BEA AquaLogic Enterprise Security™®

Installing WebLogic Server v8.1 Security Service Module

Version: 2.1 Service Pack 1
Document Revised: May 19, 2006

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About This Document

This section covers the following topics:

Audience

It is assumed that readers understand web technologies and have a general understanding of the Microsoft Windows or UNIX operating systems being used. The general audience for this installation guide includes:

- Security Administrators—Administrators who are responsible for installing and configuring the WebLogic Server 8.1 Security Service Module and who work with other administrators to implement and maintain security configurations, authentication and authorization schemes, and to set up and maintain access to deployed application resources.
- Application Developers—Developers who focus on designing applications and work with other engineers, quality assurance (QA) technicians, and database teams to implement applications.

Prerequisites for This Document

Prior to reading this guide, you should read the *Introduction to BEA AquaLogic Enterprise Security*. This document describes how the product works and provides conceptual information that is helpful to understanding the necessary installation components.

Additionally, BEA AquaLogic Enterprise Security includes many unique terms and concepts that you need to understand. These terms and concepts—which you will encounter throughout the documentation—are defined in the *Glossary*.

Contents of this Document

The document is organized as follows:

- Chapter 1, "Overview," describes the installation process.
- Chapter 2, "Preparing to Install," discusses system requirements (software and hardware) that you need to ensure are met before installing the product.
- Chapter 3, "Installing," describes how to install the product.
- Chapter 4, "Post Installation Tasks," describes the tasks that must be performed after you install the product.
- Chapter 5, "Integrating with WebLogic Portal," describes how to integrate the WebLogic Server 8.1 SSM with WebLogic Portal.
- Chapter 7, "Uninstalling," describes how to uninstall the product.

Product Documentation on the dev2dev Web Site

BEA product documentation, along with other information about BEA software, is available from the BEA dev2dev web site:

`http://dev2dev.bea.com`

To view the documentation for a particular product, select that product from the Product Centers menu on the left side of the screen on the dev2dev page. Select More Product Centers. From the BEA Products list, choose AquaLogic Enterprise Security 2.1. The home page for this product is displayed. From the Resources menu, choose Documentation 2.1. The home page for the complete documentation set for the product and release you have selected is displayed.

Related Information

The BEA corporate web site provides all documentation for BEA AquaLogic Enterprise Security. Other BEA AquaLogic Enterprise Security documents that may be of interest to the reader include:

- *Introduction to BEA AquaLogic Enterprise Security*—This document provides overview, conceptual, and architectural information for AquaLogic Enterprise Security products.
- *BEA AquaLogic Enterprise Security Administration and Deployment Guide*—This document provides a complete overview of the product and includes step-by-step instructions on how to perform various administrative tasks.
- *BEA AquaLogic Enterprise Security Policy Managers Guide*—This document defines the policy model used by BEA AquaLogic Enterprise Security, and describes how to import and export policy data.
- *Developing Security Providers for BEA AquaLogic Enterprise Security* —This document provides security vendors and security and application developers with the information needed to develop custom security providers.
- *Javadocs for Security Service Provider Interfaces*—This document provides reference documentation for the Security Service Provider Interfaces that are provided with and supported by this release of BEA AquaLogic Enterprise Security.

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In your e-mail message, please indicate the software name and version you are using, as well as the title and date of your documentation. If you have any questions about this version of BEA AquaLogic Enterprise Security, or if you have problems installing and running BEA AquaLogic Enterprise Security products, contact BEA Customer Support through BEA WebSupport at http://www.bea.com. You can also contact Customer Support by using the contact information provided on the Customer Support Card, which is included in the product package.

When contacting Customer Support, be prepared to provide the following information:

- Your name, e-mail address, phone number, and fax number
- Your company name and company address
- Your machine type and authorization codes

- The name and version of the product you are using
- A description of the problem and the content of pertinent error messages

CHAPTER 1

Overview

This section covers the following topics:

Introduction

The BEA AquaLogic Enterprise Security WebLogic Server 8.1 Security Service Module (SSM) is a security enhancement product that supports BEA WebLogic Server version 8.1 (with Service Pack 4 or 5). Further, the Security Service Module ties the application server into the AquaLogic Enterprise Security Administration Server so that all application server administrative security activities are performed through the Administration Sever. The Administration Server with the Security Service Module add-on supports enterprise-level security by making security for WebLogic Server host applications an integral part of the enterprise policy.

This guide describes how install the WebLogic Server 8.1 SSM. It also lists the system requirements and prerequisites, including hardware and software requirements.

Installation Overview

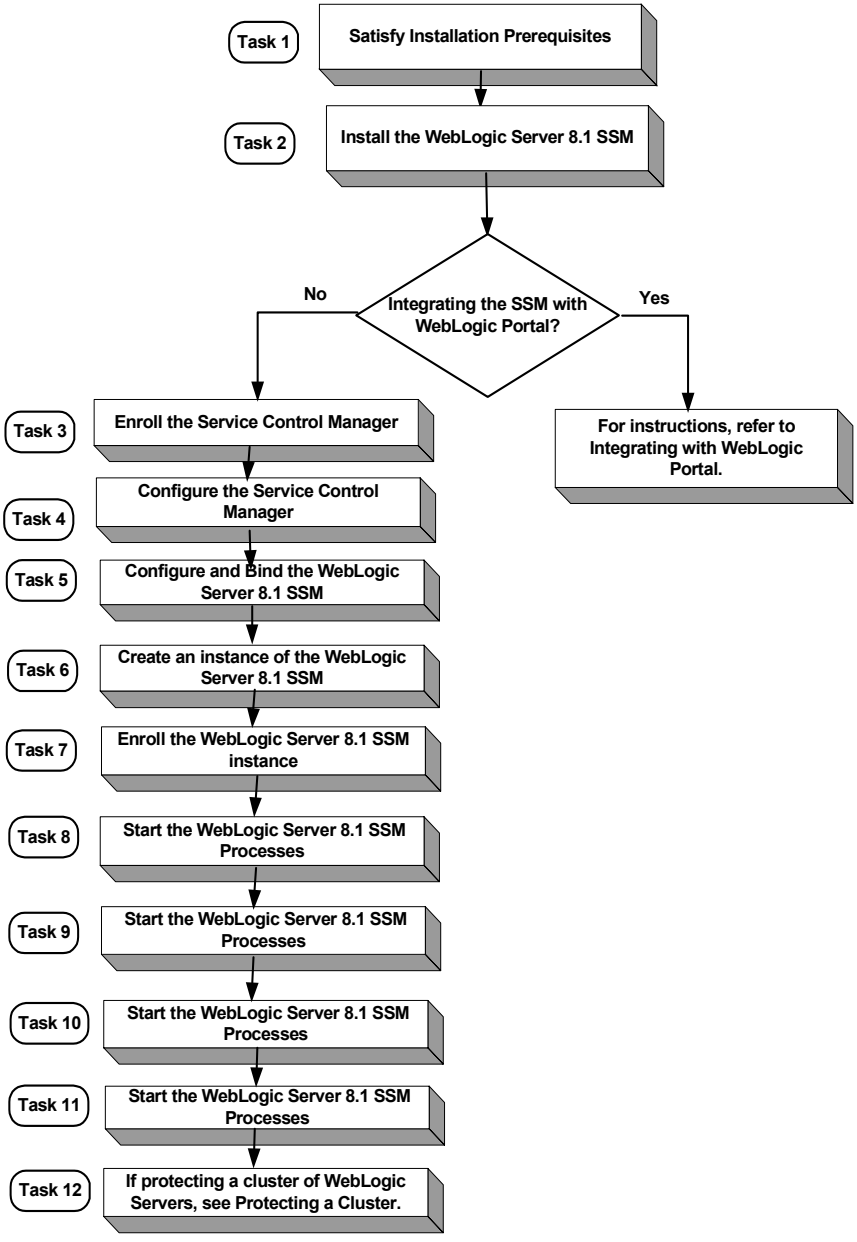
To install the WebLogic Server 8.1 SSM, perform the following tasks (see Figure 1-1):

1. Ensure that the installation prerequisites are met. For prerequisites, see "Installation Prerequisites" on page 2-3.
2. Install the WebLogic Server 8.1 SSM. For instructions, see "Installing" on page 3-1.

Note: If you want to integrate the WebLogic Server 8.1 SSM with WebLogic Portal, refer to "Integrating with WebLogic Portal" on page 5-1 and skip the remaining tasks.

3. Enroll the Service Control Manager. For instructions, see "Enrolling the Service Control Manager" on page 4-2.
4. Configure the Service Control Manager. For instructions, see "Configuring a Service Control Manager" on page 4-3.
5. Configure and bind the WebLogic Server 8.1 SSM. For instructions, see "Configuring and Binding a WebLogic 8.1 Server Security Service Module" on page 4-4.
6. Create and instance of the WebLogic Server 8.1 SSM. For instructions, see "Creating an Instance of the WebLogic 8.1 Security Service Module" on page 4-5.
7. Enroll the instance of the WebLogic Server 8.1 SSM. For instructions, see "Enrolling the Instance of the Security Service Module" on page 4-6
8. Create a WebLogic Server domain. For instructions, see "Location of the WebLogic Server Domain" on page 4-6.
9. Modify the startWebLogic file. For instructions, see "Modifying the startWebLogic File" on page 4-7.
10. Define security properties. For instructions, see "Defining Security Properties" on page 4-9.
11. Start the WebLogic Server 8.1 SSM processes. For instructions, see "Starting and Stopping Processes" on page 4-9.
12. If you want to protect a cluster of WebLogic Servers, see "Protecting a Cluster of WebLogic Servers" on page 4-15.

Figure 1-1 Installation Process Overview



CHAPTER 2

Preparing to Install

This section provides the information needed to install the BEA WebLogic Server, Version 8.1 Security Service Module, including system requirements and prerequisite software and hardware. It does not include information for installing the BEA AquaLogic Enterprise Security Administration Server or other Security Service Modules.

This section covers the following topics:

Installation and Distribution

BEA AquaLogic Enterprise Security products are distributed and installed using the BEA Installation and Distribution System, which provides a complete framework for the following:

- Distribution of BEA products by download from the BEA web site.
- Installation and uninstallation of the WebLogic Server, Version 8.1 Security Service Module including documentation.

BEA AquaLogic Enterprise Security is distributed on both the BEA web site and on CD-ROM.

Web Distribution

If you want to install the product by downloading it from the BEA web site, contact BEA Sales at http://www.bea.com/framework.jsp?CNT=sales1.htm&FP=/content/about/contact/ and request a download.

The package installer downloads a stand-alone version of the installation program that contains the complete WebLogic Server v8.1 Security Service Module. The package installer is approximately 140 MB.

Documentation is available from the product documentation home page. Be sure to download the most up-to-date information from the BEA web site at:
`http://e-docs.bea.com/ales/docs21/download.html`.

CD-ROM Distribution

If you purchased BEA AquaLogic Enterprise Security from your local sales representative, you will find the following items in the product box:

Four CD-ROMs:

- Disk 1 of 4 contains the following BEA AquaLogic Enterprise Security products:
  - Administration Server software for Microsoft Windows platforms
  - Security Service Modules software for Microsoft Windows platforms
  - Documentation in both PDF and HTML format
- Disk 2 of 4 contains the following BEA AquaLogic Enterprise Security products:
  - Administration Server software for UNIX
  - Security Service Modules software for UNIX
- Disks 3 of 4 contains the BEA AquaLogic Enterprise Security metadirectory software for Microsoft Windows platforms. This product is used with the Administration Server to integrate user repositories.
- Disks 4 of 4 contains the BEA AquaLogic Enterprise Security metadirectory software for UNIX platforms.

The following printed documents:

- Introduction to BEA AquaLogic Enterprise Security
- BEA Software License and Limited Warranty pamphlet

- Customer Support Quick Reference and Other Important Information card

Installation Prerequisites

The WebLogic Server, version 8.1 Security Service Module requires certain software components to operate properly. Review these requirements before installing the product. For additional information on the BEA AquaLogic Enterprise Security products, see: http://www.bea.com/ales.

System Requirements

Table 2-1 lists the system requirements for the machine on which you install the WebLogic Server, Version 8.1 Security Service Module.

Note: The machine on which you install the WebLogic Server Security Service Module must have a static IP address. The IP address is used by the Security Service Module and Service Control Manager for connectivity. Also, on a Windows platform, the file system used must be NTFS, not FAT. To check the file system format, open Windows Explorer and right-click the hard drive on which you intend to do the installation and select `Properties`.

Table 2-1 System Requirements

Use	Component and Version
WebLogic Server 8.1 with Service Pack 4 or Service Pack 5	You can download this product from this location: http://commerce.bea.com/showallversions.jsp?family=WLS **Note:** The BEA AquaLogic Enterprise Security installation program requires a Sun Microsystems Java 2 Platform Standard Edition (J2SE), Version 1.4 Java run-time environment (JRE). The JRE provided by WebLogic Server 8.1 SP4 and SP5 satisfies this requirement.
Platforms supported	The WebLogic Server, Version 8.1 Security Service Module runs on any of the following platforms: • Intel Pentium compatible with Microsoft Windows 2000 Professional • Intel Pentium compatible with Microsoft Windows 2000 Server/Advanced Server • Intel Pentium compatible with Microsoft Windows 2003 Sp1 Server/Advanced Server • Intel Pentium compatible with Microsoft Windows XP Server/Advanced Server • SUN Microsystems Sparc with Solaris versions 8 and 9 • Linux Red Hat Advanced Server 2.1 and 3.0 (Update 4) • IBM AIX 5.3
A Configured WebLogic Server Domain	If you do not have domain configured for the WebLogic Server, use the WebLogic Server Configuration Wizard to configure a domain. Make a note of the domain name and its location. This information is required to install the WebLogic Server, Version 8.1 Security Service Module.
BEA AquaLogic Enterprise Security Administration Server	You must install the Administration Server before you install the WebLogic Server, Version 8.1 Security Service Module software distribution.

Table 2-1 System Requirements (Continued)

Use	Component and Version
Memory	With the Sun Java SDK— 64 MB of RAM minimum, 256 MB or more is recommended for each instance.
Hard Disk Space	For installation on a Microsoft Windows platform—About 100 MB of free storage space is required for the installed product and about 100 MB of temporary storage space is required by the installer. For installation on Unix systems—About 100 MB of free storage space is required for the installed product and about 100 MB of temporary storage space is required by the installer.

Licensing

The product software cannot be used without a valid license. When you install WebLogic Server, Version 8.1 Security Service Module, the installation program creates an evaluation license. The evaluation license expires in 90 days.

To use the WebLogic Server, Version 8.1 Security Service Module in a production environment, you must purchase a license. For information about purchasing a license, contact your BEA Sales Representative.

Requirements for Reinstalling the SSM

If you are installing the Security Service Module on a computer on which a AquaLogic Enterprise Security SSM was previously installed and then uninstalled, refer to "Uninstalling" on page 7-1 and make sure all of the uninstall steps were completed; otherwise the installation may fail.

Selecting Directories for the Installation

During installation, you need to specify locations for the following directories:

- "BEA Home Directory" on page 2-5
- "Product Installation Directory" on page 2-7

BEA Home Directory

The files and directories in the BEA Home directory are described in your WebLogic documentation. When you install the product, you are prompted to specify a BEA Home

directory. You should specify the same BEA Home directory that you specified when you installed WebLogic Server 8.1. The BEA Home directory is a repository for common files that are used by multiple BEA products installed on the same machine. For this reason, the BEA Home directory can be considered a "central support directory" for the BEA products installed on your system.

The files in the BEA Home directory are essential to ensuring that BEA software operates correctly on your system. They perform the following types of functions:

- Ensure that licensing works correctly for the installed BEA products
- Facilitate checking of cross-product dependencies during installation

If you choose the default product installation directory, you will see additional directories in the BEA Home directory, such as weblogic81 (the WebLogic Server installation directory) and user_projects (a folder for WebLogic domains that you create). Although the default location for the AquaLogic Enterprise Security installation directory is within the BEA Home directory, you can select a different location outside the BEA Home directory.

During installation, you are prompted to choose an existing BEA Home (`BEA_HOME`) directory or specify a path to create a new BEA Home directory. If you choose to create a new directory, the installation program automatically creates the directory for you.

Note: For a BEA Home directory, you are allowed to install each version of a BEA product that uses the BEA Home directory convention only once. For example, you can install WebLogic Server 8.1 and associate it with a BEA Home directory, and that BEA Home directory can also be associated with an installation of BEA AquaLogic Enterprise Security. It cannot be associated with another installation of WebLogic Server 8.1.

Understanding the Functions of the BEA Home Directory

The files and directories in the BEA Home (`BEA_HOME`) directory are described in your WebLogic documentation. Although it is possible to create more than one BEA Home directory, BEA recommends that you avoid doing so. In almost all situations, a single BEA Home directory is sufficient. There may be circumstances, however, in which you prefer to maintain separate development and production environments on a single machine, each containing a separate product stack. With two directories, you can update your development environment (in a BEA Home directory) without modifying the production environment until you are ready to do so.

Product Installation Directory

The product installation directory contains all the software components used to administer BEA AquaLogic Enterprise Security. During installation, you are prompted to choose a product installation directory. If you accept the default, the software is installed in the following directory:

`c:\bea\ales21-ssm\wls-ssm` (Windows)

`/opt/bea/ales21-ssm/wls-ssm` (UNIX)

where `c:\bea` is the `BEA_HOME` directory and `ales21-ssm\wls-ssm` is the product installation directory. You can specify any name and location on your system for your product installation directory and there is no requirement that you name the directory `ales21-ssm\wls-ssm` or create it under the BEA Home directory.

CHAPTER 3

Installing

The following sections provide the information you need to install the WebLogic Server 8.1 Security Service Module:

Note: For installation information on other security service modules, see the associated installation guides.

Before You Begin

Before you begin this installation procedure, make sure you do the following:

Note: If you start the installation process from the command line or from a script, you can specify the `-log` option to generate a verbose installation log. For instructions on how to generate a verbose log file during installation, see "Generating a Verbose Installation Log" on page 3-2.

- Install WebLogic Server 8.1.
- Download and read the Release Notes from:
  `http://e-docs.bea.com/ales/docs21/download.html`
- Install the Administration Server and related components.

- Ensure the system requirements are met as described in "Installation Prerequisites" on page 2-3.

Generating a Verbose Installation Log

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

Note: You may see some warning messages during in the installation log. However, unless there is a fatal error, the installation program will complete the installation successfully. The installation user interface will indicate the success or failure of the installation, and the installation log file will include an entry indicating that the installation was successful.

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

For Windows:

```
ales211ssm_win32.exe -log=D:\logs\ales_install.log -log_priority=debug
```

For Sun Solaris:

```
ales211ssm_solaris32.bin -log=/opt/logs/ales_install.log
-log_priority=debug
```

For Linux:

For Red Hat 2.1:

```
ales211ssm_rhas21_IA32.bin -log=/opt/logs/ales_install.log
-log_priority=debug
```

For Red Hat 3.0:

```
ales211ssm_rhas3_IA32.bin -log=/opt/logs/ales_install.log
-log_priority=debug
```

For IBM AIX:

```
java -jar ales211ssm_aix32.jar -log=/opt/logs/ales_install.log
-log_priority=debug
```

The path must be the full path to a file name. If the file does not exist, all folders in the path must exist before you execute the command or the installation program will not create the log file.

Starting the Installation Program

The procedure for starting the installation program varies depending the platform on which install BEA AquaLogic Enterprise Security. Therefore, separate instructions are provided for each supported platform.

Note: In a production environment, BEA recommends that you install the Security Service Modules on machines other than the machine on which the Administration Server is installed.

To start the installation program, refer to the appropriate section listed below:

- "Starting the Installation Program on a Windows Platform" on page 3-3
- "Starting the Installation Program on a Sun Solaris Platform" on page 3-4
- "Starting the Installation Program on a Linux Platform" on page 3-5
- "Starting the Installation Program on an IBM AIX Platform" on page 3-6

Starting the Installation Program on a Windows Platform

Note: Do *not* install the software from a network drive. Download the software distribution to a local drive on your machine and install it from there. Also, on a Windows platform, the file system used must be NTFS, not FAT. To check the file system format, open Windows Explorer and right-click the hard drive on which you intend to do the installation and select `Properties`.

To install the application in a Microsoft Windows environment:

1. Shut down any programs that are running.
2. Log in to the local Administrators group.
3. If you are installing from a CD-ROM, go to step 4. If you want to install the product by downloading it from the BEA web site:
   a. Contact BEA Sales at http://www.bea.com/framework.jsp?CNT=sales1.htm&FP=/content/about/contact/ and request a download.
   b. Go to the directory where you downloaded the installation file and double-click `ales211ssm_win32.exe`.

      The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

c. Proceed to "Running the Installation Program" on page 3-7.

4. If you are installing from a CD-ROM:

   a. Insert Disk 1 into the CD-ROM drive.

      If the installation program does not start automatically, open Windows Explorer and double-click the CD-ROM icon.

   b. From the installation CD, double-click `ales211ssm_win32.exe`.

      The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

   c. Proceed to "Running the Installation Program" on page 3-7.

Starting the Installation Program on a Sun Solaris Platform

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, the installation program automatically starts console-mode installation.

1. Shut down any programs that are running.
2. Log in to the machine as root (or su root).
3. Open a command-line shell.
4. If you are installing from a CD-ROM, go to step 5. If you want to install the product by downloading it from the BEA web site:

   a. Contact BEA Sales at http://www.bea.com/framework.jsp?CNT=sales1.htm&FP=/content/about/contact/ and request a download.

   b. Go to the directory where you downloaded the file and change the protection on the install file:

      ```
      chmod u+x ales211ssm_solaris32.bin
      ```

   c. Start the installation: `ales211ssm_solaris32.bin`

      The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

   d. Proceed to "Running the Installation Program" on page 3-7.

5. If you are installing from a CD-ROM:

   a. Insert the Disk 1 into the CD-ROM drive.

   b. In a command shell, go to the directory where you installed the CD-ROM and change the protection on the install file:

      ```
      chmod a+x ales211ssm_solaris32.bin
      ```

   c. Enter this command to start the installation: `ales211ssm_solaris32.bin`

      The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

   d. Proceed to "Running the Installation Program" on page 3-7.

Starting the Installation Program on a Linux Platform

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, the installation program automatically starts console-mode installation.

1. Shut down any programs that are running.
2. Log in to the machine as root (or su root).
3. Set your `DISPLAY` variable if needed.
4. Open a command-line shell.
5. If you are installing from a CD-ROM, go to step 6. If you want to install the product by downloading it from the BEA web site:

   a. Contact BEA Sales at http://www.bea.com/framework.jsp?CNT=sales1.htm&FP=/content/about/contact/ and request a download.

   b. Go to the directory where you downloaded the file and change the protection on the install file:

      For Red Hat 2.1: `chmod u+x ales211ssm_rhas21_IA32.bin`

      For Red Hat 3.0: `chmod u+x ales211ssm_rhas3_IA32.bin`

   c. Start the installation：

      For Red Hat 2.1: `ales211ssm_rhas21_IA32.bin`

For Red Hat 3.0: `ales211ssm_rhas3_IA32.bin`

The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

d. Proceed to "Running the Installation Program" on page 3-7.

6. If you are installing from a CD-ROM:

a. Insert the Disk 1 into the CD-ROM drive.

b. In a command shell, go to the directory where you installed the CD-ROM and enter this command to change the protection on the install file:

For Red Hat 2.1: `chmod u+x ales211ssm_rhas21_IA32.bin`

For Red Hat 3.0: `chmod u+x ales211ssm_rhas3_IA32.bin`

c. Enter this command to start the installation:

For Red Hat 2.1: `ales211ssm_rhas21_IA32.bin`

For Red Hat 3.0: `ales211ssm_rhas3_IA32.bin`

The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

d. Proceed to "Running the Installation Program" on page 3-7.

Starting the Installation Program on an IBM AIX Platform

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, the installation program automatically starts console-mode installation.

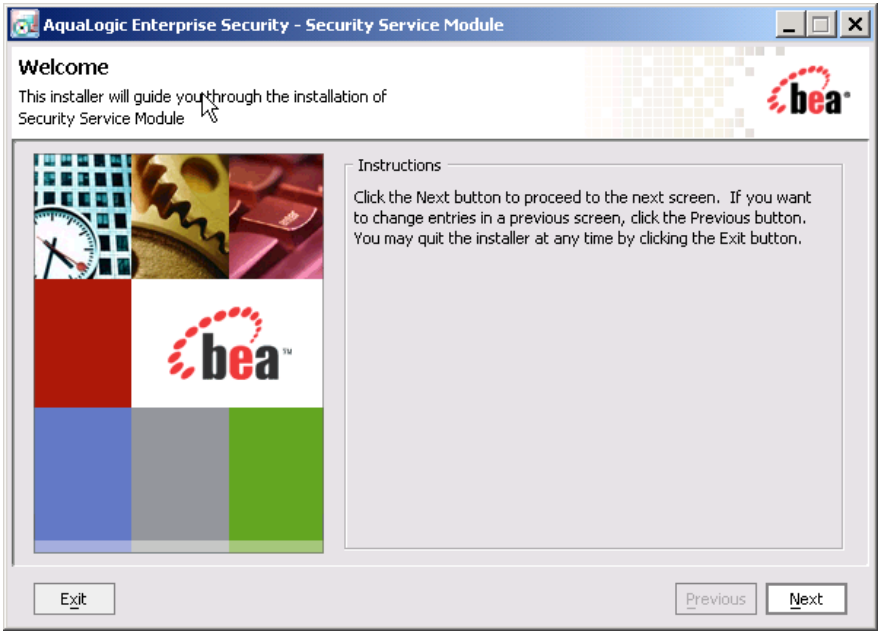
1. Log in to the machine as root (or su root).
2. Open a command-line shell.
3. Download the Security Service Module installation file, `ales211ssm_aix32.jar`, from the BEA web site. Contact BEA Sales at http://www.bea.com/framework.jsp?CNT=sales1.htm&FP=/content/about/contact/ to request a download.
4. Start the installation with this command:

```
java -jar ales211ssm_aix32.jar
```

The AquaLogic Enterprise Security - Security Service Module installer window appears (see Figure 3-1).

5. Proceed to "Running the Installation Program" on page 3-7.

Figure 3-1 AquaLogic Enterprise Security SSM Installer Window



Running the Installation Program

The installation program prompts you to enter specific information about your system and configuration as described in Table 3-1. To complete this procedure you need the following information:

- Name of the `BEA_HOME` directory
- Name of the product directory

Note: If this is the first AquaLogic Enterprise Security product you have installed on this machine, the Service Control Manager is also included as part of the installation (which requires additional inputs, such as the Service Control Manager directory).

Table 3-1 Running the Installation Program

In this Window:	Perform this Action:
Welcome	Click Next to proceed, or cancel the installation at any time by clicking Exit.
BEA License Agreement	Read the BEA Software License Agreement, and then select Yes to indicate your acceptance of the terms of the agreement. To continue with the installation, you must accept the terms of the license agreement, click Yes, and then click Next.
Choose BEA Home Directory	Specify the BEA Home directory that serves as the central support directory for all BEA products installed on the target system. If you already have a BEA Home directory on your system, you can select that directory (recommended) or create a new BEA Home directory. If you choose to create a new directory, the installer program automatically creates the directory for you. For details about the BEA Home directory, see "BEA Home Directory" on page 2-5.
Choose product to install	Select ALES SSM for WLS8.1 component, clear the other check boxes, and click Next.
Choose Product Directory	Specify the directory in which you want to install the product software, and then click Next. You can accept the default product directory (`C:\bea\ales21-ssm\wls-ssm`) or you can create a new product directory. **Note:** If you are installing on a machine with existing BEA AquaLogic Enterprise products or on a machine that you intend to install other BEA AquaLogic Enterprise products (for example, the Administration Server or another Security Service Module) you *must* select a different directory. For additional information and a description of the resulting directory structure, see "Product Installation Directory" on page 2-7. If you choose to create a new directory, the installation program automatically creates the directory for you, if necessary. When you click Next, the installation program begins copying the components you specified to your system. If you have installed other products then you will see Installation Complete. Otherwise, continue installing the Service Control Manager.
Choose Service Control Manager Directory	Specify the directory in which to install the Service Control Manager. You can accept the default directory (`ales21-scm`) or you can create a new one. Click Next to continue.

Table 3-1 Running the Installation Program (Continued)

In this Window:	Perform this Action:
Select Users and Groups	Specify the user names and group names to use for the Service Control Manager and Administration Server. You can accept the default settings or create a new ones. **Note:** When installing this product for use in a production environment, BEA recommends that you set these passwords to known values; otherwise you will not be able to modify them later. For example, you may want to modify these passwords to comply with organizational requirements. **Admin User** (`asiadmin`)—A local user account used to start the Administration Server components. **Admin Group** (`asiadgrp`)—Administration Server group. Members of this group have full access to Administration Server and log files; they can start and stop the Administration Server components. **SCM User** (`scmuser`)—A local user account used to start the Service Control Manager. **Security Group** (`asiusers`)—Service Control Manager Group. Members of this group are allowed to use the AquaLogic Enterprise Security products. Click Next to continue.
Confirm User Selection	If the users and groups do not exist, they are created for you. If you specified users and groups other than the defaults, verify the values you entered are correct, and then click Next.
User Passwords (Windows only)	Specify the password for the Administration Server User and Service Control Manager User. You can also choose the default passwords that are randomly generated. **Note:** If any of the users exist you must enter their passwords; the passwords are not generated randomly. Passwords are case sensitive. If you are installing the Administration Server in a production environment, BEA recommends using secure user names and passwords, and not those that are randomly generated. Click Next to continue.

Table 3-1 Running the Installation Program (Continued)

In this Window:	Perform this Action:
Choose Network Interface	Select the network interfaces to which to bind the Service Control Manager. This is the IP Address used to listen for requests to provision policy and configuration data. **Note:** If you are installing the security service module in a production environment with more than one network card, you want to select a protected (internal) interface; you do not want to expose the Service Control Manager through a public address. Click Next to continue.
Configure Enterprise Domain for Service Control Manager	**Enterprise Domain Name**—The enterprise domain name is used to link all of the AquaLogic Enterprise Security components. **Note:** This is same enterprise domain name that you entered when you installed the BEA AquaLogic Enterprise Security Administration Server. **SCM Logical Name—**The name you assign to the Service Control Manager during this installation. **SCM Port**—Port used by the Service Control Manager to receive configuration and policy data from the Administration Server; may not be used by any other server. **Note:** The SCM values are different the SCM values defined when you installed the BEA AquaLogic Enterprise Security Administration Server. **Primary Server URL**—The address used by your Administration Server. **Backup Server URL**—If you have a second Administration Server installed for the purpose of failover or backup, enter its address here. This field is optional and may be left blank.
Installation Complete	Indicates that the installation completed successfully. Click Done to finish the installation.

Installing the SSM Without Root Privileges

It is highly recommended that you install ALES Security Service Modules using root privileges. This enables the product to create users and groups required to set up the ALES product automatically and also change permissions of files after installation. However, in some situations you may not have access to the root account. This section describes how to install and configure

an SSM on UNIX without access to the root login. In this section, we assume that the user (login) name is `alesuser`, which belongs to the group `alesgroup`.

If you do not have root privileges, the SSM installer will try to install the Service Control Manager (SCM) regardless whether you have installed the ALES Administration Server on this machine before. If you have installed the ALES Administration Server before, you have to back up the SCM installation before you start to install the SSM.

For information about installing the Administration Server without root privileges, see Installing Without Root Privileges in *Installing the Administration Server*.

To install the SSM without root privileges:

1. Login as `asiadmin`.
2. If you have the ALES Administration Server installed on the same machine, stop the servers if they are running:

   ```
   $ADMINHOME/bin/WLESadmin.sh stop
   ```

   ```
   $SCMHOME/bin/WLESscm.sh stop
   ```

3. If you have the ALES Administration Server installed on the same machine, rename the `$SCMHOME/ales21-scm` folder:

   ```
   mv ales21-scm/ ales21-scm-admin
   ```

4. Run the SSM installer using the `-Dales.skip.admin.test=true` command line argument. For example:

   ```
   ales211ssm_rhas3_IA32.bin -Dales.skip.admin.test=true
   ```

5. In response to the installation program prompts, specify the username of the current user (`asiadmin`) as the name of the "Admin user" and `asiadgrp` as the "Admin group". Specify `scmuser` as the name of the "SCM user" and `asiusers` as the "Security group".
6. If you have the ALES Administration Server installed on this machine, enter the same “Enterprise domain name” as you entered when you installed the Administration Server (by default the domain is “asi”). Enter `adminconfig` as the “SCM logical name”. Enter `7013` as the SCM port, assuming you have selected the default SSL ports (`7010`) during your Administration Server installation. Enter the “Primary Server URL” (by default, `https://localhost:7010/asi`).
7. If you have the ALES Administration Server installed on this machine, restore the `$SCMHOME/ales21-scm` folder from the ALES Administration Server installation.

   ```
   mv ales21-scm-admin/ ales21-scm
   ```

8. Start the servers in different terminals.

   ```
   $SCMHOME/bin/WLESscm.sh console
   ```

   ```
   $ADMINHOME/bin/WLESblm.sh console
   ```

   ```
   $ADMINHOME/bin/WLESarme.sh console
   ```

   ```
   $ADMINHOME/bin/WLESWebLogic.sh console
   ```

   You can start the servers subsequently with the “start” parameter instead of the “console” parameter and they will start in the background as daemon processes.

   ```
   $SCMHOME/bin/WLESscm.sh start
   ```

   ```
   $ADMINHOME/bin/WLESadmin.sh start
   ```

What’s Next

Now that you have installed the necessary software, you must enroll the Service Control Manager, create an instance of the Security Service Module and enroll the instance, and then start the services. For additional instructions, see “Post Installation Tasks” on page 4-1.

CHAPTER 4

Post Installation Tasks

This section describes each task you must perform after you install the product software and discusses other considerations.

Note: If you want to use the WebLogic Server 8.1 Security Service Module to integrate AquaLogic Enterprise Security with WebLogic Portal server and portal applications, skip this section and go to "Integrating with WebLogic Portal" on page 5-1.

Note: Some of the procedures described here require basic knowledge of both WebLogic Server and AquaLogic Enterprise Security products. If you need assistance with any task, see the Administration Console online help or the *Administration and Deployment Guide* for more details. It is assumed that you know the location of the products you have installed, including the WebLogic Server, the Security Service Module, and the Administration Server.

Enrolling the Service Control Manager

This section describes how to enroll the Service Control Manager. Each machine on which you install a Security Service Module must have one (and only one) enrolled Service Control Manager. You only need to follow this procedure if you installed the Security Service Module on a machine other than the one that contains the Administration Server.

Note: While you can use the demonstration digital certificate to enroll in a development environment, you should never use it in a production environment.

To enroll the Service Control Manager, perform the following steps:

1. Open a command window and go to the Service Control Manager `/bin` directory, for example:

   ```
   BEA_HOME/ales21-scm/bin
   ```

   Where:

   `BEA_HOME` is the directory where your BEA products are installed.

   `ales21-scm` is the directory where you installed the Service Control Manager.

2. Run the following script:

```
enrolltool demo
```

The Enrollment menu appears.

3. Type: 5 and press <ENTER>, and do one of the following:
   - If the domain you to which you want to enroll the SSM is listed, go to step 4.
   - If the domain you want to use is not listed, type: 3, press <ENTER> to register the domain, enter the following information, Type: 5 and press <ENTER> again:

     ```
     Enter Enterprise Domain Name :> (For example: asi)
     Enter Primary Admin URL :> (For example:
     https://adminmachine:7010/asi)
     Secondary Admin URL :> (This value is optional. Same format as primary
     URL)
     SCM name :> (For example: ssmmachinename_ssm)
     SCM port :> (Default: 7010)
     ```

4. Select the domain you want to use and press <ENTER>.
5. Enter the admin username and password. This is the username and password of the security administrator that is enrolling the SCM.
6. Enter and confirm the following passwords:
   - **Private key password**—Protects the identity of the Service Control Manager you are creating
   - **identity.jks password**—Protects the `ssl\identity.jks` keystore. This keystore contains the identities for all the components you are enrolling.
   - **peer.jks password**—Protects the `ssl\peer.jks` keystore. This keystore contains the certificates of components with which this Security Service Module can communicate.
   - **trust.jks password**—Protects the `ssl\trust.jks` keystore. This keystore contains the AquaLogic Enterprise Security CA certificate used for enrollment.

Configuring a Service Control Manager

You configure a Service Control Manager (SCM) for each of the machines on which you have installed one of more Security Service Modules (SSM). Each machine must have one (and only one) configured Service Control Manager. For example, if you install an SSM on the same machine as the Administration Server, you must use the `adminconfig` SCM, which was configured for you when you installed the Administration Server.

Note: When you use the Instance Wizard to create an instance of a SSM on a machine, you link the instance to a SCM by name. When you install multiple SSMs of different types (Web

Server or Web Services, WebLogic Server 8.1, and Java) on the same machine, they all must use the same SCM.

To configure a SCM, see the Administration Server Console Help and use the AquaLogic Enterprise Security Administration Console.

Configuring and Binding a WebLogic 8.1 Server Security Service Module

Configure a SSM with the security providers that you require for the WebLogic Server 8.1 SSM and bind it to the SCM. You have the option of configuring either the default security providers that ship with the product or custom security providers, which you develop or purchase from third-party security vendors. The WebLogic Server 8.1 SSM supports the following types of security providers:

- Authentication provider
- Authorization provider
- Auditing provider
- Credential mapping provider
- Identity asserter
- Principal validator
- Role mapping provider

To configure these providers and bind the configuration to the SCM, perform the following steps:

1. In the Administration Console, expand the Security Configuration node in the left pane, and click Unbound Configurations. The Unbound Security Service Module Configurations page displays.
2. Click Create a New Security Service Module Configuration. The Edit Security Service Module Configuration page displays.
3. In the Configuration ID text box, enter an identity for the SSM (for example, `weblogic81_ssm`) and click Create.

   Note: Later, when you use the Instance Wizard to create an instance of the SSM to which this security configuration will be applied, you will use the Configuration ID to link the SSM instance to this security configuration.
4. Click the Providers tab and create the desired providers.

5. Click on the SCM that you previously configured for this SSM. The Edit a Service Control Manager Configuration page displays.
6. Click on the Binding tab and bind the WebLogic 8.1 SSM configuration to the SCM.

Creating an Instance of the WebLogic 8.1 Security Service Module

Before starting a WebLogic Server Security Service Module, you must first create an instance of the Security Service Module using the Instance Wizard. You can create any number of instances of the Security Service Module. You must then enroll each instance that you want to use. Each instance has its own set of providers.

To create an instance of a Security Service Module:

1. Start the Instance Wizard:
   - On Widows, click Start>Programs>BEA AquaLogic Enterprise Security>WebLogic Server 8.1 Security Service Module>Create New Instance.

   On Unix, if you are using X-windows, go to *BEA_HOME*`/ales21-ssm/wls-ssm/adm` and enter: `instancewizard.sh`.

   Note: If you are not using X-windows, use a console based installer.
2. In the Instance Name text box, enter the name to assign to this instance. The name must be unique for WebLogic Server SSMs on this machine.
3. In the Authorization Engine port text box, enter the port number for the Authorization and Role Mapping engine to use.
4. In the Configuration ID text box, enter the configuration identifier to use with this instance. The Configuration ID was specified when you configured your module, as described in "Configuring and Binding a WebLogic 8.1 Server Security Service Module" on page 4-4.
5. From the Enterprise Domain drop-down box, select the domain to which this instance belongs.
6. Click Next.
7. In the Location text box, enter the location for this instance. The default instance is located within the installation directory of the Security Service Module.
8. Click Next.
9. Click Done when the instance wizard completes.

Enrolling the Instance of the Security Service Module

You must have the Administration Server running prior to enrolling the Security Service Module.

Note: While you can use the demonstration digital certificate in a development environment, you should never use it in a production environment.

To enroll the Security Service Module:

1. Open a command window and go to the Security Service Module instance `/adm` directory: `BEA_HOME/ales21-ssm/wls-ssm/instance/`*`instancename`*`/adm`, where *`instancename`* is the name you assigned to the instance when you created it.
2. Run the following script:

   ```
   enroll demo
   ```

3. Enter the `admin` username and password. This is the username and password of the Security Administrator doing the enrollment (if you used the default values and have not yet changed them, the default username is `system` and the password is `weblogic`).
4. Enter and confirm the following passwords:
   - **Private key password**—This password protects the identity of the Security Service Module that you are creating.
   - **identity.jks password**—This password protects the `ssl\identity.jks` keystore. This keystore contains the identities for all the components you are enrolling.
   - **peer.jks password**—This password protects the `ssl\peer.jks` keystore. This keystore contains the certificates of components with which this Security Service Module can communicate.
   - **trust.jks password**—This password protects the `ssl\trust.jks` keystore. This keystore contains the AquaLogic Enterprise Security CA certificate used for enrollment.

Location of the WebLogic Server Domain

For the purposes of the example presented here, this document assumes that the WebLogic Server domain is in the following location:

```
BEA_HOME/user_projects/domains/mydomain
```

However, your domain can be in any location you desire. If you want to create a domain, you can use the WebLogic Server Configuration Wizard to create a domain or create it manually. The domain includes a `startWebLogic` file, which you are instructed to modify in "Modifying the startWebLogic File" on page 4-7.

Modifying the startWebLogic File

The WebLogic startup script does the following:

- Sets environment variables.
- Invokes the java weblogic.Server command, which starts a JVM that is configured to run a WebLogic Server instance.

Before you can start a WebLogic Server that uses BEA AquaLogic Enterprise Security, you must edit the `startWebLogic` file that is located in the WebLogic Server domain directory, for example:

```
BEA_HOME/user_projects/domains/mydomain
```

where:

`user_projects` is the directory where your WebLogic Server user projects are located.

`domains` is the directory where your WebLogic Server domain instances are located.

`mydomain` is the name of the WebLogic Server domain instance you are using.

See Listing 4-1 for an example of a modified `startWebLogic.cmd` file. To edit the `startWebLogic` file, do the following:

1. Before the `CLASSPATH` is set, add a call to the `set-wls-env` script file in your the `bin` directory for your instance. For example:

   ```
   BEA_HOME/ales21-ssm/wls-ssm/instance/wls81ssm/bin
   ```

   Where:

   `ales21-ssm` is the directory where you installed the Security Service Module.

   `instance` is the directory where all instances are stored.

   `wls81ssm` is the name of the Security Service Module instance you created earlier.

2. For example, if you created an instance called `myInstance`, the call looks like this:

   On Windows:

   ```
   call
   "C:\bea\ales21-ssm\wls-ssm\instance\myInstance\bin\set-wls-env.bat"
   ```

   On Unix:

   ```
   . "/bea/ales21-ssm/wls-ssm/instance/myInstance/bin/set-wls-env.sh"
   ```

3. Add the following line to the `CLASSPATH`:

On Windows:

```
%WLES_PRE_CLASSPATH% and %WLES_POST_CLASSPATH%
```

On Unix:

```
${WLES_PRE_CLASSPATH} and ${WLES_POST_CLASSPATH}
```

4. On Windows, add quotes to `%JAVA_HOME%\bin\java` in the `weblogic.Server` command.

```
"%JAVA_HOME%\bin\java"
```

5. Add the following line to the `weblogic.Server` command.

On Windows:

```
%WLES_JAVA_OPTIONS%
```

On Unix:

```
${WLES_JAVA_OPTIONS}
```

Listing 4-1 Modifying the startWebLogic.cmd File for Windows

```
...

set SERVER_NAME=myserver

call "C:\BEA_HOME\ales21-ssm\wls-ssm\instance\myInstance\bin\set-wls-env.bat"

set CLASSPATH=%WLES_PRE_CLASSPATH%;%WEBLOGIC_CLASSPATH%;
%POINTBASE_CLASSPATH%;%JAVA_HOME%\jre\lib\rt.jar;
%WL_HOME%\server\lib\webservices.jar;%CLASSPATH%;
%WLES_POST_CLASSPATH%

@REM Call WebLogic Server
echo .
echo CLASSPATH=%CLASSPATH%
echo .
echo PATH=%PATH%
echo .

echo ***************************************************
echo *  To start WebLogic Server, use a username and   *
echo *  password assigned to an admin-level user.  For *
echo *  server administration, use the WebLogic Server *
echo *  console at http:\\[hostname]:[port]\console    *
echo ***************************************************
```

```
"%JAVA_HOME%\bin\java" %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS% %WLES_JAVA_OPTIONS%
-Dweblogic.Name=%SERVER_NAME%
-Dweblogic.ProductionModeEnabled=%PRODUCTION_MODE%
-Djava.security.policy="%WL_HOME%\server\lib\weblogic.policy" weblogic.Server

ENDLOCAL
```

Defining Security Properties

You can use the `security.properties` file to set the necessary security properties. To set the security properties, create a `security.properties` file and put it in the WebLogic Server domain directory; for example:

`BEA_HOME/user_projects/domains/`*`mydomain`*

Include the information shown in Listing 4-2 in the `security.properties` file, where:

`wles.realm` is the value of the Configuration ID entered for Security Service Module using the Administration Console (see the Console Help).

`wles.default.realm` must be set to the same value as `wles.realm`.

Note: The `security.properties` file is not required if you add these parameters to Java Options.

Listing 4-2 Security.properties File

```
wles.realm=ConfigurationID
wles.default.realm=ConfigurationID
```

Starting and Stopping Processes

After you install the Security Service Module, create the instance, and enroll it, you must start the necessary processes by running the appropriate batch or shell scripts. Before you start these processes, make sure that the Administration Server and all of its services are running.

For each machine, you must start the following processes:

- One Service Control Manager
- One Authorization and Role Mapping Engine (ARME) for each Security Service Module instance.

For instructions on how to start and stop the required processes, see "Starting and Stopping Processes for Security Service Modules" in the *Administration and Deployment Guide.*

Additional Post-Installation Considerations

When using the Database Authentication provider, ASI Authorization provider and ASI Role Mapping provider, refer to the following sections for important information:

- "Setting the Boot Login for WebLogic Server" on page 4-10
- "Creating a WebLogic Boot Policy" on page 4-10
- "Creating a WebLogic Console Policy" on page 4-13
- "Protecting Resources" on page 4-14

Setting the Boot Login for WebLogic Server

The WebLogic Server uses the login information contained in the `boot.properties` file to start the server. This file contains a `username` and `password` that must match a username and password in the configured authentication policy. The `boot.properties` file is located in the WebLogic Server domain directory on the machine on which the Security Service Module is installed, for example:

```
BEA_HOME/user_projects/domains/mydomain
```

If you used a username of `system` and a password of `weblogic`, then modify WebLogic Server `boot.properties` in the domain as follows:

```
user = system
password = weblogic
```

The next time you start the WebLogic Server, the username and password you specified are encrypted.

Creating a WebLogic Boot Policy

Before you can use the ASI Authorization provider with the WebLogic Server, you need to configure a boot policy, and then distribute it to the WebLogic Server 8.1 Security Service Module. If you need instructions on how to perform any of these tasks, see the Console Help for

details. You may also want to refer to the *Policy Managers Guide* for information on how the policy language is constructed and how it appears in the console.

To configure and distribute a boot policy, perform the following tasks:

Creating the User Identity

To create the user identity named `alesusers`, perform these steps:

1. Using the Administration Console, create an Identity directory called `alesusers`.
   a. Open the Identity folder and click Identity.
   b. Click New, in the Name text box, enter `alesusers`, and then click OK.
2. Within this directory, create a user named `system` and set the password for system to `weblogic`. Replace `system` and `weblogic` with the values used in `boot.properties` file.
   a. Click Users, click New, enter `system`, and click OK.
   b. Click Edit, click Set Password, enter the `weblogic`, and click OK.
   c. Click OK.

Creating Resources for WebLogic Server

To create resources for the defined user, `alesusers`, create the following resources below the resource called `policy`:

`wlsserver` as a bound application node.

`wlsserver/shared` as virtual

`wlsserver/shared/svr`

1. Click Resources and then click New.

2. In the Name box, type `wlsserver`, select Binding from the Type drop-down menu, and then click OK.
3. Select `wlsserver` and click Configure.
4. From the Type drop-down menu, select Binding Application, check Distribution Point, and then click OK.
5. Select `wlsserver`, click New, enter `shared` in the name box, and then click OK.
6. Select `shared`, click Configure, check Allow Virtual Resources, and then click OK.
7. Select `shared`, click New, enter `svr` in the name box, and then click OK.

Grant Server Resource to Admin Role

Create the following policy:

```
grant(any, //app/policy/wlsserver/shared/svr, //role/Admin) if true;
```

1. Expand the Policy node in the left pane, and click Authorization Policies.
2. In the Authorization Policies page, click New.
3. In the Create Authorization Policy dialog page, select the Privileges tab, select `any` in the Select Privileges from Group list box, and then click Add.
4. Select the Resources tab, expand the `wlsserver` and `shared` nodes in the Child Resources list box, select `svr`, and then click Add.
5. Select the Policy Subjects tab, select `Admin` from the Roles List list box, click Add, and click OK.

Grant Admin Role to WebLogic User/Group

Create the following role mapping policy:

```
grant(//role/Admin, //app/policy/wlsserver, //user/alesusers/system/)
   if true;
```

1. Click Role Mapping Policies.
2. In the Role Mapping Policies page, click New.
3. In the Create Role Mapping Policy dialog page, select the Roles tab, select Admin from the Available Roles list box, and click Add.
4. Select the Resources tab, select `wlsserver` in the Child Resources list box, and click Add.

5. Select the Policy Subjects tab, select Users from the Select Policy Subjects From: drop-down menu, change the directory to `alesusers`, select `system` from the list box, click Add, and click OK.

Binding the Resource to the ASI Authorization Provider

To bind the resource `//app/policy/wlsserver` to the ASI Authorization provider for this Security Service Module, perform the following steps:

1. Open the Security Configuration and Security Control Manager folders.
2. Open the Security Service Module folder and click Authorization.
3. The Authorization page appears.
4. Click Create a new ASI Authorization Provider.
5. The Edit ASI Authorization Provider page appears.
6. Enter a name for the provider in the Name text box, and then click Create.
7. Click the Details tab, set the Identity Directory to `alesusers`, set the Application Directory Parent to `//app/policy/wlsserver`.
8. Click Apply.
9. Click the Bindings tab and select the resource you want to bind to the provider from the Bind drop-down menu, and then click Bind.

Distributing the Policies to the Security Service Module

Distribute the policies to the WebLogic Server v8.1 Security Service Module.

For information on how to distribute policies, see the Administration Console help system. Be sure to verify the results of the distribution.

Creating a WebLogic Console Policy

Before you can login into the WebLogic Server Administration Console, you need to configure a console policy and then distribute it to the WebLogic Server 8.1 Security Service Module. This is needed if you want to access the WebLogic Server Administration Console.

To configure and distribute a WebLogic Server Administration Console policy, do the following on the AquaLogic Enterprise Security Administration Console:

1. Create the following resource:

   ```
   //app/policy/wlsserver/console.
   ```

   a. Click Resources. The Resources page appears.

   b. Select `wlsserver`, click New, enter `console` in the name box, and then click OK.

   c. Select `console`, click Configure, check Allow Virtual Resources, and then click OK.

2. Create the following authorization policy:

   ```
   grant(any, //app/policy/wlsserver/console, //role/Admin) if true;
   ```

   a. Click Authorization Policies.

   b. In the Authorization Policies page, click New.

   c. In the Create Authorization Policy dialog page, select the Privileges tab, click `any` in the Select Privileges from Group list box, and then click Add.

   d. Select the Resources tab, expand *`wlsserver`* in the Child Resources list box, select `console`, and then click Add.

   e. Select the Policy Subjects tab, select `Admin` from the Roles List list box, click Add, and then click OK.

3. Distribute the policy to the WebLogic Server 8.1 Security Service Module. For information on how to distribute policy, see the Administration Console's help system. Be sure to verify the results of the distribution.

Protecting Resources

When you secure an EJB using a WebLogic Server 8.1 Security Service Module, you must follow these steps if you want to use the AquaLogic Enterprise Security providers instead of the default WebLogic providers.

1. Modify the EJB deployment descriptor (`ejb-jar.xml`) so that the assembly-descriptor does not have any method-permissions set to unchecked or excluded.

   If either of these settings is present in the deployment descriptor, then the EJB container enforces them rather than calling into the security subsystem.

2. Set the following system property to true, indicating that the EJB container delegates other security checks to the security subsystem.

   ```
   weblogic.security.fullyDelegateAuthorization=true
   ```

3. Add this line to the `WLES_JAVA_OPTIONS` in the `set-wls-env.sh` script.

Protecting a Cluster of WebLogic Servers

If you want to protect a cluster of WebLogic Servers using AquaLogic Enterprise Security, you must make some addition changes to the security configuration and resource configuration. For information on how to protect cluster of WebLogic Servers, see the following topics:

"Security Configuration" on page 4-15

"Resource Configuration" on page 4-17

"Policy Configuration" on page 4-18

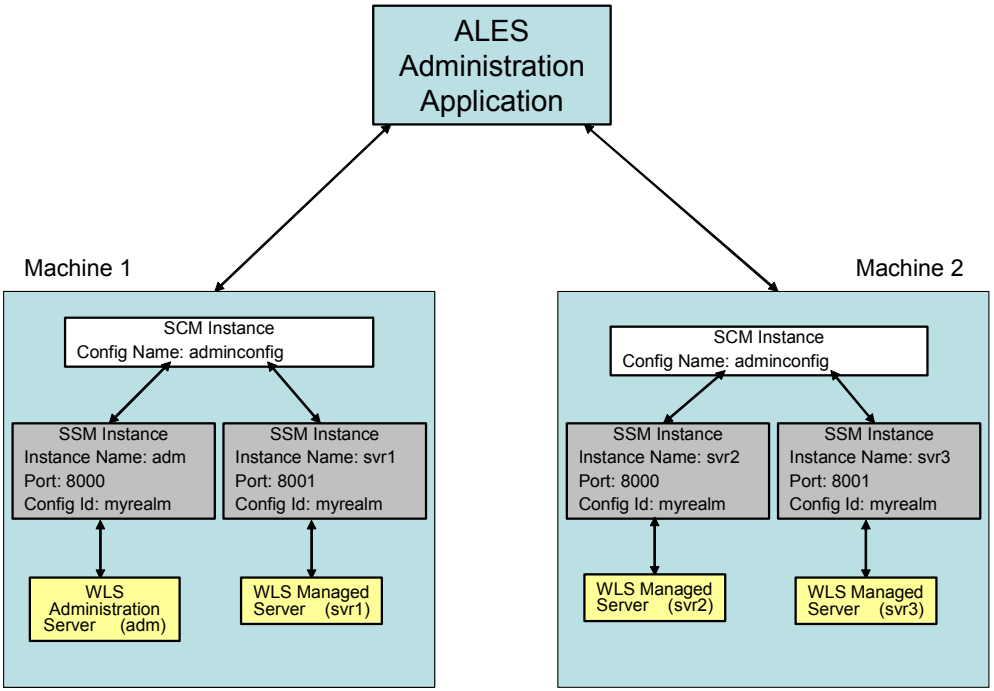
Security Configuration

Figure 4-1 shows a Security Service Module configuration named `myrealm`, located under a Service Control Manager named `adminconfig` in the AquaLogic Enterprise Security Administration Console. Your actual Security Service Module configuration will vary from this example based on the needs of your WebLogic domain.

Figure 4-1 Service Control Manager Configuration

Figure 4-2 shows a configuration for a cluster of four WebLogic Servers: one administration server (`adm`) and three managed servers (`svr1`, `svr2`, `svr3`), with one Security Service Module instance for each server. The Service Control Manager on both machines must use the same Configuration Name (`adminconfig`). Each Security Service Module must have a unique Instance Name and Port number per machine, but always shares a common Configuration ID (`myrealm`) across all machines. Thus, each server uses the same security provider configuration and receives the same policy.

Figure 4-2 WebLogic Server Clusters



Resource Configuration

You must also create the following two resources shown in Figure 4-3, setting them both to virtual.

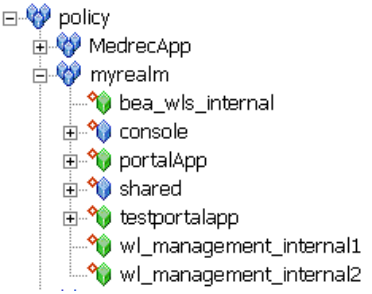
The `myrealm/wl_management_internal1` resource is accessed on the cluster's administration server by the WebLogic Admin Console to view WebLogic Server related log files.

The `myrealm/wl_management_internal2` resource is accessed on the cluster's administration server by a managed server during bootstrap and file distribution operations.

The `myrealm/bea_wls_internal` is accessed when one managed server is synchronizing with another managed server.

The `myrealm/wl_management_internal1`, `myrealm/wl_management_internal2` and `myrealm/bea_wls_internal` resources must be configured to allow virtual resources.

Figure 4-3 Resources for Managing WebLogic Server Clusters



Policy Configuration

You must create the policy listed in Table 4-1. Also, ensure that there is a role policy that maps the `Everyone` role to the group `allusers` in your identity directory.

Table 4-1 Policy Configuration

Privileges	Resources	Policy Subjects	Conditions
`any`	`myrealm/bea_wls_internal`	`role/Everyone`	none
`any`	`myrealm/wl_management_internal1, myrealm/wl_management_internal2`	`role/Everyone`	none

What's Next?

You have completed the installation and configuration of the WebLogic Server 8.1 Security Service Module. Your Security Administrator can now configure additional security services using the security providers for your Security Service Module, through the AquaLogic Enterprise Security Administration Console. If you configured the providers as part of the post install, you can now make changes to your configuration using the console.

Before you continue to configure security services, read the information on security configuration in the Administration Console help. This section provides additional information on how to

configure the Service Control Manager, the Security Service Module, and the providers, and then deploy your changes.

CHAPTER 5

Integrating with WebLogic Portal

This section covers the following topics:

Introduction

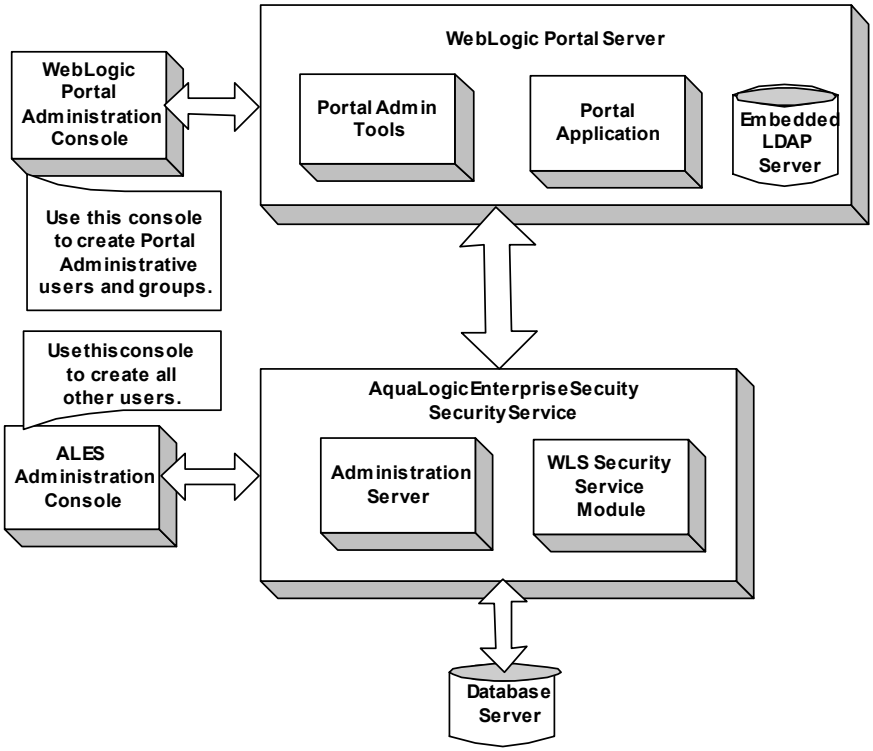
Integrating AquaLogic Enterprise Security with WebLogic Portal server and portal application results in an enhanced set of security services for use in protecting WebLogic Portal (see Figure 5-1). AquaLogic Enterprise Security participates in the authoring and management of policy for WebLogic Portal resources. Once AquaLogic Enterprise Security is integrated with WebLogic Portal, you use AquaLogic Enterprise Security Administration Server to manage resources related to portal desktops, books, pages, and portlets.

Therefore, the intent is that you use AquaLogic Enterprise Security for authorization of the resources associated with a portal application as well as standard WebLogic Server J2EE resources. The benefit of using AquaLogic Enterprise Security to manage visitor entitlements is that it offers fine-grained, dynamic role-based authorization. Additionally, AquaLogic Enterprise Security allows you to have common security policies for a heterogeneous environment. For example, you may have a single security infrastructure that supports WebLogic Portal, WebLogic Server, and custom applications.

The AquaLogic Enterprise Security security service does not replace all of the management functionality provided by the Portal Administration Tools. For example, as shown in Figure 5-1,

AquaLogic Enterprise Security is not used to manage administrative users and resources associated with Portal Delegated Administration and Portal Content Management; use the Portal Administration Tools for those management tasks.

Figure 5-1 Portal Integration Overview



AquaLogic Enterprise Security enables you to write, deploy, and manage fine-grained policy for controlling access to WebLogic Portal application resources. You can use AquaLogic Enterprise Security to protect portal desktops, books, pages, portlets, and application look and feels.

For more information, see the following topics:

- "Integration Features" on page 5-3
- "Supported Use-case Scenario" on page 5-3
- "Constraints and Limitations" on page 5-4

Integration Features

AquaLogic Enterprise Security can be used with either WebLogic Server 8.1 Service Pack 4 or Service Pack 5. While several different security providers can be used with WebLogic Portal, the following security providers include enhanced WebLogic portal support:

- The ASI Authorization provider—Enables you to use AquaLogic Enterprise Security to write, deploy, and manage fine-grained authorization of WebLogic Portal application resources related to desktops, books, pages, portlets, and application look and feels.
- The Database Authentication provider—Enables user and group controls. This provider is integrated into the Portal Administration Tools environment so as to handle user and group queries.

  Note: Use of the Database Authentication provider with WebLogic Portal is not mandatory. You may use other authentication providers as well.
- ASI Role Mapper—Enables dynamic mapping of principals (users and groups) to security roles at runtime. Role Mapping determines which security roles to apply to the principals stored in a subject when the subject is attempting to perform an operation on a portal application resource. Because this operation usually involves gaining access to the portal application resource, the ASI Role Mapper is used in conjunction with the ASI Authorization provider.

Supported Use-case Scenario

The following use-case scenario is supported when you integrate AquaLogic Enterprise Security with WebLogic Portal:

- The AquaLogic Enterprise Security Administration Server assumes responsibility for management and policy of resources related to Portal visitor entitlements.
- The AquaLogic Enterprise Security Administration Server is responsible for management of J2EE application resources associated with Portal applications and portal administration tools.
- The Portal Administration Tools continue to be responsible for the rest of Portal Management and Administration, including the creation and management of portal administrative users and groups.

Note: To implement this use case scenario, you must define the security configuration as specified in "Creating the Portal Application Security Configuration" on page 5-6.

Constraints and Limitations

When integrated with AquaLogic Enterprise Security, WebLogic Portal has the following constraints and limitations:

- Portal application administrators will not use the WebLogic Portal Administration Tools to create and manage visitor entitlements.

  Use of AquaLogic Enterprise Security with a Portal application implies that an administrator will not use the Portal Administration Tools to create "Visitor Entitlements" on portal desktops, books, pages, and portlets. Managing visitor entitlements from the Portal Administration Tools is not a supported use case.

- Users will not use application deployment descriptors to deploy policy.

  Use of Deployment descriptors to deploy policy is not supported in AquaLogic Enterprise Security.

- Migration of existing portal application policy is not supported.

  AquaLogic Enterprise Security does not to support the migration of visitor entitlements policy for existing portal applications. There are no facilities for migrating any information from the WebLogic Server embedded LDAP store.

- AquaLogic Enterprise Security does not replace or in any way interfere with the use of the Portal Administration Tools for the management of resource structures associated with Portal Delegated Administration and Portal Content Management.

  You cannot use AquaLogic Enterprise Security to manage the resources associated with Portal Delegated Administration and Portal Content Management. AquaLogic Enterprise Security does not support Portal Unified User Profiles.

Integration Pre-Requisites

Before you begin, you must ensure that the following pre-requisites are satisfied:

- The WebLogic Platform/Portal 8.1, with Service Pack 4 or Service Pack 5, must be installed on the local machine.
- The AquaLogic Enterprise Security WebLogic Server v8.1 Security Service Module, Version 2.1 must be installed on the local machine.
- You must have access to an Administration Console that is running on the AquaLogic Enterprise Security Administration Server, Version 2.1 on either the local machine or a remote machine.

- You have created a WebLogic Portal domain on the local machine and installed a portal application in that domain.

Integrating with WebLogic Portal

This section describes how to integrate AquaLogic Enterprise Security with WebLogic Portal. Once integrated, you can use the AquaLogic Enterprise Security Administration Console to write and deploy a set of authorization and role mapping policies to protect WebLogic Portal application resources.

Note: While the instructions provided is this section use a WebLogic Portal server and the sample portal application that ships with the WebLogic Platform 8.1 software distribution, you can use this procedure to integrate AquaLogic Enterprise Security with your WebLogic Portal server and portal application.

To integrate AquaLogic Enterprise Security with WebLogic Portal, perform the following tasks:

- "Creating the Portal Application Security Configuration" on page 5-6
- "Binding the Security Configuration" on page 5-7
- "Distributing the Security Configuration" on page 5-7
- "Creating an Instance of the Security Service Module" on page 5-7
- "Enrolling the Instance of the Security Service Module" on page 5-7
- "Modifying the Portal Server startWeblogic File" on page 5-8
- "Creating the security.properties File" on page 5-9
- "Replacing the Portal p13n_ejb.jar File" on page 5-9
- "Replacing the Portal p13n_system.jar File" on page 5-10
- "Replacing the DefaultAuthorizerInit.ldift File" on page 5-11
- "Configuring Policy for the Portal Application" on page 5-11
- "Discovering Portal Application Resources" on page 5-25
- "Distributing Policy and Security Configuration" on page 5-25
- "Starting the WebLogic Portal Server" on page 5-25
- "Using Portal Administration Tools to Create a Portal Desktop" on page 5-26

- "Accessing the Portal Application" on page 5-27

Creating the Portal Application Security Configuration

This section describes how to create a new security configuration named `myrealm`. A security configuration defines the set of security providers to use for adjudication, authentication, auditing, authorization, role mapping, and credential mapping services. The security configuration named `myrealm` matches the default security configuration for the WebLogic Portal sample portal application.

Note: To implement the use-case scenario described in "Supported Use-case Scenario" on page 5-3, you are required to defined the security configuration as described in this section. This security configuration is a requirement; it is not optional.

Refer to Table 5-1 and use the AquaLogic Enterprise Security Administration Server to configure the security providers listed there. Set the Configuration ID to `myrealm`. For instructions on creating a security configuration, see the administration console's help system.

Table 5-1 Portal Security Configuration

Security Provider	Configuration Settings
ASI Adjudication Provider	Uncheck the Require Unanimous Permit check box, and click Create.
Log4j Auditor	Accept the default settings, and click Create.
Database Authentication Provider	Set the Control Flag to `SUFFICIENT`, and click Create. For the Details tab settings, except for the Identity Scope, the parameters are populated automatically. Set the Identity Scope to `myusers`, and click Apply. **Note:** Even though you set the Identity Scope to `myusers`, you do not actually create the `myusers` identity until you perform the steps in "Creating the Realm Resource" on page 5-13.
WebLogic Authentication Provider	Set the Control Flag to `SUFFICIENT`, and click Create. **Note:** Make sure the authentication providers are configured in the following order: 1) Database Authenticator and 2) WebLogic Authenticator. **Note:** The WebLogic Authentication provider can be replaced with another authentication provider that supports write access to users and groups.

Table 5-1 Portal Security Configuration (Continued)

Security Provider	Configuration Settings
ASI Authorization Provider	On the General tab, accept the default settings, and click Create. On the Details tab, set the Identity Scope to `myusers`, and click Apply.
WebLogic Authorization Provider	Uncheck the Policy Deployment Enabled check box, and click Create.
WebLogic Credential Mapper Provider	Uncheck the Credential Mapping Deployment Enabled check box, and click Create.
ASI Role Mapping Provider	On the General tab, accept the default settings, and click Create. On the Details tab, set the Identity Scope to `myusers`, and click Apply.
WebLogic Role Mapper Provider	Uncheck the Role Deployment Enabled check box, and click Create.

Binding the Security Configuration

The security configuration must be bound to a Service Control Manager.

To bind the `myrealm` security configuration, see the Console Help

Distributing the Security Configuration

The `myrealm` security configuration must be distributed.

To distribute the `myrealm` security configuration, see the Console Help.

Creating an Instance of the Security Service Module

Before starting a WebLogic Server Security Service Module, you must first create an instance of the WebLogic Server 8.1 Security Service Module using the Create New Instance Wizard.

To create an instance of a WebLogic Server 8.1 Security Service Module, see "Creating an Instance of the WebLogic 8.1 Security Service Module" on page 4-5.

Enrolling the Instance of the Security Service Module

You must have the Administration Server running prior to enrolling the Security Service Module.

Note: While you can use the demonstration digital certificate in a development environment, you should never use it in a production environment.

To enroll a security service module, see "Enrolling the Instance of the Security Service Module" on page 4-6.

Modifying the Portal Server startWeblogic File

Before you can start a WebLogic Portal server that uses BEA AquaLogic Enterprise Security, you must modify the `startWeblogic` file that is located in the WebLogic Portal domain that you are using for you WebLogic Portal server. These modifications are needed so that portal connects the WebLogic Portal domain to the distributed `myrealm` security configuration on startup.

The `startWeblogic` file for the WebLogic Portal domain named `portalDomain` is located at: `BEA_HOME\user_projects\domains\portalDomain`

To edit the `startWeblogic` file, perform the steps:

Note: This procedure assumes a Windows installation of WebLogic Portal in the directory `c:\bea` with an WebLogic Server 8.1 Security Service Module instance named `portalInstance`.

1. Before you modify the script, make sure to make a backup copy. For example, for Microsoft Windows, copy `startWeblogic.cmd` to `startWeblogic.cmd.original`.
2. Add a line to call the environment batch file `set-wls-env.bat`. For example, add it below the line: `set SAVE_JAVA_OPTIONS=`

   ```
   call
   "c:\bea\ales21-ssm\wls-ssm\instance\portalInstance\bin\set-wls-env.bat"
   ```

3. Add the AquaLogic Enterprise Security `classpath` variables to the `classpath`. For example, add the following text before the line: `echo CLASSPATH=%CLASSPATH%`

   ```
   set CLASSPATH=%WLES_PRE_CLASSPATH%;%CLASSPATH%;%WLES_POST_CLASSPATH%
   ```

4. Add `%WLES_JAVA_OPTIONS%` to the server start command after `%JAVA_OPTIONS%`. Listing 5-1 shows, in bold text, where to make this change.

Listing 5-1 Adding WLES_JAVA_OPTIONS to the startWebLogic File

```
if "%WLS_REDIRECT_LOG%"=="" (
      echo Starting WLS with line:
      echo %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
%WLES_JAVA_OPTIONS% -Dweblogic.Name=%SERVER_NAME%
-Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
```

```
%PROXY_SETTINGS% %SERVER_CLASS%
      %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
%WLES_JAVA_OPTIONS% -Dweblogic.Name=%SERVER_NAME%
-Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%PROXY_SETTINGS% %SERVER_CLASS%
) else (
      echo Redirecting output from WLS window to %WLS_REDIRECT_LOG%
      %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
%WLES_JAVA_OPTIONS% -Dweblogic.Name=%SERVER_NAME%
-Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%PROXY_SETTINGS% %SERVER_CLASS%  > "%WLS_REDIRECT_LOG%" 2>&1
)
```

Creating the security.properties File

Create a text file named `security.properties` and place it in the portal domain directory. You use this file to define the AquaLogic Enterprise Security realm and the default realm. Listing 5-2 shows the content of this file for the realm `myrealm`.

Listing 5-2 security.properties File

```
# AquaLogic Enterprise Security Configuration File
#
# This file contains AquaLogic Enterprise Security configuration
# properties. By default, the AquaLogic Enterprise Security runtime
# looks for a property file called 'security.properties' in the
# working directory.
wles.realm=myrealm
wles.default.realm=myrealm
```

Replacing the Portal p13n_ejb.jar File

To integrate AquaLogic Enterprise Security with WebLogic Portal, you must replace the `p13n_ejb.jar` file in the top-level portal application directory with the version of that file that is provided in the AquaLogic Enterprise Security software distribution. The AquaLogic

Enterprise Security version of `p13n_ejb.jar` is located in `BEA_HOME/ales21-ssm/wls-ssm/lib` directory.

Note: BEA AquaLogic Enterprise Security 2.1 includes two versions of p13n_ejb.jar, the WebLogic Server 8.1 SP4 version: p13n_ejb_81SP4.jar, and the SP5 version: p13n_ejb_81SP5.jar. Be sure to use the correct version.

Note: Because these instructions assume that you are using the sample portal application that ships with WebLogic Portal, this procedure instructs you to replace the `p13n_ejb.jar` in the sample portal application. To use a different portal application, replace `p13n_ejb.jar` in that application as well.

To replace `p13n_ejb.jar`, perform the following steps:

1. Rename the portal version of the `p13n_ejb.jar`. For example, rename it to `p13n_ejb.jar.original`. The portal application version of this file is located in `BEA_HOME/weblogic81/samples/portal/portalApp`.
2. Depending on which version of the WebLogic Server 8.1 you are using (SP4 or SP5), copy either `p13n_ejb_81SP4.jar` or `p13n_ejb_81SP5.jar` from `BEA_HOME/ales21-ssm/wls-ssm/lib/` to `BEA_HOME/weblogic81/samples/portal/portalApp` and `rename` it to `p13n_ejb.jar`.

Replacing the Portal p13n_system.jar File

To integrate AquaLogic Enterprise Security with WebLogic Portal, you must replace the `p13n_system.jar` file in the `BEA_HOME/weblogic81/p13n/lib` directory with the version of that file that is provided in the AquaLogic Enterprise Security software distribution. The AquaLogic Enterprise Security version of this file is located in `BEA_HOME/ales21-ssm/wls-ssm/lib` directory.

Note: BEA AquaLogic Enterprise Security 2.1 includes two versions of `p13n_system.jar`, the WebLogic Server 8.1 SP4 version: `p13n_system_81SP4.jar`, and the SP5 version: `p13n_system_81SP5.jar`. Be sure to use the correct version.

Note: Once you replace `p13n_system.jar` in the `/lib` directory of the WebLogic Platform installation, all portal domains configured for that installation must be AquaLogic Enterprise Security enabled.

To replace `p13n_system.jar`, perform the following steps:

1. Rename the portal version of the `p13n_system.jar`. For example, rename it to `p13n_system.jar.original`. The portal version of this file is located in `BEA_HOME/weblogic81/p13n/lib`.

2. Depending on which version of the WebLogic Server 8.1 you are using (SP4 or SP5), copy either `p13n_system_81SP4.jar` or `p13n_system_81SP5.jar` from `BEA_HOME/ales21-ssm/wls-ssm/lib/` to `BEA_HOME/weblogic81/p13n/lib` and rename it to `p13n_system.jar`.

Replacing the DefaultAuthorizerInit.ldift File

WebLogic Server 8.1 uses the `DefaultAuthorizerInit.ldift` file to establish access controls for J2EE resources. By default, WebLogic Server allows access to all J2EE resources to users in the `Everyone` role. To protect these resources, WebLogic Server provides the Administration Console and other tools to define security policies.

When using AquaLogic Enterprise Security, there is a need to supersede the WebLogic Server J2EE access controls. The `DefaultAuthorizerInit.ldift` file, provided in the AquaLogic Enterprise Security 2.1 for the WebLogic Server 8.1 Security Service Module, is used for this purpose.

To enable the AquaLogic Enterprise Security `DefaultAuthorizerInit.ldift` file to supersede WebLogic Server access controls for J2EE resources in the sample portal application, perform the following steps:

1. Copy the `DefaultAuthorizer.ldift` file from `BEA_HOME/ales21-ssm\wls-ssm\template\config` to `BEA_HOME/user_projects/domains/mydomain`.

2. If the `/ldap` directory exists at the following location, delete it: `BEA_HOME/user_projects/domains/portalDomain/portalServer`

Note: Because these instructions assume that you are using the sample portal domain that ships with WebLogic Portal, this procedure instructs you to delete the `ldap` directory in the `portalDomain/portalServer` directory. Repeat the above steps for all AquaLogic Enterprise Security enabled portal domains.

Configuring Policy for the Portal Application

Developing a set of policies typically begins by determining which resources you need to protect and your access control requirements. You then create the identity directory, resources, groups, users, and roles that you will use to write policies to protect those resources. Next you write a set of authorization and role mapping policies to define access control on those resources. Finally, you deploy the set of polices to the WebLogic Server 8.1 Security Service Module that you use to control access to your portal application resources.

AquaLogic Enterprise Security provides two means for writing portal application policy, the Administration Console and the Policy Import Tool. In this section you are directed to use the Administration Console to write policy.

For more information on how to use the Administration Console to write policy, see the *Policy Managers Guide* and the Console Help.

For instructions on how to use the Policy Import Tool to write and import policy files, see the Importing and Exporting Policy section in the *Policy Managers Guide*.

This section covers the following topics:

Creating the Identity Directory and Users

This section describes how to use the Administration Console to create an identity directory, groups, and users for a portal application.

Note: This procedure uses `myusers` as the name of the Identity directory; however, you can use a different name.

To create the Identity directory and users:

1. In the left pane, click Identity. The Identity page displays the name of each directory available.
2. Click New. The Create Directory dialog box appears.
3. In the Name text box, type `myusers` and click OK. The `myusers` directory appears in the list of Identity directories.
4. In the left pane, click Users. The myusers>Users page displays.
5. Click New. The Create User dialog box appears.
6. Create the users that will visit your portal application.

Configuring Resources and Privilege

This section describes how to use the Administration Console to define the portal application resources that you will protect using AquaLogic Enterprise Security.

To configure resources, perform the following tasks:

- "Creating the Realm Resource" on page 5-13
- "Creating the Shared Resources" on page 5-14
- "Creating the Console Resources" on page 5-15
- "Creating the PortalApp Resources" on page 5-16

Creating the Realm Resource

Note: `myrealm` is used is this procedure as the realm name because the WebLogic Portal sample portal application exists in the `myrealm` realm. You can choose any realm name for your portal application.

To create a realm resources, perform the following steps:

1. Expand the Resources folder, and click Resources. The Resource page displays.
2. In the Resources page, select the Policy node, and click New. The Create Resource dialog box appears.
3. In the Name text box, enter `myrealm`, select `Binding` from the Type drop-down list box, and click Ok. The `myrealm` resource appears under the Policy node.
4. Select the `myrealm` resource and click Configure. The Configure Resource dialog box appears.
5. From the Type drop-down list box, select Binding Application, check the Distribution Point and Allow Virtual Resources check boxes, and click Ok.
6. Refer to Table 5-2 and modify the configuration of the ASI Authorization provider as described there.

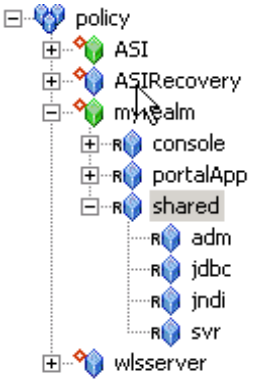
Table 5-2 Portal Security Configuration Modifications

Security Provider	Configuration Settings
ASI Authorization Provider	On the Details tab, set the Application Deployment Parent to `//app/policy/myrealm` and click Apply. On the Bindings tab, from the Bind drop-down menu, select `//app/policy/myrealm`, and click Bind.

Creating the Shared Resources

Figure 5-2 shows the shared resources that you must create.

Figure 5-2 shared Resources



To create the `shared` resources, perform the following steps:

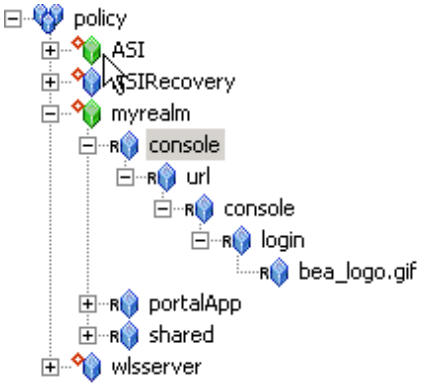
1. Select the `myrealm` resource and click New. The Create Resource dialog box appears.
2. In the Name text box, enter `shared`, and click Ok. The `shared` resource appears under `myrealm`.
3. Select the shared resource and click Configure. The Configure Resource dialog box appears.
4. Check the Allow Virtual Resources and click Ok.
5. Click the `shared` resource and click New. The Create Resource dialog box appears.

6. In the Name text box, enter `adm` and click Ok. The `adm` resource appears under the `shared` resource.
7. To configure the `jdbc`, `jndi`, and `svr` resources as shown in Figure 5-2, repeat steps 5 and 6 for each resource.

Creating the Console Resources

Figure 5-3 shows the console resources that you must create.

Figure 5-3 console Resources



To create the `console` resources, perform the following steps:

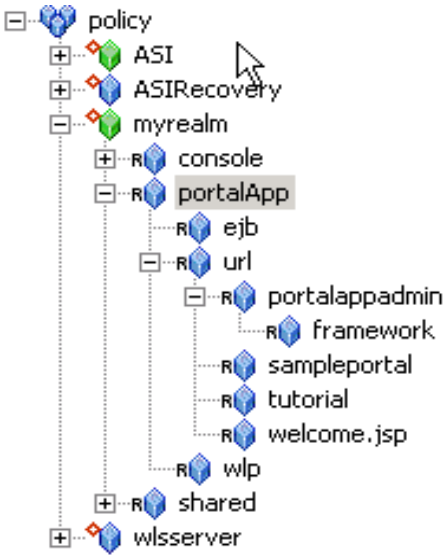
1. Select the `myrealm` resource and click New. The Create Resource dialog box appears.
2. In the Name text box, enter `console`, and click Ok. The `console` resource appears under `myrealm`.
3. To create the `url`, `console`, `login`, `and bea_logo.gif` resources as shown in Figure 5-3, repeat steps 1 and 2 for each resource.
4. Select the `console` resource directly under `myrealm` and click Configure. The Configure Resource dialog box appears.
5. Check the Allow Virtual Resources and click Ok.

Creating the PortalApp Resources

Note: This procedure uses `portalApp` as the name of the portal application resource because it is the name of the WebLogic Portal sample portal application. However, you should use the name of your portal application when creating the portal application resource.

Figure 5-4 shows the `portalApp` resources that you must create.

Figure 5-4 PortalApp Resources



To create the `portalApp` resources, perform the following steps:

1. Select the `myrealm` resource and click New. The Create Resource dialog box appears.
2. In the Name text box, enter `portalApp`, and click Ok. The `portalApp` resource appears under `myrealm`.
3. Select the `portalApp` resource and click New. The Create Resource dialog box appears.
4. In the Name text box, enter `ejb` and click Ok. The `ejb` resource appears under the `portalApp` resource.
5. Select the `ejb` resource and click Configure. The Configure Resource dialog box appears.
6. Check the Allow Virtual Resources and click Ok.

7. To configure the `url` resource, repeat steps 5 and 6.
8. Select the `portalApp` resource and click New. The Create Resource dialog box appears.
9. In the Name text box, enter `wlp` and click Ok. The `wlp` resource appears under the `portalApp` resource. Do **not** configure the `wlp` resource to allow virtual resources.
10. Select the `url` resource and click New. The Create Resource dialog box appears.
11. In the Name text box, enter `portalappadmin` and click Ok. The `portalappadmin` resource appears under the `url`.
12. Repeat steps 10 and 11 to create the remaining resources shown under the portalApp resource in Figure 5-4. Do **not** configure any of the remaining resources to allow virtual resources.

Configuring Resource Privileges

This section describes how to use the Administration Console to define portal application privileges.

To create privileges, perform the following steps:

1. Expand the Resources folder in the left pane, and click Privileges. The existing privileges appear in the right pane.
2. Click New. The Create Privilege dialog box appears.
3. In the Privilege Name text box, enter `lookup` and click Ok. The `lookup` privilege appears in the list of privileges.
4. Click New. The Create Privilege dialog box appears.
5. In the Privilege Name text box, enter `reserve` and click Ok. The `reserve` privilege appears in the list of privileges.
6. Click OK.

Creating the Role Mapping Policy

This section describes how to use the Administration Console to create role mapping policy that will be used to control access to portal application resources.

Table 5-3 lists and describes the role mapping policy that you have to create for the WebLogic Portal domain.

Table 5-3 Portal Application Role Mapping Policy

Role Mapping Policy	Description
`grant(//role/Everyone, //app/policy/myrealm, //sgrp/myusers/allusers/) if true;`	Creates the role mapping policy necessary for the Everyone role to be used in the `myrealm` Identity directory. **Note:** If you do not create the `Everyone` role mapping policy correctly, none of the policy rules defined in Table 5-4 that use the `Everyone` role will work properly.

To create the role mapping policy, refer to Table 5-3 and perform the following steps:

Caution: If you do not create the `Everyone` role mapping policy correctly, none of the authorization policies defined in Table 5-4 that use the `Everyone` role will work properly.

1. Expand the Policy folder in the left pane, and click Role Mapping Policies. The Role Mapping Policies page appears.
2. Click New. The Create Role Mapping Policy dialog box appears.
3. Select the Grant radio button.
4. Select the Roles tab, select `Everyone` in the Available Roles list box, and click Add.
5. Select the Resources tab, select `myrealm`, and click Add.
6. Select the Policy Subjects tab, select the `allusers` in the list box, click Add, and click Ok.

Creating Authorization Policies

This section describes how to use the Administration Console to create authorization policies to protect portal application resources.

Table 5-4 lists and describes the authorization policies that you have to create for the WebLogic Portal domain to protect the sample portal application resources.

Table 5-4 Portal Application Authorization Policies

Authorization Policies	Description
`grant(any, //app/policy/myrealm/shared/svr, //role/Admin) if true;` `grant(any, //app/policy/myrealm/shared/adm, //role/Admin) if true;`	Authorization policies for booting the WebLogic Portal server and performing administrative tasks.

`grant(any, //app/policy/myrealm/portalApp/url/sampleportal, //role/Everyone) if true;`
`grant(any, //app/policy/myrealm/portalApp/url/tutorial, //role/Everyone) if true;`
`grant(any, //app/policy/myrealm/portalApp/url/welcome.jsp, //role/Everyone) if true;`
	Grants permission to those in the role Everyone (includes the anonymous user) to access all of the tutorial and sample portal url resources. This authorization policy creates Portal open by default orientation for these two sample portals.

`grant(GET, //app/policy/myrealm/portalApp/url/portalappadmin/framework, //role/Everyone) if true;`	Allows unauthenticated users to access images used on the Administration Portal login page.
`grant(any, //app/policy/myrealm/portalApp/url/portalappadmin, //role/ PortalSystemAdministrator) if true;`	Grants permission for those is the role PortalSystemAdministrator to access the WebLogic Portal Administration url Portal resources
`grant(lookup, //app/policy/myrealm/shared/jndi, //role/Everyone) if true;`	Grants permission for those is the Everyone role to lookup JNDI resources.
`grant(reserve, //app/policy/myrealm/shared/jdbc, //role/Everyone) if true;`	Grants permission for those is the Everyone role to reserve JDBC resources.
`grant(any, //app/policy/myrealm/console, //role/Admin) if true;`	Grants permission for those in the Admin role to access the url resources of the WebLogic Server console.

Table 5-4 Portal Application Authorization Policies (Continued)

Authorization Policies	Description
`grant(GET, //app/policy/myrealm/console/url/console/login/bea_logo.gif, //role/Everyone) if true;`	Grants permission for those in the Everyone role to get access to the bea logo gif image resource in the WebLogic Server console
`grant(any, //app/policy/myrealm/portalApp/ejb, //role/Everyone)`	Initially allows access to all EJB methods.

Perform the following steps create the authorization policies listed in Table 5-4.

1. Expand the Policy folder in the left pane, and click Authorization Policies. The Authorization Policies page appears.
2. Click New. The Create Authorization Policy dialog box appears.
3. Select the Grant radio button.
4. To create the first authorization policy listed in Table 5-4, click the Privileges tab, select the `any` privilege from the Select Privileges from Group list box, and click Add.
5. Click the Resources tab, select the `svr` resource from the Child Resource box and click Add.

   Note: If Table 5-4 lists multiple resources for a single privilege and role, you may define all of the resources in one authorization policy.
6. Click the Policy Subjects, select the `Admin` role from the Roles List box, click Add, and click Ok.
7. Repeat steps 4 to 6 for each of the remaining authorization policies listed in Table 5-4.

Policy for Visitor Entitlements to Portal Resources

Visitor entitlements is a mechanism used by WebLogic Portal for determining who may access the resources in a portal application and what they may do with those resources. AquaLogic Enterprise Security provides a means of defining robust role-based policy for portal resources. The resources that can be entitled within a portal application include:

- desktops
- books

- pages
- portlets
- look and feels

Table 5-5 shows the capabilities of each of these resources:

Table 5-5 Capabilities According to Resource Type

Resource Type	View	Minimize	Maximize	Edit	Remove
Desktop	x				
Book	x	x	x		
Page	x				
Portlet	x	x	x	x	x
Look & Feel	x				

The capabilities listed in Table 5-5 are defined as follows:

- View—Determines whether or not the user can see the resource.
- Minimize/Maximize—Determines whether or not the user is able to minimize or maximize the portlet or book. This applies to books within a page, not to the primary book.
- Edit—Determines whether or not the user can edit the resource properties.
- Remove —Determines whether or not the user can remove the portlet from a page.

The following topics provide information on how to use AquaLogic Enterprise Security to configure portal resources:

- "Configuring Policy for Desktops" on page 5-22
- "Configuring Policy for Books" on page 5-22
- "Configuring Policy for Pages" on page 5-23
- "Configuring Policy for Portlets" on page 5-23
- "Configuring Policy for Look and Feels" on page 5-24
- "Defining Policy for Portlets using Instance ID" on page 5-24

Configuring Policy for Desktops

A desktop is a view of the portal that the visitor accesses. There can be one or more desktops per portal, so the portal is effectively a container for the desktops. A Desktop is referenced as a resource in AquaLogic Enterprise Security in the following manner:

`//app/policy/`*`myrealm`*`/`*`portalapp`*`/wlp/`*`sampleportal`*`/com_bea_p13n/Desktop/`*`samplePortal`*

where:

`myrealm` is the realm in which the portal application is installed

`portalapp` is the portal application directory

`sampleportal` is the name of the sample portal application

`samplePortal` is the label definition of the desktop.

If you define an authorization policy at the `samplePortal` level, you can control access at the `samplePortal` desktop level.

Table 5-6 shows an authorization policy that grants the `view` privilege to the `samplePortal` desktop for visitors in the SampleVisitor role.

Table 5-6 SamplePortal Authorization Policy

Effect	Privilege	Resource	Policy Subject
Grant	view	`/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Desktop/samplePortal`	SampleVisitor role

Configuring Policy for Books

A book is a collection of pages. A book is referenced as a resource in AquaLogic Enterprise Security in the following manner:

`//app/policy/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Book/`*`book_1`*

where *`book_1`* is the label definition of the book.

If you define an authorization policy at the `book_1` level, you can control access at the book_1 book level.

Table 5-7 shows an authorization policy that grants the `view` privilege to the book_1 book for visitors in the SampleVisitor role.

Table 5-7 Book_1 Authorization Policy

Effect	Privilege	Resource	Policy Subject
Grant	view	/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Book/*book_1*	SampleVisitor role

Configuring Policy for Pages

A page is the primary holder of individual portal elements such as portlets. A page is referenced as a resource in AquaLogic Enterprise Security in the following manner:

`//app/policy/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Page/`*`page_2`*

where *page_2* is the label definition of the page.

If you define an authorization policy at the `page_2` level, you can control access at the page_2 page level.

Table 5-8 shows an authorization policy that grants the `view` privilege to the page_2 page for visitors in the SampleVisitor role.

Table 5-8 Page_2 Authorization Policy

Effect	Privilege	Resource	Policy Subject
Grant	view	/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Page/*page_2*	SampleVisitor role

Configuring Policy for Portlets

Portlets are the visible components that act as the interface to applications and content. A portlet is referenced as a resource in AquaLogic Enterprise Security in the following manner:

`//app/policy/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Portlet/`*`portlet_login1`*

where *portlet_login* is the label definition of the portlet.

If you define an authorization policy at the *portlet_login1*level, you can control access at the *portlet_login1* Portlet level.

Table 5-9 shows an authorization policy that grants the `view` privilege to the *portlet_login1* Portlet for visitors in the SampleVisitor role.

Table 5-9 Portlet_login1 Authorization Policy

Effect	Privilege	Resource	Policy Subject
Grant	view	/myrealm/portalapp/wlp/sampleportal/com_bea_p13n /Portlet/*portlet_login1*	SampleVisitor role

Configuring Policy for Look and Feels

A Look and Feel is a selectable combination of skins and skeletons that determine the physical appearance of a portal desktop. A Look and Feel is referenced as a resource in AquaLogic Enterprise Security in the following manner:

```
//app/policy/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/LookAndFeel/textL
ookAndFeel
```

where *textLookAndFeel* is the label definition of the Look and Feel.

If you define an authorization policy at the *textLookAndFeel*level, you can control access at the *textLookAndFeel* level.

Table 5-10 shows an authorization policy that grants the view privilege to the *textLookAndFeel* Look and Feel visitors in the SampleVisitor role.

Table 5-10 Portlet_login1 Authorization Policy

Effect	Privilege	Resource	Policy Subject
Grant	view	/myrealm/portalapp/wlp/sampleportal/com_bea_p13n /LookAndFeel/*textLookAndFeel*	SampleVisitor role

Defining Policy for Portlets using Instance ID

Portlets have a unique instance ID that allows for granular authorization policy definition outside the standard hierarchy of the Desktop->Book->Page->Portlet. To use this in AquaLogic Enterprise Security, add a condition statement in the portlet rule that adds the portlet instance ID. For example:

```
grant( [//priv/maximized,//priv/minimized,//priv/view],
//app/policy/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Portlet
/portlet_login1, //role/Operator) if instanceid = "portlet_login1";
```

Table 5-11 shows an authorization policy that grants the `view` privilege to the *`portlet_login1`* Portlet for visitors in the Operator role.

Table 5-11 Portlet_login1 Authorization Policy Using Instance ID

Effect	Privilege	Resource	Policy Subject	Condition
Grant	view	`/myrealm/portalapp/wlp/sampleportal/com_bea_p13n/Portlet/`*`portlet_login1`*	Operator role	`if instanceid = "`*`portlet_login1`*`";`

Discovering Portal Application Resources

When developing policies for use with a Security Service Module, you can use the discovery mode feature of the AquaLogic Enterprise Security Administration Server to help define your policy components. Instructions for using discovery mode are provided in the "Resource Discovery" section in the *Policy Managers Guide*.

Distributing Policy and Security Configuration

Distribute policy and security configuration to the WebLogic Server 8.1 Security Service Module.

For information on how to distribute policy and security configuration, see the Console Help. Be sure to verify the results of your distribution.

Starting the WebLogic Portal Server

To start a WebLogic Portal server, perform the following steps:

1. Open a shell (command prompt) on the machine on which you created the portal domain.
2. Change to the portal domain directory:
   `BEA_HOME\user_projects\domains\portalDomain`.
3. Run the following script:

   On Windows: `startWebLogic.cmd`

   On UNIX: `startWeblogic.sh`

Configuring Portal Administration to Use the WebLogic Authenticator

To use the WebLogic Authentication provider to manage administrative users for portal administration, perform the following steps:

1. Within the Portal Administration console, go to `Service Administration`.
2. Select `Authentication Hierarchy Service`.
3. Add `WebLogicAuthenticator` to the Authentication Providers to Build list.

Using Portal Administration Tools to Create a Portal Desktop

Before you can use AquaLogic Enterprise Security to control access to a portal desktop, you must use WebLogic Portal Administration Tools to create a portal desktop.

To create a portal desktops, perform the following steps:

1. To have full control of the definition and instance labels, use WebLogic Workshop 8.1 to create the initial portal application.
2. Using the initial portal application as a template, use the Portal Administration Tools to create the portal desktops.

For instructions on using Portal Administration Tools to create portal desktops, see "Create a Desktop" in the WebLogic Administration Portal Online Help.

To create a portal desktop for the sample portal application using the Portal Administration Tools, perform the following steps:

1. Open a browser and point it to: `http://localhost:7001/testportalappAdmin`. The Sign In page appears.
2. Enter Username: `portaladmin`, Password: `portaladmin`, and click Sign In. The Portal Resources navigation tree appears.
3. Right click on Portals and select New Portal. The Portal Resource page appears.
4. Enter a Name for this Portal, for example: `myportal`, enter a partial URL for this Portal, for example: `myportal`, and click Save. The Available Portals list appears.
5. Select the `myportal` link from the list. The Editing Portal: `myportal` page appears.
6. Click Create New Desktop. The New Desktop Properties dialog appears.

7. Enter Title, for example: `mydesktop` and a Partial URL, for example: `mydesktop`.
8. Choose a Template:Choose: `testportalweb/test.portal` and click Create New Desktop. Desktops contained in Portal `myportal` list appear.
9. Select `mydesktop` from the list. The Editing Desktop: `mydesktop` page appears.
10. Select View Desktop. `mydesktop` is displayed in a new browser window. Verify that the desktop contains the sample portal application.
11. Close the mydesktop browser and Logout. The Sign In page appears.
12. Exit the Portal Administration Tool by closing its browser.

Accessing the Portal Application

To access a portal application running on a portal server, open a browser and point it to the desktop URL. For example, if you set up the desktop for the sample portal application as described in "Using Portal Administration Tools to Create a Portal Desktop" on page 5-26, you can access the sample portal application using the following URL:

`http://<host_name>:7001/sampleportal/appmanager/myportal/mydesktop`

where <*host_name*> is the machine on which portal application is running.

CHAPTER 6

Integrating with AquaLogic Data Services Platform

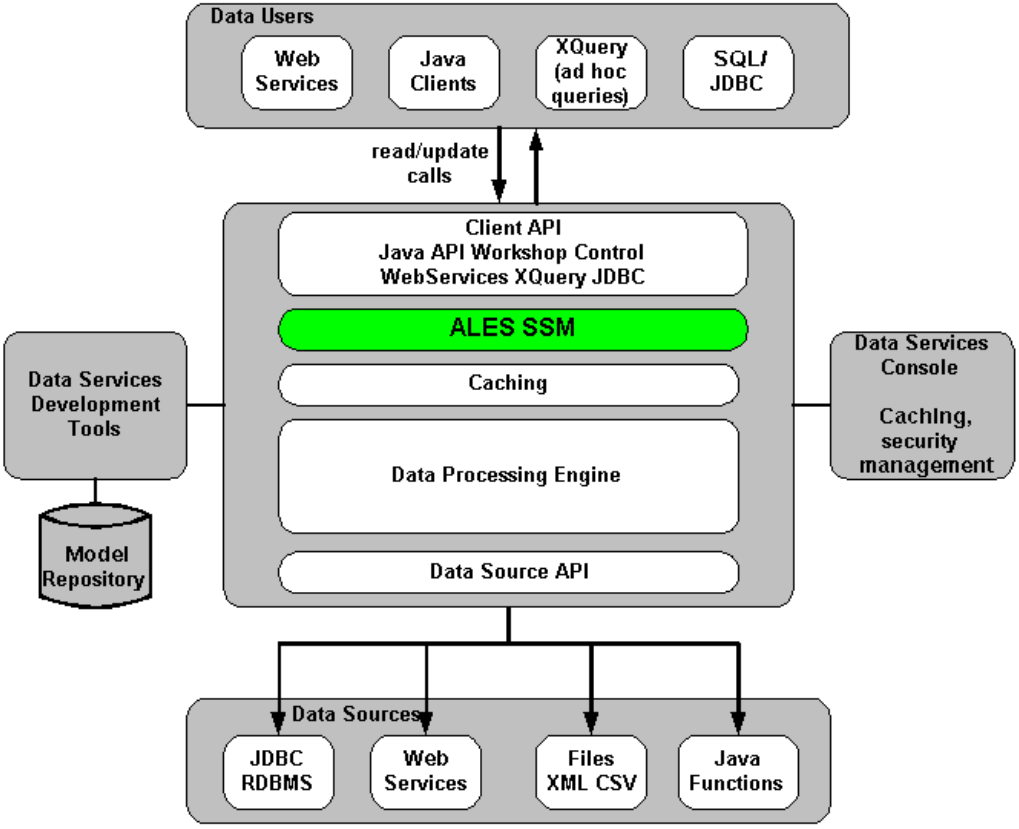
This section covers the following topics:

Introduction

AquaLogic Enterprise Security (ALES) can provide fine-grained entitlements for Data Services serviced by AquaLogic Data Services Platform (ALDSP) 2.1 (formally Liquid Data). AquaLogic Enterprise Security can be used to manage access control to entire services or elements of those services. AquaLogic Enterprise Security allows you to have common set of security policies for a heterogeneous environment, and a single security infrastructure that supports WebLogic Portal, Server, and custom applications.

The ALES service does not replace all of the management functionality provided by the ALDSP. The ALDSP Administrative console (ldconsole) is still used to manage all of the attributes of the various data services aggregated by ALDSP (see Figure 6-1).

Figure 6-1 ALDSP Integration Overview



The AquaLogic Enterprise Security WebLogic SSM enables you to write, deploy, and manage fine-grained policy for controlling access to all WebLogic server application resources, including data services. A specific resource type ld allows a security administrator to represent the data services in the ALES resource hierarchy. Elements of that data service are also converted to the ALES format for evaluation by the ASI authorization engine.

For more information, see the following topics:

- "Integration Features" on page 6-3
- "Supported Use-case Scenario" on page 6-3
- "Constraints and Limitations" on page 6-3

Integration Features

AquaLogic Data Service Platform (ALDSP) 2.1 requires WebLogic Server 8.1 Service Pack 5. While the ALES framework allows for different security providers to be used with ALDSP, the following providers were certified:

- The ASI Authorization and Role Mapping providers enables you to use AquaLogic Enterprise Security to write, deploy, and manage fine-grained authorization of Data Services.
- The Database Authentication provider performs authentication services for for the SSM.

Supported Use-case Scenario

The following use-case scenario is supported when you integrate AquaLogic Enterprise Security with AquaLogic Data Services Platform:

- The AquaLogic Enterprise Security Administration Server assumes responsibility for management and policy of data services and elements of those services through the ALES console or Policy Management API.
- The AquaLogic Enterprise Security Administration Server is responsible for access control of J2EE application deployed on the ALDSP WebLogic Server.
- The ALDSP Administration Console continue to be the management point for data services.

Constraints and Limitations

AquaLogic Enterprise Security integration with ALDSP has the following constraints and limitations:

- Liquid Data 8.1 is not supported
- Data service elements must be enabled for security through the ALDSP Admin console before ALES can manage element-based access control.
- ALES cannot provide entitlements and control which records are returned by the data service. This can still be done, but must be performed through the ALDSP Admin Console.

Integration Pre-Requisites

Before you begin, you must ensure that the following pre-requisites are satisfied:

- WebLogic Platform 8.1 Service Pack 5
- WebLogic Server v8.1 Security Service Module, Version 2.1
- You must have access to an Administration Console that is running on the AquaLogic Enterprise Security Administration Server, Version 2.1 on either the local machine or a remote machine.
- ALDSP 2.1

Integrating with AquaLogic Data Services Platform

This section describes how to integrate AquaLogic Enterprise Security with AquaLogic Data Services Platform. Once integrated, you can use the AquaLogic Enterprise Security Administration Console to write and deploy a set of authorization and role mapping policies to protect Data Services and elements of those services.

Note: The instructions provided is this section use the ALDSP sample application RTL App that ships with the ALDSP 2.1 software distribution. This procedure is representative of any integration of AquaLogic Enterprise Security with ALDSP.

To integrate AquaLogic Enterprise Security with AquaLogic Data Services Platform, perform the following tasks:

- "Enabling Elements for Access Control" on page 6-5
- "Creating the SSM configuration" on page 6-5
- "Binding the SSM configuration" on page 6-6
- "Distributing the SSM configuration" on page 6-6
- "Creating an Instance of the Security Service Module" on page 6-6
- "Enrolling the Instance of the Security Service Module" on page 6-7
- "Creating the WebLogic Server startWeblogicALES File" on page 6-7
- "Modifying the WebLogic Server setDomainEnv script" on page 6-8
- "Creating the security.properties File" on page 6-8
- "Configuring Policy for Data Services" on page 6-8
- "Discovering Data Services" on page 6-17

Enabling Elements for Access Control

Before enabling your ALDSP domain for ALES, open the ALDSP Administration console by:

1. Open browser to visit http://<host_name>:<port>/ldconsole.
2. Login as Administrator.
3. Browse to the Data services elements that are to be controlled by ALES. For this example, enable the following:
   a. Expand RTLServices/OrderSummaryView and select Security Tab.
   b. Select Secured Elements Tab.
   c. Expand elements and check OrderSummary->OrderDate as element to be secured. (This allows the element call to go to the security check.)

Creating the SSM configuration

This section describes how to create a new SSM configuration named aldsprealm. A SSM configuration defines the set of security providers to use for adjudication, authentication, auditing, authorization, role mapping, and credential mapping services.

Note: To implement the use-case scenario described in Supported Use-case Scenario, the recommended configuration as described in this section, however, you may be able to extend this with other providers.

Refer to Table 6-1and use the AquaLogic Enterprise Security Administration Server to configure the security providers listed there. Set the Configuration ID to aldsprealm. For instructions on creating a SSM configuration, see Configuring a Security Service Module in the Administration and Deployment Guide and the Console Help.

Table 6-1 Providers for Use in ALDSP Integration

Provider	Configuration Settings
ASI Adjudication Provider	Accept default settings.
Log4j Auditor	Accept the default settings, and click Create.
Database Authentication Provider	Set the Control Flag to SUFFICIENT, and click Create. For the Details tab settings, except for the Identity Scope, the parameters are populated automatically. Set the Identity Scope to aldspusers, and click Apply. Note: Even though you set the Identity Scope to aldspusers, you do not actually create the aldspusers identity until you perform the steps in Creating the Realm Resource.
ASI Authorization Provider	On the General tab, accept the default settings, and click Create. On the Details tab, set the Identity Scope to aldspusers, and click Apply.
WebLogic Credential Mapper Provider	Uncheck the Credential Mapping Deployment Enabled check box, and click Create.
ASI Role Mapping Provider	On the General tab, accept the default settings, and click Create. On the Details tab, set the Identity Scope to aldspusers, and click Apply.

Binding the SSM configuration

The SSM configuration must be bound to a Service Control Manager (SCM).

To bind the aldsprealm SSM configuration, see “Binding a Security Service Module to a Service Control Manager” in the Console Help

Distributing the SSM configuration

The aldsprealm SSM configuration must be distributed.

To distribute the aldsprealm SSM configuration, see “Distributing Configuration” in the Console Help.

Creating an Instance of the Security Service Module

Before starting a WebLogic Server 8.1 Security Service Module, you must first create an instance of the WebLogic Server 8.1 Security Service Module using the Create New Instance Wizard.

To create an instance of a WebLogic Server 8.1 Security Service Module, see "Creating an Instance of the WebLogic 8.1 Security Service Module" on page 4-5.

Enrolling the Instance of the Security Service Module

You must have the Administration Server running prior to enrolling the Security Service Module.

Note: While you can use the demonstration digital certificate in a development environment, you should never use it in a production environment.

To enroll a security service module, see "Enrolling the Instance of the Security Service Module" on page 4-6.

Creating the WebLogic Server startWeblogicALES File

This document assumes that you have created an ALDSP domain on the local machine.

Before you can start a WebLogic server that uses BEA AquaLogic Enterprise Security, you must create the startWeblogicALES file based on the startWeblogic file that is located in the WebLogic domain.

The startWeblogic file for the ALDSP domain for RTLApp is located at:
<bea_home>\weblogic81\samples\domains\ldplatform\startWebLogic[.sh|.cmd]

To create the startWeblogicALES.cmd file for Windows, perform the steps:

1. Copy the startWeblogic.cmd file to startWeblogicALES.cmd.
2. Add a line in the startWeblogicALES to call the environment batch file set-wls-env.bat. For example, add it below the line: set SAVE_JAVA_OPTIONS=

   ```
   call "c:\bea\ales21-ssm\wls-ssm\instance\aldsp\bin\set-wls-env.bat"
   ```

3. Add the AquaLogic Enterprise Security classpath variables to the classpath. For example, add the following text before the line: echo CLASSPATH=%CLASSPATH%

   ```
   set CLASSPATH=%WLES_PRE_CLASSPATH%;%CLASSPATH%;%WLES_POST_CLASSPATH%
   ```

4. Add %WLES_JAVA_OPTIONS% to the server start command after %JAVA_OPTIONS%.

   ```
   if "%WLS_REDIRECT_LOG%"=="" (
         echo Starting WLS with line:
         echo %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
   %WLES_JAVA_OPTIONS% -Dweblogic.Name=%SERVER_NAME%
   -Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
   %PROXY_SETTINGS% %SERVER_CLASS%
   ```

```
      %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
%WLES_JAVA_OPTIONS% -Dweblogic.Name=%SERVER_NAME%
-Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%PROXY_SETTINGS% %SERVER_CLASS%

) else (

      echo Redirecting output from WLS window to %WLS_REDIRECT_LOG%

      %JAVA_HOME%\bin\java %JAVA_VM% %MEM_ARGS% %JAVA_OPTIONS%
%WLES_JAVA_OPTIONS% -Dweblogic.Name=%SERVER_NAME%
-Djava.security.policy=%WL_HOME%\server\lib\weblogic.policy
%PROXY_SETTINGS% %SERVER_CLASS%  > "%WLS_REDIRECT_LOG%" 2>&1

)
```

Note: Similar changes must be made for UNIX platforms as well.

Modifying the WebLogic Server setDomainEnv script

Edit the setDomainEnv script to use Sun java compiler (BEA jRockit is the default java compiler in a platform domain start script).

```
set SUN_JAVA_HOME=c:\bea\j2sdk1.4.2_05

set JAVA_VENDOR=Sun
```

Creating the security.properties File

Create a text file named security.properties and place it in the domain directory. You use this file to define the AquaLogic Enterprise Security realm and the default realm.

```
# AquaLogic Enterprise Security Configuration File
#
# This file contains AquaLogic Enterprise Security configuration
# properties. By default, the AquaLogic Enterprise Security runtime
# looks for a property file called 'security.properties' in the
# working directory
wles.realm=aldsprealm
wles.default.realm=aldsprealm
```

Configuring Policy for Data Services

Developing a set of policies typically begins by determining which resources you need to protect and your access control requirements. You then create the identity directory, resources, groups, users, and roles that you will use to write policies to protect those resources. Next you write a set of authorization and role mapping policies to define access control on those resources. Finally,

you deploy the set of polices to the WebLogic Server 8.1 Security Service Module that you use to control access to your data services.

For more information on how to use the Administration Console to write policy, see the Policy Managers Guide and the Console Help.

This section covers the following topics:

Creating the Identity Directory and Users

This section describes how to use the ALES Administration Console to create an identity directory, groups, and users for an ALDSP application.

Note: This procedure uses aldspusers as the name of the Identity directory; however, you can use a different name.

To create the Identity directory and users:

1. In the left pane, click Identity. The Identity page displays the name of each directory available.
2. Click New. The Create Directory dialog box appears.
3. In the Name text box, type aldspusers and click OK. The aldspusers directory appears in the list of Identity directories.
4. In the left pane, click Groups. The aldspusers>Groups page displays.
5. Click New. The Create Group dialog box appears.
6. Create the LDSampleUsers Group.
7. Create the sample users used in RTLApp and add them to the LDSampleUsers group.

   Jack (password: weblogic)
   Steve (password: weblogic)
   Tim (password: weblogic)

8. Create ldconsole administrator

   weblogic (password: weblogic)

Configuring Resources and Privilege

This section describes how to use the Administration Console to define the application resources that you will protect using ALES.

To configure resources, perform the following tasks:

- "Creating the RTLApp Application Resources" on page 6-10
- "Creating the ALDSP Resources" on page 6-12

Creating the RTLApp Application Resources

Note: You can choose any application name for your ALDSP application.

To create application resources, perform the following steps:

1. Expand the Resources folder, and click Resources. The Resource page displays.
2. In the Resources page, select the Policy node, and click New. The Create Resource dialog box appears.
3. In the Name text box, enter aldsprealm, select Binding from the Type drop-down list box, and click Ok. The aldsprealm resource appears under the Policy node.
4. Select the aldsprealm resource and click Configure. The Configure Resource dialog box appears.
5. From the Type drop-down list box, select Binding Application, check the Distribution Point and Allow Virtual Resources check boxes, and click Ok.
6. Refer to Table 6-2 and modify the configuration of the ASI Authorization provider and the ASI Role Mapper Provide as described there.

Table 6-2 ALDSP SSM Configuration Modifications

Security Provider	Configuration Setting
ASI Authorization Provider	1. On the Details tab, set the Application Deployment Parent to //app/policy/aldsprealm and click Apply. 2. On the Bindings tab, from the Bind drop-down menu, select //app/policy/aldsprealm, and click Bind.
ASI Role Mapper Provider	1. On the Details tab, set the Application Deployment Parent to //app/policy/aldsprealm and click Apply. 2. On the Bindings tab, from the Bind drop-down menu, select //app/policy/aldsprealm, and click Bind.

Creating the ALDSP Resources

Figure 6-2 shows the ALDSP resource tree with all nodes expanded except the RTLApp node. The resources under that RTLApp node are shown in Figure 6-3. You must create the resources shown in Figure 6-2 and Figure 6-3.

Figure 6-2 ALDSP Resource Tree with RTLApp Node Collapsed

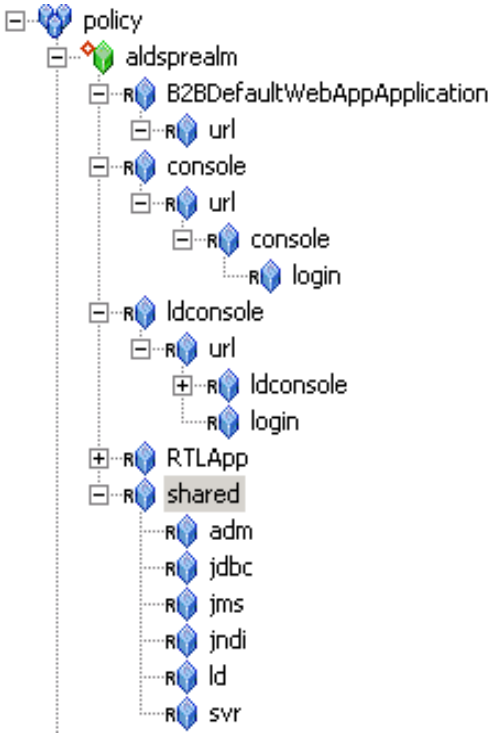
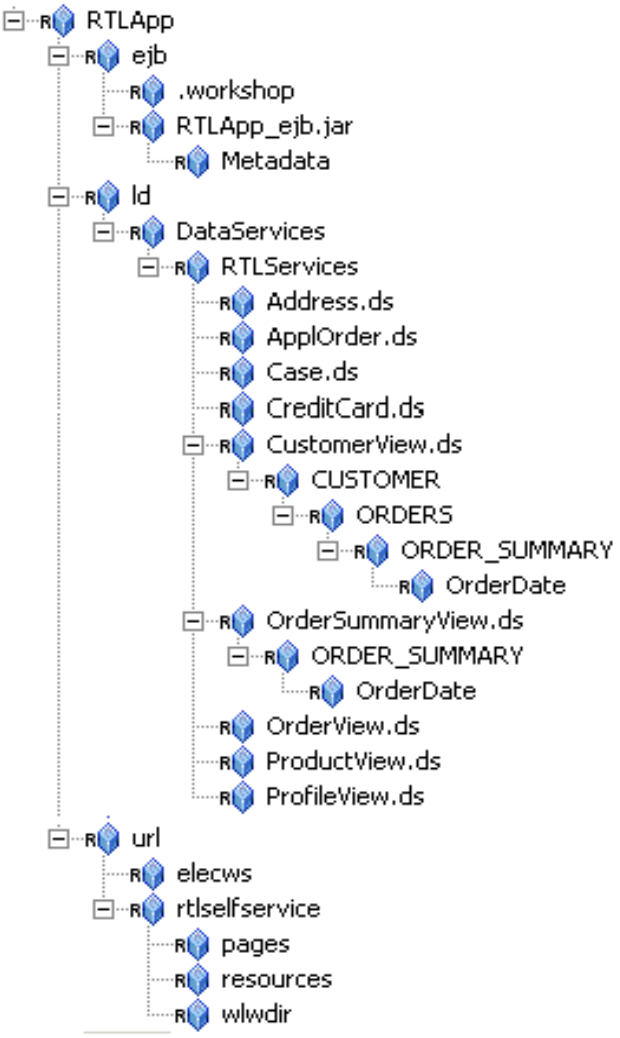


Figure 6-3 ALDSP Resource Tree with RTLApp Node Expanded



Creating the Role Mapping Policies

This section describes how to use the Administration Console to create the role mapping policies that will be used to control access the sample ALDSP application.

Table 6-3 lists the role mapping policies required for the WebLogic domain.

Table 6-3 ALDSP Application Role Mapping Policy

Role Mapping Policy	Description
grant(//role/Everyone, //app/policy/aldsprealm, //sgrp/aldspusers/allusers/) if true;	Creates the role mapping policy necessary for the Everyone role to be used in the aldsprealm Identity directory. Note: If you do not create the Everyone role mapping policy correctly, none of the policy rules defined in Table
grant(//role/Admin, //app/policy/aldsprealm, //user/aldspusers/weblogic/) if true;	Grants the weblogic user Admin role within the aldsp realm.

To create the role mapping policies, refer to Table 6-3 and perform the following steps.

Warning: If you do not create the Everyone role mapping policy correctly, none of the authorization policies defined in Figure 6-4 will work.

1. Expand the Policy folder in the left pane, and click Role Mapping Policies. The Role Mapping Policies page appears.
2. Click New. The Create Role Mapping Policy dialog box appears.
3. Select the Grant radio button.
4. Select the Roles tab, select Everyone in the Available Roles list box, and click Add.
5. Select the Resources tab, select aldsprealm, and click Add.
6. Select the Policy Subjects tab, select the allusers in the list box, click Add, and click Ok.

Creating Authorization Policies

This section describes how to use the Administration Console to create authorization policies to protect data services and application resources. Table 6-4 lists the authorization policies required for WebLogic server, the WebLogic server console, and the RTL sample application.

Table 6-4 Authorization Policies

Authorization Policy	Description

grant(any, //app/policy/aldsprealm/shared/svr, //role/Admin) if true;
grant(any, //app/policy/aldsprealm/shared/adm, //role/Admin) if true;
grant(any, [//app/policy/ aldsprealm /RTLApp/ejb,//app/policy/aldsprealm/RTLApp/ld,//app/policy/aldsprealm/RTLApp/url/rtlselfservice/pages], [//role/Admin]) if true;
grant(any, [//app/policy aldsprealm /RTLApp/ejb/RTLApp_ejb.jar/Metadata,//app/policy/aldsprealm/RTLApp/ejb/RTLApp_ejb.jar], [//role/Admin]) if true;
grant([any,//priv/create], //app/policy/ aldsprealm /RTLApp/ejb/.workshop, //role/Admin) if true;
grant(any, [//app/policy/ aldsprealm /console,//app/policy/aldsprealm/shared/svr,//app/policy/aldsprealm/shared/adm], //role/Admin) if true;
	Grants Admin Role and/or weblogic user permission to boot the WebLogic server and perform administrative tasks.

Table 6-4 Authorization Policies (Continued)

Authorization Policy	Description

grant(//priv/lookup, //app/policy/aldsprealm/shared/jms, //role/Everyone) if true;
grant(any, //app/policy/aldsprealm/shared/ld, //role/Everyone) if true;
grant(//priv/lookup, [//app/policy/aldsprealm/shared/jdbc,//app/policy/aldsprealm/shared/jndi], //role/Everyone) if true;
grant(//priv/send, //app/policy/aldsprealm/shared/jms, //role/Everyone) if true;
grant(//priv/GET, //app/policy/aldsprealm/console/url/console/login, //role/Everyone) if true;
grant(//priv/reserve, //app/policy/aldsprealm/shared/jdbc, //role/Everyone) if true;
grant([//priv/GET,//priv/POST], //app/policy/aldsprealm/ldconsole/url/ldconsole/login, //role/Everyone) if true;
grant([//priv/GET,//priv/POST], //app/policy/aldsprealm/RTLApp/url/elecws, //role/Everyone) if true;
grant(//priv/GET, //app/policy/aldsprealm/ldconsole/url/ldconsole/images, //role/Everyone) if true;
grant(//priv/GET, [//app/policy/ aldsprealm /B2BDefaultWebAppApplication/url,//app/policy/aldsprealm/RTLApp/url/rtlselfservice/resources,//app/policy/aldsprealm/RTLApp/url/rtlselfservice/wlwdir], //role/Everyone) if true;
	Grants permission to those in the role Everyone (includes the anonymous user) to access all of the shared open resources.

grant([//priv/GET,//priv/POST], //app/policy/ aldsprealm /RTLApp/url/rtlselfservice, //user/aldspusers/Steve/) if true;
deny(any, [//app/policy/ aldsprealm /RTLApp/ld/DataServices/RTLServices/OrderSummaryView.ds/ORDER_SUMMARY/OrderDate,//app/policy/aldsprealm/RTLApp/ld/DataServices/RTLServices/CustomerView.ds/CUSTOMER/ORDERS/ORDER_SUMMARY/OrderDate], //user/aldspusers/Steve/) if true;
	Denies Steve access to the Order Date element of the Customer View Data Service

deny(any, //app/policy/aldsprealm/RTLApp/ld/DataServices/RTLServices/ProfileView.ds, //user/aldspusers/Jack/) if true;	Denies Jack access to an entire data service

Table 6-4 Authorization Policies (Continued)

Authorization Policy	Description
grant(any, [//app/policy/aldsprealm/RTLApp/ejb,//app/policy/aldsprealm/RTLApp/ld,//app/policy/aldsprealm/RTLApp/url/rtlselfservice/pages], [//sgrp/aldspusers/LDSampleUsers/,//role/Admin]) if true;	Grants Admin and Sample Users access to Data Services

Perform the following steps create the authorization policies listed in Table 6-4.

1. Expand the Policy folder in the left pane, and click Authorization Policies. The Authorization Policies page appears.
2. Click New. The Create Authorization Policy dialog box appears.
3. Select the Grant radio button.
4. To create the first authorization policy listed in Table 6-4.

   Note: If Table 6-4 lists multiple resources for a single privilege and role, you may define all of the resources in one authorization policy.
5. Click the Policy Subjects, select the Admin role from the Roles List box, click Add, and click Ok.
6. Repeat steps 4 to 6 for each of the remaining authorization policies listed in Table 6-4.

Discovering Data Services

When developing policies for use with a Security Service Module, you can use the Discovery mode feature to help define your policy components. Instructions for using Discovery mode are provided in the "Resource Discovery" section in the *Policy Managers Guide*.

Distributing Policy and SSM configuration

Distribute policy and SSM configuration to the WebLogic Server 8.1 SSM.

For information on how to distribute policy and SSM configuration, see "Deployment" in the Console Help. Be sure to verify the results of your distribution.

Starting the WebLogic Server

To start a WebLogic server, perform the following steps:

1. Open a shell (command prompt) on the machine on which you created the domain.
2. Change to the ALDSP sample domain directory:
   <bea_home>\weblogic81\samples\domains\ldplatform
3. Run the following script:

   On Windows: `startWebLogicALES.cmd`

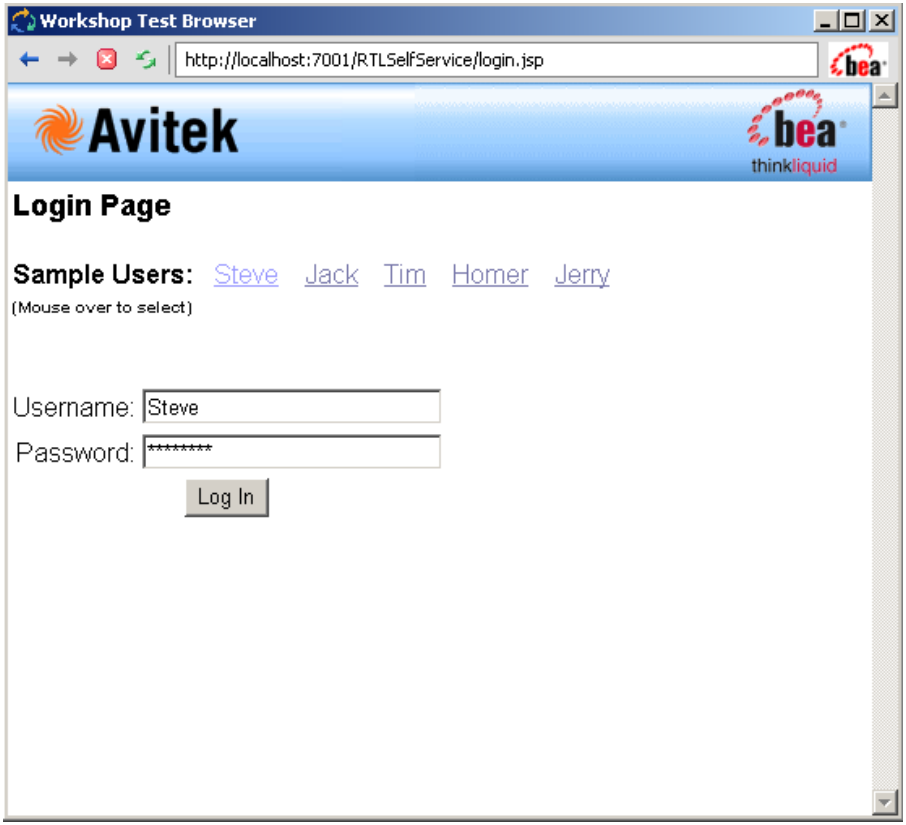
   On UNIX: `startWeblogicALES.sh`

Accessing the ALDSP Application

To access the RTLApp running on an ALDSP server:

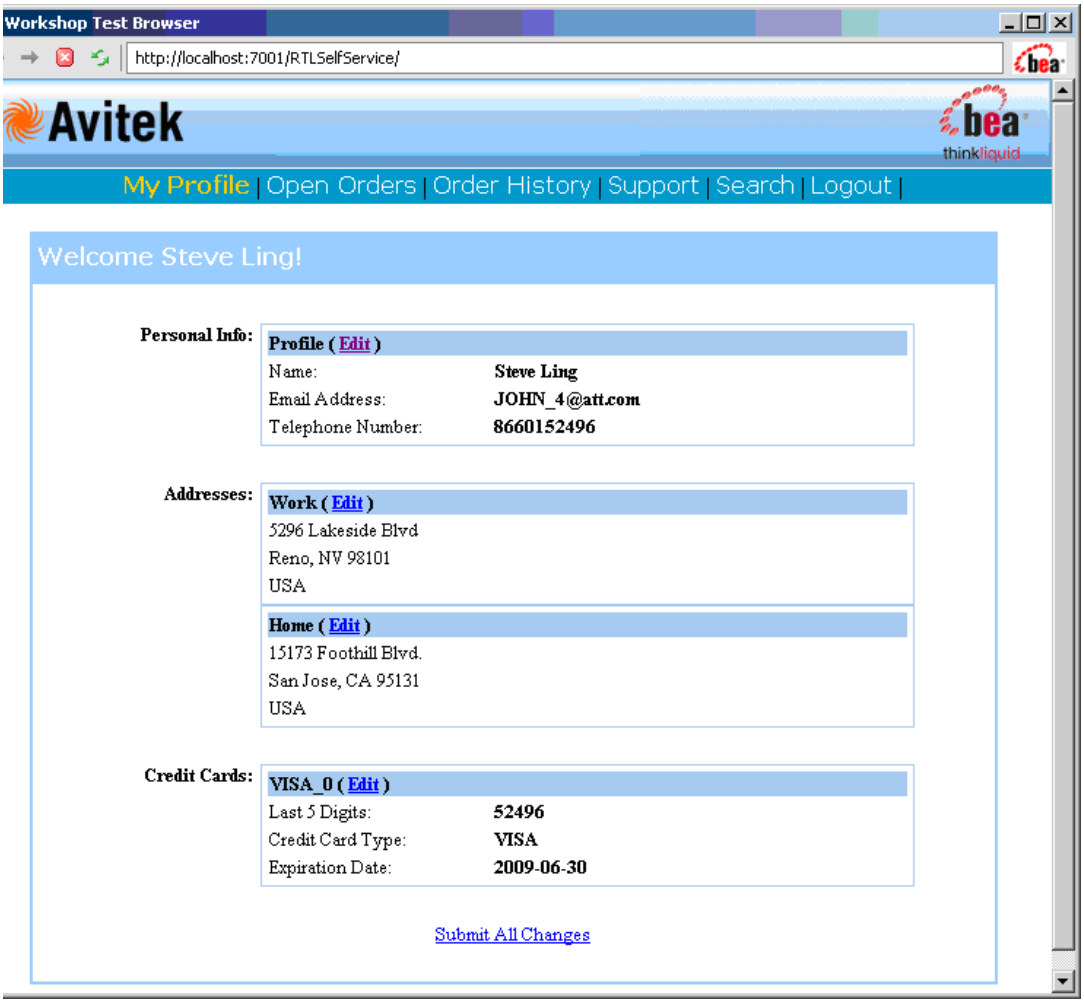
1. Open browser to visit http://<host_name>:<port>/RTLSelfService, where <host_name> is the machine on which RTL application is running. The browser is redirected to authentication page (see Figure 6-4).

Figure 6-4 Authentication Page



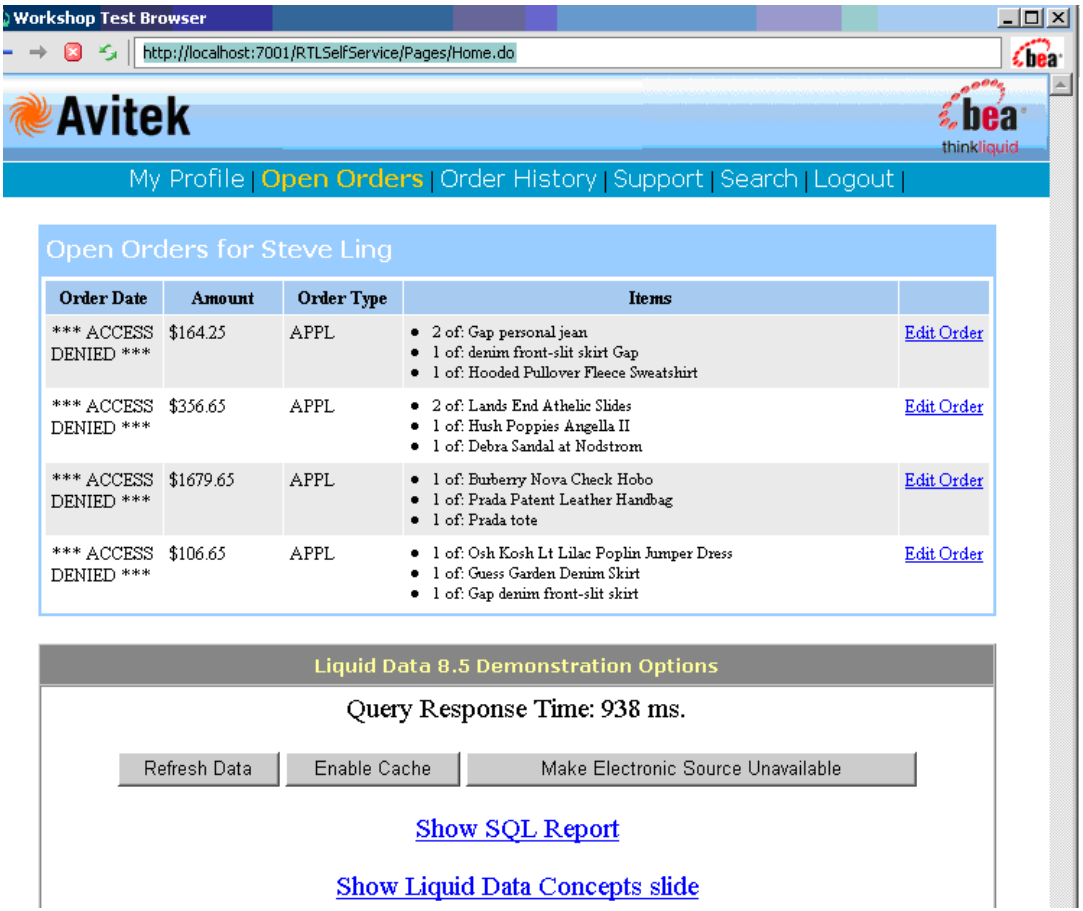
2. Set username as Steve by dragging over link, then click Login button. Client should be granted access to Profile Page (see Figure 6-5).

Figure 6-5 Profile Page



3. Select Open Orders Page from top menu. Open orders should be visible (see Figure 6-6). Order Data should have "ACCESS DENIED".

Figure 6-6 Open Orders Page



CHAPTER 7

Uninstalling

The following sections describe how to uninstall the WebLogic Server 8.1 Server Security Service Module (SSM) and the Service Control Manager (SCM):

Uninstalling the WebLogic Server 8.1 SSM on Windows

To uninstall the Security Service Module from a Windows platform, do the following:

1. Log in to the machine as Administrator.
2. Stop the Authorization and Role Mapping Engine (ARME) for the Security Service Module that you are uninstalling: `ARME.admin.`*`hostname`*`.`
3. Stop the Service Control Manager (SCM).
4. Click Start, select Programs>BEA AquaLogic Enterprise Security>Security Service Module>Uninstall Combo Security Service Manager.

   The Uninstall Welcome window appears.
5. Click Next.

   The Choose Components window appears.

6. If you have multiple SSM types installed, clear the check boxes for the SSMs you want to keep on the machine, select the WebLogic Server v8.1 SSM, and click Next.

   The Uninstall Options window appears.

7. If the WebLogic Server v8.1 SSM is the only AquaLogic Enterprise Security product installed on this machine, you are presented with the following three options; otherwise you are only given the option of uninstalling the SSM directory.

   – Uninstall the SCM instance

   – Uninstall the SCM instance and delete its directory

   – Delete the SSM directory

8. Select the desired options, and click Next.

   Note: If the directories contain user generated files that you want to save (for example, files in the `/log` or `/ssl` directories), do not delete the directories.

   The BEA Uninstaller window appears and the uninstall process begins.

   As the uninstall process runs, a checklist is displayed, listing the uninstallation tasks as they complete. After the product is removed, the "uninstall complete" message appears.

9. Click Done.

10. If you have uninstalled all of the AquaLogic Enterprise Security products from your computer, and you do not know the passwords for the related ALES users and groups, you must delete those users and groups before can perform another install. To delete the ALES users and groups, perform the following steps:

    a. Select Start>Settings>Control Panel, click on Administrative Tools, click on Computer Management, and expand Local Users and Groups.

    b. Select Users and delete the Administration Server user (asiadmin by default) and the Service Control Manager user (scmuser by default)

    c. Select Groups and delete the ALES administrators group (asiadgrp) and the ALES users group (asiusers)

11. You have successfully removed the SSM product software from your computer.

Uninstalling the WebLogic Server 8.1 SSM on Solaris or Linux

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, the uninstallation program automatically starts in console mode.

To uninstall the Security Service Module from a Solaris platform:

1. Log in to the machine as root (or su root).
2. Stop the Authorization and Role Mapping Engine (ARME) for the Security Service Module that you are uninstalling: `ARME.admin.`*`hostname`*`.`
3. Stop the Service Control Manager (SCM).
4. Open a command shell and go to the directory where you installed the product, for example:

   `BEA_HOME``/ales21-ssm/uninstall`

   where:

   `BEA_HOME``/ales21-ssm` represents the directory in which you installed the product.
5. At the command prompt, type `uninstall.sh`.

   The BEA Uninstaller window appears and the uninstall process begins.

   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.
6. Respond to the prompts to uninstall the product.

Note: When you uninstall a SSM, if it is the only remaining AquaLogic Enterprise Security product on the machine, you are given the option of uninstalling the SCM. If you want to uninstall the Service Control Manager, check the Uninstall SCM box and click Next.

As the uninstall process runs, a checklist is displayed, listing the uninstallation tasks as they complete. After the product is removed, the "uninstall complete" message appears.

7. If you system supports a graphical user interface, click Done.

   You have successfully removed Security Service Module from your computer.

Note: If you elected to uninstall the SCM, it is also uninstalled.

Uninstalling the SCM on Windows

Note: If you elected to uninstall the Service Control Manager (SCM) when you uninstalled the Security Service Module (SSM), this task is not necessary.

To uninstall the Service Control Manager from a Windows platform, do the following:

Note: Before uninstalling the Service Control Manager, you must remove all Security Service Modules from your machine. If a Security Service Module is still installed on your machine, the uninstall program does not allow you to uninstall the Service Control Manager.

1. Log in to the machine as Administrator.
2. Stop the Service Control Manager (SCM): `ALES Service Control Manager`.
3. Click Start, select Programs>BEA AquaLogic Enterprise Security>Service Control Manager>Uninstall Service Control Manager.

   The Uninstall Welcome window appears.
4. Click Next.

   The BEA Uninstaller window appears and the uninstall process begins.

   As the uninstall process runs, a checklist is displayed, listing the uninstallation tasks as they complete. After the product is removed, the "uninstall complete" message appears.
5. Click Done.

   You have successfully removed the Service Control Manager from your computer.

Note: The Uninstall program does not completely remove the AquaLogic Enterprise Security software from your machine. Remnants of the software installation remain, such as ALES users and groups. You can remove these manually. For removal instructions, see "Additional Steps for Uninstalling the SCM on Windows" on page 7-4

Additional Steps for Uninstalling the SCM on Windows

After the uninstall completes, you may notice that ALES users and groups have not been removed. You may remove these manually or you may want to keep them.

Note: If you know the passwords for `asiadmin` and `scmuser` (the passwords that were entered during a previous install, rather than accepting the defaults), then you may leave these users in place and enter those passwords when you reinstall the product.

To remove users and groups, open the Control Panel>Administrative Tools>Computer Management>Local Users and Groups window and delete the following users and groups:

- The Administration Server user (asiadmin by default)
- The Service Control Manager user (scmuser by default)
- The ALES administrators group (asiadgrp)
- The ALES users group (asiusers)

Uninstalling the SCM on Solaris or Linux

Note: If you elected to uninstall the Service Control Manager when you uninstalled the Security Service Module, this task is not necessary.

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, the uninstallation program automatically starts in console mode.

To uninstall the Service Control Manager from a Unix platform:

Note: Before uninstalling the Service Control Manager, you must remove all Security Service Modules from your machine. If a Security Service Module is still installed on your machine, the uninstall program does not permit you to uninstall the Service Control Manager.

1. Log in to the machine as root (or su root).
2. Stop the Service Control Manager (SCM): `ALES Service Control Manager`.
3. Open a command shell and go to the directory where you installed the Service Control Manager, then go to the uninstall directory. For example:

   BEA_HOME`/ales21-scm/uninstall`

   where:

   BEA_HOME`/ales21-scm/` represents the directory in which you installed Service Control Manager component.
4. At the command prompt, type `uninstall.sh`.

   The BEA Uninstaller window appears and the uninstall process begins.

   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.
5. Respond to the prompts to uninstall the product.

6. If you system supports a graphical user interface, click Done.
   You have successfully removed the Security Service Module from your computer.