BEA WebLogic RFID Enterprise Server™

Installing WebLogic RFID Enterprise Server

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Contents

3. Starting the Installation Program

4. Running the Installation Program in Graphical Mode

5. Running the Installation Program in Console Mode

6. Installing and Updating License Files

7. Post-Installation Information

8. Configuring WebLogic RFID Enterprise Server

9. Uninstalling the Software

Index

CHAPTER 1

Introduction and Roadmap

The following sections describe the audience for and organization of this document:

Document Scope and Audience

This document describes how to install the WebLogic RFID Enterprise Server software on Windows and Linux platforms, and how to perform the initial RFID Enterprise Server configuration. (For Solaris and HP-UX installations, use the Linux instructions.)

The intended audience is system administrators who will install, configure, and administer the WebLogic RFID Enterprise Server product. The instructions in this manual assume that you have administrative experience with the platform on which you will install the software, and some understanding of RFID technology.

Guide to This Document

This document is organized as follows:

- This chapter, Introduction and Roadmap, describes the scope of this document and related information.

- "Preparing for Your Installation," provides the basic information you need to know before installing your BEA software.
- "Starting the Installation Program," describes how to start the installation program in graphical and console modes on Windows and Linux platforms.
- "Running the Installation Program in Graphical Mode," describes how to install your BEA software on Windows and Linux platforms by using a Java-based graphical user interface (GUI).
- "Running the Installation Program in Console Mode," discusses how to install your BEA software on Windows and Linux platforms by using a text-based interface.
- "Installing and Updating License Files," describes available license types and explains how to update your license file.
- "Post-Installation Information," provides information on common post-installation tasks, such as running the Configuration Wizard, testing the installation, and backing up and restoring an Enterprise Server.
- "Configuring WebLogic RFID Enterprise Server," provides specific procedures for configuring RFID Enterprise Server features; for example, database initialization and performance tuning.
- "Uninstalling the Software," provides procedures for uninstalling your BEA software in graphical and console modes.

Related Documentation

This manual is part of the WebLogic RFID Enterprise Server documentation set, which includes the following documents and online help:

- *WebLogic RFID Enterprise Server Product Overview* provides an overview of the WebLogic RFID Enterprise Server components and architecture.
- *Installing WebLogic RFID Enterprise Server* describes how to install and configure WebLogic RFID Enterprise Server.
- *Understanding the Event, Master Data, and Data Exchange Services* describes the services that implement the EPC Information Services (EPCIS).
- *Query Subscription Administration Console Online Help* describes how to create and manage subscriptions: queries that run at specified times and send results to specific destinations.

- *Master Data Administration Console Online Help* describes how to create and work with master data types and master data entries.
- *Generating WebLogic RFID Enterprise Server Reports* describes how to use the RFID Enterprise Server Reporting Service to display predefined RFID reports in a Web browser.
- *Edge Server Administration Console Online Help* describes how to use the RFID Edge Server Administration Console to view and manage RFID Edge Servers in the enterprise.
- *Using the Serial Number Assignment Service* describes how to use the RFID Enterprise Server Serial Number Assignment service to provide pools of RFID serial numbers for assigning to EPC tags.
- *Using the Telemetry Console Extension* describes how to use the Telemetry Console Extension for graphically presenting real-time Edge Server and RFID device telemetry data. The Telemetry Console Extension is part of the RFID Edge Server Administration Console.
- *Release Notes* lists known problems and workarounds in this release of the RFID Enterprise Server.

CHAPTER 2

Preparing for Your Installation

The following sections provide information that you need to know before installing your BEA WebLogic RFID Enterprise Server software:

Installation Overview

WebLogic RFID Enterprise Server is installed as an application suite running on WebLogic Server 9.2.

A purchase of WebLogic RFID Enterprise Server includes:

- WebLogic Server license

- WebLogic RFID Enterprise Server license, which includes all Enterprise Server components (there are no licenses for individual components)

Note: WebLogic Server software and WebLogic RFID Enterprise Server software are available for download at http://commerce.bea.com.

The major installation and configuration steps are:

1. Install WebLogic Server 9.2.

   See *BEA Products Installation Guide*.

   Note: WebLogic Server 9.2 is required for RFID Enterprise Server 2.0. You cannot use WebLogic Express 9.2 because the Enterprise Server requires several services which are only available in WebLogic Server.

2. Install WebLogic RFID Enterprise Server 2.0 in your WebLogic Server 9.2 BEA Home directory.

   The WebLogic RFID Enterprise Server installation program provides a framework for the installation and uninstallation of the RFID Enterprise Server software product. The installation program installs all RFID Enterprise Server components. You select which components to configure when you create a domain with the Configuration Wizard.

   See "Starting the Installation Program" on page 3-1.

   For license information, see "Installing and Updating License Files" on page 6-1.

3. Create a domain. Use the RFID Enterprise Server Configuration Wizard to select Enterprise Server components and perform initial domain configuration steps.

   See "Post-Installation Information" on page 7-1.

4. Perform additional RFID Enterprise Server configuration.

   See "Configuring WebLogic RFID Enterprise Server" on page 8-1.

Installation Modes

The WebLogic RFID Enterprise Server installation program can be used in the following modes:

- *Graphical mode*

  Graphical-mode installation is an interactive, GUI-based method for installing your software. It can be run on Windows and Linux systems that support a Java-based GUI. See Chapter 4, "Running the Installation Program in Graphical Mode."

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

- *Console mode*

  Console-mode installation is an interactive, text-based method for installing your software from the command line, on either a Linux system or a Windows system. See Chapter 5, "Running the Installation Program in Console Mode."

Note: WebLogic RFID Enterprise Server 2.0 does not support silent-mode installation.

Table 2-1summarizes the supported modes for installation, configuration, and uninstallation.

Table 2-1 Supported Modes for Installation, Configuration, and Uninstallation

	GUI Mode	Console Mode	Silent Mode
Installation	Yes	Yes	No
Configuration Wizard	Yes	No	No
Uninstallation	Yes	Yes	No

Product Installation Components

The WebLogic RFID Enterprise Server installation program installs the following components on your system:

- Event Service and Data Exchange Service (includes Master Data Service)—The core set of services that capture and store RFID event data from the edge, create master data to associate with the event data, and define subscriptions that query the event data and send results to internal or external destinations.
- Reporting Service—Provides a set of useful pre-defined queries, which are accessed through the Reporting Service Console.
- Serial Number Assignment Service—Allocates blocks of Electronic Product Codes (EPCs) for requesting systems.

- Edge Management—Provides remote administration and monitoring of Edge Servers and RFID devices.

Note: After installing RFID Enterprise Server 2.0, you will select a JDK when you run the Configuration Wizard. The Configuration Wizard displays a list of all the JDKs found in BEA Home. When selecting a JDK for use with WebLogic RFID Enterprise Server 2.0, you must select a JDK version 1.5 or higher.

Product Distribution Methods

Your BEA software is distributed on both the BEA Web site and CD-ROM.

Web Distribution

You can download your software from the BEA Web site at `http://commerce.bea.com`.

CD-ROM Distribution

If you purchased your software from your local sales representative, you will find the following items in the product box:

- CD-ROMs containing the product software for Windows and Linux
- *BEA Software License and Limited Warranty* pamphlet

Installation Prerequisites

Make sure your system meet the following requirements before installing the WebLogic RFID Enterprise Server software:

- "WebLogic Server" on page 2-5
- "System Requirements" on page 2-5
- "Administrator Privileges (Windows)" on page 2-6
- "Licensing Requirements" on page 2-7

Note: BEA recommends that you read the WebLogic RFID Enterprise Server *Release Notes* before performing the installation; the *Release Notes* are available online at:

http://e-docs.bea.com/rfid/enterprise_server/docs20/notes/index.html

WebLogic Server

You must install WebLogic Server 9.2 before installing WebLogic RFID Enterprise Server.

WebLogic Server 9.2 documentation is available at http://e-docs.bea.com/common/docs92/install/index.html.

System Requirements

The system requirements for your installation are given in Table 2-2.

Table 2-2 System Requirements

Component	Requirement
Platform configuration	WebLogic RFID Enterprise Server 2.0 requires WebLogic Server 9.2 as its base platform.You cannot use WebLogic Express 9.2 as the base platform for Enterprise Server. A supported configuration of hardware, operating system, JDK, and database is required. Because WebLogic RFID Enterprise Server runs in a WebLogic Server 9.2 environment, the supported configurations for Enterprise Server are the same as those for WebLogic Server 9.2. See *Supported Configurations* at: http://e-docs.bea.com/platform/suppconfigs/index.html See Table 2-3 for a list of databases that have been tested with, and are recommended for use with, WebLogic RFID Enterprise Server 2.0.
Processor	1-GHz CPU recommended.
Memory	1 GB of RAM minimum.
Color bit depth display and size	For graphical user interface (GUI) mode installation, 8-bit color depth (256 colors) is required. For console-mode installation, there is no color bit depth requirement.

Table 2-3 Recommended Database Servers

Database Server	Version
Oracle	9.2.0.4 10g R1 10g R2
SQL Server	2000 SP3 2005
PointBase	For evaluation and testing purposes only, the version shipped with WebLogic Server 9.2.

Administrator Privileges (Windows)

On Windows systems, Administrator privileges are required to create Start menu shortcuts in the All Users folder.

When you install the software as a user with Administrator privileges, you have the option to create the Start menu shortcuts in the All Users folder, or in the Local user's Start menu folder. Table 2-4 describes the options available.

Table 2-4 User Access Options (Windows)

If you select . . .	The following occurs . . .
All Users	All users registered on the machine are provided with access to the installed software. Subsequently, if users without Administrator privileges use the Configuration Wizard from this installation to create domains, Start menu shortcuts to the domains are not created. In this case, users can manually create shortcuts in their local Start menu folders, if desired.
Local user	Other users registered on this machine will not have access to the Start menu entries for this installation.

If a user without Administrator privileges installs the software, the Start menu entries are created in the local user's Start menu folder.

Licensing Requirements

Your BEA software cannot be used without a valid license. When you install your software, the installation program installs an evaluation license (`license.bea`) into the BEA Home directory, to allow you to start using the product immediately.

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

For more information about evaluation and production licenses, see "About BEA Product Licenses" on page 6-1.

Customers who have installed a pre-2.0 version of the WebLogic RFID Enterprise Server software can call BEA customer support for assistance in upgrading to the current version. Mention that you are an existing WebLogic RFID Enterprise Server customer who is upgrading to WebLogic RFID Enterprise Server 2.0; doing so will help ensure that your request for assistance is routed to the correct people within customer support.

Selecting Directories for Your Installation

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

- "Choosing a BEA Home Directory" on page 2-7
- "Choosing a Product Installation Directory" on page 2-10
- "Understanding the Functions of the BEA Home Directory" on page 2-8
- "Creating Multiple BEA Home Directories" on page 2-9

Choosing a BEA Home Directory

When you install your BEA software, you are prompted to specify a BEA Home directory. This directory serves as 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 all 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
- Facilitate Service Pack installation

Notes: Because RFID Enterprise Server requires WebLogic Server 9.2, you must choose an existing BEA Home directory that contains an instance of WebLogic Server 9.2.

You can install only one instance of each version of a BEA product in a single BEA Home directory. For example, you can install only one instance of WebLogic Server 9.2 in a BEA Home directory, but that BEA Home directory may also contain an instance of WebLogic Server 9.1.

Understanding the Functions of the BEA Home Directory

Table 2-5 describes the files and directories in the BEA Home directory.

Table 2-5 BEA Home Directory Description

Component	Description
`jdkxxx` directory	Contains the software for the Sun JDK if it is installed with your software. The JDK provides the Java run-time environment (JRE) and tools for compiling and debugging Java applications. In this directory name, *xxx* indicates the version of the Sun JDK installed on your system, for example `jdk150_06`.
`jrockit90_xxx` directory (Windows and Linux only)	Contains the software for the BEA JRockit JDK if it is installed with your software. The JDK provides the Java run-time environment (JRE) and tools for compiling and debugging Java applications. In this directory name, *xxx* indicates the version of the JRockit JDK installed on your system, such as `jrockit90_150_06`.
`license.bea` file	An XML file that contains the license keys for all the BEA products installed in the BEA Home directory. Licenses are release-specific. To update your `license.bea` file for additional features, see "Updating Your license.bea File" on page 6-2. **Note:** Do not edit the `license.bea` file manually. Doing so may cause operating problems for the currently installed BEA products, or result in problems later when BEA products are installed for maintenance upgrades.

Table 2-5 BEA Home Directory Description (Continued)

Component	Description
`logs` directory	Contains a history file of installation and uninstallation for the BEA Home directory.
`registry.xml` file	A registry file that contains a persistent record of all BEA products installed on the target system. This registry contains product-related information, such as version number, service pack number, and location of the installation directory. **Note:** Do not edit this file manually. Doing so may cause operating problems for the currently installed BEA products, or result in installation problems when future BEA products or maintenance upgrades are installed. See "Using the BEA Registry API" in *ISV Partners' Guide* at the following URL: `http://e-docs.bea.com/common/docs92/isv/detect.html`
`rfid_enterprisexx` directory	The directory containing the WebLogic RFID Enterprise Server software. In this directory name, xx indicates the version of the WebLogic RFID Enterprise Server installed on your system; for example, `rfid_enterprise20`. See "Choosing a Product Installation Directory" on page 2-10.)
`UpdateLicense` (`.cmd`/`.sh`)	A command file (Windows) or a shell script (Linux) that updates the current `license.bea` file with new license sections. The result is a merged license that contains both the existing and new license sections. See "Updating Your license.bea File" on page 6-2.
`utils` directory	Contains utilities that support the installation of all BEA products installed in this BEA Home directory. The `utils.jar` file contains code that supports the `UpdateLicense` utility.

Creating Multiple BEA Home Directories

Although it is possible to create more than one BEA Home directory, it is recommended 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, with a separate product stack for each. 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.

Choosing a Product Installation Directory

The product installation directory contains all software components that you choose to install on your system, including program files and examples. You are prompted during your initial installation to choose a product installation directory. If you accept the default on a Windows system, for example, your software is installed in the following directory:

`C:\bea\rfid_enterprise`*`xx`*

Here, `C:\bea` is the BEA Home directory (`BEA_HOME`) and `rfid_enterprise`*`xx`* is the product installation directory for the RFID Enterprise Server software, referred to in this document as `RFID_ENTERPRISE_HOME`. You can specify any name for your product installation directory.

Choosing the Type of Installation

Although WebLogic Server provides two installation types (Complete and Custom), WebLogic RFID Enterprise Server provides only one installation type (Complete).

When you install WebLogic RFID Enterprise Server, all components are installed. You select which components are configured when you create a domain with the Configuration Wizard, as described in "Post-Installation Information" on page 7-1.

Generating a Verbose Installation Log

If you launch the installation from the command line or from a script, you can specify the `-log` option to generate a verbose installation log. The installation log stores messages about events that occur during the installation process, including informational, warning, error, and fatal messages.

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

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

```
rfid_enterprise200_win.exe -log=C:\logs\server_install.log
```

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

Where to Find Upgrade Information

Because an upgrade requires a full installation of WebLogic RFID Enterprise Server 2.0 and a migration of the 1.x database, customers who have installed a pre-2.0 version of the WebLogic RFID Enterprise Server software can call BEA customer support for assistance in upgrading to the current version. Mention that you are an existing WebLogic RFID Enterprise Server customer who is upgrading to WebLogic RFID Enterprise Server 2.0; doing so will help ensure that your request for assistance is routed to the correct people within customer support.

CHAPTER 3

Starting the Installation Program

The following sections describe how to start the installation program on Windows and UNIX platforms:

Before You Begin

Before you install the software, review the following information:

- Read Chapter 2, "Preparing for Your Installation." You must have WebLogic Server 9.2 installed.
- Make sure that your hardware and software configuration is supported by your WebLogic RFID Enterprise Server software. Because WebLogic RFID Enterprise Server software runs on WebLogic Server, see *Supported Configurations* at:

  http://e-docs.bea.com/platform/suppconfigs/index.html
- You cannot reinstall any BEA product on top of a previously installed version of the same product—in the same BEA Home directory or in the same file location. You can, however, add products and product components to an existing installation. To reinstall the same

version of one of the products, you must first uninstall the previous installation, as described in Chapter 9, "Uninstalling the Software."

Starting the Installation Program on Windows Platforms

The following sections describe how to start the installation program on a Windows platform:

- "Starting in Graphical Mode" on page 3-2
- "Starting in Console Mode" on page 3-2

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

Starting in Graphical Mode

To start a graphical-mode installation process on a Windows platform:

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

If you are installing from . . .	Perform the following action . . .
Web download	Navigate to the folder where you downloaded the installation program.
CD-ROM	1. Insert the software CD into the CD-ROM drive. 2. If the installation program does not start automatically, open Windows Explorer and double-click the CD-ROM icon. 3. Navigate to the folder for the Windows installation.

3. Double-click the BEA installation program for WebLogic RFID Enterprise Server:

   ```
   rfid_enterprise200_win32.exe
   ```

4. Proceed to Chapter 4, "Running the Installation Program in Graphical Mode."

Starting in Console Mode

To start a console-mode installation process on a Windows platform:

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

If you are installing from . . .	Perform the following action . . .
Web download	1. Open an MS-DOS command prompt window. 2. Go to the directory where you downloaded the installation program.
CD-ROM	1. Insert the software CD into the CD-ROM drive. If the graphical-mode version of the installation program starts automatically, exit the program. 2. Open an MS-DOS command prompt window. 3. Go to the directory on the CD that contains the Windows installation program.

3. Enter the following command to start the BEA installation program for WebLogic RFID Enterprise Server in console mode:

   ```
   > rfid_enterprise200_win32.exe -mode=console
   ```

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

   ```
   rfid_enterprise_win32.exe -mode=console
   -log=C:\logs\server_install.log
   ```

   For more information, see "Generating a Verbose Installation Log" on page 2-10.

4. Proceed to Chapter 5, "Running the Installation Program in Console Mode."

Starting the Installation Program on Linux and Other UNIX Platforms

The following sections describe how to start the installation program on UNIX platforms using filenames that end in `.bin`:

Starting the .bin Installation Program in Graphical Mode

In the following procedure, *filename*.bin is the name of the installation program specific to your platform, for example, rfid_enterprise200_linux32.bin.

To start a graphical-mode installation process for installation files with names ending in .bin:

1. Log in to the UNIX system.
2. Complete the appropriate procedure from the following table.

If you are installing from . . .	Perform the following action . . .
Web download	Go to the directory where you downloaded the installation program.
CD-ROM	1. Insert the software CD into the CD-ROM drive. 2. Navigate to the directory on the CD that contains the installation program for your platform.

3. If the file is not executable, change its permissions; for example:

   ```
   # chmod a+x filename.bin
   ```

4. Launch the BEA installation program for WebLogic RFID Enterprise Server:

   ```
   # ./filename.bin
   ```

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

   ```
   # ./rfid_enterprise200_linux32.bin
   -log=/home/logs/BEA_install.log
   ```

   See "Generating a Verbose Installation Log" on page 2-10.

5. Proceed to Chapter 4, "Running the Installation Program in Graphical Mode."

Starting the .bin Installation Program in Console Mode

In the following procedure, *filename*.bin is the name of the installation program specific to your platform, for example, rfid_enterprise200_linux32.bin.

To start a console-mode installation process for installation files with names ending in .bin:

1. Log in to the UNIX system.
2. Complete the appropriate procedure from the following table.

If you are installing from . . .	Perform the following action . . .
Web download	Go to the directory where you downloaded the installation program.
CD-ROM	1. Insert the software CD into the CD-ROM drive. 2. Navigate to the directory on the CD that contains the installation program for your platform.

3. If the file is not executable, change its permissions; for example:

   ```
   # chmod a+x filename.bin
   ```

4. Launch the BEA installation program for WebLogic RFID Enterprise Server:

   ```
   # ./filename.bin -mode=console
   ```

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

   ```
   # rfid_enterprise200_linux32.bin -mode=console
   -log=/home/logs/BEA_install.log
   ```

   See "Generating a Verbose Installation Log" on page 2-10.

5. Proceed to Chapter 5, "Running the Installation Program in Console Mode."

What's Next?

See one of the following, depending on your selected installation mode:

- Chapter 4, "Running the Installation Program in Graphical Mode"
- Chapter 5, "Running the Installation Program in Console Mode"

CHAPTER 4

Running the Installation Program in Graphical Mode

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

Running the Installation Program

Start the installation program as described in Chapter 3, "Starting the Installation Program."

The installation program prompts you to enter specific information about your system and configuration. For instructions on responding to the prompts during installation, see the following table.

Table 4-1 Installing WebLogic RFID Enterprise Server in Graphical Mode

In this window . . .	Perform the following action . . .
Welcome	Click **Next** to proceed with the installation. You may cancel the installation at any time by clicking **Exit**.
BEA License Agreement	Read the BEA Software License Agreement and indicate your acceptance of the terms of the agreement by selecting **Yes** and clicking **Next**.
Choose BEA Home Directory	Specify the BEA Home directory in which to install WebLogic RFID Enterprise Server. You must select a directory that contains an instance of WebLogic Server 9.2. See "Choosing a BEA Home Directory" on page 2-7.

Table 4-1 Installing WebLogic RFID Enterprise Server in Graphical Mode

In this window . . .	Perform the following action . . .
Choose Product Directory This window is not displayed if you are adding components to an existing installation. Instead, you are prompted to confirm the product installation directory. If you do so, the selected components are installed in the product installation directory you specified during the initial installation.	Specify the directory in which you want to install the software and click Next. You can accept the default product directory (`rfid_enterprise20`) or create a new product directory. See "Choosing a Product Installation Directory" on page 2-10. If you choose to create a new directory, the installation program automatically creates one for you.
Choose Shortcut Location This window is displayed only under the following conditions: • You have Administrator privileges. • You are performing an initial installation. • You are installing on a Windows platform.	Specify the Start menu folder in which you want the Start menu shortcuts created. You can select from the following options: • "All Users" Start Menu folder (recommended) Selecting this option provides all users registered on the machine with access to the installed software. However, only users with Administrator privileges can create shortcuts in the All Users folder. Therefore, if a user without Administrator privileges uses the Configuration Wizard to create domains, Start menu shortcuts to the domains are not created. In this case, users can manually create shortcuts in their local Start menu folders, if desired. • Local user's Start Menu folder Selecting this option ensures that other users registered on this machine will not have access to the Start menu entries for this installation. When you click **Next**, the installation begins.

Table 4-1 Installing WebLogic RFID Enterprise Server in Graphical Mode

In this window . . .	Perform the following action . . .
Status	Read the information displayed about BEA products and services. When the installation program has finished copying the specified files to your system, click **Next**.
Installation Complete	Displays a message indicating that the installation was successful. Specify whether you want to run the Configuration Wizard. Clear the check box for this option if you do not want to launch the Configuration Wizard at this time. You can run the Configuration Wizard later, but until you run the Configuration Wizard to create a domain and configure WebLogic RFID Enterprise Server components, you will not have access to the RFID Enterprise Server software. Clicking the **Done** button exits the installer and starts the Configuration Wizard.

Note: If the Run the Configuration Wizard check box is selected (the default), there will be a short wait between the time you click **Done** and the time the Configuration Wizard is displayed.

What's Next?

By default, WebLogic RFID Enterprise Server uses the evaluation license file installed in the BEA Home directory so that you can start using the product immediately. For information on obtaining and installing a production license, see Chapter 6, "Installing and Updating License Files."

For additional post-installation information, see Chapter 7, "Post-Installation Information."

CHAPTER 5

Running the Installation Program in Console Mode

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

Running the Installation Program

Start the installation program in console mode as described in "Starting in Console Mode" on page 3-2.

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

Note: In the sample console text and directory pathnames provided in this section, Windows conventions (such as backslashes in pathnames) are used; for example, `C:\bea\rfid_enterprise20`. When entering pathnames on a Linux system, be sure to use UNIX conventions instead. For example, use forward slashes in pathnames, such as `/home/bea/rfid_enterprise20`.

The following procedure steps you through the installation program. Use this procedure after you have started the installation program in console mode, as described in Chapter 3, "Starting the Installation Program."

1. At the `Welcome` prompt, type press Enter to continue.

2. Read the BEA Systems License Agreement and indicate your acceptance or rejection of its terms:
   - Type `1` to indicate your agreement with the terms of the license and proceed with the installation. To review the entire agreement, press Enter or type `Down` several times. Type `Up` to scroll back through sections previously displayed.
   - Type `2` if you do not agree with the terms of the license. If you type `2`, the installation process terminates.
3. At the `Choose BEA Home Directory` prompt, specify the BEA Home directory that will serve as the central support directory for all WebLogic RFID Enterprise Server software installed on the target system.

   Note: Select an existing BEA Home directory that contains an instance of WebLogic Server 9.2. Although you can select option 1, you cannot create a new BEA Home.

   For details about the BEA Home directory, see "Choosing a BEA Home Directory" on page 2-7.

```
Choose BEA Home Directory:
--------------------------

 ->1¦* Create a new BEA Home
   2¦C:\bea
   3¦C:\bea_prod
   4¦C:\bea_qa

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

   Type the number associated with the desired BEA Home directory.

   The installation program displays the BEA Home directory you have specified, as shown in the following example:

```
Choose BEA Home Directory:
--------------------------

    "BEA Home" = [C:\bea]

Select Option:
    1 - Input BEA Home
    2 - Use default [C:\bea]

Enter option number to select OR [Exit][Previous][Next]>
```

   On the command line, press Enter or type `n` to accept your selection. Otherwise, type `1` or `p` to return to the Choose BEA Home Directory panel, where you can modify your entry; or type `2` to use the default BEA Home directory.

4. After you have selected your BEA Home directory and confirmed your selection, type `Next` or press Enter.

   The screen displays two install types: Complete and Custom. Select Complete because the installation will install all components whether you select Complete or Custom. Component selection and domain configuration is performed using the Configuration Wizard.

```
Choose Install Type:
--------------------

Select the type of installation you wish to perform.

 ->1¦Complete
    ¦  Install the following software components and examples:
    ¦ - RFID Enterprise Server

   2¦Custom
    ¦  Choose software components to install and perform optional
        configuration

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

   Select option 1.

5. At the `Choose Product Directory` prompt, specify the directory in which you want to install the software. You can accept the default product directory (`BEA_HOME\rfid_enterprise20`) or create a new product directory.

   If you specify a new directory, the installation program automatically creates it for you.

   The following example shows the choices displayed in this section:

```
Choose Product Directory:
-------------------------
Product Installation Directory=[Use default "C:\bea\rfid_enterprise20"]

Input Product Installation Directory OR [Exit][Previous][Next]>
```

   Do one of the following:

   – Press Enter to accept the current selection.

   – Enter the *full path* to the directory in which you want to install the software, and press Enter.

     You are prompted to confirm your selection as shown in the following text:

```
Choose Product Directory:
-------------------------
   ->1| Yes, use this product directory [C:\bea\rfid_enterprise20]
     2| No, select another product directory
```

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

Verify that your entry is correct, then type `1` or press Enter to proceed with the installation. Otherwise, type `2` to return to the `Choose Product Directory` panel, where you can modify your entry.

6. Specify the folder in which you want to create the Start menu shortcuts. Select the All Users folder or the local user's folder, as shown in the following sample text:

```
Choose Shortcut Location:
-------------------------
*The installer creates shortcuts to BEA components, samples, and tools.
*As a user with administrative privileges, you can specify where these
*shortcuts are created.

 ->1¦"All Users" Start menu folder> (recommended)
    ¦If a user without administrative privileges uses the BEA
   ¦Configuration Wizard in this installation to create domains, the user
    ¦may have to create Start menu shortcuts manually. Refer to the
    ¦documentation for more information.
   2¦Local user's Start Menu folder
    ¦Select this option if you need to ensure that other profiles
    ¦registered on this machine will not have access to these shortcuts.

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

Do one of the following:

- Type `1` or press Enter to create Start menu shortcuts in the All Users folder. This provides all users registered on the machine with access to the installed software. However, only users with Administrator privileges can create shortcuts in the All Users folder. Users can manually create shortcuts in their local Start menu folders, if desired.
- Type 2 to create shortcuts in your local user's Start menu folder. If you do so, other users registered on this machine will not have access to the Start menu entries for this installation.

You are prompted to confirm your selection:

```
Choose Shortcut Location:
-------------------------
  *Are you sure you wish to create the shortcuts in the selected location?

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

```
 ->1¦Yes.
   2¦No, Go back to the previous screen and make another choice.

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

Type `1` or press Enter to proceed with the installation. Otherwise, type `2` to return to the previous panel, where you can modify your entry.

After you verify your selection, the installation program begins copying the components you specified to your system.

```
Installing files..

0%          25%          50%          75%          100%

[------------|------------|------------|------------]

[***
```

When the installation is complete, a Congratulations message is displayed.

7. Press Enter or type `Exit` to exit the installation program.

What's Next?

By default, WebLogic RFID Enterprise Server uses the evaluation license file installed in the BEA Home directory so that you can start using the product immediately. For instructions on updating the license file, see Chapter 6, "Installing and Updating License Files."

For additional post-installation information, such as using the Configuration Wizard, see Chapter 7, "Post-Installation Information."

CHAPTER 6

Installing and Updating License Files

The following sections explain how to acquire, install, and update your product licenses:

About BEA Product Licenses

BEA products use an XML-formatted license file called `license.bea`. This license file, stored in the BEA Home directory, applies to BEA products installed in that directory. Your BEA software checks this file at run time to determine which product components you are authorized to use.

Note: If you have multiple BEA Home directories on your system, each BEA Home must have a `license.bea` file that authorizes use of the products associated with that directory.

Licenses are release specific. For example, to use WebLogic RFID Enterprise Server 2.0, you must have a valid 2.0 license file.

A purchase of WebLogic RFID Enterprise Server includes:

- WebLogic Server license
- WebLogic RFID Enterprise Server license, which includes all Enterprise Server components (there are no licenses for individual components)

Note: WebLogic Server software and WebLogic RFID Enterprise Server software are available for download at http://commerce.bea.com.

The types of license files that can be used as the `license.bea` file and the technical restrictions that they impose are described in the following table.

Note: See the End User License Agreement for specific license terms and conditions.

Table 6-1 WebLogic RFID Enterprise Server License File Types

License Type	Description
Evaluation	• Used in a development environment to evaluate the software. • Generated by the installer and expires after 30 days. • Installed in the BEA Home directory as `license.bea`.
Production License	• Used in full-scale production environments. • Enables you to run your software on a single machine, even if it is running multiple instances of WebLogic Server or WebLogic RFID Enterprise Server. • Must be purchased separately. For information about purchasing a production license, make contact with your sales representative or visit the BEA corporate Web site at http://www.bea.com.

When you install your software, a 30-day evaluation license file (`license.bea`) is installed on your system. By default, your software uses the evaluation license installed with the product so that you can start using it immediately. Subsequently, when you install additional BEA products that include a `license.bea` file, the installation program automatically adds the new product licenses to the `license.bea` file.

Updating Your license.bea File

When you install WebLogic RFID Enterprise Server, the installation program generates an evaluation `license.bea` file for use with the software and installs it in the BEA Home directory. If you are installing your software in an existing BEA Home, the installation program automatically adds the evaluation license included with your product distribution to the existing `license.bea` file.

In some cases, however, you must update the `license.bea` file separately, independent of the installation process. For example, you must update your license file if at least one of the following is true:

- You purchase a product for production use and you receive a production license to replace your evaluation license.
- You want to upgrade production systems to a new release of the software. After installing the current release of the software, you must upgrade your license to the current version. To do so, see "Upgrading Licenses from Previous Software Releases" on page 6-5.
- You purchase additional WebLogic RFID Enterprise Server software with production licenses, and you want to add the production licenses for the new software to the production licenses for software already in production use on your system.
- You want to transfer existing production licenses from one machine to another machine with a different IP address.

In each case, you will receive a new license file from BEA, the contents of which must be included in the `license.bea` file in the target BEA Home directory. To facilitate the license update process, BEA provides an `UpdateLicense` utility that merges the new license into the existing license in the BEA Home directory, and deletes any expired or duplicate entries.

The `UpdateLicense` merge process is not intended to modify the license attributes for any component or feature in the license files being merged. For example: if you merge a license for one version of the product on IP address *A* with a license for another version of the product on IP address *B*, the IP addresses for both license versions are retained. The merge process creates a single license file that can be used to run each version on its associated IP address. The merge process does not change the IP address or the product version associated with either entry. In order to change the IP address for a specific license, you must use the BEA eLicense system at `http://elicense.bea.com`.

Important Considerations for Updating Your license.bea File

When determining how to update your `license.bea` file, you should consider the following:

- If you want to merge the features enabled by both your new license and your existing license, you must use the `UpdateLicense` utility. See "Updating license.bea by Using the UpdateLicense Utility" on page 6-4.
- You may choose to replace an existing `license.bea` file with a new `license.bea` file, but if you do so, you run the risk of losing the product usage rights enabled by your existing license file.

Note: Do not edit the `license.bea` file manually. Doing so may cause operating problems for the currently installed BEA products, or result in problems later when BEA products are installed for maintenance upgrades.

Updating license.bea by Using the UpdateLicense Utility

To update your `license.bea` file:

1. Save the license update file that you received through e-mail, with a name other than `license.bea`, in the target BEA Home directory. For example, save the file as `new_license.bea`. Use this file as the *`license_update_file`* in step 4 of this procedure.

   WARNING: Do not overwrite or change the name of the existing `license.bea` file.

2. Perform the step appropriate for your platform:
   - On a Windows system, open an MS-DOS command window and go to the target BEA Home directory.
   - On a Linux system, go to the target BEA Home directory.
3. If it is not already included, add the JDK to your `PATH` variable, using the correct pathnames on your system for `BEA_HOME` and `JDK`:
   - On a Windows system:

     ```
     set PATH=BEA_HOME\JDK\bin;%PATH%
     ```

   - On a Linux system:

     ```
     PATH=BEA_HOME/JDK/bin:$PATH
     export PATH
     ```

   In this command, `JDK` represents the directory that contains the JDK being used for this installation, for example, `jdk150_06`.
4. Merge the license update file into your existing license by entering one of the following commands:
   - On a Windows system:

     ```
     UpdateLicense license_update_file
     ```

   - On a Linux system:

     ```
     # sh UpdateLicense.sh license_update_file
     ```

   `license_update_file` represents the name to which you saved the license update file in step 1.
5. Save a copy of your updated `license.bea` file in a safe place outside your BEA software and application installation directories.

Although no one else can use your license file, you should save a copy of it in a place that is protected from both malicious and innocent tampering.

Upgrading Licenses from Previous Software Releases

Customers who have installed a pre-2.0 version of the WebLogic RFID Enterprise Server software can call BEA customer support for assistance in upgrading to the current version. Mention that you are an existing Enterprise Server customer who is upgrading to WebLogic RFID Enterprise Server 2.0; doing so will help ensure that your request for assistance is routed to the correct people within customer support.

CHAPTER 7

Post-Installation Information

The following sections provide post-installation information:

Starting the Configuration Wizard

The Configuration Wizard runs in graphical mode only; there is no support for console mode.

You can start the Configuration Wizard in graphical mode from either the Windows Start menu or from the command line.

- (Windows) To start the Configuration Wizard in graphical mode on a Windows platform, choose the Configuration Wizard option from the BEA program group in the Windows Start Menu:

  Start →Programs →BEA WebLogic RFID Enterprise Server <version> →Configuration Wizard

- (Windows Command Line or UNIX) To start the Configuration Wizard in graphical mode from a Windows command prompt or on a UNIX platform:

a. Log in to the target system on which the product is installed.

b. Open an MS-DOS command prompt window (on Windows) or a command shell (on UNIX).

c. Go to the `common/bin` subdirectory of the product installation directory. For example:

```
cd c:\bea\rfid_enterprise20\common\bin
```

d. Invoke one of the following scripts to start the Configuration Wizard in graphical mode:

Windows: `config.cmd`

UNIX: `config.sh`

Configuration Wizard Screens

Table 7-1 describes the screens displayed by the Configuration Wizard. Use the Configuration Wizard to create a domain and configure WebLogic RFID Enterprise Server components.

Table 7-1 Configuration Wizard Screens

In this window . . .	Perform the following action . . .
Welcome	Decide whether to create or extend a WebLogic domain. **Note:** BEA recommends that you create a new domain for use with WebLogic RFID Enterprise Server. Click **Next** to proceed with the configuration. You may cancel the configuration at any time by clicking **Exit**.
Select Domain Source	From the following choices, select WebLogic RFID Enterprise Server components for configuration in the domain: • Event Service and Data Exchange Service (includes Master Data Service) • Reporting Service (selecting the Reporting Service automatically selects the Event Service and Data Exchange Service) • Serial Number Assignment Service • Edge Management **Note:** BEA recommends that you select "Generate a domain configured automatically to support the following" and select all WebLogic RFID Enterprise Server components for configuration.
Configure Administrator Username and Password	The default username is `weblogic`. You can change the name. You must enter and confirm a password.

Table 7-1 Configuration Wizard Screens

In this window . . .	Perform the following action . . .
Configure Server Start Mode and JDK	Select a start mode: Development or Production depending on how you will use the domain. For an explanation of the differences between the two modes, see *Creating WebLogic Domains Using the Configuration Wizard* at: http://e-docs.bea.com/common/docs92/confgwiz/index.html Select a JDK from the list or provide the location of a JDK. **Note:** The Configuration Wizard displays a list of all the JDKs found in BEA Home. When selecting a JDK for use with WebLogic RFID Enterprise Server 2.0, you must select a JDK version 1.5 or higher.
Customize Environment and Services Setting	Select **Yes** or **No**. **Note:** If creating a new domain (recommended), select **Yes** because you should at least configure the Kodo properties for your database. If you select **No**, the domain is automatically configured to use PointBase, which is not recommended for use in a production environment. The customize screens provide options for the following configurations: • Admin Server listen address and ports • Managed servers • Machines • Kodo[1] • JMS file stores
Create WebLogic Domain	Enter the domain name and the directories for domain and application files. The Configuration Wizard creates the domain and provides a check box that lets you start the Administration Server when the Configuration Wizard exits. **Note:** Make sure the database is running before starting the Administration Server.

1. On the Configure Kodo screen, you can click a radio button that will result in the automatic initialization of the database. If your are initializing a SQL Server database for use with Enterprise Server, do not click the radio button unless you have already configured the database with a case-insensitive collation option (for example, _CI); otherwise, the Enterprise Server database initialization scripts will fail. For information about initializing the database after creating the domain; see "Initializing Databases" on page 8-3.

Understanding the Windows Shortcuts

When you install your BEA WebLogic RFID Enterprise Server software on a Windows system, the installation program automatically creates shortcut entries on the Start Menu.

Note: If the user performing the installation has Administrator privileges, the shortcut entries can be created in the All Users Start menu folder or in the user's local Start menu folder. For more information, see "Administrator Privileges (Windows)" on page 2-6.

Options on the Start Menu vary, according to the components you choose to install.

The BEA WebLogic RFID Enterprise Server folder (Start →Programs →BEA WebLogic RFID Enterprise Server <version>) contains the shortcuts shown in the following list:

- *Configuration Wizard* — Select which Enterprise Server components to configure, create a domain, and perform initial configuration. See "Starting the Configuration Wizard" on page 7-1.
- *Online Documentation* — provides a link to the online documentation on the e-docs Web site.
- *Uninstall RFID Enterprise Server* — Launches the uninstallation program. For more information, see "Uninstalling the Software" on page 9-1.

When you run the Configuration Wizard, additional shortcuts are added to the WebLogic RFID Enterprise Server folder.

Note: If the user performing the configuration has Administrator privileges, the shortcut entries can be created in the All Users Start menu folder or in the user's local Start menu folder. For more information, see "Administrator Privileges (Windows)" on page 2-6.

The Configuration Wizard adds the following shortcuts:

- *User Projects* →`<domain_name>` — Provides the following shortcuts:
  - *Enterprise Server Console* — Provides links to the following Consoles
    - Query Subscription Administration Console
    - Master Data Administration Console
    - Reporting Service Console
    - Serial Number Assignment Console
    - RFID Edge Server Administration Console

Note: This list of available Consoles assumes that you choose to configure all WebLogic RFID Enterprise Server components.

– *Start Admin Server for WebLogic Server Domain* — Starts the WebLogic Administration Server for this domain.

– *Stop Admin Server* — Stops the WebLogic Administration Server for this domain.

Understanding the Product Directory Structure

During the product installation, you are asked to select or create a BEA Home directory and a product installation directory. For information about the BEA Home directory, see "Choosing a BEA Home Directory" on page 2-7. For a complete installation, the installation program creates a dedicated directory structure for the BEA Products software. It may or may not reside in the BEA Home directory. Table 7-2 describes the contents of each directory.

Note: The installation program does not create directories for components that are not installed.

Table 7-2 Product Installation Directory Structure

This directory . . .	Contains . . .
`/common`	The `bin`, `help`, `html`, `lib`, `nodemanager`, and `template` directories
`/lib`	Java libraries used by RFID Enterprise Server components.
`/uninstall`	Command for uninstalling the BEA software.

What's Next: Configuring RFID Enterprise Server

You can now configure your RFID Enterprise Server; see *"Configuring WebLogic RFID Enterprise Server."*

CHAPTER 8

Configuring WebLogic RFID Enterprise Server

The following sections provide information about WebLogic RFID Enterprise Server for use after creating a domain:

When configuring and tuning WebLogic RFID Enterprise Server, you have access to all the WebLogic Server administrative tools. For example, use the WebLogic Server Administration Console to view the list of `WLRFID` libraries and applications under Deployments.

To access the WebLogic RFID Enterprise Server Consoles go to:

```
http://localhost:7001/enterprise
```

Browser Requirements

The following browsers are supported for accessing the GUIs provided with WebLogic RFID Enterprise Server 2.0:

- Firefox 1.5 (or higher)
- Microsoft Internet Explorer 6.0 SP2 (or higher)

Although both browsers are supported, there are some minor issues with support for Firefox. For example, when using the Edge Server Administration Console to edit an ECSpec, Firefox does not detect when you close the editing window. If you re-open the window, Firefox displays a message stating that you can have only one editing session at a time (you can click OK on the message window to open an editing session).

Because there are these minor UI issues, BEA recommends that you use Internet Explorer. However, you can access all RFID Enterprise Server features with Firefox, just be aware you might encounter some minor UI idiosyncrasies.

Whichever browsers you use, the configuration and requirements include:

- Allow cookies.
- Do not block pop-ups (required for the Edge Server Administration Console).
- The browser must support JavaScript, and JavaScript must be enabled.

Backwards Compatibility with Enterprise Server 1.1

JMS Queues

Three message queues are provided in 2.0:

- EPCISMessages (1.1 messages)
- EPCISCapture (2.0 messages)
- EPCISFailedMessages (failed messages of all types)

The EPCISMessages queue used in version 1.1 is also available in 2.0. Therefore applications that sent messages to this queue in Enterprise Server 1.1 can send continue to send messages to the same queue in Enterprise Server 2.0 without any modifications. This queue should operate seamlessly, assuming that security configurations are compatible between the sending and receiving systems.

The EPCISCapture queue is a new queue for capturing messages formatted for Enterprise Server 2.0.

The EPCISFailedMessages queue can hold messages of either type. When an error occurs during capture, a message is automatically moved to this queue after the number of retries is exceeded.

SOAP API

The 1.1 SOAP API is exposed in the 2.0 release. The URL for the 1.1 SOAP service is:

`http://[host]:[port]/legacyepcis/LegacyEPCIS`

(The inbound-message URL for the WebLogic RFID Enterprise Server 2.0 SOAP service is `http://[host]:[port]/epcis/EPCIS`.)

Capturing Data from the Edge

For information about sending event data from WebLogic RFID Edge Server to WebLogic RFID Enterprise Server, see the Edge Server documentation at:

http://e-docs.bea.com/rfid/edge_server/docs21/workflow_reference/index.html

For information about the JMS queues used to capture incoming event data in WebLogic RFID Enterprise Server, see "JMS Queues" on page 8-2.

Initializing Databases

If you did not configure and initialize a database with the Configuration Wizard, you will need to do so before running Enterprise Server.

First, you will need to create the tables and populate them with the default data.

1. In the `BEA_HOME/user_projects/domains/`*`your-domain`*`/config` directory, modify following properties in the `kodo.properties` file in order to connect to your database (the example uses PointBase properties, set the properties for your database):

   ```
   javax.jdo.option.ConnectionDriverName:
    com.pointbase.jdbc.jdbcUniversalDriver
   javax.jdo.option.ConnectionURL: jdbc:pointbase:embedded:ent_server;new
   javax.jdo.option.ConnectionUserName: es
   javax.jdo.option.ConnectionPassword: es
   ```

   Note: If you configured your database using the Configuration Wizard, these properties should already be set correctly except for the password, which you should provide (you will delete the password after the database is initialized).

2. If the Enterprise Server will be connecting to an Oracle database, uncomment the following line:

   ```
   #kodo.jdbc.DBDictionary: oracle (TimestampTypeName=TIMESTAMP)
   ```

3. Make sure that the database is running; that the user, schema, and database that are going to be used have been created; and that the user specified in the Kodo configuration file has the appropriate permissions to create tables and read and write to them.

   Note: If your are initializing a SQL Server database for use with Enterprise Server, make sure that the database is configured with a case-insensitive collation option (for example, _CI); otherwise, the Enterprise Server database initialization scripts will fail.

4. In the `BEA_HOME/user_projects/domains/`*`your-domain`*`/bin` directory, run the following scripts to create the application tables and populate them with initial data:

   – `initEventServiceDatabase`

   – `initSerialNumberDatabase`

   Note: If you are using a driver that does not ship with WebLogic Server 9.2, you will need to add it to the classpath for the scripts in order for them to run.

5. When the database is initialized, remove the password from the `kodo.properties` file.

6. Edit the `ra.xml` file:

   a. Change directory to:

   ```
   BEA_HOME/user_projects/applications/your-domain/kodo.ear/kodo.rar/META-
   INF
   ```

   b. In the file `ra.xml`, update the following fields as necessary:

   ```
   <config-property>
      <description>The class name of either the JDBC java.sql.Driver,
        or an instance of a javax.sql.DataSource to use to connect to
        the data source.
      </description>
      <config-property-name>ConnectionDriverName</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>
        com.pointbase.jdbc.jdbcUniversalDriver
      </config-property-value>
   </config-property>

   <config-property>
      <description>The URL for the data source.</description>
   ```

```
      <config-property-name>ConnectionURL</config-property-name>
      <config-property-type>java.lang.String</config-property-type>
      <config-property-value>
        jdbc:pointbase:server://localhost:9092/ent_server
      </config-property-value>
    </config-property>
```

The username and password used to access the database are stored in a Credential Mapping in WebLogic Server. If you configured the database (but did not initialize it) using the Configuration Wizard, this Credential Map will be created the first time you start Weblogic Server. If you did not configure the database using the Configuration Wizard, a default Credential Mapping pointing to PointBase was created. You will need to delete that credential mapping and create a new one for your production database:

1. Start WebLogic Server and log in to the WebLogic Console.
2. In the left pane of the Console, select Security Realms.
3. In the Summary of Security Realms table, click `myrealm` (or the name of your security realm).
4. Select Credential Mappings.
5. Locate the Credential Mapping with the following Resource Identifier:

   ```
   type=<remote>, protocol=,
   remoteHost=jdbc:pointbase:server://localhost:9092/ent_server
   ```

6. Click the check box next the mapping.
7. Click **Delete**.
8. Click **Yes** to confirm that you want to delete the Credential Mapping.
9. Click **New**.
10. On the Create a New Security Credential Mapping page, enter your database connection URL as the Remote Host. For example, `jdbc:bea:oracle://localhost:1521;SID=es;`. Leave the other inputs blank.
11. Click **Next**.
12. Enter `rfiduser` as the Local User, and specify the username and password that will be used to access the database as the Remote User and Password.
13. Click **Finish**.
14. Restart WebLogic Server.

Configuring Enterprise Server for a Different Database

To change the database to which Enterprise Server is connected, make the following modifications.

First, modify properties in `ra.xml`:

1. Change directory to:

```
BEA_HOME/user_projects/applications/your-domain/kodo.ear/kodo.rar/META-
INF
```

2. In the file `ra.xml`, update the following fields as necessary:

```
<config-property>
   <description>The class name of either the JDBC java.sql.Driver,
     or an instance of a javax.sql.DataSource to use to connect to the
     data source.
   </description>
   <config-property-name>ConnectionDriverName</config-property-name>
   <config-property-type>java.lang.String</config-property-type>
   <config-property-value>
     com.pointbase.jdbc.jdbcUniversalDriver
   </config-property-value>
</config-property>
```

```
<config-property>
   <description>The URL for the data source.</description>
   <config-property-name>ConnectionURL</config-property-name>
   <config-property-type>java.lang.String</config-property-type>
   <config-property-value>
     jdbc:pointbase:server://localhost:9092/ent_server
   </config-property-value>
</config-property>
```

Then, create a Credential Mapping for the new connection:

1. Start WebLogic Server and log in to the WebLogic Console.
2. In the left pane of the Console, select Security Realms.
3. In the Summary of Security Realms table, click `myrealm` (or the name of your security realm).
4. Select Credential Mappings.
5. Click **New**.

6. On the Create a New Security Credential Mapping page, enter your database connection URL as the Remote Host. For example, `jdbc:bea:oracle://localhost:1521;SID=es;`. Leave the other inputs blank.
7. Click **Next**.
8. Enter `rfiduser` as the Local User, and specify the username and password that will be used to access the database as the Remote User and Password.
9. Click **Finish**.
10. Restart WebLogic Server.

Modifying the Username and Password Used to Connect to a Database

To change the username and password, but not the Connection URL, used to access a database, do the following:

1. Start WebLogic Server and log in to the WebLogic Console.
2. In the left pane of the Console, select Security Realms.
3. In the Summary of Security Realms table, click `myrealm` (or the name of your security realm).
4. Select Credential Mappings.
5. Locate the Credential Mapping that contains the Resource Identifier you want to modify.

   Note: Write down the resource identifier information so you will have it available after you delete this identifier.
6. Click the check box next the identifier.
7. Click **Delete**.
8. Click **Yes** to confirm that you want to delete the Credential Mapping.
9. Click **New**.
10. On the Create a New Security Credential Mapping page, for Remote host, enter the same database connection URL. Leave the other inputs blank.
11. Click **Next**.

12. Enter `rfiduser` as the Local User, and specify the username and password that will be used to access the database as the Remote User and Password.
13. Click **Finish**.
14. Restart WebLogic Server.

Configuring Enterprise Server to Send Query Subscription Results to an AS2 Destination

Enterprise Server supports sending subscription results to AS2 destinations via Synchrony Gateway (formerly Cyclone Interchange 5.4). Subscription results are sent via JMS. Synchrony Gateway uses information in the StandardBusinessDocumentHeader or JMS headers portion of the EPCISDocument that is delivered to determine the AS2 trading partner to whom the subscription should be forwarded. Some basic configuration, outlined below, is required to configure Enterprise Server to send subscription results to AS2 destinations. For the specifics of creating a subscription to send to an AS2 trading partner, see *Understanding the Event, Master Data, and Data Exchange Services*.

1. Set the default JMS provider URL for the scheduling engine to the JMS provider URL of your AS2 engine:
   a. Change directory to:
   `BEA_HOME/user_projects/applications/your-domain/epcis-lib.ear/epcis-scheduler-ejb.jar/META-INF`
   b. In the `ejb-jar.xml` file, uncomment and edit the `defaultJMSProviderURL` entry as needed:

```
<!-- optional entry for default JMS provider URL - uncomment this block
and set the desired value

<env-entry>
  <env-entry-name>defaultJMSProviderURL</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>t3://localhost:7001</env-entry-value>
</env-entry>
-->
```

2. Configure the `as2JMSConnectionFactory`, `as2JMSQueueName`, and `as2JMSReceivingProperty`:

a. Change directory to:
`BEA_HOME/user_projects/applications/`*`your-domain`*`/epcis-lib.ear/epcis-ejb.jar/META-INF`.

b. In the `ejb-jar.xml` file, modify the values for the following properties as needed:

```
<env-entry>
  <env-entry-name>as2JMSConnectionFactory</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>
      weblogic.jms.ConnectionFactory
  </env-entry-value>
</env-entry>
<env-entry>
  <env-entry-name>as2JMSQueueName</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>cyclone-outbound</env-entry-value>
</env-entry>
<env-entry>
  <env-entry-name>as2JMSReceiverProperty</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>ReceiverRoutingId</env-entry-value>
</env-entry>
```

– `as2JMSConnectionFactory` is the connection factory that will be used to send JMS messages to the AS2 engine (`weblogic.jms.ConnectionFactory` is an acceptable default).

– `as2JMSQueueName` is the name of the JMS queue on which the AS2 engine is listening for incoming subscriptions.

– `as2JMSReceiverProperty` is the name of the JMS header item where the trading partner's ID should be set. `ReceiverRoutingId` is the correct value to use with Synchrony Gateway.

c. Keep the `ejb-jar.xml` file open. The remaining steps are also edits to this file.

3. In `ejb-jar.xml`, configure the static names and values of other items included in the JMS header of AS2 subscriptions.

a. Header item names are specified as a space-delimited list in an `as2JMSHeaderItems` entry. To specify header items, uncomment the entry and edit the list:

```
<!--
<env-entry>
  <env-entry-name>as2JMSHeaderItems</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>ContentMimeType SenderRoutingId BusinessProtocol
```

```
      DocumentClass BusinessProtocolVersion</env-entry-value>
</env-entry>
-->
```

b. The file contains example entries that demonstrate the name, type, and value for commonly used header items. For each header item that you made visible in the previous step, uncomment its associated name and value entries. For example, if you specify `ContentMimeType` as a value in `as2JMSHeaderItems`, uncomment the `ContentMimeType` name and value entries and modify them as needed:

```
<env-entry>
  <env-entry-name>
    as2JMSHeaderItem.ContentMimeType.name
  </env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>ContentMimeType</env-entry-value>
</env-entry>
<env-entry>
  <env-entry-name>
    as2JMSHeaderItem.ContentMimeType.value
  </env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>application/xml</env-entry-value>
</env-entry>
```

4. The EPCIS specification recommends that the Standard Business Document Header element be included in the EPCIS Query Results. The values used in this header may also be configured in `ejb-jar.xml`. Uncomment and modify the entries as needed:

   a. To include a Standard Business Document Header in messages sent by AS2, uncomment the `sbdhSenderIdentifier` entry and set the value to the identifier you want to include in the Standard Business Document Header as the identifier in the `PartnerIdentification` element:

   ```
   <env-entry>
     <env-entry-name>sbdhSenderIdentifier</env-entry-name>
     <env-entry-type>java.lang.String</env-entry-type>
     <env-entry-value>...</env-entry-value>
   </env-entry>
   ```

   b. To specify a sender authority, uncomment and edit the `sbdhSenderAuthority` entry.

   c. The Receiver Identifier used in the Standard Business Document Header is identical to the AS2 trading partner name. You can specify the associated receiver authority by uncommenting and editing the `sbdhReceiverAuthority` entry. (The `BEA-EPCIS` value is simply a placeholder):

```
<env-entry>
  <env-entry-name></env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>BEA-EPCIS</env-entry-value>
</env-entry>
```

d. For the `DocumentIdentification` element of the Standard Business Document Header, `sbdhDocidStandard` sets the value for the `standard` element, `sbdhDocidTypeVersion` sets the value for the `typeVersion` element, and `sbdhDocidType` sets the value for the `type` element. These may be omitted, in which case the corresponding fields will be omitted from the Standard Business Document Header. To use these entries, uncomment and edit them as required.

Configuring Company Prefix Lookups

By default, the Company Prefix component uses the following URL when performing lookups:

`http://www.onsepc.com/ManagerTranslation.xml`

The lookup location is controlled by an entry in `BEA_HOME/user_projects/applications/`*`your-domain`*`/companyprefix-lib.ear\companyprefix-ejb.jar\META-INF\ejb-jar.xml`:

```
<env-entry>
  <env-entry-name>epcIndexTableURL</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>
     http://www.onsepc.com/ManagerTranslation.xml
  </env-entry-value>
</env-entry>
```

To use a custom company prefix lookup table, change the URI value of `env-entry-value`. For example, to use a local file named `mytable.xml` for resolving company prefixes:

```
<env-entry>
  <env-entry-name>epcIndexTableURL</env-entry-name>
  <env-entry-type>java.lang.String</env-entry-type>
  <env-entry-value>
     file:///c:/mytable.xml
  </env-entry-value>
</env-entry>
```

Note: In a cluster, using a local file may be an issue.

Security

Global Roles

Table 8-1 defines the global roles added during domain configuration.

Table 8-2 maps WebLogic RFID Enterprise Server components to these roles.

Table 8-1 Global Role Definitions

Role	Definition
`rfid_admin`	Access to all applications and consoles except the Edge Server Console, which requires the Administrator role.
`epcis_admin`	General read-write administrative access to the consoles and features related to the Event and Master Data Services (Query Subscription Administration, Master Data Administration, Reporting Service).
`epcis_mgr`	Access to most of the consoles and features for the Event and Master Data Services, but less than `epcis_admin`. For example, `epcis_mgr` can view and update Master Data entries but cannot access the Query Subscription Administration Console.
`epcis_user`	In general, read-only access to data.
`provisioning_bea`	A specialized Serial Number Assignment Service role used to integrate with other applications via JMS.
`provisioning_mgr`	Access to the Serial Number Assignment Service Console.
`provisionsing_user`	Used to authenticate and authorize SOAP requests from the edge.

Table 8-2 Default Global Roles for RFID Enterprise Server Components

Component	Roles
RFID Edge Server Administration Console	Administrator
Query Subscription Administration Console	epcis_admin rfid_admin
EPCIS Event Capture JMS queues	epcis_admin epcis_mgr rfid_admin
EPCIS Event Capture and Query SOAP APIs	epcis_admin epcis_mgr rfid_admin
Master Data Administration Console	epcis_admin epcis_mgr rfid_admin
Master Data SOAP API	epcis_admin epcis_mgr rfid_admin
Reporting Service	epcis_mgr rfid_admin
Serial Number Assignment Service Console	provisioning_mgr rfid_admin
Serial Number Assignment Service JMS Interface	provisioning_bea rfid_admin
Serial Number Assignment SOAP API	provisioning_bea provisioning_user rfid_admin

As shipped, each role is a member of group Administrators. You can modify the roles to fit your site's security policies. To view these roles in the WebLogic Server Administration Console, navigate to Security Realms →*your-realm* →Roles and Policies. In the Roles table expand Global

Roles, then expand Roles. For more information, see Security Realms in *Understanding WebLogic Security*.

Single Sign-On

The following Consoles share the a session (`BEARFIDENTERPRISE`) because the anticipated audience is business users:

- Query Subscription Administration Console
- Master Data Administration Console
- Reporting Service Console
- Serial Number Assignment Service Console

The RFID Edge Server Administration Console shares a session (`ADMINCONSOLESESSION`) with the WebLogic Server Administration Console because the target audience is technical users.

These settings can be modified by changing the session cookie setting in `weblogic.xml` in each Web application.

For those applications that use `BEARFIDENTERPRISE`:

```
<session-descriptor>
   <cookie-name>BEARFIDENTERPRISE</cookie-name>
   <sharing-enabled>true</sharing-enabled>
</session-descriptor>
```

For those applications that use `ADMINCONSOLESESSION`:

```
<session-param>
   <param-name>CookieName</param-name>
   <param-value>ADMINCONSOLESESSION</param-value>
</session-param>
```

Performance Tuning

The following sections provide information about tuning WebLogic RFID Enterprise Server performance:

- "JVM Settings" on page 8-15
- "Queries, Subscriptions, and Reports" on page 8-15

JVM Settings

Your JVM settings will vary according to how you use Enterprise Server 2.0. A good starting point is to set your initial heap size equal to max heap size, and nursery size to 25% of max heap size. For example:

```
-Xms1024m -Xmx1024m -Xns256m
```

For more on information, see WebLogic Server Performance and Tuning at http://e-docs.bea.com/wls/docs92/perform/.

Queries, Subscriptions, and Reports

Depending on your system configuration and the size of your event repository, the default settings for database query timeouts may need to be adjusted. If you run a report, a query, or a subscription which results in a timeout exception on the console, you can modify two settings to give the query more time to run:

The default timeout for database transactions is 180 seconds. To modify that value, edit `BEA_HOME/user_projects/applications/your-domain/kodo.ear/kodo.rar/META-INF/ra.xml` and modify the `QueryTimeout` property:

```
<config-property>
  <description>A comma-separated list of properties used to
   configure the javax.sql.DataSource used as the ConnectionFactory.
   Each property should be of the form "key=value", where "key" is the
   name of some bean-like property of the data source.</description>
  <config-property-name>ConnectionFactoryProperties</config-property-name>
  <config-property-type>java.lang.String</config-property-type>
  <config-property-value>
    MaxActive=60, MaxIdle=10, QueryTimeout=180
  </config-property-value>
</config-property>
```

You will also need to modify the transaction timeouts on the relevant EJB(s). The default timeout value is 30 seconds. To change it, modify the deployment descriptor(s) as outlined below and set the timeout values to values that are more appropriate for your system and usage.

For queries and subscriptions, modify the value for `trans-timeout-seconds` in `BEA_HOME/user_projects/applications/your-domain/epcis-lib.ear/epcis-ejb.jar/META-INF/weblogic-ejb-jar.xml`:

```
<weblogic-ejb-jar xmlns="http://www.bea.com/ns/weblogic/90"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <weblogic-enterprise-bean>
    <ejb-name>EPCIS</ejb-name>
    <stateless-session-descriptor></stateless-session-descriptor>
    <transaction-descriptor>
      <trans-timeout-seconds>600</trans-timeout-seconds>
    </transaction-descriptor>
    <enable-call-by-reference>true</enable-call-by-reference>
  </weblogic-enterprise-bean>
  <weblogic-compatibility>
    <entity-always-uses-transaction>true</entity-always-uses-transaction>
  </weblogic-compatibility>
</weblogic-ejb-jar>
```

For reports, modify `BEA_HOME/user_projects/applications/your-domain/epcis-lib.ear/epcis-reports-ejb.jar/META-INF/weblogic-ejb-jar.xml`. Uncomment the highlighted lines and change the value for `trans-timeout-seconds`:

```
<weblogic-ejb-jar xmlns="http://www.bea.com/ns/weblogic/90"
                  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <weblogic-enterprise-bean>
    <ejb-name>Reports</ejb-name>
    <stateless-session-descriptor />
    <!--<transaction-descriptor>
      <trans-timeout-seconds>500</trans-timeout-seconds>
    </transaction-descriptor>-->
    <enable-call-by-reference>true</enable-call-by-reference>
  </weblogic-enterprise-bean>
  <weblogic-compatibility>
    <entity-always-uses-transaction>true</entity-always-uses-transaction>
  </weblogic-compatibility>
</weblogic-ejb-jar>
```

Running large queries against a high-volume production database may have performance implications. See you BEA representative for more information.

CHAPTER 9

Uninstalling the Software

The following sections provide procedures for uninstalling the software:

About the Uninstallation Program

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

Note: When uninstalling WebLogic RFID Enterprise Server you cannot select individual components, all components are selected.

The uninstallation program does not remove the BEA Home directory associated with the installation or the JDK. Only components installed by the installation program can be removed by the uninstallation program. the program does not delete user-created configuration files, application files, or domains or remove any files or directories related to the domains created or modified by the WebLogic RFID Enterprise Server Configuration Wizard.

Note: The installation program installs the RFID Edge Server Administration Console which resides in the product installation directory. If you run the uninstallation program, the Console is removed. Therefore, run the uninstallation program only when you no longer intend to use any of the product components.

Uninstalling Your Software in Graphical Mode

To uninstall the complete product installation, or individual components, start the uninstallation program as described in Table 9-1.

Table 9-1 Starting the Uninstallation Program in Graphical Mode

To start the uninstallation program on this platform . . .	Perform the following steps . . .
Windows	1. From the Windows Start menu, choose Start →Programs →BEA WebLogic RFID Enterprise Server <version > →Uninstall RFID Enterprise Server. The BEA Uninstaller Welcome window is displayed. 2. Proceed to step 3.

UNIX	1. Change directory (`cd`) to a location that is not under `BEA_HOME` or `RFID_ENTERPRISE_HOME` (the directory in which you installed your WebLogic RFID Enterprise Server software.) For example, if `BEA_HOME` is `/usr/local/bea`, and `RFID_ENTERPRISE_HOME` is `/usr/local/bea/rfid_enterprise20`, you could use `/usr/local` as the location; for example:
	`# cd /user/local`
	2. Run the `uninstall.sh` script located in the following directory:
	`RFID_ENTERPRISE_HOME/uninstall`
	For example:
	`# ./bea/rfid_enterprise20/uninstall/uninstall.sh`
	The BEA Uninstaller Welcome window is displayed.
	Note: If your system supports a graphical user interface, the uninstallation program starts in graphical mode. If your system does not support a graphical user interface, the uninstallation program starts in console mode. If console mode is started, see "Uninstalling Your Software in Console Mode" on page 9-3 for instructions.

5. Click **Next** to start the uninstall program.
6. In the Choose Components window, all components are selected by default. You cannot select individual components. Either click **Next** to begin uninstalling all components, or click **Exit** to exit the program.

   Note: When you click **Next**, you have committed to uninstalling the components. There is no confirmation dialog box. If you do not want to uninstall all components, click **Exit** now.
7. Optionally, click **Details** to view the log file that lists the uninstalled components.
8. Click **Done** in the BEA Uninstaller window to exit the uninstallation program.

Uninstalling Your Software in Console Mode

To uninstall the complete product installation, or individual components, by using the command-line interface, start the uninstallation program as described in Table 9-2.

Table 9-2 Starting the Uninstallation Program in Console Mode

To start the uninstallation program on this platform . . .	Perform the following steps . . .

Windows	1. Open a Command Prompt window and go to a directory that is not under `BEA_HOME` or `RFID_ENTERPRISE_HOME` (the directory in which you installed your WebLogic RFID Enterprise Server software.) For example, if `BEA_HOME` is `c:\bea`, and `RFID_ENTERPRISE_HOME` is `c:\bea\rfid_enterprise20`, you could use `c:\` as the location; for example:
	`# cd c:\`
	2. Run the `uninstall` command located in the following directory:
	`RFID_ENTERPRISE_HOME\uninstall`
	For example:
	`> c:\bea\rfid_enterprise20\uninstall\uninstall -mode=console`
	The Welcome text is displayed.

Table 9-2 Starting the Uninstallation Program in Console Mode

To start the uninstallation program on this platform . . .	Perform the following steps . . .

UNIX	1. Change directory (`cd`) to a location that is not under `BEA_HOME` or `RFID_ENTERPRISE_HOME` (the directory in which you installed your WebLogic RFID Enterprise Server software.) For example, if `BEA_HOME` is `/usr/local/bea`, and `RFID_ENTERPRISE_HOME` is `/usr/local/bea/rfid_enterprise20`, you could use `/tmp` as the location; for example:
	`# cd /tmp`
	2. Run the `uninstall.sh` script located in the following directory:
	`RFID_ENTERPRISE_HOME/uninstall`
	For example:
	`# /usr/local/bea/rfid_enterprise20/uninstall/uninstall.sh -mode=console`
	The Welcome text is displayed.

9. Press Enter or type `next` to proceed to the next panel of the uninstallation program.

   Note: Instead of typing complete words when you want to enter `[Exit]`, `[Previous]`, and `[Next]`, you can use the following one-letter shortcuts: `x`, `p`, and `n`, respectively.

10. In the Choose Components window, select the components you want to uninstall. By default, all installed components are selected, indicating that they will be removed. You should remove all components.

11. Press Enter or type `next` to proceed with the uninstallation process.

12. When the uninstallation process is complete, press Enter or type `exit` to complete the uninstallation and exit the uninstallation program.

Reinstalling Your Software

You cannot reinstall the same version of any BEA product on top of a previously installed version of the same product in the same BEA Home directory or in the same file location. You can, however, add products and product components to an existing installation. For example, you can

install WebLogic Server during one installation, and WebLogic RFID Enterprise Server during a separate installation.

To reinstall the same version of one of the product components or the entire distribution in the same location, you must first uninstall the previous installation.

If you try to install a complete copy of a BEA product's software in a BEA Home directory that already contains a complete installation, an error message is displayed. Click or type OK to return to the Choose BEA Home directory prompt.

At the prompt, choose one of the following options:

- To continue installing the software using a different BEA Home directory, select an existing BEA Home directory that does not contain a previous installation, or create a new BEA Home directory.
- Exit the installation program. If you want to reinstall your BEA Products software in the same BEA Home, you must uninstall the previous installation. You can invoke the uninstallation program appropriate for your platform, as described in one of the following sections:
  - "Uninstalling Your Software in Graphical Mode" on page 9-2
  - "Uninstalling Your Software in Console Mode" on page 9-3

  Then reinstall the software as described in Chapter 3, "Starting the Installation Program."

Index

R

S

T

U

W