Chapter

5

5 User Management

This chapter describes how to setup SpectrumSCM user ids and passwords, define user roles, and assign users to projects with their proper roles for that project. Users will also learn how to customize preferences with respect to screen look and feel, fonts, and editors.

NOTE: There are system level ids that provide users access to the SpectrumSCM system. There are project-level roles assigned to each user that give him or her specific permissions and responsibilities for each project. It is important to understand how system-level and project-level permissions interact. System-level permissions take precedence.

5.1 System-level roles

There are three distinct system-wide levels of permission and authority:

- **Administrator** - The overseer of the SpectrumSCM system for an application or a set of applications. This task might fall to a server administrator or a specific person within the project team. An administrator can perform all functions within the SpectrumSCM system. Only an Administrator can stop and start an SCM server and make changes to the server configuration. An administrator adds new users to the SCM system and assigns project engineer permissions. Specific users who will perform the Administrator role can also be assigned administrator level of authority via the User Administration Screen.

Administrator authority is very powerful. Consider carefully to whom this role will be assigned. Some installations allow only system administrators to be SpectrumSCM administrators. Others give administrator access to project engineers or even generic engineers to allow them to control and manage adding new users to the system, stopping and starting servers, etc. This is reasonable if there is only one project using a SpectrumSCM server. It can be problematic if multiple projects share an SCM server instance. There are pros and cons to each choice.

- **Project Engineer** –The Project Engineer role is responsible for creating new projects, for assigning the generic engineering role for that project, for assigning people to work on that project and for assigning roles to those people. The PE is the only login with the power to delete a project. The role of PE is a system-level permission, assigned by the administrator when the user is added to the system. This role can be handled by a Senior Developer, Project Leader, Project Manager, or the Technical Manager of a project.

The Project Engineer is responsible for defining how the project team will use the SCM system to manage its work. The project engineer defines and assigns the project's life cycle phases, as well as the project's CR attributes and values. While these tasks can be significant, they would only be performed once at the start-up of a new project. SpectrumSCM provides the flexibility to define and associate different life cycles and CR attributes for different projects.

- **User:** The user role is the most common user role model. A user has limited access to the system; a user has no administrative permissions other than the ability to change his or her password. A user can create, assign and work CRs, add and modify new source files and use all the regular features of the SCM tool that do not fall into an administrative category. The user role can be configured differently per user based on the assignment of project-specific roles.

In addition to the system-wide levels of authority, user roles are defined more finely at the project level. This allows a user to be assigned different permissions within a project depending on his or her role on a project team. For example, a user may be a developer on one project and a generic engineer on another project.

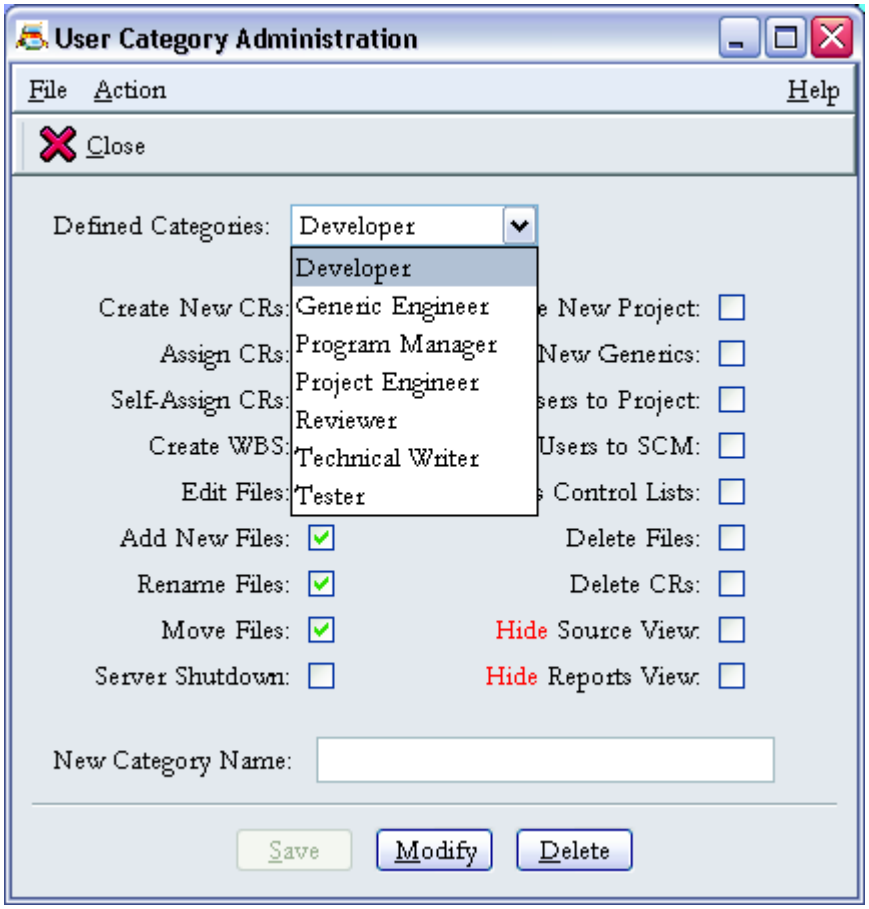
5.2 Project-level Roles

Except for system administrators, users of SpectrumSCM are members of project teams. Even the simplest project team has specific roles, for example, team leader, developer(s), and tester(s). Each member of the team performs the functions of one or more roles.
SpectrumSCM provides basic pre-defined roles and allows project leaders to define additional roles as needed. A role has specific authorities and permissions pre-defined within the context of the SCM system. A role can be assigned to a distinct individual, an individual can be assigned multiple roles, or multiple individuals can be assigned the same role (developer for example).
The Administrator and Project Engineer roles are system-wide roles that are assigned to users via the User Administration screen. Either or both roles can be assigned to a user when the user is added to the system or later via the Administration / User Administration menu options, using the Add User or Modify User buttons on the User Administration screen
Three pre-defined project-level roles are:

- **Developer -** The developer reviews CRs assigned to him or her, checks-out or creates the source files needed to address each CR, makes changes or performs any other work required to completing the CR, checks in source that is modified or added, progresses the CRs to the next state and awaits CR assignments.
- **Generic Engineer** - The day-to-day project leader or supervisor responsible for assigning work-items (CRs) to those within the project team. The Generic Engineer is responsible for creating and managing the project's generics (branches) and forming releases.
- **Tester** – The tester has the ability to create CRs when problems are found during testing. He/she does not have the ability to assign work or modify source.

NOTE: A project team leader is free to select or create the roles that will be used by his/her project, but note that all roles are defined at a system level. *Be aware that permission changes for a role will affect all projects using that instance of the SpectrumSCM server.*

It is recommended that the permissions for predefined roles NOT be changed. If a project wishes to makes changes to permissions for developer or tester, for example, the project can define a project-specific role ("GENESIS Developer", for example) and add or delete permissions. Roles and their permissions can be viewed via the Administration / User Categories / Category Administration screen:



Remember, all roles are available system-wide and can be used by any project sharing the SpectrumSCM server instance. Changes to a role will affect all projects using that system role.

When setting up a project, carefully consider the process your project team will follow and define roles and permissions accordingly.

For example, a project team might include one or more of the following -

- A **Project Manager** would generally have Project Engineer authority set at the system level.
- A **Generic Engineer** would have similar permissions as a project engineer but perhaps without the *create project* or *add new users to a project* capabilities.
- A **Senior Developer** might have all development permissions and the capability to assign work.
- A regular **Developer** might only have permissions to create CRs, check-out files and add new-files.
- A **Tester** or **Customer** might only have the capability to create new CRs.

Example Project

In our example Genesis project, project team roles have been assigned as follow:

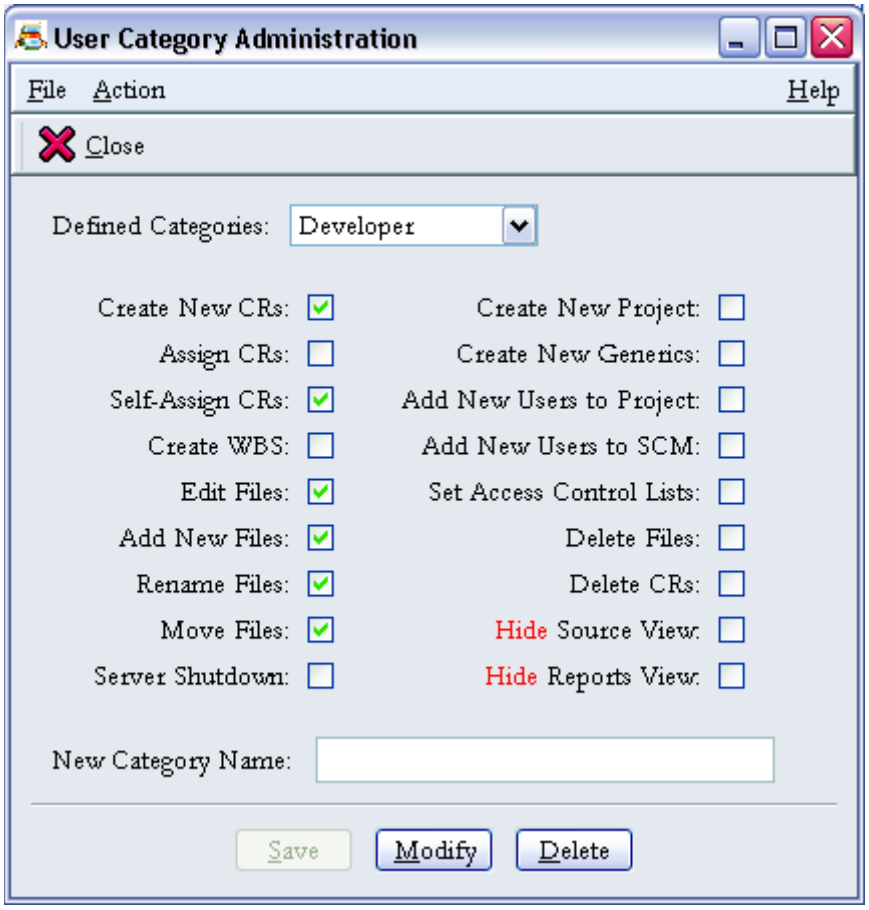
- Project Manager – Lisa
- Generic Engineer – Gene
- Senior Developer - Corey
- Developers – Debbie, Sundar
- Tester - Rich
- Customer – Patma
- Supervisor – Srini

We will follow their progress in our sample screen shots as the Genesis project is set up and they develop and release generic 1.0.

5.3 Defining project-level user categories and access permissions

User categories or "roles" are defined via the User Categories Screen. Roles for a project must be defined before users can be assigned to a role.

New roles can be added by an Administrator or Project Engineer. Roles can be added via the Administration - User Categories / Category Administration screen.

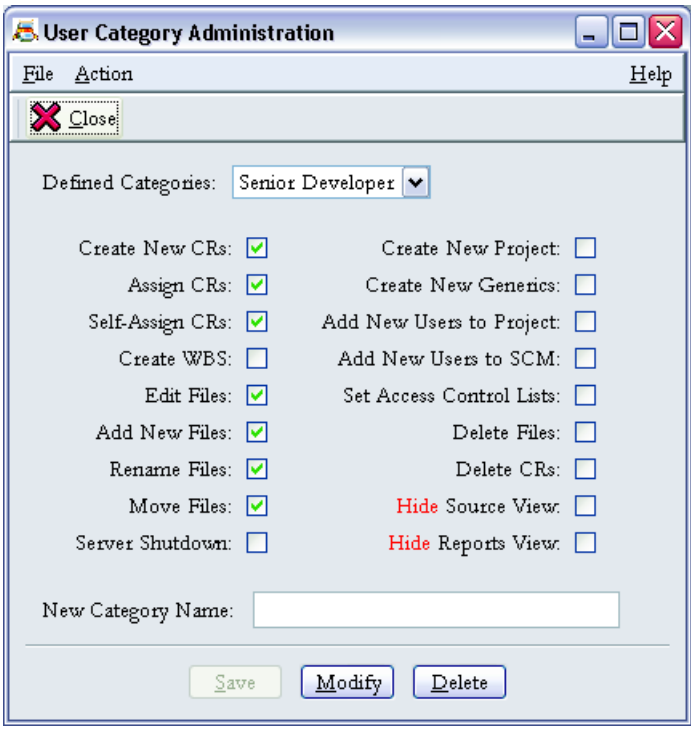


For example, to add the new role "Supervisor":

1) Define the role in project terms
Supervisor – Tracks Issues that are associated with his/her projects specifically by looking at the Reports. The supervisor may also create CRs.

2) Enter the new role in the 'New Category Name' field, select the appropriate permissions, and click Save to add the new role to the system.

When adding the role "Senior Developer", the project engineer might include all permissions granted to developers plus the ability to Assign CRs and Self-Assign CRs.



5.4 Setting up users in SpectrumSCM

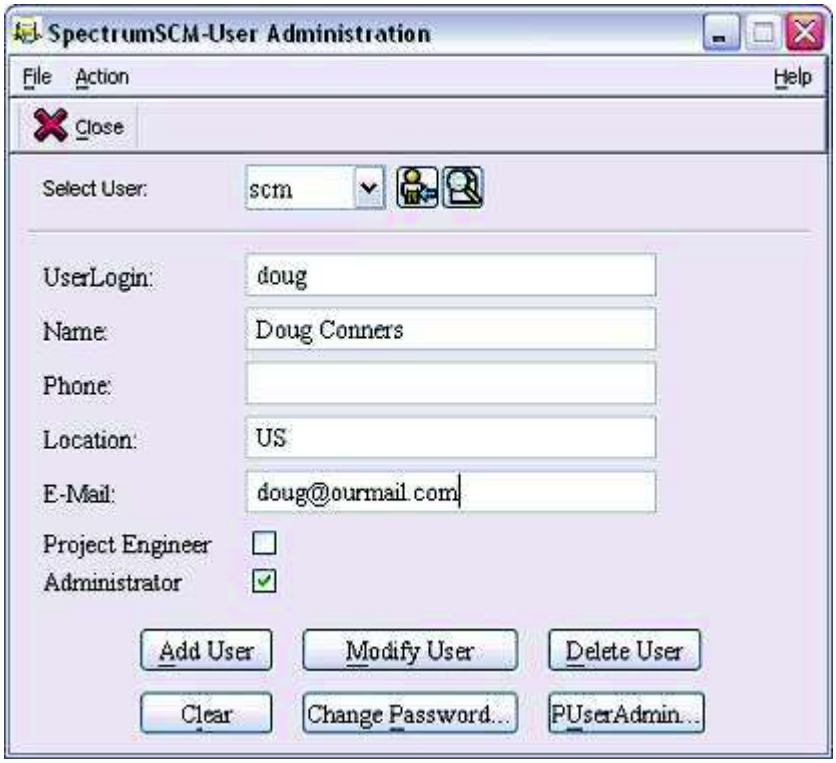
Users must be added to the SpectrumSCM system before they can be assigned to any project running on that instance of the SCM Server. User information can be added, deleted or modified here.

5.5 User Administration screen

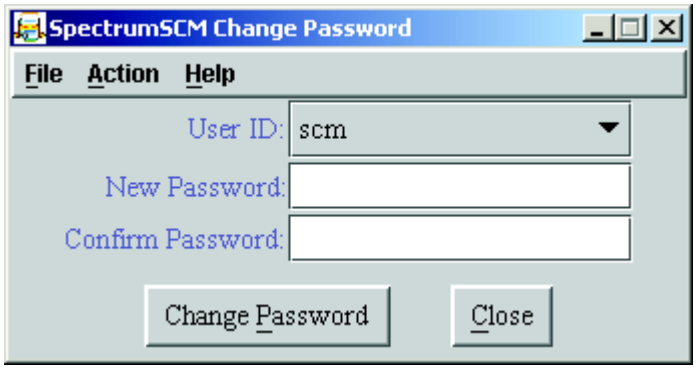
Users are added to the SpectrumSCM system via the User Administration screen accessible via the Administration / User Admin menu options.

User information can also be modified and users deleted via this screen.
E-mail information is required if the project will use e-mail notifications. E-mail notifications occur when a CR is assigned to that user or, if the user is a Generic Engineer, when a CR has been progressed.

Administrator and Project Engineer permissions are granted or revoked here because these permissions levels are project independent.



This icon will bring up the screen for a user to change his/her password or an Administrator can reset any user's password.

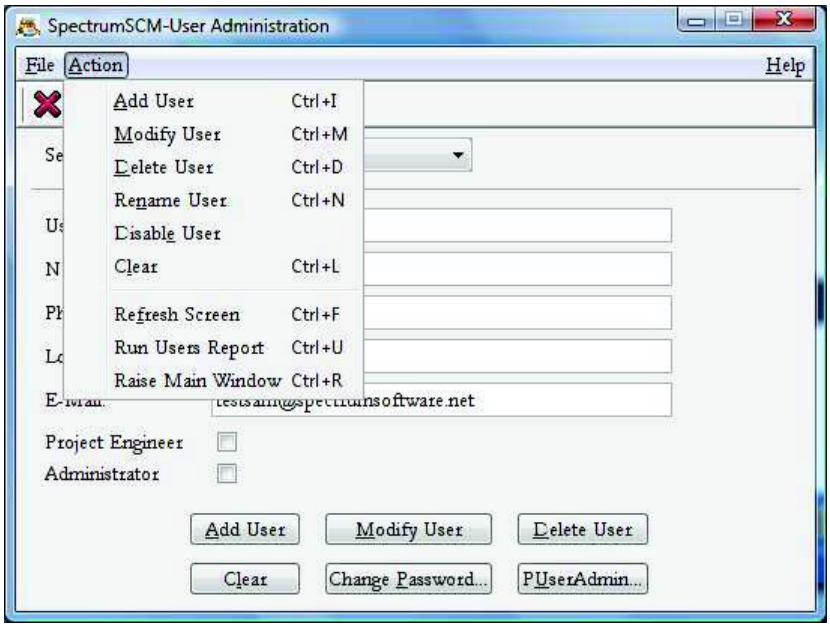


This icon will bring up the Project-User Administration screen used to assign users to projects.

NOTE: All members of a project team must be added to the SpectrumSCM system and User Categories and Access Permissions must be defined before users can be assigned to a project.

5.6 Renaming Users and Disabling Users

You can rename an existing user-id while maintaining full tracability of all the CRs that would transition from the old user-id to the new one.



5.7 Disabling Users

You can disable a user so that their full identification is maintained but yet they would not be able to login to the SpectrumSCM system. You can re-enable this user at a later date if you choose do so.

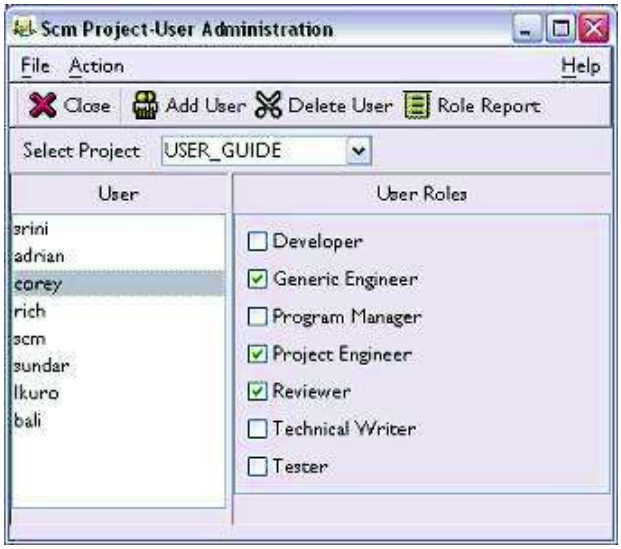
5.8 Project-User Administration

When a new project is started or a new user joins the project, each person should be added to the SpectrumSCM system and then assigned to a role in the project team.

Assigning roles is done via the Project User Admin screen, which can be accessed from the Administration / Project User Admin menu selection from the main screen or via the PUserAdmin button on the User Administration screen.

On the Project-User Administration screen, notice that all users currently assigned to the project are listed via the pull-down User menu area on the right. All user roles defined to the system are displayed to the right.

5.8.1 To assign a user to a project:

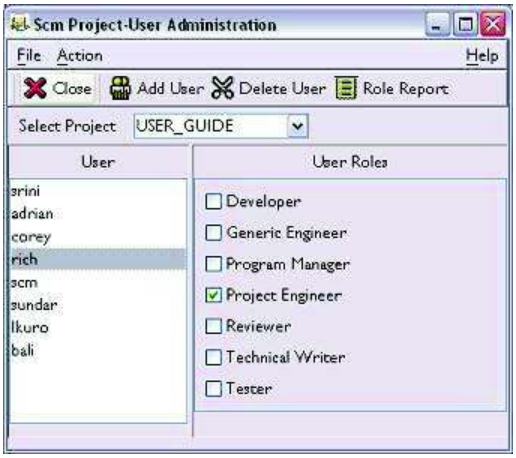


Select the project.
Select the user to be assigned to the project (each user defined in the system can be accessed via the Add User popup dialog.

Select the user's role(s) within that project team.

Roles assigned to a user can be added or deleted by selecting the user in left "User" window, which will display the user's current role(s). Make the changes in the right window and select
Action / Save PUser from the menu bar

5.8.2 To delete a user from a project

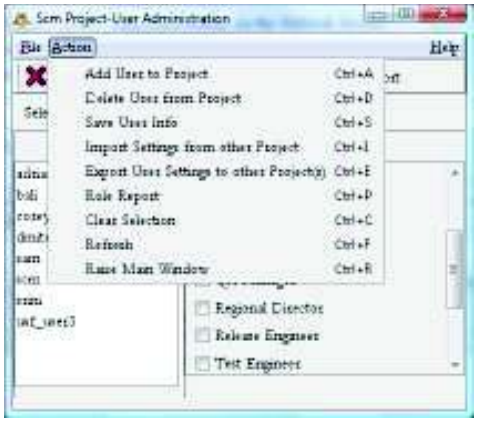


Select the project and the user.

Use the  button or Action / Delete PUser menu option to delete. This will only delete the user from the project team, not from the SpectrumSCM system. For example, to remove user rich from the USER_GUIDE project team, select "rich" in the User window

and use the  icon or Action / Delete PUser to delete him from the project team.
"rich" will no longer be a member of the USER_GUIDE project team, but he is still defined as a user in the system.

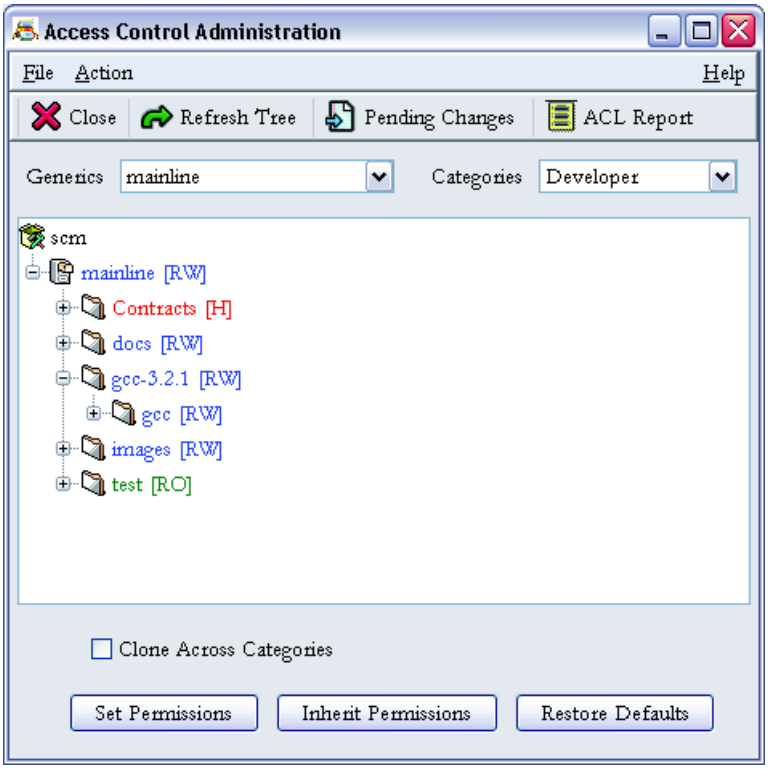
5.8.3 To clone user settings from a project / To add a set of users to other projects



Use Action / Import Settings from other project menu option to clone user settings from an existing project and Action / Export User Settings to other projects menu option to add a set of users with current user settings into other projects. The above two menu options enable projects to inherit the users with their roles and permission settings from other projects. It is very useful particularly when the the team size is large or the new team member (or members) joins a significant number of projects.

5.9 Role Based Access Control Lists (ACLs)

SpectrumSCM implements a Role Based Access Control (RBAC) model which allows project managers to enable access permissions on all configurable items in the project repository (branches, directories and files) based on the role that a user plays in a project. To launch the Access Control Administration screen, select the **Administration → Access Control Admin** option from the main menu.

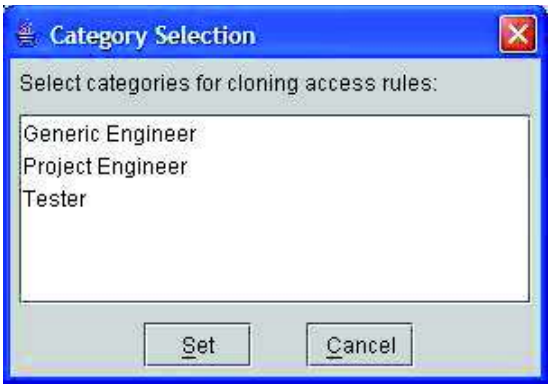


The Access Control Admin screen presents three views of the access permissions for all the resources in the repository tree for a generic. The Categories combobox indicates the selected user category. The color coding represents the end user view of the access permissions. **RED** indicates that the resource is hidden, **GREEN** indicates that the resource is read-only and **BLUE** indicates that the resource has read-write permission.

The information within square brackets [] represents the database view of the access permissions for the resources in the tree. **[H]** indicates that the resource has been marked hidden in the database, **[RO]** indicates that it is read only and **[RW]** indicates that the resource has been marked read-write. Notice that a resource can be marked read-write in the database but can be read-only or hidden in the end user view if its parent resource has a lower permission.

A ***** besides an item indicates that it is a pending change that needs to be saved. The list of all pending changes can be obtained by clicking on the **Pending Changes** button.

The access permission for a resource can be changed by clicking on the resource in the tree view. The user view immediately changes to reflect the new permission and the resource is marked with a * to indicate that the change is pending. Subsequent clicks change the permissions in a cyclic order based upon the permissions that are currently available for the resource. Once the permissions have been changed for the resources, the pending changes can be saved by clicking on the **Set Permissions** button. If the Clone Across Categories has been selected, a dialog is presented prompting the user to choose the categories across which the access rules need to be cloned. This option can be used to clone the new permissions across different user roles with a single click.



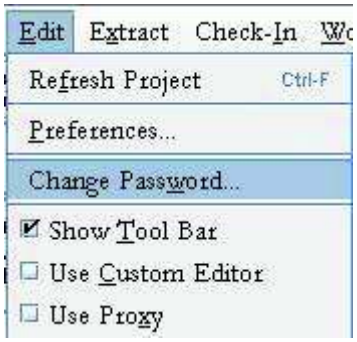
The **Inherit Permissions** button can be used to inherit the permissions that have been defined for another user category. A dialog is presented prompting the user to select a category for importing the access rules. Combined with the Clone Across Categories option, this feature can be used to easily create hierarchical permission models.

The **Restore Defaults** button can be used to reset the permissions for all resources in the tree to the default value (Read-Write). The reset operation is specific to the selected category and the Clone Across Categories option can be used to reset the permissions for multiple categories at a time.

The **Refresh Tree** button can be used to load the tree for another generic once a new generic has been selected in the main screen project bar. The Categories combobox can then be used to load the permissions for the selected category. The **ACL Report** displays the current access permissions defined for all configurable items under a particular generic and for a particular user category.

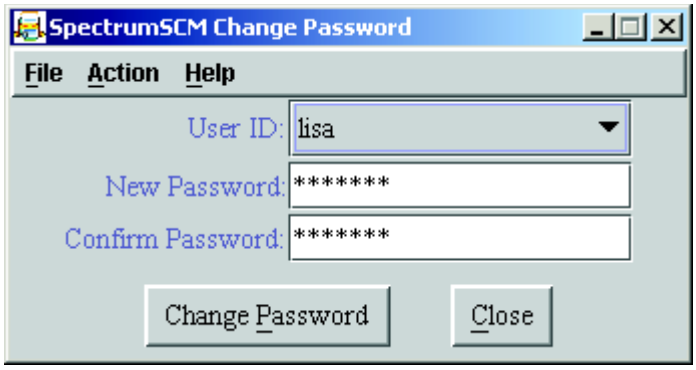
5.10 User Password Administration

All users are added with the initial password "default". This should be changed by the user as soon as possible. A user can change his or her own password or the SpectrumSCM administrator can change any user's password (for example, a forgotten password).



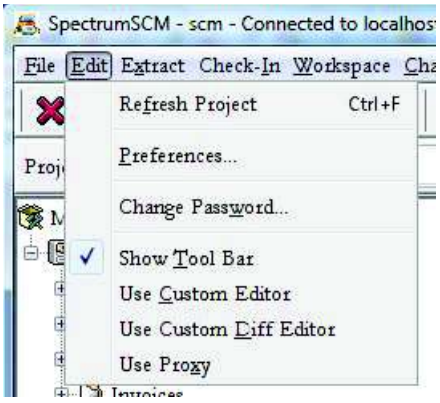
Access the password change screen from the EDIT selection on the main menu or via the button on the User Admin screen.

Either will bring up the Change Password screen for a user to change his or her password or an Administrator to reset any user's password.



Select the user and enter the new password twice, then click Change Password to confirm the change. Close the window when finished.

5.11 Setting User Preferences

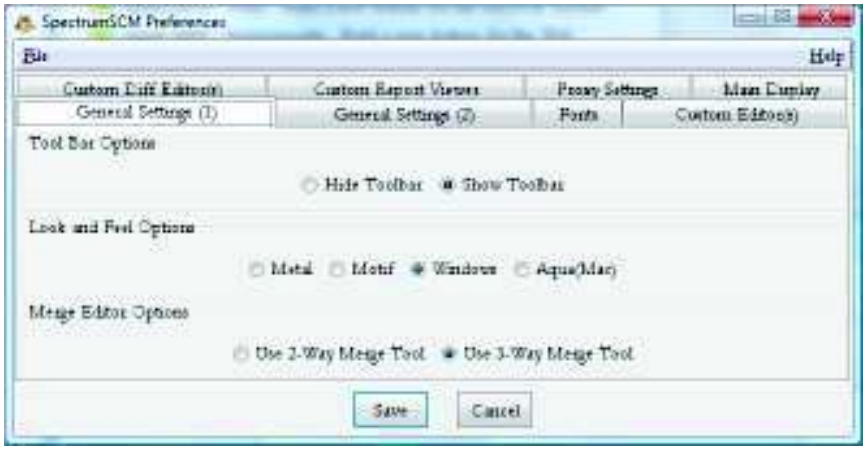


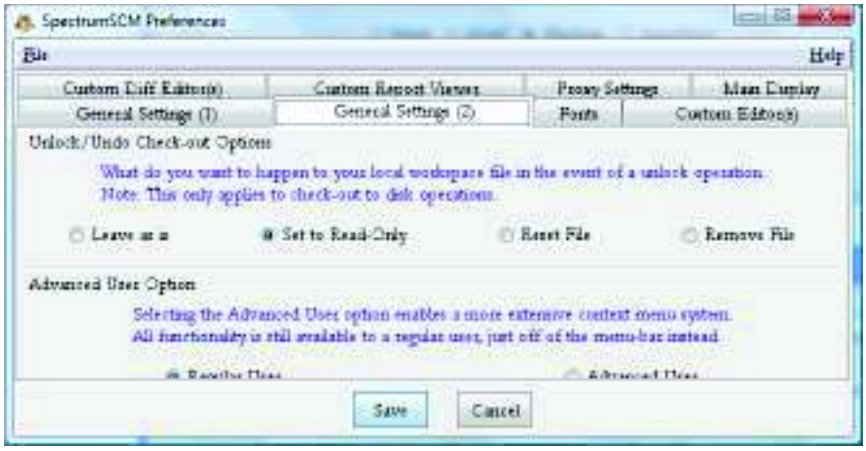
User can set their specific preferences by selecting *Preferences* option from the Edit menu item on the main screen as shown below.

Each user can set individual preferences for -

- **Main Toolbar** - Whether or not to show the toolbar..
- **Look & Feel** - Metal (the Java default), Motif, Windows, and Aqua (for the Apple Mac).

- **Merge Editor preferences –** Whether you prefer to use the 2-way or the 3-way merge editor.
- **General Settings (2)** - Unlock preferences & Advanced User Setting.
- **Unlock preferences** – How do you want an unlock from disk operation to be completed in terms of the file under your local root directory.
- **Advanced User Setting** – Alters the options available in the main tree context menu system.
- **Fonts** - To select a font of your choice.
- **Custom Editor** - Whether to use the provided SpectrumSCM editor or whether you prefer your own..
- **Custom Diff Editor** - Whether to use the provided SpectrumSCM diff editor or whether you prefer your own.. You can use this feature to define the use of any third party diff editors including binary diff tools. See screen help for specific examples. New
- **Custom Report Viewer** - Whether to use the SpectrumSCM HTML viewer or your own
- **Proxy Settings** – The IP address and port for the SpectrumSCM proxy





Unlock Options –

a) **Leave as is** – The disk file will be left writeable and with its file contents unchanged by the unlock operation.

b) **Read-Only** – The disk file will be set to read-only but the file contents will be left unchanged by the unlock operation.

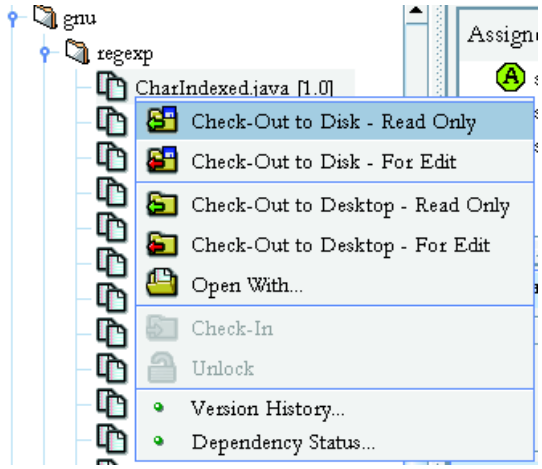
c) **Reset** – The disk file will be reset to the current head version from the repository, this includes making the file read-only.

d) **Remove** – The disk file will be deleted.

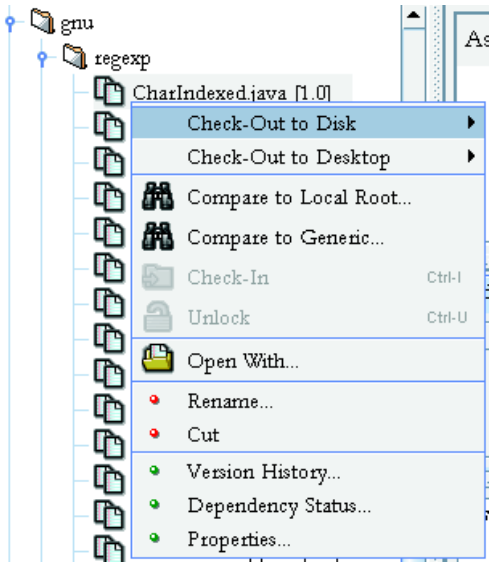
Advanced User Option –

Under the default "Regular User" option, the main screen repository tree will have a short, direct context menu. This gives direct access to the needed CM functions. Under the "Advanced User" option more choices are provided on the popup menu such as Local Root comparison and Cut and Rename operations. Under the regular option these advanced functions are still available under the menu bar.

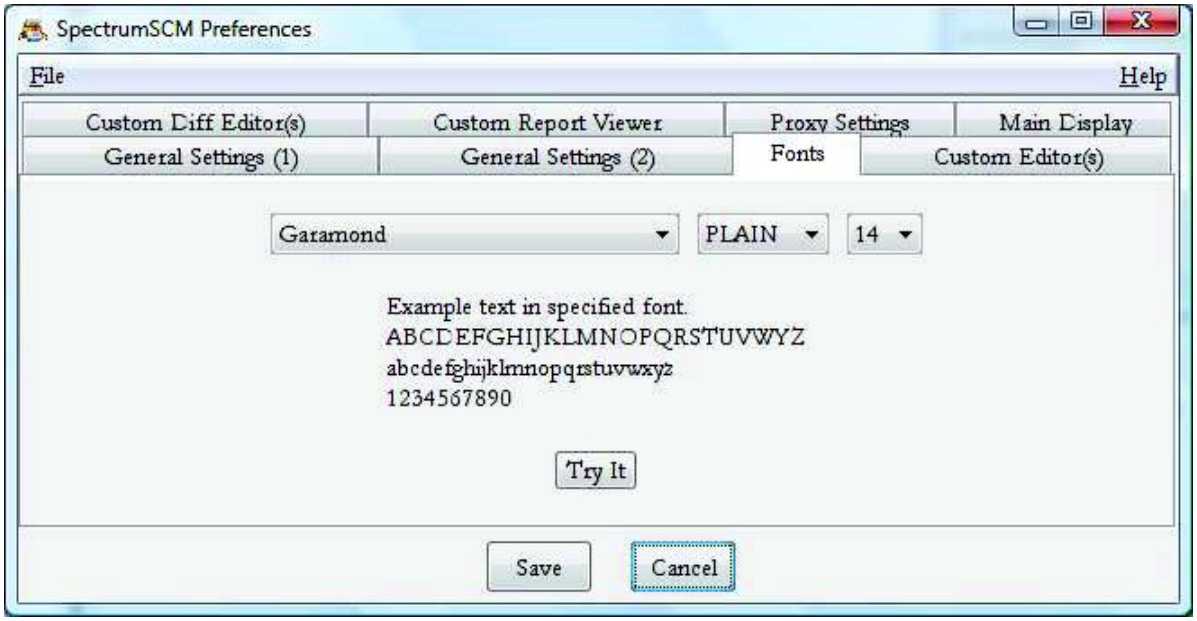
File Context Menu - Regular Option



File Context Menu - Advanced Option

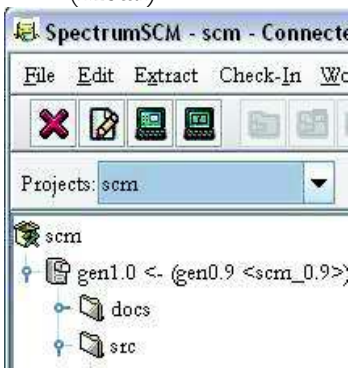


Fonts – Select from the system defined fonts. Font families and their sizes are OS dependent. The Fonts preferences panel will display all fonts installed on the client OS.

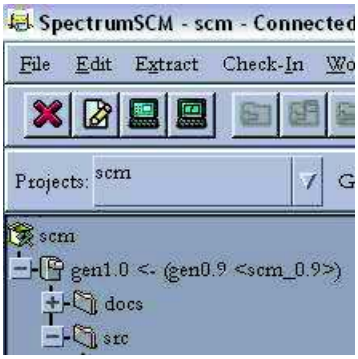


Look & Feel - Metal (the Java default), Motif, Windows, and Aqua(Mac).

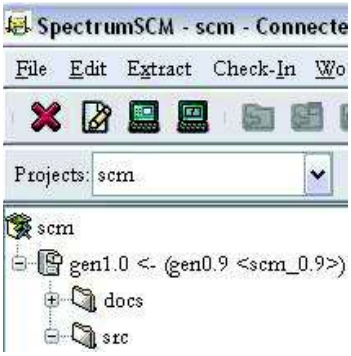
(Metal)



(Motif)



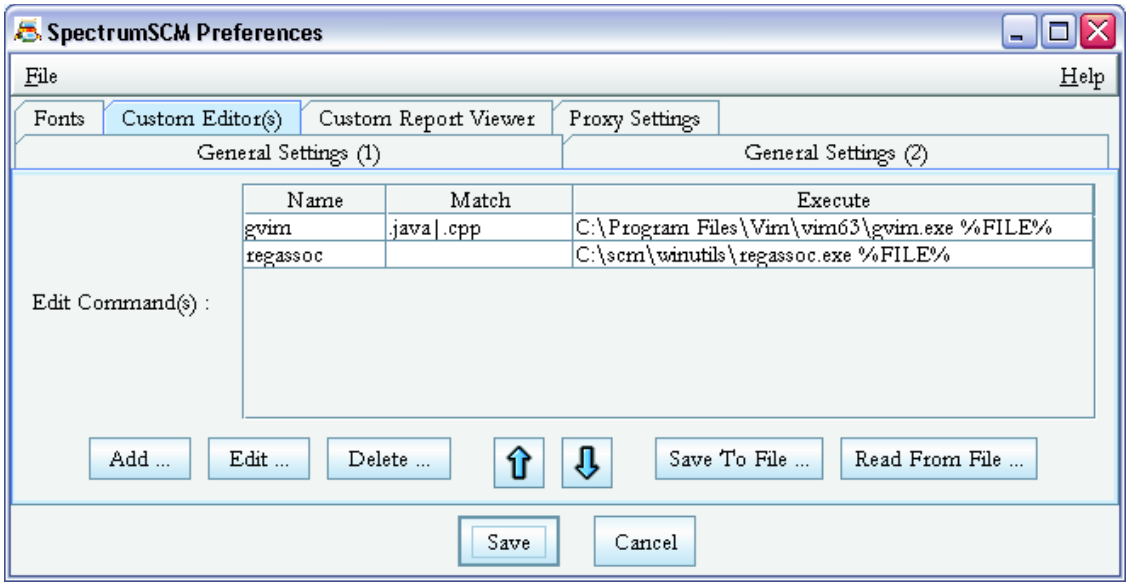
(Windows)



Main Toolbar – Sets whether or not the main toolbar is displayed. On the SpectrumSCM Main Screen.

Custom Editor – The default SpectrumSCM editor can be used in any environment, but only for text files. The Custom Editor option allows the user to specify other preferred editors. For example, to use MS Word, enter as the edit command:

```
C:\Program Files\Microsoft Office\Office\WINWORD.EXE %FILE%
```



If the project involves multiple file types supported by the Microsoft Windows registry, the "regassoc" command will automatically open the file using the native application based on the on the file suffix (for example, opening a .XLS file will launch MS Excel). This option is only available in the Windows environment. Enter as the edit command:

<client install directory>\winutils\regassoc.exe %FILE%

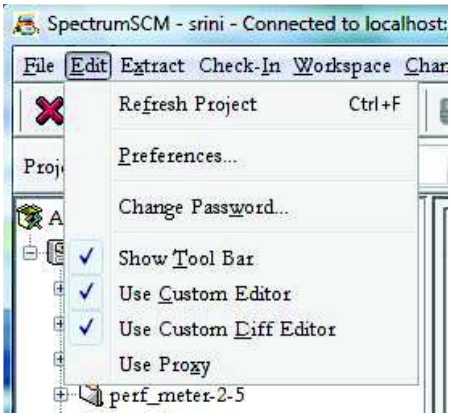
The custom editor in Linux can be set to the editor of choice and the desktop interface of choice for the user. The user can also choose whether to edit in a window or use an editor with an integrated window.

For example, in RedHat using the Gnome desktop and the gvim editor, the edit command should be set to:

/usr/X11R6/bin/gvim %FILE%

To use standard vi in an xterm session:

/usr/X11R6/bin/xterm -e vi %FILE%



Though multiple custom editors can be specified, on a plain 'open file' request only the top-most matching entry will be used. The order of entries can be adjusted by using the arrow buttons.

The match field is used to specify which types of files this entry can be used for. A blank match field indicates that it can be used for any file type. Multiple file types can be matched with a single custom editor entry by using the pipe symbol separator ("|") as shown above.

The Save To File option allows the user to save their current settings to the local disk. This is so that the settings can be shared with other users.

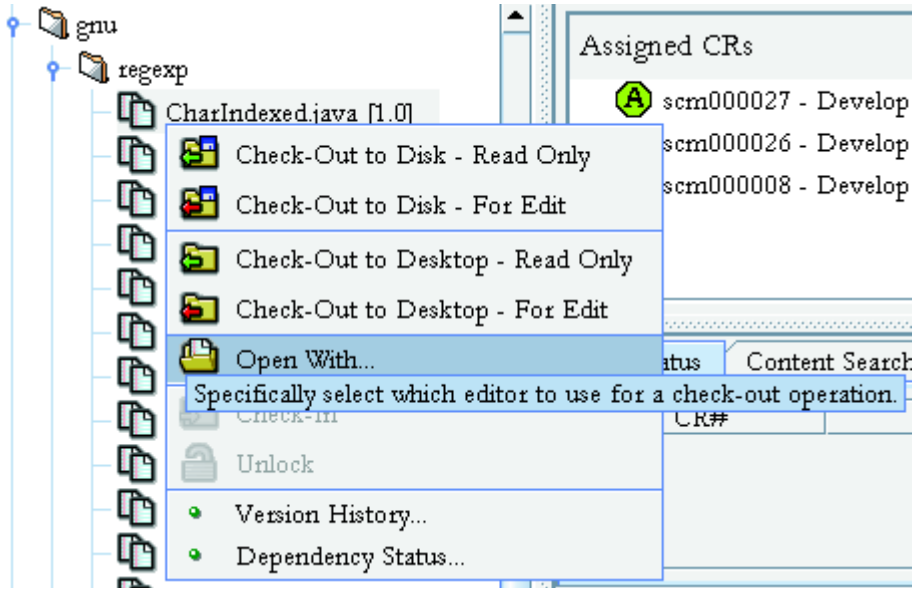
The Read From File option reads a previously saved file and merges the entries into the current settings.

Enable Custom Editor

Once set, use of the custom editor can be disabled/re-enabled.
This is done by check box “Use Custom Editor” via the Main Screen Edit menu option.
To use the custom editor, select “Use Custom Editor”.
To use the SpectrumSCM editor, deselect “Use Custom Editor”.

Open With

If a file is selected in the main screen file tree with a mouse right-click, the context sensitive menu will appear. The “Open With” option works with your custom editor selections and allows you to choose between them. For example if you have a couple of appropriate editors defined for a particular file type (HTML to be viewed through Internet Explorer or Netscape).



With Matching executables selected (the default), each of the custom editors that match the file type you have selected will be displayed for selection. If the file is textual the SpectrumSCM default editor will also be displayed.

With All executables, all of the custom editor entries and the SpectrumSCM default editor will be displayed.

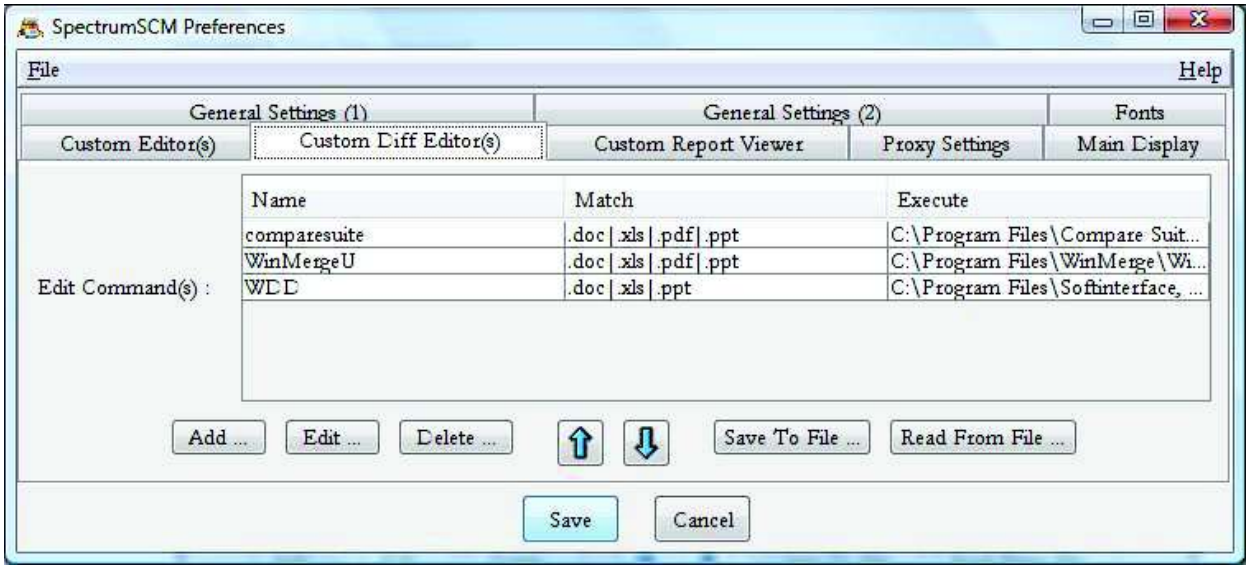
Select the editor you wish to use and then the specific edit operation you wish to perform from the buttons on the right.

Custom Diff Editor – The default SpectrumSCM editor can be used in any environment, but only for text files. The Custom Diff Editor option allows the user to specify other third party differencing/comparison editors.

For example, to use WinMerge, an open source diff merge editor for comparing .doc,.xls,.pdf, .ppt etc. , enter the following command in your diff editor settings:,

C:\Program Files\WinMerge\WinMerge.exe "%FILE1%" "%FILE2%"

NOTE: if use "…." Button to select the WinMerge.exe above the FILE1 / FILE2 text will be included automatically.



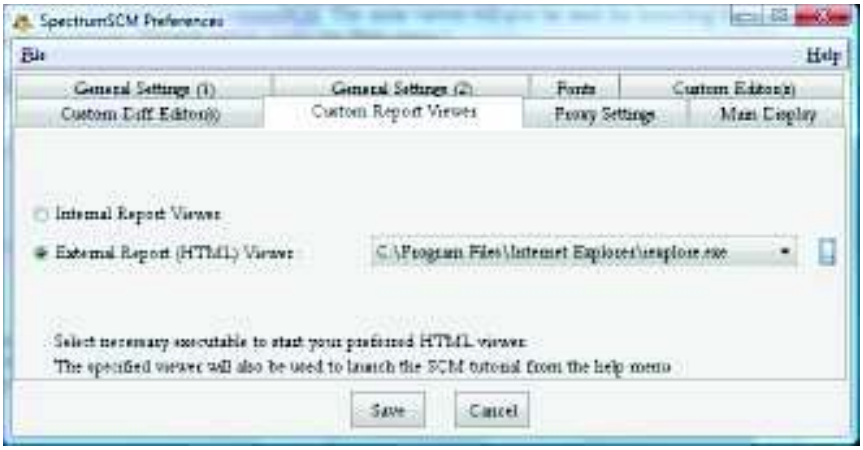
See screen help for more specific examples.

Enable Custom Diff Editor

Once set, use of the custom diff editor can be disabled/re-enabled..
This is done by check box "Use Custom Diff Editor" via the Main Screen Edit menu option.
To use the custom diff editor, select "Use Custom Diff Editor".
To use the SpectrumSCM diff editor, deselect "Use Custom Diff Editor".

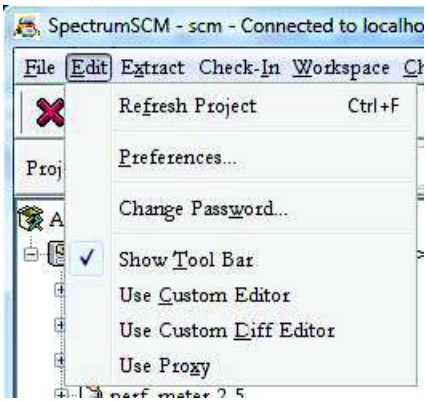
5.11.1 Custom Report Viewer

The custom report viewer allows you to specify a preferred HTML viewer like Netscape or Internet Explorer for viewing reports in SpectrumSCM. The same viewer will also be used for launching the SpectrumSCM tutorial (Tutorial option under the Help menu.). Furthermore, the most recently used 5 custom report viewers are maintained and selectable to help if you are in an environment where you need to switch between different viewers.



5.8.3 Proxy Settings

The SpectrumSCM Proxy provides enhanced performance for distributed development teams in bandwidth constrained network topologies. The Proxy Settings panel allows users to specify the IP Address and Port Number for the proxy server to be used. The **Use Proxy** option under the Edit menu can be used to enable or disable proxy usage.



See *Chapter 12 – Administrative Functions* for details on what the Proxy feature is, its benefits and how to install, configure and use it.