Using AccuBridge for Eclipse (Version 4.6.1)

This document describes ***AccuBridge™ for Eclipse™***, the integration of AccuRev with the Eclipse Platform IDE, implemented as a standard Eclipse plug-in. This plug-in enables users of the IDE to access AccuRev version-control facilities using the Eclipse **Team** menu.

As of Version 4.6.1, the AccuRev plug-in has been validated with Eclipse Platform Versions 3.2.x and 3.3.x. Versions 1.4.2 and later of the Java 2 Runtime Environment are supported, and versions 5.0 and later are recommended.

For updated information on platform support, visit the AccuBridge page on the AccuRev, Inc. Web site (http://www.accurev.com/accubridge.html**).**

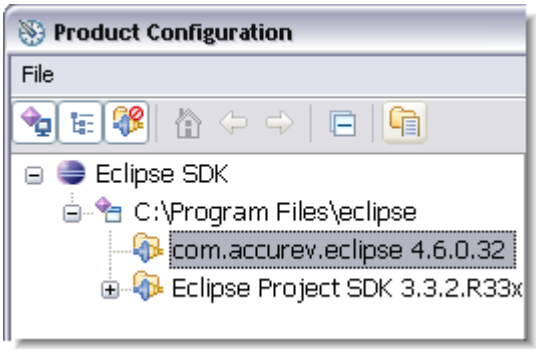
Installing the AccuRev Plug-in

The AccuRev plug-in is installed in a subdirectory in the Eclipse **plugins** directory, named **com.accurev.eclipse_x.x.x.** (The final digits of the directory name indicate the release number) Use the following installation procedure:

1. Use a Web browser to visit http://www.accurev.com/download.htm. Under **Other Downloads**, click the "AccuBridge Integration Downloads" link. Download the ZIP archive for "AccuBridge Eclipse Plug-in".
2. Using a tool that can process ZIP files, unpack the ZIP archive to the Eclipse **plugins** directory. This action will insert directories named **com.accurev.eclipse_x.x.x** into both the **plugins** and **features** directories.

The AccuRev plug-in will be loaded and enabled automatically when you restart Eclipse. To verify successful installation:

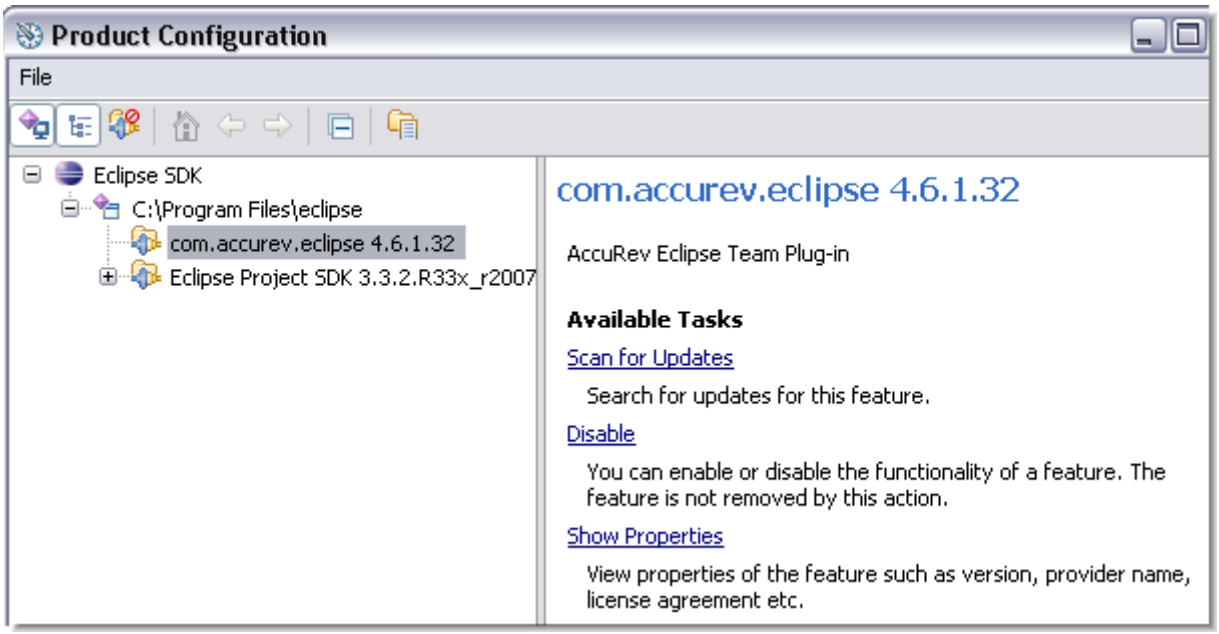
1. Start the Eclipse IDE.
2. Select **Help > Software Updates > Manage Configuration** from the Eclipse main menu, to display the Product Configuration window:
3. Expand the entry that indicates the pathname of your Eclipse installation.
4. Verify that a **com.accurev.eclipse** subentry exists.



Updating the AccuRev Plug-in

If an older version of the AccuRev plug-in is currently included in your Eclipse configuration, update it to the latest version using Eclipse's Update Manager:

1. Select **Help > Software Updates > Manage Configuration** from the Eclipse main menu, to display the Product Configuration window.
2. Expand the entry that indicates the pathname of your Eclipse installation.
3. Select the **com.accurev.eclipse** subentry.



4. Click the Scan for Updates task link. If a newer version of the AccuRev plug-in exists, a wizard guides you through the process of downloading and installing it.

Disabling and Uninstalling the AccuRev Plug-in

A plug-in to Eclipse can be disabled, which prevents the feature from being used, but leaves the feature installed on your machine. Once it has been disabled, a plug-in can be uninstalled.

Disabling the AccuRev Plug-in

1. Select **Help > Software Updates > Manage Configuration** from the Eclipse main menu, to display the Product Configuration window.
2. Expand the entry that indicates the pathname of your Eclipse installation.
3. Select the **com.accurev.eclipse** subentry.
4. Click the Disable task link, and click **OK** in the confirmation dialog.
5. Click **Yes** in the dialog that offers to restart Eclipse.

Uninstalling the AccuRev Plug-in

1. Disable the AccuRev plug-in, as described in *Disabling the AccuRev Plug-in*.
2. Select **Help > Software Updates > Manage Configuration** from the Eclipse main menu, to display the Product Configuration window.
3. Click the **Show Disabled Features** toolbar button.
4. Expand the entry that indicates the pathname of your Eclipse installation.
5. Select the **com.accurev.eclipse** subentry.
6. Click the Uninstall task link, and click **OK** in the confirmation dialog.
7. Click **Yes** in the dialog that offers to restart Eclipse.

The AccuRev Usage Model

AccuRev's flexibility makes it easy to use for a variety of development scenarios. But like every software system, AccuRev has usage models that were foremost in the minds of its architects. This section describes the most common usage model.

AccuRev is a software configuration management (SCM) system, designed for use by a team of people (users) who are developing a set of files. This set of files might contain source code in any programming language, images, technical and marketing documents, audio/video tracks, etc. The files — and the directories in which the files reside — are said to be “version-controlled” or “under source control”. AccuRev also version-controls links. Version-controlled objects are termed elements.

For maximum productivity, the team's users must be able to work independently of each other — sometimes for just a few hours or days, other times for many weeks. Accordingly, each user has his own private copy of all the version-controlled elements. The private copies are stored on the user's own machine (or perhaps in the user's private area on a public machine), in a directory tree called a workspace. We can picture the independent workspaces for a three-user team as follows:

> Note: an AccuRev workspace is different from an Eclipse workspace — be careful to distinguish them. Any number of AccuRev workspaces can be used with a single Eclipse workspace. The AccuRev plug-in is also compatible with the use of multiple Eclipse workspaces.

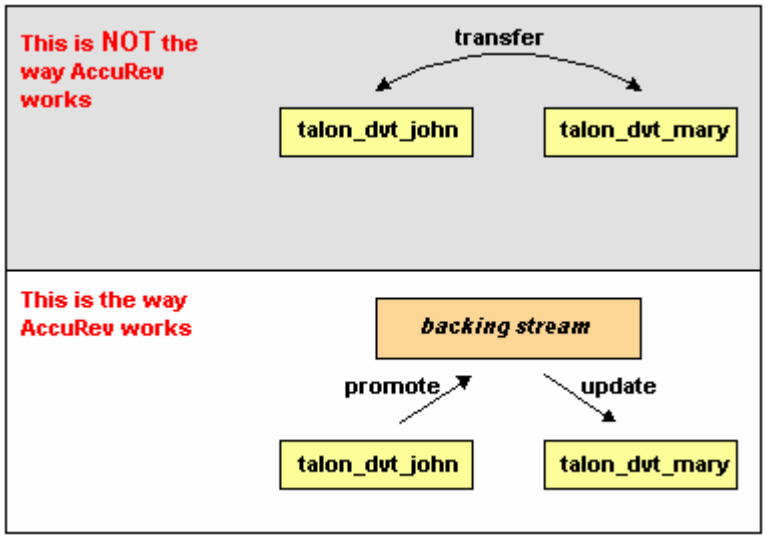
This set of users' workspaces uses the convention of having like names, suffixed with the individual usernames. AccuRev enforces this username-suffix convention. **talon_dvt** might mean “development work on the Talon product”; **john**, **mary**, and **derek** would be the users' operating system login names.

From AccuRev's point of view, development work in this set of workspaces is a continual back-and-forth between “getting in sync” and “getting out of sync”:

- Initially, the workspaces are completely synchronized: they all have copies of the same set of version-controlled elements.
- The workspaces lose synchronization as each user makes changes to some of the elements.

AccuRev uses the same synchronization paradigm as CVS — instead of transferring data directly between private areas (that is, between users' workspaces), AccuRev organizes the data transfer into two steps:

1. One user makes his changes public — available to all the other members of his team. This step is called promoting. (CVS calls this step “committing”.)
2. Whenever they wish, other team members incorporate the public changes into their own workspaces. This step is called updating.



You can use Eclipse’s Synchronize view to organize and perform both your promoting work and your updating work. See *Synchronize View* on page 22.

The first step, promoting, sends your changes to a public data area, called a stream. AccuRev has several kinds of streams; the kind that we referred to is called a backing stream. The data in this public stream “is in back of” or “provides a backstop for” all the private workspaces of the team members. (The term “parent stream” is equivalent to “backing stream”.)

The second step, updating, copies other users’ changes from the backing stream to your AccuRev workspace.

AccuRev allows you to save any number of intermediate versions of an element in your workspace, before making your changes public. Such “private” versions of an element are created by the keep operation. These AccuRev-level versions are similar to, but more robust than, the set of “Local History” versions that Eclipse maintains:

- Local History versions are temporary. (You can adjust the level of temporariness in the Preferences dialog box: **Window > Preferences > General > Workspace > Local History**).
- AccuRev versions created with keep are stored permanently in the AccuRev repository.

AccuRev Element Status

Each AccuRev element (version-controlled file, directory, or link) has a status, expressed as a set of status indicators. An element's status addresses the question, "for this element, what is the relationship between the version in my workspace and the version in the AccuRev repository?". There are quite a few status indicators, because AccuRev tracks an element's status in three locations, not just two:

- The workspace tree: the directory tree on your machine, which you access as an Eclipse project.
- The workspace stream: a corresponding area in the AccuRev repository that provides permanent storage for the private versions that you create in your workspace (for example, with the **Keep** command).
- The backing stream: the public area in the AccuRev repository that is accessed by you and other team members.

Following are descriptions of the AccuRev element status indicators.

Presence of the element in the workspace:

- **(defunct)** — the element has been marked for removal from the workspace stream with the **Defunct** command.
- **(external)** — the file or directory has not been placed under version control. (It is in the workspace tree, but not in the workspace stream.)
- **(excluded)** — the element does not appear in the workspace because it has been excluded, using the Include/Exclude facility. The AccuRev plug-in does not provide an interface to this facility.
- **(link)** — the element is a file link or a directory link.
- **(missing)** — the workspace "should" include a version of this element, but doesn't. This occurs when you delete version-controlled files from the workspace tree using the Eclipse **Delete** command or operating system commands.
- **(twin)** — the element is one of multiple elements in the workspace that exist at the same pathname. At most one of these elements can be accessed through the pathname; the other(s) can be accessed through their unique element-IDs. The AccuRev plug-in does not provide for access by element-ID.
- **(stranded)** — the element is active in the workspace, but there currently is no pathname to the element.

Changes to the element in the workspace:

- **(modified)** — the file has been modified in the workspace since the most recent **update** or **keep**.
- **(kept)** — you have created a new, private version of the element, and you have not yet made the version public with **Promote**.

- **(member)** — the element is “active” in the your workspace, because you have created a new, private version of it with **Keep** or **Anchor**.

Relationship to the version in the backing stream:

- **(backed)** — an element that you’re not currently working on: the versions in the Eclipse project (workspace tree), the workspace stream, and the backing stream are all the same.
- **(stale)** — the element needs to be updated, because the version in the backing stream has changed since the workspace’s latest **Update**.
- **(overlap)** — the element has changed both in the backing stream and in your workspace. This indicates that a **Merge** is required before you can **Promote** your changes to the backing stream.
- **(underlap)** — similar to **(overlap)**: the element has changed both in the backing stream and in your workspace, but the changes in your workspace have already been promoted to the backing stream.

Establishing Your Identity

All AccuRev commands must be executed by a user who is listed in the AccuRev user registry. AccuRev has two schemes for authenticating users:

- With the “traditional” user-authentication scheme, AccuRev defaults to using your operating-system username as your AccuRev username. Your AccuRev password must be stored in file **authn**, in the **.accurev** subdirectory of your operating-system home directory. (On Windows, this is %HOMEDRIVE%\%HOMEPATH%.)

  To use a different AccuRev username, set environment variable ACCUREV_PRINCIPAL to that name. To use a different directory as the location for the **.accurev** subdirectory, set environment variable ACCUREV_HOME to the alternative pathname. All environment variables must be set before starting the Eclipse IDE.

- With the “AccuRev login” user-authentication scheme, you must perform an explicit login at the AccuRev level. You can do this before starting Eclipse, or you can use the **Team > Login** context menu command from an existing Eclipse project with AccuRev data in it.

  If you currently have no Eclipse projects associated with AccuRev, you *must* perform an explicit login at the AccuRev level before starting Eclipse (the **Team > Login** command will not be available).

  The login dialog allows you to choose or locate an AccuRev server as well as enter your user name and password.

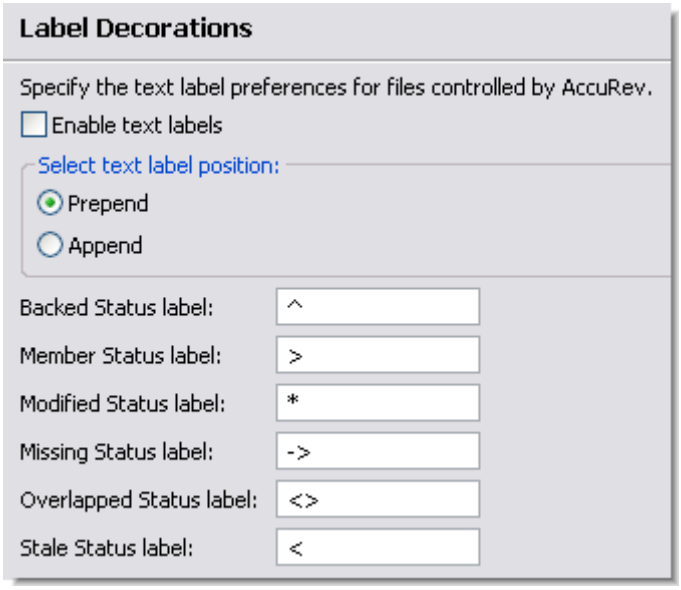
Setting AccuRev-Related Preferences

AccuRev-related settings appear in two locations in the Eclipse **Preferences** window (**Window > Preferences** on the Eclipse main menu):

- Under **Team > AccuRev**, select which tool will be invoked by the Diff/Merge viewer (used by the AccuRev **Merge, Diff Against Backed Version,** and other **Diff Against ...** commands).

  The **AccuRev CLI** setting specifies the name of the executable that the AccuRev plug-in calls to invoke commands. If the AccuRev **bin** directory is not on your search path, you must specify a full pathname here.

- Use the settings under **Team > AccuRev > Label Decorations** to enable and configure text label decorations used in the Navigator and Synchronize views. You can specify a character string for each of six AccuRev statuses. Eclipse can display the text label decoration at the beginning of the filename (*prepend*) or at the end (*append*).



- Use the settings under **General > Appearance > Label Decorations** to set which icon label decorations are used in the Navigator view. (These decorations are *always* used in the Synchronize view.)

  If you turn off icon label decorations, then text label decorations are automatically turned off as well—even if **Enable text labels** is checked under **Team > AccuRev > Label Decorations**.

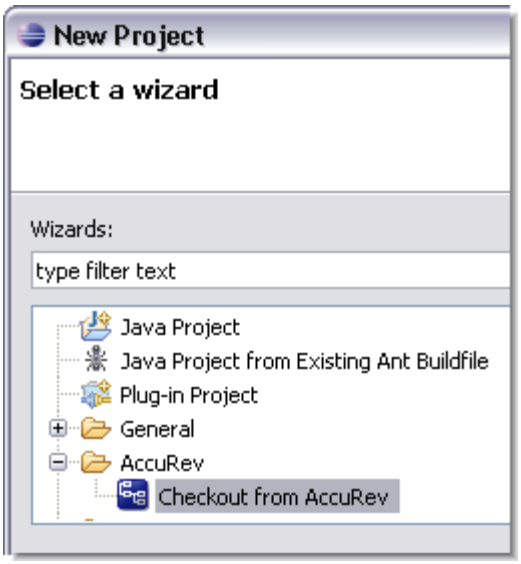
For more on label decorations, see *Object Decorations to Indicate AccuRev Status* on page 9.

Creating an Eclipse Project for Your AccuRev Data

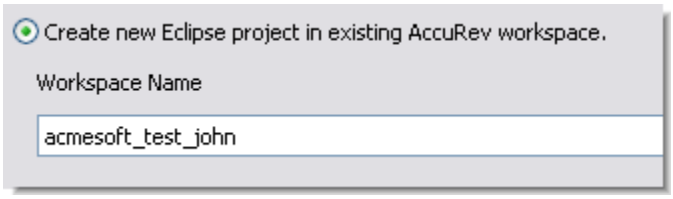
The various commands defined by the AccuRev plug-in move data between the central source-code repository (called a depot) and your personal work area (called a workspace in AccuRev, and a project in Eclipse).

To work with the files in a particular AccuRev workspace, you must create an Eclipse project for it. Following is a detailed example, showing one way to use the **Checkout from AccuRev** wizard. (See also *Checkout From AccuRev* on page 28.)

1. From the Eclipse main menu, select **File > New > Project**.
2. In the New Project window, select the **Checkout from AccuRev** wizard, and click **Next**.

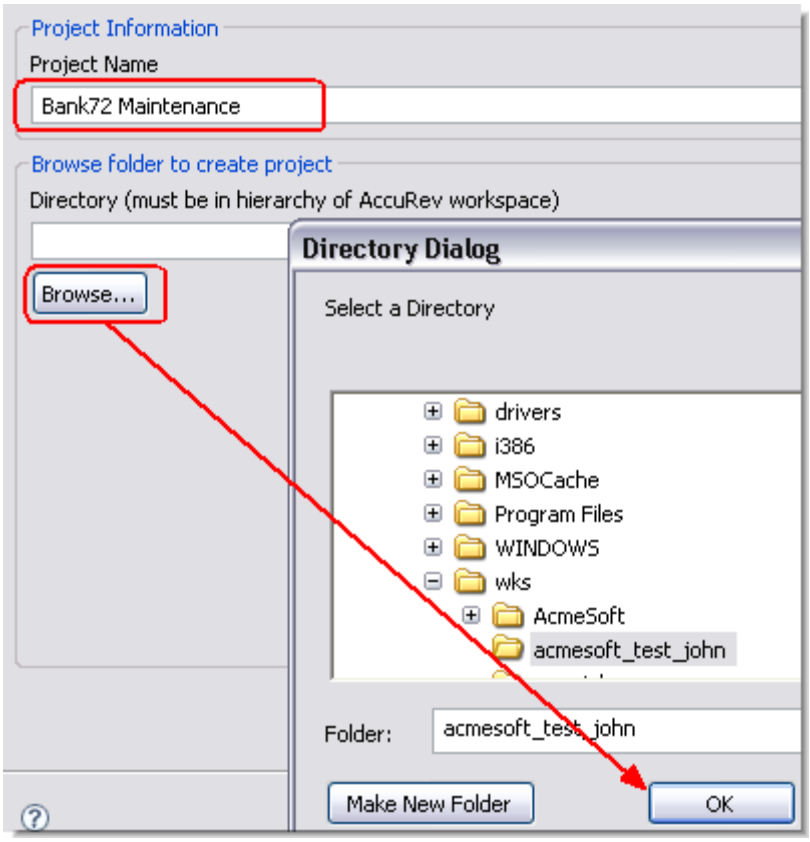


3. At the bottom of the wizard window, click the radio button **Create new Eclipse project in existing AccuRev workspace** and select an AccuRev workspace from the **Workspace Name** listbox.



4. Click **Next**.
5. Enter a name for the new Eclipse project.
6. To specify the directory location of the project, click the **Browse** button, and then click **OK** in the Directory Dialog window that appears. This will make the entire AccuRev workspace available from the new Eclipse project.

   Note: do not create a new folder in the Directory Dialog. To make only a part of the AccuRev workspace available to the Eclipse project, choose a subdirectory of the workspace.



7. Click **Next**.
8. Select **Simple Project**, and click **Finish**.

   Note: this procedure does not copy any data into your Eclipse **workspace** folder. The data remains in its original location in the AccuRev workspace, and simply becomes accessible through the Eclipse project.

Working in the Navigator View or Package Explorer View

The Navigator view shows all your Eclipse projects – both projects associated with AccuRev and others. You access each project's files and directories (folders) using a familiar "tree" control.

For an Eclipse project consisting of AccuRev version-controlled files and directories, the Package Explorer view is equivalent to the Navigator view. In the rest of this document, descriptions relating to the Navigator view apply equally to the Package Explorer view.

Object Decorations to Indicate AccuRev Status

Each file or directory object displayed in the Navigator view has an AccuRev-level status, expressed as a set of status indicators – for example, **(kept)(member)**. The Navigator view does not display these status indicators, but you can configure it to display label decorations:

- An **icon label decoration** is a colored triangle, displayed in the lower-right corner of an object's file-type icon.
- A **text label decoration** is one or more characters appended (or prepended) to an object's filename.

The following table shows the relevant AccuRev statuses, the icon label decorations, and the default text label decorations.

Status	Icon label decoration	Default text label decoration
(backed)		^
(stale)		<
(modified)		*
(member)		>
(overlap)		<>
(missing)		->

The AccuRev status indicators are not mutually exclusive — for example, a file's status can include both the **(modified)** and **(member)** indicators. But Eclipse uses only one decoration on each icon and/or each filename. The following precedence order of the AccuRev statues determines which decoration appears:

(overlap) *highest precedence*
(stale)
(kept)
(modified)
(backed)
(member) *lowest precedence*

Executing an AccuRev Command

AccuRev-related commands are located under **Team** on the context menu accessed by right-clicking a selection (consisting of files and/or directories) in the Navigator view:

1. Select the files and/or directories to be processed. Eclipse allows you to make a multiple-object selection containing objects from multiple projects. AccuRev commands will be available only if all the objects belong to the same AccuRev workspace.
2. Right-click the selection to open its context menu.
3. Go to the **Team** submenu, which contains all the available AccuRev commands.
4. Select an AccuRev command.

Output from AccuRev Commands

The AccuRev plug-in uses several views to display output from AccuRev commands:

AccuRev Console view
AccuRev Search/Status view
AccuRev History view

These views, along with Eclipse's own Synchronize view, constitute the AccuRev perspective. For a description of these views, see *The AccuRev Perspective* on page 17.

AccuRev Command Summary

The sections below describe each of the AccuRev commands available on the context menu from a selection in Eclipse's Navigator view. Some commands are enabled for a multiple-object selection; other commands are not enabled.

- Commands on the top-level menu

  Refactor

  Compare With

  Replace With

- Commands on the **Team** submenu:

  Synchronize with AccuRev Repository

  Login

  Add to AccuRev Depot

  Keep

  Anchor

  Promote

  Merge

  Defunct

  Revert To

  Diff Against

  Synchronize Time

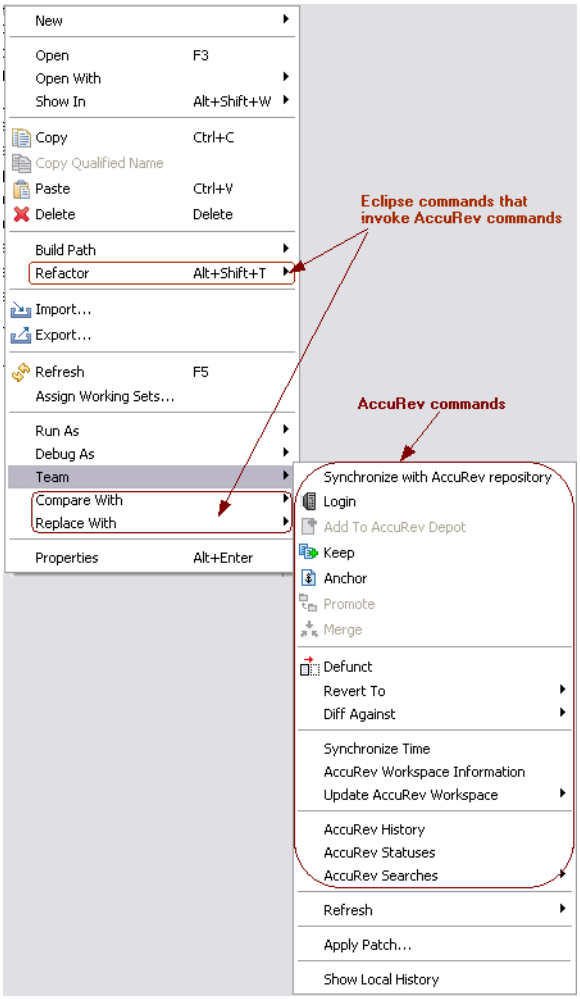
  AccuRev Workspace Information

  Update AccuRev Workspace

  AccuRev History

  AccuRev Statuses

  AccuRev Searches



Refactor

Eclipse supports two types of refactoring operations: moving an object to a different directory, and renaming an object without changing its directory location.

When you complete either of these operations, the plug-in automatically invokes the AccuRev **Rename** command, to record the change of pathname in the repository. As usual, the results are displayed in the AccuRev Console view.

Don’t use the **Move** command to move an object from one Eclipse project to another project that is part of the same AccuRev workspace. The object will be moved, but no AccuRev **Rename** command will be invoked. The object will have **(missing)** status in the source location and **(external)** status in the destination location.

> Note: the Eclipse **Delete** command removes an object from local disk storage, but does not perform any AccuRev command. (In particular, it does not perform a **Defunct** command). If you **Delete** a version-controlled element, its status becomes **(missing)**.

Using the **Move** or **Rename** commands when you are not logged in to an AccuRev server is not recommended, as it will cause changes to the Eclipse workspace but not the AccuRev workspace.

Visual cues will indicate that you are not logged in to the AccuRev server, including a greyed-out repository decoration on the root of the Package Explorer tree and missing decorations on files and directories. See *Object Decorations to Indicate AccuRev Status* on page 9 for more information on decorations.

Move

Eclipse supports moving an object to a different directory, using either of these methods:

- Right-click the object, and select **Refactor > Move** from the context menu.
- Drag-and-drop the object from one directory to another.

Eclipse enforces the restriction that you cannot move an object to a different Eclipse project (AccuRev workspace). This corresponds to AccuRev's own restriction in this area.

Rename

Eclipse supports renaming an object (without changing its directory location), using either of these methods:

- Right-click the object, and select **Refactor > Rename** from the context menu.
- Select the object, and press function key **F2**.

Compare With

Eclipse supports commands to compare file versions within the Eclipse workspace. AccuBridge for Eclipse adds the **Compare With > AccuRev Revision** command, which allows comparisons with file versions kept in the AccuRev repository via the File History view.

Replace With

Eclipse supports commands to replace files with prior versions in the Eclipse workspace. AccuBridge for Eclipse adds the **Replace With > AccuRev Revision** command, which allows you to replace a file with a version kept in the AccuRev repository. This operation uses the File History view, which will display AccuRev history and allow the user to compare versions of an element.

Synchronize with AccuRev Repository

Performs an Eclipse “synchronize with the repository” operation on the current selection — which can include anything from multiple Eclipse projects down to a single file. The results are displayed in the Synchronize view. (Exception: if you invoke this command on a single file, a simple file-comparison is performed; the Synchronize view is not involved.)

For each object, the “synchronize” operation determines the differences between the version in your project — that is, in the AccuRev workspace — and the version in the backing stream. In the Synchronize view, you can invoke commands to resolve the differences: by “committing” changes from your project to the repository and/or by “updating” changes from the repository to your project.

For details, see *Synchronize View* on page 22.

Login

If AccuRev is configured to use the “AccuRev login” user-authentication scheme, a login is required to do any AccuRev operation on a repository file or AccuRev workspace.

If the login is invalid or fails, then no AccuRev operation can be performed from on the open Eclipse project files.

Do not use this command if AccuRev is configured to use the “traditional” user-authentication scheme. Instead, establish your AccuRev user identity before starting Eclipse.

See *Establishing Your Identity* on page 6.

Add to AccuRev Depot

The **Add to AccuRev Depot** command converts one or more of the files in the development project into AccuRev version-controlled elements. The directory containing the files is also converted to an element, if necessary.

Keep

The **Keep** command saves the changes you've made to one or more files as “private” versions in the AccuRev repository. These versions are visible only in your workspace — not in the “public” backing stream or in other users' workspaces.

Don't confuse the versions of a file created by **Keep** with the “local history” copies of the file created when you invoke **File** > **Save** in an Editor pane. Local history copies are maintained by Eclipse itself in the local file system; versions created with **Keep** are saved permanently in the AccuRev repository.

Anchor

Many version control systems force you to perform a “check out” command that makes a file writable, so that you can edit it. But AccuRev's default is to have your files *always* be writable. AccuRev *does* have its own similar command, called **Anchor**. This doesn't change the writability of a file, but it does “activate” the file in your workspace, so that it will be found by an **AccuRev Searches > Default Group** search.

One effect of this is to ensure that the file won't be overwritten by an **Update AccuRev Workspace** command. Under normal circumstances, you rarely need to invoke the **Anchor** command.

If the AccuRev workspace uses the AccuRev “exclusive file locking” or “anchor-required” feature, files are initially read-only. Before editing a file, you *must* **Anchor** it, making it writable.

Promote

The **Promote** command converts one or more “private” versions into “public” versions. That is, it takes versions that you previously created in your workspace with **Keep**, and sends them to the backing stream shared by you and other members of your development team.

Invoking this command can activate either or both of the integrations between AccuRev's configuration management functionality with its issue management (AccuWork) functionality. One of them uses change packages as the point of integration. The other uses a particular issue-record field as the point of integration. Both of them record information about the **Promote** transaction in a user-specified AccuWork issue record. For more information, see *Promote-Based Integrations with Issue Management* on page 16.

Merge

This command is enabled only when a file’s status is **(overlap)**. It merges your version of the file with the version in the backing stream. Either the AccuRev merge tool or Eclipse’s own merge tool is invoked, depending on a preference setting (**Window > Preferences > Team > Accurev**).

The **Merge** command can be invoked, perhaps multiple times, by the **Commit All Outgoing Changes** command or the **Update All Incoming Changes** command in the Synchronize view.

Defunct

Deletes a file from your disk, and also marks it as having **(defunct)** status in the AccuRev workspace. You won't see the file in the Navigator view, because the file is no longer on your disk. But you will see the file in certain AccuRev Searches — Defunct, Pending, or Default Group. The file disappears entirely from the AccuRev workspace when you **Promote** the file to the backing stream.

You can also **Defunct** a directory. But before doing so, consult the description of the **defunct** command in the *AccuRev CLI User's Guide*.

Note: Eclipse's **Delete** command does not invoke the AccuRev **Defunct** command. It simply removes the file from local disk storage; no change is made to the AccuRev repository. If you invoke this command on an AccuRev-controlled file, its AccuRev status becomes **(missing).**

Revert To

The commands on the Revert To submenu allow you to discard changes to a file in your workspace, replacing them with another version. See *Replace With* on page 12 if you need more versioning options than are provided by these command.

Backed Version

Discards the changes you've made to an element, restoring the version that was in the backing stream at the time of your most recent **Update AccuRev Workspace** command. (If you

Promoted one or more versions of the element to the backing stream since your most recent **Update,** it restores the most recently promoted version.)

Most Recent Version

Similar to **Revert to > Backed Version,** but rolls back a file only as far as the private version you recently created with **Keep.** This command is useful when you make further changes to a file after a **Keep**, save the changes with **File** > **Save,** then decide to discard the changes.

Diff Against

The commands on the Diff Against submenu allow you to compare a file in your workspace with another version. Either the AccuRev Diff tool or Eclipse's Text Compare tool is invoked, depending on the preference setting (**Window > Preferences > Team > Accurev**).

Note: only text files can be compared.

Backed Version

Compares your file with the version currently in the workspace's backing stream.

Most Recent Version

Compares your file with the private version you recently created with **Keep.** ("What have I changed since my last Keep?")

Basis Version

Compares your file with the version you last promoted to the backing stream. ("What have I changed since my last Promote?")

Synchronize Time

This command changes a client machine's system clock to match the clock on the AccuRev server.

AccuRev Workspace Information

The **AccuRev Workspace Information** command displays a message box containing information about the current AccuRev context: your user name, your AccuRev workspace name and location, etc. It also indicates whether the integrations between AccuRev's configuration management and issue management capabilities are enabled. See *Promote-Based Integrations with Issue Management* on page 16.

Update AccuRev Workspace

The **Update AccuRev Workspace > Entire Workspace** command copies versions from your workspace's backing stream into your workspace. This has the effect of incorporating other people's changes, which they have promoted to the backing stream, into your workspace.

The **Update AccuRev Workspace > Preview** command does all the work of an actual update, except that no files are copied from the repository to your workspace.

AccuRev History

Displays a table in the History view listing the AccuRev transactions (**keep**, **promote**, etc.) involving the selected element. The previous contents of this view, if any, are discarded. See *History View* on page 20.

This command is disabled if multiple elements are selected.

AccuRev Statuses

Displays a table listing information about each element in the current selection:

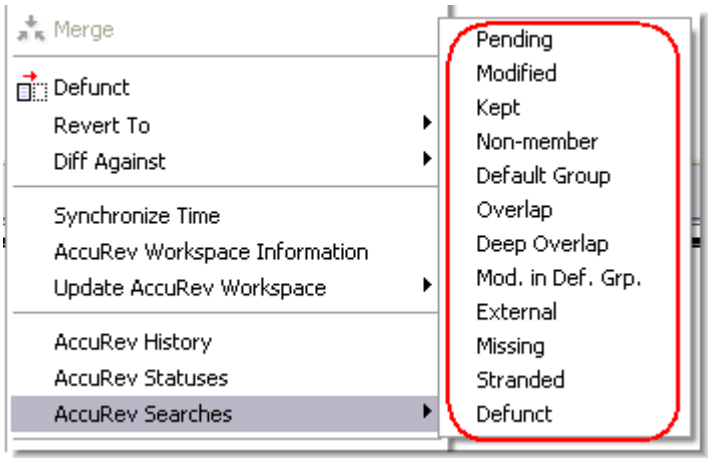
Element's pathname within the depot
AccuRev status (one or more indicators)
Version-id of this version
Element-id

The result table is displayed in the AccuRev Search/Status view. The previous contents of this view, if any, are discarded. See *AccuRev Search/Status View* on page 18.

AccuRev Searches

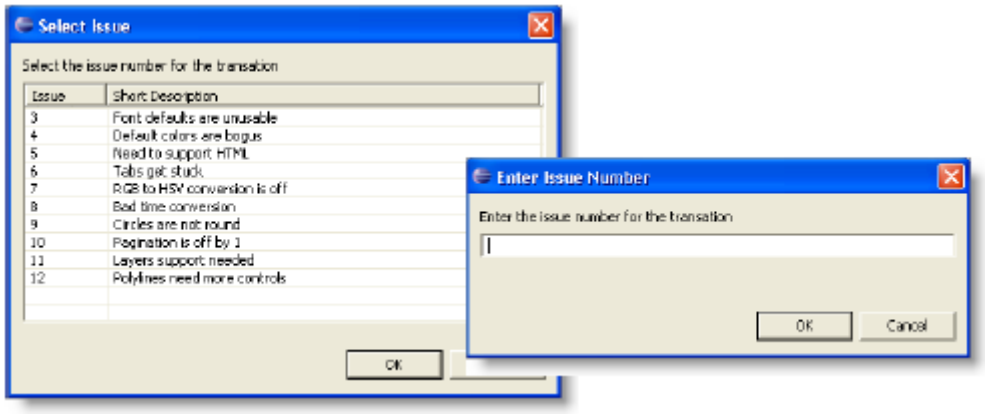
Searches the entire AccuRev workspace for elements that satisfy a search type that you select from a submenu.

The results are displayed as a table in the AccuRev Search/Status view. The previous contents of this view, if any, are discarded. See *AccuRev Search/Status View* on page 18.



Promote-Based Integrations with Issue Management

AccuRev defines two integrations — change-package-level and transaction-level — between its configuration management functionality and its issue management (AccuWork) functionality. The integrations are enabled separately, through AccuRev commands that are not available in the AccuRev plug-in. One or both of the integrations is triggered when you invoke a **Promote** command on a set of elements. You are prompted to specify an AccuWork issue record in a pop-up window.



If only the transaction-level integration is enabled *and* you do not have a default query defined for the issues database, the prompt window contains a text field into which you type an issue number (or several numbers, separated by SPACE characters). Otherwise, the prompt window offers a set of existing issue records, from which you select one or more. Then:

- The change-package-level integration (if enabled) records the promoted versions on the Changes tab of the specified issue record(s).
- The transaction-level integration (if enabled) records the **Promote** transaction number in the **affectedFiles** field of the specified issue record(s).

Note: if you use AccuRev to establish one of these integrations or to set a default query for the issues database while an Eclipse session is active, you might need to restart Eclipse to see the effect of this change.

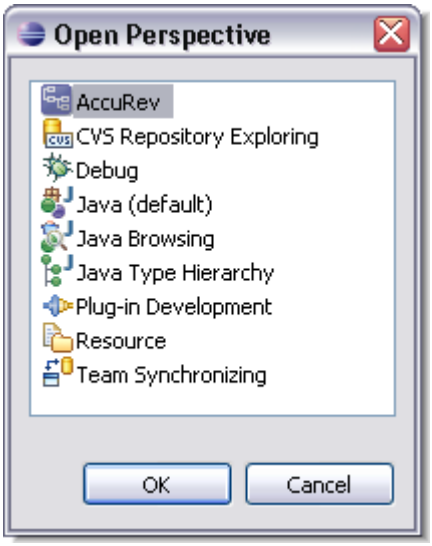
For more information, see Integrations Between AccuRev and AccuWork in the *AccuRev Administrator's Guide*.

The AccuRev Perspective

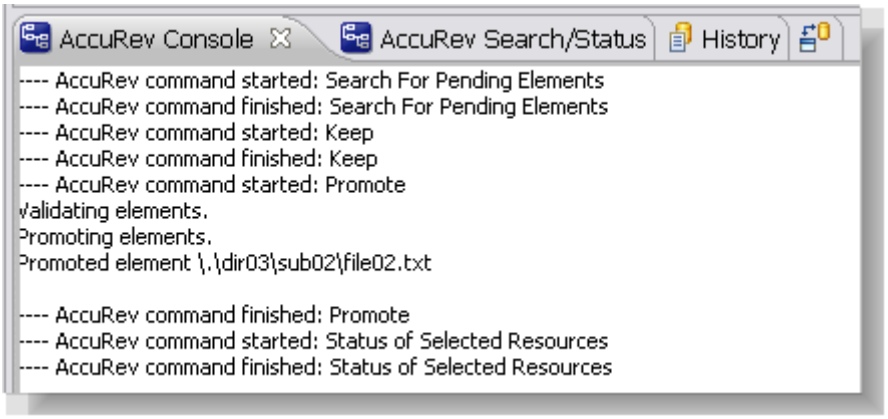
An Eclipse "perspective" defines a set of "views" (subwindows) to appear in the Workbench window. The AccuRev plug-in defines an **AccuRev** perspective, which includes these views:

AccuRev Console View
AccuRev Search/Status View
History View
Synchronize View

To open the AccuRev perspective, select **Window > Open Perspective > Other** from the Eclipse main menu. Select **AccuRev** in the Open Perspective dialog.



AccuRev Console View



Many AccuRev commands generate informational messages. When you invoke these commands in Eclipse, using the AccuRev plug-in, the messages are sent to the AccuRev Console view. This view automatically appears (if it's not already visible) whenever an AccuRev command produces a user message. You can also make the console appear using the Show View dialog (**Window > Show View > Other**). Choose **AccuRev Console** under the **AccuRev** node on the dialog.

Each time you invoke an AccuRev command through the **Team** context submenu, a notice is appended to the contents of the AccuRev Console view. For example:

```
---- AccuRev command started: Keep
---- AccuRev command finished: Keep
```

If the command produces output, it is sent to the console:

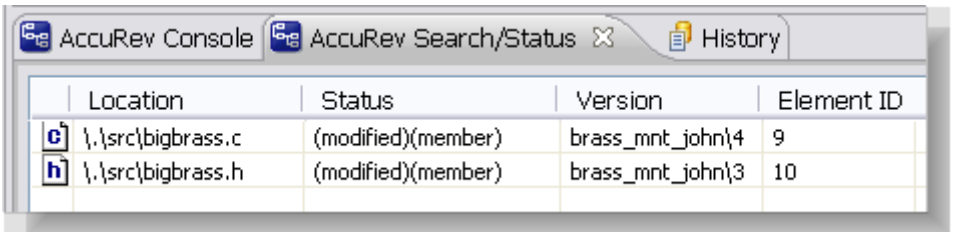
```
---- AccuRev command started: Promote
Validating elements.
Promoting elements.
Promoted element \.\dir03\sub02\file02.txt
---- AccuRev command finished: Promote
```

Some commands (for example, **Team > AccuRev History**) both write to the AccuRev Console view and write to another view in the AccuRev perspective (in this example, the AccuRev History view).

The data displayed in the AccuRev Console view is discarded when you close the view with its "X" control. It is not discarded if you switch to another view by clicking on its tab.

AccuRev Search/Status View

When you perform an AccuRev search (for example, **Team > AccuRev Searches > Modified**), the results are displayed as a table in the AccuRev Search/Status view.



The output of the **Team > AccuRev Statuses** command on a selection of one or more objects is also displayed in this view.

Each object is listed by its pathname relative to the AccuRev workspace's top-level directory. This is called a depot-relative pathname in AccuRev, and it always begins with `/./` (Unix/Linux) or `\.\` (Windows).

Working with the Results Table

The table in the AccuRev Search/Status view works in the usual way:

- Resize a column by dragging its right-hand column separator.
- Resize a column to accommodate the longest value by double-clicking its right-hand column separator. (You cannot rearrange the columns.)
- Click on a column header to sort the rows on that column's values. A second consecutive click reverses the sort order.

The data displayed in the AccuRev Search/Status view is discarded when you close the view with its “X” control, or when you perform another **AccuRev Searches** or **AccuRev Statuses** command.

Invoking Commands on Objects Displayed in the Results Table

You can invoke AccuRev commands on the objects displayed in the AccuRev Search/Status view. The context menu, including the **Team** submenu, provides access to the same AccuRev commands as in the Navigator view. This makes it easy to perform such operations as:

- Promoting some or all of the elements that are pending promotion.
- Placing under version control some or all of the workspace's external files.

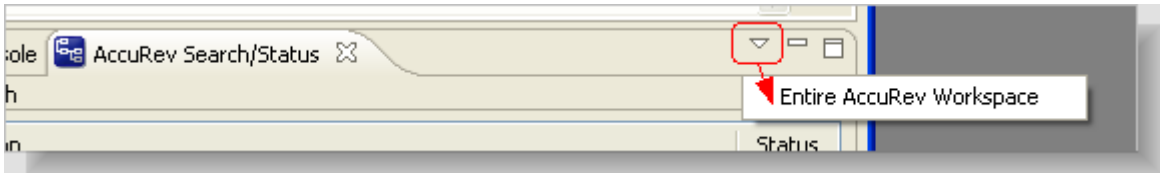
You may prefer to use Eclipse’s native “synchronize with the repository” interface to perform such operations. See *Synchronize View* on page 22.

Searches in Projects that Include Only Part of an AccuRev Workspace

An Eclipse project can include just part of an AccuRev workspace (called a *subtree*). You might create multiple such “subtree” projects that, as a group, span the entire AccuRev workspace. On the other hand, you might leave some portion(s) of the AccuRev workspace “uncovered” by the group of Eclipse projects.

When you select one or more files and/or directories and then perform an AccuRev search, the AccuRev Server provides the plug-in with the search results for the entire AccuRev workspace. The AccuRev Search/Status view initially filters the search results, displaying only the elements contained in the Eclipse project(s) containing the files and/or directories in your selection.

You can use the **Entire AccuRev Workspace** option on the drop-down menu near the minimize and maximize controls to remove the filtering of search output — elements that meet the search criterion throughout the workspace are displayed, even if they are not in the current Eclipse project. (These results can include elements that are not in any of the Eclipse projects.)



Use the drop-down menu to toggle the **Entire AccuRev Workspace** setting. This setting persists as long the AccuRev Searches view remains open.

Example: Suppose you've loaded just a workspace's **src** directory — not the **doc** or **tools** directory — into an Eclipse project. Invoking the command **Team > AccuRev Searches > Pending** displays the elements in the Eclipse project (that is, in the **src** directory) that are pending promotion. Then, turning on the **Entire AccuRev Workspace** setting expands the display to include all pending-promotion elements in the AccuRev workspace, including those that are not loaded into the Eclipse project.

History View

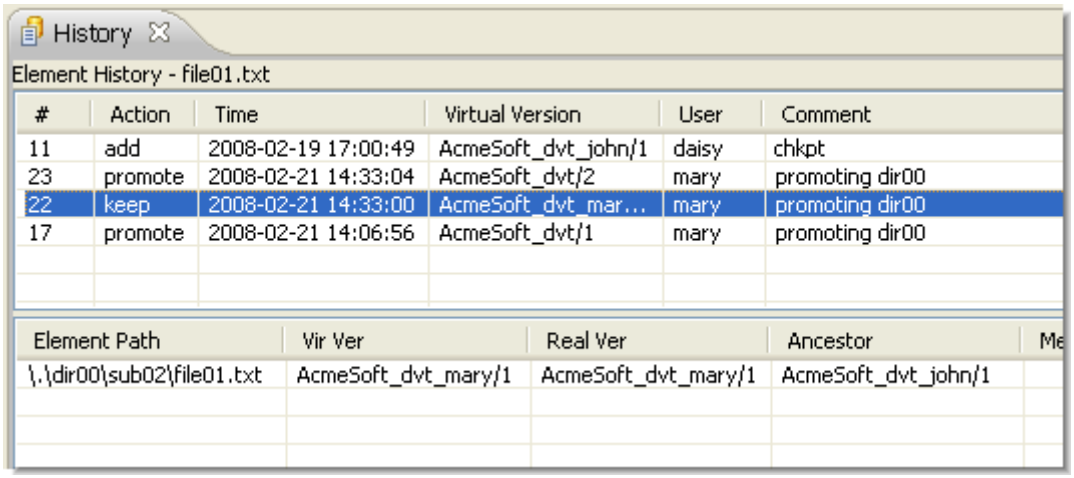
The Eclipse History view displays some or all of the AccuRev transactions involving a selected element.

The tables in the History view work in the usual way:

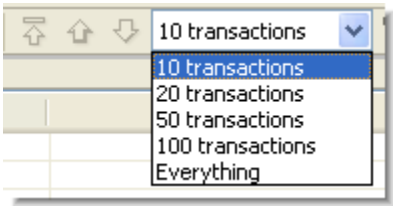
- Resize a column by dragging its right-hand column separator.
- Resize a column to accommodate the longest value by double-clicking its right-hand column separator. (You cannot rearrange the columns.)
- Click on a column header to sort the rows on that column's values. A second consecutive click reverses the order of the rows.

The data displayed in the AccuRev Search/Status view is discarded when you close the view with its “X” control, or when you perform another **AccuRev History** command.

The name of the element appears at the top of the view. By default, all transactions involving the element are listed in the transaction table directly beneath the element name.



If an element has many transactions, you can use the toolbar at the top of the tab to assist in navigating among them.



- The drop-down list at the right of the toolbar controls how many transactions are visible in the list. Choosing *20 transactions* restricts the transaction list to sets of 20 items each.
- If there are more transactions than the limit set in the drop-down list, the three buttons to its left allow you to move quickly to the first transaction, to the previous set of transactions, and to the next set of transactions.

Right-click an item in the transaction table to display a context menu. The context-menu commands operate on the version created by the selected transaction:

- **Open**: Opens the file for editing in Eclipse or an external editor.
- **Export**: Saves a copy of the selected file to a location you specify.
- **Diff Against > Other Version**: *(only enabled when two transactions are selected)* Compares the versions of the two selected transactions. The diff tool used by this command is defined as described in *Setting AccuRev-Related Preferences* on page 7.

The History view toolbar has four other buttons:

- **Refresh**: Checks for new transactions and displays them.
- **Link with Editor and Selection**: Displays transaction history for the file open in the editor. This command also inserts the file name into the Element History menu (see below).
- **Pins this history view**: Ensures that the History view remains on top of all other views.
- **Show Element History**: Displays a drop-down menu of up to 15 elements. Selecting an element from this menu re-displays the History view for that element. This menu is populated by the **Link with Editor and Selection** command.

The context for a selected transaction appears in the table at the bottom of the History view. This table shows all versions involved in the selected transaction. The versions table shows the depot-relative pathname of each version, along with stream information and any related AccuWork issue numbers. The context menu for items in this table includes **Open** and **Export** commands (described above), as well as the commands described below.

- **Diff Against > Previous Transaction**: Compare the selected version with the version that was in its workspace or stream just before the version was created.
- **Properties**: Displays the depot-relative pathname of the selected version, as well as the element type and ID.

Synchronize View

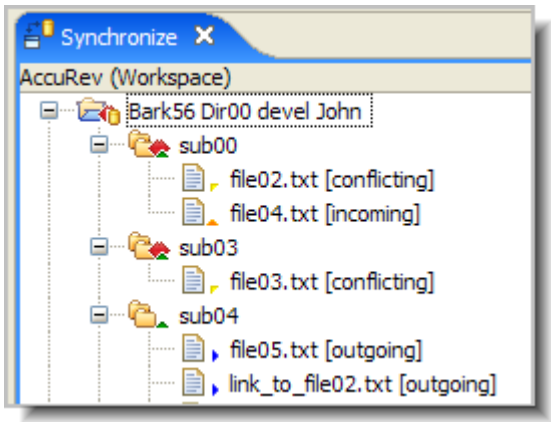
The AccuRev perspective includes the standard Eclipse “Team Synchronize” view. Most of the controls and commands available in this view work the same way with AccuRev as with the CVS version-control system. This means you can use Eclipse’s online help facility to learn about synchronization in general and about the specific facilities of this view. This section describes the AccuRev-specific aspects of using the Synchronize view.

An Eclipse “synchronization” is a file-by-file listing that answers the question, “what are the current differences between my project(s) and the repository?”. With AccuRev, a synchronization actually takes into account three locations:

- “project” means your AccuRev workspace tree, typically located on your machine’s hard drive.
- “the repository” contains two locations corresponding to a given project:
  - your AccuRev workspace stream, which tracks your private versions — for example, those created by **Keep**.
  - your AccuRev workspace’s backing stream, which tracks versions that you’ve made public — with **Promote**.

Since AccuRev also version-controls directories and links, a synchronization can list these objects, as well.

Eclipse annotates each object in a synchronization, to indicate the type of difference:



[incoming]

The object changed in the repository, but not in the project.

[outgoing]

The object changed in the project, but not in the repository.

[conflicting]

The object changed in both the project and the repository.

These categories correspond to the following AccuRev statuses:

Eclipse annotation	AccuRev status
[incoming]	(stale)
[outgoing]	(modified) (kept) (member) (external)
[conflicting]	(overlap)

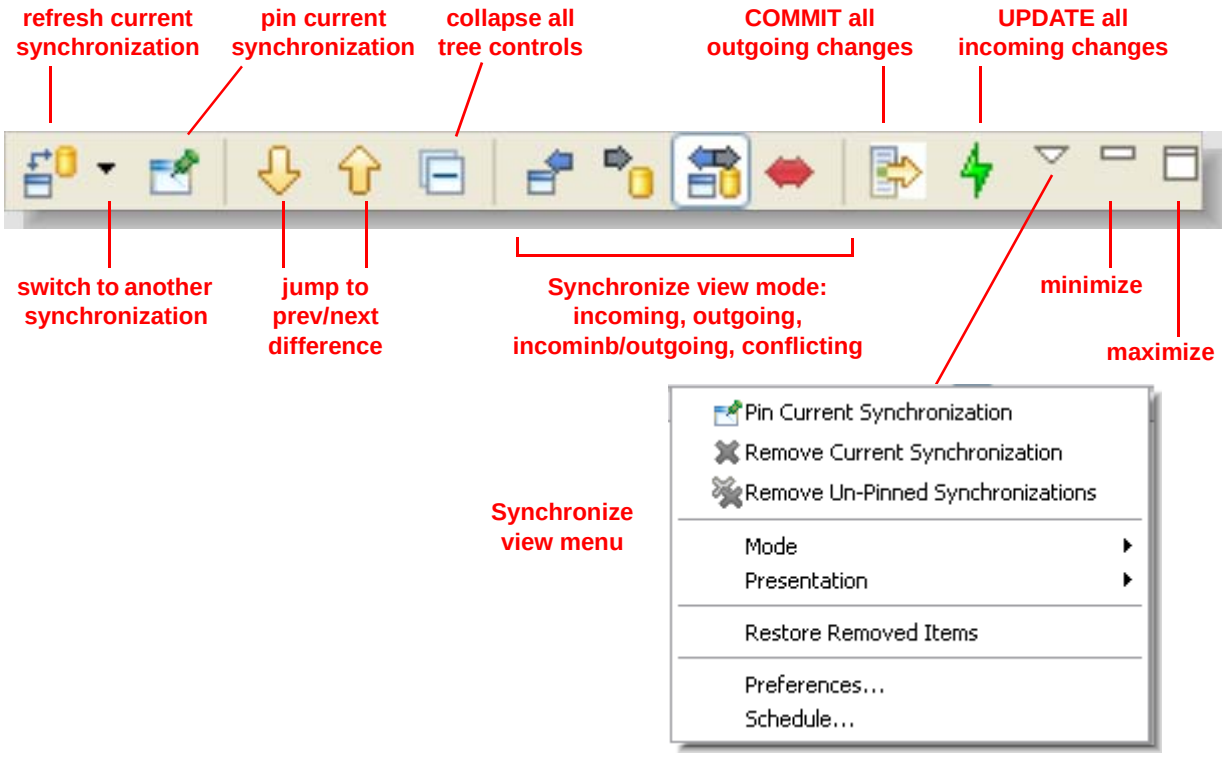
Notes:

- The AccuRev command **Anchor** changes a file's AccuRev status to **(member)**, but doesn't affect the file's contents. Such a file is classified as **[outgoing]** in a synchronization, even though there might be no difference between the file's contents in the project and in the repository.
- AccuRev icon label decorations are included for each object in the synchronization. (See *Object Decorations to Indicate AccuRev Status* on page 9.) These decorations can help you identify the various kinds of outgoing objects — for example, to distinguish the **(external)** files from the **(modified)** files. You can view an object's AccuRev status by invoking the **Show Properties** command from its context menu.

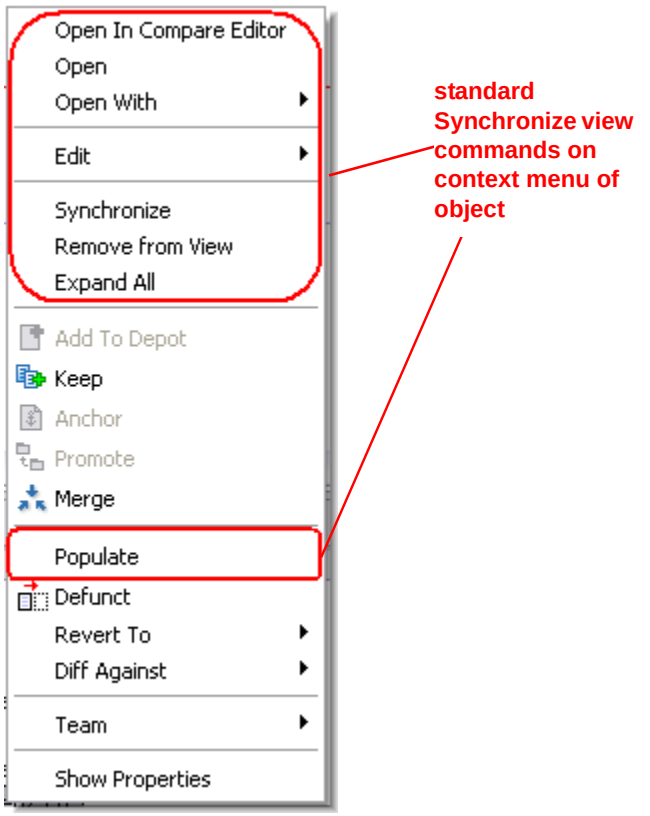
Performing Operations in the Synchronize View

You can work in the Synchronize view by invoking commands from its toolbar and from the context menu of an object (or a selected set of objects). Many of these commands work with AccuRev in exactly the same way as with CVS — for example, the context menu commands **Open in Compare Editor** and **Remove from View**, and the toolbar commands **Pin Current Synchronization**, **Mode**, and **Presentation**.

The following images provide a visual quick-reference for the standard Synchronize view commands. For detailed help, use Eclipse's **Help** menu.



The same AccuRev commands that are available in the Navigator view (**Keep**, **Promote**, **Defunct**, etc.) also appear on objects' context menus in the Synchronize view. These commands are described in section *AccuRev Command Summary* on page 10.



The **Populate** command is only available from an object's context menu in the Synchronize view. For more information, see "What's the Difference between Populate and Update?" in the *AccuRev Technical Notes*.

A common operation in the Synchronize view is comparing the project's version of a file with the repository's version. You can do this using Eclipse's tool or AccuRev's tool:

- To invoke Eclipse's Compare Editor, double-click the file or select **Open in Compare Editor** from its context menu.
- To invoke AccuRev's Diff Tool, select **Diff Against > Backed Version** from its context menu. (You can configure this command to invoke the Eclipse Compare Editor tool. See *Setting AccuRev-Related Preferences* on page 7.)

The following sections describe the most important Synchronize view operations: increasing the level of synchronization between your project and the repository, by "committing" (transferring data from the project to the repository) or by "updating" (transferring data from the repository to the project).

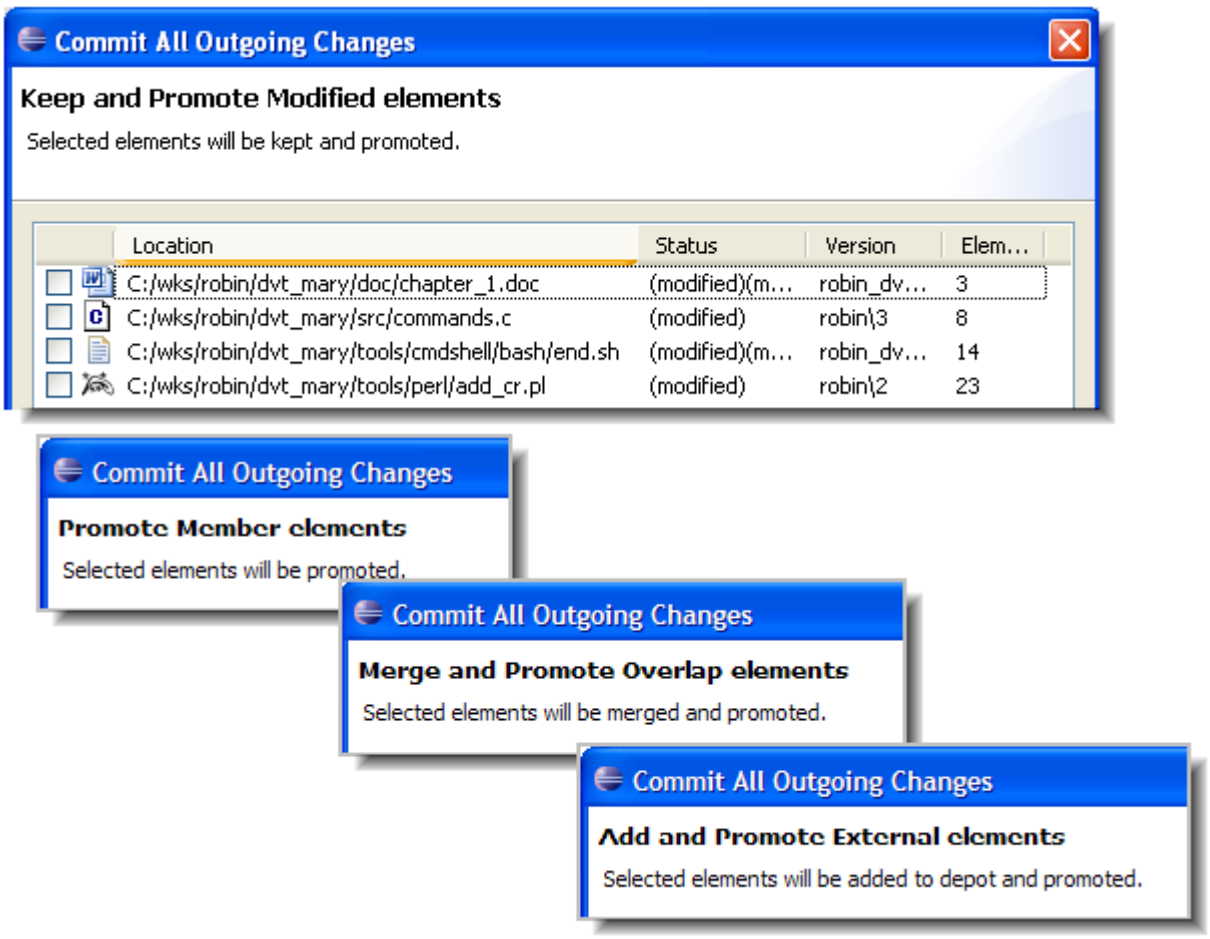
Committing Outgoing Changes

Eclipse uses the CVS term "commit" to mean the transferring of changes from your project to the repository. You initiate a commit operation by clicking the **Commit All Outgoing Changes** button in the Synchronize view toolbar. This launches a multiple-page wizard, which leads you through the invocation of some or all of these AccuRev operations:

- **Add to Depot** command, to create new versions of objects with **(external)** status.
- **Keep** command, to create new versions of elements with **(modified)** status.
- **Merge** command, to create new versions of elements with **(overlap)** status.
- **Promote** command, to send to the backing stream the project's **(kept)** versions — including versions created during this wizard session.

These operations are organized into a series of pages. On each page, you can select none, some, or all of the eligible [outgoing] elements to be processed. The AccuRev operations take place when you click **Finish** on the wizard's final page.

One invocation of **Commit All Outgoing Changes** can result in many AccuRev commands being performed. If your synchronization spans multiple projects in multiple AccuRev workspaces, separate AccuRev transactions are performed for each workspace. The wizard prompts you just once for a comment string, and attaches it to each AccuRev transaction that accepts comments.



Updating Incoming Changes

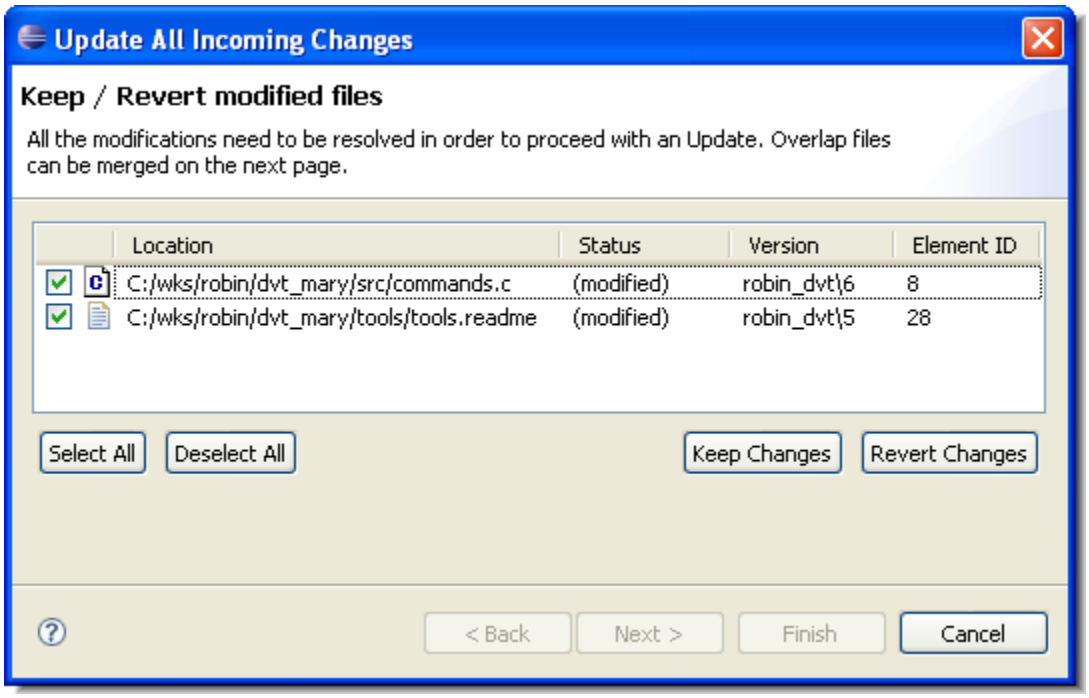
Eclipse uses the CVS term "update" to mean the transferring of changes from the repository to your project. AccuRev uses the term "update", also. Sometimes, clicking the **Update All Incoming Changes** button in the Synchronize view toolbar simply performs an AccuRev **Update** command. But it sometimes launches a multiple-page wizard, which leads you through some operations to be performed before the AccuRev **Update** command proceeds.

The wizard's first page handles the following "AccuRev Update restriction":

> An AccuRev **Update** cannot proceed if any element has **(modified)** status but does not also have **(member)** status.

That is, the offending elements have not been made “active” in the workspace with the **Anchor** or **Keep** command. You can locate such elements in the Navigator view with the command **Team > AccuRev Searches > Non-member**.

(This page does not appear if the synchronization contains no such “non-member” elements.)



On this page, you *must* process all listed elements whose status is **(modified)**. You can process **(overlap)(modified)** elements here, too — or you can wait to process some or all of them on the next page.

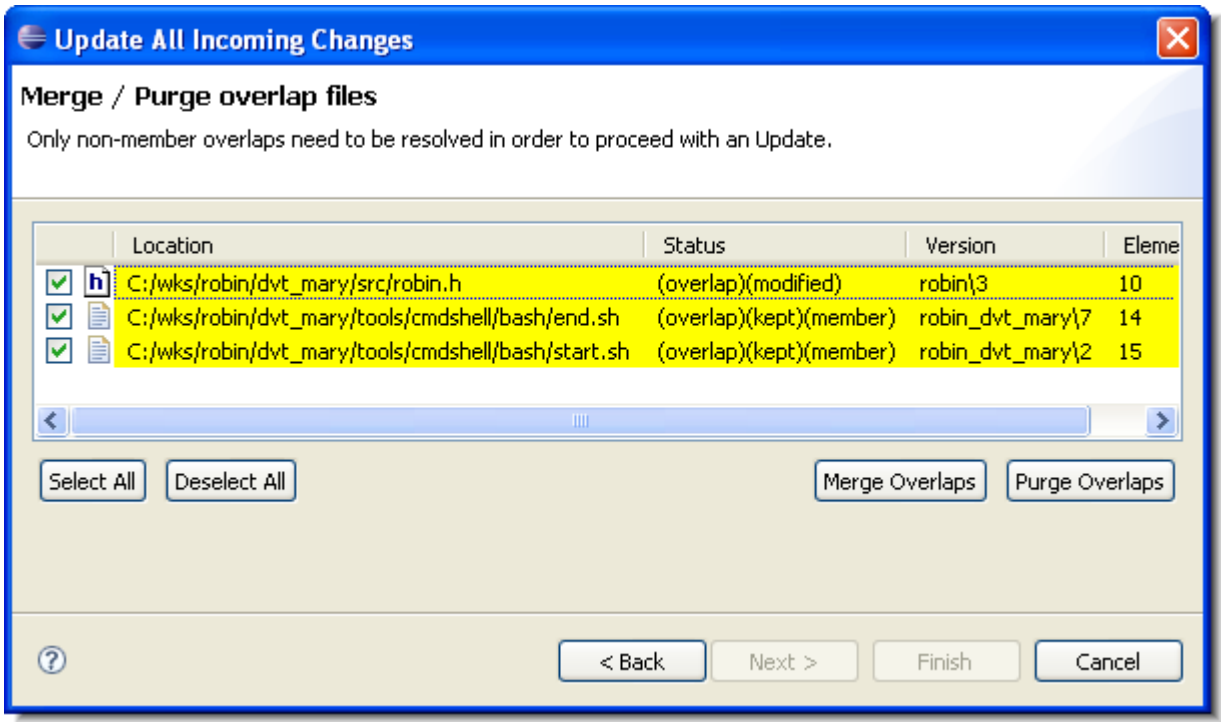
You can resolve the **(modified)** status of elements in either of these ways:

- **Keep Changes** performs a **Keep** command on all the selected elements. These elements will not be overwritten in the coming **Update** operation.
- **Revert Changes** performs a **Revert to Backed** command on all the selected elements. These elements will be overwritten in the coming **Update** operation if there’s a newer version in the repository (that is, in the backing stream).

When the list has no more elements whose status is **(modified)** only, you can:

- Click **Next** to proceed to the second wizard page, on which you specify **Merge** operations to be performed before the **Update**.
- Click **Finish** to proceed directly to the **Update**, without doing any merge work.
- Click **Cancel** to exit the wizard without performing the **Update** at all. (This does not cancel your **Keep Changes** and **Revert Changes** work, which has already taken place.)

The wizard’s second page handles files with **(overlap)** status. If you chose not to handle one more files with **(overlap)(modified)** status on the preceding page, they appear here.



You must resolve files with **(overlap)(modified)** status, because of the AccuRev Update restriction discussed at the beginning of this section. Resolving files with **(overlap)(kept)(member)** status is optional, because the AccuRev Update restriction doesn't apply to them.

You can resolve the **(overlap)** status of elements in either of these ways:

- **Merge Overlaps** performs a **Merge** command on all the selected elements, combining the changes in the repository (backing stream) with your project's changes. This **Keep**'s a new version of each element. These elements will not be overwritten in the coming **Update** operation — but that's OK, since you've already incorporated the changes from the repository (backing stream).
- **Purge Overlaps** performs a **Revert to Backed** command on all the selected elements. In the coming **Update** operation, these elements will be overwritten by the repository (backing stream) version that caused the overlap.

When the list has no more elements whose status is **(overlap)(modified)**, you can:

- Click **Finish** to proceed to the **Update**.
- Click **Cancel** to exit the wizard without performing the **Update** at all. (This does not cancel your **Merge Overlaps** and **Purge Overlaps** work, which has already taken place.)

Checkout From AccuRev

The *Checkout From AccuRev* wizard is the preferred method for starting to work in Eclipse with source data that is already under AccuRev version control. Start this wizard by selecting **File > New > Project** from the Eclipse main menu, then navigating down to **Accurev > Checkout From AccuRev**. Using the wizard, you can either:

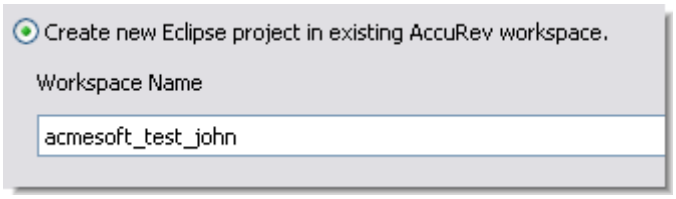
- Create a new Eclipse project, associated with an existing AccuRev workspace.
- Create a new Eclipse project, associated with a newly created AccuRev workspace.

Note: A third way to work with AccuRev data in Eclipse is to create a project in an AccuRev workspace directory, then share the project with AccuRev:

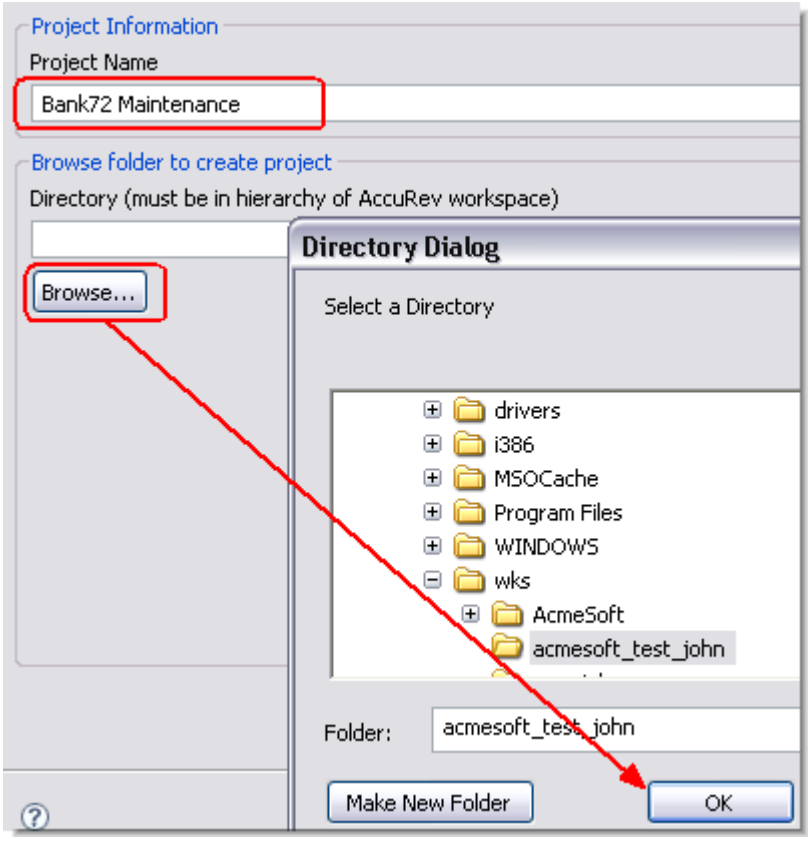
The following sections describe each of these operations in detail.

Creating a New Eclipse Project in an Existing AccuRev Workspace

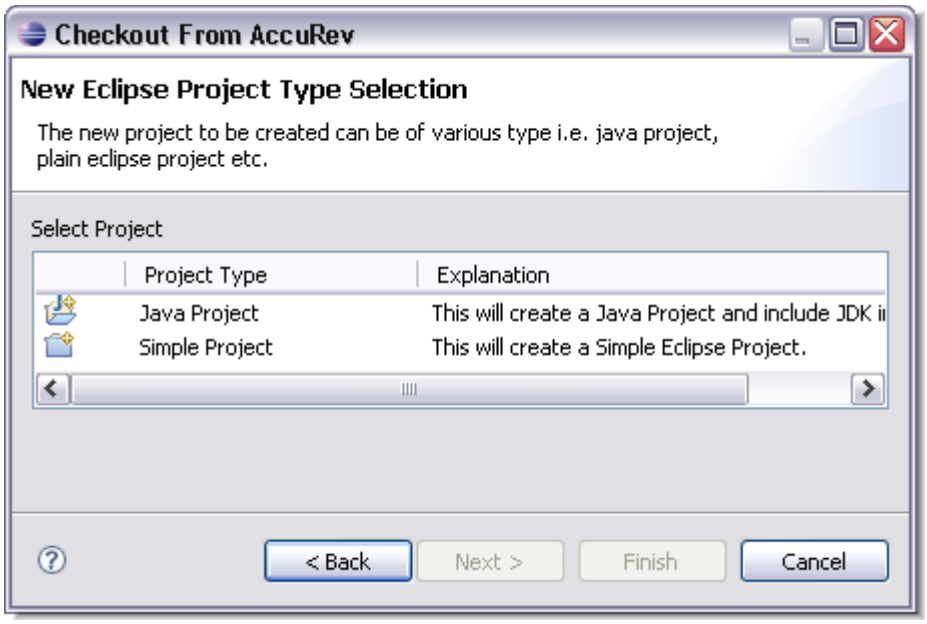
1. Click the **Create new Eclipse project in existing AccuRev workspace** radio button.
2. Select an AccuRev workspace from the **Workspace Name** field, then click **Next**.



3. On the next wizard screen, enter a project name.
4. Click **Browse**, and select the directory to become the Eclipse project's top-level directory:
   - To create an Eclipse project associated with the entire AccuRev workspace, click **OK** to accept the wizard's suggestion — the workspace's top-level directory.
   - To create an Eclipse project associated with a subtree of the AccuRev workspace, navigate down to the desired subtree's top directory. Then click **OK**.



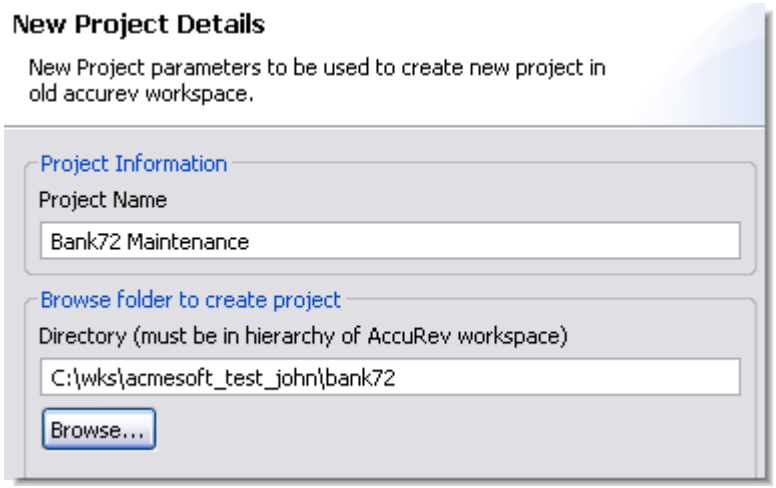
5. Click **Next**.
6. On the final wizard screen, select a project type.



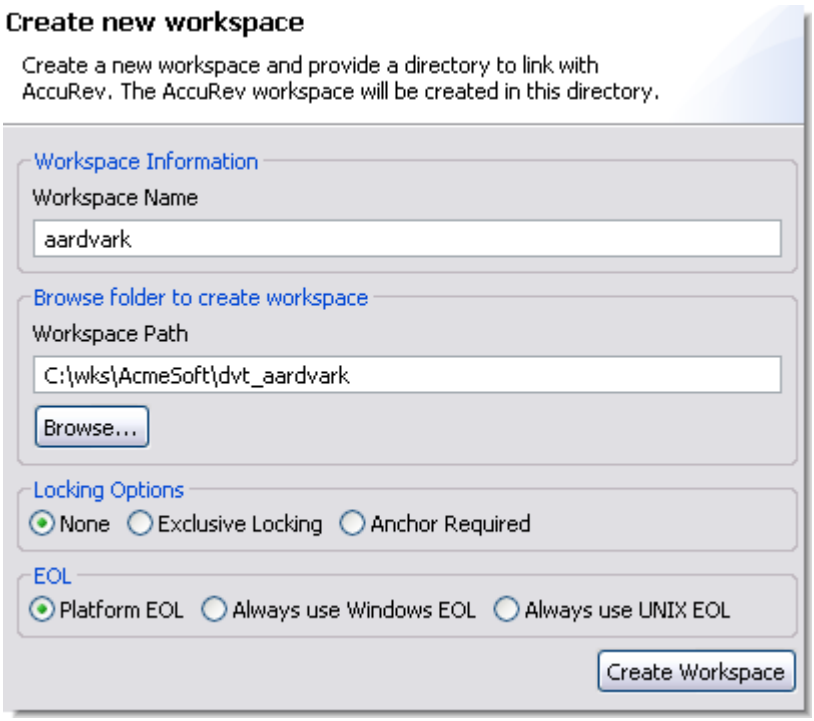
7. Click **Finish** to associate the new Eclipse project with your existing AccuRev workspace.

Creating a New Eclipse Project in a New AccuRev Workspace

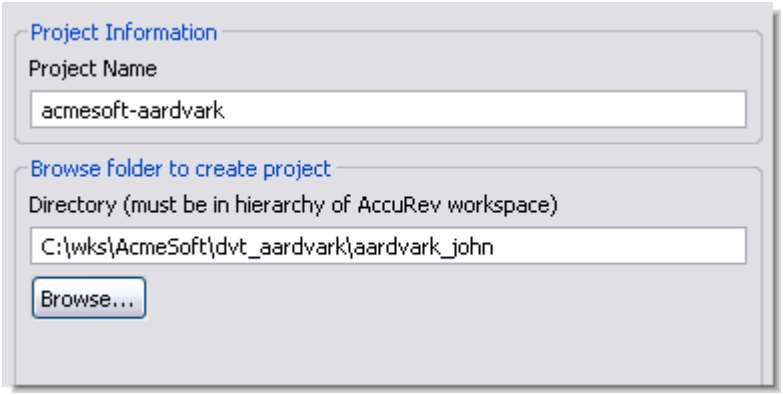
1. Click the **Create new Eclipse project and new AccuRev workspace** radio button.
2. To specify the backing stream for the new workspace, select an AccuRev depot and one of its streams.
3. Click **Next**.



4. Specify a name for the new AccuRev workspace.
5. Click the **Browse** button, and create a new directory (folder) for the AccuRev workspace.
6. Specify optional parameters for the new AccuRev workspace. If you choose either of the locking options, you'll need to perform a **Team** > **Anchor** command on a file in the project before editing the file.
7. Click **Create Workspace**.
8. Click **Next**.



9. Enter a project name and location for the new Eclipse project. Note that the Eclipse project location folder is created by concatenating the AccuRev workspace name and current user name.
10. Click **Next**.
11. On the final wizard screen, select a project type and click **Finish**.



Sharing a New Eclipse Project with AccuRev

1. Select **File** > **New** > **Project** from the Eclipse main menu.
2. Pick a project type.
3. Clear the **Use default location** checkbox if it appears on the next wizard page. Specify your AccuRev workspace's top-level directory (or a subdirectory) as the project location.
4. Enter all necessary project options for your chosen project type.
5. Click **Finish** to create the new project.

6. In the Navigator view, select **Team > Share Project** from the new project's context menu.
7. Choose the **AccuRev** plug-in from the resulting dialog and click **Finish** to associate the new project with the AccuRev workspace.

Advanced Techniques for Using AccuRev Data

If you want to work with several distinct subtrees of an existing AccuRev workspace, you must create a separate Eclipse project for each subtree. When performing AccuRev commands that search through all the files in a project, you can choose to include all such "sibling" projects in a single search. See *Searches in Projects that Include Only Part of an AccuRev Workspace* on page 19.

There's an alternative to creating several projects for several workspace subtrees: use AccuRev's include/exclude facility to configure the AccuRev workspace with just the files you want. Then, create an Eclipse project using the entire workspace.