SpiraTeam™ User Manual

Version 2.2

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Contents

1. Introduction

SpiraTeam™ is an integrated Application Lifecycle Management (ALM) system that manages your project's requirements, releases, test cases, issues and tasks in one unified environment:

SpiraTeam™ contains all of the features provided by SpiraTest® - our highly acclaimed quality assurance system and SpiraPlan™ - our agile-enabled project management solution. With integrated customizable dashboards of key project information, SpiraTeam™ allows you to take control of your entire project lifecycle and synchronize the hitherto separate worlds of development and testing.

This user manual outlines the features and functionality available in SpiraTeam™, and demonstrates how to use the application for managing the quality assurance and project management processes on a typical project.

1.1. Quality Assurance

Quality Assurance is a key component of the Software Development Life-Cycle (SDLC), which needs to be integrated into the planning and management of a program or project from its inception. Too often though, QA is implemented as *Quality Control* - whereby testing that the required functionality works as expected, is performed at the end, when it is most costly to make corrections and changes.

To manage QA across a project from day one, it is imperative that the original requirements are documented together with the use-cases that validate the desired functionality. These use-cases then form the basis of the test scripts that can be executed to validate that the functionality has been correctly built, and that the requirements have been satisfied. During the execution of these test scripts, failures may occur, which are recorded as *incidents* - either to be fixed or documented depending on the severity.

Typically, these activities require people to use at least three different types of software:

- Requirements Management
- Test Script Management
- Defect / Issue / Bug Tracking

However, this stove-piped approach has many limitations and drawbacks, most importantly the fact that there is no *traceability* between the different artifacts. How can the project manager know that all the requirements have been tested? Conversely, how can the developer know which test script was responsible for a recorded bug – needed to accurately reproduce the issue?

1.2. Project Management

As described in the Agile Manifesto, traditional waterfall software methodologies and lifecycles have failed to delivery projects on-time and on-budget. In addition, many systems built this way will fail to provide the expected business value as there is no ability to quickly refine the requirements as the project progresses.

Consequently software development has been transformed with these new ideas and concepts, with new methodologies such as Extreme Programming (XP), Scrum, DSDM and AUP becoming common. However the traditional tools of project management - requirements specifications, high level project plans, GANTT charts, white-board schedules and top-down task management - are too cumbersome and not well suited.

SpiraTeam™ provides a complete Agile Project Management System in one package, that can manages your project's requirements, releases, iterations, tasks and issues in one environment, fully synchronized.

2. Functionality Overview

This section outlines the functionality provided by SpiraTeam™ in the areas of requirements management, test case management, release planning, iteration planning, incident tracking, task management and project / user management.

2.1. Requirements Management

SpiraTeam™ provides the ability to create, edit and delete project scope / requirements in a hierarchical organization that resembles a typical scope matrix. Each requirement is associated with a particular importance level (ranging from critical to low) and a status identifier that designates where the requirement is in the development lifecycle (requested, planned, in-progress and completed). In addition, each requirement is mapped to one or more test cases that can be used to validate that the functionality works as expected. This mapping is called the “Requirement Test Coverage”, since the test cases “cover” the requirement so that if all the tests can be executed successfully, then the requirement is validated.

At the same time, from a development perspective, the team begins initial estimation of the lowest-level requirements in the requirements matrix to determine the complexity and associated resourcing. Once the high-level release schedule has been determined, the requirements can then be prioritized and scheduled against the appropriate release according to their business priority.

Once the release is underway, the requirements are further decomposed into their constituent low-level project tasks that can be assigned to the project team. The system will track the progress and revised estimates for the tasks and display them against the requirements so that risks to the schedule can be quickly determined.

2.2. Test Case Management

SpiraTeam™ provides the ability to create, edit and delete project test cases that are stored in a hierarchical folder structure that resembles Windows Explorer ®. Each test case consists of a set of test steps that represent the individual actions a user must take to complete the test. These test steps also contain a description of the expected result and any sample data elements that the tester should use when performing the action. When a user executes a test case, the results are stored in a test run that contains the success/failure status of each test step as well as the actual observed result that the tester experienced.

In addition each test case is mapped to one or more requirements that the test is effectively validating, providing the test coverage for the requirement. During the execution of the test case, each failure can be optionally used to record a new incident, which can then be managed in the incident tracking module (see below). This provides complete traceability from a recorded incident to the underlying requirement that was not satisfied.

To streamline the assignment and tracking of multiple test cases, SpiraTeam™ allows users to select groups of test cases and arrange them into *test sets*. Each test set can contain test cases from a variety of different folders and can be associated with a specific release of the system being tested.

2.3. Release Planning

SpiraTeam™ provides the ability to track different versions / releases of the application being tested. Each project in the system can be decomposed into an unlimited number of specific project releases, denoted by name and version number. Requirements and Test Cases developed during the design phase can then be assigned to these different releases. When a tester executes a series of test cases, they are able to choose the version of the project being tested and the resulting test run information is then associated with that release.

From a project planning perspective, the releases are the major milestones in the project, which are further sub-divided into iterations which are separate mini-projects with associated project scope and tasks. The project's requirements are scheduled at a high-level against the releases and the detailed tasks are scheduled against specific iteration within the release.

In addition, all incidents raised during the testing process are associated with this release, allowing the development team to easily determine which version of the project is affected. Finally as the incidents are resolved and verified during the testing phase, the appropriate release can be selected to indicate which release the incident was resolved and/or verified in.

2.4. Iteration Planning

As described in section 2.3, in addition to high-level project releases, SpiraTeam™ can also track the individual iterations that comprise a release, giving the project manager the option to manage agile methodology projects within the SpiraTeam™ environment. Unlike the release planning stage, where high-level requirements are estimated and scheduled, the iteration planning phase involves assigning each of the tasks in the project backlog against a specific iteration until the available effort in the iteration has been completely allocated.

When you first create iterations, you specify the start and end-dates together with the notional number of project resources assigned to the iteration and any non-working days. SpiraTeam™ uses this information to calculate the planned effort available to the iteration, from which it will subtract the estimated task effort values to determine how much effort is available to schedule.

2.5. Incident Tracking

SpiraTeam™ provides the ability to create, edit, assign, track, manage and close incidents that are raised during the testing of the software system under development. These incidents can be categorized into bugs, enhancements, issues, training items, limitations, change requests, and risks, and each type has its own specific workflow and business rules. Typically each incident is raised initially as a 'New' item of type 'Incident'. Following the review by the project manager and customer, they are changed to one of the other specific types, given a priority (critical, high, medium or low), and status changed to 'Open'. Once it is assigned to a developer for fixing, it is changed to status 'Assigned'.

The developer now works to correct the incident, after which time its status changes to 'Fixed' or 'Not Reproducible' depending on the actions taken (or not taken). Finally the project manager and customer verify that it has indeed been fixed, and the status is changed to 'Closed'. SpiraTeam™ provides robust sorting and filtering of all the incidents in the system, as well as the ability to view the incidents associated with particular test cases and test runs, enabling drill-down from the requirements coverage display, right through to the open incidents that are affecting the requirement in question.

2.6. Task Management

As described above, in addition to storing the requirements for a project, SpiraTeam™ includes the capability of drilling each lowest-level requirement down further into a series of work items called 'Tasks'. These tasks are the discrete activities that each member of the development team would need to carry out for the requirement to be fulfilled. Each task can be assigned to an individual user as well as associated with a particular release or iteration. The system can then be used by the project manager to track the completion of the different tasks to determine if the project is on schedule.

2.7. Projects and Users

SpiraTeam™ supports the management of an unlimited number of users and projects, which can be administered through the same web interface as the rest of the application. All artifacts (requirements, tests and incidents) are associated with a particular project, and each user of the system can be given a specific role for the particular project. So, a power user of one software project, may be merely an observer of another. That way, a central set of users can be managed across the enterprise, whilst devolving project-level administration to the manager of the project. In addition to these administration functions, each user profile and project has its own personalized dashboard view of all the pertinent and relevant information. This feature reduces the information overload associated with managing such a rich source of project information, and allows a single user or project snapshot to be viewable at all times for rapid decision-making.

2.7. Miscellaneous

2.7.1. Artifact Relationships

The sections above have outlined the different features and functions available in the system, and have described the various artifacts managed in the system (e.g. projects, users, requirements, tests, etc.). To aid in understanding how the information is related, the following diagrams illustrates the relationships between the different artifacts and entities:

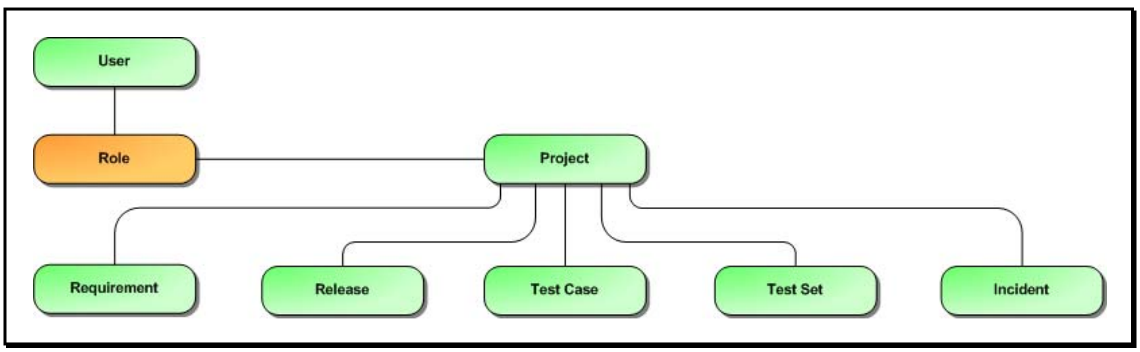


Figure 1: The main entities that comprise a SpiraTest project.

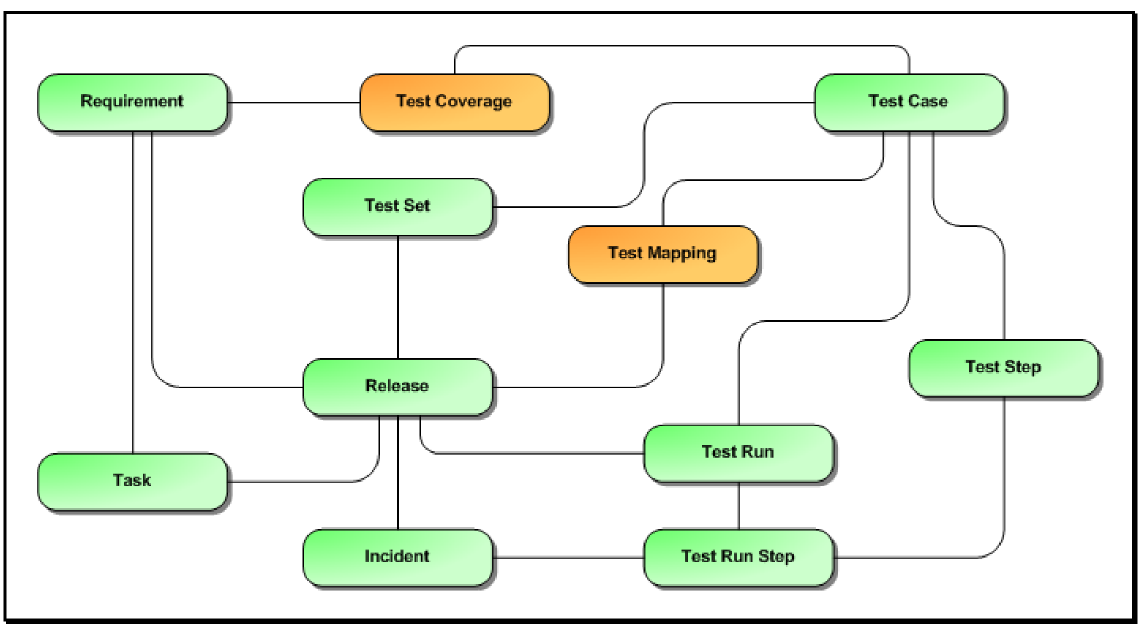


Figure 2: The relationships between the various SpiraTest entities

With these overall concepts in mind, the rest of this help manual will outline the functionality in each of the SpiraTeam™ screens, and provide specific information on how to manage each of the artifacts illustrated above. Note that this manual does not explain the Administration-level functionality of the system; for that, please refer to the *SpiraTeam™ Administration Guide*.

2.7.2. Artifact Naming Conventions

On various screens in the system, you will see lists of artifacts (requirements, test cases, etc.) together with a unique identification number. In order to make it easier to recognize at a glance which type of artifact the identification number refers to, SpiraTeam™ uses a system of two-letter prefixes which help identify the type of artifact being displayed. The current prefixes used by the system are:

Artifact	Prefix	Artifact	Prefix
Project	PR	Incident Type	IT
Requirement	RQ	Incident Priority	IP
Release	RL	Incident Severity	IV
Test Case	TC	Workflow	WK
Test Step	TS	Workflow Transition	WT
Test Run	TR	Custom Property Values	PV
Test Run Step	RS	Project Role	RX
Incident	IN	Task	TK
Incident Status	IS	Test Set	TX
Custom List	CL	Document	DC
Document Type	DT	Document Folder	DF

In addition, certain artifacts in the system are displayed with an icon that helps distinguish them from each other, and provides additional context on the state of the artifact:

Icon	Artifact Description
	Summary Requirement
	Detailed Requirement
	Test Folder
	Test Case with Test Steps
	Test Case without Test Steps
	Test Set
	Test Run
	Release
	Iteration / Build
	Task
	Incident
	Artifact has an Attachment

3. User/Project Management

This section outlines how you can log into SpiraTeam™, view your personalized home-page that lists the key tasks that you need to focus on, and drill-down into each of your assigned projects in a single dashboard view. In addition to your personal homepage, each of your projects has its own dashboard that depicts the overall project health and status in a single comprehensive view.

3.1. Login Screen

Upon entering the SpiraTeam™ URL provided by your system administrator into your browser, you will see the following login screen:

You need to enter your given *user-name* and *password* into the system in the appropriate boxes then click the <Log In> button to gain access to the application. Normally you only remain logged in to the application whilst in active use, and you will be asked to log-in again after either closing the browser or 20 minutes of inactivity. To prevent this, and stay logged-in to SpiraTeam™ regardless of browser window closing or inactivity, select the “Remember Me” check-box before clicking the <Log In> button. Note that this setting is specific to each individual computer you are logging-in from, and that it will be reset when you explicitly log-out with the log-out link (described in more detail in section 3.3).

If for any reason you are unable to login with the provided username/password combination, and error message will be displayed. If you cannot remember the correct log-in information, click on the “Forgot user name / password” link and your password will be emailed to the email address currently on file.

If you don’t have a SpiraTeam™ account setup, clicking on the “Don’t have an account?” link will take you to a form that you need to fill-in, which will be forwarded to the system administrator, who will actually create your account.

In addition, the system will prevent you logging on to the system with the same username *at the same time* on multiple computers. This is to avoid the system getting confused by a user trying to make contradictory actions at the same time. If for any reason you do try and log in to the system when you already have an active session in progress, you will see the following screen:

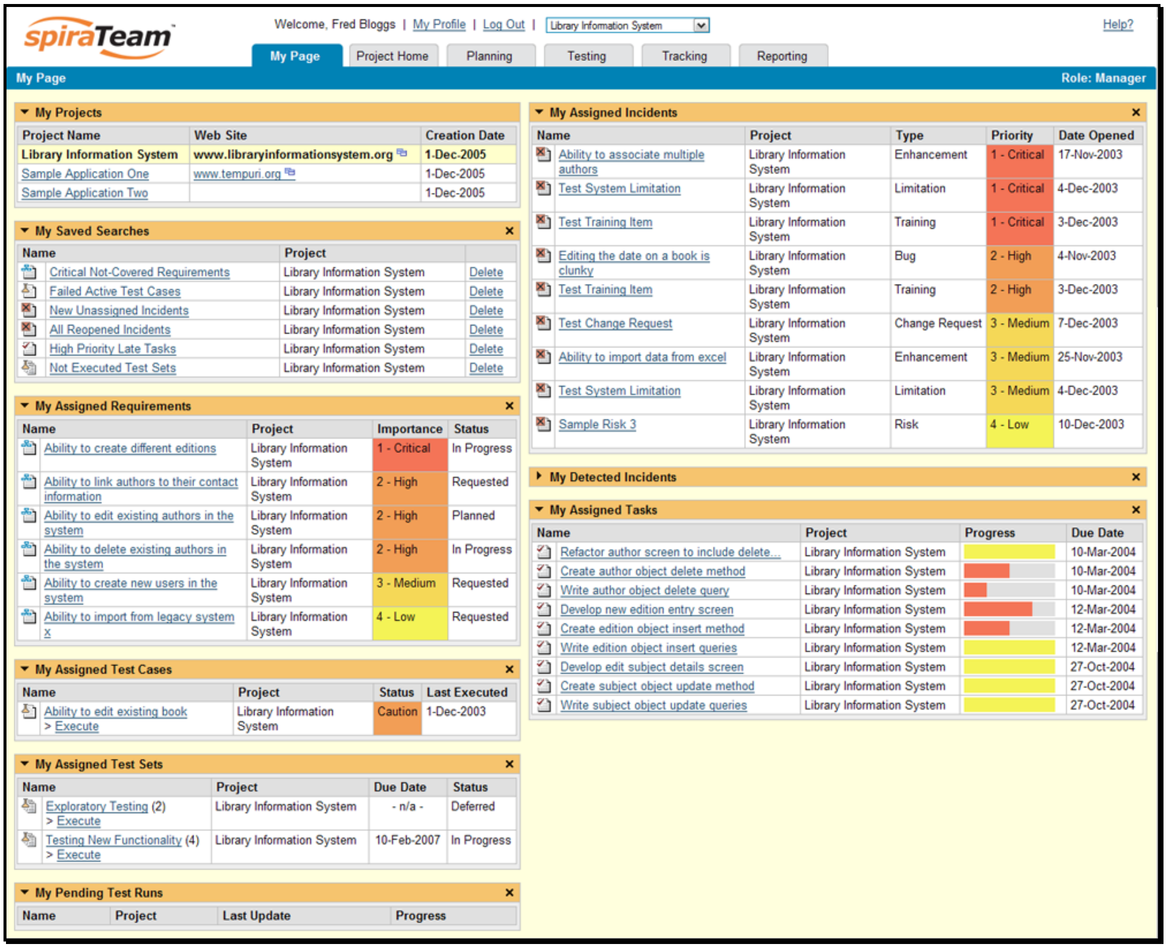
You have two choices: you can either click the "Log Out" link and try logging in as a different user, or if you want to log-off any other active sessions (e.g. you closed the browser and the session is still listed as active), simply click the "Sign Off The Other Locations" link, and you will be logged in to the application.

Since SpiraTeam™ is licensed to organizations for a specific number of concurrent users – unless they have purchased an unlimited Enterprise license – only a fixed number of users may be active at the same time. So, for example if an organization has a five (5) concurrent user license and a sixth user tries to log-in, they will be presented with the following screen:

This means that one of the other users who is already logged-in, needs to click the "Log Out" button so that one of the concurrent licenses is freed for your use. If the user has logged out by closing the browser, the system may not have detected the logout. In this case, the other user needs to log back in, and then click the "Log Out" link.

3.2. My Page

Once you have successfully logged in, you will initially be taken to your personalized home page called “My Page”:



Note that once you have successfully logged-in and chosen a project, SpiraTeam™ remembers this selection, and on subsequent log-ins will automatically select that project, and highlight it for you in the “My Projects” list (see 3.2.1 below).

Your homepage contains all the information relevant to you consolidated onto a single page for you to take immediate action. Each of the ‘widgets’ displayed on the page can be minimized by clicking on the arrow icon (▾) in the top-left of the window, or closed by clicking-on the cross icon (✖) in the top-right of the window. This allows you to customize your page to reflect the types of information that are relevant. If you have closed a widget that you subsequently decide you want to reopen, you can reset the page display by clicking the “Restore Display Settings” hyperlink at the bottom of the page.

When you load your ‘My Page’ for the first time it will consists of the following main elements:

3.2.1. My Projects

This section lists all the projects you have been given access to, together with the name, description, web-site and date of creation. To view the description of the project, simply position the mouse pointer over the link, and a tooltip window will popup containing the description.

When you initially view the page, all of the projects will be shown as links, in normal type, with a white background. When you click on a project to view, you will be taken to that project's home-page, and that project will be set as the current project. That project will now appear in your home-page in bold-type with a yellow background (see above screen-shot). To change the currently selected project, simply click on the link of another project name.

You can always change your current project by clicking on the drop-down-list of projects displayed on the global navigation bar to the right of the "Log Out" link.

3.2.2. My Saved Searches

This section lists any filters/searches you have saved from the various artifact list screens throughout the application. This allows you to store specific combinations of searches that you need to perform on a regular basis (e.g. display all newly logged incidents, display all requirements that are completed but have no test coverage).

The name of the saved search is displayed along with an icon that depicts which artifact it's for and the project it refers to. Clicking on the name of the saved search will take you to the appropriate screen in the project and set the search parameters accordingly. Clicking the "Delete" link next to the saved search will delete it.

3.2.3. My Assigned Requirements

This section lists all the requirements you have been made owner of, across *all the different projects* you are a member of. This typically means that the project manager has assigned you to be responsible for either developing the supporting test cases or decomposing the requirement into its detailed work breakdown structure of project tasks. The requirement name is displayed, along with its status (requested, accepted, in-progress, etc.) and its importance.

3.2.4. My Assigned Test Cases

This section lists all the test cases you have been made owner of, across *all the different projects* you are a member of. This typically means that the project manager has assigned you to be responsible for executing the assigned test scripts. To aid in this process, the script name is displayed, along with its last execution status (failed, passed or not-run) and date of last execution. This enables you to see how recently the tests have been run, and whether they need to be re-run.

If you click on the test-name hyperlink, you will be taken to the details page for this test-case (see section 5.2) and the project that the test-case belongs to will be made your current project. If you click on the ">Execute" link listed below it will actually launch the test-case in the test-case execution module (see section 5.4) so that you can easily retest failed cases.

3.2.5. My Assigned Test Sets

This section lists all the test sets (groups of test cases) you have been made owner of, across *all the different projects* you are a member of. This typically means that the project manager has assigned you to be responsible for executing the test cases contained within the test set against a specified release of the system under test. To aid in this process, the test set name is displayed, along with its status, the project it belongs to, the number of remaining test cases to be executed, and the date by which all the tests need to have been run.

If you click on the test-set name hyperlink, you will be taken to the details page for this test-set (see section 5.6) and the project that the test-set belongs to will be made your current project. If you click on the ">Execute" link listed below it will actually launch the test-cases contained within the test-set in the test-case execution module (see section 5.4) so that you can easily carry out your assigned testing task.

3.2.6. My Pending Test Runs

This section lists any test runs that you started executing in the test case module but haven't yet completed. Once a test case or test set is executed, a pending test run entry is stored in the system so that you can continue execution at a later date. Any pending test run can be either deleted or resumed by clicking on the appropriate link.

3.2.7. My Assigned Tasks

This section lists all the project tasks that you have been made the owner of across *all the different projects* you are a member of. This typically means that the manager of the project in question has assigned development tasks to you that need to be completed so that a release can be completed and/or a requirement can be fulfilled. The tasks are listed in ascending date order so that the items with the oldest due-dates are displayed first. In addition, each task is displayed with a progress indicator that graphically illustrates its completion against schedule. See section 8 – task management for details of the different progress indicators.

Clicking on the task name hyperlink will take you to the task details page. This page will describe the task in more detail, illustrate which requirement and release it is associated with, and also allow you to view the change log of actions that have been performed on it.

3.2.8. My Assigned Incidents

This section lists all the open incidents you are the owner of, across *all the different projects* you are a member of. This typically means that the project manager has assigned you to be responsible for resolving the incident. In the case of a bug, this can mean actually fixing the problem, whereas for other incident types (e.g. training item) it may mean simply documenting a workaround. In either event, this section highlights the open incidents you need to manage, ranked by importance/priority and categorized by type, with the open date displayed to give you a sense of the age of the incident.

Clicking on the incident name hyperlink takes you to the incident details page (see section 6.2) that describes the incident in more detail, and allows you to add new information or change its status to indicate actions taken. In addition, if you position the mouse pointer over the name of the incident, a more detailed description is displayed as a "tooltip".

3.2.9. My Detected Incidents

This section lists all the open incidents that you have detected, across *all the different projects* you are a member of. These incidents are not necessarily ones that you need to take an active role in resolving, but since you were the originator – either by executing a test case or just logging a standalone incident – you can watch them to make sure that they are resolved in a timely manner.

Clicking on the incident name hyperlink takes you to the incident details page (see section 6.2) that describes the incident in more detail, and allows you to add new information or change its status to indicate actions taken. In addition, if you position the mouse pointer over the name of the incident, a more detailed description is displayed as a "tooltip".

3.3. Global Navigation

Regardless of the page you are on, SpiraTeam™ will always display the global navigation bar, consisting of six section tabs (My Page, Project Home, Planning, Testing, Tracking and Reports) that correspond to the main activities that take place in the system, as well as three secondary links to “My Profile” and “Log Out” and “Help”. Under the various tabs are several secondary menu options that are displayed when you hover the mouse over the appropriate tab as illustrated below:

- **Project Home**
  - Project Home (described in Section 3.4)
  - Documents (described in Section 10)
- **Planning**
  - Requirements (described in Section 4)
  - Releases (described in Section 7)
  - Iterations (described in Section 7.3)
- **Testing**
  - Test Cases (described in Section 5)
  - Test Sets (described in Section 5.6)
- **Tracking**
  - Incidents (described in Section 6)
  - Tasks (described in Section 8)
  - Resources (described in Section 9)
- **Reports** (described in section 11)

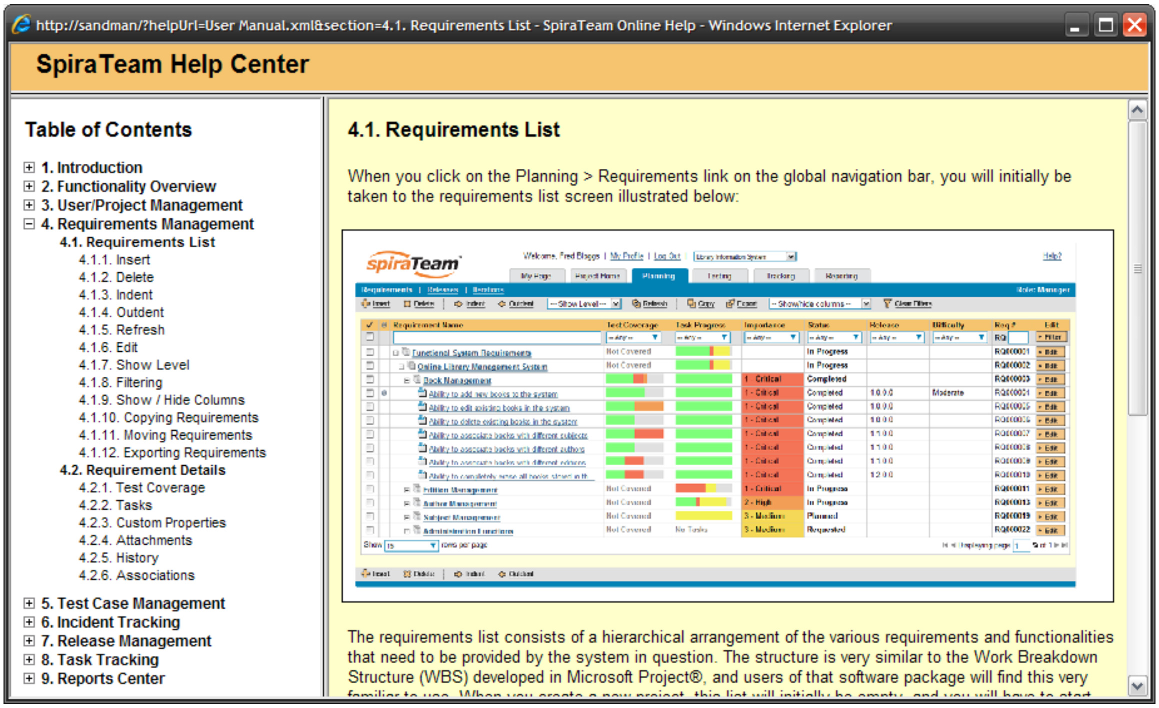
Note: The main tabs will take you to the appropriate artifact type (requirement, test case, incident, etc.) for the currently selected project. However if you haven’t selected a project, then clicking on any of the tabs will simply take you back to “My Page” so that you can select a project.

3.3.1. Log Out

Clicking on the “Log Out” link will immediately log you out of your current session and return you to the login page illustrated in section 3.1. If you had set the “Remember Me” option during your previous login, that setting will be reset; so if you want to avoid having to keep logging-in, you’ll need to re-check that box during your next log-in.

3.3.2. Help

Clicking on this link on any page will bring up the online version of this manual shown below:



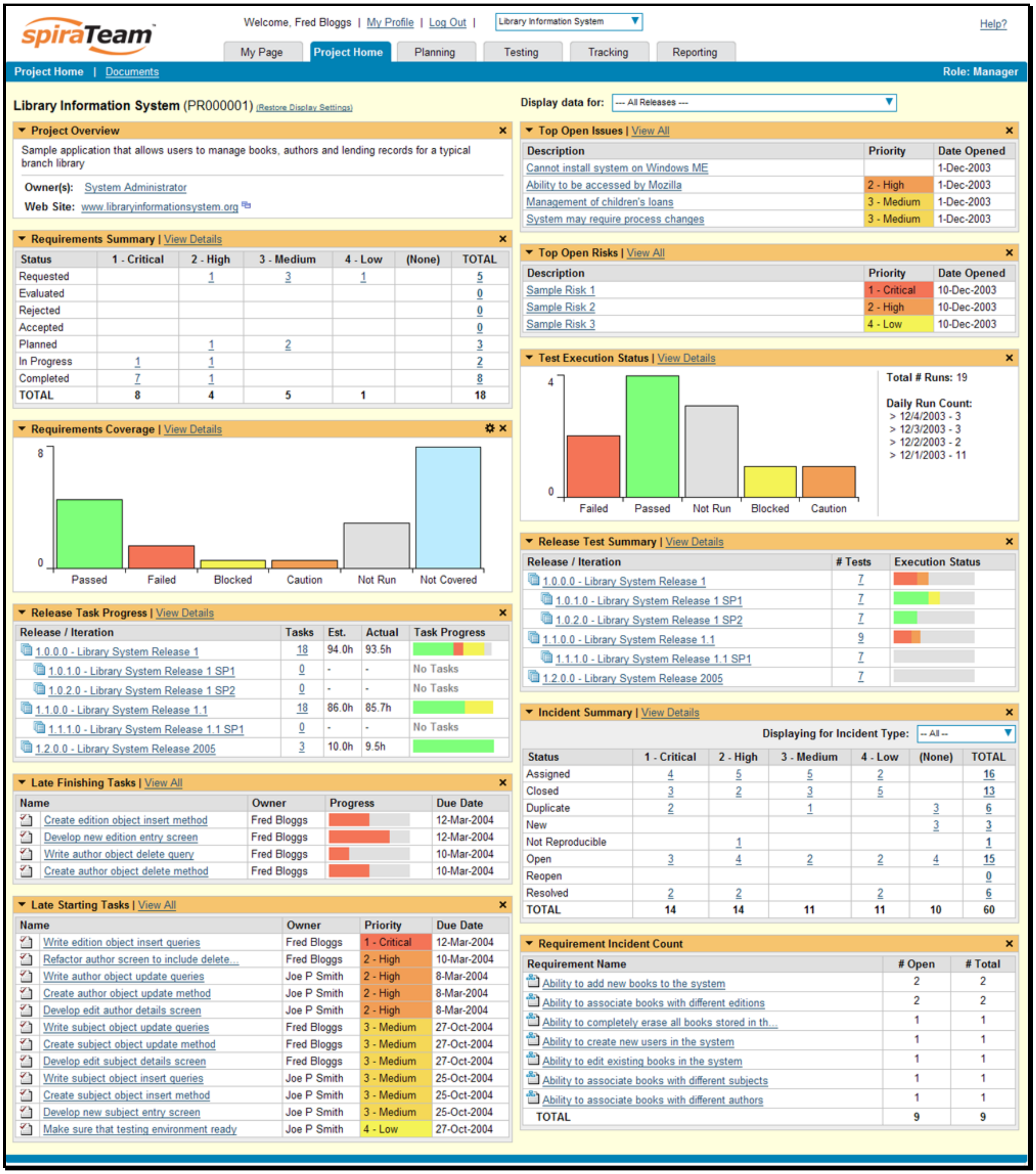
Clicking on any of the [+] expand links in the left hand table of contents will open up the detailed list of topics for each of the main areas of the system. In each area, clicking on one of the individual links will open the appropriate section in the help manual. By default, the reading-pane will open to the help item that is most closely related to the screen you happened to be on when you clicked the "Help" link.

3.3.3. Choose Project

Choosing a project from the list of your assigned projects in the drop-down-menu allows you to quickly and easily jump between projects regardless of the page you happen to be on. When you choose a project, you will be taken to the home page for that project (which is described in section 3.4 below).

3.4. Project Home

When you click on either the “Project Home” tab or the name of the project in the “My Page” project list, you will be taken to the homepage of the specific project in question:



This page summarizes all of the information regarding the project into a comprehensive, easily digestible form that provides a “one-stop-shop” for people interested in understanding the overall status of the project at a glance. It contains summary-level information for all types of artifact (requirements, test cases, incidents, etc.) that you can use to drill-down into the appropriate section of the application. *In addition to viewing the project home page, you can choose to filter by a specific release, to get the homepage for just that release (and any child iterations).*

In a similar manner to the ‘My Page’, each of the ‘widgets’ displayed on the project homepage can be minimized by clicking on the arrow icon (▼) in the top-left of the window, or closed by clicking-on the cross icon (✖) in the top-right of the window. In addition, certain widgets may allow you change their settings by clicking on the settings icon (⚙).This allows you to customize your view of the project to reflect the types of information that are relevant to you. If you have closed a widget that you subsequently decide you want to reopen, you can reset the page display by clicking the “Restore Display Settings” hyperlink at the top of the page.

Each of the sections that make up the homepage is described below:

3.4.1. Project Overview

This section displays the name of the project, together with a brief description, the web-site that points to any additional information about the project, and the names of the owners of the project.

3.4.2. Requirements Summary

This section consists of a summary table that displays the aggregate count of requirements in the system broken-down by importance (on the x-axis) and status (on the y-axis). This allow the project manager to determine how many critical vs. low priority enhancements are waiting to be implemented, vs. actually being implemented. In addition, it makes a distinction between those requirements simply requested and those actually planned for implementation, so the project manager can see what the backlog is between the customer’s demands, and the plan in place. Clicking on the “View Details” link at the top of the table simply brings up the project requirements list (see section 4.1), whereas clicking on the individual values in the cells will display the requirements list with the filter set to match the importance and status of the value.

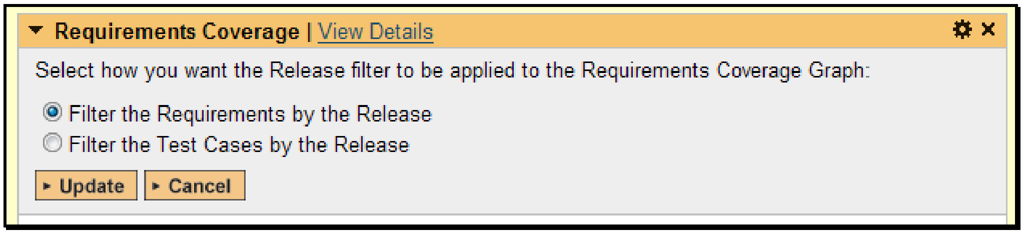
3.4.3. Requirements Coverage

This section consists of a bar graph that displays the aggregated count of requirements test coverage for the project. The Passed, Failed, Blocked, Caution and Not-Run bars indicate the total count of requirements that have tests covering them, allocated across the execution status of the covering tests. For example if a requirement is covered by *four tests*, two that have passed, one that has failed and one that has not yet been run, the counts would be passed = 0.5, failed = 0.25 and not-run 0.25. These fractional quantities are then summed across all the requirements to give the execution status breakdown of the covered requirements.

In addition to the five statuses for the covered requirements, the sixth (“Not Covered”) bar depicts the total number of requirements that have no tests covering them, putting the five other bars into perspective. Typically a project is in good health if the “Not Covered” bar is zero, and the count of “Passed” requirements is greater than “Failed”, “Caution” or “Not Run”. The greatest risk lies with the “Blocked”, “Not Covered” and “Not Run” status codes, since the severity/quantity of any bugs lurking within is not yet fully known.

If you position the mouse pointer over any of the four bars, the color of the bar changes slightly and the underlying raw data is displayed as a tooltip, together with the percentage equivalent. Clicking on the “View Details” link at the top of the table simply brings up the project requirements list (see section 4.1).

If you click on the settings icon you can further customize the behavior of the widget:



By default, when you filter the project home by release, this widget will filter the requirements coverage graph to only include requirements that are specifically mapped to the selected release. This is useful when you want to determine the test coverage of requirements that are being developed for a certain release.

However by changing the widget settings to "filter by the test case release' you will instead filter the requirements coverage graph to include all requirements, but only considering covering tests that are associated with the selected release. This is useful when you want to determine the regression test coverage of a specific release (i.e. does running all the tests relevant to this release cover all the necessary requirements).

3.4.4. Requirement Incident Count

This section displays a count of the total number of incidents, and the number of open incidents mapped against requirements in the system, sorted by the requirements that have the most open incidents first. This section is useful for determining the parts of the application that have the most instability, as you can look at the requirements that have yielded the greatest number of incidents. Clicking on any of the requirements hyperlinks will take you to the detail page for the requirement in question (see section 4.2).

3.4.5. Top Open Issues

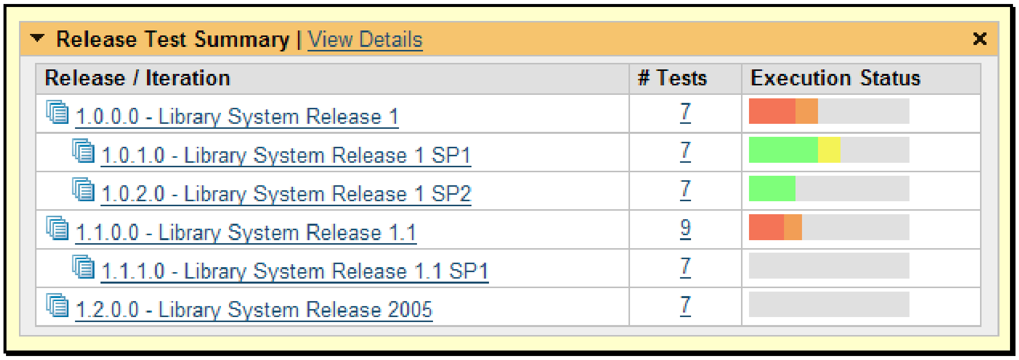
This section displays a breakdown of the *top five* issues logged against the project, in order of decreasing priority. Note that items not given a priority are listed at the top, since critical issues could be lurking in that list, and the project manager will want to immediately review these to assign priorities. Clicking on the issue item hyperlink will take you to the incident details page for the issue in question (see section 6.2).

3.4.6. Top Open Risks

This section displays a breakdown of the *top five* risks logged against the project, in order of decreasing priority. Note that items not given a priority are listed at the top, since critical risks could be lurking in that list, and the project manager will want to immediately review these to assign priorities. Clicking on the risk item hyperlink will take you to the incident details page for the risk in question (see section 6.2).

3.4.7. Release Test Summary

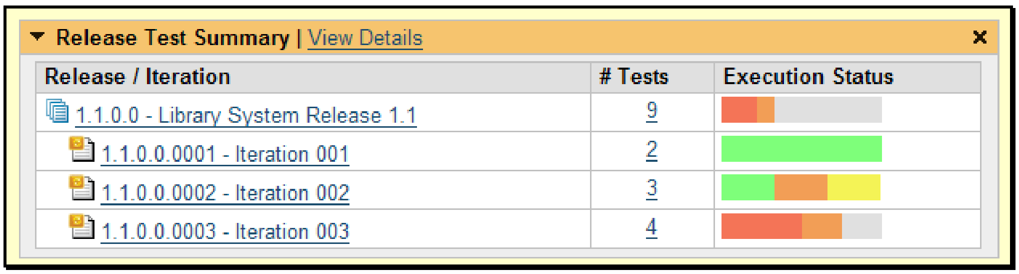
This widget allows you to quickly ascertain the test execution status of each of the active releases that make up the current project in one snapshot. Each release is displayed together with a graphical display that illustrates the execution status with different colored bars. In addition, if you hover the mouse over the graphical display it will display a tooltip that provides a more detailed description of the number of tests in each status.



▼ Release Test Summary | View Details

Release / Iteration	# Tests	Execution Status
1.0.0.0 - Library System Release 1	7	
1.0.1.0 - Library System Release 1 SP1	7	
1.0.2.0 - Library System Release 1 SP2	7	
1.1.0.0 - Library System Release 1.1	9	
1.1.1.0 - Library System Release 1.1 SP1	7	
1.2.0.0 - Library System Release 2005	7	

Each release will display the aggregate status of any test cases directly assigned to itself, together with the test status of any child iterations that are contained within the Release. Clicking on one of the releases will drill you down one level further and display the test execution status for the parent release as well as each of the child iterations separately:



▼ Release Test Summary | View Details

Release / Iteration	# Tests	Execution Status
1.1.0.0 - Library System Release 1.1	9	
1.1.0.0.0001 - Iteration 001	2	
1.1.0.0.0002 - Iteration 002	3	
1.1.0.0.0003 - Iteration 003	4	

3.4.8. Incident Summary

This section consists of a summary table that displays the aggregate count of incidents in the system broken-down by priority (on the x-axis) and status (on the y-axis). This allow the project manager to determine how many critical vs. low priority incidents are waiting to be addressed, and how many new items need to be categorized and assigned. Clicking on the "View Details" link at the top of the table simply brings up the incident list (see section 6.1), whereas clicking on the individual values in the cells will display the incident list with the filter set to match the priority and status of the value.

By default this summary table displays the total count of all incidents – regardless of type, however my changing the drop-down list to a specific incident type (e.g. bug, enhancement, issue, etc.), the project manager can filter the summary table to just items of that type.

3.4.9. Test Execution Status

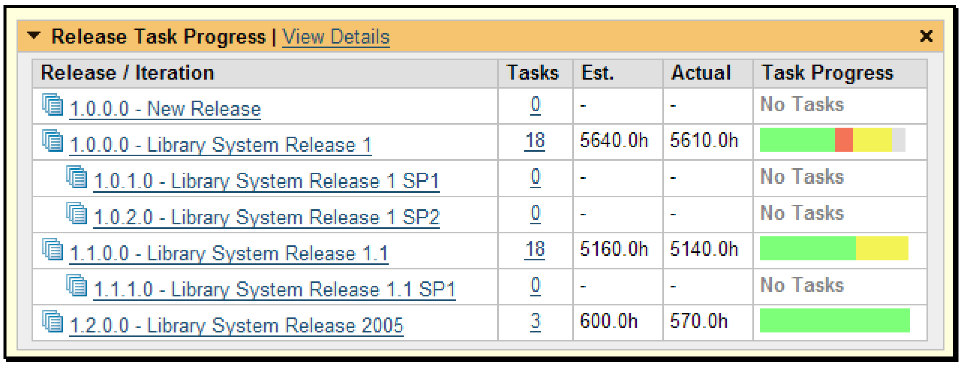
This section consists of a bar graph that displays the aggregated count of test cases in each execution status for the project. Note that this graph does not consider past test-runs when calculating the totals in each status (Passed, Failed or Not Run), it simply looks at each test-case and uses the last-run status as the best health indicator. Thus if a test case that previously passed, has subsequently failed upon re-execution, it will be considered a failure only.

If you position the mouse pointer over any of the three bars, the color of the bar changes slightly and the underlying raw data is displayed as a tooltip, together with the percentage equivalent. Clicking on the "View Details" link at the top of the table simply brings up the project test case list (see section 5.1).

In addition to the bar-chart, there is a also a display of the total number of test runs recorded for the project, and a list of the *five most recent* days of recorded test-runs, together with the daily count.

3.4.10. Release Task Progress

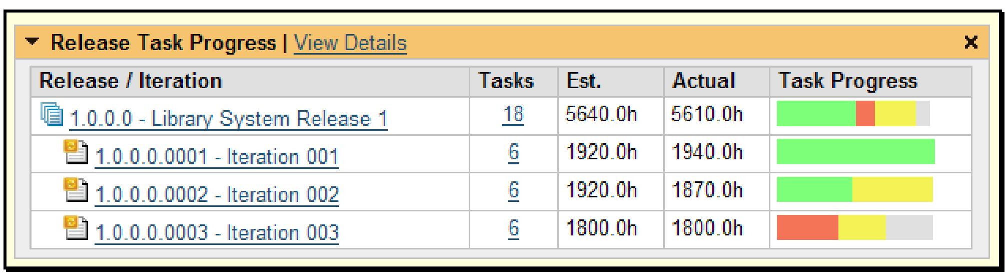
This widget allows you to quickly ascertain the task progress of each of the active releases that make up the current project in one snapshot. Each release is displayed together with a graphical display that illustrates the completion percentage and status with different colored bars. In addition, if you hover the mouse over the graphical display it will display a tooltip that provides a more detailed description of the number of tasks in each status.



Release Task Progress | View Details

Release / Iteration	Tasks	Est.	Actual	Task Progress
1.0.0.0 - New Release	0	-	-	No Tasks
1.0.0.0 - Library System Release 1	18	5640.0h	5610.0h	
1.0.1.0 - Library System Release 1 SP1	0	-	-	No Tasks
1.0.2.0 - Library System Release 1 SP2	0	-	-	No Tasks
1.1.0.0 - Library System Release 1.1	18	5160.0h	5140.0h	
1.1.1.0 - Library System Release 1.1 SP1	0	-	-	No Tasks
1.2.0.0 - Library System Release 2005	3	600.0h	570.0h	

Each release will display the aggregate progress of any tasks directly assigned to itself, together with the task progress of any child iterations that are contained within the Release. Clicking on one of the releases will drill you down one level further and display the task progress for the parent release as well as each of the child iterations separately:



Release Task Progress | View Details

Release / Iteration	Tasks	Est.	Actual	Task Progress
1.0.0.0 - Library System Release 1	18	5640.0h	5610.0h	
1.0.0.0.0001 - Iteration 001	6	1920.0h	1940.0h	
1.0.0.0.0002 - Iteration 002	6	1920.0h	1870.0h	
1.0.0.0.0003 - Iteration 003	6	1800.0h	1800.0h	

3.4.11. Late Finishing Tasks

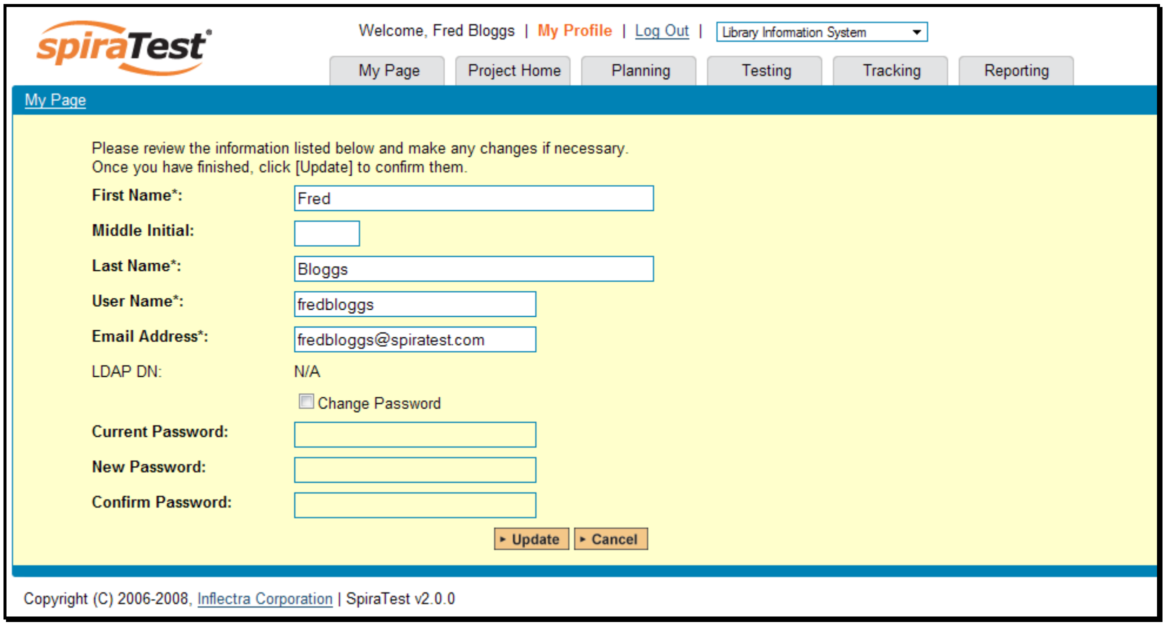
This section displays the list of any project tasks that have not yet been completed, but whose scheduled end date has already elapsed. A graphical progress bar is included with each task in the grid, so that you can easily see which tasks are nearest completion.

3.4.12. Late Starting Tasks

This section displays the list of any project tasks that have not yet started, but whose scheduled start date has already elapsed. Each task is listed along with its owner, priority and due-date so that you quickly ascertain how many days late it will be starting, how important it is to the project, and who needs to be contacted to get more information.

3.5. My Profile

When you click on either the “My Profile” link in the global navigation, you will be taken to the page in the system that allows you to view and edit your personal profile:



You can change your user information including your first-name, last-name, middle-initial and user-name. The system will check to make sure that the user-name is not already in use, and warn you if this is the case. Clicking the <Update> button will commit the changes, whereas clicking <Cancel> returns you back to either “Project Home” or “My Page” depending on whether you have a project currently selected or not.

3.5.1. Change Password

In addition to being able to update your user information, you can optionally change your password at the same time. If you check the “Change Password” box, when the <Update> button is clicked, the system will expect you to have entered your old password and two instances of your new proposed password. If the old password matches the one stored in the system, and the two entries of the new password match, then the system will update your password, otherwise you will simply get a warning message indicating what needs to be corrected.

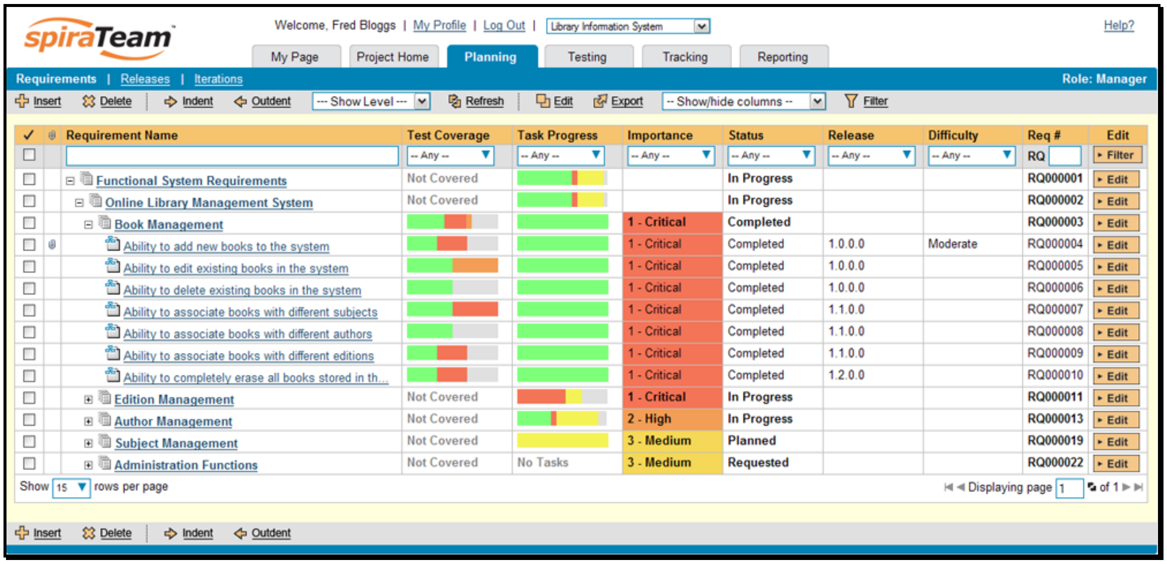
Note: If your SpiraTest user profile is linked to an account stored in an external LDAP server, you may find the change password option is disabled. This is because the system uses the password held in the external server. To change the password in this case, please contact your system administrator who will be able to help you change the password in your LDAP environment.

4. Requirements Management

This section outlines how the requirements management features of SpiraTeam™ can be used to develop a requirements / scope matrix for a project, and how you can map any existing test-cases to the requirements. Typically when starting a project, developing the requirements list is the first activity after the Administrator has set up the project in the system.

4.1. Requirements List

When you click on the Planning > Requirements link on the global navigation bar, you will initially be taken to the requirements list screen illustrated below:



The requirements list consists of a hierarchical arrangement of the various requirements and functionalities that need to be provided by the system in question. The structure is very similar to the Work Breakdown Structure (WBS) developed in Microsoft Project®, and users of that software package will find this very familiar to use. When you create a new project, this list will initially be empty, and you will have to start using the <Insert> button to start adding requirements.

Requirements come in two main flavors: summary items shown in **bold-type**, and detail items shown in normal-type with a hyperlink. When you indent a requirement under an existing requirement, the parent is changed from a detail-item to a summary-item, and when you outdent a child item, its parent will return to a detail-item (assuming it has no other children). This behavior is important to understand, as only detail items are assigned a status themselves; the summary items simply display an aggregate of the worst-case assessment of their children's status. Also, only detail items can be mapped against test-cases for test-coverage (thus only they have hyperlinks), the summary items simply display an aggregate coverage status of their children.

Each requirement is displayed along with its importance/priority (ranked from "Critical" to "Low"), its completion status (from "Requested" to "Completed"), the version of the software that the requirement is planned for, and graphical indicators that represents its test coverage status and its task progress.

For those requirements that have no test-cases covering them (i.e. validating that the requirement works as expected) the indicator consists of a white solid bar, bearing the legend "Not Covered".

For those requirements that have *at least one* test-case mapped against them, they will display block graph that illustrates the last execution status of each of the mapped test-cases. Thus if the requirement is covered by two test cases, one of which passed, and one of which wasn't run, the graph will display a green bar (50% passed) and an equal length gray bar (50% not run). To determine the exact requirements coverage information, position the mouse pointer over the bar-chart, and the number of covering tests, along with the pass / fail / blocked / caution / not-run breakdown will be displayed as a "tooltip".

For those requirements that have at least one task associated with them, they will display a block graph that illustrates the relative numbers of task that are on-schedule (green), late-starting (yellow), late-finishing (red) or just not-started (grey). These values are weighted by the effort of the task, so that larger, more complex tasks will be change the graph more than the smaller tasks. To determine the exact task progress information, position the mouse pointer over the bar-chart and the number of associated tasks, along with the details of how many are in each status will be displayed as a "tooltip".

4.1.1. Insert

Clicking on the <Insert> button inserts a requirement *above* the currently selected requirement – i.e. the one whose check-box has been selected, at the same level in the hierarchy. If you want to insert a requirement below a summary item, you need to insert it first, then indent it with the <Indent> button. If you insert a requirement without first selected an existing requirement from the list, the new requirement will simply be inserted at the end of the list.

Once the new requirement has been inserted, the item is switched to "Edit" mode so that you can rename the default name and choose a priority, status and/or author.

4.1.2. Delete

Clicking on the <Delete> button deletes all the requirements whose check-boxes have been selected. If any of the items are summary items, then: if the item is expanded and the children are visible, the children are simply made children of the item above it in the list, however if the item is not expanded and the children are hidden, then the children are all deleted. This behavior is similar to that found in project planning tools like Microsoft Project®. In addition, if all the children are deleted from a summary item, it changes back into a detail item.

4.1.3. Indent

Clicking on the <Indent> button indents all the requirements whose check-boxes have been selected. If any of the items are made children of a requirement that had no previous children, it will be changed from a detail item into a summary item.

4.1.4. Outdent

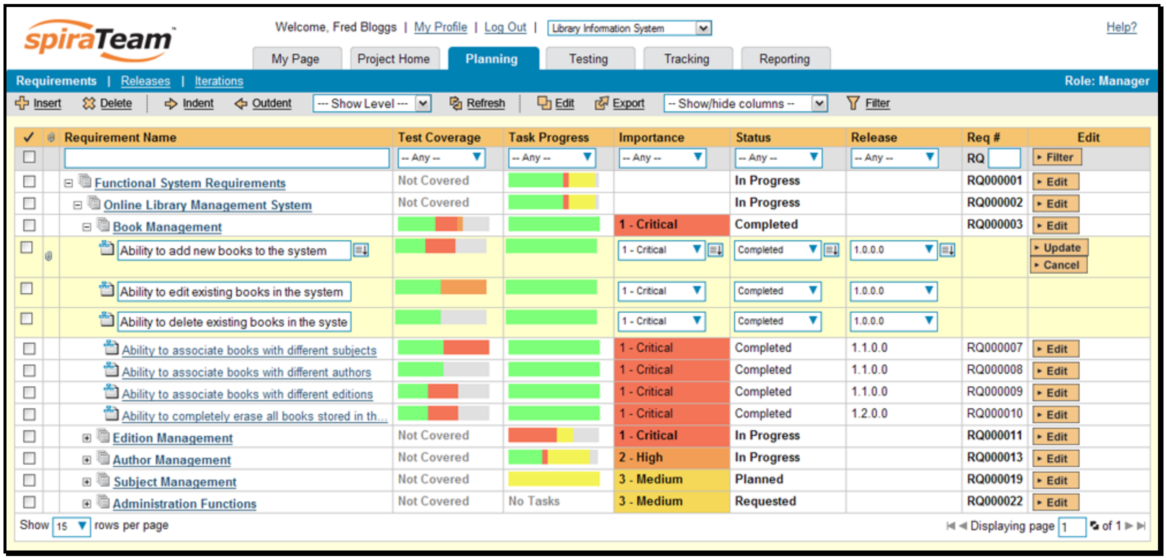
Clicking on the <Outdent> button de-indents all the requirements whose check-boxes have been selected. If any of the items were the only children of a summary requirement item, then that item will be changed back from a summary item to a detail item.

4.1.5. Refresh

Clicking on the <Refresh> button simply reloads the requirements list. This is useful as other people may be modifying the list of requirements at the same time as you, and after stepping away from the computer for a short-time, you should click this button to make sure you are viewing the most current requirements list for the project.

4.1.6. Edit

Each requirement in the list has an <Edit> button display in its right-most column. When you click this button or just click on any of the cells in the row, you change the item from “View” mode to “Edit” mode. The various columns are made editable, and <Update> <Cancel> buttons are displayed in the last column:



If you click <Edit> on more than one row, the <Update> and <Cancel> buttons are only displayed on the first row, and you can make changes to all the editable rows and then update the changes by clicking the one <Update> button. Also, if you want to make the same change to multiple rows (e.g. to change five requirements from “In Progress” status to “Completed”), you can click on the “fill” icon to the right of the editable item, which will propagate the new value to all editable items in the same column.

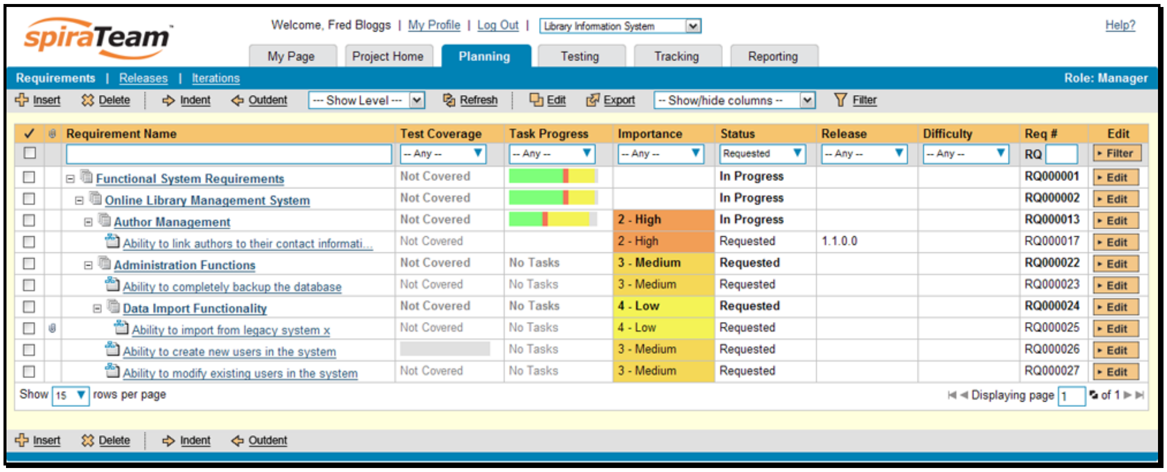
When you have made your updates, you can either click <Update> to commit the changes, or <Cancel> to revert back to the original information. Alternatively, pressing the <ENTER> key will commit the changes and pressing the <ESCAPE> key will cancel the changes.

4.1.7. Show Level

Choosing an indent level from the ‘Show Level’ drop down box allows you to quickly and easily view the entire requirements list at a specific indent level. For example you may want to see all requirements drilled-down to the *third* level of detail. To do this you would simply choose ‘Level 3’ from the list, and the requirements will be expanded / collapsed accordingly.

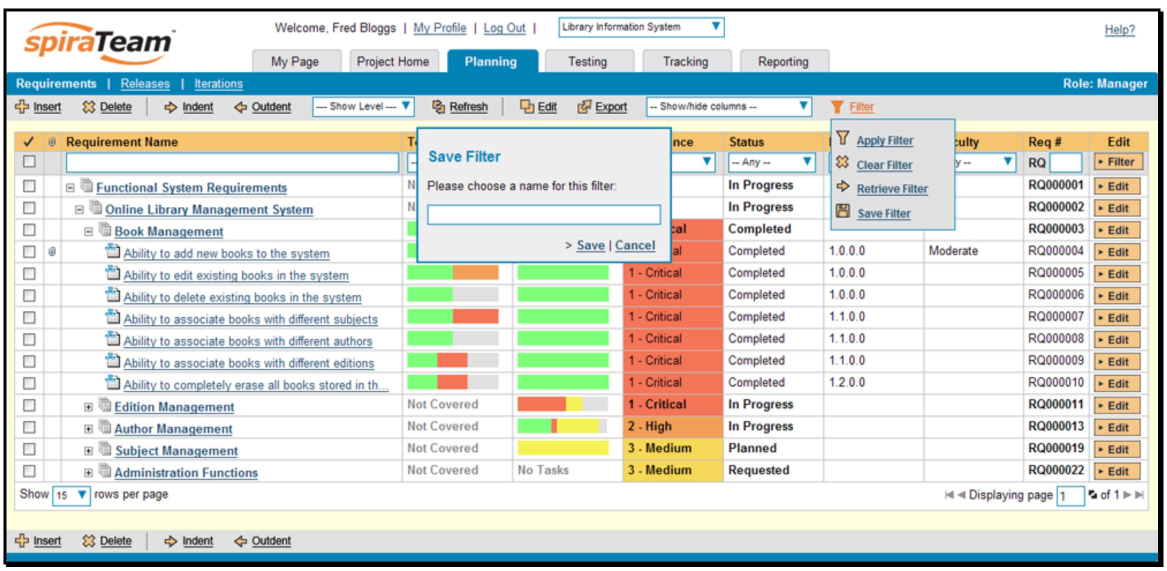
4.1.8. Filtering

You can easily filter the list of requirements as illustrated in the screen-shot below:



To filter the list by any of the displayed columns, you either choose an item from the appropriate drop-down list or enter a free-text phrase (depending on the type of field) then click <Filter> or press the <ENTER> key to apply the different filters. Note that the name field is searched using a "LIKE" comparison, so that searching for "database" would include any item with the word database in the name. The other freetext fields need to be exact matches (e.g. dates, requirement numbers). In the screen-shot above, we are filtering on Status = Requested.

In addition, if you have a set of filters that you plan on using on a regular basis, you can choose the option Filter > Save Filter to add the current filter to the list of saved filters that appear on your 'My Page'. The list of saved filters can also be retrieved by clicking Filter > Retrieve Filter:



4.1.9. Show / Hide Columns

This drop-down list allows you to change the fields that are displayed in the requirement list as columns for the current project. To show a column that is not already displayed, simply select that column from the list of "Show…" column names and to hide an existing column, simply select that column from the list of "Hide…" column names. This is stored on a per-project basis, so you can have different display settings for each project that you are a member of. The fields can be any of the built-in fields or any of the custom properties set up by the project owner.

4.1.10. Copying Requirements

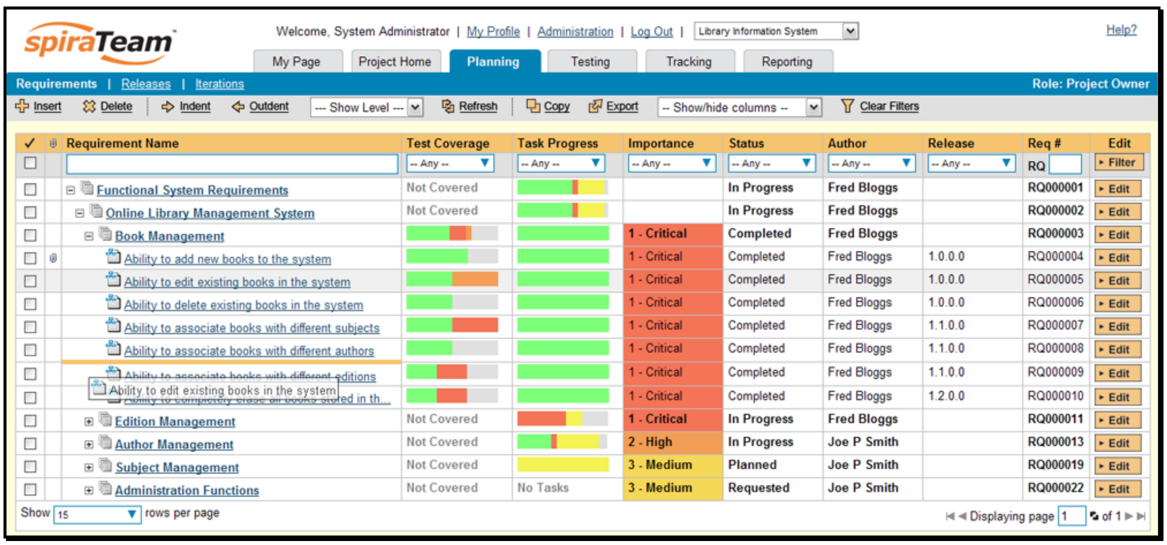
To copy a requirement or set of requirements, simply select the check-boxes of the requirements you want to copy and then select the Edit > Copy menu option. This will copy the current requirements selection to the clipboard. Then you should select the place where you want the requirements to be inserted and choose the Edit > Paste option.

The requirements will now be copied into the destination location you specified. The name of the copied requirements will be prefixed with “Copy of…” to distinguish them from the originals. Note that copied requirements will also include the test coverage information from the originals.

4.1.11. Moving Requirements

To move a requirement in the requirements hierarchy, there are two options:

1. Click on the icon the requirement you want to move and then drag the icon to the location you want it moved. The border between the destination requirements will change as the icon is dragged over it to illustrate where it will be inserted:

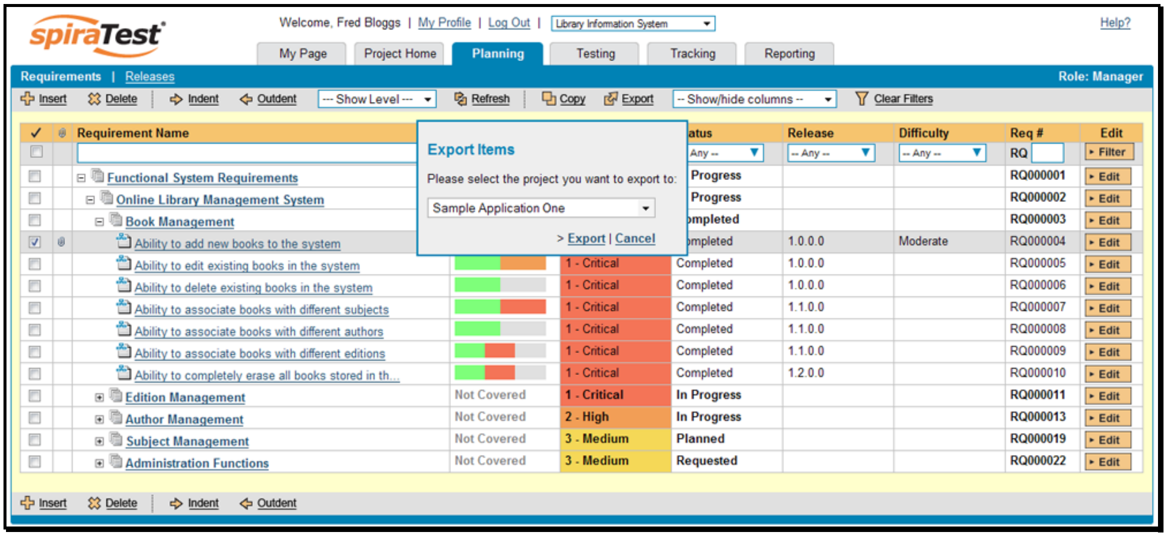


   Once you have the requirement positioned at the correct place that you want it inserted, just release the mouse button and the requirement list will be refreshed, with the requirement moved to the desired location.

2. Alternatively you can simply select the check-boxes of the requirements you want to move and then select the Edit > Cut menu option. This will cut the current requirements selection to the clipboard. Then you should select the place where you want the requirements to be inserted and choose the Edit > Paste option. The requirements will now be moved into the destination location you specified.

4.1.12. Exporting Requirements

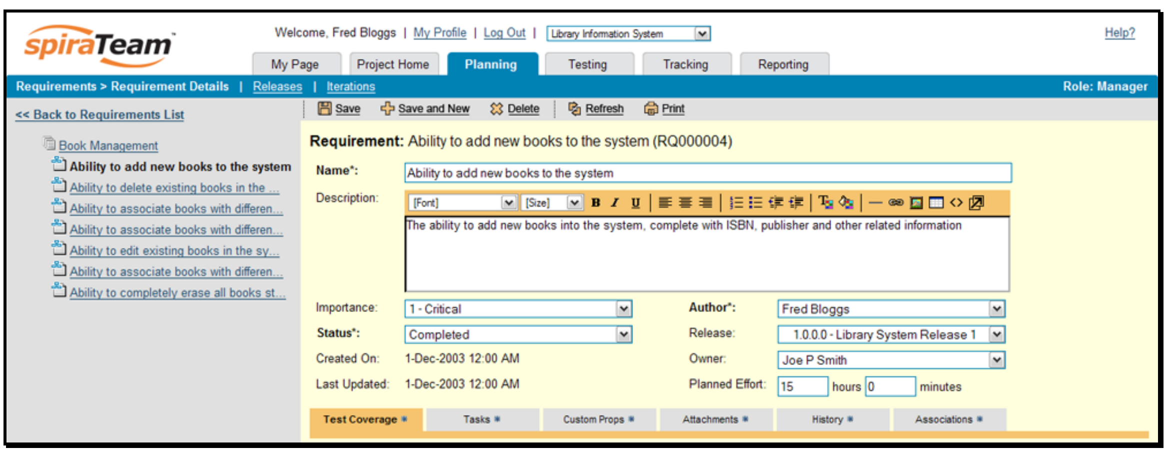
To export a requirement or set of requirements from the current project to another project in the system, all you need to do is select the check-boxes of the requirement(s) you want to export and then click the <Export> button. This will then bring up a list of possible destination projects:



Once you have chosen the destination project and clicked the <Export> button, the requirements will be exported from the current project to the destination project. Any file attachments will also be copied to the destination project along with the requirements.

4.2. Requirement Details

When you click on a requirement item in the requirements list described in section 4.1, you are taken to the requirement details page illustrated below:



This page is made up of *three* areas; the left pane displays the requirements list navigation, the top of the right pane displays the details of the selected requirement, and the bottom of the right pane can display different information related to the requirement.

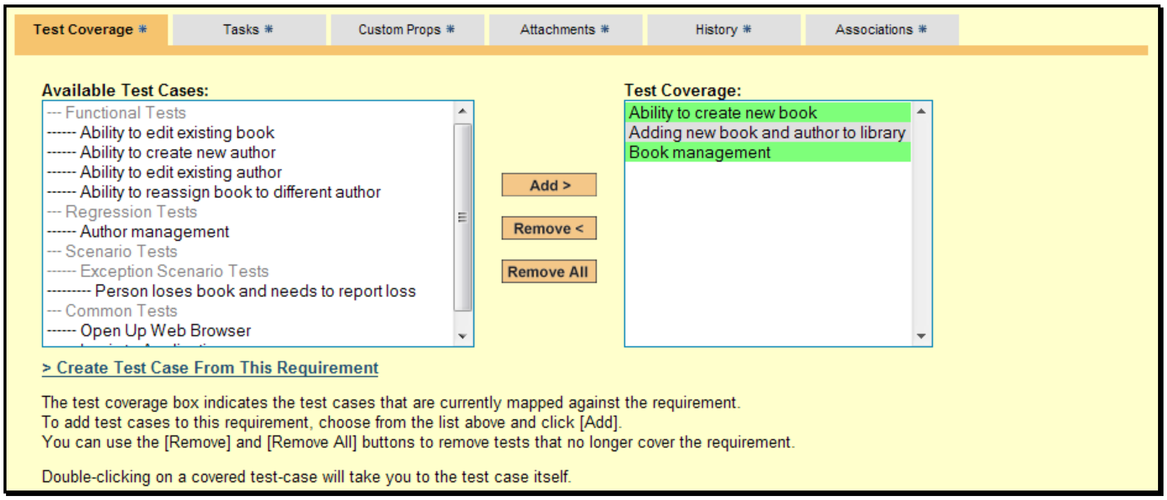
The navigation pane consists of a link that will take you back to the requirements list, as well as a list of the peer requirements to the one selected. This latter list is useful as a navigation shortcut; you can quickly view the coverage information of all the peer requirements by clicking on the navigation links without having to first return to the requirements list page.

The top part of the right pane allows you to view and/or edit the details of the particular requirement. You can edit the various fields (name, description, etc.) and once you are satisfied with them, simply click either the <Save> or <Save and New> button at the top of the page to commit the changes. In addition you can delete the current artifact by choosing <Delete>, discard any changes made by clicking <Refresh> or print it by clicking <Print>.

In addition, the bottom part of the right pane can be switched between six views: "Test Coverage", "Tasks", "Custom Properties", "Attachments", "History" and "Associations", each of which will be described in more detail below.

4.2.1. Test Coverage

In this mode, the right pane contains the test coverage information for the requirement in question:



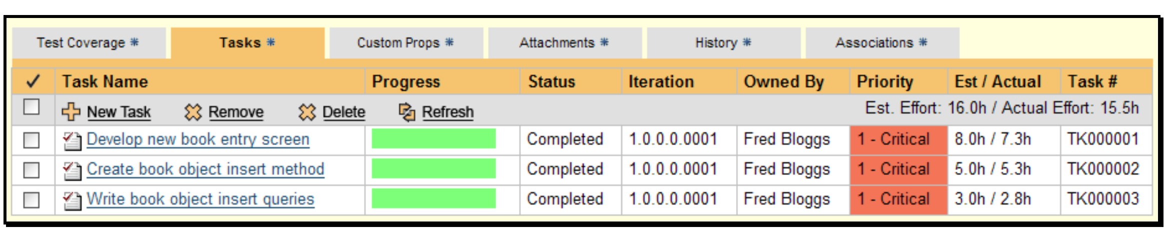
The pane consists of two lists of test cases, the one on the left being the hierarchical list of the test cases belonging to the project arranged in test folders (denoted by their gray color). The right box (which will initially be empty) contains the list of test cases mapped to this requirement. The test cases in this box are color-coded according to their most recent execution status – red for failed, green for passed and gray for not-run. Double-clicking on items in this box will jump you to the test case details screen for this test case (see section 5.2.9).

To change the coverage for this requirement, you use the buttons (Add, Remove, Remove All) positioned between the two list-boxes. The <Add> button will move the selected test cases from the list of available on the left to the list of mapped on the right. Similarly the <Remove> and <Remove All> buttons will remove either the selected or all the test cases from the right list-box and add them back to the left list-box.

Finally, as a shortcut you can click the "Create Test Case from This Requirement" link to create a new test case in the list of covered test cases that will be automatically linked to this requirement. This is useful when you have created a new requirement and want to generate an initial covering test to be fleshed-out later.

4.2.2. Tasks

In this mode, the right pane displays the list of project tasks that need to be completed for the requirement to be satisfied:



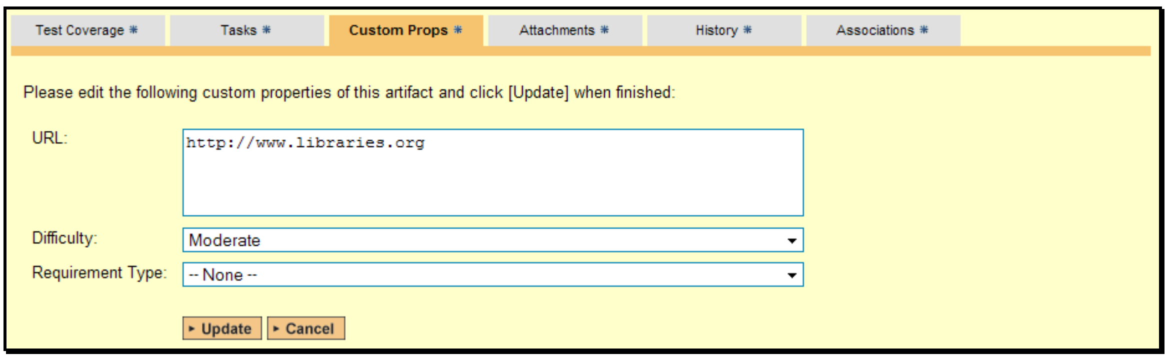
Each of the tasks is displayed together with its name, description (by hovering the mouse over the name), progress, priority, start-date, current owner, estimated effort, actual effort and numeric task identifier. Clicking on the task name will bring up the Task Details page which is described in more detail in section 8.2. This allows you to edit the details of an existing task.

You can perform the following actions on a task from this screen:

- New Task – inserts a new task in the task list with a default set of values. The task will be associated with the current requirement.
- Remove – removes the task from this requirement without actually deleting the task
- Delete – deletes the task itself.

4.2.3. Custom Properties

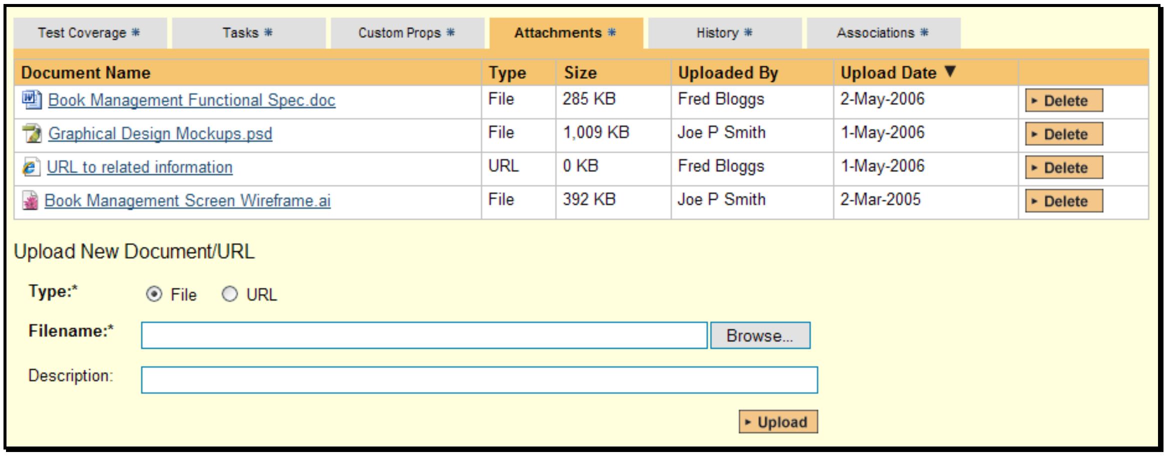
In this mode, the main pane displays any custom properties that the project owner has defined for requirements. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the requirement. These can be either freetext or drop-down-lists. In the example below, you can enter a URL, difficulty and/or Requirement Type.



Once you are satisfied with the values for the custom properties, simply click [Update] to commit the changes.

4.2.4. Attachments

In this mode, the main pane displays the list of documents or web-links (URLs) that have been “attached” to the requirement. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename/URL that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

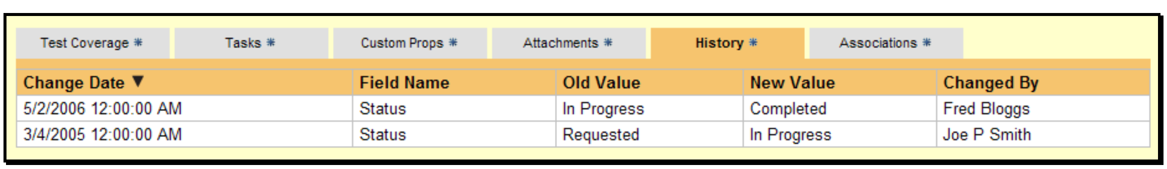
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document / web-page or prompt you for a place to save it on your local computer. To delete an existing attachment from a requirement, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the requirement, you need to choose "File" as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the requirement. To attach a web-link (URL) to the requirement, you need to choose "URL" as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn't put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename *before uploading* if you want it to be displayed with the correct icon in the attachment list.

4.2.5. History

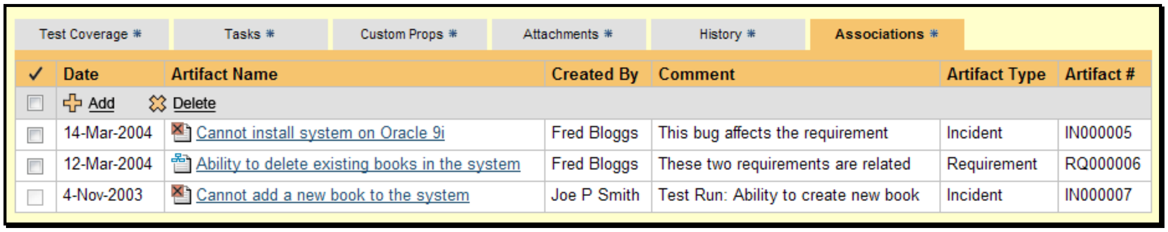
In this mode, the main pane displays the list of changes that have been performed on the requirement artifact since its creation. An example requirement change history is depicted below:



The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

4.2.6. Associations

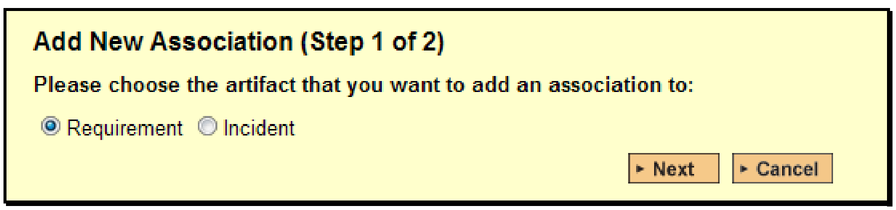
In this mode, the main pane displays a list of any incidents or other requirements that are associated with this requirement:



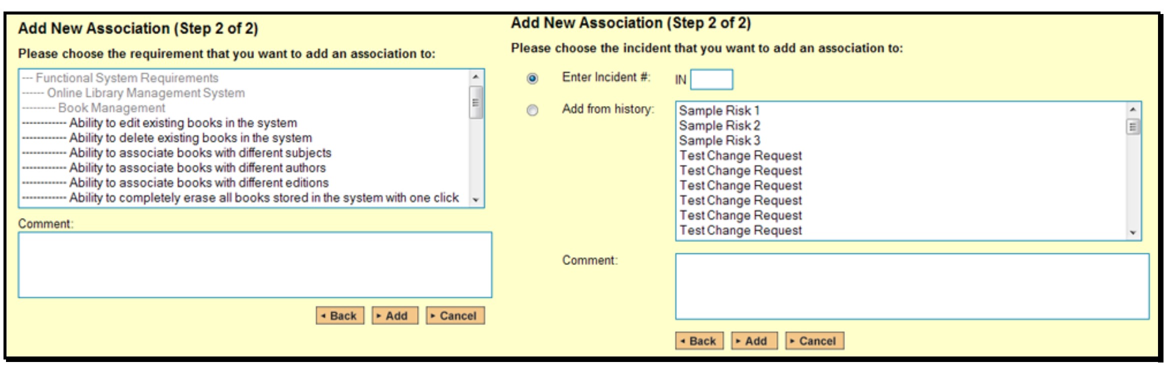
The requirements in this list are ones that a user has decided are relevant to the current one and has created a direct link between them. In the case of incidents, the association can be either due to the creator of an incident directly linking the incident to the requirement, or it can be the result of a tester executing a test-run and creating an incident during the test run. In this latter case, the check-box to the left of the association will be unavailable as the link is not editable.

Each association is displayed with the type of artifact (requirement vs. incident), name of the artifact being linked-to, the name of the person who created the association, and a comment that describes why the association was made. In the case of an indirect association due to a test run, the comment will contain the name of the test run.

To create a new association, simply click the <Add> icon and then choose the type of artifact you want to create an association to:



Once you have selected the appropriate artifact type, you will then be able to choose the specific artifact you want to link to. In the case of requirements you choose the item from a hierarchical list-box, and in the case of incidents you can either enter the incident ID or choose from a list of incidents you have recently submitted. In either case you can also add a comment that explains the rationale for the association:



Finally, to delete an existing association (except for those due to test runs) select the check-box next to its name and click the <Delete> icon. This will only delete the association, not the linked artifact itself.

5. Test Case Management

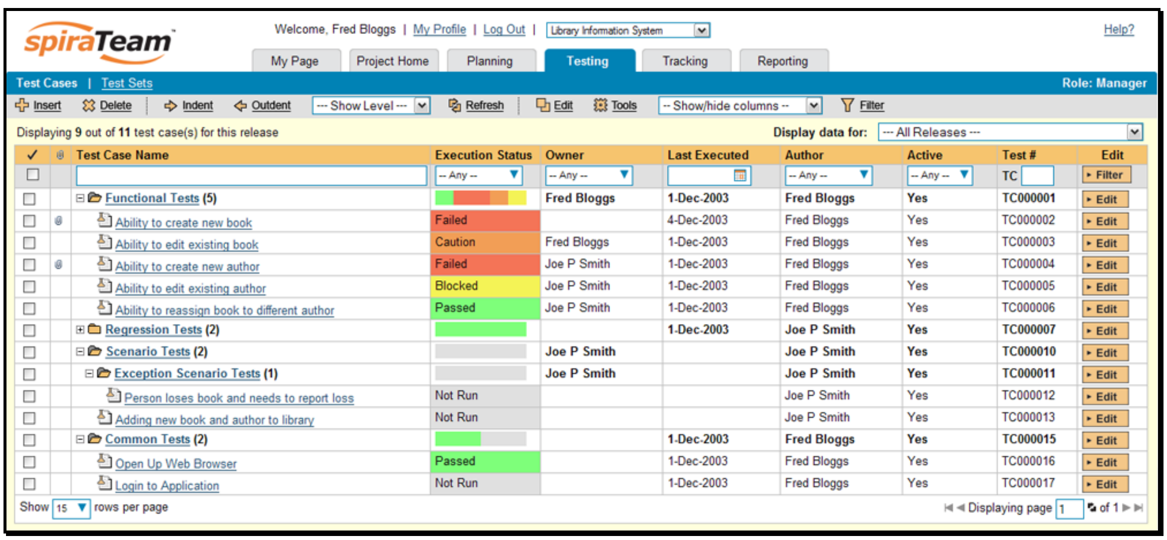
This section outlines how the use-case / test-case management features of SpiraTest® and SpiraTeam™ can be used to develop the business use-cases for the system, which specify how the different pieces of functionality are expected to work in practice. In addition, these use/test-cases form the basis of the business specification of the system when associated with the underlying requirements matrix. Typically when starting a new project:

- The requirements matrix is entered first
- Then the list of use-cases is developed to outline the key scenarios that need to supported to implement the requirement
- Then the use-cases are fleshed out into full test-cases by adding the detailed test-steps with the expected result and suggested sample-data
- Finally the tests are grouped into test-sets so that they can be assigned to users in batches for execution and tracking.

However when migrating existing projects into SpiraTeam™, you may need to migrate the test-case list first, and then add the supporting requirements matrix afterwards.

5.1. Test Case List

When you click on the Testing > Test Cases link on the global navigation bar, you will initially be taken to the test case list screen illustrated below:



The test case list consists of a hierarchical arrangement of the various test folders and test cases that the system being developed needs to be able to demonstrate. The structure is very similar to the folder structure in Microsoft Windows® Explorer, and users will find this very familiar and intuitive to use. When you create a new project, this list will initially be empty, and you will have to use the <Insert> button to start adding test folders and test cases to the system.

The list consists of test folders shown with a folder icon and in **bold-type**, and test cases that are shown with a document icon and a hyperlink. You can nest test folders and test cases under an existing test folder, but you cannot nest anything under a test case. All of the items in the list have a name, together with the most recent execution status (passed, failed or not-run), and owner, author, execution date, active flag and test case number. Clicking on a test case's hyperlink will take you to the test case details page for the item in question (see section 5.2).

It is important to understand that only test cases are assigned a status themselves; the test folders instead display a test execution bar graph that illustrates the aggregate execution status of its child test-cases. Thus if the test folder contains two test cases, one of which passed, and one of which wasn't run, the graph will display 50% green and 50% gray.

To determine the exact aggregate test folder execution status information, position the mouse pointer over the bar-chart, and the number of tests in each of the execution statuses (passed, failed, not-run, blocked, caution) will be displayed as a "tooltip". Note that if you change the owner of a test folder, then all the child test cases will be assigned the same owner. This allows you to more easily associate entire folders to test cases to be executed by a specific user.

5.1.1. Insert

Hovering over the <Insert> button brings up a secondary menu that allows you to choose whether to insert a test case or a test folder (if you just click Insert it defaults to inserting a test case). In either case, it will insert the new test folder / test case *above* the currently selected item – i.e. the one whose check-box has been selected, at the same level in the hierarchy. If you want to insert a new test case below an existing test case, you need to select the item below it. If you insert a new test folder / test case without first selected an existing item from the list, the new test case will simply be inserted at the end of the list.

Once the new test folder / test case has been inserted, the item is switched to "Edit" mode so that you can rename the default name and choose an owner and/or author. Note that all new test cases are initially set with an execution status of "Not Run".

5.1.2. Indent / Outdent

Clicking on the <Indent> button indents all the test folders / test cases whose check-boxes have been selected. You cannot indent a test case or folder if it is *below* a test case, as test cases are not allowed to have child items. Clicking on the <Outdent> button de-indents all the test folders / test cases whose check-boxes have been selected.

5.1.3. Delete

Clicking on the <Delete> button deletes all the test cases and/or test folders whose check-boxes have been selected. If any of the items are test folders, then all the children are all deleted (whether test cases or folders). This behavior is similar to that in Microsoft Windows® Explorer.

5.1.4. Execute

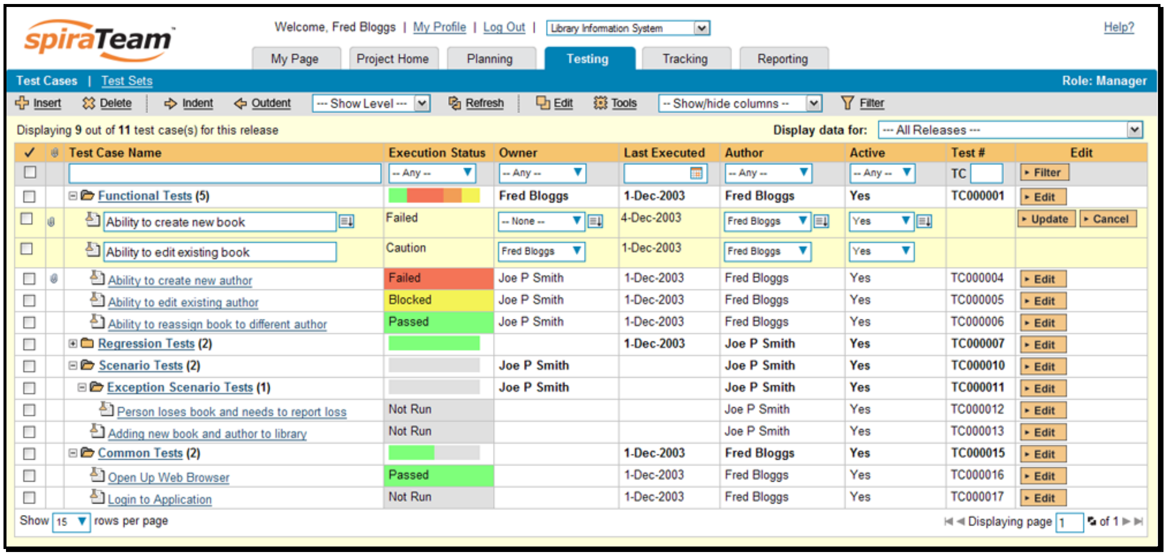
Clicking on the <Execute> button executes all the test cases selected, together with all the test cases contained with any selected test folders. The test execution functionality of SpiraTeam™ is explained in more detail in section 5.3.

5.1.5. Refresh

Clicking on the <Refresh> button simply reloads the test case list. This is useful as other people may be modifying the list of test cases at the same time as you, or executing specific test cases, and after stepping away from the computer for a short-time, you should click this button to make sure you are viewing the most current test case list for the project.

5.1.6. Edit

Each test case in the list has an <Edit> button display in its right-most column. When you click this button or just click on any of the cells in the row, you change the item from "View" mode to "Edit" mode. The various columns are made editable, and <Update> <Cancel> buttons are displayed in the last column:



If you click <Edit> on more than one row, the <Update> and <Cancel> buttons are only displayed on the first row, and you can make changes to all the editable rows and then update the changes by clicking the one <Update> button. Also, if you want to make the same change to multiple rows (e.g. to change the owner of five test cases from “Fred Bloggs” to “Joe Smith”), you can click on the “fill” icon to the right of the editable item, which will propagate the new value to all editable items in the same column.

When you have made your updates, you can either click <Update> to commit the changes, or <Cancel> to revert back to the original information. Alternatively, pressing the <ENTER> key will commit the changes and pressing the <ESCAPE> key will cancel the changes.

5.1.7. Show Level

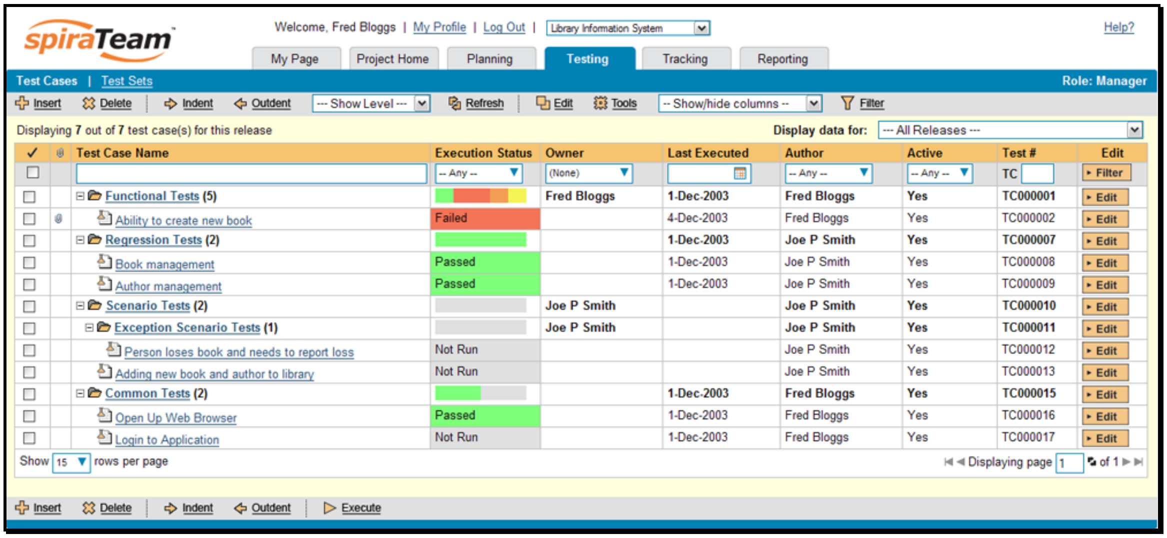
Choosing an indent level from the ‘Show Level’ drop down box allows you to quickly and easily view the entire test case list at a specific indent level. For example you may want to see all test cases drilled-down to the *third* level of detail. To do this you would simply choose ‘Level 3’ from the list, and the test cases will be expanded accordingly

5.1.8. Show / Hide Columns

This drop-down list allows you to change the fields that are displayed in the test case list as columns for the current project. To show a column that is not already displayed, simply select that column from the list of “Show…” column names and to hide an existing column, simply select that column from the list of “Hide…” column names. This is stored on a per-project basis, so you can have different display settings for each project that you are a member of. The fields can be any of the built-in fields or any of the custom properties set up by the project owner.

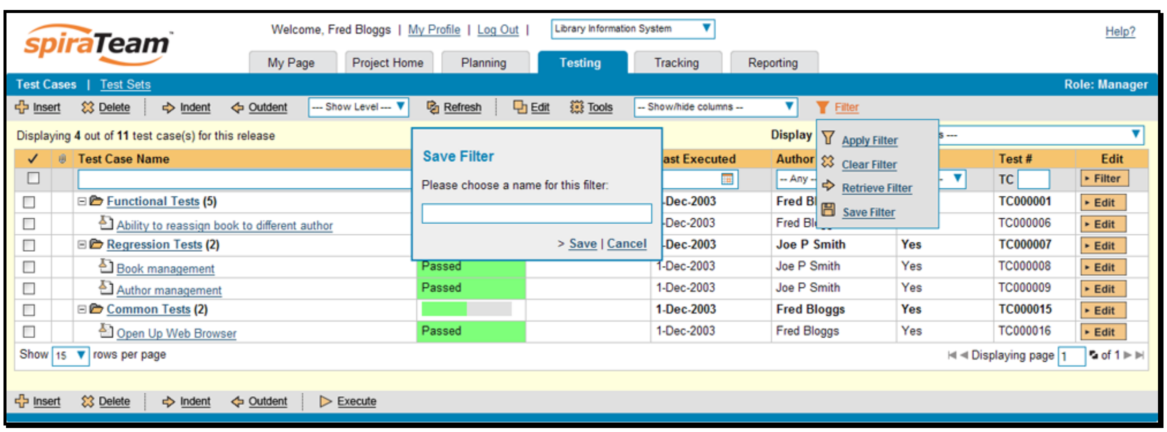
5.1.9. Filtering

You can easily filter the list of test cases as illustrated in the screen-shot below:



To filter the list by any of the displayed columns, you either choose an item from the appropriate drop-down list or enter a free-text phrase (depending on the type of field) then click <Filter> or press the <ENTER> key to apply the different filters. Note that the name field is searched using a "LIKE" comparison, so that searching for "database" would include any item with the word database in the name. The other freetext fields need to be exact matches (e.g. dates, test case numbers). In the screen-shot above, we are filtering on Owner = (None).

In addition, if you have a set of filters that you plan on using on a regular basis, you can choose the option Filter > Save Filter to add the current filter to the list of saved filters that appear on your 'My Page'. The list of saved filters can also be retrieved by clicking Filter > Retrieve Filter:



5.1.10. Copying Test Cases

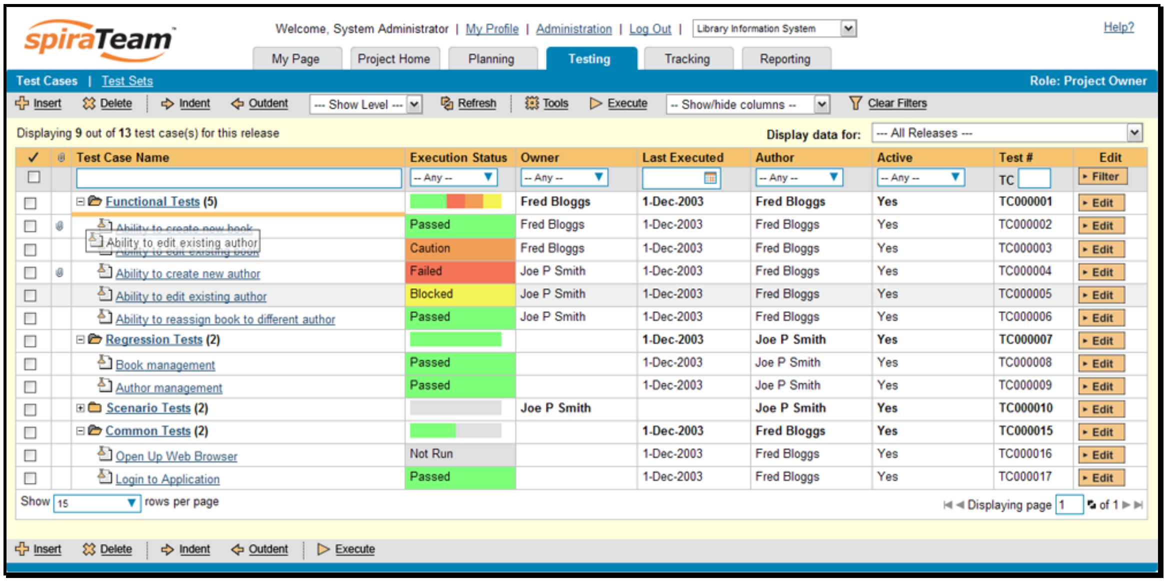
To copy one or more test cases, simply select the check-boxes of the test cases you want to copy and then select the Edit > Copy menu option. This will copy the current test case selection to the clipboard. Then you should select the place where you want the test cases to be inserted and choose the Edit > Paste option.

The test cases will now be copied into the destination location you specified. The name of the copied test cases will be prefixed with "Copy of…" to distinguish them from the originals.

5.1.11. Moving Test Cases

To move test cases in the hierarchy, there are two options:

1. Click on the icon the test case/folder you want to move and then drag the icon to the location you want it moved. The background of the destination location will change as the icon is dragged over it to illustrate where it will be inserted:

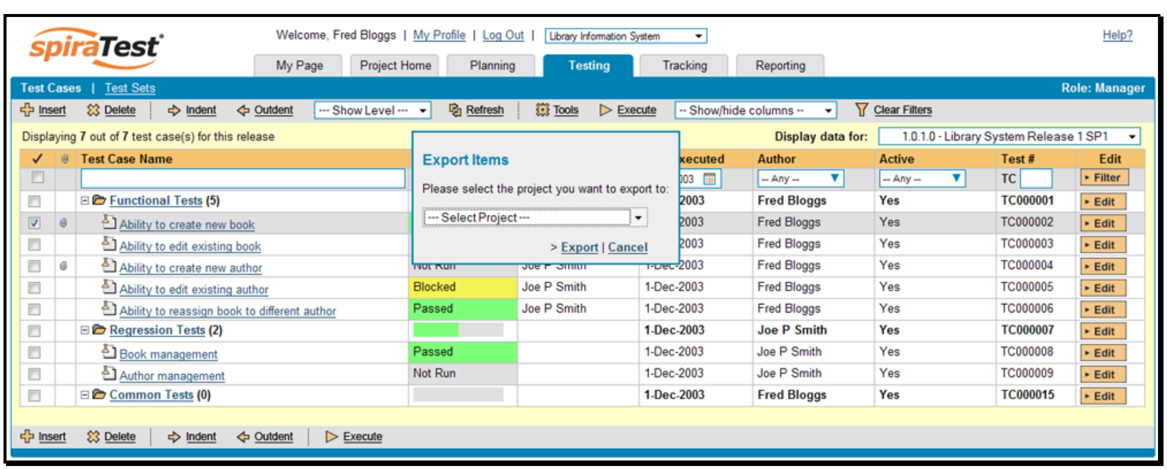


Once you have the test case/folder positioned at the correct place that you want it inserted, just release the mouse button and the test case list will be refreshed, with the item moved to the desired location.

2. Alternatively you can simply select the check-boxes of the test cases you want to move and then select the Edit > Cut menu option. This will cut the current test case selection to the clipboard. Then you should select the place where you want the test cases to be inserted and choose the Edit > Paste option. The test cases will now be moved into the destination location you specified.

5.1.12. Exporting Test Cases

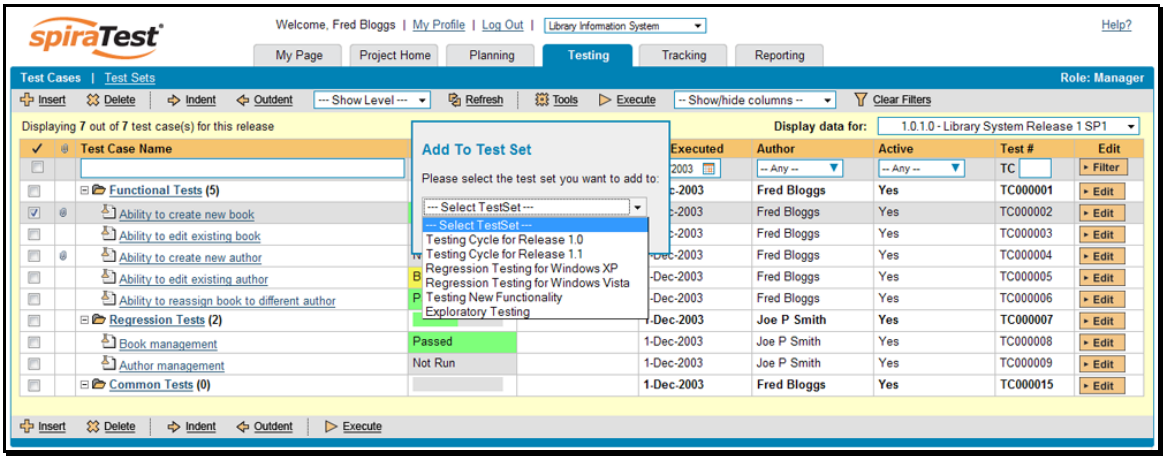
To export a test case or set of test cases from the current project to another project in the system, all you need to do is select the check-boxes of the test case(s) you want to export and then click Tools > Export Tests. This will then bring up a list of possible destination projects:



Once you have chosen the destination project and clicked the <Export> button, the test cases will be exported from the current project to the destination project. Any file attachments will also be copied to the destination project along with the test cases.

5.1.13. Adding Test Cases to a Release or Test Set

To quickly add a series of test cases to either a Release or Test Set, all you need to do is select the check-boxes of the appropriate test cases and then click Tools > Add to Release / Test Set. This will then bring up a dialog box displaying either a list of available releases, or a list of available test sets (depending on which option was chosen):

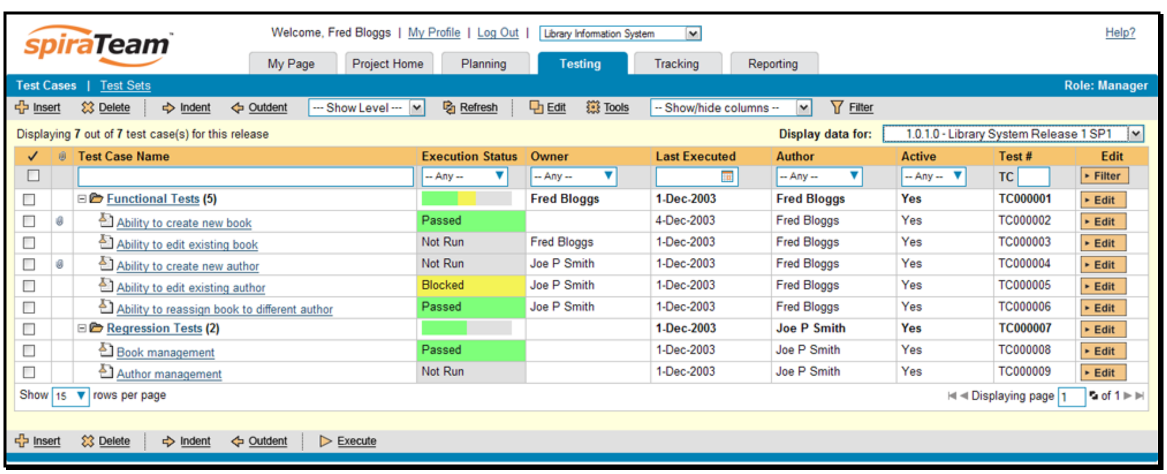


Once you have chosen the destination release / test set, clicking <Add> will add the selected test cases to the destination release / test set.

5.1.14. Viewing the Test Status for a Release

By default, when you view the list of test case cases, it will display an aggregate status for all releases of the project. I.e. the test list will include all the test cases in the system (regardless of which release they apply to) and the execution status will reflect the most recent test run – regardless of which release it was for.

To change the test case list to just display test cases and execution status for a particular release, simply change the release selected in the drop-down list located below the toolbar (on the right-hand side) from "Any" to a specific release:

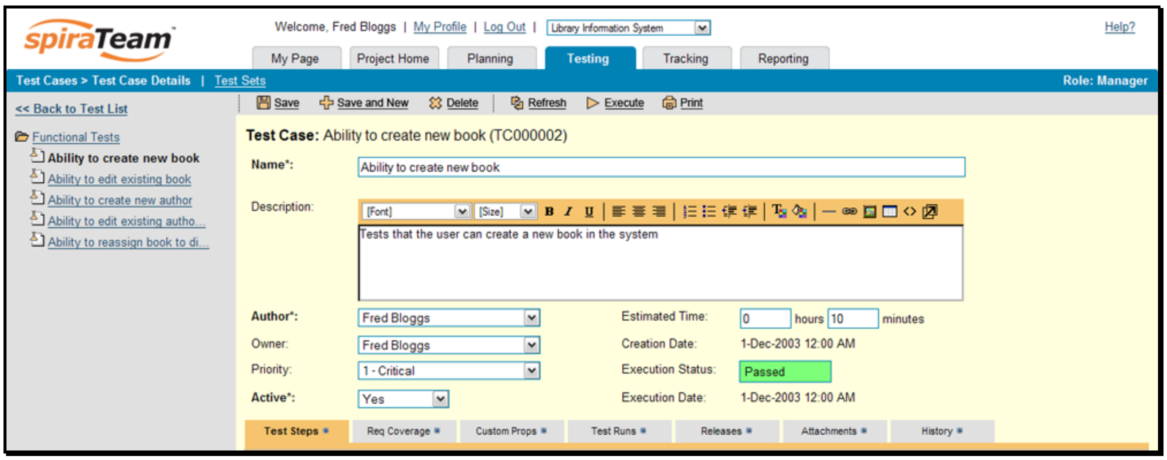


As illustrated in the example above, when the drop-down list is changed to select a specific release, the list of test cases is filtered to just those mapped to the release in question. In addition, the execution status for the test releases will only reflect test runs for that specific release (and any child iterations if applicable). As can be seen in our example, many test cases that have been run for other releases now show the “Not Run” status since they’ve not been run for this specific release.

As a shortcut, when you select a specific release for viewing, subsequent execution of any of the test cases via the Tools > Execute menu option will default the test run to the selected release.

5.2. Test Case Details

When you click on a test case item in the test case list described in section 5.1, you are taken to the test case details page illustrated below:



This page is made up of three areas; the left pane is the navigation window, the upper part of the right pane contains the test case detailed information itself, and the bottom part of the right pane contains related information about the test case.

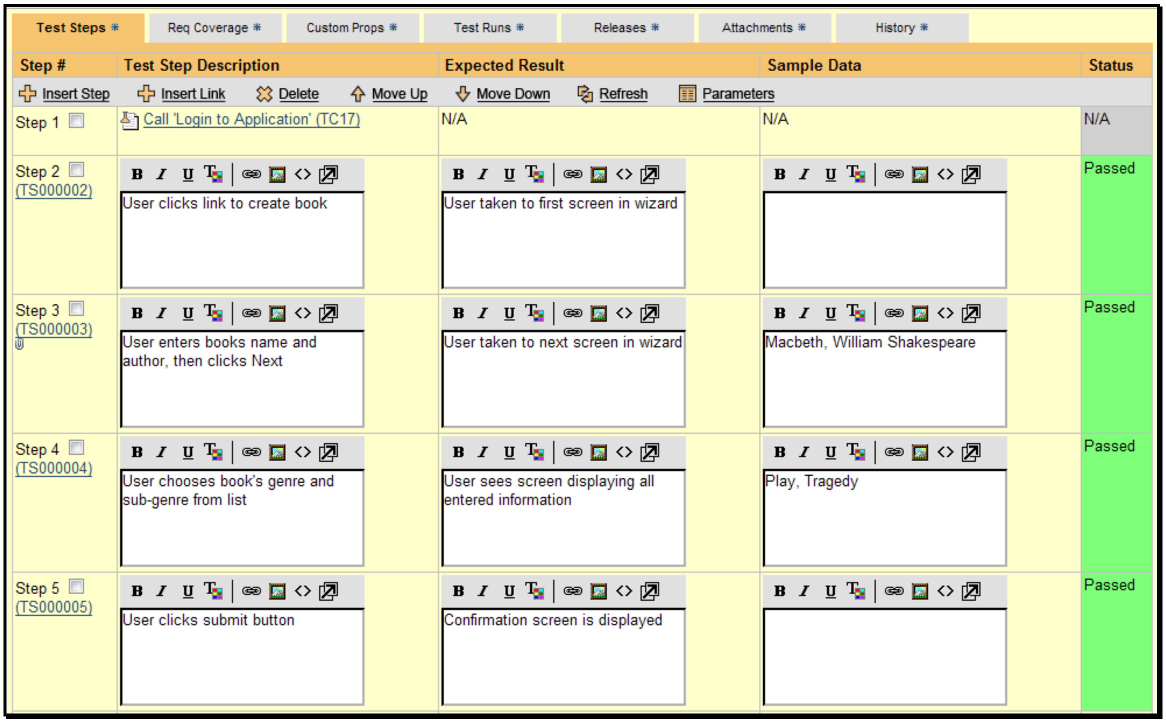
The navigation pane consists of a link that will take you back to the test case list, as well as a list of the peer test case to the one selected. This latter list is useful as a navigation shortcut; you can quickly view the detailed information of all the peer test cases by clicking on the navigation links without having to first return to the test cases list page.

The top part of the right pane allows you to view and/or edit the details of the particular test case. You can edit the various fields (name, description, etc.) and once you are satisfied with them, simply click either the <Save> or <Save and New> button at the top of the page to commit the changes. In addition you can delete the current artifact by choosing <Delete>, discard any changes made by clicking <Refresh> or print it by clicking <Print>.

The lower part of the right pane can be switched between six different views by clicking the appropriate tab. Initially the pane will be in “Test Steps” mode, but it can be switched to “Requirements Coverage”, “Custom Properties”, “Test Runs”, “Releases”, “Attachments” and “History” modes if so desired. Each of the views is described separately below. In addition there is a shortcut link “Execute This Test” that allows you to execute this test (see section 5.3) without having to return to the Test Case list.

5.2.1. Test Steps

This view displays the name of the test case together with all the defined test steps that a tester would need to perform to verify that the functionality works as expected. The list of test steps displays the position number, the description, the expected result, some suggested sample data and the most recent execution status of the individual test step.



Note: Test steps that are marked with a hyperlink and test case icon (e.g. "Call Login to Application" in the screen shot above) are in fact *linked test cases.* Linked test cases are a useful way of reusing existing test steps from other test cases. For example if you want to have a set of steps be in more than one test case (e.g. a login step) then you would create a separate test case just containing these steps, then have all the other test cases just link to it. This avoids the need to have duplicate test steps throughout the project.

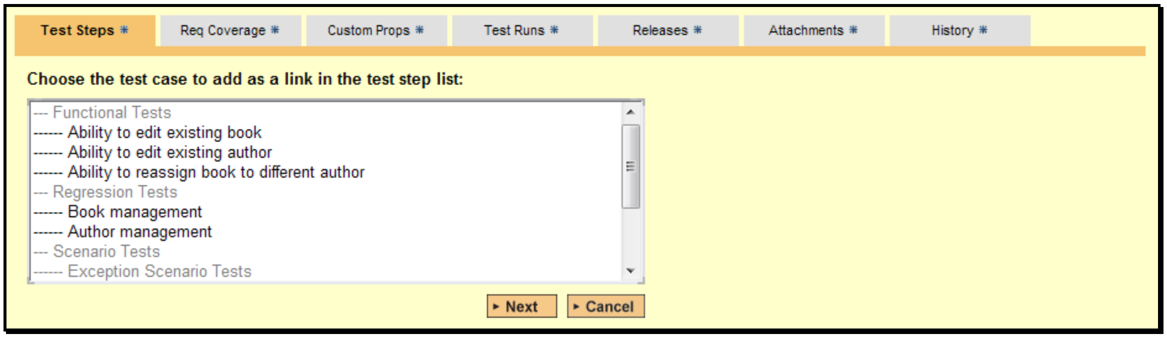
In addition, if you click on the hyperlink displayed below the step number (e.g. TS00003) you will be taken to the test step details page which allows you to perform additional editing of a specific test step as well as attach documents, view the change history, etc.

5.2.1.1. Insert Step

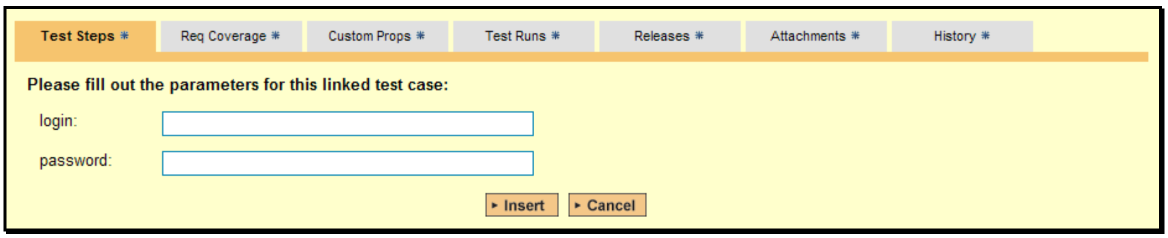
Clicking on the <Insert Step> button inserts a new test step *before* the currently selected (by means of the check-box) test step. Clicking the <Insert Step> button without selecting a test step will insert a new step at the end of the list. All test steps are displayed in "Edit" mode, so the description, expected result and sample data fields are editable, allowing you to enter the appropriate data (see section 5.2.7). In addition to the existing test steps, the system always displays five blank test steps so that it is easy and quick to enter large numbers of test steps. Upon entering up to five test steps and clicking the <Update> button, five new blank rows will be added at the bottom of the list.

5.2.1.2. Insert Link

Clicking on the <Insert Link> button brings up the following panel that allows you to choose the test case to be inserted:



You need to then select the name of the test case you want to insert as a link and click <Next>. If the test case has declared parameters (see the section on Parameters below for more details) you will be taken to the following screen:



You need to fill out the values of the parameters for the linked test case and then click the <Insert> button to complete the operation. The system will then insert the test case as a link just before the currently selected test step. If no existing test step was selected, the link will be added at the end of the test step list.

5.2.1.3. Delete

Clicking on the <Delete> button deletes the currently selected test steps, and reorders the test step position numbers to close any gaps in numbering.

5.2.1.4. Move Up

Clicking on the <Move Up> button simply reorders the test step list so that the currently selected test step is one position higher up the list. Note: Attempting to move a test step above the top of the list will give a warning message.

5.2.1.5. Move Down

Clicking on the <Move Down> button simply reorders the test step list so that the currently selected test step is one position lower down the list. Note: Attempting to move a test step below the bottom of the list of existing test steps will give a warning message.

5.2.1.6. Refresh

Clicking on the <Refresh> button simply reloads the list of test steps. This is useful if other people are making changes to the test list and you want to make sure that you have the most current version.

5.2.1.7. Update

Each test step in the list is always in an editable mode. When you click this button, you commit any changes made to the test step list. These changes consist of modifying an existing test step or entering a new test step in one of the five blank rows. The delete/insert/move-up/move-down operations on the other hand are committed immediately, and *do not* need to have the <Update> button clicked for them to take effect.

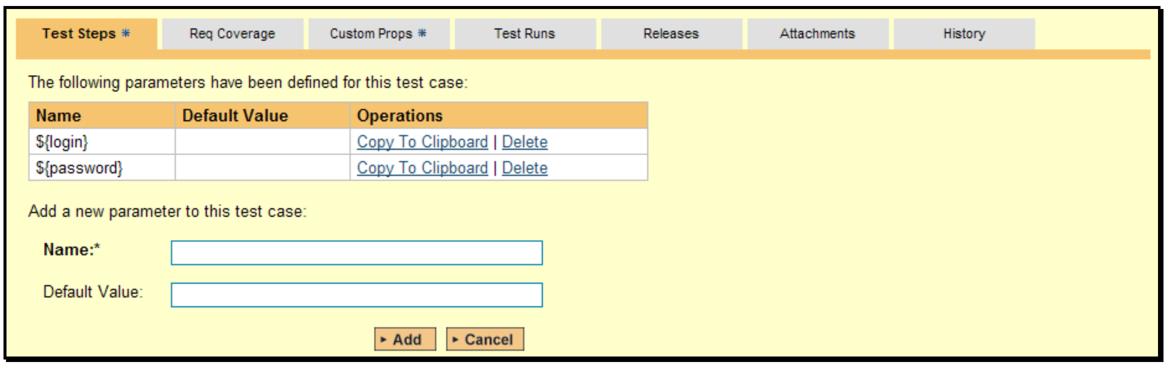
5.2.1.8. Cancel

If during the entry of new test steps or the modification of existing test steps, you want to revert back to the original information, click <Cancel> and your changes will be discarded.

5.2.1.9. Parameters

Test cases can have parameters associated with them. This enables one test case to be called several times by another test case (as a link) and have different parameters passed in each case, making the operation different. E.g. you could have a generic “login to application” test case that others call as an initial step, which could be provided with different login information depending on the calling test case.

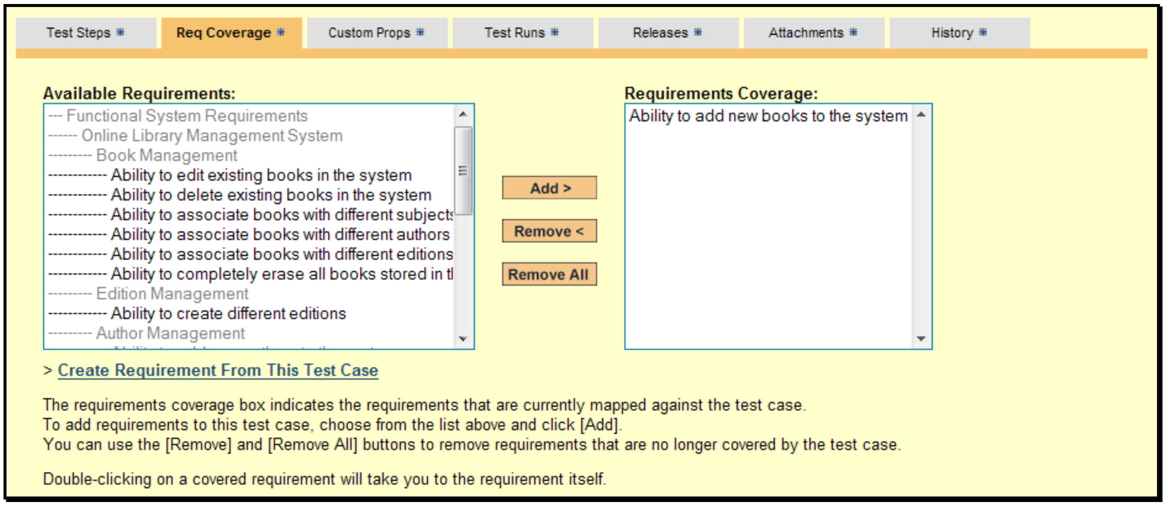
To view / change the parameters associated with the current test case, click on the <Parameters> icon in the toolbar and the list of current parameters will be displayed:



The list of existing parameters is displayed in a grid, followed by the option to add a new parameter and default value (used when the test case is run directly rather than being called by another test case). You can delete an existing parameter and also copy the parameter token to your computer’s clipboard. The latter option is useful so that you can insert the parameter token (in the format *${parameter name}*) in the test step description, expected result or sample data fields and have it converted into the parameter value during test execution.

5.2.2. Requirements Coverage

This view displays the name of the test case together with the requirements coverage information for the test case in question:



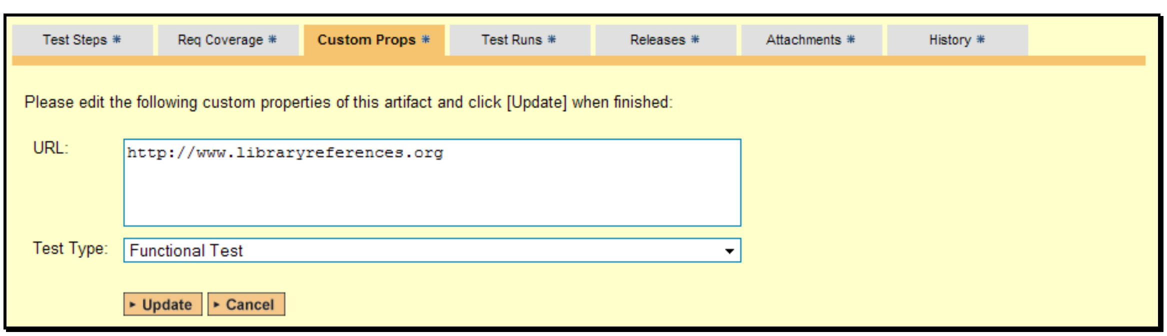
The main (right) pane consists of two lists of requirements, the one on the left being the hierarchical list of the requirements belonging to the project (the summary items are denoted by their gray color). The right box contains the list of requirements mapped to this test case. Double-clicking on items in this box will jump you to the requirements details screen for this requirement (see section 4.2).

To change the coverage for this test case, you use the buttons (Add, Remove, Remove All) positioned between the two list-boxes. The <Add> button will move the selected requirements from the list of available on the left to the list of mapped on the right. Similarly the <Remove> and <Remove All> buttons will remove either the selected or all the requirements from the right list-box and add them back to the left list-box.

Finally, as a shortcut you can click the "Create Requirement from This Test Case" link to create a new requirement in the list of covered requirements that will be automatically linked to this test case. This is useful when you have created a new test case and want to generate an initial placeholder requirement to be fleshed-out later.

5.2.3. Custom Properties

In this mode, the main pane displays any custom properties that the project owner has defined for test cases. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the test case. These can be either freetext or drop-down-lists. In the example below, you can enter a URL and/or Test Type.



Once you are satisfied with the values for the custom properties, simply click [Update] to commit the changes.

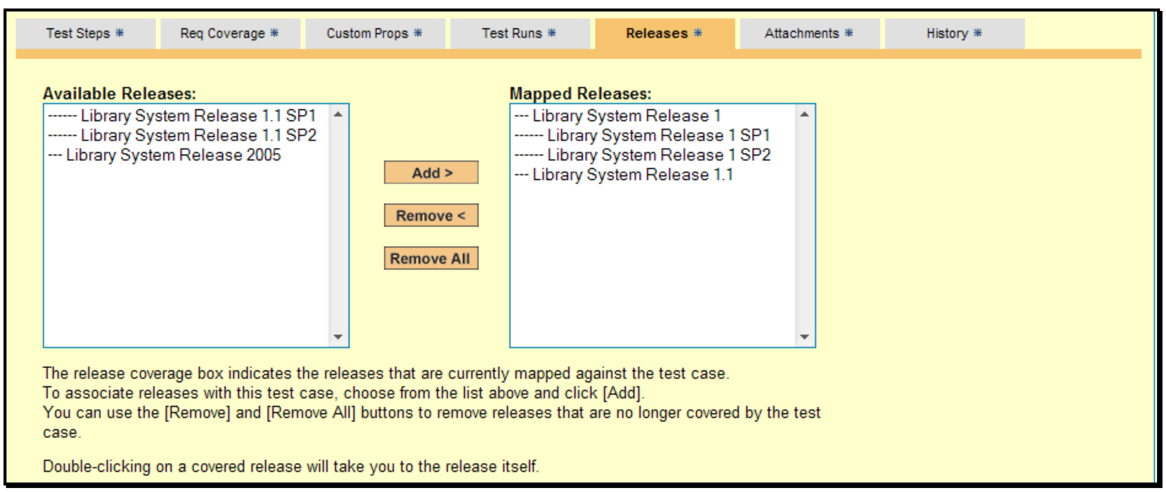
5.2.4. Test Runs

This view displays the name of the test case together with a list of the previous execution runs that the test case has been put through. Each test run is listed together with the date of execution, the name of the test case, the name of the test set (if applicable), the name of the tester, the release/version of the system that the test was executed against, the overall execution status for the test case in that run and a link to the actual test run details (see section 5.4). In addition, you can choose to display any of the custom properties associated with the test run.

The "customize columns" drop-down list allows you to change the fields that are displayed in the test run list as columns. To show a column that is not already displayed, simply select that column from the list of "Show…" column names and to hide an existing column, simply select that column from the list of "Hide…" column names. The displayed columns can be any standard field or custom property.

5.2.5. Release Mapping

This view displays the name of the test case together with the release mapping information for the test case in question:

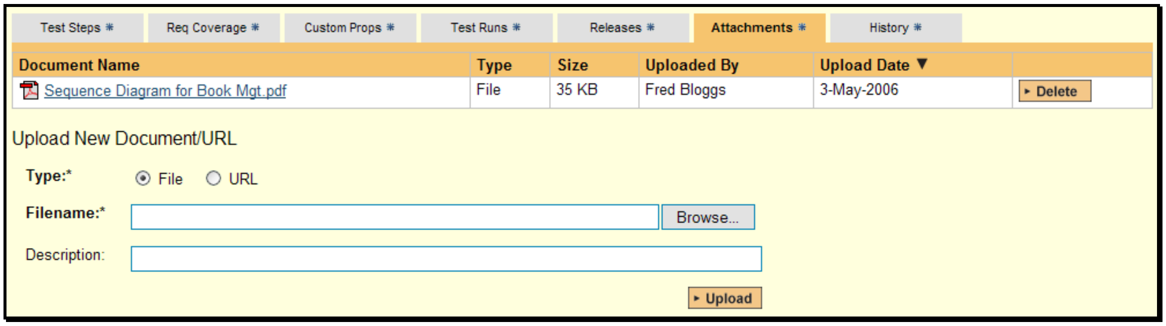


The release mapping section consists of two lists of releases, the one on the left being the list of the releases belonging to the project that are not currently mapped to the test case. The right box contains the list of releases currently mapped to this test case. Double-clicking on items in this box will jump you to the release details screen for this requirement (see section 7.2).

To change the release mapping for this test case, you use the buttons (Add, Remove, Remove All) positioned between the two list-boxes. The <Add> button will move the selected releases from the list of available on the left to the list of mapped on the right. Similarly the <Remove> and <Remove All> buttons will remove either the selected or all the releases from the right list-box and add them back to the left list-box.

5.2.6. Attachments

In this mode, the main pane displays the list of documents that have been "attached" to the test case. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

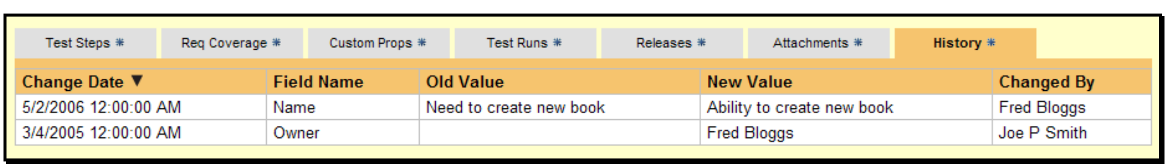
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from a test case, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the test case, you need to choose "File" as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the test case. To attach a web-link (URL) to the test case, you need to choose "URL" as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn't put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename *before uploading* if you want it to be displayed with the correct icon in the attachment list.

5.2.7. History

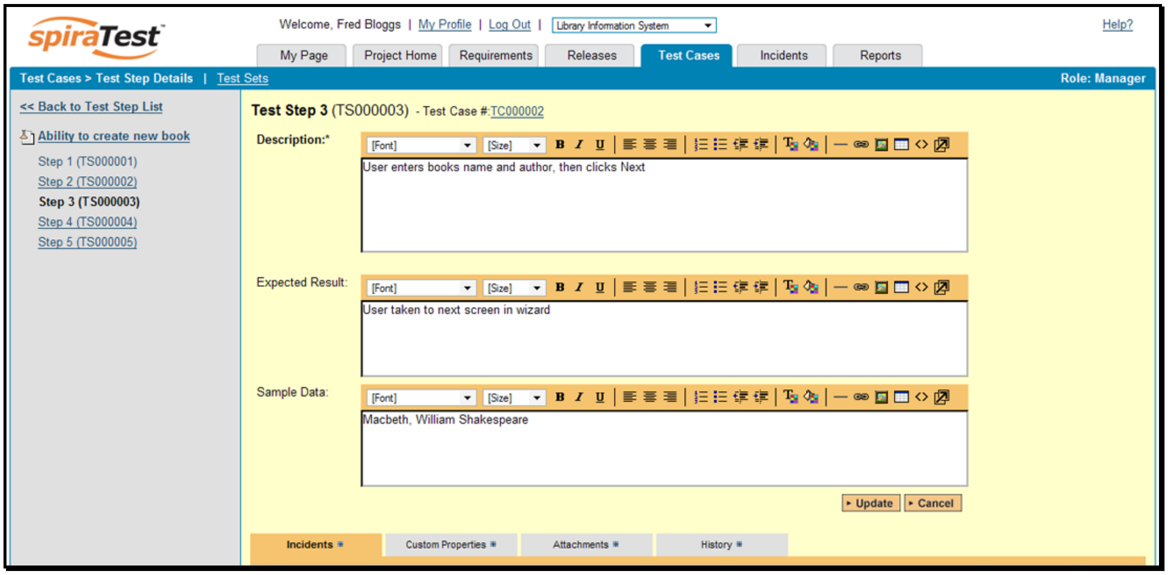
In this mode, the main pane displays the list of changes that have been performed on the test case artifact since its creation. An example test case change history is depicted below:



The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

5.3. Test Step Details

When you click on one of the hyperlinks next to a test step in the test step list (see above), you will be taken to the test step details screen illustrated below:



This page is made up of three areas; the left pane is the navigation window, the upper part of the right pane contains the test step detailed information itself, and the bottom part of the right pane contains related information about the test step.

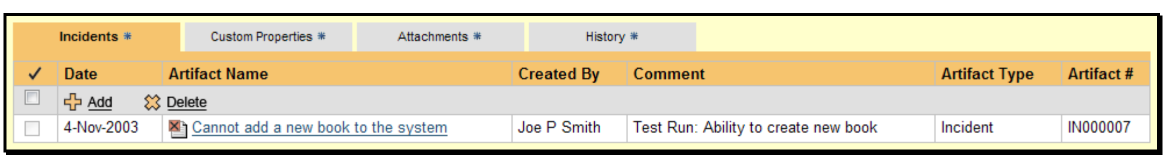
The navigation pane consists of a link that will take you back to the test step list, as well as a list of the peer test steps to the one selected. This latter list is useful as a navigation shortcut; you can quickly view the detailed information of all the peer test steps by clicking on the navigation links without having to first return to the test step list page.

The top part of the right pane allows you to view and/or edit the details of the particular test step. You can edit the various fields (description, expected result and sample data) and once you are satisfied with them, simply click the <Update> button just below the fields to commit the changes.

The lower part of the right pane can be switched between four different views by clicking the appropriate tab. Initially the pane will be in “Incidents” mode, but it can be switched to “Custom Properties”, “Attachments” and “History” modes if so desired. Each of the views is described separately below.

5.3.1. Incidents

In this mode, the main pane displays a list of any incidents that are associated with this test step. They can either be linked indirectly due to being logged during a test run, or directly linked after the fact:

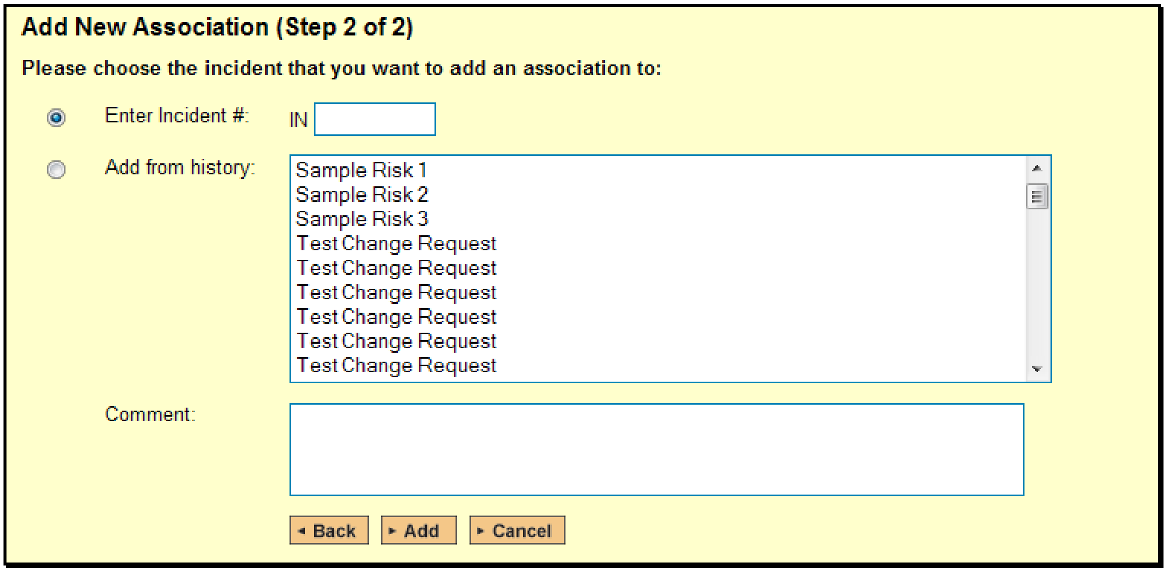


Incidents | Custom Properties | Attachments | History

✓	Date	Artifact Name	Created By	Comment	Artifact Type	Artifact #
	Add	Delete				
	4-Nov-2003	Cannot add a new book to the system	Joe P Smith	Test Run: Ability to create new book	Incident	IN000007

Each incident is displayed with its name, the name of the person who executed the test run or made the direct association, and a comment that describes why the association was made. In the case of a test run, the comment will simply contain the name of the test run.

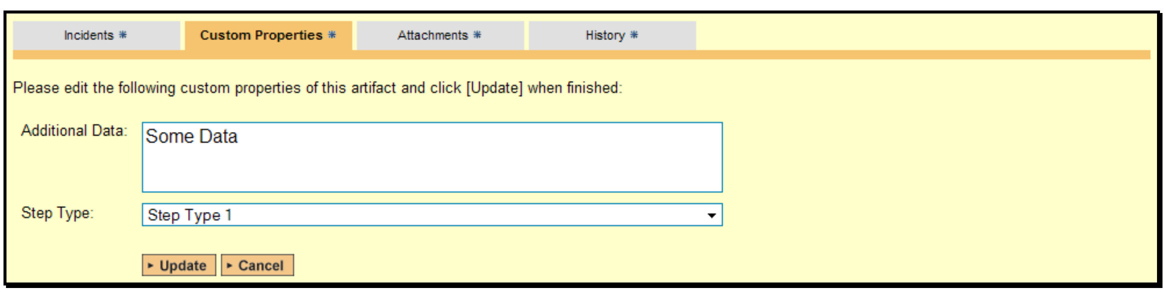
To create a new association between this test step and an existing incident, simply click the <Add> icon and then choose the incident you want to link to this test step:



Finally, to delete an existing incident association (except for those due to test runs) select the check-box next to its name and click the <Delete> icon. This will only delete the association, not the linked incident itself.

5.3.2. Custom Properties

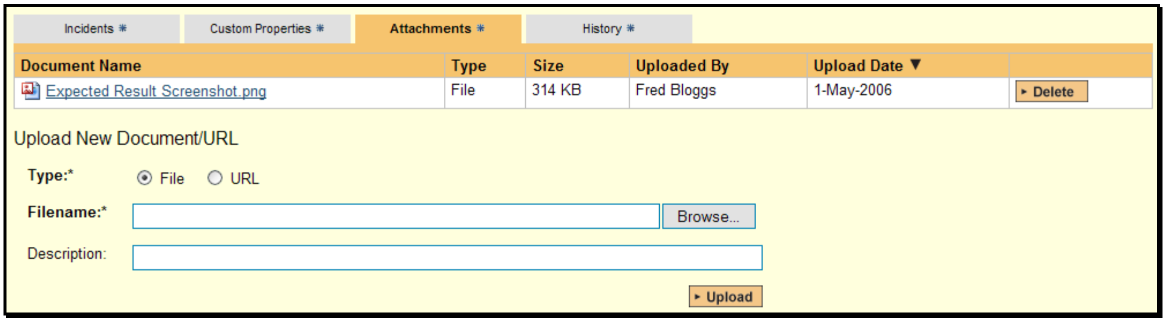
In this mode, the main pane displays any custom properties that the project owner has defined for test steps. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the test step. These can be either freetext or drop-down-lists.



Once you are satisfied with the values for the custom properties, simply click [Update] to commit the changes.

5.3.3. Attachments

In this mode, the lower section of the screen displays the list of documents that have been “attached” to the test step. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

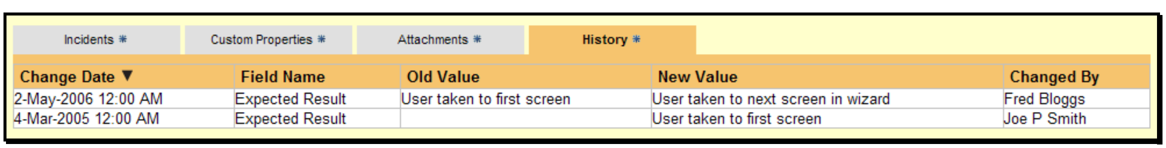
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from a test step, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the test step, you need to choose “File” as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the test step. To attach a web-link (URL) to the test step, you need to choose “URL” as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn’t put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename before uploading if you want it to be displayed with the correct icon in the attachment list.

5.3.4. History

In this mode, the main pane displays the list of changes that have been performed on the test step artifact since its creation. An example test step change history is depicted below:



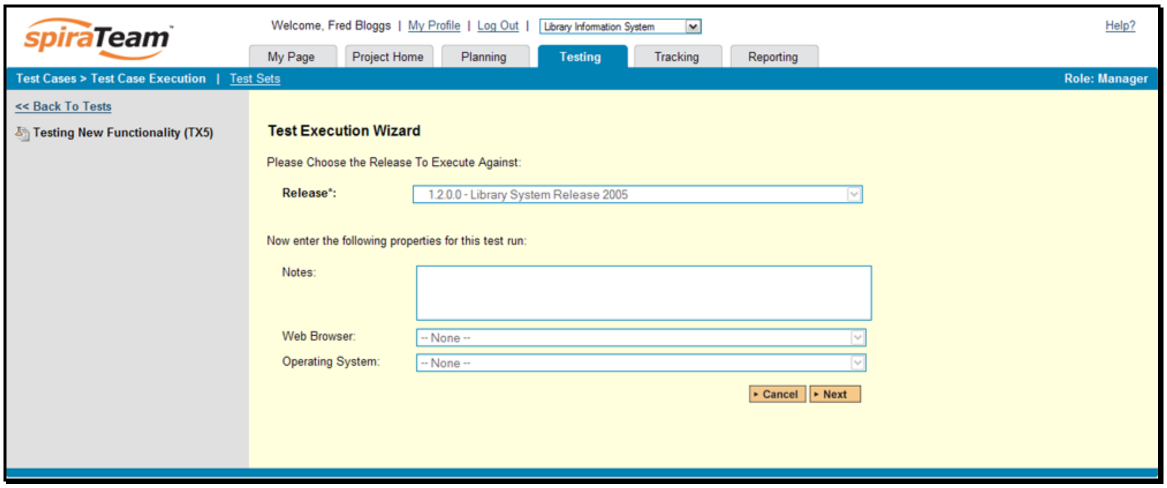
The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

5.4. Execute Test Case(s)

This section describes how a tester can follow the steps defined for a series of test cases and record what actually happened in the process. In addition, recorded failures of test cases can be used to automatically generate new incidents that will be added to the incident tracking module (see section 6).

You start test case execution in SpiraTeam by either selecting test cases or test sets on their respective page(s) and clicking the <Execute> button, or by clicking the “Execute” link on the test cases / test sets listed on your personalized home page under “My Test Cases” or “My Test Sets”. If you execute a test set then the values of the selected release and custom list properties for the test run are automatically populated from the test set, whereas if you directly execute a test case itself, those values can be chosen by the tester.

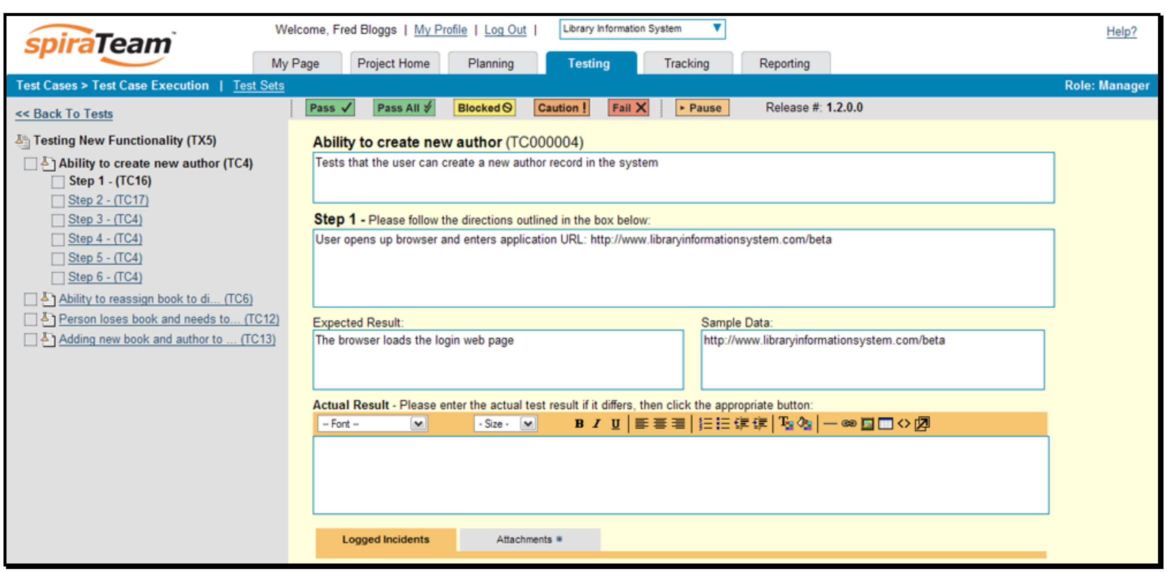
Regardless of the route taken to launch the test execution module, the first screen that will be displayed will look like the following:



Before actually executing the test scripts, you need to select the release of the system that you will be testing against and any test run custom properties that have been defined by the project owner. This ensures that the resulting test runs and incidents are associated with the correct release of the system, and that the test runs are mapped to the appropriate custom properties (e.g. operating system, platform, browser, etc.).

If you have not configured any releases for the project, then the release drop-down list will be disabled and the test runs/incidents will not be associated with any particular release. If the test run was launched from a test set, the release and list custom properties will be pre-populated from the test set itself and will not be changeable on this screen.

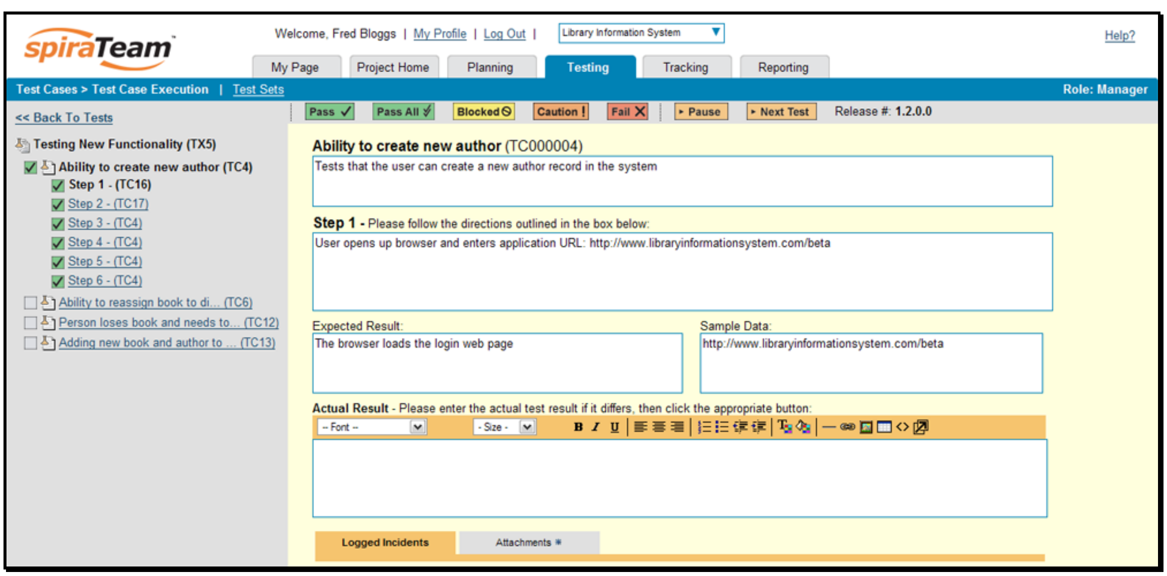
Once you have chosen the appropriate release name and/or custom properties, click the <Next> button to begin executing test steps:



The screen is divided up into four main elements:

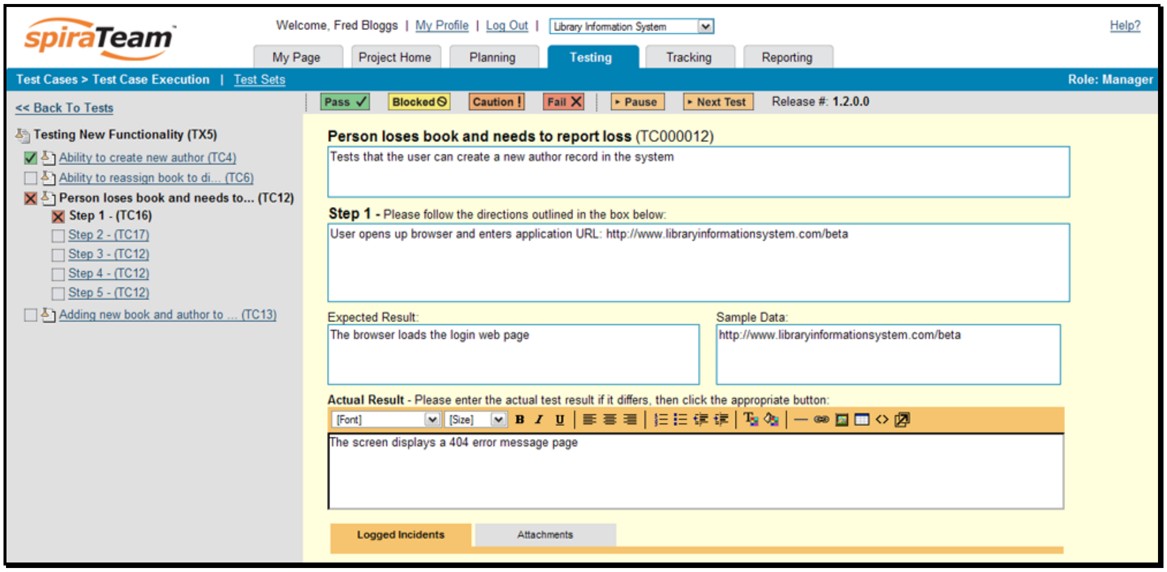
- The left-hand navigation pane contains the list of test cases and test steps for the currently executing test case. You can click on the various links to move between the test cases and/or test steps. In addition, each test case and test step has a colored square next to the name that indicates its status (green = “Passed”, yellow = “Blocked”, orange = “Caution”, red = “Failed”, gray = “Not Run”) in the current test run. If any of the steps are marked as “Failed”, ”Blocked”, or “Caution” then the overall test case is marked with that status; if *all* the test steps passed, then the overall test case is marked as “Passed”; any other case results in the test case being marked as “Not Run”.
- The main pane displays the details of the test case together with the current test step. As the tester you would read the name and description of the test case, then read the description of the test step, carry out the instructions on the system you are testing, and then compare the results with those listed as expected. As described below, depending on how the actual system responds, you will use the buttons on the page to record what actually happened.
- Below the main pane there are two optional sections. The first one allows you to log an incident in the system associated with the test step. For failures this will typically be used to log a bug relating to the failure. However even if you pass a step you can still log an incident, which may be useful for logging non-critical cosmetic items that are not serious enough for a failure to be recorded. This tab also displays any pre-existing incidents that were associated with the test step being viewed.
- The second tab displays a list of attachments that are related to the current test case and/or test step. This list initially contains any documents that have been attached to either the test case in general or the test step in particular. However as you perform the testing, you can attach additional documents to this list that are relevant to the test results (e.g. screenshots of an error page); these attached documents will be associated with both the test run itself and any incidents that are created.

If the expected results are indeed observed, then you simply need to click the <Pass> button to mark the test step as passed, and advance to the next test step, or if all the steps have passed, you can click <Pass All> to pass all the steps at once. This is illustrated in the screen shot below:



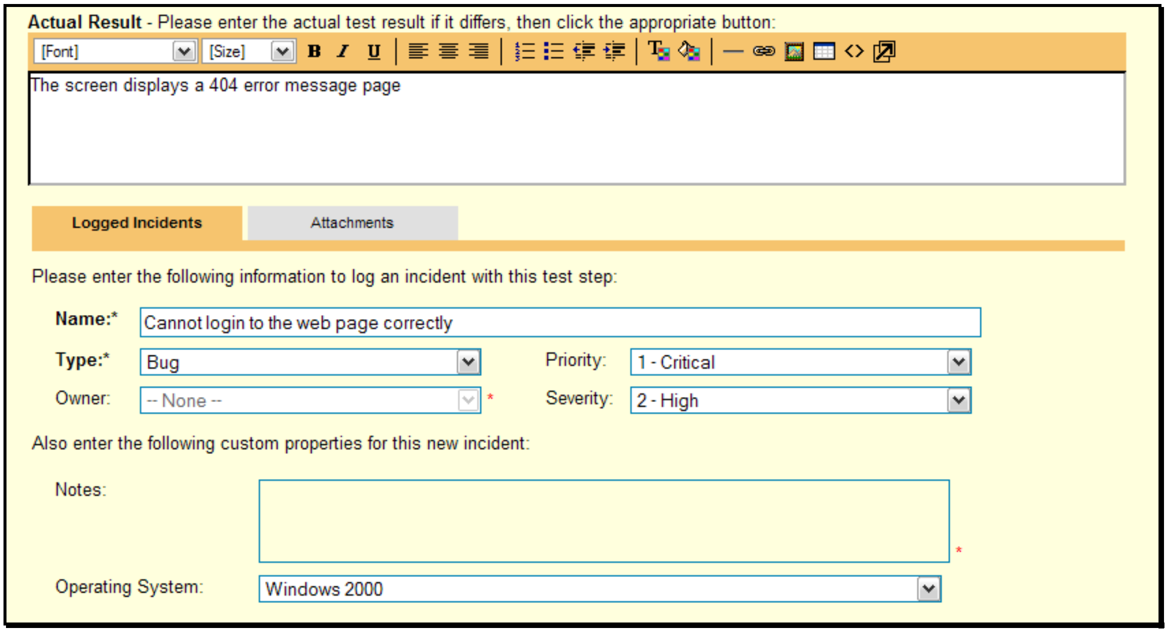
This will change the icon in the left-hand navigation bar into a green square with a check mark in it. Once all the test steps have passed, you will now have the option of moving to the next test step by clicking the <Next Test> button; if it is the last test case being executed, the <Finish> button will be displayed instead.

If the actual results differ from those expected, you need to enter a description of the result observed and click the <Fail>, <Blocked> or <Caution> button; this is illustrated in the screen-shot below:



Unlike the <Pass> button, if you don't enter a description of the actual result, the system will display an error message and re-prompt you again for input. In the case of a failure, both the individual test step and the overall test case will be marked with a red square containing a cross. Similarly, in the case of a blocked test case, they will be marked with a yellow square, and in the case of a caution, they will be marked with an orange square. You will now have the option of moving to the next test step by clicking the <Next Test> button; if it is the last test case being executed, the <Finish> button will be displayed instead.

In addition to logging the failure, you can optionally choose to have the failure result in a new incident be automatically created. This is achieved by clicking on the Incident tab and entering a name, type, priority, severity (and any custom properties) for the new incident *before* clicking the <Fail/Caution/Blocked> button:



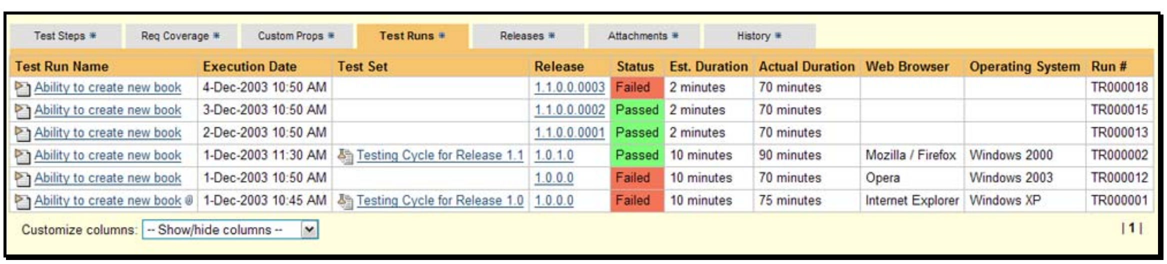
The other information needed for the new incident is automatically populated from the test step details. The newly created incident will also be linked to the test step, allowing traceability from within the incidents module. The functionality for managing incidents is described in more detail in section 6.

If you need to attach documents to the test run (e.g. screenshots of the error message), you just need to select the Attachments tab and then choose the option to upload the necessary documents, or attach the appropriate URLs.

Note that the entire test run is saved once you first start execution, so you can always step away from your computer and then resume testing at a later date by locating the test run on your 'My Page' under 'My Pending Test Runs' and choosing to resume testing.

5.5. Test Run Details

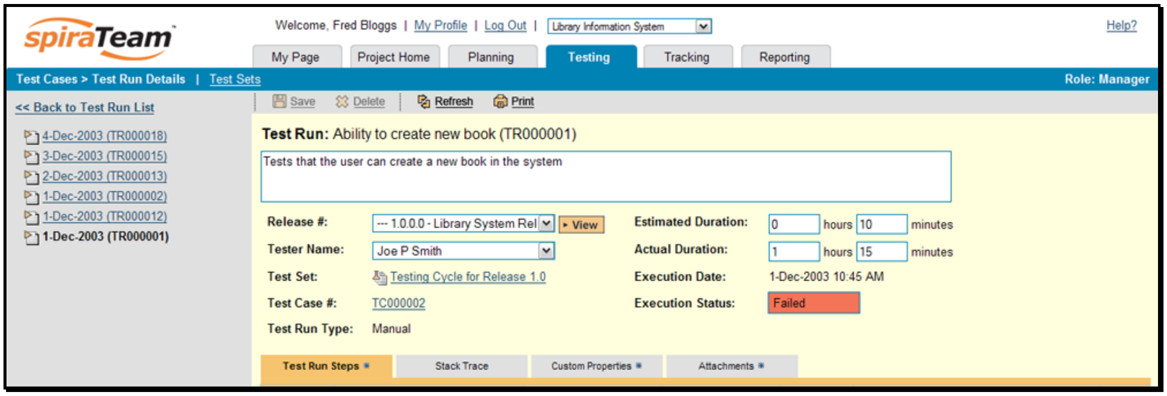
As described in section 5.2.4, when you view the details of a test case, one of the views possible is to list all the test runs for that test case:


Test Steps | Req Coverage | Custom Props | Test Runs | Releases | Attachments | History

Test Run Name	Execution Date	Test Set	Release	Status	Est. Duration	Actual Duration	Web Browser	Operating System	Run #
Ability to create new book	4-Dec-2003 10:50 AM		1.1.0.0.0003	Failed	2 minutes	70 minutes			TR000018
Ability to create new book	3-Dec-2003 10:50 AM		1.1.0.0.0002	Passed	2 minutes	70 minutes			TR000015
Ability to create new book	2-Dec-2003 10:50 AM		1.1.0.0.0001	Passed	2 minutes	70 minutes			TR000013
Ability to create new book	1-Dec-2003 11:30 AM	Testing Cycle for Release 1.1	1.0.1.0	Passed	10 minutes	90 minutes	Mozilla / Firefox	Windows 2000	TR000002
Ability to create new book	1-Dec-2003 10:50 AM		1.0.0.0	Failed	10 minutes	70 minutes	Opera	Windows 2003	TR000012
Ability to create new book	1-Dec-2003 10:45 AM	Testing Cycle for Release 1.0	1.0.0.0	Failed	10 minutes	75 minutes	Internet Explorer	Windows XP	TR000001

Customize columns: -- Show/hide columns -- | 1 |

When you click on any of the individual test runs in the list, you are taken to the Test Run details page (not to be confused with the Test Case details page!) shown below:



This page consists of three panes:

- The left hand navigation pane displays a list of the last fifteen (15) runs
- The main pane displays the details of the test run itself (name, description, release, test set, estimated and actual duration, tester name, test run type, etc.)
- The tab-control displays the list of test run steps (populated if a manual run executed by a user), the stack trace (populated if an automated run executed by an automated testing tool such as NUnit, JUnit, etc.), any custom properties set for the run, and a list of any documents/URLs that were attached to the test results.

5.5.1. Editing a Test Run

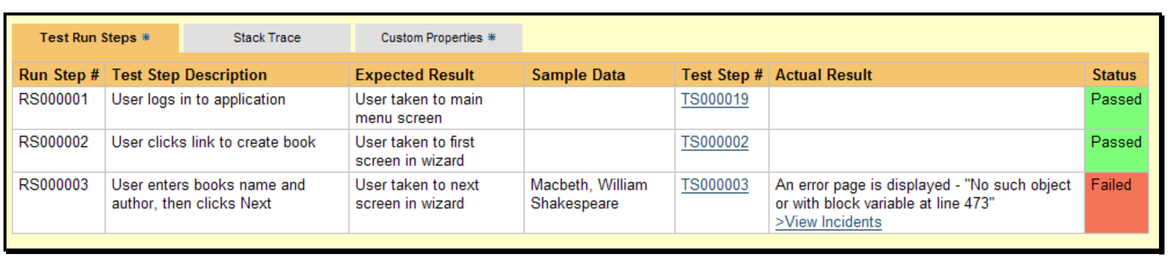
When reviewing the test run, you may find that you need to change the results of the test run (e.g. the user selected the wrong release or custom property value). Many of the fields are editable at a later date, and to make changes, just modify the appropriate fields and click [Save].

5.5.2. Deleting the Test Run

If you need to delete a test run that was erroneously captured, all you need to do is click on the link to access the invalid test run and then click the <Delete> button to remove it from the system. This will then force the system to update the status of the test case itself from the other logged test runs.

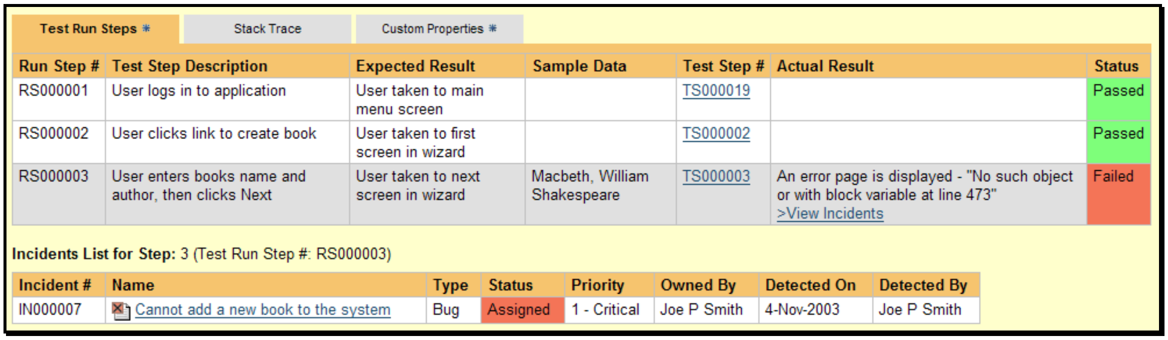
5.5.3. Test Run Steps

In the case of a manual test run, this tab displays all the steps of the test case *as they appeared during the test run in question.* This means that if the test steps were changed after running the test, the list here will reflect the original information.



Run Step #	Test Step Description	Expected Result	Sample Data	Test Step #	Actual Result	Status
RS000001	User logs in to application	User taken to main menu screen		TS000019		Passed
RS000002	User clicks link to create book	User taken to first screen in wizard		TS000002		Passed
RS000003	User enters books name and author, then clicks Next	User taken to next screen in wizard	Macbeth, William Shakespeare	TS000003	An error page is displayed - "No such object or with block variable at line 473" >View Incidents	Failed

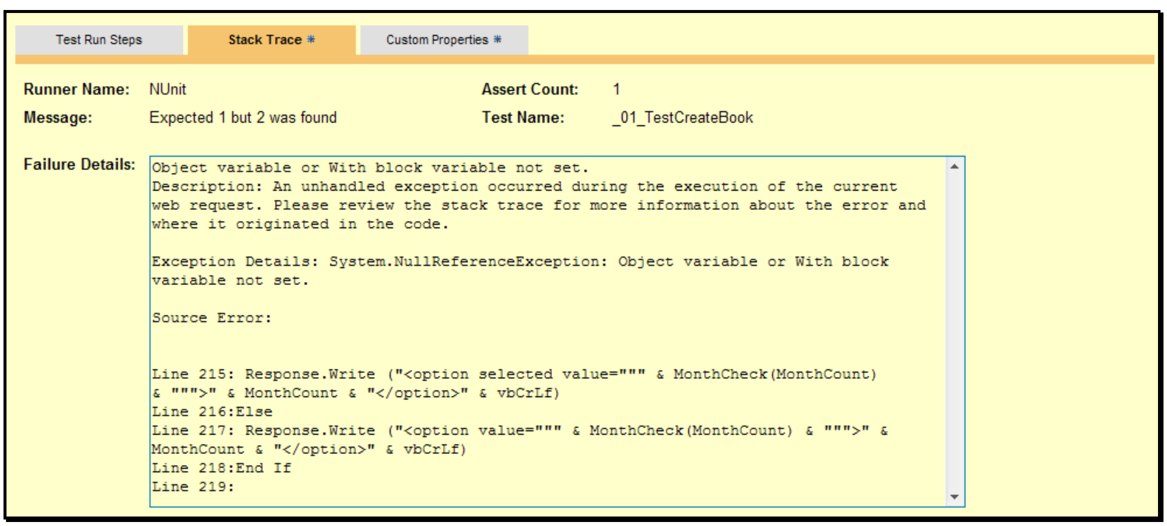
Each test step is displayed along with the description, expected result, suggested sample data, a link back to the current version of the test step in question, the actual result and the execution status for this step *in this particular test run*. Where an actual result was recorded, you will have an additional hyperlink “View Incidents” displayed. This allows you to view any incidents that are associated with this particular test run step:



Clicking on the link will change the background color of the test case to gray and display a list of all the associated test steps in a grid below the test step list. Each of the incidents listed will reflect the most up-to-date information regarding that incident, including its type, status, priority, name, assigned owner, detection date and who first detected it. Clicking on the incident number hyperlink will take you to the details page for that incident, which is described in section 6.2.

5.5.4. Stack Trace

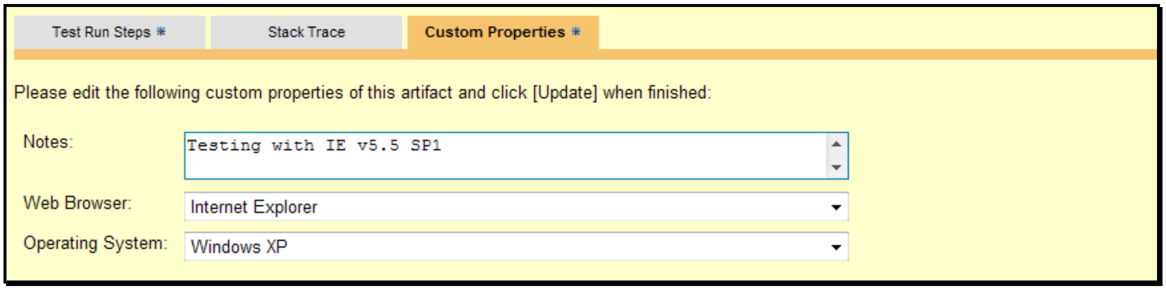
In the case of an automated test run, this tab will display the details of the test run as reported from the test runner application. These details will vary depending on the type of automated tool being used, but typically they include the name of the automated test runner, the number of assertions raised, the name of the corresponding test case in the tool, the status of the test run and a detailed error message, and stack-trace in the case of a failure. An example test run as reported from the NUnit automated test runner is illustrated below:



Details on how to use SpiraTeam™ in conjunction with an automated testing tool are provided in the *SpiraTeam™ Automated Testing Integration Guide,* which can be downloaded from the Inflectra® website.

5.5.5. Custom Properties

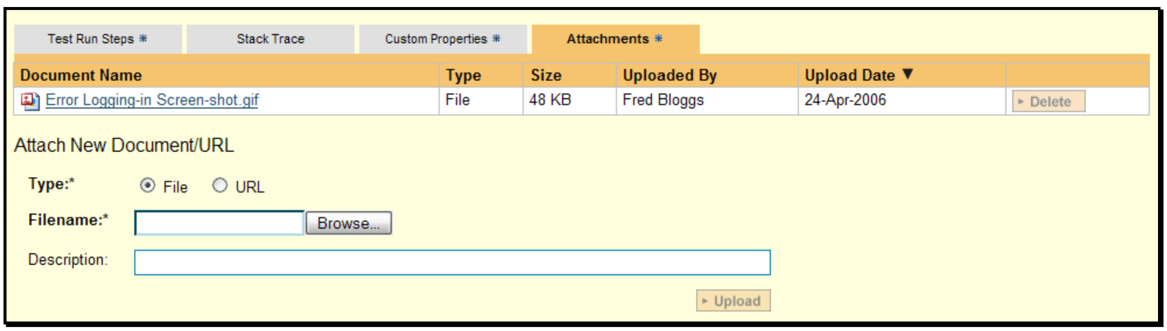
In this mode, the tab displays any custom properties that the project owner has defined for test runs. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that have been set during the test run:



For test runs, custom properties are most commonly used to capture and record the system configuration that the test was performed on – for example the operating system, hardware platform, and web-browser.

5.5.6. Attachments

In this mode, the lower section of the screen displays the list of documents that have been "attached" to the test run. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

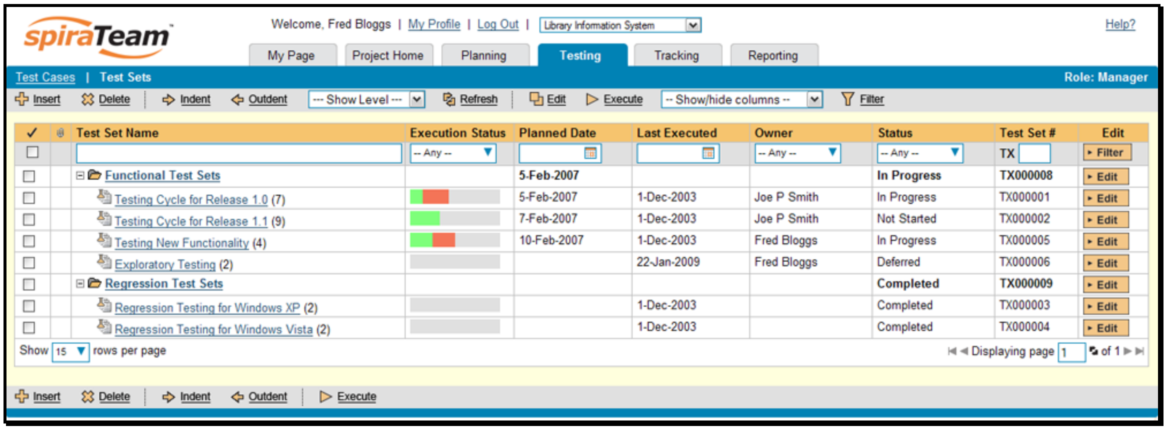
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from a test run, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the test run, you need to choose "File" as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the test run. To attach a web-link (URL) to the test run, you need to choose "URL" as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn't put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename before uploading if you want it to be displayed with the correct icon in the attachment list.

5.6. Test Set List

As well as being able to organize test cases into folders, you can also create separate groupings of test cases called test sets which can then be assigned to testers as a package. To view the list of test sets for a project, click on Testing > Test Sets in the global navigation:



The test set list consists of hierarchical list of all the test sets in the current project organized into folders. When you create a new project, this list will initially be empty, and you will have to use the <Insert> button to start adding test sets to the system.

Each test set is listed along with the number of test cases contained (in parenthesis), the aggregate execution status of the contained test cases (using a graphical bar-chart), the date that the test set has been scheduled to be executed (planned date), the date that it was last executed, the person currently assigned to execute the test set, the status and the test set id. Clicking on a test set's hyperlink will take you to the test set details page for the item in question.

5.6.1. Insert

Clicking on the <Insert> button inserts a new test set *before* the currently selected (by means of the check-box) test set. Clicking the <Insert> button without selecting a test set will insert a new test set at the end of the list.

5.6.2. Indent / Outdent

Clicking on the <Indent> button indents all the test folders / test sets whose check-boxes have been selected. You cannot indent a test set or folder if it is *below* a test set, as test sets are not allowed to have child items. Clicking on the <Outdent> button de-indents all the test folders / test sets whose check-boxes have been selected.

5.6.3. Delete

Clicking on the <Delete> button deletes the currently selected test sets. It will delete the association between the test set and its contained test cases, but it will not delete the test cases themselves.

5.6.4. Execute

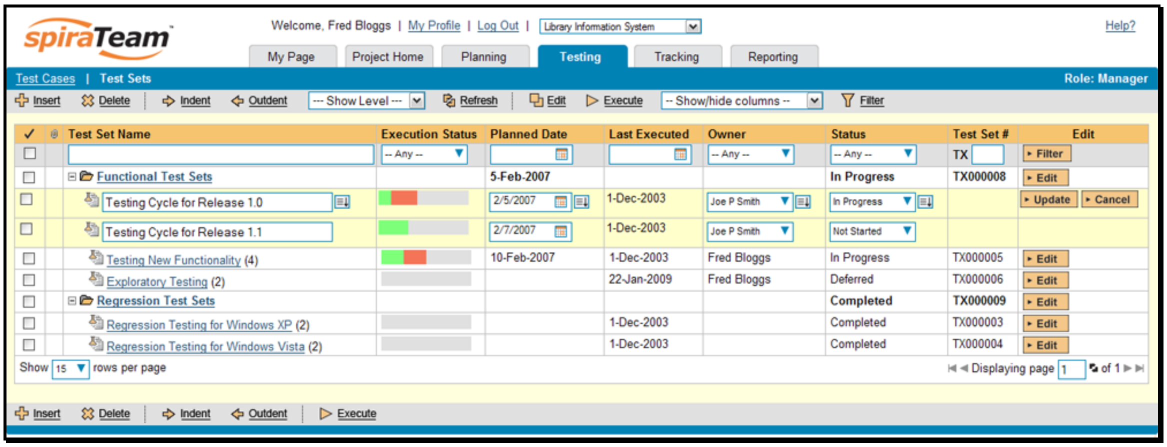
Clicking on the <Execute> button executes all the test sets selected. The test execution functionality of SpiraTeam™ is explained in more detail in section 5.3.

5.6.5. Refresh

Clicking on the <Refresh> button simply reloads the list of test sets. This is useful if other people are making changes to the test set list and you want to make sure that you have the most current version.

5.6.6. Edit

Each test set in the list has an <Edit> button display in its right-most column. When you click this button or just click on any of the cells in the row, you change the item from “View” mode to “Edit” mode. The various columns are made editable, and <Update> <Cancel> buttons are displayed in the last column:



If you click <Edit> on more than one row, the <Update> and <Cancel> buttons are only displayed on the first row, and you can make changes to all the editable rows and then update the changes by clicking the one <Update> button. Also, if you want to make the same change to multiple rows (e.g. to change the owner of five test sets from “Fred Bloggs” to “Joe Smith”), you can click on the “fill” icon to the right of the editable item, which will propagate the new value to all editable items in the same column.

When you have made your updates, you can either click <Update> to commit the changes, or <Cancel> to revert back to the original information. Alternatively, pressing the <ENTER> key will commit the changes and pressing the <ESCAPE> key will cancel the changes.

5.6.7. Show Level

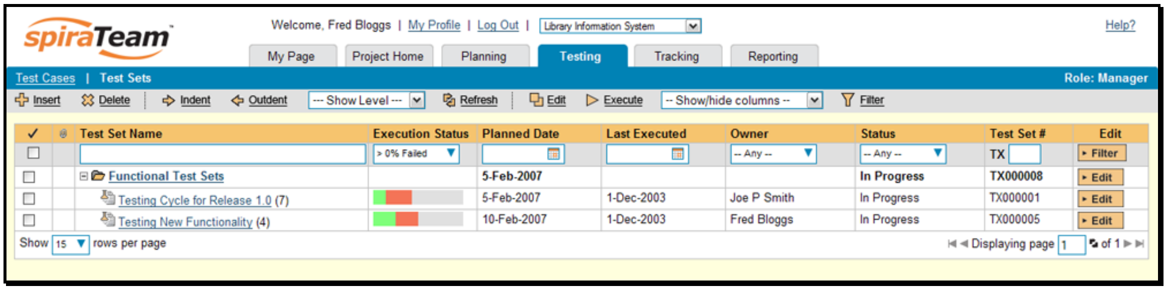
Choosing an indent level from the ‘Show Level’ drop down box allows you to quickly and easily view the entire test set list at a specific indent level. For example you may want to see all test set drilled-down to the *third* level of detail. To do this you would simply choose ‘Level 3’ from the list, and the test sets will be expanded accordingly

5.6.8. Show / Hide Columns

This drop-down list allows you to change the fields that are displayed in the test set list as columns for the current project. To show a column that is not already displayed, simply select that column from the list of “Show…” column names and to hide an existing column, simply select that column from the list of “Hide…” column names. This is stored on a per-project basis, so you can have different display settings for each project that you are a member of. The fields can be any of the built-in fields or any of the custom properties set up by the project owner.

5.6.9. Filtering

You can easily filter the list of test sets as illustrated in the screen-shot below:



To filter the list by any of the displayed columns, you either choose an item from the appropriate drop-down list or enter a free-text phrase (depending on the type of field) then click <Filter> or press the <ENTER> key to apply the different filters. Note that the name field is searched using a "LIKE" comparison, so that searching for "database" would include any item with the word database in the name. The other freetext fields need to be exact matches (e.g. dates, test set numbers). In the screen-shot above, we are filtering on test sets that contain at least one failed test case.

In addition, if you have a set of filters that you plan on using on a regular basis, you can choose the option Filter > Save Filter to add the current filter to the list of saved filters that appear on your 'My Page'. The list of saved filters can also be retrieved by clicking Filter > Retrieve Filter.

5.6.10. Copying Test Sets

To copy one or more test sets, simply select the check-boxes of the test sets you want to copy and then select the Edit > Copy menu option. This will copy the current test set selection to the clipboard. Then you should select the place where you want the test sets to be inserted and choose the Edit > Paste option.

The test sets will now be copied into the destination location you specified. The name of the copied test sets will be prefixed with "Copy of…" to distinguish them from the originals.

5.6.11. Moving Test Sets

To move test sets in the hierarchy, there are two options:

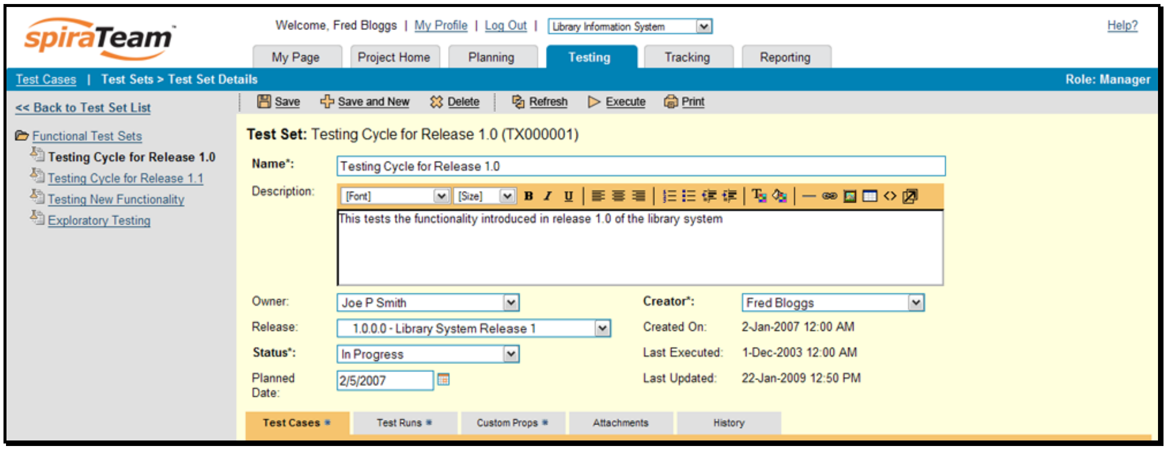
1. Click on the icon the test set/folder you want to move and then drag the icon to the location you want it moved. The background of the destination location will change as the icon is dragged over it to illustrate where it will be inserted.

   Once you have the test set/folder positioned at the correct place that you want it inserted, just release the mouse button and the test set list will be refreshed, with the item moved to the desired location.

2. Alternatively you can simply select the check-boxes of the test sets you want to move and then select the Edit > Cut menu option. This will cut the current test set selection to the clipboard. Then you should select the place where you want the test sets to be inserted and choose the Edit > Paste option. The test sets will now be moved into the destination location you specified.

5.7. Test Set Details

When you click on a test set item in the test set list described in the previous section, you are taken to the test set details page illustrated below:



This page is made up of three areas; the left pane is the navigation window, the upper part of the right pane contains the test set detailed information itself, and the bottom part of the right pane contains related information about the test set.

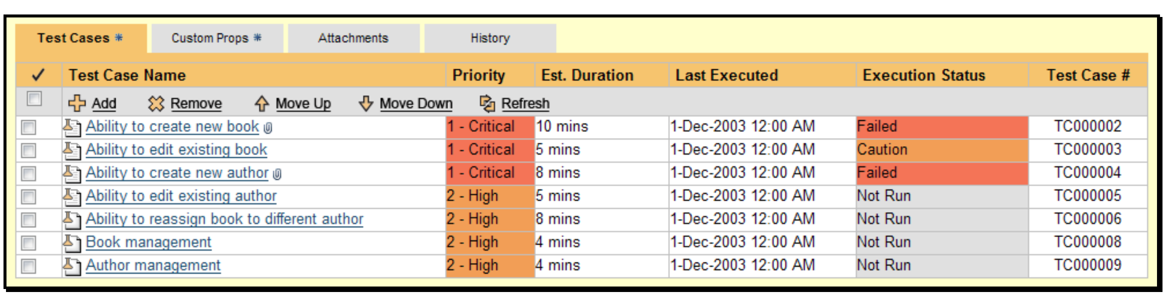
The navigation pane consists of a link that will take you back to the test set list, as well as a list of the peer test sets to the one selected. This latter list is useful as a navigation shortcut; you can quickly view the detailed information of all the peer test sets by clicking on the navigation links without having to first return to the test sets list page.

The top part of the right pane allows you to view and/or edit the details of the particular test set. You can edit the various fields (name, description, etc.) and once you are satisfied with them, simply click either the <Save> or <Save and New> button at the top of the page to commit the changes. In addition you can delete the current artifact by choosing <Delete>, discard any changes made by clicking <Refresh> or print it by clicking <Print>.

The lower part of the right pane can be switched between five different views by clicking the appropriate tab. Initially the pane will be in "Test Cases" mode, but it can be switched to "Test Runs", "Custom Properties", "Attachments" and "History" modes if so desired. Each of the views is described separately below. In addition there is a shortcut link "Execute This Test Set" that allows you to execute all the tests in the set against the release specified in the test set.

5.7.1. Test Cases

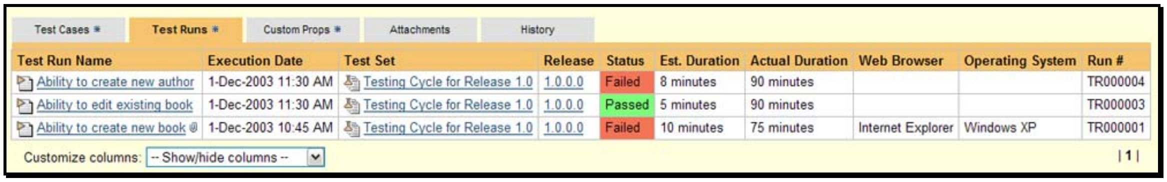
In this mode, the main pane displays the list of test cases contained within the test set. You can add, remove, reposition and remove test cases from the list. The execution status displayed next to each test case is the most recent execution status of the test case *when run in the context of the current test set*.



✓	Test Case Name	Priority	Est. Duration	Last Executed	Execution Status	Test Case #
	Ability to create new book	1 - Critical	10 mins	1-Dec-2003 12:00 AM	Failed	TC000002
	Ability to edit existing book	1 - Critical	5 mins	1-Dec-2003 12:00 AM	Caution	TC000003
	Ability to create new author	1 - Critical	8 mins	1-Dec-2003 12:00 AM	Failed	TC000004
	Ability to edit existing author	2 - High	5 mins	1-Dec-2003 12:00 AM	Not Run	TC000005
	Ability to reassign book to different author	2 - High	8 mins	1-Dec-2003 12:00 AM	Not Run	TC000006
	Book management	2 - High	4 mins	1-Dec-2003 12:00 AM	Not Run	TC000008
	Author management	2 - High	4 mins	1-Dec-2003 12:00 AM	Not Run	TC000009

5.7.2. Test Runs

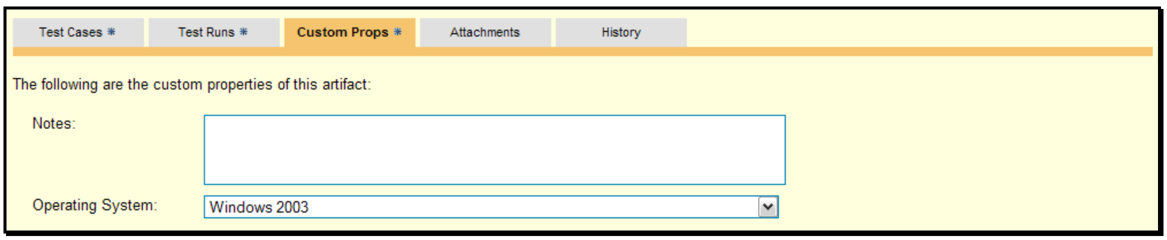
This view displays the list of all the test runs executed against the test set. Each test run is listed together with the date of execution, the name of the test case, the name of the tester, the release/version of the system that the test was executed against, the overall execution status for the test case in that run and a link to the actual test run details (see section 5.4). In addition, you can choose to display any of the custom properties associated with the test run.



The “customize columns” drop-down list allows you to change the fields that are displayed in the test run list as columns. To show a column that is not already displayed, simply select that column from the list of “Show…” column names and to hide an existing column, simply select that column from the list of “Hide…” column names. The displayed columns can be any standard field or custom property.

5.7.3. Custom Properties

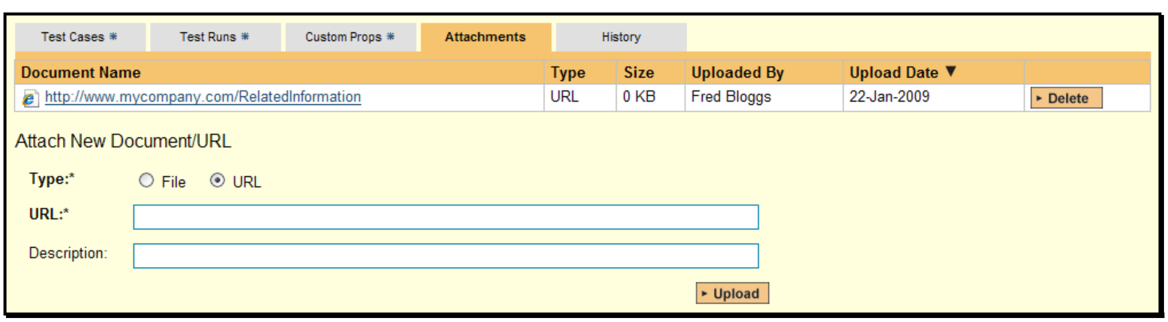
In this mode, the main pane displays any custom properties that the project owner has defined for test sets. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*.



Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the test set. These can be either freetext or drop-down-lists. If you want any of the custom list properties to prepopulate the corresponding value of the test run (e.g. you want all test runs to be marked with Operating System = Windows XP) make sure that both the test set and the test run are configured to use the same custom list.

5.7.4. Attachments

In this mode, the main pane displays the list of documents that have been “attached” to the test set. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from a test set, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the test set, you need to choose "File" as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the test set. To attach a web-link (URL) to the test set, you need to choose "URL" as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn't put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename before uploading if you want it to be displayed with the correct icon in the attachment list.

5.7.5. History

In this mode, the main pane displays the list of changes that have been performed on the test set artifact since its creation. The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

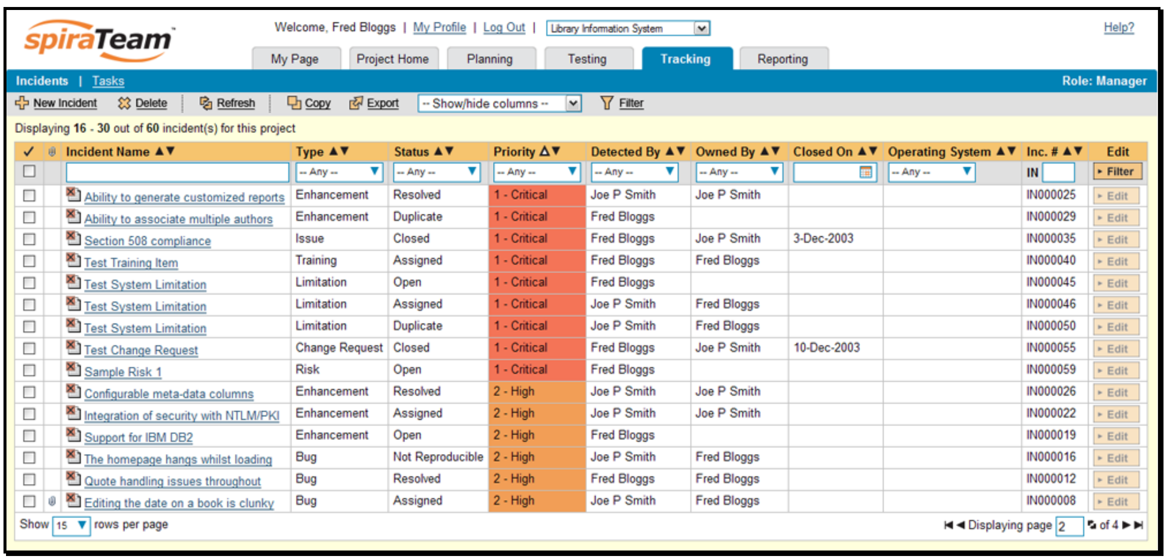
6. Incident Tracking

This section outlines how the incident/defect tracking features of SpiraTeam™ can be used to manage key project artifacts during the software development lifecycle. In addition to managing the defects raised during the execution of test cases in the test management module, the Incident Tracker is also a powerful risk/issue/bug tracking system in its own right. When coupled with the project dashboard (see section 3.4) it is a powerful tool for representing all the key risks and issues associated with a project in a single, graphical format.

Unlike a standalone bug/issue tracking tool however, you can trace the incidents/defects back to the test case and the underlying requirement that generated them, giving the project manager unprecedented power in analyzing the "in-process" quality of a system during its lifecycle. This power is clearly illustrated in the "Requirement Incident Count" pane in the Project Home dashboard (see section 3.4.4).

6.1. Incident List

When you click on the Tracking > Incidents global navigation link, you will initially be taken to the incidents list screen illustrated below:

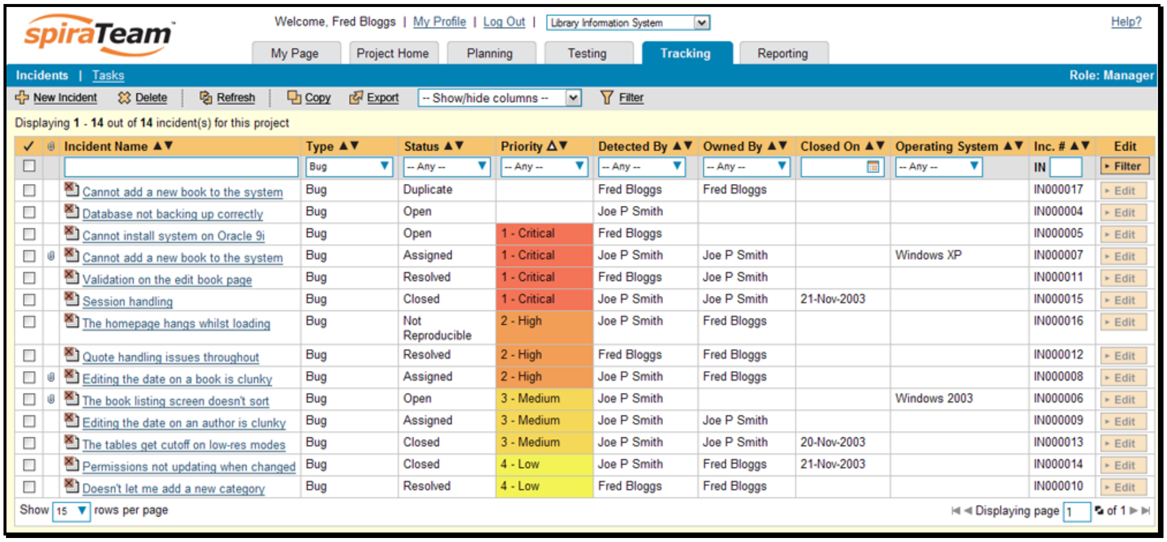


The incident list screen displays all the incidents entered for the current project, in a filterable, sortable grid. The grid displays the incident number together with fields such as incident type (bug, issue, risk, etc.), status (new, open, etc.), priority, name, assigned owner, detection date, detector, closed date, etc. The choice of columns displayed is configurable per-user, per-project, giving extensive flexibility when it comes to viewing and searching incidents.

In addition, you can view a more detailed description of the incident (along with a resolution if any) by positioning the mouse pointer over the incident name hyperlink and waiting for the popup "tooltip" to appear. If you click on the incident name hyperlink, you will be taken to the incident details page described in section 6.2. Clicking on any of the pagination links at the bottom of the page will advance you to the next set of incidents in the list according to the applied filter and sort-order. There is also a drop-down-list at the bottom of the page which allows you to specify how many rows should be displayed in each page, helping accommodate different user preferences.

6.1.1. Sorting and Filtering

You can easily filter and sort the list of incidents as illustrated in the screen-shot below:



To filter the list by incident type, status, priority, owner or detector name, you simply choose an item from the appropriate drop-down list, and for the other fields, you enter a free-text phrase then click <Filter> or press the <ENTER> key to apply the different filters. Note that the name field is searched using a "LIKE" comparison, so that searching for "database" would include any item with the word database in the name. The other freetext fields need to be exact matches (e.g. dates, incident numbers). There are also several aggregate filters that are used to filter on multiple values at once (e.g. filtering status on (All Open) will return any incident that is in one of the open statuses – new, open, assigned, reopen).

To change the column that is sorted, or to change the direction of the current sort, simply click on the up/down arrow icon in the appropriate column. The currently sorted column is indicated by the larger, white arrow with the back-border. In the screen-shot above, we are filtering on type=bug and sorting by decreasing priority.

Clicking on Filter > Clear Filter removes any set filters and expands the incident list to display all incidents for the current project, and clicking on Filter > Save Filter allows you to save the filter to your 'My Page' for use in the future. The list of saved filters can also be retrieved by clicking Filter > Retrieve Filter.

6.1.2. New Incident

Clicking on the <New Incident> button takes you to the new incident screen. This is essentially the same screen as the incident details screen shown in section 6.2 except that the <Update> button is replaced by an <Insert> button, and depending on how the workflow has been configured for your project, certain fields may be disabled. For more details on setting and up configuring workflow for your project, please refer to the *SpiraTest Administration Guide*.

6.1.3. Delete

Clicking on the <Delete> button deletes the incidents whose check-boxes have been selected in the incident list.

6.1.4. Refresh

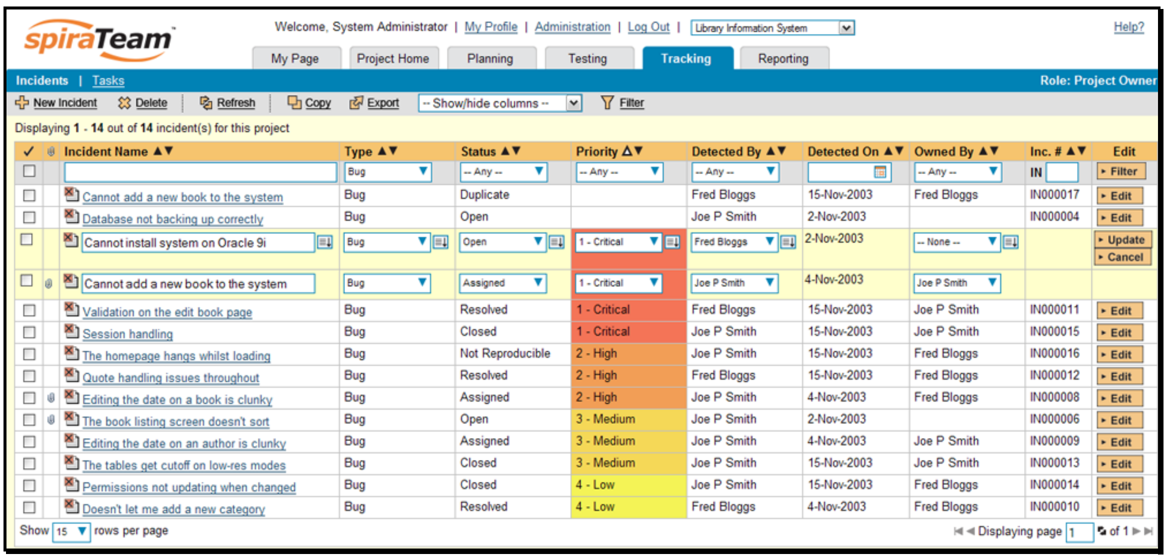
Clicking on the <Refresh> button simply reloads the list of incidents; this is useful when new incidents are being added by other users, and you want to make sure you have the most up-to-date list displayed.

6.1.5. Show / Hide Columns

This drop-down list allows you to change the fields that are displayed in the incident list as columns for the current project. To show a column that is not already displayed, simply select that column from the list of "Show…" column names and to hide an existing column, simply select that column from the list of "Hide…" column names. This is stored on a per-project basis, so you can have different display settings for each project that you are a member of. The fields can be any of the built-in fields or any of the custom properties set up by the project owner.

6.1.6. Edit

Each incident in the list has an <Edit> button display in its right-most column. When you click this button or just click on any of the cells in the row, you change the item from "View" mode to "Edit" mode. The various columns are made editable, and <Update> <Cancel> buttons are displayed in the last column:



If you click <Edit> on more than one row, the <Update> and <Cancel> buttons are only displayed on the first row, and you can make changes to all the editable rows and then update the changes by clicking the one <Update> button. Also, if you want to make the same change to multiple rows (e.g. to change five incidents from "Resolved" status to "Closed"), you can click on the "fill" icon to the right of the editable item, which will propagate the new value to all editable items in the same column.

When you have made your updates, you can either click <Update> to commit the changes, or <Cancel> to revert back to the original information. Alternatively, pressing the <ENTER> key will commit the changes and pressing the <ESCAPE> key will cancel the changes.

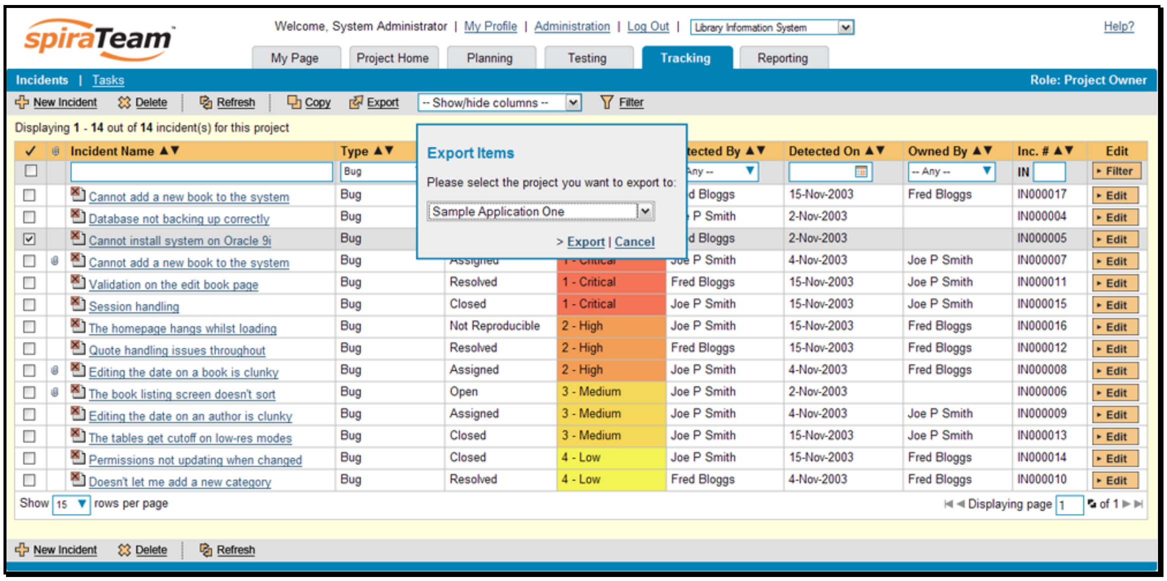
Note that in the case of incidents, you need to have Project Owner permissions for the project to make bulk changes using the <Edit> button as such changes can override the workflow business rules established.

6.1.7. Copying Incidents

To copy an incident or set of incidents, simply select the check-boxes of the incidents you want to copy and then click <Copy>. This will make a copy of the current incident with its name prefixed 'Copy of ….' to distinguish itself from the original. Any file attachments will also be copied along with the incident itself.

6.1.8. Exporting Incidents

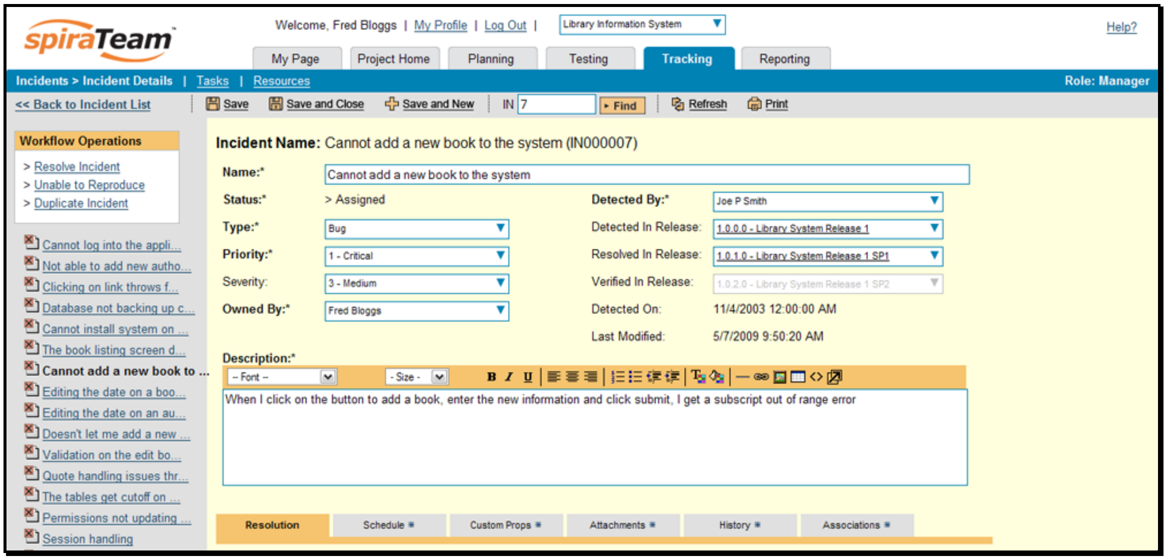
To export an incident or set of incidents from the current project to another project in the system, all you need to do is select the check-boxes of the incident(s) you want to export and then click the <Export> button. This will then bring up a list of possible destination projects:



Once you have chosen the destination project and clicked the <Export> button, the incidents will be exported from the current project to the destination project. Any file attachments will also be copied to the destination project along with the incidents.

6.2. Incident Details

When you click on an incident item in the incident list, or click the <New Incident> button (as described in section 6.1), you are taken to the incident details page illustrated below:



This page is made up of three areas; the left pane is the navigation window where you can quickly jump to other incidents as well as execute workflow transitions (see below), the upper part of the right pane contains the incident detailed information itself, and the bottom part of the right pane displays different information associated with the incident.

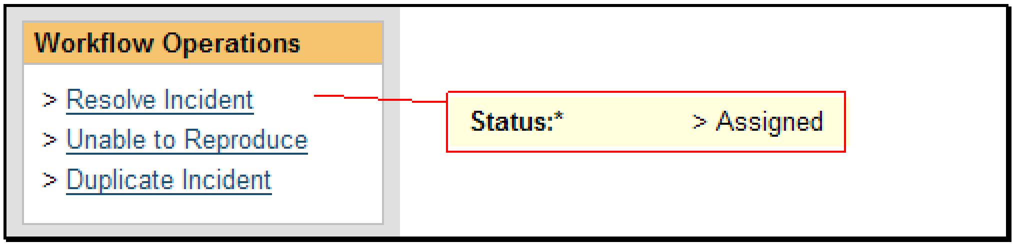
The left-hand navigation pane consists of a link that will take you back to the incident list, as well as a list of the other related incidents that match the currently selected sort and filter option on the incident list page. If the number of incidents exceeds fifteen, only the first fifteen entries will be shown. Above this navigation list is a highlighted box that displays the list of any workflow transitions that the current user can execute on the incident. This is described in more detail below.

In addition to the left hand navigation, you can enter a specific incident number in the text-box in the toolbar and click the <Find> button. In the same toolbar, there is also a shortcut for creating a new incident without having to first return to the incident list page. In addition, the lower section of the incident details page can be switched been four different views: “Resolution”, “Custom Properties”, “Attachments”, “History”, and “Associations”. These are described later.

6.2.1. Editing an Existing Incident

If you are editing an existing incident, the fields that are available and the fields that are required will depend on your stage in the incident workflow. For example an open incident might not require a “Resolved Version” whereas a resolved incident could well do. The types of change allowed and the email notifications that are sent will depend on how your project administrator has setup the system for you. Administrators should refer to the *SpiraTeam Administration Guide* for details on configuring the incident workflows to meet their needs.

Depending on the user’s role and whether they are listed as the owner or detector of the incident or not, displayed in the left hand side of the page, above the navigation list is a set of allowed workflow operations:



These workflow transitions allow the user to move the incident from one status to another. For example when the incident is in the Assigned status, you will be given the options to:

- **Resolve the Incident** – changes status to "Resolved"
- **Unable to Reproduce** – changes the status to "Not Reproducible"
- **Duplicate Incident -** changes the status to "Duplicate"

After changing the status of the incident by clicking on the workflow link, you can then fill in the additional fields that are now enabled and/or required. Once you've made the changes to the appropriate incident fields, you can either click <Save>, <Save and Close>, or <Save and New> to commit the changes or <Refresh> to discard the changes and reload the incident from the database. In addition you can print the current incident by clicking <Print>, which will display a printable version of the page in a separate window.

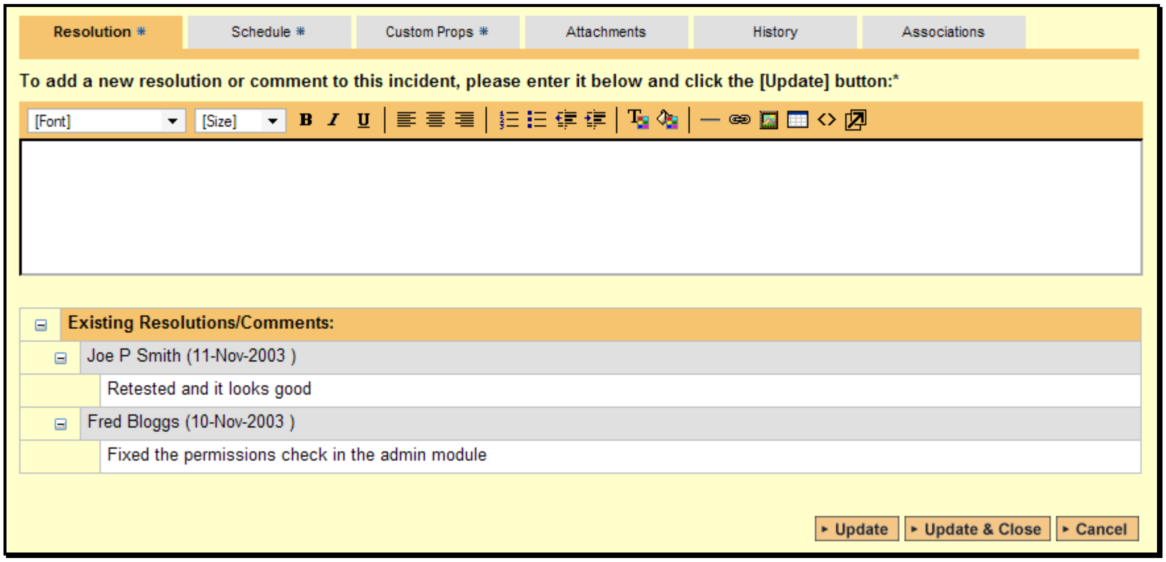
6.2.2. Inserting a New Incident

If you are creating a new incident, the fields that are available and the fields that are required will depend on how your project has been for configured. For example, some projects may require that all incidents be started with Status=New and Type=Incident, others may allow you to specify the incident type. The types of change allowed will depend on how your project administrator has setup the system for you. Administrators should refer to the *SpiraTeam Administration Guide* for details on configuring the incident workflows to meet their needs.

Once you've filled out the appropriate incident fields, you can either click <Save>, <Save and Close> or <Save and New> to commit the new item or click on the "Back to Incident List" to discard the insertion and return back to the incident list.

6.2.3. Resolution

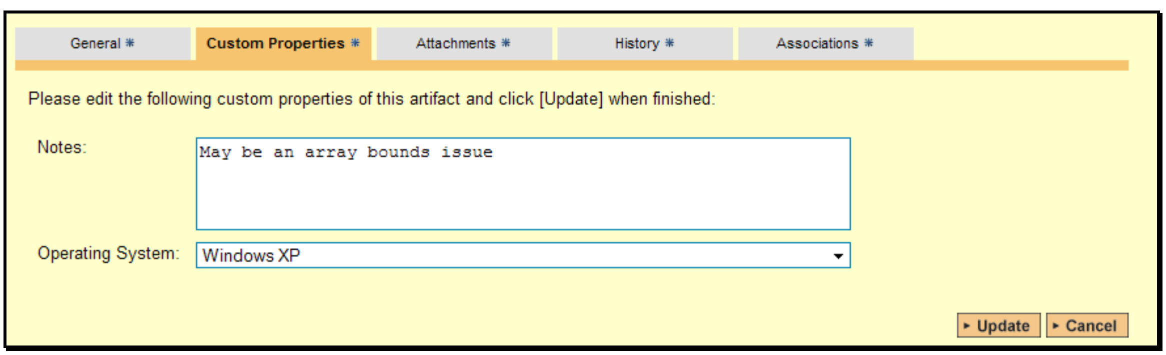
In this mode, the lower section of the screen displays a threaded list of resolutions that have been logged against this incident:



You can expand or collapse the list of existing resolutions by clicking the appropriate expand or collapse icon. To add a new resolution to an incident, all you need to do is enter the new resolution / comment in the text box above the list and then click <Update>. Your resolution will now be added to the existing items in the list.

6.2.4. Custom Properties

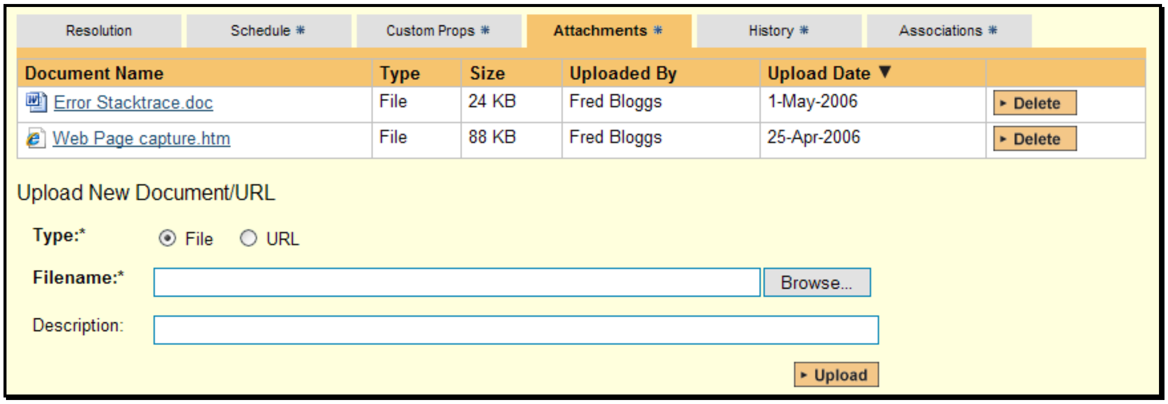
In this mode, the main pane displays any custom properties that the project owner has defined for incidents. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the incident. These can be either freetext or drop-down-lists. In the example below, you can enter Notes, and/or the Operating System that the incident was observed on.



Once you are satisfied with the values for the custom properties, simply click [Update] to commit the changes.

6.2.5. Attachments

In this mode, the lower section of the screen displays the list of documents that have been "attached" to the incident. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

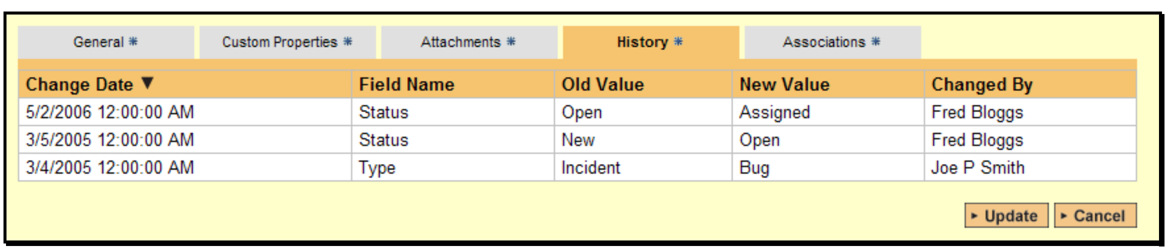
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from an incident, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the incident, you need to choose "File" as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the incident. To attach a web-link (URL) to the incident, you need to choose "URL" as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn't put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename *before uploading* if you want it to be displayed with the correct icon in the attachment list.

6.2.6. History

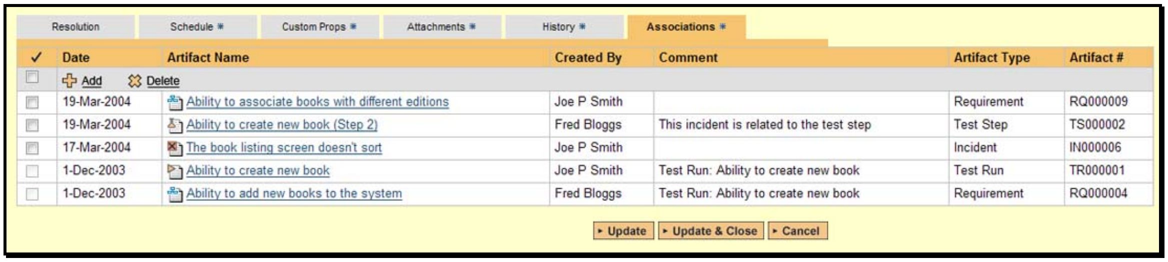
In this mode, the main pane displays the list of changes that have been performed on the incident artifact since its creation. An example incident change history is depicted below:



The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

6.2.7. Associations

In this mode, the main pane displays a list of any requirements, test runs, test steps or other incidents that are associated with this incident:

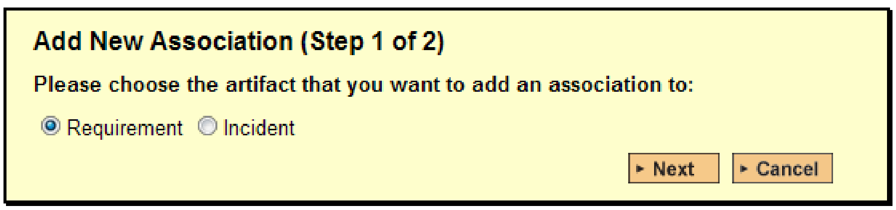


✓	Date	Artifact Name	Created By	Comment	Artifact Type	Artifact #
	19-Mar-2004	Ability to associate books with different editions	Joe P Smith		Requirement	RQ000009
	19-Mar-2004	Ability to create new book (Step 2)	Fred Bloggs	This incident is related to the test step	Test Step	TS000002
	17-Mar-2004	The book listing screen doesn't sort	Joe P Smith		Incident	IN000006
	1-Dec-2003	Ability to create new book	Joe P Smith	Test Run: Ability to create new book	Test Run	TR000001
	1-Dec-2003	Ability to add new books to the system	Fred Bloggs	Test Run: Ability to create new book	Requirement	RQ000004

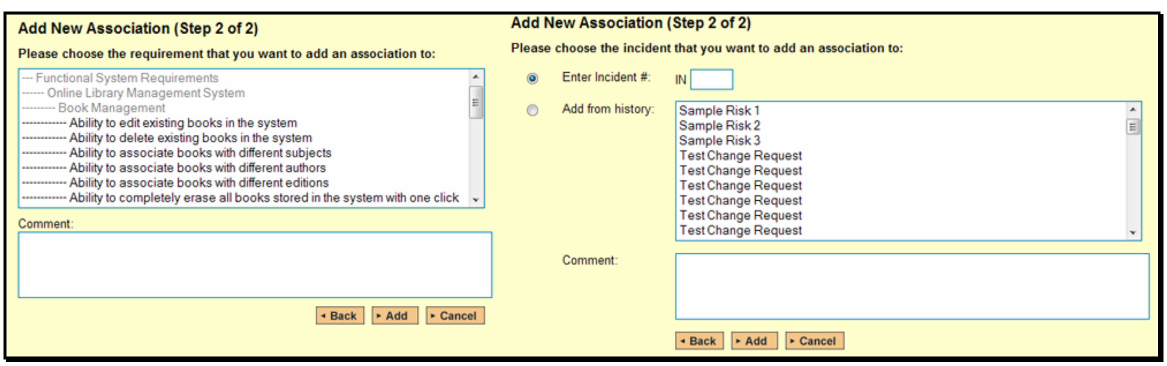
The incidents in this list are ones that a user has decided are relevant to the current one and has created a direct link between them. In the case of requirements and test cases, the association can be either due to the creator of an incident directly linking the incident to the requirement or test step, or it can be the result of a tester executing a test-run and creating an incident during the test run. In this latter case, the check-box to the left of the association will be unavailable as the link is not editable.

Each association is displayed with the type of artifact (requirement, test step, test run, incident), the name of the artifact being linked-to, the name of the person who created the association, and a comment that describes why the association was made. In the case of an indirect association due to a test run, the comment will contain the name of the test run.

To create a new association, simply click the <Add> icon and then choose the type of artifact you want to create an association to:



Once you have selected the appropriate artifact type, you will then be able to choose the specific artifact you want to link to. In the case of requirements you choose the item from a hierarchical list-box, and in the case of incidents you can either enter the incident ID or choose from a list of incidents you have recently submitted. In either case you can also add a comment that explains the rationale for the association:



Finally, to delete an existing association (except for those due to test runs) select the check-box next to its name and click the <Delete> icon. This will only delete the association, not the linked artifact itself.

7. Release Management

This section outlines how to use the Release Management features of SpiraTeam™ to manage different versions of the system being tested in a particular project. This is an optional feature of the system, and you can manage the testing for a project successfully without tracking individual releases. Typically when you develop a system, it is important to ensure that features introduced in successive versions do not impair existing functionality - this is known as *regression testing*.

In such situations, you will want to be able to execute the same set of test scripts against multiple versions of the system and be able to track failures by version. A feature that works correctly in version 1.0 may fail in version 1.1, and the maintenance team may be testing the existing lifecycle of v1.0 in parallel with the development team testing v1.1. Therefore by developing a master set of releases/versions in the Release Management module, you can have the different testing teams correctly assign their testing actions to the appropriate version.

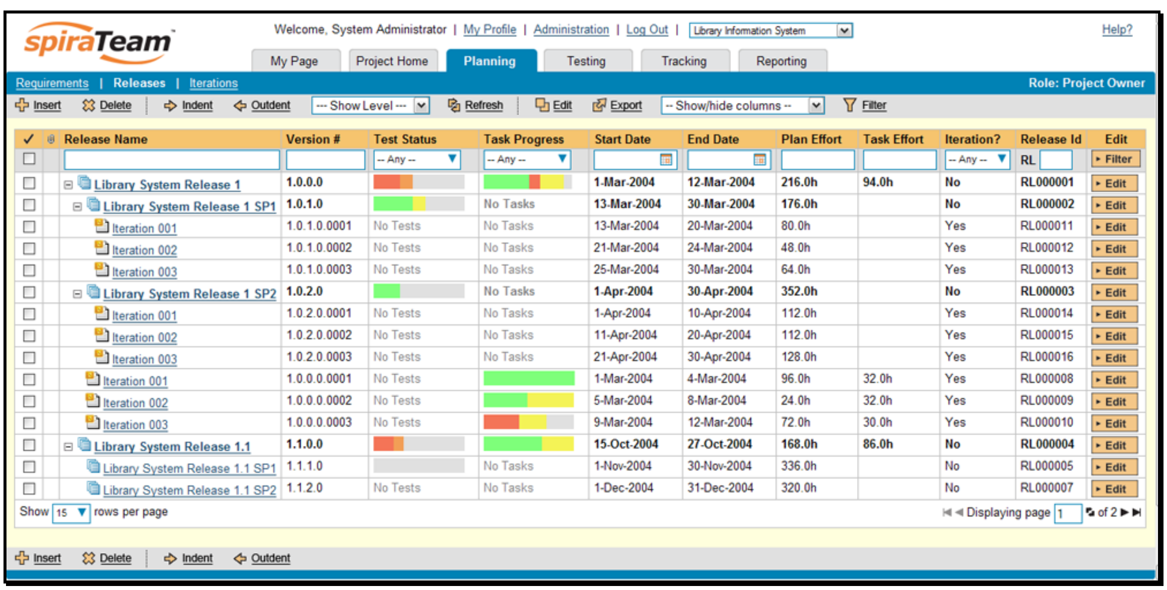
There are two types of release artifact in SpiraTeam™ - major project releases that are displayed with the blue release icon and represent major versions of the system, and release Iterations (aka builds) that are displayed with a yellow icon and represent intermediate builds/iterations of the system. *Note: Iterations can be contained within a Release, but not the other way round.*

The main differences between releases and iterations are as follows:

- Releases are independent versions of the system being tested and as such, you can map a requirement directly to a release, indicating the release of the system that the requirement will be fulfilled in.
- When you report on a release (e.g. on the project home or in one of the reports) any child iterations are automatically taken into account, and test runs and incidents that are related to the child iterations will get included in the release reports. Child releases on the other hand are not aggregated up into the parent release.

7.1. Release List

When you click on the Planning > Releases global navigation link, you will initially be taken to the release list screen illustrated below:



The release list will contain all the releases and iterations associated with current project. When you create a new project, this list will initially be empty, and you will have to use the <Insert> button to start adding releases and iterations to the project. The hierarchical organization of releases in the list is configurable, so you can organize the various releases in the way that makes most sense for a particular project. Typically you have the major releases as the top-level items, with sub-releases, builds and iterations as the lower-level items.

All of the releases in the list have a release-name, together with the assigned version number for that release, the start-date and end-date for the release, the number of estimated project personnel working on that release, the planned effort for the release, the total effort currently scheduled (as tasks), the available effort for new tasking, the release id, and a set of custom properties defined by the project owner.

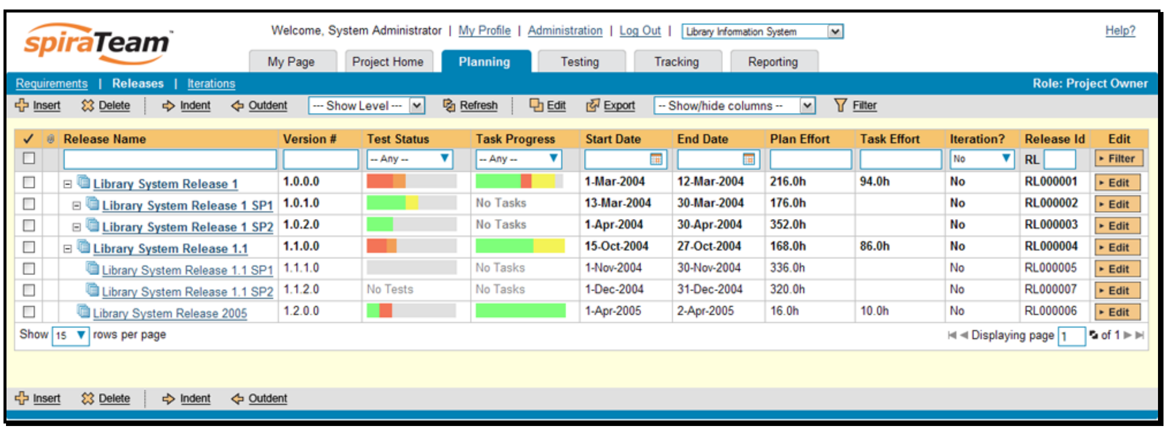
For those releases that have test cases mapped against them, the execution status of the various test cases associated with the release is displayed in aggregate for each item as a graphical bar diagram. If you position the mouse over the execution status indicator you will see the detailed execution information displayed as a tooltip.

For those releases that have at least one task associated with them, they will display a block graph that illustrates the relative numbers of task that are on-schedule (green), late-starting (yellow), late-finishing (red) or just not-started (grey). These values are weighted by the effort of the task, so that larger, more complex tasks will be change the graph more than the smaller tasks. To determine the exact task progress information, position the mouse pointer over the bar-chart and the number of associated tasks, along with the details of how many are in each status will be displayed as a “tooltip”.

Clicking on a release’s hyperlink will take you to the release details page for the item in question (see section 7.2).

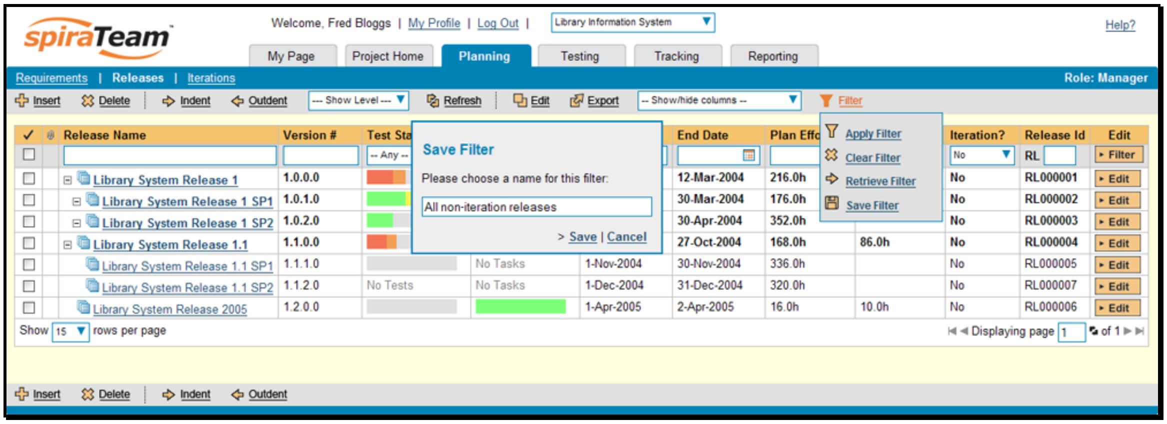
7.1.1. Filtering

You can easily filter the list of releases as illustrated in the screen-shot below:



To filter the list by any of the displayed columns, you either choose an item from the appropriate drop-down list or enter a free-text phrase (depending on the type of field) then click <Filter> or press the <ENTER> key to apply the different filters. Note that the name field is searched using a “LIKE” comparison, so that searching for “database” would include any item with the word database in the name. The other freetext fields need to be exact matches (e.g. dates, release numbers). In the screen-shot above, we are filtering on Iteration = No. Clicking on <Clear Filters> clears all the set filters and displays all the releases for the project.

In addition, if you have a set of filters that you plan on using on a regular basis, you can choose the option Filter > Save Filter to add the current filter to the list of saved filters that appear on your ‘My Page’. The list of saved filters can also be retrieved by clicking Filter > Retrieve Filter:



7.1.2. Insert

Hovering over the <Insert> button brings up a secondary menu that allows you to choose whether to insert a release or iteration (if you just click Insert it defaults to inserting a release). In either case, it will insert the new release / iteration *above* the currently selected item – i.e. the one whose check-box has been selected, at the same level in the hierarchy. If you want to insert a release/iteration below a summary item, you need to insert it first, then indent it with the <Indent> button. If you insert a release without first selected an existing release from the list, the new release will simply be inserted at the end of the list.

Once the new release has been inserted, the item is switched to “Edit” mode so that you can change the default name, active flag, version number and creator.

7.1.3. Delete

Clicking on the <Delete> button deletes all the releases whose check-boxes have been selected. If any of the items are summary items, then: if the item is expanded and the children are visible, the children are simply made children of the item above it in the list, however if the item is not expanded and the children are hidden, then the children are all deleted. This behavior is similar to that found in project planning tools like Microsoft Project®.

In addition, if all the children are deleted from a summary item, it changes back into a detail item. Any test runs or incidents that were associated with a deleted release are ***not*** themselves deleted, but the relationship between them is lost.

7.1.4. Indent

Clicking on the <Indent> button indents all the releases whose check-boxes have been selected. If any of the items are made children of a release that had no previous children, it will be changed from a detail item into a summary item. Note: you cannot indent a release or iteration if it is *below* an iteration, as iterations are not allowed to have child items

7.1.5. Outdent

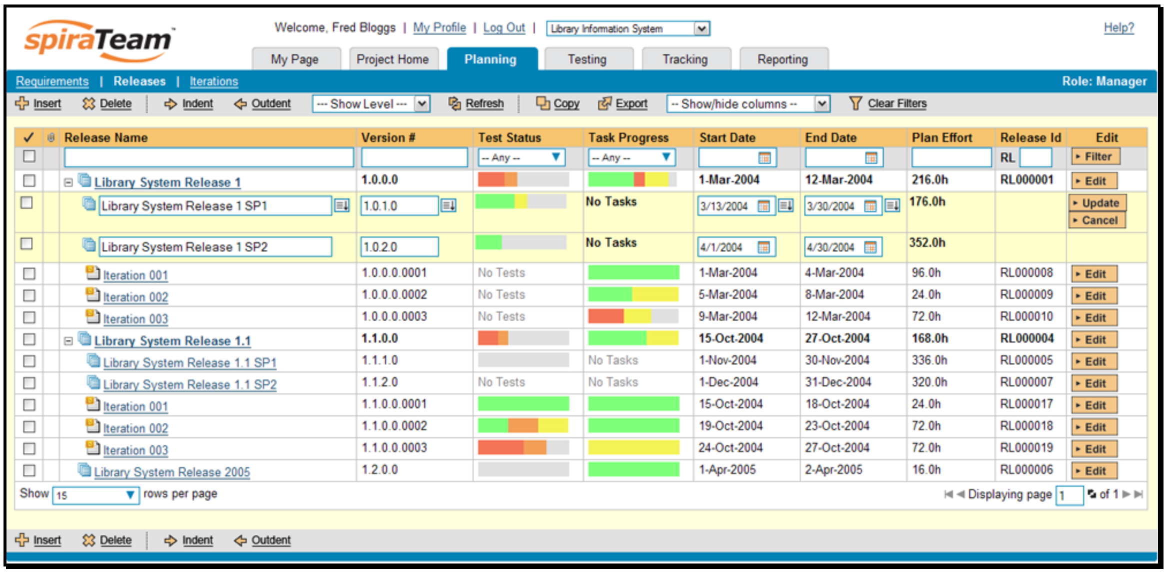
Clicking on the <Outdent> button de-indents all the releases whose check-boxes have been selected. If any of the items were the only children of a summary release item, then that item will be changed back from a summary item to a detail item.

7.1.6. Refresh

Clicking on the <Refresh> button simply reloads the release list. This is useful as other people may be modifying the list of releases at the same time as you, and after stepping away from the computer for a short-time, you should click this button to make sure you are viewing the most current release list for the project.

7.1.7. Edit

Each release/iteration in the list has an <Edit> button display in its right-most column. When you click this button or click on any of the cells in the row, you change the item from "View" mode to "Edit" mode. The various columns are made editable, and <Update> <Cancel> buttons are displayed in the last column:



If you click <Edit> on more than one row, the <Update> and <Cancel> buttons are only displayed on the first row, and you can make changes to all the editable rows and then update the changes by clicking the one <Update> button. Also, if you want to make the same change to multiple rows (e.g. to change five releases from "active" to "inactive"), you can click on the "fill" icon to the right of the editable item, which will propagate the new value to all editable items in the same column.

When you have made your updates, you can either click <Update> to commit the changes, or <Cancel> to revert back to the original information. Alternatively, pressing the <ENTER> key will commit the changes and pressing the <ESCAPE> key will cancel the changes.

7.1.8. Show Level

Choosing an indent level from the 'Show Level' drop down box allows you to quickly and easily view the entire release list at a specific indent level. For example you may want to see all releases drilled-down to the *third* level of detail. To do this you would simply choose 'Level 3' from the list, and the releases will be expanded / collapsed accordingly.

7.1.9. Show / Hide Columns

This drop-down list allows you to change the fields that are displayed in the release list as columns for the current project. To show a column that is not already displayed, simply select that column from the list of "Show…" column names and to hide an existing column, simply select that column from the list of "Hide…" column names. This is stored on a per-project basis, so you can have different display settings for each project that you are a member of. The fields can be any of the built-in fields or any of the custom properties set up by the project owner.

7.1.10. Copying Releases/Iterations

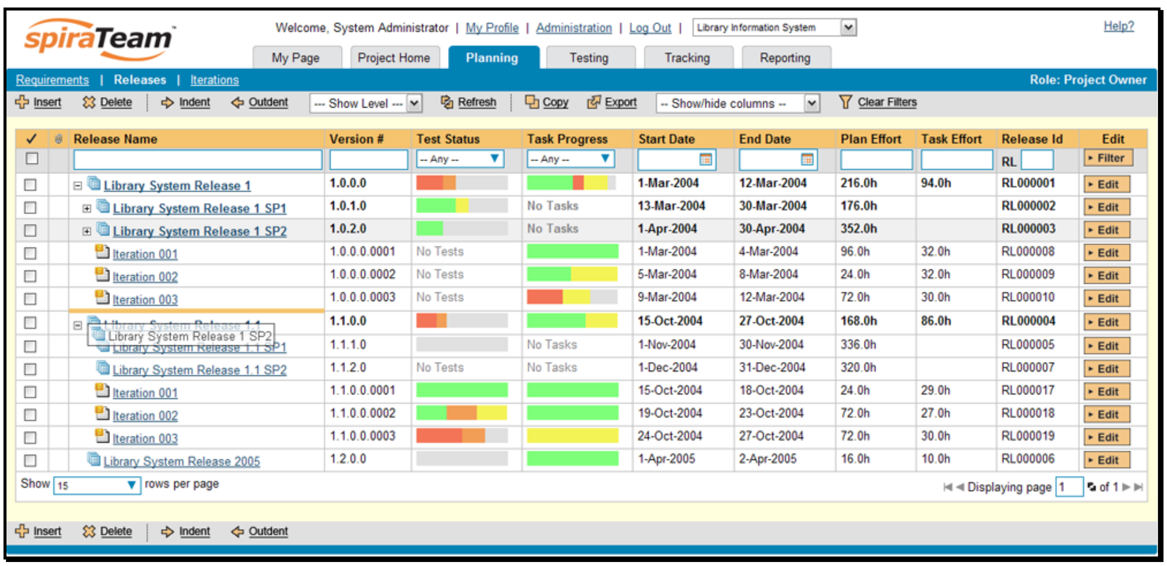
To copy a release/iteration or set of releases/iterations, simply select the check-boxes of the release/iteration you want to copy and then select the Edit > Copy menu option. This will copy the current release/iteration selection to the clipboard. Then you should select the place where you want the releases/iterations to be inserted and choose the Edit > Paste option.

The releases/iterations will now be copied into the destination location you specified. The name of the copied releases/iterations will be prefixed with "Copy of…" to distinguish them from the originals. Note that copied releases/iterations will also include the test mapping information from the originals.

7.1.11. Moving Releases/Iterations

To move a release/iteration in the hierarchy, there are two options:

1. Click on the icon the release/iteration you want to move and then drag the icon to the location you want it moved. The border between the destination releases/iterations will change as the icon is dragged over it to illustrate where it will be inserted:

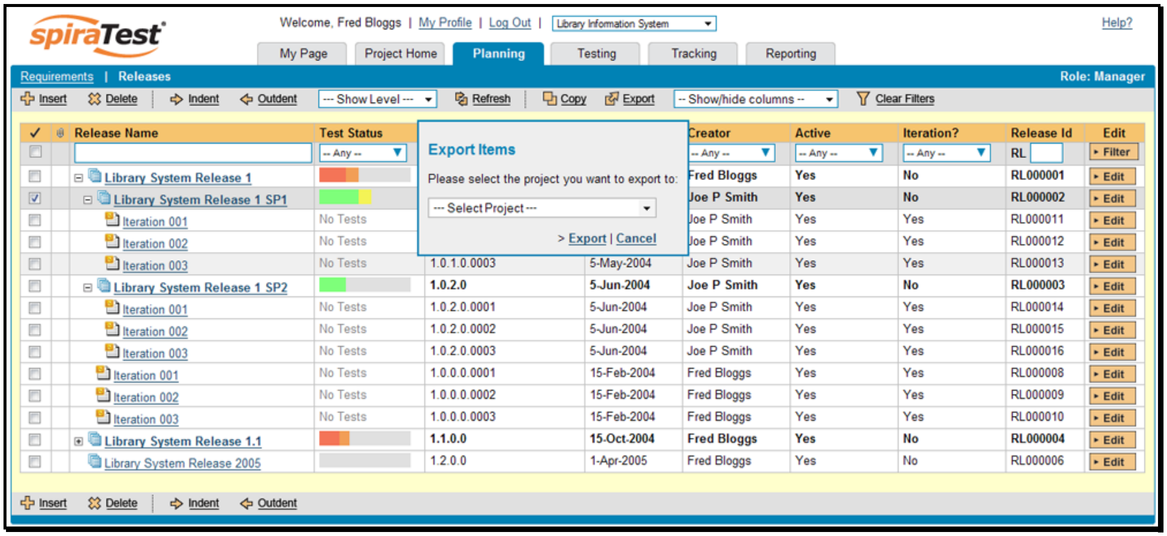


   Once you have the release/iteration positioned at the correct place that you want it inserted, just release the mouse button and the release list will be refreshed, with the release/iteration moved to the desired location.

2. Alternatively you can simply select the check-boxes of the release/iteration you want to move and then select the Edit > Cut menu option. This will cut the current release/iteration selection to the clipboard. Then you should select the place where you want the release/iteration to be inserted and choose the Edit > Paste option. The release/iteration will now be moved into the destination location you specified.

7.1.12. Exporting Releases/Iterations

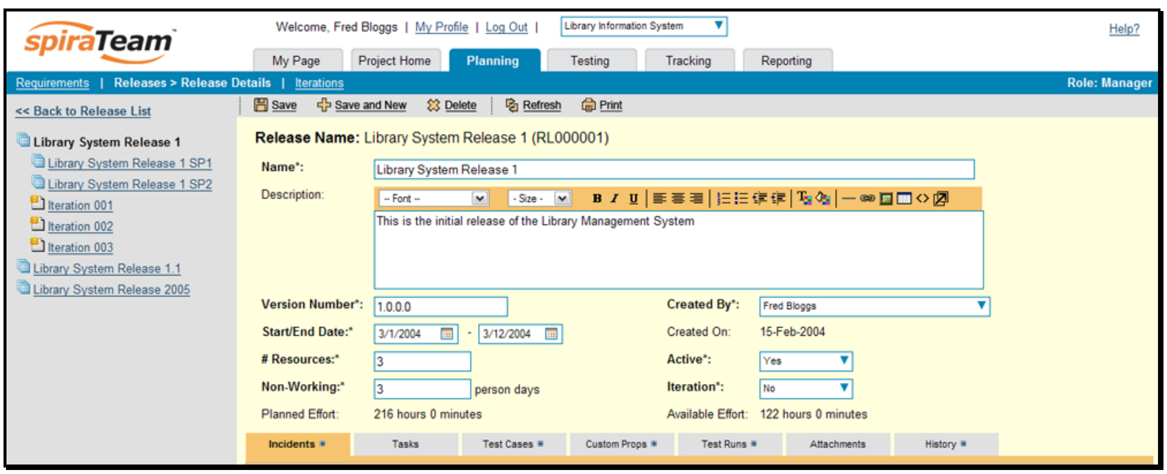
To export releases/iterations from the current project to another project in the system, all you need to do is select the check-boxes of the releases/iterations you want to export and then click the <Export> button. This will then bring up a list of possible destination projects:



Once you have chosen the destination project and clicked the <Export> button, the releases/iterations will be exported from the current project to the destination project. Any file attachments will also be copied to the destination project along with the release/iteration.

7.2. Release Details

When you click on release item in the release list described in section 7.1, you are taken to the release details page illustrated below:



This page is made up of three areas; the left pane is the navigation window, the upper part of the right pane contains the release detailed information itself, and the bottom part of the right pane displays different information associated with the release.

The navigation pane consists of a link that will take you back to the release list, as well as a list of the other releases in the current project. This latter list is useful as a navigation shortcut; you can quickly view the test run information of all the other releases by clicking on the navigation links without having to first return to the release list page.

The top part of the right pane allows you to view and/or edit the details of the particular release. You can edit the various fields (name, description, etc.) and once you are satisfied with them, simply click either the <Save> or <Save and New> button at the top of the page to commit the changes. In addition you can delete the current artifact by choosing <Delete>, discard any changes made by clicking <Refresh> or print it by clicking <Print>.

When you make changes to the release/iteration's start-date, end-date, number of project personnel resources, or number of non-working *person* days, the system will automatically calculate how many hours of effort (planned effort) are available in the release/iteration for assigning tasks. As you begin assigning tasks – either through the Tasks tab or the Iteration Planning screen – the total estimated effort of the tasks is subtracted from this planned effort to give the "available effort".

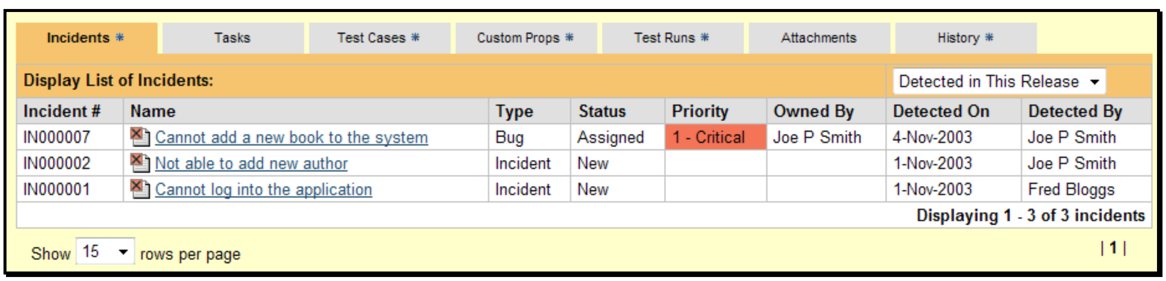
The lower part of the right pane can be in one of six possible modes that can be selected: "Incidents", "Tasks", "Test Cases", "Custom Properties", "Test Runs", "Attachments", and "History". Each of the different views is described separately below.

7.2.1. Incidents

This is the default view for the release details page. It displays the incidents associated with the selected release. The incident list can be one of three modes:

- <u>Detected in this Release</u> – this will display a list of all the incidents that were detected during the testing of the selected release. This is useful in determining if there are open incidents associated with a release that need to be dealt with.
- <u>Resolved in this Release</u> – This will display a list of all the incidents that have been reportedly resolved in this release. This is useful for double-checking that all the resolved incidents for a release have indeed been fixed.
- <u>Verified in this Release</u> – This will display a list of the incidents that have been verified as being fixed in this release. This is useful for generating release notes for a specific release indicating what changes and enhancements have been made in the release.

Regardless of the mode, each incident is listed together with the type, status, priority, name, owner, detector, detection date and a link to the actual incident details (see section 6.2):

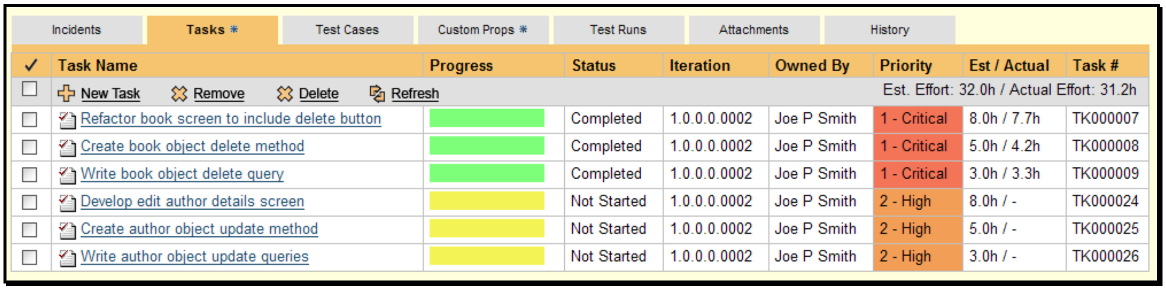


Incident #	Name	Type	Status	Priority	Owned By	Detected On	Detected By
IN000007	Cannot add a new book to the system	Bug	Assigned	1 - Critical	Joe P Smith	4-Nov-2003	Joe P Smith
IN000002	Not able to add new author	Incident	New			1-Nov-2003	Joe P Smith
IN000001	Cannot log into the application	Incident	New			1-Nov-2003	Fred Bloggs

To change between the three modes outlined above, simply select the desired mode from the drop-down list contained within the header of the incident list table.

7.2.2. Tasks

In this mode, the lower part of the right pane displays the list of project tasks that need to be completed for the release/iteration to be completed:



Incidents | Tasks | Test Cases | Custom Props | Test Runs | Attachments | History

✓	Task Name	Progress	Status	Iteration	Owned By	Priority	Est / Actual	Task #
	New Task · Remove · Delete · Refresh						Est. Effort: 32.0h / Actual Effort: 31.2h	
	Refactor book screen to include delete button		Completed	1.0.0.0002	Joe P Smith	1 - Critical	8.0h / 7.7h	TK000007
	Create book object delete method		Completed	1.0.0.0002	Joe P Smith	1 - Critical	5.0h / 4.2h	TK000008
	Write book object delete query		Completed	1.0.0.0002	Joe P Smith	1 - Critical	3.0h / 3.3h	TK000009
	Develop edit author details screen		Not Started	1.0.0.0002	Joe P Smith	2 - High	8.0h / -	TK000024
	Create author object update method		Not Started	1.0.0.0002	Joe P Smith	2 - High	5.0h / -	TK000025
	Write author object update queries		Not Started	1.0.0.0002	Joe P Smith	2 - High	3.0h / -	TK000026

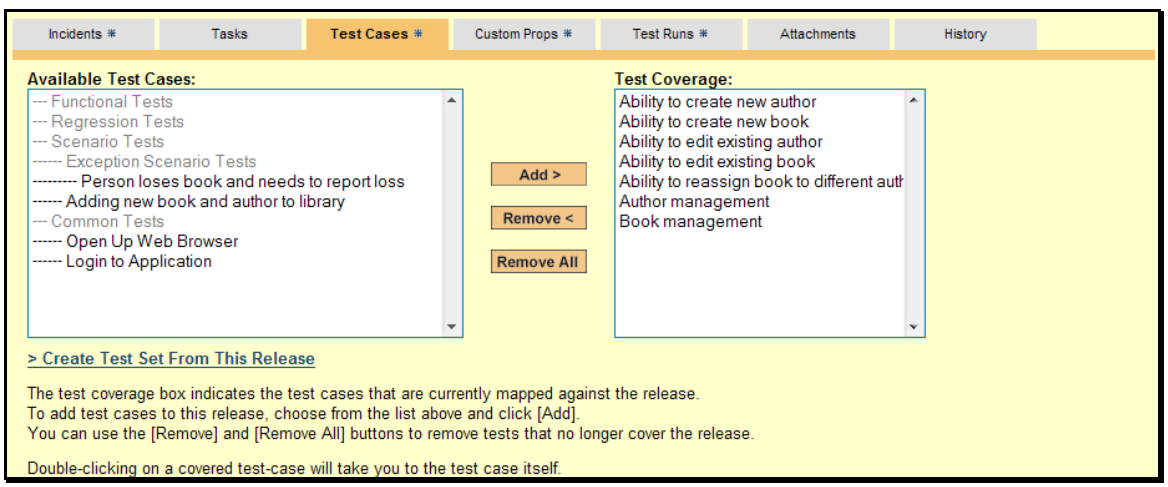
Each of the tasks is displayed together with its name, description (by hovering the mouse over the name), progress indicator, priority, current owner, estimated effort, actual effort and numeric task identifier. Clicking on the task name will bring up the Task Details page which is described in more detail in section 8.2. This allows you to edit the details of an existing task.

You can perform the following actions on a task from this screen:

- New Task – inserts a new task in the task list with a default set of values. The task will be associated with the current release/iteration.
- Remove – removes the task from this release/iteration without actually deleting the task
- Delete – deletes the task itself.

7.2.3. Test Case Mapping

This mode displays the test case mapping information for the release in question:



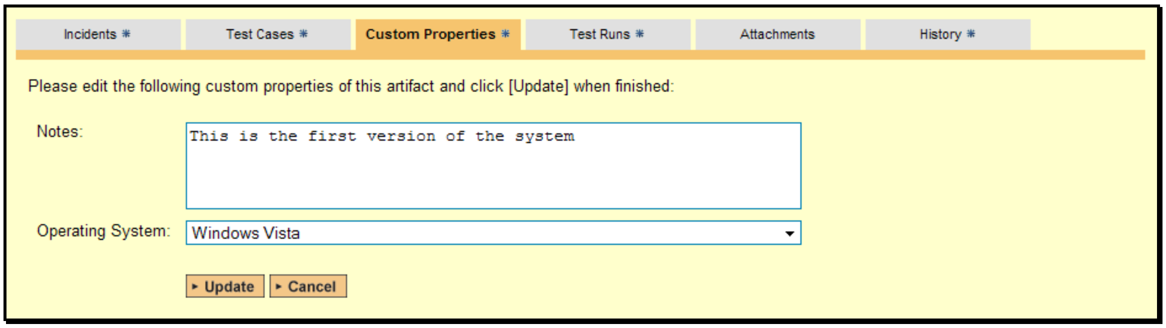
The test case mapping section consists of two lists of test cases, the one on the left being the hierarchical list of the test cases belonging to the project that are not currently mapped to this release. The right box contains the list of test cases currently mapped to this release. Double-clicking on items in this box will jump you to the test case details screen for this requirement (see section 5.2).

To change the test case mapping for this release, you use the buttons (Add, Remove, Remove All) positioned between the two list-boxes. The <Add> button will move the selected test cases from the list of available on the left to the list of mapped on the right. Similarly the <Remove> and <Remove All> buttons will remove either the selected or all the test cases from the right list-box and add them back to the left list-box.

Finally, as a shortcut you can click the “Create Test Set from This Release” link to create a new test set from this release, that will include all of the test sets associated with this release. This is useful in regression testing when you have created a new release and want to be able to quickly assign a tester to ensure that all the functionality in the release works as expected.

7.2.4. Custom Properties

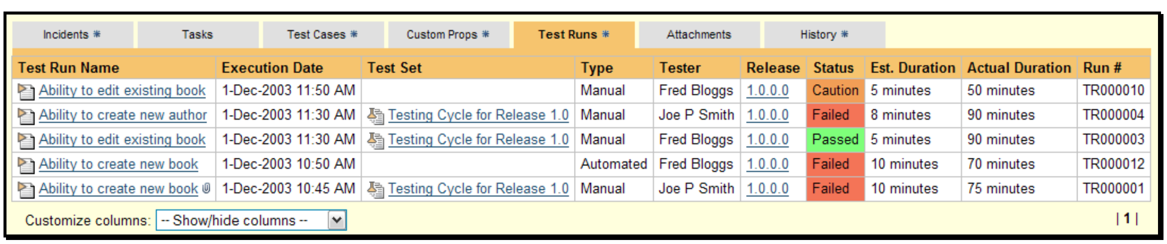
In this mode, the main pane displays any custom properties that the project owner has defined for releases. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the release. These can be either freetext or drop-down-lists. In the example below, you can enter Notes and/or the Operating System that the release is intended for.



Once you are satisfied with the values for the custom properties, simply click [Update] to commit the changes.

7.2.5. Test Runs

This view displays the list of all the test runs executed against the release. Each test run is listed together with the date of execution, the name of the test case, the name of the tester, the release/version of the system that the test was executed against, the name of the test set (if applicable), the overall execution status for the test case in that run and a link to the actual test run details (see section 5.4). In addition, you can choose to display any of the custom properties associated with the test run.

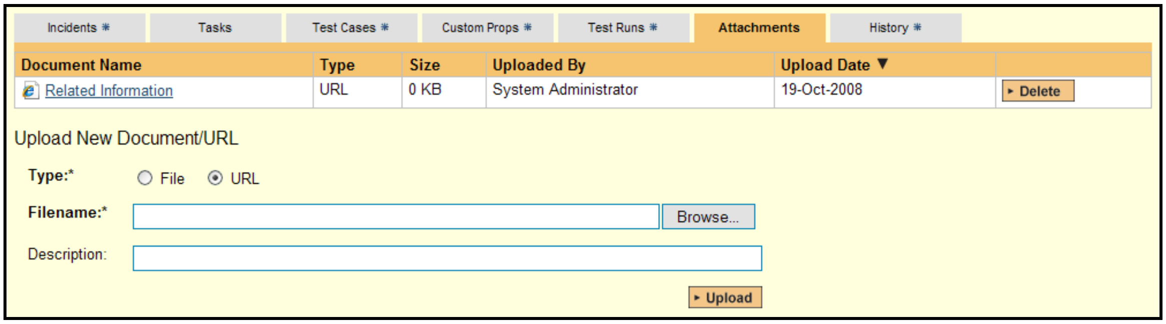


Test Run Name	Execution Date	Test Set	Type	Tester	Release	Status	Est. Duration	Actual Duration	Run #
Ability to edit existing book	1-Dec-2003 11:50 AM		Manual	Fred Bloggs	1.0.0.0	Caution	5 minutes	50 minutes	TR000010
Ability to create new author	1-Dec-2003 11:30 AM	Testing Cycle for Release 1.0	Manual	Joe P Smith	1.0.0.0	Failed	8 minutes	90 minutes	TR000004
Ability to edit existing book	1-Dec-2003 11:30 AM	Testing Cycle for Release 1.0	Manual	Fred Bloggs	1.0.0.0	Passed	5 minutes	90 minutes	TR000003
Ability to create new book	1-Dec-2003 10:50 AM		Automated	Fred Bloggs	1.0.0.0	Failed	10 minutes	70 minutes	TR000012
Ability to create new book	1-Dec-2003 10:45 AM	Testing Cycle for Release 1.0	Manual	Joe P Smith	1.0.0.0	Failed	10 minutes	75 minutes	TR000001

The “customize columns” drop-down list allows you to change the fields that are displayed in the test run list as columns. To show a column that is not already displayed, simply select that column from the list of “Show…” column names and to hide an existing column, simply select that column from the list of “Hide…” column names. The displayed columns can be any standard field or custom property.

7.2.6. Attachments

In this mode, the lower section of the screen displays the list of documents that have been “attached” to the release. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

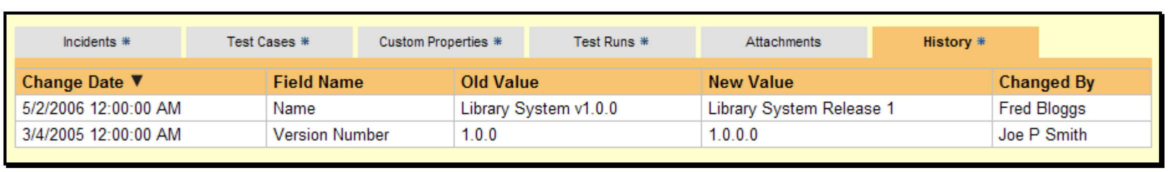
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from a release, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the release, you need to choose “File” as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the release. To attach a web-link (URL) to the release, you need to choose “URL” as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn’t put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename *before uploading* if you want it to be displayed with the correct icon in the attachment list.

7.2.7. View History

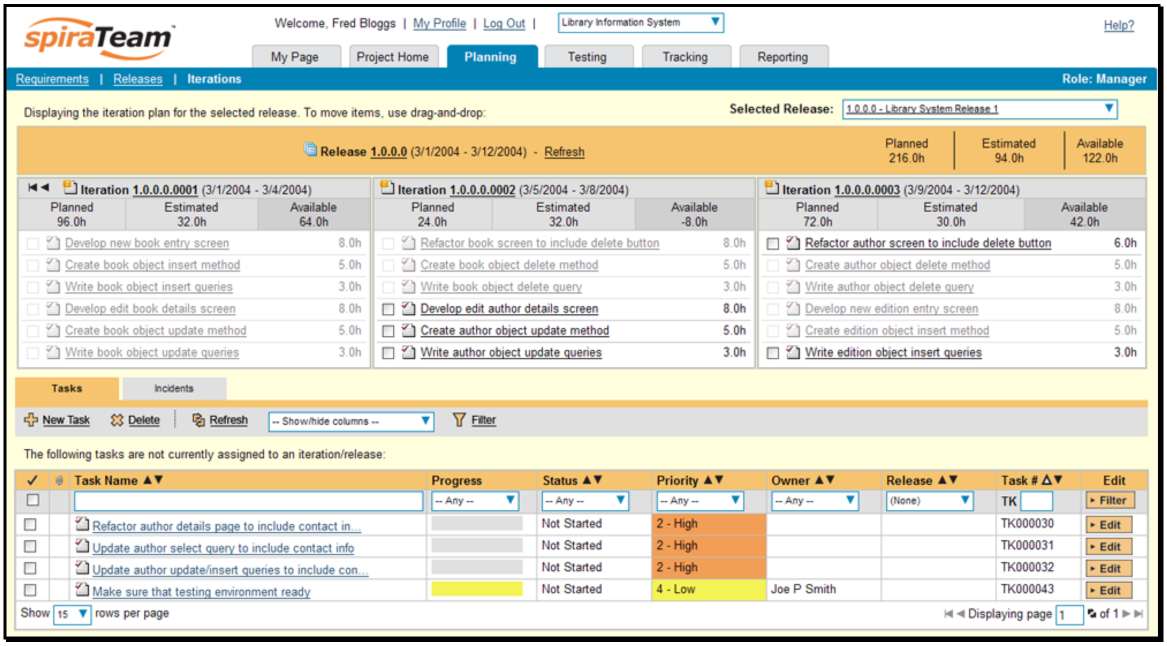
In this mode, the main pane displays the list of changes that have been performed on the release artifact since its creation. An example release change history is depicted below:



The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

7.3. Iteration Planning

As well as being able to assign tasks and incidents to releases and iterations individually through the Release/Iteration details page (see above), when you are first assigning tasks and incidents to the iterations in the release, it is usually more convenient to use the Iteration Planning screen instead. To access this screen, go to Planning > Iterations, choose the current release and the following screen will be displayed:



This screen is divided into two sections:

- The top part of the screen displays the iterations contained within the current release (up-to three per page) together with the list of tasks and incidents currently assigned to the iteration. Also any tasks/incidents directly associated with the release itself are displayed in the first panel.
- The bottom part of the screen displays the list of *unplanned, not-started tasks* and *unplanned, open incidents* that need to be associated to an iteration. This is essentially the backlog of tasks (linked to requirements) and outstanding incidents that need to be scheduled. The tasks are show in one tab and the incidents are shown in the other

To navigate around the release, you use the small black arrow buttons located at the top of the iteration panels. These allow you to quickly move to the previous/next iteration in the currently selected release. To change the release itself, you use the drop-down-list at the top-right of the page to change to a different release.

7.3.1. Scheduling Tasks/Incidents to Iterations

To assign a new task/incident to the iteration schedule, you either position the mouse pointer over a single task/incident icon, dragging it to the desired iteration or you select several checkboxes in the task/incident list and then drag all the selected items in one go. Once the task/incident(s) have been added to the iteration, the estimated effort for the iteration will increase, and the available effort will decrease by the same amount.

Note: The system will allow you to assign more tasks/incidents to an iteration than is possible to complete, however this will result in a negative value for 'available effort'. If this happens you *need to rebalance the items, extend the iteration length or add project personnel resources to the iteration.*

7.3.2. Rescheduling Tasks/Incidents

To move tasks/incidents from one iteration to another, you either position the mouse pointer over a single task/incident icon, dragging it to the desired new iteration or you select several checkboxes in the existing iteration and then drag all the selected items to the destination iteration in one go. To remove a task/incident from an iteration, you should just drag and drop it from the iteration panel back to the task/incident task list at the bottom of the page. This will return the task/incident to the list of unplanned items at the bottom of the page.

Note: Once a task has changed status from 'not-started' to any of the other statuses, its checkbox will be disabled and you will need to return it to the 'not started' status before attempting to reassign it. This is a safety feature that prevents you from accidentally rescheduling a task that is currently being worked on.

7.3.3. Task Assignment Rules

When you move a task from one iteration to another or assign a new task to the iteration, the system makes the following changes to the task automatically:

- The release/iteration that the task is assigned-to is updated
- The start-date and end-date of the task is changed to match that of the iteration if the dates lie outside the bounds of the iteration. This means that the task may change from being on-schedule to late-starting depending on whether the iteration is already in progress

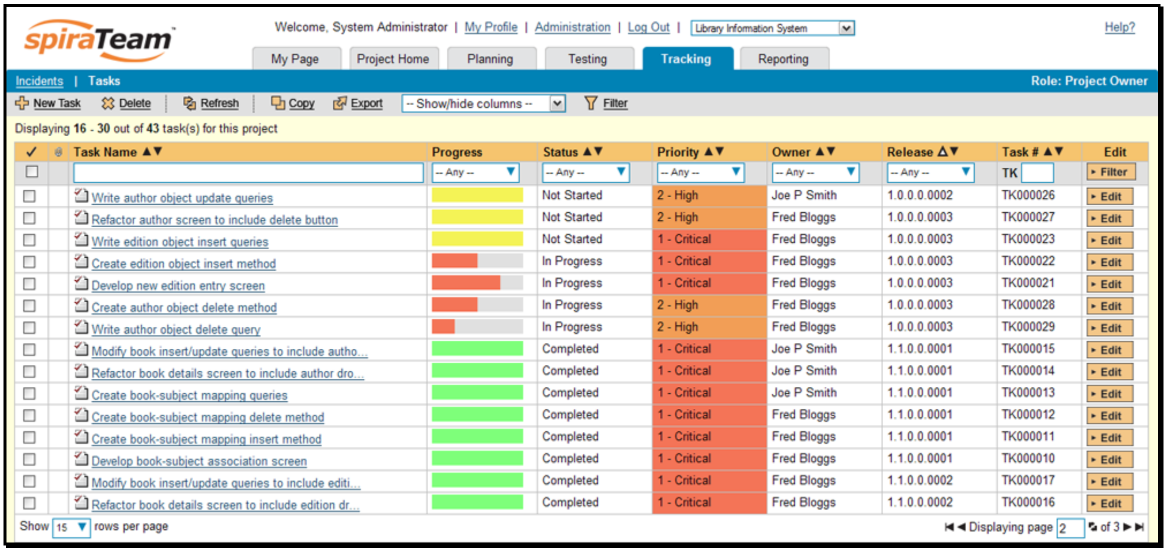
7.3.4. Editing the Task/Incident List

As well as being able to schedule the incidents and tasks with the various iterations in the upper portion of the screen, the incident and task lists displayed on the bottom half of the screen include the same editing functions found in the Task List page and the Incident List page. You can insert, edit, delete, filter, sort and change the displayed columns for the lists. For more details see section 6.1 for the Incident List and section 8.1 for the Task List.

8. Task Tracking

8.1. Task List

When you click on the Tracking > Tasks global navigation link, you will initially be taken to the tasks list screen illustrated below:



The task list screen displays all the tasks entered for the current project, in a filterable, sortable grid. The grid displays the task number together with fields such as priority, name, assigned owner, start date, end date, scheduled release, etc. The choice of columns displayed is configurable per-user, per-project, giving extensive flexibility when it comes to viewing and searching tasks.

In addition, you can view a more detailed description of the task by positioning the mouse pointer over the task name hyperlink and waiting for the popup "tooltip" to appear. If you click on the task name hyperlink, you will be taken to the task details page described in section 8.2. Clicking on any of the pagination links at the bottom of the page will advance you to the next set of tasks in the list according to the applied filter and sort-order. There is also a drop-down-list at the bottom of the page which allows you to specify how many rows should be displayed in each page, helping accommodate different user preferences.

One special column that is unique to tasks is the 'progress indicator'. This illustrates graphically both the percentage completion of the task and also if the task is either starting late or finishing late. The following table illustrates the different type of status that can be conveyed by the indicator:

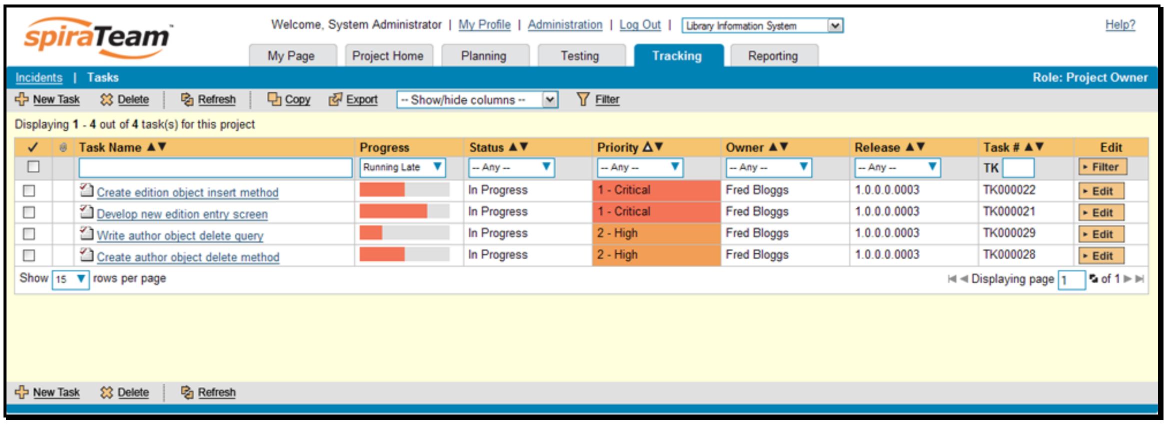
Indicator Display	Progress Description
	Task has not yet started, but the scheduled start date is still in the future.
	Task has not yet started, and the start date has elapsed. This is considered a 'Late Starting Task'
	Task has started, and is approximately 25% complete. The scheduled end date is still in the future.
	Task has started, and is approximately 25% complete.

	However the scheduled end date has elapsed already. This is a considered a ‘Late Finishing Task’.
	Task has been 100% completed.

Essentially, the gray section of the bar indicates the % of the task yet to be completed, and the green/red section of the bar indicates the % of the task that has already been completed. If the bar changes from green to red it means that the end date has been reached and the task is not yet complete, and if the background changes from gray to yellow it means that the task has not yet started, but the scheduled start date has passed.

8.1.1. Sorting and Filtering

You can easily filter and sort the list of tasks as illustrated in the screen-shot below:



To filter the list by progress, status, priority, owner or release, you simply choose an item from the appropriate drop-down list, and for the other fields, you enter a free-text phrase then click <Filter> or press the <ENTER> key to apply the different filters. Note that the name field is searched using a “LIKE” comparison, so that searching for “database” would include any item with the word database in the name. The other freetext fields need to be exact matches (e.g. dates, task numbers).

To change the column that is sorted, or to change the direction of the current sort, simply click on the up/down arrow icon in the appropriate column. The currently sorted column is indicated by the larger, white arrow with the back-border. In the screen-shot above, we have filtered on tasks that are finishing late, sorted in order of decreasing priority.

Clicking on Filter > Clear Filter removes any set filters and expands the incident list to display all incidents for the current project, and clicking on Filter > Save Filter allows you to save the filter to your ‘My Page’ for use in the future. The list of saved filters can also be retrieved by clicking Filter > Retrieve Filter.

8.1.2. New Task

Clicking on the <New Task> button creates a new task in the grid with an initial set of information. You can click on the name of the task to edit its information.

8.1.3. Delete

Clicking on the <Delete> button deletes the tasks whose check-boxes have been selected in the task list.

8.1.4. Refresh

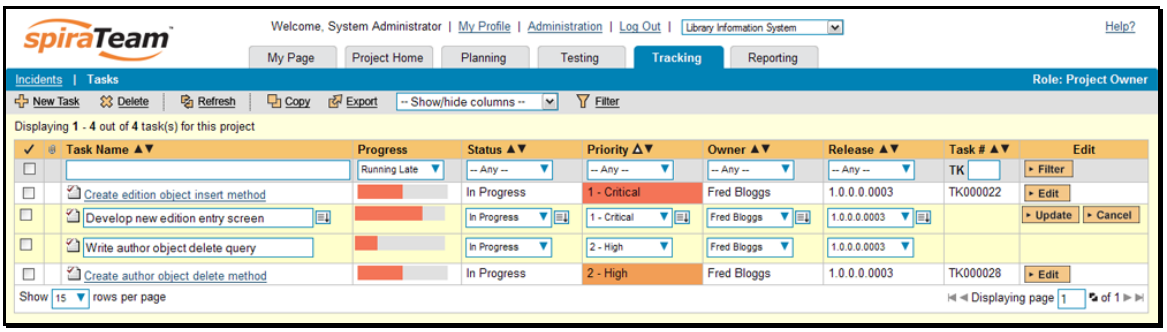
Clicking on the <Refresh> button simply reloads the list of tasks; this is useful when new tasks are being added by other users, and you want to make sure you have the most up-to-date list displayed.

8.1.5. Show / Hide Columns

This drop-down list allows you to change the fields that are displayed in the task list as columns for the current project. To show a column that is not already displayed, simply select that column from the list of “Show…” column names and to hide an existing column, simply select that column from the list of “Hide…” column names. This is stored on a per-project basis, so you can have different display settings for each project that you are a member of. The fields can be any of the built-in fields or any of the custom properties set up by the project owner.

8.1.6. Edit

Each task in the list has an <Edit> button display in its right-most column. When you click this button or just click on any of the cells in the row, you change the item from “View” mode to “Edit” mode. The various columns are made editable, and <Update> <Cancel> buttons are displayed in the last column:



If you click <Edit> on more than one row, the <Update> and <Cancel> buttons are only displayed on the first row, and you can make changes to all the editable rows and then update the changes by clicking the one <Update> button. Also, if you want to make the same change to multiple rows (e.g. to change five tasks from “Not Started” status to “In Progress”), you can click on the “fill” icon to the right of the editable item, which will propagate the new value to all editable items in the same column.

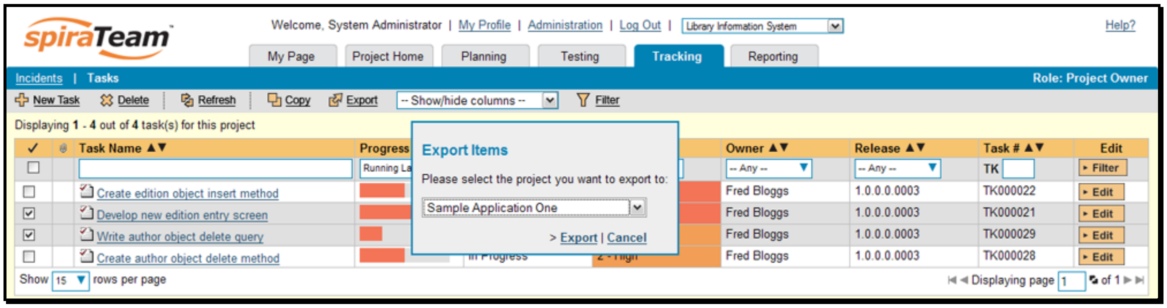
When you have made your updates, you can either click <Update> to commit the changes, or <Cancel> to revert back to the original information. Alternatively, pressing the <ENTER> key will commit the changes and pressing the <ESCAPE> key will cancel the changes.

8.1.7. Copying Tasks

To copy a task or set of tasks, simply select the check-boxes of the tasks you want to copy and then click <Copy>. This will make a copy of the current task with its name prefixed ‘Copy of ….’ to distinguish itself from the original. Any file attachments will also be copied along with the task itself.

8.1.8. Exporting Tasks

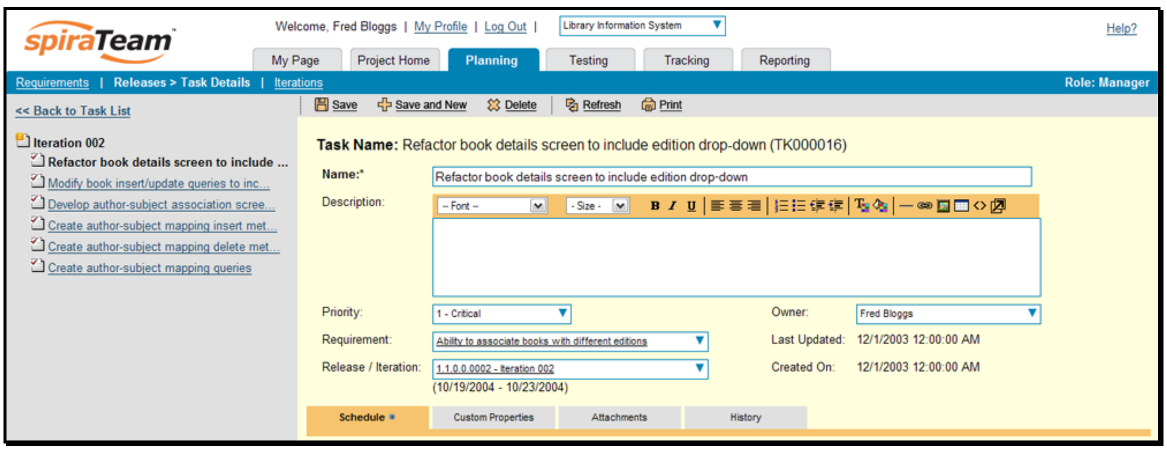
To export a task or set of tasks from the current project to another project in the system, all you need to do is select the check-boxes of the task(s) you want to export and then click the <Export> button. This will then bring up a list of possible destination projects:



Once you have chosen the destination project and clicked the <Export> button, the tasks will be exported from the current project to the destination project. Any file attachments will also be copied to the destination project along with the tasks.

8.2. Task Details

When you click on a task item in the lists displayed on either the main task list page or on the requirement / release details pages, you are taken to the task details page illustrated below:



This page is made up of three areas; the left pane is the navigation window, the upper part of the right pane contains the task detailed information itself, and the bottom part of the right pane displays different information associated with the task.

The navigation pane consists of a link that will take you back to the task list, as well as a list of the other related tasks. Depending on which page you came from, this navigation list will be different:

- If you arrived at the screen from the requirement details page, the navigation pane will display the parent requirement together with a list of all the tasks that are associated with the requirement.
- If you arrived at the screen from the release/iteration details page, the navigation pane will display the parent release/iteration together with a list of all the tasks that are associated with the release/iteration.
- If you arrived at the screen from the main task list page, the navigation pane will display a list of the other tasks that match the currently selected sort and filter option. If the number of tasks exceeds fifteen, only the first fifteen entries will be shown.

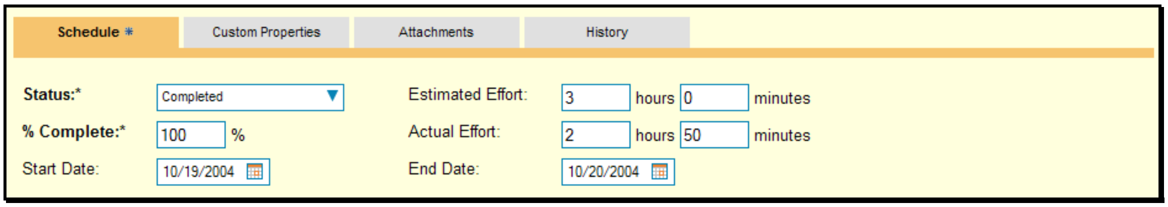
The top part of the right pane allows you to view and/or edit the details of the particular task. You can edit the various fields (name, description, etc.) and once you are satisfied with them, simply click either the <Save> or <Save and New> button at the top of the page to commit the changes.

In addition you can delete the current artifact by choosing <Delete>, discard any changes made by clicking <Refresh> or print it by clicking <Print>.

The lower part of the right pane can be in one of four possible modes that can be selected: “Schedule”, “Custom Properties”, “Attachments”, and “History”. Each of the different views is described separately below.

8.2.1. Schedule

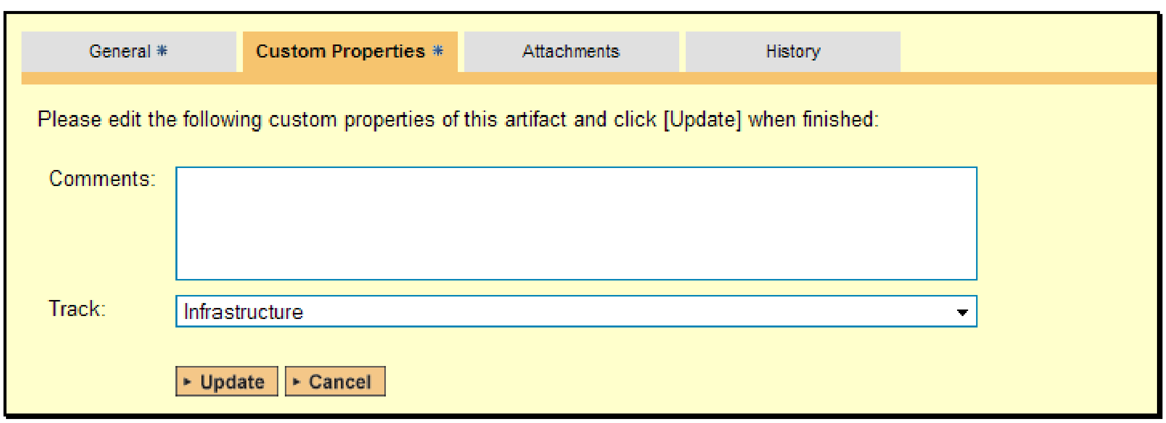
In this mode, the main pane displays the general schedule and completion status of the specific task. You can enter/edit the start-date, end-date (i.e. the due-date), estimated and actual effort, and the completion status / percentage.



Note that if this task is currently assigned to a release or iteration, the start-date and end-date of the task must lie within the date-range of the parent release/iteration. If your task looks like it will not be completed in the available timeframe, you will need to contact the project manager to get them to either extend the date-range of the task, or consider moving the task to the next iteration.

8.2.2. Custom Properties

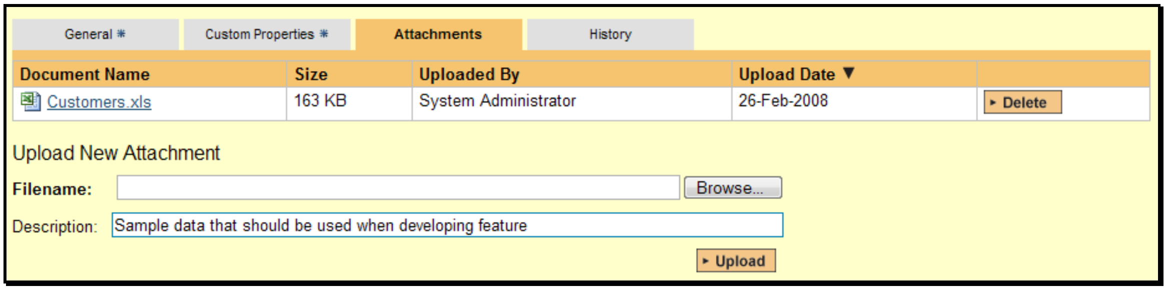
In this mode, the main pane displays any custom properties that the project owner has defined for tasks. To learn more about how to setup and configure custom properties for a project, please refer to the *SpiraTest Administration Guide*. Assuming that custom properties have been defined for your project, you will see a list of optional parameters that can be set on the task. These can be either freetext or drop-down-lists. In the example below, you can enter Comments and/or the project track that the task is associated with.



Once you are satisfied with the values for the custom properties, simply click [Update] to commit the changes.

8.2.3. Attachments

In this mode, the lower section of the screen displays the list of documents that have been “attached” to the task. The documents can be in any format, though SpiraTeam™ will only display the icon for certain known types.



The attachment list includes the filename that was originally uploaded together with the file-size (in KB), name of the person who attached it and the date uploaded. In addition, if you position the pointer over the filename and hold it there for a few seconds, a detailed description is displayed as a tooltip.

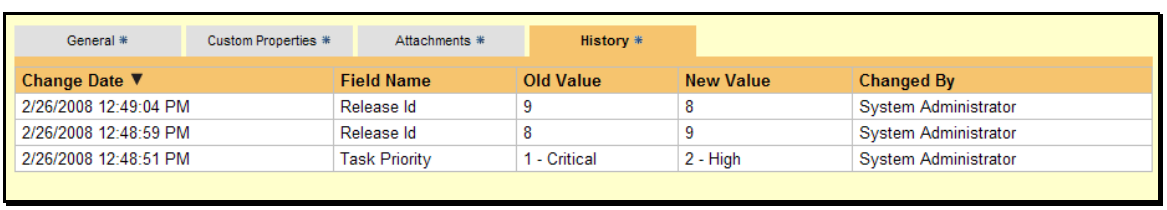
To actually view the document, simply click on the filename hyperlink and a new web browser window will open. Depending on the type of file, this window will either display the document or prompt you for a place to save it on your local computer. To delete an existing attachment from a task, simply click the <Delete> button and the attachment will be removed from the list.

To attach a new document to the task, you need to choose "File" as the type and then click the Browse button and select the file from your local computer, optionally enter a detailed description then click the <Upload> button. The document will be copied from your computer and attached to the task. To attach a web-link (URL) to the task, you need to choose "URL" as the type and then enter the fully qualified URL (e.g. http://mywebsite.com?Document=1), an optional description and then click the <Upload> button to attach the web-link.

Note: If you are using a non-Windows® computer (e.g. Macintosh®) that doesn't put file extensions on filenames (e.g. .xls for an Excel sheet) automatically, then you will need to manually add the file extension to the filename *before uploading* if you want it to be displayed with the correct icon in the attachment list.

8.2.4. View History

In this mode, the main pane displays the list of changes that have been performed on the task artifact since its creation. An example task change history is depicted below:



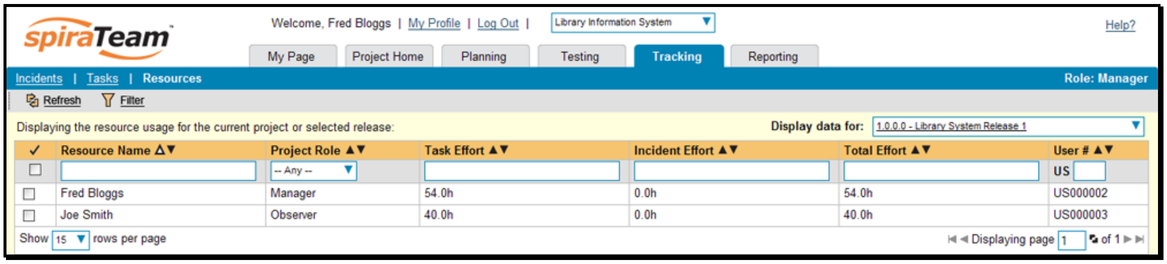
Change Date ▼	Field Name	Old Value	New Value	Changed By
2/26/2008 12:49:04 PM	Release Id	9	8	System Administrator
2/26/2008 12:48:59 PM	Release Id	8	9	System Administrator
2/26/2008 12:48:51 PM	Task Priority	1 - Critical	2 - High	System Administrator

The change history displays the date that each change was made, together with the fields that were changed, the old and new values and the person who made the change. This allows a complete audit trail to be maintained of all changes in the system.

9. Resource Tracking

This section outlines how you can use the Resource Tracking features of SpiraPlan™ and SpiraTeam™ to view the total workload for each of the project personnel resources assigned to a specific project. This allows you to verify that the work is evenly distributed amongst the project members and that no individual resource is overloaded.

When you click on the Tracking > Resources link on the global navigation bar, you will initially be taken to the project resources list screen illustrated below:



This screen lists all the personnel (project resources) that belong to the current project together with the total value of the estimated effort of all the work assigned to them. The effort is shown for tasks and incidents as well as a total of the two together. You can display the workload for the project as a whole, for a specific release (including all child iterations) or for a specific iteration.

If any project resources have been assigned more work that they have time to complete during the length of the release/iteration, the background color of the effort value will be colored in red, indicating that you need to offload some of the work to other project resources.

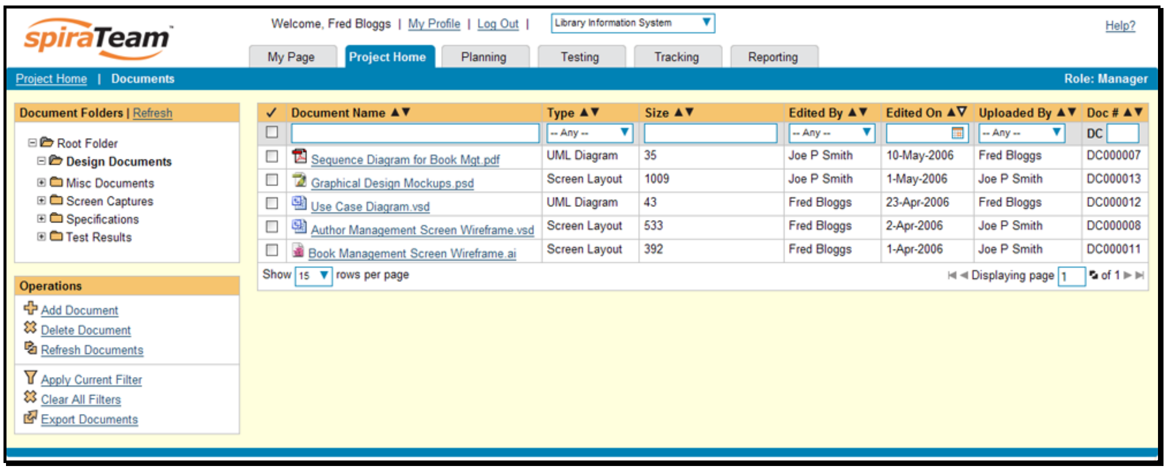
10. Document Management

This section outlines the document management features of SpiraPlan™ and SpiraTeam™ that can be used to upload, manage and share documents between the different members of the project. This module includes support for uploading files and URLs, versioning of documents, the ability to organize into folders and categorize and search using meta-tags.

In addition the document management features are fully integrated into the rest of the system, so that documents attached to other artifacts (e.g. requirements, test cases, etc.) are automatically connected to the project documentation repository.

10.1. Document List

When you click on the Project Home > Documents link on the global navigation bar, you will initially be taken to the project documents list screen illustrated below:

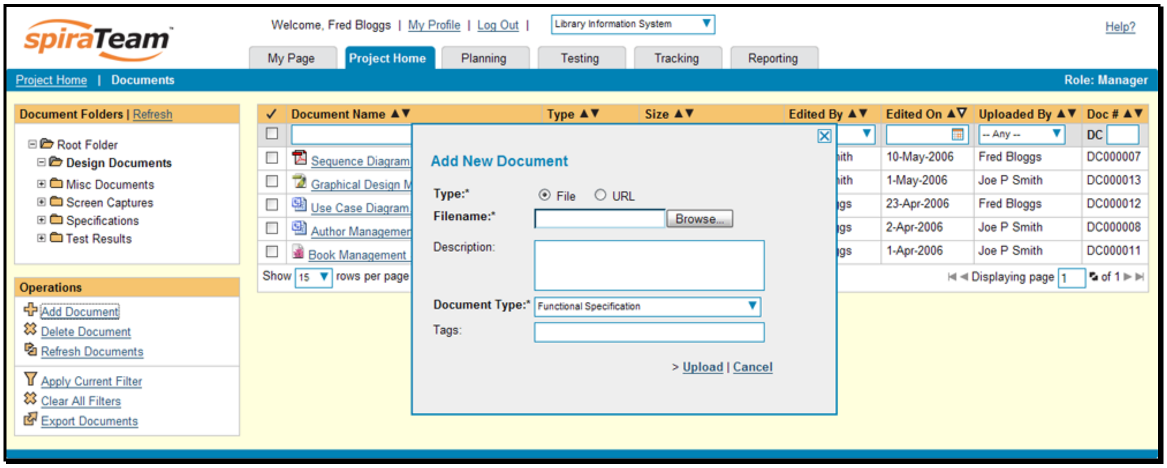


This screen consists of three main sections:

- The top left-hand pane displays a hierarchical list of the various folders that have been setup for the current project. Clicking on the [+] expand icon will expand the child folders and clicking on the name of the folder will display the list of documents in the folder in the main pane to the right.
- The main right-hand pane displays a list of all the documents contained within the currently selected folder. This list can be filtered and sorted, and you can choose how many rows of documents to display on the page at one time.
- The bottom left-hand pane contains all the "Operations" that can be performed on the document list. You can use the various icons to add documents to the current folder, delete existing documents from the project, refresh the list of documents, export documents to another project and options to apply the selected filter.

10.1.1. Add New Document

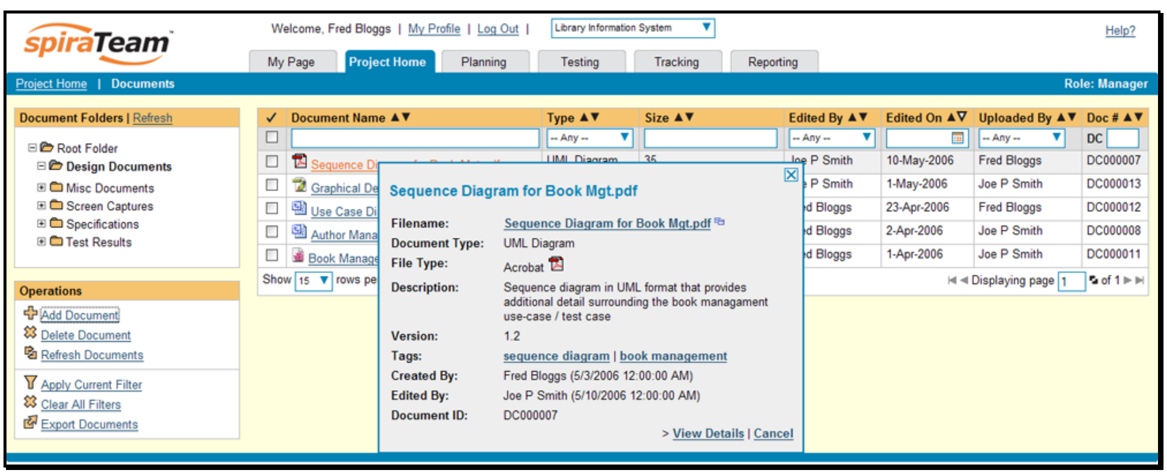
To add a new document to the project, you just need to click on the <Add Document> icon in the Operations list, and the 'Add New Document' dialog box will be displayed:



From here, you need to either browse to the file being uploaded or enter in its URL, and then enter the description (optional), choose the type of document from the list provided and supply any meta-tags that you want to search on (separated by commas). Then click <Upload> to complete the operation or <Cancel> to abort.

10.1.2. View Document Information

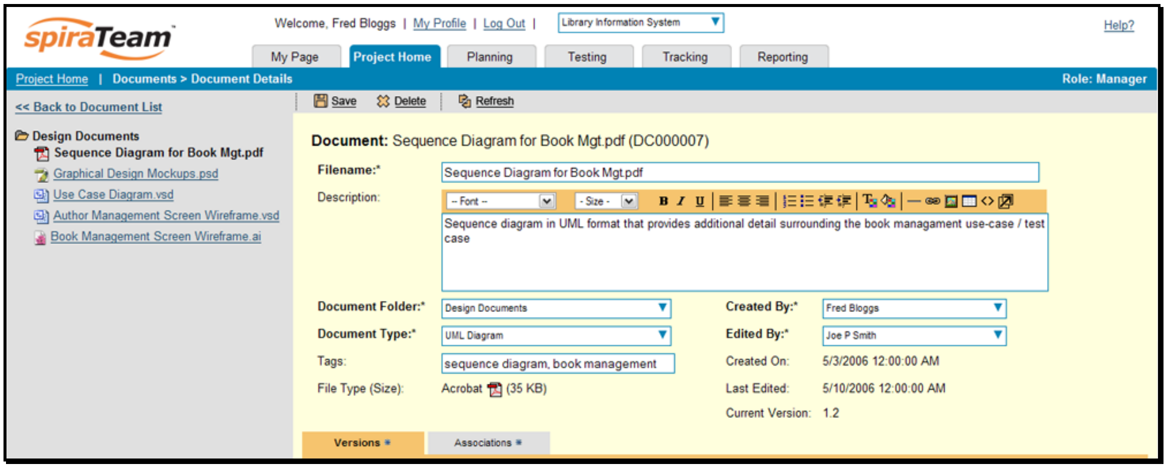
When you hover the mouse pointer over any of the documents displayed in the document list, an information panel will be displayed that contains the name, description, version, document type and meta-tags of the document:



You can click on the document URL to actually open the document itself in a new window, click on the meta-tag links to find related documents that contain the same meta-tag, or click on "View Details" to see more information regarding the document, including an ability to edit its meta-information and see the different versions of the document.

10.2. Document Details

When you click on a test case item in the document list described above, you are taken to the document details page illustrated below:



This page is made up of three areas; the left pane is for navigation, the upper part of the main pane contains the details of the document, and the bottom part of the right pane contains the list of document versions and the list of artifacts that the document is associated with.

The navigation pane consists of a link that will take you back to the project document list, as well as a list of other documents in the current folder. This latter list is useful as a navigation shortcut; you can quickly view the detailed information of all the peer documents by clicking on the navigation links without having to first return to the main document list page.

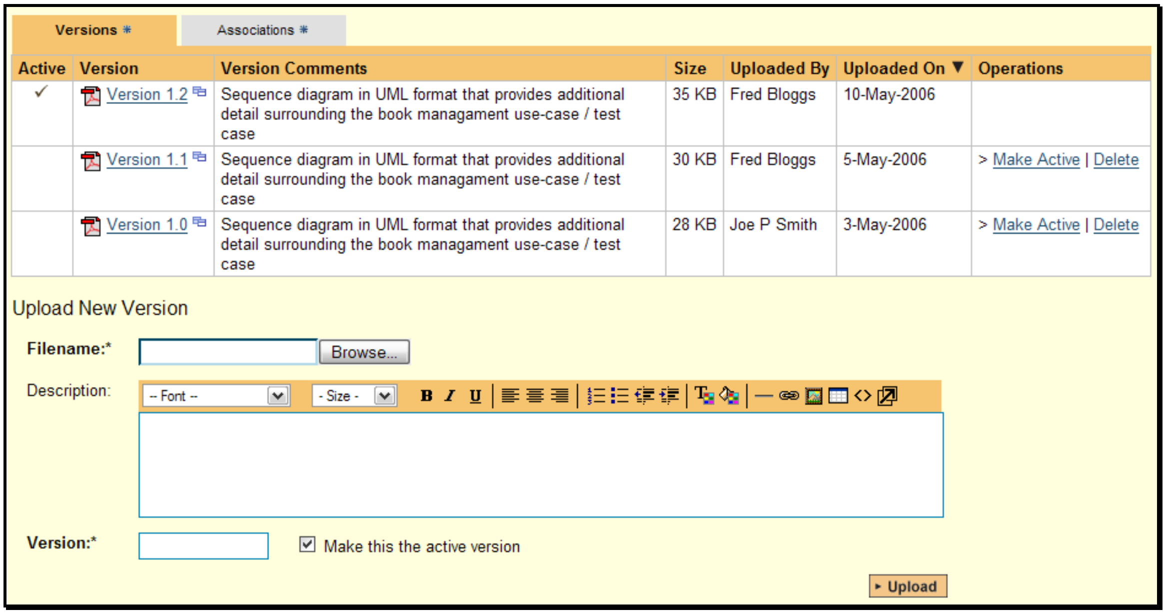
The top part of the main pane allows you to view and/or edit the details of the particular document. You can edit the various fields (name, description, etc.) and once you are satisfied with them, simply click the <Save> button at the top of the page to commit the changes. In addition you can delete the current document by choosing <Delete>, or discard any changes made by clicking <Refresh>.

The lower part of the main pane can be switched between two different views by clicking the appropriate tab. Initially the pane will be in “Versions” mode, but it can be switched to “Association” as well. The functionality in each of these two views is described below:

10.2.1. Edit Document Versions

This view displays the list of different versions that exist for the current document. When you initially create a new document there will be only a single version (e.g. v1.0), however as revisions are made to the document, rather than having to create a whole new document, you can just upload the new revision as a new version (e.g. v1.1) and it will be added to the list of versions.

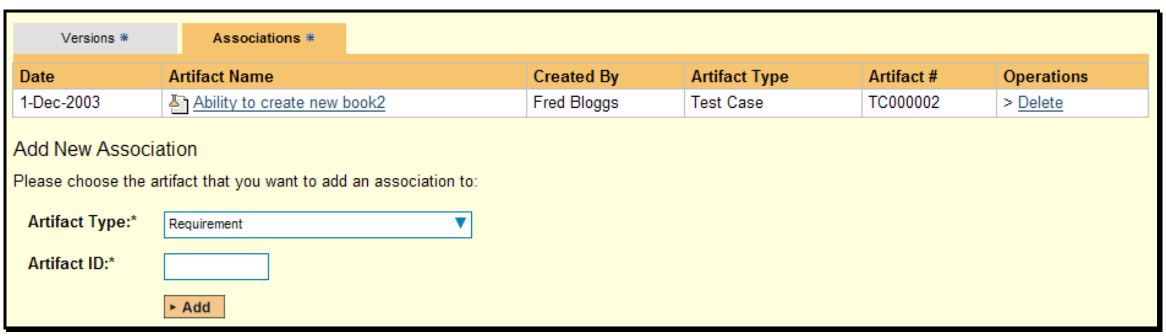
Each version in the list is displayed with its name, a description of what changed in the version, the version number assigned to the revision, the file-size, who uploaded the new version and a link to actually open the new version:



On this page, you have the option to delete an existing version, make a different version the active one (the one that users see when they view the document list and click on the link) and upload a new revision. If you upload a new version, you need to provide a description of the changes made, a new version number and whether the new version should be made the active one. *Note: If the original document was a file (instead of a URL) then all revisions will need to be files, similarly if the original document was a URL, all revisions will need to be URLs.*

10.2.2. Edit Document Associations

This view displays a list of the artifacts in the current project that are associated with the current document. If you originally uploaded the document as an attachment to a requirement, test case, etc. then an initial association will be already listed, otherwise it will be empty.

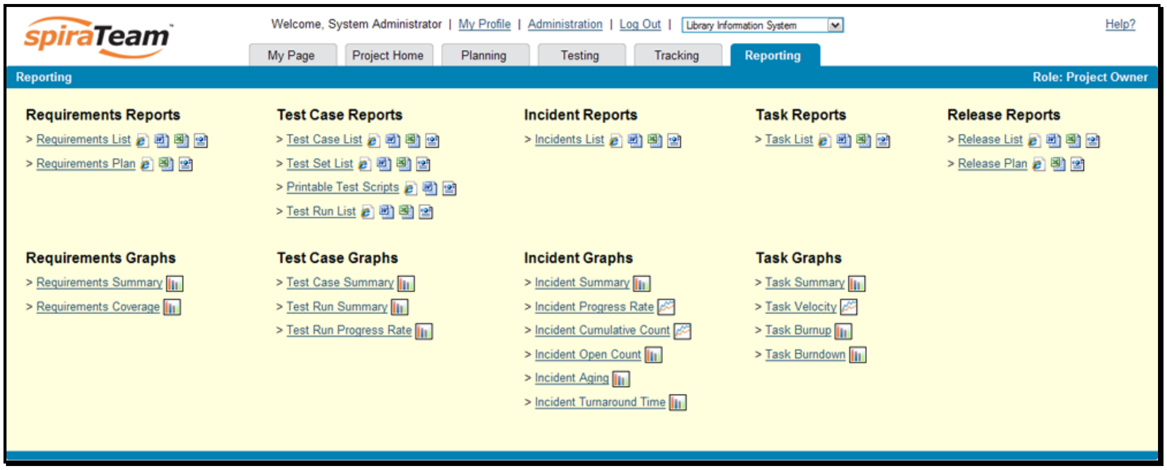


From this screen you can either delete an existing artifact association or add a new association from the current document to an pre-existing artifact in the system. To add the association, you just need to select the type of artifact being associated (requirement, test case, incident, etc.) and the numeric ID of the artifact.

For example to add an association to Requirement RQ00005 you would choose Artifact Type = Requirement and Artifact ID = 5.

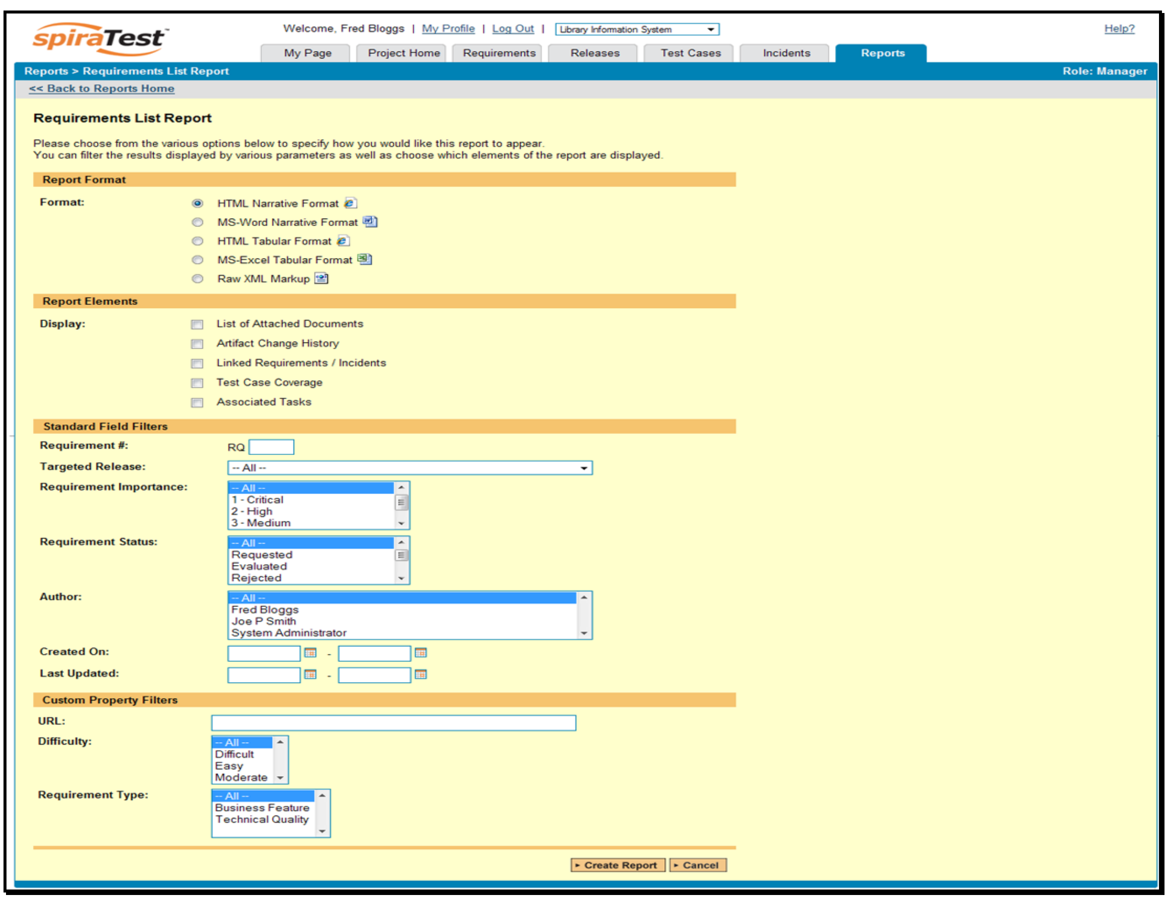
11. Reports Center

This section describes the reporting features of SpiraTeam™, including an overview of each of the report types that are available. When you click on the “Reports” tab on the global navigation bar, you will initially be taken to the reports home page illustrated below:



This page simply lists each of the reports and graphs available in the system, categorized by the artifact they primarily relate to (requirements, test cases, incidents and releases). Clicking on any of the report hyperlinks will take you to the configuration page for the report in question.

The configuration page for each report differs slightly, but the general format is illustrated below:



You can configure each of the reports in the following ways:

- **Report Format** – This allows you to specify the display format of the report. There is a distinction between a *narrative report* in which the data is presented as a written report suitable for printing, and a *tabular report* in which the data is presented as a data grid that is best used for charting and analyzing.
  The narrative reports can be displayed either as a web-page (HTML) or downloaded as a Microsoft Word document. The tabular reports can be displayed either as a web-page (HTML) or downloaded as a Microsoft Excel spreadsheet. In addition there is a raw-XML format that allows you to export the underlying report data into an external reporting system that supports XML.
- **Report Elements** – This allows you to determine which types of information to include in the report. This varies by report type, but includes the dependent items related to the artifact being reported on (attachments, test steps, coverage, history, etc.)
- **Standard Field Filters** – This allows you to constrain the range of data being reported on, based on the various fields associated with the artifact in question. These filters are typically selections from list-boxes and date-ranges.
- **Custom Property Filters** – This allows you to constrain the range of data being reported on, based on the custom fields associated with the artifact by your project administrator. These filters can be either freetext or drop-down lists.

Once you have selected the format, elements and filters, clicking the <Create Report> button launches the report in a new window. Each of the reports is now briefly described below:

11.1. Requirements Reports

11.1.1. Requirements List Report

This printable report displays all of the requirements defined for the current project in the order they appear in the requirements list. For each individual requirement, the name, priority, author, status and coverage status are displayed, along with tables containing the list of covering test cases, linked incidents/requirements, associated tasks, attached documents, and the change history:

Req 4 - Ability to add new books to the system

The ability to add new books into the system, complete with ISBN, publisher and other related information

Priority:	1 - Critical	**Status:**	Completed
Author:	Fred Bloggs	**Creation Date:**	12/1/2003 12:00:00 AM
Coverage:	3 Covering, 0 Failed, 2 Passed	**Last Modified:**	12/1/2003 12:00:00 AM
Targeted Release:	1.0.0.0		
URL:	http://www.libraries.org		
Difficulty:	Moderate		
Requirement Type:			

Requirement Test Coverage:

Test #	Name	Status	Last Execution Date
2	Ability to create new book	Passed	12/1/2003 12:00:00 AM
13	Adding new book and author to library	Not Run	
8	Book management	Passed	12/1/2003 12:00:00 AM

Attachment List:

Filename	Description	Author	Date Uploaded
Book Management Functional Spec.doc	This document outlines the functional specification for the book management part of the library management system.	Fred Bloggs	5/2/2006 12:00:00 AM
Graphical Design Mockups.psd		Joe P Smith	5/1/2006 12:00:00 AM
Book Management Screen Wireframe.ai		Joe P Smith	3/2/2005 12:00:00 AM

Requirement Change History:

Change Date	Field Name	Old Value	New Value	Changed By
5/2/2006 12:00:00 AM	Status	In Progress	Completed	Fred Bloggs
3/4/2005 12:00:00 AM	Status	Requested	In Progress	Joe P Smith

11.1.2. Requirements Plan

This report displays a complete work breakdown structure of the project from a requirements perspective, including all requirements and tasks organized by schedule:

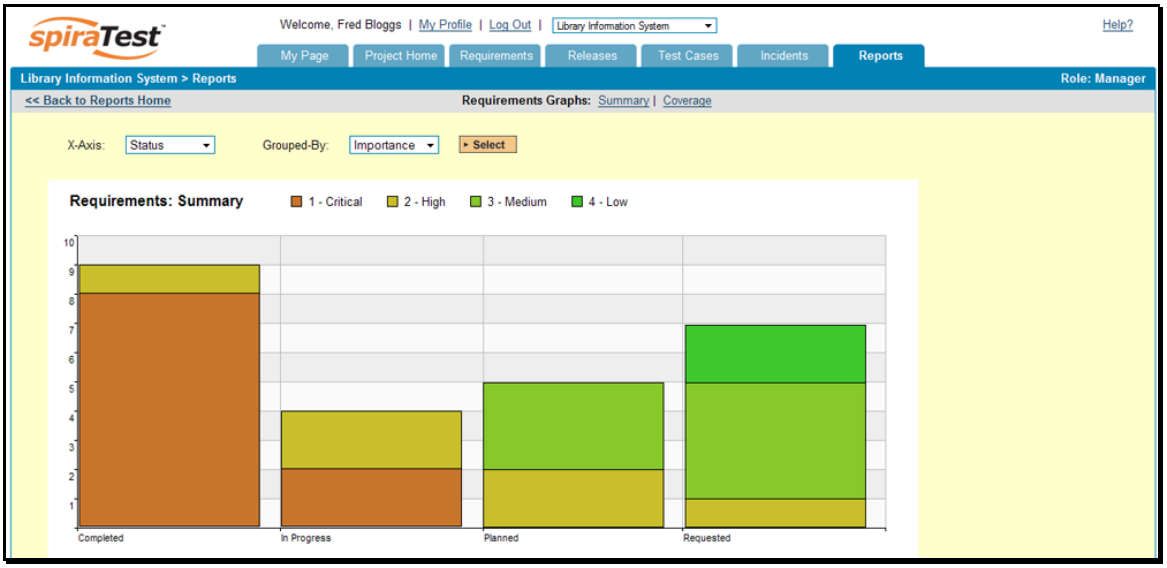
› Print Report

Requirements Project Plan

ID #	Name	Type	Status	Priority	Owner	Start Date	End Date	% Complete	Est. Effort	Actual Effort
1	**Functional System Requirements**	**Requirement**	**In Progress**							
2	**Online Library Management System**	**Requirement**	**In Progress**							
3	**Book Management**	**Requirement**	**Completed**	**1 - Critical**						
4	Ability to add new books to the system	Requirement	Completed	1 - Critical						
1	Develop new book entry screen	Task	Completed	1 - Critical	Fred Bloggs	01-Mar-2004	02-Mar-2004	100 %	8 hours 0 mins	7 hours 20 mins
2	Create book object insert method	Task	Completed	1 - Critical	Fred Bloggs	01-Mar-2004	02-Mar-2004	100 %	5 hours 0 mins	5 hours 20 mins
3	Write book object insert queries	Task	Completed	1 - Critical	Fred Bloggs	01-Mar-2004	02-Mar-2004	100 %	3 hours 0 mins	2 hours 50 mins
5	Ability to edit existing books in the system	Requirement	Completed	1 - Critical						
4	Develop edit book details screen	Task	Completed	1 - Critical	Fred Bloggs	03-Mar-2004	04-Mar-2004	100 %	8 hours 0 mins	7 hours 20 mins
5	Create book object update method	Task	Completed	1 - Critical	Joe P Smith	03-Mar-2004	04-Mar-2004	100 %	5 hours 0 mins	6 hours 0 mins
6	Write book object update queries	Task	Completed	1 - Critical	Joe P Smith	03-Mar-2004	04-Mar-2004	100 %	3 hours 0 mins	3 hours 30 mins
6	Ability to delete existing books in the system	Requirement	Completed	1 - Critical						
7	Refactor book screen to include delete button	Task	Completed	1 - Critical	Joe P Smith	05-Mar-2004	06-Mar-2004	100 %	8 hours 0 mins	7 hours 40 mins

11.1.3. Requirements Summary Graph

The requirements summary graph shows how many requirements are currently in a project. The number of requirements is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the requirement information which is used to group the data. When you first open the graph you will be asked to pick the field that you would like to display on the x-axis and the field that you would like to group the data by. Once you have chosen the appropriate fields and clicked the <Select> button the graph will be displayed:



In this version of the report, the x-axis represents the requirements' status, and the individual bars are grouped by requirement importance. Each data-value can be viewed by positioning the mouse pointer over the bar, and a "tooltip" will pop-up listing the actual data value.

Clicking on the "Display Data Grid" link will display the underlying data that is being used to generate the graph:

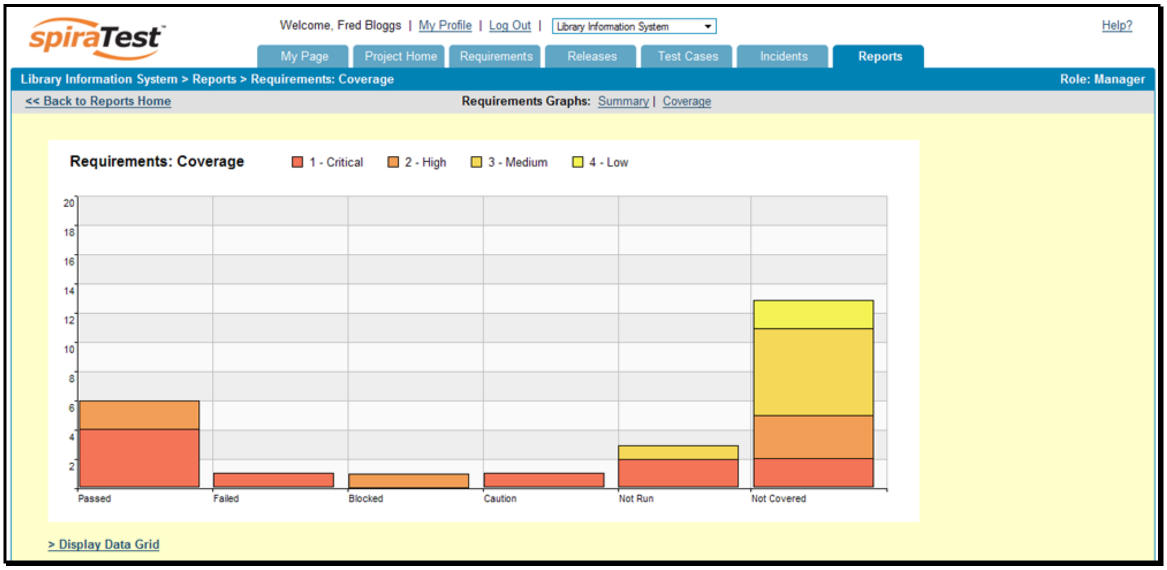
> Hide Data Grid

Status	Importance			
	1 - Critical	2 - High	3 - Medium	4 - Low
Completed	8	1	0	0
In Progress	2	2	0	0
Planned	0	2	3	0
Requested	0	1	4	2

This feature is available on all the various graphs in the system.

11.1.4. Requirements Coverage Graph

The requirements coverage graph shows how many requirements are currently in a project, according to their test coverage status.



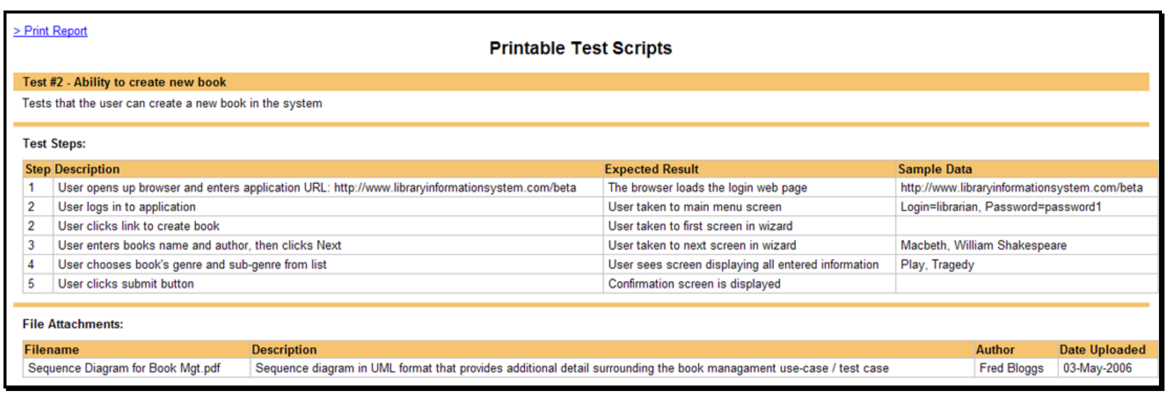
The x-axis of the report represents the various test execution statuses that a requirement can have as its coverage status (plus the Not-Covered status), and the individual bars are grouped by the requirements importance. Each data-value can be viewed by positioning the mouse pointer over the bar, and a “tooltip” will pop-up listing the actual data value. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

11.2. Test Case Reports

11.2.1. Printable Test Scripts

This printable report is useful when you want to be able to conduct the testing activities offline on paper, or when testers need paper copies of the test script in addition to using the online test execution wizard.

In either case, this report simply displays all of the test cases defined for the current project in the order they appear in the test case list together with their detailed test steps and a list of any attached documents.


> Print Report

Printable Test Scripts

Test #2 - Ability to create new book

Tests that the user can create a new book in the system

Test Steps:

Step	Description	Expected Result	Sample Data
1	User opens up browser and enters application URL: http://www.libraryinformationsystem.com/beta	The browser loads the login web page	http://www.libraryinformationsystem.com/beta
2	User logs in to application	User taken to main menu screen	Login=librarian, Password=password1
2	User clicks link to create book	User taken to first screen in wizard	
3	User enters books name and author, then clicks Next	User taken to next screen in wizard	Macbeth, William Shakespeare
4	User chooses book's genre and sub-genre from list	User sees screen displaying all entered information	Play, Tragedy
5	User clicks submit button	Confirmation screen is displayed	

File Attachments:

Filename	Description	Author	Date Uploaded
Sequence Diagram for Book Mgt.pdf	Sequence diagram in UML format that provides additional detail surrounding the book managament use-case / test case	Fred Bloggs	03-May-2006

11.2.2. Test Case List Report

This printable report displays all of the test cases defined for the current project in the order they appear in the test case list. For each individual test case, the name, execution status, author, owner and execution date are displayed, along with tables containing the list of individual test runs, attached documents, the change history, and finally any associated open incidents:

Folder 1 - Functional Tests

Test 2 - Ability to create new book

Tests that the user can create a new book in the system

Status: Passed
Author: Fred Bloggs — **Creation Date:** 12/1/2003 12:00:00 AM
Owner: Fred Bloggs — **Last Execution:** 12/1/2003 12:00:00 AM

URL: http://www.libraryreferences.org
Test Type: Functional Test

Step	Description	Expected Result	Sample Data Date
1	Call Login to Application		
2	User clicks link to create book	User taken to first screen in wizard	
3	User enters books name and author, then clicks Next	User taken to next screen in wizard	Macbeth, William Shakespeare
4	User chooses book's genre and sub-genre from list	User sees screen displaying all entered information	Play, Tragedy
5	User clicks submit button	Confirmation screen is displayed	

Open Incidents List:

Incident #	Type	Status	Priority	Name	Owned By	Detected On
7	Bug	Assigned	1 - Critical	Cannot add a new book to the system	Joe P Smith	11/4/2003 12:00:00 AM

Test Runs:

Run #	Tester	Release	Version	Status	Execution Date
2	Fred Bloggs	Library System Release 1 SP1	1.0.1.0	Passed	12/1/2003 11:30:55 AM
1	Joe P Smith	Library System Release 1	1.0.0.0	Failed	12/1/2003 10:45:20 AM

11.2.3. Test Set List Report

This report displays all of the test sets defined for the current project in the order they appear in the test set list. The test set's details and execution status are displayed, along with sub-tables containing the list of test cases, test runs, attached documents, and the change history:

Test Set Narrative Report

Folder #8 - Functional Test Sets

Test Set #1 - Testing Cycle for Release 1.0

This tests the functionality introduced in release 1.0 of the library system

Owner: Joe P Smith — **Creator:** Fred Bloggs
Release: 1.0.0.0 — **Creation Date:** 02-Jan-2007
Status: In Progress — **Last Execution:** 01-Dec-2003
Planned Date: 05-Feb-2007 — **Last Updated:** 22-Jan-2009 12:50:47
Notes:
Operating System:

Test Cases:

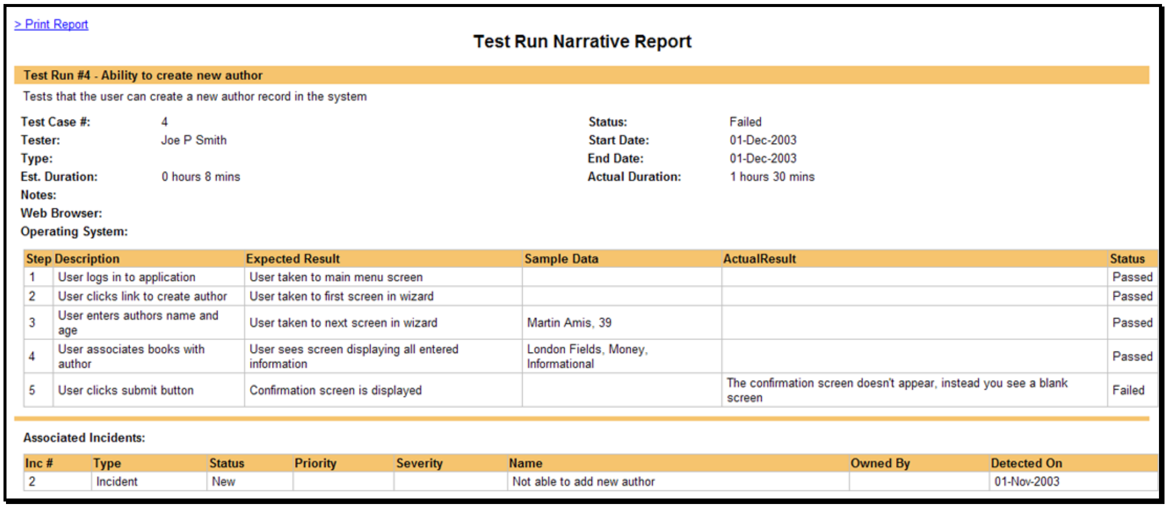
Test #	Name	Priority	Est. Duration	Status	Last Execution Date
2	Ability to create new book	1 - Critical	10 mins	Failed	04-Dec-2003
3	Ability to edit existing book	1 - Critical	5 mins	Passed	01-Dec-2003
4	Ability to create new author	1 - Critical	8 mins	Failed	22-Jan-2009 12:31:30
5	Ability to edit existing author	2 - High	5 mins	Not Run	01-Dec-2003
6	Ability to reassign book to different author	2 - High	8 mins	Not Run	01-Dec-2003
8	Book management	2 - High	4 mins	Not Run	01-Dec-2003
9	Author management	2 - High	4 mins	Not Run	01-Dec-2003

Test Runs:

Run #	Tester	Release	Version	Status	Est. Duration	Actual Duration	Execution Date
3	Fred Bloggs	Library System Release 1	1.0.0.0	Passed	5 mins	90 mins	01-Dec-2003
4	Joe P Smith	Library System Release 1	1.0.0.0	Failed	8 mins	90 mins	01-Dec-2003
1	Joe P Smith	Library System Release 1	1.0.0.0	Failed	10 mins	75 mins	01-Dec-2003

11.2.4. Test Run List Report

This report displays a list of the test runs executed in the current project in date order (most recent first). The test run's details and execution status are displayed, along with sub-tables containing the list of test run steps, and a list of any associated open incidents:



> Print Report

Test Run Narrative Report

Test Run #4 - Ability to create new author

Tests that the user can create a new author record in the system

Test Case #:	4	**Status:**	Failed
Tester:	Joe P Smith	**Start Date:**	01-Dec-2003
Type:		**End Date:**	01-Dec-2003
Est. Duration:	0 hours 8 mins	**Actual Duration:**	1 hours 30 mins
Notes:			
Web Browser:			
Operating System:			

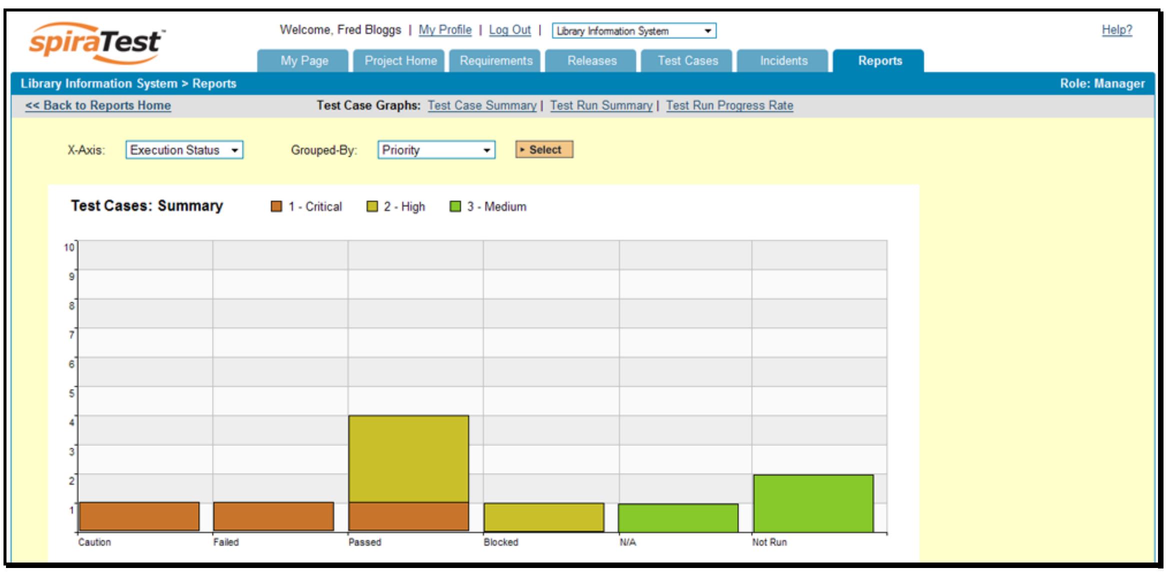
Step	Description	Expected Result	Sample Data	ActualResult	Status
1	User logs in to application	User taken to main menu screen			Passed
2	User clicks link to create author	User taken to first screen in wizard			Passed
3	User enters authors name and age	User taken to next screen in wizard	Martin Amis, 39		Passed
4	User associates books with author	User sees screen displaying all entered information	London Fields, Money, Informational		Passed
5	User clicks submit button	Confirmation screen is displayed		The confirmation screen doesn't appear, instead you see a blank screen	Failed

Associated Incidents:

Inc #	Type	Status	Priority	Severity	Name	Owned By	Detected On
2	Incident	New			Not able to add new author		01-Nov-2003

11.2.5. Test Case Summary Graph

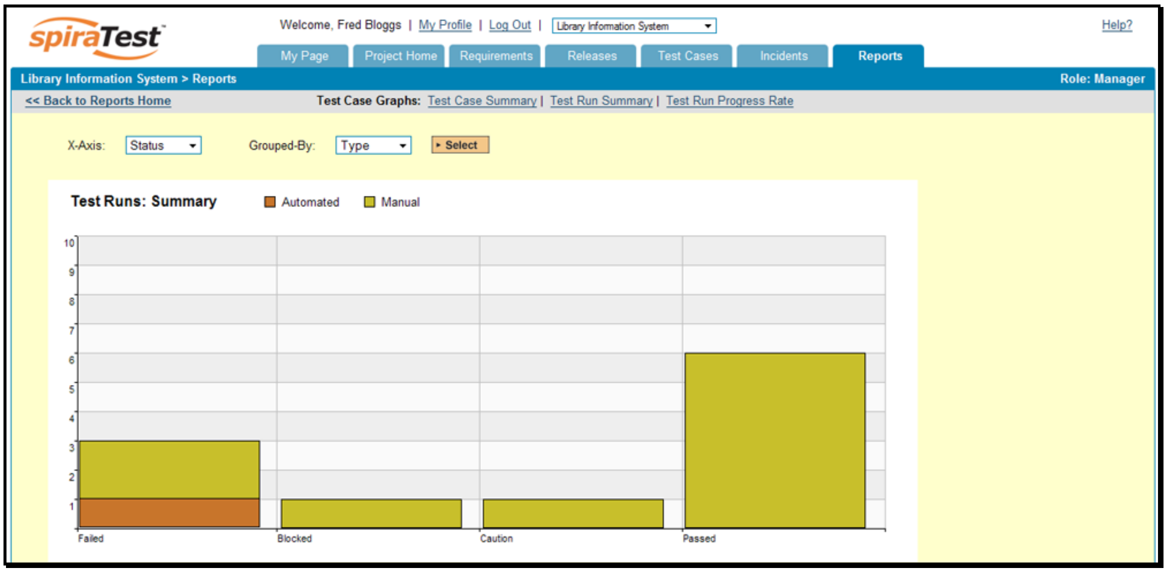
The test case summary graph shows how many test cases are currently in a project. The number of test cases is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the test case information which is used to group the data. When you first open the graph you will be asked to pick the field that you would like to display on the x-axis and the field that you would like to group the data by. Once you have chosen the appropriate fields and clicked the <Select> button the graph will be displayed:



In this version of the report, the x-axis represents the test case execution status, and the individual bars are grouped by test case priority. Each data-value can be viewed by positioning the mouse pointer over the bar, and a “tooltip” will pop-up listing the actual data value. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

11.2.6. Test Run Summary Graph

The test run summary graph shows how many test runs are currently in a project. The number of test runs is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the test run information which is used to group the data. When you first open the graph you will be asked to pick the field that you would like to display on the x-axis and the field that you would like to group the data by. Once you have chosen the appropriate fields and clicked the <Select> button the graph will be displayed:

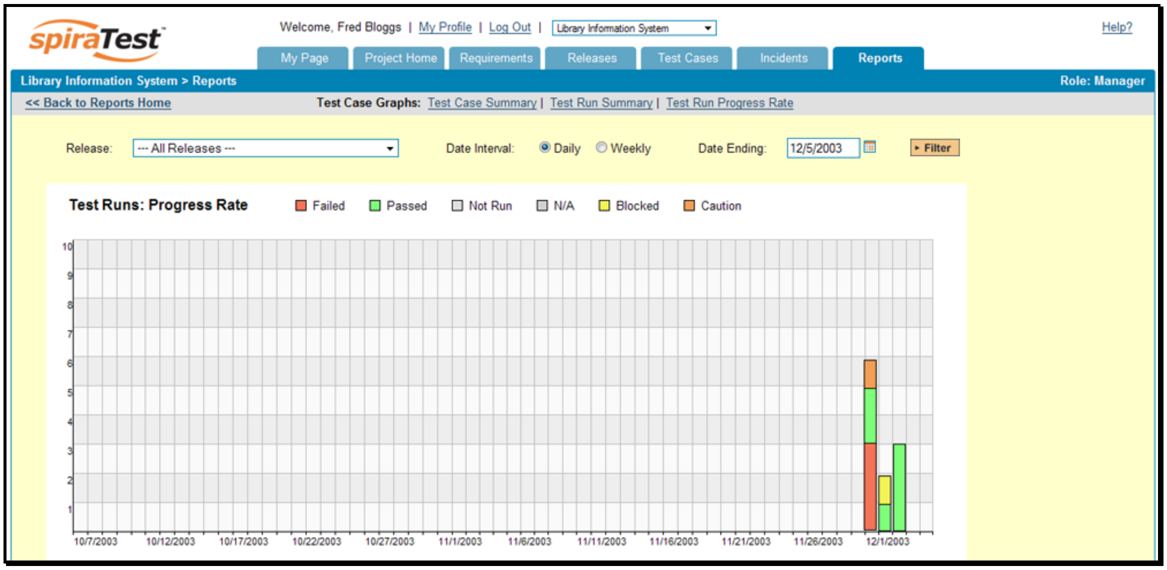


In this version of the report, the x-axis represents the test run execution status, and the individual bars are grouped by test run type. Each data-value can be viewed by positioning the mouse pointer over the bar, and a "tooltip" will pop-up listing the actual data value. Clicking on the "Display Data Grid" link will display the underlying data that is being used to generate the graph.

11.2.7. Test Run Progress Rate Graph

The test run progress rate graph shows how many tests have been executed during a period of time, and what execution status was recorded. The report can either be displayed for 60 days of data daily or for 12 months of data weekly, ending on a specified date.

The screen-shot below illustrates the progress rate report loaded with the past 60 days of test run data depicted on a daily basis:

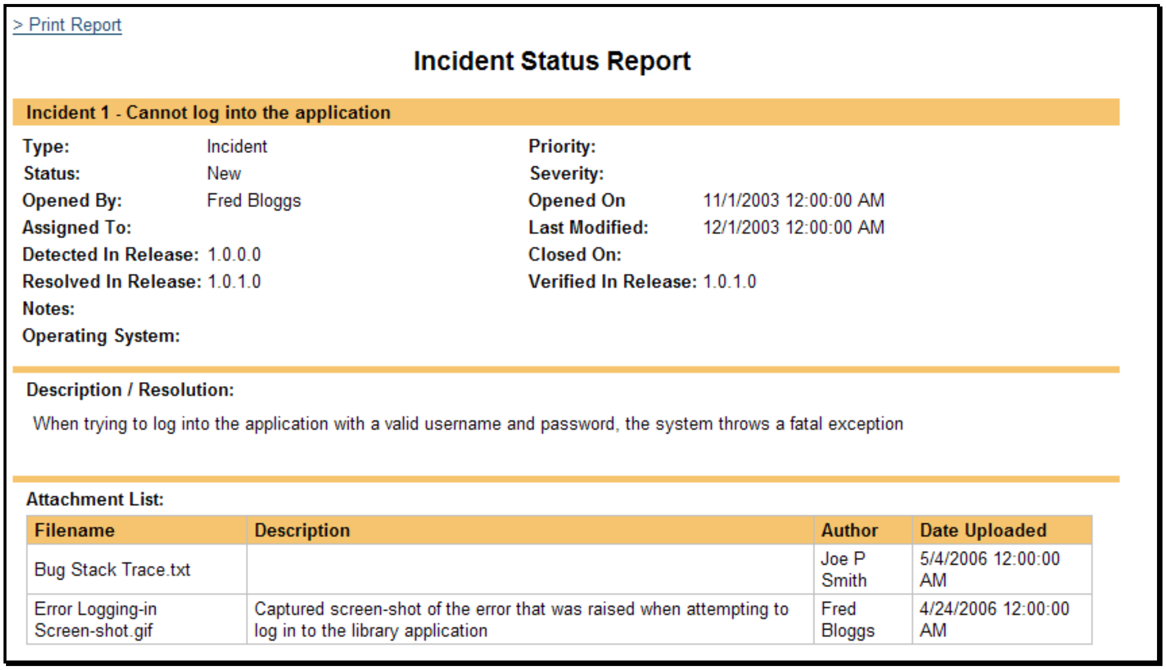


In this version of the report, the y-axis represents the number of test runs executed in each 24 hour period, and the x-axis represents a specific day in the time-span. Each data-bar can be viewed by positioning the mouse pointer over the point, and a “tooltip” will pop-up listing the actual data value. You can filter the report by the release that the test run was executed against, and also change the ending date of the date range. By clicking on the weekly radio button, you can display the past 12 months of test run data organized on a weekly basis. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

11.3. Incident Reports

11.3.1. Incident List Report

This printable report displays all of the incidents tracked for the current project sorted by incident number. For each individual incident, the name, type, priority, status, opener, owner and close date are displayed, along with tables containing the detailed description and resolutions as well as a tabular list of attached documents, linked requirements/incidents and the change history:



> Print Report

Incident Status Report

Incident 1 - Cannot log into the application

Type:	Incident	**Priority:**	
Status:	New	**Severity:**	
Opened By:	Fred Bloggs	**Opened On**	11/1/2003 12:00:00 AM
Assigned To:		**Last Modified:**	12/1/2003 12:00:00 AM
Detected In Release:	1.0.0.0	**Closed On:**	
Resolved In Release:	1.0.1.0	**Verified In Release:**	1.0.1.0
Notes:			
Operating System:			

Description / Resolution:

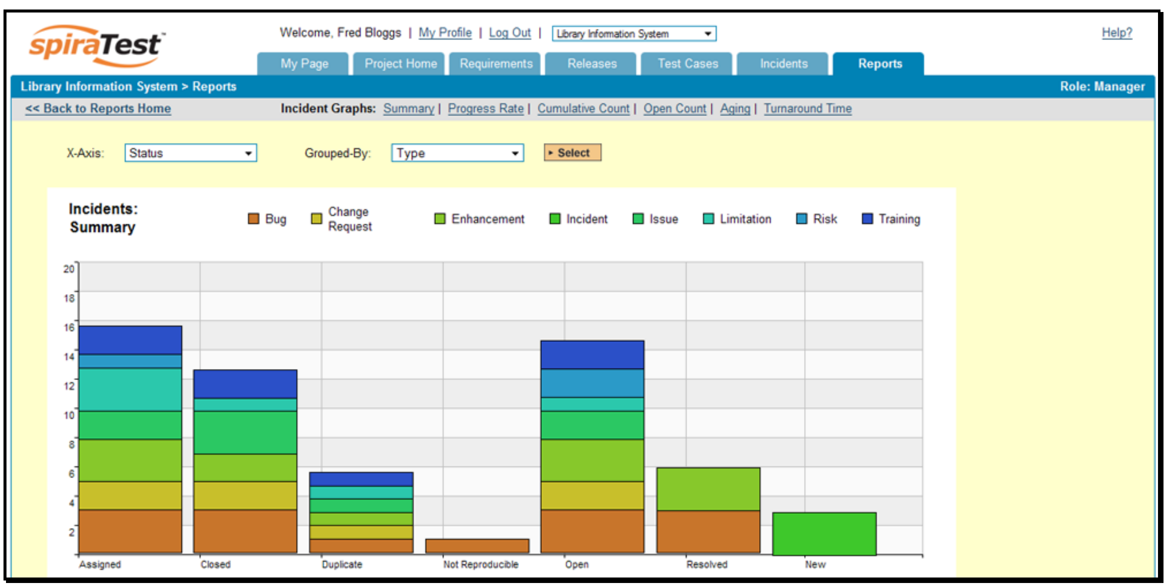
When trying to log into the application with a valid username and password, the system throws a fatal exception

Attachment List:

Filename	Description	Author	Date Uploaded
Bug Stack Trace.txt		Joe P Smith	5/4/2006 12:00:00 AM
Error Logging-in Screen-shot.gif	Captured screen-shot of the error that was raised when attempting to log in to the library application	Fred Bloggs	4/24/2006 12:00:00 AM

11.3.2. Incident Summary Graph

The incident summary graph shows how many incidents are currently in a project. The number of incidents is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the incident information which is used to group the data. When you first open the graph you will be asked to pick the field that you would like to display on the x-axis and the field that you would like to group the data by. Once you have chosen the appropriate fields and clicked the <Select> button the graph will be displayed:

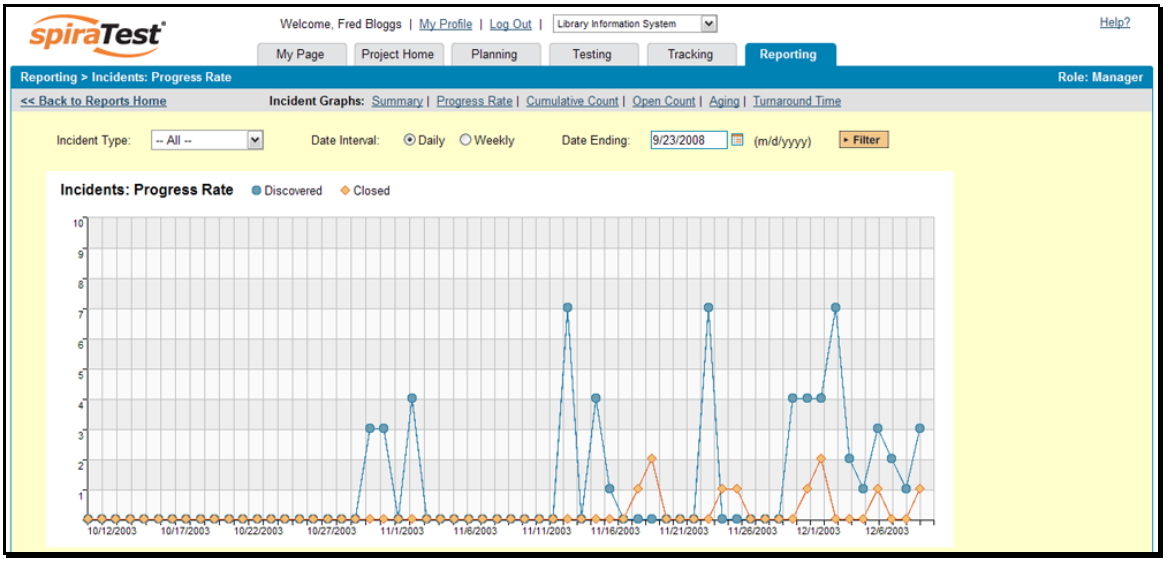


In this version of the report, the x-axis represents the incidents' status, and the individual bars are grouped by the type of incident. Each data-value can be viewed by positioning the mouse pointer over the bar, and a "tooltip" will pop-up listing the actual data value. Clicking on the "Display Data Grid" link will display the underlying data that is being used to generate the graph.

11.3.3. Incident Progress Rate Graph

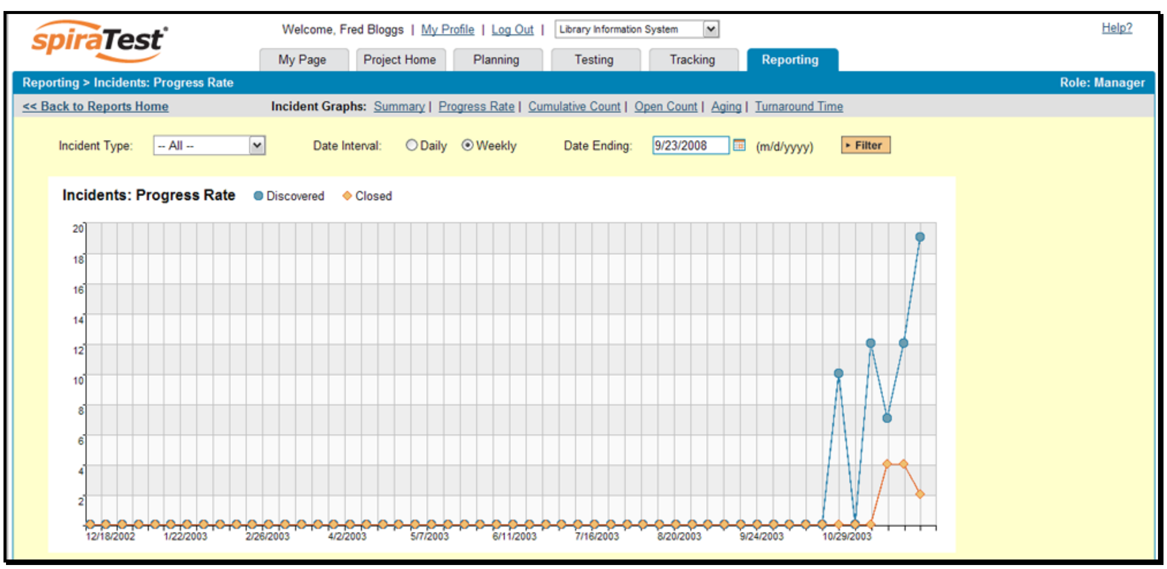
The incident progress rate chart displays the total number of incidents created and closed over a particular date-range. The report can either be displayed for 60 days of data daily or for 12 months of data weekly, ending on a specified date.

The screen-shot below illustrates the progress rate report loaded with the past 60 days of incident discovery/closure data depicted on a daily basis:



In this version of the report, the y-axis represents the number of incidents (either created or closed in a 24 hour period), and the x-axis represents a specific day in the time-span. Each data-point can be viewed by positioning the mouse pointer over the point, and a “tooltip” will pop-up listing the actual data value. You can filter the report by the type of incident, and also change the ending date of the date range (e.g. displaying only the bugs for the date range).

Similarly, by clicking on the weekly radio button, you can display the past 12 months of incident discovery data organized on a weekly basis:



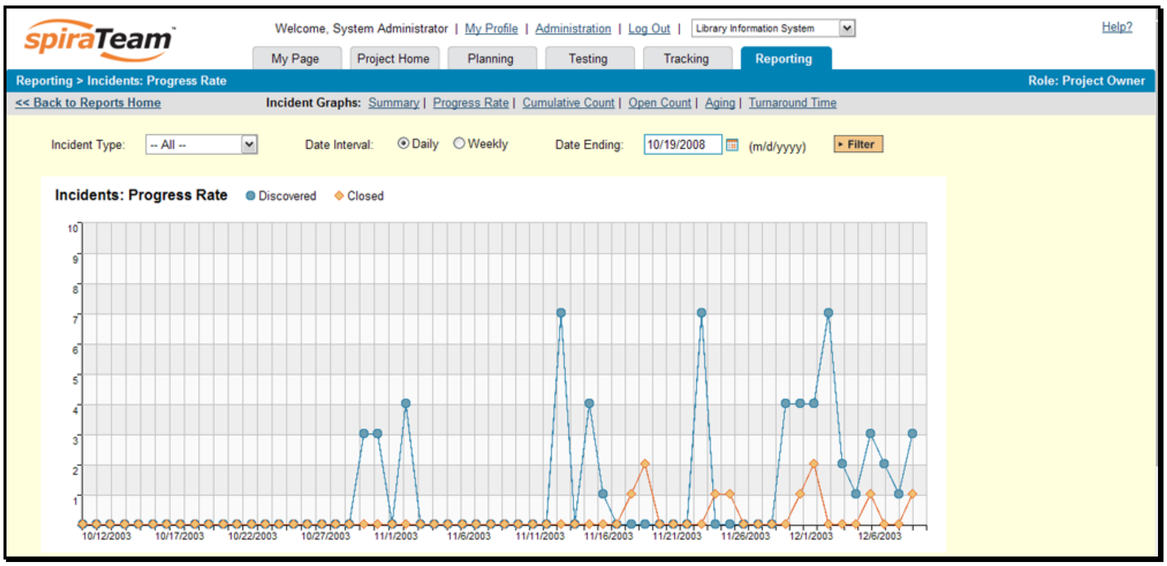
In this version of the report, the y-axis represents the number of incidents (either created or closed in a 7-day period), and the x-axis represents a specific week in the time-span. Each data-point can be viewed by positioning the mouse pointer over the point, and a “tooltip” will pop-up listing the actual data value. Again you can filter this report by the type of incident and also specify the ending date of the date-range. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

Clicking the “Back to Project Home” hyperlink will take you back to the Project Home dashboard. In addition, the toolbar displays a list of shortcuts to other incident reports that can be displayed.

11.3.4. Cumulative Incident Count Graph

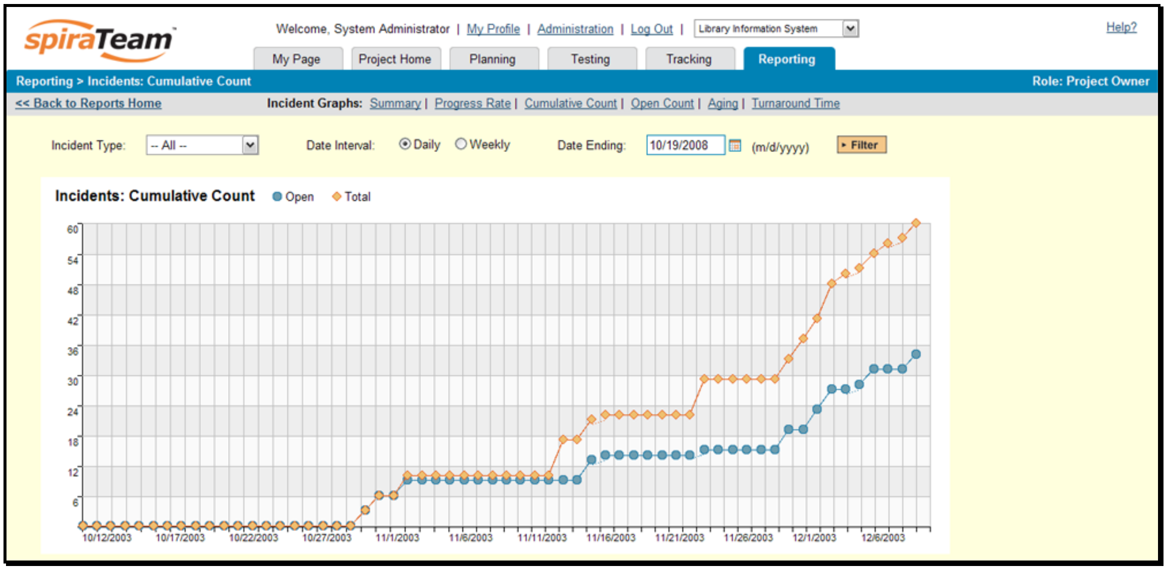
The cumulative incident count chart displays the cumulative total number of incidents logged in the system for the current project over a particular date-range. The report can either be displayed for a 60 day interval on a daily basis or for a 12 month interval of a weekly basis. The report displays two data series, one illustrating the total count of all incidents, the other the total count of all *open incidents* (i.e. with status not set to fixed or closed).

The screen-shot below illustrates the cumulative count report loaded with the past 60 days of cumulative incident count data depicted on a daily basis:



In this version of the report, the y-axis represents the number of incidents, and the x-axis represents a specific day in the time-span. Each data-point can be viewed by positioning the mouse pointer over the point, and a “tooltip” will pop-up listing the actual data value. You can also filter the type of incident being reported, as well as change the end date for the date interval.

Similarly, by clicking on the weekly radio button, you can display the past 12 months of cumulative incident count data organized on a weekly basis:

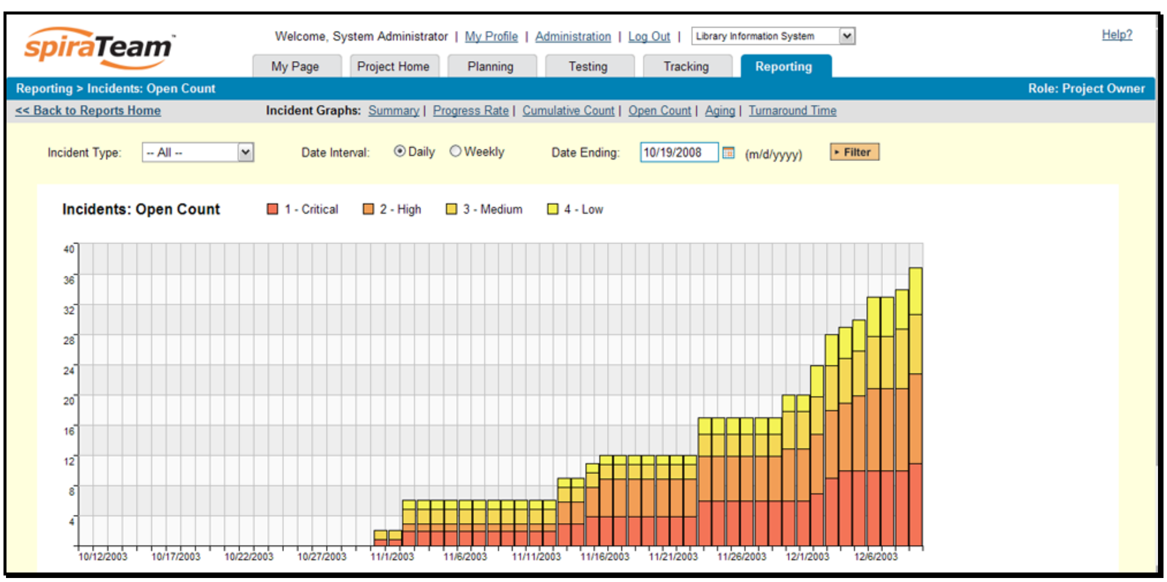


In this version of the report, the y-axis represents the number of incidents logged in a 7-day period, and the x-axis represents a specific week in the time-span. Each data-point can be viewed by positioning the mouse pointer over the point, and a "tooltip" will pop-up listing the actual data value. Again, you can also filter the type of incident being reported, as well as change the end date for the date interval. Clicking on the "Display Data Grid" link will display the underlying data that is being used to generate the graph.

Clicking the "Back to Project Home" hyperlink will take you back to the Project Home dashboard.

11.3.5. Open Incident Count Graph

The open incident count chart displays the total number of open incidents in the system for the current project over a particular date-range categorized by incident priority. The report can either be displayed for a 60 day interval on a daily basis or for a 12 month interval of a weekly basis. The screen-shot below illustrates the discovery report loaded with the past 60 days of cumulative incident count data depicted on a daily basis:

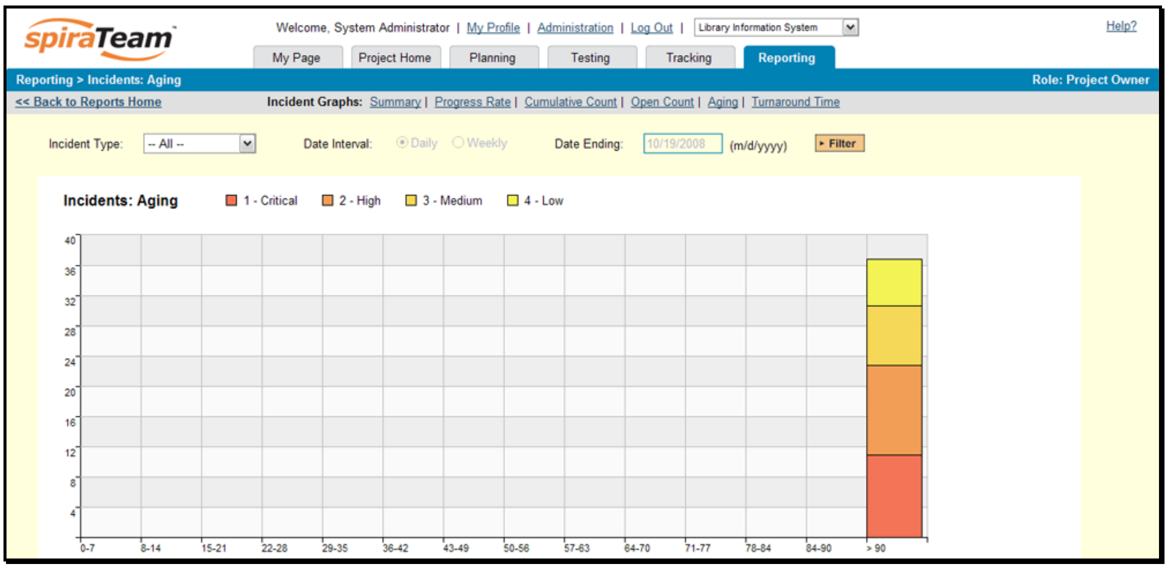


In this version of the report, the y-axis represents the number of incidents, and the x-axis represents a specific day in the time-span. The exact count of each bar in the stacked histogram can be viewed by positioning the mouse pointer over the bar, and a “tooltip” will pop-up listing the actual data value. You can also filter the type of incident being reported, as well as change the end date for the date interval. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

Similarly, by clicking on the weekly radio button, you can display the past 12 months of open incident counts organized on a weekly basis (categorized by priority).

11.3.6. Incident Aging Graph

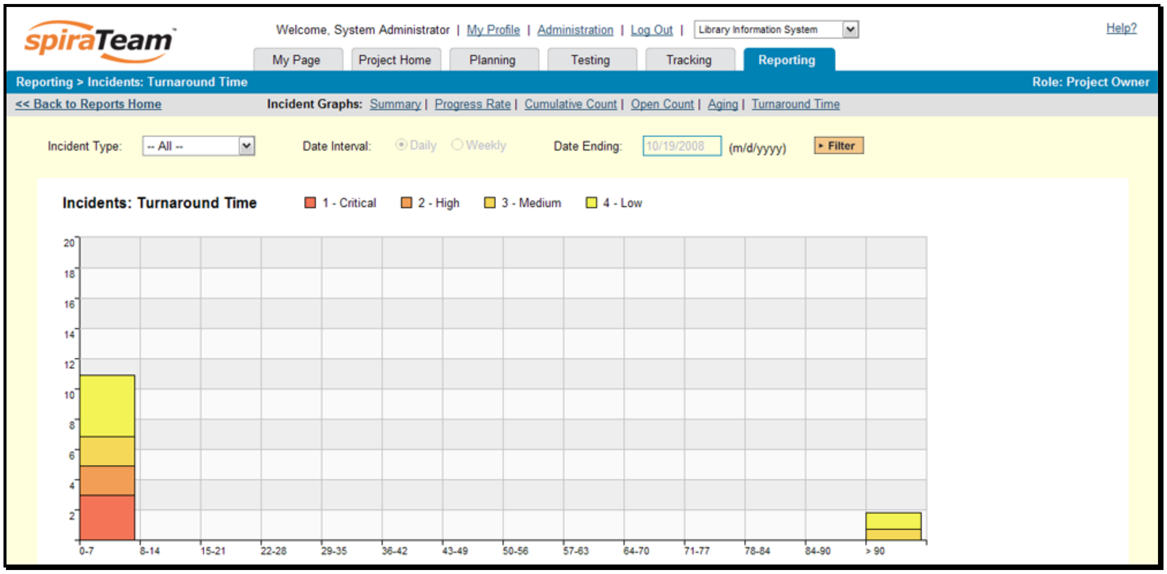
The incident aging chart displays the number of days incidents have been left open in the system. The chart is organized as a stacked histogram, with the count of incidents on the y-axis and different age intervals on the x-axis. Each bar-chart color represents a different incident priority, giving a project manager a snapshot view of the age of open project incidents by priority.



This report can be filtered by the type of incident, so for example you can see the aging of just bugs, or just issues for the project in question. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

11.3.7. Incident Turnaround Time Graph

The incident turnaround time chart displays the number of days incidents have taken to be closed (from the time they were first raised) in the system. The chart is organized as a stacked histogram, with the count of incidents on the y-axis and different turnaround time intervals on the x-axis. Each bar-chart color represents a different incident priority, giving a project manager a snapshot view of the turnaround time of project incidents by priority.

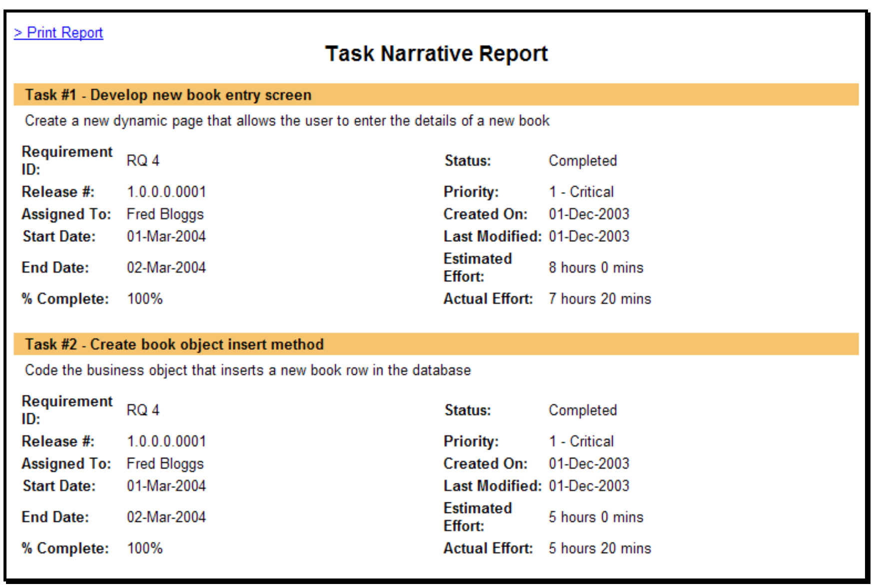


This report can be filtered by the type of incident, so for example you can see the turnaround time of just bugs, or just issues for the project in question. Clicking on the “Display Data Grid” link will display the underlying data that is being used to generate the graph.

11.4. Task Reports

11.4.1. Task List Report

This report displays all of the tasks tracked for the current project. The task's details are displayed, along with a tabular list of attached documents and the change history:


> Print Report

Task Narrative Report

Task #1 - Develop new book entry screen

Create a new dynamic page that allows the user to enter the details of a new book

Requirement ID:	RQ 4	**Status:**	Completed
Release #:	1.0.0.0.0001	**Priority:**	1 - Critical
Assigned To:	Fred Bloggs	**Created On:**	01-Dec-2003
Start Date:	01-Mar-2004	**Last Modified:**	01-Dec-2003
End Date:	02-Mar-2004	**Estimated Effort:**	8 hours 0 mins
% Complete:	100%	**Actual Effort:**	7 hours 20 mins

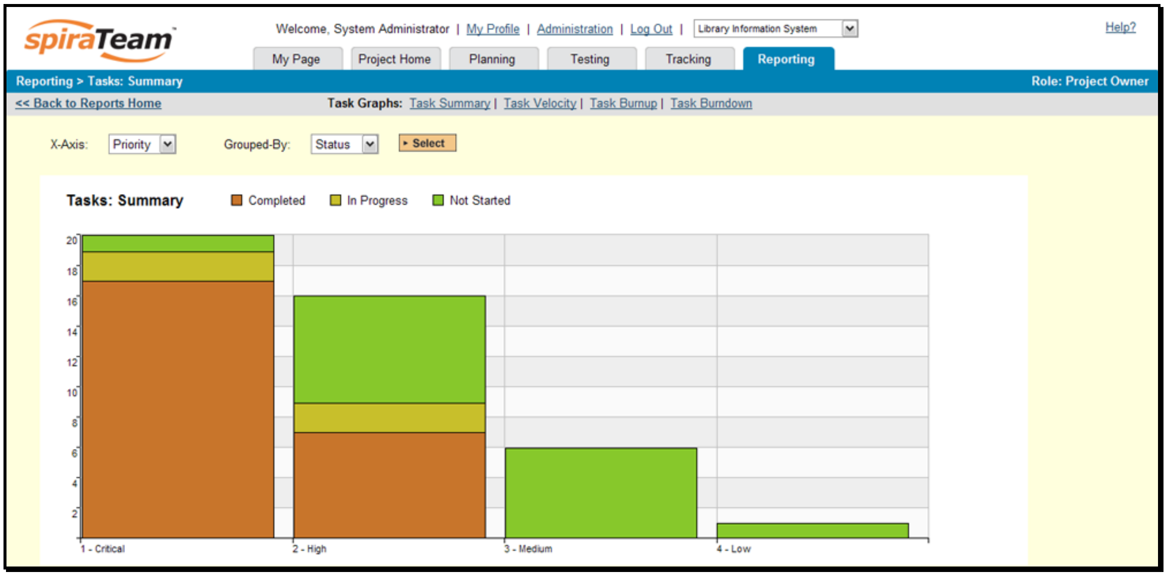
Task #2 - Create book object insert method

Code the business object that inserts a new book row in the database

Requirement ID:	RQ 4	**Status:**	Completed
Release #:	1.0.0.0.0001	**Priority:**	1 - Critical
Assigned To:	Fred Bloggs	**Created On:**	01-Dec-2003
Start Date:	01-Mar-2004	**Last Modified:**	01-Dec-2003
End Date:	02-Mar-2004	**Estimated Effort:**	5 hours 0 mins
% Complete:	100%	**Actual Effort:**	5 hours 20 mins

11.4.2. Task Summary Chart

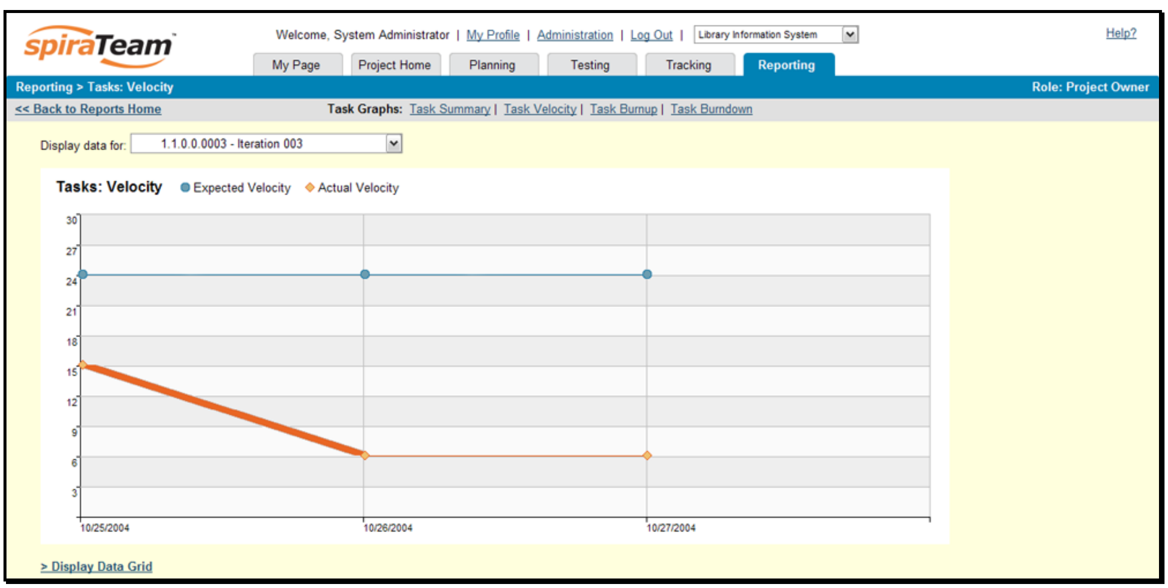
The task summary graph shows how many tasks are currently in a project. The number of tasks is displayed according to the criteria that you specify. You can specify the type of data displayed along the x-axis, and the task information which is used to group the data. When you first open the graph you will be asked to pick the field that you would like to display on the x-axis and the field that you would like to group the data by. Once you have chosen the appropriate fields and clicked the <Select> button the graph will be displayed:



In this version of the report, the x-axis represents the tasks' priority, and the individual bars are grouped by the status of task. Each data-value can be viewed by positioning the mouse pointer over the bar, and a "tooltip" will pop-up listing the actual data value. Clicking on the "Display Data Grid" link will display the underlying data that is being used to generate the graph.

11.4.3. Task Velocity Chart

The Task Velocity graph shows the total estimated and actual effort delivered in each project release and/or iteration:



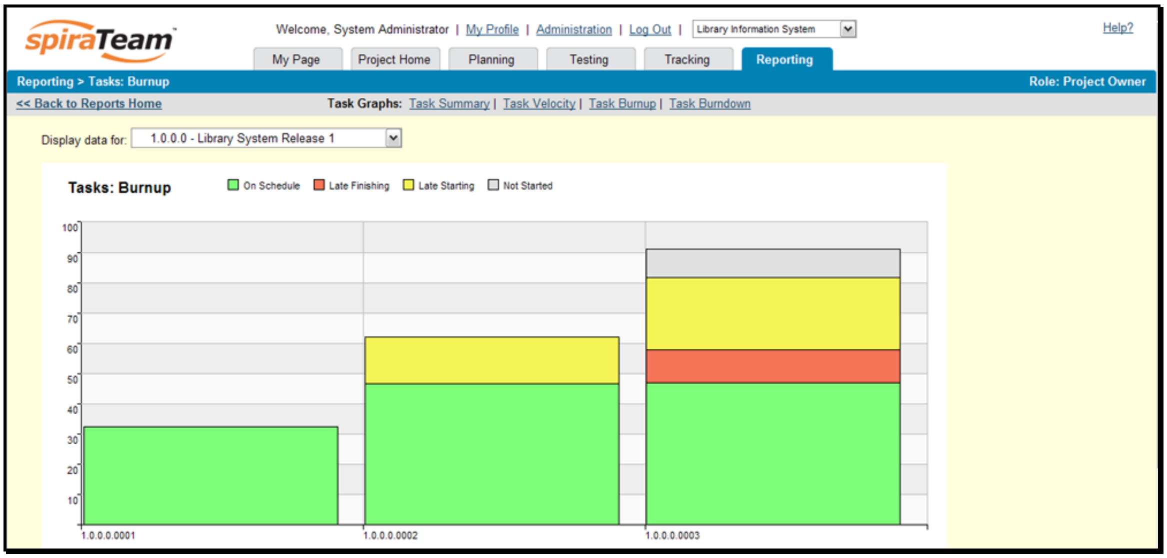
The y-axis of the graph displays the total estimated and actual effort delivered, and the x-axis can be configured to display three different levels of granularity:

- **All Releases** – This shows the total estimated and actual effort for each of the releases in the project

- **Specific Release** – This shows the total estimated and actual effort for each of the iterations in the selected release
- **Specific Iteration** – This shows the total estimated actual effort for each working day in the date-range covered by the selected iteration.

11.4.4. Task Burnup Chart

The Task Burnup graph shows the cumulative increase in work for each release/iteration in the project with the percentage of tasks that are on-schedule, late starting and late finishing indicated:

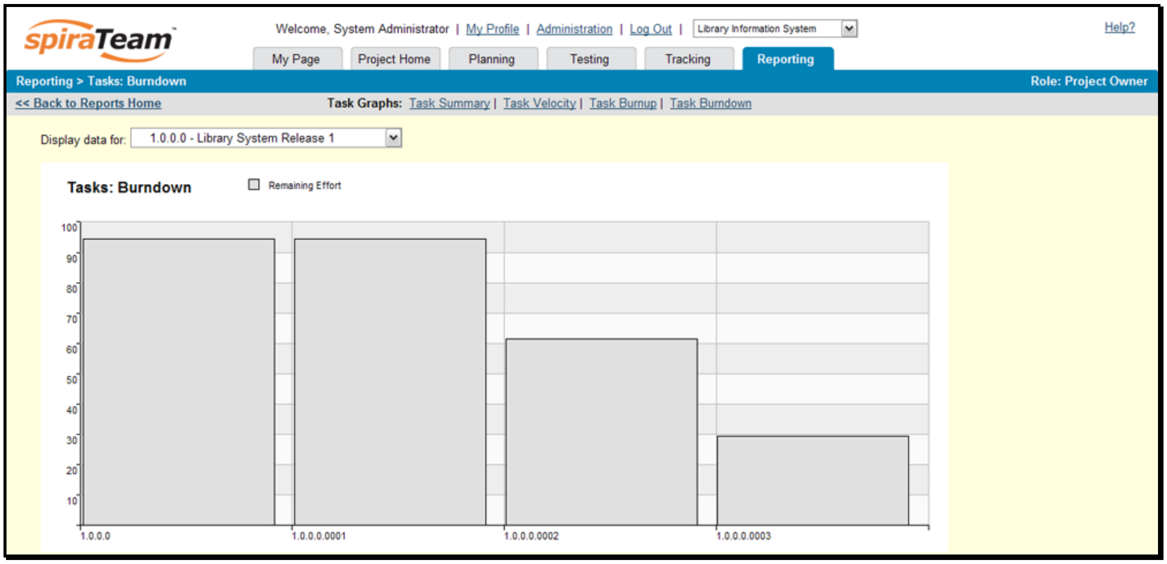


The y-axis of the graph displays the cumulative increase in work for the project, broken down by progress (on-schedule, late-finishing, later-starting or not-started), and the x-axis can be configured to display three different levels of granularity:

- **All Releases** – This shows the increase in work for each of the releases in the project
- **Specific Release** – This shows the increase in work for each of the iterations in the selected release
- **Specific Iteration** – This shows the increase in work for each working day in the date-range covered by the selected iteration.

11.4.5. Task Burndown Chart

The Task Burndown graph shows the remaining work that needs to be done for each release/iteration in the project:



The y-axis of the graph displays the total remaining work that needs to be done, and the x-axis can be configured to display three different levels of granularity:

- **All Releases** – This shows the total remaining work that needs to be done for each of the releases in the project
- **Specific Release** – This shows the total remaining work that needs to be done for each of the iterations in the selected release
- **Specific Iteration** – This shows the total remaining work that needs to be done for each working day in the date-range covered by the selected iteration.

11.5. Release Reports

11.5.1. Release List Report

This report displays all of the releases and iterations defined for the current project in the order they appear in the release/iteration hierarchy. The release's details are displayed, along with sub-tables containing the list of mapped test cases, test runs, associated incidents, attached documents, scheduled tasks and the change history.

> Print Report

Releases Narrative Report

1.0.0.0 - Library System Release 1

This is the initial release of the Library Management System

Version #:	1.0.0.0	**Active:**	Y
Creator:	Fred Bloggs	**Creation Date:**	15-Feb-2004
Notes:	This is the first version of the system		
Operating System:	Windows Vista		

Mapped Test Cases:

Test #	Name	Status	Last Execution Date
4	Ability to create new author	Failed	01-Dec-2003
2	Ability to create new book	Passed	01-Dec-2003
5	Ability to edit existing author	Blocked	01-Dec-2003
3	Ability to edit existing book	Caution	01-Dec-2003
6	Ability to reassign book to different author	Passed	01-Dec-2003
9	Author management	Passed	01-Dec-2003
8	Book management	Passed	01-Dec-2003

Test Runs:

Run #	Name	Test Case #	Tester	Status	Est. Duration	Actual Duration	Execution Date
10	Ability to edit existing book	3	Fred Bloggs	Caution	0 hours 5 mins	0 hours 50 mins	01-Dec-2003
3	Ability to edit existing book	3	Fred Bloggs	Passed	0 hours 5 mins	1 hours 30 mins	01-Dec-2003
4	Ability to create new author	4	Joe P Smith	Failed	0 hours 8 mins	1 hours 30 mins	01-Dec-2003
12	Ability to create new book	2	Fred Bloggs	Failed	0 hours 10 mins	1 hours 10 mins	01-Dec-2003
1	Ability to create new book	2	Joe P Smith	Failed	0 hours 10 mins	1 hours 15 mins	01-Dec-2003

Release/Iteration Change History:

Change Date	Field Name	Old Value	New Value	Changed By
02-May-2006	Name	Library System v1.0.0	Library System Release 1	Fred Bloggs
04-Mar-2005	Version Number	1.0.0	1.0.0.0	Joe P Smith

11.4.2. Release Plan Report

This report displays a complete work breakdown structure of the project from a release perspective, including all releases, iterations tasks and incidents organized by schedule.

> Print Report

Releases Project Plan

ID #	Name	Type	Status	Priority	Owner	Start Date	End Date	% Complete	Est. Effort	Actual Effort
1	**1.0.0.0 - Library System Release 1**	**Release**								
2	**1.0.1.0 - Library System Release 1 SP1**	**Release**								
1	*Cannot log into the application*	*Incident*	*New*			*--*	*--*	*0 %*		
2	*Not able to add new author*	*Incident*	*New*			*--*	*--*	*0 %*		
7	*Cannot add a new book to the system*	*Bug*	*Assigned*	*1 - Critical*	*Joe P Smith*	*06-Nov-2003*	*--*	*25 %*	*0 hours 20 mins*	
11	1.0.1.0.0001 - Iteration 001	Iteration								
12	1.0.1.0.0002 - Iteration 002	Iteration								
13	1.0.1.0.0003 - Iteration 003	Iteration								
3	**1.0.2.0 - Library System Release 1 SP2**	**Release**								
3	*Clicking on link throws fatal error*	*Incident*	*New*			*--*	*--*	*0 %*		
4	*Database not backing up correctly*	*Bug*	*Open*			*--*	*--*	*0 %*		
14	1.0.2.0.0001 - Iteration 001	Iteration								
15	1.0.2.0.0002 - Iteration 002	Iteration								
16	1.0.2.0.0003 - Iteration 003	Iteration								
8	1.0.0.0.0001 - Iteration 001	Iteration								
1	Develop new book entry screen	Task	Completed	1 - Critical	Fred Bloggs	01-Mar-2004	02-Mar-2004	100 %	8 hours 0 mins	7 hours 20 mins
2	Create book object insert method	Task	Completed	1 - Critical	Fred Bloggs	01-Mar-2004	02-Mar-2004	100 %	5 hours 0 mins	5 hours 20 mins
3	Write book object insert queries	Task	Completed	1 - Critical	Fred Bloggs	01-Mar-2004	02-Mar-2004	100 %	3 hours 0 mins	2 hours 50 mins
4	Develop edit book details screen	Task	Completed	1 - Critical	Fred Bloggs	03-Mar-2004	04-Mar-2004	100 %	8 hours 0 mins	7 hours 20 mins
5	Create book object update method	Task	Completed	1 - Critical	Joe P Smith	03-Mar-2004	04-Mar-2004	100 %	5 hours 0 mins	6 hours 0 mins
6	Write book object update queries	Task	Completed	1 - Critical	Joe P Smith	03-Mar-2004	04-Mar-2004	100 %	3 hours 0 mins	3 hours 30 mins

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