



BEA WebLogic SIP Server™

Installing BEA WebLogic SIP Server

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About This Document

This document explains how to install BEA WebLogic SIP Server™ software on both Windows and UNIX systems. It is organized as follows:

- [Chapter 1, “Preparing to Install WebLogic SIP Server,”](#) provides the basic information you need to know before installing WebLogic SIP Server.
- [Chapter 2, “WebLogic SIP Server Quick-Start Installation,”](#) describes how to quickly install WebLogic SIP Server on multiple machines.
- [Chapter 3, “Installing WebLogic SIP Server Using Graphical-Mode Installation,”](#) describes how to install the WebLogic SIP Server software on Windows and UNIX systems using a Java-based graphical user interface (GUI).
- [Chapter 4, “Installing WebLogic SIP Server Using Console-Mode Installation,”](#) describes how to install WebLogic SIP Server on Windows and UNIX systems using a text-based interface.
- [Chapter 5, “Installing WebLogic SIP Server Using Silent-Mode Installation,”](#) describes how to install WebLogic SIP Server without user intervention by using a template installation file.
- [Chapter 6, “Configuring a WebLogic SIP Server Domain,”](#) explains how to create a WebLogic SIP Server administrative domain for either development or production use.

What You Need to Know

This document is intended for system administrators or application developers who are installing WebLogic SIP Server software. It is assumed that readers are familiar with Web technologies and SIP applications, and have a general understanding of Windows and UNIX systems.

Product Documentation on the dev2dev Web Site

BEA product documentation, along with other information about BEA software, is available from the BEA Product Documentation Web site at <http://e-docs.bea.com>.

To view the documentation for a particular product, select that product from the list on the dev2dev page; the home page for the specified product is displayed. From the menu on the left side of the screen, select Documentation for the appropriate release. The home page for the complete documentation set for the product and release you have selected is displayed.

Related Information

Other WebLogic SIP Server documents that you may find helpful when installing the WebLogic SIP Server software are:

- *[WebLogic SIP Server Release Notes](#)*
- *[Configuring and Managing WebLogic SIP Server](#)*
- *[Developing Applications with WebLogic SIP Server](#)*

Contact Us!

Your feedback on the BEA WebLogic SIP Server documentation is important to us. Send us e-mail at **docsupport@bea.com** if you have questions or comments. Your comments will be reviewed directly by the BEA professionals who create and update the WebLogic SIP Server documentation.

In your e-mail message, please indicate which release of the WebLogic Platform documentation you are using.

If you have any questions about this version of BEA WebLogic SIP Server, or if you have problems installing and running BEA WebLogic SIP Server, contact BEA Customer Support at <http://support.bea.com>. You can also contact Customer Support by using the contact information provided on the quick reference sheet titled “BEA Customer Support,” 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

Documentation Conventions

The following documentation conventions are used throughout this document.

Table 1 Conventions

Convention	Item
Ctrl+Tab	Indicates that you must press two or more keys simultaneously.
<i>italics</i>	Indicates emphasis or book titles.
monospace text	Indicates <i>user input</i> , as shown in the following examples: Filenames: <code>config.xml</code> Pathnames: <code>BEAHOME/config/examples</code> Commands: <code>java -Dbea.home=BEA_HOME</code> Code: <code>public TextMsg createTextMsg(</code>
	Indicates <i>computer output</i> , such as error messages, as shown in the following example: Exception occurred during event dispatching: <code>java.lang.ArrayIndexOutOfBoundsException: No such child: 0</code>
monospace boldface text	Identifies significant words in code. <i>Example:</i> <code>void commit ()</code>
<i>monospace italic text</i>	Identifies variables in code. <i>Example:</i> <code>String <i>expr</i></code>
{ }	Indicates a set of choices in a syntax line. The braces themselves should never be typed.
[]	Indicates optional items in a syntax line. The brackets themselves should never be typed. <i>Example:</i> <code>java utils.MulticastTest -n <i>name</i> [-p <i>portnumber</i>]</code>

Table 1 Conventions

Convention	Item
	Separates mutually exclusive choices in a syntax line. The symbol itself should never be typed. <i>Example:</i> java weblogic.deploy [list deploy update]
...	Indicates one of the following in a command line: That an argument can be repeated several times in a command line That the statement omits additional optional arguments That you can enter additional parameters, values, or other information The ellipsis itself should never be typed. <i>Example:</i> buildobjclient [-v] [-o name] [-f "file1.cpp file2.cpp file3.cpp . . ."]
.	Indicates the omission of items from a code example or from a syntax line. The vertical ellipsis itself should never be typed.

Preparing to Install WebLogic SIP Server

The following sections provide information that you need to know before installing the BEA WebLogic SIP Server software:

- [About BEA WebLogic SIP Server Installation](#)
- [WebLogic SIP Server Distribution Methods](#)
- [Installation Prerequisites](#)
- [Selecting Directories for the WebLogic SIP Server Installation](#)
- [Generating a Verbose Installation Log](#)
- [Where to Find Upgrade Information](#)

About BEA WebLogic SIP Server Installation

The BEA installation program supports the following methods for installing the BEA WebLogic SIP Server software:

- *Graphical mode*

Graphical-mode installation is an interactive, GUI-based method for installing WebLogic SIP Server. It can be run on both Windows and UNIX systems. For installation procedures, see [Chapter 3, “Installing WebLogic SIP Server Using Graphical-Mode Installation.”](#)

Note: If you want to run graphical-mode installation, the console attached to the machine on which you are installing the software must support a Java-based GUI. All consoles for Windows systems support Java-based GUIs, but not all consoles for UNIX systems do. If

you attempt to start the installation program in graphical mode on a system that cannot support a graphical display, the installation program automatically starts console-mode installation.

- *Console mode*

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

- *Silent mode*

Silent-mode installation is a noninteractive method of installing WebLogic SIP Server that requires the use of an XML properties file for selecting installation options. You can run silent-mode installation in either of two ways: as part of a script or from the command line. Silent-mode installation is a way of setting installation configurations only once and then using those configurations to duplicate the installation on many machines. For instructions, see [Chapter 5, “Installing WebLogic SIP Server Using Silent-Mode Installation.”](#)

WebLogic SIP Server Distribution Methods

WebLogic SIP Server is distributed on both the BEA Web site and CD-ROM.

Web Distribution

You can download the WebLogic SIP Server software from the BEA Web site at <http://commerce.bea.com>.

CD-ROM Distribution

If you purchased WebLogic SIP Server from your local sales representative, the installation program and documentation are included on the product CD-ROM.

Installation Prerequisites

The following sections specify the installation prerequisites for a WebLogic SIP Server installation:

- [System Requirements](#)
- [Temporary Disk Space Requirements](#)
- [Administrator Privileges](#)

- [Licensing and Encryption](#)

System Requirements

The minimum system requirements for WebLogic SIP Server are given in the following table.

Table 1-1 System Requirements

Component	Requirement
Platform configuration	A configuration of hardware and operating system that is supported by WebLogic Platform is required. See WebLogic SIP Server Supported Configurations . This document also specifies other prerequisites and recommendations, such as supported SIP soft phones.
Processor	A 1-GHz CPU is recommended.
Hard disk drive	A full WebLogic Platform installation requires approximately 500 MB of disk space.
Memory	512 MB of RAM minimum, 1 GB recommended
Color bit depth display and size	For graphical user interface (GUI) mode installation, 8-bit color depth (256 colors) is required. For console-mode and silent-mode installation, there is no color bit depth requirement.
Java 2 SDK	The WebLogic Platform installation program requires a Java run-time environment (JRE) to run. A JRE is bundled in the Windows installation program and in some UNIX installation programs (those with filenames ending in <code>.bin</code>). In WebLogic Platform 2.2, both the BEA WebLogic JRockit SDK (Windows and Linux only) and the Sun Java 2 SDK are installed on your system. You can specify the SDK to use with your domains when you create the domains with the Configuration Wizard.

Temporary Disk Space Requirements

The BEA installation program uses a temporary directory in which it extracts the files necessary to install WebLogic SIP Server on the target system. During the installation process, your temporary directory must contain sufficient space to accommodate the compressed Java run-time environment (JRE) bundled with the installation program and an uncompressed copy of the JRE that is expanded into the temporary directory. The extracted files are deleted from the temporary directory at the end of the installation process. As a general rule, installation programs require approximately 2.5 times the amount of temporary space that is ultimately required by the installed files.

By default, the installation program uses the following temporary directory:

- Windows platforms—directory referenced by the `TMP` system variable
- UNIX platforms—system-dependent temporary directory

Note: If you do not have enough temporary space to run the installation program, you are prompted to specify an alternate directory or exit the installation program.

To make sure that you have adequate temporary space, you may want to allocate an alternate directory for this purpose. To do so, follow the instructions provided in the following table.

Table 1-2 Allocating Temporary Space for an Installation

On this platform . . .	Perform this step . . .
Windows	<p>Do one of the following:</p> <ul style="list-style-type: none">• Set the <code>TMP</code> system variable to a directory of your choice.• If starting the installation program from the command line, include the <code>-Djava.io.tmpdir=tmpdirpath</code> option replacing <code>tmpdirpath</code> with the full path of the directory that you want to designate as a temporary storage area for the WebLogic Platform installation program. For example: <pre>wlssXXX_win32.exe -mode=console -Djava.io.tmpdir=D:\Temp</pre><p>In the filename used in this example, <code>XXX</code> represents the version number of the software you are installing.</p>
UNIX	<p>Enter the following option on the command line when you start the installation program:</p> <pre>-Djava.io.tmpdir=tmpdirpath</pre> <p>Here, <code>tmpdirpath</code> is the full path of the directory that you want to designate as a temporary storage area for the WebLogic Platform installation program.</p>

Administrator Privileges

When you use the Configuration Wizard to create user domains, you have the option to configure the Administration Server as a Windows service. When the Node Manager or a server is installed as a Windows service, it starts automatically each time you boot your Windows system. You must have *Administrator* privileges to install the Node Manager or a server as a Windows service.

For additional information, see [Setting Up a WebLogic Server Instance as a Windows Service](#) in the WebLogic Server 8.1 documentation set.

Licensing and Encryption

The WebLogic SIP Server software cannot be used without a valid license. The installation program installs two non-expiring licenses: a license to use for development (`license.bea`) and a license to use for limited scale production deployments (`license_scale_limited.bea`).

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

For more information about development, scale-limited, and production licenses, see [About WebLogic Platform Licenses](#) in the BEA WebLogic Platform documentation.

About 128-Bit Encryption

Secure sockets layer (SSL) encryption software is available with two levels of encryption: 56-bit and 128-bit. The license files installed with WebLogic SIP Server enable both 56-bit and 128-bit encryption by default.

Selecting Directories for the WebLogic SIP Server Installation

During installation of WebLogic SIP Server, you need to specify locations for the following directories:

- [BEA Home directory](#)
- [Product installation directory](#)

Choosing a BEA Home Directory

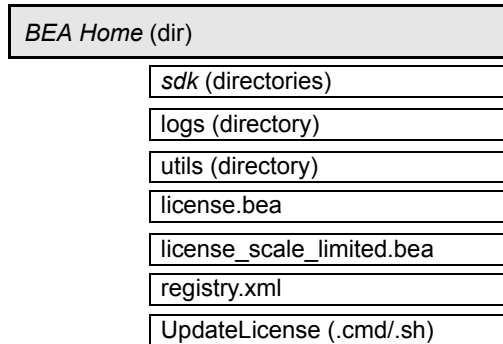
When you install WebLogic SIP Server, you are prompted to specify a BEA Home directory. This directory serves as a repository for common files that are used by multiple BEA products installed on the same machine. For this reason, the BEA Home directory can be considered a *central support directory* for 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

The following illustration shows the structure of a sample BEA Home directory, created by the WebLogic SIP Server installation program.



This illustration depicts only the files and directories required in the BEA Home directory. If you choose the default product installation directory, however, you will see additional directories in the BEA Home directory, such as `wls220`. Although the default location for the product installation directory is within the BEA Home directory, you can select a different location outside the BEA Home directory.

During installation of WebLogic SIP Server, you are prompted to choose an existing BEA Home directory or specify a path to create a new BEA Home directory. If you choose to create a new directory, the WebLogic SIP Server installation program automatically creates the directory for you.

Note: For a BEA Home directory, you are allowed to install only one instance of each version of a BEA product that uses the BEA Home directory convention. For example, you can install only one instance of WebLogic SIP Server 2.2 in a BEA Home directory, but that BEA Home directory may also contain an earlier version of WebLogic SIP Server.

Understanding the Functions of the BEA Home Directory

The files and directories in the BEA Home directory are described in the following table.

Table 1-3 BEA Home Directory Description

Component	Description
<i>sdk</i> directories	<p>Contains the software for the Java 2 SDKs installed with WebLogic SIP Server. The SDKs provide the Java run-time environment (JRE) and tools for compiling and debugging Java applications. The directories installed include:</p> <ul style="list-style-type: none"> • <code>jdk142_XX</code>—the 1.4.2 version of the Sun Java 2 SDK. In this directory name, <code>XX</code> indicates the version of the Sun SDK installed on your system, for example <code>jdk142_05</code>. • <code>jrockitXXX</code>—the 1.4.2 version of the WebLogic JRockit SDK. In this directory name, <code>XXX</code> indicates the version of the JRockit SDK installed on your system, such as <code>jrockit81sp4_142_05</code>. SDK options vary by hardware platform. WebLogic JRockit is installed on Windows and Linux platforms only.
logs directory	<p>Contains a history file of installation and uninstallation for the BEA Home directory.</p>
utils directory	<p>Contains utilities that are used to support the installation of BEA WebLogic SIP Server. The <code>utils.jar</code> archive contains code that supports the <code>UpdateLicense</code> utility.</p>
license.bea file	<p>An XML file that contains the license keys for all the BEA WebLogic products installed in the BEA Home directory.</p> <p>Licenses are release specific. You cannot use a license from a previous release with WebLogic Platform 2.2. To convert a pre-2.2 <code>license.bea</code> file to a WebLogic SIP Server 2.2 <code>license.bea</code> file, see Upgrading Licenses from Previous WebLogic Platform Releases in the WebLogic Server 8.1 Documentation.</p> <p>To update your <code>license.bea</code> file for additional functionality, see Updating Your license.bea File in the WebLogic Server 8.1 Documentation.</p> <p>Note: Do not edit <code>license.bea</code> 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.</p>

Table 1-3 BEA Home Directory Description

Component	Description
license_scale_limited.bea file	An XML file that contains license keys to enable you to run a single server instance with a server capacity limited to approximately 3 percent of the full capacity of a production server. For instructions on installing this license file, see Replacing Your license.bea File in the WebLogic Server 8.1 Documentation.
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 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 installing future BEA products or maintenance upgrades.
UpdateLicense (.cmd/.sh)	A command file (Windows) or a shell script (UNIX) 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. For details about using the UpdateLicense utility, see Updating Your license.bea File in the WebLogic Server 8.1 Documentation.

Creating Multiple BEA Home Directories

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, 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 the software components that you choose to install on your system, including program files and examples. You are prompted, during the initial installation of WebLogic SIP Server, to choose a product installation directory. If you accept the default, the WebLogic SIP Server software is installed in the following directory:

```
C:\bea\wlss220
```

Here, `C:\bea` is the BEA Home directory and `wlss220` is the product installation directory for the WebLogic Platform 2.2 software. However, you can specify any name and location on your system for your product installation directory; there is no requirement that you name the directory `wlss220` or create it under the BEA Home directory.

The installation program installs the software components in a product installation directory represented by the `WL_HOME` variable. If, on your initial installation, you choose to install individual components of WebLogic SIP Server and not the full complement of products, and later decide to install additional components (using the same BEA Home directory), you are not prompted, during the subsequent installations, to specify a product installation directory. The installation program detects the `WL_HOME` directory and installs the additional components under in it.

A description of the WebLogic Platform directory structure is provided in [“Selecting Directories for the WebLogic SIP Server Installation” on page 1-5](#).

Generating a Verbose Installation Log

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

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

Syntax

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

```
platformXXX_win32.exe -log=C:\logs\platform_install.log
```

In this filename, `XXX` represents the version number of the software you are installing.

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

For information about migrating from a previous release of WebLogic Server to WebLogic Server 2.2, see [Chapter 1, “Preparing to Install WebLogic SIP Server.”](#)

WebLogic SIP Server Quick-Start Installation

This document summarizes the tasks required to install and configure a multiple-server installation of WebLogic SIP Server 2.2. It is intended for users who are already familiar with WebLogic Server installation and configuration, or for users who want to quickly set up a multiple-server configuration for demonstration or evaluation. If you are unfamiliar with installing BEA products or you want to perform automated or non-graphical installations, see to *Installing WebLogic SIP Server* instead.

This document contains the following sections:

- [“Overview of Installation Steps”](#) on page 2-1
- [“Step 1: Install WebLogic SIP Server on All Machines”](#) on page 2-2
- [“Step 2: Create an Administrative Domain”](#) on page 2-3
- [“Step 3: Configure Server Instances and Clusters”](#) on page 2-4
- [“Step 4: Configure Data Tier Partitions”](#) on page 2-10
- [“Step 5: Start the Administration Server and Managed Servers”](#) on page 2-11
- [“Where to Go From Here”](#) on page 2-12

Overview of Installation Steps

The quick-start installation involves performing the following steps:

- “[Step 1: Install WebLogic SIP Server on All Machines](#)” on page 2-2. In this step, you use the BEA installation program to copy the WebLogic SIP Server product onto all server machines that will host a WebLogic SIP Server instance.
- “[Step 2: Create an Administrative Domain](#)” on page 2-3. In this step, you create the administrative domain that will contain all of the servers and clusters in your WebLogic SIP Server installation.
- “[Step 3: Configure Server Instances and Clusters](#)” on page 2-4. In this step, you create and configure servers and clusters in the WebLogic SIP Server domain.
- “[Step 4: Configure Data Tier Partitions](#)” on page 2-10. In this step, you define which server instances participate in the WebLogic SIP Server data tier, and define the data tier partitions in which each server participates.
- “[Step 5: Start the Administration Server and Managed Servers](#)” on page 2-11. In this step, you boot the Administration Server and then boot all other Managed Servers in your installation.

Step 1: Install WebLogic SIP Server on All Machines

The WebLogic SIP Server software must be available on all server machines that will run a WebLogic SIP Server instance. Follow these steps for the Administration Server machine and for all other machines that will run a Managed Server:

1. Execute the installation program for your operating system. To execute the Linux or Solaris binary installation program:

```
chmod a+x ./wlss220_linux32.bin
./wlss220_linux32.bin
```

(Substitute the appropriate filename name for the installation program you have obtained.)

To launch the Windows executable:

```
wlss220_win32.exe
```

To launch the generic JAR file installation:

- a. Ensure that the path to the `bin` directory of a supported Java VM is part of your `PATH` environment variable.
- b. Launch the generic installer with:

```
java -jar ./wlss220_generic.jar
```

2. Follow the prompts to install WebLogic SIP Server on the local machine.

3. Exit the installation program.

See [Installing WebLogic SIP Server](#) for more information about using the installation program.

Step 2: Create an Administrative Domain

All related WebLogic SIP Server instances must be members of the same administrative domain. The Configuration Wizard provided with WebLogic SIP Server contains four templates that help you create different types of domains:

- **Diameter WebLogic SIP Server Domain** creates a multiple-server domain consisting of a Diameter Sh client node, a Diameter relay node, and a Diameter HSS simulator.
- **WebLogic SIP Server Examples Domain** creates a new, single-server domain with the `findme` example automatically deployed.
- **Replicated WebLogic SIP Server Domain** creates a new template domain having two data tier server instances, an engine tier server instance, and an Administration Server instance. Select this template for any multiple-server WebLogic SIP Server installation; you can modify this basic domain to add or remove servers as necessary.
- **Basic WebLogic SIP Server Domain** creates an empty single-server domain that you can use for developing your own applications.

Follow these steps to install a new WebLogic SIP Server domain:

1. Access the server machine that will be used as the Administration Server. The domain directory and associated files for the domain will remain on the Administration Server machine. Other servers in the WebLogic SIP Server installation (data tier and engine tier servers) will obtain their configuration by connecting to the Administration Server at boot time.
2. Change to the `WLSS_HOME\common` directory, where `WLSS_HOME` is the directory in which you install WebLogic SIP Server 2.2 (for example, `c:\bea\wlss220\common`).
3. Execute the `config.cmd` or `config.sh` script to launch the Configuration Wizard.
4. Select Create a new WebLogic Configuration and click Next.
5. Select the WebLogic SIP Server template that you want to use and click Next. If you are configuring a production installation, select either the Basic or Replicated WebLogic SIP Server Domain templates.
6. Select Express and click Next.

7. Enter a username and password for the Administrator of the new domain, and click Next.
8. Select the startup mode and JDKs to use with the new domain, and click Next.
9. Enter a name for the new domain, and optionally change the directory location in which you want to create the domain. By default, the Configuration Wizard places new domains in the `WLSS_HOME\user_projects\domains` directory of the WebLogic SIP Server installation directory. Click Create to create the new domain.
10. Click Done to exit the Configuration Wizard.

Step 3: Configure Server Instances and Clusters

The WebLogic SIP Server instances you intend to use must be created within a single administrative domain, and servers in the engine and data tiers should be arranged into clusters to simplify deployment and management. If you used the Configuration Wizard to create a Replicated WebLogic SIP Server domain, the domain is automatically created with default engine tier servers and data tier servers arranged into clusters; you can modify this configuration to match the number of servers you want to use in your domain. See [“Modifying the Default Replicated Domain” on page 2-5](#).

If you used the Configuration Wizard to create a Basic WebLogic SIP Server domain, only a single server is configured. You will need to create engine and data tier servers and clusters by hand. See [“Creating Servers and Clusters by Hand” on page 2-6](#).

WARNING: When you configure a domain with multiple engine and data tier servers, you must accurately synchronize all server system clocks to a common time source (to within one or two milliseconds) in order for the SIP protocol stack to function properly. See [Configuring NTP for Accurate SIP Timers](#) in *Configuring and Managing WebLogic SIP Server* for more information.

Modifying the Default Replicated Domain

The default Replicated WebLogic SIP Server domain is preconfigured with four separate servers and two clusters.

Table 2-1 Summary of the Default Replicated Domain

Server	Cluster	Description
myserver	n/a	The Administration Server, myservers, is used only for administration. This server is not a member of either cluster, and it does not process SIP requests.
engine1	BEA_ENGINE_CLUSTER	The single engine tier server, engine1, can be used for hosting SIP applications and processing SIP messages.
replica1	BEA_DATA_TIER_CLUSTER	The two data tier servers, replica1 and replica2, are members of the same data tier partition. Each server manages the same copy of the application call state and can act as a backup should the other server fail.
replica2	BEA_DATA_TIER_CLUSTER	

You may want to modify the default replicated domain if you want to add, remove, or rename servers in either of the clusters, or to configure the network settings of individual server instances. To modify the default configuration:

1. Access the server machine that will be used as the Administration Server. The domain directory and associated files for the domain will remain on the Administration Server machine. Other servers in the WebLogic SIP Server installation (data tier and engine tier servers) will obtain their configuration by connecting to the Administration Server at boot time.
2. Start the Administration Server:


```
cd c:\bea\user_projects\domains\replicated
startWebLogic.cmd
```
3. Access the Administration Console by pointing a browser to <http://localhost:7001/console>
4. Login to the Administration Console using the administrator username and password.
5. To add a new engine or data tier server:
 - a. Click the Servers node in the left pane.

- b. Select the Clone icon to the right of a server you want to add. To add an engine tier server, clone the engine1 server instance. To add a data tier server, clone either replica1 or replica2.
 - c. Enter a new name for the cloned server.
 - d. Enter the **Listen Address** and **Listen Port** of the remote Managed Server machine on which the server will run.
 - e. Click the clone button.
6. To delete an existing engine or data tier server:
 - a. Click the Servers node in the left pane.
 - b. Click the trash can icon to the right of the server you want to delete.
 - c. Click Yes to delete the server configuration.
7. To rename an existing server or change its network listen address or port:
 - a. Expand the Servers node in the left pane.
 - b. Click the name of the server you want to modify.
 - c. On the Configuration->General tab, modify the **Name**, **Listen Address**, or **Listen Port** entries as necessary.
 - d. Click Apply to apply your changes.

Note: These quick-start instructions assume each managed server listens on a single network address. If you intend to run servers on multi-homed server hardware, or if you want to configure secure SIP transport protocols, see [Managing WebLogic SIP Server Network Resources](#) in *Configuring and Managing WebLogic SIP Server*.

Creating Servers and Clusters by Hand

If you used the Configuration Wizard to create a Basic WebLogic SIP Server domain, the domain contains a single WebLogic SIP Server instance that acts as the administration server and WebLogic SIP Server (with data and engine tier functionality combined). To move from the basic domain to a production domain, you will need to create all servers and clusters by hand, and move engine tier services off of the Administration Server instance. Follow these instructions:

1. Access the server machine that will be used as the Administration Server. The domain directory and associated files for the domain will remain on the Administration Server machine. Other servers in the WebLogic SIP Server installation (data tier and engine tier

servers) will obtain their configuration by connecting to the Administration Server at boot time.

2. Start the Administration Server:

```
cd c:\bea\user_projects\domains\replicated
startWebLogic.cmd
```

3. Access the Administration Console by pointing a browser to <http://localhost:7001/console>
4. Login to the Administration Console using the administrator username and password.
5. Create a new engine tier server:
 - a. Click the Servers node in the left pane.
 - b. Select Configure a new Server...
 - c. Enter a new name for the server.
 - d. Enter the **Listen Address** and **Listen Port** of the remote Managed Server machine on which the server will run.
 - e. Click the Create button.
 - f. Select the Protocols->Channels tab.
 - g. Select Configure a new Network Channel...
 - h. Fill in the fields of the new channel as follows and click Create:
 - **Name:** Enter a name for the new channel.
 - **Protocol:** Select sip or sips transport. Note that all channels also support UDP transport.
 - **Listen Address/Listen Port:** If your Managed Server machine uses a single network interface, leave these fields blank. When left blank, the listen address and port of the server are used as defaults, unless you later configure a load balancer for the system.

If the machine uses multiple IP addresses (a multihomed machine), enter the IP address and port to use for a connections on one of the available NICs. Repeat the above three steps to create a separate channel for each NIC.
 - i. In the left pane of the console, right-click on the name of the newly-created engine tier server and select View Execute Queues.
 - j. Click Configure a New Execute Queue...

- k. Enter a **Name**, **Queue Length**, **Thread Priority**, and **Thread Count** from [Table 2-2](#) and click Create.

Table 2-2 Default Execute Queues

Name	Queue Length	Thread Priority	Thread Count
sip.timer.Default	1024	5	3
sip.tracing.domain	1024	5	1
sip.tracing.local	1024	5	1
sip.transport.Default	65536	5	15

- l. Repeat the prior three steps in order to create each execute queue shown in [Table 2-2](#). Note that your server will have one additional execute queue that is already defined:
`weblogic.kernel.Default.`
6. Repeat the above step to add additional engine tier servers.
7. Create a new data tier server:
 - a. Click the Servers node in the left pane.
 - b. Select Configure a new Server..
 - c. Enter a new name for the server.
 - d. Enter the **Listen Address** and **Listen Port** of the remote Managed Server machine on which the server will run.
 - e. Click the Create button.
8. Repeat the above step to add additional data tier servers.
9. Create a new cluster for hosting the engine tier servers:
 - a. Select the Clusters tab in the left pane of the console.
 - b. Select Configure a new Cluster..
 - c. Fill in the fields of the Configuration->General tab as follows:
 - **Name:** Enter a name for the engine tier cluster.

- **Cluster Address:** Enter a DNS name or a comma-separated list of IP addresses that maps to the individual server Listen Addresses you will add to the engine tier cluster.
 - d. Click Create to create the cluster
 - e. Select the Configuration->Multicast tab.
 - f. Enter an unused **Multicast Address** and **Multicast Port** to use for communication between servers in this cluster.
 - g. Click Apply
 - h. Select the Configuration->Servers tab.
 - i. Select the names of all engine tier servers in the Available column, and use the arrow to move the servers to the Chosen column.
 - j. Click apply.
10. Repeat the above step to create a new data tier cluster for hosting the data tier servers you created.
 11. Click the Deployments tab in the left pane.
 12. Select the sipserver application in the right pane.
 13. Select the Targets tab.
 14. Configure the application's targets as follows:
 - a. In the Independent Servers table, de-select myserver. The Administration Server should not provide SIP Servlet container or data replication functionality.
 - b. In the Clusters table, select the name of your engine tier cluster. Ensure that the All servers in the cluster option is selected (this is the default).
 - c. In the Clusters table, select the name of your data tier cluster. Ensure that the All servers in the cluster option is selected (this is the default).
 - d. Click apply to apply your changes
 15. Shut down your Administration Server instance.

Step 4: Configure Data Tier Partitions

In the previous section you organized the data tier servers into a cluster for administration purposes. You must also configure the `datatier.xml` file to define how data tier servers are used to manage SIP application call state for your installation.

The data tier cluster can be arranged into one or more *partitions*. A partition consists of one or more data tier server instances that manage the same portion of the concurrent call state data. In a single-server WebLogic SIP Server installation, or in a two-server installation where one server resides in the engine tier and one resides in the data tier, all call state data is maintained in a single partition. Multiple partitions are required when the size of the concurrent call state exceeds the maximum size that can be managed by a single server instance. In most cases, the amount of call state that can be managed by a server corresponds to the Java Virtual Machine limit of approximately 1.6GB per server.

Additional servers can also be added *within the same partition* to manage copies of the call state data. When multiple servers are part of the same partition, each server manages a copy of the same portion of the call data, referred to as a *replica* of the call state. If any server in a partition fails or cannot be contacted due to a network failure, another replica in the same partition can supply the call state data to the engine tier.

Before modifying `datatier.xml`, read [Configuring Data Tier Partitions and Replicas](#) in *Configuring and Managing WebLogic SIP Server* to fully understand the role of the data tier and the format of the `datatier.xml` configuration file.

To modify `datatier.xml` for your domain:

1. Access the Administration Server machine for your domain.
2. Open the `datatier.xml` configuration file with a text editor. This file is part of the `sipserver` application that provides WebLogic SIP Server functionality, installed in the top level of your domain directory:

```
cd c:\bea\user_projects\domains\replicated\sipserver\config
notepad datatier.xml
```

If you installed the default replicated domain, the `datatier.xml` file contains the entries shown in [Listing 2-1](#), which defines a single partition with two replicas.

Listing 2-1 Default `datatier.xml` for Replicated Domain

```
<st:data-tier xmlns:st="http://www.bea.com/ns/wlcp/wlss/220">
  <st:partition>
```

```
<st:name>partition-0</st:name>  
<st:server-name>replica1</st:server-name>  
<st:server-name>replica2</st:server-name>  
</st:partition>  
</st:data-tier>
```

3. Edit the file as necessary to configure partitions and server names for your domain.
4. Save your changes and exit the text editor.

Step 5: Start the Administration Server and Managed Servers

To start the fully-configured WebLogic SIP Server domain, first start the Administration Server, then start individual Managed Servers to connect to the Administration Server. The sections that follow provide server startup instructions.

Starting the Administration Server

To start the Administration Server:

1. Access the Administration Server machine.
2. Move to your domain directory:

```
cd c:\bea\user_projects\domains\replicated
```

3. Execute the start script for the Administration Server:

```
startWebLogic.cmd
```

Starting Managed Servers

Note: WebLogic SIP Server start scripts use default values for many JVM parameters that affect performance. For example, JVM garbage collection and heap size parameters may be omitted, or may use values that are acceptable only for evaluation or development purposes. In a production system, you must rigorously profile your applications with different heap size and garbage collection settings in order to realize adequate performance. See [Tuning JVM Garbage Collection for Production Deployments](#) in *Configuring and Managing WebLogic SIP Server* for suggestions about maximizing JVM performance in a production domain.

To start the Managed Servers in your domain:

1. Access one of the Managed Server machines.
2. Move to a subdirectory from which you will execute the Managed Server instance (creating a new subdirectory if necessary). For example:

```
mkdir c:\myManagedServer  
cd c:\myManagedServer
```

Note: The Managed Server machines do not have a domain directory. Instead, they obtain their configuration by connecting to the Administration Server at startup.

3. Execute the Managed Server start script available in the `WL_HOME\common\bin` directory:

```
WL_HOME\common\bin\startManagedWebLogic.cmd server_name admin_url
```

where:

- *WL_HOME* is the full path to the WebLogic SIP Server installation directory, and
- *server_name* is the name of the Managed Server you are starting, and
- *admin_url* is the url used to access the Administration Server for the domain.

For example:

```
startManagedWebLogic.cmd replica1 t3://adminhost:7001
```

4. Repeat these steps to start other Managed Servers in the domain.

Where to Go From Here

After booting your domain, you may want to perform further administration procedures such as configuring network resources, enabling logging, or setting up security providers. For more information on these topics, see [Configuring and Managing WebLogic SIP Server](#).

Installing WebLogic SIP Server Using Graphical-Mode Installation

The following sections describe how to install WebLogic SIP Server using a graphical user interface:

- [Before You Start](#)
- [Starting the Installation Program in Graphical Mode on Windows Platforms](#)
- [Starting the Installation Program in Graphical Mode on UNIX Platforms](#)
- [Running the Installation Program](#)
- [What's Next?](#)

Before You Start

Before you start installing WebLogic SIP Server, please review the following information:

- Make sure that you are installing the product on a hardware/software configuration that is supported by WebLogic Platform. A complete list of supported configurations can be found at <http://e-docs.bea.com/platform/suppconfigs/index.html>.
- Read [Chapter 1, “Preparing to Install WebLogic SIP Server,”](#) specifically, the following sections:
 - [“About BEA WebLogic SIP Server Installation”](#) on page 1-1
 - [“Installation Prerequisites”](#) on page 1-2
 - [“Selecting Directories for the WebLogic SIP Server Installation”](#) on page 1-5
- You cannot reinstall WebLogic SIP Server components on top of a previously installed version of the same component. You can, however, add components to an existing installation. For example, you can install WebLogic Server during one installation, and WebLogic Integration or

WebLogic Portal during separate installations. However, to reinstall the same version of one of the product components, you must first uninstall the component. Alternatively, you can install the new version in another location.

If you are adding components to an existing installation of WebLogic Platform, you should shut down any running servers before starting the installation.

- All WebLogic Platform components installed in a BEA product directory (for example, `/bea/wlss220`) must be at the same version level. If you attempt to install additional components at a higher version than those that are already installed in that directory, the installation program prompts you to upgrade your existing components before you can proceed with the installation. For details on upgrading your installation, see [Upgrading a WebLogic SIP Server 2.0.x Configuration to Version 2.2](#) in *Configuring and Managing WebLogic SIP Server*.

Starting the Installation Program in Graphical Mode on Windows Platforms

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

To start the installation in graphical mode on a Windows system:

1. Log in to the Windows system.
2. If you are installing WebLogic SIP Server from CD-ROM, go to step 3. If you are installing from a Web download, complete the following procedure:

- a. Download the software as described in [“WebLogic SIP Server Distribution Methods” on page 1-2](#).
- b. Go to the directory where you downloaded the installation program and double-click the installation file:

`wlssXXX_win32.exe` (WebLogic Server package installer)

In these filenames, `XXX` represents the version number of the software you are installing.

The installation program begins to install WebLogic SIP Server.

Proceed to [“Running the Installation Program” on page 3-6](#).

3. If you are installing WebLogic SIP Server from CD-ROM:
 - a. Insert the WebLogic SIP Server CD-ROM into the CD-ROM drive.

- b. If the installation program does not start automatically, open Windows Explorer and double-click the CD-ROM icon.
- c. Navigate to the folder for the Windows installation and double-click the installation file for your platform:

`wlssXXX_win32.exe` (package installer)

In this filename, `XXX` represents the version number of the software you are installing.

The installation program begins to install WebLogic SIP Server.

- d. Proceed to [“Running the Installation Program” on page 3-6](#).

Starting the Installation Program in Graphical Mode on UNIX Platforms

The WebLogic Platform installation program requires a Java run-time environment (JRE) to run. A JRE is bundled in the Windows installation program, and in some UNIX installation programs (those with filenames ending in `.bin`). For other UNIX platforms, the WebLogic SIP Server installation program does not include a JRE. Filenames for these installation programs end in `.jar`. To run the `.jar` installation programs, you must have an appropriate version of a Java 2 SDK installed on your system, and include the `bin` directory of the Java 2 SDK at the beginning of your `PATH` system variable.

Notes: It is important that you use an SDK because the installation process sets the `JAVA_HOME` and related variables to point to this directory. All scripts installed with WebLogic Platform use this SDK by default, including scripts to start sample applications, the Configuration Wizard, and other WebLogic development tools.

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

Starting Graphical-Mode Installation for .bin Installation Files

If you have an installation program for UNIX platforms with a filename that ends in `.bin`, complete the following steps to start the installation in graphical mode:

1. Log in to the target UNIX system.

2. If you are installing WebLogic SIP Server from CD-ROM, go to step 3. If you are installing from a Web download, complete the following procedure:
 - a. Download the software as described in [“Web Distribution” on page 1-2](#).
 - b. Go to the directory in which you downloaded the installation program.
 - c. Launch the installation by entering the following commands:

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

Here `filename.bin` is the name of the WebLogic SIP Server installation program specific to your platform.

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

```
java -jar pj_platformXXX_generic.jar
      -log=/home/logs/platform_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

The installation program begins to install WebLogic SIP Server.

- d. Proceed to [“Running the Installation Program” on page 3-6](#).
3. If you are installing WebLogic SIP Server from CD-ROM:
 - a. Insert the WebLogic SIP Server CD-ROM into the CD-ROM drive and go to the CD-ROM directory.
 - b. Navigate to the folder that contains the installation program for your platform.
 - c. Invoke the installation procedure by entering the following command:

```
./filename.bin
```

Here `filename.bin` is the name of the WebLogic SIP Server installation program specific to your platform, for example `platformXXX_solaris.bin`, where `XXX` represents the version number of the software you are installing.

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

```
java -jar pj_platformXXX_generic.jar
      -log=/home/logs/platform_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

- d. Proceed to [“Running the Installation Program” on page 3-6](#).

Starting Graphical-Mode Installation for .jar Installation Files

If you have an installation program for UNIX platforms with a filename that ends in `.jar`, follow these steps to start the installation in graphical mode:

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

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

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

3. Do one of the following:
 - Download the software as described in [“Web Distribution” on page 1-2](#).
 - If you are installing from CD-ROM, insert the WebLogic SIP Server CD-ROM into the CD-ROM drive and go to the CD-ROM directory.
4. Go to the directory that contains the installation file and invoke the installation procedure by entering the following command:

```
java -jar filename.jar
```

Here, `filename.jar` is the name of the WebLogic SIP Server installation file, for example `pj_platformXXX_generic.jar`.

5. Proceed to [“Running the Installation Program” on page 3-6](#).

Running 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 3-1 Installation Program Window Instructions

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. To continue with the installation, you must accept the terms of the license agreement and then click Next.
Choose BEA Home Directory	Specify the BEA Home directory that will serve 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 WebLogic SIP Server installation program automatically creates the directory for you. For details about the BEA Home directory, see “Choosing a BEA Home Directory” on page 1-5 .
Choose Product Directory	Specify the directory in which you want to install the WebLogic Platform software and click Next. You can accept the default product directory (<code>wlss220</code>) or create a new product directory. For additional information, see “Choosing a Product Installation Directory” on page 1-8 . If you choose to create a new directory, the installation program automatically creates the directory for you.
Install Complete	Click Done to exit the installation program.

What’s Next?

You can start using the product immediately after installing it for the first time because, by default, WebLogic Platform uses the development license that is installed in BEA Home directory. For additional information, see [Chapter 6, “Configuring a WebLogic SIP Server Domain.”](#)

Installing WebLogic SIP Server Using Console-Mode Installation

The following sections describe how to install WebLogic SIP Server using console-mode installation:

- [Before You Start](#)
- [Starting Console-Mode Installation on Windows Systems](#)
- [Starting Console-Mode Installation on UNIX Systems](#)
- [Running Console-Mode Installation](#)
- [What's Next?](#)

Before You Start

Before you start installing WebLogic SIP Server, please review the following information:

- Make sure that you are installing the product on a hardware/software configuration that is supported by WebLogic Platform.
- Read [Chapter 1, “Preparing to Install WebLogic SIP Server,”](#) specifically, the following sections:
 - [“About BEA WebLogic SIP Server Installation”](#) on page 1-1
 - [“Installation Prerequisites”](#) on page 1-2
 - [“Selecting Directories for the WebLogic SIP Server Installation”](#) on page 1-5
- You cannot reinstall WebLogic SIP Server components on top of a previously installed version of the same component. You can, however, add components to an existing installation. For example, you can install WebLogic Server during one installation, and WebLogic Integration or

WebLogic Portal during a separate installation. However, to reinstall the same version of one of the product components, you must first uninstall the component. Alternatively, you can install the new version in another location.

If you are adding components to an existing installation of WebLogic Platform, you should shut down any running servers before starting the installation.

- All WebLogic Platform components installed in a BEA product directory (for example, `/bea/wlss220`) must be at the same version level. If you attempt to install additional components at a higher version than those that are already installed in that directory, the installation program prompts you to upgrade your existing components before you can proceed with the installation.

Starting Console-Mode Installation on Windows Systems

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

To start the installation in console mode on a Windows system:

1. Log in to the target Windows system.
2. Open an MS-DOS command prompt window.
3. If you are installing WebLogic SIP Server from CD-ROM, go to step 4. If you are installing WebLogic SIP Server from a Web download, complete the following procedure:
 - a. Download the software as described in [“WebLogic SIP Server Distribution Methods” on page 1-2](#).
 - b. Go to the directory in which you downloaded the installation program.
 - c. Launch the installation by entering one of the following commands:

```
wlssXXX_win32.exe -mode=console (WebLogic Server package installer)
```

In this filename, `XXX` represents the version number of the software you are installing.

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:

```
wlssXXX_win32 -mode=console -log=C:\logs\platform_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

The installation program begins to install WebLogic SIP Server.

- d. Proceed to [“Running Console-Mode Installation” on page 4-5](#).
4. If installing WebLogic SIP Server from CD-ROM:
 - a. Insert the WebLogic SIP Server CD-ROM into the CD-ROM drive.
 - b. Open an MS-DOS command prompt window.
 - c. Go to the CD-ROM directory and navigate to the folder for the installation program for your platform.
 - d. Invoke the installation procedure by entering the following command:


```
wlssXXX_win32.exe -mode=console (package installer)
```

 In this filename, *XXX* represents the version number of the software you are installing.

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:

```
wlssXXX_win32.exe -mode=console -log=D:\logs\platform_install.log
```

 For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).
 - e. Proceed to [“Running Console-Mode Installation” on page 4-5](#).

Starting Console-Mode Installation on UNIX Systems

The WebLogic Platform installation program requires a Java run-time environment (JRE) to run. A JRE is bundled in the Windows installation program, and in some UNIX installation programs (those with filenames ending in `.bin`). For other UNIX platforms, the WebLogic SIP Server installation program does not include the JRE. Filenames for these installation programs end in `.jar`. To run the `.jar` installation programs, you must have an appropriate version of a Java 2 SDK installed on your system, and include the `bin` directory of the Java 2 SDK at the front of the `PATH` system variable.

Note: It is important that you use an SDK because the installation process sets the `JAVA_HOME` and related variables to point to this directory. All scripts installed with WebLogic Platform use this SDK by default, including scripts to start sample applications, the Configuration Wizard, and other WebLogic development tools.

Starting Console-Mode Installation for `.bin` Installation Files

If you have an installation program for UNIX platforms with a filename that ends in `.bin`, complete the following steps to start the installation in console mode:

1. Log in to the target UNIX system.
2. If you are installing WebLogic SIP Server from CD-ROM, go to step 3. If you are installing WebLogic SIP Server from a Web download, complete the following procedure:
 - a. Download the software as described in [“Web Distribution” on page 1-2](#).
 - b. Go to the directory where you downloaded the installation program.
 - c. Launch the installation by entering the following commands:

```
chmod a+x filename.bin
./filename.bin -mode=console
```

Here *filename.bin* is the name of the WebLogic SIP Server installation program specific to your platform.

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:

```
wlssXXX_linux.bin -mode=console
-log=/home/logs/platform_install.log
```

In this example, *xxx* represents the version number of the software you are installing. For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

- d. Proceed to [“Running Console-Mode Installation” on page 4-5](#).
3. If you are installing WebLogic SIP Server from CD-ROM:
 - a. Insert the WebLogic SIP Server CD-ROM into the CD-ROM drive.
 - b. Go to the CD-ROM directory and navigate to the folder for the installation program for your platform.
 - c. Launch the installation procedure by entering the following commands:

```
chmod a+x filename.bin
./filename.bin -mode=console
```

Here, *filename.bin* is the name of the WebLogic SIP Server installation program specific to your platform.

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:

```
./wlssXXX_solaris.bin -mode=console
-log=/home/logs/platform_install.log
```

For more information, see [“Generating a Verbose Installation Log”](#) on page 1-9.

- d. Proceed to [“Running Console-Mode Installation”](#) on page 4-5.

Starting Console-Mode Installation for .jar Installation Files

If you have an installation program for UNIX platforms with a filename that ends in `.jar`, follow these steps to start the installation in console mode:

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

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

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

3. Do one of the following:
 - Download the software as described in [“Web Distribution”](#) on page 1-2.
 - If you are installing from CD-ROM, insert the WebLogic SIP Server CD-ROM into the CD-ROM drive and go to the CD-ROM directory.
4. Go to the directory that contains the installation file and invoke the installation procedure by entering the following command:

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

Here, `filename.jar` is the name of the WebLogic SIP Server installation file, for example `wlssXXX_generic.jar`.

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

```
java -jar wlssXXX_generic.jar -mode=console
    -log=/home/logs/platform_install.log
```

For more information, see [“Generating a Verbose Installation Log”](#) on page 1-9.

5. Proceed to [“Running Console-Mode Installation”](#) on page 4-5.

Running Console-Mode Installation

To complete the console-mode installation process, respond to the prompts in each section by entering the number associated with your choice or by pressing Enter to accept the default. To exit

the installation process, enter `exit` (or `x`, for short) in response to any prompt. To review or change your selection, enter `previous` (or `p`, for short) at the prompt. To proceed to the following window, enter `next` (or `n`, for short).

Note: The sample console text and directory pathnames in this section use Windows conventions (backslashes) for pathnames, for example `C:\bea\wlss220`. When entering pathnames on a UNIX system, use the UNIX convention (forward slashes) in pathnames, for example, `/home1/bea/wlss220`.

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 the previous sections.

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

The BEA Systems License Agreement prompt is displayed.

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

The Choose BEA Home directory prompt is displayed.

3. Specify the BEA Home directory that will serve as the central support directory for all BEA products installed on the target system. For details about the BEA Home directory, see [“Choosing a BEA Home Directory” on page 1-5](#).

The installation program displays the following prompt:

```
Choose BEA Home Directory:
-----
  *BEA home choice

  1|Create a new BEA Home [C:\bea]
->2|Use an existing BEA Home [D:\beahome1]

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

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.

Do one of the following:

- To use an existing BEA Home directory, type `2` or `next` (or `n` for short), or press Enter. If you have more than one BEA Home directory on your system, an additional prompt will display the directories. Type the number associated with the desired BEA Home directory.
- To create a new BEA Home directory, type `1`, then at the prompt, enter the *full path* of the BEA Home directory, for example `C:\beahome2`. If you specify a directory that does not exist, the installation program creates it for you.

Whether you accept the existing BEA Home directory or choose to create a new BEA Home directory, you are prompted to confirm your selection, as shown in the following sample:

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

    *BEA home choice

->1|Yes, Use this BEA home directory [C:\bea]
    2|No, return to BEA home directory selection
```

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

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

After you have selected your BEA Home directory and confirmed your selection, the Choose Product Directory prompt is displayed.

4. Specify the directory in which you want to install the WebLogic SIP Server software. Select the default product directory (`bea_home\wlss220`) or create a new product directory.

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

The choices displayed in this section are as follows:

```
Choose Product Directory:
-----

    Product Installation Directory= [C:\bea\wlss220]
```

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

Do one of the following:

- Press Enter or type `next` (or `n` for short) to accept the current selection.
- Enter the *full path* to the directory in which you want to install the WebLogic SIP Server 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\wlss220]
   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.

At this point, the installation program installs the files to the directory you specified.

Note: It is normal for the installation program to pause for a fairly long time, especially toward the end. The installation program is still working when this occurs.

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

What's Next?

You can start using the product immediately after installing it for the first time because, by default, WebLogic Platform uses the development license that is installed in BEA Home directory. For additional information, see [Chapter 6, “Configuring a WebLogic SIP Server Domain.”](#)

Installing WebLogic SIP Server Using Silent-Mode Installation

The following sections describe how to install WebLogic SIP Server using the installation program in silent mode on both Windows and UNIX systems:

- [What Is Silent-Mode Installation?](#)
- [Using Silent-Mode Installation: Main Steps](#)
- [Creating a Silent-Mode Installation Template File](#)
- [Sample Template File for Silent-Mode Installation](#)
- [Starting the Silent-Mode Installation Process on a Windows System](#)
- [Starting the Silent-Mode Installation Process on a UNIX System](#)
- [Returning Exit Codes to the Console](#)
- [What's Next?](#)

What Is Silent-Mode Installation?

Silent-mode installation is a way of setting installation configurations only once and then using those configurations to duplicate the installation on many machines. During installation in silent mode, the installation program reads the settings for your configuration from an XML file that you create prior to beginning the installation. The installation program does not display any configuration options during the installation process. Silent-mode installation works on both Windows and UNIX systems.

Note: Using silent-mode installation implies that you consent to the BEA License Agreement. You neither see a copy of the BEA Software License Agreement nor have any means of accepting the terms of the agreement.

The instructions in this section assume that you have already acquired the installation program, either on CD or from the Web. For more information, see [“WebLogic SIP Server Distribution Methods” on page 1-2.](#)

Using Silent-Mode Installation: Main Steps

The silent-mode installation process has two primary steps:

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

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

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

For a detailed procedure, see [“Starting the Silent-Mode Installation Process on a Windows System” on page 5-4](#) or [“Starting the Silent-Mode Installation Process on a UNIX System” on page 5-5.](#)

Important Considerations for Silent-Mode Installation

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

- Silent-mode installation requires the same amount of temporary disk space and uses the same temporary storage directories as a standard installation. For more information, see [“Temporary Disk Space Requirements” on page 1-3.](#) The installation program does not alert you if there is not enough space in the temporary directory.
- A silent-mode installation takes the same amount of time as a standard installation. At the beginning of a silent-mode installation, an initial installation program window or message is displayed briefly, indicating that the installation has started. No messages are displayed to indicate that the installation is in progress or has completed successfully. You can, however, specify that an exit code be displayed to the console if you initiate the installation using a script. For more information, see [“Returning Exit Codes to the Console” on page 5-7.](#)

- Incorrect entries in the `silent.xml` file can cause installation failures. To help you determine the cause of a failure, we recommend that you create a log file when you start the installation. For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).
- The XML definition (`<?xml version="1.0" encoding="UTF-8"?>`) must be at the very beginning of the `silent.xml` template file. There cannot be any spaces or line breaks before the XML definition.
- You cannot reinstall WebLogic SIP Server components on top of a previously installed version of the same component. You can, however, add components to an existing installation. For example, you can install WebLogic SIP Server during one installation, and WebLogic Integration or WebLogic Portal during a separate installation. However, to reinstall the same version of one of the product components, you must first uninstall the component or install in another location.

Creating a Silent-Mode Installation Template File

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

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

To create a template file for use in the silent-mode installation process, follow these steps:

1. In a supported browser, display the sample template file for silent-mode installation. The sample template file is available at

<http://e-docs.bea.com/platform/docs81/install/silent.html#template>.

This template is also presented later in this chapter. See [“Sample Template File for Silent-Mode Installation” on page 5-4](#). Note that not all entries in the template file are applicable to installing WebLogic SIP Server.

2. Copy the contents of the template file and save it as a text file named `silent.xml` in the directory containing the WebLogic SIP Server installation program.

Note: The XML definition (`<?xml version="1.0" encoding="UTF-8"?>`) must be at the very beginning of the template file. There cannot be any spaces or line breaks before the XML definition.

3. In the `silent.xml` file, modify the values for the keywords shown in [Table 5-1](#).

Note: You must follow XML guidelines for characters when modifying values. That is, you cannot use characters reserved for use in XML, such as <, >, [, and].

Table 5-1 Silent-Mode Installation Template Values

For this data-value name . . .	Enter the following value . . .
BEAHOME	The full pathname for the BEA Home directory of your choice. For details about the BEA Home directory, see “Choosing a BEA Home Directory” on page 1-5.
USER_INSTALL_DIR	The full pathname for the directory where you want to install the WebLogic SIP Server software. For details, see “Choosing a Product Installation Directory” on page 1-8.

Sample Template File for Silent-Mode Installation

```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Silent installer option: -mode=silent -silent_xml=/home/me/silent.xml -->
<domain-template-descriptor>
<input-fields>
  <data-value name="BEAHOME" value="C:\bea" />
  <data-value name="USER_INSTALL_DIR" value="C:\bea\wlss220" />
</input-fields>
</domain-template-descriptor>
```

Starting the Silent-Mode Installation Process on a Windows System

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

1. Log in to the Windows system.
2. Open an MS-DOS command prompt window.
3. Go to the directory that contains the installation file and launch the installation procedure by entering the following command:

```
filename.exe -mode=silent -silent_xml=path_to_silent.xml
```

Here *filename.exe* is the name of the WebLogic SIP Server installation file, and *path_to_silent.xml* is the *full* pathname of the *silent.xml* template file.

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

```
wlssXXX_win32.exe -mode=silent -silent_xml=D:\silent.xml  
-log=D:\logs\platform_install.log
```

In this example, `XXX` represents the version number of the software you are installing. For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

Starting the Silent-Mode Installation Process on a UNIX System

The WebLogic Platform installation program requires a Java run-time environment (JRE) to run. A JRE is bundled in the Windows installation program, and in some UNIX installation programs (those with filenames ending in `.bin`). For other UNIX platforms, the WebLogic SIP Server installation program does not include the JRE. Filenames for these installation programs end in `.jar`. To run the `.jar` installation programs, you must have an appropriate version of a Java 2 SDK installed on your system, and include the `bin` directory of the Java 2 SDK at the beginning of your `PATH` system variable.

Note: It is important that you use an SDK because the installation process sets the `JAVA_HOME` and related variables to point to this directory. All scripts installed with WebLogic Platform use this SDK by default, including scripts to start sample applications, the Configuration Wizard, and other WebLogic development tools.

Starting Silent-Mode Installation for `.bin` Installation Files

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

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

1. Log in to the target UNIX system.
2. Go to the directory that contains the installation file.
3. Launch the installation by entering the following command:

```
chmod a+x filename  
./filename.bin -mode=silent -silent_xml=/path_to_silent.xml
```

Here `filename.bin` is the name of the WebLogic SIP Server installation file, and `path_to_silent.xml` is the *full* pathname of the `silent.xml` template file.

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

```
wlssXXX_linux.bin -mode=silent -silent_xml=/home/silent.xml  
-log=/home/logs/platform_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

Starting Silent-Mode Installation for .jar Installation Files

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

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

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

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

Here `JAVA_HOME` is the full path of the SDK directory.

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

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

Here, `filename.jar` is the name of the WebLogic SIP Server installation file (for example `wlssXXX_generic.jar`, where `XXX` represents the version number of the software you are installing) and `path_to_silent.xml` is the *full* path to the `silent.xml` template file.

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

```
java -jar wlssXXX_generic.jar -mode=silent  
-silent_xml=/home/silent.xml -log=/home/logs/platform_install.log
```

For more information, see [“Generating a Verbose Installation Log” on page 1-9](#).

Returning Exit Codes to the Console

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

Table 5-2 Installation Program Exit Codes

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

If you are launching the silent-mode installation process from a script, you can choose to have these exit codes displayed to the console. [Listing 5-1](#) provides a sample command file that invokes the WebLogic Platform installation in silent mode and echoes the exit codes to the console from which the script is executed.

Listing 5-1 Sample Command File Displaying Silent Mode Exit Codes

```
rem Execute the installer in silent mode
@echo off
wlss220_win32.exe -mode=silent -silent_xml=C:\downloads\silent.xml
-log=C:\logs\220_silent.log

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

@echo.
@echo Exitcode=%exit_code%
@echo.
@echo Exit Code Key
@echo -----
@echo 0=Installation completed successfully
@echo -1=Installation failed due to a fatal error
```

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

What's Next?

You can start using the product immediately after installing it for the first time because, by default, WebLogic Platform uses the development license that is installed in BEA Home directory. For additional information, see [Chapter 6, “Configuring a WebLogic SIP Server Domain.”](#)

Configuring a WebLogic SIP Server Domain

The following sections describe the tasks you may need to perform after installing and licensing your WebLogic SIP Server software:

- [“Using the Configuration Wizard” on page 6-1](#)
- [“Setting Up Engine and Data Tier Servers” on page 6-2](#)

Using the Configuration Wizard

The Configuration Wizard provided with WebLogic SIP Server contains these templates that help you create different SIP Server domains:

- **Diameter WebLogic SIP Server Domain** creates a multiple-server domain consisting of a Diameter Sh client node, a Diameter relay node, and a Diameter HSS simulator.
- **WebLogic SIP Server Examples Domain** creates a new, single-server domain with the `findme` example automatically deployed.
- **Replicated WebLogic SIP Server Domain** creates a new template domain having a sample `datatier.xml` file. You can modify this configuration file and add new servers to create a two-tier WebLogic SIP Server domain (engine tier and data tier).
- **Basic WebLogic SIP Server Domain** creates an empty single-server domain that you can use for developing your own applications.

See WebLogic SIP Server `findme` Example for more information about the example application.

Follow these steps to install a new WebLogic SIP Server domain:

Configuring a WebLogic SIP Server Domain

1. Change to the `WLSS_HOME\common` directory, where `WLSS_HOME` is the directory in which you install WebLogic SIP Server 2.2 (for example, `c:\bea\wlss220\common`).
2. Execute the `config.cmd` or `config.sh` script to launch the Configuration Wizard.
3. Select Create a new WebLogic Configuration and click Next.
4. Select the WebLogic SIP Server template that you want to use and click Next. (Select the WebLogic SIP Server Examples Domain if you want to automatically deploy the `findme` example to the new domain.)
5. Select Express and click Next.
6. Enter a username and password for the Administrator of the new domain, and click Next.
7. Select the startup mode and JDKs to use with the new domain, and click Next.
8. Enter a name for the new domain, and optionally change the directory location in which you want to create the domain. By default, the Configuration Wizard places new domains in the `WLSS_HOME\user_projects\domains` directory of the WebLogic SIP Server installation directory. Click Create to create the new domain.
9. Click Done to exit the Configuration Wizard.
10. If you created a new examples domain, see WebLogic SIP Server `findme` Example for information about how to configure and run the example application.

Setting Up Engine and Data Tier Servers

Detailed information for configuring engine and data tier servers is provided in [Configuring and Managing WebLogic SIP Server](#). The instructions that follow summarize how to configure a new multi-cluster WebLogic SIP Server installation, providing links to other documentation where necessary.

WARNING: When you configure a domain with multiple engine and data tier servers, you must accurately synchronize all server system clocks to a common time source (to within one or two milliseconds) in order for the SIP protocol stack to function properly. See [Configuring NTP for Accurate SIP Timers](#) in [Configuring and Managing WebLogic SIP Server](#) for more information.

1. Install the WebLogic SIP Server software onto all server machines that will host an Engine or Data tier server. See [“Installing WebLogic SIP Server Using Graphical-Mode Installation” on page 3-1](#).

2. Use the Configuration Wizard to install a new **Basic WebLogic SIP Server Domain** on the Administration Server machine. See [“Using the Configuration Wizard” on page 6-1](#).
3. Start the Administration Server and access the Administration Console for the domain.
4. Use the Administration Server to create new WebLogic Server instances for each server you want to use in the Engine and Data tiers.
5. For each new Engine Tier server that you create:
 - Create the named execute queues used by the WebLogic SIP Server implementation. These queues are summarized in [Table 6-1](#). Note that your server will have one additional execute queue that is already defined: `weblogic.kernel.Default`.

Table 6-1 Default Execute Queues

Name	Queue Length	Thread Priority	Thread Count
<code>sip.timer.Default</code>	1024	5	3
<code>sip.tracing.domain</code>	1024	5	1
<code>sip.tracing.local</code>	1024	5	1
<code>sip.transport.Default</code>	65536	5	15

- Configure a network channel supporting the UDP transport. See [Managing WebLogic SIP Server Network Resources](#) in *Configuring and Managing WebLogic SIP Server*.
6. Configure an engine tier cluster that includes all server instances in the engine tier.
 7. Configure a data tier cluster that includes all server instances in the data tier.
 8. Deploy the `sipserver` application to both clusters (to all WebLogic SIP Server instances) to provide SIP Servlet container and data tier replication features.
 9. Apply all changes and shut down the Administration Server.
 10. Edit the `datatier.xml` file on the Administration Server to define partitions and replicas in the data tier. See [Configuring Data Tier Partitions and Replicas](#) in *Configuring and Managing WebLogic SIP Server*.

Configuring a WebLogic SIP Server Domain

11. Edit the `sipserver.xml` file on the Administration Server to configure load balancers, proxy policies and URIs, and other SIP Servlet container properties. See [Configuring Engine Tier Container Properties](#) in *Configuring and Managing WebLogic SIP Server*.
12. Boot the Administration Server for the domain.
13. Boot each Managed Server, supplying the Administration Server URL and login information.

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