Oracle® Enterprise Repository

Integration with Eclipse Using Oracle Workshop for WebLogic

10*g* Release 3 (10.3)

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Oracle Enterprise Repository Integration with Eclipse Using Oracle Workshop for WebLogic, 10*g* Release 3 (10.3)

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CHAPTER 1

Getting Started

This section contains information on the following subjects:

Repository Access and Assembly Model Composition

The Oracle Enterprise Repository plug-in for Oracle Workshop for WebLogic provides repository integration within the Eclipse IDE so you can easily search for and use assets from the repository without leaving the Eclipse environment. Assets and any associated artifacts are downloaded directly to your Eclipse workspace. Integration also provides a convenient way to submit assets to Oracle Enterprise Repository for use throughout the enterprise.

Repository Access within the Eclipse workspace also provides a view into Oracle Enterprise Repository that enables you to save/submit assets to the repository, download artifacts and assets from the repository, query the repository, and view the contents of the repository.

Oracle Workshop for WebLogic also includes the Service Assembly Modeler (SAM) plug-in for Oracle Workshop for WebLogic that supports the visualization of composite applications. Composition occurs within an Eclipse-based development environment.You can also view the assembly model for composite applications, as well as the XML definition of the composite.

Example Use Cases

Locate and Download an Asset into an Eclipse Project

Perform a simple keyword search in Oracle Enterprise Repository to locate an asset and download its payload into an Eclipse project.

Locate an Asset and View Its Metadata in Oracle Enterprise Repository

Perform simple or complex searches in Eclipse to locate an asset in Oracle Enterprise Repository in order to view the asset's metadata.

View Prescribed Assets

Through the Oracle Enterprise Repository, analysts, architects, technical leads, and others that are involved in the design stages of a project can create a list of assets that might fulfill a project's requirements. The lists of assets are captured in compliance templates in the repository, and the compliance templates are associated with an Oracle Enterprise Repository project. From the Enterprise Repository Access viewer in Oracle Workshop for WebLogic you can view a list of assets appearing in all of the Compliance Templates assigned to your project. The viewer will

indicate which of the assets have been used by you and/or other project members. The viewer will also display other assets that are already in use in the project.

Submit an Assembly Model to Oracle Enterprise Repository

An Assembly Model is a set of related assets representing the structure of an Oracle Workshop for WebLogic integration project in terms of the SCA standard. When a project is submitted from Oracle Workshop for WebLogic, an Assembly Model is automatically created. The model consists of a root asset, of type *Assembly Model*, that logically contains all the other assets in the model. The model assets represent Components, Services, Interfaces, and Bindings defining an Oracle Workshop for WebLogic project, as well as Composites that define a hierarchical composition structure. The relationships used to connect the assets in the Assembly Model are Oracle Enterprise Repository system-supplied relationships. This functionality is only supported with Oracle Service Bus.

Related Documentation

- Oracle Enterprise Repository on OTN – The home page for Oracle Enterprise Repository on Oracle Technology Network (OTN) is:

  http://www.oracle.com/technologies/soa/enterprise-repository.html

- Architect Center: SOA Governance: Essential to Your Business - Learn how effective SOA governance is an essential element in any enterprise transformation strategy by reading the Architect Center: SOA Governance: Essential to Your Business documents at:

  http://www.oracle.com/technology/architect/soa/soagov/index.html

- SOA Blog - Keep on top of the latest SOA blogs at:

  http://blogs.oracle.com/governance

Terminology

Table 1-1 defines the terms and acronyms used this document:

Table 1-1 Terminology

Terms	Definition
Oracle Workshop for WebLogic	The Eclipse IDE, branded for use by Oracle products. Oracle Workshop for WebLogic is common to all of Oracle's products that use an Eclipse-based IDE.
Oracle Enterprise Repository Plug-in	Provides repository integration within Oracle Workshop for WebLogic, so you can easily search for and use assets from the repository without leaving the Eclipse environment. The plug-in also allows users to view prescribed assets.
SAM Plug-in	Within Oracle Workshop for WebLogic, SAM supports the visualization of composite applications.
Assembly Model	A set of related assets representing the structure of an Oracle Workshop for WebLogic integration project in terms of the SCA standard.
Oracle Enterprise Repository Projects	Projects are the primary means of gathering metrics in Oracle Enterprise Repository. Oracle Enterprise Repository tracks assets produced by projects, as well as assets consumed by projects.
SFID (Software File Identification)	Allows automated usage detection for assets. SFID tags selected files within an asset with a unique ID. This SFID is then used to detect when and where an asset is used.

CHAPTER 2

Administrative Prerequisites and Establishing the Oracle Enterprise Repository Connection

This section contains information on the following subjects:

Configuring the Oracle Enterprise Repository Plug-ins for Repository Access in Workshop for WebLogic

For instructions on installing the Oracle Enterprise Repository plug-ins for repository access within the Eclipse-based Oracle Workshop for WebLogic IDE, see the *Oracle Enterprise Repository Installation Guide*.

Uninstalling the Oracle Enterprise Repository Plug-ins

When uninstalling the Oracle Enterprise Repository plug-ins, Oracle Workshop for WebLogic will also be removed if it was installed by the Oracle Enterprise Repository installer. This may not be desirable if other plug-ins were since added to Oracle Workshop for WebLogic. To avoid uninstalling additional Oracle Workshop for WebLogic plug-ins, deselect the Oracle Enterprise Repository plug-ins for Eclipse option from the list of components to uninstall.

Installing Products After Installing Oracle Enterprise Repository

If Oracle Service Bus applications are installed after the Oracle Enterprise Repository plug-in is installed, then Eclipse must be launched using the `-clean` flag.

Prerequisites for Using the Oracle Enterprise Repository Plug-ins with Workshop for WebLogic

You should complete the prerequisites described in this section before using the Oracle Enterprise Repository plug-ins for Oracle Workshop for WebLogic.

Installing the Eclipse Solution Pack

In order to be able to submit Oracle Service Bus projects as assembly models to the repository, you must first import the Eclipse Solution Pack that is bundled with your installation into Oracle Enterprise Repository.

1. Start the Oracle Enterprise Repository Import/Export tool, as described in the *Oracle Enterprise Repository Import/Export Guide*.
2. Select the **Import** tab.
3. Navigate to the *BEA_HOME*`\repository103\core\tools\solutions` folder.
4. Select the `OER103-Eclipse-Solution-Pack.zip` as the target file to import into Oracle Enterprise Repository.
5. Click **Next**, and then click **Next** again to start the import process.
6. Click **Finish** to complete the process.
7. After importing the Eclipse Solution Pack, you must reestablish connectivity to the Oracle Enterprise Repository plug-ins by using the Eclipse Preferences page, as described in "Configuring the Oracle Enterprise Repository Connection" on page 5-2.

Once connectivity is established, then the Oracle Enterprise Repository plug-in imports all the necessary asset types, taxonomy, relationships, and other entities for application integration to Oracle Enterprise Repository. Once these entities are imported, they will be available whenever you connect the Oracle Enterprise Repository plug-in to the enterprise repository.

Assign Users to an Oracle Enterprise Repository Project

In order to download assets from the repository, users must be assigned to at least one Oracle Enterprise Repository project. An Oracle Enterprise Repository project administrator can assign users to projects using the Oracle Enterprise Repository Projects page.

Obtain the Eclipse integration path from the Oracle Enterprise Repository administrator. (For example, `http://appserver.example.com/aler-web/eclipse`).

Enabling the Assets-in-Progress Properties

Two system settings must be enabled in order to activate Assets-in-Progress when using Oracle Workshop for WebLogic with Oracle Enterprise Repository.

This procedure is performed on the Oracle Enterprise Repository Admin screen.

1. Click **System Settings**.
2. Click **General Settings** in the System Settings section.
3. Enter the property **cmee.asset.in-progress** in the Enable New System Setting box and click **Enable** to reveal this hidden property.
4. Make sure the **Asset in Progress** property is set to **True**.
5. Click **Save**.
6. Enter the property **cmee.asset.in-progress.visible** in the Enable New System Setting box and click **Enable** to reveal this hidden property.
7. Make sure the **Asset in Progress** property is set to **True**.
8. Click **Save**.

The Registration Status drop-down menu will now appear in the Search section on the AquaLogic Enterprise Repository Assets screen. For more information about Assets-in-Progress, see the *Oracle Enterprise Repository Registrar Guide*.

Enabling Assembly Model Submission Properties

In order to be able to submit Oracle Service Bus projects as assembly models to the repository, this capability must be enabled in the Oracle Enterprise Repository System Settings. You can also enable the logging of asset submissions from external endpoints.

1. Click **System Settings** in the sidebar on the Oracle Enterprise Repository **Admin** page.
2. Enter the property **cmee.tooling.submission.enabled** in the Enable New System Setting box and click **Enable** to reveal this hidden property.
3. Set the **Asset Submission from Integrated Endpoint** property to **True** to enable asset submissions generated through integrations with external endpoints.
4. Click **Save**.
5. Enter the property **cmee.tooling.submission.logging** in the Enable New System Setting box and click **Enable** to reveal this hidden property.
6. Set the **Submission Logging of Integrated Endpoint** property to **True** to enable the logging of import/export jobs controlling asset submissions through integrations with external endpoints.
7. Click **Save**.

For more information about System Settings, see the *Oracle Enterprise Repository Administration Guide*.

SiteMinder

If Oracle Enterprise Repository is or will be configured to be secured by Siteminder, the policy server must be configured to ignore (or unprotect) the following URL:

```
http://appserver.example.com/aler-web/eclipse/
```

Java JDK

The Java Cryptography Extension (JCE) is required. It is provided in JDK v1.4, and is available as an optional package in JDK 1.2.x through 1.5.x. Note that Oracle Enterprise Repository plug-ins for use with Eclipse 3.x require JDK v 1.5.x or later.

XML Parsing

Since Editor and Viewer metadata is represented as CDATA-escaped XML, some XML parsers may exceed their entity expansion limit when communicating with Oracle Enterprise Repository. For example, if you have defined a large number of Asset Types in Oracle Enterprise Repository, then you may need to increase the Entity Expansion Limit of your XML parser.

On some popular parsers, the default entity expansion limit is set to 64,000. This limit can be increased on JAXP-compliant processors by passing a command-line parameter called `entityExpansionLimit`. The `entityExpansionLimit` can be increased by passing a VM argument on the Eclipse command-line (modify the Eclipse desktop shortcut). For example, set the target of the shortcut to the following:

```
  c:\eclipse\eclipse.exe -debug -consolelog -vmargs
-DentityExpansionLimit=1048576
```

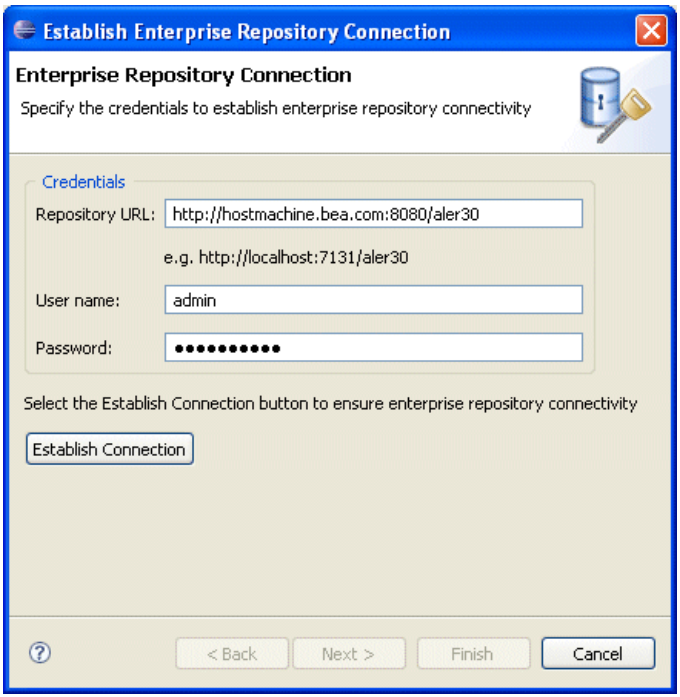
Configuring the Oracle Enterprise Repository Connection

When you invoke an action on a repository, such as querying or publishing assets, before repository connectivity has been established, then the Connect to Enterprise Repository wizard will either be automatically displayed (in the case of querying the repository), or will be launched by an explicit user gesture.

Note: If credential information had been specified in a previous session, the wizard will display this persisted information when it is launched.

1. In the Credentials area, enter the server location and login credentials, as follows:
   - **Repository URL** – the URL of the repository server. The URL must include the host, port, and Oracle Enterprise Repository server name. For example, `http://localhost:7001/oer`.
   - **User Name** – user name to gain access to the repository.
   - **Password** – password to gain access to the repository.

Figure 2-1 Establish Enterprise Repository Connection

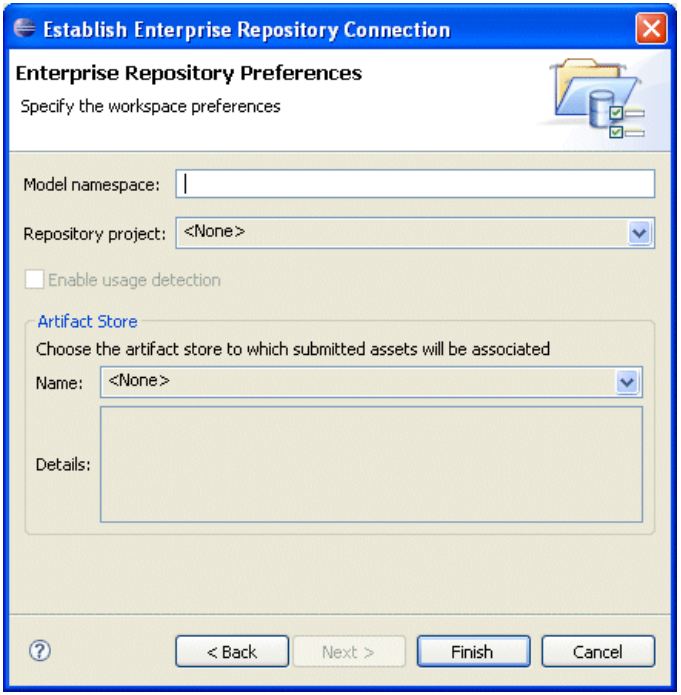


2. Click the **Establish Connection** button to ensure enterprise repository connectivity.

   If a connection cannot be established, an appropriate error message will be displayed.

3. Once connectivity is established, you can either:
   - Click **Finish** to exit.
   - Click **Next** to select your workspace preferences (skip to Step 4).

Figure 2-2 Specify Workspace Preferences



4. Once connectivity is established, you can specify your workspace preferences:
   - Enter a **Model Namespace** to use as a default for your all of your projects. The Namespace provides a means to organize your models, with the Namespace pre-pended to the names of all the assets in the model in the repository. However, you can change the Namespace on a project-by-project basis (such as when submitting assets), and the new Namespace will only be saved for that project, but will not affect the Workspace Preference name.
   - Select a **Repository project** in Oracle Enterprise Repository that the submitted model will be associated with. Asset usage is tracked in the repository and attributed to repository projects, which typically represent software development programs, business initiatives, etc.
   - **Enable usage detection** – If you selected an Oracle Enterprise Repository project as the workspace default, usage detection will be enabled for the default Oracle Enterprise

Repository project. For more information about workspace preferences, see Chapter 5, "Setting Eclipse Preferences for Oracle Enterprise Repository."

5. The **Artifact Store** area displays the name of a preconfigured Artifact Store that the submitted assets will be associated with. Artifact Stores are Oracle Enterprise Repository's representation of Software Configuration Management (SCM) systems. SCMs contain the master artifacts, which are referenced by URLs in Artifact Assets and in asset FileInfos. Only those Artifact Stores that have been defined by an Oracle Enterprise Repository administrator will appear in the **Name** list. If an SCM does not appear in the **Name** list, an administrator must add it to the Oracle Enterprise Repository instance. The **Details** box may also display some additional information about the Artifact Store.
6. Click **Finish** to exit.

CHAPTER 3

Viewing and Querying Assets In the Repository

This section contains information on the following subjects:

Understanding the Enterprise Repository Access View

The Enterprise Repository Access view provides access to assets and artifacts in the Enterprise Repository. You can search for assets matching various criteria or view assets that may be of interest to your project. For selected assets, you can view details and relationships, and can also download associated artifacts into your workspace.

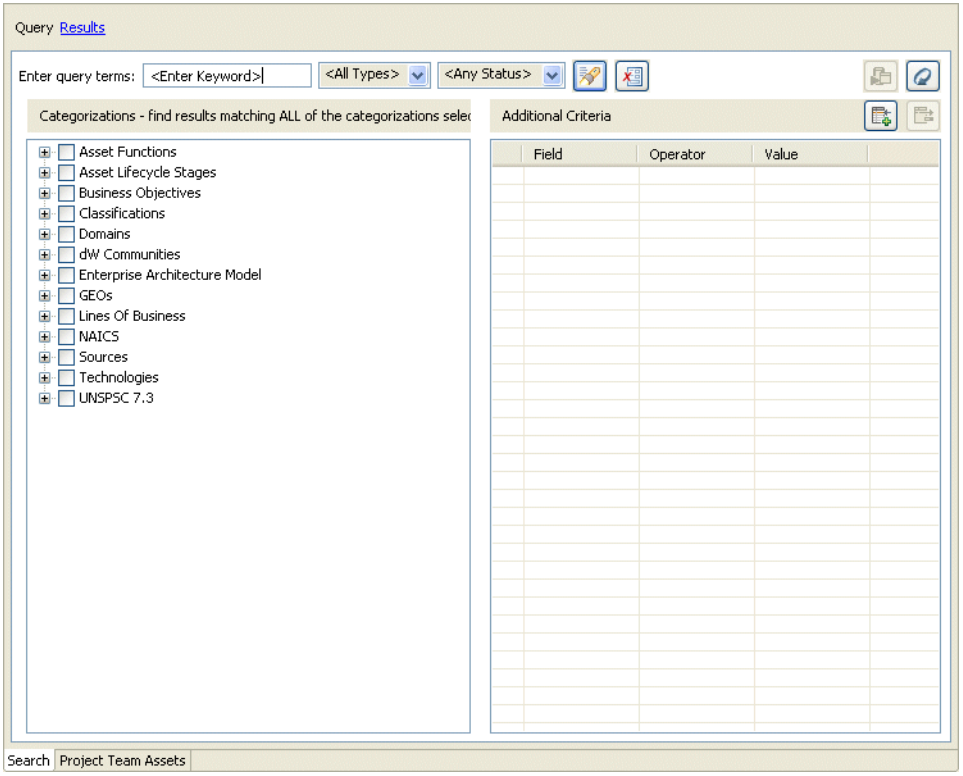
Displaying the Enterprise Repository Access View

To display the Enterprise Repository Access view:

1. Open the Window menu.
2. Select **Show View**.
3. Select **Other**.
4. Select the **Enterprise Repository Access** option.

The Enterprise Repository Access view is displayed as a tabbed pane containing Search and Project Team Assets panes.

Figure 3-1 Two-Tabbed Enterprise Repository Access View



The **Search** tab enables querying of assets and displays results based upon specified criteria, as discussed in "Searching for Assets" on page 3-3.

The **Project Team Assets** tab allows you to view all assets associated with a specified Oracle Enterprise Repository project, as discussed in "Viewing Prescribed Assets" on page 3-8.

Searching for Assets

The Search tab displays a toolbar at the top that is visible whether the active view is the Query pane or the Results pane. You can toggle between the two displays by clicking either the **Query** link or the **Results** link, depending on which pane is active at the time.

The Query Pane

The Query pane, as shown in Figure 3-1, allows you to easily construct asset query filtering to view assets that may be of interest to your project, including Assembly Model assets imported from an integrated external endpoint, such as an Oracle Service Bus project, and common Oracle Enterprise Repository assets already defined in your Oracle Enterprise Repository instance.

Query Pane Toolbar

Table 3-1 describes the options that are available to query assets.

Table 3-1 Asset Query Options

Icon	What it means...
Enter Keyword box	When the query is invoked, all results will contain this keyword (if one has been specified) as part of a well-defined set of fields (e.g. name, description, categories, etc.)
Asset Type menu	Displays all asset types, which allows you to filter assets by a specified selection. When a selection occurs, the specific fields associated with this asset type are added to the Additional Criteria table. Three important asset types to note are: • <Assembly Model Assets> – assets that are submitted from an integrated external endpoint, such as Oracle Service Bus. • <Common Assets> – legacy assets from an existing Oracle Enterprise Repository instance. • <Consumable Assets> – integrated endpoint services that are consumable by Oracle Workshop for WebLogic plug-ins, which restricts them to services exposed or promoted as public services in the assembly model.
Registration Status menu	Displays all registration status values, which allows you to filter assets by a specified selection.
	**Connect to enterprise repository** – If no connection to a repository has been established, this button invokes the Connect to Enterprise Repository wizard, which will prompt you for connection credentials.
	**Perform query** – If a repository connection has been established, this button queries the enterprise repository based upon the specified criteria. Once the results are obtained, the Results pane will automatically become visible.

Table 3-1 Asset Query Options (Continued)

Icon	What it means...
	**Clear all query criteria** – Clears all query criteria fields to prepare for another query.
	**Refresh enterprise repository information** – Queries the enterprise repository for its metadata, and repopulates the appropriate fields based upon the results of this query.

Categorizations Tree Viewer

The Categorizations tree viewer provides a convenient way to query for assets associated with a set of categories, with most option containing appropriate subcategories. If a category is selected all its existing subcategories are also selected. If a subcategory has a parent, the parent checkbox state is also selected. Conversely, if a category is deselected all its subcategories are deselected.

Note: If more than one categorization type is used in the criteria, the selected types are ANDed together. There is no OR option.

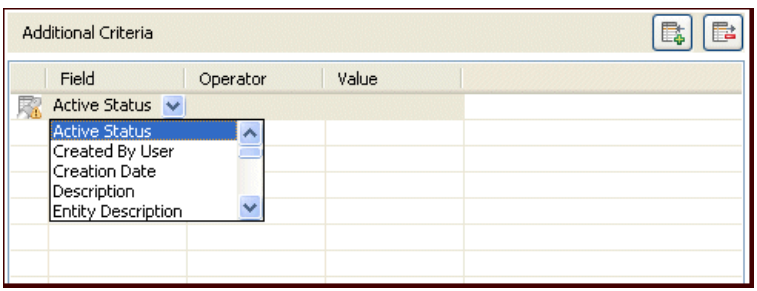
Additional Criteria Table

The Additional Criteria table contains an additional set of filters to impose upon a query. These criterion are joined together to formulate the query constraint.

1. Click the **Add Criteria** button to activate a new criteria row.

   The Field column presents a drop-down menu that allows you to select from a list of fields for the query filter. The list of fields is based upon the selected asset type. If no asset type is selected, the list of fields are the fields that are common to all asset types.

Figure 3-2 Additional Criteria Table



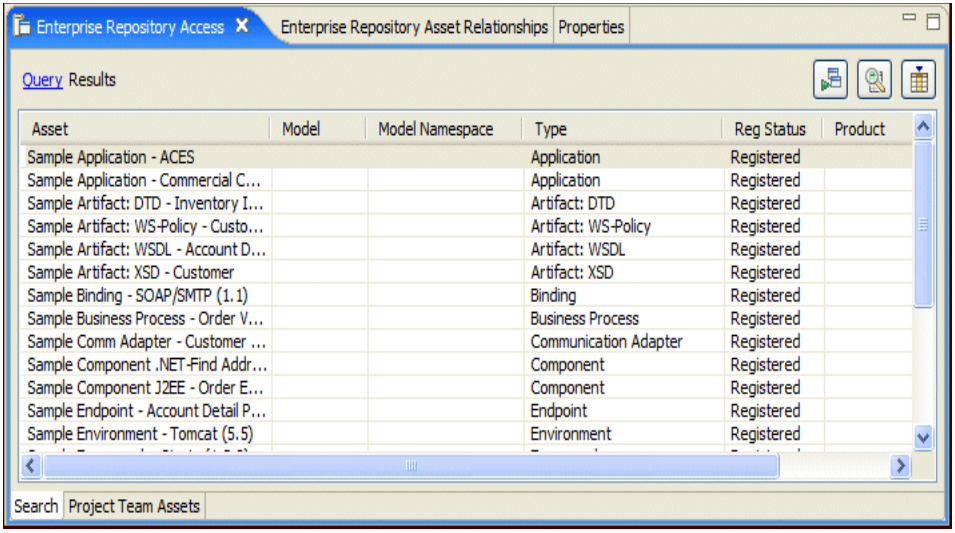
2. Select a field from Field column menu. As a result, the Operation and Value cells are updated to reflect the possible operations and pre-defined set of values associated with the selected field.
3. From the Operation column's menu, select the operation (equals, not equals, etc.) for the query filter row.
4. If the specified field has a pre-defined set of values, then a drop-down menu is displayed to specific a comparison value. If the specified field does not have a pre-defined set of values, then a text field is displayed to specify a comparison value.
5. If necessary, use the **Remove Criteria** button to remove selected rows from the table.

If the query criterion specified in the row is invalid or incomplete, the **Info** (i) icon displays in the left-most status column.

The Results Pane

The Results pane shows all assets that satisfied the search criteria established in the Query pane. It displays information for all query results, such as the asset name, asset type and registration status.

Figure 3-3 Results Pane



Results Pane Toolbar

Table 3-2 describes the options that are available on the Results pane.

Table 3-2 Results Pane Icons

Icon	What it means...
	**Toggle the display of the asset detail view** – Displays a selected asset's details in a web browser view, or to not launch the web-based view when an asset is selected.
	**Display the asset properties and relationships view** – Enables you to view the details of a selected asset in the Results pane.
	**Customize Oracle Enterprise Repository query result columns** – Opens the Customize Results Columns dialog, which enables you to rearrange the order of the results columns.

Working with the Results Table

Table 3-3 describes the columns in the Query Results table.

Table 3-3 Query Results Table

Row	What it means...
Asset	The simple name of the asset.
Model	The name for Assembly Model assets imported into Oracle Enterprise Repository.
Model Namespace	The group the model is a member of. The Namespace is pre-pended to the names of all the assets in the Assembly Model in the repository.
Version	The asset version number.
Type	The asset type.
Reg Status	The asset registration status.

Table 3-3 Query Results Table (Continued)

Row	What it means...
Product	The product where the asset originated.
# of Artifacts	The number of artifacts associated with the asset. If the number is 1 or higher the **Download artifacts** option is enabled.

- When you select a results row, the asset's properties, details, and relationships are displayed in the Properties View, Details View, and Enterprise Repository Relationships View respectively, if the relevant view is visible.
- Right-click an asset to access these options from the menu:
  - **Download artifacts** – if the value in the **# of Artifacts** column is 1 or higher, you can download an asset's artifacts and its dependencies into your Eclipse project (if the SCM information was properly set up when the assembly model was submitted). For more information, see "Downloading Asset Artifacts" on page 3-14.
  - **Subscribe/Unsubscribe** – subscribes to the selected asset if currently unsubscribed, and visa versa.
  - **Show in asset details view** – opens the Asset Details view.
- You can sort the asset results by clicking any column header.

Viewing Prescribed Assets

The Project Team Assets view displays a list of assets that have been prescribed to your project, as well as assets that are already in use in the project.

Overview

Through the Enterprise Repository, analysts, architects, technical leads, and others that are involved in the design stages of a project, can create a list of assets that might fulfill a project's requirements. The lists of assets are captured in compliance templates in the repository, and the compliance templates are associated with an Oracle Enterprise Repository project. For more information on compliance templates, refer to the Oracle Enterprise Repository *Compliance Templates Guide*.

From the Enterprise Repository Access viewer in Oracle Workshop for WebLogic you can view a list of assets appearing in all of the Compliance Templates assigned to your project. The viewer

will indicate which of the assets have been used by you and/or other project members. The viewer will also display other assets that are already in use in the project.

Using the Project Team Assets View

The Project Team Assets view is different from a workspace Oracle Enterprise Repository project. Therefore you can view assets for any Oracle Enterprise Repository project without having to set or alter the workspace default. In addition, there are also ancillary views to display asset details without having to launch an external Web browser to view an asset's details.

1. From the **Repository Project** menu, select a project from the set of all enterprise repository projects associated with the current repository connection. The items in the list are prefixed with the name of the repository in which the associated project resides.

2. Click the  **Query** button to query the enterprise repository for all assets associated with the specified repository project.

   If a repository connection has been established, the Project Team Assets table is populated with the set of assets associated with the specified project. Each of the columns in the table identifies how the asset relates to the project in the repository. You can also sort each column using the column header.

Figure 3-4 Project Team Assets Pane

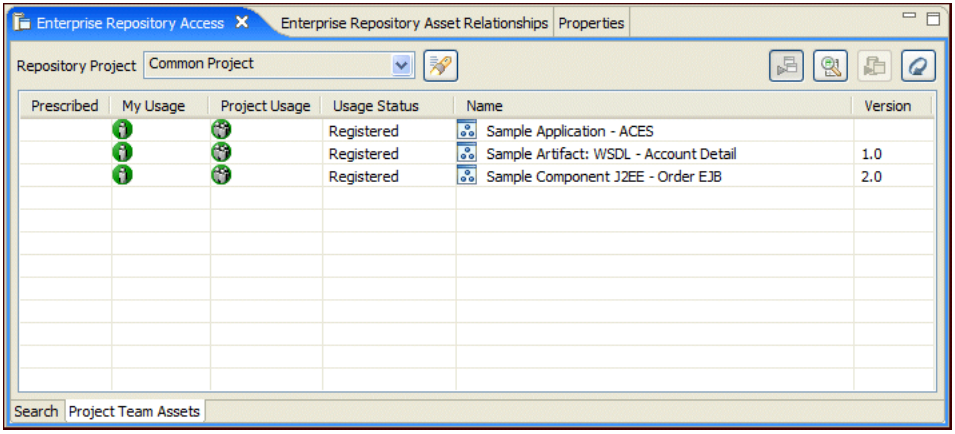


Table 3-4 describes the other icons and columns that are available in the Project Team Assets view.

Table 3-4 Project Team Assets Table

Icon/Column Name	What it means...
	**Toggle the display of the asset detail view** – Displays a selected asset's details in a web browser view, or to not launch the web-based view when an asset is selected.
	**Display the asset properties and relationships view** – Allows you to view the details of a selected asset in the Results pane.
	**Connect to enterprise repository** – If no connection to a repository has been established, this button invokes the Connect to Enterprise Repository wizard, which will prompt you for connection credentials.
	**Refresh enterprise repository information** – Queries the enterprise repository for its metadata, and repopulates the appropriate fields based upon the results of this query.
Prescribed	Indicates whether or not an asset is prescribed and has been assigned to a project using a Compliance Template. A Compliance Template may be used to prescribe specific assets for use in any projects to which the compliance template is applied.
My Usage	Identifies assets you have used/downloaded for the project.
Project Usage	Identifies assets that have been used/downloaded by any member of the project.
Usage Status	Identifies the status of the asset as it relates to the project: Prescribed – The asset has been assigned to the project but has not yet been used in or downloaded to the project. In Process – The asset has been used in/downloaded to the project. Rejected – The asset has been rejected for use in the project. (Not shown in example.) Deployed – The asset was used for a project that has been closed.
Name	Displays the asset name.
Version	Displays the asset version.

3. If necessary, click the **Refresh** button to repopulate the table with the results of this query.

Viewing Asset Properties and Details

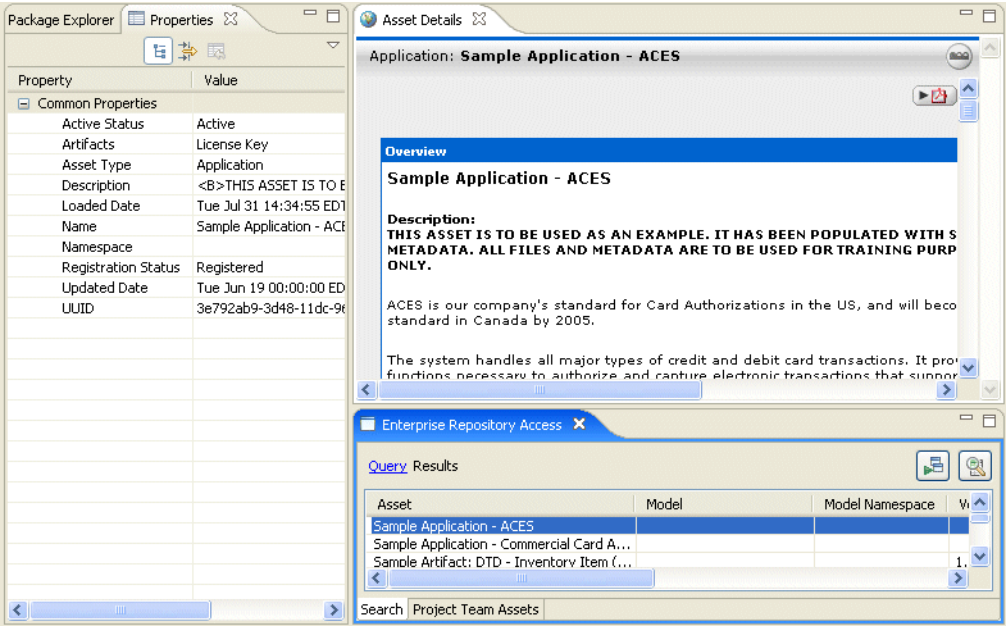
You display asset properties and values in the standard Eclipse Properties view. To launch the Asset Properties view, you can either:

- Select the **Enterprise Repository Assets Relationships** option under the Oracle Enterprise Repository view category, as described in "Understanding the Enterprise Repository Access View" on page 3-2.
- Click the **Display the asset properties and relationship views** button on either the Enterprise Repository Access tab's Results or Project Team Assets toolbars, as described in "The Results Pane" on page 3-6 and "Viewing Prescribed Assets" on page 3-8.

The Asset Details view is another view that provides asset details in an embedded web-based browser view, which when enabled, calls out the enterprise repository application for details associated with the selected asset. See "Searching for Assets" on page 3-3 for instructions on how to enable or disable rendering of the asset details view.

Figure 3-5 shows the Properties view on the left side of the workspace being populated based upon the selection in the Results Pane. It also depicts the Asset Details view on the right, with its contents based upon the selected asset in the Results pane.

Figure 3-5 Asset Properties and Details Views



Viewing Asset Relationships

The Enterprise Repository Asset Relationships view displays the relationships for a selected asset in a graphical format. The Asset Relationships view listens for asset selection, either within the Results pane or the Project Team Assets view, and updates itself based upon the relationships of the currently selected asset. If there no assets are currently selected, then this view will be blank.

You can launch the view using either of these methods:

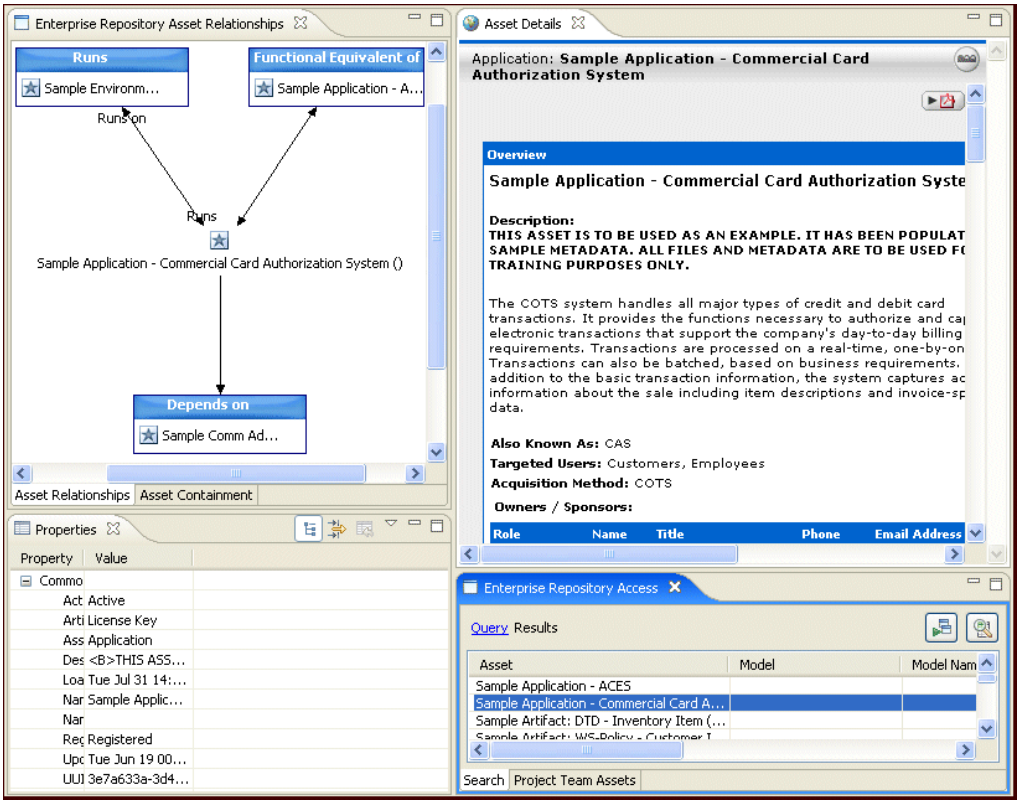
- Select the **Enterprise Repository Assets Relationships** option under the Oracle Enterprise Repository view category, as described in "Understanding the Enterprise Repository Access View" on page 3-2.
- Click the **Display the asset properties and relationship views** button on either the Enterprise Repository Access tab's Search or Project Team Assets toolbars, as described in "Searching for Assets" on page 3-3 and "Viewing Prescribed Assets" on page 3-8.

Figure 3-6 depicts the Asset Relationship view in the upper-right corner of the workspace. Its content is based upon the current selection in the Results pane. The view shows the selected asset

in the middle of the graph as a stand-alone node, and shows all relationships that the asset is involved in, such as bi-directional and one-way relationships.

Those assets that are a *source* of a relationship with the selected asset are shown above the selected asset and have links pointing *to* the selected assets. Those assets that are a *target* of a relationship with the selected asset are shown above the selected asset and have links pointing *from* the selected assets.

Figure 3-6 Asset Relationships View



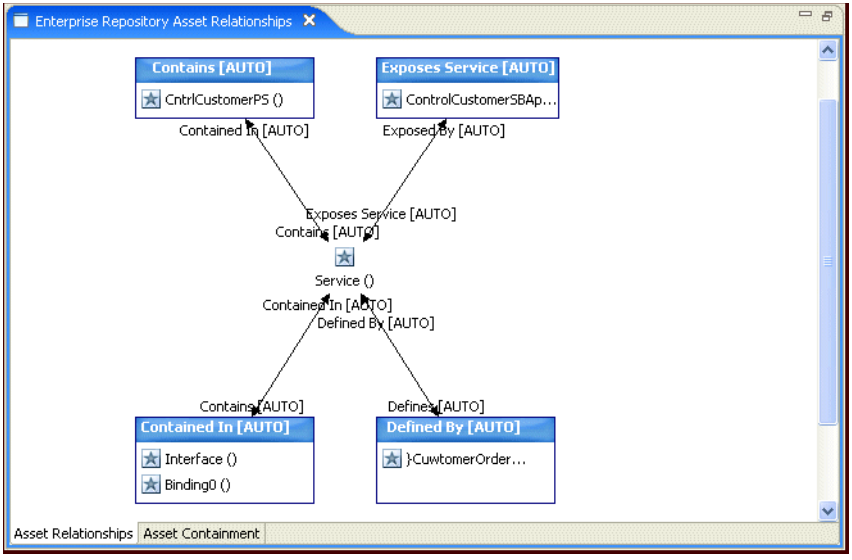
To fully understand the bi-directionality of the Asset Relationships view, read the graph in Figure 3-6 as follows. (Note that the selected asset is: Sample Application - Commercial Credit Authorization System.)

- Relationship 1: *Runs* – Sample Environment - Tomcat (source asset) *Runs* Sample Application - Commercial Credit Authorization System (target asset)

- Relationship 2: *Functional Equivalent Of* – Sample Application - ACES (source asset) is *Functional Equivalent of* Sample Application - Commercial Credit Authorization System (target asset)
- Relationship 3: *Depends On* – Sample Application - Commercial Credit Authorization System (source asset) *Depends On* Sample Comm Adapter - Customer Credit Information (target asset)

There are numerous instances where a particular relationship for the selected asset may be satisfied by more than one asset. For such cases, the assets that satisfy this relationship are grouped together where the relationship type is shown in the node label. Figure 3-7 shows a selected asset that has three *Asset Prescribed By* relationships and how those assets are grouped to satisfy that relationship.

Figure 3-7 Asset Relationships View with Multiple Assets Satisfying a Relationship

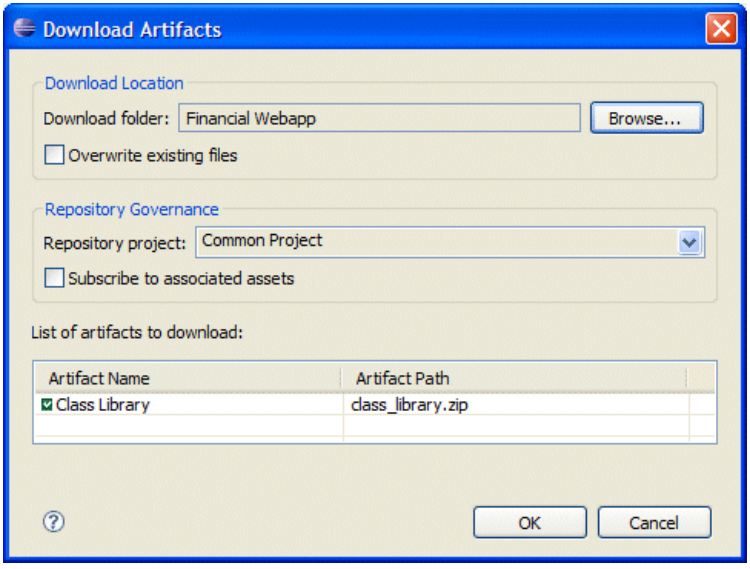


Downloading Asset Artifacts

You can download an asset's artifacts (i.e., payload) into an Eclipse project. Typically an asset payload is usually the functionality that a developer needs to use a service (such as a WSDL file) or incorporate into their code base (usually a binary). Within the asset metadata, links to supporting documentation, user guides, test cases, etc., are provided to better enable developers to reuse existing functionality.

1. Query the repository for the desired asset(s), as described in "Searching for Assets" on page 3-3.
2. Right-click the appropriate asset on the Results pane and if there are available artifacts, select **Download Artifacts** from the shortcut menu to open the Download Artifacts window.

Figure 3-8 Download Artifacts



3. In the Download Location section:
   - Use the **Download Folder** field to navigate to an Eclipse project and select the destination folder for the download.
   - Select the **Overwrite existing files** check box to overwrite existing versions of the artifacts in the selected project folder.
4. In the Repository Governance section:
   - Select a valid project from the **Repository Project** list.
   - Select the **Subscribe to associated assets** check box to subscribe to all of the selected assets that had files associated with them, plus any associated artifact assets and dependencies for Service Assembly Models.
5. Verify your selection in the list of artifacts to download, and then click **OK**.

   Artifacts associated with the selected asset will be downloaded to the specified location.

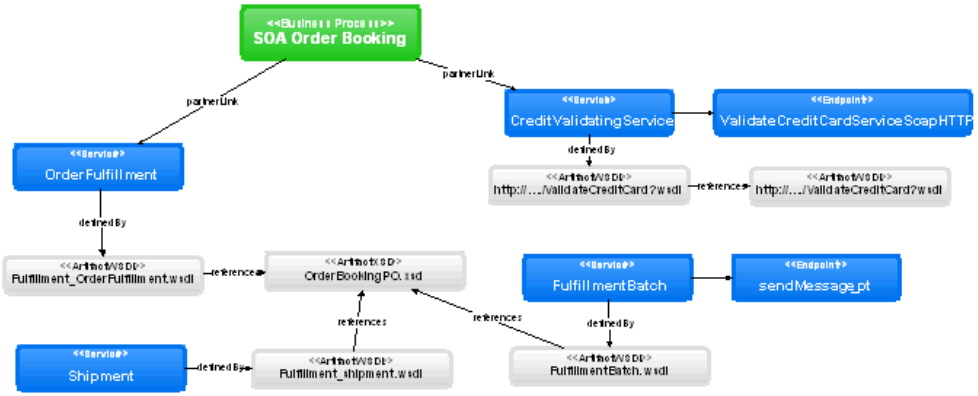
6. Click **OK** again on the status confirmation window.
7. Open the selected destination folder to confirm the presence of the selected artifact file(s).

Downloading Assets Harvested by the Oracle Enterprise Repository Harvester

After the Oracle Enterprise Repository Harvester harvests assets into the Oracle Enterprise Repository, the assets and the relationships between them can be viewed in Oracle Enterprise Repository. When you use (download) a harvested asset from Oracle Enterprise Repository, all of the artifacts that make up that asset will be delivered to you as a .zip file. When you download a harvested asset from Eclipse, you are allowed to download only individual artifacts - the .zip package is unavailable.

For example, assume that the Order Booking Process is harvested using the Oracle Enterprise Repository Harvester. A portion of the assets that would be created in the repository as a result of running the Harvester is shown in Figure 3-9. The Order Booking Process is expressed as a BPEL file containing two partner links, each of which is defined by a WSDL. Notice that the WSDL artifact assets reference other WSDLs and XSDs. If the asset of type “Business Process: BPEL” named “Order Booking Process” is downloaded from Oracle Enterprise Repository, the user will receive a .zip file that includes the BPEL in addition to all relevant WSDLs and XSDs. On the other hand, if the Order Booking Process is downloaded from Eclipse, the user will receive only the BPEL - the WSDLs referenced as partner links will not be automatically included. However, the Eclipse user does have the ability to traverse to the partner links manually as relationships to download each respective WSDL. Downloading of WSDLs in Eclipse will retrieve all related WSDL imports and XSDs.

Figure 3-9 Related Assets in a Business Process



To ensure that a harvested asset and all its related assets are downloaded from Oracle Enterprise Repository, an Eclipse should follow these steps:

1. Start Oracle Enterprise Repository.
2. Find the asset that they want to download by searching in Eclipse.
3. View the relationships that asset has to other assets using the Eclipse relationship navigator.
4. Use Eclipse to download the asset and its related assets.

CHAPTER 4

Submitting Assets to Oracle Enterprise Repository

This section contains information on the following subjects:

Overview

There are two ways to submit an assets from Eclipse:

1. Submit an Assembly Model
2. Submit an archive of individual files

When submitting assets to Oracle Enterprise Repository, the Oracle Workshop for WebLogic plug-ins for Eclipse determine whether or not the project can be transformed into an assembly model or submitted as an Archive file, and then renders the appropriate wizard to submit the asset to the enterprise repository.

Assembly Models

An Assembly Model is a set of related assets representing the structure of an Oracle Workshop for WebLogic integration project in terms of the SCA standard. When a project is submitted from Oracle Workshop for WebLogic, an Assembly Model is automatically created. The model consists of a root asset, of type *Assembly Model*, that logically contains all the other assets in the model. The model assets represent Components, Services, Interfaces, and Bindings defining an Oracle Workshop for WebLogic project, as well as Composites that define a hierarchical composition structure. The relationships used to connect the assets in the Assembly Model are Oracle Enterprise Repository system-supplied relationships. Assembly Models are only generated for Oracle Service Bus projects.

See "Submitting Assembly Models to the Repository" on page 4-2.

Archive Files

The Oracle Enterprise Repository plug-in for Eclipse allows you to select files to submit to the Enterprise Repository. It packages the files into a .zip format for archive submission. The Archive Submission Wizard allows you to submit single and/or compound-payload assets to Oracle Enterprise Repository via an archive ZIP file, as explained in "Submitting Archived Assets" on page 4-12.

Submitting Assembly Models to the Repository

When you right-click an Eclipse project and select the **Submit to Oracle Enterprise Repository** from the shortcut menu, the Oracle Workshop for WebLogic plug-ins first determine if connectivity has been established to Oracle Enterprise Repository. If a connection is not yet established, the Connect to Enterprise Repository wizard is launched to establish connectivity.

Once connectivity is established, the Oracle Workshop for WebLogic plug-ins determine whether or not the project can be transformed into an assembly model or submitted as an Archive File. If it can be transformed into an assembly model, the **Submit Assets to Enterprise Repository** wizard enables you to submit the project's associated assets to the enterprise repository.

For example, if the referenced project is an integrated external endpoint, such as Oracle Service Bus, the wizard rendered represents the information required to submit the assets associated with the project.

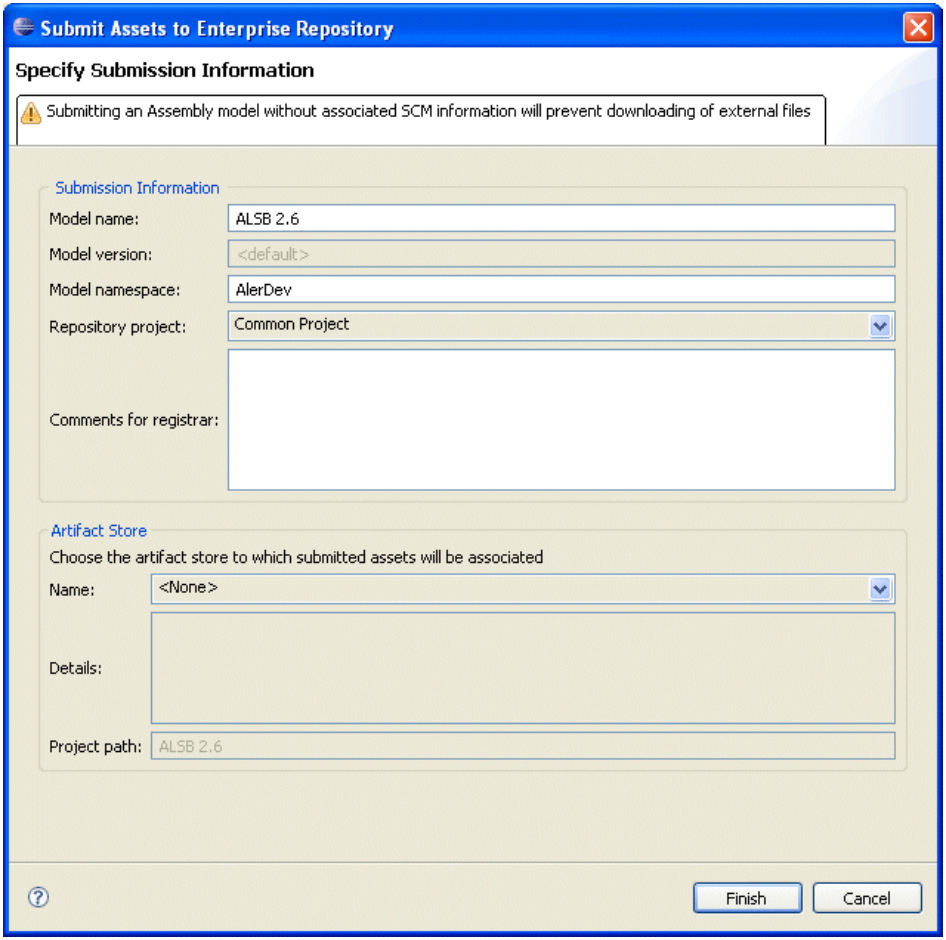
Tip: In order to submit assembly models to the repository, you must be assigned to an Advanced Submitter role. If you are unsure of your role status, check with your Oracle Enterprise Repository system administrator.

Specifying Model Submission Information

When submitting assembly models, Oracle Workshop for WebLogic plug-ins capture metadata associated with the submitted asset, such as model and associated Artifact Store information.

1. Right-click an Eclipse project and select **Submit to Oracle Enterprise Repository** from the shortcut menu.

Figure 4-1 Submit Assets to Oracle Enterprise Repository - Specify Submission Information



2. Complete the fields in the Submission Information box, as necessary. Once submitted, the Model and Repository Project information will appear in the asset query Results pane, as described in "The Results Pane" on page 3-6.

   – **Model Name** – the model name appearing in Oracle Enterprise Repository. Every asset that is part of the model will have that model name. The name defaults to the name of the current Eclipse project, but you can modify this name for an initial submission.

- **Model Version** – a label that is common to all assets in a model. During the initial submission and subsequent resubmission, this field displays the non-editable `<Default>` string and can only be edited under certain conditions, as described in "Resubmitting an Existing Model" on page 4-9.
- **Model Namespace** – a grouping mechanism for assembly models, with the Namespace prepended to the names of all the assets in the model in the repository. If the project you are submitting has an associated namespace, this will be displayed by default. Otherwise, the workspace preference default will be displayed, in one exists. You can modify the default Namespace name for an initial submission. The new Namespace will only be saved for the current project and will not affect the workspace name.
- **Repository Project** – the Oracle Enterprise Repository project associated with the current Eclipse project. Asset production and usage is tracked in the repository and attributed to repository projects, which typically represent software development programs, business initiatives, etc. If the project you are submitting has an associated repository project, this will be displayed by default. Otherwise, the workspace default will be displayed, if one exists. You can modify the default Repository Project name for an initial submission. The new name will only be saved for the current project and will not affect the workspace name.
- **Comments for Registrar** – optionally provide information about the current project to the Oracle Enterprise Repository Registrar. These comments will be available to the Registrar via the Asset Editor, in the Audit Log element on the Administration tab. The log entry is named "Submission Comment Added."

Note: The **Model Name**, **Version**, and **Namespace** fields reflect the values used during the initial submission and cannot be edited when resubmitting a project. For more information, see "Resubmitting an Existing Model" on page 4-9.

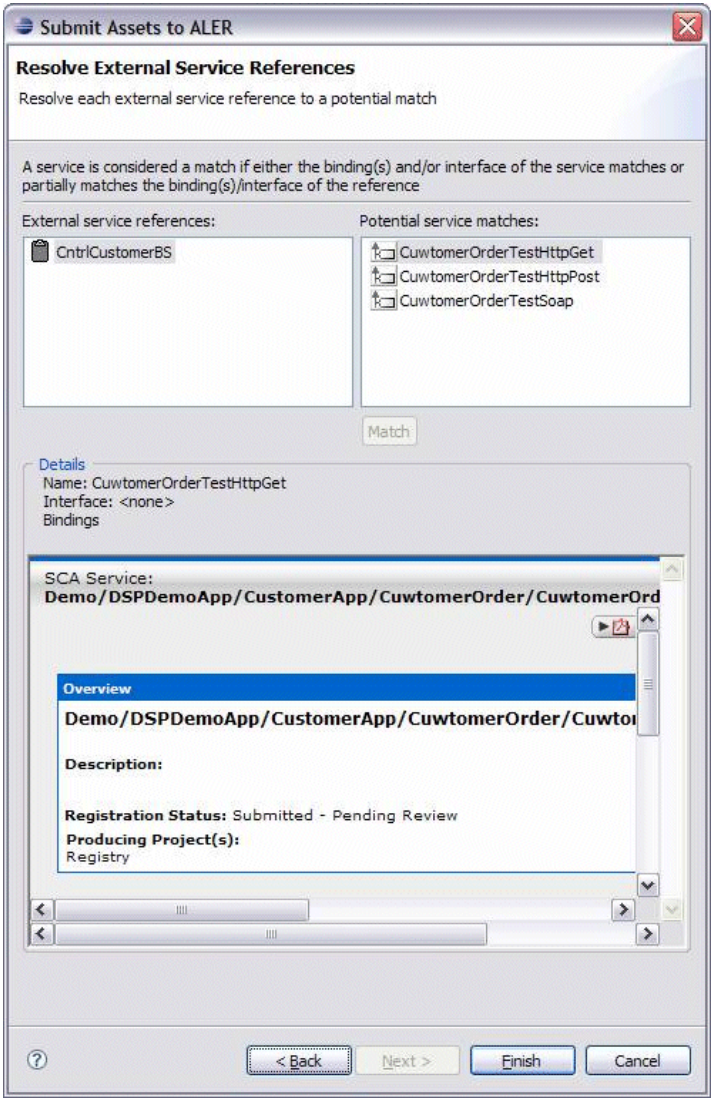
3. In the **Artifact Store** area:
   - The **Artifact Store** area displays the name of a preconfigured Artifact Store that the submitted assets will be associated with. Artifact Stores contain the files relevant to assets in Oracle Enterprise Repository and are configured in the Oracle Enterprise Repository console by an administrator. The **Details** box may also display some additional information about the Artifact Store.
   - In the **Project Path** box, enter the name of the Project Path that the submitted assets will be associated with. The Project Path is defined at the Eclipse project level and is relative to the **Path** attribute on the Artifact Store.
4. Click **Finish** to complete the submission.

Resolving External Service References

If a project contains unresolved external service references, you may want to resolve any unresolved references before submitting the project to the Enterprise Repository; however, this is not required.

1. When submitting a project with unresolved external service references, the dialog box shown in Figure 4-2 is automatically invoked, which provides potential matches for the unresolved references.

Figure 4-2 Submit Assets to Oracle Enterprise Repository - Resolve External Service References



2. Match the unresolved external reference(s) with the potential service matches supplied by the dialog box, as follows:

- **External Service References** – Contains a list of any unresolved external service references associated with the project being submitted to Oracle Enterprise Repository. When a service reference is selected, the list of Potential Service Matches is updated. This box also displays the name of the currently resolved match (if there is one) between braces {}.
- **Potential Service Matches** – Contains all the potential matching services for the selected external service reference and their percentage matching value as you hover your pointer over each match. Obviously, the higher the percentage, the better the chance of achieving a potential match. When a potential match is selected, details of the service are provided in the Details section.
- **Match** – When the Match button is selected it associates the selected potential match with the selected External Service Reference. It also updates the label of the selected external service reference by displaying the name between braces {}

3. Click **Finish** to resolve the service references.

Guidelines for Submitting Models to Oracle Enterprise Repository

The following guidelines may apply when submitting assembly models to Oracle Enterprise Repository.

Asset Naming Algorithm

In the event an asset name/version collision occurs against an existing Oracle Enterprise Repository non-deleted asset during an assembly model submission, the name will be augmented with a dash and number as follows: `assetname-1`, `assetname-2`, `assetname-3`, etc. In the event name trimming needs to occur, such as where the name uses all the available characters for an asset name, the name will be trimmed at the end to make room for the name modification.

Producing Projects

Projects submitted as assembly models will include a reference to the producing project. The producing project is applied to all assets in the import bundle and are additive in nature. For any assets in the bundle that already exist in Oracle Enterprise Repository and have producing projects applied, the existing producing projects will remain intact and the new producing project will be added to the asset.

Support for Duplicate WSDLs

A WSDL imported using the Oracle Enterprise Repository Plug-in for Eclipse cannot subsequently be imported directly using the Oracle Enterprise Repository import/export tool. Any attempt to import such a WSDL using the import/export tool will fail, throwing the following "Unsupported WSDL" error message:

```
Error [10,001]: Unsupported WSDL - Specified WSDL can be imported only using
ALSync tool as previous version of this WSDL was imported via ALSync.?
```

Resubmitting an Existing Model

When initially submitting a model, the Model fields reflect the values used during the initial submission and cannot be edited when resubmitting a project. This is because they uniquely identify the assets of an assembly model, and changing any of these fields would result in a new model being created instead of an existing model getting updated.

The only time any Model fields can be modified is when an error occurs when resubmitting (e.g. a naming conflict) or when a model is *locked*, which will require entering a new model name, version, and namespace. A model can become *locked* under two conditions:

- A user changes the registration status of one or more assets in the model using Oracle Enterprise Repository's Web-based console.
- A different user resubmits a model that someone else originally submitted.

If either of these conditions is detected by Oracle Enterprise Repository when a model is being resubmitted, a message will be displayed and the user can change any or all of the following fields: Model Namespace, Model Name, or Model Version. The user can then continue to submit the model, but that model will now be a new model, and will not overwrite the original model (since that model is locked).

Submitting Eclipse Project Files to Oracle Enterprise Repository

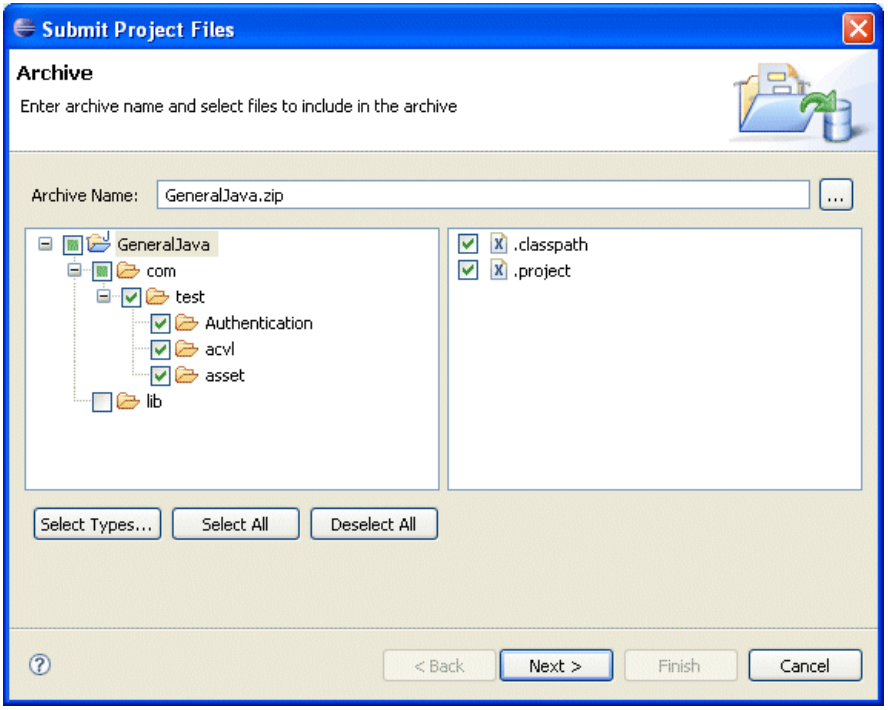
When you right-click an Eclipse project and select **Submit to Oracle Enterprise Repository** from the shortcut menu, Oracle Workshop for WebLogic plug-ins first determine if connectivity has been established to Oracle Enterprise Repository. If a connection is not yet established, the Connect to Enterprise Repository wizard is launched to establish connectivity.

Once connectivity is established, the Oracle Enterprise Repository plug-in determines whether the associated project can be submitted as an Assembly Model (see "Submitting Assembly

Models to the Repository" on page 4-2) or as an Archive File. When it is an Oracle Enterprise Repository project, the **Submit Project Files** wizard allows you to select and update an existing archive with assets to submit to Oracle Enterprise Repository.

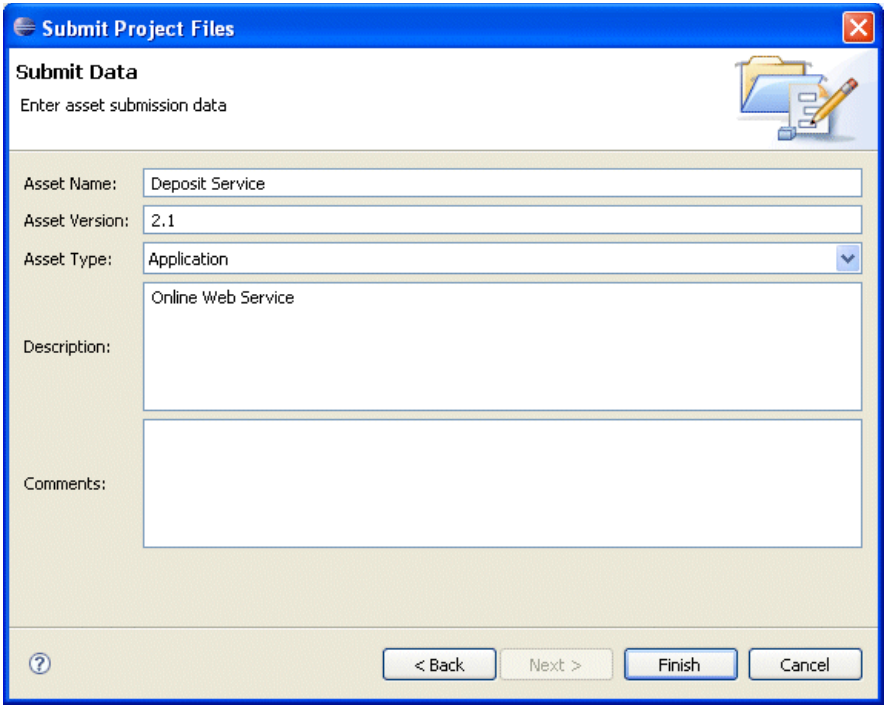
1. Right-click an Eclipse project and select **Submit to Oracle Enterprise Repository** from the shortcut menu.
2. In the Archive Name field, enter the path to an existing project archive field or browse to an archive using the **Ellipses** button. You can also create a new archive file. When an existing file is selected, its fully qualified path is placed in the Archive Name text field. A valid project archive must have a `.zip` file extension.
3. When selecting an existing archive, click **OK** to confirm that it is okay to overwrite the selected project archive.

Figure 4-3 Submit Project Files - Select Archive Name



4. Use the resulting project folder structure to select at least one file from the project to submit to Oracle Enterprise Repository.
5. If necessary, you can click the **Select Types** button to open a dialog box where can select certain file types to include in the archive.
6. After selecting the files you want to include in the archive, click **Next**. All artifacts selected from the project will be zipped into the archive file.
7. After the archive and its contents have been specified, you can enter asset submission data, such as a version number, the type of asset to be submitted, a description, and associated comments.

Figure 4-4 Submit Project Files - Enter Submit Data



8. Click **Finish**.
9. Click OK on the confirmation window to complete the submission process.

The project will appear as an asset in the **Submitted - Pending Review** folder in the Oracle Enterprise Repository Asset Editor file tree. You can also refresh the data in the Enterprise Repository View's Results pane to view the asset in Pending Review status. You can also click the asset to view more details. For more information, see "The Results Pane" on page 3-6.

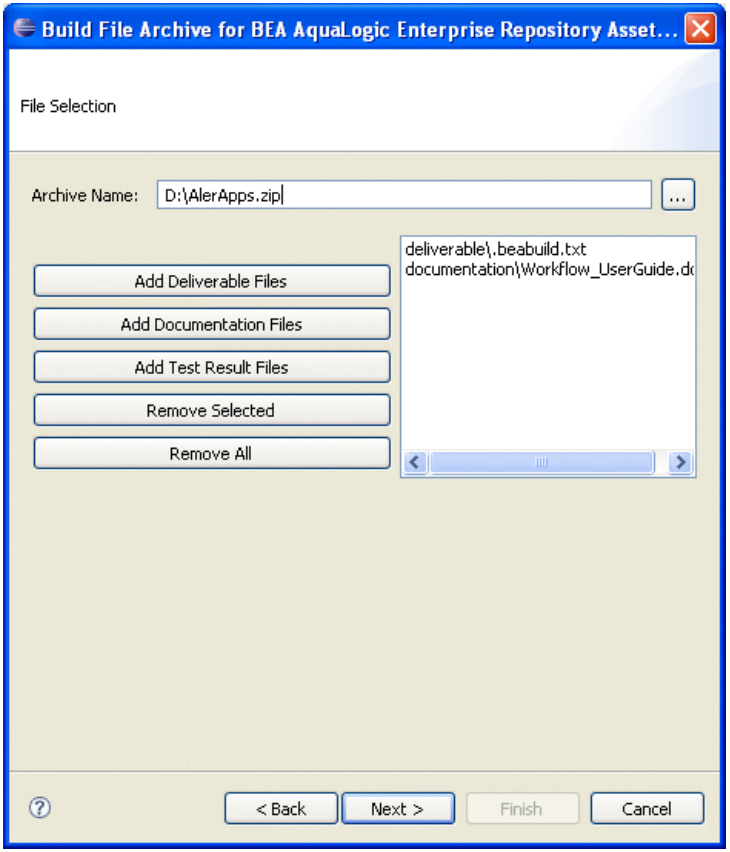
Submitting Archived Assets

The Archive Submission wizard maintains support for legacy functionality for AquaLogic Enterprise Repository 2.x or earlier releases. This allows you to submit single and/or compound-payload assets to Oracle Enterprise Repository by creating an asset archive ZIP file.

To build an archive to submit to Oracle Enterprise Repository:

1. Select the project that contains assets that you want to create an archive for.
2. Open the Export dialog box, by either:
   - Right-click the desired project and select **Export** on the context menu.
   - Select **Export** from the main File menu.
3. In the Export dialog box, open the **Oracle Enterprise Repository** folder and select the **Build Archive Submission** option.

Figure 4-5 Build File Archive - File Selection



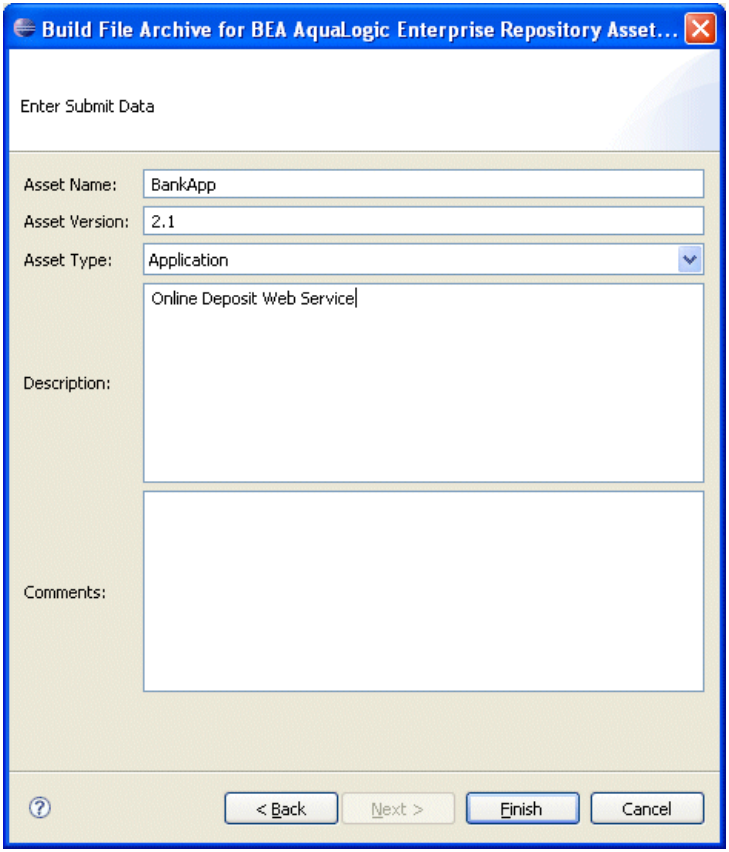
4. Complete the Build File Archive - File Selection dialog box as follows:

   a. Enter an archive name by browsing to select an existing archive on your local file store, or create a new archive. In either case the archive must have a `.zip` extension.

   b. Use the file category buttons to select and assign files to the archive file.

   c. Click **Next**.

Figure 4-6 Build File Archive - Enter Submit Data



5. On the Enter Submit Data dialog box, fill in the appropriate information describing the asset.
6. Click **Finish**.
7. Click **OK** to confirm the submission to Oracle Enterprise Repository.

The asset will upload to the installed registry, and will appear in the Submitted - Pending Review folder in the file tree in Oracle Enterprise Repository's Asset Editor. You can also refresh the data in the Enterprise Repository View's Results pane to view the asset in Pending Review status. You can also click the asset to view more details. For more information, see "The Results Pane" on page 3-6.

CHAPTER 5

Setting Eclipse Preferences for Oracle Enterprise Repository

This section contains information on the following subjects:

Overview

A number of Oracle Enterprise Repository workspace preferences and project properties are available for workspace connection configuration and automatic usage detection. These are accessible using the standard Eclipse workspace preferences, using the Window > Preferences menu.

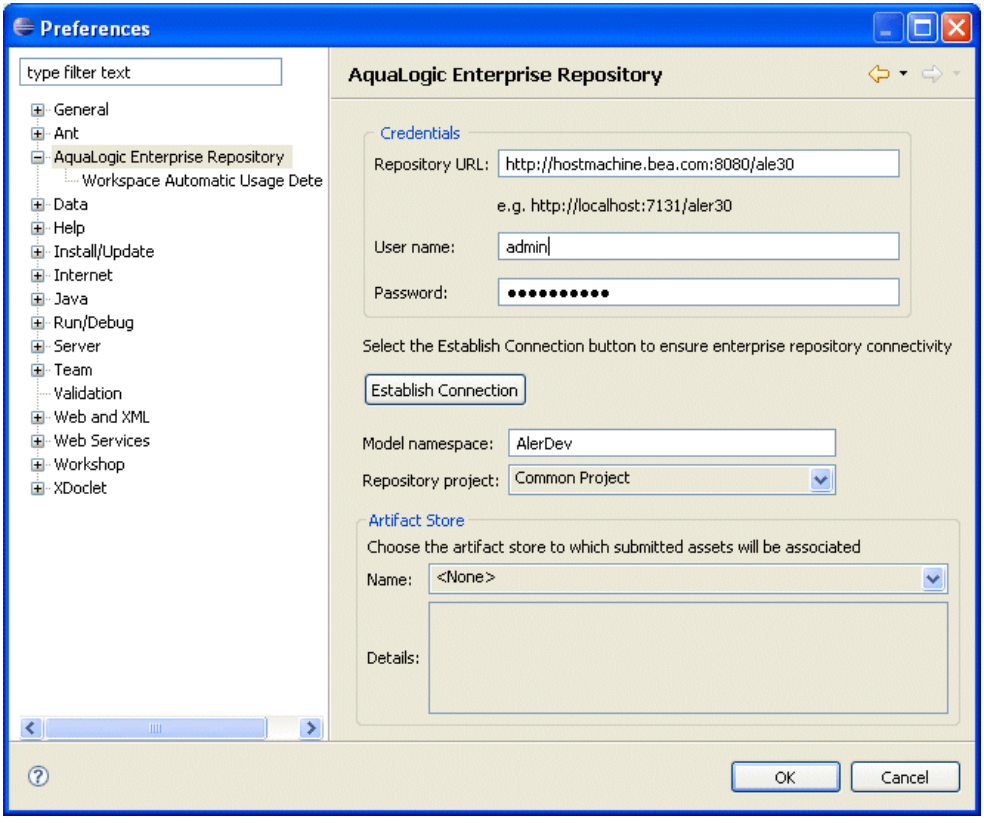
For an Eclipse project, you can right-click the project and select **Properties** from the menu.

Configuring the Oracle Enterprise Repository Connection

If you haven't already entered connection credentials using the Connect to Enterprise Repository wizard, which is automatically invoke when querying or submitting assets before repository connectivity has been established, then you can manually set Oracle Enterprise Repository connection credentials for an Eclipse workspace as follows:

1. On the Window menu, click **Preferences**.
2. Select **Oracle Enterprise Repository**.

Figure 5-1 Preferences - Connection Credentials



3. In the Credentials area, enter the server location and login credentials, as follows:
   - **Repository URL** – the URL of the repository server. The URL must include the host, port, and Oracle Enterprise Repository server name. For example, `http://localhost:7001/oer`.
   - **User Name** – user name to gain access to the repository.
   - **Password** – password to gain access to the repository.
4. Click the **Establish Connection** button to ensure enterprise repository connectivity.

   If a connection cannot be established, an approrpriate error message will be displayed.

5. Once connectivity is established, you can specify your workspace preferences:
   - Enter a **Model Namespace** to use as a default for your all of your projects. The Namespace provides a means to organize your models, with the Namespace pre-pended to the names of all the assets in the model in the repository. However, you can change the Namespace on a project-by-project basis (such as when submitting assets), and the new Namespace will only be saved for that project, but will not affect the Workspace Preference name.
   - Select a **Repository project** in Oracle Enterprise Repository that the submitted model will be associated with. Asset usage is tracked in the repository and attributed to repository projects, which typically represent software development programs, business initiatives, etc.
6. The **Artifact Store** area displays the name of a preconfigured Artifact Store that the submitted assets will be associated with. Artifact Stores contain the files relevant to assets in Oracle Enterprise Repository and are configured in the Oracle Enterprise Repository console by an administrator. The **Details** box may also display some additional information about the Artifact Store.
7. Click **OK** to finish.

Configuring Automated Usage Detection

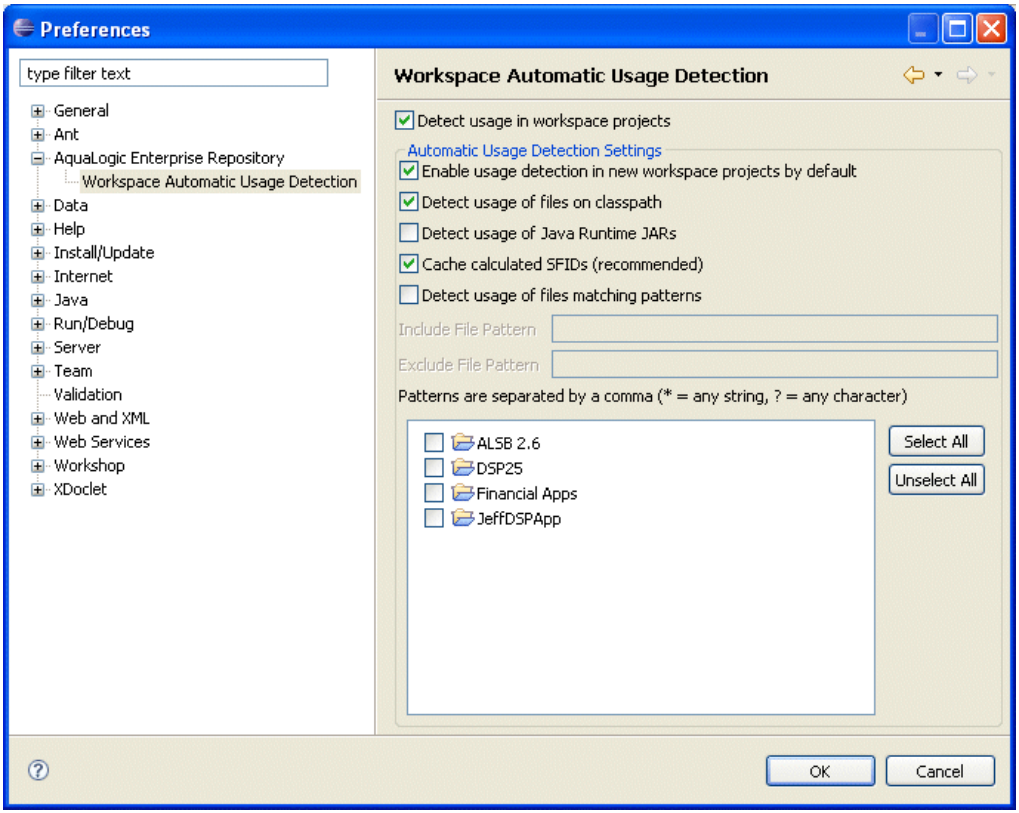
Oracle Enterprise Repository can automatically detect asset reuse within the development environment. This allows development teams to ensure that they get asset reuse credit, regardless of whether the assets have been downloaded through Oracle Enterprise Repository or pulled from another source, such as the developer's desktop. Automated Usage Detection relies on a fingerprinting process, called *Software File Identification* (SFID), which tags selected files within an asset with a unique ID. This SFID is then used to detect when and where an asset is used, even if the asset was acquired through means other than the Oracle Enterprise Repository Use - Download process. An instance of usage is recorded by Oracle Enterprise Repository when tagged files within the asset are brought into the developer's IDE, and a new build or build clean occurs.

See the *Oracle Enterprise Repository Software File Identification Guide* for more information.

Note: Automated Usage Detection requires the installation of the Oracle Enterprise Repository Plug-in for Oracle Workshop for WebLogic, and is currently compatible only with Eclipse and Eclipse-based IDEs.

1. On the Window menu, click **Preferences**.
2. Select **Oracle Enterprise Repository**.
3. Select **Workspace Automatic Usage Detection**.

Figure 5-2 Preferences - Workspace Automatic Usage Detection



4. Click the **Detect usage in workspace projects** check box, and then activate the desired usage detection features, as appropriate:
   - Enable usage detection in new workspace projects by default – monitors new projects
   - Detect usage of files on classpath – monitors files on classpath.
   - Detect usage of Java Runtime JARs – monitors Java Runtime JARs

- Cache calculated SFIDs (recommended) – caches calculated SFIDs (enhances performance)
- Detect usage of files matching pattern – monitors files matching specified patterns

5. Enter the appropriate information in the **File Pattern** text boxes:
   - Include File Pattern – Includes indicated file pattern
   - Exclude File Pattern – Excludes the indicated file pattern
6. Specify which project directories will be targets for automatic usage detection by using the individual check boxes or by using the **Select All** and/or **Unselect All** buttons.
7. Click **OK** when finished.