

# Surround SCM

## User Guide

## Admin Guide



**December 2003**

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# Chapter 1

## About Surround SCM

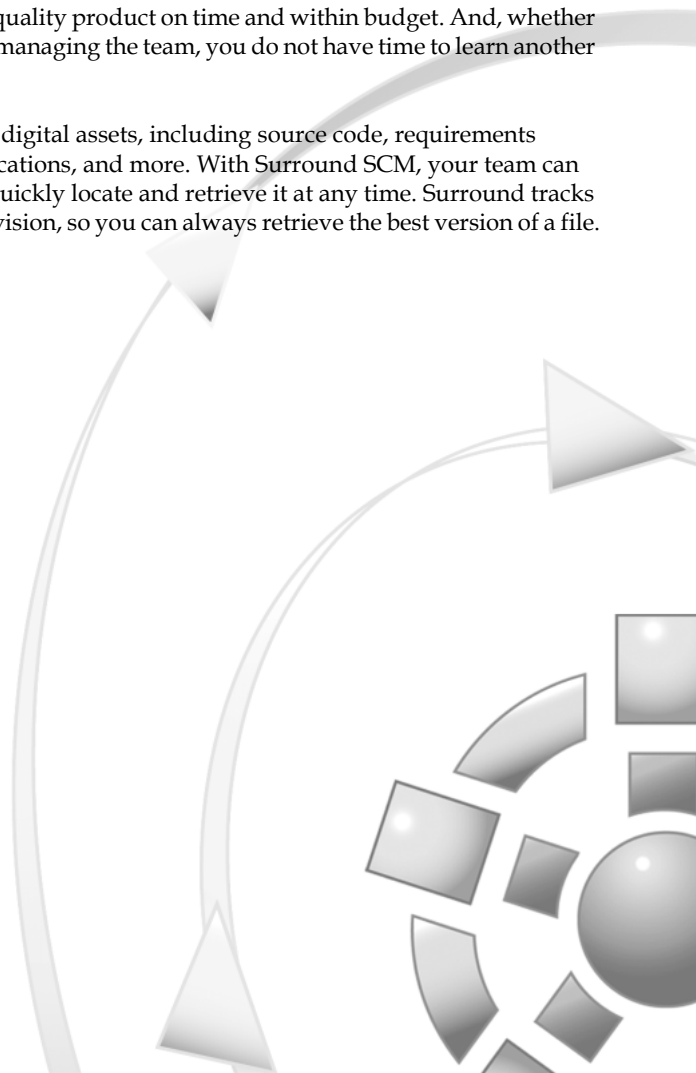
You have an important job to do - deliver a quality product on time and within budget. And, whether you are developing, testing, fixing bugs, or managing the team, you do not have time to learn another complex application.

Surround SCM manages all of your team's digital assets, including source code, requirements documents, Web pages, image files, specifications, and more. With Surround SCM, your team can archive and version virtually any file and quickly locate and retrieve it at any time. Surround tracks who, when, and what changed for every revision, so you can always retrieve the best version of a file.

**About the guide, 2**

**Documentation conventions, 2**

**Contacting Seapine support, 2**



## About the guide

This guide provides step-by-step instructions for all the tasks you perform when working with Surround SCM. This guide is not necessarily meant to be read from start to finish. It includes information for users, and administrators, at a variety of levels. To get the most out of the documentation, start by reading the chapters that are most relevant to your use of Surround. Admin-related tasks are clearly marked.

## Documentation conventions

There are a few conventions used throughout the guide that are designed to be completely predictable – making it is easy to understand what you are reading and what you’re supposed to do.

Many of the commands are available from menus, toolbars, shortcut menus, and shortcut keys. Throughout this guide, most commands are explained using the menu commands. As you become more familiar with Surround SCM, you may find shortcut menus and shortcut keys more efficient to work with. When you are instructed to select a menu command, you will find the menu name, followed by an arrow. For example, to add a defect, choose **Activities > Get**. Indented text is also used to draw attention to notes, tips, examples, etc.

## Contacting Seapine support

**Telephone:** 513-754-1655

**Email:** [support@seapine.com](mailto:support@seapine.com)

**Web site:** <http://www.seapine.com>

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Note: Check our [web site](#) for the latest news and updates. You can also find help in our [Knowledgebase](#)!

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## Documentation feedback

Seapine Software welcomes your feedback on the documentation included with this product. If you have comments or suggestions about the documentation, please email: [documentation@seapine.com](mailto:documentation@seapine.com). This email address is provided for documentation only. You may not receive a reply to your email. For technical questions or support, contact [support@seapine.com](mailto:support@seapine.com).

## Chapter 2

# Getting Started

After installing and starting Surround SCM take a few minutes to set user options, customize the main view, and change your password. You can also configure email notifications and set the working directory.

**Customizing the Source Tree view, 4**

**Using the file details pane, 5**

**Filtering the files pane, 7**

**Listing files recursively, 7**

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**Setting source tree refresh options, 14**

**Configuring email notifications, 14**

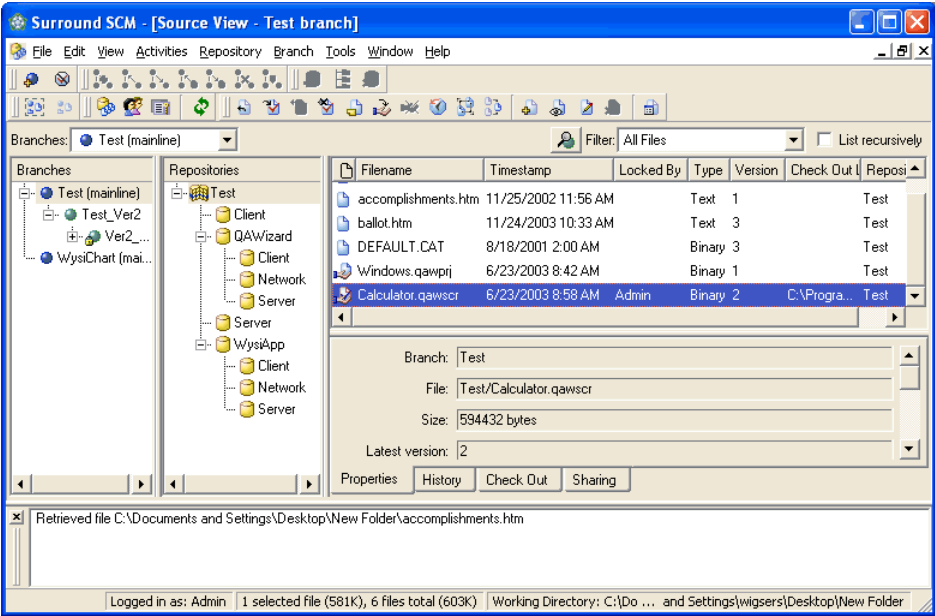
**Setting the working directory, 17**

**Working directory editor, 18**



## Customizing the Source Tree view

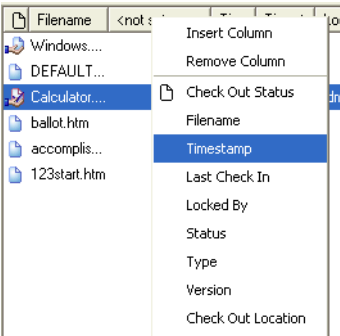
The Source Tree view displays information in a column format. You can customize the view and set up the columns to display the information you need.



## Adding columns

You can customize list windows and add columns to display the information you need.

- 1 Right-click the column you want to add a column next to and select **Insert Column**.  
An empty column is inserted.
- 2 Right-click the new column and select a field from the shortcut menu.



- 3 The column is added.

## Changing column contents

To change column contents select a new field for the column.

- 1 Right-click the column heading you want to change.

The shortcut menu lists all the available fields.

- 2 Select a field from the menu.

The column heading changes to the field name and the selected field contents are displayed.

## Changing column widths

- 1 Move the cursor to the divide bar located between the column headings.

The cursor changes to a **resize** cursor.

- 2 Click and drag the divide bar to change the width of the column to the left of the divide bar.

## Sorting columns

- 1 Click a column heading once to sort ascending.

The column contents are sorted in ascending order. An up arrow is added to the column heading.

- 2 Click a column heading again to sort descending.

The column contents are sorted in descending order. A down arrow is added to the column heading.

## Removing columns

- 1 Right-click the column heading you want to remove.

- 2 Select **Remove Column** from the shortcut menu.

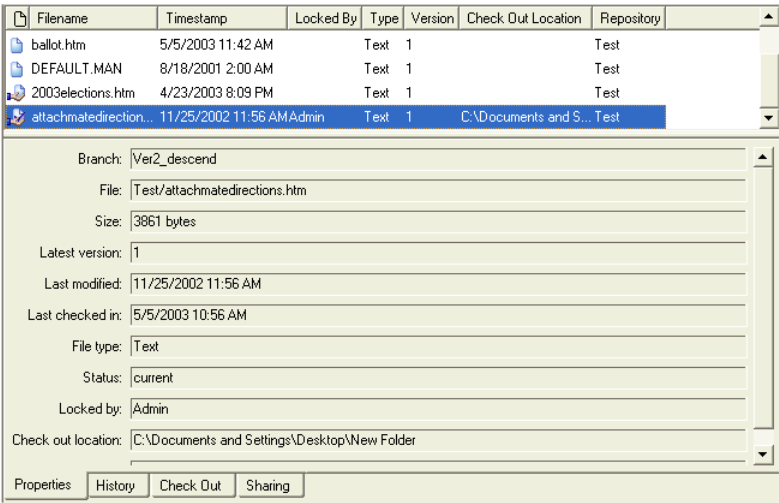
## Using the file details pane

The Surround SCM file details pane provides a convenient way to work with files and access file commands. It displays the selected file's properties, history, check out status, and sharing information.

- 1 Choose **View > File Details Pane** to view the file details pane.

2    Select a Surround SCM file.

The File Details Pane is populated with the corresponding information.

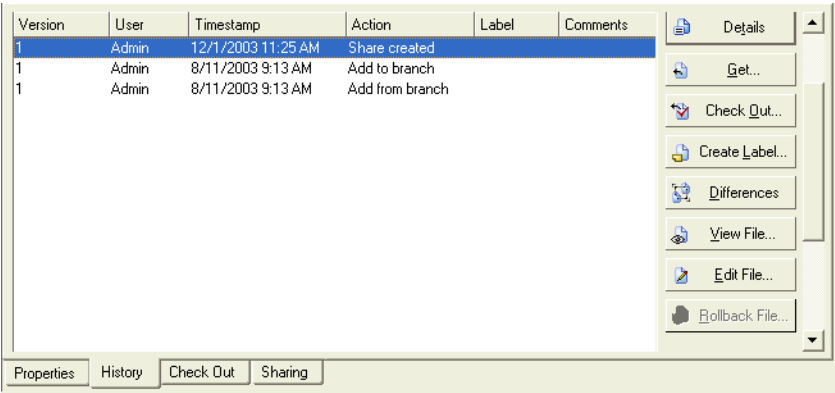


3    Click the **Properties** tab to view file property information.

This tab includes the following information: Branch, File, Size, Latest version, Last modified, Last checked in, File type, Status, Locked by, and Check out location.

4    Click the **History** tab to view a source file's history and work with a historic version of the file.

You can view file details, get or check out a file, create a label, select two version of a file to see differences, and view or edit the file. You can also filter the history to display specific files. For more information see [Viewing file history, page 83](#).



- 5 Click the **Check Out** tab to view the check out information.

User	Check Out Time	Check Out Location	Version	Exclusive	Comments
Admin	12/1/2003 9:57 AM	C:\Documents and Settings\Desktop\New Folder	1	no	

PropertiesHistoryCheck OutSharing

- 6 Click the **Sharing** tab to view shared file information.

Test\WysiApp\attachmatedirections.htm
---------------------------------------

PropertiesHistoryCheck OutSharing

## Filtering the files pane

You can filter the SCM files list to display all files, all checked out files, your checked out files, or files checked out by a specific user.

- 1 Select a filter from the menu.

Files that meet the filter criteria are displayed. The filter remains active, even if you select another mainline branch or repository. To view all files, select **All Files** from the **Filter** menu.

## Listing files recursively

- 1 Select **List recursively** to recursively display all files in the selected repository and subrepositories.

All files are displayed. This option is helpful if you want to view all subrepository files together.

---

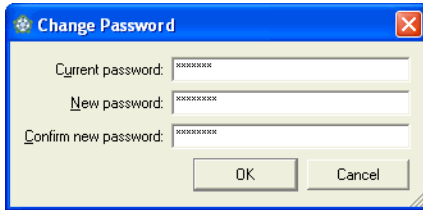
**Note:** For example, your Code repository includes 12 subrepositories. You need to view the files that JoeDeveloper has checked out from the repository and the subrepositories. Select **Files Checked Out By User** from the filter menu. Choose JoeDeveloper as the user. Then select **List Recursively**. All files JoeDeveloper checked out from the Code repository and the 12 subrepositories are displayed.

---

## Changing your password

- 1 Choose **Tools > Change Password**.

The Change Password dialog box opens.



- 2 Enter the current password.
- 3 Enter the new password.
- 4 Confirm the new password. You must re-enter the new password.

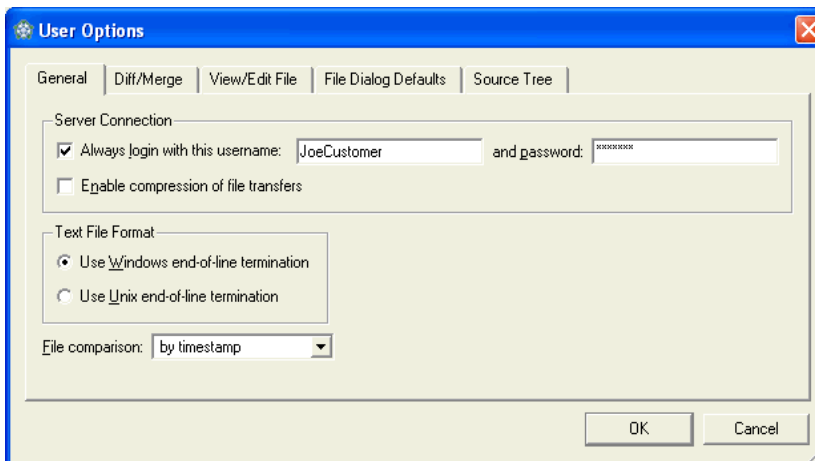
Click **OK** to save the new password.

## Setting general options

You can set user options to help you work more efficiently. For example, you can automate the process of logging in to Surround SCM.

- 1 Choose **Tools > User Options**.

The User Options dialog box opens with the **General** tab selected.





2 Set the **Server Connection** options.

- Select **Always connect to this server** and enter a server name and port number to automatically connect.
- Select **Always login with this username** and enter a username and password to automatically login.

---

**Note:** These are the same options you selected in [Setting up server connections, page 23](#).  
Server connection settings can be selected using either dialog.

---

3 Select **Enable compression of file transfers** to compress data during file transfers.

Compress files if you have a slow connection to the Surround SCM server (e.g., connecting to the server via an ISP). Take the time to “play” with this option. Compression works best on certain types and sizes of files. This option may slow performance due to the time needed to compress and decompress files.

4 If Surround SCM is installed on a UNIX, Solaris, or Mac computer, click **Browse** to set the **Browser Path**. (This field is not visible to Windows users.)

For example, Netscape users set the browser path to */usr/bin/netscape*.

5 If Surround SCM is installed on a UNIX, Solaris, or Mac computer, click **Browse** to set the **Help Directory** path. (This field is not visible to Windows users.)

The path is */var/lib/SurroundSCM/Surround Help* for default installs. If you installed to a different directory, make sure you select the correct path to the help file.

6 Select a **Text File Format** option.

7 Select an option from the **File comparison** menu.

Surround SCM compares files before updating the status column (current/old/modified) or retrieving files from the server when a get or check out operation is performed.

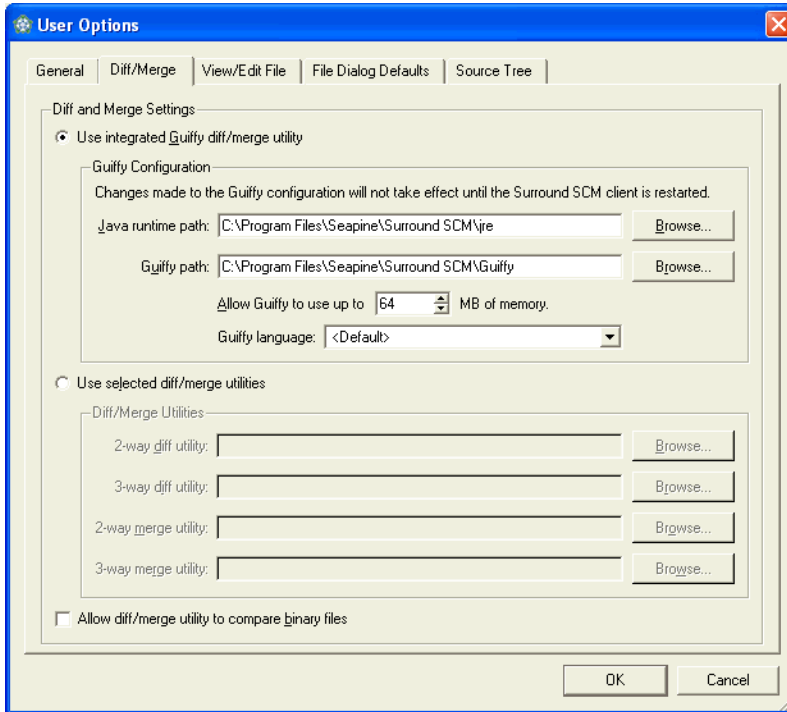
- **Timestamp** checks the timestamp to see if the file was modified after it was retrieved from the server.
- **Timestamp and CRC** checks the timestamp and performs a CRC (Cyclic Redundancy Checksum) check. This option checks to see if the data in the file changed. For example, you open a file in an editor, make no changes, and resave the file. The modified timestamp changes even though the data did not change. This method is slower than the timestamp only option. The difference is noticeable when recursively getting or checking out all files from the server.

8 Click **OK** to save the settings or click another tab to continue setting user options.

## Setting diff/merge options

Guiffy Software's compare and merge utility is integrated with Surround SCM. Guiffy is a cross-platform utility used to compare and merge source files, with built-in support for UNICODE, MBCS, and over 150 file encoding formats. Guiffy also provides sophisticated folder and file compare and synchronization capabilities, making the task of merging, upgrading, and identifying changes as easy and as safe as possible. When setting diff/merge options, you can use Guiffy or select another utility.

- 1 Choose **Tools > User Options**.
- 2 Click the **Diff/Merge** tab.



- 3 Select **Use integrated Guiffy diff/merge utility** to use the Guiffy utility.  
Click **Browse** to set the **Java Runtime path** or the **Guiffy path**.
- 4 Select **Use selected diff/merge utilities** to use another utility.  
Make sure you set the parameters. For more information see [Diff/Merge parameters, page 11](#).
- 5 Select **Allow diff/merge utility to compare binary files** to compare binary files.
- 6 Click **OK** to save the settings or click another tab to continue setting user options.

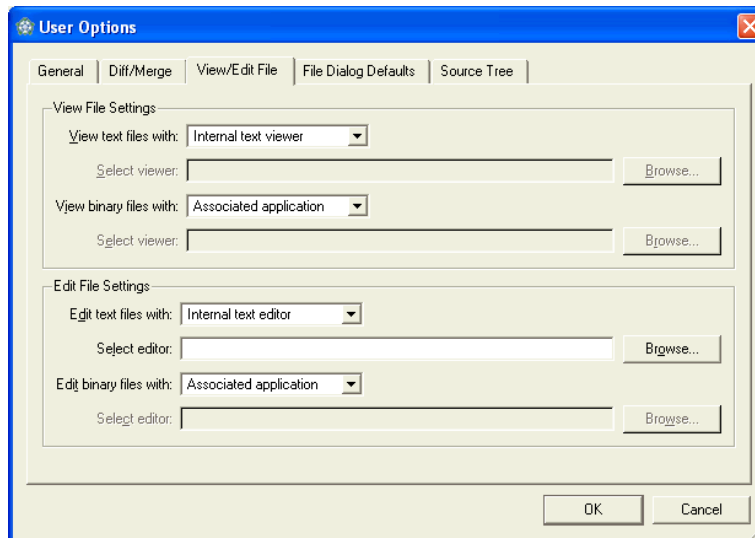
## Diff/Merge parameters

Diff	%1	%2	
file diff	server file	local file	
history diff	older file	newer file	
branch diff	branch 1	branch 2	
Merge	%1	%2	%3
2-way merge	server file (merge from)	local file (merge to)	
3-way merge	server file (merge from)	local file (merge to)	common ancestor

## Setting view and edit file options

Select the viewer, editor, and applications you want to use to view or edit text and binary files.

- 1 Choose **Tools > User Options**.
- 2 Click the **View/Edit File** tab.



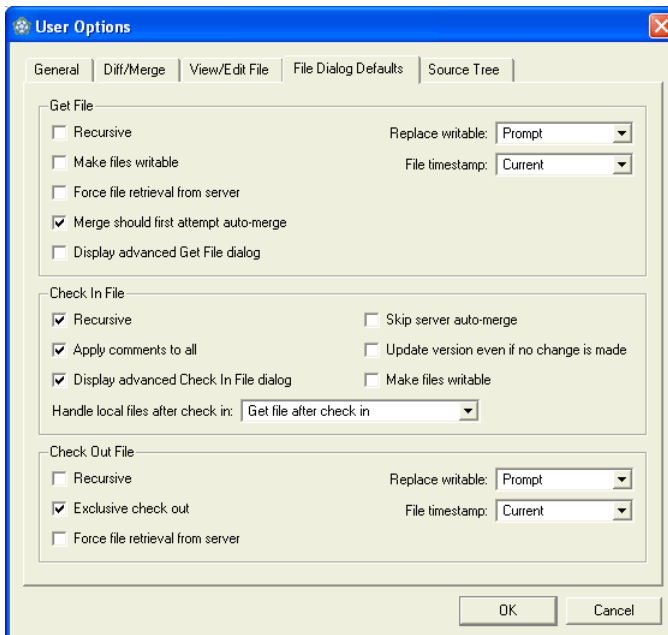
- 3 Select a **View text files with** option.
  - **Internal text viewer** uses the default viewer.
  - Choose **Selected viewer** then click **Browse** to select a specific application.
  - Choose **Associated application** to launch the application associated with the file. (Windows/Mac only)

- 4 Select a **View binary files with** option.
  - Choose **Selected viewer** then click **Browse** to select a specific application.
  - Choose **Associated application** to launch the application associated with the file. (Windows/Mac only)
- 5 Select an **Edit text files with** option.
  - **Internal text editor** uses the default editor.
  - Choose **Selected editor** then click **Browse** to select a specific application.
  - Choose **Associated application** to launch the application associated with the file. (Windows/Mac only)
- 6 Select an **Edit binary files with** option.
  - Choose **Selected editor** then click **Browse** to select a specific application.
  - Choose **Associated application** to launch the application associated with the file. (Windows/Mac only)
- 7 Click **OK** to save the settings or click another tab to continue setting user options.

## Setting file dialog default options

You can set default values used when getting, checking in, or checking out files.

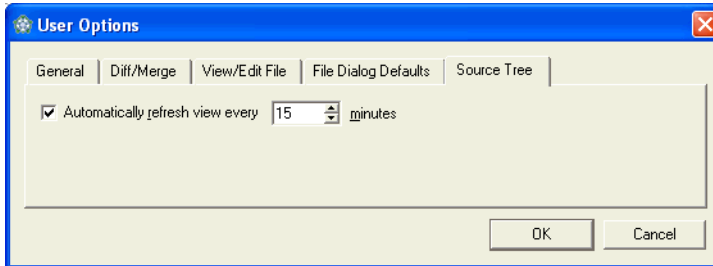
- 1 Choose **Tools > User Options**.
- 2 Click the **File Dialog Defaults** tab.



- 3 Select the Get File dialog default settings.
  - Select **Recursive** to include all child repositories in the Get.
  - Select **Make files writable** to leave the files in read-write mode.
  - Select **Force file retrieval from server** to get the server copy of the file.
  - Select **Merge should first attempt auto-merge** if you do not want to be prompted to merge files with conflicts. You are prompted to manually merge files if Surround SCM cannot auto-merge the files.
  - Select **Display “Advanced” Get File dialog** to expand the Get File(s) options.
  - Select a **Replace writable** option. This option specifies what to do if a writable file is found.
  - Select a **File timestamp** option. This is the timestamp used when files are retrieved from the server.
- 4 Select the Check In File dialog default settings.
  - Select **Recursive** to check in files from the selected repository and all child repositories.
  - **Apply comments to all** uses the comment field data for each file being checked in.
  - Select **Display “Advanced” Check In File dialog** to expand the Check In File(s) options.
  - Select **Skip server auto-merge** to check in the files without merging changes. If you select this option, the file you check in becomes the new version in the archive, even if someone else made changes to, and checked in, the file after you checked it out.
  - Select **Update version even if no change is made** to check in a file even if changes were not made.
  - Select **Make files writable** to leave a read-write copy of the files in the working directory.
  - Select a **Handle local files after check in** option.
- 5 Select the Check Out File dialog default settings.
  - Select **Recursive** to check out files from the selected repository and all child repositories.
  - Select **Exclusive Check Out** to prevent other users from checking out the files.
  - Select **Force file retrieval from server** to check out the server copy of the file.
  - Select a **Replace writable** option. This option specifies what to do if a writable file is found.
  - Select a **File timestamp** option. This is the timestamp used when files are retrieved from the server.
- 6 Click **OK** to save the settings or click another tab to continue setting user options.

## Setting source tree refresh options

- 1 Choose **Tools > User Options**.
- 2 Click the **Source Tree** tab.



- 3 Select **Automatically refresh view every xx minutes** and enter the refresh interval in minutes.

You can enter from 1 to 999 minutes. If you do not select this option, you can manually refresh the view by choosing **View > Refresh**.

- 4 Click **OK** to save the settings.

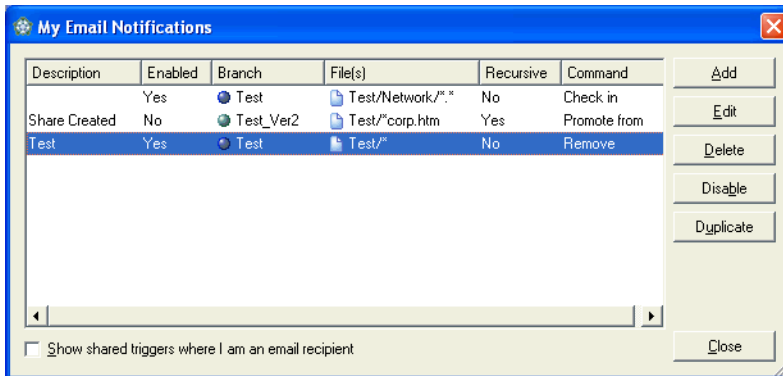
## Configuring email notifications

Email notifications provide a way to stay up to date with changes made to files. You may also receive system notifications, which the TestTrack Pro administrator configures.

### Adding email notifications

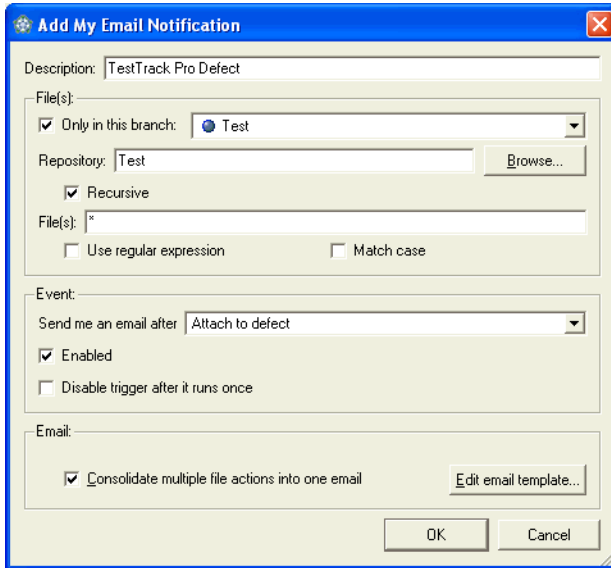
- 1 Choose **Tools > My Email Notifications**.

The My Email Notifications window opens.



**2 Click Add.**

The Add My Email Notifications dialog box opens.

**3 Enter a description.****4 Select the file options. These options specify which files fire the trigger.**

- Select **Only in this branch:** then choose a branch from the list to limit searches.
- Enter a repository name or click **Browse** to select a repository.
- Select **Recursive** to search all subrepositories in the specified repository.
- Enter the **File(s)** you want the trigger to fire for. You can enter a file name or wildcard characters.
- Select **Use regular expression** to perform a regex-style search instead of a wildcard search.
- Select **Match case** to enable case-sensitive searching.

**5 Select the Event options. These options specify when the notification is sent.**

- Select a file event from the **Send me an email after** list.
- To add a disabled trigger, clear **Enabled**.
- Select **Disable trigger after it runs once** if you only want the trigger to run one time. For example, you may want to receive an email once after a particular user checks in a file.

## 6 Select the **Email** options

- Select **Consolidate multiple file actions into one email** to send one email for all files affected by the event. If this option is not selected, an email is sent for each file.
- Click **Edit email template** to modify the standard email. See [Editing email templates, page 114](#) for more information.

## 7 Click **OK**.

The notification is added.

## Editing email notifications

### 1 Choose **Tools > My Email Notifications**.

### 2 Select a notification and click **Edit**.

The Edit My Email Notifications dialog opens.

### 3 Make any changes.

You can edit all information, including the email template.

### 4 Click **OK**.

Your changes are saved.

## Duplicating email notifications

If you need to create a notification that is similar to an existing one, you can duplicate and edit the existing one.

### 1 Choose **Tools > My Email Notifications**.

### 2 Select a notification and click **Duplicate**.

The notification is duplicated. It is added below the selected notification.

### 3 Select the new notification and click **Edit**.

### 4 Make any changes and click **OK**.

## Disabling email notifications

If you do not want a notification to be sent, you can disable it temporarily instead of deleting it.

### 1 Choose **Tools > My Email Notifications**.

### 2 Select a notification and click **Disable**.

The notification is disabled.



## Enabling email notifications

- 1 Choose **Tools > My Email Notifications**.
- 2 Select a notification and click **Enable**.

The notification is enabled.

## Deleting email notifications

- 1 Choose **Tools > My Email Notifications**.
- 2 Select a notification and click **Delete**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.

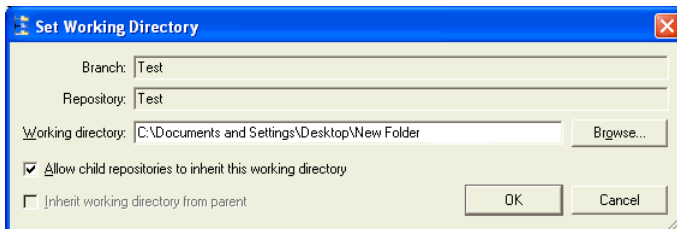
The notification is deleted.

## Setting the working directory

A working directory must be set before you can work with source files. The working directory is generally mapped to a local drive directory. It can also be mapped to a different location, such as a network drive.

- 1 Select the repository you want to set the working directory for.
- 2 Choose **Repository > Set Working Directory**.

The Set Working Directory dialog box opens.



- 3 Enter a directory path or click **Browse** to select a directory.
- 4 Select **Allow child repositories to inherit this working directory** if you want child repositories to use the same directory.

The working directory is set automatically when subrepositories are added.

- 5 Select **Inherit working directory from parent** to use the parent repository's working directory.

The working directory is set as *<parent's path> \ <repository name>*.

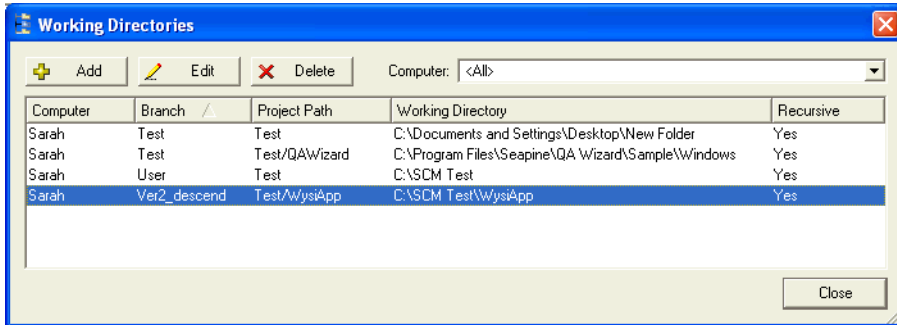
- 6 Click **OK**.

## Working directory editor

The working directory editor provides a convenient way to add, edit, or delete working directories from one central location. You can add or edit your own working directories. You can delete a working directory that was setup on any computer you used.

- 1 Choose **Tools > Working Directories**.

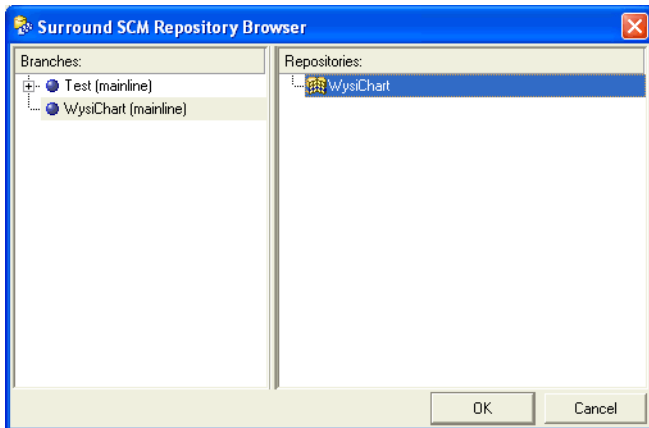
The working directory editor opens. A list of working directories is displayed. To filter the list, select a computer from the **Computer** list.



## Adding working directories

- 1 Open the working directory editor.
- 2 Click **Add**.

The repository browser opens.

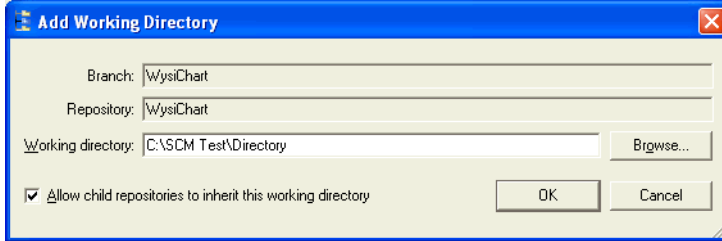


- 3 Select a branch and repository and click **OK**.

The Add Working Directory dialog box opens.

- 4 Enter a directory path or click **Browse** to select a directory.
- 5 Select **Allow child repositories to inherit this working directory** if you want child repositories to use the same directory.

The working directory is set automatically when subrepositories are added.



- 6 Click **OK**.

The working directory is set.

## Editing working directories

You can change the working directory and the child repositories inherit option.

- 1 Open the working directory editor.
- 2 Select a working directory and click **Edit**.

The Edit Working Directory dialog box opens.

- 3 Make any changes and click **OK**.

## Deleting working directories

- 1 Open the working directory editor.
- 2 Select a working directory and click **Delete**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.

The working directory is deleted.



## Chapter 3

# Setting up Surround SCM

It only takes a few minutes for new and upgrade users to set up Surround SCM. After creating or upgrading mainline branches, your users will be working with source files in no time at all.

**Starting Surround SCM, 22**

**Setting up server connections, 23**

**Creating mainline branches, 25**

**Upgrading mainline branches, 26**



## Starting Surround SCM

The first time you start Surround SCM, configure the server connection and set the working directory. Also take a few minutes to set user options and change your password. If you are the Surround SCM administrator, you must also create a mainline branch.

---

**Note:** The Seapine License Server and the Surround SCM server must be running before you start Surround SCM.

---

- 1 On the Start menu, choose **Programs > Seapine Software > Surround SCM > Surround SCM Client**.

The Login dialog box opens.



- 2 Select the server you want to connect to.

If you need to add a server, see [Setting up server connections](#), page 23 for more information.

- 3 Enter your **Username** and **Password**.

Select **Always login with this username and password** to automatically login when Surround SCM starts.

- 4 Click **Connect**.

You are logged in and ready to start using TestTrack Pro.

## Setting up server connections

You need to add a server connection for each Surround SCM server you want to access.

### Adding server connections

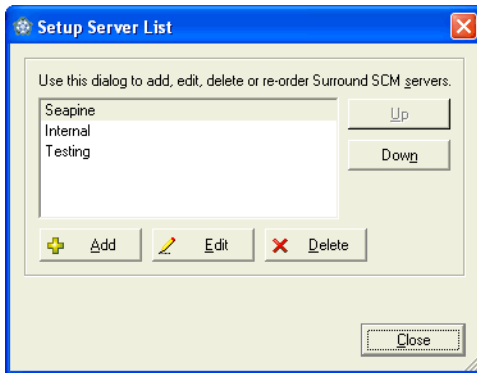
- 1 Click **Setup** on the Surround SCM login dialog box.

---

**Note:** Start Surround SCM or choose **File > Connect to Server** to open the login dialog box.

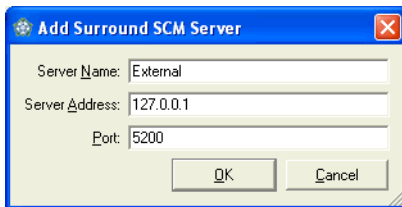
---

The Setup Server Configurations dialog box opens.



- 2 Click **Add**.

The Add Surround SCM Server dialog box opens.



- 3 Enter a **Server Name** and **Server Address**.

The server address is the IP address of the computer where the Surround SCM server application is installed. Your Surround SCM administrator can tell you the server address.

- 4 Enter the **Port** number.

Surround SCM clients connect to the server on this port via TCP/IP. Valid values are 1-65535.

- 5 Click **OK**.

The server connection is added. You return to the Setup Server Configurations dialog box. To change the order of the servers, select a server entry and click **Up** or **Down**.

- 6 Click **Close** to close the Setup Server Configurations dialog box.

## Editing server connections

- 1 Start Surround SCM or choose **File > Connect to Server** to open the login dialog box.

- 2 Click **Setup** on the Surround SCM login dialog box.

The Setup Server Configurations dialog box opens.

- 3 Select the server and click **Edit**.

- 4 Make any changes and click **OK**.

## Deleting server connections

- 1 Start Surround SCM or choose **File > Connect to Server** to open the login dialog box.

- 2 Click **Setup** on the Surround SCM login dialog box.

The Setup Server Configurations dialog box opens.

- 3 Select the server and click **Delete**.

You are prompted to confirm the deletion.

- 4 Click **Yes**.

The server is deleted.

## Connecting to a different server

You can connect to another server without closing Surround SCM.

- 1 Choose **File > Connect to Server**.

The login dialog box opens.

- 2 Enter the login information and click **Connect**.



## Creating mainline branches

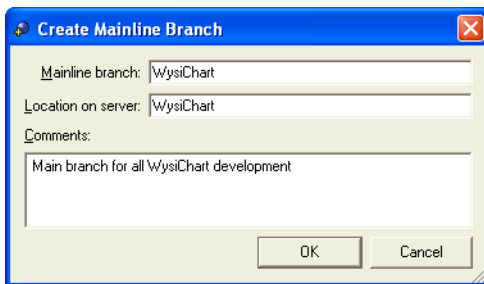
**Note:** You may not have access to this administrator command.

A mainline branch is the highest-level central branch that contains all source files, labels, other branches, and repositories. All files saved to a specific Surround SCM server are stored in a corresponding branch. At least one mainline branch must be created before source files can be added to Surround SCM.

You cannot search, branch, promote, or rebase across mainline branches. Take the time to decide on your company's use of mainline branches. Some companies may need only one mainline branch while other companies may have multiple mainline branches.

- 1 Choose **Tools > Administration > Create Mainline Branch**.

The Create Mainline Branch dialog box opens.



- 2 Enter the **Mainline branch** name.
- 3 Enter the **Location on server**.

This is the path on the Surround SCM server computer where Surround SCM files are stored. This field is automatically populated with the same name as the mainline branch. You can enter a different name.

- 4 Enter any comments.
- 5 Click **OK**.

You are prompted to confirm that you want to create a mainline branch.

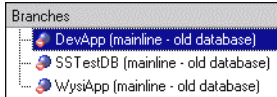
- 6 Click **Yes**.

The mainline branch is created. for more information about branches see [Chapter 6, “Working with Branches,”](#) page 51.

## Upgrading mainline branches

The Surround SCM database format may change between major and some minor releases. Database changes can be necessary to support new features and functionality. If the database format changes, you need to upgrade mainline branches to the new format. If a mainline branch name is appended with *old database* it needs to be upgraded. Before upgrading, make a backup copy of the mainline branch.

- 1 Select the mainline branch you want to upgrade.



- 2 Choose **Tools > Administration > Upgrade Mainline Branch**.

You are prompted to confirm the upgrade.

- 3 Click **Yes**.

The mainline branch is upgraded.

## Chapter 4

# Learning the Basics

Take a few minutes to learn about the interface features. Surround SCM is easy to use but it is even easier when you understand the basics. Once you understand the components and a few basic techniques you will be using Surround SCM in no time at all.

**Surround SCM interface, 28**

**Source Tree view, 28**

**Users view, 30**

**Security groups view, 30**

**Surround SCM menus, 31**

**Surround SCM toolbars, 35**

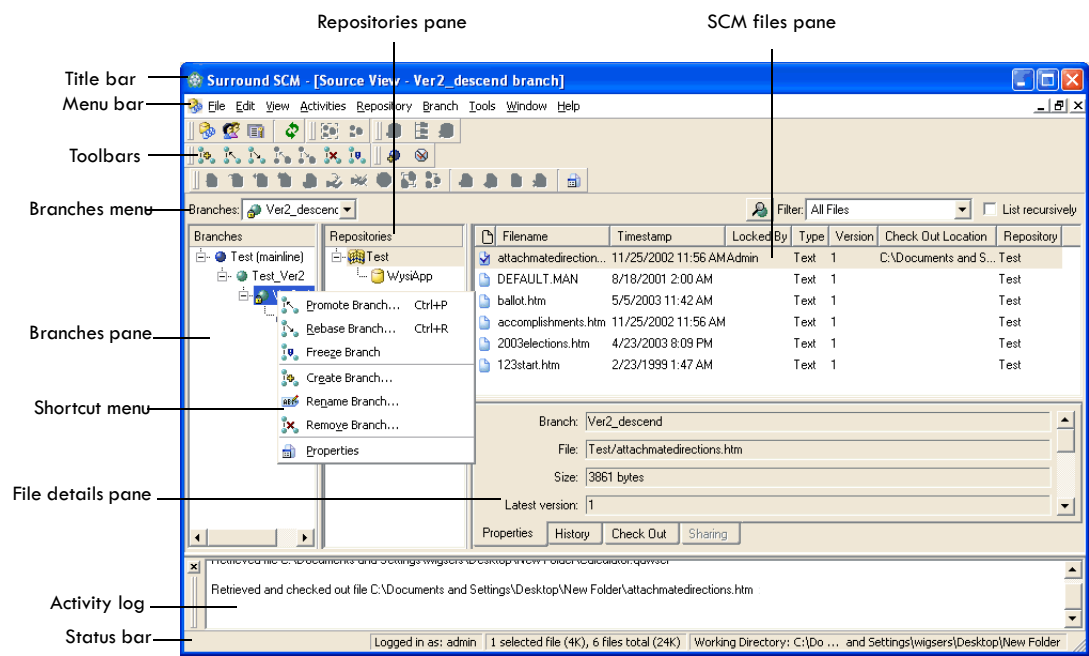


## Surround SCM interface

Surround SCM provides complex functionality with an easy to use, and learn, interface. The interface includes the following views: Source Tree view, Users view, and Security groups view. Features, such as the title bar, menu bar, toolbars, status bar, and tooltips are common to all three views. Some options, such as active menus and commands, are dependent on the view and security permissions.

### Source Tree view

The Source Tree view is the most used Surround SCM view. Many users will only have access to this view. Most file-related commands such as checking in files are accessed from the Source Tree view. You can customize the Source Tree view. For more information see [Customizing the Source Tree view, page 4](#).



### Menu bar

Contains the available menus. Menu commands vary depending on the function you are performing and your security permissions. If a menu command is greyed out and unavailable you do not have access to that command or the command is not available for the view you are in. For details, see [Surround SCM menus, page 31](#).

### Toolbars

Toolbars provide access to the most used Surround SCM commands. Surround SCM includes Edit, View, Activities, Repository, Branch, and Administration toolbars. For details, see [Surround SCM toolbars, page 35](#).

## Branches menu

Contains a list of all branches you can access.

## Branches pane

Displays the available branches. It contains the same list of branches available from the Branches menu. Data is displayed in a tree view. Clicking a plus sign expands the selected branch; clicking a minus sign collapses the branch.

## Shortcut menus

Open when you right-click on views and panes. The specific commands on each shortcut menu vary depending on the function you are performing and your security permissions.

## Repositories pane

Displays the available repositories. After selecting a branch, this pane is populated with the repositories in the selected branch. Data is displayed in a tree view. Clicking a plus sign expands the selected repository; clicking a minus sign collapses the repository.

## SCM files pane

Displays the selected repository's source files. After selecting a repository, this pane is populated with the files in the selected repository. This pane includes the following columns: Filename, Timestamp, Locked By, Status, Type, Version, and Check Out Location. You can also add a graphical status indicator to a column. For details, see [Customizing the Source Tree view, page 4](#).

## File details pane

Displays the selected file's properties, history, check out status, and sharing information. Provides a convenient way to work with files and access file commands. For more information see [Using the file details pane, page 5](#).

## Activity log

Displays the file activity log including information about files you get, check out, etc. All file information is logged. To clear the activity log choose **Edit > Clear Activity Log**.

## Status bar

A status bar, located at the bottom of the application window, includes connection and working directory information. If you select a command from the shortcut menu, the command description is displayed on the status bar.

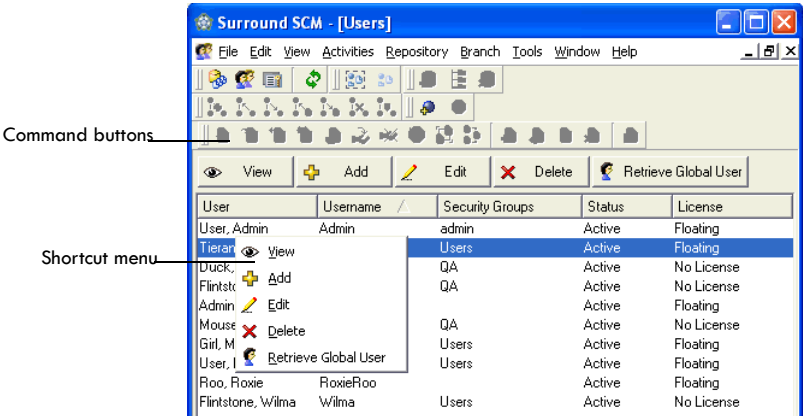
## Tooltips

When you place the cursor over a toolbar button, a command description opens.

## Users view

**Note:** You may not have access to this view depending on your security permissions.

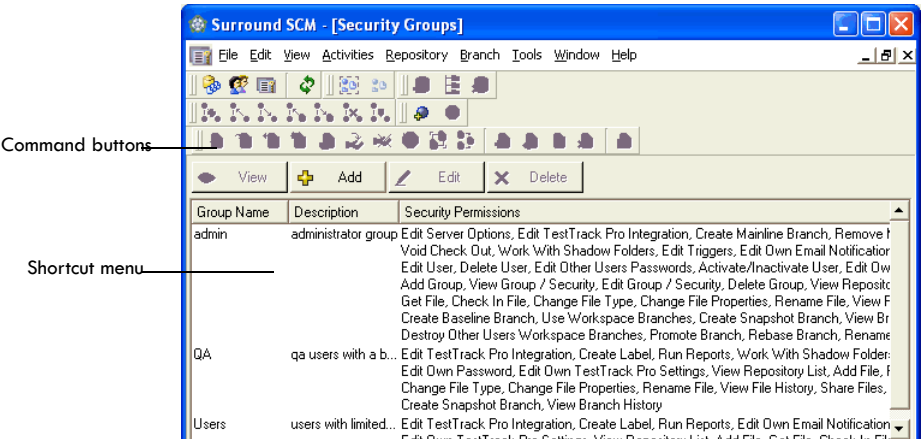
This view is used to manage Surround SCM users. User commands are accessed via the command buttons or the shortcut menu. This view includes the User, Username, and Security Groups columns. Click a column heading once to sort ascending; click again to sort descending. For more information see **Chapter 15, “Managing Users and Security Groups,”** page 151.



## Security groups view

**Note:** You may not have access to this view depending on your security permissions.

This view is used to manage Surround SCM security groups. Security groups commands are accessed via the command buttons or the shortcut menu. This view includes the Group Name, Description, and Security Permissions columns. Click a column heading once to sort ascending; click again to sort descending. For more information see **Chapter 15, “Managing Users and Security Groups,”** page 151.



## Surround SCM menus

Surround SCM menus provide access to system commands. The menu commands you can access depend on the function you are performing, your security permissions, and if you are connected to the Surround SCM server. For example, you are a member of a security group with restricted permissions. All Administration menu commands are greyed out and unavailable because your security group does not have access to these functions.

### File menu

Command	Description
<b>File &gt; Connect to Server</b>	Connect to a Surround SCM server and open the login dialog box
<b>File &gt; Logout and Disconnect</b>	Logs you out from Surround SCM and disconnects you from the server
<b>File &gt; Exit</b>	Close the application

### Edit menu

Command	Description
<b>Edit &gt; Select All</b>	Select all items
<b>Edit &gt; Select None</b>	Deselect items
<b>Edit &gt; Clear Activity Log</b>	Clears the activity log
<b>Edit &gt; Advanced Find Files</b>	Advanced search for files

### View menu

Menu Command	Description
<b>View &gt; New Source Tree</b>	Open a new source tree window
<b>View &gt; Existing Source Tree</b>	Switch to an existing source tree window
<b>View &gt; Users</b>	Open the users window
<b>View &gt; Security Groups</b>	Open the security groups window
<b>View &gt; Toolbars &gt; Edit</b>	Display or hide the edit toolbar
<b>View &gt; Toolbars &gt; View</b>	Display or hide the view toolbar
<b>View &gt; Toolbars &gt; Activities</b>	Display or hide the activities toolbar
<b>View &gt; Toolbars &gt; Repository</b>	Display or hide the repository toolbar

Menu Command	Description
<b>View &gt; Toolbars &gt; Branch</b>	Display or hide the branch toolbar
<b>View &gt; Toolbars &gt; Administration</b>	Display or hide the administration toolbar
<b>View &gt; Branch Tree</b>	Display or hide the branch tree
<b>View &gt; File Details Pane</b>	Display or hide the file details pane
<b>View &gt; Activity Log</b>	Display or hide the activity log
<b>View &gt; Status Bar</b>	Display or hide the status bar
<b>View &gt; Refresh</b>	Refresh all views

## Activities menu

Menu Command	Description
<b>Activities &gt; Get</b>	Get a read-only copy of the selected files
<b>Activities &gt; Check In</b>	Put the changes from the local file back into the repository file
<b>Activities &gt; Check Out</b>	Retrieve a copy of the file and mark it as checked out (locked)
<b>Activities &gt; Undo Check Out</b>	Undo the checked out (locked) status of a file
<b>Activities &gt; Create Label</b>	Create a new label for a file, folder, or branch
<b>Activities &gt; Share Files</b>	Share, or link, files between repositories
<b>Activities &gt; Break Shares</b>	Break the shared link
<b>Activities &gt; History</b>	Display the file history
<b>Activities &gt; Differences</b>	Display the differences between the local copy of the file and the tip revision of the file in the repository
<b>Activities &gt; Merge</b>	Merge the changes in the repository into the local file
<b>Activities &gt; Add Files</b>	Add a file to the repository
<b>Activities &gt; View File</b>	View the currently selected file, as it is in the repository
<b>Activities &gt; Edit File</b>	Edit the selected file by checking the file out, if needed, and opening an editor
<b>Activities &gt; Rename File</b>	Rename the selected file
<b>Activities &gt; Remove File</b>	Remove the selected files from the repository
<b>Activities &gt; Properties</b>	Display the file or repository properties



## Repository menu

Menu Command	Description
<b>Repository &gt; Create Repository</b>	Create a new repository
<b>Repository &gt; Rename Repository</b>	Rename the selected repository
<b>Repository &gt; Remove Repository</b>	Remove the selected repository
<b>Repository &gt; Set Working Directory</b>	Set the working directory for the selected repository

## Branch menu

Menu Command	Description
<b>Branch &gt; Promote Branch</b>	Update ancestor branch with selected branch changes
<b>Branch &gt; Rebase Branch</b>	Update selected branch with ancestor branch changes
<b>Branch &gt; Freeze / Unfreeze Branch</b>	Freeze or unfreeze the selected branch
<b>Branch &gt; Promote File</b>	Update ancestor branch with selected file changes
<b>Branch &gt; Rebase File</b>	Update selected file with ancestor branch changes
<b>Branch &gt; Create Branch</b>	Create a workspace, baseline, or snapshot branch
<b>Branch &gt; Rename Branch</b>	Rename the selected branch
<b>Branch &gt; Remove Branch</b>	Remove the selected branch

## Tools menu

Menu Command	Description
<b>Tools &gt; Administration &gt; Create Mainline Branch</b>	Create a mainline branch
<b>Tools &gt; Administration &gt; Add Existing Mainline Branch</b>	Add an existing mainline branch to the server
<b>Tools &gt; Administration &gt; Remove Mainline Branch</b>	Remove a mainline branch
<b>Tools &gt; Administration &gt; Upgrade Mainline Branch</b>	Upgrade a mainline branch to the current version
<b>Tools &gt; Administration &gt; Branch Maintenance</b>	Destroy or restore branches
<b>Tools &gt; Administration &gt; Void Check Out</b>	Void the checked out (locked) status of a file

Menu Command	Description
<b>Tools &gt; Administration &gt; Shadow Folders</b>	Manage shadow folders
<b>Tools &gt; Administration &gt; Triggers</b>	Manage triggers
<b>Tools &gt; Administration &gt; View Server Log</b>	Manage the server log
<b>Tools &gt; Administration &gt; Mail Queue</b>	Manage the mail queue
<b>Tools &gt; Administration &gt; Server Options</b>	Manage server options
<b>Tools &gt; TestTrack Pro Integration &gt; TestTrack User Settings</b>	Configure TestTrack Pro users settings
<b>Tools &gt; TestTrack Pro Integration &gt; TestTrack DB Configurations</b>	Configure TestTrack Pro database connections
<b>Tools &gt; Reports &gt; History</b>	Create a history report
<b>Tools &gt; Reports &gt; Trend</b>	Create a trend report
<b>Tools &gt; Reports &gt; Labeled Files</b>	Create a labeled files report
<b>Tools &gt; Change Password</b>	Change your password
<b>Tools &gt; My Email Notifications</b>	Set your email notifications
<b>Tools &gt; Working Directories</b>	Edit working directories
<b>Tools &gt; User Options</b>	Manage user options

## Window menu

Menu Command	Description
<b>Window &gt; Cascade</b>	Layers the Surround SCM windows
<b>Window &gt; Tile</b>	Arranges the Surround SCM windows side by side
<b>Window &gt; Close All</b>	Closes all open Surround SCM windows

## Help menu

Menu Command	Description
<b>Help &gt; Contents</b>	Open the help file contents page
<b>Help &gt; Index</b>	Open the help file index page



Menu Command	Description
<b>Help &gt; Search</b>	Open the help file search page
<b>Help &gt; Email Technical Support</b>	Send an email to Seapine technical support
<b>Help &gt; WWW Resources &gt; Seapine Software</b>	Go to Seapine Software’s web site
<b>Help &gt; WWW Resources &gt; Surround SCM Updates</b>	Go to the Surround SCM update web page
<b>Help &gt; WWW Resources &gt; Knowledgebase</b>	Go to Seapine Software’s knowledgebase
<b>Help &gt; WWW Resources &gt; Report a Bug</b>	Report a bug to Seapine Software
<b>Help &gt; About Surround SCM</b>	View the Surround SCM information dialog

## Surround SCM toolbars

The toolbars provide easy access to Surround SCM functions. Use the View menu to display or hide toolbars. If you do not have access to a command, or the command is not available for the view you are in, the toolbar icon is greyed out and unavailable. For example, the Activities toolbar icons are greyed out when you work in the Users view because Activities commands can only be used with source files.



### Edit toolbar





Click:	To:
	Select all
	Select none

### View toolbar


















Click:	To:
	View an existing source tree window
	Open the users window

Click:	To:
	Open the security groups window
	Refresh all views

Activities toolbar






Click:	To:
	Get a read-only copy of the selected files
	Check in a file
	Check out a file
	Undo the check out operation
	Create a label
	Share files
	Break shares
	Display history
	Display differences
	Merge file changes
	Add files
	View a file

Click:	To:
	Edit a file
	Remove files
	Display properties







Repository toolbar





Click:	To:
	Create a new repository
	Set the working directory
	Remove the repository

Branch toolbar





Click:	To:
	Create a new branch
	Promote a branch
	Rebase a branch
	Promote files or repositories
	Rebase files or repositories
	Remove a branch

Click:	To:
	Freeze a branch
	Unfreeze a branch

Administration toolbar



Click:	To:
	Create a mainline branch
	Void a check out operation

# Chapter 5

## Managing Repositories

A repository is a collection of files and/or subrepositories that helps you organize Surround SCM. Each repository is generally mapped to a directory on your hard drive. You can create as many repositories as necessary.

- About repositories, 40**
- Creating repositories, 40**
- Selecting a repository, 41**
- Configuring repository security, 42**
- Creating repository labels, 44**
- Renaming repositories, 45**
- Viewing repository history, 45**
- Diffing repositories, 46**
- Viewing repository shadow folders, 47**
- Removing repositories, 48**
- Restoring repositories, 48**
- Destroying repositories, 50**



## About repositories

Repositories are used to organize Surround SCM by grouping together file and subrepositories. Your company's needs and business processes dictate how you set up repositories. You may want to ask the following questions before you start creating, and providing access to, repositories:

- What guidelines should be used when creating repositories? Should a new repository be created for each product, each component, etc?
- Who can create Surround SCM repositories?
- Who can access advanced Surround SCM repository commands? Advanced commands include commands such as renaming, deleting, destroying or restoring repositories, promoting or rebasing repositories, configuring repository security, etc.
- Who is responsible for maintaining repositories?



For example, a software development company creates repositories for each software component. After creating a WysApp mainline branch, the project lead creates repositories named WysApp Client and WysApp Server. She then populates each repository with the corresponding client or server code files. She also creates a WysApp Documentation repository to make sure the latest documentation is included with all software release builds.

## Creating repositories

- 1 Select the repository you want to create the repository in. Choose **Repository > Create Repository**.

The Create Repository dialog box opens.

A screenshot of the 'Create Repository' dialog box in a software application. The dialog has a blue title bar with the text 'Create Repository' and a close button. It contains several input fields: 'Branch:' with 'Test' entered, 'Parent repository:' with 'Test/WysiApp' entered, and 'New repository:' with 'Mac' entered. Below these is a 'Comments:' section with a text area containing 'Mac development'. The 'Set Working Directory' section includes a 'Working directory:' field with the path 'F:\Documents and Settings\Desktop\New Folder\WysiApp\Mac' and a 'Browse...' button. At the bottom, there are two checkboxes: 'Allow child repositories to inherit this working directory' (unchecked) and 'Inherit working directory from parent' (checked). 'OK' and 'Cancel' buttons are at the bottom right.



- 2 The **Branch** field is read-only.

This is the name of the branch you are creating the repository in.

- 3 The **Parent repository** field is read-only.

This is the name of the repository you are creating the repository in.

- 4 Enter the repository name in the **New repository** field.

- 5 Enter optional comments such as the reason for creating the repository.

- 6 Set the working directory.

This is the directory where Surround SCM files are stored.

- 7 Click **OK**.

After creating a repository, you need to add source files. See [Adding files, page 72](#) for details.

## Selecting a repository

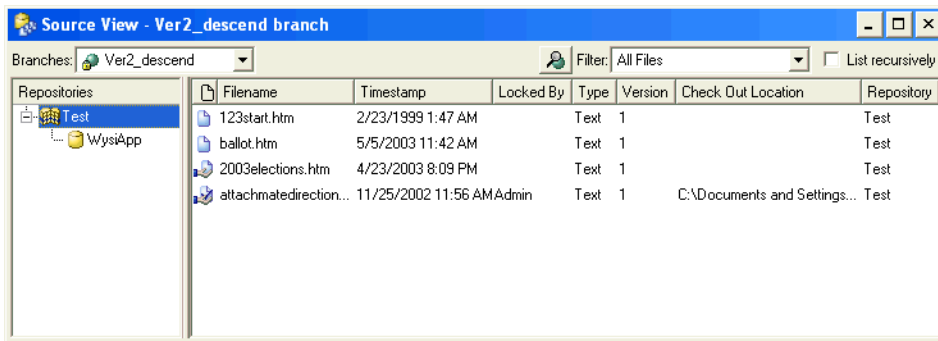
- 1 Select the mainline branch that contains the repository you want to access.

You can select the mainline branch from the Branches pane or the Branches menu.

- 2 The Repositories pane is populated with the repositories in the selected branch.

- 3 Click the repository you want to access.

The selected repository is highlighted. The SCM files pane is populated with the source files.



- 4 Select **List recursively** to display all files and subrepositories in the repository.

For more information, see [Listing files recursively, page 7](#).

## Configuring repository security

**Note:** You may not have access to this admin command.

You can apply security at the repository level, overriding the server security. Security can be modified for any group for the selected repository. For example, you have multiple products and development teams. Configuring repository security lets you restrict each development team to specific repositories.

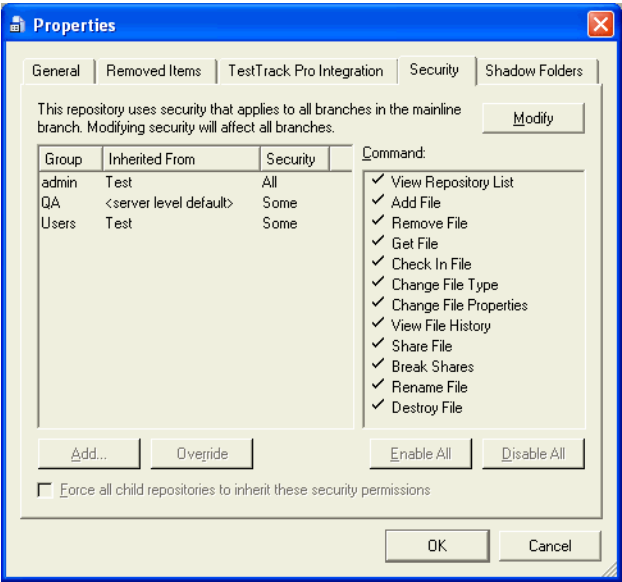
- 1 Select the repository and choose **Activities > Properties**.

The Properties dialog box opens.

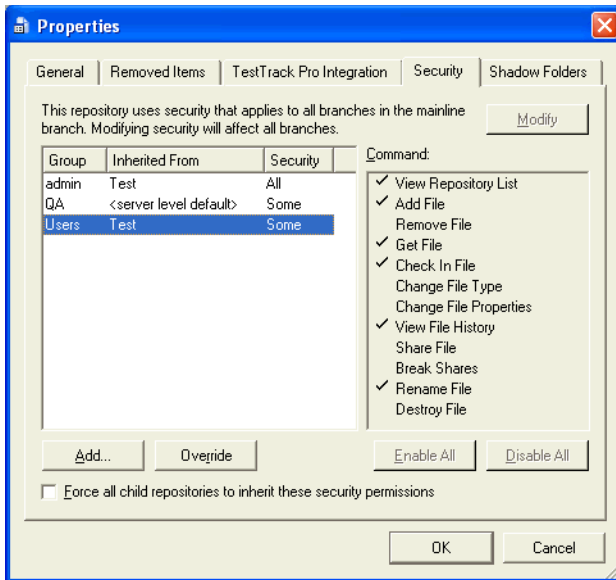
- 2 Click the **Security** tab to configure repository security.

The text at the top of the tab provides information about the repository and the affect that setting security has on other branches. For example, when you set security for a specific branch in a repository, the following text appears at the top of the tab: *This repository is using security that applies only to this branch and child branches that have selected to inherit it.*

- The **Group** column lists the name of all security groups.
- The **Inherited From** column lists where security permissions are being set.
- The **Security** column shows a summary of the group’s security. Scan this column to quickly see which groups have access to all commands, some commands, etc.



- 3 Click **Modify** to change the security.



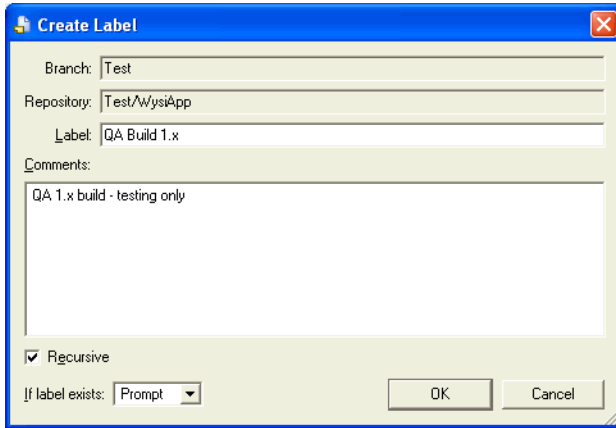
- 4 To override security permissions, select a group and click **Override**.
- Enable/disable commands for the selected group.
  - Click **Inherit** to remove the repository security.
- 5 To add a security group, click **Add**.
- The **Select a Group** dialog box opens. Select the group you want to add and click **OK**.
  - Enable/disable commands for the group.
  - Select a group and click **Remove** to remove the group.
- 6 Select **Force all child repositories to inherit these security permissions** to apply security to the selected repository and all child repositories.
- Select this option to use these permissions and remove security for all child repositories. You are prompted to confirm this action.
- 7 Click **OK** to save any changes.

## Creating repository labels

Labels provide a way to mark a specific version of files in a repository. When a label is created, a new entry is added to the repository history. The file, and the version number, do not change. For example, label a repository that contains all the files for a testing release. Each time the build is released to testing, create a corresponding label. You can view the history to see what changed after a label was created. You can also easily recompile a specific version of the testing build.

- 1 Select the repository and choose **Activities > Create Label**.

The Create Label dialog box opens.

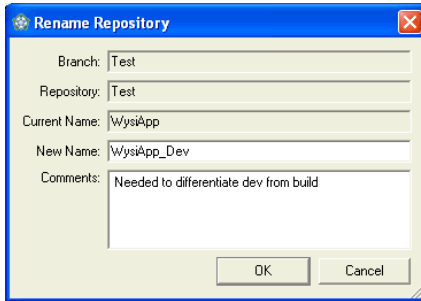


- 2 Enter the **Label**.  
Use a meaningful label. If you are applying the label to files for release 2, use a label such as Version 2.0.
- 3 Enter optional comments.
- 4 Select **Recursive** to apply the label to the selected repository and all child repositories.
- 5 Select an **If label exists** option.
  - **Prompt** prompts you to replace the label, leave the label, or cancel the labeling command
  - **Replace** deletes the label and replaces it with the new label
  - **Leave** leaves the label as is
- 6 Click **OK** to create the label.

## Renaming repositories

- 1 Select the repository and choose **Repository > Rename Repository**.

The Rename Repository dialog box opens.



- 2 Enter a new name and any comments.
- 3 Click **OK**.

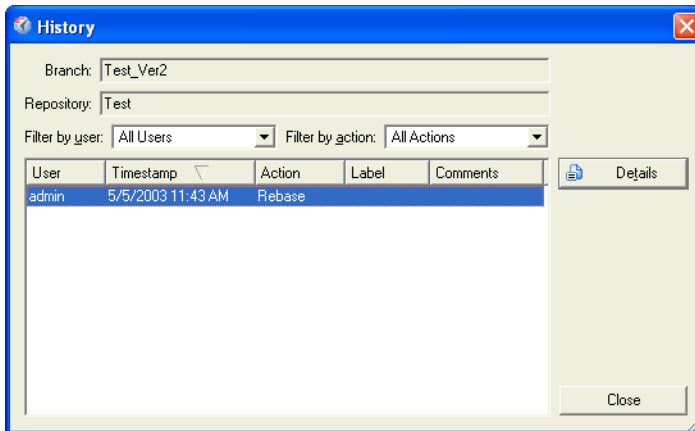
The repository is renamed.

## Viewing repository history

History provides a convenient way to view repository information.

- 1 Select a repository.
- 2 Choose **Activities > History**.

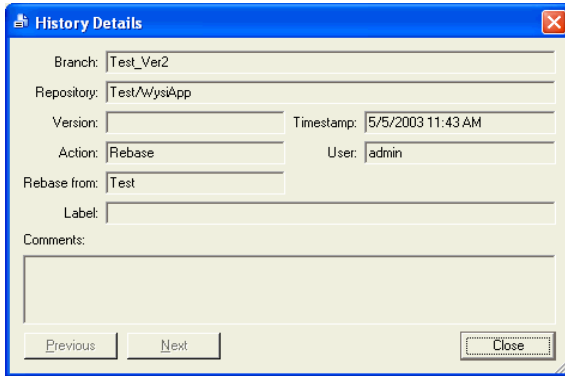
The History dialog box opens.



- 3 Optionally select a user from the **Filter by user** menu.

- 4 Optionally select an action from the **Filter by action** menu.
- 5 Select a repository and click **Details** to view more information.

The read-only History Details dialog box opens. Click **Close** to return to the History.



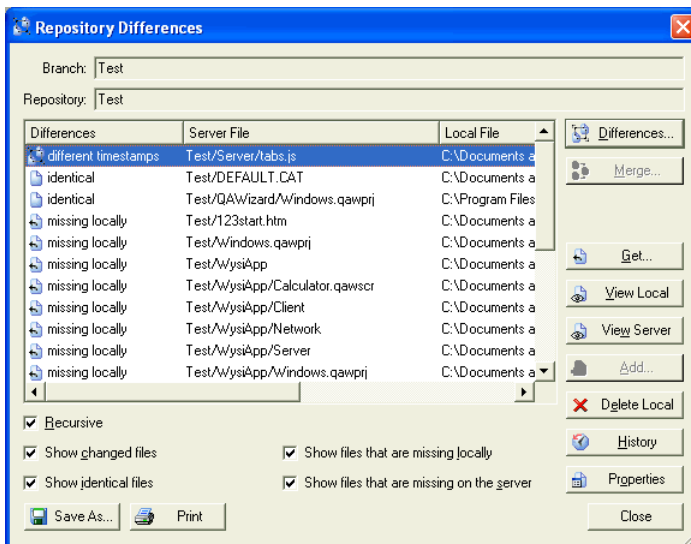
- 6 Click **Close** to close the repository history.

## Diffing repositories

Diff repositories to see if there are differences between server files and files in your working directory. You can also work with files while diffing repositories.

- 1 Select the repository. Choose **Activities > Differences**.

The Repository Differences dialog box opens.



- 2 Select any options to control which files display.
  - Select **Recursive** to display all files in the repository and any subrepositories.
  - Select **Show changed files** to display changes files.
  - Select **Show identical files** to display identical files.
  - Select **Show files that are missing locally** to display missing local files.
  - Select **Show files that are missing on the server** to display missing server files.
- 3 Select a file and click **Differences**.

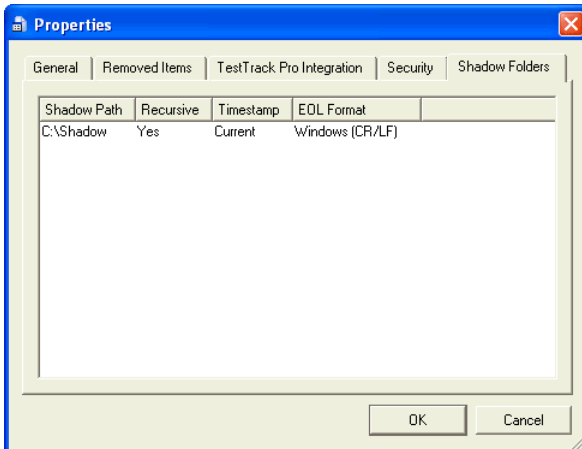
The Differences dialog box opens. See [Diffing files, page 90](#) for more information.

## Viewing repository shadow folders

You can view a list of all shadow folders in a repository. A shadow folder contains a “reference copy” of the current files in a repository.

- 1 Select the repository and choose **Activities > Properties**.
- 2 Click the **Shadow Folders** tab.

A read-only list of all shadow folders in the repository opens.



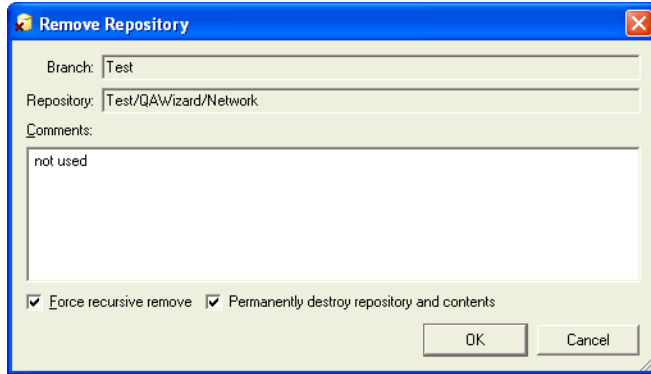
- 3 Click **OK** to close the Properties dialog box.

## Removing repositories

Depending on your security permissions, you can remove a repository. When a repository is removed, its contents are not deleted from the hard drive and can be restored.

- 1 Select the repository and choose **Repository > Remove Repository**.

The Remove Repository dialog box opens.



- 2 Enter optional comments such as the reason for removing the repository.
- 3 Select **Force recursive remove** to remove the repository and all files and subrepositories.

Repositories that contain files and/or subrepositories cannot be removed. This option forces the removal of all files and subrepositories.

- 4 Select **Permanently destroy repository** to delete the repository from the hard drive.

If you select **Force recursive remove** this option changes to **Permanently destroy repository and contents**.

- 5 Click **OK**.

You are prompted to confirm the removal.

- 6 Click **Yes** to remove the repository.

The repository is removed; it is not deleted from the Surround SCM server.

## Restoring repositories

- 1 Select the repository that contains the subrepository you want to restore.
- 2 Choose **Activities > Properties**.

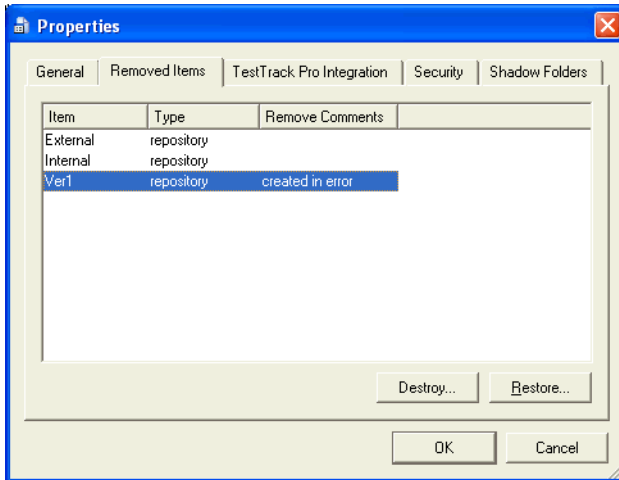
The Properties dialog box opens. Make sure you are viewing repository properties and not file properties.



- 3 Click the **Removed Items** tab.

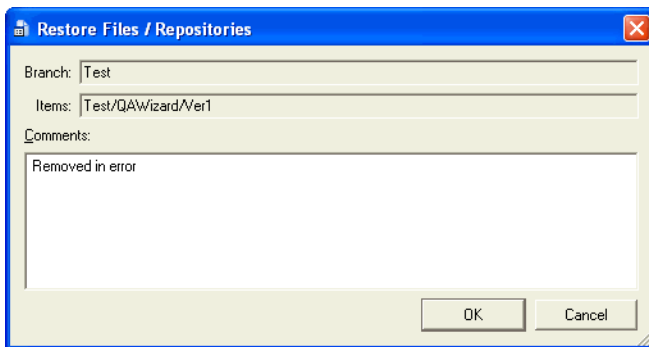
This tab includes a list of all removed repositories and files.

- 4 Select the repository you want to restore.



- 5 Click **Restore**.

The Restore Files/Repositories dialog box opens.



- 6 Enter optional comments such as the reason for restoring the repository.
- 7 Click **OK**.

The repository is restored.

## Destroying repositories

Destroyed repositories are permanently deleted from the hard drive and cannot be restored.

- 1 Select the repository that contains the subrepository you want to destroy.
- 2 Choose **Activities > Properties**.

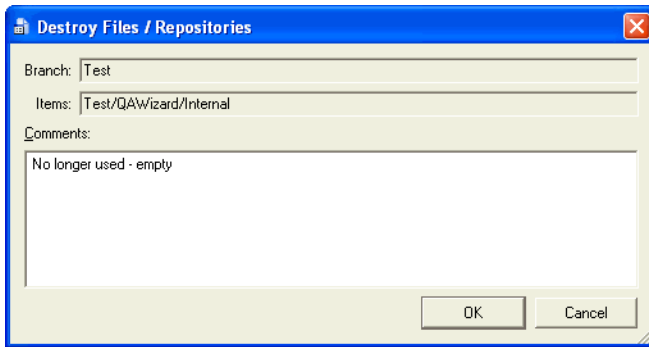
The Properties dialog box opens. Make sure you are viewing repository properties and not file properties.

- 3 Click the **Removed Items** tab.

This tab includes a list of all repositories removed from the selected repository.

- 4 Select the repository you want to destroy.
- 5 Click **Destroy**.

The Destroy Files/Repositories dialog box opens.



- 6 Enter optional comments such as the reason for destroying the repository.
- 7 Click **OK**.

You are prompted to confirm the deletion.

- 8 Click **Yes**.

The repository is destroyed. It cannot be restored.

# Chapter 6

## Working with Branches

Branching provides easy and effective management of source files throughout a lifecycle. Surround SCM does not impose a branching process on users - your use of branching depends on your company's needs and business processes.

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**When to create a branch, 53**

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**Restoring branches, 69**

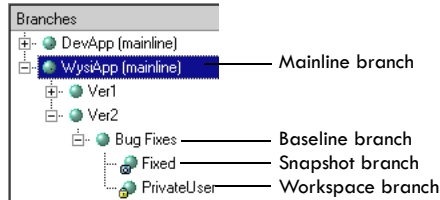
**Restoring mainline branches, 70**

**Destroying branches, 70**



## About branches

A branch is a separate line of development that uses an existing repository and the files in that repository as a starting point. When a repository is branched, the files in both branches are initially identical. As file contents change, the branched files become dissimilar. Use branches when you need to make changes to source files without affecting files in the existing repository. When you branch a repository, changes can be promoted to, or rebased from, associated branches. Surround SCM includes four types of branches: mainline, baseline, workspace, and snapshot.



### Mainline branch

A mainline branch is the highest-level branch that contains all source files, labels, other branches, and repositories. The Surround SCM administrator is generally responsible for creating mainline branches. All files saved to a specific Surround SCM server are stored in a corresponding repository.

---

**Admin:** The Surround SCM administrator is generally responsible for creating mainline branches. At least one mainline branch must be created before source files can be added to Surround SCM.

---

### Baseline branch

A baseline branch is a public branch. Allowing checkouts on a baseline branch lets all users directly check out and make changes to the baseline code. Changes made to the baseline branch affect everyone who accesses that branch.

### Workspace branch

A workspace branch is a private branch. It is used to track and isolate changes made by users. Users create their own workspace branch. The branch a workspace is created from is its parent branch. Other users are not affected by any changes that are made because the work is being done in a private, workspace branch. When a user finishes making changes, changes are promoted from the workspace branch to the baseline, or parent, branch. Changes can also be rebased from the baseline branch to a workspace branch.

### Snapshot branch

A snapshot branch is a static branch of a baseline branch that generally corresponds to a project milestone, such as a QA build or final release build. Most Surround SCM commands are disabled in snapshot branches. You cannot check out, check in, or merge files into a snapshot branch. Create a snapshot branch when you need to be able to tell exactly which versions of files went into a build. You can create a snapshot branch based on the latest file version or a specific label or timestamp.

## When to create a branch

Create a **baseline branch** to customize software for a customer. For example, your company develops software and a customer requires a feature to integrate with another vendor's reporting tool. Creating a baseline branch lets you customize the software for that customer without affecting all customers.

Create a **workspace branch** to work on bug fixes without affecting other users. For example, Suzy creates a workspace branch to fix bugs. When she is satisfied with her code, she promotes her changes to the baseline branch and moves on to development for the next software release.

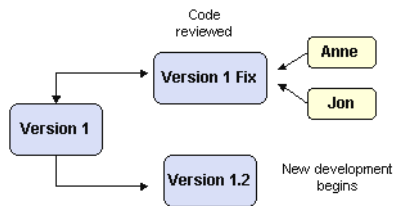
Create a **snapshot branch** to mark the last valid build of the baseline. For example, Greg is doing daily development builds. He creates a snapshot branch after each successful build to easily detect differences between builds. It also provides an easy way to retrieve all the code used in older builds.

## Branching scenarios

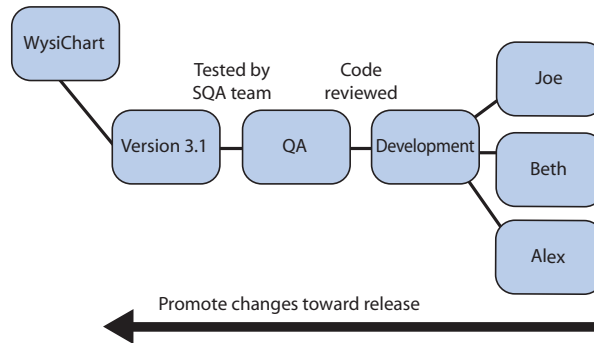
The following example illustrates one company's use of branching. A mainline branch named *Version 1* is created. When *Version 1* is close to being released, all changes to the source files need to stop. But bug fixes and development of the next version need to continue. The solution is to create two branches from *Version 1*.

The first branch is named *Version 1 Fix*. Developers create their own workspaces from this branch and begin working on bug fixes. When developers finish bug fixes and test their code, they promote their changes to *Version 1 Fix*. The project lead does a code review to ensure all bugs are fixed and the code is stable. She then promotes *Version 1 Fix* changes to *Version 1*.

The second branch is named *Version 1.2*. Development for the next release is done in this branch. This branch becomes the baseline for all *Version 1.2* development. After bug fixes are promoted from *Version 1 Fix* to *Version 1*, changes can be rebased from *Version 1* to *Version 1.2*.



Following is another branch example. The WysiChart development team - Joe, Beth, and Alex - each work in private, workspace branches, isolated from changes until they decide to accept them. As code changes are completed and tested locally, they are promoted up to the development branch. The latest development build is always available to the team. After changes are reviewed by the team lead, they are promoted to the QA branch for testing by the SQA team. The latest quality-controlled build is always protected from the changes downstream.

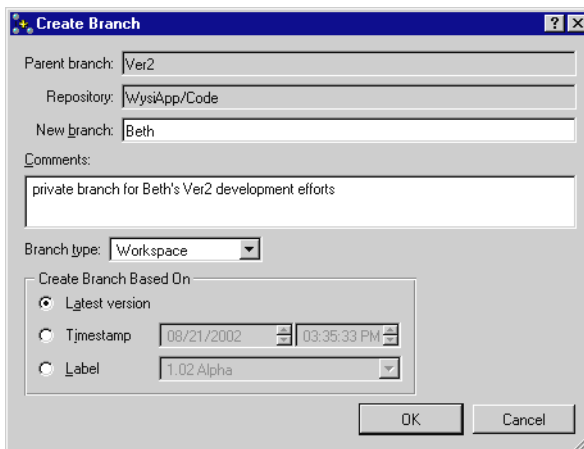


## Creating branches

**Note:** To create a mainline branch, see [Creating mainline branches](#), page 25.

- 1 Choose **Branch > Create Branch**.

The Create Branch dialog box opens.



- 2 **Parent branch** and **Repository** are read-only.

- 3 Enter the branch name in the **New branch** field.
- 4 Enter optional comments about the branch you are creating.
- 5 Select a **Branch type** from the menu.

The menu includes branch types you have security permissions to create. See [About branches, page 52](#) for more information.

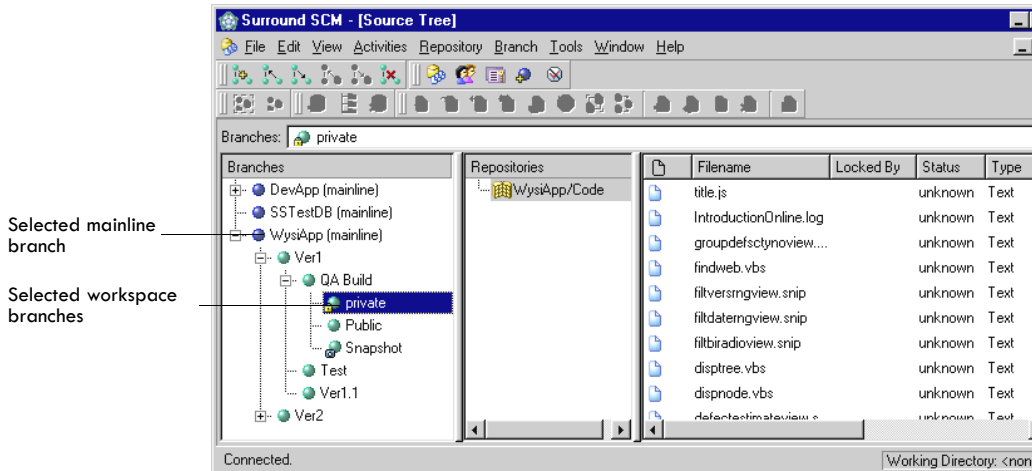
- 6 Select a **Create Branch Based On** option.
  - **Latest version** creates a branch from the latest version of each file.
  - **Timestamp** creates a branch based on the last check in timestamp.
  - **Label** creates a branch based on a specific label. Select a label from the menu.
- 7 Click **OK**.

The branch is created.

## Selecting a branch

- 1 Select the mainline branch that contains the branch you want to access.
- 2 Select the branch from the **Branches pane** or the **Branches menu**.

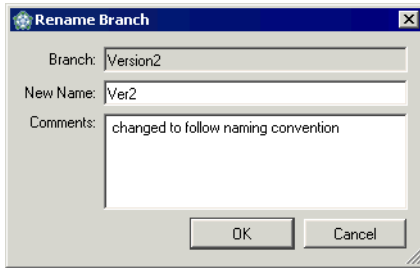
The Repositories pane is populated with the repositories in the selected branch.



## Renaming branches

- 1 Select the branch.
- 2 Choose **Branch > Rename Branch**.

The Rename Branch dialog box opens.



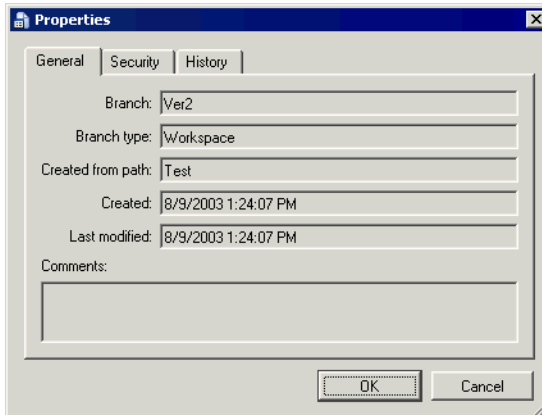
- 3 Enter a new name and any comments.
- 4 Click **OK**.

The branch is renamed.

## Viewing branch properties

- 1 Select the branch. Choose **Activities > Properties**.

The Properties dialog box opens with the **General** tab selected. This tab includes read-only branch information.

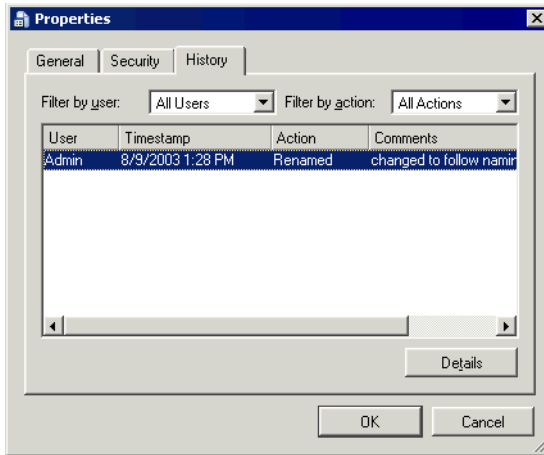


- 2 Click the **Security** tab.

This tab is used to apply repository security to a specific branch, overriding the server security. See [Configuring branch security](#), page 57 for more information.

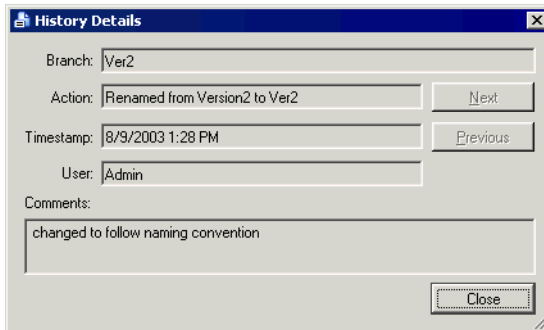


- 3 Click the **History** tab. History provides a convenient way to view branch information.



- 4 Optionally select a user from the **Filter by user** menu.
- 5 Optionally select an action from the **Filter by action** menu.
- 6 Select a branch and click **Details** to view more information.

The read-only History Details dialog box opens. Click **Close** to return to the History.



- 7 Click **Close** when you finish viewing, and working with, branch properties.

## Configuring branch security

You can apply repository security to a specific branch, overriding the server security. When you configure branch security, you are setting repository security that only affects one branch. For example, you can restrict access to a branch of released code.

- 1 Select a branch and choose **Activities > Properties**.

The Properties dialog box opens.

## 2 Click the **Security** tab.

This tab is used to select branch security.



- **Use security that applies to all branches** is the default selection. All new child branches inherit security from the parent branch
- Select **Use own security** to override security for the selected branch. The first time you select this option, you need to select a value from the menu. **Copy the security that applies to all branches** uses the security applied to all branches but lets you change the permissions for the selected branch. **Copy the parent branch's security** is only available if the parent branch uses its own security or if it is inheriting security. **Start with no specific security applied** uses the server level defaults.
- Select **Inherit parent's security** to use the same security as the parent branch.

## 3 Click **OK** to save the changes.

After you select branch security, you need to enable/disable file commands. Select the highest level repository to set commands. For more information, see [Configuring repository security, page 42](#) or [Setting branch security, page 148](#).

## Promoting branches

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**Note:** Promoting merges changes from the child branch up to the parent branch.

---

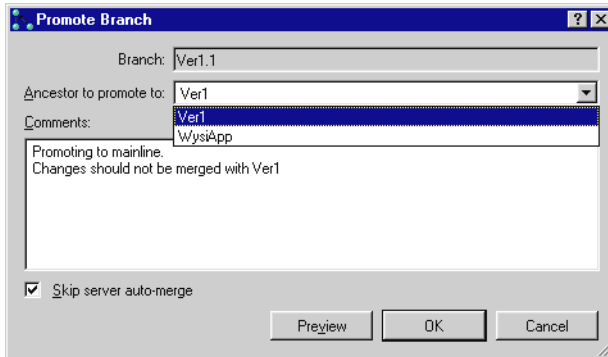
Promoting is the process of updating an ancestor branch with changes made in the selected branch. When you finish making changes to source files, and are ready to share your changes, promote the branch. This ensures the ancestor branch includes the most current files and other users have access to your changes.

For example, Michelle is working in her private, workspace branch. She finishes developing the new features assigned to her and completes informal testing. She knows the QA Manager, Jack, wants to start formal testing. She promotes her branch. Jack then rebases her changes into the QA Build branch so he can start the testing process.

You can promote changes to any ancestor branch. For example, Pat finishes making bug fixes in the Version 1.5 branch. This branch was created from Version 1 but he does not want to promote changes to Version 1. Instead, Pat promotes to WysApp, which is the parent branch for Version 1 and the grandparent branch for Version 1.5. When the team begins development on Version 2, the branch is created from WysApp. This ensures Pat's Version 1.5 bug fixes are included in the Version 2 code.

- 1 Select the branch you want to promote. Choose **Branch > Promote Branch**.

The Promote Branch dialog box opens.

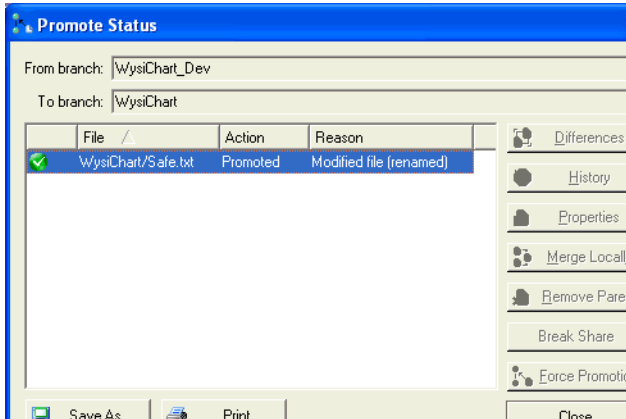


- 2 The **Branch** field is read-only.
- 3 Select an **Ancestor to promote to** from the menu.  
You can promote changes to any ancestor branch.
- 4 Enter optional comments about the reason for promoting the branch.
- 5 Select **Skip server auto-merge** to promote all files, overwriting any changes in the ancestor branch.
- 6 Optionally click **Preview** to view more information about the files being promoted.

For more information, see [Promote preview, page 61](#).

- 7 Click **OK** to promote changes.

The Promote Status dialog box opens. You can view the files that were promoted, files that were not promoted, and files with conflicts. You can also access commands to help resolve conflicts and successfully promote files.



- Select a file and click **Differences** to compare the file versions. See [Diffing files, page 90](#) for details.
- Select a file and click **History** to view the file history. See [Viewing file history, page 83](#) for details.
- Select a file and click **Properties** to view the file properties. See [Viewing file properties, page 82](#) for details.
- Select a file and click **Merge Locally** to manually merge the files. See [Merging files, page 92](#) for details.
- Select a file and click **Remove Parent** to remove the file from the parent branch. See [Removing files, page 100](#) for details. If you are promoting a file that was removed from the child branch, files cannot be merged because Surround SCM cannot determine if you also want to remove the file from the parent branch.
- Select a file and click **Force Promotion** to promote the file, overwriting any changes in the parent branch. You are prompted to confirm the promotion. Click **Yes**.

---

**Tip:** Click **Save All** to save the list of files or click **Print** to print the list of files.

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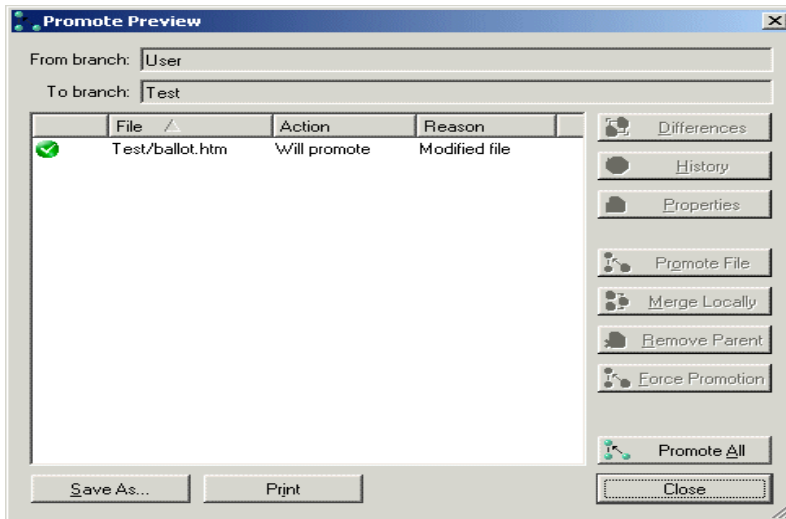
- 8 Click **Close** to close the Promote Status dialog box.

## Promote preview

You can preview the files that are being promoted and access various commands. You can quickly view file status and files that will be promoted, files that will not be promoted, and files with conflicts. The commands you can access depend on the file's status and security permissions.

- 1 Click **Preview** on the Promote Branch or Promote File(s) dialog box.

The Promote Preview dialog box opens.



- 2 Select a file and click **Differences** to compare the **From** and **To** branch file versions. See [Diffing files](#), page 90 for details.
- 3 Select a file and click **History** to view the file history. See [Viewing file history](#), page 83 for details.
- 4 Select a file and click **Properties** to view the file properties. See [Viewing file properties](#), page 82 for details.
- 5 Select a file and click **Promote File** to promote the file. See [Promoting files](#), page 93 for details.

You can view files that were promoted or were not promoted, and files with conflicts. You can also access commands to resolve file conflicts and successfully promote files.

- 6 Select a file and click **Merge Locally** to manually merge the files. See [Merging files](#), page 92 for details.
- 7 Select a file and click **Remove Parent** to remove the file from the parent branch. See [Removing files](#), page 100 for details.

If you are promoting a file that was removed from the child branch, files cannot be merged because Surround SCM cannot determine if you also want to remove the file from the parent branch.

- 8 Select a file and click **Force Promotion** to promote the file, overwriting any changes in the parent branch.

You are prompted to confirm the promotion. Click **Yes**.

- 9 Click **Promote All** to promote all files.

Changes are merged into the parent branch. The Promote Status dialog box opens. You can easily view files that were promoted, files that were not promoted, and files with conflicts. You can also access commands to resolve file conflicts and successfully promote files.

---

**Tip:** Click **Save All** to save the list of files or click **Print** to print the list of files.

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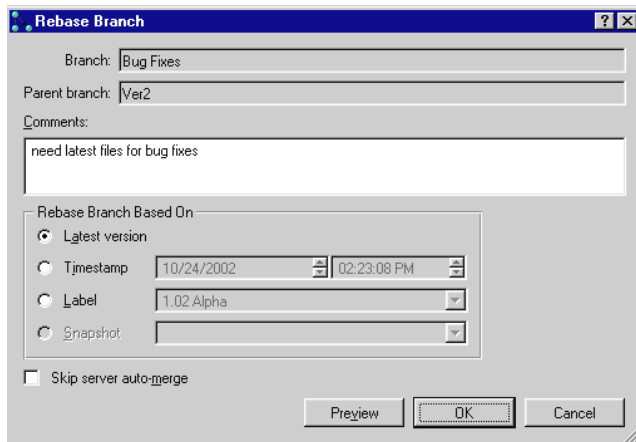
- 10 Click **Close** to close the Promote Preview dialog box.

## Rebasing branches

Rebasing merges changes from the parent branch down to the child branch. This ensures the child branch includes the most current files. For example, Cathy and Jon work on bug fixes in their workspaces. Jon completes his work and promotes changes to the parent branch. Cathy needs his changes to fix a bug. She rebases from the parent branch to merge Jon's changes into her workspace.

- 1 Select the branch you want to rebase changes into. Choose **Branch > Rebase Branch**.

The Rebase Branch dialog box opens.



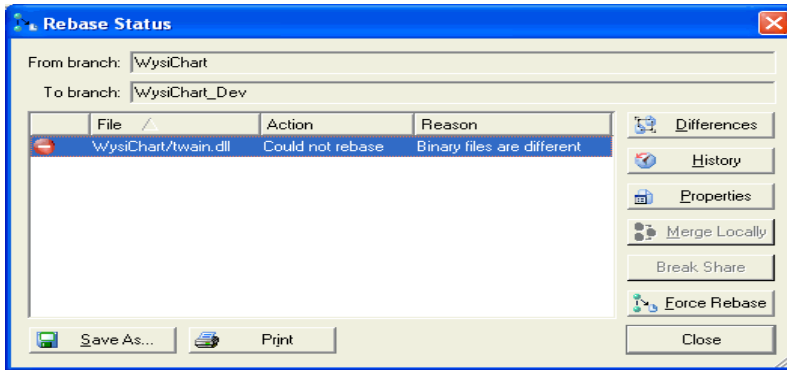
- 2 The **Branch** and **Parent branch** fields are read-only.
- 3 Enter optional comments about the reason for rebasing the branch.
- 4 Select a **Rebase Branch Based On** option.
  - **Latest Version** rebases from the latest version of each file.
  - **Timestamp** rebases from a specific timestamp. This field must contain a valid timestamp.
  - **Label** rebases from a specific label. This field must contain a valid label.
  - **Snapshot** rebases from a snapshot branch. Choose the snapshot branch from the menu.

- 5 Select **Skip server auto-merge** to rebase all files, overwriting any changes in the current branch.
- 6 Optionally click **Preview** to view more information about the files being rebased.

For more information, see [Rebase preview](#), page 64.

- 7 Click **OK** to rebase the branch.

The Rebase Status dialog box opens. You can view files that were rebased or not rebased and files with conflicts. You can also access commands that help resolve conflicts and successfully rebase files.



- Select a file and click **Differences** to compare the file versions. See [Diffing files](#), page 90 for details.
- Select a file and click **History** to view the file history. See [Viewing file history](#), page 83 for details.
- Select a file and click **Properties** to view the properties. See [Viewing file properties](#), page 82 for details.
- Select a file and click **Merge Locally** to manually merge the files. See [Merging files](#), page 92 for details.
- Select a file and click **Force Rebase** to rebase the file, overwriting any changes in the child branch. You are prompted to confirm the rebase. Click **Yes**.

---

**Tip:** Click **Save All** to save the list of files or click **Print** to print the list of files.

---

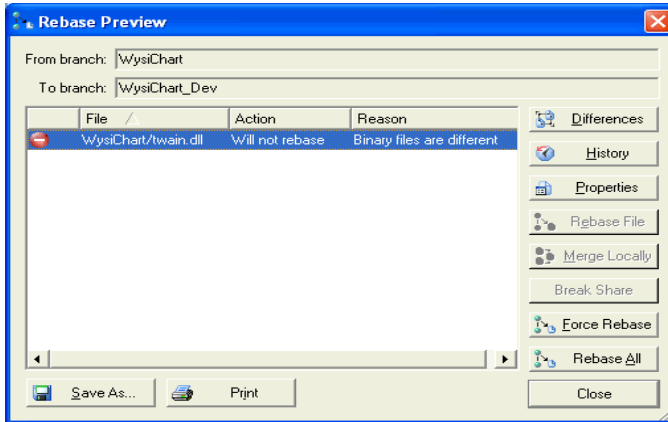
- 8 Click **Close** to close the Rebase Status dialog box.

## Rebase preview

You can preview the files that are being rebased and perform various commands. You can quickly view file status and files that will be rebased, files that will not be rebased, and files with conflicts. The commands you can perform from this dialog box depends on the file's status and security permissions.

- 1 Click **Preview** on the Rebase Branch or Rebase File(s) dialog box.

The Rebase Preview dialog box opens.



- 2 Select a file and click **Differences** to compare the branch file versions. See [Diffing files, page 90](#) for details.
- 3 Select a file and click **History** to view the file history. See [Viewing file history, page 83](#) for details.
- 4 Select a file and click **Properties** to view the file properties. See [Viewing file properties, page 82](#) for details.
- 5 Select a file and click **Rebase File** to rebase the file. See [Rebasing files, page 95](#) for details.

You can view files that were rebased or were not rebased and files with conflicts. You can also access commands to resolve file conflicts and successfully rebase files.

- 6 Select a file and click **Merge Locally** to manually merge the files. See [Merging files, page 92](#) for details.
- 7 Select a file and click **Force Rebase** to rebase the file, overwriting any changes in the child branch.

You are prompted to confirm the rebase. Click **Yes**.

- 8 Click **Rebase All** to rebase all files.

The Rebase Status dialog box opens. You can view files that were rebased or were not rebased and files with conflicts. You can also access commands to resolve file conflicts and successfully rebase files.

---

**Tip:** Click **Save All** to save the list of files or click **Print** to print the list of files.

---

- 9 Click **Close** to close the Rebase Preview dialog box.



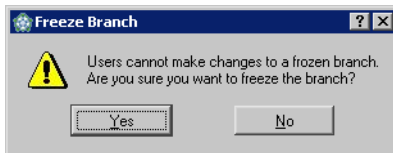
## Freezing branches

Depending on your security permission, you may be able to freeze branches. Freezing a branch prevents users from making any changes to files in the branch. When a branch is frozen, any command that can affect the code, such as adding a file or creating a repository, is disabled. Commands that do not affect the code, such as getting a file or merging to local files, are enabled.

You may want to freeze a branch for administrative or maintenance purposes. For example, you need build release for multiple platforms. Freeze the corresponding branches to ensure the files cannot be changed during the build process. When you finish, unfreeze the branches.

- 1 Select the branch you want to freeze.
- 2 Choose **Branch > Freeze Branch**.

You must confirm that you want to freeze the branch.



- 3 Click **Yes**.

The branch is now frozen.

## Unfreezing branches

Unfreeze a branch if you want to be able to make changes to repositories and files in the branch.

- 1 Select the branch you want to unfreeze.
- 2 Choose **Branch > Unfreeze Branch**.

The branch is unfrozen.

## Configuring shadow folders

A shadow folder contains a “reference copy” of the current files in a repository. Files are automatically updated when changes are checked in to Surround. Use shadow folders to provide read-only access to non-Surround users or to provide a central location to build releases from. Shadow folders cannot be created on snapshot branches.

For example, your employee manual files are stored in Surround SCM. Most employees do not have access to the Surround database that contains the files. Creating a shadow folder on a public network drive lets all employees view the manual. When the human resources department updates the files and checks in changes to Surround SCM, the files in the shadow folder are also updated with changes. This ensures employees have access to the latest version of the employee manual.

Before you add a shadow folder, you must first create an empty directory. Surround SCM does not automatically create shadow folders to provide greater security and protection against hackers. If Surround did automatically create shadow folders, a hacker could fill up the hard drive with unnecessary files. A hacker could also specify the Windows system folder as the shadow folder and then check in .DLLs that contain a virus. In addition, the administrator can control where the shadow folders are being created.

## Adding shadow folders

When shadow folders are created Surround SCM assumes it can add, override, and delete files. Creating an empty directory protects against hackers and also protects against files being overwritten.

---

**Note:** You must create an empty directory, which the shadow folder will be created in, before you create the shadow folder.

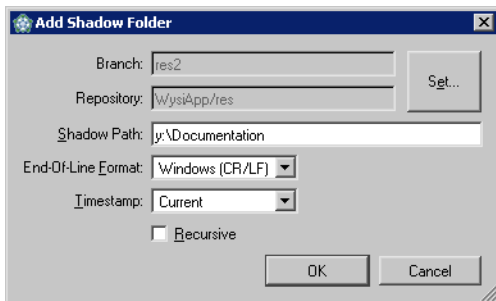
---

- 1 Choose **Tools > Administration > Shadow Folders**.

The Shadow Folders dialog box opens.

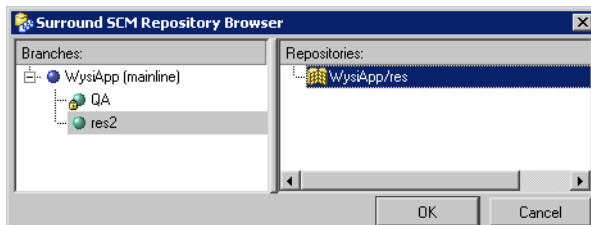
- 2 Click **Add**.

The Add Shadow Folders dialog box opens.



- 3 Click **Set** to select the branch and repository.

The Repository Browser dialog box opens. Select the branch and repository you want to shadow and click **OK**.



- 4 Enter the **Shadow Path**.

This is the location of the shadow folder.

- 5 Select the **End-Of-Line Format** to use for text files.
- 6 Select a **Timestamp** option. This timestamp is used when files are retrieved to the shadow folder.
  - **Current** uses the current (time of retrieval) date and time.
  - **Modified** uses the last modified date and time.
  - **Check in** uses the last checked in date and time.
- 7 Select **Recursive** to recursively shadow all subrepositories in the selected repository.
- 8 Click **OK**.

The shadow folder is created.

## Shadow folder example

WysiCorp wants to create a shadow folder for their existing web server directory. The existing directory, which is not empty, is at `C:\Inetpub\wwwroot`. The following steps are taken to set up this shadow folder:

- First, the administrator renames `wwwroot` to `wwwroot2` in the `C:\Inetpub` directory. The administrator also archives `wwwroot2` in case a file wasn't checked in to Surround.
- Next, a new empty directory named `wwwroot` is created in the `C:\Inetpub` directory. A shadow folder is created for `wwwroot`.
- After waiting for Surround to copy the files into the new directory, the administrator manually copies any files that were not checked in to Surround from `wwwroot2` to the new `wwwroot` directory. The files should also be added to Surround.

## Editing shadow folders

- 1 Choose **Tools > Administration > Shadow Folders**.

The Shadow Folders dialog box opens.

- 2 Select the folder and click **Edit**.

You can change the End-Of-Line Format and the Timestamp.

- 3 Click **OK** to save your changes.

---

**Note:** To update the files in the selected shadow folder, click **Force Update**.

---

## Deleting shadow folders

- 1 Choose **Tools > Administration > Shadow Folders**.

The Shadow Folders dialog box opens.

- 2 Select the folder and click **Delete**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.

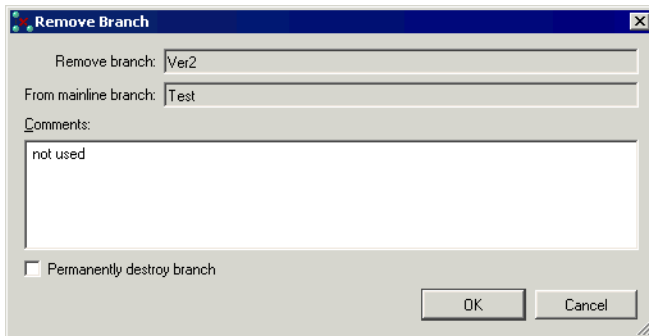
The shadow folder is deleted.

## Removing branches

When a branch is removed, its contents are not deleted from the hard drive and its contents can be restored.

- 1 Select the branch. Choose **Branch > Remove Branch**.

The Remove Branch dialog box opens.



- 2 Enter optional comments such as the reason for removing the branch.
- 3 Select **Permanently destroy branch** to delete it from the hard drive.
- 4 Click **OK**.

You are prompted to confirm the branch removal.

- 5 Click **Yes** to remove the branch.

The branch is removed.

## Removing mainline branches

You can remove a mainline branch from the Surround SCM server. All child branches, repositories, subrepositories, and files are also removed.

- 1 Select the mainline branch.
- 2 Choose **Tools > Administration > Remove Mainline Branch**.

The Remove Mainline Branch dialog box opens.

- 3 Enter any comments.
- 4 Click **OK**.

You are prompted to confirm the removal.

- 5 Click **Yes**.

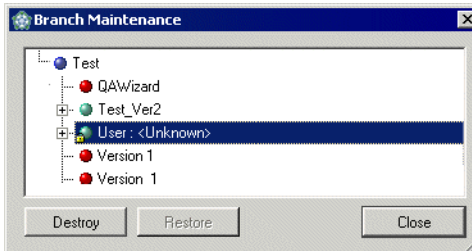
The mainline branch is removed.

## Restoring branches

Branch maintenance is used to restore branches.

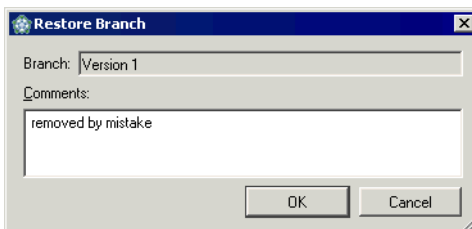
- 1 Choose **Tools > Administration > Branch Maintenance**.

The Branch Maintenance dialog box opens.



- 2 Select a branch and click **Restore**.

The Restore Branch dialog box opens.



- 3 Enter any comments and click **OK**.

The branch is restored.

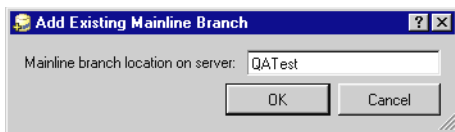
- 4 Click **Close** to close the Branch Maintenance dialog box.

## Restoring mainline branches

When a mainline branch is removed, it is not deleted. You can restore an existing mainline branch to make it active again.

- 1 Choose **Tools > Administration > Add Existing Mainline Branch**.

The Add Existing Mainline Branch dialog box opens.



- 2 Enter the server location of the mainline branch and click **OK**.

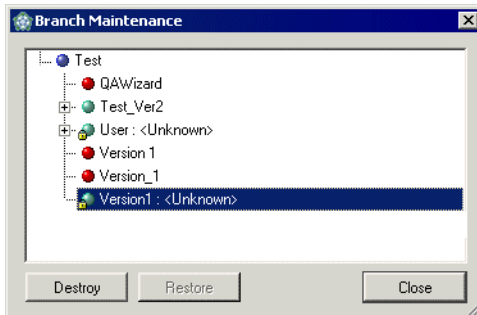
The mainline branch, child branches, repositories and subrepositories, and files are restored.

## Destroying branches

Destroyed branches are permanently deleted from the hard drive and cannot be restored.

- 1 Choose **Tools > Administration > Branch Maintenance**.

The Branch Maintenance dialog box opens.



- 2 Select a branch and click **Destroy**.

You are prompted to confirm that you want to destroy the selected repository.

- 3 Click **Yes**.

The branch is destroyed and cannot be restored.

# Chapter 7

## Working with Files

Surround SCM manages all of your source files, including code files, requirements documents, Web pages, image files, specifications, and more. With Surround SCM, you can archive and version virtually any file and quickly locate and retrieve it at any time.

- Adding files, 72**
- Finding files, 73**
- Finding events, 74**
- Searching by check out status, 75**
- Searching by status, 75**
- Getting files, 76**
- Viewing files, 78**
- Editing files, 79**
- Checking out files, 80**
- Checking in files, 84**
- Creating file labels, 81**
- Viewing file properties, 82**
- Viewing file history, 83**
- Undoing check out, 86**
- Voiding check out, 87**



## Adding files

When you add files, Surround SCM checks in the files. When you add a directory, a repository with the same name as the directory is created. Files are added to the corresponding repository. Surround SCM optionally repeats the process recursively for all subdirectories.

- 1 Select the repository you want to add files to. Choose **Activities > Add Files**.

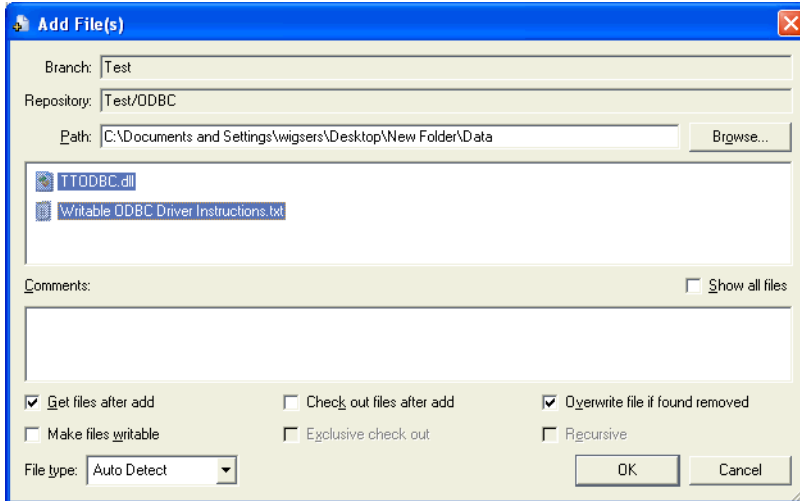
The Add File(s) dialog box opens.

- 2 Click **Browse** to select the directory you want to add files from.

The Browse for Folder dialog box opens.

- 3 Select the directory and click **OK**.

You return to the Add File(s) dialog box. It is populated with the files and folders from the directory.



- 4 Select the files or folders you want to add.

To add multiple files or a combination of files and folders, **Ctrl + click** each item. To add specific files from a folder, double-click the folder to open it then select the files.

---

**Tip:** To quickly add one file, select options then double-click the file.

---

- 5 Select **Show all files** to view all files in the directory, including files already added to Surround SCM. For example, select this option to add files from a directory that is another branch's working directory.
- 6 Enter optional comments about the files you are adding. The comment is applied to all files.



- 7 **Get files after add** creates a read-only copy of the files in your working directory. This option is selected by default if a working directory is set for the repository you are adding files to.

This option is not enabled or selected if a working directory is not set for the repository.

- 8 Select **Make files writable** to leave the files in read-write mode.
- 9 Select **Check out files after add** to immediately check out the files.
- 10 Select **Exclusive check out** to prevent other users from checking out the files.

Multiple checkouts are disabled if the checkbox is selected and inactive.

- 11 **Overwrite file if found removed** is selected by default. If a file matches a removed file, the removed file is overwritten. The added file is checked in and the version number is updated.

If you clear the checkbox, and a file matches a removed file, you are prompted to replace the removed file or skip the add.


- 12 Select **Recursive** if you are adding a directory and want to automatically add all subdirectories and files.
- 13 Select a type from the **File type** menu.

**Auto Detect** lets Surround SCM determines the file type

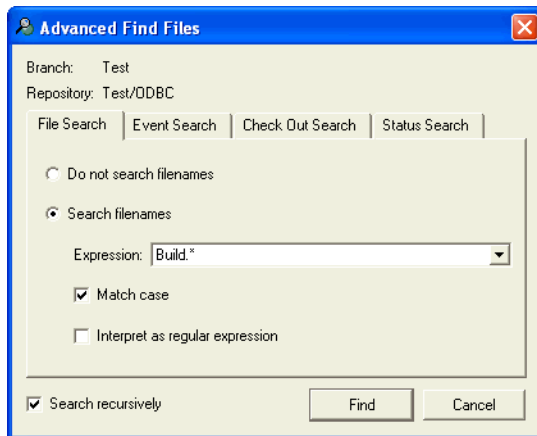
- 14 Click **OK**.

The files are added to Surround SCM.

## Finding files

- 1 Choose **Edit >Advanced Find Files** or click the **Advanced Search** toolbar button. 

The Advanced Find Files dialog box opens with the **File Search** tab selected.




- 2 Select **Search filenames** and enter the text you want to search for.
- 3 Select **Match case** to perform a case sensitive search.
- 4 Select **Interpret as regular expression** to search using regular expressions.

Surround SCM supports all regex characters. If you do not select this option, you can use wildcard characters.

- 5 Select **Search recursively** to search the selected repository and any subrepositories.
- 6 Click **Find** to search the files.

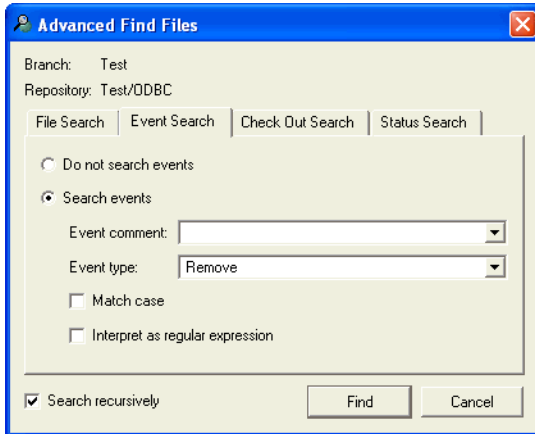
Files that meet the criteria are listed on the SCM files pane. Notice the **Search Results** filter is applied.

## Finding events

- 1 Choose **Edit > Advanced Find Files** or click the **Advanced Search** toolbar button. 

The Advanced Find Files dialog box opens.

- 2 Click the **Event Search** tab to search for specific text in one or all events.




- 3 Select **Search events**.
  - To search event comments enter the **comment** text you want to search for.
  - To search a specific event select an **event type**. All events are searched are searched by default.
- 4 Select **Match case** to perform a case sensitive search.
- 5 Select **Interpret as regular expression** to search using regular expressions.

Surround SCM supports all regex characters. If you do not select this option, you can use wildcard characters.

- 6 Select **Search recursively** to search the selected repository and any subrepositories.
- 7 Click **Find** to search the files.

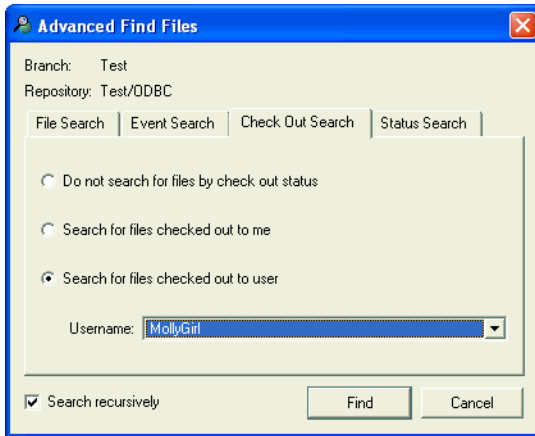
Files that meet the criteria are listed on the SCM files pane. Notice the **Search Results** filter is applied.

## Searching by check out status

- 1 Choose **Edit >Advanced Find Files** or click the **Advanced Search** toolbar button. 

The Advanced Find Files dialog box opens.

- 2 Click the **Check Out Search** tab to search for files based on check out status.



- 3 Select **Search for files checked out to me** to search for files you have checked out.
- 4 Select **Search for files checked out to user** and select a Username to search for files checked out by the specified user.
- 5 Select **Search recursively** to search the selected repository and any subrepositories.
- 6 Click **Find** to search the files.

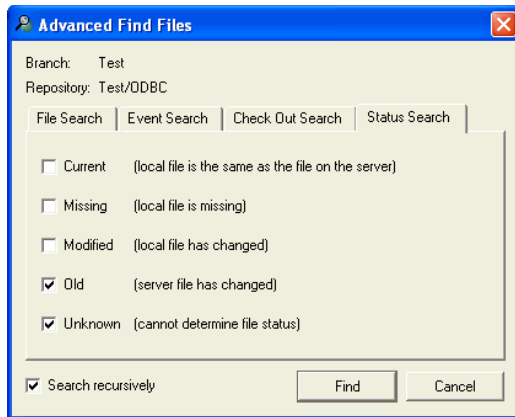
Files that meet the criteria are listed on the SCM files pane. Notice the **Search Results** filter is applied.

## Searching by status

- 1 Choose **Edit >Advanced Find Files** or click the **Advanced Search** toolbar button. 

The Advanced Find Files dialog box opens.

- Click the **Status Search** tab to search for files based status.



- Select the file status.

You can search by Current, Missing, Modified, Old, Unknown, or a combination of file status.

- Select **Search recursively** to search the selected repository and any subrepositories.
- Click **Find** to search the files.

Files that meet the criteria are listed on the SCM files pane. Notice the **Search Results** filter is applied.

## Getting files

Get files when you want to view a file but do not need to make any changes. You can also view files without getting a copy. See [Viewing files, page 78](#).

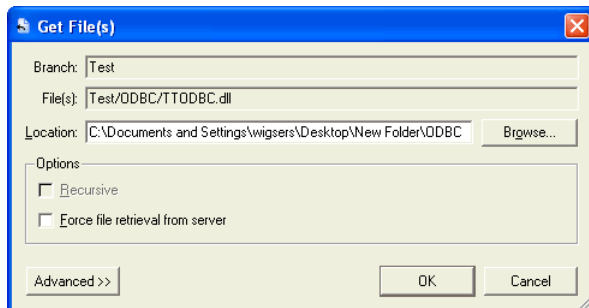
---

**Note:** Default values can be set for the Get File(s) dialog box. For more information, see [Setting file dialog default options, page 12](#).

---

- Select the files or repository and choose **Activities > Get**.

The Get File(s) dialog box opens.



- 2 **Location** defaults to the working directory for the repository. Click **Browse** to select a different directory.
- 3 Select **Recursive** to include all child repositories.

Files in the selected repository and any child repositories are copied into their working directory.

- 4 Select **Force file retrieval from server** to get the server copy of the file.
- 5 Click **OK** to get the file(s).

Surround SCM copies the files or repositories into the specified directory.

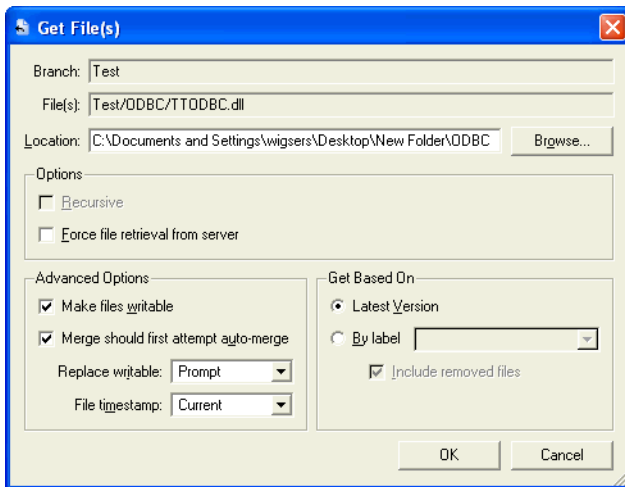
## Advanced get

Advanced get includes additional options.

- 1 Select the files or repository and choose **Activities > Get**.

The Get File(s) dialog box opens.

- 2 Click **Advanced** to expand the Get File(s) options.



- 3 Select **Make files writable** to leave the files in read-write mode.
- 4 Select a **Replace writable** option.

This option specifies what to do if a writable file is found.

- **Prompt** prompts you to replace the file, skip the get, or merge the server and local files.
- **Replace** automatically replaces the local file with the repository file.
- **Skip** skips the file.

5 Select a **File timestamp** option.

This is the timestamp used when files are retrieved from the server.

- **Current** uses the current (time of retrieval) date and time.
- **Modified** uses the last modified date and time.
- **Check in** uses the last checked in date and time.

6 Select a **Get Based On** option.

- **Latest version** gets the latest server version.
- **By label** gets files based on the selected label.

7 Click **OK** to get the file(s).

Surround SCM copies the files or repositories into the specified directory.

---

**Note:** If a writable file is found and you merge the files, the merge utility opens. The Get operation complete after the files are reviewed and merged.

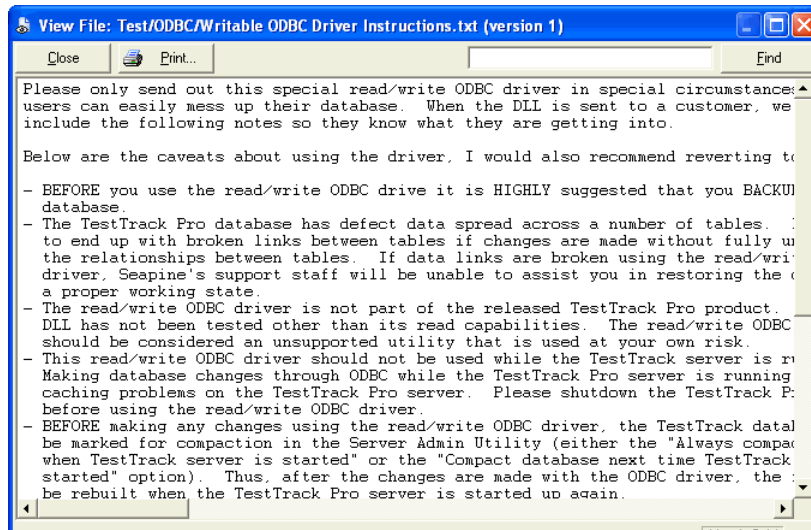
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## Viewing files

When you view a file the associated viewer or application is launched. See [Setting view and edit file options, page 11](#) for information.

1 Select the file. Choose **Activities > View File**.

A read-only copy of the file is opened in the selected viewer or application.

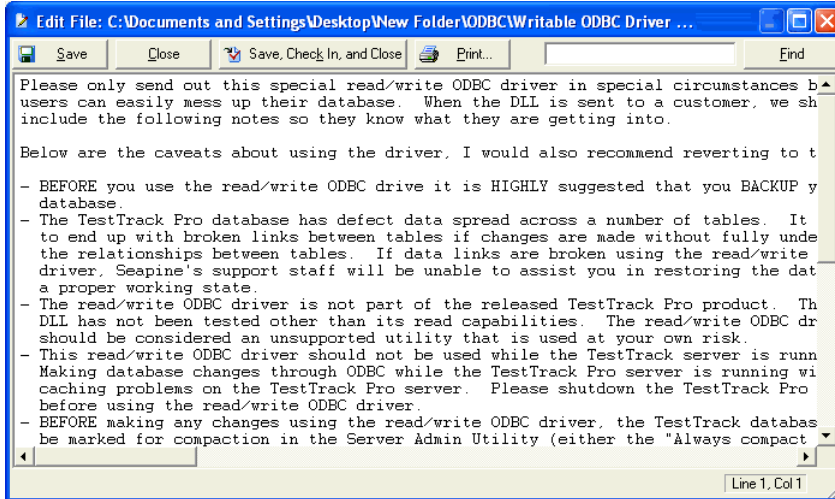


## Editing files

When you edit a file, Surround SCM checks out the file, launches the viewer or application, and opens a writable copy of the file. See [Setting view and edit file options](#), page 11 for information.

- 1 Select the file. Choose **Activities > Edit File**.

The file is opened in the selected editor or application.



- 2 Make any changes and save the file.

Remember to check in the file. When you edit a file, it is checked out to the working directory.

---

**Note:** If you use the internal text editor and integrate Surround SCM with TestTrack Pro you can **Save, Check In, and Close** the file. The text editor closes after the file is checked in.

---

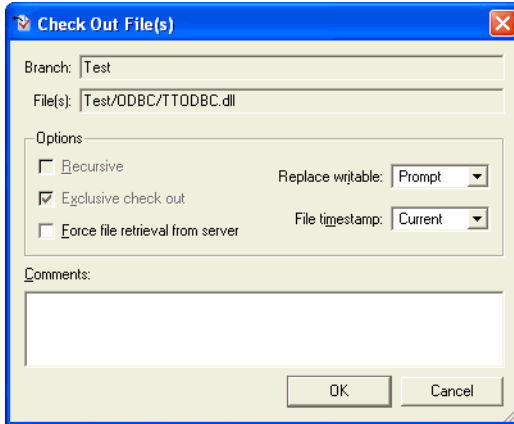
## Checking out files

**Note:** Default values can be set for the Check Out File(s) dialog box. For more information see [Setting file dialog default options, page 12](#).

Check out files when you need to make changes.

- 1 Select the files or repository and choose **Activities > Check Out**.

The Check Out File(s) dialog box opens.



- 2 Select **Recursive** to automatically check out files from the selected repository and all child repositories.
- 3 Select **Exclusive check out** to prevent other users from checking out the files or repository.

This option may be selected by default depending on the User Options you set.
- 4 Select **Force file retrieval from server** to check out the server copy of the files.
- 5 Select a **Replace writable** option. This option specifies what to do if a writable file is found.
  - **Prompt** prompts you to replace the file, skip the file, or merge the server and local files.
  - **Replace** automatically overwrites the local file.
  - **Skip** skips the file.
- 6 Select a **File timestamp** option. This is the timestamp used when files are retrieved from the server.
  - **Current** uses the current (time of check out) date and time.
  - **Modified** uses the last modified date and time.
  - **Check in** uses the last checked in date and time.



- 7 Enter optional comments such as the reason for checking out the file.
- 8 Click **OK**.

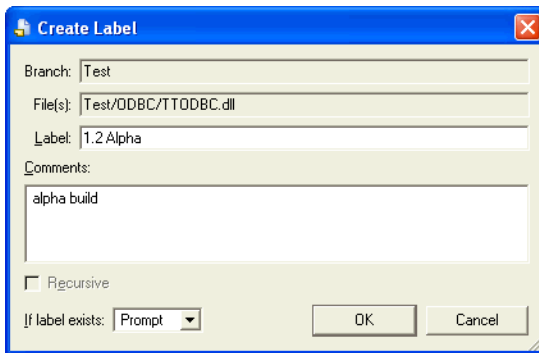
If a writable file is found and you chose to merge the files, the merge utility opens. The Check Out operation finishes after you review and merge the files.

## Creating file labels

Labels provide a way to mark a specific version of a file or repository. You can create labels for single files, multiple files, or all files in a repository. When you create a label, a new entry is created in the history. The file, and the version number, do not change.

- 1 Select the file. Choose **Activities > Create Label**.

The Create Label dialog box opens.



- 2 Enter the **Label**.
- 3 Enter optional comments about the reason for creating the label.
- 4 Select **Recursive** to apply the label to the selected repository and all child repositories.
- 5 Select an **If label exists** option.
  - **Prompt** prompts you to replace the label, leave the label, or cancel the labeling command.
  - **Replace** deletes the label and replaces it with the new label.
  - **Leave** leaves the label as is.
- 6 Click **OK** to create the label.

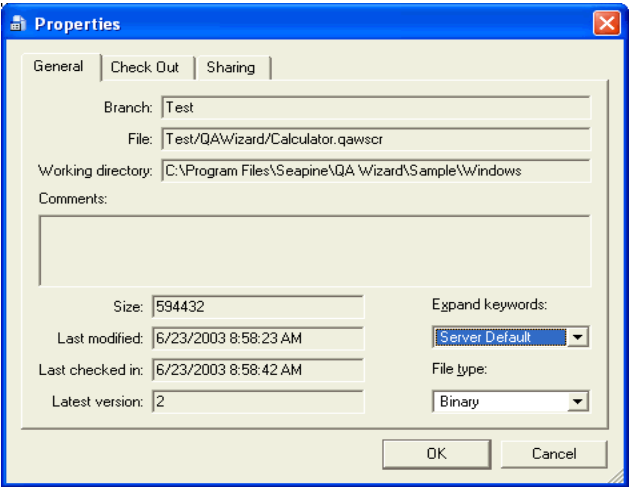
# Viewing file properties

File properties include general and check out information about the selected file.

- 1 Select a file and choose **Activities > Properties**.

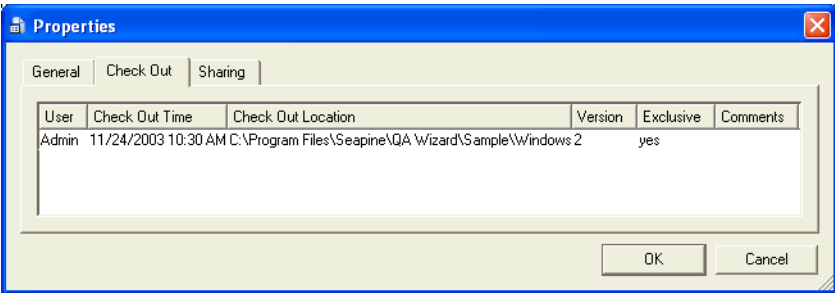
The Properties dialog box opens with the **General** tab selected. This tab includes read-only information about the file. You may also have access to the following options depending on your security permissions.

- Select an **Expand keywords** option.
- Select a **File type**. File types include Text, Binary, Mac Binary, UTF-8 Text, and UTF-16.



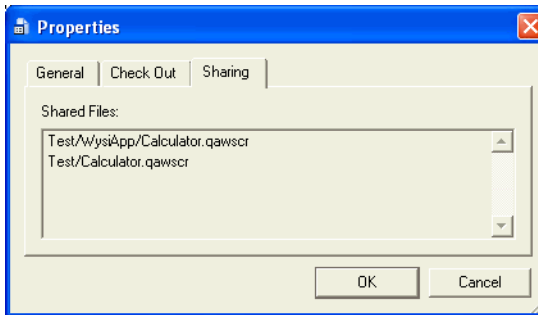
- 2 Click the **Check Out** tab.

This tab includes read-only check out information about the file.



- 3 Click the **Sharing** tab.

If the file is shared, a Sharing tab is added to the Properties dialog box. This tab includes read-only information about the shared file.



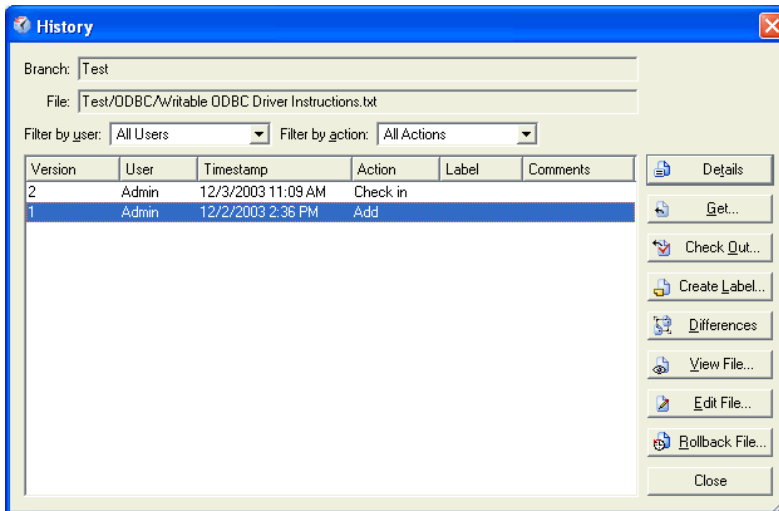
- 4 Click **OK** to close the Properties dialog box.

## Viewing file history

The history provides a convenient way to view a source file's history and work with a historic version of the file. You can view file details, get or check out a file, create a label, select two version of a file to see differences, and view or edit the file. You can also filter the history to display specific files.

- 1 Select a file and choose **Activities > History**.

The History dialog box opens. This dialog box includes a summary of historic version information.



- 2 Optionally select a **Filter by user**.
- 3 Optionally select a **Filter by action**.

- 4 Select a file and click **Details** to view the file version details.

The read-only History Details dialog box opens. Click **Close** to return to the History.

- 5 Click **Get** to get the selected version of the file. For more information see [Getting files](#), page 76.
- 6 Click **Check Out** to check out the selected file version. For more information see [Checking out files](#), page 80.
- 7 Click **Create Label** to label the selected file version. For more information see [Creating file labels](#), page 81.
- 8 Click **Differences** to compare two versions of the file. For more information see [Diffing files](#), page 90.
- 9 Click **View File** to view the selected file version. For more information see [Viewing files](#), page 78.
- 10 Click **Edit File** to edit the selected file version. For more information see [Editing files](#), page 79.
- 11 Click **Rollback File** to revert to a previous file version. For more information see [Rolling back files](#), page 97.
- 12 Click **Close** to close the file history.

## Checking in files

Check in updates files with changes, removes the lock on the files, makes changes available to other users, and increments the version number by one.

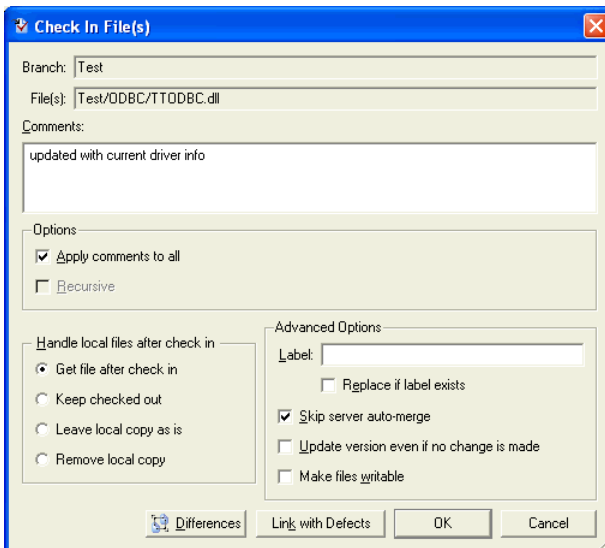
---

**Note:** Default values can be set for the Check In File(s) dialog box. For more information see [Setting file dialog default options](#), page 12.

---

- 1 Select the files or repository and choose **Activities > Check In**.

The Check in File(s) dialog box opens.



- 2 Enter optional comments such as changes made to the files.  
**Apply comments to all** uses the comment field data for each file being checked in.
- 3 Select **Recursive** to check in files from the selected repository and all child repositories.
- 4 Select a **Handle local files after check in** option.
  - **Get file after check in** creates a read-only copy of the file in the working directory.
  - **Keep checked out** checks in changes but keeps the file checked out.
  - **Leave local copy as is** checks in the file but does not get the latest version of the file.
  - **Remove local copy** checks in the file and deletes it from the working directory.



---

Following are a few reasons you might want to get files after check in. 1. If keyword expansion is turned on, files are retrieved with the keywords expanded. Get files to make sure keywords are expanded in the working directory files. 2. Changes may be auto-merged. Get files to make sure files include all changes. 3. Files may be checked in from a non-working directory. Get files to make sure the latest copy is in your working directory.

---

- 5 Select any **Advanced Options**.
  - Enter an optional **label**. For more information see [Creating file labels, page 81](#).
  - Select **Skip server auto-merge** to check in a file without merging changes. The checked in file becomes the new version even if someone else made changes and checked in the file after you checked it out.
  - Select **Update version even if no change is made** to check in a file even if changes were not made. The version number increments by one.
  - Select **Make files writable** to leave a read-write copy of the file in the working directory.
- 6 Click **Differences** to view differences between the check in file and the file in the working directory.  
For more information see [Diffing files, page 90](#).
- 7 Click **Link with Defects** to attach SCM files to one or more TestTrack Pro defects.  
For more information see [Linking with defects, page 124](#).
- 8 Click **OK**.

---

**Note:** Surround SCM automatically merges changes when files are checked in. If there are conflicts, the merge utility opens so you can view, accept, or reject changes, and merge the changes into a new file. For more information see [Merging files, page 92](#).

---

## Undoing check out

If a file is checked out and you need to revert changes, you can undo the check out.

- 1 Select the files or repository and choose **Activities > Undo Check Out**.

The Undo Check Out File(s) dialog box opens.



- 2 Select a **File overwrite** option to specify what happens if a writable file is found.

Depending on the option you choose any changes you made to the files are lost when you undo the checkout. This action cannot be undone.

- **Get original version** replaces the local file with the original server version
- **Get latest version** replaces the local file with the latest server version
- **Leave local file** leaves the local file as is

- 3 Select **Recursive** to automatically undo the checkout for the selected repository and all child repositories.
- 4 Click **OK**.

The file is no longer checked out.

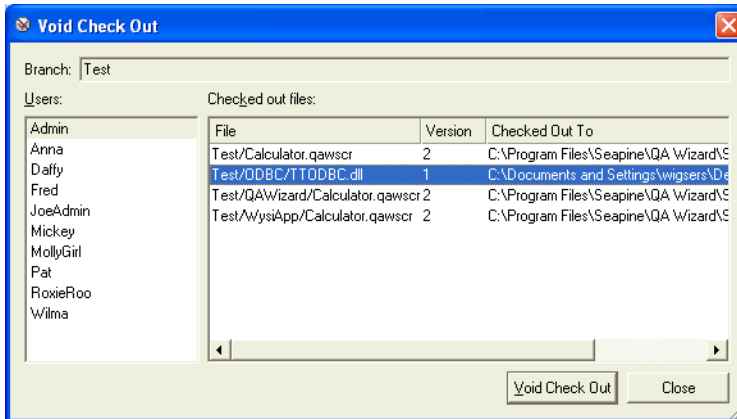
## Voiding check out

**Note:** You may not have access to this administrator command.

You can void a user's check out operation. This breaks the locks on the selected files, giving other users access to the files. Any changes the user made to the files are not saved.

- 1 Choose **Tools > Administration > Void Check Out**.

The Void Check Out File(s) dialog box opens.



- 2 Select a user from the **Users** list.

The **Checked out files** list is populated with files the user has checked out.

- 3 Select the files and click **Void Check Out**.

You are prompted to confirm that you want to void the checked out files. Remember, this action cannot be undone.

- 4 Click **Yes**.





## Chapter 8

# Managing Files

Surround SCM manages all of your source files and tracks who, when, and what changed for each revision. This section includes more advanced file commands that administrators, or other users with a high-level of security rights, can access and use to manage source files.

**Renaming files, 90**

**Diffing files, 90**

**Merging files, 92**

**Promoting files, 93**

**Rebasing files, 95**

**Rolling back files, 97**

**Sharing files, 98**

**Unsharing files, 99**

**Removing files, 100**

**Restoring files, 100**

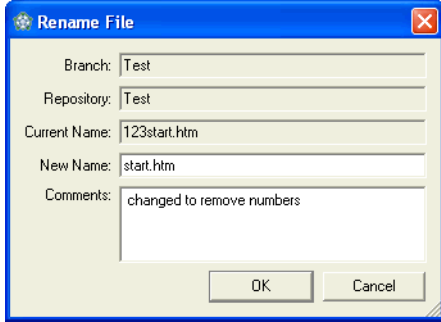
**Destroying files, 101**



## Renaming files

- 1 Select a file.
- 2 Choose **Activities > Rename File**.

The Rename File dialog box opens.



- 3 Enter a new name and any comments.
- 4 Click **OK**.

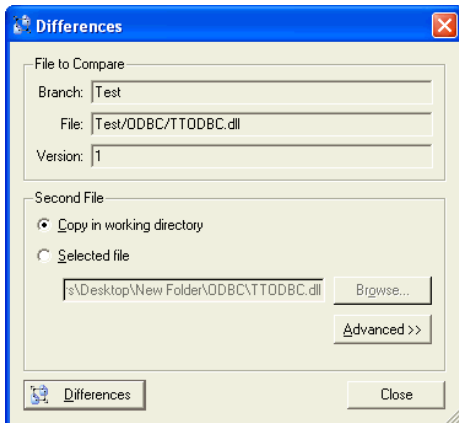
The file is renamed.

## Diffing files

You can diff files to compare, accept, or reject differences between two files.

- 1 Select the file.
- 2 Choose **Activities > Differences**.

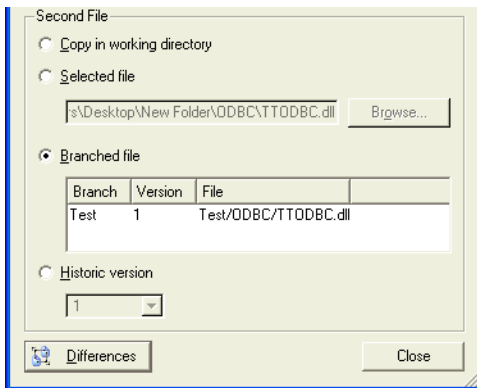
The Differences dialog box opens. Read-only information is displayed in the **File to Compare** area.



- 3 Select a **Second File** option.
  - **Copy in working directory** compares the server file with the file in your working directory.
  - **Selected file** compares the server file with a file you select. Click **Browse** to choose a file.
- 4 Click **Advanced** to select a branched file or historic file version.

The second file area expands with the following options:

- **Branched file** compares the file with a branched version. Choose a file from the list.
- **Historic version** compares the current version with a specific historic version of the file. Choose the version from the menu.



- 5 Click **Differences**.

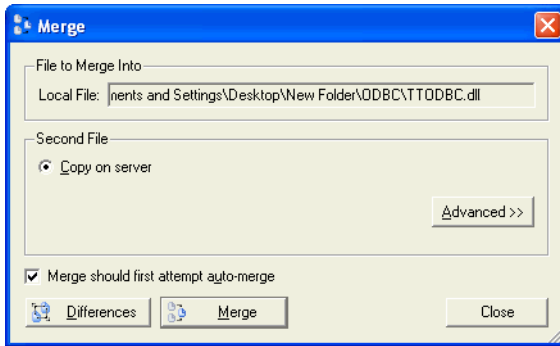
The differences utility launches. For additional information about the utility refer to the application's documentation.

## Merging files

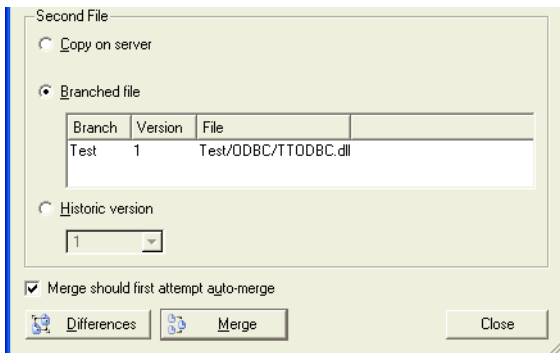
You can merge files to compare, accept, or reject differences between files and combine the changes into a new file. Surround SCM automatically merges changes when files are checked in. If there are conflicts, you are prompted to merge the files. You can merge the file in your working directory with the server file, a branched file, or a historic version of the file.

- 1 Select the file.
- 2 Choose **Activities > Merge**.

The Merge dialog box opens. Read-only information about the selected file is displayed in the **File to Merge Info** area of the dialog box.



- 3 Select a **Second File** option.
  - **Copy on server** merges changes with the latest version on the Surround SCM server.
- 4 Click **Advanced** to select a branched file or historic version of the file. The second file area expands with the following options:
  - **Branched file** compares the file with a branched version. Choose a file from the list.
  - **Historic version** compares the current version with a specific historic version of the file. Choose the version from the menu.



## 5 Click **Merge**.

The merge utility opens. For additional information about the utility refer to the application's documentation.



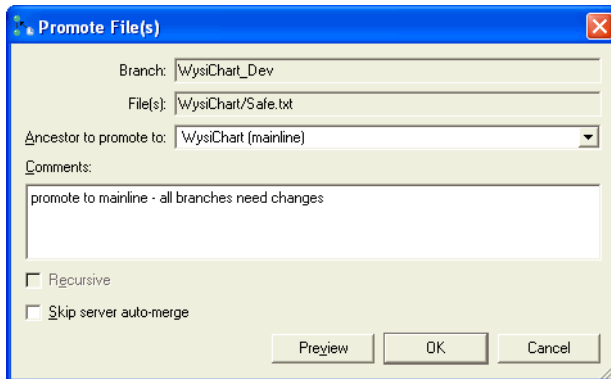
You can also manually merge files. For example, Sue is close to the end of a development cycle and is testing software changes in her workspace branch. She keeps coming across the same bug during testing. Pat mentions he fixed the bug and it is in the latest version of the file. Sue decides to merge Pat's changes into the file in her working directory. This lets her fix the bug without losing any of her work.

## Promoting files

Files can be promoted without affecting other items in the branch. When you finish making changes, promote changes back to the parent branch. For detailed information see [Promoting branches, page 58](#).

- 1 Select the files you want to promote.
- 2 Choose **Branch > Promote File**.

The Promote File(s) dialog box opens.



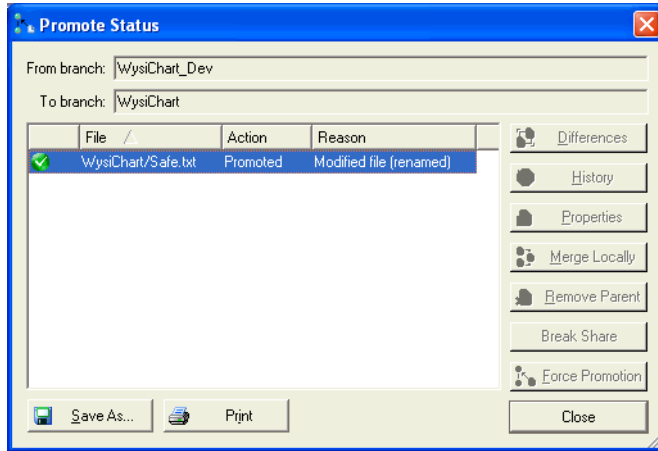
- 3 The **Branch** and **File(s)** fields are read-only.
- 4 Select an **Ancestor to promote to** from the menu.  
You can promote changes to any ancestor branch.
- 5 Enter optional comments about the reason for promoting the branch.
- 6 Select **Skip server auto-merge** to forcibly promote changes and overwrite any changes in the parent branch.

- 7 Click **Preview** to view more information about the files being promoted.

For more information see [Promote preview](#), page 61.

- 8 Click **OK** to promote changes.

The Promote Status dialog box opens.



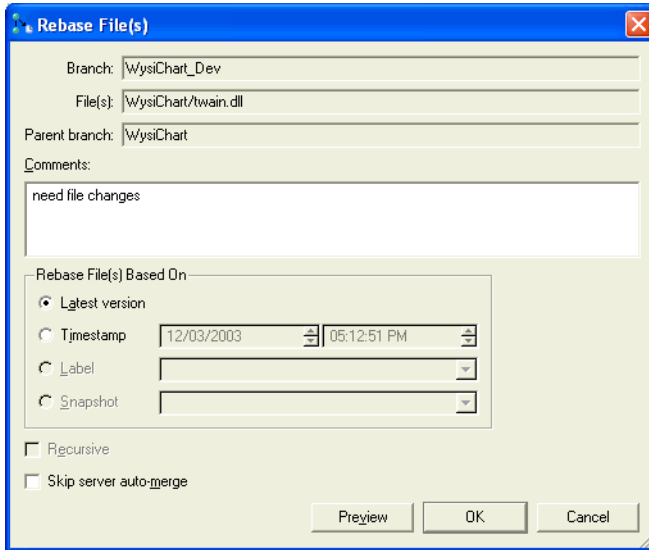
- 9 You can view the files that were promoted, files that were not promoted, and files with conflicts. You can also access commands to help resolve conflicts and successfully promote files.
- Select a file and click **Differences** to compare file versions. For more information see [Diffing files](#), page 90.
  - Select a file and click **History** to view file history. For more information see [Viewing file history](#), page 83.
  - Select a file and click **Properties** to view file properties. For more information see [Viewing file properties](#), page 82.
  - Select a file and click **Merge Locally** to manually merge files. For more information see [Merging files](#), page 92.
  - Select a file and click **Remove Parent** to remove the file from the parent branch.
  - Select a file and click **Force Promotion** to promote the file and overwrite any changes in the parent branch. You are prompted to confirm the promotion. Click **Yes**.
- 10 Click **Close** to close the Promote Status dialog box.

## Rebasing files

You can rebase files to make sure you have the most recent copy of the files, including changes made by other users. For detailed information about rebasing, see [Rebasing branches, page 62](#).

- 1 Select the files you want to rebase.
- 2 Choose **Branch > Rebase Files**.

The Rebase File(s) dialog box opens.

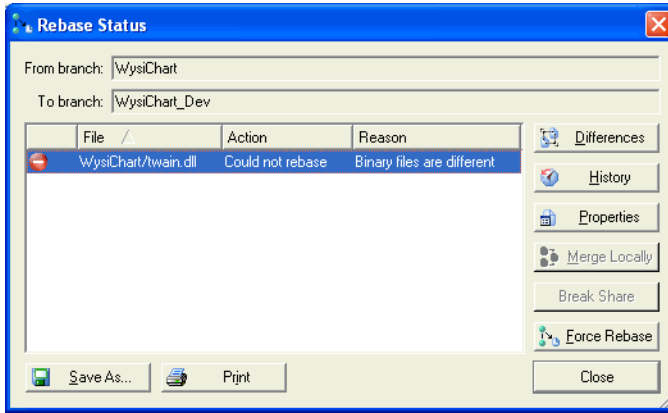


- 3 The **Branch**, **File(s)**, and **Parent Branch** fields are read-only.
- 4 Enter optional comments about the reason for rebasing the branch.
- 5 Select a **Rebase File(s) Based On** option.
  - **Latest Revision** rebases the latest revision of each file.
  - **Timestamp** rebases changes from a specific timestamp. This field must contain a valid timestamp before the rebase operation can start.
  - **Label** rebases changes from a specific label. This field must contain a valid label before the rebase operation can start.
  - **Snapshot** rebases changes from a snapshot branch. Choose the snapshot branch from the menu.
- 6 Select **Skip server auto-merge** to forcibly rebase all changes and overwrite any changes in the child branch.
- 7 Click **Preview** to view more information about the files being rebased.

For more information see [Rebase preview, page 64](#).

- 8 Click **OK** to rebase changes.

The Rebase Status dialog box opens.



- 9 You can view files that were rebased, files that were not rebased, and files with conflicts. You can access commands to resolve file conflicts and successfully rebase files.
  - Select a file and click **Differences** to compare file versions. For more information see [Diffing files](#), page 90.
  - Select a file and click **History** to view file history. For more information see [Viewing file history](#), page 83.
  - Select a file and click **Properties** to view file properties. For more information see [Viewing file properties](#), page 82.
  - Select a file and click **Merge Locally** to manually merge files. For more information see [Merging files](#), page 92.
  - Select a file and click **Force Rebase** to rebase the file and overwrite any changes in the child branch. You are prompted to confirm the rebase. Click **Yes**.
- 10 Click **Close** to close the Rebase Status dialog box.



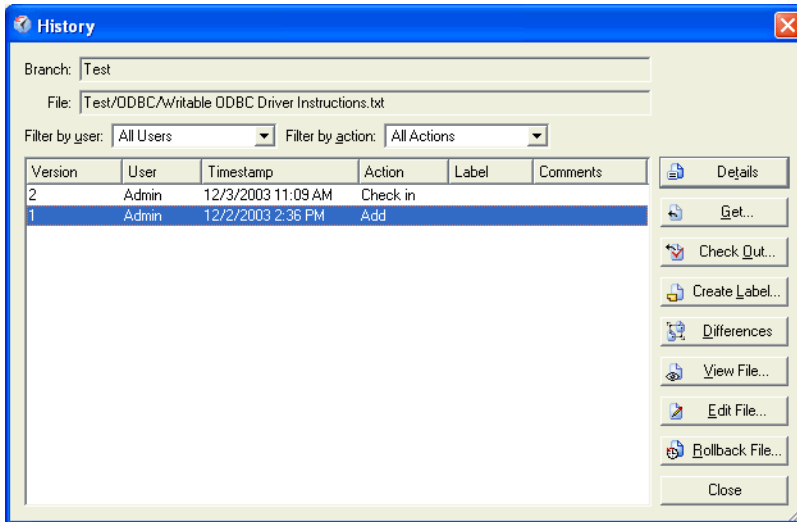
## Rolling back files

Rollback files to revert to a previous file version without affecting file history and version numbers. Changes made to the file are discarded. The version number increments even though the contents are the same as a previous file version.

For example, the current version is 5 and you rollback to version 3. After the rollback, the new tip version is 6. Version 3 and version 6 have the same contents. When you rollback a shared file all the shared files are affected. If you only want to change the file in the specified repository break the share then rollback the file.

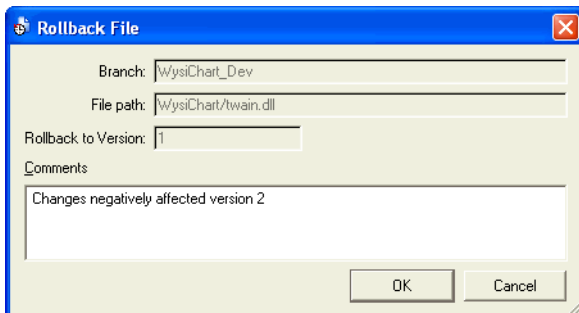
- 1 Select the file.
- 2 Choose **Activities > History**.

The History dialog box opens.



- 3 Select the file version you want to rollback to and click **Rollback File**.

The Rollback File dialog box opens.



- 4 Enter any comments and click **OK**.

The file is rolled back to the selected version.

---

**Note:** Notice the version number increments by one and a check in action is added to the file history.

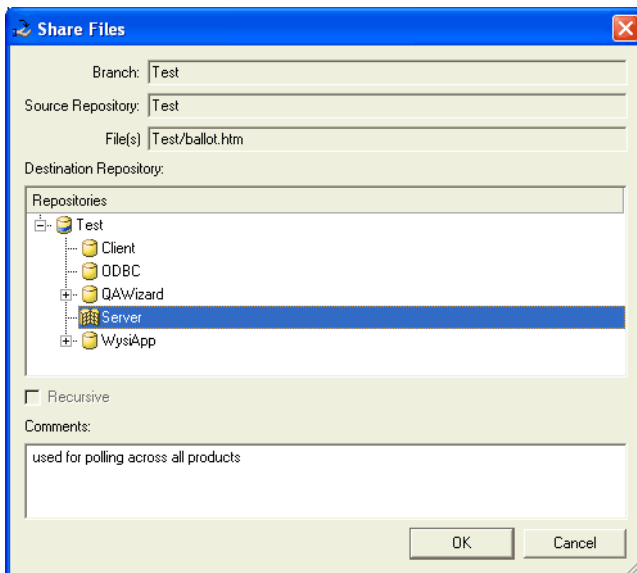
---

## Sharing files

Sharing files creates a link in one repository to a file in another repository within the same branch. This lets you maintain common code while eliminating the need to work with multiple copies of the same source file. Operations on the shared file are applied to the base (linked to) file. When a file is shared, a shared history and filename are maintained. Only the file location is different. If a file or repository is shared in a branch, any subsequent branches maintain the defined shared files.

- 1 Select the file or repository you want to share.
- 2 Choose **Activities > Share Files**.

The Share Files dialog box opens.



- 3 Select the repository you want to share the files with.  
Click the plus sign to expand the repositories tree.
- 4 Select **Recursive** to recursively share all files in a repository.
- 5 Enter any comments.

6 Click **OK**.

The files are now shared. Notice the file is listed in each repository.



For example, WysiCorp has 2 products. Repositories are created for each product in the same mainline branch. When software is released, all files in the product repositories, including all subrepositories, are zipped and shipped. WysiCorp uses the same order form (*orderform.txt*) for all products.

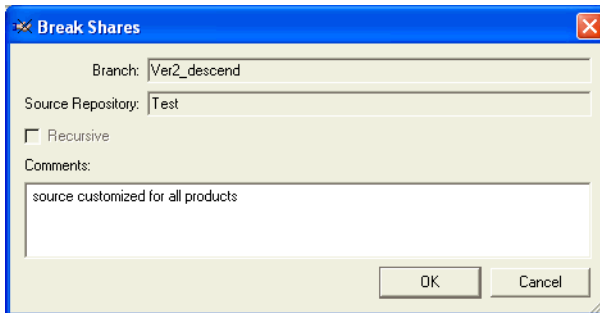
A repository named Shared is created in the same mainline branch as the product repositories. The *orderform.txt* file is added to the Shared repository. The order form file is then shared with both product repositories. The *orderform.txt* file is the same in all three repositories. Checking out *orderform.txt* from any of the repositories marks it as checked out in all repositories. When the changed file is checked in, all files are updated.

## Unsharing files

You can break a shared link if you want to maintain files independently. When files are unshared, all archive information is copied to the shared directory. The link is broken after the files are copied. If a base file is shared more than once, the shared status only changes for the selected files or repository.

- 1 Select the file or repository you want to unshare.
- 2 Choose **Activities > Break Shares**.

The Break Shares dialog box opens.



- 3 Select **Recursive** to recursively break all shared files in a repository.
- 4 Enter any comments.
- 5 Click **OK**.

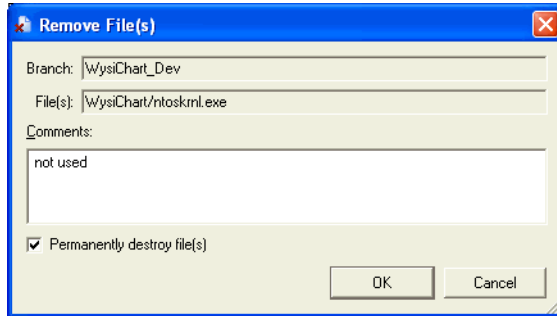
The files are no longer shared.

## Removing files

Depending on your security permissions, you can remove a file. When a file is removed, its contents are not deleted from the hard drive and can be restored.

- 1 Select the files. Choose **Activities > Remove File**.

The Remove File(s) dialog box opens.



- 2 Enter optional comments such as the reason for removing the files.
- 3 Select **Permanently destroy file(s)** to delete the selected files from the hard drive.
- 4 Click **OK**.

You are prompted to confirm the file removal.

- 5 Click **Yes**.

The file is removed from the repository; it is not deleted from the Surround SCM server.

## Restoring files

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**Note:** You may not have access to this administrator command.

---

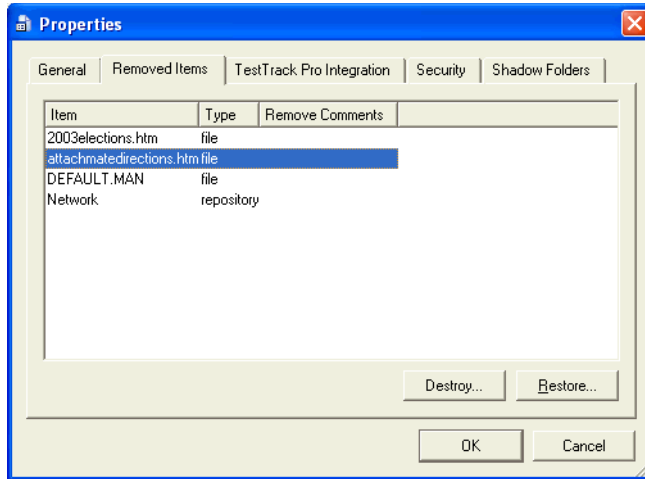
- 1 Select the repository that contains the file you want to restore.
- 2 Choose **Activities > Properties**.

The Properties dialog box opens.

- 3 Click the **Removed Items** tab.

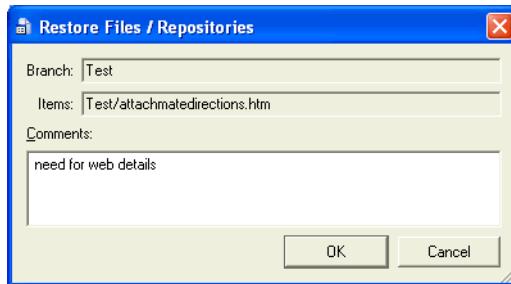
This tab includes a list of all removed files and repositories.

- 4 Select the files you want to restore. To select multiple files, **Ctrl+click** each file.



- 5 Click **Restore**.

The Restore Files/Repositories dialog box opens.



- 6 Enter optional comments such as the reason for restoring the files.
- 7 Click **OK**.

The files are restored.

## Destroying files

Destroyed files are permanently deleted from the hard drive and cannot be restored.

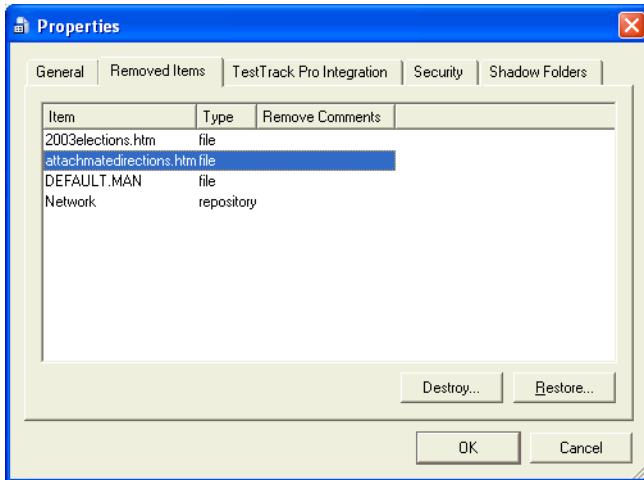
- 1 Select the repository that contains the files you want to destroy.
- 2 Choose **Activities > Properties**.

The Properties dialog box opens.

- Click the **Removed Items** tab.

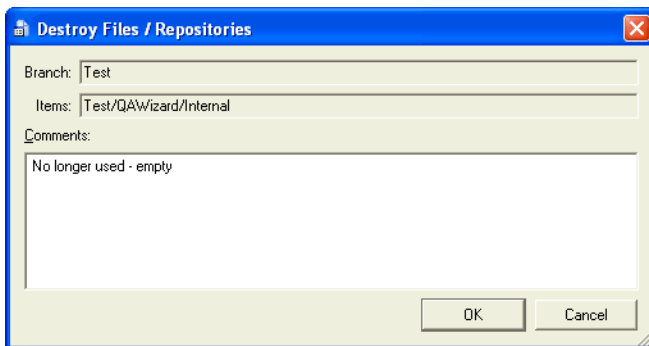
This tab includes a list of all removed files and repositories.

- Select the files you want to destroy.



- Click **Destroy**.

The Destroy Files/Repositories dialog box opens.



- Enter any comments such as the reason for destroying the file.

- Click **OK**.

You are prompted to confirm the deletion.

- Click **Yes**.

The file is permanently destroyed.

# Chapter 9

## Running Reports

You will be running reports in no time! Surround SCM makes reporting simple – point, click, print, and read.

**About reports, 104**

**Generating history reports, 104**

**Generating trend reports, 106**

**Generating labeled files reports, 107**



## About reports

Reports are used to analyze file information and actions. Surround SCM includes the following reports:

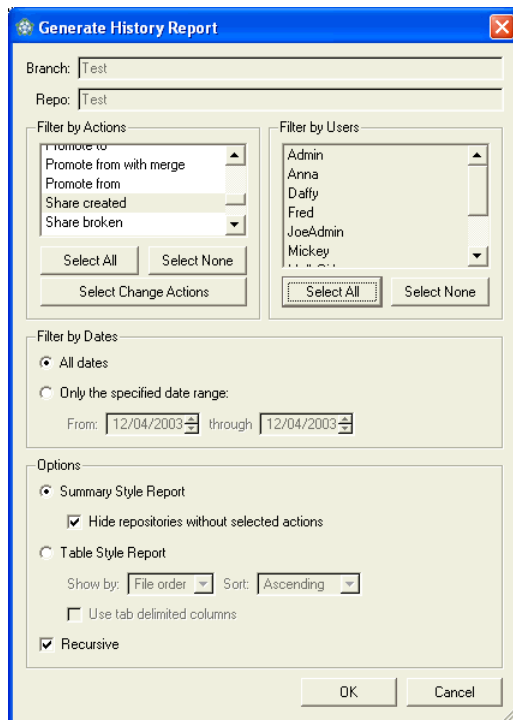
- **History reports** include information about files, actions, and users who performed the actions.
- **Trend reports** include actions over time.
- **Labeled File reports** include a list of files and their labels.

## Generating history reports

History reports include historical information about repositories and files. You can generate a report based on specific actions, users, and dates.

- 1 Select the branch or repository you want to generate the report for.
- 2 Choose **Tools > Reports > History**.

The Generate History Report dialog box opens.



- 3 Select the **Actions** you want to include.

Click **Select Change Actions** to automatically the following actions: Add, Check In, Rebase with merge, Remove, Promote to, and Promote from with merge.



- 4 Select the **Users** you want to include.
- 5 Select a **Filter by Dates** option.

To generate a report based on a date range select the date range option then enter the start date in the **From** field and the end date in the **Through** field.

- 6 Select **Summary Style Report** to generate a summary report.

Select **Hide repositories without selected actions** to ignore repositories if files do not meet the report criteria.

- 7 Select **Table Style Report** to generate results in a table format.

- Select a **Show by** and **Sort** option.

- 8 Select **Use tab delimited columns** to generate a report with tab delimited columns.

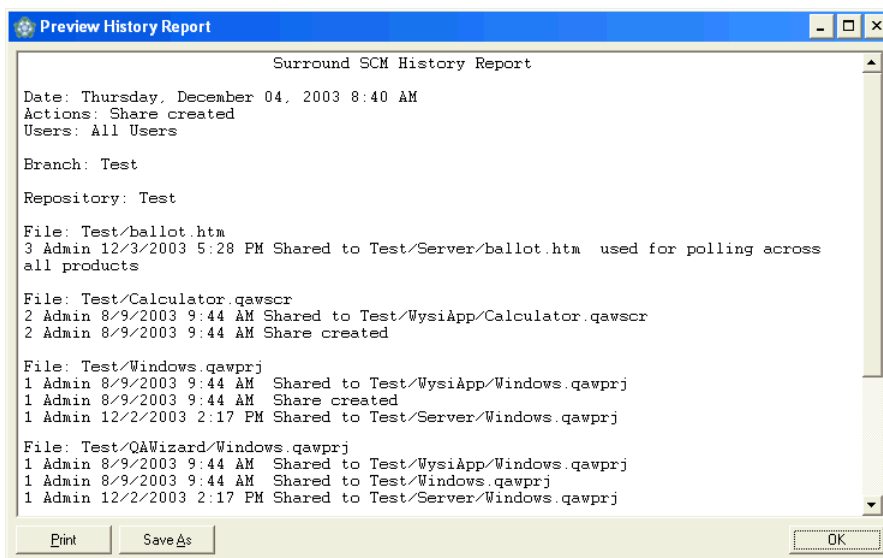
Select this option if you are going to save the report as a text file and use it with other programs. Many programs can easily import tab delimited text files.

- 9 Select **Recursive** to include all subrepositories.

- 10 Click **OK**.

The report is generated.

- Click **Print** to print the report.
- Click **Save As** to save the report as a text file.



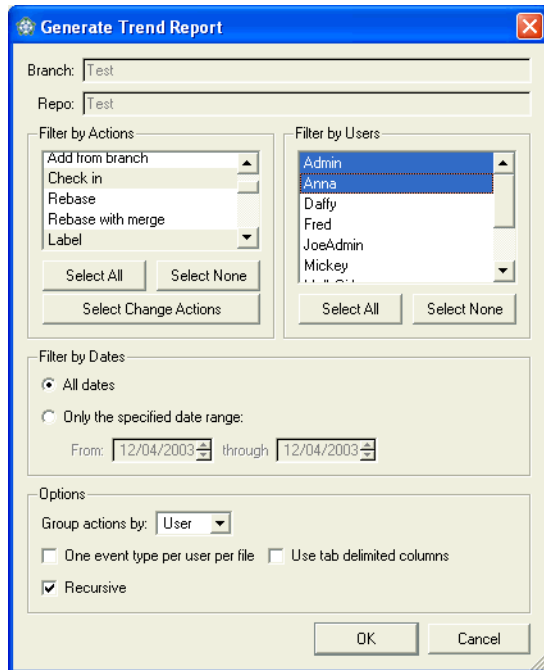
- 11 Click **OK** to close the report.

## Generating trend reports

Trend reports include a count of selected actions, which can be grouped by user, day, week, or month.

- 1 Select the branch or repository you want to generate the report for.
- 2 Choose **Tools > Reports > Trend**.

The Generate Trend Report dialog box opens.



- 3 Select the **Actions** you want to include.

Click **Select Change Actions** to automatically select all change actions. Change actions include Add, Check In, Rebase with merge, Remove, Promote to, and Promote to with merge.

- 4 Select the **Users** you want to include.
- 5 Select a **Filter by Dates** option.

To generate a report based on a date range select the date range option then enter the start date in the **From** field and the end date in the **Through** field.

- 6 Select **Group actions by** User, Day, Month, or Week.

Select **one event type per file** to include one event type per file. This option changes based on the group by selection.

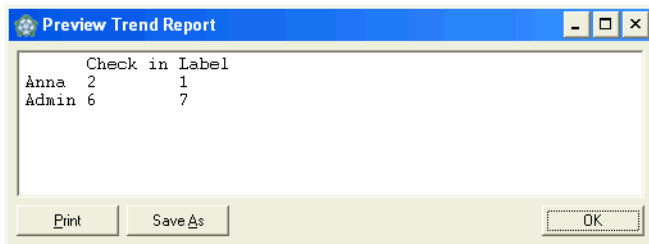
- 7 Select **Use tab delimited columns** to generate a report with tab delimited columns.

Select this option if you are going to save the report as a text file and use it with other programs. Many programs can easily import tab delimited text files.

- 8 Select **Recursive** to include all subrepositories.
- 9 Click **OK**.

The report is generated.

- Click **Print** to print the report.
- Click **Save As** to save the report as a text file.



- 10 Click **OK** to close the report.

## Generating labeled files reports

Trend reports include a count of selected actions, which can be grouped by user, day, week, or month.

- 1 Select the branch or repository you want to generate the report for.
- 2 Choose **Tools > Reports > Labeled Files**.

The Generate Labeled Files dialog box opens.

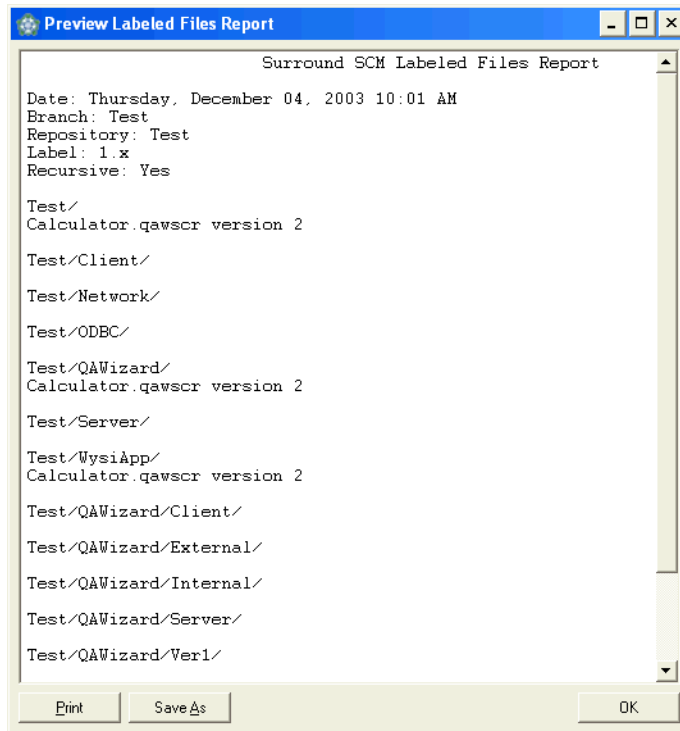


- 3 Select the **Label** you want to include.
- 4 Select **Recursive** to include all subrepositories.
- 5 Select **Hide repositories that do not contain files** to ignore empty repositories.

**6** Click **OK**.

The report is generated.

- Click **Print** to print the report.
- Click **Save As** to save the report as a text file.

**7** Click **OK** to close the report.

# Chapter 10

## Managing Triggers

Triggers enhance and expand Surround by letting you run a script or send an email before, or after, a specific event. Triggers can be used for notifications, validation, custom text entry, logging, and synchronization.

**About triggers, 110**

**Environment variables, 110**

**Adding triggers, 112**

**Editing email templates, 114**

**Editing triggers, 116**

**Duplicating triggers, 116**

**Disabling triggers, 116**

**Enabling triggers, 117**

**Deleting triggers, 117**



## About triggers

Surround SCM includes pre- and post-event triggers that are stored on the Surround SCM server. Triggers can only be fired from events on files. Each trigger is run once per file that it is associated with. Pre-event triggers run after a client requests that a command be performed, but before the event is complete. These trigger types let a server script perform additional checks on a file before the event completes. Pre-event triggers are for validation and custom text entry, such as keyword expansion. For example, you can create scripts for custom keyword expansion or to verify that text, such as a copyright notice, is included in certain files before check in.

Post-event triggers run after a command is successfully completed on the server. These triggers can either run a script or send email. Post-event triggers are for logging and synchronization. For example you can create scripts for custom logging of SCM file activity or to synchronize two separate Surround SCM servers.

Email triggers use a standard email template, which can be customized, to inform selected users when an event occurs to a file or a set of files. Each email template is stored with the trigger on the server.

Triggers can attach to the following file events: (all), (file version updated), (new file), Add, Add from branch, Attach to defect, Check in, Promote from, Rebase, Remove, Rename file, Restore, Share broken, Share created.



Post-event triggers should always be used unless the trigger is used for validation purposes. Pre-event triggers, which are run once per file, can adversely affect performance because the Surround SCM server waits for the script to complete before moving to the next file. Even a one second pre-event script will significantly slow down the server because it will take one additional second per file that the trigger fires on. Post-event triggers may impact performance because each file affected by the action must be checked for existing triggers.

## Environment variables

Environment variables give scripts access to most of the event information. Any variable that does not apply to the event that fired the trigger will be empty. These variables can also be used with email templates by placing the variable name between percent (%) symbols, e.g., %SSCM\_USER%. Variables marked with an asterisk (\*) can only be used with the email template file list field code and scripts.

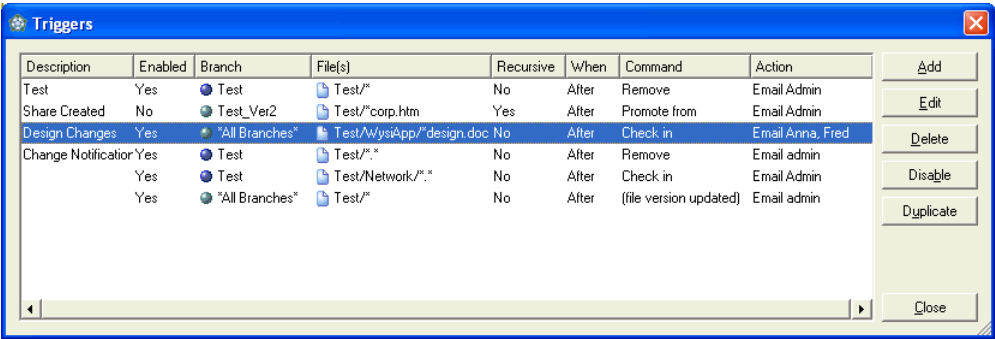
Variable	Definition
SSCM_TRIGGERDESC	Trigger description
SSCM_EVENT	Event that fired the trigger
SSCM_BEFOREAFTER	Indicates the trigger fired before or after the event
SSCM_DATE	Date the trigger fired

Variable	Definition
SSCM_TIME	Time the trigger fired
SSCM_USER	User that caused the event to occur
SSCM_CLIENTIP	User's IP address
SSCM_CLIENTMACHINE	User's machine name
SSCM_MAINLINE	Mainline branch the specified file is in
SSCM_BRANCH	Branch the specified file is in
SSCM_BRANCHTYPE	Type of branch the specified file is in
SSCM_REPOSITORY *	Full repository path for the specified file
SSCM_FILE *	File name
SSCM_FILEVERSION *	Post-event file version
SSCM_LOCALFILE *	Full path of the local file, used with Check In or Add events only
SSCM_COMMENT *	File event comments
SSCM_SOURCEBRANCH	Source branch used for an add/promote/rebase event
SSCM_DEFECTNUMBER *	Defect number the file is attached to
SSCM_SHAREREPOSITORY	Source repository the share was created from
SSCM_OLDFILENAME	File's original name, used with rename event
SSCM_PERMREMOVE	File was permanently removed (yes/no)
SSCM_NUMFILES	Number of files user is being notified about, used with email triggers
SSCM_FILELIST	List of files for the event, used with email triggers

## Adding triggers

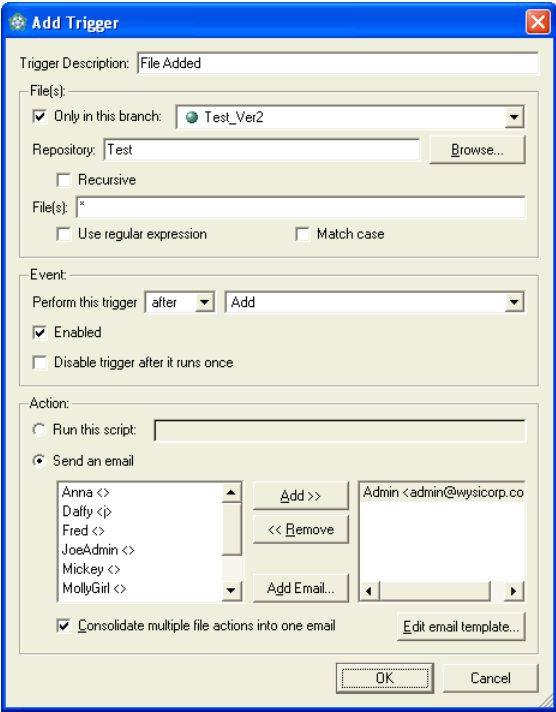
- 1
- Choose **Tools > Administration > Triggers**.

The Triggers window opens.



- 2
- Click **Add**.

The Add Trigger dialog opens.



- 3
- Enter a description.



- 4 Select the file options. These options specify which files fire the trigger.
  - Select **Only in this branch:** then choose a branch from the list to limit searches.
  - Enter a repository name or click **Browse** to select a repository.
  - Select **Recursive** to search all subrepositories in the specified repository.
  - Enter the **File(s)** you want the trigger to fire for. You can enter a file name or wildcard characters.
  - Select **Use regular expression** to perform a regex-style search instead of a wildcard search.
  - Select **Match case** to enable case-sensitive searching.
- 5 Select the **Event** options. These options specify when the trigger fires.
  - Select **before** to add a pre-event trigger or **after** to add a post-event trigger.
  - Select a file event from the list.
  - To add a disabled trigger, clear **Enabled**.
  - Select **Disable trigger after it runs once** if you only want the trigger to run one time. For example, you may want to send an email once after a particular user checks in a file.
- 6 Select the **Action** options. These options specify what happens when the trigger fires.
  - Select **Run this script:** and enter the full server script path. For security reasons, you cannot browse for a script.
  - Select **Send an email** if you are adding an email trigger. Select users from the list of Surround SCM users. To add non-Surround users, click **Add Email** and enter an email address.
  - Select **Consolidate multiple file actions into one email** to send one email for all files affected by the event. If this option is not selected, an email is sent for each file.
  - Click **Edit email template** to modify the standard email. For more information see [Editing email templates, page 114](#).

---

**Note:** Security is not checked when email is sent. If users request to receive email when any file is checked in to a mainline branch, they will receive an email if a file is checked in to a repository that they are normally restricted from viewing. If your security restrictions are set this way, it is recommended that the Surround SCM administrator manage all email triggers and that general users do not have access to the My Email Notifications command.

---

- 7 Click **OK**.

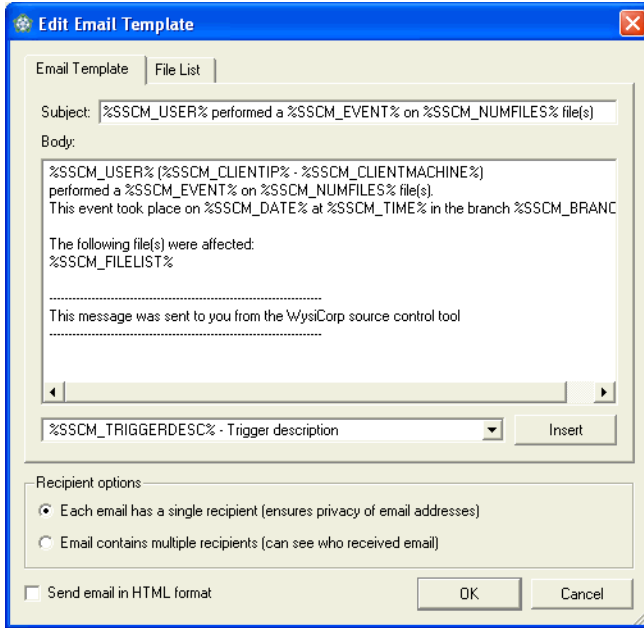
The trigger is added.

## Editing email templates

Each trigger you create begins with a basic email template that can be customized. Email templates are stored with triggers on the server.

- 1 Click **Edit Email Template** on the Add Trigger or Edit Trigger dialog box.

The Edit Email Template dialog box opens with the **Edit Email** tab selected.



- 2 You can use the default subject or customize it.

The default subject line returns the following: UserName performed the following event on the specified number of files. To customize the subject enter text and event variables. For example, if you are adding a trigger to notify project leads when files are shared, you can change the subject line to: %SSCM\_USER% performed a %SSCM\_EVENT% into %SSCM\_REPOSITORY%.

- 3 You can use the default body or customize it.

To customize the body text enter text and event variables. You can type the variables or select a variable from the menu and click **Insert**.

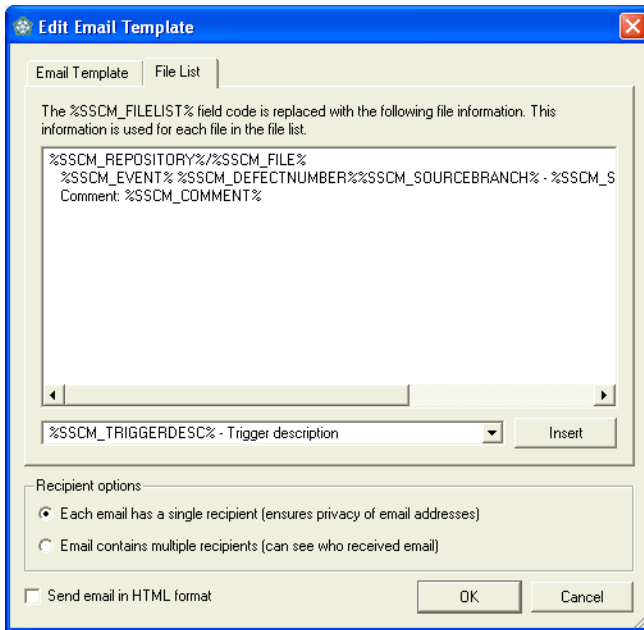
- 4 Select an email recipient option.

If security is an issue, select **Each email has a single recipient** to ensure privacy.

- 5 Select **Send email in HTML format** to send HTML-formatted email.

6 Click the **File List** tab.

You can provide detailed file information in email notifications. The information on this tab replaces the %SSCM\_FILELIST% field code, on the Email Template tab, when the notifications is sent.



7 You can use the default file list information or customize it.

You can type the variables or select a variable from the menu and click **Insert**.

8 Click **OK**.

The template is saved with the selected trigger.



When you customize a template any spaces and lines that you add are saved with the template. Text is automatically wrapped to the next line as you type. When an email message notification is sent all field codes are automatically replaced with the corresponding Surround SCM data.

## Editing triggers

- 1 Choose **Tools > Administration > Triggers**.

The Triggers window opens.

- 2 Select a trigger and click **Edit**.

The Edit Trigger dialog opens.

- 3 Make any changes.

You can edit all trigger information, including the email template.

- 4 Click **OK**.

Your changes are saved.

## Duplicating triggers

If you need to create a trigger that is similar to an existing one you can duplicate the existing one then edit the new trigger.

- 1 Choose **Tools > Administration > Triggers**.

The Triggers window opens.

- 2 Select a trigger and click **Duplicate**.

The trigger is duplicated. It is added below the selected trigger.

- 3 Select the new trigger and click **Edit**.

- 4 Make any changes and click **OK**.

Your changes are saved.

## Disabling triggers

When a trigger is created it is enabled. If you do not want a trigger to fire you can disable it temporarily instead of deleting it. Disabled triggers do not fire event if the event occurs.

- 1 Choose **Tools > Administration > Triggers**.

The Triggers window opens.

- 2 Select a trigger and click **Disable**.

The trigger is disabled.

## Enabling triggers

- 1 Choose **Tools > Administration > Triggers**.

The Triggers window opens.

- 2 Select a trigger and click **Enable**.

The trigger is enabled.

## Deleting triggers

Delete triggers if they will not be used again. This action cannot be undone.

- 1 Choose **Tools > Administration > Triggers**.

The Triggers window opens.

- 2 Select a trigger and click **Delete**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.

The trigger is deleted.



# Chapter 11

## Integrating with TestTrack Pro

Integrate Surround SCM with TestTrack Pro to provide a complete change management solution! Surround SCM's two-way, seamless integration with TestTrack Pro provides complete change management by tracking what changed and why. This integration lets you link changes with defects, feature requests, and change requests. Files can be accessed from Surround SCM or TestTrack Pro.

**Enabling TestTrack integration, 120**

**Setting TestTrack integration options, 123**

**Configuring TestTrack database connections, 121**

**Entering TestTrack user information, 122**

**Linking with defects, 124**



## Enabling TestTrack integration

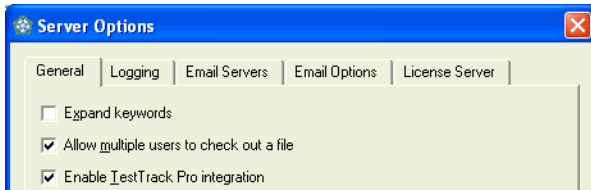
Integrating Surround SCM with TestTrack Pro lets users access source files and the following commands from TestTrack Pro: Attach file, Detach file, Get, Check in, Check out, Undo Check out, View, and History. For more information, refer to the TestTrack Pro user guide.

The following example illustrates the integration with TestTrack Pro. A defect is created in TestTrack Pro and assigned to Jane to fix. In Surround SCM, Jane checks out the source file and fixes the bug. When she checks in the file, she clicks **Link with Defects**. In the Link with Defects dialog box, she selects the TestTrack Pro database to view her assigned defects. She then selects the appropriate defect and attaches the file to it. TestTrack Pro users with security access to the Source Code tab can work with the file Jane attached.

- 1 Choose **Tools > Administration > Server Options**.

The Server Options dialog box opens.

- 2 Select **Enable TestTrack Pro integration** on the **General** tab.



- 3 Click **OK**.

The integration is enabled.



---

Next, the Surround SCM administrator should configure TestTrack Pro connections. For more information see [Configuring TestTrack database connections](#), page 121. Users can then enter their TestTrack Pro login information. For more information see [Entering TestTrack user information](#), page 122.

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## Configuring TestTrack database connections

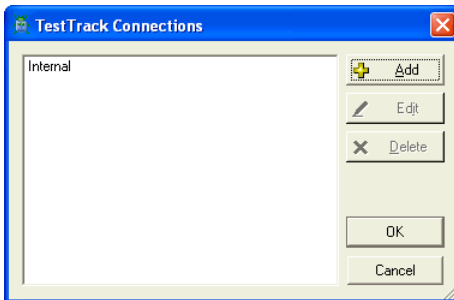
**Note:** The administrator or another high-level user is generally responsible for configuring database connections.

Configure the connection to provide users with access to TestTrack Pro servers and databases. You can limit users to a specific database or let users choose a database when checking in, and linking, source files with TestTrack Pro defects. For more information see [Setting TestTrack integration options, page 123](#).

### Adding database connections

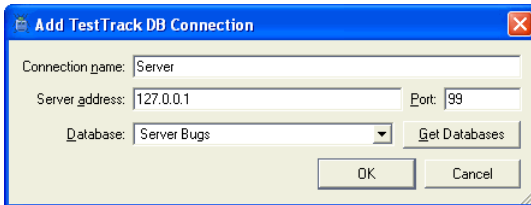
- 1 Choose **Tools > TestTrack Pro Integration > TestTrack DB Connections**.

The TestTrack Connections dialog box opens.



- 2 Click **Add**.

The Add TestTrack DB Connection dialog box opens.



- 3 Enter a **Connection name**.

This required field uniquely identifies the database. Enter a name that is meaningful to users to help users select the correct database. For example, name a connection Beta Bugs instead of BB1.

- 4 Enter the TestTrack Pro **Server address** and **Port** number.

These fields are required.

- 5 Click **Get Databases** to retrieve a list of all databases from the TestTrack Pro server.

- 6 Select a **Database**.
- 7 Click **OK**.

The database connection is added.

- 8 Click **OK** to close the TestTrack Connections dialog box.

## Editing database connections

- 1 Choose **Tools > TestTrack Pro Integration > TestTrack DB Connections**.
- 2 Select the configuration and click **Edit**.
- 3 Make any changes and click **OK**.
- 4 Click **OK** to close the TestTrack Connections dialog box.

## Deleting database connections

- 1 Choose **Tools > TestTrack Pro Integration > TestTrack DB Connections**.
- 2 Select the configuration and click **Delete**.
- 3 Click **Yes**.

The database connection is deleted.

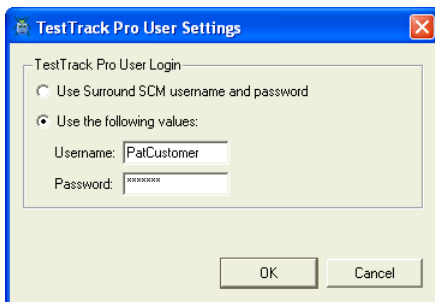
- 4 Click **OK** to close the TestTrack Connections dialog box.

## Entering TestTrack user information

You need to enter your TestTrack Pro login information before you can link with defects.

- 1 Choose **Tools > TestTrack Pro Integration > TestTrack User Settings**.

The TestTrack Pro User Settings dialog box opens.



- 2 Select **Use Surround SCM username and password** if you use the same login information for TestTrack Pro.

- 3 Select **Use the following:** and enter your TestTrack Pro username and password if you use different login information for TestTrack Pro.
- 4 Click **OK**.

You can now link Surround SCM source files with TestTrack Pro defects.

## Setting TestTrack integration options

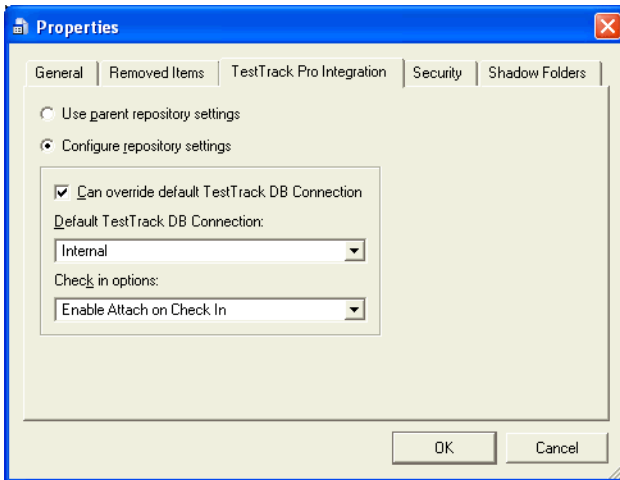
You can configure TestTrack Pro integration settings for repositories.

- 1 Select a repository and choose **Activities > Properties**.

The Properties dialog box opens.

- 2 Click the **TestTrack Pro Integration** tab.

This tab is used to configure TestTrack Pro integration settings for the selected repository.



- 3 Select **Configure repository settings** to set TestTrack Pro integration options for the selected repository.  
This option overrides the parent repository settings.
- 4 Select **Can override default TestTrack DB Connection** to let users choose a TestTrack Pro database.
- 5 Select a database from the **Default TestTrack DB Connection** menu to restrict users to a specific databases.  
Make sure **Can override default TestTrack DB Connection** is not selected.
- 6 Select an option from the **Check in options** menu.  
You can enable, disable, or require the user to attach a file to a defect when checking in the file.
- 7 Click **OK** to save changes.

# Linking with defects

When you check in files you can link the source files with TestTrack Pro defects. Files can be accessed from Surround SCM or TestTrack Pro. You can link multiple Surround SCM files with one defect or one Surround SCM file with multiple defects.

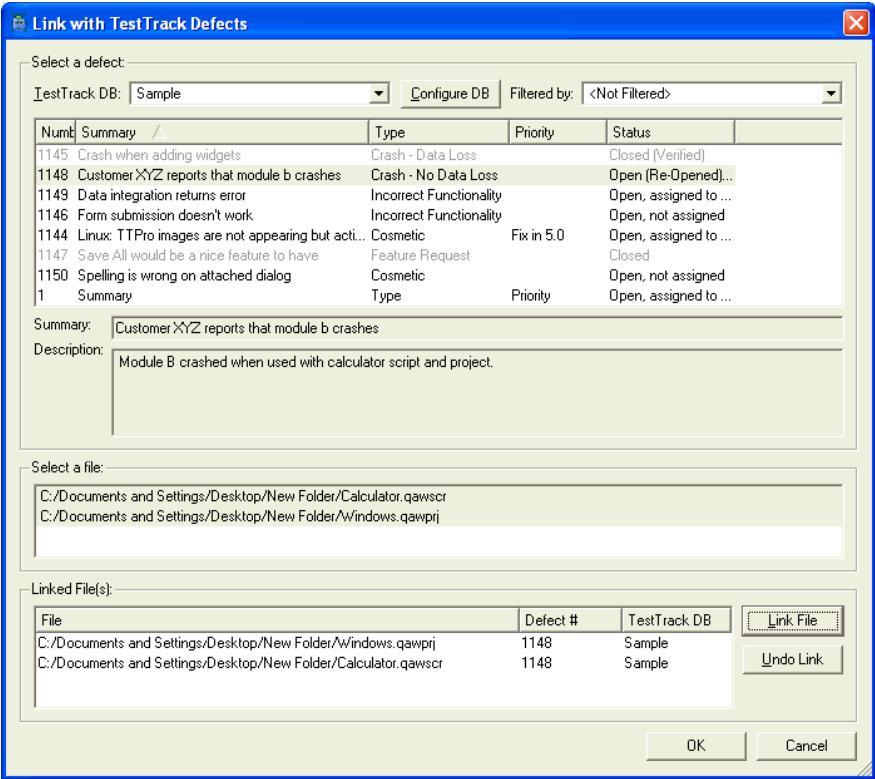
- 1 Select the files or repository.
- 2 Choose **Activities > Check In**.

The Check in File(s) dialog box opens.

**Note:** See **Checking in files**, page 84 for detailed information about check in options.

- 3 After selecting check in options click **Link with Defects**.

The Link with TestTrack Pro Defects dialog box opens.



**Note:** Click **Configure DB** if you need to configure database connections. For more information see **Configuring TestTrack database connections**, page 121.

- 4 Select a database from the **TestTrack DB** menu.
- 5 The TestTrack Pro defects list is populated with your assigned defects. Select a select filter to change which defects are displayed.
- 6 Select the defects you want to attach the files to.

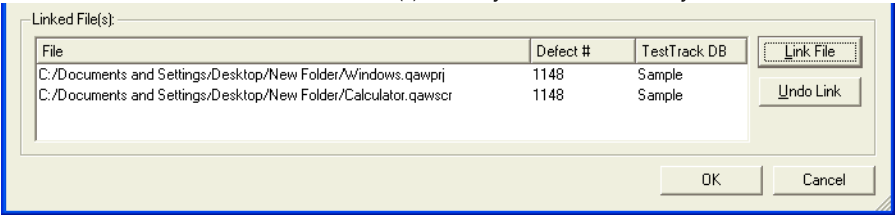
When you select a defect, read-only defect summary and description information is displayed. To select multiple defects **Ctrl+click** each defect.

- 7 Select the files you want to link with defects.

To select multiple files **Ctrl+click** each file.

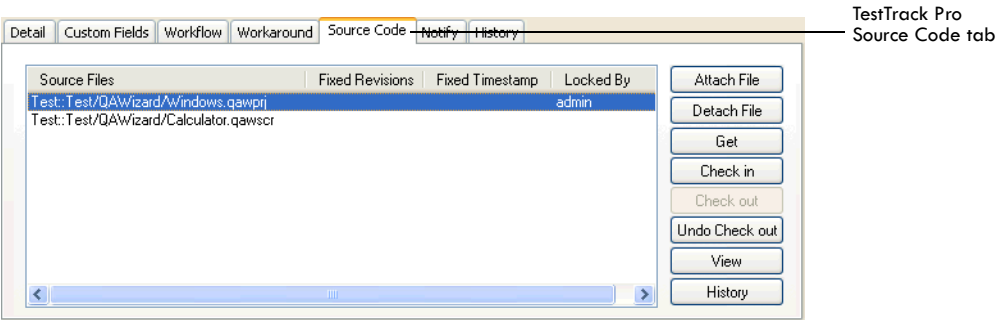
- 8 Click **Link File** to link the selected source files with the selected defects.

The files are added to the Linked File(s) list. If you attach a file by mistake select it and click **Undo Link**.



- 9 Click **OK** when you finish attaching files.

The Surround SCM files are linked with the TestTrack Pro defects. TestTrack Pro users can access the Surround SCM files via the TestTrack Pro Source Code tab.





# Chapter 12

## Integrating with IDEs

The SCCI interface lets you access Surround SCM commands from most Windows-based development environments. This integration accelerates development efforts because the most-used Surround SCM functions are available from within the tool you use.

**About IDE integration, 128**

**Adding files, 128**

**Working with files, 130**



## About IDE integration

Surround SCM conforms to the Microsoft Source Code Control Interface (SCCI) standard, allowing you to integrate Surround SCM with SCCI-compliant applications including TestTrack Pro, Microsoft Visual Studio and Visual Studio .NET, Macromedia Dreamweaver, and Borland JBuilder. Functionality is based on the tool you are integrating with Surround SCM. Most integrations include access to basic source control commands, such as Check In, Check Out, and Undo Check Out.

---

**Note:** During installation, you are prompted to select Surround SCM integration options. If you did not select an option and want to integrate Surround SCM with a SCCI-compliant application reinstall Surround SCM and select the appropriate integration option.

---

## Adding files



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Visual Studio .NET is used to illustrate the integration. These commands can also be accessed through other IDEs. Refer to the application's documentation for information specific to the IDE you are working with.

---

You can add all files in a workspace or a project to Surround SCM. You can also add single files to Surround SCM. This example illustrates adding all files in a repository.

- 1 Open the solution that contains the files you want to add to source control.
- 2 Select the **FileView** pane.

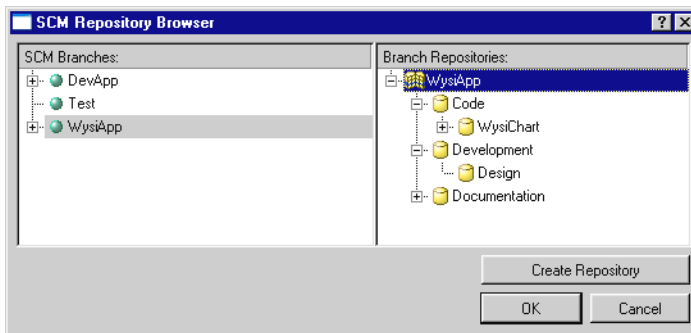
The FileView pane shows relationships among the projects and files included in the project workspace. This pane also includes icons that provide information about the files.

- 3 Choose **Project > Source Control > Add to Source Control**.

You may be prompted to configure your Surround SCM connection. Enter the server name, port number, your username and password, and click **OK**. See [Changing your password, page 8](#) for information.



- 4 The SCM Repository Browser opens.

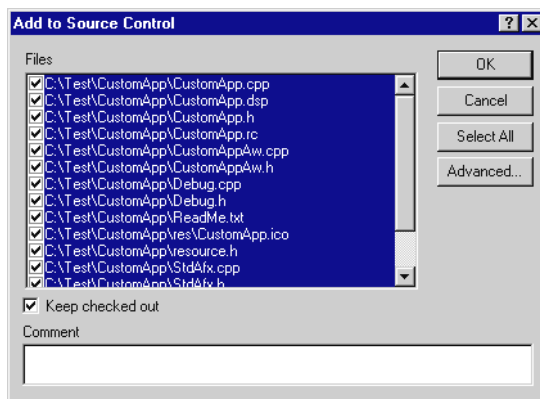


- 5 Select the **branch** that contains the repository you want to use. Next, select the **repository** that contains the files you want to add and click **OK**.

You can also create a new repository. Source control files are added to the new repository. For more information, see [Creating repositories](#), page 40.

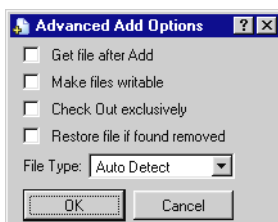
- 6 The Add to Source Control dialog box opens.

All files found in the repository are selected. Clear the check box if you do not want to add a file to source control.



- 7 Click **Advanced** to select advanced add options.

The Advanced Add Options dialog box opens.



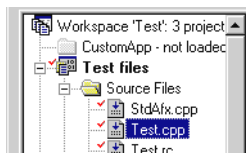
- 8 Select any options and click **OK**.

You return to the Add to Source Control dialog box.

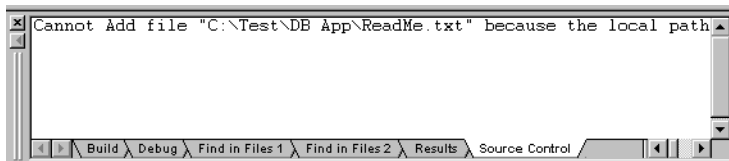
- 9 Click **OK** to add the files.

The selected files are added to Surround SCM.

- The icons in the FileView pane change. Grayed icons indicate a project or file is under source code control. A check mark next to the icon indicates you have the file checked out.



- Errors and status messages are displayed on the Output window Source Control tab.



## Working with files

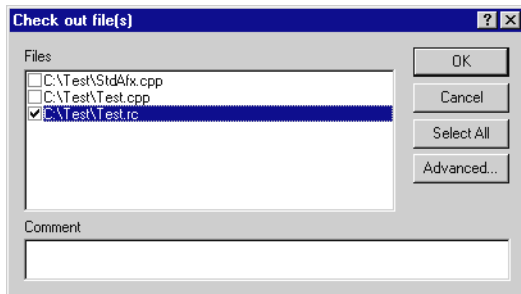
You can access the following Surround SCM commands from Visual C++: check out, check in, and undo check out. You can also view history or differences and view file properties.

### Check out

Check out files when you need to make changes. You can check out single files, multiple files, or all files in a project. Surround SCM creates a read-write copy of the file in the working directory. See [Checking out files, page 80](#) for more information.

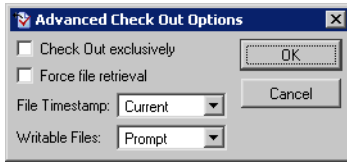
- 1 Select the files or project. Choose **Project > Source Control > Check Out**.

The Check out file(s) dialog box opens.



- 2 Click **Advanced** to select advanced check out options.

The Advanced Check Out Options dialog box opens.



- 3 Select any options and click **OK**.

You return to the Check out file(s) dialog box.

- 4 Click **OK**.

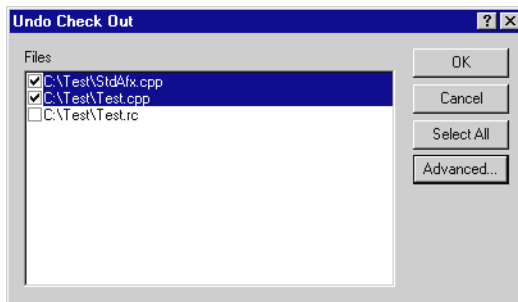
The files are checked out and ready for editing.

## Undo check out

If you have a file checked out and need to revert changes, you can undo the check out command. See [Undoing check out, page 86](#) for more information.

- 1 Select the files or project. Choose **Project > Source Control > Undo Check Out**.

The Undo Check Out dialog box opens.



- 2 Click **Advanced** to select advanced undo check out options.

The Advanced Undo Check Out Options dialog box opens.



- 3 Select a file overwrite option and click **OK**.

You return to the Undo Check Out dialog box.

- 4 Click **OK**.

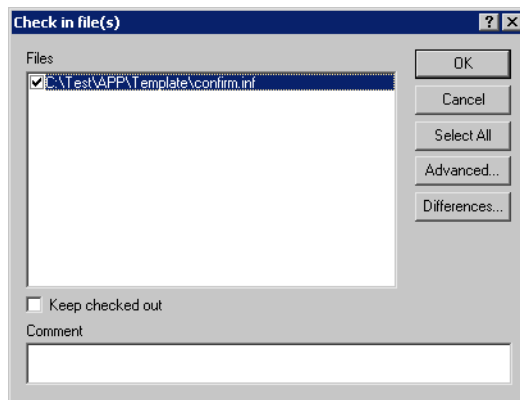
Make sure you selected the appropriate file overwrite option. Depending on the option you choose, any changes you made to the file are lost when you undo the checkout. This action cannot be undone.

## Check in

Check in files after you finish making changes. Check in updates Surround SCM with changes, removes the lock on the files, and makes the changes available to other users. The version number is also incremented by one. See [Checking in files, page 84](#) for more information.

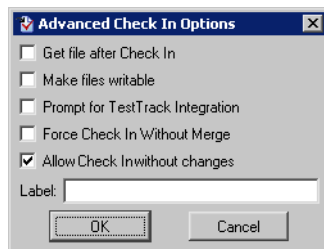
- 1 Select the files or project. Choose **Project > Source Control > Check In**.

The Check in file(s) dialog box opens.



- 2 Click **Advanced** to select advanced check in options.

The Advanced Check In Options dialog box opens.



- 3 Select any options and click **OK**.

You return to the Check in file(s) dialog box.

- 4 Click **OK**.

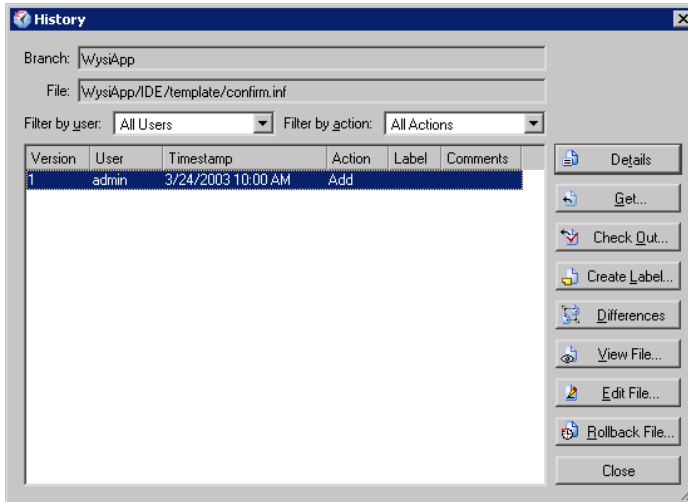
Surround SCM automatically merges changes when files are checked in. This ensures that changes are not accidentally lost or overwritten.

## Show history

The history dialog box provides a convenient way to view a source file's history and work with a historic version of the file. You can view file details, get or check out a file, create a label, select two version of a file to see differences, and view or edit the file. You can also filter the history to display specific files. See [Viewing file history, page 83](#) for more information.

- 1 Select the file. Choose **Project > Source Control > Show History**.

The History dialog box opens. This dialog box includes a summary of historic version information.



- 2 Optionally select a user from the **Filter by user** menu.
- 3 Optionally select an action from the **Filter by action** menu.
- 4 Select an entry and click **Details** to view the file version details.
- 5 Click **Get** to get the selected version of the file.
- 6 Click **Check Out** to check out the selected version of the file.
- 7 Click **Create Label** to label the selected version of the file.
- 8 Click **Differences** to compare two selected versions of the file.
- 9 Click **View File** to view the selected version of the file.
- 10 Click **Edit File** to edit the selected version of the file.
- 11 Click **Rollback File** to revert to a previous file version.
- 12 Click **Close** to close the file history.

## Show differences

Provides a visual display of the differences in a file. See [Diffing files, page 90](#) for more information.

- 1 Select the file. Choose **Project > Source Control > Show Differences**.

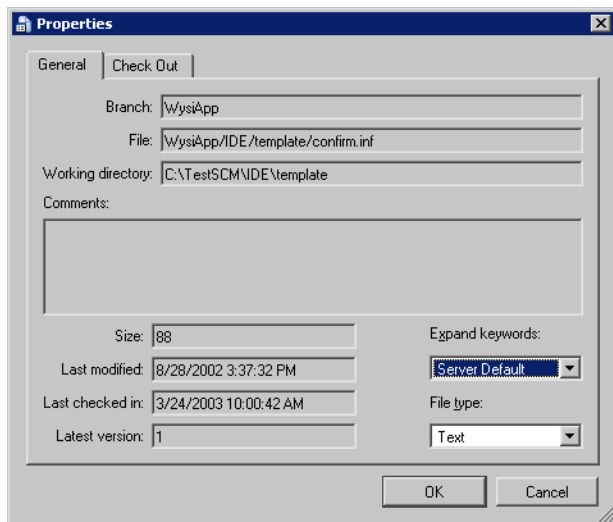
If there are differences, the diff utility opens.

## File properties

You can view general and check out information about the selected file.

- 1 Select the file. Choose **Project > Source Control > Surround SCM Properties**.

The Properties dialog box opens with the General tab selected. This tab includes read-only information about the file. The Check Out tab includes read-only file check out information.



## Refresh status

Refreshes the status of all files included in the project. Use this command if you change the status of one or more opened files using external tools.

## Surround SCM

Launches the Surround SCM application.

# Chapter 13

## Managing the Server

Configure it once and forget about it! Surround SCM's cross-platform design centralizes mail, logging, and other server settings.

**Setting general options, 136**

**Setting log options, 138**

**Setting email server options, 139**

**Setting email options, 140**

**Setting license server options, 141**

**Managing the mail queue, 142**

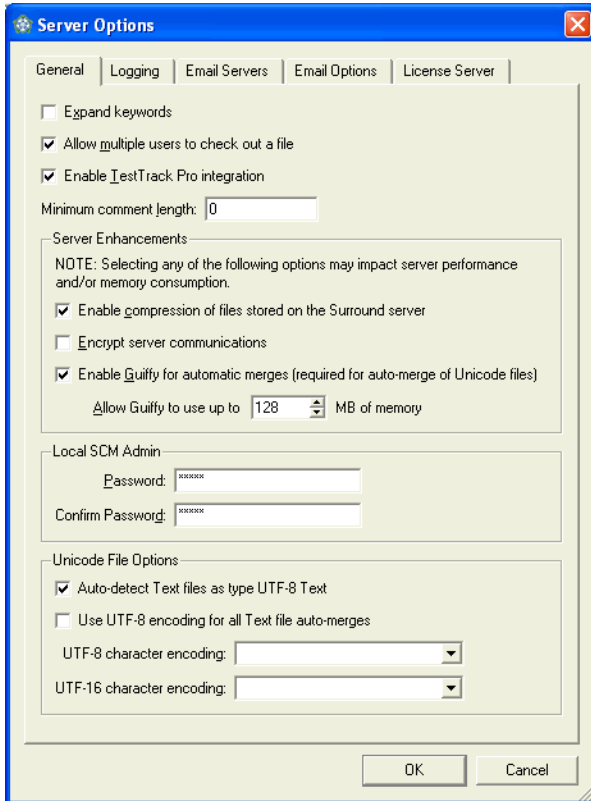
**Managing the server log, 143**



## Setting general options

- 1 Choose **Tools > Administration > Server Options**.

The Server Options dialog box opens with the **General** tab selected.



- 2 Select **Expand keywords** to enable keyword expansion.

Keywords are case sensitive placeholders that can be inserted into text files and expanded upon check in. Keywords cannot be expanded for binary files. The following keywords are supported:

**\$Author\$** - Name of the user who checked in the last revision

**\$Date\$** - Date and time of the last revision

**\$Header\$** - File, Revision, Date, Author

**\$File\$** - Unqualified name of the file

**\$Revision\$** - Revision number

**\$Log\$** - File history in RCS-style format



- 3 Select **Allow multiple users to check out a file** to enable multiple check outs of the same file.
- 4 Select **Enable TestTrack Pro integration** to integrate Surround SCM and TestTrack Pro.
- 5 To require a **minimum comment length** enter the minimum number of characters.

This option applies to all commands with comment fields, such as check in or rebase.

- 6 Select **Enable compression of files stored on the Surround server** to compress server files.

Enable compression to make sure files use as little disk space as possible. Compression may slow performance due to the time needed to compress and decompress files.

- 7 Select **Encrypt server communications** to encrypt messages sent between the client and the server.

Encryption provides a higher level of security but may slow performance due to the time spent to encrypt and decrypt messages.

- 8 Select **Enable Guiffy for automatic merges** to use the Guiffy diff/merge utility for automatic merges.

The diff3 merge application, which is used by default, is faster than Guiffy on the server and uses less memory. However diff3 and Guiffy use different algorithms for determining conflicts. You may want to use the same merge application on both the client and the server.

- 9 Enter the number of **MB of memory** you want Guiffy to use.

The recommended setting is 128 MB. This setting should not exceed 50% of the server computer's physical memory. Depending on the amount of available RAM you may want to set this lower. If you set the amount of memory too high other applications can be negatively affected.

- 10 Enter and confirm a new password to change the **local SCM admin password**.

When Surround SCM is installed, a local SCM admin user is created. If your existing username and password are not recognized, you can login using the local SCM admin password, leaving the username blank and entering **admin** as the password.

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**Note:** It is strongly recommended that you change the local SCM admin password.

---

- 11 Select any Unicode file options.

These options are used by Guiffy when auto-merging text files. Surround SCM includes limited Unicode support of file contents only. Unicode support does not include metadata (file names, comments, etc.). Surround SCM supports UTF-8 and UTF-16 encoding.

- Select **Auto-detect text files as type UTF-8 text** to add files as UTF-8 text files. If all files are Unicode, or Unicode standards are not followed, select this option. For example, if you are adding 500 files and only a few are text files, select this option. You can then go to file properties to mark the text files.
- Select **Use UTF-8 encoding for all text file auto-merges** to automatically use UTF-8 encoding for auto-merges. If this option is selected it does not matter if a file is marked as text or UTF-8. Guiffy will use UTF-8 encoding when auto-merging files.

- Select a **UTF-8 character encoding** set.
- Select a **UTF-16 character encoding** set.

---

**Note:** The larger international version of the Java Runtime Environment (JRE) contains character conversion classes and support for locales other than the US English locale. If you use this JRE you can type in the character encoding set you want to use. Refer to Guiffy Help for a list of all supported character sets.

---

- 12 Click **OK** to save the settings.

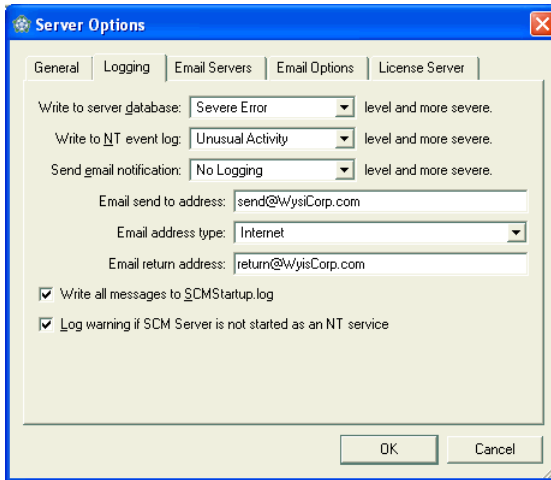
## Setting log options

You can set Surround SCM server log options, such as the level of messages. The log file includes information about problems that occur during start up and while Surround SCM server is running.

- 1 Choose **Tools > Administration > Server Options**.

The Server Options dialog box opens.

- 2 Click the **Logging** tab.



- 3 Select a **Write to server database** option.

This specifies the types of messages that are written to the Surround SCM server log file.

- 4 Select a **Write to NT event log** option.

This specifies the types of messages that are written to the server's NT log.

- 5 Select an **Email notification** logging option.

This specifies the types of server messages that generate email notifications. To generate email notifications, you must also enter an email send to address, select an email address type, and enter an email return address.

---

**Note:** Select **No Logging** if you do not want to generate email notifications.

---

- 6 Select **Write all message to SCMStartup.log** to write messages to this log file.

The log file is usually stored in the same directory as the Surround SCM server executable.

- 7 Click **OK** to save the settings.

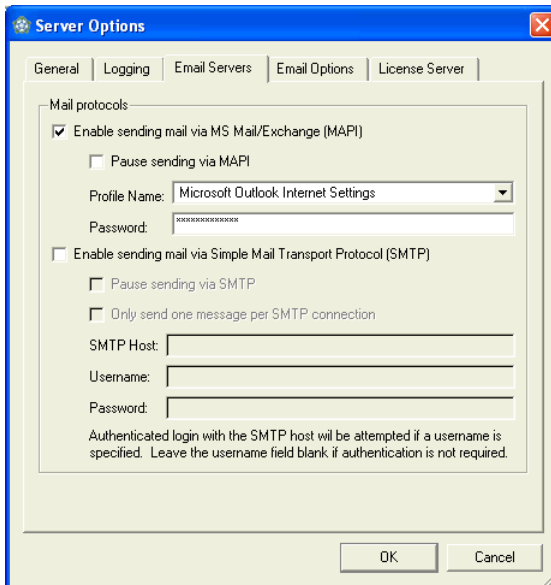
## Setting email server options

You can select the mail protocol used with email notifications.

- 1 Choose **Tools > Administration > Server Options**.

The Server Options dialog box opens.

- 2 Click the **Email Servers** tab.



- 3 Select **Enable sending mail via MS Mail / Exchange** to send email in MAPI format.

- Select a **Profile Name**.
- Enter a **password**.

- 4 Select **Enable sending mail via Simple Mail Transport Protocol** to send email via SMTP.
  - Select **Only send one message per SMTP connection** to send one message per connection.
  - Enter the **SMTP Host** used to send outgoing mail. Enter an IP address (e.g., 123.34.5.26) or your mail server's fully qualified domain name (e.g., mail.your company.com).
  - Enter a **Username** and **Password**.

---

**Note:** Only pause email if you are experiencing problems and need to troubleshoot. Select either of these options will back up outgoing mail.

---

- 5 Click **OK** to save the settings.

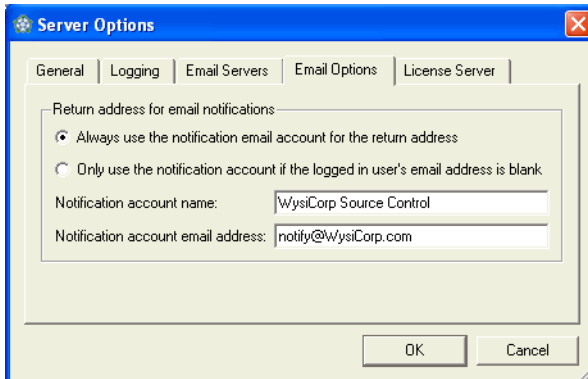
## Setting email options

- 1 Choose **Tools > Administration > Server Options**.

The Server Options dialog box opens.

- 2 Click the **Email Options** tab.

This tab is used to specify the return address used for email notifications



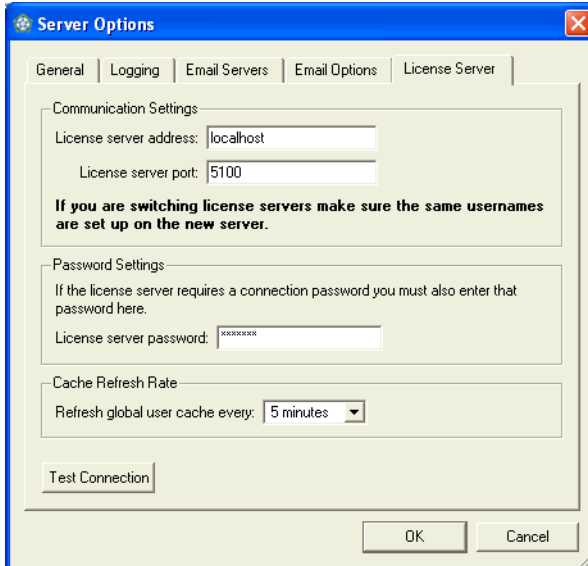
- 3 Select **Always use the notification email account for the return address** to use the notification email account.
- 4 Select **Only use notification account if the logged in user's email address is blank** to use the notification email account if the logged in user did not provide an email address.
- 5 Enter a **notification account name**. The notification account name defaults to "Surround SCM." You will probably want to customize the account name for your company
- 6 Enter an **email address**. If you do not enter an email address, your email may be rejected. Some Internet providers will not accept email without a return address.
- 7 Click **OK** to save the settings.

## Setting license server options

- 1 Choose **Tools > Administration > Server Options**.

The Server Options dialog box opens.

- 2 Click the **License Server** tab.



- 3 Enter the **address** and **port number** of the license server you want Surround SCM to connect to.
- 4 Optionally enter a **license server password**.

The license server password provides additional security. If a password is entered on the license server, Surround SCM must use the same password to communicate with the license server.

- 5 Select a **cache refresh rate**.
- 6 Click **Test Connection** to test the license server connection.

If the connection is not successful, check the address, port number, and password.

- 7 Click **OK** to save the settings.

## Managing the mail queue

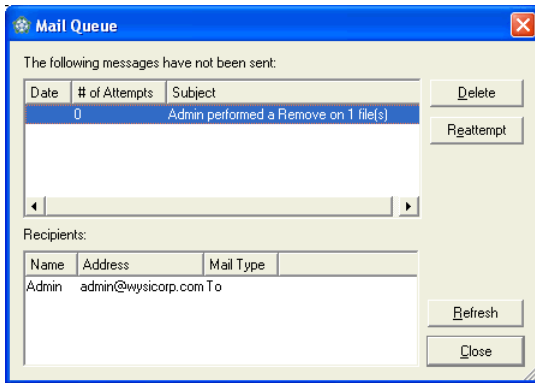
When Surround SCM sends email the message is placed in the mail queue for processing by the server. If all mail is not sent before the Surround SCM server is shut down, the mail queue is saved to the hard drive. The next time the server is started, the mail queue is reloaded and mail is sent.

The mail queue only contains unsent email messages. Under normal circumstances, email is sent and removed from the mail queue in less than 60 seconds. An email can get stuck in the mail queue if send mail is paused, the MAPI or SMTP options are not properly configured, or the MAPI or SMTP host is experiencing problems.

## Viewing the mail queue

- 1 Choose **Tools > Administration > Mail Queue**.

The Mail Queue window opens with a list of all unsent email messages. The list includes the email date, number of attempts made to send the email, and the email subject.



- 2 Select a message to view details.

The name, email address, mail type, and send error are listed in the Recipients area.

- 3 Click **Close** when you are finished.

## Resending mail

- 1 Choose **Tools > Administration > Mail Queue**.

The Mail Queue window opens.

- 2 Select the email message you want to resend and click **Reattempt**.

Surround SCM attempts to resend the message.

## Deleting mail

- 1 Choose **Tools > Administration > Mail Queue**.

The Mail Queue window opens.

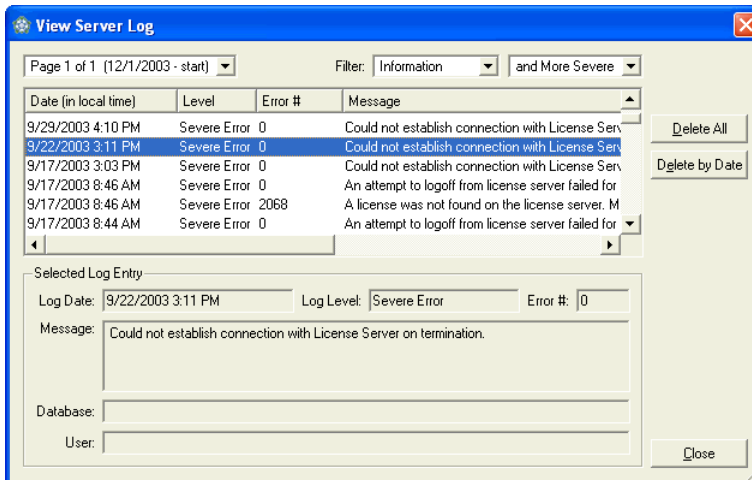
- 2 Select the email message(s) you want to delete.
- 3 Click **Delete**.

The email message is deleted from the mail queue.

## Managing the server log

- 1 Choose **Tools > Administration > View Server Log**.

The View Server Log dialog box opens.



- 2 To filter the log entries select a **Filter** from the menu. You can filter the log list even more by choosing one of the following options:
  - **and More Severe** includes the filtered log entries plus more severe entries
  - **and Less Severe** includes the filtered log entries plus less severe entries
  - **Only** limits the filter to the filtered log entries
- 3 Select the entry you want to view.  
The details appear in the Selected Log Entry area.
- 4 Click **Close** when you finish viewing log entries.

## Deleting all log entries

If you are not experiencing any problems, you can periodically delete all of the log entries.

- 1 Choose **Tools > Administration > View Server Log**.

The View Server Log dialog box opens.

- 2 Click **Delete All**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.

The entries are deleted from the log.

## Deleting log entries by date

If the log becomes too large, and you are not experiencing problems, you can delete older entries.

- 1 Choose **Tools > Administration > View Server Log**.

The View Server Log dialog box opens.

- 2 Click **Delete by Date**.

The Delete Entries by Date dialog box opens.

- 3 Enter a date in the **Date** field.

- 4 Click **OK**.

You are prompted to confirm the deletion.

- 5 Click **Yes**.

All log entries, including any entries that occurred on the date you entered, are deleted.



# Chapter 14

## Configuring Security

Protect your data integrity and security by configuring security for all user levels. Surround SCM can be configured to provide as much, or as little, security as needed. Access to Surround SCM commands, such as promoting a branch, is controlled by the security set for each group. You can also configure repository and branch security.

**About security, 146**

**Planning security, 146**

**Setting server security, 147**

**Setting repository security, 148**

**Setting branch security, 148**

**Security notes, 150**



## About security

Surround SCM security is extensive and configurable and can be applied at the server level, to repositories, or to a specific branch in a repository. Security is always applied recursively unless it is overridden. You can access security in two ways:

- Repository and branch properties let you easily view, and configure, security for a specific repository or branch. For more information, see [Configuring repository security, page 42](#) or [Configuring branch security, page 57](#).
- The Security groups view lets you easily view, and configure, security for a selected group of users. For more information, see [Editing security groups, page 159](#).

## Planning security

One of the first things to do, before you start adding security groups, is to group users together based on function. It may be helpful to create a list of the types of users who will be accessing Surround SCM and what their needs are. You should also consider your company's process and define roles and permissions accordingly. A strong security model allows you to be flexible in assigning access without risking data integrity. The following questions can help you get started:

- What types of users will be accessing Surround? For example, project leads, programmers, and testers.
- What level of security do groups need? For example, access to promote and rebase files.
- Will users have access to all repositories? For example, restrict teams to specific repositories.
- How does the build process work? For example, apply read-only branch security after a software release.



---

For example, a project team might includes one or more of the following:

An **administrator** who has access to all commands.

A **project lead** who has access to most commands but is restricted from such things as creating mainline branches, adding users, or editing server options.

One or more **developers** who have access to most file and branch commands but are restricted from most admin, user, and group commands.

One or more **testers** who only have access to basic commands such as getting and viewing files.

A **customer** who is restricted to viewing one repository.

---

## Setting server security

---

**Note:** Many companies will only need to set server security. Server security is always used unless it is overridden at the repository level.

---

Server security is grouped into the following categories: admin, users, groups, files, and branch. The commands you enable or disable for a group apply to all repositories in the mainline branch. Server security is set when security groups are created or changed by editing security groups. For more information see [Chapter 15, “Managing Users and Security Groups,”](#) page 151.

### Admin

Contains the following commands used to administer Surround SCM: Edit Server Options, Edit TestTrack Pro Integration, Create Mainline Branch, Remove Mainline Branch, Create Label, Run Reports, Void Check Out, Work with Shadow Folders, Edit Triggers, Edit Own Email Notifications, Edit Mail Queue.

### Users

Contains the following commands used to manage Surround SCM user accounts. Include the following commands: Add User, View User, Edit User, Delete User, Edit Other Users Password, Activate/Inactivate User, Edit Own Password, Edit Own TestTrack Pro Settings.

### Groups

Contains commands used to manage security groups. Include the following commands: Add Group, View Group / Security, Edit Group / Security, Delete Group.

### Files

Contains commands used to work with files. Include the following commands: View Repository List, Add File, Remove File, Destroy File, Get File, Check In File, Change File Type, Change File Properties, View File History, Share Files, Break Shares.

### Branch

Contains commands used to manage branches. Include the following commands: Create Baseline Branch, Use Workspace Branch, Create Snapshot Branch, View Branch History, Delete Branch, Destroy Branch, Destroy Other User’s Workspace Branches, Promote Branch, Rebase Branch, Rename Branch, Freeze/Unfreeze Branch.

## Setting repository security

You can override the server security and enable/disable file commands for a selected repository. The security you set affects all branches in the selected repository. For example, you have multiple products and customers. You provide access to Surround SCM for a customer. You do not want this customer to be able to view all repositories. Restrict the customer to a specific repository by setting repository security. For more information, see [Configuring repository security, page 42](#).

## Setting branch security

You can override the server security and enable/disable file commands for a specific branch in a repository. The security you set only affects one branch in the selected repository. For example, you branch your code into multiple versions. When development starts in a new version, you only want the development group and projects leads to have access to the branch. You can set branch security that restricts all other groups from accessing the specific branch. For more information, see [Configuring branch security, page 57](#).

## Security scenarios

The following sample scenarios are provided to help you understand how the different security levels work. Depending on your company's needs and business processes, you may only want to set server security. If your needs are more complex, or your business process dictates restricting users to specific data, you may decide to set repository and/or branch security.

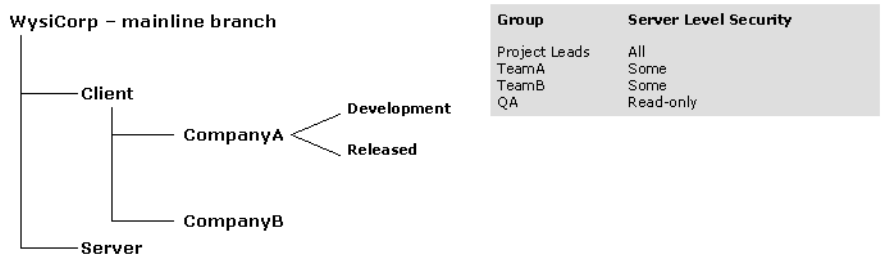
### Overview

WysiCorp, a fictional company, develops customized software applications for multiple customers. Many of these customers are competitors and require a high level of security and confidentiality. To ensure that all development goals are met, WysiCorp's development teams, TeamA and TeamB, are assigned to one company for the duration of a project. Other teams, such as Project Leads and QA, may be assigned to more than one company at a time.

WysiCorp, the mainline branch, includes the following repositories: Client and Server. The Client repository includes two subrepositories, CompanyA and CompanyB. The CompanyA subrepository includes two baselines branches, Development and Released.

### Server security

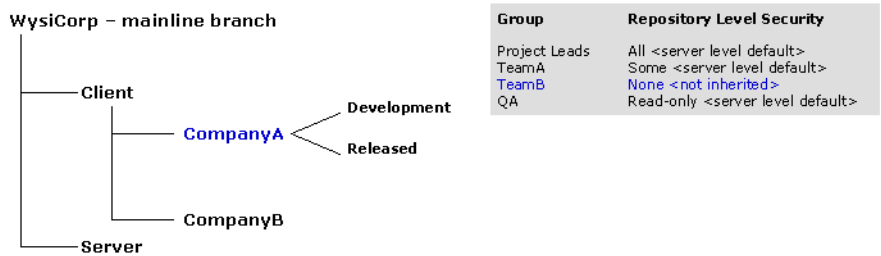
Members of the Project Leads security group are administrators and have access to all commands. Members of the TeamA and TeamB security groups have access to some commands, such as adding files or viewing file history. The QA security group is restricted to read-only security.



## Repository security

WysiCorp does not want TeamA members to have access to the CompanyB subrepository or TeamB members to have access to the CompanyA subrepository. Repository security is applied to the CompanyA and CompanyB subrepositories. The TeamA security group is restricted from viewing the CompanyB subrepository. The TeamB security group is restricted from viewing the CompanyA subrepository.

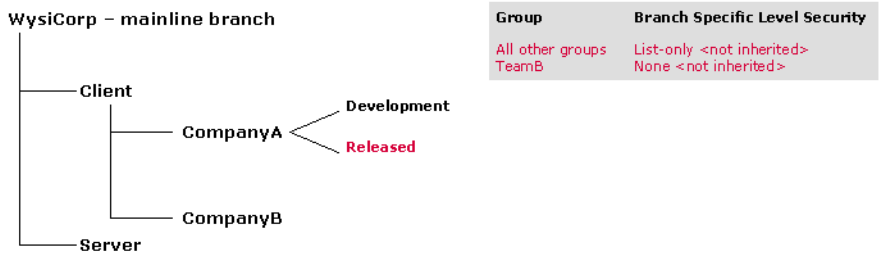
When viewing CompanyA repository properties, the *Inherited From* column changes from *<server level default>* to *<not inherited>* for the TeamB security group. This indicates the server security is overridden.



## Branch security

After code is released to customers, it is important to stop development on that code. Branch security, limited access to the release code, is applied to the Released branch in the CompanyA subrepository. The TeamB security group is restricted from viewing the CompanyB subrepository. In addition, all other groups only have list-only access to the Released branch.

When viewing CompanyA repository properties, notice the only groups listed are Team B and *<All other groups>*. In addition, the *Inherited From* column changes from *<server level default>* to *<not inherited>*. This indicates the server security is overridden.



## Security notes

- The ability to create a repository requires “Add File” permission. The ability to remove a repository requires “Remove File” permission.
- To perform a promote or rebase action, you must have promote or rebase permission. In addition, you must also have some file permissions on the repository being promoted/rebased to. To promote to a branch, you must have the “Add File” permission to promote an add, the “Check In File” permission to promote a change, and the “Remove File” permission to promote a remove. To rebase to a branch, you must have the “Add File” permission to rebase an add, the “Check In File” permission to rebase a change (and “Get File” in the parent branch), and the “Remove File” permission to rebase a remove.
- To create a share in a destination repository, you must have “Add File” permission in that repository.
- If you have “Check In File” permission on a repository, you can check out (and in) a shared file even if the file is shared with a repository you do not have “Check In File” permission for.
- To set branch security, you must first configure a branch to “Use its own security.”

# Chapter 15

## Managing Users and Security Groups

A user is anyone who can access Surround SCM and belongs to one or more security groups. Surround SCM users can only access commands granted to the security group they belong to. A security group is a collection of users who share responsibilities and perform similar tasks.

**About users and security groups, 152**

**Adding security groups, 152**

**Adding users, 155**

**Retrieving global users, 157**

**Viewing users, 158**

**Viewing security groups, 158**

**Editing users, 159**

**Editing security groups, 159**

**Deleting users, 161**

**Deleting security groups, 161**



## About users and security groups

Surround SCM includes global and local users. Users can be created using the license server admin utility or Surround SCM. Global users have access to all databases and can be created using the license server admin utility or in Surround SCM. Local users cannot log into Surround SCM and can only be created in Surround SCM.

A security group is a collection of users who share responsibilities and perform similar tasks. A security group is a collection of users who share responsibilities and perform similar tasks. Security groups let you create a **security structure** for users. You can add as many or as few security groups as you need and make the security as general or as specific as you need.

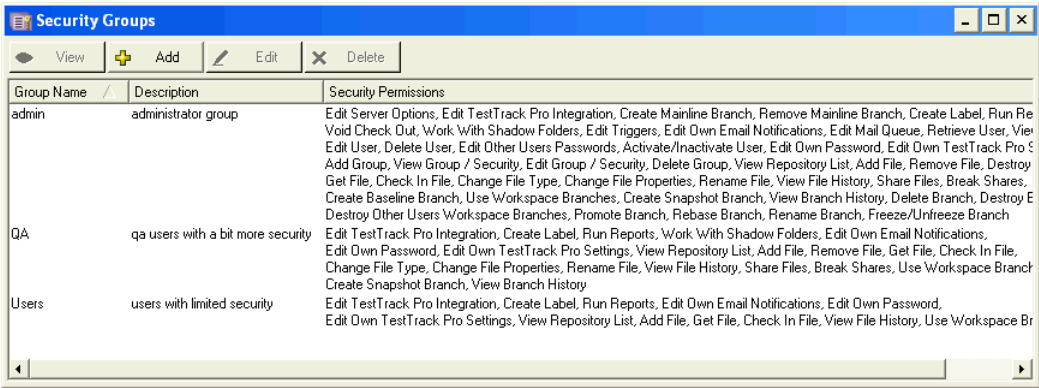
Before you start creating security groups, it may be helpful to list the types of users you will be adding to Surround SCM and what their needs are. You can add as many or as few security groups as you need.

## Adding security groups

**Note:** When Surround SCM is installed, a default **Admin** group is created. This group has access to every command. Carefully consider which users are added to this group.

- 1
- Choose **View > Security Groups**.

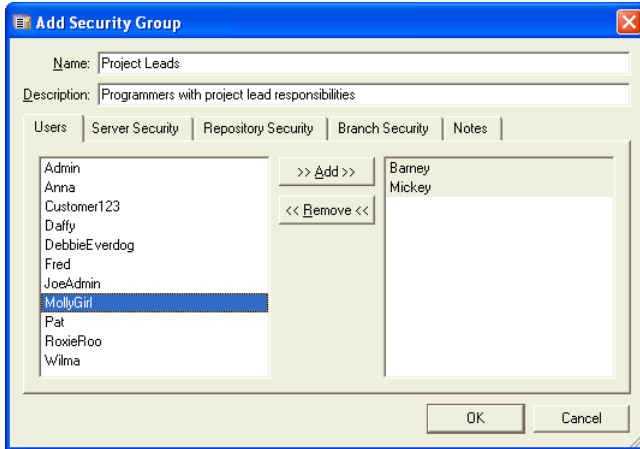
The Security Groups window opens.





**2 Click Add.**

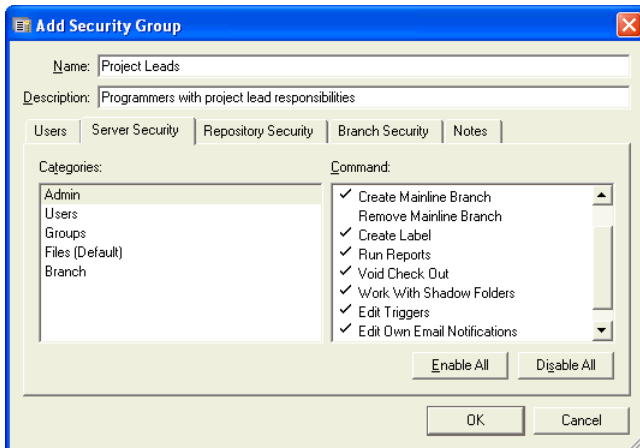
The Add Security Group dialog box opens with the **Users** tab selected.

**3 Enter a Name and Description.****4 Select a user and click Add to add users to the group.**

To add multiple users, **Ctrl+click** each user.

**5 Click the Server Security tab to set server security.**

Make sure you set server security for all categories. See [Setting server security, page 147](#) for a list of all commands.



- 6 Skip the **Repository Security** tab.

This tab is used when editing groups to set security for specific repositories. See [Configuring repository security, page 42](#) for details.

- 7 Skip the **Branch Security** tab.

This tab is used when editing groups to set security for a specific branch in a repository. See [Configuring branch security, page 57](#) for details.

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**Note:** The **Branch Security** tab is hidden unless a branch uses its own security.

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- 8 Click the **Notes** tab and enter any information about the security group.



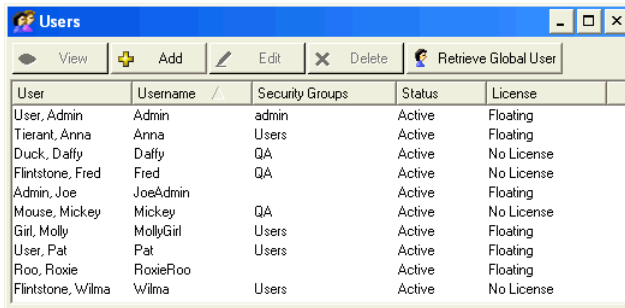
- 9 Click **OK** to save the security group.

## Adding users

Users can be created using the license server admin utility or Surround SCM. If you create users with the license server admin utility you may need to retrieve global users. See [Retrieving global users, page 157](#) for more information.

- 1 Choose **View > Users**.

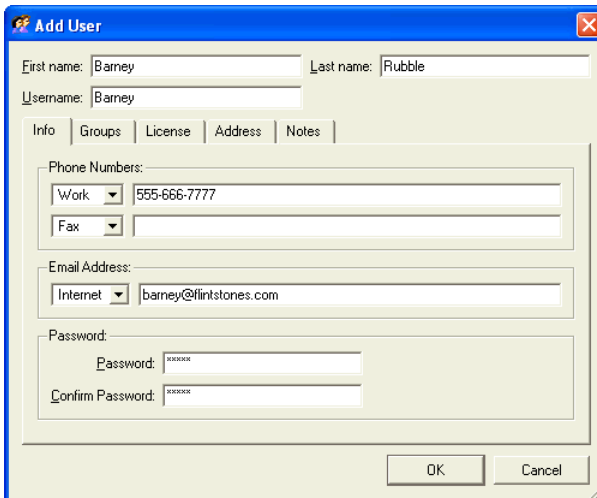
The Users window opens.



User	Username	Security Groups	Status	License
User, Admin	Admin	admin	Active	Floating
Tierant, Anna	Anna	Users	Active	Floating
Duck, Daffy	Daffy	QA	Active	No License
Flintstone, Fred	Fred	QA	Active	No License
Admin, Joe	JoeAdmin		Active	Floating
Mouse, Mickey	Mickey	QA	Active	No License
Girl, Molly	MollyGirl	Users	Active	Floating
User, Pat	Pat	Users	Active	Floating
Roo, Roxie	RoxieRoo		Active	Floating
Flintstone, Wilma	Wilma	Users	Active	No License

- 2 Click **Add**.

The Add User dialog box opens with the **Info** tab selected.



First name: Barney Last name: Rubble

Username: Barney

Info Groups License Address Notes

Phone Numbers:

Work 555-666-7777

Fax

Email Address:

Internet barney@flintstones.com

Password:

Password:

Confirm Password:

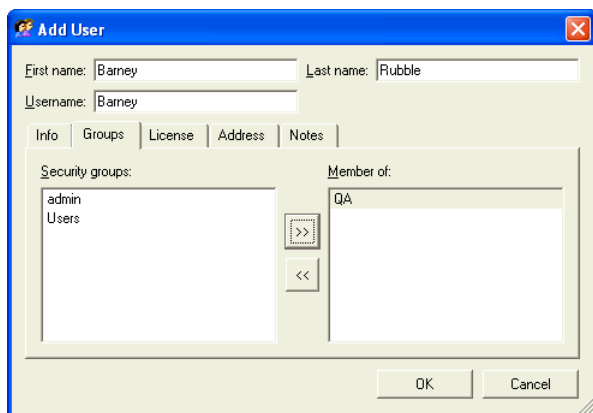
OK Cancel

- 3 Enter the user information.

- Enter a **First name**.
- Enter a **Last name**.
- Enter a **Username**.

- 4 Enter the information on the **Info** tab.
  - Enter the user **Phone Numbers**.
  - Select an email type and enter the user **Email Address**.
  - Enter and confirm a user **Password**. Users can change their passwords when they login.
- 5 Click the **Groups** tab to select the security groups you want the user to belong to.

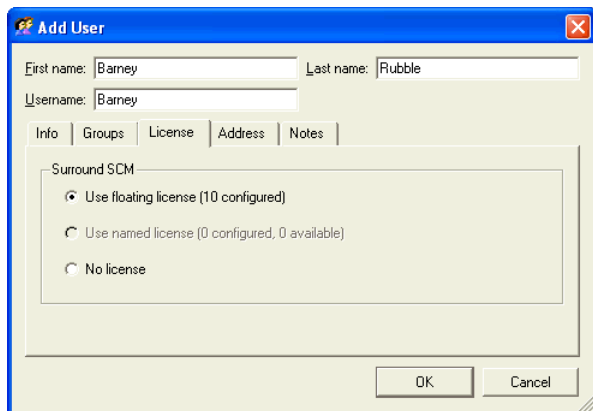
To access Surround SCM users must be assigned to at least one security group. If you need to create security groups see [Adding security groups, page 152](#).



The screenshot shows the 'Add User' dialog box with the 'Groups' tab selected. The 'First name' field contains 'Barney' and the 'Last name' field contains 'Rubble'. The 'Username' field contains 'Barney'. The 'Security groups' list on the left contains 'admin' and 'Users'. The 'Member of:' list on the right contains 'QA'. There are '>>' and '<<' buttons between the two lists. The 'OK' and 'Cancel' buttons are at the bottom right.

- 6 Click the **License** tab.

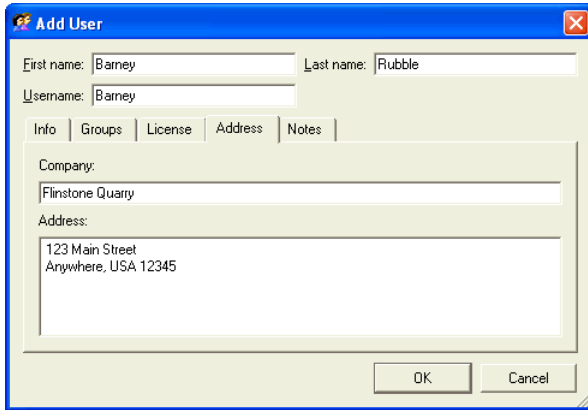
Select a license type for the user.



The screenshot shows the 'Add User' dialog box with the 'License' tab selected. The 'First name' field contains 'Barney' and the 'Last name' field contains 'Rubble'. The 'Username' field contains 'Barney'. The 'Surround SCM' section has three radio button options: 'Use floating license (10 configured)' (selected), 'Use named license (0 configured, 0 available)', and 'No license'. The 'OK' and 'Cancel' buttons are at the bottom right.

- 7 Click the **Address** tab.

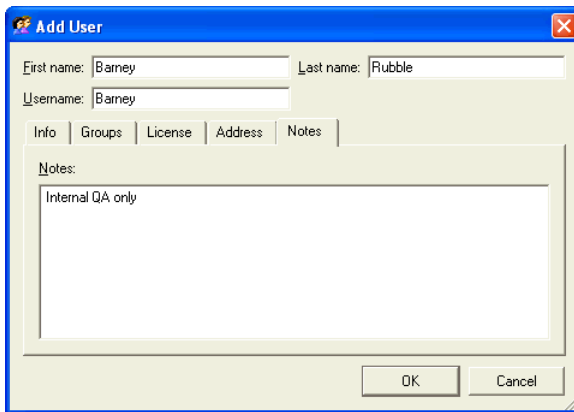
Enter the user's address information.



The screenshot shows the 'Add User' dialog box with the 'Address' tab selected. The 'First name' field contains 'Barney' and the 'Last name' field contains 'Rubble'. The 'Username' field contains 'Barney'. The 'Company' field contains 'Flinstone Quarry'. The 'Address' field contains '123 Main Street' and 'Anywhere, USA 12345'. The 'OK' and 'Cancel' buttons are at the bottom right.

- 8 Click the **Notes** tab.

Enter any notes about the user.



The screenshot shows the 'Add User' dialog box with the 'Notes' tab selected. The 'First name' field contains 'Barney' and the 'Last name' field contains 'Rubble'. The 'Username' field contains 'Barney'. The 'Notes' field contains 'Internal QA only'. The 'OK' and 'Cancel' buttons are at the bottom right.

- 9 Click **OK**.

The user is added.

## Retrieving global users

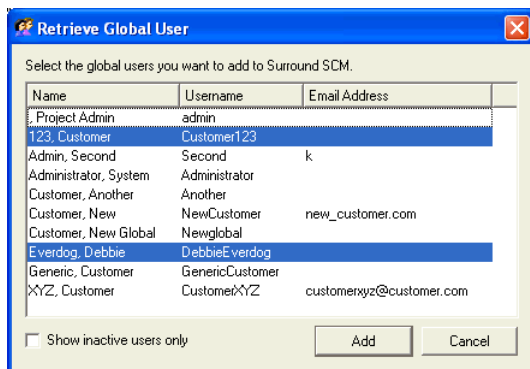
Global users, which reside on the license server, can be retrieved and provided access to Surround SCM.

- 1 Choose **View > Users**.

The Users window opens.

## 2 Click **Retrieve Global User**.

The Retrieve Global User dialog box opens.



## 3 Select the global users you want to add to Surround SCM and click **Add**.

The global users can now access Surround SCM.

## Viewing users

### 1 Choose **View > Users**.

The Users window opens.

### 2 Select the user and click **View**.

The read-only View User dialog box opens.

### 3 Click **Close** when you finish viewing the user information.

## Viewing security groups

### 1 Choose **View > Security Groups**.

The Security Groups window opens.

### 2 Select the group and click **View**.

The read-only View Security Group dialog box opens.

### 3 Click **Close** to close the dialog box.

## Editing users

You can edit most user information. The username cannot be changed.

- 1 Choose **View > Users**.

The Users window opens.

- 2 Select the user and click **Edit**.

The Edit User dialog box opens.

- 3 Make any changes.

and click **OK**.

## Editing security groups

You can edit most security group information including security permissions. The security group name cannot be changed.

- 1 Choose **View > Security Groups**.

The Security Groups window opens.

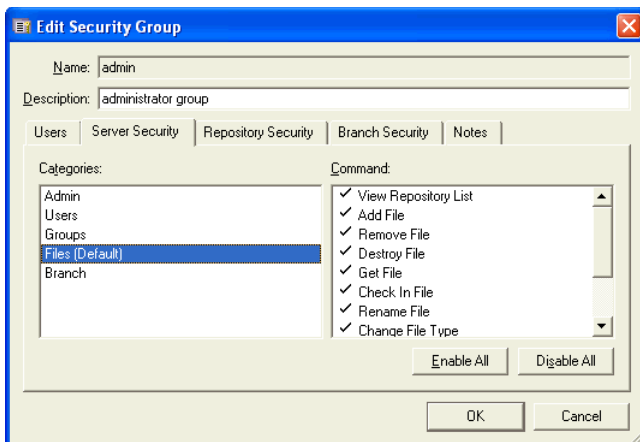
- 2 Select the group and click **Edit**.

The Edit Security Group dialog box opens.

- 3 Click the **Users** tab to add users to/remove users from the security group.

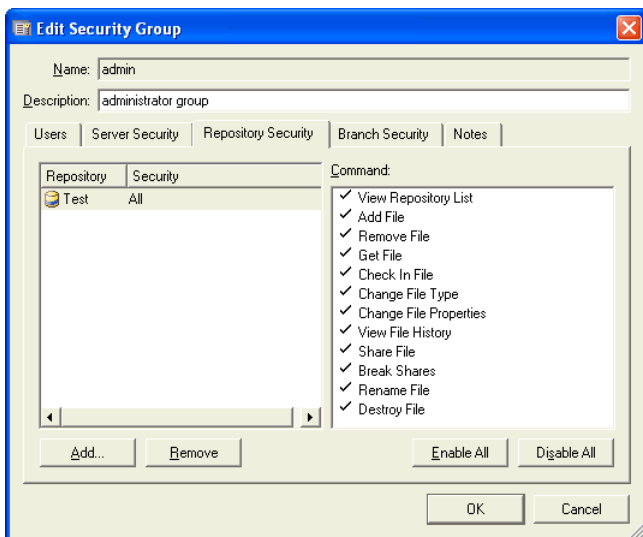
- 4 Click the **Server Security** tab to modify server security.

Server security is the default security and affects all repositories in the mainline branch. For more information see [Setting server security](#), page 147.



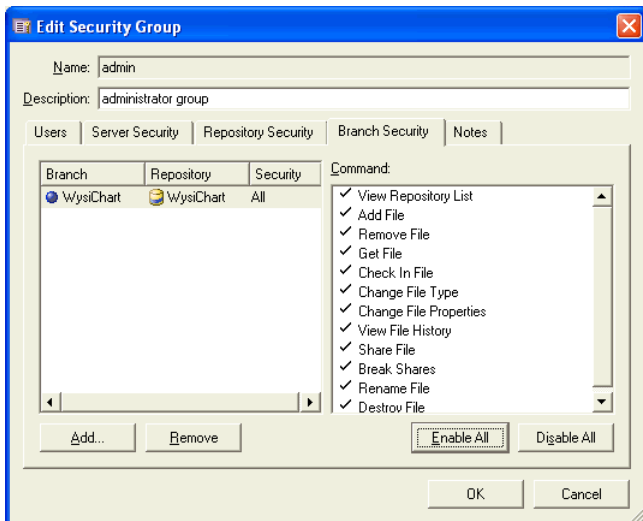
- Click the **Repository Security** tab to modify repository security.

Repository security lets you override server security for all branches in the selected repository. For more information see [Configuring repository security, page 42](#).



- Click the **Branch Security** tab to modify branch security.

Branch security lets you override server security for the branch. This tab is hidden unless a branch uses its own security. For more information see [Configuring branch security, page 57](#).



- Click **OK** to save any changes.



## Deleting users

When a user is deleted, all of the corresponding historic information is also deleted. Inactivate a user if you need to save historic information.

- 1 Choose **View > Users**.

The Users window opens.

- 2 Select the user(s) and click **Delete**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.

## Deleting security groups

When a security group is deleted, all of the corresponding historic information is also deleted.

- 1 Choose **View > Security Groups**.

The Security Groups window opens.

- 2 Select the security group and click **Delete**.

You are prompted to confirm the deletion.

- 3 Click **Yes**.



# Chapter 16

## Using the Analyze Utility

Maintaining healthy databases is important - you need to make sure your source code files are always accessible. Surround SCM includes a utility that analyzes, and repairs, database corruption issues.

**About the analyze utility, 164**

**Analyzing databases, 164**

**Repairing databases, 166**

**Compacting databases, 167**

**Converting databases, 168**



## About the analyze utility

**Note:** The Surround SCM administrator, or another user with security permission, is usually responsible for running the analyze utility.

The analyze utility checks for corrupt or truncated database files. These errors can result from server file system corruption due to such things as power failures. It also validates shared file links. The utility can be run in analyze or repair mode. Analyze mode lets you preview errors. Repair mode automatically fixes the errors and reports the changes.

You should run the analyze utility before upgrading a database or after the server computer is stopped/restarted “uncleanly” (e.g., power failure). The utility should also be run if you suspect there is a database problem. For maintenance, you may want to run the utility once a month even if you are not experiencing any problems.

Before you run the utility, make sure the Surround SCM server is stopped. When the utility is run on a mainline database in use by a server, the cached data files may be changed. If you run the utility, and the mainline database is in use, an error message is returned.

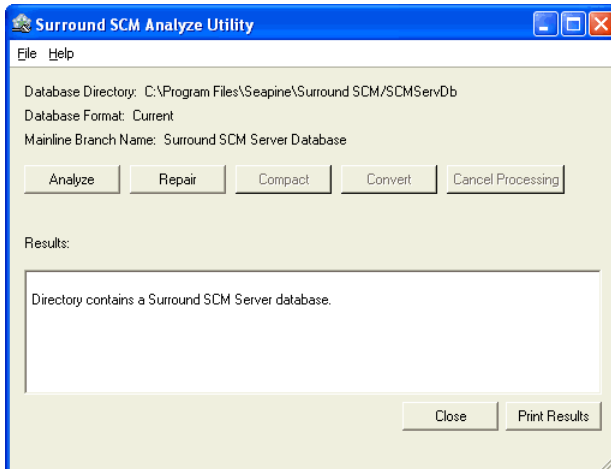
The analyze utility must be run from the server or a computer with direct access to the database directories. The user running the utility must have read/write access to the database directories.

## Analyzing databases

The utility should be run in analyze mode first. This lets you view any errors and back up the database before running the utility in repair mode.

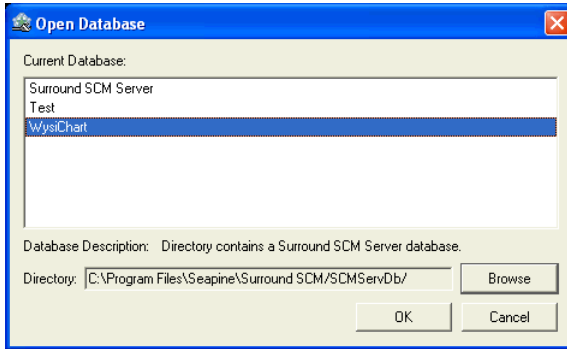
- 1 On the Start menu, choose **Programs > Seapine Software> Surround SCM > Surround SCM Analyze Utility**.

The analyze utility opens.



- 2 Choose **File > Open Database** to select the database you want to analyze.

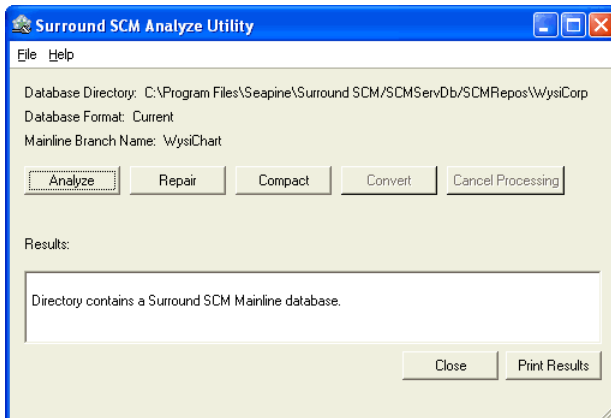
The Open Database dialog box opens. All databases found in the Surround SCM directory is displayed.



- 3 Select a database and click **OK**.

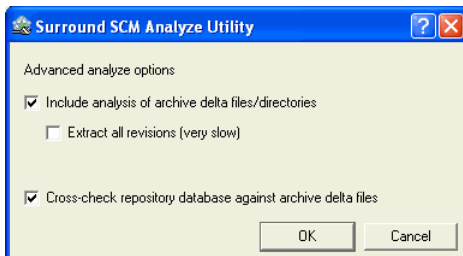
To analyze a removed mainline branch click **Browse** to select the database.

- 4 You return to the analyze utility, which is populated with the selected database information



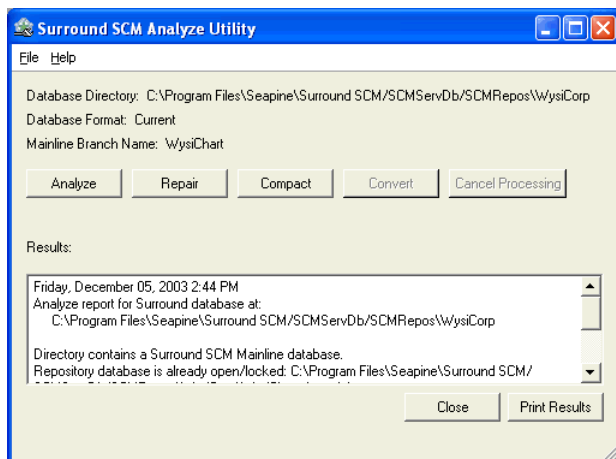
- 5 Click **Analyze** to analyze the selected database.

The Advance Analyze dialog box opens.



- 6 Select any options and click **OK**.

The database is analyzed. The Results area includes information about the database and any errors that were found.



- 7 Click **Print Results** to print the results.

You can also copy the text and paste it into another program.

- 8 Click **Close** to close the utility.

## Repairing databases

After analyzing a database run the utility in repair mode to fix any errors. Make a backup copy of the data before you repair the database. If an error occurs during the repair process you will be able to restore the data.

---

**Note:** Analyze the database before repairing it to preview any errors or corruptions.

---

- 1 On the Start menu, choose **Programs > Seapine Software > Surround SCM > Surround SCM Analyze Utility**.

The analyze utility opens.

- 2 Choose **File > Open Database** to select the database you want to repair.

The Open Database dialog box opens.

- 3 Select a database and click **OK**.

To repair a removed mainline branch, click **Browse** to select the database.

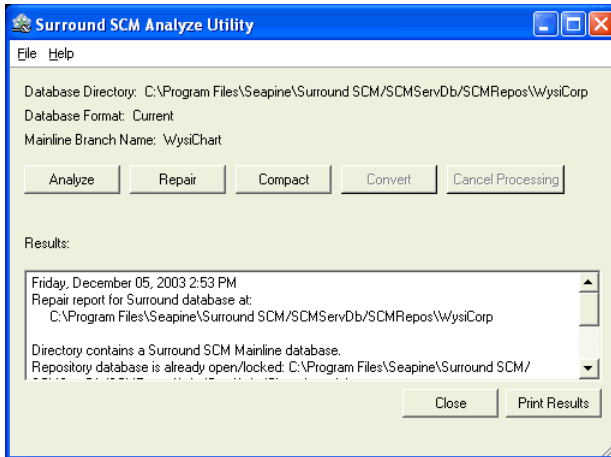
- 4 You return to the analyze utility, which is populated with the selected database information.

- 5 Click **Repair** to repair the selected database.

You are prompted to confirm that you want to repair the database.

- 6 Click **Yes**.

The utility repairs the selected database. The Results area includes information about the database and any fixed errors.



- 7 Click **Print Results** to print the results.

You can also copy the text and paste it into another program.

- 8 Click **Close** to close the utility.

## Compacting databases

- 1 On the Start menu, choose **Programs > Seapine Software > Surround SCM > Surround SCM Analyze Utility**.

The analyze utility opens.

- 2 Choose **File > Open Database** to select the database you want to compact.

The Open Database dialog box opens.

- 3 Select a database and click **OK**.

To compact a removed mainline branch, click **Browse** to select the database.

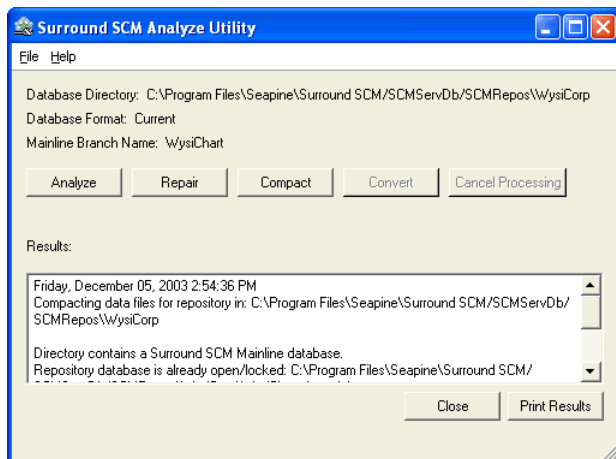
- 4 You return to the analyze utility, which is populated with the selected database information.

- 5 Click **Compact** to compact the selected database.

You are prompted to confirm that you want to compact the database.

**6 Click Compact.**

The utility compacts the selected database.

**7 Click Print Results to print the results.**

You can also copy the text and paste it into another program.

Click **Close** to close the utility.

## Converting databases

After you upgrade Surround SCM you may have server databases that need to be converted to the current format. Backup the files in the SCMServDb directory before converting the database.

---

**Note:** If you need to upgrade mainline branches see [Upgrading mainline branches](#), page 26 for more information.

---

**1 On the Start menu, choose Programs > Seapine Software > Surround SCM > Surround SCM Analyze Utility.**

The analyze utility opens.

**2 Choose File > Open Database to select the database you want to convert.**

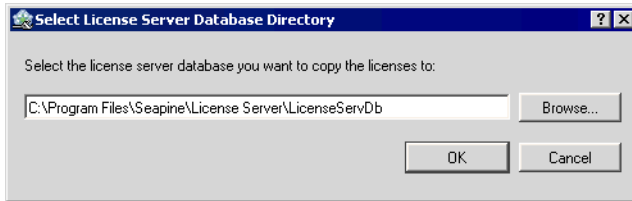
To convert a removed mainline branch, click **Browse** to select the database.

**3 You return to the analyze utility.**



- 4 Click **Convert** to convert the selected database.

You are prompted to select the license server database.



- 5 Enter the full path to the license server database or click **Browse** to select a database.
- 6 Click **OK**.

The conversion starts. During the conversion, existing Surround SCM users (with usernames) and valid, non-expired licenses are added to the license server. Users that do not have usernames are converted as local users.

- 7 The results window is updated when the database conversion finishes.

---

**Note:** If you use Surround SCM and TestTrack Pro, you may be prompted about user conflicts during the conversion process. For example, you convert Surround SCM before TestTrack Pro. A few users were setup using their full name (e.g., Deborah or William) in Surround SCM and using their nicknames (e.g., Debbie or Bill) in TestTrack Pro. If conflicts are detected, you are prompted to either use the current user information on the license server or the user information from the database you are converting. If users have trouble logging in after the conversion, ask them to try both username/password combinations.

---

- 8 Click **Close** to close the analyze utility.



## Chapter 17

# Surround SCM Glossary

This section provides definitions for terms used in Surround SCM.



## Definitions

### Ancestor branch

Branch a baseline, snapshot, or workspace branch is created from.

### Baseline branch

Public branch that all users can access. Changes made to the baseline branch affect everyone who accesses that branch.

### Branches

A branch uses an existing repository, and the files in that repository, as a starting point to enable concurrent development. When a repository is branched, the files in both branches are initially identical. As file contents change, the branched files become dissimilar. Use branches when you need to make changes to source files without affecting the existing repository.

### Branch security

You can override the server security and enable/disable file commands for a specific branch in a repository. The security you set only affects one branch in the selected repository.

### Diff

The diff command opens a utility that lets you quickly see if there are differences between server files and files in your working directory.

### Email triggers

Triggers that use a standard email template, which can be customized, to inform users when an event occurs to a file or a set of files. Each email template is stored with the trigger on the server.

### File types

You can add text, binary, and Mac binary files to Surround SCM.

### Keywords

Case sensitive placeholders that can be inserted into text files and expanded upon check in. Keywords cannot be expanded for binary files. The following keywords are supported:

**\$Author\$** - Name of the user who checked in the last revision

**\$Date\$** - Date and time of the last revision

**\$Header\$** - File, Revision, Date, Author

**\$File\$** - Unqualified name of the file

**\$Revision\$** - Revision number

**\$Log\$** - File history in RCS-style format

## Labels

Used to mark a specific version of a file or repository. Assigning labels allows for easy identification of all components with the same label.

## Mainline branch

The highest-level branch that contains all source files, labels, other branches, and repositories. All files saved to a specific Surround SCM server are stored in a corresponding mainline branch.

## Merge

The merge command opens a utility that lets you easily merge changes between server files and files in your working directory. You can merge changes into a new file.

## Pre-event triggers

Triggers that are run after a client requests a command but before the event is complete. These trigger types let a server script perform additional checks on a file before the event completes. Pre-event triggers are for validation and custom text entry.

## Post-event triggers

Triggers that run after a command is successfully completed on the server. These triggers can either run a script or send email. Post-event triggers are for logging and synchronization.

Triggers can only be fired from events on files, no triggers exist for branch-level or repository-level events. Files can be specified with a wildcard or a regular expression search so one trigger can affect a group of files. Each trigger is run once per file that it is associated with. Triggers can attach to the following file events:

## Promote

Updates the ancestor branch with changes made in the selected branch, repository, or file.

## Rebase

Updates the selected branch, repository, or file with changes made in the ancestor branch.

## Recursive

If this option is selected, the command is applied to a repository and all files and subrepositories of that repository. For example, recursive check in simultaneously checks in all files and subrepositories of the selected repository.

## Repository

A collection of files and/or subrepositories that helps you organize Surround SCM. Repositories are generally mapped to a directory on your hard drive.

## Repository security

You can override the server security and enable/disable file commands for a selected repository. The security you set affects all branches in the selected repository.

## Server security

Server security applies to all repositories in the mainline branch. Many companies will only set this type of security.

## Shadow folder

Contains a “reference copy” of the current files in a branch. Files are automatically updated when changes are checked in to Surround. Shadow folders can provide read-only access to non-Surround users or provide a central location to build releases from.

## Snapshot branch

A static branch of a baseline or workspace branch that generally corresponds to a project milestone, such as a QA build or final release build. Most Surround SCM commands are disabled in snapshot branches.

## Timestamp

The recorded date and time of an event.

## Triggers

Enhance and expand Surround by letting you run a script or send an email before, or after, a specific event. Triggers can be used for notifications, validation, custom text entry, logging, and synchronization.

## Working directory

The local path where Surround SCM files are stored and changes are made to them.

## Workspace branch

A private branch that is created by an individual user. Other users are not affected by changes made because the work is being done in a private branch. When a user finishes making changes, changes can be promoted from the workspace branch to the baseline, or ancestor, branch. Changes can also be rebased from the baseline branch to a workspace branch.

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