



BEA AquaLogic Service Registry™

Installation Guide

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Installation Overview

BEA AquaLogic Service Registry may be installed using the following scenarios:

Standalone Registry

Under this scenario, the BEA AquaLogic Service Registry server is installed and deployed on WebLogic Server 8.x or 9.x and connects to a local or external registry database. To perform a standalone installation, follow the instructions [Chapter 3, “Starting the Installation Program.”](#) For more configuration information, see [Chapter 8, “Server Configuration,”](#) and [Chapter 9, “Database Installation.”](#)

Standalone registry with data migration

In this case, a standalone installation is performed and data is migrated to it from a previous installation of BEA AquaLogic Service Registry. Follow the instructions in [Chapter 14, “Migration.”](#)

Approval Process Registry

An installation of BEA AquaLogic Service Registry can be split into two servers, publication registry and discovery registry. The publication registry is a preliminary server for the publishing, testing, and approval of data. After data is approved, it is promoted to the discovery registry. The discovery registry is configured for inquiry. To install BEA AquaLogic Service Registry with the Approval Process Registry, follow the instructions in [Chapter 10, “Approval Process Registry Installation.”](#)

External Accounts Integration

BEA AquaLogic Service Registry server may be optionally configured to use external accounts on an LDAP or other account store. It is possible to set up external accounts integration during database installation. For more information, see [Chapter 9, “Database Installation,”](#) and [Chapter 11, “External Accounts Integration.”](#)

Registry cluster

A UDDI cluster is a group of UDDI registries deployed on multiple servers possibly with a clustered database in the back-end. Load balancing is used to distribute requests amongst BEA AquaLogic Service Registry servers to get the optimal load distribution. To learn how to configure AquaLogic Service Registry in a cluster, see [Chapter 12, “Cluster Configuration.”](#)

Support for Windows NT service and UNIX Daemon

BEA AquaLogic Service Registry can be run as a service on Windows 2000/XP. Support for NT service installation is installed by default on Windows servers—for information, see [Chapter 16, “NT Service Support.”](#) Also, BEA AquaLogic Service Registry can be run as a system daemon on Unix machines—for information, see [Chapter 16, “Running in Linux.”](#)

Installation Modes

The BEA Products installation program can be used in the following modes:

- *Graphical mode*

Graphical-mode installation is an interactive, GUI-based method for installing your software. It can be run on both Windows and UNIX systems. For installation procedures, see [Chapter 6, “Running the Installation Program in Graphical Mode.”](#)

Note: If you want to run graphical-mode installation, the console attached to the machine on which you are installing the software must support a Java-based GUI. All consoles for Windows systems support Java-based GUIs, but not all consoles for UNIX systems do. If you attempt to start the installation program in graphical mode on a system that cannot support a graphical display, the installation program automatically starts console-mode installation.

- *Console mode*

Console-mode installation is an interactive, text-based method for installing your software from the command line, on either a UNIX system or a Windows system. For instructions for using this method, see [Chapter 4, “Running the Installation Program in Console Mode.”](#)

- *Silent mode*

Silent-mode installation is a non interactive method of installing your software that requires the use of an XML properties file for selecting installation options. You can run silent-mode installation in either of two ways: as part of a script or from the command line. Silent-mode installation is a way of setting installation configurations only once and then

using those configurations to duplicate the installation on many machines. For instructions, see [Chapter 5, “Running the Installation Program in Silent Mode.”](#)

Licensing and Evaluation

Your BEA software cannot be used without a valid license. When you install your software, the installation program installs an evaluation license (`license.bea`) into the Registry Home directory, to allow you to start using the product immediately. This license key is valid for 180 days. At the end of this period, you may request an extension of the evaluation period by contacting your BEA sales representative.

To use your software in a full-scale production environment, you must purchase a production license. To find out how to do so, contact your sales representative or visit the BEA corporate Web site at <http://www.bea.com>.

Note that evaluation and production licenses for pre-2.1 versions of AquaLogic Service Registry do not work with AquaLogic Service Registry 2.1.

Evaluation Limitations

The following limitations are put on BEA AquaLogic Service Registry installations under evaluation licenses:

1. User is not allowed change the system clock back to extend the evaluation period. If the system clock is altered in this way, the validation of the license key fails.
2. The registry's database is not accessible without a valid, non-expired license key; the database is accessible only from a registry installed using the same license key or its extension keys.
3. The database export/import/migrate tools take the license into account. You cannot transfer data between databases containing different licenses. In other words, if you download a new evaluation version of BEA AquaLogic Service Registry, you will not be able to transfer the database to it using these tools.

Installation Overview

System Requirements

This section explains the requirements which must be met before you start installation. Supported Platforms in *Read This First* in [Using the AquaLogic Service Registry](#) summarizes the software platform options for the current release. So you should:

1. Ensure the installation machine meets the requirements that follow in Hardware.
2. Decide which combination of supported platform components will be used.
3. Ensure each component is installed as described in this section.

Then you can proceed with installation.

Hardware

[Table 2-1](#) summarizes hardware requirements for the installation machine. The minimum specifications are suitable for experimental use of BEA AquaLogic Service Registry on a workstation. Although it may be possible to install the product on a machine with lower specifications, performance and reliability may be severely affected. The requirements of servers in a production environment are greater and depend on patterns of use. See “Support” in *Read This First*, in [Using the AquaLogic Service Registry](#) if you need assistance.

Table 2-1 Minimum Hardware Specifications

Specification	Minimum	Notes
CPU	1GHz	Actual requirements depend on the on patterns of use in the target environment.
RAM	1GB	
Disk Space	300MB	This is sufficient if the selected database system is installed on another machine. The database server machine must have sufficient space for the selected database system. The requirements for registry data are quite modest. Each GB typically provides for registration of several thousand additional entities. So disk performance is more significant.

Java™ Platform

A supported Java Development Kit is required on the installation machine. A Java Runtime Environment is not sufficient because it must be possible to compile JSP pages at runtime.

IBM JDK 1.4 and higher must contain a JCE provider. [Bouncy Castle provider](#) is supported, and [JCE Unlimited Strength Jurisdiction Policy Files](#) are required.

1. Copy the file `bcprov-jdk14-*.jar` from [Bouncy Castle provider](#) to `IBMJava2/jre/lib/ext`
2. Add the following line to the file `java.security` located in `IBMJava2/jre/lib/security`
`security.provider.5=org.bouncycastle.jce.provider.BouncyCastleProvider`

Relational Database

Setting up a relational database during installation is optional - you can instead set it up after installation using the setup tool. See [Chapter 9, “Database Installation.”](#) In both cases you can use the pre-configured HSQL database system that comes with BEA AquaLogic Service Registry.

The installation process allows you to setup a database using one of the other supported database systems, in which case the database server must be installed and running (not necessarily on the

same machine). JDBC driver files must generally be available locally, but some drivers are distributed with BEA AquaLogic Service Registry.

System Requirements

Starting the Installation Program

This section describes the standalone installation of BEA AquaLogic Service Registry and all settings. To install the registry, type the following at a command prompt:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar
```

and follow the wizard panels. If you have associated `javaw` with `*.jar` files on Windows, just double-click the icon for the file `BEA-aqualogic-service-registry-2.1.0.jar`

Starting the Installation Program on Windows Platforms

The following sections describe how to start the installation program (for console and silent modes) on a Windows platform:

- [Starting in Graphical Mode](#)
- [Starting in Console Mode](#)
- [Starting in Silent Mode](#)

For information about installing in graphical mode, see [Chapter 6, “Running the Installation Program in Graphical Mode.”](#)

Notes: If you are installing the software on a Windows system that supports more than one monitor, you must disable all but one monitor before starting the installation program.

Starting in Graphical Mode

1. To install the registry, type the following at a command prompt:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar
```

and follow the wizard panels.

Note: If you have associated `javaw` with `*.jar` files on Windows, just double-click the icon for the file `BEA-aqualogic-service-registry-2.1.0.jar`

2. Proceed to [Chapter 6, “Running the Installation Program in Graphical Mode.”](#)

Starting in Console Mode

To start the console-mode installation process on a Windows platform, follow these steps:

1. Log in to the target Windows system.
2. Complete the appropriate procedure in the following table:

If you are installing from . . .	Perform the following action . . .
Web download	<ol style="list-style-type: none">1. Open an MS-DOS command prompt window.2. Go to the directory where you downloaded the installation program.
CD-ROM	<ol style="list-style-type: none">1. Insert the software CD into the CD-ROM drive. <p>Note: If autorun is enabled, the installation program may start automatically in graphical mode. You must exit the installation program to use console-mode installation.</p> <ol style="list-style-type: none">2. Open an MS-DOS command prompt window.3. Go to the CD-ROM directory and navigate to the folder for the Windows installation program.

3. Launch the installation by entering one of the following commands:

- `java -jar BEA-aqualogic-service-registry-2.1.0.jar -mode=console`
- You can also include the `-log=full_path_to_log_file` option in the command line to create a verbose installation log. For example:

```
BEA-aqualogic-service-registry-2.1.0.jar -mode=console  
-log=C:\logs\server_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 3-8](#).

After a few moments, a BEA Installer window opens and the installation program begins to install the software.

4. Proceed to [Chapter 4, “Running the Installation Program in Console Mode.”](#)

Starting in Silent Mode

For details about silent-mode installation, see [“What Is Silent-Mode Installation?” on page 5-1](#).

To start the silent-mode installation process on a Windows platform, follow these steps:

1. Log in to the Windows system.
2. Create a `silent.xml` file that defines the configuration settings normally entered by a user during an interactive installation process, such as graphical-mode or console-mode installation. For information about creating a `silent.xml` file, see [“Creating a silent.xml File for Silent-Mode Installation” on page 5-3](#).

Note: Incorrect entries in the `silent.xml` file can cause installation failures. To help you determine the cause of a failure, we recommend that you create a log file when you start the installation.

3. Complete the appropriate procedure in the following table.

If you are installing from . . .	Perform the following action . . .
Web download	<ol style="list-style-type: none">1. Open an MS-DOS command prompt window.2. Go to the directory where you downloaded the installation program.
CD-ROM	<ol style="list-style-type: none">1. Insert the software CD into the CD-ROM drive.2. Open an MS-DOS command prompt window.3. Go to the CD-ROM directory and navigate to the folder for the Windows installation program.

4. Launch the installation by entering the following command:

```
java -jar filename.jar -mode=silent -silent_xml=path_to_silent.xml
```

Here, *filename.exe* is the name of the BEA software installation file, and *path_to_silent.xml* is the *full* pathname of the *silent.xml* file.

Note: You can also include the `-log=full_path_to_log_file` option in the command line to create a verbose installation log. For example:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar -mode=silent  
-silent_xml=C:\silent.xml -log=C:\logs\server_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 3-8](#).

A BEA Installer window is displayed, indicating that the files are being extracted. No other prompt or text is displayed.

For more information, see [Chapter 5, “Running the Installation Program in Silent Mode.”](#)

Starting the Installation Program on UNIX Platforms

The BEA Products installation program requires a Java run-time environment (JRE) to run. A JRE is bundled in the Windows installation program, and in some UNIX installation programs (those with filenames ending in `.bin`). For other UNIX platforms, the installation program does not include a JRE. Filenames for these installation programs end in `.jar`. To run the `.jar` installation programs, you must have an appropriate version of a JDK installed on your system, and include the `bin` directory of the JDK at the beginning of your `PATH` system variable.

Notes: It is important that you use a JDK because the installation process assigns values to `JAVA_HOME` and related variables to point to this directory. All scripts installed by your installation program use this JDK by default, including scripts to start sample applications, the Configuration Wizard, and other development tools.

To run graphical-mode installation, your console must support a Java-based GUI. If the installation program determines that your system cannot support a Java-based GUI, it automatically starts running in console mode. For details, see [Chapter 4, “Running the Installation Program in Console Mode.”](#)

The following sections describe how to start the installation program on UNIX platforms (for console and silent modes) using filenames that end in `.jar`:

- [Starting Graphical-Mode Installation](#)
- [Starting Console-Mode Installation](#)
- [Starting Silent-Mode Installation](#)

For information about installing in graphical mode, see [Chapter 6, “Running the Installation Program in Graphical Mode.”](#)

Starting Graphical-Mode Installation

To start the graphical-mode installation process for installation files with names ending in `.jar`, follow these steps:

1. Log in to the target UNIX system.
2. Add the `bin` directory of the appropriate JDK to the beginning of the `PATH` variable definition on the target system. For example:

```
PATH=JAVA_HOME/bin:$PATH
export PATH
```

Here `JAVA_HOME` represents the full path to the JDK directory.

3. Go to the directory where you downloaded the installation program.
4. Launch the installation program by entering the following command:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar
```

and follow the wizard panels.
5. Launch the installation program by entering the following command:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar
```

Note: You can also include the `-log=full_path_to_log_file` option in the command line to create a verbose installation log. For example:

```
BEA-aqualogic-service-registry-2.1.0.jar
-log=/home/logs/BEA_install.log
```

For more information, see [“Generating a Verbose Installation Log”](#) on page 3-8.

The installation program begins to install the software.

6. Proceed to [Chapter 6, “Running the Installation Program in Graphical Mode.”](#)

Starting Console-Mode Installation

To start the console-mode installation process for installation files with names ending in `.jar`, follow these steps:

1. Log in to the target UNIX system.
2. Add the `bin` directory of the appropriate JDK to the beginning of the `PATH` variable definition on the target system. For example:

```
PATH=JAVA_HOME/bin:$PATH
export PATH
```

Here, `JAVA_HOME` represents the full path to the JDK directory.

3. Go to the directory where you downloaded the installation program.
4. Launch the installation by entering the following command:

```
java -jar filename.jar -mode=console
```

Here, `filename.jar` is the name of the BEA Products installation file, for example, `BEA-aqualogic-service-registry-2.1.0.jar`.

Note: You can also include the `-log=full_path_to_log_file` option in the command line to create a verbose installation log. For example:

```
java -jar server910_generic.jar -mode=console
-log=/home/logs/BEA_install.log
```

For more information, see [“Generating a Verbose Installation Log”](#) on page 3-8.

5. Proceed to [Chapter 4, “Running the Installation Program in Console Mode.”](#)

Starting Silent-Mode Installation

For details about silent-mode installation, see [“What Is Silent-Mode Installation?”](#) on page 5-1.

To start the silent-mode installation process for installation files with names ending in `.jar`, follow these steps:

1. Log in to the target UNIX system.
2. Create a `silent.xml` file that defines the configuration settings normally entered by a user during an interactive installation process, such as graphical-mode or console-mode installation. For information about creating a `silent.xml` file, see [“Creating a silent.xml File for Silent-Mode Installation”](#) on page 5-3.

Note: Incorrect entries in the `silent.xml` file can cause installation failures. To help you determine the cause of a failure, we recommend that you create a log file when you start the installation.

3. Add the `bin` directory of the appropriate JDK to the beginning of the `PATH` variable definition on the target system. For example:

```
PATH=JAVA_HOME/bin:$PATH
export PATH
```

Here, `JAVA_HOME` is the full path of the JDK directory.

4. Go to the directory that contains the installation file.
5. Launch the installation by entering the following command:

```
java -jar filename.jar -mode=silent
-silent_xml=/path_to_silent.xml
```

Here, `filename.jar` is the name of the BEA Products installation file (for example, `BEA-aqualogic-service-registry-XXX.jar`, where `XXX` represents the version number of the software you are installing) and `path_to_silent.xml` is the *full* path to the `silent.xml` file.

Note: You can also include the `-log=full_path_to_log_file` option in the command line to create a verbose installation log. For example:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar -mode=silent
-silent_xml=/home/silent.xml -log=/home/logs/BEA_install.log
```

For more information, see [“Generating a Verbose Installation Log”](#) on page 3-8.

A BEA Installer window is displayed, indicating that the files are being extracted. No other prompt or text is displayed.

For more information, see [Chapter 5, “Running the Installation Program in Silent Mode.”](#)

Generating a Verbose Installation Log

If you launch the installation from the command line or from a script, you can specify the `-log` option to generate a verbose installation log. The installation log stores messages about events that occur during the installation process, including informational, warning, error, and fatal messages. This type of file can be especially useful for silent installations.

Note: You may see some warning messages in the installation log. However, unless a fatal error occurs, the installation program completes the installation successfully. The installation user interface indicates the success or failure of each installation attempt, and the installation log file includes an entry indicating that the installation was successful.

Syntax

To create a verbose log file during installation, include the `-log=full_path_to_log_file` option in the command line. For example:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar  
-log=C:\logs\server_install.log
```

The path must specify a file. You cannot create a folder simply by including a name for it in a pathname; your path should specify only existing folders. If your path includes a nonexistent folder when you execute the command, the installation program does not create the log file.

What's Next?

For details about running the installation program, see one of the following, depending on your selected installation mode:

- [Chapter 4, “Running the Installation Program in Console Mode”](#)
- [Chapter 5, “Running the Installation Program in Silent Mode”](#)
- [Chapter 6, “Running the Installation Program in Graphical Mode”](#)

Running the Installation Program in Console Mode

The following sections describe how to run the installation program in console mode:

- [Running Console-Mode Installation](#)
- [What's Next?](#)

Running Console-Mode Installation

Start the installation program in console mode as described in [Chapter 3, “Starting the Installation Program.”](#)

To complete the console-mode installation process, respond to the prompts in each section by entering the number associated with your choice or by pressing Enter to accept the default. To exit the installation process, enter `exit` (or `x`, for short) in response to any prompt. To review or change your selection, enter `previous` (or `p`, for short) at the prompt. To proceed to the following window, enter `next` (or `n`, for short).

Note: In the sample console text and directory pathnames provided in this section, Windows conventions (such as backslashes in pathnames) are used, for example, `C:\bea\weblogic91`. When entering pathnames on a UNIX system, be sure to use UNIX conventions, instead. For example, use forward slashes in pathnames, such as `/home/bea/weblogic91`.

The following procedure steps you through the installation program. Use this procedure after you have started the installation program in console mode, as described in [Chapter 3, “Starting the Installation Program.”](#)

Running the Installation Program in Console Mode

1. At the `welcome` prompt, type `next` (or `n` for short) or press `Enter` to continue with the installation process.

The BEA Systems License Agreement prompt is displayed.

2. Read the Agreement and indicate your acceptance or rejection of its terms by doing one of the following at the prompt:
 - Type `1` to indicate your agreement with the terms of the license and proceed with the installation. To review the entire agreement, press `Enter` or type `Down` several times. Type `Up` to scroll back through sections previously displayed.
 - Type `2` if you do not agree with the terms of the license. If you type `2`, the installation process terminates.

The `Choose BEA Home directory` prompt is displayed.

3. Specify the installation directory for the AquaLogic Service Registry instance installed on the target system.
4. Choose which shortcuts are created as part of the installation, as shown in the following text:

Note: The installer creates shortcuts to BEA components, samples, and tools. As a user with administrative privileges, you can specify where these shortcuts are created.

- 1 All Users' Start Menu folder (recommended)

If a user without administrative privileges uses the BEA Configuration Wizard in this installation to create domains, the user may have to create Start Menu shortcuts manually. Refer to the BEA Configuration Wizard documentation for more information.

- 2. Local Users' Start Menu folder

Select this option if you need to ensure that other profiles registered on this machine do not have access to these shortcuts.

Enter index number to select or `[Exit]` `[Previous]` `[Next]`.

5. Select the BEA Home directory where the target WebLogic Server instance is deployed as shown below.
 - Type `1` to enter a new BEA Home
 - Type `2` to select default BEA Home as indicated

Choose BEA Home Directory With Weblogic Server:

Specify the BEA Home where Weblogic server is installed.

1|* Create a new BEA Home

2|D:\bea

Enter index number to select OR [Exit] [Previous] [Next]

6. Specify the type of installation you want to perform by entering the number associated with the install type as shown in the following text:

Installation type:

Choose installation type.

1 Standalone

Installs a standalone registry allowing the creation of a new registry database.

2 Discovery Registry

Installs a Discovery Registry. The Discovery Registry contains approved data that has been posted from the Publication Registry. The Discovery Registry is under full control of approvers.

3 Standalone registry with data migration

Installs a standalone registry and performs the migration of the data from a previous version of registry.

4 Publication Registry

Installs a Publication Registry. The Publication Registry is used for testing and verification of data.

5 Intermediate Registry

Installs this instance as an intermediate registry, which acts as both a Publication Registry and a Discovery Registry. That is, it is deployed between other registries to support a multi-step approval process. Note that the final Discovery Registry must be installed prior to installing the Intermediate registry, since the Discovery Registry's certificate is needed to complete the installation process.

Enter index number to select OR [Exit] [Previous] [Next]>

Running the Installation Program in Console Mode

7. Enter SMTP Configuration Properties as shown in the following display:

SMTP Configuration:

Enter your SMTP mail server configuration properties.

1 Operator Name [BEA] (default)

The name of the Registry operator

2 SMTP Hostname [[SMTP server hostname]] (default)

Hostname of the SMTP server used to send notification and registration e-mails

3 SMTP Port [25] (default)

TCP/IP port to connect to the SMTP server

4 Account Name [] (default)

Name of the SMTP account to use when sending e-mails

5 SMTP password [] (default)

Password for the SMTP account

6 Confirm Password [] (default)

Retype the password to confirm that it is correct

7 Sender e-mail address [[none]] (default)

E-mail address that will appear in the From: field of e-mail messages

8 Sender name [] (default)

Descriptive name of the e-mail message sender

9 Continue

Go on to next configuration dialog.

** The settings below tell Registry how to communicate using e-mail.

** Some Registry features depend on valid values for the required

** settings in order to function properly.

Enter index number to select OR [Exit][Previous][Next]>

The SMTP configuration is important when users need to receive E-mail notification from subscriptions and from the approval process.

SMTP Host Name

Host name of the SMTP server associated with this installation of BEA AquaLogic Service Registry

SMTP Port

Port number for this SMTP server

SMTP Password

Confirm password

Retype the same password. Note that if it is not same as the password in the previous box, you cannot continue.

SMTP Default Sender E-mail, Name

BEA AquaLogic Service Registry will generate mail messages with this identity.

8. Set up an Administrator account settings as shown in the following display:

Administrator Account:

Administrator account settings

1 Account name [admin] (default)

The login name for the Administrator

2 Password [*****] (default)

Password for the administrator account

3 Confirm password [*****] (default)

Enter the password again for confirmation

4 Admin e-mail [[admin e-mail]] (default)

E-mail address

5 Continue

Go on to next configuration dialog.

** Specify name, password and contact e-mail address for the Registry

** administrator

Enter index number to select OR [Exit][Previous][Next]>

9. Enter database settings as shown in the following display:

Database Configuration:

Select how the database should be set up

The AquaLogic Service Registry requires a database. During installation you can create a new database, create a schema in an existing empty database or connect to an existing database with schema already created. If you do not create a database you can do it later using the Setup tool.

1 Create database

| Create new database and schema

2 Create schema

| Create new schema in existing database

3 Configure database

| Configure registry database

4 No database

| Do not create and configure database

Enter index number to select OR [Exit][Previous][Next]>

For complete information about database settings, see [“Database Settings” on page 6-10](#).

10. Configure the database as follows:

- a. Select a database from the list of supported database engines that can be prepared for BEA AquaLogic Service Registry as shown:

Database Selection:

Select one of the following databases supported by the AquaLogic Service Registry.

Select the type of database that the AquaLogic Service Registry will use.

On the following screens you will be prompted for details of the particular database configuration. When populating the database you may also choose the name of the AquaLogic Service Registry instance.

1 Preconfigured HSQL

2 HSQL

3 Oracle 9i and later

4 MSSQL 2000 and later

5 DB2 8.0 and later

6 PostgreSQL 7.3 and later

7 Sybase ASE 12.5 and later

Enter index number to select OR [Exit][Previous][Next]>

- b. Select Install demo data if you want to evaluate the provided demos after installation.

Database Selection:

1 Yes, install demo data.

2 No, do not install demo data.

Enter index number to select OR [Exit][Previous][Next]>

- c. Specify the name of the AquaLogic Service Registry installation.

Database Selection:

1 Registry Name [A UDDI Node] (default)

Name of the Registry Node being installed. If you are unsure what this means, use the default.

2 Continue

Go on to next configuration dialog.

** Select the type of database that the AquaLogic Service Registry will use. On the following screens you will be prompted for details of the particular database configuration. When populating the database you may also choose the name of the AquaLogic Service Registry instance.**

Enter index number to select OR [Exit][Previous][Next]>

You can specify the name of BEA AquaLogic Service Registry installation. The name is saved to the operational business entity. The registry name appears in the upper right corner of Registry Console and Business Service Console.

Select **Install demo data** if you want to evaluate the provided BEA AquaLogic Service Registry demos after installation.

The default database to create is the **Preconfigured HSQL** (HSQL). This database is recommended for evaluation purposes.

Note that it is possible to change the database after installation, using the Setup tool.

For more information on database installation, see [“Database Settings” on page 6-10](#)

11. Select an authentication provider.

Authentication Provider:

Select user account storage.

1 Database

All accounts will be stored in the registry database.

2 LDAP

Registry accounts integrated with LDAP server.

3 External

Registry accounts integrated with other external storage. The interface `org.systinet.uddi.account.ExternalBackendApi` must be implemented and added to the registry installation.)

Enter index number to select OR [Exit][Previous][Next]>

12. Enter deployment settings for target WebLogic server where AquaLogic Service Registry will be deployed.

Deployment Settings:

Provide details of how AquaLogic Service Registry will be deployed. Be sure that WebLogic server is listening on the specified ports.

1 HTTP port [7001] (default)

2 SSL (HTTPS) port [7002] (default)

3 Hostname [hostname of current machine] (default)

4 Application Server Context [registry] (default)

5 Continue

Go on to next configuration dialog.

Enter index number to select OR [Exit][Previous][Next]>

13. Specify whether you want to automatically deploy to the WebLogic server at the end of installation.

Deployment Settings:

Deploy to the Weblogic server at the end of the installation?

1 Deploy.

2 Do not deploy.

Enter index number to select OR [Exit][Previous][Next]>

14. Confirmation and Start Install process—You will see a confirmation display as shown below. Type **Next** to continue with the installation process. If you want to change any of your selections type **Previous**.

Installation summary Start installation

Type 'Previous' to review and change the selections.

Type 'Next' to proceed with installation.

The installation is about to start. You may type `Previous` and review the selections that you have made. After you type `Next` the Installation Wizard will start copying files and configuring the product.

If deployment was allowed as a part of the installation, make sure the target BEA AquaLogic Application Server is running and accepting deployment requests.

Enter [Exit][Previous][Next]>

15. When the installation is complete, press **Enter** or **Exit** to exit the installation program.

Complete the Deployment of AquaLogic Service Registry to WebLogic Server

Note that WebLogic 8.1, 9.0, and 9.1 are supported.

When you finish running the installer successfully, complete the following steps to complete the deployment of AquaLogic Service Registry to WebLogic Server.

1. For WebLogic 8.1:

- a. Open the BEA WebLogic Server launch script:

```
WL_HOME/user_projects/domains/DOMAIN_NAME/startWebLogic.sh or  
startWebLogic.cmd
```

- b. Add the following property to the Java command line for starting the WebLogic server:

```
-Djava.security.auth.login.config=REGISTRY_HOME/conf/jaas.config
```

1. For WebLogic 9.0 and 9.1:

- a. Open the setup script for the server's domain environment:

```
WL_HOME/user_projects/domains/DOMAIN_NAME/bin/setDomainEnv.sh or  
setDomainEnv.cmd
```

- b. Add the following line:

```
set JAVA_OPTIONS=  
-Djava.security.auth.login.config=REGISTRY_HOME/conf/jaas.config
```

2. For WebLogic 8.1, 9.0, and 9.1:

If you have not already done so, enable SSL in WebLogic. Restart WebLogic Server so that the previous changes in to the startup script in **Step 1** take effect.

3. (Optional) This step only required if you wish to use the sample client code.

Note: AquaLogic Service Registry ships with sample client code that requires the WebLogic Server SSL certificate for the WebLogic Server instance on which AquaLogic Service Registry is deployed.

Note that any other client code you use must also be configured for SSL connections to AquaLogic Service Registry using the appropriate tools for that type of client.

Import the WebLogic Server SSL certificate to the BEA AquaLogic Service Registry configuration file.

You can obtain the WebLogic SSL certificate via a browser by accessing a WebLogic-hosted page using HTTPS, and exporting the certificate to a Base-64 .cer file.

To import this certificate into AquaLogic Service Registry, use the PStoreTool located in
`[registry_home]/bin PStoreTool.sh. add -config
[registry_home]/conf/clientconf.xml -certFile [weblogic.cer]`

This completes the deployment. The BEA AquaLogic Service Registry URL is:

```
http://[hostname]:[http_port]/[context]/uddi/web
```

What's Next?

For information about the installed product and troubleshooting tips, go to [Chapter 7, "Installation Summary."](#)

Running the Installation Program in Console Mode

Running the Installation Program in Silent Mode

The following sections describe how to run the installation program in silent mode:

- [What Is Silent-Mode Installation?](#)
- [Using Silent-Mode Installation: Main Steps](#)
- [Creating a silent.xml File for Silent-Mode Installation](#)
- [Sample silent.xml File for Silent-Mode Installation](#)
- [Returning Exit Codes to the Console](#)

What Is Silent-Mode Installation?

Silent-mode installation is a way of setting installation configurations only once and then using those configurations to duplicate the installation on many machines. During installation in silent mode, the installation program reads the settings for your configuration from an XML file that you create prior to beginning the installation. The installation program does not display any configuration options during the installation process. Silent-mode installation works on both Windows and UNIX systems. Using silent-mode installation implies that you consent to the BEA License Agreement. You neither see a copy of the BEA Software License Agreement nor have any means of accepting the terms of the agreement.

The instructions in this section are based on the assumption that you have already acquired the installation program, either on CD or from the BEA Web site.

Using Silent-Mode Installation: Main Steps

The silent-mode installation process has two primary steps:

1. Create a `silent.xml` file that defines the configuration settings normally entered by a user during an interactive installation process, such as graphical-mode or console-mode installation. For example, values for the installation directory, the product directory, and the components to be installed are supplied in a `silent.xml` file.

For a detailed procedure, see [“Creating a silent.xml File for Silent-Mode Installation” on page 5-3](#). For a sample `silent.xml` file, see [“Sample silent.xml File for Silent-Mode Installation” on page 5-4](#).

2. Start the silent-mode installation process using the values specified in the `silent.xml` file.

For details on starting the installation in silent mode, see [Chapter 3, “Starting the Installation Program.”](#)

Important Considerations for Silent-Mode Installation

When you are performing an installation in silent mode, keep in mind the following considerations:

- Silent-mode installation requires the same amount of temporary disk space and uses the same temporary storage directories as a standard installation. For more information, see [“Hardware” on page 2-1](#). The installation program does not alert you if there is not enough space in the temporary directory.
- A silent-mode installation takes the same amount of time as a standard installation. At the beginning of a silent-mode installation, an initial installation program window or message is displayed briefly, indicating that the installation has started. No messages are displayed to indicate that the installation is in progress or has completed successfully.
- Incorrect entries in the `silent.xml` file can cause installation failures. To help you determine the cause of a failure, we recommend that you create a log file when you start the installation. For more information, see [“Generating a Verbose Installation Log” on page 3-8](#).
- The XML definition (`<?xml version="1.0" encoding="UTF-8"?>`) must be at the very beginning of the `silent.xml` file. There cannot be any spaces or line breaks before the XML definition.
- You cannot reinstall any BEA product on top of a previously installed version of the same product—in the same installation directory or in the same file location.

Creating a silent.xml File for Silent-Mode Installation

When you install your BEA software in silent mode, the installation program uses an XML file (`silent.xml`) to determine which installation options should be implemented. Therefore, before you can run the installation program in silent mode, you must first create a `silent.xml` file in which you specify the installation options that you want to have invoked.

Note: Incorrect entries in the `silent.xml` file can cause installation failures. To help you determine the cause of a failure, we recommend that you create a log file when you start the installation.

The `silent.xml` file is generated via the graphical installer. To create a `silent.xml` file for use in the silent mode installation process, run the graphical installer and include the following parameter:

```
-p:registry:saveProperties=<filename>
```

As you run the installation process via the graphical installer, all your customized configuration settings are automatically stored in your specified `silent.xml` file.

An example on how to run with this setting is:

```
java -jar BEA-aqualogic-service-registry-2.1.0.jar  
-p:registry:saveProperties=<filename>
```

For more details, see [“Starting in Graphical Mode” on page 3-2](#).

The silent mode file is saved in BEA-style XML format.

When doing silent install, (`-mode=silent`), the silent file is passed using BEA standard switch:

```
silent_xml=<filename>
```

For more details, see [“Starting in Silent Mode” on page 3-3](#).

After the `silent.xml` file is generated on your system following the procedure described above, you can edit values in the XML file for running silent installs in different target environments as needed.

Sample silent.xml File for Silent-Mode Installation

The following listing is an example of a silent.xml file

Note: This `silent.xml` file is a sample only and will not work as the basis for your silent mode installations. Please follow the directions in [“Creating a silent.xml File for Silent-Mode Installation” on page 5-3](#) to create an appropriate `silent.xml` file.

Listing 5-1 Sample Silent.xml File

```
<?xml version="1.0" encoding="UTF-8" ?>
<!-- Silent installer option: -mode=silent -silent_xml=silent.xml-->
<bea-installer>
  <input-fields>
    <data-value name="BEAHOME" value="d:\alsr21" />
    <data-value name="USER_INSTALL_DIR" value="d:\alsr21" />
    <data-value name="registry.bea.home" value="d:\alsr21" />
    <data-value name="registry.install.server.admin.mail" value="akg@bea.com"
/>
    <data-value name="registry.install.server.admin.password"
value="testinstall" />
    <data-value name="registry.install.server.admin.password.confirmation"
value="testinstall" />
<data-value name="registry.localhost" value="akg.bea.com" />
    <data-value name="registry.porting.hostname" value="akg.bea.com" />
    <data-value name="registry.porting.weblogic.admin.password"
value="weblogic" />
    <data-value name="registry.porting.weblogic.bea.home" value="D:\bea" />
    <data-value name="registry.porting.weblogic.home"
value="D:\bea\weblogic91" />
    <data-value name="registry.porting.weblogic.java.home"
value="D:\bea\jrockit90_150_04" />
  </input-fields>
```

```
</bea-installer>
```

Returning Exit Codes to the Console

When run in silent mode, the installation program generates exit codes that indicate the success or failure of the installation. These exit codes are shown in the following table.

Table 5-1 Exit Codes

Code	Description
0	Installation completed successfully
-1	Installation failed due to a fatal error
-2	Installation failed due to an internal XML parsing error

If you are launching the silent-mode installation process from a script, you can choose to have these exit codes displayed on the console. [Listing 5-2](#) provides a sample command file that invokes the installation program in silent mode and echoes the exit codes to the console from which the script is executed.

Listing 5-2 Sample Command File Displaying Silent-Mode Exit Codes

```
rem Execute the installer in silent mode
@echo off
JAVA -jar BEA-aqualogic-service-registry-2.1.0.jar -mode=silent
-silent_xml=C:\downloads\silent.xml -log=C:\logs\products_silent.log

@rem Return an exit code to indicate success or failure of installation
set exit_code=%ERRORLEVEL%

@echo.
@echo Exitcode=%exit_code%
@echo.
@echo Exit Code Key
@echo -----
@echo 0=Installation completed successfully
```

Running the Installation Program in Silent Mode

```
@echo -1=Installation failed due to a fatal error  
@echo -2=Installation failed due to an internal XML parsing error  
@echo.
```

Running the Installation Program in Graphical Mode

The following sections describe how to run the installation program in graphical mode:

- [Running the Installation Program](#)
- [What's Next?](#)

This section discusses the content of the installation wizard. It goes through installation panels using default settings.

Running the Installation Program

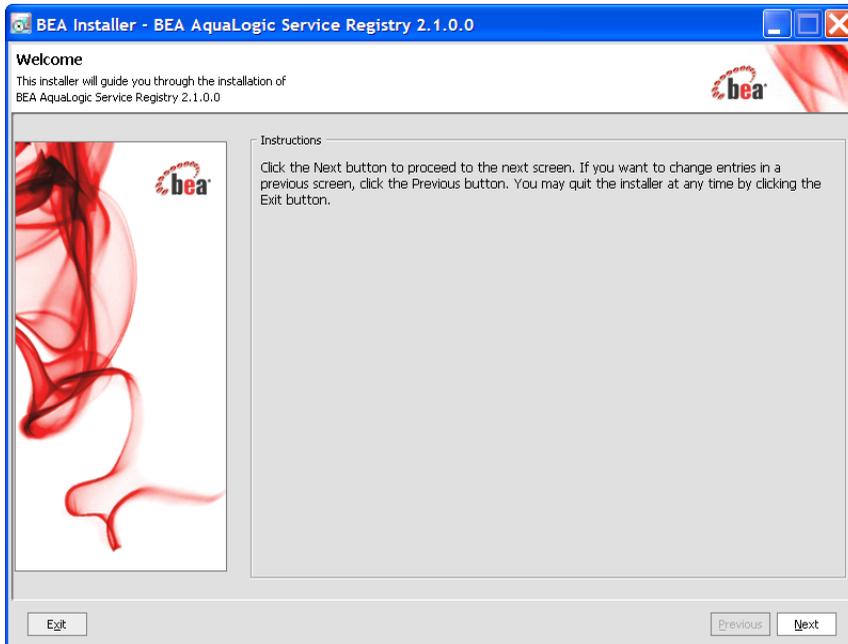
The installation wizard helps you to install BEA AquaLogic Service Registry on a local computer. You will complete the following configurations as you run the installation program:

- [Installation Type](#)
- [Server Settings](#)
- [SMTP Configuration](#)
- [Setup Administrator Account](#)
- [Database Settings](#)
- [Confirmation and Installation Process](#)
- [Complete the Deployment of BEA AquaLogic Service Registry to WebLogic Server](#)

Running the Installation Program in Graphical Mode

The following figure shows the first panel of the installation wizard.

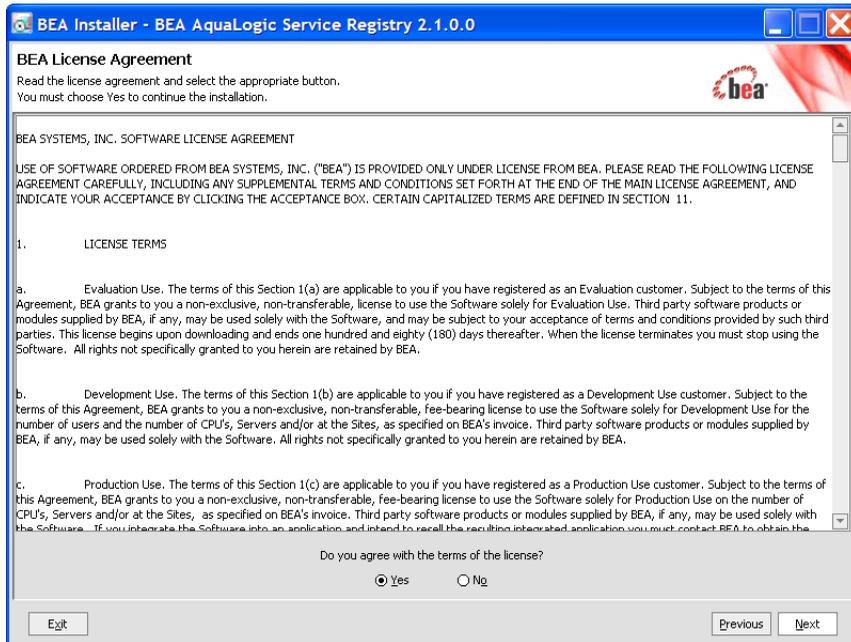
Figure 6-1 Welcome Panel



To continue, click **Next**.

To stop this installation at any time, click **Exit**. To return to a previous panel, click **Back**.

Figure 6-2 License Panel



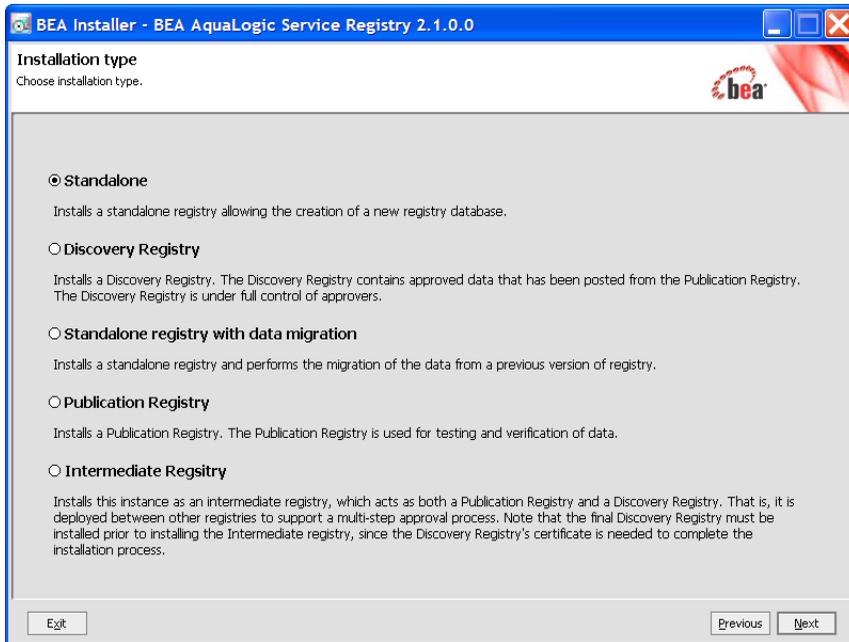
The preceding figure shows the BEA AquaLogic Service Registry license. To continue with the installation of the registry, read the license agreement and agree to it. Click **Next**.

If you do not accept the terms of the license agreement, click **Exit**.

Until you agree to the license, only the **Exit** button is enabled. You cannot proceed with the installation without agreeing to the license.

Installation Type

Figure 6-3 Installation Type



The preceding figure shows several installation scenarios. Select one.

Standalone registry

Default installation. Installs a standalone registry and enables the creation of a new registry database.

Standalone registry with data migration

Installs standalone registry with migration of data from a previous installation of the registry. For more information, please see [Chapter 14, “Migration.”](#)

Discovery registry

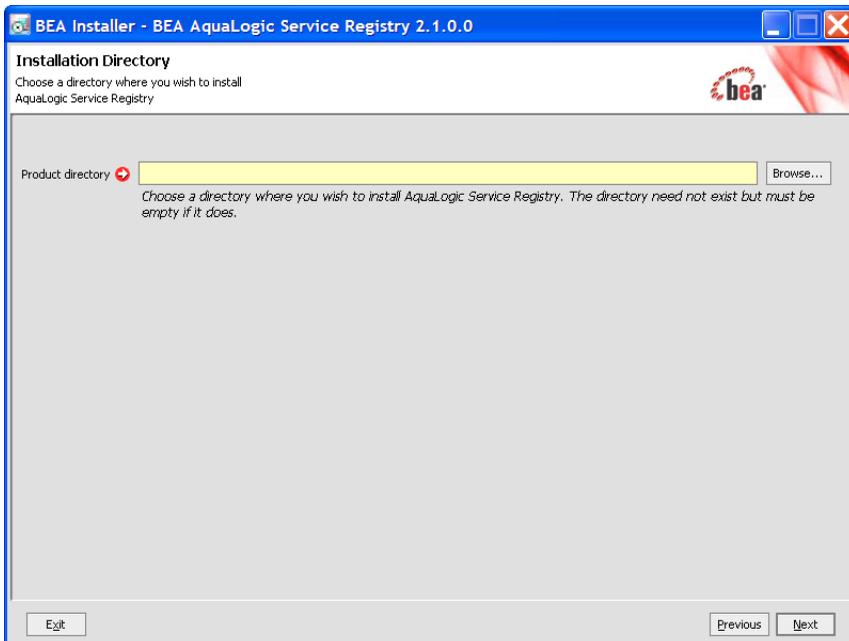
Installs the discovery registry. This is the second part of the approval process registry installation. The discovery registry allows users to query BEA AquaLogic Service Registry. For more information, see [“Discovery Registry Installation” on page 10-4.](#)

Publication registry

Installs the publication registry of the approval process. The publication registry is one part of the approval process registry installation. The publication registry is a space for

users to publish and test data prior to its approval for promotion to the discovery server. For more information, see [“Publication Registry Installation”](#) on page 10-6.

Figure 6-4 Installation Directory



On the panel shown in [Figure 6-4](#), type the path to the installation directory where BEA AquaLogic Service Registry will be installed. The default directory is the current working directory.

If you are installing on a Windows platform you can selected from the following:

Create shortcut icons on the desktop

If selected, icons for accessing the Registry Console and for starting and stopping the registry will be created on the desktop.

Add shortcut icons to the Start menu

If selected, the icons noted above are added to the Start menu.

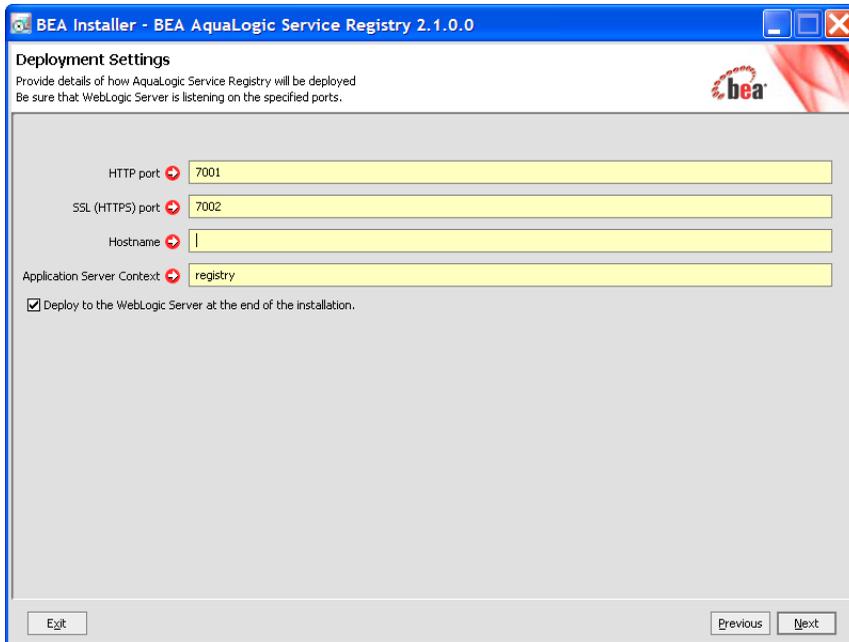
Program group name

Group name created in the Start menu where shortcut icons will be placed.

Note: You must have read and write permissions on the installation directory.

Server Settings

Figure 6-5 Server Configuration



The preceding figure shows the server configuration settings. These settings will be used for the HTTP and HTTPS servers. The default recommended settings are filled in the text fields.

HTTP Port

The nonsecure port for accessing the Registry Console (default value: 7001)

SSL (HTTPS) Port

Secure port for accessing the Registry Console (default value: 7002)

Host name

The host name of this computer; change the auto-completed entry if it is different.

Application Server Context

This is the WebLogic application context into which the registry application is deployed.

Deploy to the WebLogic Server at the end of the installation

If this setting is checked, the WAR file is created and automatically deployed into WebLogic Server. If the setting is not checked, the WAR file is created and stored in the file system.

The host name, SSL Certificate Alias, and SSL password are used to create a new security identity in the local protected store. It creates a certificate and adds this certificate to `REGISTRY_HOME/conf/clientconf.xml`, `REGISTRY_HOME/conf/pstore.xml`, and also exports it to the certificate file `REGISTRY_HOME/doc/registry.crt`. This certificate file is used in several situations including the approval process registry scenario. See *PStore Tool* in the *Administrator's Guide* in [Using the AquaLogic Service Registry](#) for instructions in how to operate the protected security store.

Note: The server configuration may be changed after install. See [“Reconfiguration After Installation”](#) on page 7-6.

SMTP Configuration

Figure 6-6 SMTP Configuration

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

SMTP Configuration
Enter your SMTP mail server configuration properties.

The settings below tell Registry how to communicate using e-mail. Some Registry features depend on valid values for the required settings in order to function properly.

Operator Name

SMTP Hostname

SMTP Port

Account Name

SMTP password

Confirm Password

Sender e-mail address

Sender name

Exit Previous Next

Running the Installation Program in Graphical Mode

The preceding figure shows SMTP configuration. The SMTP configuration is important when users need to receive E-mail notification from subscriptions and from the approval process.

SMTP Host Name

Host name of the SMTP server associated with this installation of BEA AquaLogic Service Registry

SMTP Port

Port number for this SMTP server

SMTP Password

Confirm password

Retype the same password. Note that if it is not the same as the password in the previous box, you cannot continue.

SMTP Default Sender E-mail, Name

BEA AquaLogic Service Registry will generate mail messages with this identity.

Setup Administrator Account

Figure 6-7 Administrator Account

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

Administrator Account

Administrator account settings

Specify name, password and contact e-mail address for the Registry administrator

Account name

Password

Confirm password

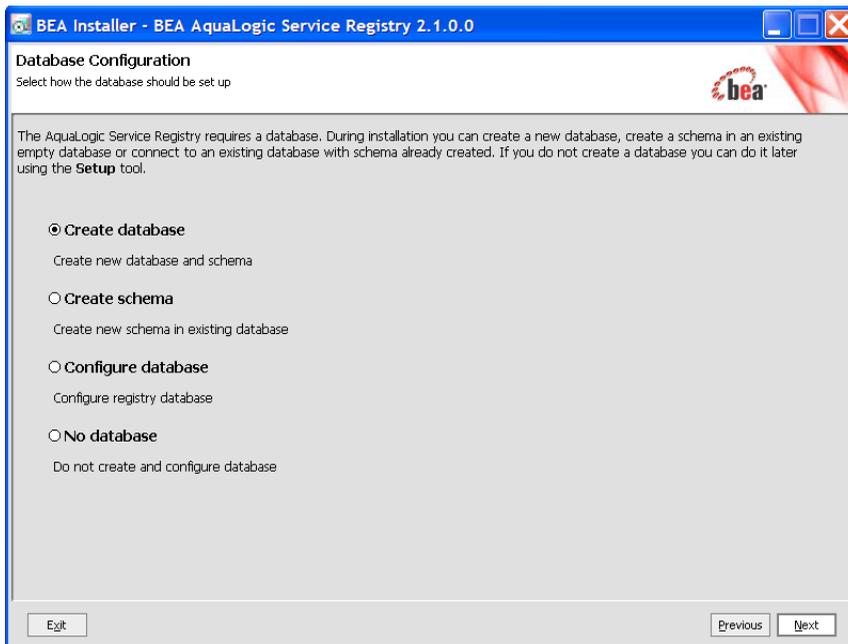
Admin e-mail

Exit Previous Next

Database Settings

The registry requires a database which may be created during installation. During installation you can create a new database, create schema in an existing empty database or connect to an existing database with created schema. Using the Setup tool, you can also drop the database or database schema. Select your database creation method on the following panel.

Figure 6-8 Database Creation Method



Create database

Create new database/users/tablespaces (depending on the type of the database server) and database schema. This is the most comfortable way, but please note that you must know the credentials of the database administrator.

Create schema

Create a new schema in an existing database. Use this option if you have access to an existing empty database and the ability to create tables and indexes. This option is suitable when you do not know the administrator's credentials. We assume the administrator has already created a new database/users/tablespaces for this option.

Note: For more information, see [“Database Installation” on page 9-1](#).

Configure database

Configure registry database. Use this option if the registry database already exists (For example, from a previous installation) and fill in only the connection parameters.

No database

Choose it if you intend to create a registry database later. Note that BEA AquaLogic Service Registry cannot be started without a database.

Figure 6-9 Select Database

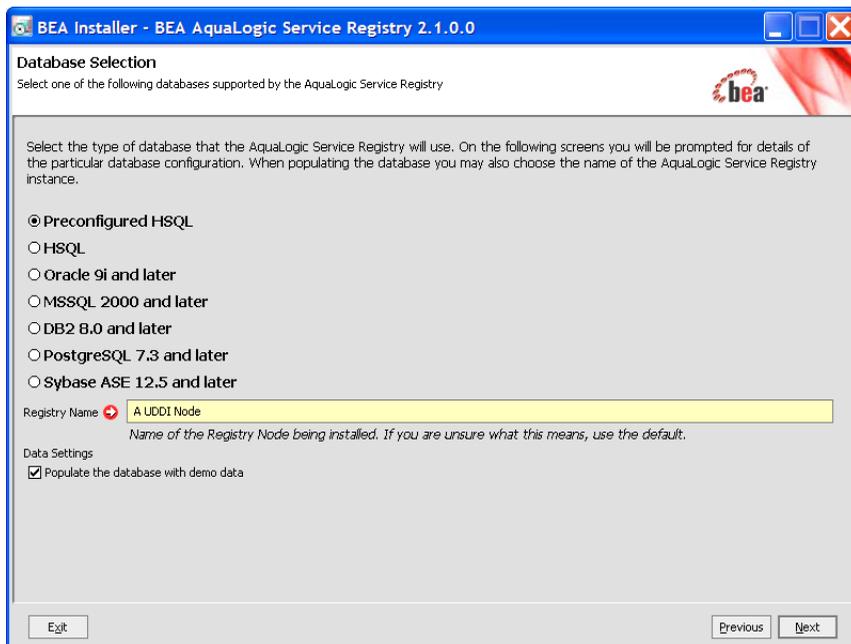


Figure 6-9 shows the supported database engines that can be prepared for BEA AquaLogic Service Registry.

You can specify the name of BEA AquaLogic Service Registry installation. The name is saved to the operational business entity. The registry name appears in the upper right corner of Registry Console and Business Service Console.

Select **Install demo data** if you want to evaluate the provided BEA AquaLogic Service Registry demos after installation.

The default database to create is the **Preconfigured HSQL** (HSQL). This database is recommended for evaluation purposes.

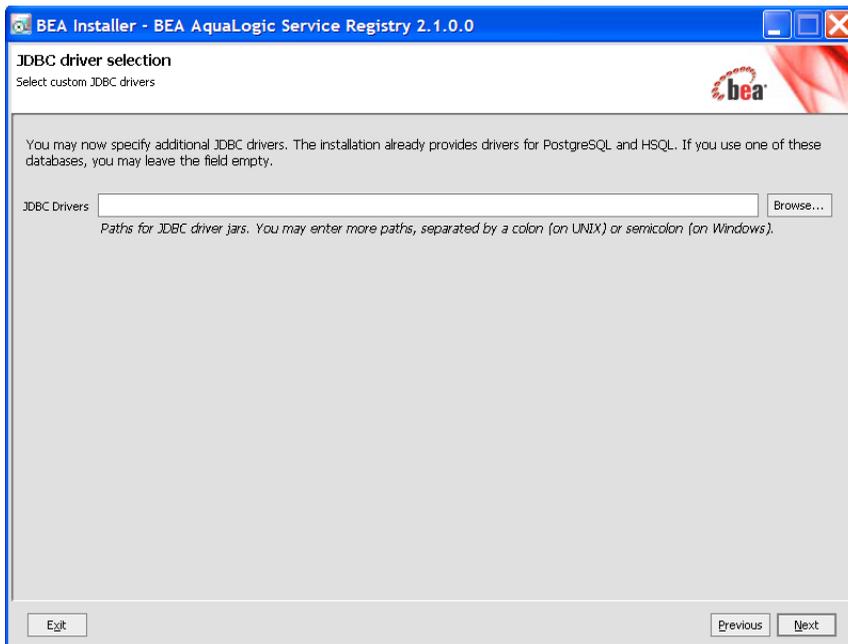
Running the Installation Program in Graphical Mode

Note that it is possible to change the database after installation, using the Setup tool.

For more information on database installation, see [Chapter 9, “Database Installation.”](#)

On the panel displayed in [Figure 6-7](#), you are only required to provide administrator account settings. The database files will be installed into the `REGISTRY_HOME/hsqldb/uddinode` directory. The database user is `uddiuser` and the password is `uddi`.

Figure 6-10 Optional JDBC Driver



Enter the path to JDBC Drivers on the panel shown in [Figure 6-10](#). It is not necessary to configure this path for the HSQL and PostgreSQL databases as the JDBC drivers for these databases are installed in the distribution.

Figure 6-11 Authentication Provider

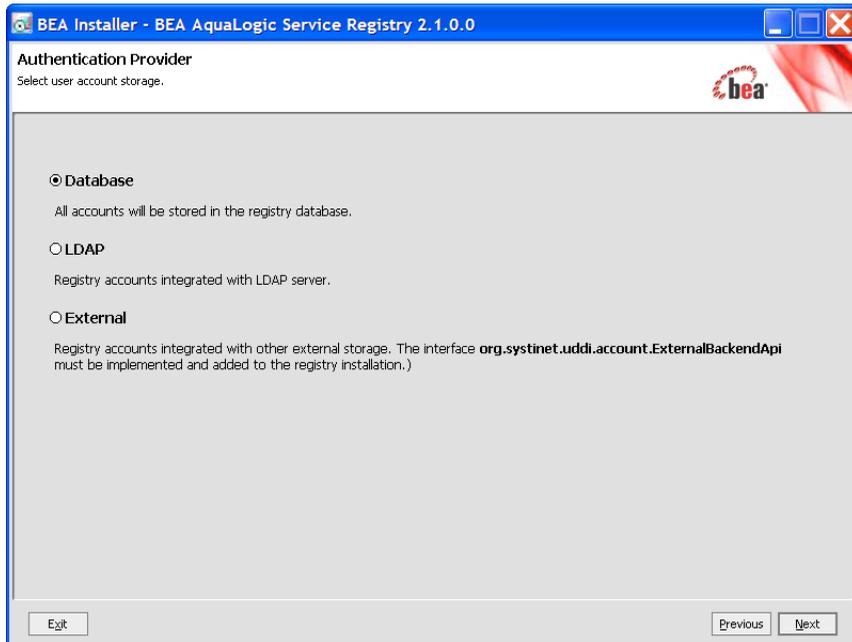


Figure 6-11 allows you to select an authentication provider.

Database

All accounts will be stored in the registry database.

LDAP

Registry accounts integrated with LDAP server.

External

Registry accounts integrated with other external storage. The the interface `com.systinet.uddi.account.ExternalBackendApi` must be implemented and added to the registry installation.

Confirmation and Installation Process

Figure 6-12 Confirmation

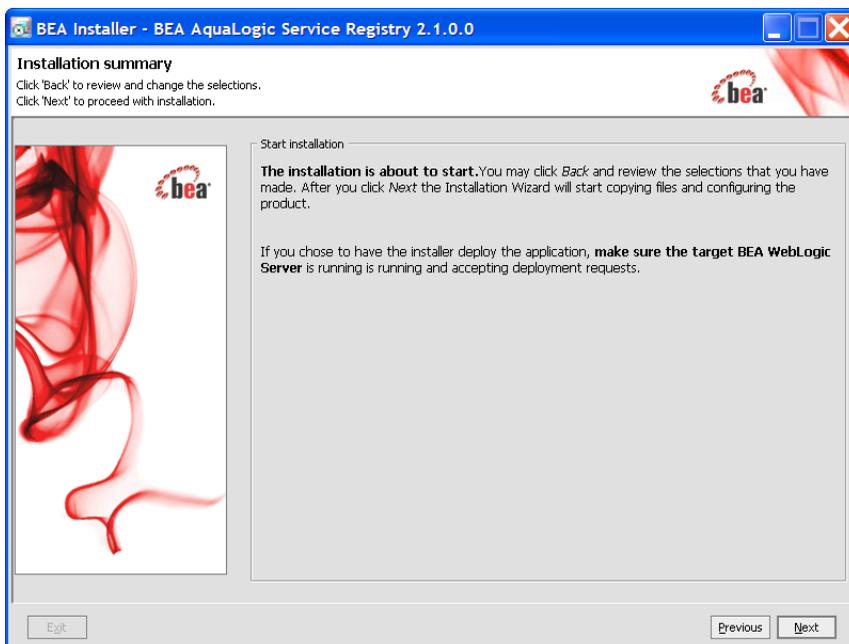


Figure 6-12 shows a summary of installation information. All required and optional properties are set. If you want to continue with the installation, click **Next** and the install process will start. If you want to change any property click **Back**.

Figure 6-13 Installation Process

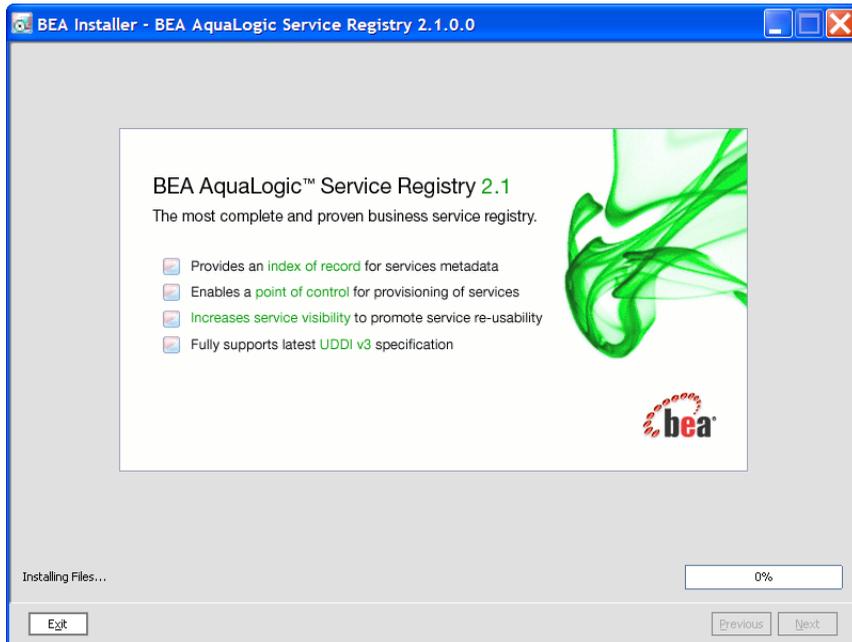
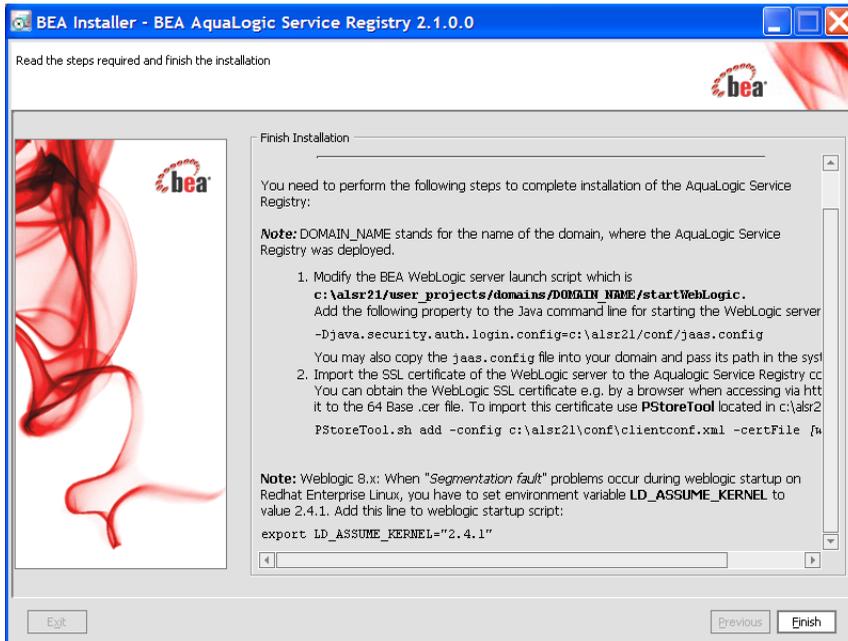


Figure 6-13 shows the installation output and progress. Installation consists of copying files, configuring the server, and installing the database. When the installation has completed successfully, the **Next** button is enabled. If there is a problem, an error message and **Recovery** button will appear on the screen.

For more information on recovery, see [“Troubleshooting Your Installation”](#) on page 7-10.

Figure 6-14 Finish Panel



On this panel, click **Finish** to conclude the installation.

Complete the Deployment of BEA AquaLogic Service Registry to WebLogic Server

Note that WebLogic 8.1, 9.0, and 9.1 are supported.

When you finish running the installer successfully, complete the following steps to complete the deployment of AquaLogic Service Registry to WebLogic Server.

1. For WebLogic 8.1:

- a. Open the BEA WebLogic Server launch script:

```
WL_HOME/user_projects/domains/DOMAIN_NAME/startWebLogic.sh or  
startWebLogic.cmd
```

- b. Add the following property to the Java command line for starting the WebLogic server:

```
-Djava.security.auth.login.config=REGISTRY_HOME/conf/jaas.config
```

1. For WebLogic 9.0 and 9.1:

- a. Open the setup script for the server's domain environment:

```
WL_HOME/user_projects/domains/DOMAIN_NAME/bin/setDomainEnv.sh OR
setDomainEnv.cmd
```

- b. Add the following line:

```
set JAVA_OPTIONS=
-Djava.security.auth.login.config=REGISTRY_HOME/conf/jaas.config
```

2. For WebLogic 8.1, 9.0, and 9.1:

If you have not already done so, enable SSL in WebLogic. Restart WebLogic Server so that the previous changes in to the startup script in **Step 1** take effect.

3. (Optional) This step only required if you wish to use the sample client code.

Note: AquaLogic Service Registry ships with sample client code that requires the WebLogic Server SSL certificate for the WebLogic Server instance on which AquaLogic Service Registry is deployed.

Note that any other client code you use must also be configured for SSL connections to AquaLogic Service Registry using the appropriate tools for that type of client.

Import the WebLogic Server SSL certificate to the BEA AquaLogic Service Registry configuration file.

You can obtain the WebLogic SSL certificate via a browser by accessing a WebLogic-hosted page using HTTPS, and exporting the certificate to a Base-64 .cer file.

To import this certificate into AquaLogic Service Registry, use the PStoreTool located in

```
[registry_home]/bin PStoreTool.sh add -config
[registry_home]/conf/clientconf.xml -certFile [weblogic.cer]
```

This completes the deployment. The BEA AquaLogic Service Registry URL is:

```
http://[hostname]:[http_port]/[context]/uddi/web
```

What's Next?

For information about the installed product and troubleshooting tips, go to [Chapter 7, "Installation Summary."](#)

Running the Installation Program in Graphical Mode

Installation Summary

This section contains information about your installation. It includes the following topics:

- [Directory Structure](#)
- [Registry Endpoints](#)
- [Pre-installed Data](#)
- [Command Line Scripts](#)
- [Reconfiguration After Installation](#)
- [Server Properties](#)
- [Logs](#)
- [Logs](#)
- [Troubleshooting Your Installation](#)

Directory Structure

The installation directory structure contains the following directories:

app

Contains BEA AquaLogic Service Registry deployed as Web services in Systinet Server for Java.

bin

Contains command-line scripts for running BEA AquaLogic Service Registry. See [“Command Line Scripts” on page 7-5](#).

conf

Contains the BEA AquaLogic Service Registry configuration files

demos

Contains demos of BEA AquaLogic Service Registry functionality. For more information, see “Demos” in [Using the AquaLogic Service Registry](#).

dist

Contains BEA AquaLogic Service Registry client packages.

doc

Contains the BEA AquaLogic Service Registry documentation.

etc

Contains additional data and scripts.

hsqldb

Contains the pre configured HSQL database with registry data.

lib

Contains the BEA AquaLogic Service Registry libraries

log

Contains logs of installation, setup, and server output. See [“Logs” on page 7-9](#).

work

This directory is available after the first launch of the server; it is a working image of the app directory.

Registry Endpoints

BEA AquaLogic Service Registry is configured as follows. The <host name>, <http port> and <ssl port> are specified during installation. For more information, see [“Server Settings” on page 6-6](#). For each endpoint you can use either http or ssl port.

Note: The following endpoint information references topics in the *Developer’s Guide*, which is available as part of the [Using the AquaLogic Service Registry](#) document at the following URL:

<http://edocs.bea.com/alsr/docs21/registry/index.html>

- Business Service Console home page: `http://<host name>:<http port>/uddi/bsc/web`
- Registry Console home page: `http://<host name>:<http port>/uddi/web`
- UDDI Inquiry API endpoint - `http://<host name>:<port>/uddi/inquiry`
See *Developer's Guide, UDDI Version 1, UDDI Version 2, UDDI Version 3*.
- UDDI Publishing API endpoint - `http://<host name>:<port>/uddi/publishing`
See *Developer's Guide, UDDI Version 1, UDDI Version 2, UDDI Version 3*.
- UDDI Security Policy v3 API endpoint - `http://<host name>:<port>/uddi/security`
See *Developer's Guide, UDDI Version 3*.
- UDDI Custody API endpoint - `http://<host name>:<port>/uddi/custody`
See *Developer's Guide, UDDI Version 3*.
- UDDI Subscription API endpoint - `http://<host name>:<port>/uddi/subscription`
See *Developer's Guide, UDDI Version 3*.
- Taxonomy API endpoint - `http://<host name>:<port>/uddi/taxonomy`
See *Developer's Guide, Taxonomy*.
- Category API endpoint - `http://<host name>:<port>/uddi/category`
See *Developer's Guide, Category*.
- Administration Utilities API endpoint - `http://<host name>:<port>/uddi/administrationUtils`
See *Developer's Guide, Administration Utilities*.
- Replication API endpoint - `http://<host name>:<port>/uddi/replication`
See *Developer's Guide, Replication*.
- Statistics API endpoint - `http://<host name>:<port>/uddi/statistics`
See *Developer's Guide, Statistics*.
- WSDL2UDDI API endpoint - `http://<host name>:<port>/uddi/wsdl2uddi`
See *Developer's Guide, WSDL Publishing*.

- XML2UDDI API endpoint - `http://<host name>:<port>/uddi/xml2uddi`
See *Developer's Guide*, XML Publishing.
- XSD2UDDI API endpoint - `http://<host name>:<port>/uddi/xsd2uddi`
See *Developer's Guide*, XSD Publishing.
- XSLT2UDDI API endpoint - `http://<host name>:<port>/uddi/xslt2uddi`
See *Developer's Guide*, XSLT Publishing.
- Extended Inquiry API endpoint - `http://<host name>:<port>/uddi/inquiryExt`
- Extended Publishing API endpoint - `http://<host name>:<port>/uddi/publishingExt`
- Configurator API endpoint - `http://<host name>:<port>/uddi/configurator`
- Account API endpoint - `http://<host name>:<port>/uddi/account`
See *Developer's Guide*, Account.
- Group API endpoint - `http://<host name>:<port>/uddi/group`
See *Developer's Guide*, Group.
- Permission API endpoint - `http://<host name>:<port>/uddi/permission`
See *Developer's Guide*, Permission.

Pre-installed Data

BEA AquaLogic Service Registry contains the following data:

- Operational business - This entity holds miscellaneous nodes' registry settings such as the validation service configuration.
- Built in tModels - tModels required by the UDDI specification.
- Demo data - Data required by the BEA AquaLogic Service Registry demos. For more information, see *Demos* in [Using the AquaLogic Service Registry](#).

Command Line Scripts

The `bin` subdirectory contains scripts, including those for launching the server, installing Windows services, and changing configuration.

Setup

Windows: `setup.bat`

UNIX: `./setup.sh`

Setup may be launched with the following optional arguments:

```
setup.sh (.bat) [--help] | [-h] | [--gui] | [-g] | [-u file ] |
[--use-config file ] | [-s file ] | [--save-config file ] | [--debug]
```

`-h` | `--help` shows help message

`-g` | `--gui` starts the setup wizard. The wizard is the default mode.

`-u` | `--use-config file` starts setup in non-interactive mode; it reads all properties from the specified file.

`-s` | `--save-config file` starts the setup wizard. All configuration will be saved into specified file instead of execute configuration. The file may be used later in a non-interactive installation.

`--debug` the setup produces more information to localize problems or errors.

To change the BEA AquaLogic Service Registry configuration after installation follow [“Reconfiguration After Installation”](#) on page 7-6.

Signer

Windows: `signer.bat`

UNIX: `./signer.sh`

The Signer is a graphical application that can be used to add, remove, and verify the signatures of UDDI structures you have published. Follow *Signer Tool* in the *User’s Guide* in [Using the AquaLogic Service Registry](#).

SoapSpy

Windows: `SoapSpy.bat`

UNIX: `./SoapSpy.sh`

Debugging tool to control low level soap communication. Follow *How to Debug* in the *Developer's Guide* in [Using the AquaLogic Service Registry](#).

PStoreTool

Windows: `PStoreTool.bat`

UNIX: `./PStoreTool.sh`

Protected security storage manipulation tool. See *PStore Tool* in the *Administrator's Guide* in [Using the AquaLogic Service Registry](#).

env

Windows: `env.bat`

UNIX: `./env.sh`

Helper script to set system variables. We recommend not to use it directly.

Reconfiguration After Installation

The Setup tool also facilitates other functions such as the data migration from previous installation (described in [Chapter 14, "Migration"](#)).

The Setup tool contains similar panels to those in the installation tool. To run this tool, execute the following script from the `bin` subdirectory of your installation:

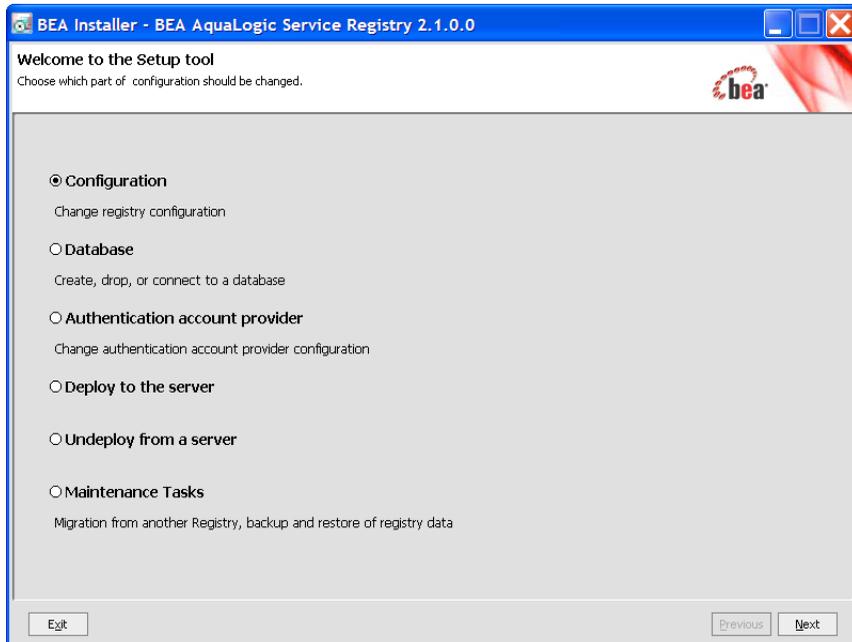
Windows: `setup.bat`

UNIX: `./setup.sh`

See command-line parameters for Setup in ["Command Line Scripts" on page 7-5](#).

By default, setup starts in wizard mode as shown in the following figure.

Figure 7-1 Wizard Mode Setup



The following topics may be configured:

Configuration

Change server and registry configuration.

Database

Create, drop, or connect to a database.

Portation

Port registry to an application server.

Migration

Migrate registry data from other registry.

Backup and Restore

Backup and restore BEA AquaLogic Service Registry.

Authentication account provider

Change account back-end configuration.

Server Properties

System properties are the main means of configuring AquaLogic Service Registry as deployed into Systinet Server for Java. Default values for these properties are in the resource `META-INF/wasp.properties`, which is located in `lib/runner.jar`.

To alter system properties for AquaLogic Service Registry deployed into WebLogic Server as a Servlet: Default property values can be overridden in the `init-param` elements in the web application deployment descriptor, `web.xml`.

The following properties are checked when BEA AquaLogic Service Registry is initialized.

Table 7-1 Properties Checked When BEA AquaLogic Service Registry is Initialized

Property	Description
<i>wasp.location</i>	This property is mandatory for running a BEA AquaLogic Service Registry server. It must point to the directory in which BEA AquaLogic Service Registry is installed.
<i>wasp.config.location</i>	This is an absolute or <i>wasp.location</i> -relative path pointing to the registry configuration file. Setting this property is optional; the default value is <code>conf/clientconf.xml</code> .
<i>wasp.config.include</i>	Comma-separated list of additional config paths to include. These paths can be either absolute or relative to the working directory. This property is optional.
<i>wasp.impl.classpath</i>	Sets a classpath for the registry implementation. This property is optional; if it is not set, registry interfaces and implementation are loaded in the same classloader.
<i>wasp.shutdownhook</i>	Set to true if BEA AquaLogic Service Registry should be automatically destroyed just before JVM is destroyed. Set to false if you want to manage the shutdown process yourself. The default setting is true.

Table 7-1 Properties Checked When BEA AquaLogic Service Registry is Initialized

Property	Description
<i>idoox.debug.level</i>	<p>Determines the number of debugging messages produced by BEA AquaLogic Service Registry:</p> <ul style="list-style-type: none"> 0: none 1: errors 2: warnings 3: infos 4: debugs <p>This property is optional; the default value is 2 for the client and 3 for the server. The debug level is available in the non-stripped distribution only.</p> <p>The logging level specified by the <i>idoox.debug.level</i> property overrides the level specified in the configuration file determined by the <i>log4j.configuration</i> property</p>
<i>idoox.debug.logger</i>	<p>Specifies which logging system is used, <i>waspLogger</i> or <i>log4j</i>. Default is <i>log4j</i>. Setting the value of this property to <i>waspLogger</i> uses this logger, instead.</p>
<i>log4j.configuration</i>	<p>Specifies the location of the configuration (properties file) for <i>log4j</i>. This property can contain a relative (<i>conf/log4j.config</i>) or absolute (<i>/home/waspuser/log4j.config</i>) path to the configuration file.</p> <p>If it is not set, the default configuration (<i>ConsoleAppender</i> with the pattern <code>%p: %c{2} - %m\n</code>) will be used.</p> <p>An example configuration file for <i>log4j</i>, <i>log4j.config</i>, is located in the <i>conf</i> subdirectory of the BEA AquaLogic Service Registry installation directory.</p>

Logs

There are four log files in `REGISTRY_HOME/log` directory.

The following log files are produced by the Installation and Setup processes:

- *install.log*—This log contains installation output information including all properties set during installation, and output from the installation process. If an error occurs during installation, see this log for details.

- `setup.log`—The log of the Setup tool. Any execution of the Setup tool writes the set properties and output from setup processes here. Errors occurring during setup are written to this log.

The default server logs are:

- `logEvents.log`—The standard server output contains informative events which occur on the BEA AquaLogic Service Registry server.
- `errorEvents.log`—This file contains detailed logs of error events which occur on the BEA AquaLogic Service Registry server.
- `replicationEvents.log`—Replication process logs can be found in the `REGISTRY_HOME/log/replicationEvents.log` file.
- `configuratorEvents.log`—Cluster configuration events are logged in the `REGISTRY_HOME/log/configuratorEvents.log` file
- `wasp_NTService.log`—Events of the server are written into the `REGISTRY_HOME\log\wasp_NTService.log` file.

The server logs may be configured by one of two logging systems, the in-house `waspLogger` and `log4j`. By default, `log4j` is used. The default `log4j` configuration file is located in `REGISTRY_HOME/conf/log4j.config`.

Note: An explanation of using `log4j` is outside the scope of this documentation; please see the [Apache log4j documentation](#) for more information:

<http://logging.apache.org/log4j/docs/index.html>

Troubleshooting Your Installation

If errors occur during the installation process, the installer displays a message and a **Recovery** button.

Execution of Task fails. You can click **Recovery** and correct erroneous selections or click **Exit** to exit the installation.

If you click **Recovery**, the installation returns to the step that should be corrected. For example, if the installation fails during copying files, it will return to the installation type panel. If the process fails during configuring database it will return to the database panels.

If errors occur when using the Setup tool, only the error message is displayed, you can continue by clicking **Next**.

The following general problems may occur:

Installation backend timeout

If the task does not respond for a long time, a timeout error is thrown and the task is stopped. The default timeout is 30 minutes. If you have a slow machine, try to redefine the timeout system property for a greater value in minutes at a java command line.

For 60 minutes, run installation by following command:

```
java -Dtimeout=60 -jar BEA-aqualogic-service-registry-2.1.0.jar
```

For 60 minutes, edit the setup.sh (setup.bat) file; add the `-Dtimeout=60` option into the java command line so it looks like:

```
Windows: "%JAVA_CMD%" -Dtimeout=60
```

```
UNIX: "$JAVA_CMD" -Dtimeout=60
```

Cannot find JDBC driver, java.lang.ClassNotFoundException

Some external classes cannot be found. Usually the path to JDBC driver does not contain the needed *.jar or *.zip files. Another reason this error may be thrown is that the JDBC driver is not supported by BEA AquaLogic Service Registry. For more information about supported databases, see *Database Installation* in [Using the AquaLogic Service Registry](#).

Cannot access database, java.sql.SQLException

This usually happens during the creation of database which already exists. To resolve this error, try to connect or drop this database first.

This error is also thrown when trying to drop a database which is currently in use, or does not exist. Note that some set properties must exist on the database engine and some of them are optional. For more information about supported databases, see *Database Installation* in [Using the AquaLogic Service Registry](#).

Couldn't create or access important files. Wrong path

This error is displayed when the installation directory specified is bad or the user does not have read and write permissions for it. Try to install to another directory or reset the read and write permissions.

Installation Summary

Server Configuration

The server configuration may be set during installation or by using the Setup tool after installation. Both of these scenarios use the same set of GUI panels for server configuration shown in this section.

To run the Setup tool, execute the following script from the `bin` subdirectory of your installation:

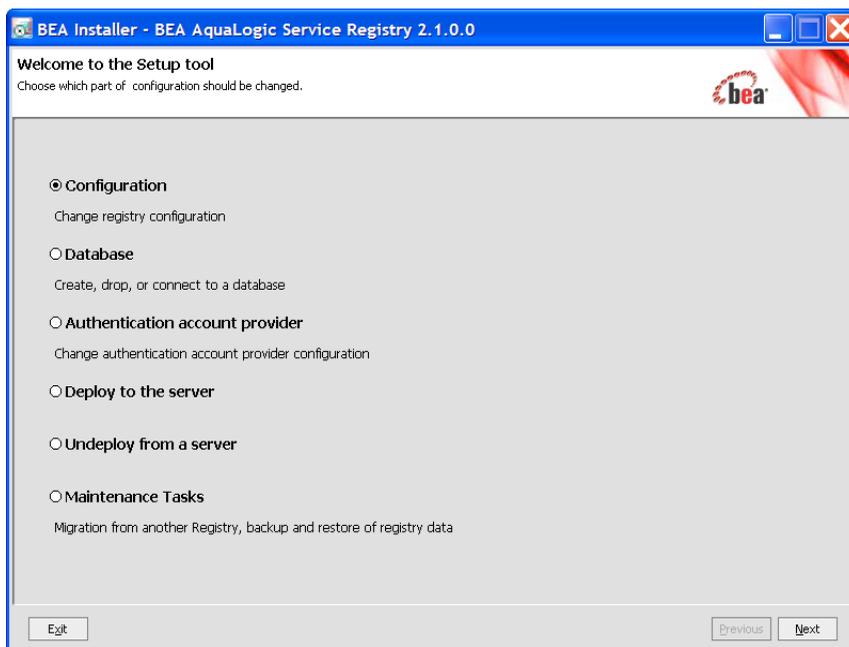
Windows: `setup.bat`

UNIX: `./setup.sh`

See `Setup` in [“Command Line Scripts”](#) on page 7-5.

Select **Configuration** on the first panel.

Figure 8-1 Setup



For more information on the Setup tool, see [“Reconfiguration After Installation”](#) on page 7-6.

Server Configuration

Figure 8-2 Server Configuration

BEA AquaLogic Service Registry - BEA AquaLogic Service Registry 2.1.0.0

Deployment Settings
Provide details of how AquaLogic Service Registry will be deployed
Be sure that Weblogic server is listening on the specified ports.

HTTP port → 7001

SSL (HTTPS) port → 7002

Hostname →

Application Server Context → registry

Deploy to the Weblogic server at the end of the installation.

Exit Previous Next

The preceding figure shows server configuration settings. These settings are used for the HTTP and HTTPS servers.

HTTP Port

The non-secure port for accessing the Registry Console (default value: 8080)

SSL (HTTPS) Port

Secure port for accessing the Registry Console (default value: 8443)

Host name

Host name of the computer on which BEA AquaLogic Service Registry is installed; change the auto-completed entry if it is different.

Application Server Context

This is the WebLogic application context into which the registry application is deployed.

After setting these properties, the server will be available at:

```
http://[host name]:[HTTP Port]/[Context of URL]
```

For example, in [Figure 8-2](#), the server is available at

```
http://mydomain.mycompany.com:8080/uddi and at
```

```
https://mydomain.mycompany.com:8443/uddi. Note that the communication can be spied by SoapSpy tool. See How to Debug in the Developer's Guide in Using the AquaLogic Service Registry.
```

SMTP Configuration

Figure 8-3 SMTP Configuration

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

SMTP Configuration

Enter your SMTP mail server configuration properties.

The settings below tell Registry how to communicate using e-mail. Some Registry features depend on valid values for the required settings in order to function properly.

Operator Name

SMTP Hostname

SMTP Port

Account Name

SMTP password

Confirm Password

Sender e-mail address

Sender name

Exit Previous Next

The preceding figure allows you to configure SMTP. The SMTP configuration is important when users need to receive email notification from subscriptions and from the approval process.

SMTP Host Name

Host name of the SMTP server, through which all e-mail alerts and notification are sent to administrator and users.

SMTP Port

Port number for this SMTP server

SMTP Password

Password to access SMTP server

Confirm password

Retype the same password. Note that if it is not same as the password in the previous box, you cannot continue.

SMTP Default Sender E-mail, Name

BEA AquaLogic Service Registry will generate email messages with this identity.

Database Installation

The database may be set up during installation or by using the Setup tool after installation. Both of these scenarios use the same set of GUI panels shown in this section.

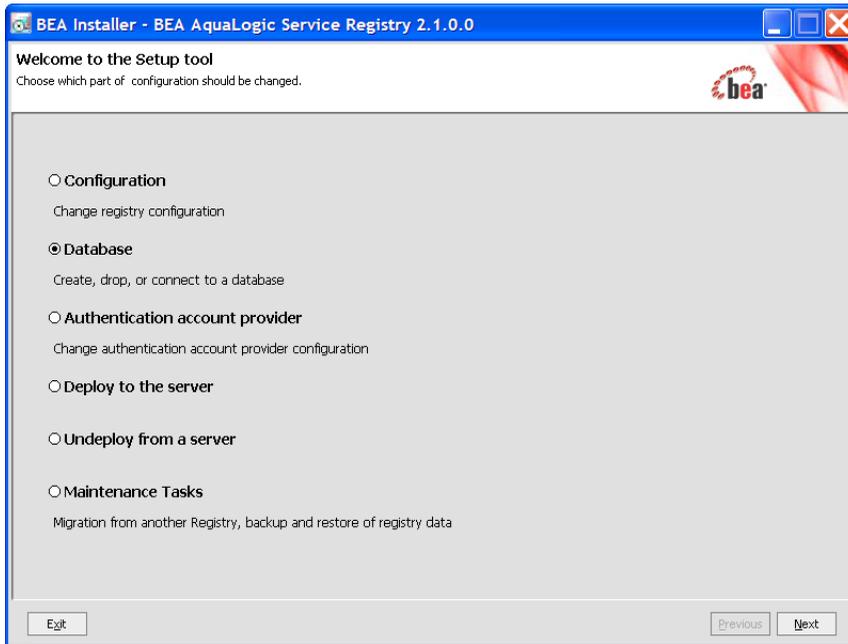
To run the Setup tool, execute the following script from the bin subdirectory of your installation:

```
Windows: setup.bat
```

```
UNIX:    ./setup.sh
```

See *Setup* in [“Command Line Scripts”](#) on page 7-5.

Figure 9-1 Setup Select Database

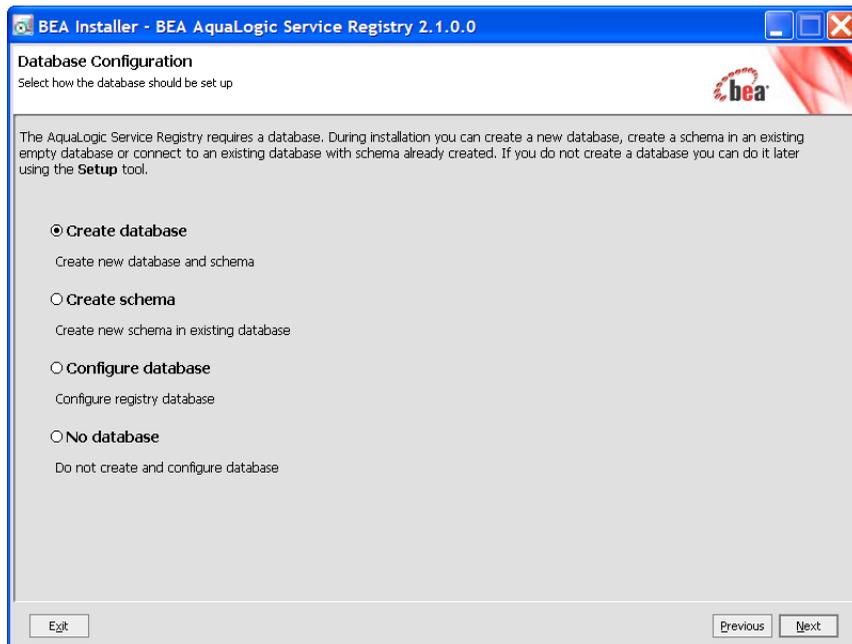


Select your database. For more information on the Setup tool, please see [“Reconfiguration After Installation”](#) on page 7-6.

Database Creation Method

The registry requires a database. During installation you can create a new database, create schema in an existing empty database or connect to an existing database with created schema. Using the Setup tool, you can also drop a database or database schema. Select your database operation on the following panel:

Figure 9-2 Database Creation Method



Select a method from those shown in [Figure 9-2](#).

Create database

Create new database/users/tablespaces (depending on the type of database server) and database schema. This is the easiest way to attach the required database to BEA AquaLogic Service Registry. Note that you must have the credentials of the database administrator.

Create schema

Create a new schema in existing database. Select this method if you have access to an existing empty database with the ability to create tables and indexes. This option is suitable when you does not know the administrator's credentials. We assume the administrator has already created a new database/users/tablespaces for this option.

Drop database

Drops the whole database/users/tablespaces. Note that this option depends on the type of database server.

Drop schema

Drops all tables in the database but leave the empty database.

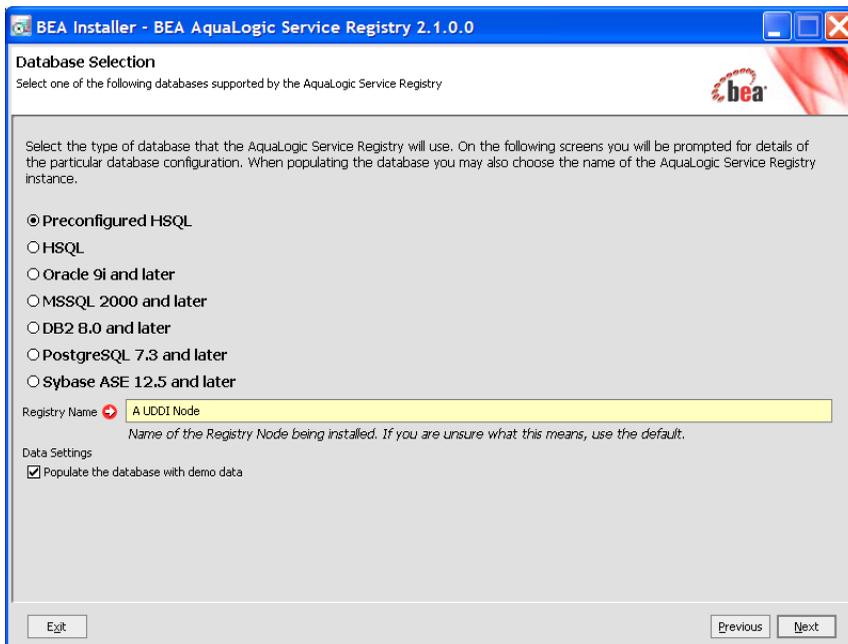
Configure database

Configure registry database. Use this method if the registry database already exists, for example, from a previous BEA AquaLogic Service Registry installation of the same release number, and fill in only the connection parameters.

Select Database Type

The following figure shows the supported database engines that can be prepared for BEA AquaLogic Service Registry. The panel may differ if another method was selected in the previous step.

Figure 9-3 Select Database Type



Follow these links for the selected database.

- [Preconfigured HSQL](#)
- [HSQL](#)
- [Oracle](#)
- [MSSQL](#)
- [DB2](#)
- [PostgreSQL](#)
- [Sybase](#)

Preconfigured HSQL

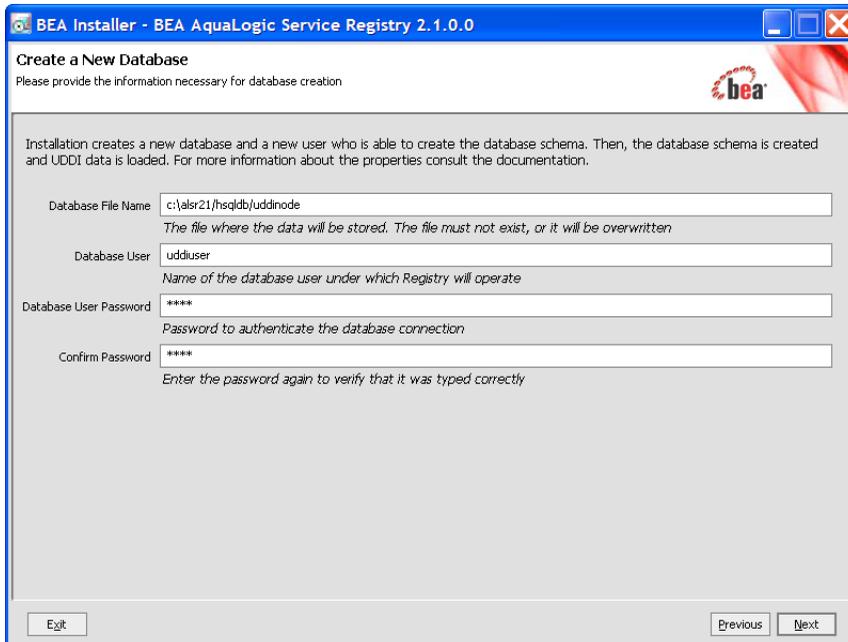
The default database is the pre configured HSQL. The installer or Setup tool creates database named `REGISTRY_HOME/hsqldb/uddinode` and the user account `uddiuser` with the password `uddi` in the database. Note that all database files can be found in `REGISTRY_HOME/hsqldb` directory.

Note: This database is recommended for evaluation and testing purposes only.

Note: If you use HSQL then user credentials are stored in the HSQL database files in plain text. So you must protect these files from unauthorized reading using appropriate file system access rights. The files are located in the directory `REGISTRY_HOME/hsqldb/` by default.

HSQL

Figure 9-4 HSQL



The installation process creates a new database and a user who is able to create schema/tables.

The HSQL database requires the following properties.

Database File Name

Full path to the file which will hold data structures.

Database User

User name for one account authorized to access this database

Note: If you use HSQL then user credentials are stored in the HSQL database files in plain text. So you must protect these files from unauthorized reading using appropriate fleshiest access rights. The files are located in the directory `REGISTRY_HOME/hsqldb/` by default.

Oracle

The Create database option on the installer/Setup tool does not mean to create a new physical database. The installation process only creates a new tablespace in an existing database and a new user of the default tablespace is set up on the created one. Then a database schema is created and UDDI data are loaded. Because relational tables are created in the schema of the specified user, if you want to create more UDDI databases (such as databases for publication and discovery registries for the approval process), you must create UDDI databases with different database users.

Figure 9-5 Oracle Database

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

Create a New Database (continued)
Please provide the information necessary for database creation

Installation creates a new database and a new user who is able to create the database schema. Then, the database schema is created and UDDI data is loaded. For more information about the properties consult the documentation.

Database Tablespace Name:

Tablespace Datafile:
Name of the storage file where the table space will be stored

Database User:

Database User Password:
Password to authenticate the database connection

Confirm Password:
Enter the password again to verify that it was typed correctly

Oracle database creation requires the following properties. To connect or create a schema requires a subset of these properties. Please note that properties marked with an asterisk (*) must not collide with existing objects in the database.

Database Server Address

Usually the host name or IP address of the computer where the database server is accessible.

Database Server Port

Port on which the database listens for a connection

Existing Database Name

Name of a database that already exists into which the BEA AquaLogic Service Registry tablespace will be created.

Database Administrator Name

User name of the administrator of the database; required to create a new tablespace on the existing database

Database Administrator Password

Password for the administrator account specified in the previous text box.

Database Tablespace Name *

Name of the tablespace to be created in the existing database and which will store UDDI data structures.

Database User *

A new user account which will be created to connect to the tablespace.

Database User Password

Password for the user account specified in the previous text box.

Confirm password

Again, if it is not the same as in the previous text box, you cannot continue.

Tablespace Datafile *

Enter the path to the tablespace data file.

Continue with [“JDBC Driver” on page 9-17](#).

MSSQL

The installation process creates a new database on the database server under the given user name. The database schema is created and UDDI data are loaded. This user should have the Database Creators server role.

Important

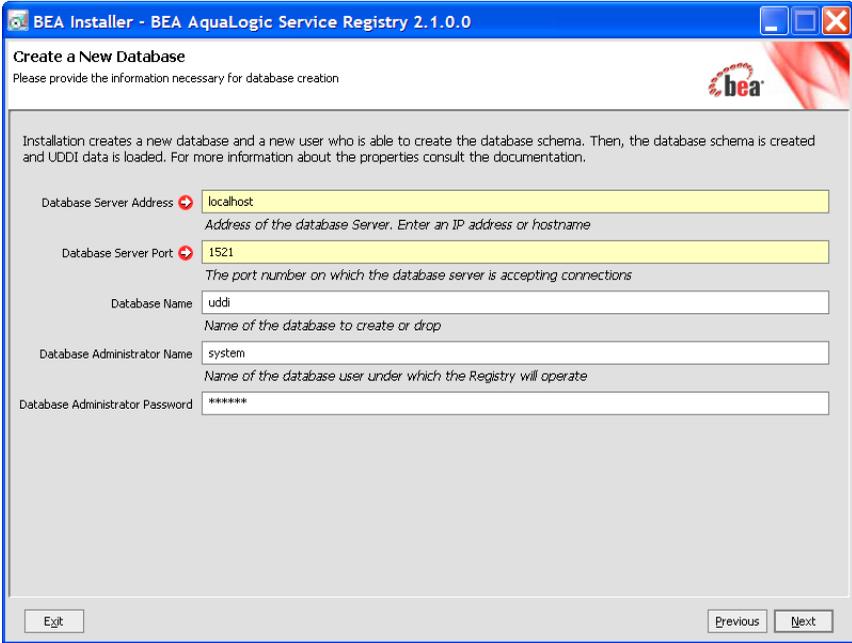
Make sure your database server has case-sensitive collation, otherwise all comparisons will be case insensitive, even if the caseSensitiveMatch findQualifier is set. Alternatively, you can create a database with case-sensitive collation manually and use the **create schema** option.

Important

If you selected the option **Create database** in the installation/Setup panel shown in [Figure 9-2, “Database Creation Method,”](#) on page 9-3, you need a database user account with the Database creators server role. To create such account, you can use the SQL Server Enterprise Manager:

1. Select the **Console Root—Microsoft SQL Servers—SQL Server Group—server name—Security —Logins**.
2. Right-click on **Logins** and select the **New Login** from the context menu.
3. Enter the account name, click on the **SQL Server Authentication** option and fill in the password.
4. Select **Server Roles** tab, mark the **Database Creators**, click **OK**, and retype the password.

Figure 9-6 MS SQL Database Creation



MSSQL database creation requires the following properties. To connect or create schema requires a subset of these properties. Please note that properties marked with an asterisk (*) must not collide with existing objects in the database.

Database Server Address

Usually the host name or IP address where the database server is accessible.

Database Server Port

Port on which the database listens for a connection.

Database Name *

Name of the database that will hold UDDI data structures.

Database Administrator Name

User name of an administrator who can create a new database.

Database Administrator Password *

Password for the administrator specified above.

Continue with [“JDBC Driver” on page 9-17](#).

DB2

The **Create database** option from the installer/Setup tool does not create a new database physically. The installation process creates a new tablespace in an existing database with the given (existing) buffer pool and associates the tablespace with the given file. Permission to use the tablespace is given to the specified user. Then, a database schema is created and UDDI data are loaded.

Important

Because relational tables are created in the implicit schema, if you want to create more UDDI databases (such as databases for publication and discovery registries for the approval process), you must create UDDI databases with different database users.

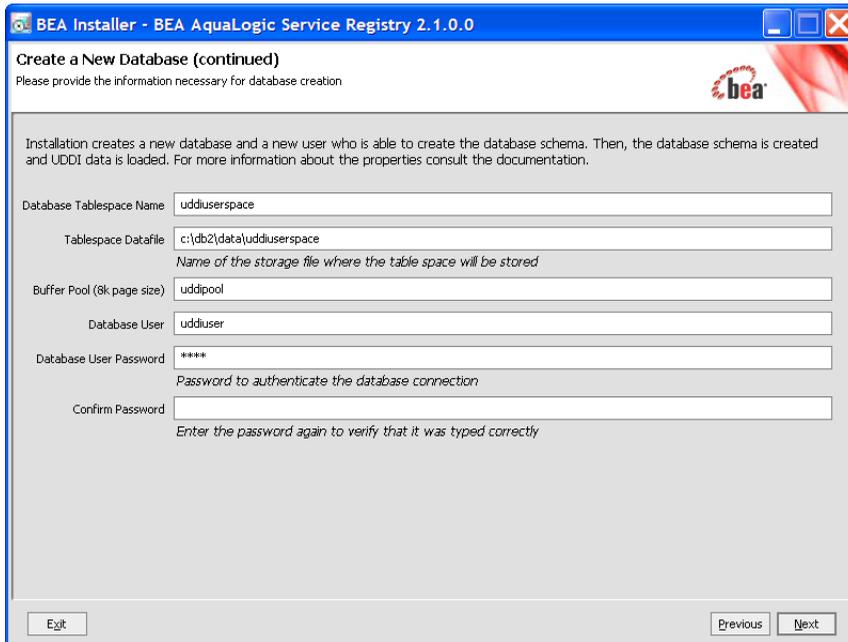
Important

The **Create database** option requires a buffered with 8k page size and an database user account, that can use a temporary tablespace with such buffered.

- To create such a buffered using the DB2 Control Center:
 - a. Select **Control Center** → **All Databases** → *database* → **Buffer Pools** from the left side tree.
 - b. Right-click on **Buffer Pools**, and select the **Create...** option from the context menu.
 - c. Fill in a **Buffer pool name**, such as "uddipool" and select **8k page size**.

- To create such a temporary tablespace using the DB2 Control Center:
 - a. Select **Control Center**→**All Databases**→~~*database*~~→**Table Spaces** from the left side tree.
 - b. Right-click on **Table Spaces** and select the **Create...** option from the context menu.
 - c. Fill a tablespace name such as "udditempspace" and click **Next**.
 - d. Select the user temporary option, and click **Next**.
 - e. Select the uddipool buffer pool and click **Next** twice.
 - f. Select the location where data are physically stored such as `C:\Db2\data\udditempspace`, click **Next** 3 times and then click **Finish**.
- To create the database user that can use the temporary tablespace using DB2 Control Center:
 - a. Select **Control Center**→**All Databases**→~~*database*~~→**User and Group Objects**→**DBUsers** from the left side tree.
 - b. Right-click on **DBUsers** and select the **Add...** option from the context menu.
 - c. Select the username, check **Connect to database**, **Create tables** and **Create schemas** implicitly.
 - d. Click on the **Table Space** tab, the **Add Tablespace...** button, select the **udditempspace** and click **OK**.
 - e. Select the **udditempspace** and select the **Yes** option from the **Privileges** drop down list.
 - f. Click **OK** to save the account.

Figure 9-7 DB2



DB2 database creation requires the following properties. To connect or create schema requires a subset of these properties. Please note that properties marked with an asterisk (*) must not collide with existing objects in the database.

Database Tablespace Name *

Name of tablespace to be created in the existing database and which will store UDDI data structures

Tablespace Datafile *

Full path of the host machine where the tablespace files will be stored

Note: You must have read and write permissions to this directory.

Buffer pool with 8k page size

Buffer pool for database; it must have pages with a size of 8k.

Database User

User name of a user having the following authorities: connect database, create table and create schema implicitly.

Note: The user also must have access to a temporary tablespace with the associated 8k-length bufferpool to use for temporary tables.

Database User Password

Password for the user specified in the previous text box.

Specify the BEA AquaLogic Service Registry Administrator account which will be created in the database.

Note: Increase transaction log size (parameter `logfilesiz`) from default value 250 to 1000. You can use the `Control Center` tool to make this change.

Continue with “[JDBC Driver](#)” on page 9-17.

PostgreSQL

Figure 9-8 PostgreSQL

The screenshot shows a window titled "BEA Installer - BEA AquaLogic Service Registry 2.1.0.0". The main heading is "Create a New Database". Below the heading, it says "Please provide the information necessary for database creation". There is a BEA logo in the top right corner. The main content area contains the following text: "Installation creates a new database and a new user who is able to create the database schema. Then, the database schema is created and UDDI data is loaded. For more information about the properties consult the documentation." Below this text are several input fields with labels and descriptions:

- Database Server Address:** localhost. Description: Address of the database Server. Enter an IP address or a hostname.
- Database Server Port:** 5432. Description: The port number on which the database server is accepting connections.
- Database Administrator Name:** postgres. Description: Name of the database user under which Registry will operate.
- Database Administrator Password:** (empty field).
- Database Name:** uddinode. Description: Name of the database to create.
- Database User:** uddiuser.
- Database User Password:** ****. Description: Password to authenticate the database connection.
- Confirm Password:** ****. Description: Enter the password again to verify that it was typed correctly.

At the bottom of the window, there are three buttons: "Exit", "Previous", and "Next".

The installation process creates a new database and a user who is able to create schema/tables. Then the database schema is created and UDDI data are loaded.

PostgreSQL database creation requires the following properties. To connect or create a schema requires a subset of these properties. Please note that properties marked with an asterisk (*) must not collide with existing objects in the database.

Database Server Address

Usually the host name or IP address where the database server is accessible

Database Server Port

Port on which the database listens for a connection.

Database Administrator Name

User name of the administrator of the database; this information is required to create new tablespaces on the existing database.

Database Administrator Password

Administrator's password.

Database Name *

Name of the database that will hold UDDI data structures.

Database User *

User name for one user of the database specified in the previous text box.

Database User Password

Password for the user specified above.

Confirm Password

Note that if this is not the same as in the previous text box, you cannot continue.

Continue with [“JDBC Driver” on page 9-17](#).

Sybase

Figure 9-9 Sybase

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

Create a New Database (continued)
Please provide the information necessary for database creation

Installation creates a new database and a new user who is able to create the database schema. Then, the database schema is created and UDDI data is loaded. For more information about the properties consult the documentation.

Database User:

Database User Password:
Password to authenticate the database connection

Confirm Password:
Enter the password again to verify that it was typed correctly

Database Device File:
Name of the storage file where the table space will be stored

The installation process creates a new database and a new user who is able to create tables. Then database schema is created and UDDI data are loaded.

Note: You must configure the Sybase database server with at least 8K page size. Servers with a lesser page size may refuse some requests to store data.

Sybase database creation requires the following properties. To connect or create a schema requires a subset of these properties. Please note that properties marked with an asterisk (*) must not collide with existing objects in the database.

Database Server Address

Usually the host name or IP address where the database server is accessible.

Database Server Port

Port on which the database listens for connection.

Database Administrator Name

User name of administrator of the database; required to create a new database and its device on the existing database server.

Database Administrator Password

Password for this user.

Database name *

Name of the database to create

Database User *

User name of a new user of the database named in the previous text box.

Database User Password

Password for the user named in the previous text box.

Confirm Password

Note that if it is not same as in the previous text box, you cannot continue.

Database Device File *

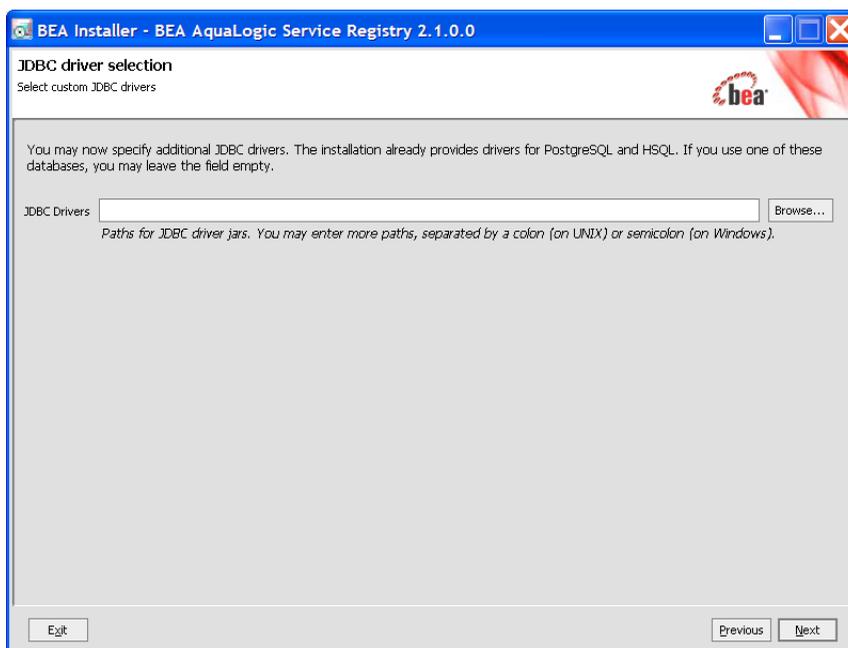
Location of new device for the new database; this file should not previously exist.

Continue with [“JDBC Driver” on page 9-17](#).

JDBC Driver

Select the JDBC Driver as shown in Figure 12. It is not necessary to configure this path for the HSQL and PostgreSQL databases as the JDBC drivers for these databases are installed in the distribution. It is also not necessary if you have already configured this path previously for the selected database. The JDBC drivers are usually supplied by database vendors.

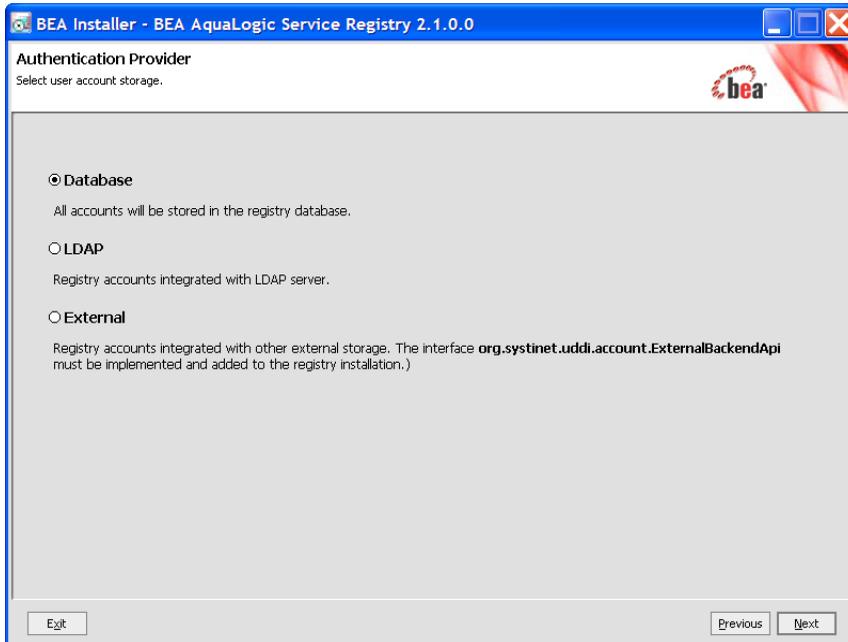
Figure 9-10 Optional JDBC Driver



Account Backend

If you created a database or schema, you can configure an authentication account provider.

Figure 9-11 Authentication Account Provider



The preceding figure allows you to select the authentication account provider.

Database

All accounts will be stored in the registry database. This is the recommended backend.

LDAP

Registry accounts integrated with LDAP server.

External

Registry accounts integrated with other external storage. To integrate BEA AquaLogic Service Registry, with an external backend, you must implement the interface `com.syntinet.uddi.account.ExternalBackendApi` and add it to the registry installation.

For more information about LDAP and External account backends, please see [Chapter 11, “External Accounts Integration.”](#)

Approval Process Registry Installation

BEA AquaLogic Service Registry allows for installation with an approval publishing process, which requires two registries: a publication registry and a discovery registry. The publication registry is used for testing and verification of data. The discovery registry contains approved data that has been promoted from the publication registry.

BEA AquaLogic Service Registry supports the following scenarios of approval process configuration:

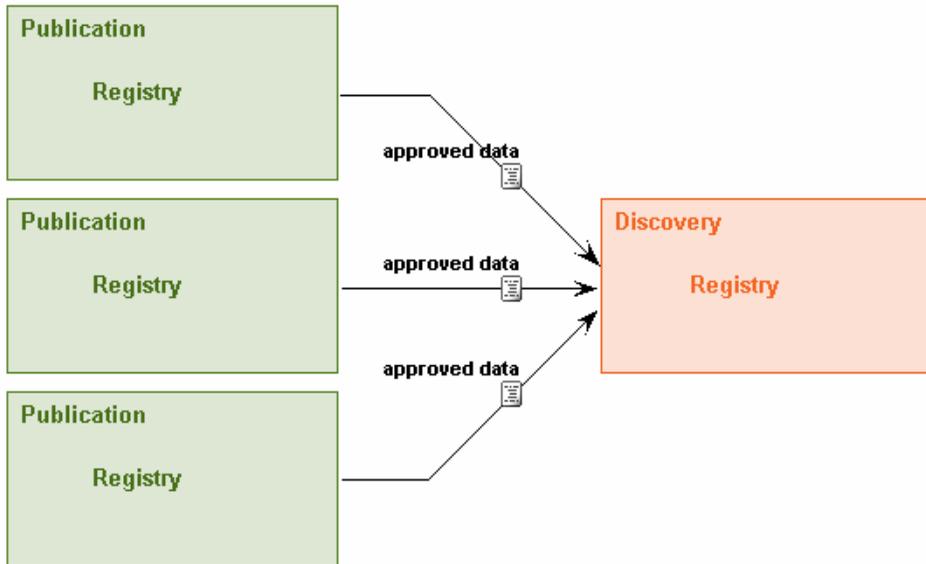
- One publication and one discovery registry as shown in [Figure 10-1](#). This is the simplest configuration. Data is promoted from the publication to the discovery registry after an approver approves the data.

Figure 10-1 One-Step Approval Process



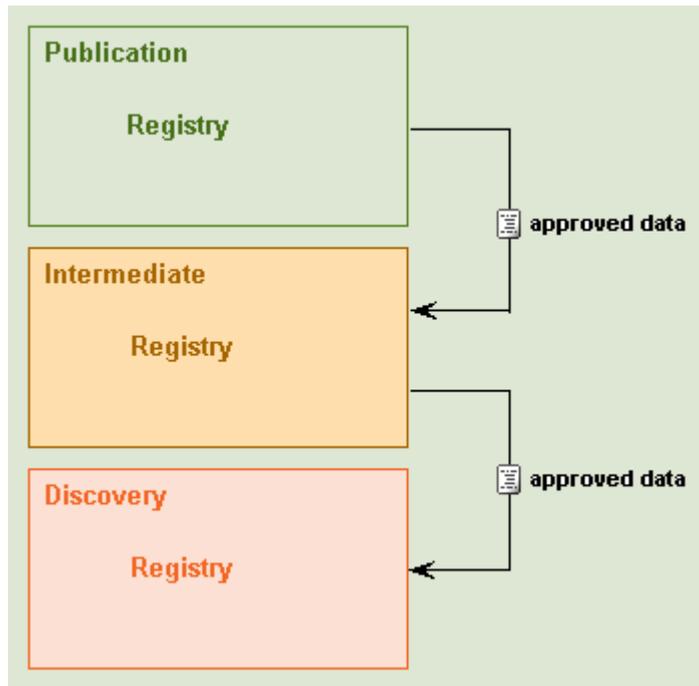
- Multiple publication registries as shown in [Figure 10-2](#). Promoted data is merged from more than one publication registry to a single discovery registry.

Figure 10-2 One-Step Approval Process with Multiple Publication Registries



- Multiple step approval process as shown in [Figure 10-2](#). There can be many steps for promoting data from the publication to the discovery registry. For example, you can define the approval process to include two steps of data promotion. The first step is promoting data from a 'unit testing' registry to an 'integrated testing' registry. The next step is promoting data from the 'integrated testing' registry to a 'production quality' registry. In this case you need to install three registries as shown in [Figure 10-2](#). See [“Intermediate Registry Installation”](#) on [page 10-8](#) to learn how to install a registry that behaves as both publication and discovery registry.

Figure 10-3 Multiple Step Approval Process



We recommend that you install the discovery registry first, and then the publication registry, because the digital security certificate of the discovery registry is needed when installing the publication registry.

Important

To install the publication or discovery registry with accounts in external storage you must ensure that accounts from the publication registry are a subset of accounts on the discovery registry. Accounts may exist on the discovery registry that do not exist on the publication registry, but all accounts on the publication registry must exist on the discovery registry. Put another way: all accounts on the publication registry exist on the discovery registry, but not all accounts on discovery registry exist on the publication registry.

It is also not allowed to have two different LDAP servers, one for the publication registry and one for discovery registry. For more information about setting of external accounts, see [Chapter 11, “External Accounts Integration.”](#)

Note: Do not forget to configure the SMTP configuration on the publication registry for receiving email notifications.

To learn more about the approval process, see “Approval Process” in the *Administrator' Guide in Using the AquaLogic Service Registry*.

Discovery Registry Installation

To install the discovery registry, during the type selection at install time choose **Discovery Registry** instead of the default **Standalone** installation.

Figure 10-4 Installation Type Selection



Fill in all properties on the discovery-specific panel shown in the following figure.

Figure 10-5 Discovery Settings



Set the following properties:

Publication Registry IP address

The IP address allowed to connect to this discovery registry.

Netmask

A netmask is a 32-bit mask used to divide an IP address into subnets and specify the network's available hosts.

The default netmask of 255.255.255.255 indicates that publication registry may be connected only from the IP address specified in **Publication Registry IP address**

Continue with standalone installation as described in [“Server Settings”](#) on page 6-6.

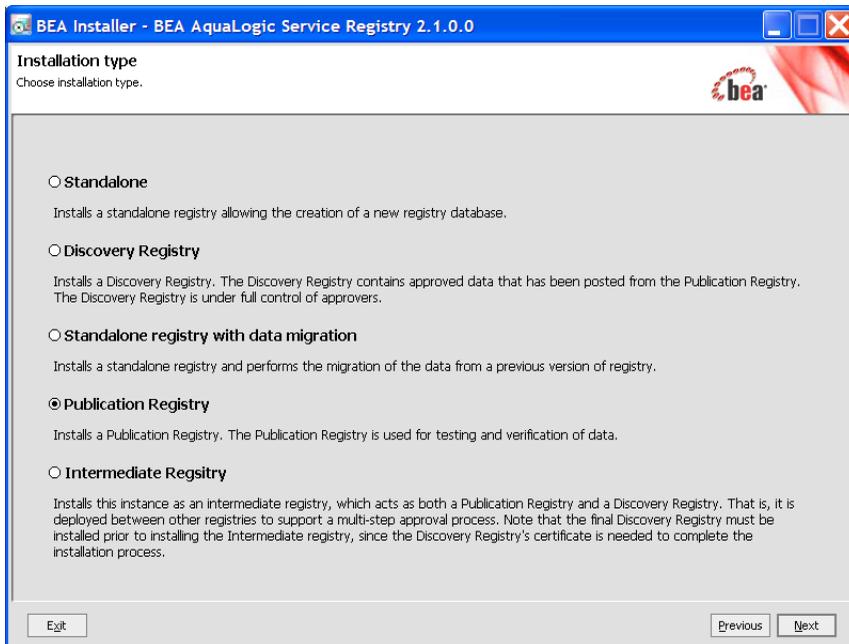
Publication Registry Installation

Prerequisite

To install the publication registry you must have an installed discovery registry as described in [“Discovery Registry Installation” on page 10-4](#).

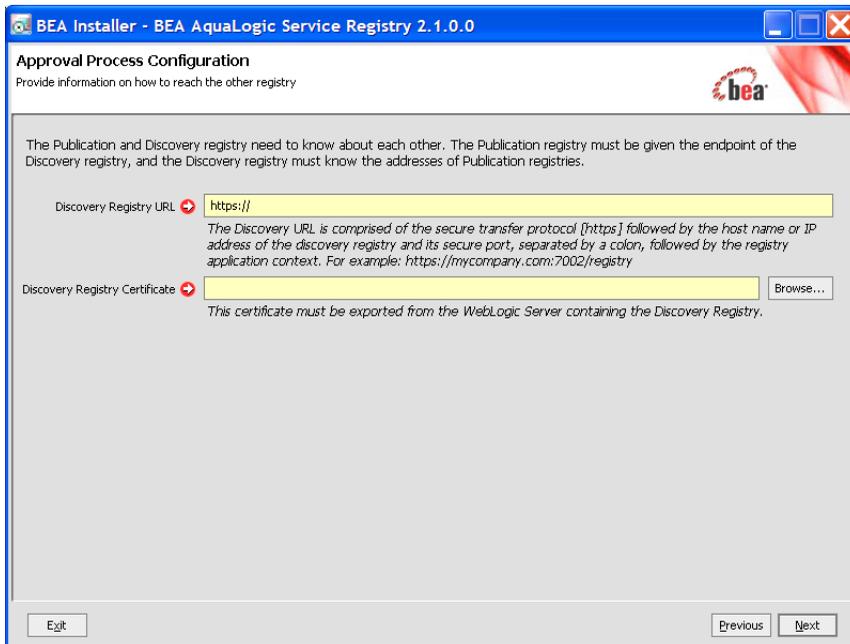
Install the publication registry in same way you would the Standalone registry. During installation selection, choose **Publication Registry** instead of the default **Standalone** installation.

Figure 10-6 Installing Publication Registry



Fill in the properties as described in the following figure.

Figure 10-7 Publication Registry Installation Configuration Options



The properties include:

Discovery Registry URL

Enter the HTTPS URL of the discovery registry. Note that HTTP (non secure) connections between the publication and discovery registry are not allowed.

Discovery Registry Certificate

The publication registry needs to access the SSL certificates for the WebLogic Server in which the discovery registry is deployed. You can obtain the WebLogic SSL certificate via a browser when accessing using HTTPS and export it to the 64 Base .cer file.

NOTE: To proceed with the installation, the installer must be able to read this certificate from a local or networked file system.

Note: The installer must be able to read this certificate from a local or networked file system, in order to proceed with the installation.

Continue with standalone installation as described in [“Server Settings” on page 6-6](#).

Intermediate Registry Installation

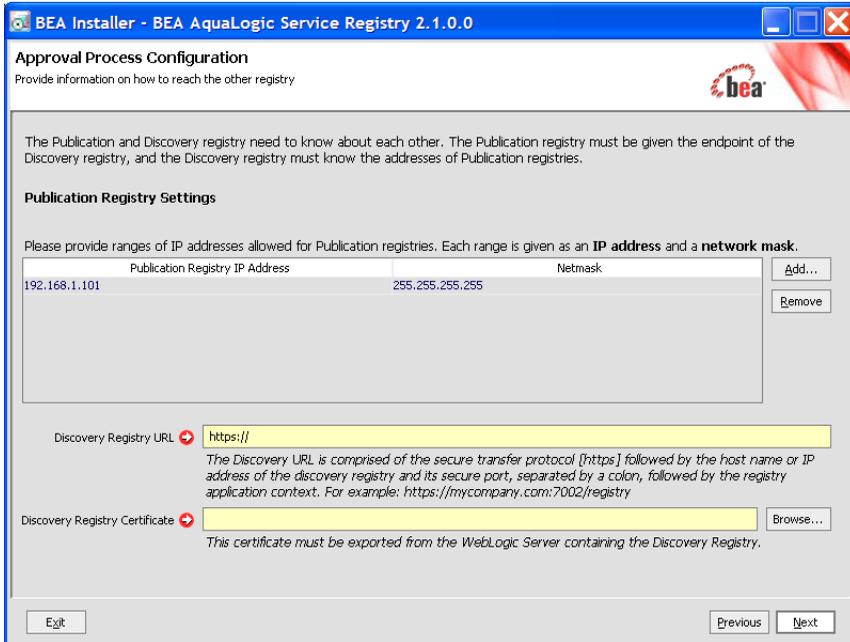
Install the Intermediate registry in same way you would the Standalone registry. During installation selection, choose **Intermediate Registry** instead of the default **Standalone** installation.

Figure 10-8 Installation Type



Fill in the properties shown in the following figure.

Figure 10-9 Approval Process Configuration



The configuration includes:

Publication Registry IP address

The IP address allowed to connect to this discovery registry.

Netmask

A netmask is a 32-bit mask used to divide an IP address into subnets and specify the network's available hosts.

The default netmask of 255.255.255.255 indicates that publication registry may be connected only from the IP address specified in Publication Registry IP address

Discovery Registry URL

Enter the HTTPS URL of the discovery registry. Note that HTTP (non secure) connections between the publication and discovery registry are not allowed.

Discovery Registry Certificate

The publication registry needs to access the SSL certificates for the WebLogic Server in which the discovery registry is deployed. You can obtain the WebLogic SSL certificate via a browser when accessing using HTTPS and export it to the 64 Base .cer file.

NOTE: To proceed with the installation, the installer must be able to read this certificate from a local or networked file system.

Continue with standalone installation as described in [“Server Settings” on page 6-6](#).

External Accounts Integration

During database installation or by employing the Setup tool, you may choose to use accounts from external repositories. This chapter describes how to integrate accounts from an LDAP server and from non-LDAP user stores into BEA AquaLogic Service Registry.

An LDAP server can be integrated with BEA AquaLogic Service Registry with these scenarios:

- LDAP with a single search base - The scenario is very simple. There is only one LDAP server in this scenario. All identities are stored under a single search base.
- LDAP with multiple search bases - In this scenario there is also only one LDAP server, but it has multiple search bases mapped to a domain. The domain is a specified part of the user's login name (that is, `DOMAIN/USERNAME`). All users must specify the domain name in the login dialog. When managing accounts or groups, we recommend using the `DOMAIN/USERNAME` format for performance reasons. If no domain is set, searches are performed across all domains.
- Multiple LDAP services - More than one LDAP service is used in this scenario. The correct LDAP service is chosen via DNS. As in the previous scenario, users must specify a domain name during login. When managing accounts or groups, users have to set domain name. If the domain name is not specified, then no domain is processed.

For information about configuring LDAP scenarios, see [“LDAP” on page 11-4](#).

This chapter also contains the following configuration examples:

- [SUN One with Single Search Base](#)
- [Sun One with Multiple Search Bases](#)

- [Active Directory with Single Search Base](#)

Notes: 1. BEA AquaLogic Service Registry treats external stores as read-only. User account properties stored in these external stores cannot be modified by BEA AquaLogic Service Registry.

2. The Administrator account must not be stored in the LDAP. We strongly recommend that users stored in `account_list.xml` (by default, only administrator) should not be in the LDAP. If you really need to have users from LDAP in the file `account_list.xml`, delete password items from the file and change of all the accounts' properties according to the LDAP. The `account_list.xml` file contains a list of users that can be logged into a registry without connection to the database.

To integrate external accounts from another repository, either:

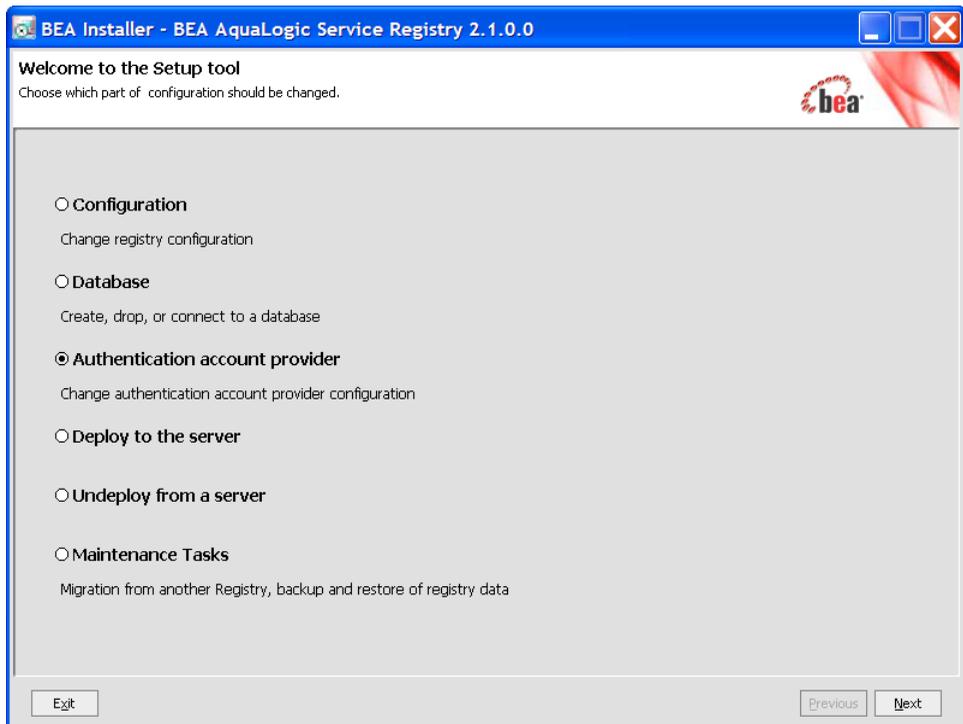
- Create a database or create a new schema on the connected database by following the instructions in Database Settings in [“Running the Installation Program”](#) on page 6-1
- Use the Setup tool and choose **Authentication provider**. To run the Setup tool, execute the following script from the `bin` subdirectory of your installation:

```
Windows:setup.bat
```

```
UNIX:./setup.sh
```

See the command-line parameters for Setup in [“Command Line Scripts”](#) on page 7-5.

Figure 11-1 Setup Select Authentication Account Provider

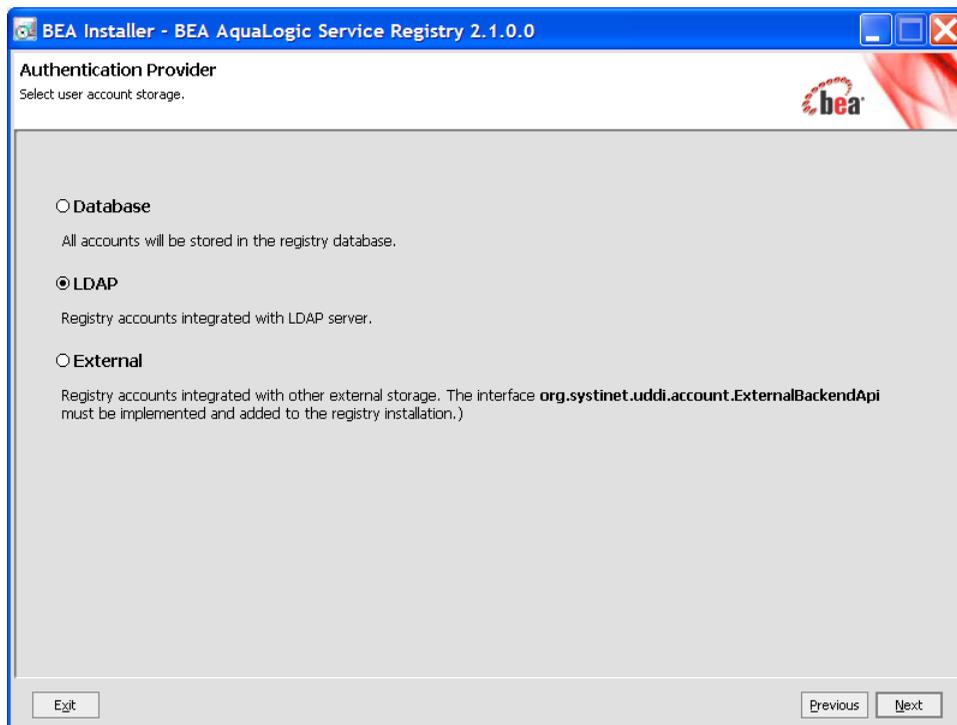


For more information on the Setup tool, please see [“Reconfiguration After Installation”](#) on page 7-6.

LDAP

Select LDAP on the Account Provider panel.

Figure 11-2 Select LDAP



Enter the settings as described in the following figure.

Figure 11-3 LDAP Service

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

LDAP Service
Enter LDAP service properties.

Provide information how to connect to, and authenticate with, the LDAP service you want to use for accessing account and group information

Initial Naming Factory:

Naming Provider URL:

Security Principal:

Password:

Authentication:

Exit Previous Next

BEA AquaLogic Service Registry uses a JNDI interface to connect to LDAP servers. The following JNDI properties must be known to the server. (The default properties are noted in parentheses.)

Java naming provider URL

A URL string for configuring the service provider specified by the "Java naming factory initial" property. (`ldap://hostname:389`).

Initial Naming Factory

Class name of the initial naming factory. (`com.sun.jndi.ldap.LdapCtxFactory`).

Security Principal

The name of the principal for anonymous read access to the directory service.

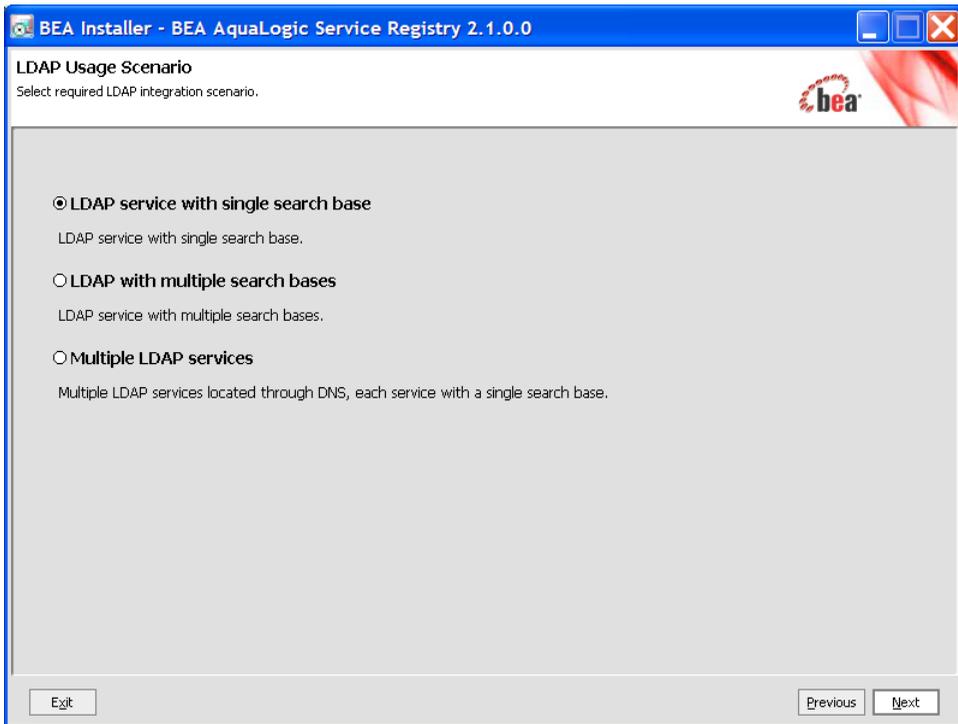
Password

Password of security principal.

Security Protocol

Name of the security protocol. (simple)

Figure 11-4 LDAP Usage Scenarios



You can select the following LDAP usage scenarios:

LDAP with a single search base

The scenario is very simple. There is only one LDAP server in this scenario. All identities are stored under a single search base.

LDAP with multiple search bases

In this scenario there is also only one LDAP server, but it has multiple search bases mapped to a domain. The domain is a specified part of user's login name (that is, DOMAIN/USERNAME). All users must specify the domain name in the login dialog.

During the managing with accounts or groups it is recommended to use DOMAIN/USERNAME because of performance. If no domain is set then search is performed across all domains.

Domains can be specified dynamically or statically. For dynamic settings it is necessary to specify, for example, a domain prefix or postfix. Static domains are set during the installation directly and so they must be known in time of installation.

Multiple LDAP services

More than one LDAP service are used in this scenario. The correct LDAP service is chosen via DNS. As in the previous scenario, users must specify a domain name during login. When managing accounts or groups users have to set domain name. If domain name is not specified then no domain is processed.

Note: Automatic discovery of the LDAP service using the URL's distinguished name is supported only in Java 2 SDK, versions 1.4.1 and later, so be sure of the Java version you are using.

The automatic discovery of LDAP servers allows you not to hardwire the URL and port of the LDAP server. For example, you can use

`ldap:///o=JNDITutorial,dc=example,dc=com` as a URL and the real URL will be deduced from the distinguished name `o=JNDITutorial,dc=example,dc=com`.

BEA AquaLogic Service Registry integration with LDAP uses the JNDI API. For more information, see

<http://java.sun.com/products/jndi/tutorial/ldap/connect/create.html>

and

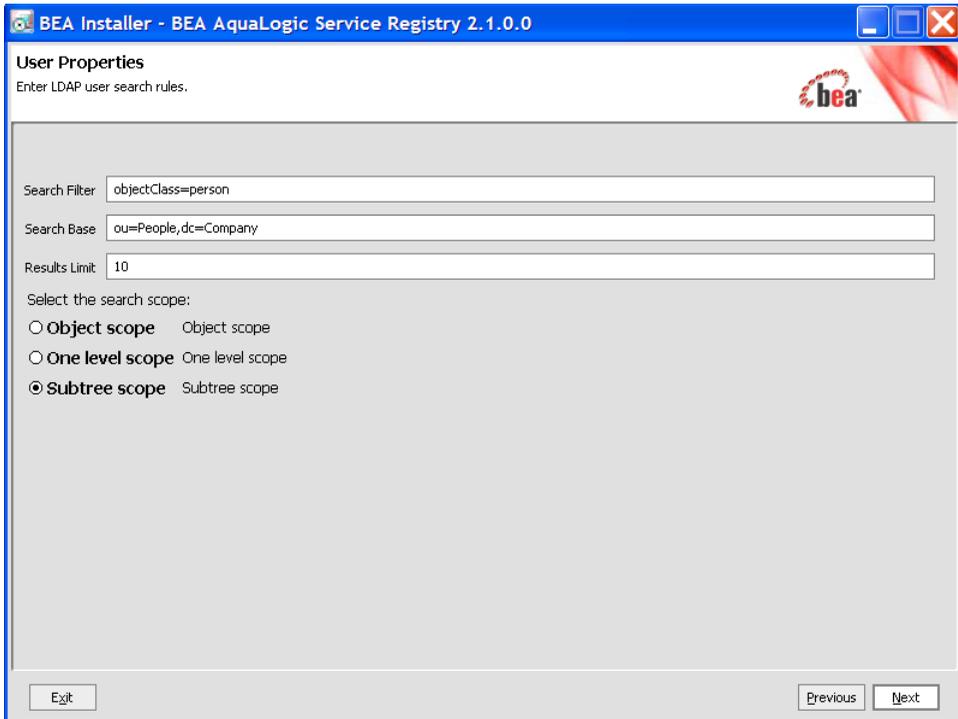
<http://java.sun.com/j2se/1.4.2/docs/guide/jndi/jndi-dns.html#URL>

LDAP with a Single Search Base

The installation consists of the following steps:

1. Specify user/account search properties as shown in [Figure 11-5](#).
2. Map Registry user properties to LDAP properties as shown in [Figure 11-6](#).
3. Specify group search properties as shown in [Figure 11-7](#).
4. Map Registry group properties to LDAP properties as shown in [Figure 11-8](#).

Figure 11-5 User Search Properties



Field description:

Search Filter

The notation of the search filter conforms to the LDAP search notation. You can specify the LDAP node property that matches the user account.

Search Base

LDAP will be searched from this base including the current LDAP node and all possible child nodes.

Search Scope

Here you can specify how deep the LDAP tree structure's data will be searched.

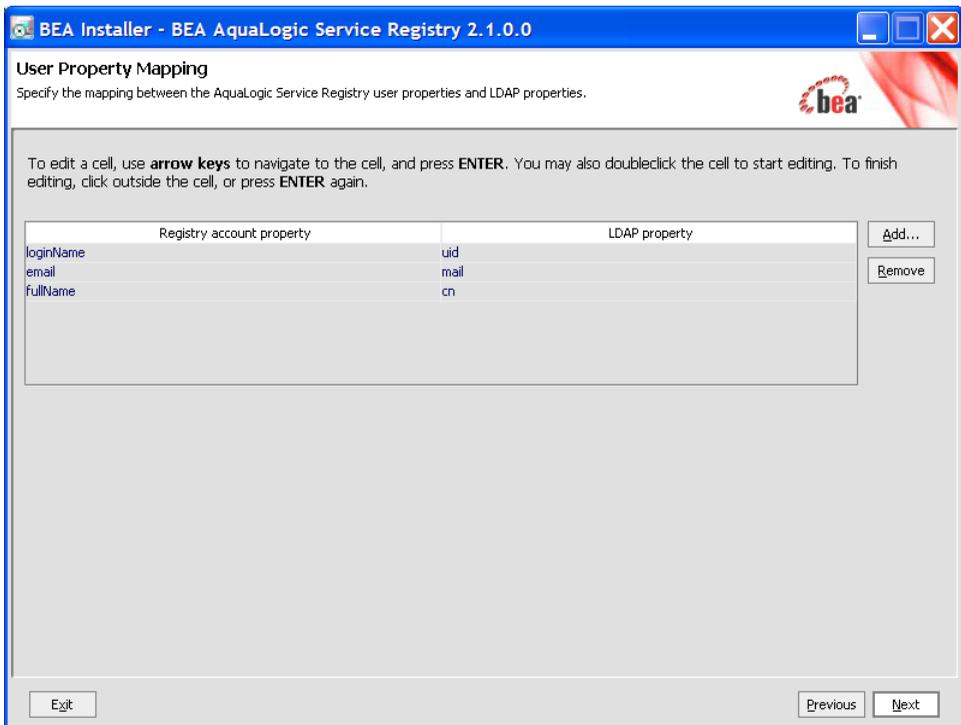
– Object Scope - Only the search base node will be searched.

- One-level Scope - Only direct sub-nodes of the search base (entries one level below the search base) will be searched. The base entry is not included in the scope.
- Subtree Scope - Search base and all its sub-nodes will be searched.

Results Limit

Number of items returned when searching LDAP.

Figure 11-6 User Properties Mapping



You can specify mapping between BEA AquaLogic Service Registry user account properties and LDAP properties. You can add rows by clicking **Add**. To edit an entry, double click on the value you wish to edit.

External Accounts Integration

The following user account properties can be mapped from an LDAP server.

Listing 11-1 Account Properties can be Mapped from an LDAP Server

```
java.lang.String loginName
java.lang.String email
java.lang.String fullName
java.lang.String languageCode
java.lang.String password
java.lang.String description
java.lang.String businessName
java.lang.String phone
java.lang.String alternatePhone
java.lang.String address
java.lang.String city
java.lang.String stateProvince
java.lang.String country
java.lang.String zip
java.util.Date expiration
java.lang.Boolean expires
java.lang.Boolean external
java.lang.Boolean blocked
java.lang.Integer businessesLimit
java.lang.Integer servicesLimit
java.lang.Integer bindingsLimit
java.lang.Integer tModelsLimit
java.lang.Integer assertionsLimit
java.lang.Integer subscriptionsLimit
```

The Registry account property **dn** specifies the LDAP distinguished name. The value depends on the LDAP vendor.

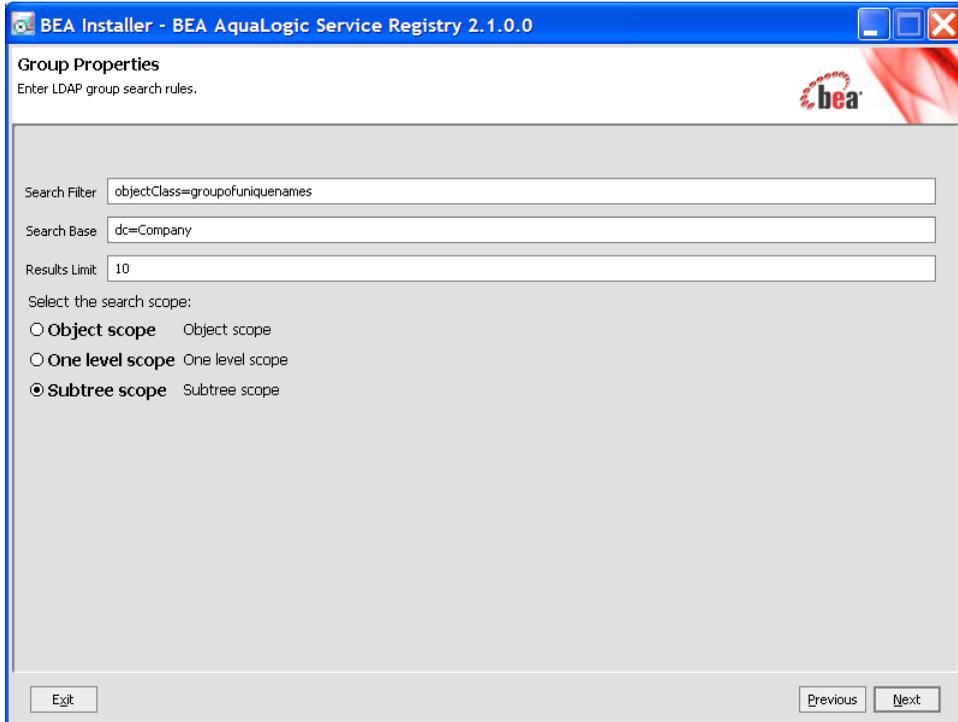
- On the Sun ONE Directory Server, the value is `entryDN`
- On Microsoft Active Directory, the value is `distinguishedName`

If an optional property (such as `email`) does not exist in the LDAP, then the property's value is set according to the default account. The default account is specified in the configuration file whose name is `account_core.xml`.

Note: User account properties that you specify at the [Figure 11-6](#) will be treated as read-only from Registry Console and registry APIs.

For more information, please see "userAccount data structure" in the *Developer's Guide* in [Using the AquaLogic Service Registry](#).

Figure 11-7 Group Search Properties



Field Description

Search Filter

The notation of the search filter conforms to LDAP search notation. You can specify the LDAP node property that matches the group.

Search Base

LDAP, including the current LDAP node and possible all child nodes, will be searched from this base.

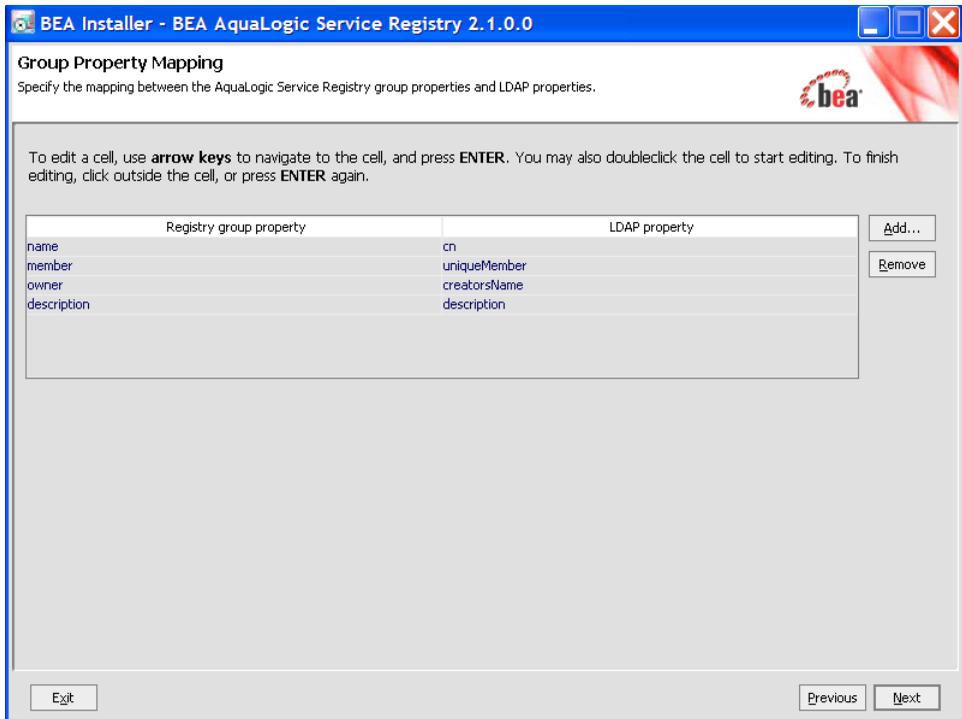
Search Scope

Here you can specify how deep the LDAP tree structure data will be searched.

- Object Scope - Only the search base node will be searched.
- One-level Scope - Search base and its direct sub-nodes will be searched.

– Subtree Scope - Search base and all its sub-nodes will be searched.

Figure 11-8 Group Properties Mapping



You can specify mapping between BEA AquaLogic Service Registry group properties and LDAP properties. You can add rows by clicking **Add**. To edit an entry, double click on the value you wish to edit.

If a property (such as description) does not exist in the LDAP then property value is set according to the default group. The default group (`groupInfo`) is specified in the configuration file whose name is `group.xml`.

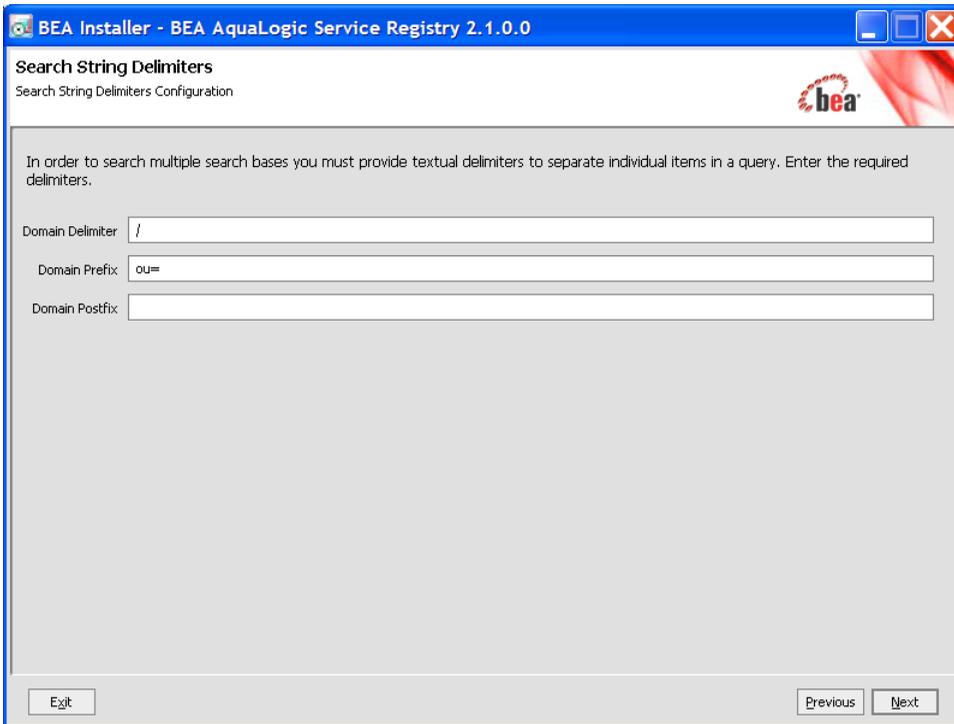
For more information, please see "group data structure" in the *Developer's Guide* in [Using the AquaLogic Service Registry](#).

LDAP with Multiple Search Bases

The installation consists of the following steps:

1. Specify the domain delimiter, domain prefix and postfix as shown in [Figure 11-9](#).
2. Enable/Disable domains as shown in [Figure 11-10](#).
3. Specify User Search properties as shown in [Figure 11-5](#).
4. Map Registry user properties to LDAP properties as shown in [Figure 11-6](#)
5. Specify group search properties as shown in [Figure 11-7](#).
6. Map Registry group properties to LDAP properties as shown in [Figure 11-8](#)

Figure 11-9 LDAP Delimiter



Field descriptions:

Domain Delimiter

Specifies the character that delimits domain and user name. When left empty, users are searched from all domains.

Domain Prefix, Domain Postfix

Domains are searched using the following pattern:

```
{domain prefix}domain_name{domain postfix}{search base}
```

where {domain prefix} is value of property whose name is domain prefix, {domain postfix} is value of property whose name is domain postfix and {searchbase} is value of property whose name is searchbase.

Figure 11-10 Enable/Disable Domains

BEA Installer - BEA AquaLogic Service Registry 2.1.0.0

Domains Configuration
Enter domains enabled or disabled in LDAP queries.

Enter a list of domains, that will be enabled or disabled in LDAP queries. For an enabled domain, enter its name (identifier) and its full distinguished name. To disable a domain, you have to add a distinguished name.

To edit a cell, use **arrow keys** to navigate to the cell, and press **ENTER**. You may also doubleclick the cell to start editing. To finish editing, click outside the cell, or press **ENTER** again. Use the **Add** and **Remove** buttons next to the table to add or remove a row from the table.

Enable domains

Name	Distinguished name

Add...
Remove

Disable domains

Distinguished name

Add...
Remove

Exit Previous Next

Enable Domains

Left column: domain name that users will be using during login. Right column: distinguished domain name.

Disable Domains

Enter distinguished domain name of domains you wish to disable.

Multiple LDAP Services

The correct LDAP service is chosen via DNS. The installation consists of the following steps:

1. Specify user/account search properties as shown in [Figure 11-5](#).
2. Map Registry user properties to LDAP properties as shown in [Figure 11-6](#).
3. Specify group search properties as shown in [Figure 11-7](#).
4. Map Registry group properties to LDAP properties as shown in [Figure 11-8](#)

LDAP over SSL/TLS

It is only a matter of configuration to setup LDAP over SSL (or TLS) with a directory server of your choice. We recommend that you first install BEA AquaLogic Service Registry with a connection to LDAP that does not use SSL. You can then verify the configuration by logging in as a user defined in this directory before configuring use of SSL.

The configuration procedure assumes that you have already installed BEA AquaLogic Service Registry with an LDAP account provider. BEA AquaLogic Service Registry must not be running.

LDAP over SSL Without Client Authentication

In this case only LDAP server authentication is required. This is usually the case.

Edit the `REGISTRY_HOME/app/uddi/conf/directory.xml` file in one of the following ways depending on the version of Java used to run BEA AquaLogic Service Registry:

- If BEA AquaLogic Service Registry will always be running with Java 1.4.2 or later:
 - Change the `java.naming.provider.url` property to use the `ldaps` protocol and the port on which the directory server accepts SSL/TLS connections. For example
`ldaps://sranka.in.idoox.com:636;`
- Otherwise, if BEA AquaLogic Service Registry may be run with a Java version less than 1.4.2:
 - a. Change the `java.naming.provider.url` property to the appropriate URL using the `ldap` protocol. For example `ldap://sranka.in.idoox.com:636;`
 - b. Add a new property, after the `java.naming.provider.url` property, with name `java.naming.security.protocol` and value `ssl;`

This is shown in the following example:

Listing 11-2

```

<config name="directory" savingPeriod="5000">
  <directory>
    <!-- LDAP over (SSL/TLS) unprotected connection -->
    <!--
      <property name="java.naming.provider.url"
value="ldap://hostname:47361"/>
    -->
    <!-- LDAP over SSL/TLS for Java 1.4.2 and later -->
    <!--
      <property name="java.naming.provider.url"
value="ldaps://hostname:636"/>
    -->
    <!-- LDAP over SSL/TLS for Java where LDAP over SSL is supported -->
    <property name="java.naming.provider.url" value="ldap://hostname:636"/>
    <property name="java.naming.security.protocol" value="ssl"/>
    ...
    ...
    ...
  </directory>
</config>

```

In both cases, be sure that the hostname specified in the `java.naming.provider.url` property matches the name that is in the directory server certificate's subject common name (CN part of certificate's Subject). Otherwise you will get an exception during startup of BEA AquaLogic Service Registry. It will inform you of a hostname verification error. The stack trace contains the hostname that you must use.

LDAP over SSL With Mutual Authentication

BEA AquaLogic Service Registry does not support LDAP over SSL with mutual authentication.

Ensuring Trust of the LDAP Server

The client that connects to the SSL/TLS server must trust the server certificate in order to establish communication with that server. The configuration of LDAPS explained above inherits the default rule for establishing trust from JSSE (the Java implementation of SSL/TLS). This is based on trust stores.

When a trust store is needed to verify a client/server certificate, it is searched for in the following locations in order:

1. The file specified by the `javax.net.ssl.trustStore` system property, if defined;
2. Otherwise the file `JAVA_HOME\jre\lib\security\jssecacerts` if it exists;
3. Otherwise the file `JAVA_HOME\jre\lib\security\cacerts` if it exists;

It is recommended to use the first option to define a trust store specifically for the application you are running. In this case, you have to change the command that starts the registry (or the JVM environment of the ported registry) to define the following Java system properties:

Table 11-1 Java System Properties

Property	Description
<code>javax.net.ssl.trustStore</code>	Absolute path of your trust store file.
<code>javax.net.ssl.trustStorePassword</code>	Password for the trust store file.

To ensure that the server certificate is trusted, you have to:

1. Contact the administrator of the LDAP server and get the certificate of the server or the certificate of the authority that signed it.
2. Import the certificate into the trust store of your choice using the Java keytool:

```
keytool -import -trustcacerts -alias alias -file file -keystore keystore
-storepass storepass
```

where the parameters are as follows:

alias

A mandatory, unique alias for the certificate in the trust store;

The file containing the certificate (usually with .crt extension);

The keystore file of your choice;

A password designed to protect the keystore file from tampering. Java level keystores (cacerts and jssecacerts) usually require the password `changeit`;

file

The file containing the certificate (usually with .crt extension);

The keystore file of your choice;

A password designed to protect the keystore file from tampering. Java level keystores (cacerts and jssecacerts) usually require the password `changeit`;

keystore

The keystore file of your choice;

A password designed to protect the keystore file from tampering. Java level keystores (cacerts and jssecacerts) usually require the password `changeit`;

storepass

A password designed to protect the keystore file from tampering. Java level keystores (cacerts and jssecacerts) usually require the password `changeit`;

LDAP Configuration Examples

The following configuration examples are included in this section:

- [SUN One with Single Search Base](#)
- [Sun One with Multiple Search Bases](#)
- [Active Directory with Single Search Base](#)

SUN One with Single Search Base

In this example, we show how to configure a Sun One Directory Server 5.2 under the [LDAP with a Single Search Base](#) scenario.

SUN One with Single Search Base shows user properties that are stored in the LDAP server.

Figure 11-11 User Properties in LDAP

The screenshot shows the Softerra LDAP Administrator v.3 interface. On the left, a tree view displays the LDAP hierarchy: Internet Public Servers > LDAP Administrator v2 Profiles > LDAP Browser v2 Profiles > MSAD > sunOne-root > sunOne > cn=Directory Administrators > ou=Groups > cn=uddi-team > cn=wasp-team > cn=control-team. The 'cn=control-team' entry is selected. On the right, a table displays the user's properties:

Name	Value
givenName	Joe
sn	Patroni
telephoneNumber	1-617-360-7089
facsimileTelephoneNumber	1-781-369-1928
objectClass	top
objectClass	person
objectClass	organizationalPerson
objectClass	inetorgperson
uid	JPatroni
cn	Joe Patroni
mail	joe.patroni@mycompany.com

SUN One with Single Search Base shows group properties that are stored in the LDAP server.

Figure 11-12 Group Properties in LDAP

The screenshot shows the Softerra LDAP Administrator v.3 interface. On the left, a tree view displays the LDAP hierarchy: Internet Public Servers > LDAP Administrator v2 Profiles > LDAP Browser v2 Profiles > MSAD > sunOne-root > sunOne > cn=Directory Administrators > ou=Groups > cn=uddi-team > cn=wasp-team > cn=control-team. The 'cn=control-team' entry is selected. On the right, a table displays the group's properties:

Name	Value
objectClass	top
objectClass	groupofuniqueNames
cn	control-team
description	control team
uniqueMember	uid=JPatroni,ou=People,dc=in,dc=idoox,dc=com
uniqueMember	uid=TSmith,ou=People,dc=in,dc=idoox,dc=com

The following table shows how to configure BEA AquaLogic Service Registry using this scenario.

Table 11-2 SUN One with Single Search Base Configuration

Configuration Property	Configuration Value	See
Java naming provider URL	ldap://localhost:389	Figure 11-3
Initial Naming Factory	com.sun.jndi.ldap.LdapCtxFactory	Figure 11-3
Security Principal	uid=JPatroni,ou=people,dc=in,dc=idoox,dc=com	Figure 11-3
Security Protocol	simple	Figure 11-3
User Properties		
Search Filter	objectClass=person	Figure 11-5
Search Base	ou=people,dc=in,dc=idoox,dc=com	Figure 11-5
Search Scope	Subtree Scope	Figure 11-5
Result Limit	100	Figure 11-5
telephoneNumber	phone	Figure 11-6
uid	loginName	Figure 11-6
cn	fullName	Figure 11-6
mail	mail	Figure 11-6
Group Properties		
Search Filter	objectClass=groupofuniquenames	Figure 11-7
Search Base	ou=groups,dc=in,dc=idoox,dc=com	Figure 11-7
Search Scope	Subtree Scope	Figure 11-7
Result Limit	100	Figure 11-7
creatorsName	Owner	Figure 11-8
description	description	Figure 11-8

Table 11-2 SUN One with Single Search Base Configuration

Configuration Property	Configuration Value	See
uniqueMember	member	Figure 11-8
cn	name	Figure 11-8

Sun One with Multiple Search Bases

In this example, we show how to configure Sun One Directory Server 5.2 with multiple search bases. In [Figure 11-14](#), you can see users and domains that are stored on the LDAP server. We want to configure the LDAP integration with BEA AquaLogic Service Registry in this way:

- Only users from domain1 and domain10 can log into BEA AquaLogic Service Registry. LDAP domain2 will be disabled.
- LDAP domain10 will be mapped to the domain3 user group in BEA AquaLogic Service Registry.

[Figure 11-14](#) shows how users from LDAP are mapped to BEA AquaLogic Service Registry

Figure 11-13 LDAP Users and Groups

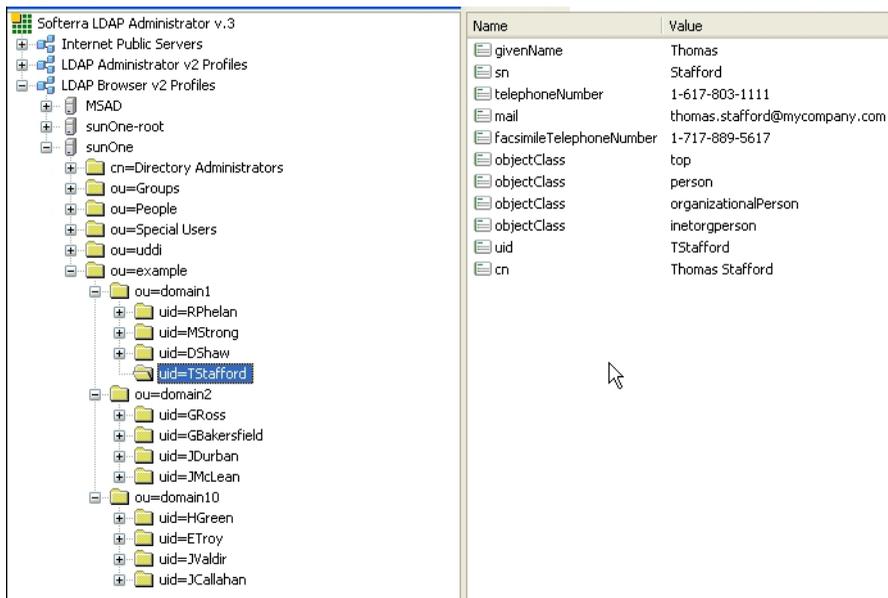


Figure 11-14

Login name	Full name
<input type="checkbox"/> admin	administrator
<input type="checkbox"/> domain1/DShaw	Darby Shaw
<input type="checkbox"/> domain1/MStrong	Marry Strong
<input type="checkbox"/> domain1/RPhelan	Rex Phelan
<input type="checkbox"/> domain1/TStafford	Thomas Stafford
<input type="checkbox"/> domain3/ETroy	Elliott Troy
<input type="checkbox"/> domain3/HGreen	Harris Green
<input type="checkbox"/> domain3/JCallahan	Joseph Callahan
<input type="checkbox"/> domain3/JValdir	Josh Valdir

The following table shows how to configure BEA AquaLogic Service Registry using this scenario.

Table 11-3 SUN One with Multiple Search Base Configuration

Configuration Property	Configuration Value	See
Java naming provider URL	ldap://localhost:389	Figure 11-3
Initial Naming Factory	com.sun.jndi.ldap.LdapCtxFactory	Figure 11-3
Security Principal	uid=JPatroni,ou=people,dc=in,dc=idoox,dc=com	Figure 11-3
Security Protocol	simple	Figure 11-3
uddi.ldap.domain.delimiter	/	Figure 11-9
uddi.ldap.domain.prefix	ou=	Figure 11-9
uddi.ldap.domain.postfix	leave empty	Figure 11-9

Configuration Property	Configuration Value	See
Enable domains		
domain name	domain3	Figure 11-10
Distinguished name	ou=domain10,ou=example,dc=in,dc=idoox,dc=com	Figure 11-10
Disable domains		
Distinguished name	ou=domain2,ou=example,dc=in,dc=idoox,dc=com	Figure 11-10
User Properties		
Search Filter	objectClass=person	Figure 11-5
Search Base	ou=people,dc=in,dc=idoox,dc=com	Figure 11-5
Search Scope	Subtree Scope	Figure 11-5
Result Limit	100	Figure 11-5
telephoneNumber	phone	Figure 11-6
uid	loginName	Figure 11-6
cn	fullName	Figure 11-6
mail	mail	Figure 11-6
Group Properties		
Search Filter	objectClass=groupofuniquenames	Figure 11-7
Search Base	ou=groups,dc=in,dc=idoox,dc=com	Figure 11-7
Search Scope	Subtree Scope	Figure 11-7
Result Limit	100	Figure 11-7
creatorsName	Owner	Figure 11-8
description	description	Figure 11-8

Configuration Property	Configuration Value	See
uniqueMember	member	Figure 11-8
cn	name	Figure 11-8

Active Directory with Single Search Base

In this example, we show how to configure an Active Directory with a single search base. [Figure 11-15](#) shows group properties that are stored in the Active Directory. These group properties will be mapped to BEA AquaLogic Service Registry as shown in [Figure 11-16](#).

Figure 11-15 LDAP User Group

The screenshot displays the Softerra LDAP Administrator v.3 interface. On the left, a tree view shows the LDAP hierarchy under 'MSAD' > 'DC=registry' > 'OU=example' > 'CN=control-team'. The 'CN=control-team' entry is selected. On the right, a table lists the properties and values for this group.

Name	Value
objectClass	top
objectClass	group
cn	control-team
description	control team
member	CN=Tanya Smith,OU=example,DC=registry,DC=in,DC=systinet,DC=com
member	CN=Joe Patroni,OU=example,DC=registry,DC=in,DC=systinet,DC=com
distinguishedName	CN=control-team,OU=example,DC=registry,DC=in,DC=systinet,DC=com
instanceType	4
whenCreated	20050628154305.0Z
whenChanged	20050628154416.0Z
uSNCreated	188864
uSNChanged	188868
name	control-team
objectGUID	{81BAEE1C-F8ED-472F-8F2D-924CF4DDCCCE}
objectSid	5-1-5-21-1332440743-3657354596-1717007476-1240
sAMAccountName	control-team
sAMAccountType	268435456
groupType	-2147483646
objectCategory	CN=Group,CN=Schema,CN=Configuration,DC=registry,DC=in,DC=systinet,DC=com
mail	control.team@mycompany.com

Figure 11-16 User Group in BEA AquaLogic Service Registry

Group name: **control-team**
Visibility: **public**
Description: **default description**

Users List

Login name

Displaying results 1 - 2 of 2

Login name	Full name	Email	Description
joe.patroni	Joe Patroni	joe.patroni@mycompany.com	Joe Patroni
tanya.smith	Tanya Smith	tanya.smith@mycompany.com	Tanya Smith

The following figure shows user properties that are stored in the Active Directory. These user properties will be mapped to BEA AquaLogic Service Registry as shown in [Figure 11-16](#).

Figure 11-17 LDAP User Properties

The screenshot shows the Softerra LDAP Administrator v.3 interface. On the left, a tree view displays the LDAP directory structure. The path is: Internet Public Servers > LDAP Administrator v2 Profiles > MSAD > DC=registry > CN=Builtin > OU=example > CN=control-team > CN=Joe Patroni. The user 'CN=Joe Patroni' is selected and highlighted in blue.

On the right, a table displays the LDAP user properties for the selected user. The table has two columns: 'Name' and 'Value'.

Name	Value
objectClass	top
objectClass	person
objectClass	organizationalPerson
objectClass	user
cn	Joe Patroni
sn	Patroni
telephoneNumber	1-617-879-9786
givenName	Joe
distinguishedName	CN=Joe Patroni,OU=example,DC=registry,DC=in,DC=systinet,DC=com
instanceType	4
whenCreated	20050628153947.0Z
whenChanged	20050629091350.0Z
displayName	Joe Patroni
uSNCreated	188829
memberOf	CN=control-team,OU=example,DC=registry,DC=in,DC=systinet,DC=com
uSNChanged	192534
name	Joe Patroni
objectGUID	{8828F27A-24EF-4A70-BD71-AB4E6A1A490F}
userAccountControl	512
badPwdCount	0
codePage	0
countryCode	0
badPasswordTime	0
lastLogoff	0
lastLogon	0
pwdLastSet	127644467902500000
primaryGroupID	513
objectSid	S-1-5-21-1332440743-3657354596-1717007476-1235
accountExpires	9223372036854775807
logonCount	0
sAMAccountName	joe.patroni
sAMAccountType	805306368
userPrincipalName	joe.patroni@registry.in.systinet.com
objectCategory	CN=Person,CN=Schema,CN=Configuration,DC=registry,DC=in,DC=systinet,DC=com
mail	joe.patroni@mycompany.com

Figure 11-18 User Properties in BEA AquaLogic Service Registry

View account	
Login name:	joe.patroni
Email:	joe.patroni@mycompany.com
Full name:	Joe Patroni
Default language:	English
Description:	
Business Name:	
Phone:	1-617-879-9786
Alternate phone:	
Address:	
City:	
State province:	
Country:	
Zip:	
User profile:	Developer Profile
Last logged in:	Wed Jun 29 11:30:42 CEST 2005
External:	yes
Blocked:	no
Assertions limit:	10
Bindings limit:	2
Businesses limit:	1
Services limit:	4
Subscriptions limit:	5
TModels limit:	100

The following table shows how to configure BEA AquaLogic Service Registry using this scenario.

Table 11-4

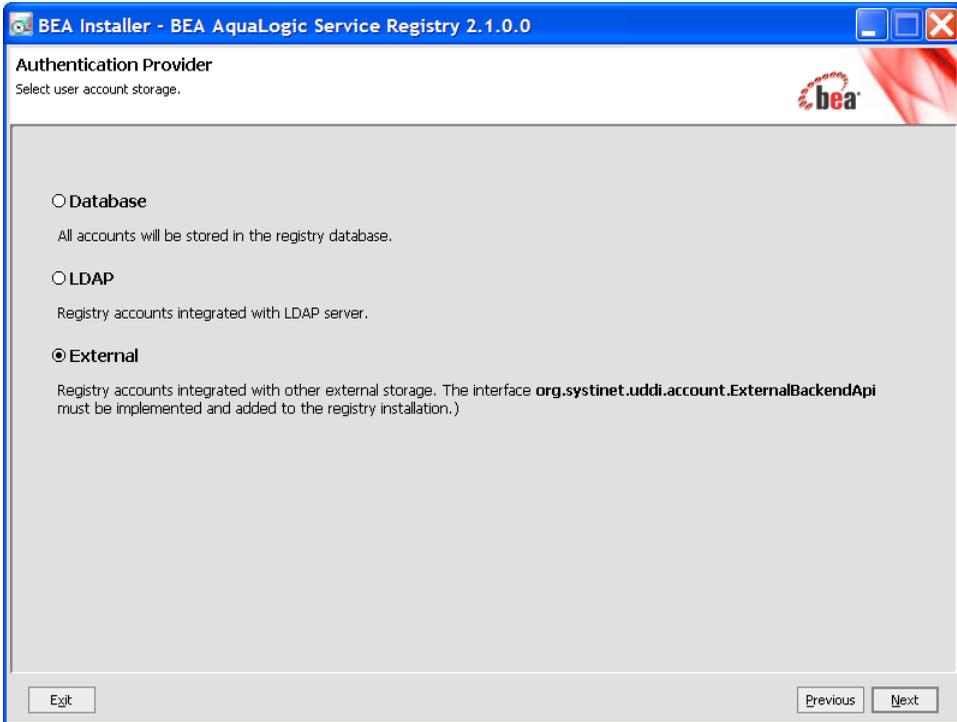
Configuration Property	Configuration Value	See
Java naming provider URL	ldap://localhost:389	Figure 11-3
Initial Naming Factory	com.sun.jndi.ldap.LdapCtxFactory	Figure 11-3
Security Principal	CN=userx,OU=root,DC=registry,DC=in,DC=mycompany,DC=com	Figure 11-3
Security Protocol	DIGEST-MD5	Figure 11-3

Configuration Property	Configuration Value	See
User Properties		
Search Filter	objectClass=person	Figure 11-5
Search Base	ou=example,dc=registry,dc=in,dc=mycompany,dc=com	Figure 11-5
Search Scope	Subtree Scope	Figure 11-5
Result Limit	100	Figure 11-5
telephoneNumber	phone	Figure 11-6
uid	loginName	Figure 11-6
cn	fullName	Figure 11-6
mail	mail	Figure 11-6
Group Properties		
Search Filter	objectClass=group	Figure 11-7
Search Base	ou=example,dc=registry,dc=in,dc=mycompany,dc=com	Figure 11-7
Search Scope	Subtree Scope	Figure 11-7
Result Limit	100	Figure 11-7
memberq	member	Figure 11-8
cn	name	Figure 11-8
uniqueMember	member	Figure 11-8
cn	name	Figure 11-8

Custom (Non-LDAP)

Select External on the Advanced Account Settings panel.

Figure 11-19 External and Advanced Account Settings Panel



External accounts require implementation of the interface `org.systinet.uddi.account.ExternalBackendApi`.

Cluster Configuration

This chapter contains general notes about the synchronized configuration of a BEA AquaLogic Service Registry cluster and instructs how to deploy BEA AquaLogic Service Registry to a WebLogic Cluster (“[WebLogic-Specific Settings](#)” on page 12-6).

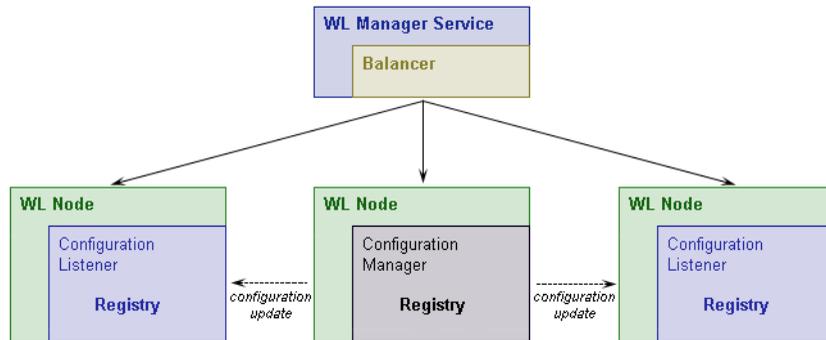
A BEA AquaLogic Service Registry cluster is a group of registries deployed on multiple servers possibly with a clustered database in the back end. It consists of a *Configuration Manager*, *Configuration Listeners* and a *Load Balancer*:

- The Configuration Manager is a BEA AquaLogic Service Registry server that manages the configuration of a cluster. It synchronizes the configuration of all BEA AquaLogic Service Registry servers in the cluster. See “[Configuration Manager and Configuration Listener Setup](#)” on page 12-2.
- The Configuration Listener is a BEA AquaLogic Service Registry server that supports the interface of configuration synchronization and participates in the cluster's synchronized configuration. It resends configuration change requests to BEA AquaLogic Service Registry servers in the cluster.

For security reasons, the Configuration Manager and Configuration Listener need to know the certificates of the other registries in the cluster. For more information, see [Security Certificates Setup](#).

- Load balancing is used to distribute requests among registries to get the optimal load distribution. Configuration of the Load balancer depends on the application server. For detail, follow the documentation of your application server.

Figure 12-1 BEA AquaLogic Service Registry in WebLogic Cluster



Configuration Manager and Configuration Listener Setup

The configuration file, `configurator.xml`, is located in the following directory on each BEA AquaLogic Service Registry installation in the cluster:

- Windows: `REGISTRY_HOME\app\uddi\conf\configurator.xml`
- UNIX: `REGISTRY_HOME/app/uddi/conf/configurator.xml`

By default, it resembles the following configuration.

Listing 12-1

```

<?xml version="1.0" encoding="UTF-8"?>
<config name="configurator" savingPeriod="5000" local="false">
  <configManagerUrls>
    <url>https://10.0.0.127:8443</url>

<managerServiceUrlPath>/uddi/configuratorManager</managerServiceUrlPath>

<managerConfiguratorUrlPath>/uddi/configurator</managerConfiguratorUrlPath>
  >
  </configManagerUrls>

```

```

<IPFilter name="configuratorFilter">
    <subnet IPAddress="10.0.0.127" subnetMask="255.255.255.255"/>
</IPFilter>
<configManager cluster="false" resendInterval="300">
    <configuratorListeners>
        <!--
        <configuratorListener>
            https://hostname:8443/uddi/configuratorListener
        </configuratorListener>
        -->
    </configuratorListeners>
</configManager>
...
</config>

```

Element description:

configManagerUrls

Contains information about the URLs of the configuration manager BEA AquaLogic Service Registry server.

url

URL of the configuration manager server. (The server URL, including https protocol, must be fully specified.)

managerServiceUrlPath

URL path of the configurator manager service on configurator manager server.

managerConfiguratorUrlPath

URL path of configurator service on the configurator manager server.

configManager

Contains configuration of the config manager service.

cluster

If the BEA AquaLogic Service Registry server supports clusters, this value must be set to true, otherwise set it to false.

resendInterval

Specifies the interval within which the configuratorManager resends messages that have not been delivered to unavailable configuratorListeners. The value is in seconds. The default value is 300s.

configuratorListeners

List of all configurator listeners in the cluster.

configuratorListener

URL of the configurator listener service. (The server URL must be fully specified including https protocol and the path of configurator listener service path.)

IPFilter

Configuration of IP addresses from which requests are accepted; contains list of subnets.

subnet

A child element of **IPFilter**, defines the IP range; configuration requests are accepted if $(incoming\ IP\ address\ and\ subnet\ mask) == (IPaddress\ and\ subnetMask)$

Note: Cluster configuration events are logged in the `REGISTRY_HOME/log/configuratorEvents.log` file.

Security Certificates Setup

Because an HTTPS connection is used between the manager and clients, you must import certificates on both sides. On the manager side, you need the certificates of all clients and each client needs the certificate from the manager. These certificates must be imported into the `pstore.xml` file located in the `REGISTRY_HOME/conf` directory.

Use the PStoreTool (described in *PStore Tool* in the *Administrator's Guide* in [Using the AquaLogic Service Registry](#)). For the standalone installation, the certificate file is located in `REGISTRY_HOME/doc/registry.crt`. If BEA AquaLogic Service Registry is ported to an application server, use a web browser to obtain the server's certificates and export them into a file.

Note: If BEA AquaLogic Service Registry is installed as a cluster of standalone registries, you must ensure that each cluster node shares the same private key that is used for checking of authentication token validity. (By a standalone registry, we mean that BEA AquaLogic Service Registry that is not ported to an application server).

To setup each cluster node to share the same private key that is used for checking of authentication token validity, choose one of the cluster nodes and copy it's private key to all other nodes in the cluster by entering these commands at a command prompt: (You do not need to do this if BEA AquaLogic Service Registry is ported to an application server)

1. PStoreTool copy -alias authTokenIdentity -keyPassword
SSL_CERTIFICATE_PASSWORD -config REGISTRY_HOME\conf\pstore.xml -config2
TARGET_REGISTRY_HOME\conf\pstore.xml
2. PStoreTool export -alias authTokenIdentity -certFile
authTokenIdentity.crt -config REGISTRY_HOME\conf\pstore.xml
3. PStoreTool add -certFile authTokenIdentity.crt -config
TARGET_REGISTRY_HOME\conf\pstore.xml

SSL_CERTIFICATE_PASSWORD is a ssl certificate password entered during the installation

TARGET_REGISTRY_HOME is the directory where one of cluster nodes is installed.

Configuration Example

This cluster contains three BEA AquaLogic Service Registry servers, BEA AquaLogic Service Registry 1 (IP 10.0.0.1), BEA AquaLogic Service Registry 2 (IP 10.0.0.2), and BEA AquaLogic Service Registry 3 (IP 10.0.0.3). The Configuration Manager Server is BEA AquaLogic Service Registry 1.

Listing 12-2 Configuration Example

```
<?xml version="1.0" encoding="UTF-8"?>
<config name="configurator" savingPeriod="5000" local="false">
  <configManagerUrls>
    <url>https://10.0.0.1:8443</url>

<managerServiceUrlPath>/uddi/configuratorManager</managerServiceUrlPath>

<managerConfiguratorUrlPath>/uddi/configurator</managerConfiguratorUrlPath>
  >
  </configManagerUrls>
```

Cluster Configuration

```
<IPFilter name="configuratorFilter">
  <subnet IPAddress="10.0.0.1" subnetMask="255.255.255.255"/>
  <subnet IPAddress="10.0.0.2" subnetMask="255.255.255.255"/>
  <subnet IPAddress="10.0.0.3" subnetMask="255.255.255.255"/>
</IPFilter>
<configManager cluster="true">
  <configuratorListeners>
    <configuratorListener>
      https://10.0.0.2:8443/uddi/configuratorListener
    </configuratorListener>
    <configuratorListener>
      https://10.0.0.3:8443/uddi/configuratorListener
    </configuratorListener>
  </configuratorListeners>
</configManager>
...
</config>
```

WebLogic-Specific Settings

To port BEA AquaLogic Service Registry to a WebLogic cluster follow these steps:

1. Install WebLogic, then configure it by adding machines to the cluster. In our case, cluster is named `cluster`, and the configuration manager, named `myserver`, is running on 10.0.0.79. The nodes in the WebLogic cluster are named:
 - `kila` (10.0.0.79), running on `kila.mycompany.com`, with an http port of 7101 and https port of 7102
 - `fido` (10.0.0.134), running on `fido.mycompany.com`, with an http port of 7101 and https port of 7102

2. Generate the certificates of all cluster nodes: Let's create proper certificates for our two nodes. It will be done via the CertGen tool provided by WebLogic. Go to the directory `%WEB_LOGIC_HOME%\weblogic81\server\lib`. CertGen is located in `weblogic.jar`'s `utils` package. Invoke it with the following command:

```
java -cp weblogic.jar utils.CertGen changeit kilacert kilakey export
kila.mycompany.com
```

The output resembles the following:

Listing 12-3

```
kilacert kilakey export kila.mycompany.com
..... Will generate certificate signed by CA from CertGenCA.der file
..... With Export Key Strength
..... Common Name will have Host name kila.mycompany.com
..... Issuer CA name is
CN=CertGenCAB,OU=FOR TESTING
ONLY,O=MyOrganization,L=MyTown,ST=MyState,C=US
```

Use the password `changeit` for starting particular UDDI node servers. The output file with the certificate is `kilacert`, and `kilakey` is the output file containing the private key. Generate certificates for all remaining nodes from their CertGen tools. (In our case, the other node is `fido.mycompany.com`.)

3. Once you have certificates from all nodes (in our case files `kilacert.der` and `fidocert.der`), import them to `pstore.xml` using the `PstoreTool`. Also include `CertGenCA.der` (from the directory `%WEB_LOGIC_HOME%\weblogic81\server\lib`). The `pstore.xml` file is now ready. For more info about WebLogic certificates and SSL settings, see [Configuring SSL](#) in BEA WebLogic Server product documentation.

<http://e-docs.bea.com/wls/docs91/secmanage/ssl.html>

Note: If you want to use both a standalone server and a ported application server, make a backup copy of `pstore.xml`. When you have performed the following steps, replace `pstore.xml` with the backup copy.

4. Edit `configurator.xml` as described above (where the application server context is `wasp`).

Note: If you want to use both a standalone server and a ported application server, make a backup copy of `configurator.xml`. When you have performed the following steps, replace `configurator.xml` with the backup copy.

Listing 12-4

```
<?xml version="1.0" encoding="UTF-8"?>
<config name="configurator" savingPeriod="5000" local="true">

  <configManagerUrls>
    <url>https://kila.mycompany.com:7102</url>

  <managerServiceUrlPath>/wasp/uddi/configuratorManager</managerServiceUrlPath>

  <managerConfiguratorUrlPath>/wasp/uddi/configurator</managerConfiguratorUrlPath>
</configManagerUrls>

  <IPFilter name="configuratorFilter">
    <subnet IPAddress="10.0.0.79" subnetMask="255.255.255.255"/>
    <subnet IPAddress="10.0.0.134" subnetMask="255.255.255.255"/>
  </IPFilter>

  <configManager cluster="true">
    <configuratorListeners>
      <configuratorListener>
        https://fido.mycompany.com:7102/wasp/uddi/configuratorListener
      </configuratorListener>
    </configuratorListeners>
  </configManager>
</config>
```

```

</configManager>

<UDDIInterceptorChain name="configuratorApiChain">
</UDDIInterceptorChain>

<UDDIInterceptorMapping>
    <mapping UDDIInterceptorChainName="configuratorApiChain"
UDDIServiceInterface="org.systinet.uddi.configurator.ConfiguratorApi"/>
</UDDIInterceptorMapping>

</config>

```

5. Prepare the ported distribution (`REGISTRY_HOME/conf/porting/weblogic/wasp.war`) as described in [Porting to Application Server](#).

In our case, the http port is 7101, the https port is 7102, and the application server context is wasp.

6. Check that the paths for `log4j.appender.eventLog.File`, `log4j.appender.errorLog.File`, and `wasp.war\conf\log4j.config` are valid on all cluster nodes.
7. Deploy `wasp.war` into all WebLogic cluster nodes

You must also prepare the package for balancer which will be deployed only to cluster manager server. To do so:

1. Create a balancer directory, in, for example, `REGISTRY_HOME`. This directory is referenced in this section as `PACKAGE_HOME`.
2. Create a subdirectory of `PACKAGE_HOME` named `WEB-INF`.
3. In this subdirectory, create the file `web.xml` containing the following text. Under `WebLogicCluster` specify the names and ports of your cluster nodes separated by a pipe (`|`). In our case, the file looked like:

Listing 12-5

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application
2.3//EN"
    "http://java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
  <servlet>
    <servlet-name>HttpClusterServlet</servlet-name>

<servlet-class>weblogic.servlet.proxy.HttpClusterServlet</servlet-class>
    <init-param>
      <param-name>WebLogicCluster</param-name>
      <param-value>kila:7101|fido:7101</param-value>
    </init-param>
  </servlet>

  <servlet>
    <servlet-name>FileServlet</servlet-name>
    <servlet-class>weblogic.servlet.FileServlet</servlet-class>
  </servlet>

  <servlet-mapping>
    <servlet-name>FileServlet</servlet-name>
    <url-pattern>/uddi/webdata*</url-pattern>
  </servlet-mapping>

  <servlet-mapping>
    <servlet-name>HttpClusterServlet</servlet-name>
```

```

        <url-pattern>/</url-pattern>
    </servlet-mapping>

    <servlet-mapping>
        <servlet-name>FileServlet</servlet-name>
        <url-pattern>/uddi/bsc/webdata*</url-pattern>
    </servlet-mapping>
</web-app>

```

4. In the WEB-INF subdirectory, create the file `weblogic.xml` containing the following text, where `/wasp` is the context of BEA AquaLogic Service Registry ported to this application server. Your text must be customized for your own installation.

Listing 12-6

```

<!DOCTYPE weblogic-web-app PUBLIC "-//BEA Systems, Inc.//DTD Web
Application 8.1//EN"
"http://www.bea.com/servers/wls810/dtd/weblogic810-web-jar.dtd">
<weblogic-web-app>
    <context-root>/wasp</context-root>
</weblogic-web-app>

```

5. Create the directory `%PACKAGE_HOME%\uddi\webdata`.
6. Unjar `REGISTRY_HOME\app\uddi\bsc.jar` and copy the content of the webroot subdirectory from the jar to `%PACKAGE_HOME%\uddi\bsc\webdata`
7. Unjar `REGISTRY_HOME\app\uddi\web.jar` and copy the content of the webroot subdirectory from the jar to `%PACKAGE_HOME%\uddi\webdata`.

Cluster Configuration

8. Package the content of %PACKAGE_HOME% into the file balancer.war using jar or some other compression utility.
9. Deploy balancer.war into the cluster manager server.

Authentication Configuration

In this section, we will show you how to change the BEA AquaLogic Service Registry configuration to allow the following authentication providers:

- [HTTP Basic](#)
- [Netegrity SiteMinder](#)
- [Consoles Configuration](#)

HTTP Basic

To allow HTTP Basic authentication:

1. Modify `REGISTRY_HOME/app/uddi/services/Wasp-inf/package.xml` to enable HTTP basic authentication as follows:
 - a. Under `<processing name="UDDIv1v2v3PublishingProcessing"/>`, **uncomment** `<use ref="tns:HttpBasicInterceptor"/>`. This enables the HTTP Basic authentication for UDDI Publishing API v1, v2, v3.
 - b. Under `<processing name="UDDIv1v2v3InquiryProcessing">`, **add** `<use ref="tns:HttpBasicInterceptor"/>`. This enables the HTTP Basic authentication for all three versions of the UDDI Inquiry API.
 - c. Under `<processing name="wsdl2uddiProcessing">`, **add** `<use ref="tns:HttpBasicInterceptor"/>`. This enables the HTTP Basic authentication for versions 2 and 3 of the WSDL2UDDI API.

- d. Add the attribute `accepting-security-providers="HttpBasic"` to all service-endpoints you wish to access via HTTP Basic authentication.

A fragment of the `package.xml` is shown in [Listing 13-1](#)

2. Shutdown BEA AquaLogic Service Registry, delete the `REGISTRY_HOME/work` directory, and restart the registry.

Listing 13-1 `package.xml` - HTTP Basic Enabled

```
.....  
  
    <service-endpoint path="/inquiry" version="3.0"  
name="UDDIInquiryV3Endpoint"  
  
        service-instance="tns:UDDIInquiryV3"  
processing="tns:UDDIv1v2v3InquiryProcessing"  
  
        accepting-security-providers="HttpBasic">  
  
        <wsdl uri="uddi_api_v3.wsdl"  
service="uddi_api_v3:UDDI_Inquiry_SoapService"/>  
  
        <envelopePrefix xmlns="arbitraryNamespace" value=""/>  
  
        <namespaceOptimization  
xmlns="arbitraryNamespace">false</namespaceOptimization>  
  
    </service-endpoint>  
  
    <service-instance  
  
implementation-class="com.systinet.uddi.publishing.v3.PublishingApiImpl"  
  
        name="UDDIPublishingV3"/>  
  
    <service-endpoint path="/publishing" version="3.0"  
name="UDDIPublishingV3Endpoint"  
  
        service-instance="tns:UDDIPublishingV3"  
  
        processing="tns:UDDIv1v2v3PublishingProcessing"  
  
        accepting-security-providers="HttpBasic">  
  
        <wsdl uri="uddi_api_v3.wsdl"  
service="uddi_api_v3:UDDI_Publication_SoapService"/>
```

```

        <envelopePrefix xmlns="arbitraryNamespace" value=""/>
        <namespaceOptimization
xmlns="arbitraryNamespace">false</namespaceOptimization>
    </service-endpoint>

    <processing name="UDDIv3Processing">
        <use ref="uddiclient_v3:UDDIClientProcessing"/>
        <fault-serialization name="MessageTooLargeFaultSerializer"
serializer-class="com.systinet.uddi.publishing.v3.serialization.MessageToo
LargeFaultSerializer"
serialized-exception-class="com.systinet.uddi.interceptor.wasp.MessageTooL
argeException"/>
    </processing>

    <processing name="UDDIv1v2v3PublishingProcessing">
        <use ref="uddiclient_v3:UDDIClientProcessing"/>
        <use ref="uddiclient_v2:UDDIClientProcessing"/>
        <use ref="uddiclient_v1:UDDIClientProcessing"/>
        <!-- HttpBasic (without authToken)      -->
        <use ref="tns:HttpBasicInterceptor"/>

        <interceptor name="MessageSizeCheckerInterceptor"
implementation-class="com.systinet.uddi.interceptor.wasp.MessageSizeChecke
rInterceptor"
direction="in">
            <config:maxMessageSize>2097152</config:maxMessageSize>

```

```
        </interceptor>
    </processing>

    <processing name="UDDIv1v2v3InquiryProcessing">
        <use ref="tns:UDDIv3Processing"/>
        <use ref="tns:UDDIv2Processing"/>
        <use ref="tns:UDDIv1Processing"/>
        <use ref="tns:HttpBasicInterceptor"/>
    </processing>
    .....

```

Netegrity SiteMinder

To allow Netegrity SiteMinder authentication:

1. Modify `REGISTRY_HOME/app/uddi/services/Wasp-inf/package.xml` as follows:
 - a. Under `<processing name="UDDIv1v2v3PublishingProcessing"/>`, add `<use ref="tns:SiteMinderInterceptor"/>`. This enables the SiteMinder authentication for all three versions of the UDDI Publishing API.
 - b. Under `<processing name="UDDIv1v2v3InquiryProcessing">`, add `<use ref="tns:SiteMinderInterceptor"/>`. This enables the SiteMinder authentication for versions 1, 2, and 3 of the Inquiry API.
 - c. Under `<processing name="wsdl2uddiProcessing">`, add `<use ref="tns:SiteMinderInterceptor"/>`. This enables the SiteMinder authentication for versions 2 and 3 of the WSDL2UDDI API.
 - d. Add the attribute `accepting-security-providers="Siteminder"` to all service-endpoints you wish to access via Netegrity SiteMinder authentication.
 - e. Under the elements `<securityProviderPreferences>` and `<interceptor name="SiteMinderInterceptor", fill in:`
 - `<loginNameHeader>` - login name header

- <groupHeader> - group header
- <delimiter> - group name delimiter.

Note: You must set the same element values to both <securityProviderPreferences> and <interceptor name="SiteMinderInterceptor"> elements.

A fragment of the package.xml is shown in [Listing 13-2](#)

2. Shutdown BEA AquaLogic Service Registry, delete the REGISTRY_HOME/work directory, and restart the registry.

Listing 13-2 Example 3. package.xml - Netegrity SiteMinder Enabled

```

.....
  <!-- Netegrity SiteMinded security provider preferences for the server
side -->

  <securityProviderPreferences
xmlns="http://systinet.com/wasp/package/extension"
  name="Siteminder">
    <loginNameHeader>sm-userdn</loginNameHeader>
    <groupHeader>sm-role</groupHeader>
    <delimiter>^</delimiter>
  </securityProviderPreferences>

  <!-- Netegrity SiteMinded interceptor-->
  <interceptor name="SiteMinderInterceptor"
implementation-class="com.systinet.uddi.security.siteminder.SmInterceptor"
  >
    <config:loginNameHeader>sm-userdn</config:loginNameHeader>
    <config:groupHeader>sm-role</config:groupHeader>
    <config:delimiter>^</config:delimiter>
  </interceptor>

```

.....

Consoles Configuration

In this section, we will show you how to configure authentication for both Registry Console and Business Service Console. The configuration of consoles is very similar to the configuration of other endpoints.

Note: Referring to jar packages:

The file path `REGISTRY_HOME/app/uddi/web.jar/WASP-INF/package.xml` means the `/WASP-INF/package.xml` inside the JAR package `REGISTRY_HOME/app/uddi/web.jar`.

For the Registry Console, modify the file

`REGISTRY_HOME/app/uddi/web.jar/WASP-INF/package.xml` with the following:

Listing 13-3

```
<service-endpoint path="/web" name="WebUIEndpoint1"
  service-instance="tns:WebUI" type="raw" other-methods="get"
  accepting-security-providers="HttpBasic"/>
<service-endpoint path="/web/*" name="WebUIEndpoint2"
  service-instance="tns:WebUI" type="raw" other-methods="get"
  accepting-security-providers="HttpBasic"/>
```

If you want to set Netegrity SiteMinder provider, use `accepting-security-providers="Siteminder"`

For the Business Service Console do the same in the file

`REGISTRY_HOME/app/uddi/bsc.jar/WASP-INF/package.xml`

We just set authentication providers for both HTTP and HTTPS protocols. Now, we must specify which protocol consoles will be using for user authentication. The default registry configuration is to use HTTP for browsing and searching. HTTPS is used for publishing. To avoid displaying

the login dialog twice, (for the first time when accessing via HTTP then the second time when accessing via HTTPS), modify the configuration to use only one protocol.

For the Registry Console, modify `url` and `secureUrl` elements in the file `REGISTRY_HOME/app/uddi/conf/web.xml` to have the same value:

Listing 13-4

```
<url>https://servername:8443</url>  
<secureUrl>https://servername:8443</secureUrl>
```

For the Business Service Console, make the same change in the `REGISTRY_HOME/app/uddi/bsc.jar/conf/web.xml` file.

Authentication Configuration

Migration

Migration is used to migrate data from one database to another. You can migrate data during installation or during setup. Often users evaluate BEA AquaLogic Service Registry using the pre configured Hypersonic SQL database, and migrate data to another database after evaluation.

This section includes the following topics:

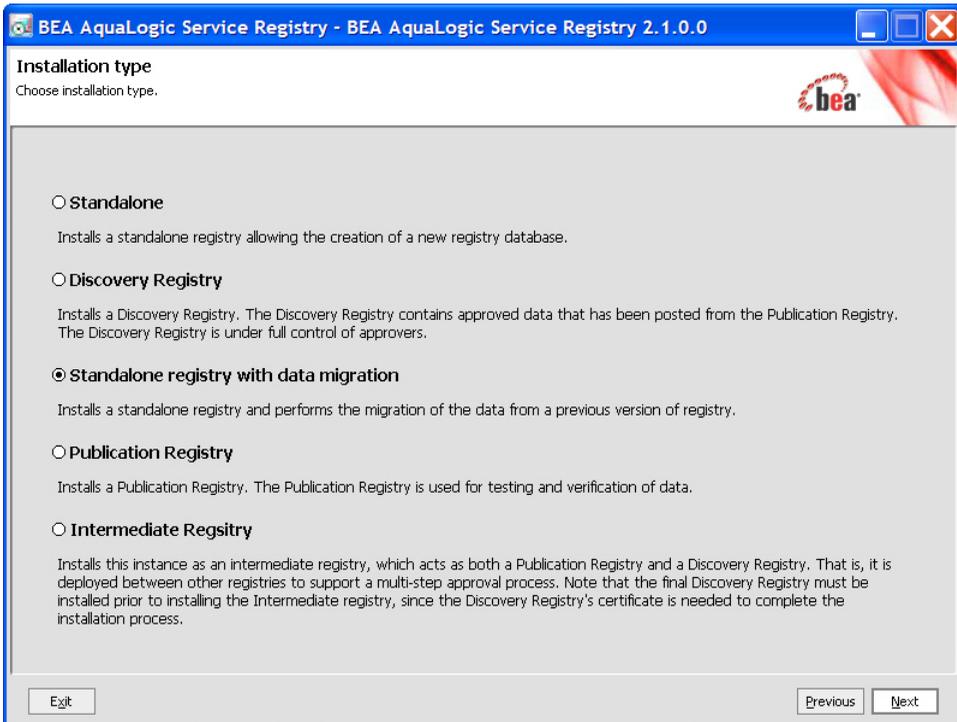
- [Migration During Installation](#)
- [Migration After Installation](#)

Migration During Installation

To migrate data during installation:

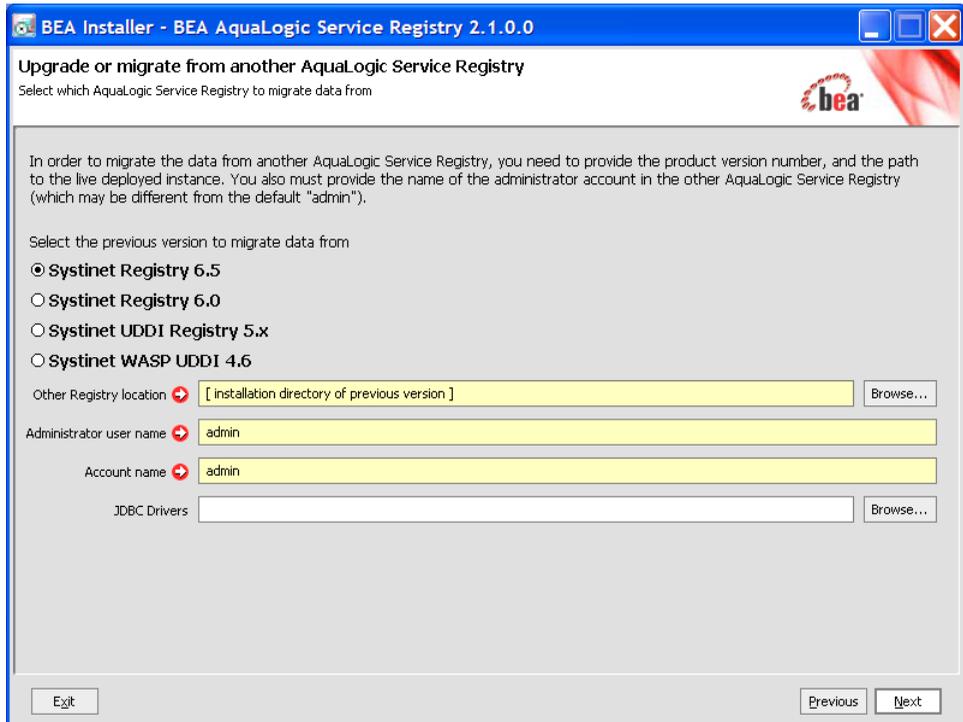
1. Select Standalone registry with data migration as shown in [Figure 14-1](#).

Figure 14-1 . Standalone Installation with Migration



2. Click Next. This returns the Migration panel shown in the following figure.

Figure 14-2 Migration During Install



3. Provide the following information:
 - Previous Registry Version—Registry version from which you are migrating data
 - Other Registry Location—The path to the live deployed instance of the registry from which the existing data will be migrated.
 - Administrator user name—name of the user having rights to retrieve data from the previous version Registry. By default, only administrator can migrate all data including private data.
 - Account name—The name of the Administrator account in the registry from where you want to migrate the data.
4. Click **Next** and continue your Standalone installation as described in Server Settings. During the installation process, all data will be migrated from the specified previous BEA AquaLogic Service Registry installation to the current installation.

Migration After Installation

To migrate data after installation, use the Setup tool described in [“Reconfiguration After Installation” on page 7-6](#). Briefly:

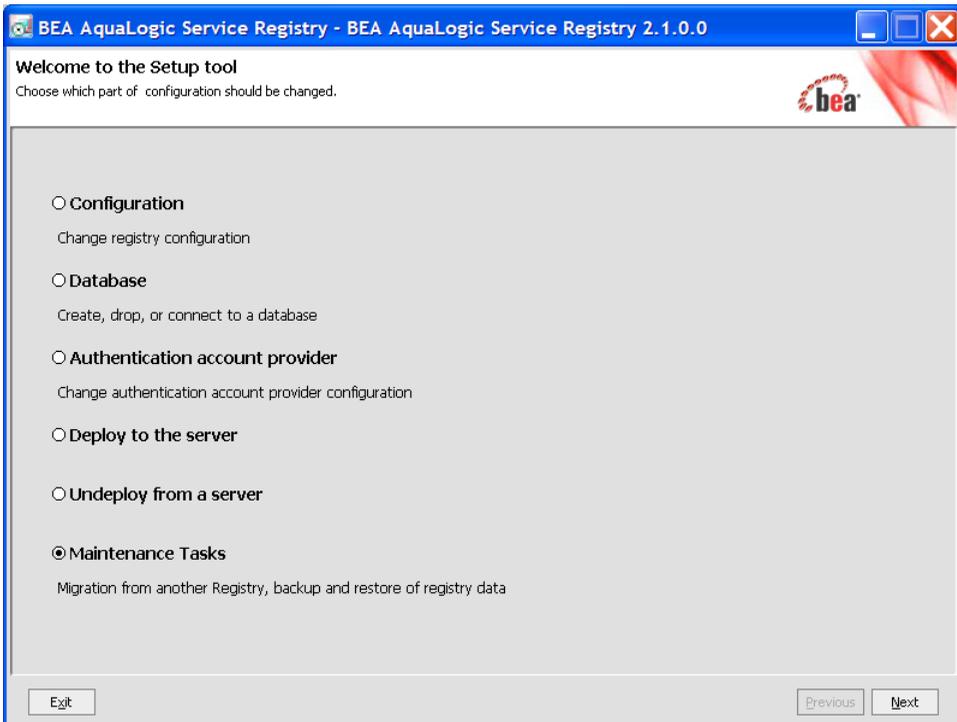
1. Launch the Setup tool by issuing the following command from the bin subdirectory of your installation:

```
Windows: setup.bat
```

```
UNIX: ./setup.sh
```

See command-line parameters for Setup in [“Command Line Scripts” on page 7-5](#).

2. Select the Migration tool on first panel:



3. Fill in the following properties:

BEA AquaLogic Service Registry - BEA AquaLogic Service Registry 2.1.0.0

Upgrade or migrate from another AquaLogic Service Registry
Select which AquaLogic Service Registry to migrate data from

In order to migrate the data from another AquaLogic Service Registry, you need to provide the product version number, and the path to the live deployed instance. You also must provide the name of the administrator account in the other AquaLogic Service Registry (which may be different from the default "admin").

Select the previous version to migrate data from

Systinet Registry 6.5

Systinet Registry 6.0

Systinet UDDI Registry 5.x

Systinet WASP UDDI 4.6

Other Registry location [installation directory of previous version]

Administrator user name admin

Account name admin

JDBC Drivers

where

- Previous Registry Version - BEA AquaLogic Service Registry version from which you are migrating data
- Previous Registry Directory - the directory in which the previous BEA AquaLogic Service Registry is installed. The existing data will be migrated from it.
- Previous Registry Administrator Username - name of the user having rights to retrieve data from the previous version Registry.
- Current Registry Administrator Username - name of the user having rights to save UDDI structure keys. By default, only administrator can migrate all data including private data.
- JDBC drivers - Set path to the directory in which the .jar (.zip) of JDBC drivers is located.

Note: Enter this path only if the previous BEA AquaLogic Service Registry installation is configured with a different type of database than the current one.

Migration

Backup

Backup functionality allows you to save the BEA AquaLogic Service Registry data and configuration to a file system directory. Later the backup data can serve for full restore of BEA AquaLogic Service Registry data and configuration.

What is subject to backup?

- All registry data stored in the database.
- Configuration files.
- BEA AquaLogic Service Registry libraries and JSP files.

Note: The BEA AquaLogic Service Registry server must be shut down before you start backup or restore operations.

Backup BEA AquaLogic Service Registry

To back up BEA AquaLogic Service Registry data:

1. Use the Setup tool and choose Backup. To run the Setup tool, execute the following script from the bin subdirectory of your installation:

```
Windows:setup.bat
```

```
UNIX:./setup.sh
```

See command-line parameters for Setup in [“Command Line Scripts” on page 7-5](#).

2. Specify the location of the backup directory.

Restore BEA AquaLogic Service Registry

To restore registry data and configuration from a backup:

1. Use the Setup tool and choose Restore. To run the Setup tool, execute the following script from the bin subdirectory of your installation:

```
Windows:setup.bat
```

```
UNIX:./setup.sh
```

See command-line parameters for Setup in [“Command Line Scripts” on page 7-5](#).

2. Specify the location of backup directory and check the items you wish to restore.

Running in Linux

Using the syslog Daemon with BEA AquaLogic Service Registry

The log4j system used in BEA AquaLogic Service Registry can be configured to send log messages to the syslog daemon. In order to utilize this feature, your system must be configured as follows:

1. Change log4j in `REGISTRY_HOME/conf/log4j.config`. First add a syslog appender, as shown in [Listing 16-1](#). Note the following properties in particular:
 - `syslogHost` - Set to host name of the computer where syslog is running.
 - `Facility` - BEA AquaLogic Service Registry log message facility recognized by syslog.

Listing 16-1 **Example 4. log4j.config--syslog Appender**

```
# Appender to syslog
log4j.appender.syslog=org.apache.log4j.net.syslogAppender
log4j.appender.syslog.syslogHost=localhost
log4j.appender.syslog.Facility=local6
log4j.appender.syslog.layout=org.apache.log4j.PatternLayout
log4j.appender.syslog.layout.ConversionPattern=%p: %c{2} - %m%n
```

Then add `syslog` to the value of the property

`log4j.category.com.systinet.wasp.events` under # event monitoring, as follows:

Listing 16-2 Example 5. log4j.config--Event Monitoring

```
# event monitoring
log4j.category.com.systinet.wasp.events=INFO,eventLog,syslog
```

2. Set the `syslogd` configuration to recognize log messages from BEA AquaLogic Service Registry. Implicitly, BEA AquaLogic Service Registry sends log messages to `syslog` under the facility `local6`. Therefore, modify the `/etc/syslog.conf` file by adding the following line of text:

```
local6.* /var/log/registry.log
```

BEA AquaLogic Service Registry will now log messages of all priorities into the file `/var/log/registry.log`. You should create this file now with appropriate permissions (otherwise `syslogd` will create it for you automatically with default permissions, which may not be suitable for you).

3. Your `syslog` daemon must be started with remote logging enabled (the `-r` command line option). To make sure that:

- `syslogd` is running, use the `pgrep syslogd` command.
- remote logging is enabled, use the `netstat -l` command (`syslog`'s udp port is 514).

Note: The `local6` facility is not mandatory in any way. You may use other `localX` facilities instead.

Running BEA AquaLogic Service Registry as a UNIX Daemon

BEA AquaLogic Service Registry can be forced to start as a system daemon using the script `REGISTRY_HOME/etc/bin/registry.sh`. This script can be renamed `registry` as per UNIX conventions. The directions for using this script follow.

1. Tailor the service script as needed. The meaning of variables is shown in the following table

Table 16-1 Variables in the BEA AquaLogic Service Registry Service Script

Name of variable in registry service script	Description	Default Value
REGISTRY_HOME	Home directory of AquaLogic Service Registry	BEA AquaLogic Service Registry Installation directory.
JAVA_HOME	Home directory of Java	None. This variable must be set manually.
REGISTRY_USER	User under whom the BEA AquaLogic Service Registry server should run. If this is set to root, it will be changed to "nobody".	Determined during runtime according to the user who owns the REGISTRY_HOME directory. If the user is root, this value reverts to "nobody".
TIMEOUT	Number of seconds the system waits for BEA AquaLogic Service Registry to successfully start up.	60 seconds.

2. Rename the script `registry` (without the `.sh` extension) and save it in the `/etc/init.d/` directory.
3. (optional) To start BEA AquaLogic Service Registry automatically in the appropriate run-level, create `SXXregistry` and `KXXregistry` symbolic links in the appropriate `/etc/rcX.d/` directory.

Now you may start and stop BEA AquaLogic Service Registry using the installed script. You can invoke this script directly or by using specific OS tools. For example, on RedHat, by using the `redhat-config-services` command.

The parameters of the script are shown in the following table.

Table 16-2 Parameters of init.d Scripts

Parameter	Function
<code>start</code>	Starts BEA AquaLogic Service Registry
<code>stop</code>	Stops BEA AquaLogic Service Registry
<code>restart</code>	Restarts BEA AquaLogic Service Registry

Table 16-2 Parameters of init.d Scripts

Parameter	Function
<code>condrestart</code>	Restarts BEA AquaLogic Service Registry only if it is already running
<code>status</code>	Displays whether BEA AquaLogic Service Registry is running or not

Note: The provided startup script may be run by the root user. The script uses the `su` command to run as `REGISTRY_USER`.

Uninstalling the Software

The following sections provide procedures for uninstalling the software:

- [About the Uninstallation Program](#)
- [Uninstalling Your Software in Graphical Mode](#)
- [Uninstalling Your Software in Console Mode](#)
- [Uninstalling Your Software in Silent Mode](#)

About the Uninstallation Program

The following sections describe how to uninstall your BEA software on Windows and UNIX systems. You can uninstall the software using graphical, console, or silent mode. To run the graphical-mode uninstallation program, your console must support a Java-based GUI. If the uninstallation program determines that your system cannot support a Java-based GUI, it automatically starts running in console mode.

As part of the uninstall process, you can also select to automatically undeploy the registry from WebLogic Server.

The uninstallation program does not remove the Registry Home directory associated with the installation, the JDK, or any other license or utilities.

Uninstalling Your Software in Graphical Mode

Use the following procedure to uninstall the product in graphical mode:

1. Shut down any servers that are running.
2. Start the uninstallation program as described in [Table 17-1](#).

Table 17-1 Starting the Uninstallation Program in Graphical Mode

To start the uninstallation program on this platform . . .	Perform the following steps . . .
Windows	<ol style="list-style-type: none"> 1. From the Windows Start menu, choose Start→Programs→BEA AquaLogic Service Registry→Uninstall BEA AquaLogic Service Registry. The BEA AquaLogic Service Registry Uninstaller Welcome window is displayed. 2. Proceed to step 3.
UNIX	<ol style="list-style-type: none"> 1. Go to the following directory: <code>REGISTRY_HOME/uninstall</code> Here <code>REGISTRY_HOME</code> represents the directory in which you installed your AquaLogic Service Registry software. 2. Enter <code>uninstall.sh</code> at the prompt. The BEA AquaLogic Service Registry Uninstaller Welcome window is displayed. <p>Note: If your system supports a graphical user interface, the uninstallation program starts in graphical mode. If your system does not support a graphical user interface, the uninstallation program starts in console mode. If console mode is started, see “Uninstalling Your Software in Console Mode” on page 17-3 for instructions.</p>

3. Click **Next** to start the uninstall program.
4. Optionally, click **Details** to view the log file that lists the uninstalled components.
5. Click **Done** in the **Uninstalling BEA AquaLogic Service Registry** window to exit the uninstallation program.

6. Manually delete any remaining files or directories as appropriate—such as, the Registry Home directory, the JDK, and the BEA license files.

Uninstalling Your Software in Console Mode

Use the following procedure to uninstall the product using the command-line interface:

1. Shut down any servers that are running.
2. Start the uninstallation program as described in [Table 17-2](#).

Table 17-2 Starting the Uninstallation Program in Console Mode

To start the uninstallation program on this platform . . .	Perform the following steps . . .
Windows	<ol style="list-style-type: none"> 1. Open a Command Prompt window and go to the following directory: <i>REGISTRY_HOME</i>\uninstall Here <i>REGISTRY_HOME</i> represents the directory in which you installed your AquaLogic Service Registry software. 2. Enter the following command at the prompt: uninstall -mode=console The Welcome text is displayed.
UNIX	<ol style="list-style-type: none"> 1. Go to the following directory: <i>REGISTRY_HOME</i>/uninstall Here <i>REGISTRY_HOME</i> represents the directory in which you installed AquaLogic Service Registry. 2. At the prompt, enter the following command: sh uninstall.sh -mode=console The Welcome text is displayed.

3. Press Enter or type `next` to proceed to the next panel of the uninstallation program.
4. When the uninstallation process is complete, press Enter or type `exit` to complete the uninstallation and exit the uninstallation program.
5. Manually delete any remaining files or directories as appropriate—such as, the Registry Home directory, the JDK, and the BEA license files.

Uninstalling Your Software in Silent Mode

When you uninstall your AquaLogic Service Registry software in silent mode, the complete installation of your software is uninstalled.

When you run the uninstallation program in silent mode, it leaves behind the same files and directories as when you run the uninstallation program in graphical and console modes, including:

- The Registry Home directory, including the `logs` and `utils` subdirectories
- The JDK, if it was installed with your BEA product installation
- BEA license files
- Any other file created or modified after your BEA software was installed

You can manually delete these files.

Although you can use silent-mode uninstallation to manually uninstall your software, silent-mode uninstall is intended for use in scripts. You can adapt the steps in [Table 17-3](#) for use in scripts.

Use the following procedure to uninstall your AquaLogic Service Registry software in silent mode:

1. Shut down any servers that are running.
2. Start the uninstallation program as described in [Table 17-3](#).

Table 17-3 Starting the Uninstallation Program in Silent Mode

To start the uninstallation program on this platform . . .	Perform the following steps . . .
Windows	<ol style="list-style-type: none">1. Open a Command Prompt window and go to the following directory: <code>REGISTRY_HOME\uninstall</code> Here <code>REGISTRY_HOME</code> represents the directory in which you installed your AquaLogic Service Registry software.2. Enter the following command at the prompt: <code>uninstall -mode=silent</code>

Table 17-3 Starting the Uninstallation Program in Silent Mode (Continued)

To start the uninstallation program on this platform . . .	Perform the following steps . . .
UNIX	<ol style="list-style-type: none"> 1. Go to the following directory: <code>REGISTRY_HOME/uninstall</code> Here <code>REGISTRY_HOME</code> represents the directory in which you installed AquaLogic Service Registry. 2. At the prompt, enter the following command: <code>sh uninstall.sh -mode=silent</code>

Notes: When you run the uninstallation program in silent mode, no messages are displayed indicating the uninstallation is in progress or has completed successfully, even if errors are encountered.

You can also include the `-log=full_path_to_log_file` option in the command line to create a verbose installation log. For example:

```
uninstall -mode=silent -log=C:\logs\registry_uninstall.log
```

For more information, see [“Generating a Verbose Installation Log” on page 3-8](#).

Uninstalling the Software