



Service Registry 3 2005Q4 User's Guide

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054
U.S.A.

Part No: 819-2683-10
October 2005

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Contents

Preface	7
1 Using the Service Registry Web Console	15
Getting Started With the Web Console	15
Starting the Web Console	15
Changing the Default Language	16
Enabling Versioning of Registry Content	17
Creating a User Account	17
▼ Starting the User Registration Wizard	18
▼ Obtaining a Registry-Generated Certificate	18
▼ Using a Third-Party Certificate	19
▼ Loading the Certificate into the Mozilla or Firefox Web Browser	20
▼ Loading the Certificate into the Internet Explorer Web Browser	21
▼ Logging In to the Registry	22
Searching the Registry	22
Using the Search Menu	22
Selecting a Query	23
Searching by Object Type	23
▼ To Search by Object Type	24
Searching by Name and Description	24
▼ To Search by Name or Description	24
Searching by Classification	24
▼ To Search by Classification	26
Viewing Search Results	27
▼ To Use the Pin Feature	27
Viewing Object Details	28

Using the Explore Menu	31
▼ To Use the Explore Menu	31
▼ To Explore the Classification Schemes	31
▼ To Explore the UserData Folder	32
Publishing and Managing Registry Objects	32
Publishing Objects	32
▼ To Create and Publish a New Registry Object	33
Adding a Classification to an Object	34
▼ To Add a Classification	34
Adding an External Identifier to an Object	34
▼ To Add an External Identifier	34
Adding an External Link to an Object	35
▼ To Add an External Link	35
Adding Custom Information to an Object Using Slots	36
▼ To Add a Slot	36
Adding a Postal Address to an Organization or User	36
▼ To Add a Postal Address	36
Adding a Telephone Number to an Organization or User	37
▼ To Add a Telephone Number	37
Adding an Email Address to an Organization or User	38
▼ To Add an Email Address	38
Adding a User to an Organization	38
▼ To Add a User	38
Adding a Child Organization to an Organization	39
▼ To Add a Child Organization	39
Adding a Service Binding to a Service	39
▼ To Add a Service Binding	39
Adding a Specification Link to a Service Binding	40
▼ To Add a Specification Link	40
Adding a Child Concept to a Classification Scheme or Concept	40
▼ To Add a Child Concept	41
Adding Objects to a Registry Package	41
▼ To Add Objects to a Registry Package	41
Changing the State of Objects	42
Removing Objects	42
Creating Relationships Between Objects	43
▼ To Create a Reference	44
▼ To Create an Association	44

Troubleshooting	44
Unable to Access Service Registry	44
Preferred Locale Is Not Used	45
Search Panel Labels Do Not Appear in Current Locale	45
Unable to Create ExternalLink or ServiceBinding	45
Web Console Error Messages Are Not Clear	45
New Registry Object Cannot Be Saved	46
Web Console is Unresponsive	46
Index	47

Preface

The *Service Registry 3 2005Q4 User's Guide* describes how to use the Web Console utility provided with the Service Registry ("the Registry"). The Web Console allows users to search the Registry for data and to publish data to the Registry. The *User's Guide* also provides troubleshooting information.

Who Should Use This Book

The *User's Guide* is intended for administrators and end users who search the Registry and publish data to the Registry. This guide assumes you are familiar with the basic concepts of the ebXML Registry and Repository specifications.

Before You Read This Book

You should be familiar with the basic concepts of these specifications:

- *ebXML Registry Information Model Version 3.0*
- *ebXML Registry Services and Protocols Version 3.0*

You can find the latest public versions of these specifications by going to the OASIS web site (<http://www.oasis-open.org/>) and following the links to ebXML RIM V3.0 and ebXML RS V3.0.

Service Registry is available as part of the Java Web Services Developer Pack (<http://java.sun.com/webservices/jwsdp/>) or as a component of Sun Java Enterprise System, a software infrastructure that supports enterprise applications

distributed across a network or Internet environment. If you purchased Service Registry as a component of Java Enterprise System, you should be familiar with the system documentation at <http://docs.sun.com/coll/1286.1>.

How This Book Is Organized

The contents of this book are as follows:

[Chapter 1](#) describes how to use the Web Console to search the Registry and to publish data to the Registry. The chapter also contains troubleshooting information.

Service Registry Documentation Set

The Service Registry documentation set is available at <http://docs.sun.com/app/docs/coll/1314.1>. To learn about Service Registry, refer to the books listed in the following table.

TABLE P-1 Service Registry Documentation

Document Title	Contents
<i>Service Registry 3 2005Q4 Release Notes</i>	Contains the latest information about Service Registry, including known problems.
<i>Service Registry 3 2005Q4 Administration Guide</i>	Describes how to configure Service Registry after installation and how to use the administration tool provided with the Registry. It also describes how to perform other administrative tasks.
<i>Service Registry 3 2005Q4 User's Guide</i>	Describes how to use the Service Registry Web Console to search Service Registry and to publish data to it.
<i>Service Registry 3 2005Q4 Developer's Guide</i>	Describes how to use the Java API for XML Registries (JAXR) to search Service Registry and to publish data to it.

Related Books

When you install Service Registry, it is deployed to the Sun Java System Application Server. For information about administering Application Server, refer to *Sun Java System Application Server Enterprise Edition 8.1 2005Q2 Administration Guide*.

The Java ES documentation set describes deployment planning and system installation. The URL for system documentation is <http://docs.sun.com/coll/1286>. For an introduction to Java ES, refer to the books in the order in which they are listed in the following table.

TABLE P-2 Java Enterprise System Documentation

Document Title	Contents
<i>Sun Java Enterprise System 2005Q4 Release Notes</i>	Contains the latest information about Java ES, including known problems. In addition, components have their own release notes.
<i>Sun Java Enterprise System 2005Q4 Documentation Roadmap</i>	Provides descriptions of all documentation related to Java ES, both as a system and for the individual components.
<i>Sun Java Enterprise System 2005Q4 Technical Overview</i>	Introduces the technical and conceptual foundations of Java ES. Describes components, the architecture, processes, and features.
<i>Sun Java Enterprise System 2005Q4 Deployment Planning Guide</i>	Provides an introduction to planning and designing enterprise deployment solutions based on Java ES. Presents basic concepts and principles of deployment planning and design, discusses the solution life cycle, and provides high-level examples and strategies to use when planning solutions based on Java ES.
<i>Sun Java Enterprise System 2005Q4 Installation Planning Guide</i>	Helps you develop the implementation specifications for the hardware, operating system, and network aspects of your Java ES deployment. Describes issues such as component dependencies to address in your installation and configuration plan.
<i>Sun Java Enterprise System 2005Q4 Installation Guide for UNIX</i>	Guides you through the process of installing Java ES on the Solaris Operating System or the Linux operating system. Also shows how to configure components after installation, and verify that they function properly.
<i>Sun Java Enterprise System 2005Q4 Installation Reference</i>	Gives additional information about configuration parameters, provides worksheets to use in your configuration planning, and lists reference material such as default directories and port numbers.

TABLE P-2 Java Enterprise System Documentation (Continued)

Document Title	Contents
<i>Sun Java Enterprise System 2005Q1 Deployment Example Series: Evaluation Scenario</i>	Describes how to install Java ES on one system, establish a set of core, shared, and networked services, and set up user accounts that can access the services that you establish.
<i>Sun Java Enterprise System 2005Q4 Upgrade Guide</i>	Provides instructions for upgrading Java ES on the Solaris Operating System or the Linux operating environment.
<i>Sun Java Enterprise System Glossary</i>	Defines terms that are used in Java ES documentation.

The URL for all documentation about Java ES and its components is <http://docs.sun.com/prod/entsys.05q4>.

Default Paths and File Names

The following table describes the default paths and file names that are used in this book.

TABLE P-3 Default Paths and File Names

Placeholder	Description	Default Value
<i>ServiceRegistry-base</i>	Represents the base installation directory for Service Registry.	Solaris systems: /opt/SUNWsoar Linux systems: /opt/sun/SUNWsoar
<i>RegistryDomain-base</i>	Represents the directory where the Application Server domain for Service Registry is located and where the Service Registry database is located.	Solaris systems: /var/opt/SUNWsoar Linux systems: /var/opt/sun/SUNWsoar

Typographic Conventions

The following table describes the typographic changes that are used in this book.

TABLE P-4 Typographic Conventions

Typeface	Meaning	Example
AaBbCc123	The names of commands, files, and directories, and onscreen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name% you have mail.</code>
AaBbCc123	What you type, contrasted with onscreen computer output	<code>machine_name% su</code> Password:
<i>AaBbCc123</i>	A placeholder to be replaced with a real name or value	The command to remove a file is <code>rm filename</code> .
<i>AaBbCc123</i>	Book titles, new terms, and terms to be emphasized (note that some emphasized items appear bold online)	Read Chapter 6 in the <i>User's Guide</i> . A <i>cache</i> is a copy that is stored locally. Do <i>not</i> save the file.

Shell Prompts in Command Examples

The following table shows default system prompts and superuser prompts.

TABLE P-5 Shell Prompts

Shell	Prompt
C shell on UNIX and Linux systems	<code>machine_name%</code>
C shell superuser on UNIX and Linux systems	<code>machine_name#</code>
Bourne shell and Korn shell on UNIX and Linux systems	<code>\$</code>
Bourne shell and Korn shell superuser on UNIX and Linux systems	<code>#</code>
Microsoft Windows command line	<code>C:\</code>

Symbol Conventions

The following table explains symbols that might be used in this book.

TABLE P-6 Symbol Conventions

Symbol	Description	Example	Meaning
[]	Contains optional arguments and command options.	ls [-l]	The -l option is not required.
{ }	Contains a set of choices for a required command option.	-d {y n}	The -d option requires that you use either the y argument or the n argument.
\${ }	Indicates a variable reference.	\${com.sun.javaRoot}	References the value of the com.sun.javaRoot variable.
-	Joins simultaneous multiple keystrokes.	Control-A	Press the Control key while you press the A key.
+	Joins consecutive multiple keystrokes.	Ctrl+A+N	Press the Control key, release it, and then press the subsequent keys.
→	Indicates menu item selection in a graphical user interface.	File → New → Templates	From the File menu, choose New. From the New submenu, choose Templates.

Accessing Sun Resources Online

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To access the following Sun resources, go to <http://www.sun.com>:

- Downloads of Sun products
- Services and solutions
- Support (including patches and updates)
- Training
- Research
- Communities (for example, Sun Developer Network)

Third-Party Web Site References

Third-party URLs are referenced in this document and provide additional, related information.

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Using the Service Registry Web Console

This chapter describes the Web Console for the Service Registry (“the Registry”). The chapter contains the following sections:

- “Getting Started With the Web Console” on page 15
- “Searching the Registry” on page 22
- “Publishing and Managing Registry Objects” on page 32
- “Troubleshooting” on page 44

Getting Started With the Web Console

The Web Console is a web-based user interface that allows you to search the Registry and to publish content to the Registry and Repository. This section describes the preliminary steps to follow before you can perform these operations.

- “Starting the Web Console” on page 15
- “Changing the Default Language” on page 16
- “Enabling Versioning of Registry Content” on page 17
- “Creating a User Account” on page 17

Starting the Web Console

To start the Web Console, type the following URL into a web browser:

`http://hostname:port/soar/`

Here is an example:

`http://localhost:6060/soar/`

If the Registry is installed on your system, the *hostname* is `localhost`. If the Registry is not installed on your system, use the name of the system where the Registry is installed. The *port* value is usually 6060 unless there is a port conflict.

The Web Console has the following main sections:

- Top banner, where you can log in, log out, reset the locale, end the current session, set versioning for registry content, and set the content language
- Menu area on the left side of the screen
- Registry Objects area to the right of the menu area, which displays found objects
- Detail area below the Registry Objects area, which displays the details for any found object

Changing the Default Language

You can change the default language for the display of two kinds of information:

- Web Console labels and messages
- Registry content

Changing the Default Language for Labels and Messages

The Web Console's labels and messages can be displayed in the languages listed in [Table 1-1](#).

TABLE 1-1 Languages Supported by the Web Console

Language	Code
Simplified Chinese (China)	zh_CN
Traditional Chinese (Taiwan)	zh_TW
English (United States)	en
German	de
Japanese	ja
Korean	ko
Spanish	es

▼ To Change the Language for Labels and Messages

- Steps**
1. **Add the language to your web browser language preferences by following the instructions for the web browser.**

For most browsers, you can find the language settings in the General area of the Internet Options, Options, or Preferences dialog box.

2. **Make the language your preferred language by placing it first in the list of languages.**
3. **Click the Reset Locale button.**
The labels appear in the appropriate language.

Changing the Default Language for Registry Content

You can publish content to the registry in any of the languages that appear in the Content Language drop-down list in the top banner area. The default is the language setting for your web browser.

To change the language from the default, choose the language from the Content Language drop-down list.

Enabling Versioning of Registry Content

By default, versioning of registry objects is turned off. All objects have the version number 1.1. If you want an object to obtain a new version number when you modify it, select the Versioning ON checkbox.

Creating a User Account

You can browse the public content of the Registry without logging in to the Registry. However, to gain read access to private objects and write access to public objects, you must have a user account with the Registry. After you create a user account, you can perform secure operations such as publishing, modifying, and removing objects.

Creating a user account involves the following general steps:

1. Fill out a new user's details form.
2. Associate a set of credentials with the user account. You can obtain these credentials in either of two ways:
 - The Registry can generate credentials for you. This is the simpler way to obtain credentials.
 - If you have a certificate issued by a third-party certificate authority, you can use this certificate to obtain credentials. Before you can use the certificate, an administrator must install the third-party root certificates into the Application Server domain for the Registry. See "To Add Root Certificates to the Trusted Certificates in the Registry Domain" in *Service Registry 3 2005Q4 Administration Guide* for details.

To create a user account, perform the following tasks:

- “Starting the User Registration Wizard” on page 18
- Either “Obtaining a Registry-Generated Certificate” on page 18 or “Using a Third-Party Certificate” on page 19
- Either “Loading the Certificate into the Mozilla or Firefox Web Browser” on page 20 or “Loading the Certificate into the Internet Explorer Web Browser” on page 21
- “Logging In to the Registry” on page 22
- “Authenticating to the Registry” on page 22

▼ Starting the User Registration Wizard

- Steps**
1. **Click Create User Account in the left menu area.**
 2. **Click the Start Registration Wizard button.**
 3. **Read the instructions under Step 1: Requirements and click Next.**
 4. **Fill out the New User’s Details form.**
 You must provide a first name and last name for the user. All other fields are optional.

 After you log in, the first and last names appear after the Current User label in the top banner area of the Web Console.
 5. **Click Next.**
 The User Authentication Details page appears.
 6. **On the User Authentication Details page, select one of the following radio buttons:**
 - Select Generate Key Pair and Download PKCS12 KeyStore (the default) if you want the Registry to create a certificate for you. See “[Obtaining a Registry-Generated Certificate](#)” on page 18 for details about this task.
 - Select Upload X509 Certificate (DER) if you want to use an existing third-party certificate. See “[Using a Third-Party Certificate](#)” on page 19 for details about this task.

▼ Obtaining a Registry-Generated Certificate

Follow these steps if you selected the Generate Key Pair and Download PKCS12 KeyStore radio button on the User Authentication Details page.

- Steps**
1. **On the User Authentication Details page, type a user name in the Alias text field.**
 2. **Type a password in the Password and Password (repeat) text fields.**

3. Type values in the text fields, if the fields are not already filled in.

The text fields are as follows:

- Organizational Unit
- Organization
- City
- State or Province
- Country

The Name field contains the name that you specified as the Last Name in the New User's Details form. If you specified a City, State or Province, or Country in the New User's Details form, the text fields contain those values.

All fields are required.

4. Click Next.

A page labeled Step 4: Load Key to Web browser appears, with the message "New user successfully registered."

5. Click Download.

6. In the dialog box, choose the option that allows you to save the generated certificate to disk. In the file chooser dialog, choose a directory and name for the file.

The file must have the suffix .p12.

The default action is to save the certificate in your home directory, in a file that is named generated-key.p12.

Next Steps Next, you must import the generated certificate into your web browser. See ["Loading the Certificate into the Mozilla or Firefox Web Browser"](#) on page 20 or ["Loading the Certificate into the Internet Explorer Web Browser"](#) on page 21 for details.

▼ Using a Third-Party Certificate

Follow these steps if you selected the Upload X509 Certificate (DER) radio button on the User Authentication Details page. These steps place the certificate in the server keystore for the Registry and load the certificate into the web browser.

Before You Begin The third-party certificate must be in X.509 format. Typically, the certificate is in a file with the suffix .cer.

- Steps**
1. **On the User Authentication Details page, click the Choose Certificate File button.**
 2. **In the File Upload dialog box, click the Browse button to locate the file to upload, then click Upload File.**

3. **Click OK.**

The name of the file appears on the User Authentication Details page next to the Choose Certificate File button.

4. **Click Next.**

5. **On the Step 4: Load Key to Web browser page, follow the instructions to import the certificate into your web browser if it is not already there.**

See [“Loading the Certificate into the Mozilla or Firefox Web Browser”](#) on page 20 or [“Loading the Certificate into the Internet Explorer Web Browser”](#) on page 21 for details.

▼ Loading the Certificate into the Mozilla or Firefox Web Browser

Steps 1. **Choose Preferences from the Edit menu.**

2. **Click the Privacy & Security category on the sidebar to expand the options.**

3. **Click Certificates.**

4. **Click the Manage Certificates button in the right main panel.**

The Your Certificates tab appears.

5. **Click the Import button.**

6. **In the File Name to Restore file chooser dialog, select the .p12 certificate file, then click Open.**

7. **In the Prompt dialog, type an account password for the Master Password for the Software Security Device.**

This password is specific to your browser account and is assigned by the browser profile owner. A common convention is to use the same password as the login account on the client machine.

8. **In the Password Entry dialog, type the certificate password.**

This password is used to protect the client certificate. If you are using a registry-generated certificate, type the password that you specified on the User Authentication Details page.

An Alert dialog with the message: “Successfully restored your security certificate(s) and private key(s)” appears.

9. **Click OK.**

10. **Close the Certificate Manager and Preferences dialogs.**

Next Steps After you import the certificate, you are ready to log in to the registry. See [“Logging In to the Registry” on page 22](#) for details.

▼ Loading the Certificate into the Internet Explorer Web Browser

- Steps**
1. Choose **Internet Options** from the **Tools** menu.
 2. Click the **Content** tab.
 3. Click **Certificates**.
 4. Click **Import** to open the **Certificate Import Wizard**.
 5. In the **Certificate Import Wizard**, click **Next**.
 6. On the **File to Import** page, click **Browse** and locate the **.p12** file, then click **Next**.
 7. On the **Password** page, do the following:
 - a. Type the password that you specified for the certificate.
 - b. Select the **Mark the Key as Exportable** checkbox.
 - c. Do not select the **Enable Strong Private Key Protection** checkbox.
 - d. Click **Next**.
 8. On the **Certificate Store** page, choose the default, **Place All Certificates in the Following Store (Personal)**, then click **Next**.
 9. Click **Finish**.
 10. Click **OK** in the information dialog that appears.

The new certificate, with the first and last name you specified, appears in the **Certificates** window.
 11. Click **Close** in the **Certificates** window.
 12. Click **OK** in the **Internet Options** window.

Next Steps After you import the certificate, you are ready to log in to the registry. See [“Logging In to the Registry” on page 22](#) for details.

▼ Logging In to the Registry

After you import a certificate to the web browser, you are ready to log in.

Steps 1. On the Step 4: Load Key to Web browser page, click the Finish button.

2. In the top banner area of the Web Console, click the Login button.

3. Click OK in the dialog boxes to verify the certificate.

After you log in, an “Authentication successful.” message appears in the top banner area.

Authenticating to the Registry

After you log in to the Registry, authentication happens transparently whenever you try to add, delete, or modify a Registry object, because any write request triggers authentication based on the client certificate loaded into your web browser.

After authentication is completed, access to the Registry is over `https`.

When your session expires, you are no longer authenticated by the Registry. A subsequent write request prompts the Web Console to re-authenticate you.

Note – If authentication fails, stop and restart your web browser and try again.

Searching the Registry

The Search and Explore links in the menu area allow you to search the Registry.

- “Using the Search Menu” on page 22
- “Selecting a Query” on page 23
- “Searching by Object Type” on page 23
- “Searching by Name and Description” on page 24
- “Searching by Classification” on page 24
- “Viewing Search Results” on page 27
- “Viewing Object Details” on page 28
- “Using the Explore Menu” on page 31

Using the Search Menu

Click Search in the menu area. The Search form opens. The form contains the following components:

- Select Predefined Query drop-down list
- Name text field
- Description text field
- ClassificationSchemes tree

Click Hide Search Form to close the Search form and clear the results area.

The next few sections describe how to use these components.

Selecting a Query

The Select Predefined Query drop-down list contains the items shown in [Table 1–2](#).

TABLE 1–2 Predefined Queries

Query Name	Search Purpose
Basic Query	The default generic query, which allows you to search by object type, name, description, and classification
Basic Query - Case Sensitive	Case-sensitive version of Basic Query
FindAllMyObjects	Finds all objects owned (published) by the user who makes the query. May take a long time if the user owns many objects
GetCallersUser	Finds the User object for the user who makes the query

The default selection is Basic Query. The following sections describe how to perform basic queries:

- “Searching by Object Type” on page 23
- “Searching by Name and Description” on page 24
- “Searching by Classification” on page 24

Use the FindAllMyObjects query to search for all the objects that you have published. Use the GetCallersUser query to view or modify data for the user you created when you registered.

Searching by Object Type

The simplest search is by object type only.

The default choice in the Object Type drop-down list is RegistryObject, which searches all objects in the Registry. To narrow the search, change the object type.

The ClassificationNode menu item lists concepts within ClassificationSchemes. ClassificationNode is a synonym for Concept.

▼ To Search by Object Type

Steps 1. Choose an object type from the Object Type drop-down list.

2. Click the Search button.

The search returns all objects of the specified type. You can narrow the search by specifying a name, description, or classification.

Searching by Name and Description

▼ To Search by Name or Description

Steps 1. From the Select Predefined Query drop-down list, select either Basic Query or Basic Query -- Case Sensitive.

2. Type a string in the Name or Description field.

3. Click Search.

By default, the search looks for a name or description that matches the entire string that you typed. You can use wildcards to find a range of objects.

The wildcard characters are percent (%) and underscore (_).

The % wildcard matches multiple characters:

- Type `%off%` to return names or descriptions that contain the string `off`, such as `Coffee`.
- Type `nor%` to return names or descriptions that start with `Nor` or `nor`, such as `North` and `northern`.
- Type `%ica` to return names or descriptions that end with `ica`, such as `America`.

The underscore wildcard matches a single character. For example, the search string `_us_` would match objects named `Aus1` and `Bus3`.

Searching by Classification

Classification objects classify or categorize objects in the registry by using unique concepts (ClassificationNodes) that define valid values within a classification scheme. The classification scheme is the parent in a tree hierarchy that contains generations of child concepts. [Table 1-3](#) describes the classification schemes provided by the Registry specifications. Many of the terms in this table are defined in the Registry specifications.

TABLE 1-3 Classification Scheme Usage

Classification Scheme Name	Usage	Description or Purpose
AssociationType	Frequently	Defines the types of associations between RegistryObjects. Used as the value of the associationType attribute of an Association instance to describe the nature of the association.
ContentManagementService	Rarely	Defines the types of content management services. Used in the configuration of a content management service, such as a validation or cataloging service.
DataType	Frequently	Defines the data types for attributes in classes defined by this document. Used as the value of the slotType attribute of a Slot instance to describe the data type of the Slot value.
DeletionScopeType	Occasionally	Defines the values for the deletionScope attribute of the RemoveObjectsRequest protocol message.
EmailType	Rarely	Defines the types of email addresses.
ErrorHandlingModel	Rarely	Defines the types of error handling models for content management services.
ErrorSeverityType	Rarely	Defines the different error severity types encountered by the Registry while processing protocol messages.
EventType	Occasionally	Defines the types of events that can occur in a registry.
InvocationModel	Rarely	Defines the different ways that a content management service can be invoked by the Registry.
NodeType	Occasionally	Defines the different ways in which a ClassificationScheme can assign the value of the code attribute for its ClassificationNode (Concept) objects.

TABLE 1-3 Classification Scheme Usage (Continued)

Classification Scheme Name	Usage	Description or Purpose
NotificationOptionType	Rarely	Defines the different ways in which a client can be notified by the registry of an event within a Subscription.
ObjectType	Occasionally	Defines the different types of RegistryObjects a registry may support.
PhoneType	Rarely	Defines the types of telephone numbers.
QueryLanguage	Rarely	Defines the query languages supported by the Registry.
ResponseStatusType	Rarely	Defines the different types of status for a RegistryResponse.
StatusType	Occasionally	Defines the different types of status for a RegistryResponse.
SubjectGroup	Rarely	Defines the groups that a user can belong to for access control purposes.
SubjectRole	Rarely	Defines the roles that can be assigned to a user for access control purposes.

In the menu area, the root of the ClassificationSchemes tree is below the Description field.

▼ To Search by Classification

- Steps**
- 1. Expand the root node to view the full list of classification schemes.**
The number in parentheses after each entry indicates how many concepts (ClassificationNode objects) the parent contains.
 - 2. Expand the node for the classification scheme you want to use.**
 - 3. Expand concept nodes beneath the classification scheme until you find the leaf node by which you want to search. A leaf node is a node with no concepts beneath it.**
 - 4. Select the leaf node.**
 - 5. (Optional) Restrict the search by choosing an object type or specifying a name or description string.**

6. Click the Search button.

Viewing Search Results

Objects found by a search appear in the Registry Objects area.

The Registry Objects area consists of the following:

- Buttons that are labeled Apply, Approve, Deprecate, Undeprecate, Relate, and Delete, which allow you to perform actions on objects. You must be the object's creator or a registry administrator to perform any of these actions.
- A found objects display consisting of a search results table. For most objects, the table contains the following columns:
 - Pick checkbox. Select any two objects to activate the Relate button. See [“Creating Relationships Between Objects” on page 43](#) for details.
 - Details link. Click this link to open the Details area directly below the Registry Objects area (see [“Viewing Object Details” on page 28](#)).
 - Object Type field.
 - Name field.
 - Description field.
 - Version field.
 - VersionComment field.
 - Pin checkbox. See [“To Use the Pin Feature” on page 27](#) for details.

For ExtrinsicObject objects, the display has two additional columns: Content Version and Content Version Comment. These columns apply to the repository item for the ExtrinsicObject.

For two kinds of objects, the Version and VersionComment columns are replaced by other content:

- ExternalLink objects: External URI
- ServiceBinding objects: Endpoint

▼ To Use the Pin Feature

The Pin feature of the user interface allows you to hold one or more objects in the Registry Objects area while you search for other objects. You can then create a relationship between two objects. See [“Creating Relationships Between Objects” on page 43](#) for details on how to perform this task.

- Steps**
1. Click Search and execute a query.
 2. In the Registry Objects area, select the Pin checkbox for the object or objects that you want to hold there.

3. Execute another query.

The pinned object(s) and the search results for the second query all appear in the Registry Objects area.

Next Steps When you have finished using a pinned object, deselect the Pin checkbox for the object. When you execute another query, the object will not appear in the Registry Objects area.

Viewing Object Details

In the search results table, click the Details link for an object to open the Details area immediately below the Registry Objects area.

This section has a row of buttons and a row of tabs:

- The buttons are Apply, Save, Cancel, Approve, Deprecate, Undeprecate, and Delete. The buttons represent actions that you can perform on the object.
- The tabs represent the object's attributes. The tabs vary depending on the object type. [Table 1-4](#) describes the tabs and the objects they apply to.

TABLE 1-4 Attribute Tabs in the Details Area

Tab Name	Applies To
<i>Object_Type</i> Detail	All objects (<i>Object_Type</i> is the object type name)
Slots	All objects
Classifications	All objects
External Identifiers	All objects
Associations	All objects
External Links	All objects
Audit Trail	All objects
Postal Addresses	Organization, User
Telephone Numbers	Organization, User
Email Addresses	Organization, User
Users	Organization
Organizations	Organization
Service Bindings	Service
Specification Links	ServiceBinding

TABLE 1-4 Attribute Tabs in the Details Area (Continued)

Tab Name	Applies To
Concepts	ClassificationScheme, ClassificationNode
Registry Objects	RegistryPackage
Affected Objects	AuditableEvent

Click a tab to find out if the object has any values for the attribute. If it does, click the Details link for the attribute value to open a web browser window with the details for the attribute value.

The Audit Trail tab does not produce a table with a Details link. Instead, this tab produces a table that contains the following information:

- The event type
- The date and time of the event
- The name of the User that caused the event

For most objects, the Details area fields are as follows:

- **Unique Identifier.** For every object, the Unique Identifier is an active link. Click this link to view the XML for the object in a web browser window. All registry objects are stored in XML format.
- **Logical Unique Identifier.** The Logical Unique Identifier is usually the same as the Unique Identifier. If you turn versioning on, the Logical Unique Identifier remains the same for all versions of the object, while the Unique Identifier for the new version receives a suffix that indicates the version number.
- **Name**
- **Description**
- **Status** (usually Submitted, meaning that the object has been published to the Registry)
- **Version**
- **VersionComment**

For many objects, the fields are largely self-explanatory (the postal addresses for an Organization, for example). For some objects, the fields require some explanation. The following sections describe these fields.

- [“Viewing Association Details” on page 29](#)
- [“Viewing Classification Scheme Details” on page 30](#)
- [“Viewing Extrinsic Object Details” on page 30](#)
- [“Viewing External Link Details” on page 31](#)

Viewing Association Details

The Details area for an Association object contains the following additional fields:

- Source Object ID and Target Object ID. For the source and target objects of the association, the panel shows both the unique identifier and the logical identifier. The Confirmed By Source Owner checkbox indicates whether or not the association was confirmed or approved by the source object owner. The Confirmed By Target Owner checkbox indicates whether or not the association was confirmed or approved by the target object owner. These checkboxes are always selected for intramural associations.
- Association Type. The menu displays the selected type of the Association.
- Is Extramural. This checkbox is selected if at least one of the two associated objects is owned by a User other than the User who created the Association. Otherwise, the Association is defined as intramural.

Viewing Classification Scheme Details

The Details area for a ClassificationScheme object contains the following additional fields:

- External Classification Scheme checkbox. This checkbox is selected if the classification scheme is defined outside the Registry (that is, if it has no concepts). An internal classification scheme is a classification scheme whose concept hierarchy is defined within the Registry.
- The Value Type menu, which contains one of the following selections:
 - Unique: This value indicates that each node of the taxonomy has a unique code assigned to it. This value is the default when you create a classification scheme in Service Registry.
 - EmbeddedPath: This value indicates that the unique code assigned to each node of the taxonomy also encodes its path.
 - NonUnique: In some cases nodes are not unique, and it is necessary to use the full path (from the ClassificationScheme to the node of interest) to identify the node. For example, in a geography taxonomy, Moscow could be under both Russia and the USA, where five states have cities that are named Moscow.

Viewing Extrinsic Object Details

The Details area for an ExtrinsicObject object contains the following additional fields:

- Content Version and Content Version Comment. The Details area shows the version and optional comment for the repository item associated with the extrinsic object.
- MimeType. This field contains the MIME type of the extrinsic object.
- Is Opaque checkbox. This checkbox is selected if the repository item content is not readable by the Registry (for example, if it is encrypted).
- Object Type. This field contains the subconcept within the ObjectType/ExtrinsicObject tree.

- **View Repository Item Content link.** Click this link to view the repository item in a web browser window.

Viewing External Link Details

The Details area for an ExternalLink object contains a Display Content link under the External URI field. Click this link to view the contents of the URI in a browser window.

Using the Explore Menu

The Explore menu allows you to navigate through Registry and Repository content by using the metaphor of a hierarchy of file folders. The root folder, which is named `root`, contains all Registry content.

▼ To Use the Explore Menu

- Steps**
1. **Click the Explore link.**
 2. **Expand the folder `root`. This folder contains two subfolders: `userData`, where all user content is placed, and `ClassificationSchemes`.**
 3. **Click a folder to view the registry objects of that type. Expand a node to view the object types at the next level.**

Next Steps When you have finished, click Hide Explorer to close the Explore menu and to clear the results area.

▼ To Explore the Classification Schemes

- Steps**
1. **Click the `ClassificationSchemes` folder (not the node symbol).**
All the `ClassificationScheme` objects appear in the Registry Objects area. Follow the instructions in [“Viewing Search Results” on page 27](#) to view the objects.
 2. **Expand the `ClassificationSchemes` node to open the `ClassificationSchemes` tree hierarchy in the menu area.**
 3. **Click any file icon to view that classification scheme in the Registry Objects area.**
 4. **Expand a classification scheme node to see the Concept folders beneath it.**
Not all classification schemes have concepts that are viewable in the Explore menu.

5. Click a **Concept** folder to view that concept in the **Registry Objects** area.

▼ To Explore the UserData Folder

- Steps**
1. Expand the **userData** node.
 2. Expand the **RegistryObject** node. Do not click the folder unless you want to view all registry objects.
The `folder1` node has no content.
 3. Click a folder to view the registry objects of that type. Expand a node to view the object types at the next level.

Publishing and Managing Registry Objects

The **Create a New Registry Object** menu item allows you to create objects and to publish the objects to the Registry.

- [“Publishing Objects” on page 32](#)
- [“Adding a Classification to an Object” on page 34](#)
- [“Adding an External Identifier to an Object” on page 34](#)
- [“Adding an External Link to an Object” on page 35](#)
- [“Adding Custom Information to an Object Using Slots” on page 36](#)
- [“Adding a Postal Address to an Organization or User” on page 36](#)
- [“Adding a Telephone Number to an Organization or User” on page 37](#)
- [“Adding an Email Address to an Organization or User” on page 38](#)
- [“Adding a User to an Organization” on page 38](#)
- [“Adding a Child Organization to an Organization” on page 39](#)
- [“Adding a Service Binding to a Service” on page 39](#)
- [“Adding a Specification Link to a Service Binding” on page 40](#)
- [“Adding a Child Concept to a Classification Scheme or Concept” on page 40](#)
- [“Adding Objects to a Registry Package” on page 41](#)
- [“Changing the State of Objects” on page 42](#)
- [“Removing Objects” on page 42](#)
- [“Creating Relationships Between Objects” on page 43](#)

Publishing Objects

Publishing objects to the registry is a three-step process:

1. Create the object.

2. Add details and other objects, saving them to memory but not publishing them to the Registry.
3. Publish the object to the Registry.

You can publish objects to the registry if you have created a user account and have logged in. To create a user account, follow the instructions in [“Creating a User Account”](#) on page 17.

▼ To Create and Publish a New Registry Object

- Steps**
1. In the menu area, click **Create a New Registry Object**.
 2. In the **Registry Objects** area, choose an object type from the drop-down list and click **Add**.
A Details form for the object appears in the Details area.
 3. **Type a name and, optionally, a description in the fields of the Details form. Type values for other fields that appear in the Details form.**

Note – When you create an `AdhocQuery` object and type the query string, use pairs of single quotes to enclose items that you normally enclose in single quotes. These items are typically parameter placeholders and literals, when they occur in subqueries. For example, specify a parameter placeholder in a subquery as follows:

```
(SELECT id FROM ClassificationNode WHERE path LIKE '$objectTypePath')
```

Specify both a literal and a parameter placeholder as follows:

```
... AND (ro.id = s.parent AND s.name_ =  
'urn:oasis:names:tc:ebxml-regrep:profile:ws:wsdl:nameSpacesUsed'  
AND s.value LIKE '$namespacePattern')
```

4. **(Optional) Replace the assigned Unique Identifier and Logical Unique Identifier with identifiers of your own choosing.**
Each identifier must be a valid URN and must be unique within your Registry installation.
5. **(Optional) Click Save to save the object in memory.**
6. **(Optional) Use the tabs in the Details form to add and save composed objects.**
7. **Click Apply to publish the object to the Registry.**
A status message appears, indicating whether the apply was successful.

Next Steps Either before or after you publish the object, you can edit the object by adding composed objects to it. [Table 1–4](#) lists the objects that you can add. The following sections describe how to add these objects.

Adding a Classification to an Object

To create a classification, you use an *internal classification scheme*. An internal classification scheme contains a set of concepts whose values are known to the Registry.

▼ To Add a Classification

To add a Classification to an object, search for the appropriate classification scheme, then choose a concept within that classification scheme.

- Steps**
- 1. In the Details area for the object, click the Classifications button.**
The Classifications table, which can be empty, appears.
 - 2. Click Add.**
A Details Panel window opens.
 - 3. Type a name and, optionally, a description for the classification.**
 - 4. Click the Select ClassificationScheme or Concept button.**
A ClassificationScheme/Concept Selector window opens.
 - 5. Expand the ClassificationSchemes node. Then expand concept nodes until you have selected the leaf node that you want to use.**
 - 6. Click OK to close the ClassificationScheme/Concept Selector window.**
The classification scheme and concept appear in the Details Panel window.
 - 7. Click Add to save the new object and close the Details Panel window.**
 - 8. Click Apply in the Details area for the object.**

Adding an External Identifier to an Object

To create an external identifier, you use an *external classification scheme*. An external classification scheme has values that are not known to the Registry because the classification scheme has no concepts.

▼ To Add an External Identifier

To add an external identifier to an object, search for the appropriate classification scheme, then specify a value.

- Steps**
- 1. In the Details area for the object, click the External Identifiers tab.**
The External Identifiers table, which can be empty, appears.

2. **Click Add.**
A Details Panel window opens.
3. **Type a name and, optionally, a description for the external identifier.**
4. **Click the Select ClassificationScheme button.**
A ClassificationScheme/Concept Selector window opens.
5. **Expand the ClassificationSchemes node, then select a classification scheme that has no concepts.**
6. **Click OK to close the ClassificationScheme/Concept Selector window.**
The classification scheme appears in the Details Panel window.
7. **Type a value in the Value field.**
8. **Click Add to save the new object and close the Details Panel window.**
9. **Click Apply in the Details area for the object.**

Adding an External Link to an Object

An external link allows you to associate a URI with a registry object.

▼ To Add an External Link

- Steps**
1. **In the Details area for the object, click the External Links tab.**
The External Links table, which can be empty, appears.
 2. **Click Add.**
A Details Panel window opens.
 3. **Type a name for the external link.**
 4. **Type the URL for the external link in the External URI field.**
 5. **(Optional) Click the Select Concept for Object Type button if you want to specify the type of content to which the URL points.**
Expand the ClassificationSchemes node. Locate the content type by expanding the ObjectType, RegistryObject, and ExtrinsicObject nodes. Select the concept, then click OK. If you do not find a suitable type, click Cancel. You can create a new concept for ExtrinsicObjects if you want.
 6. **Click Add to save the new object and close the Details Panel window.**
 7. **Click Apply in the Details area for the object.**

Adding Custom Information to an Object Using Slots

A slot contains extra information that would otherwise not be stored in the Registry. Slots provide a way to add arbitrary attributes to objects.

▼ To Add a Slot

- Steps**
- 1. In the Details area for the object, click the Slots tab.**
The Slots table, which can be empty, appears.
 - 2. Click Add.**
A Details Panel window opens.
 - 3. Type a name for the Slot.**
 - 4. (Optional) Type a value in the Slot Type field. You can use this field to specify a data type for the slot or to provide a way to group slots together.**
 - 5. Type a value in the Values field.**
 - 6. Click Add to save the new object and close the Details Panel window.**
 - 7. Click Apply in the Details area for the object.**

Adding a Postal Address to an Organization or User

An Organization or User can have one or more postal addresses.

▼ To Add a Postal Address

- Steps**
- 1. In the Details area for the Organization or User, click the Postal Addresses tab.**
The Postal Addresses table, which can be empty, appears.
 - 2. Click Add.**
A Details Panel window opens.
 - 3. Type values in the fields. All fields are optional.**
 - Street Number

- Street
 - City
 - State or Province
 - Country
 - Postal Code
4. Click **Add** to save the new object and close the **Details Panel** window.
 5. Click **Apply** in the **Details** area for the object.

Adding a Telephone Number to an Organization or User

An Organization or User can have one or more telephone numbers.

▼ To Add a Telephone Number

- Steps**
1. **In the Details area for the Organization or User, click the Telephone Numbers tab.**
The Telephone Numbers table, which can be empty, appears.
 2. **Click Add.**
A Details Panel window opens.
 3. **Select a value from the Type combo box.**
The following values are available:
 - Beeper
 - FAX
 - HomePhone
 - MobilePhone
 - OfficePhone
 4. **Type values in the fields. All fields are optional.**
 - Country Code
 - Area Code
 - Phone Number
 - Extension
 5. **Click Add** to save the new object and close the **Details Panel** window.
 6. **Click Apply** in the **Details** area for the object.

Adding an Email Address to an Organization or User

An Organization or User can have one or more email addresses.

▼ To Add an Email Address

- Steps**
1. **In the Details area for the Organization or User, click the Email Addresses tab.**
The Email Addresses table, which can be empty, appears.
 2. **Click Add.**
A Details Panel window opens.
 3. **Select a value from the Type combo box: HomeEmail or OfficeEmail.**
 4. **Type a value in the Email Address field.**
 5. **Click Add to save the new object and close the Details Panel window.**
 6. **Click Apply in the Details area for the object.**

Adding a User to an Organization

An Organization can have one or more users. One user is the primary contact, which is normally the user that created the organization. You can create and add additional users.

▼ To Add a User

- Steps**
1. **In the Details area for the Organization, click the Users tab.**
The Users table appears.
 2. **Click Add.**
A Details Panel window opens.
 3. **In the Name field, type the last name of the user to the left of the comma. Optionally, type the first and middle names to the right of the comma.**
 4. **(Optional) Type a description of the user in the Description field.**
 5. **In the First Name, Middle Name, and Last Name fields, type the first name, middle name, and surname of the user. All fields are optional.**

6. Click **Add** to save the new object and close the **Details Panel** window.
7. Click **Apply** in the **Details** area for the object.

Adding a Child Organization to an Organization

An Organization can have one or more child organizations. To add a child organization to an Organization, follow these steps:

▼ To Add a Child Organization

- Steps**
1. In the **Details** area for the **Organization**, click the **ChildOrganizations** tab.
The **ChildOrganizations** table appears.
 2. Click **Add**.
A **Details Panel** window opens.
 3. In the **Name** field, type a name for the new organization.
 4. (Optional) Type a description in the **Description** field.
 5. (Optional) Type values in the address fields.
 6. Click **Add** to save the new object and close the **Details Panel** window.
 7. Click **Apply** in the **Details** area for the object.

Adding a Service Binding to a Service

A Service normally has one or more service bindings.

▼ To Add a Service Binding

- Steps**
1. In the **Details** area for the **Service**, click the **Service Bindings** tab.
The **Service Bindings** table appears.
 2. Click **Add**.
A **Details Panel** window opens.
 3. In the **Name** field, type a name for the service binding.

4. (Optional) Type a description of the service binding in the Description field.
5. In the Access URL field, type the URL for the service binding.
6. (Optional) In the Target Binding field, type the unique identifier of another ServiceBinding to which this ServiceBinding refers.
7. Click Add to save the new object and close the Details Panel window.
8. Click Apply in the Details area for the object.

Adding a Specification Link to a Service Binding

A ServiceBinding can have a SpecificationLink object.

▼ To Add a Specification Link

- Steps**
1. In the Details area for the ServiceBinding, click the Specification Links tab.
The Specification Links table appears.
 2. Click Add.
A Details Panel window opens.
 3. In the Name field, type a name for the SpecificationLink.
 4. (Optional) Type a description of the SpecificationLink in the Description field.
 5. In the Usage Description field, type a usage description for the usage parameters, if the SpecificationLink has usage parameters.
 6. In the Usage Parameters field, type the usage parameters, if the SpecificationLink has usage parameters.
 7. Click Add to save the new object and close the Details Panel window.
 8. Click Apply in the Details area for the object.

Adding a Child Concept to a Classification Scheme or Concept

A ClassificationScheme normally has numerous child concepts, which can also have child concepts.

▼ To Add a Child Concept

- Steps**
1. In the Details area for the ClassificationScheme, click the ChildConcepts tab. The ChildConcepts table appears.
 2. Click Add.
A Details Panel window opens.
 3. In the Name field, type a name for the concept.
 4. (Optional) Type a description of the concept in the Description field.
 5. In the Value field, type a value for the concept.
 6. Click Add to save the new object and close the Details Panel window.
 7. Click Apply in the Details area for the object.

Adding Objects to a Registry Package

A RegistryPackage is an object that contains other registry objects. Typically, you use a RegistryPackage to group logically related objects. The objects can be of different types and can have different owners.

You add objects to a RegistryPackage by specifying their unique identifiers. If you try to type the unique identifiers, you are likely to make errors. Therefore, the following steps describe how to add objects by copying and pasting the identifiers.

▼ To Add Objects to a Registry Package

- Steps**
1. Create a RegistryPackage object as described in [“To Create and Publish a New Registry Object” on page 33](#). Specify a name and, optionally, a description, but do not add any RegistryObjects to the RegistryPackage at this time.
 2. After you click Apply to save the RegistryPackage, pin the RegistryPackage as described in [“To Use the Pin Feature” on page 27](#).
 3. Use the Web Console to search for the objects you want to add to the RegistryPackage. Pin each object as you find it.
 4. Click the Details link for an object you want to add to the RegistryPackage.
 5. In the Details panel for the object, copy the Unique Identifier by using your keyboard (Control-C or the Copy key).
 6. In the Search Results area, click the Details link for the RegistryPackage.

7. In the Details area for the object, click the Registry Objects tab.
8. Click Add to Package.
9. In the Unique Identifier field, use your keyboard to paste the identifier you copied (Control-V or the Paste key).
10. Click Add.
The object appears in the Registry Objects area.
11. Click Apply in the Details area to save the RegistryPackage.
12. Repeat steps 4 through 11 to add each additional object to the RegistryPackage.

Changing the State of Objects

In addition to publishing, editing, and removing objects, you can perform the following actions on them if you are the owner or are otherwise authorized to do so:

- Approval
- Deprecation
- Undeprecation

These features are useful in a production environment if you want to establish a version control policy for registry objects. For example, you can approve a version of an object for general use, and you can deprecate an obsolete version before you remove it. If you change your mind after deprecating an object, you can undeprecate it.

You perform all these actions in the Search Results area.

- To approve an object, select the object and click the Approve button. A message that confirms the approval appears. The event is added to the Audit Trail.
- To deprecate an object, select the object and click the Deprecate button. A message that confirms the deprecation appears. The event is added to the Audit Trail.
- To undeprecate an object, select the object and click the Undeprecate button. A message verifying the undeprecation appears. The event is added to the Audit Trail.

Removing Objects

To remove an object that you own from the Registry, select the object in the Search Results area and click the Delete button.

Note – Do not delete AuditableEvent objects for objects that you own. That is, do not delete any AuditableEvent objects that appear in the Search Results area as a result of a FindAllMyObjects search. If you delete an AuditableEvent object, the audit trail for the object that it belongs to becomes corrupted.

If the object is an extrinsic object, you have two choices:

- Choose Delete Object and Repository Item (the default) from the Deletion Options menu to delete both the ExtrinsicObject registry object and the repository item to which it refers.
- Choose Delete Repository Item Only to delete the repository item and leave the ExtrinsicObject in the Registry. You can then add another repository item.

The Deletion Options menu is meaningful only for extrinsic objects.

Creating Relationships Between Objects

Objects can have two kinds of relationship: references and associations. Both kinds of relationship are both *unidirectional*. That is, each relationship has a source object and a target object.

The Registry supports references, which are called ObjectRefs, between certain types of objects. For example, if you create a Service and a ServiceBinding, you can create a ServiceBinding reference from the Service to the ServiceBinding. However, you cannot create a reference from the ServiceBinding to the Service. A reference is not a registry object.

An Association is a registry object. You can create an Association from any registry object to any other. The Registry supports an AssociationType classification scheme that includes a number of predefined association types: OffersService, RelatedTo, HasMember, and so on. You can also create new association types. If you own both objects in the Association, the Association is an *intramural association*. If you do not own both objects, the Association is an *extramural association*. If you create an Organization and add a Service to it, an Association of type OffersService is automatically created from the Organization to the Service.

If no valid reference exists for the source and target objects, you cannot create a reference.

You use the Relate button in the Registry Objects area to relate two objects. This button becomes active when you select two objects in the search results table.

If the two objects are not both visible in the search results table, select the Pin checkbox to hold one object in the search results table while you find the object to which you want to relate it. For details, see [“To Use the Pin Feature” on page 27](#).

▼ To Create a Reference

- Steps**
1. In the Registry Objects area, select two objects and click **Relate**.
 2. In the Create Relationship area, select the source object if it is not already selected.
The other object becomes the target object.

If a valid reference exists for the source and target objects, the Reference option is selected by default, and the valid reference attribute appears. If no valid reference exists for the source and target objects, the Reference radio button is grayed out.
 3. Click **Save** to save the Reference.

▼ To Create an Association

- Steps**
1. In the Registry Objects area, select two objects and click **Relate**.
 2. In the Create Relationship area, select the source object if it is not already selected.
The other object becomes the target object.
 3. Select the **Association** radio button, if it is not already selected.
 4. Type a name and, optionally, a description for the Association in the Details area.
The source and target object ID values are already filled in.
 5. Choose a type value from the Association Type menu.
 6. Click **Apply** to save the Association.

Troubleshooting

This section describes solutions to some problems that you can encounter when using the Web Console.

Unable to Access Service Registry

If you receive either an Error 404 or a "Connection refused" message when you try to use the Web Console, it is likely either that the Registry is not running or that you specified an incorrect URL.

Make sure that you specify `http://hostname:6060/soar/`. You might need to specify the domain in addition to the hostname: `hostname.domain`.

To make sure that the Registry is running, use the command-line or web interface to the Application Server domain for the Registry. For details, see “Administering the Application Server Domain for Service Registry” in *Service Registry 3 2005Q4 Administration Guide*.

Preferred Locale Is Not Used

If the Web Console is not using your preferred locale, check your web browser preference settings. Make sure the preferred locale is at the top of the list of locales. See “Changing the Default Language” on page 16 for details.

Search Panel Labels Do Not Appear in Current Locale

If the Search Panel labels do not appear in the current locale after you change the locale and click Reset Locale, click End Session, then Return to Registry. See “Changing the Default Language” on page 16 for information on changing the locale.

Unable to Create ExternalLink or ServiceBinding

You might get an error in one of the following situations:

- When you specify an ExternalURI for an ExternalLink object
- When you specify an AccessURI for a ServiceBinding object

The error message looks like this:

```
The URL: uri is not resolvable.  
Use Absolute Path Format [scheme:] [//authority] [path] [?query] [#fragment]
```

This error means that the administrative task described in “Allowing Access to External Web Sites” in *Service Registry 3 2005Q4 Administration Guide* has not been performed. The Service Registry administrator for your site needs to perform this task and restart the Registry before you can create these objects.

Web Console Error Messages Are Not Clear

For clarification of the problem that is causing a Web Console error message, examine the server log for the Application Server domain for the registry. For details, see “Administering the Application Server Domain for Service Registry” in *Service Registry 3 2005Q4 Administration Guide*.

New Registry Object Cannot Be Saved

If you get an error message when you try to save a new object in the Registry:

- If you are using a Registry-generated certificate, make sure that you imported the certificate into your web browser.
- If you are using a third-party certificate, make sure your administrator placed the Certificate Authority root certificate in the truststore of the Application Server domain for the Registry. For details, see “To Add Root Certificates to the Trusted Certificates in the Registry Domain” in *Service Registry 3 2005Q4 Administration Guide*.

Web Console is Unresponsive

If the Registry Console becomes unresponsive, perform the following steps:

1. Make a note of the error messages that appear.
2. Clear the session cookie in your web browser. To clear the cookie, find the cookie with the name `JSESSIONID` at the site where the Registry is running and remove it. If you are unsure, delete all cookies.
3. Restart the Web Console as described in [“Starting the Web Console” on page 15](#).
4. Contact Registry Support and inform them of the error messages and of the steps that led to the error.

Index

Numbers and Symbols

% (percent sign), wildcard for searches, 24
_ (underscore), wildcard for searches, 24

A

approving registry objects, 42
associations
 creating, 43-44
 viewing details, 29-30
audit trails, viewing, 28-31

C

certificates, obtaining, 17-22
child organizations, adding to
 organizations, 39
classification schemes, 24-27
 adding child concepts, 40-41
 exploring, 31-32
 viewing details, 30
classifications
 adding to registry objects, 34
 searching by, 24-27
concepts, adding to classification
 schemes, 40-41
connection refused messages, 44-45
creating registry objects, 32-33

D

deleting registry objects, 42-43
Deletion Options menu, 42-43
deprecating registry objects, 42
descriptions of registry objects, searching by, 24
Details area, 28-31

E

email addresses, adding to organizations or
 users, 38
error 404 messages, 44-45
Explore menu, 31-32
external identifiers, adding to registry
 objects, 34-35
external links
 adding to registry objects, 35
 troubleshooting, 45
 viewing details, 31
extrinsic objects, viewing details, 30-31

G

Glossary, link to, 10

L

languages, changing default, 16-17
locales
 setting, 16-17

locales (Continued)
troubleshooting, 45

N

names of registry objects, searching by, 24

O

object types, searching by, 23-24

organizations

- adding child organizations, 39
- adding email addresses, 38
- adding postal addresses, 36-37
- adding telephone numbers, 37
- adding users, 38-39

P

pin feature, using, 27-28

postal addresses, adding to organizations or users, 36-37

predefined queries, 23

publishing registry objects, 32-33

Q

queries, predefined, 23

R

references, creating, 43-44

registry objects

- adding classifications, 34
- adding custom information, 36
- adding external identifiers, 34-35
- adding external links, 35
- adding slots, 36
- adding to registry packages, 41-42
- approving, deprecating, or undeprecating, 42
- creating, 32-33
- creating associations, 43-44

registry objects (Continued)

- creating relationships, 43-44
 - publishing, 32-33
 - publishing errors, 46
 - removing, 42-43
 - searching by classification, 24-27
 - searching by name and description, 24
 - searching by object type, 23-24
 - viewing details, 28-31
 - viewing search results, 27-28
- Registry Objects area, 27-28
- holding objects in, 27-28
- registry packages, adding registry objects, 41-42
- removing registry objects, 42-43

S

Search menu, 22-23

service bindings

- adding specification links, 40
- adding to services, 39-40
- troubleshooting, 45

services, adding service bindings, 39-40

slots, adding to registry objects, 36

specification links, adding to service bindings, 40

T

telephone numbers, adding to organizations or users, 37

troubleshooting, 44-46

U

undeprecating registry objects, 42

URL not resolvable messages, 45

user accounts, creating, 17-22

User Registration Wizard, 18

userData folder, exploring, 32

users

- adding email addresses, 38
- adding postal addresses, 36-37
- adding telephone numbers, 37

users (Continued)
adding to organizations, 38-39

V

versioning, enabling, 17

W

Web Console, starting, 15-16
wildcards, using in searches, 24

