDate>
<author>Macrotone Consulting Ltd</author>
<authorEmail>support@macrotoneconsulting.co.uk</authorEmail>
<authorUrl>www.macrotoneconsulting.co.uk/authorUrl>
<copyright>(C) 2012 Macrotone Consulting Ltd</copyright>
<license>http://www.gnu.org/licenses/gpl-2.0.html GNU/GPL</license>
<description>Brazilian-Portuguese language pack - Issue Tracker</
description>
<fileset>
    <files folder="admin" target="administrator/language/pt-BR">
        <filename>pt-BR.com_issuetracker.ini</filename>
        <filename>pt-BR.com_issuetracker.sys.ini</filename>
```

```
        <filename>index.html</filename>
    </files>
    <files folder="site" target="language/pt-BR">
        <filename>pt-BR.com_issuetracker.ini</filename>
        <filename>index.html</filename>
    </files>
</fileset>
</extension>
```

Edit it, changing the language specifics and the author as required and save it as:

```
lang/install.xml file.
```

So now you should have the following folder structure in the folder lang:

```
install.xml
index.html
admin/index.html
admin/pt-BR.com_issuetracker.ini
admin/pt-BR.com_issuetracker.sys.ini
site/index.html
site/pt-BR.com_issuetracker.ini
```

Select all files included in lang folder and add them into ZIP file called lang-prefix-LANG-PREFIX.com_issuetracker.zip (in our example the file will have the following name: pt-BR.com_issuetracker.zip).

Now the translation is ready and can be installed via standard Joomla! installation procedure.

Remember that the Joomla Language core pack for your desired language must be installed otherwise the language installation will fail.

What is allowed in .ini files

Comments are made by a leading ";"

The translated string must be enclosed by double quotes.

```
COM_SAMPLE="Can not make the parameter file writable"
```

Do not split translations into multiple lines (only first line will show up).

```
COM_SAMPLE="Can not make the
parameter file writable"
```

If you want a new line, write

```
<br />
```

i.e.

```
COM_SAMPLE="Can not make the <br /> parameter file writable"
```

Ensure your translations are valid XHTML 1.0

Not
, not
 - only
 is valid.

If unsure, please use the current markup method.

Note

Files must be saved in UTF-8.

Tip

Take care when using Double Quotes (") in your translation, used incorrectly it will break the translation.

Under Joomla! trying to escape double quote in language files will cause issues with some PHP versions :

```
COM_ISSUETRACKER_STICKY="My great \" string which is broken"
```

The way to escape double quote is the following :

```
COM_ISSUETRACKER_STICKY="My great "_QQ_" string which is
 broken"
```

This may seem strange, but it's the only way to escape double quote under Joomla!

Advice to ‘Pre-release’ Users

Warning

Pre-release software is not recommended for use on ‘live’ sites.

If you are running a pre-release version of the software, sometimes changes are made prior to the final stable release of the version. These changes are often minor and can be ignored, however at other times some table structure changes may have occurred. These changes may not be picked up when the stable version is installed on top of the pre-release version.

If you are in the situation where you have been running a pre-release version on a live site, please contact us for the best advice before installing the stable version.

All pre-release users known to Macrotone will be contacted with specific details of upgrading options.

Joomla 2.5 support

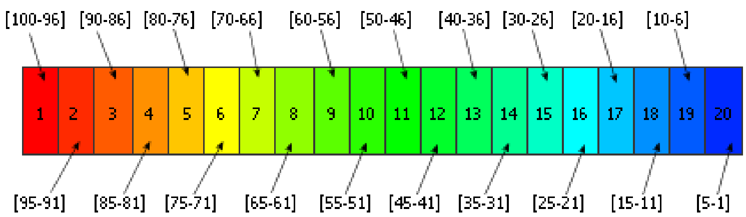
Joomla 2.5 is no longer a supported release and thus we are unable to provide support for Issue Tracker upon this release version. Whilst the Issue Tracker 1.6.x releases will run upon Joomla 2.5, subsequent release 1.7.x and above will not run upon Joomla 2.5.

Colour Priority

Priority level is a number between 1 and 100 and priorities can be assigned to any issue in the system in order to group them based on importance rather than type of issue.

Colour coding for priority levels divides this 1-100 interval into 20 equal pieces and each interval is represented by one colour in the schema, as shown in the figure below. The highest priority level which is the interval between 100 and 96, is represented with the hottest colour tone in the scale, that is, colour **'red'**.

Figure 8.6. Colour Priority Chart



As the priority level decreases, corresponding colour tones become closer to the colour blue, which represents the least important priority level interval, that is between 5 and 1.

The coding makes use of the CSS settings which may be edited or changed directly depending upon the site preferences.

List displays and sh404SEF component.

Problems have been seen using the component sh404SEF and the pagination display of list screens from Issue Tracker on the front end of the site.

The problem is caused because the sh404SEF component has created URLs for Page-2, Page-3 etc which are then referenced in the pagination module, causing the wrong page to be displayed. i.e. If the pagination limit is set to value of 5, then page-1 will contain records 1->5, page-2 records 6->10, page-3 records 11-15 etc. If one then changes the pagination limit to 10, the records should be page-1 1->10, page-2 11-20, etc. However the link in the list page footer shows the link as page-2, and when one clicks on the link it displays the 'original/earlier' page-2. i.e. records 6-10. This is obviously incorrect.

This is not a problem with the issue tracker pagination code per se, but it is a problem with the way in which the sh404SEF URLS are created from the component.

Tests have shown that if the sef_ext code is modified to retain the 'limit' and limitstart' variables then the correct pages are displayed, once the existing entries in sh404SEF have been removed.

So from Issue Tracker release 1.3.1 these two variables will be visible. In this way the pages displayed will be correct and any page cache in use on the site will also work correctly.

Note

It is necessary to clear out the entries that may have been stored in the sh404SEF tables for the 'page-x' variables so that they are not reused, and hence defeat the purpose of the change.

New Progress Design Considerations

Issue Tracker release 1.6.0 introduced a change in the storage of issue progress records within the database. These records now have their own separate database table, which provides the ability to assign individual control over the records such as access groups and separate publishing state. This change has resulted in some changes to how the information is recorded and displayed to the users.

When creating an issue there will be no 'progress' information and hence there will be no area upon the input form or the issue display to show this information. When an issue is edited by the user who created the issue, they are presented with the 'additional information' area, which when the issue is saved is stored as a record within the progress table. If an issue administrator or staff member edits an issue, then a progress input area is displayed, along with options to specify the access group and publishing state of the progress record being entered. This record is then added as a new record in the progress table when the issue is saved.

When the user who created the issue performs an edit any previous 'progress' records will be displayed to them, providing the progress record are marked as published.

When the issue is displayed, then whether the progress information records are displayed will depend upon the component setting 'show progress record'. In addition the access group to which the viewer belongs, must match, and also the published state of the progress record has to be set.

Issue administrators (and staff members) will see all progress records and will also see the sequential line number of each progress record.

There are a number of options that control the display of progress records in the front end of the site. These are as follows:

- The component option as to whether to display individual progress records in the front end.

  If the option is not set then issues viewed in the front end will not be visible to anyone other than issue administrators/staff.

- Whether the progress record is marked as 'public' or 'private'.

  Private records are only visible to the raiser or creator of the issue (and progress) record and Issue administrators/staff.

- The access group assigned to each progress record.

  In all cases the access group is checked to ensure the viewer is permitted to 'see' the record.

- The published state of the progress record. i.e. 'published' or 'unpublished'.

  Generally unpublished items will only be visible to Issue administrators/staff and the issue creator.

- The particular user viewing the information.

- Whether an edit is being performed or whether this is a view only.

  When an issue is being edited, which is only possible in the front end by the issue creator and issue administrators/staff additional progress records may be visible if all of the other criteria are met.

All of the above criteria is used to determine whether a specific progress record is visible to the 'viewer'. As can be seen this can be quite complex and the following table attempts to show what may be visible is an easier manner.

Table 8.5. Table providing details of front end progress record display criteria.

User	Edit	View
Creator	Can see all progress records that have the same access group as the creator whether published or unpublished. If it is desired that the creator does not see some progress records for whatever reason, then a different access group should be assigned to the specific progress record. i.e. This might be the case where a progress record is intended solely for other Issue administrators or staff members. Can see progress records marked public and private. The creator has to be logged in to be able to edit a issue. Cannot edit previous progress records.	Can see all progress records that are published and which have an access group which matches that of the registered user, whether published or unpublished. Requires the creator to be logged in, other wise as shown for the guest user below. Can see progress records marked public or private. Can see published and unpublished progress records.
Issue Administrator	Can see all progress records, provided Issue administrator has the appropriate access group assigned to them. Cannot edit previous progress records.	Can see all progress records which have an access group that is one of those the issue administrator. Does not check the publishing state or the privacy flag.
Issue Staff Members	Can see all progress records provided staff member has the appropriate access group assigned to them. Cannot edit previous progress records.	Can see all progress records which have an access group that matches one of those of the staff member.

User	Edit	View
		Does not check the publishing state or the privacy flag.
Public	No editing possible.	Views progress records if the component is configured to display progress information, and the progress record is published, has an access group of 'public' assigned. Must also have the component configured to display progress information. Cannot see progress records marked 'private'.
Logged in Registered User	No editing possible.	Can see all progress records that are published, marked as public and which have an access group which matches that of the registered user. Must also have the component configured to display progress information. Cannot see progress records marked 'private'.

This is correct as of release 1.6.0.

Other Problems and Issues.

Please see the FAQ and the Forum entries on the company web site which will be updated with any new problem and their resolution when or if they are discovered.

Chapter 9. Sample Data

The following describes the supplied sample data and specific notes upon its usage.

Note

Sample data is only available provided the underlying Joomla database connection user has the database privilege to create database procedures. Release 1.4.2 (and above) will remove the icons from the control panel to handle this data if the database privileges have not been granted.

Loading Demonstration Data

As mentioned above, demonstration (or sample) data is provided for testing and investigating the implementation. In Joomla the component control panel provides an easy mechanism to enter (and remove) the sample data.

The sample data uses the early identifier (id) fields in the tables. Of particular note is the use of sample users which are using the Ids from 2 to 18.i In Joomla user ids usually (since 1.7) start from an ID of 42, with the Super User account normally be ID=42. Thus is usually reasonably safe to use the early IDs for our purpose. How ever since the Super User ID is so well known there are a few Joomla extensions that ‘improve’ security by re-assigning a Super User account to a different, sometimes random ID. If one of these components has been used on the Joomla site and the ‘new’ Super User ID falls within our sample data people range there is the potential for conflict.

NOTES:

- Be careful when using the remove sample data icon since there are only simple checks that the data it is removing is ‘sample data’.
- Joomla 2.5.4 introduced a randomisation of the created Super-User account identifier (id). This means that the Super User (admin) can have virtually any value and may well conflict with the loading of sample data, since the Id for the sample people added will clash. A work around has not been generated for this problem and the future of the sample data means that it may be removed from versions 1.3 and above.

Sample data is actually of two types. The first type is the supplied Roles, Statuses, Issue Types and Priorities that are used within the system. This data is used to populate the tables when the component is installed. This data is never removed except when the component is un-installed, or if/when a site administrator specifically removes it. Before removing these data items if is suggested that the settings of the ‘default’ options are studied and/or modified before proceeding.

There are also two pieces of data that should be mentioned and treated very carefully. There is a User known as ‘Anonymous’ created with an ID of 1 in the it_people table. This user is used as the default for issues saved from the front end of the site by a guest user. This default can be changed by the component option settings. The second data item is a project known as ‘Unspecified Project’. This is a default project used for people and issue assignment. Again this can be changed from the component options. Care should be taken if it is intended to remove these two piece of data.

The second type of sample data is that of ‘sample’ issues, projects and people. This is the sample data installed by the button on the Administrator Component Control Panel as described above.

There are a number of checks that the component performs when the request to load or remove the sample data is invoked. Of particular note is that if there exists an entry in the it_people table with an id between 2 to 18 inclusive, then the data will not be installed. On removal checks are also present to prevent sample data removal if any of the sample data has been changed to reference non-sample data or if the sample data is referred to by non-sample data.

Note

The sample data changed in Release 1.2.0 due to a change in the assignment of an issue which has to be to a ‘registered’ Joomla user. This change means that the sample data which was previous assigned to non-registered users would no longer work due to the table constraints. The sample issue sample are all therefore un-assigned.

Prior to release 1.2.0 the primary key of the it_people table was an id column based upon the id of the person in the Joomla users table. This meant that because the Joomla users ids’ started from around 42 (depending upon Joomla version) that the id column in the it_people table was also starting around the id of 42.

With release 1.2 of Issue Tracker, the value of the user id as used in the Joomla users table is now stored in the it_people table as a user_id, and the id column is an auto incrementing numeric.

One consequence of this is that if we do not start the numbering of the id column from a value higher that 20 (the highest id currently used by the people sample data) there would be id conflicts.

For that reason the starting value for the id in the it_people table is set at 31, leaving some scope for future data if required. For a new installation the entries will therefore start at 31. The Anonymous user will retain the id of 1 since that is hard coded in our installation script.

For an existing installation without issue tracker installed the new starting id of 31 will still work, except if the Super user has an id in this range, so we double check when we try to install the sample data people. Hopefully there will be no other users within the range. If there are then the sample data installation will fail gracefully. With a new Issue Tracker component install the auto increment value is set in the table creation. If an existing installation there may already be people in the it_people table but their id's will be higher than that of the super user.

Joomla 2.5.6 changed the possible values of the Super User id to a random valve, and it seems to have also at the same time set the auto increment value for that table to be higher than the given id. So any new users would automatically get higher user id values. So these should not get created in the lower range. The problem comes when the super user falls in our range and other users follow on sequentially. i.e. The random Super user id gets set to say 15, then l6, 17, 18 etc can be used by other registered users. This would mean we would have to keep track of which ids we assigned to out sample users so that we could remove them again. Very messy especially as we would have to change the identified_by field values in the it_issues table for that sample data. Could be done but is it worth it?

We are not aware of any other component that also uses sample data in this way, but you never know.

Checks are implemented to try and catch any situation where an attempt is made to remove the sample data where it is not installed and there are id’s in use within the sample data normal range. However it has not been possible to test for every possible end case, so care should be exercised when trying remove the sample data especially if it was not installed in the first place.

Chapter 10. Version Changes

The following is a list of the principle changes that have occurred during the recent releases.

For transparency and insight into our release cycle, and for striving to maintain backward compatibility, our Joomla components are generally maintained under the following Semantic Versioning guidelines as much as possible. Releases will be numbered with the following format: <major>.<minor>.<patch> And constructed with the following guidelines: Breaking backward compatibility bumps the major (and resets the minor and patch). New additions without breaking backward compatibility bumps the minor (and resets the patch) Bug fixes and miscellaneous changes bumps the patch.

Joomla 3.3.x (and above) versions

Important

The future Version 1.7.x of Issue Tracker will be created only for Joomla 3.3 and above. It is not intended or expected to run upon Joomla 2.5 which went out of official Joomla support at the end of 2014.

Joomla 2.5/3.x combined versions

Note

These releases run upon Joomla 2.5 and Joomla 3.x from the same installation file.

Issue Tracker 1.6.8

~ Add check for REPORT tag in message template bodies, where it is not valid.

~ Change translator credits to link to a site article instead of being hard coded in the release.

! Remove Akeeba restore points since it is no longer supported by Akeeba in Joomla 3.4 and above.

Correct language string used for autoclose status check. Missing underscore in string.

Correct back end sort of in issue list on project field.

Fix handling of phone key from profile in system plugin.

Fix handling of email updates for issues.

+ Add debug logging parameter to display more specific debugging messages in log.

+ New XMAP plugin added for site map generation.

Modify cron handling to handle alternative alias formats.

Fix checking of custom fields access levels in FE edit form.

+ Add ability to specify the default progress record access, published state and privacy defaults.

Fix problem with captcha not being checked on front end issue form submission.

Modify BE issue list view so that 'private' issues can not be published in line with issue model.

Modify issue list controller to filter out private issues for publish status so that change counts are correct.

Allow for archive state value of 2 where it was formally -1. Both are now allowed for.

Fix problem in FE when unpublished issue state being changed to published when the component default is published.

Fix date display to allow for server offset in email messages and log display.

Correct display of assignee name in FE form.

Modify 'relaxed' scheduled email update detection of issue number in mail header.

Change checks on 'assigned_to' field on issue save.

Issue Tracker 1.6.7

Fix update of alias if one of the alternative formats chosen.

~ Change system plugin to use default notification values in synchronised users.

Correct logic on call to message sending when alternative alias type used.

+ Complete implementation of access level controls upon custom fields.

~ Prevent error message in log about SMS configuration if we are not sending SMS anyway!

Progress record update message not clear enough and missing issue number in log.

+ Add ability to specify custom fields in message template bodies.

~ Increase size of message template subject line to 64 characters.

+ Add ability to send an auto-close message to the user when an issue is auto closed by the cron task.

+ If Joomla user profile is enabled and phone number is a valid specification, synchronise with it_people table in system plugin.

+ Add alternative alias formats support to cron email fetch tasks.

Correct a couple of malformed language strings. Clean up unused language strings.

+ Add check feature for issue identifier notification setting when an issue is edited/created by an issue admin/staff in the front end.

+ Add additional check in autoclose task to ensure that closed status and customer waiting status are not identical.

+ New message template for Issue Summary Report.

+ New message template for Issue Overdue Report.

Issue Tracker 1.6.6

Fix back end Ajax sort of projects.

~ Modify compound key on it_people person_name and email fields to be 240 chars together on new installs. Existing installs stay as they are.

~ Change People table phone index so that it is not a unique index.

~ Update copyright year to 2015

Fix problem saving of a custom field group.

Fix problem of install text not expanding out on a fresh install.

Fix custom field group cancel in form.

~ Display published field as an option in custom field group item display.

~ Modify credits so that they have a link to the Transifex profile. Joomla 3 only.

Fix SQL error on new installs.

Issue Tracker 1.6.5

~ Remove last traces of all JRequest and $app->getCfg() usages which are deprecated.

~ Modify back end list views to use drag and drop ordering. (Joomla 3.3)

~ Modify back end item views to make better use of the page and standard Joomla layouts.

~ Modify display size of description field in backend item views for Type, Priorities, Status etc.

Fix display of custom fields in back end edit when we have an already defined field to remove unwanted fields.

~ Change front end project drop down list to only display projects for which the user has access.

~ Update credits with new translations (Catalan, Slovak and Swedish).

+ Add new feature to define different issue types per project. Joomla 3.3 only.

+ Add new feature to download issue attachments in the front end. See documentation for details and implications.

+ Add new identified_date filter to FE issue list. Only shown if identified_date is also shown.

~ New interface to AcySMS to permit sending of SMS notifications.

Fix situation where a user update email notification was not being send.

Fix display of custom fields when only one project is specified on the create menu item which is not the default project.

Issue Tracker 1.6.4

~ Only display advanced audit tab in back end if advanced auditing is enabled. Also controls display of trigger creation icon in Control Panel.

~ Add additional checks to front end form for the strange situation where user profile has the editor field missing.

Correct display of custom field error reports. Mainly applicable to Joomla 3.x but involved a rewrite of some common code.

Fix display of progress data in issue display in front end. Test was incorrect.

~ Add some additional checks for embedded https addresses in cron email. Also provide some optional messages on invalid words and links counts in email messages.

+ Add new checks to ensure access field is set for saving of progress data in issue save.

+ Add export functionality of Issues to create a csv file in the back end. Joomla 3.x only.

~ Supply defaults for back end access settings for issues and progress records. Formally left to default.

~ Modify URL link in emailed issue messages to remove menu id.

Fix front end issue selector for non published issues when being viewed by the original issue identifier.

~ Added log display to side panel for Joomla 3.x to make selection easier.

+ Add an optional control for the display of the project filter in front end issue list.

Fix ordering direction parameter pickup in front end issue list.

+ Add quote checks around saving progress field in front end issue save method.

+ Add issue number above tabs in back end issue edit for existing, not a new issue.

Correct default issue privacy flag when default if set to private in front end.

Correct pagination in front end list views for Joomla 3.3.

~ Change email routine such that only the last progress record is sent rather than all of the progress records for an issue.

~ Change email routine (updates) such that the identifier is sent private as well as public progress records. Formally only progress records marked as public were emailed.

~ Continued update of phpDoc comments and code cleanup.

Issue Tracker 1.6.3

Fix undefined variable $isadmin in front end issue view.

Fix undefined variable in front end issue model SQL statement identified_by. At same time refine query to handle registered user access of public or private issues.

Fix line up of front end issue items seen in Joomla 3.3

~ Change redirection to calling page if the issue creation is canceled. Formally returned to the home page.

Fix test that checks for a change in visibility from public to private and which changes the published state to unpublished to work correctly.

Fix PHP error in dates helper file.

~ Add additional checks around the use of an editor in the front end form.

~ Update translation credits

+ Add option to display issue status in Latest Issues Module. Also make display of close date an option.

~ Make specification of single person mandatory in the front end menu item. Also add additional check in view itself.

Fix popup issue view in Latest Issues Module.

+ New option to display issue type in front end list displays.

+ Extra checks for database log_bin setting turned on, SUPER privilege and log_bin_trust_function_creators setting.

~ Modify icon settings for delete icon for Joomla 3.x.

Correct return address when an issue is deleted in the front end. It cannot return to the issue display since we have deleted it, so display home page.

~ Only display attachments tab in back end if attachments are enabled. Also checks if IMAP attachments are enabled.

Issue Tracker 1.6.2

This release corrects a few problems discovered in the earlier 1.6.1 release.

+ Add ability to specify additional parameters on mail fetch task to specify a mail server user and password, and the default project.

Fix adding of blank lines when progress information added to table. Impacts front end and back end.

Fix display of unpublished custom fields in back end when an issue is created.

~ Alter scheduled sending of summary and overdue reports to not send reports if email notification flag not set.

~ Change so that username is always generated when saving a user if not specified (when creating an issue).

~ Change redirection so that it displays the 'newly' created issue when issue is created in front end.

~ Modify front end behaviour such that a guest user raising an issue will not see it unless it is published. i.e. The default issue state is published.

Fix strange looping problem seen on one system caused by a suspected PHP 5.3 bug.

Fix SQL error when displaying staff assigned issues list in front end.

+ Add option to specify an alternative (simpler) issue number (alias).

~ Handle situation where a request to view an invalid issue results in issue not found more gracefully in front end.

Fix log list view check all toggle.

Fix single project menu view not passing project id to view.

Fix custom field dropdown selection not picking up correct value.

~ Permit issue admin and staff member to ignore published state of an issue in the front end and to see the details.

Fix front end projects list view links for Joomla 3.x.

~ Change placement of audit panel in back end progress edit.

Correct project filter in front end issue list where all projects are displayable.

Correct check for time added to date fields.

~ Change calendar fields all date fields are stored in the database as UTC and displayed in the appropriate time zone.

+ New date helper file for handling time zone conversions.

~ Modify handling of issue target resolution date field.

+ Add getStateQuery override routine to Issue Tracker finder plugin.

~ Simplify back end audit template files to remove duplication.

Issue privacy field missing from Joomla 3.3 view.

+ Add issue privacy check into front end issue fetch.

~ Modify project drop down list to only display published and unpublished project.

~ Modify front end issue and project lists so that staff as well as admin can see unpublished projects in the project drop down list.

~ Modify front end issue display so that admin and staff can view progress information irrespective of component setting.

Issue Tracker 1.6.1

This release corrects a few problems discovered in the earlier 1.6.0 release and introduces a new scheduled task to automatically close open issues in a 'waiting for customer' state.

Fix saving of an issue in back end on Joomla 3.x systems.

Fix handling of ISO-8859-2 characters for cron email fetching.

Fix searching in pactions.

Fix missing issue alias in progress records in back end on Joomla 3.x systems

+ Add auto close cron task.

~ Update translation credits

~ Change value for JQuery location to remove http: prefix, so that it works with https accessed sites.

~ Change drop down list for users to include email address so that it is easier to identify users since username is not unique.

+ Add filter of email addresses to scheduled email fetch task to help eliminate SPAM.

Issue Tracker 1.6.0

This contains two new features which are a restructured Progress History and the ability for a site administrator to create Custom Fields for capturing additional information upon raised issues.

+ Add ability to have custom fields for issues.

~ Change progress recording such that progress information is stored in its own table.

~ Change code to allow for changes in Joomla 3.2 API relating to redirection.

~ Review usage of strings in admin side of the site.

~ Remove restriction on only permitting one file to be attached in the front end.

+ Include the attachments present on an issue in the front end edit form, if attachments are enabled.

~ Only display Issue Resolution in front end if there is a resolution to display. i.e. Open issues will not display resolution details.

+ Add ability for an attachment to have a user provided title.

+ Add encoding for Cron submitted email for subject header.

+ Numerous minor fixes and changes.

Issue Tracker 1.5.2

This release corrects any remaining problems found in the earlier releases in this branch.

~ Change copyright notice to 2014.

Fix additional of additional information by identifier in front end.

Fix reset of state flag on issue in front end on non-closed issues.

Correct return address in front end when using IIS web server.

Correct erroneous semi colons in language strings.

Correct determination of anonymous user id.

~ Update hathor templates overrides used within Joomla 3.2

+ Add a default assignee for each project.

~ Change front end issue save such that project defined assignee is checked prior to component default assignee.

Issue Tracker 1.5.1

This contains fixes to problems found since the release of the earlier 1.5.0 version.

Fix save of issues in front end.

Fix specification of update servers in XML file.

~ Update credits in CPanel by adding a new tab.

Correct default setting of resolution date in front end, if not explicitly specified.

~ Use custom string for tags instead of JGLOBAL.

Correct logic error in usage of global notifications setting in front end.

Issue Tracker 1.5.0

This contains all the fixes and features of the 1.4.2 and 1.3.4 releases.

~ Combine Joomla 2.5 and Joomla 3.2 versions into a single branch.

+ Add Advanced Change history auditing option.

+ Add optional filter to front end people list display.

~ Code inspection resulting in cleaner code, CSS etc.

~ Latest Issues module included in standard distribution.

Fix sorting on id in log display.

Fix save of new projects on some Joomla installations.

Correct Admin project save method.

Correct project state filter.

+ Add PHP CLI Cron tasks.

+ Add Front end invoked CRON tasks.

Chapter 11. Possible enhancements

The following enhancements are under consideration and may appear in a future release.

1. Development of some more comprehensive reports, which may be presented within a ‘Reports tab’ along with graphs and pie charts etc. This may well involve making use of Google Chart API to generate the graphs from data extracted from the database by SQL queries.

2. Add ability to 'group' users together in teams, and to permit assignment of issues and projects to the teams

3. Import/Export facility to be able to move issues and projects between different sites easily.

4. Multi-language implementation so that sites with multiple languages in use can have entries in multiple languages. Note this is separate from the current ability to have the site in any specific language provided a language translation of the text is available.

5. Additional mailing options so that interested parties or groups can receive email notifications when an issue change occurs.

Part II. Appendices

Table of Contents

Appendix A. GNU General Public License version 3

Version 3, 29 June 2007

Preamble

The GNU General Public License is a free, copyleft license for software and other kinds of works.

The licenses for most software and other practical works are designed to take away your freedom to share and change the works. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change all versions of a program - to make sure it remains free software for all its users. We, the Free Software Foundation, use the GNU General Public License for most of our software; it applies also to any other work released this way by its authors. You can apply it to your programs, too.

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