Oracle® Communications Services Gatekeeper

Installation Guide

Release 4.1

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Oracle Communications Services Gatekeeper Installation Guide, Release 4.1

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CHAPTER 1

Document Roadmap

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

Document Scope and Audience

This document describes the initial installation and setup of Oracle Communications Services Gatekeeper including:

- Installation
- Domain configuration
- Post-installation steps

This document is primarily for support engineers and system administrators working with OCSG.

Guide to This Document

This document contains the following chapters:

- “Document Roadmap” This chapter

- Chapter 2, “Gathering Materials” Putting together what you need before you begin installing Oracle Communications Services Gatekeeper
- Chapter 3, “Supported Configurations”Checking your basic hardware and software
- Chapter 4, “Installing the Database”Setting up your database for use with Oracle Communications Services Gatekeeper
- Chapter 5, “Task Overview” A high level outline of the installing and configuring tasks
- Chapter 6, “Installing Oracle Communications Services Gatekeeper” Running all versions of the installer
- Chapter 7, “Configuring the Domain for Oracle Communications Services Gatekeeper” Running all versions of the domain configuration tools
- Chapter 8, “Completing Post-Installation” Completing final steps

Note: You should follow the order of the chapters in installing your system, i.e., gather your materials, then install the database, and then install and configure Oracle Communications Services Gatekeeper.

Terminology

The following terms and acronyms are used in this document:

- Account—A registered application or service provider. An accounts belong to an account group, which is tied to a common SLA
- Account group—Multiple registered service providers or services which share a common SLA
- Administrative User—Someone who has privileges on the Oracle Communications Services Gatekeeper management tool. This person has an administrative user name and password
- Alarm—The result of an unexpected event in the system, often requiring corrective action
- API—Application Programming Interface
- Application—A TCP/IP based, telecom-enabled program accessed from either a telephony terminal or a computer
- Application-facing Interface—The Application Services Provider facing interface

- Application Service Provider—An organization offering application services to end users through a telephony network
- AS—Application Server
- Application Instance—An Application Service Provider from the perspective of internal Oracle Communications Services Gatekeeper administration. An Application Instance has a user name and password
- Communication Service—The type of data flow of a particular request through Oracle Communications Services Gatekeeper, defined by the application-facing interface at the north and the network protocol at the south.
- End User—The ultimate consumer of the services that an application provides. An end user can be the same as the network subscriber, as in the case of a prepaid service, or they can be a non-subscriber, as in the case of an automated mail-ordering application where the subscriber is the mail-order company and the end user is a customer to this company
- Enterprise Operator —See Service Provider
- Event—A trackable, expected occurrence in the system, of interest to the operator
- HA —High Availability
- HTML—Hypertext Markup Language
- IP—Internet Protocol
- JDBC—Java Database Connectivity, the Java API for database access
- Location Uncertainty Shape—A geometric shape surrounding a base point specified in terms of latitude and longitude. It is used in terminal location
- MAP—Mobile Application Part
- Mated Pair—Two physically distributed installations of Oracle Communications Services Gatekeeper nodes sharing a subset of data. This allows for high availability between the nodes
- MM7—A multimedia messaging protocol specified by 3GPP
- Network Plug-in—The Oracle Communications Services Gatekeeper module that implements the interface to a network node or OSA/Parlay SCS through a specific protocol
- NS—Network Simulator

- OAM —Operation, Administration, and Maintenance
- Operator—The party that manages the Oracle Communications Services Gatekeeper. Usually the network operator
- OSA—Open Service Access
- PAP—Push Access Protocol
- Plug-in—See Network Plug-in
- Plug-in Manager—The Oracle Communications Services Gatekeeper module charged with routing an requests to the Interceptor stack.
- Quotas—Access rule based on an aggregated number of invocations. See also Rates
- Rates—Access rule based on allowable invocations per time period. See also Quotas
- Rules—A customizable set of criteria in addition to those specified in SLAs according to which requests can be evaluated
- SCF—Service Capability Function or Service Control Function, in the OSA/Parlay sense.
- SCS—Service Capability Server, in the OSA/Parlay sense. Oracle Communications Services Gatekeeper can interact with these on its network-facing interface
- Service Capability—Support for a specific kind of traffic within Oracle Communications Services Gatekeeper. Defined in terms of Communication Services
- Service Provider—See Application Service Provider
- SIP—Session Initiation Protocol
- SLA—Service Level Agreement
- SMPP—Short Message Peer-to-Peer Protocol
- SMS—Short Message Service
- SMSC—Short Message Service Centre
- SNMP—Simple Network Management Protocol
- SOAP—Simple Object Access Protocol
- SPA—Service Provider APIs
- SS7—Signalling System 7

- Subscriber—A person or organization that signs up for access to an application. The subscriber is charged for the application service usage. See End User
- SQL—Structured Query Language
- TCP—Transmission Control Protocol
- USSD—Unstructured Supplementary Service Data
- VAS—Value Added Service
- VLAN—Virtual Local Area Network
- VPN—Virtual Private Network
- WSDL —Web Services Definition Language
- XML—Extended Markup Language

Related Documentation

This installation guide is a part of Oracle Communications Services Gatekeeper documentation set. The other documents are:

- *System Administrator's Guide*
- *Concepts and Architectural Overview*
- *Integration Guidelines for Partner Relationship Management*
- *SDK User Guide*
- *Managing Accounts and SLAs*
- *Statement of Compliance and Protocol Mapping*
- *Application Development Guide*
- *Communications Service Reference*
- *Handling Alarms*
- *Licensing*
- *Platform Development Studio - Developer's Guide*
- *Platform Test Environment*

- *RESTful Application Development Guide*

Additionally, many documents in the WebLogic Server documentation set are of interest to users of Oracle Communications Services Gatekeeper, including:

Additionally, many documents in the Oracle WebLogic Server documentation set are of interest to users of Oracle Communications Services Gatekeeper, including:

- *Introduction to Oracle WebLogic Server* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/intro/
- *Installation Guide* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/install/index.html
- *Managing Server Startup and Shutdown* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/server_start/
- *Getting Started With WebLogic Web Services Using JAX-WS* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/webserv/index.html
- Developing Manageable Applications with JMX at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/jmxinst/
- *Configuring and Using the WebLogic Diagnostics Framework* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/wldf_configuring/
- *Using Clusters* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/cluster/
- *Securing WebLogic Server* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/secmanage/

CHAPTER 2

Gathering Materials

This chapter describes the information and materials you need to have to begin installing Oracle Communications Services Gatekeeper.

- Understand the Basics
- Check Your Hardware
- Check Your Software

Understand the Basics

Before starting installation, you should understand the basics of the Oracle Communications Services Gatekeeper. These are covered in *Concepts and Architectural Overview*, a part of the Oracle Communications Services Gatekeeper documentation set.

Check Your Hardware

Oracle Communications Services Gatekeeper has been tested to run on very specific hardware platforms. Supported Configurations are outlined in detail in Chapter 3, "Supported Configurations." Unless your installation has been specified differently in cooperation with Oracle, only these configurations are supported, as of the time of this writing:

Caution: This list is subject to change. Always check the *Release Notes* for the most up-to-date list of supported configurations. Also always check the *Release Notes* to make sure you have the appropriate patches to your operating system installed.

Check Your Software

You must have the following information and software available to complete this installation:

- Root passwords to the servers on which the software will be installed
- Database software, with appropriate licenses. The supported databases include:
  - Oracle 10g, with RAC

  Note: This is the only supported configuration for production environments that require High Availability.

  - Oracle 10g, Single Instance

  Note: Oracle databases must be installed on a dedicated server or cluster of servers.

  - MySQL 5.0
  - MySQL 5.1

  Note: MySQL is not supported for environments that require High Availability.

Caution: Always check the *Release Notes* for the most up-to-date list of supported databases.

- The Oracle Communications Services Gatekeeper installer. This is available from either the product CDs or the Oracle eDelivery site.

Supported Configurations

The following sections summarize the supported configurations for the Oracle Communications Services Gatekeeper platform:

Supported Configurations

The following sections describe the base system requirements for Oracle Communications Services Gatekeeper.

Overview of the Oracle Communications Services Gatekeeper Base platform

Below is a summary of the operating systems and hardware platforms for Oracle Communications Services Gatekeeper:

- HP-UX 11.23 on Intel Itanium2
- Linux Redhat AS4 on x86
- Solaris 9 or Solaris 10 on Sun UltraSPARC

The next sections describe the configuration requirements for access tier, network tier and database tier servers. For a description of the different tiers, see the Deployment section of "Software Architecture Overview" in *Concepts and Architectural Overview*, another document in this set.

Common configuration requirements

All servers in the cluster building up Oracle Communications Services Gatekeeper must be dedicated servers.

The directory in which the software is installed must reside on the server's local file system.

There must be at least 1 GB of diskspace available under `/user/local`.

HP-UX 11.23 on Intel Itanium2

Configuration requirements for Access tier servers

Table 3-1 Requirements for Oracle Communications Services Gatekeeper access tier servers on HP-UX 11.23 on Intel Itanium2

Operating System Version and Patches	HP-UX 11.23 with HP-UX patches for Java™ See http://www.hp.com/products1/unix/java/patches/index.html.
Chip Architecture and Minimum Processor Speed	Intel Itanium2 (1.5 GHz)
JDK	HP-UX JDK for the Java 2 Standard Edition platform version 6.0.01 with Java HotSpotTM Server VM (32-bit) and all later JDK 6.0.* service packs for development and production deployment on HP-UX
RAM	1 GB required; 2 GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card

Configuration requirements for Network tier servers

Table 3-2 Requirements for Oracle Communications Services Gatekeeper network tier servers on HP-UX 11.23 on Intel Itanium2

Operating System Version and Patches	HP-UX 11.23 with HP-UX patches for Java™ See http://www.hp.com/products1/unix/java/patches/index.html.
Chip Architecture and Minimum Processor Speed	Intel Itanium2 (1.5 GHz)

Table 3-2 Requirements for Oracle Communications Services Gatekeeper network tier servers on HP-UX 11.23 on Intel Itanium2

JDK	HP-UX JDK for the Java 2 Standard Edition platform version 6.0.01 with Java HotSpotTM Server VM (32-bit) and all later JDK 6.0.* service packs for development and production deployment on HP-UX
RAM	1 GB required; 2 GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card

Configuration requirements for Database tier servers

Table 3-3 Requirements for Oracle Communications Services Gatekeeper database tier servers on HP-UX 11.23 on Intel Itanium2

Operating System Version and Patches	HP-UX 11.23
Chip Architecture and Minimum Processor Speed	Intel Itanium2 (1.5 GHz)
RAM	2 GB required; >6 GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card
RDBMS	See Supported databases
Database storage system	Network attached storage using fibre channel interface.

Linux Redhat AS4 on x86

Configuration requirements Access tier servers

Table 3-4 Requirements for Oracle Communications Services Gatekeeper access tier servers on Linux Redhat AS4 on x86

Operating System Version and Patches	Red Hat Enterprise Linux AS release 4 (Nahant Update 2) Kernel version 2.6.9-22.Elsmp glibc-2.3.4-2.13 and later updates and errata levels
Chip Architecture and Minimum Processor Speed	Xeon or Opteron Class

Table 3-4 Requirements for Oracle Communications Services Gatekeeper access tier servers on Linux Redhat AS4 on x86

JVM/32 bit	Sun: Version 1.6.0_05 and all later JDK 6.0.* versions and service packs JRockit: Version 1.6_05, build R27.6* and greater
JVM/x-86_64 bit	Sun: Version 1.6.0_05 and all later JDK 6.0.* versions and service packs JRockit: Version 1.6_05, build R27.6* and greater
RAM	1 GB required; 2 GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card

Configuration requirements for Network tier servers

Table 3-5 Requirements for Oracle Communications Services Gatekeeper network tier servers on Linux Redhat AS4 on x86

Operating System Version and Patches	Red Hat Enterprise Linux AS release 4 (Nahant Update 2) Kernel version 2.6.9-22.Elsmp glibc-2.3.4-2.13 and later updates and errata levels
Chip Architecture and Minimum Processor Speed	Xeon or Opteron Class
JVM/32 bit	Sun: Version 1.6.0_05 and all later JDK 6.0.* versions and service packs JRockit: Version 1.6_05, build R27.6* and greater
JVM/x-86_64 bit	Sun: Version 1.6.0_05 and all later JDK 6.0.* versions and service packs JRockit: Version 1.6_05, build R27.6* and greater
RAM	1 GB required; 2 GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card

Configuration requirements for Database tier servers

Table 3-6 Requirements for Oracle Communications Services Gatekeeper database tier servers on Linux Redhat AS4 on x86

Operating System Version and Patches	Red Hat Enterprise Linux AS release 4 (Nahant Update 2) Kernel version 2.6.9-22.Elsmp glibc-2.3.4-2.13 and later updates and errata levels
Chip Architecture and Minimum Processor Speed	Xeon or Opteron Class

Table 3-6 Requirements for Oracle Communications Services Gatekeeper database tier servers on Linux Redhat AS4 on x86

RAM	2 GB required; >6GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card
RDBMS	See Supported databases
Database storage system	Network attached storage using fibre channel interface.

Solaris 9 or Solaris 10 on Sun UltraSPARC

Configuration requirements Access tier servers

Table 3-7 Requirements for Oracle Communications Services Gatekeeper access tier servers on Solaris 9/10 on UltraSPARC

Operating System Version and Patches	Solaris 9/10
Chip Architecture and Minimum Processor Speed	UltraSPARC IIIi (1.5 Ghz)
JVM	Sun: Version 1.6.0_05 and all later JDK 6.0.* versions and service packs JRockit: Version 1.6_05, build R27.6* and greater
RAM	1 GB required; 2 GB recommended
Disk	2 x 35 GB
Network cards	2 x LAN interface card

Configuration requirements for Network tier servers

Table 3-8 Requirements for Oracle Communications Services Gatekeeper network tier servers on Solaris 9/10 on UltraSPARC

Operating System Version and Patches	Solaris 9/10
Chip Architecture and Minimum Processor Speed	UltraSPARC IIIi (1.5 Ghz)

Table 3-8 Requirements for Oracle Communications Services Gatekeeper network tier servers on Solaris 9/10 on UltraSPARC

JVM	Sun: Version 1.6.0_05 and all later JDK 6.0.* versions and service packs JRockit: Version 1.6_05, build R27.6* and greater
RAM	1 GB required; 2 GB recommended
Disk	2 x 35 GB
Network cards	2 x LAN interface card

Configuration requirements for Database tier servers

Table 3-9 Requirements for Oracle Communications Services Gatekeeper database tier servers on Solaris 9/10 on UltraSPARC

Operating System Version and Patches	Solaris 9/10
Chip Architecture and Minimum Processor Speed	UltraSPARC IIIi (1.5 Ghz)
RAM	2 GB required; >6 GB recommended
Disk	2 x 36 GB
Network cards	2 x LAN interface card
RDBMS	See Supported databases
Database storage system	Network attached storage using fibre channel interface.

Supported databases

Oracle 10g RAC	Full DB Failover and Fault Tolerance
Oracle 10g Single Instance	
MySQL 5.0 Single Instance	
MySQL 5.1 Single Instance	

Load balancer and tier 3 switches

Per customer preference.

Firewall

Optional. Per customer preferences.

Disc storage

While disc storage can be an ordinary disk system, for performance and high availability reasons, a RAID system should be used.

General characteristics

Java version	JRE 1.5, JDBC 3.0
Database	Oracle, Single Instance or RAC: • Oracle 10g R1 (Oracle 10.1.0.4 and later patch sets of 10.1.x) • Oracle 10g R2 (Oracle 10.2.0.1 and later patch sets of 10.2.x) MySQL, Single Instance: • MySQL 5.0 • MySQL 5.1
Parlay X	2.1, 3.0
SNMP version	v1, v2
SOAP version	1.1, 1.2
SOAP engine	WLS
CORBA version	CORBA 2.5
ORB	Orbacus 4.3
Rule engine	JRules 6.5.2

CHAPTER 4

Installing the Database

This chapter provides an overview of the process of installing the database for use with Oracle Communications Services Gatekeeper.

- Outline of Installation
- Install an Oracle 10g with RAC Database
- Install an Oracle 10g Single Instance Database
- Install a MySQL Database

Note: Individual files names are given in the form: `filename<version>.type`. As an example, the file referred to as `jrockit-j2sdk<version>.bin.gz` could have the full name `jrockit-j2sdk1.4.2_05-linux-ia32.bin.gz`

Outline of Installation

Although there are substantial differences among the installation procedures for each type of database, all installation types include the following basic steps:

- Install the base software
- Set up a user account that Oracle Communications Services Gatekeeper will use to access the database
- Give the user account appropriate privileges on the database

Install an Oracle 10g with RAC Database

Use these instructions if you are using Oracle 10g with RAC as your database. For more information on using OWLS RAC with multidatasource configuration, see *Oracle WebLogic Server Configuring and Managing WebLogic JDBC* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/jdbc_admin/.

Note: This is the only database configuration supported for production environments that require High Availability.

1. Set up the base configuration

Oracle 10g RAC must be installed on dedicated servers *not* running in the cluster building up the Oracle Communications Services Gatekeeper.

1. Install the Oracle 10g RAC database software using the instructions provided by Oracle.
2. Download and install the latest patch set. This is important because significant improvements have been made with regards to fail-over.

2. Use these recommended configuration options

1. Create the database using the **Transaction Processing** template.
2. Use **Automatic Storage Management**.
3. Use the **Dedicated Server Mode** for the database.
4. Change the **processes** parameter:

   Define the number or of processes to be equal to (`wlng.datasource MaximumCapacity + wlng.localTX.datasource MaximumCapacity`) times the number of Oracle Communications Services Gatekeeper servers in the cluster. `MaximumCapacity` is defined as a parameter in the connection pool settings for the JDBC datasources. Normally this value is 150 for both datasources.

3. Define a database user

1. Create a database user for Oracle Communications Services Gatekeeper with an allowed (unlimited) quota on its default tablespace, (the **users** tablespace).The user name and password for the user are later copied to each Oracle Communications Services Gatekeeper Server.

2. The user must be granted the following privileges:
   - CREATE SESSION
   - CREATE TABLE

Oracle Communications Services Gatekeeper must be configured with an additional set of parameters to make it work correctly with the database. This action is performed during the domain configuration phase. See Chapter 7, "Configuring the Domain for Oracle Communications Services Gatekeeper" for more information.

4. Configure the Oracle database for backup

1. Configure the Oracle database for backup as described in the *System Backup and Restoration Guide*.

Install an Oracle 10g Single Instance Database

Follow the instructions in this section if you are using an Oracle 10g single instance as your database.

1. Set up the base configuration

The Oracle 10g instance must be installed on a dedicated server *not* running in the cluster building up the Oracle Communications Services Gatekeeper.

1. Install the Oracle 10g database software using the instructions provided by Oracle.

2. Use these recommended configuration options

1. Create the database using the **Transaction Processing** template.

1. Use **Automatic Storage Management**.

2. Use **Dedicated Server Mode** for the database.

3. Change the **processes** parameter:

   Define the number or of processes to be equal to (`wlng.datasource MaximumCapacity + wlng.localTX.datasource MaximumCapacity`) times the number of Oracle Communications Services Gatekeeper servers in the cluster. `MaximumCapacity` is defined as a parameter in the connection pool settings for the JDBC datasources. Normally this value is 150 for both datasources.

3. Define a database user

1. Create a database user for Oracle Communications Services Gatekeeper with an allowed (unlimited) quota on its default tablespace, (the **users** tablespace). The user name and password for the user are later defined in each Oracle Communications Services Gatekeeper Server.
2. The user must be granted the following privileges:
   - CREATE SESSION
   - CREATE TABLE

Oracle Communications Services Gatekeeper must be configured with an additional set of parameters to make it work correctly with the database. This action is performed during the domain configuration phase. See Chapter 7, "Configuring the Domain for Oracle Communications Services Gatekeeper" for more information.

4. Configure the Oracle database for backup

1. Configure the Oracle database for backup as described in the *System Backup and Restoration Guide*

Install a MySQL Database

Follow the instructions in this section if you are using MySQL as your database.

Note: MySQL is not supported in environments that require High Availability.

MySQL can be installed either on a server in the cluster building up the Oracle Communications Services Gatekeeper or on a separate server. If it is installed in the cluster, it should be in the same server as the Network Tier.

Before you start, make sure you have the appropriate installation binaries (5.0 or 5.1) for your platform. The binaries can be downloaded from `http://www.mysql.com`.

1. Copy the installation file to the desired directory.
2. Follow the installation instructions for your platform. These may vary widely depending on your platform and the type of binary you chose to download. You may need to be logged in with administrative privileges.

Linux:

The following is a summary of the commands needed to install MySQL on some versions of Linux. You should check the specific instructions for your version. It assumes an installation directory of `/usr/local`:

a. Create a group for mysql and add the mysql user to it:

```
groupadd mysql
useradd -g mysql mysql
```

b. Run the installation script:

```
cd /usr/local
ln -s /usr/local/mysql-standard-<version> mysql
cd mysql
scripts/mysql_install_db --user=mysql
```

c. Set ownership:

```
chown -R root .
chown -R mysql data
chgrp -R mysql .
```

d. Start the database:

```
bin/mysqld_safe --user=mysql &
```

e. Create a file, `/usr/local/mysql/data/my.cnf, and` set the following connection variable, so that `max_connections` is equal to (`wlng.datasource MaximumCapacity + wlng.localTX.datasource MaximumCapacity`) times the number of Oracle Communications Services Gatekeeper servers in the cluster. `MaximumCapacity` is defined as a parameter in the connection pool settings for the JDBC datasources. Normally this value is 150 for both datasources. For example:

```
[mysqld]
set-variable=max_connections=400
```

You should also add settings for default character set and storage engine:

```
set-variable=default-character-set=<desired character set>
```

Note: The recommended character set is `latin1`.

```
set-variable=default-storage-engine=<desired default storage engine>
```

f. Restart MySQL.

Windows:

The Windows version is available with a GUI installer. Detailed instructions on using the installer are available at the MySQL web site. Unless you need to install the database in a non-standard location, you can select Typical Install.

You can also use the **Instance Configuration Wizard** to do configuration basics. (Use the default choice unless specified below):

- Select **Detailed Configuration**
- Select your appropriate usage type

  Note: The recommended usage type is **Non-transactional Database**.
- To set concurrent connections, select **Manual** and choose a value equal to (`wlng.datasource MaximumCapacity + wlng.localTX.datasource MaximumCapacity`) times the number of Oracle Communications Services Gatekeeper servers in the cluster. `MaximumCapacity` is defined as a parameter in the connection pool settings for the JDBC datasources. Normally this value is 150 for both datasources. Use the dropdown menu. You can change this value later if necessary.
- Check **Enable TCP/IP Networking** (the standard port is fine unless you need to change it for your particular installation)
- Select your default character set.

  Note: The recommended character set is **Latin1**.
- Select **Install as Windows Service** if you desire
- Select **Modify Security Settings** and set a root password.
- Do not check **Enable root access from remote machines**

1. Setting MySQL to autostart on reboot is recommended. Refer to the instructions for MySQL and the operating system. If you are installing on Windows, you can set up MySQL to run as a Windows Service (see above).
2. Create the Oracle Communications Services Gatekeeper database user and password and give it access privileges using the SQL command. You will need this user name and password for the domain configuration stage of the installation. (For information on the various command level modes of accessing the MySQL server, see the documentation on the MySQL website.

   ```
   GRANT ALL ON *.* TO <Gatekeeper database user>@'<ip-address>'
   IDENTIFIED BY '<password>'
   ```

   You must do this for every IP address in the cluster.

3. Create the database for Oracle Communications Services Gatekeeper. This name will be used in the Domain Configuration stage of the installation The standard way to do this is to issue the following SQL command

   ```
   CREATE DATABASE <database name>
   ```

4. Oracle Communications Services Gatekeeper must be configured with an additional set of parameters to make it work correctly with the database. This action is performed during the domain configuration phase. See Chapter 7, "Configuring the Domain for Oracle Communications Services Gatekeeper" for more information.

Replace the Connector JAR File

If you choose to use MySQL 5.1, you must replace the existing MySQL 5.0 connector JAR file with the MySQL 5.1 connector JAR file.

1. Replace this file:

   `mysql-connector-java-commercial-5.0.3-bin.jar`

   with this file:

   `mysql-connector-java-5.1.10-bin.jar`

   in following directories:

   - `$WL_HOME/server/ext/jdbc/mysql`
   - `$WL_HOME/server/lib`

2. Add `mysql-connector-java-5.1.10-bin.jar` to the class path, making sure it is placed before the 5.0 JAR file if that is also specified in the class path.

CHAPTER 5

Task Overview

This chapter provides a high level description of the process of installing and configuring Oracle Communications Services Gatekeeper. Subsequent chapters describe the specific steps required to use each type of installation and configuration tools in detail.

Setting up Oracle Communications Services Gatekeeper is a four step process. You must:

- Check Network/Hardware Setup
- Install Software
- Configure the WebLogic Server Domain for Oracle Communications Services Gatekeeper
- Complete Post-Installation

Check Network/Hardware Setup

Before you can install Oracle Communications Services Gatekeeper, you must gather a certain amount of information about your system. You need to know:

- The network names or IP addresses of the machines on which you are going to install
- The directory on each machine which will serve as your *BEA Home directory.* This directory serves as a repository for common files that are used by all Oracle Communications products installed on the same machine.

  The files in the BEA Home directory are essential to ensuring that Oracle Communications software operates correctly on your system. They:

  – Facilitate checking of cross-product dependencies during installation

  - Facilitate Service Pack installation

- The directory on each machine which will serve as your *Product Installation Directory.* Usually this is a subdirectory of the BEA Home directory. The product installation directory contains all the software components that will be used in configuring the Oracle Communications Services Gatekeeper domains. The default directory is `$BEAhome\ocsg_4.1`.
- If you are going to install the Oracle Communications Services Gatekeeper Platform Development Studio, the machine's Eclipse Plugin directory.
- The password you are going to use for the Administration User. The default password is "weblogic", which should be used during the initial setup and configuration period.

Install Software

Installing Oracle Communications Services Gatekeeper generally requires that three separate components be copied to your hardware:

- The platform container, Oracle WebLogic Server
- The Oracle Communications Services Gatekeeper software, including container services and communication services applications
- The Oracle Communications Services Gatekeeper Platform Development Studio software

Each of these components is copied to its appropriate places when you run the Oracle Communications Services Gatekeeper installer. There are three main installer modes available:

- Graphical-mode (GUI-based)

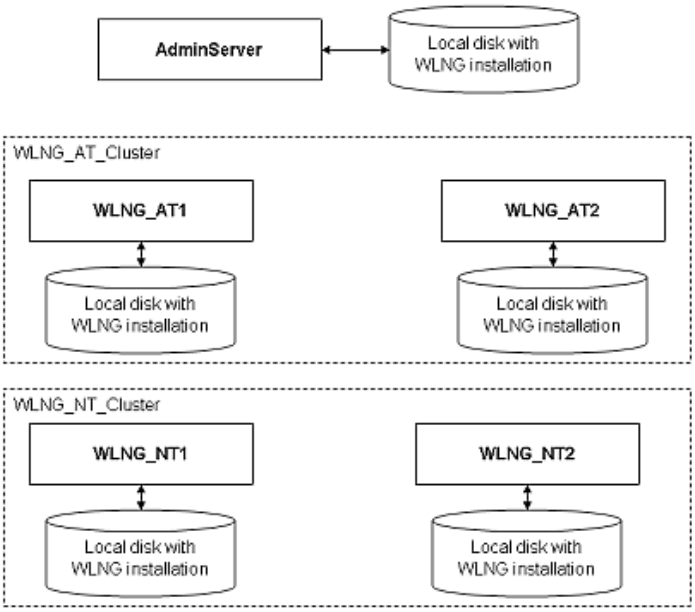
Note: If you want to run graphical-mode installation, the console attached to the machine on which you are installing the software must support a Java-based GUI. All consoles for Windows systems support Java-based GUIs, but not all consoles for UNIX/Linux systems do. If you attempt to start the installation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

- Console (interactive text-based)
- Silent mode (uses an XML file instead of user-entered responses)

The specifics of each of these installers are covered in Chapter 6, "Installing Oracle Communications Services Gatekeeper." You need to do this for each machine in your installation.

Note: It is recommended that you install Oracle Communications Services Gatekeeper on the local disk of each server in your setup, as in Figure 5-1.

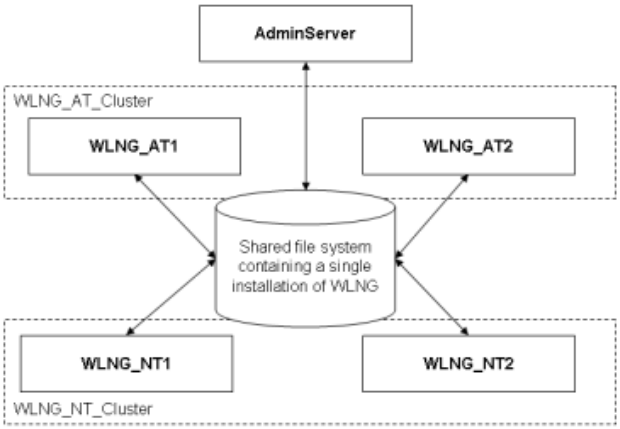
Figure 5-1 The Recommended Install Pattern



Recommended: Install Network Gatekeeper on each local disk

If all of your servers can access a shared file system, it is possible to install Oracle Communications Services Gatekeeper only there (see Figure 5-2), but this is not recommended, for performance reasons.

Figure 5-2 Possible, but not recommended



Possible: If all machines can access a shared file system, install Network Gatekeeper there. Not recommended for performance reasons.

Configure the WebLogic Server Domain for Oracle Communications Services Gatekeeper

Configuring the domain for WebLogic Server for use in Oracle Communications Services Gatekeeper installations can be accomplished using one of two available tools:

- The Configuration Wizard, using either the GUI-based version or the interactive console version.

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

- The command-line scripting tool (WebLogic Scripting Tool) and provided scripts.

Note: The WebLogic Scripting Tool (WLST) is a command-line scripting interface that system administrators and operators use to monitor and manage WebLogic Server instances and domains. The WLST scripting environment is based on the Java scripting interpreter, Jython. For more information on WLST, see *Oracle WebLogic Server WebLogic Scripting Tool* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/config_scripting/.

Oracle Communications Services Gatekeeper ships with five default configuration templates:

- Basic HA configuration
- Domain with Access and Network Clusters
- Domain with Access and Network Clusters with Oracle RAC Configuration
- Basic Oracle Communications Services Gatekeeper Domain
- OCSG OSB Integration Configuration

These templates contain the basic information for setting up various common installation selections. However in all cases, some aspects of the domain may need to be adjusted during the domain configuring process. The entire process is covered in Chapter 7, “Configuring the Domain for Oracle Communications Services Gatekeeper.”

Complete Post-Installation

Once installation is complete and your domain has been set up, you must:

- Complete a few post-installation tasks
- Configure the installed Oracle Communications Services Gatekeeper itself

These are covered in Chapter 8, “Completing Post-Installation.”

For Further Information

To learn more about installing WebLogic Server products in general, and about the installer program in particular in regard to WebLogic Server, see *Oracle WebLogic Server Installation Guide* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/install/index.html.

CHAPTER 6

Installing Oracle Communications Services Gatekeeper

This chapter describes how to use the Oracle Communications Services Gatekeeper installers. This process must be followed on every server in the system. The chapter includes information on:

- The Graphical Mode Installer
- The Console Installer
- The Silent Mode Installer
- Where to Go From Here

Before you run the installer, you should have a high level understanding of the entire installation and configuration process. See Chapter 5, "Task Overview" for more information.

The Graphical Mode Installer

Use the following instructions if you wish to use the GUI-based installer to install Oracle Communications Services Gatekeeper. You must do this for all servers.

Note: If you want to use the GUI-based installer, 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/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.

Launch the GUI Installer - Windows

Note: Windows is only supported for dev/test environments. It is not supported for production.

If you are using the GUI-based installer on a Windows machine, do the following:

1. Log in to the Windows system. If you are going to use this machine as an Administration Server and you wish to install the Node Manager as a Windows service, you must be logged in as an administrator. Node Manager is used to monitor, start, and stop server instances in a domain.
2. Go to the directory where you have copied the installation program. You acquire this program either from an Oracle Communications Services Gatekeeper CD or the eDelivery Center.
3. If you are using Explorer to find the file, double-click the installation file, `_win_x86.exe`
4. If you are using the console window to find the file, enter the following command:

   ```
   ocsg411_win_x86
   ```

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

   ```
   ocsg411_win_x86 -log=<full_path>install.log
   ```

5. Go on to Respond to the Prompts

Launch the GUI Installer - UNIX/Linux

If you are using the GUI-based installer on a UNIX/Linux machine, do the following:

1. Log into the target UNIX system
2. Go to the directory where you have copied the installation program. You acquire this program either from the Oracle Communications Services Gatekeeper CD or the eDelivery Center.
3. Launch the installation by entering the following two commands:

   ```
   chmod a+x ocsg411_<appropriate-platform-filename>.bin
   ```

   ```
   ./ocsg411_<appropriate-platform-filename>.bin
   ```

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

   ```
   ocsg411_<appropriate-platform-filename>.bin -log=<full_path>install.log
   ```

Note: For Linux Redhat AS4, use `ocsg411_linux_x86.bin` for x86 installations and `ocsg411_linux_x86_64.bin` for x86-64 installations. For Solaris 9 or 10, use `ocsg411_solaris_sparc.bin` for 32 bit installations and `ocsg411_solaris_sparc_64.bin` for 64 bit installations.

4. Go on to Respond to the Prompts

Launch the GUI Installer - Generic

Oracle Communications Services Gatekeeper ships with a generic installer that is primarily designed to be run on machines running HP-UX. If you are using the GUI-based installer, do the following:

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

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

   Here `JAVA_HOME` represents the full path to the JDK directory.
3. Go to the directory where you downloaded the installation program.
4. Launch the installation program by entering the following command:

   ```
   java -jar ./ocsg411_generic.jar
   ```
5. Go on to Respond to the Prompts

Note: Once you have run the installer you must do the following additional two steps:

a. Set the `WL_HOME` variable to the directory in which you installed your Oracle Communications product, and export `WL_HOME`. For example:

```
$ export WL_HOME=<your_installation_directory>/wlserver_10.3
cd $WL_HOME/server/native/hpux11/IPF32/
```

b. Set the following execution modes on the contents of the `$WL_HOME/server/native` directory:

```
$ chmod -R +x $WL_HOME/server/native/hpux11/
```

Respond to the Prompts

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.

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**.
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 by typing a new directory name in the BEA Home Directory field, the installation program automatically creates one for you. You can also click **Browse** and select a directory from the **BEA Home Directory Selection** window.
Choose Install Type	Select the type of installation you wish to perform: • **Typical -** Installs WebLogic Server, Oracle Communications Services Gatekeeper (including the Platform Development Studio), and Converged Application Server • **Custom** - Allows you to choose to install individual components **Note:** This window may not appear if you have other Oracle/BEA products installed on this machine.
Choose Products and Components This window only appears if you have selected the **Custom** installation type	Uncheck any component you do not wish to install **Note:** You cannot install the Platform Development Studio without Oracle WebLogic Server and Oracle Communications Services Gatekeeper.
JDK Selection This window only appears if you have selected the **Custom** installation type	Select the JDK you wish to have installed for use with Oracle Communications Services Gatekeeper.

In this window...	Perform the following action...
Platform Development Studio Eclipse Plugin Path This window only appears if you have chosen to install the PDS	In the text box, enter the full path to the Plugin directory of your Eclipse installation. You can also use the Browse button to locate the directory.
Choose Product Installation Directories	Specify the directories in which you want to install the Oracle Communications Services Gatekeeper, WebLogic Server, and Converged Application software. These are the directories from which information will be copied during the domain configuration phase. Once you have chosen your directories, click **Next**. You can accept the default product directories or create a new product directory.
Install Windows Service This window only appears if you are installing the software on a Windows machine and you've chosen a **Custom** installation type	The Node Manager allows you to stop and start Managed Servers remotely. If you are installing on a Windows machine, the Node Manager should be installed as a Windows Service. Select **Yes** to install or **No** to skip installation
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** 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. Press ALT+Y on the keyboard to select the All Users Start Menu. • **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. Press ALT+N on the keyboard to select the Local User's start menu.
Installation Summary	Check to make sure this is the list of all the products and JDKs you have chosen to install.

In this window...	Perform the following action...
Status	A progress bar indicates the status of the installation process. When the installation program has finished copying the specified files to your system, click **Next**.
Installation Complete	If you are using Windows, specify whether you want to run the QuickStart application. QuickStart, designed to assist first-time users in evaluating, learning, and using the software, provides quick access to domain configuration wizard. Clear the check box for this option if you do not want to launch QuickStart.

The Console Installer

Use the following instructions if you wish to use the Console-based installer to install Oracle Communications Services Gatekeeper. You must do this for all servers.

Launch the Console Installer - Windows

Note: Windows is only supported for dev/test environments. It is not supported for production.

If you are using the Console-based installer on a Windows machine, do the following:

1. Log in to the target Windows system.
2. Go to the directory where you have copied the installation program. You acquire this program either from a Oracle Communications Services Gatekeeper CD or the eDelivery Center.
3. Launch the installation by entering the following command:

   ```
   ocsg411_win_x86.exe -mode=console
   ```

   You can also include the `-log=full_path_to_log_file` option in the command line to

   ```
   ocsg411_win_x86.exe -mode=console -log=C:\logs\server_install.log
   ```
4. After a few moments, an Installer window opens and the installation program begins to install the software.
5. Go on to Respond to the Prompts

Launch the Console Installer - UNIX/Linux

If you are using the Console-based installer on a UNIX/Linux machine, do the following:

1. Log into the target UNIX system
2. Go to the directory where you have copied the installation program. You acquire this program either from the Oracle Communications Services Gatekeeper CD or the eDelivery Center.
3. Launch the installation by entering the following two commands:

   ```
   chmod a+x ocsg411_<appropriate-platform-filename>.bin
   ```

   ```
   ./ocsg411_<appropriate-platform-filename>.bin -mode=console
   ```

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

   ```
   ./ocsg411_<appropriate-platform-filename>.bin -mode=console
   -log=/home/logs/server_install.log [all on one line]
   ```

   Note: For Linux Redhat AS4, use `ocsg411_linux_x86.bin` for x86 installations and `ocsg411_linux_x86_64.bin` for x86-64 installations. For Solaris 9 or 10, use `ocsg411_solaris_sparc.bin` for 32 bit installations and `ocsg411_solaris_sparc_64.bin` for 64 bit installations.
4. After a few moments, an Installer window opens the installation program begins to install the software.
5. Go on to Respond to the Prompts

Launch the Console Installer - Generic

Oracle Communications Services Gatekeeper ships with a generic installer that is primarily designed to be run on machines running HP-UX. If you are using the console based installer, do the following:

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

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

   ```
   export PATH
   ```

   Here `JAVA_HOME` represents the full path to the JDK directory.
3. Go to the directory where you downloaded the installation program.
4. Launch the installation program by entering the following command:

```
java -jar ./wlng400_generic.jar -mode=console
```

5. Go on to Respond to the Prompts

Note: Once you have run the installer you must do the following two additional steps:

a. Set the `WL_HOME` variable to the directory in which you installed your Oracle Communications product, and export `WL_HOME`. For example:

```
$ export WL_HOME=<your_installation_directory>/wlserver_10.3
cd $WL_HOME/server/native/hpux11/IPF32/
```

b. Set the following execution modes on the contents of the `$WL_HOME/server/native` directory:

```
$ chmod -R +x $WL_HOME/server/native/hpux11/
```

Respond to the Prompts

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.

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

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

On this screen...	Perform the following action...
Welcome	Type next (or n for short) or press Enter to continue with the installation
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 or create a new BEA Home directory. • If you already have an existing BEA Home directory, it will be displayed. To use that directory, type the number associated with it. • To create a new BEA Home directory, type 1 or press Enter. **If there are no BEA Home directories on your system**, or you have selected to create a new BEA Home: • To choose the default directory, simply type n or Enter. • To select a new directory, enter its full path: for example: `C:\beahome` The installer asks you to confirm your choice:. • To accept your choice, type Enter • To go back, type `1` or `2`, as you desire
Choose Install Type	Select the type of installation you wish to perform: • 1 - **Typical** - Installs WebLogic Server, Oracle Communications Services Gatekeeper (including the Platform Development Studio), and Converged Application Server • **2 - Custom** - Allows you to choose to install individual components
Choose Components This window only appears if you have selected the **Custom** installation type	Enter the number next to the name(s) of the component(s) you do not wish to install and hit **Enter.** The screen refreshes, and the checkmark next to that component is removed. Continue until only the items you wish to install are checkmarked. **Note:** You cannot install the Platform Development Studio without WebLogic Server and Oracle Communications Services Gatekeeper. Hit **n** to continue.

On this screen...	Perform the following action...
JDK Selection This window only appears if you have selected the **Custom** installation type	Select the number of the JDK you wish to have installed for use with Oracle Communications Services Gatekeeper or use **1** to add the path to your own JDK.
Platform Development Studio Eclipse Plugin Path This window only appears if you have chosen to install the PDS	Enter **1** to enter the path to your `Eclipse\plugins` directory. Then enter the full path. The screen refreshes, and the path is displayed. Hit **n** to continue.
Choose Product Directory	Specify the directories in which you want to install the Oracle Communications Services Gatekeeper software. These are the directories from which information will be copied during the domain configuration phase. You can accept the default product directories or create a one or more new directories by selecting the product index number and then inputting the full path to that directory. The installer asks you to confirm your choice.
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** 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. Press ALT+Y on the keyboard to select the All Users Start Menu. • **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. Press ALT+N on the keyboard to select the Local User's start menu. The installer asks you to confirm your choice.
Installation Summary	Check to make sure this is the list of all the products and JDKs you have chosen to install.

On this screen...	Perform the following action...
Status	Status bars indicates the progress of the installation.
Installation Complete	Press **Enter** to exit the installer.

The Silent Mode Installer

Silent-mode installation is a way of choosing installation settings only once and then using those settings to duplicate the installation on many machines. During installation in silent mode, the installation program reads your settings from an XML file that you create prior to beginning the installation. The installation program does not display any options during the installation process. Silent-mode installation works on both Windows and Linux/UNIX systems. Please note: Windows is only supported for dev/test environments. It is not supported for production.

Note: For more information on Silent-mode installation, see *Oracle WebLogic Server Installation Guide* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/install/index.html, which gives a description of silent mode installation for WebLogic Server in general.

Use the following instructions if you wish to use the Silent Mode installer to install Oracle Communications Services Gatekeeper. You must do this for all servers.

Create the silent.xml file

The entries in the silent.xml file correspond to the prompts that you would see if you used one of the interactive modes above.

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

The following is a sample version of a silent.xml file, corresponding to a Complete installation type. Your input may be slightly different, depending on your installation:

Note: This sample calls out explicitly what is to be installed. If you use a more generic version, you may encounter an error similar to this in the log.

```
com.bea.plateng.domain.script.ScriptException: The template to read must be
a jar file containing a valid domain configuration
```

This error can be ignored.See the Oracle WebLogic Server Installation Guide for more information.

Listing 6-1 Sample silent.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<bea-installer>
  <input-fields>
    <data-value name="BEAHOME" value="/var/nightly/bea" />
    <data-value name="COMPONENT_PATHS" value="Oracle Communications
Services Gatekeeper|WebLogic Communications Server|WebLogic Server/Core
Application Server| WebLogic  Server/Third Party JDBC Drivers|WebLogic
Server/Web 2.0 HTTP Pub-Sub Server|WebLogic Server/WebLogic JDBC
Drivers|WebLogic Server/WebLogic Web Server
Plugins|WebLogicServer/Administration Console|WebLogic
Server/Configuration Wizard and Upgrade Framework"/>
    <data-value name="INSTALL_NODE_MANAGER_SERVICE" value="no" />
    <data-value name="WLNGEclipseConfig.dir" value="/var/nightly/bea"/>
  </input-fields>
</bea-installer>
```

Launch the Silent Installer - Windows

If you are using the silent installer on a Windows machine, do the following:

1. Log in to the target Windows system. If you are going to use this machine as an Administration Server and you wish to install the Node Manager as a Windows service, you must be logged in as an administrator. Node Manager is used to monitor, start, and stop managed server instances in a domain.
2. Go to the directory where you have copied the installation program. You acquire this program either from an Oracle Communications Services Gatekeeper CD or the eDelivery site.
3. Launch the installation by entering the following command:

   ```
   ocsg411_win_x86.exe -mode=silent -log=<full_path_name>install.log
   -silent_xml=<full_path_name>silent_xml [all on one line]
   ```

4. After a few moments, an Oracle Installer window opens, indicating that the files are being extracted. No other prompt or text is displayed.

Launch the Silent Installer - UNIX/Linux

If you are using the silent installer on a UNIX/Linux machine, do the following:

1. Log into the target UNIX system
2. Go to the directory where you have copied the installation program. You acquire this program either from an Oracle Communications Services Gatekeeper CD or the eDelivery site..
3. Launch the installation by entering the following commands:

   ```
   chmod a+x ocsg411_<appropriate-platform-filename>.bin
   ```

   ```
   ./<filename.bin> -mode=silent -log=<full_path_name>install.log
   -silent.xml=<full_path_name>silent.xml [all on one line]
   ```

4. After a few moments, an Oracle Installer window opens, indicating that the files are being extracted. No other prompt or text is displayed.

   Note: For Linux Redhat AS4, use `ocsg411_linux_x86.bin` for x86 installations and `ocsg411_linux_x86_64.bin` for x86-64 installations. For Solaris 9 or 10, use `ocsg411_solaris_sparc.bin` for 32 bit installations and `ocsg411_solaris_sparc_64.bin` for 64 bit installations.

Launch the Silent Installer - Generic

Oracle Communications Services Gatekeeper ships with a generic installer that is primarily designed to be run on machines running HP-UX:

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

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

   ```
   export PATH
   ```

   Here `JAVA_HOME` represents the full path to the JDK directory.
3. Go to the directory where you downloaded the installation program.
4. Launch the installation program by entering the following command:

   ```
   java -jar ./ocsg411_generic.jar -mode=silent
   -silent_xml=/full_path_to_silent.xml [all on one line]
   ```

Note: Once you have run the installer you must do the following additional two steps:

a. Set the `WL_HOME` variable to the directory in which you installed your Oracle product, and export `WL_HOME`. For example:

```
$ export WL_HOME=<your_installation_directory>/wlserver_10.3
cd $WL_HOME/server/native/hpux11/IPF32/
```

b. Set the following execution modes on the contents of the `$WL_HOME/server/native` directory:

```
$ chmod -R +x $WL_HOME/server/native/hpux11/
```

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 6-1 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. The following 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 6-2 Return exit codes

```
rem Execute the installer in silent mode
@echo off
ocsg411_win_x86.exe -mode=silent -log=<full_path_name>install.log
-silent_xml=<full_path_name>silent.xml
```

```
@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.
```

Where to Go From Here

You must now configure Oracle Communications Services Gatekeeper's Administrative Domain. See Chapter 7, "Configuring the Domain for Oracle Communications Services Gatekeeper"

Note: If you wish to be able to start and stop servers remotely, for example by using the Administration Console, you must set up Node Manager on each server. The software for Node Manager is automatically installed along with WebLogic Server software when you use any of the installation methods. See *Oracle WebLogic Server Managing Server Startup and Shutdown*, at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/server_start/ for more information on setting up and configuring Node Manager.

CHAPTER 7

Configuring the Domain for Oracle Communications Services Gatekeeper

This chapter describes how to use the Oracle Communications Services Gatekeeper domain configuration tools to set up Oracle WebLogic Server for use with Oracle Communications Services Gatekeeper. It covers:

- Domain Overview
- The Graphical Mode Configuration Wizard
- The Console Configuration Wizard
- The Oracle WebLogic Scripting Tool scripts

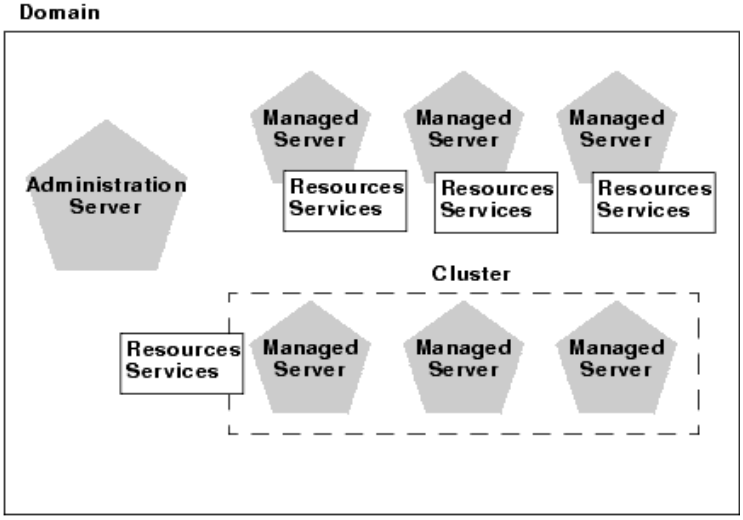
Before you run the domain tools, you should have:

- Read Chapter 5, "Task Overview" for an overview of the entire process
- Installed the database, as covered in Chapter 4, "Installing the Database,"and the software, as covered in Chapter 6, "Installing Oracle Communications Services Gatekeeper"

Domain Overview

In order to run Oracle Communications Services Gatekeeper, its container, Oracle WebLogic Server, must be given basic information about the various parts of the system. This is called *configuring the domain*. A domain is the basic administrative unit in Oracle WebLogic Server. It consists of an *Administration Server* and, usually, one or more *Managed Servers*, which may be associated into *clusters*.

Figure 7-1 Oracle WebLogic Domains

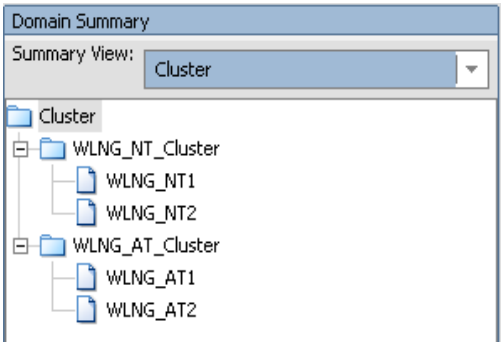


The Administration Server provides a central point for managing the domain and providing access to the Oracle WebLogic Server administration tools.

Note: A single Oracle WebLogic Server instance can function as both the Administration Server and a Managed Server, depending on the needs of the installation. For example, developers creating communication service extensions using the Platform Development Studio commonly might run both the Administration Server and Managed Servers on a single machine.

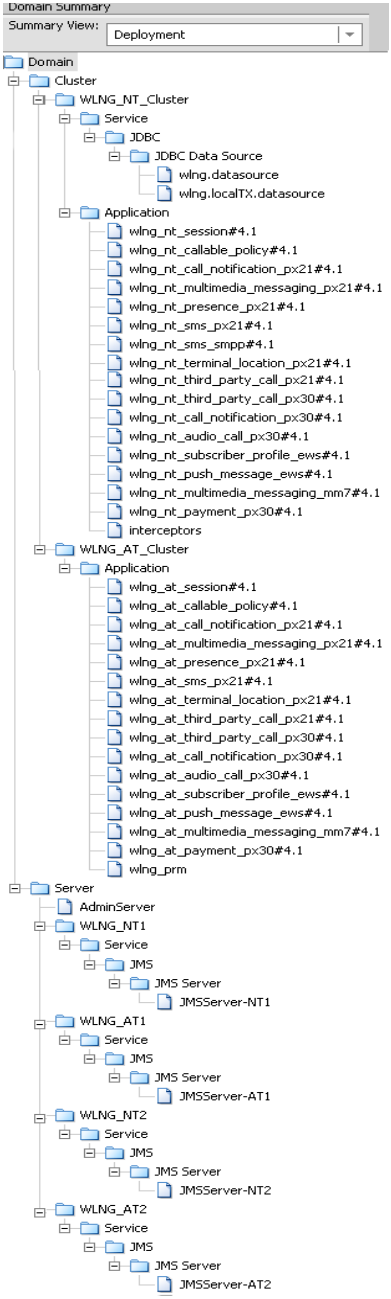
Managed Servers are often grouped together into clusters. Clusters are groups of server instances that work together to provide scalability and high availability. Clusters improve performance and provide failover should a server instance become unavailable. The servers within a cluster can run on the same machine, or they can reside on different machines. To the client, a cluster appears as a single Oracle WebLogic Server instance.

Figure 7-2 Initial server instances added to clusters



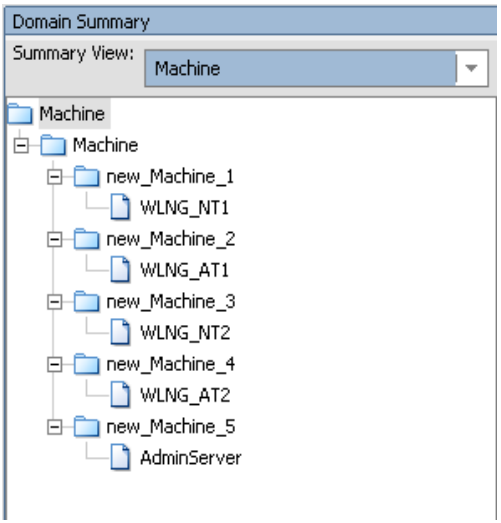
Managed Servers, or the clusters into which they are linked, host application components - in this case, the communication services - and resources, which are also deployed and managed as part of the domain. In Figure 7-3 below, the applications (`wlng_nt_<communication-service-name#version>` and `wlng_at_<communication-service-name#version>`) are assigned to the two clusters (`WLNG_NT_Cluster` and `WLNG_AT_Cluster`). But each Network Tier server must have its own JMS resources, so they are shown per server.

Figure 7-3 Managed servers/clusters host applications and resources


Domain Summary
Summary View:
Deployment
Domain
Cluster
WLNG_NT_Cluster
Service
JDBC
JDBC Data Source
wlng.datasource
wlng.localTX.datasource
Application
wlng_nt_session#4.1
wlng_nt_callable_policy#4.1
wlng_nt_call_notification_px21#4.1
wlng_nt_multimedia_messaging_px21#4.1
wlng_nt_presence_px21#4.1
wlng_nt_sms_px21#4.1
wlng_nt_sms_smpp#4.1
wlng_nt_terminal_location_px21#4.1
wlng_nt_third_party_call_px21#4.1
wlng_nt_third_party_call_px30#4.1
wlng_nt_call_notification_px30#4.1
wlng_nt_audio_call_px30#4.1
wlng_nt_subscriber_profile_ews#4.1
wlng_nt_push_message_ews#4.1
wlng_nt_multimedia_messaging_mm7#4.1
wlng_nt_payment_px30#4.1
interceptors
WLNG_AT_Cluster
Application
wlng_at_session#4.1
wlng_at_callable_policy#4.1
wlng_at_call_notification_px21#4.1
wlng_at_multimedia_messaging_px21#4.1
wlng_at_presence_px21#4.1
wlng_at_sms_px21#4.1
wlng_at_terminal_location_px21#4.1
wlng_at_third_party_call_px21#4.1
wlng_at_third_party_call_px30#4.1
wlng_at_call_notification_px30#4.1
wlng_at_audio_call_px30#4.1
wlng_at_subscriber_profile_ews#4.1
wlng_at_push_message_ews#4.1
wlng_at_multimedia_messaging_mm7#4.1
wlng_at_payment_px30#4.1
wlng_prm
Server
AdminServer
WLNG_NT1
Service
JMS
JMS Server
JMSServer-NT1
WLNG_AT1
Service
JMS
JMS Server
JMSServer-AT1
WLNG_NT2
Service
JMS
JMS Server
JMSServer-NT2
WLNG_AT2
Service
JMS
JMS Server
JMSServer-AT2

Each server instance is also assigned to a *Machine*, a logical representation of actual hardware. The Machine representation is used by the Administration Server to start and stop remote servers using the Node Manager. Multiple server instances can run in a single Machine.

Figure 7-4 Servers are assigned to Machines



For more information on Oracle WebLogic Server domains, see *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html.

Note: All servers must have their domains configured. You can either use one of the methods below to manually configure each server in your installation, or you can configure the domain on your Administration server and then use the pack and unpack commands provided by WLS to package the configuration data for copying to all the other servers. For more information on `pack` and `unpack`, see *Oracle WebLogic Server Creating Templates and Domains Using the pack and unpack Commands* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/pack/. The scripts themselves are located in the `<wlsserver>/common/bin` directory. In the default installation, this would be `<beahome>\wlserver_10.3\common\bin`.

The Graphical Mode Configuration Wizard

Use the following instructions if you wish to use the GUI-based Configuration Wizard to configure Oracle WebLogic Server for Oracle Communications Services Gatekeeper.

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

Launch the GUI Configuration Wizard - Windows

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

- To start the GUI Configuration Wizard from the Windows Start menu, choose the Configuration Wizard option from the BEA program group in the Windows Start Menu:

  `Start->Programs->Oracle Communications Services Gatekeeper<ver#>->OCSG 4.1->Tools->Configuration Wizard`

  Note: If you have used the GUI-based installer, and the Run Quickstart box is checked in the Installation Complete window, the Quickstart window opens automatically. Simply click **Start Domain Configuration Wizard** to launch the Wizard.

- To start the GUI Configuration Wizard from the command line:

  a. Log in to the target system

  b. Open a command prompt window

  c. Go to the WebLogic Server `\common\bin` subdirectory. For example:

  ```
  cd c:\<beahome_dir>\wlserver_10.3\common\bin
  ```

  d. At the prompt, type `config` and `Enter`

  e. The Configuration Wizard starts in graphical mode

  Note: You can also use Explorer to find the `config.cmd` file in `c:\<beahome_dir>\wlserver_10.3\common\bin`, and simply double-click it.

Launch the GUI Configuration Wizard - UNIX/Linux

To start the GUI Configuration Wizard:

1. Log in to the target system
2. Open a command shell window

3. Go to the /common/bin subdirectory. For example:

   ```
   cd c:/<beahome_dir>/wlserver_10.3/common/bin
   ```

4. Invoke the following script:

   ```
   sh config.sh
   ```

   Note: If you are configuring an HP-UX installation, you must modify the config.sh script before running it.

   a. Open config.sh in a text editor and scroll down to the following section:

   ```
   "${JAVA_HOME}/bin/java"
   -Dprod.props.file=${WL_HOME}/.product.properties
   -Dpython.cachedir=/tmp/cachedir ${MEM_ARGS}
   com.bea.plateng.wizard.WizardController ${ARGUMENTS}
   ```

   b. Add the -Djava.security.egd flag, so that the section reads:

   ```
   '${JAVA_HOME}/bin/java' -Djava.security.egd=/dev/random
   -Dprod.props.file=${WL_HOME}/.product.properties
   -Dpython.cachedir=/tmp/cachedir
   ${MEM_ARGS}com.bea.plateng.wizard.WizardController ${ARGUMENTS}
   ```

5. The Configuration Wizard starts in graphical mode

Respond to the Prompts

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

Note: If you are going to be using any CORBA based functionality that in one way or another connects to a machine other than your own, you should not use the value “localhost” in any of your configuration choices.

In this window...	Perform the following action...
Welcome	Make sure **Create WebLogic domain** is selected. Click **Next** to proceed with the installation. You may cancel the installation at any time by clicking **Exit** and you may go back to a previous window by clicking **Previous**.
Select a Configuration Template	There are five standard domain templates that have already been constructed. Click on the plus next to the Oracle folder to display your options. Select the appropriate template depending on your needs: • **OCSG Basic HA configuration** Creates a basic domain with two servers, each with an AT and an NT instance and a database. This configuration can be expanded later in the process. • **OCSG Domain with Access and Network Clusters** Creates a basic distributed domain, with a two instance Access cluster and a two instance Network cluster. This configuration can be expanded later in the process. • **OCSG Domain with Access and Network Clusters with Oracle RAC Configuration** Creates a basic distributed domain, with a two instance Access cluster and a two instance Network cluster. This configuration can be expanded later in the process. It also creates the additional datasources required for use with an Oracle RAC based installation. • **Basic Oracle Communications Services Gatekeeper Domain** Creates an all-in-one domain, with the Access and Network Tier and the Administration Server all on a single machine. This configuration is common for development machines. • **OCSG OSB Integration Configuration** Creates a domain for integration with Oracle Service Bus, using the SOA Facade. If you are using this template, you need additional special information. Please look in Chapter 9, “Installation of SOA Facades” for this information. After selecting the appropriate template, click **OK** to continue. When you return to the **Select Domain Source** window, click **Next**.

In this window...	Perform the following action...
Configure Administrator Username and Password	Specify the username of the main Administrative user. This name is used to boot the Administration Server and connect to it. For setup purposes, this username should be "weblogic". User names are case sensitive. Do not use commas or any characters in the following comma-separated list: `\t, < >, #, |, &, ?, ( ), { }` Specify the password for the Administrative user. For setup purposes, this password should be "weblogic." You can change it later. A valid password is a string of at least 8 case-sensitive characters. The password value is encrypted. Re-enter the password. Optionally, enter a login description for this username. Click **Next** to continue.
Configure Server Startup Mode and JDK	On the left side of the window, select the appropriate startup mode for your installation: • **Development Mode** • **Production Mode** **Note:** If you select **Production Mode**, you should not enable SSL unless you have a trusted key. For more information on startup modes, see see *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. On the right side of the window, you should select the **BEA Supplied JDK's** radio button and choose the appropriate JDK. Click **Next** to continue.
Customize Environment and Services Settings	Select **Yes**. For more information on the values you might enter in the following windows in the general context of WebLogic Server, see the description on customizing the environment in *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. Click **Next** to continue.
Configure RDBMS Security Store Database	Leave the "I don't want to change anything here" radio button selected.

In this window...	Perform the following action...
Configure the Administration Server	Change the `Listen address` from `host-admin.bea.com` to the IP number or DNS name of your Administration Server and make any other changes necessary based on your installation. Click **Next** to continue.
Configure Managed Servers	Use this window to add or change connection information for Managed Servers. Each Managed Server is an instance of WebLogic Server. Some information may already be filled in. Change the `Listen address` of each of your servers, based on your installation values. You can add Managed Server instances at this time. (You can also do this using the Management Console at any time.). **Note:** The `Listen address` and `Listen port` per server combination must be unique. The values for the Listen address can include alphanumeric characters, dots [.], and dashes [-] only. Click **Next** to continue.
Configure Clusters This window does not appear if you selected Create Oracle Communications Services Gatekeeper Basic Domain	Use this window to change connection information for clusters. Clusters are logical representations that for reasons of scalability and high availability allow multiple Managed Servers to act as if they were a single host. The `wlng-access-network-domain.jar` templates create two clusters, with each cluster containing two Managed Server instances.Change the `Cluster address` to reflect the addresses and ports you set in the previous window. Values should be comma-delimited, with no spaces. You may also change the `Multicast address` if your installation requires it. Click **Next** to continue.
Assign Servers to Clusters This window does not appear if you selected Create Oracle Communications Services Gatekeeper Basic Domain	Use this window to add any additional Managed Servers you listed in the **Configure Managed Servers** window to clusters configured in the **Configure Clusters** window. Select the appropriate cluster in the right pane, the appropriate Managed Server in the left pane, and assign them to each other by clicking the **right arrow button**. Click **Next** to continue.

In this window...	Perform the following action...
Configure Machines/Configure Unix Machines	Use this window to add or change information about **Machines**. In the context of WebLogic Server, a **Machine** is the logical representation of the system that hosts one or more WebLogic Server instances, for the purposes of starting and stopping remote servers using the Node Manager. In a domain, machine definitions identify a particular, physical piece of hardware and are used to associate a computer with the Managed Servers it hosts. For more information about the various fields, see the section on how to configure machines in *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. Click **Next** to continue.
Assign Servers to Machines This window does not appear if you selected Create Oracle Communications Services Gatekeeper Basic Domain	Use this window to assign Servers (either Administration or Managed) to their appropriate Machines, if necessary. Select the appropriate Machine in the right pane and the server(s) in the left pane and assign them to each other by clicking the **right arrow button**. Click **Next** to continue.
Configure JDBC Datasource This window appears if you are installing a non-RAC based Gatekeeper.	Use this window to make adjustments to the Oracle Communications Services Gatekeeper JDBC datasources if you are using a non-RAC database. A JDBC datasource contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a datasource on the JNDI tree, and then request a connection. **In a non-RAC configuration, you must configure two datasources using the two tabs in this window.**

In this window...	Perform the following action...
NON-RAC TAB ONE: wlng.datasource	Use the **first tab** to make adjustments in the datasource for the transactional datasource. Typically, fields you may need to edit include: • **Database type**: The default is Oracle • **Driver**: The driver appropriate to the database type • **Supports global transactions** should be checked, and either **Two phase commit** (Oracle) or **Emulate two phase commit** (MySQL) should be selected • **DBMS name**: The name of the database you created in Chapter 4, "Installing the Database" • **DBMS host:** Where the database is located • **DBMS port**: The port for contacting the database. • **User name**: The Oracle Communications Services Gatekeeper user name you created when you installed the database • **Password**: The Oracle Communications Services Gatekeeper password you created when you installed the database **Note:** Do not change the **Name** or **JNDI name** fields. Click the **wlng.localTX.datasource** tab to continue
NON-RAC TAB TWO **wlng.localTX.datasource**	Use this **second tab** to make adjustments in the datasource for local transaction**s**. You will need to set the values as in wlng.datasource, with the following exceptions: • **Driver**: If you are using Oracle, you should select the **non-XA** driver for this datasource • **Supports global transactions should *not* be checked**, for either Oracle and MySQL. Click **Next** to continue.
Configure JDBC Datasource This window appears if you are installing a RAC based Gatekeeper.	Use this window to make adjustments to the Oracle Communications Services Gatekeeper JDBC datasources if you are using a RAC database. A JDBC datasource contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a datasource on the JNDI tree, and then request a connection. **In a RAC-based configuration, you must configure four datasources (two of each type) using the four tabs in this window.**

In this window...	Perform the following action...
RAC TAB ONE: **wlng.localTX.datasource-1**	Use the **first tab** to make adjustments in the first datasource for local transactions. Typically, fields you may need to edit include: • **Supports global transactions should *not* be checked.** • **DBMS name**: The name of the first database instance you created in Chapter 4, "Installing the Database" • **DBMS host:** Where the first database instance is located • **DBMS port**: The port for contacting the first database instance. • **User name**: The Oracle Communications Services Gatekeeper user name you created when you installed the database. • **Password**: The Oracle Communications Services Gatekeeper password you created when you installed the database. You must confirm the password **Note:** Do not change the **Name** or **JNDI name** fields. Click the **wlng.localTX.datasource - 2** tab to continue
RAC TAB TWO: **wlng.localTX.datasource-2**	Use this tab to make adjustments in the second datasource for local transactions. You should enter the same values as in **wlng.localTX.datasource-1** with the following exceptions: • **DBMS name**: The name of the second database instance you created in Chapter 4, "Installing the Database" • **DBMS host**: Where the second database instance is located Click the **wlng.datasource - 1** tab to continue

In this window...	Perform the following action...
RAC TAB THREE **wlng.datasource - 1**	Use this tab to make adjustments in the first transactional datasource. Typically, fields you may need to edit include: • **Supports global transactions should be checked,** with **Two phase commit** • **DBMS name**: The name of the first database you created in Chapter 4, "Installing the Database". This is the same name you used in **wlng.localTX.datasource-1**. • **DBMS host:** Where the first database instance is located. This is the same value you used in **wlng.localTX.datasource-1** • **DBMS port**: The port for contacting the first database instance. This is the same value you used in **wlng.localTX.datasource-1** • **User name**: The Oracle Communications Services Gatekeeper user name you created when you installed the database • **Password**: The Oracle Communications Services Gatekeeper password you created when you installed the database. You must confirm the password. **Note:** Do not change the **Name** or **JNDI name** fields. Click the **wlng.datasource - 2** tab to continue
RAC TAB FOUR **wlng.datasource - 2**	Use this tab to make adjustments in the second transactional datasource. You should enter the same values as in wlng.datasource-1 with the following exceptions: • **DBMS name:** The name of the second database instance you created in Chapter 4, "Installing the Database". This is the same name you used in **wlng.localTX.datasource-2.** • **DBMS host:** Where the second database instance is located. This is the same value you used in **wlng.localTX.datasource-2** Click **Next** to continue
Review Oracle Communications Services Gatekeeper Domain	Use this window to confirm that your domain is configured as it needs to be. The **Summary View** dropdown menu provides multiple views of the configuration. Clicking on an item in the Summary view window brings up information associated with that item. Click **Next** to continue

In this window...	Perform the following action...
Create Oracle Communications Services Gatekeeper Domain	Use this window to change the domain name or the location in which the domain's configuration files will be stored. Usually the default values are acceptable. Make sure the installing user has write permission for this directory. Click **Create** to generate your domain
Creating Domain	A status bar indicates the progress of domain creation. When **Domain Created Successfully!** appears, click **Done** to exit the **Configuration Wizard**.

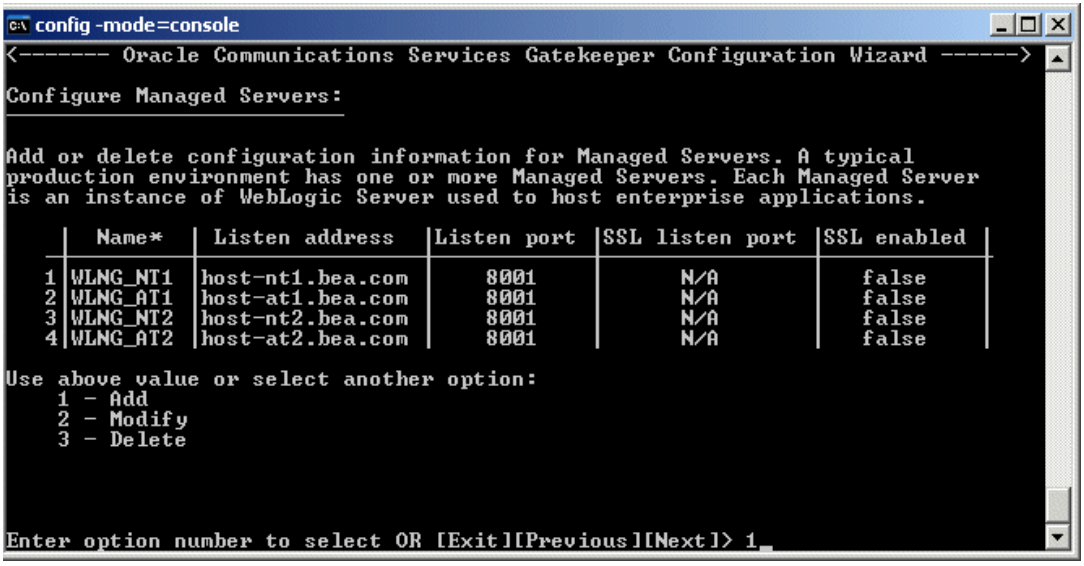
The Console Configuration Wizard

Use the following instructions if you wish to use the Console-based Configuration Wizard to configure Oracle WebLogic Server for Oracle Communications Services Gatekeeper. Specific instructions on launching the Wizard by platform are found after the next section.

Using the Console Configuration Wizard

The Console Configuration Wizard is designed to mimic as closely as possible the choices available in the GUI version, but in a completely text-based form. The following images give you a sense of the way the Console Screen displays certain types of workflow choices.

Figure 7-5 Select Options

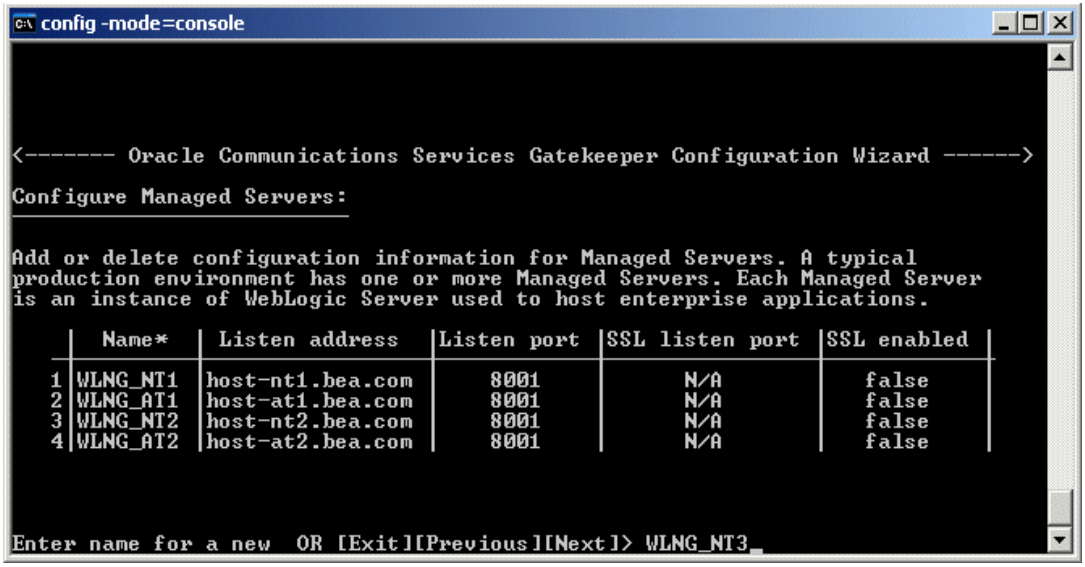


In Figure 7-5 above, the top of the *current* screen is marked by the Oracle Communications Services Gatekeeper Wizard banner. The top part of the screen displays the set of configuration parameters that can be set - in this case, configuration information for Managed Servers. The center of the screen indicates the range of options - in this case, Add a server, Modify a server, or Delete a server. The bottom part of the screen prompts for the user input that is available in this screen - in this case

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

Here the user can either enter an option (indicated by number) or choose to use one of the standard navigation commands. In this case, option `1`, Add a server, has been chosen. The entry is confirmed by pressing the Enter key:

Figure 7-6 Add a Managed Server

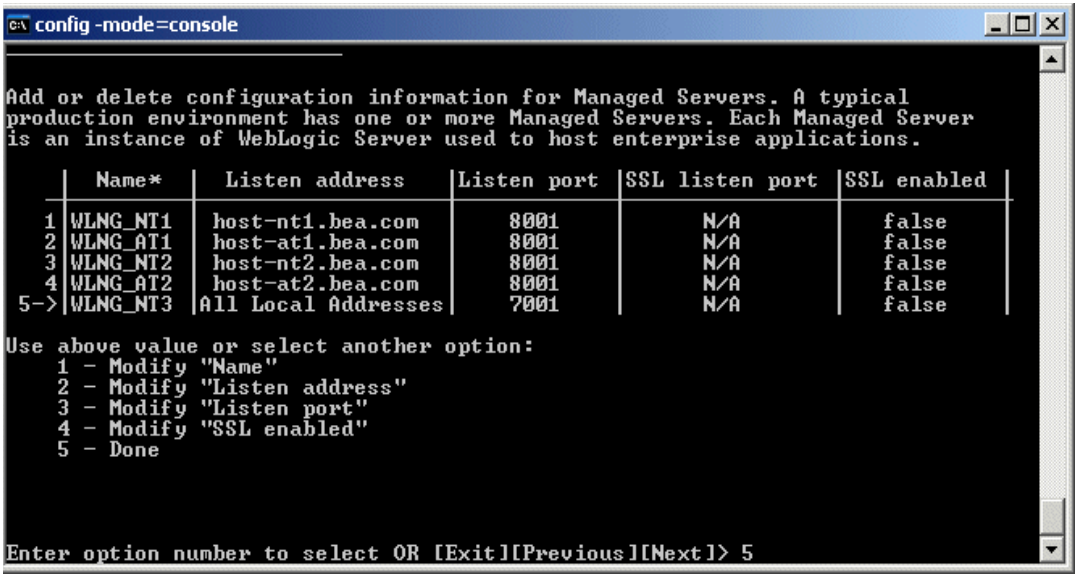


In Figure 7-6, the bottom of the screen displays the user input prompt:

```
Enter name for a new OR [Exit][Previous][Next]>
```

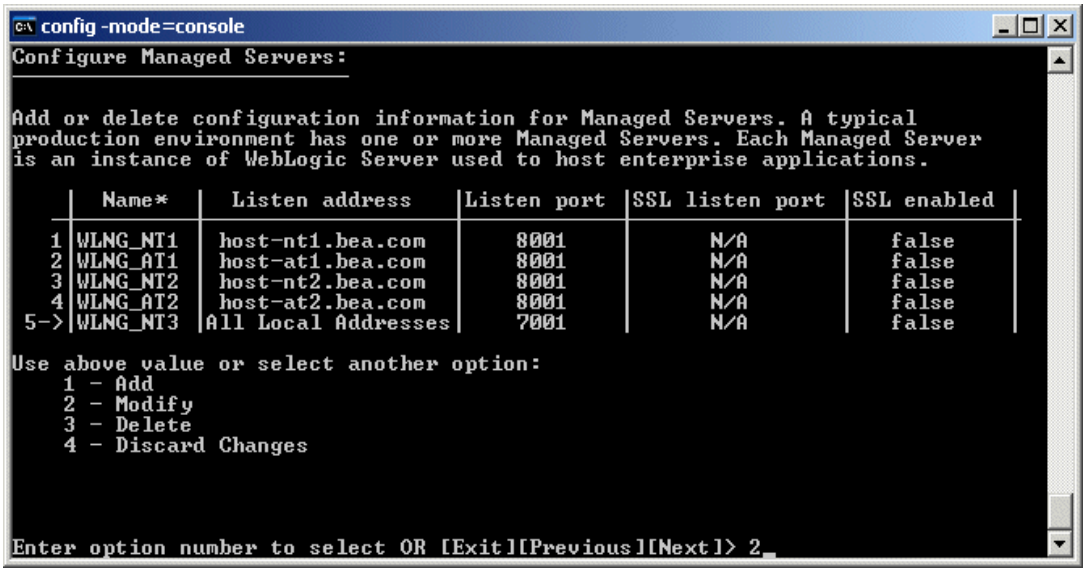
The name for the new Managed Server to be added, WLNG_NT3, has been filled in. Again the input is confirmed by pressing the Enter key.

Figure 7-7 Finish work on the selected item



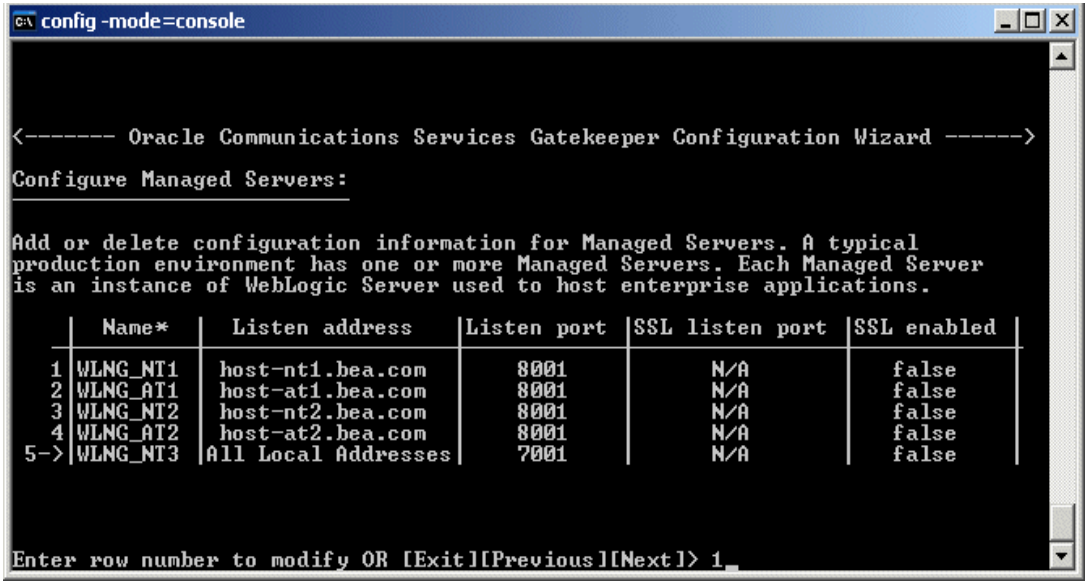
In Figure 7-7 the new Managed Server, WLNG_NT3, has been added. Note the right arrow (->) next to the new Server's name. This indicates that this is the selected item, and that any options chosen will affect that item. To finish with this server and select another item in the list, enter `5 - Done` and the Enter key.

Figure 7-8 Indicate your next configuration task



In Figure 7-8 the center section again presents you with work options. In this case, additional modifications need to be done. The user enters `2` for Modify and then Enter to confirm.

Figure 7-9 Select the configuration to modify



In Figure 7-9, the user input prompt asks which item needs modification. The row number of the Managed Server WLNG_NT1 is chosen. Once Enter is pressed, WLNG_NT1 will be the selected item.

There are a number of different options throughout the Wizard process, but in general they all follow this same pattern: the top of the screen indicates what is being configured; the center of the screen indicates the range of options; and the bottom of the screen prompts for user input.

Launch the Console Configuration Wizard - Windows

To start the Console Configuration Wizard:

1. Log in to the target system
2. Open a command prompt window
3. Go to the `\common\bin` subdirectory. For example:

   ```
   cd c:\<beahome_dir>\wlserver_10.3\common\bin
   ```

4. At the prompt, type `config` -mode=console and `Enter`

5. The Configuration Wizard starts in console mode

Launch the Console Configuration Wizard - UNIX/Linux

To start the Console Configuration Wizard:

1. Log in to the target system
2. Open a command shell window
3. Go to the `/common/bin` subdirectory. For example:

   ```
   cd c:/<beahome_dir>/wlserver_10.3/common/bin
   ```

4. Invoke the following script:

   ```
   sh config.sh
   ```

   Note: If you are configuring an HP-UX installation, you must modify the `config.sh` script before running it.

   a. Open `config.sh` in a text editor and scroll down to the following section:

   ```
   "${JAVA_HOME}/bin/java"
   -Dprod.props.file=${WL_HOME}/.product.properties
   -Dpython.cachedir=/tmp/cachedir ${MEM_ARGS}
   com.bea.plateng.wizard.WizardController ${ARGUMENTS}
   ```

   b. Add the `-Djava.security.egd` flag, so that the section reads:

   ```
   '${JAVA_HOME}/bin/java' -Djava.security.egd=/dev/random
   -Dprod.props.file=${WL_HOME}/.product.properties
   -Dpython.cachedir=/tmp/cachedir
   ${MEM_ARGS}com.bea.plateng.wizard.WizardController ${ARGUMENTS}
   ```

5. The Configuration Wizard starts in console mode

Respond to the Prompts

To create your domain, respond to the prompts in each section by entering the number associated with your choice, pressing Enter, or typing next (or n) to accept the current selection. For instructions on responding to the prompts during installation, see the following table.

Note: If you are going to be using any CORBA based functionality that in one way or another connects to a machine other than your own, you should not use the value “localhost” in any of your configuration choices.

The right arrow (->) indicates the value currently selected. To quit the Configuration Wizard, enter Exit in response to any prompt. To review or change your selection, enter Previous at the prompt.

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.

On this screen...	Perform the following action...
Welcome	Select `1`, **Create Oracle Communications Services Gatekeeper Domain**. Type `n` to continue.
Select a Domain Template	There are five standard domain templates included with the console version of the Oracle Communications Services Gatekeeper Configuration Wizard. Select the number of the template you wish to use: **1. OCSG Basic HA configuration 10.3.0.0** Creates a domain with two servers, each with an AT and an NT instance and a database. Replication of the database must be set up separately. This configuration can be expanded later in the process 2. **OCSG Domain with Access and Network Clusters 10.3.0.0** Creates a basic distributed domain, with a two instance Access cluster and a two instance Network cluster. This configuration can be expanded later in the process. 3. **OCSG Domain with Access and Network Clusters with Oracle RAC Configuration 10.3.0.0** Creates a basic distributed domain, with a two instance Access cluster and a two instance Network cluster. This configuration can be expanded later in the process.It also creates the additional datasources required for use with an Oracle RAC based installation 4. **Basic Oracle Communications Services Gatekeeper Domain 10.3.0.0** Creates an all-in-one domain, with Access and Network Tier and Administration on a single machine. This configuration is common for development machines. 5. **OCSG OSB Integration Configuration** Creates a domain for integration with Oracle Service Bus, using the SOA Facade. If you are using this template, you need additional special information. Please look in Chapter 9, "Installation of SOA Facades" for this information. **Note:** Option 5 is on a separate console screen. If you wish to use it, use the <Down> option shown at the bottom of the first screen.

On this screen...	Perform the following action...
Configure Administrator Username and Password	Specify the username of the main Administrative user. This name is used to boot the Administration Server and connect to it. For setup purposes, you should use "weblogic". User names are case sensitive. Do not use commas or any characters in the following comma-separated list: `\t, < >, #, |, &, ?, ( ), { }` Specify the password for the Administrative user. For setup purposes, you should use "weblogic". You can change it later. A valid password is a string of at least 8 case-sensitive characters. The password value is encrypted. Re-enter the password. Optionally, enter a login description for this username. Type `n` to continue.
Domain Mode Configuration	Select the number for the appropriate mode configuration for this domain. • **1 -Development Mode** • **2 - Production Mode** **Note:** If you select **Production Mode**, you should not enable SSL unless you have a trusted key. For more information on startup modes, see see *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. Type `n` to continue.
Java SDK Selection	Select the appropriate SDK for your installation. Type `n` to continue.
Choose Configuration Option	Select `1`, **Yes**. For more information on the values you might enter in the following screens in the general context of WebLogic Server, see the description on customizing the environment in *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. Type `n` to continue.
Configure RDBMS Security Store Options	Select **1**, I don't want to change anything here.

On this screen...	Perform the following action...
Configure the Administration Server	Modify the `Listen address` from `host-admin.bea.com` to the IP address or DNS name of the host in your installation that is to serve as the Administration Server. Make any other changes that are necessary. Type `n` to continue.
Configure Managed Servers This window contains no configuration information if you selected Create Oracle Services Gatekeeper Basic Domain	Use this window to add or change connection information for Managed Servers. Each Managed Server is an instance of WebLogic Server. Some information may already be filled in. Modify the `Listen addresses` of each of your instances. You can add more Managed Server instances you wish to include in your domain here, or you can use the Management Console later. **Note:** The `Listen address` and `Listen port` per server combination must be unique. The values for the Listen address can include alphanumeric characters, dots [.], and dashes [-] only. Type n to continue.
Configure Clusters This window contains no configuration information if you selected Create Oracle Communications Services Gatekeeper Basic Domain	Use this window to modify connection information for clusters. Clusters are logical representations that for reasons of scalability and high availability allow multiple Managed Servers to act as if they were a single host. The `WLNG Domain with Access and Network Clusters 10.3.0.0` template creates two clusters, with each cluster containing two Managed Server instances. Modify the Cluster address values to reflect the changes you made in the previous screen. Values should be comma-delimited, with no spaces. You can also change the `Multicast adress` if your installation requires it. Type n to continue.
Assign Servers to Clusters This window does not appear if you selected Create Oracle Communications Services Gatekeeper Basic Domain	Use this window to add any additional Managed Servers you created in the **Configure Managed Servers** window to clusters configured in the **Configure Clusters** window. Select the number of the appropriate cluster, then indicate which servers you would like to assign by selecting or unselecting them, using the appropriate number. When you have finished making your assignments, hit Enter to accept your choices.

On this screen...	Perform the following action...
Configure Machines This window contains no configuration information if you selected Create Basic Oracle Communications Services Gatekeeper Domain	Use this window to add or change information about **Machines**. In the context of WebLogic Server, a **Machine** is the logical representation of the system that hosts one or more WebLogic Server instances, for the purposes of starting and stopping remote servers using the Node Manager. In a domain, machine definitions identify a particular, physical piece of hardware and are used to associate a computer with the Managed Servers it hosts. For more information about the various fields, see the section on how to configure machines in *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. Type n to continue.
Configure Unix Machines This window contains no configuration information if you selected Create Basic Oracle Communications Services Gatekeeper Domain	Use this window to add or change information about UNIX **Machines**. In the context of WebLogic Server, a **Machine** is the logical representation of the system that hosts one or more WebLogic Server instances. In a domain, machine definitions identify a particular, physical piece of hardware and are used to associate a computer with the Managed Servers it hosts. The Administration Server and the Node Manager application use this machine definition to start remote servers. For more information about the various fields, see the section on how to configure UNIX machines in *Oracle WebLogic Server Creating WebLogic Domains Using the Configuration Wizard* at http://download.oracle.com/docs/cd/E12840_01/common/docs103/confgwiz/index.html. Type n to continue.
Assign Servers to Machines This window does not appear if you selected Create Basic Oracle Communications Services Gatekeeper Domain	Use this window to assign Servers (either Administration or Managed) to their appropriate Machines, if necessary. Select the number of the appropriate Machine, then indicate which servers you would like to choosing to change by selecting or unselecting them, using the appropriate number. When you have finished making your assignments, hit Enter to accept your choices. Type n to continue.

On this screen...	Perform the following action...
Configure JDBC Datasource This window appears if you are installing a non-RAC based Gatekeeper.	Use this window to make adjustments to the Oracle Communications Services Gatekeeper JDBC datasources if you are using a non-RAC database. A JDBC datasource contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a datasource on the JNDI tree, and then request a connection. You must modify the **wlng.localTX.datasource,** used for local transactions, and the **wlng.datasource**, used for transactionally-based database access. Type `1` and Enter to Modify, and then the number of the datasource you wish to configure. Type Enter to continue. **In a non-RAC configuration, you must configure two datasources using the two options in this window.**

On this screen...	Perform the following action...
wlng.datasource **Non-RAC Option 1**	Use this window to make adjustments to the Oracle Communications Services Gatekeeper transactional JDBC data source. A JDBC data source contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a data source on the JNDI tree, and then request a connection. To edit the data source, enter `1` - **Modify** and then `1` -> **wlng.datasource**. Typically, fields you may need to edit include: • **2 - Database type**: The default is Oracle • **3 - Driver**: The driver appropriate to the database type • **4 - DBMS name**: The name of the database you created in Chapter 4, "Installing the Database" • **5 -DBMS host:** Where the database is located • **6 - DBMS port**: The port for contacting the database. • **7 - User name**: The Oracle Communications Services Gatekeeper user name you created when you installed the database • **8 - Password**: The Oracle Communications Services Gatekeeper password you created when you installed the database (it will not be echoed on the screen) • **9 - Confirm user password**: Re-enter the password • **12 - Supports global transactions** should be selected, and either **Two phase commit** (Oracle) or **Emulate two phase commit** (MySQL) should be selected **Note:** Do not change the **Name** or **JNDI name** fields. Type `n` to continue.
wlng.localTX.datasource **Non-RAC Option 2**	Use this window to make adjustments in the data source for local transactions. The values should be the same as in **wlng.datasource** with these differences: • **3 - Driver**: If you are using Oracle, you should select the non-XA driver for this data source • **12 - Supports global transactions**: Select **4 - Unspecified** Type `n` to continue.

On this screen...	Perform the following action...
Configure JDBC Datasources This window appears if you are installing a RAC based Oracle Communications Services Gatekeeper.	Use this window to make adjustments to the Oracle Communications Services Gatekeeper JDBC datasources if you are using a RAC database. A JDBC datasource contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a datasource on the JNDI tree, and then request a connection. Use this window to modify each of the necessary datasources in order. The two **wlng.localTX.datasources** are used for local transactions. The two **wlng.datasources** are used for transactionally-based database access. Type `1` and Enter to Modify, and then the number of the datasource you wish to configure. Type Enter to continue. **In a RAC-based configuration, you must configure four datasources (two of each type) using the four options in this window.**
wlng.localTX.datasource-1 **RAC Option 1**	Use this window to make adjustments to the first datasource for local transactions. A JDBC data source contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a data source on the JNDI tree, and then request a connection. Enter the option you would like to modify by number. Typically, fields you may need to edit include: • **4 - DBMS name**: The name of the first database instance you created in Chapter 4, "Installing the Database" • **5 - DBMS host:** Where the first database instance is located • **6 - DBMS port:** The port for contacting the first database instance. • **7 - User name**: The Oracle Communications Services Gatekeeper user name you created when you installed the database • **8 - Password**: The Oracle Communications Services Gatekeeper password you created when you installed the database (it will not be echoed on the screen) • **9 - Confirm user password**: Re-enter the password • **12 - Supports global transactions**: Select **4 - Unspecified** **Note:** Do not change the **Name** or **JNDI name** fields. When you have completed your edits, type Enter to return to the selection window.

On this screen...	Perform the following action...
wlng.localTX.datasource-2 **RAC Option 2**	Use this window to make adjustments to the second datasource for local transactions. You should enter the same values as in wlng.localTX.datasource-1 with the following exceptions: • **4 - DBMS name**: The name of the second database instance you created in Chapter 4, "Installing the Database". • **5 - DBMS host:** Where the second database instance is located • **6 - DBMS port:** The port for contacting the second database instance. When you have completed your edits, type Enter to return to the selection window.
wlng.datasource-1 **RAC Option 3**	Use this window to make adjustments to the first transactional datasource. A JDBC data source contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a data source on the JNDI tree, and then request a connection. Enter the option you would like to modify by number. Typically, fields you may need to edit include: • **4 - DBMS name**: The name of the first database instance you created in Chapter 4, "Installing the Database". This should be the same value you entered for **wlng.localTX.datasource-1.** • **5 - DBMS host:** Where the first database instance is located. This should be the same value you entered for **wlng.localTX.datasource-1.** • **6 - DBMS port**: The port for contacting the first database instance. This should be the same value you entered for **wlng.localTX.datasource-1.** • **7 - User name**: The Oracle Communications Services Gatekeeper user name you created when you installed the database • **8 - Password**: The Oracle Communications Services Gatekeeper password you created when you installed the database (it will not be echoed on the screen) • **9 - Confirm user password**: Re-enter the password • **12 - Supports global transactions** and **Two phase commit** **Note:** Do not change the **Name** or **JNDI name** fields. When you have completed your edits, type Enter to return to the selection window.

On this screen...	Perform the following action...
wlng.datasource-2 **RAC Option 4**	Use this window to make adjustments to the second transactional datasource. You should enter the same values as in **wlng.datasource-1** with the following exceptions: • **4 - DBMS name**: The name of the second database instance you created in Chapter 4, "Installing the Database". This should be the same value you entered for **wlng.localTX.datasource-2.** • **5 - DBMS host:** Where the second database instance is located. This should be the same value you entered for **wlng.localTX.datasource-2.** • **6 - DBMS port**: The port for contacting the second database instance. This should be the same value you entered for **wlng.localTX.datasource-2.** When you have completed your edits, type Enter to return to the selection window. When you have completed making all your changes to datasources, type n to accept the changes you made and move on to the next task.
Select the target domain directory for this domain	Use this window to change the location on the Administration Server in which the domain's configuration files will be stored. Usually the default value is acceptable. The installing user must have write permission on this directory.
Edit Domain Information	Use this screen to edit the domain's name. Usually the default value is acceptable.
Creating Domain	A status bar indicates the progress of domain creation. **Domain Created Successfully!** appears when the process is complete, and the **Configuration Wizard** exits.

The Oracle WebLogic Scripting Tool scripts

Use the following instructions if you wish to use scripts and the Oracle WebLogic Scripting Tool to configure Oracle WebLogic Server for Oracle Communications Services Gatekeeper. The WebLogic Scripting Tool (WLST) is a command-line scripting interface that system administrators and operators can use to monitor and manage Oracle WebLogic Server instances and domains. The WLST scripting environment is based on the Java scripting interpreter, Jython. For more general information on WLST, see *Oracle WebLogic Server WebLogic Scripting Tool* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/config_scripting/.

Caution: WLST is a powerful, flexible tool, and has a significant learning curve associated with its effective use. If you do not know how to use WLST and do not wish to spend the time to become familiar with it, consider using one of the Configuration Wizards to set up your domains instead.

Set Up Your Environment

You must set a number of environment variables for WLST to run properly. To simplify this, the Oracle Communications Services Gatekeeper installer provides shell/cmd scripts that must be run before WLST is invoked. The scripts are found at `<beahome>/wlng400/server/bin`. There are both `setWLSEnv.sh` and `setWLSEnv.cmd` versions available. It is usually enough simply to run the appropriate script, but some shells may require using source, as in:

```
source <beahome>/wlserver10.3/server/bin/setWLSEnv.sh
```

If this still does not work, you may need to change shells. There have been some issues reported with bash, particularly on HPUX machines. If you are having problems with your shell, change to an `sh` shell before running the script.

Choose from the Provided Scripts

Oracle Communications Services Gatekeeper provides five possible WLST scripts from which you can select. The scripts are found in the `<beahome>/wlserver10.3/common/templates/scripts/wlst/` directory:

- `basic-ocsg-ha.py` uses the domain template `basic-ocsg-ha-domain.jar` for its basic setup. This creates a a domain with two servers, each with an AT and an NT instance and a database. Replication of the database must be set up separately.
- `ocsg-cluster.py` uses the domain template `ocsg-domain.jar` for its basic setup. This creates an all-in-one domain typical of development environments. .
- `access-network-cluster.py` uses the domain template `ocsg-access-network-domain.jar` for its basic setup. This creates a domain with separate Access and Network clusters.
- `access-network-rac-cluster.py` uses the domain template `ocsg-access-network-rac-domain.jar` for its basic setup. This creates a domain with separate Access and Network clusters with the additional datasources that a RAC installation requires.

- `ocsg-osb-integ.py` uses the domain template `ocsg-osb-integ-domain.jar` for its basic setup. This creates a domain for integration of Oracle Communications Services Gatekeeper with Oracle Service Bus.

Note: If you are configuring an HP-UX installation, you must run the script using the `-Djava.security.egd` flag. For example, you would invoke the `basic-ocsg-ha.py` script by typing:

```
java -Djava.security.egd=/dev/random weblogic.WLST  basic-ocsg-ha.py
```

Edit the Scripts

- If you are using `wlng-cluster.py` to set up a development machine, you can use the script as is.
- If you are using one of the other four scripts, you must set a few variables found at the top of the script, and, in some situations, edit a few other values.See Multi-cluster standard
- If you are using one of the two other scripts **and** you also wish to create additional servers, you must make more complex edits. See Multi-cluster with additions
- If you wish to keep any communication services from ever being deployed, you may edit whichever script you are using. See Keep unused communication services from being deployed.

  Note: It is also possible to remove communication services after the initial deployment. See the System Administration Guide for information on accomplishing this.

Multi-cluster standard

If you are setting up the standard version of one of the multi-cluster domains, only a few variables need to be set at the top of the script, in the section called **Configuration (INPUT) Parameters**.

Listing 7-1 The Configuration (INPUT) Parameters section from access-network-rac.py

```
#===============================================================================
# Configuration (INPUT) Parameters
#===============================================================================


# listen address input parameters
```

```
# example: hostname can be DNSName or IPAddress

AdminServerListenAddress = "host-admin.bea.com"
AdminServerListenPort    =  7001
NT1ServerListenAddress   = "host-nt1.bea.com"
NT1ListenPort            =  8001
NT2ServerListenAddress   = "host-nt2.bea.com"
NT2ListenPort            =  8001
AT1ServerListenAddress   = "host-at1.bea.com"
AT1ListenPort            =  8001
AT2ServerListenAddress   = "host-at2.bea.com"
AT2ListenPort            =  8001

NTClusterAddress         = "host-nt1.bea.com:8001,host-nt2.bea.com:8001"
ATClusterAddress         = "host-at1.bea.com:8001,host-at2.bea.com:8001"

NTClusterMultiCastAddress = '237.0.0.101'
NTClusterMultiCastPort    = 8050
ATClusterMultiCastAddress = '237.0.0.102'
ATClusterMultiCastPort    = 8050

# DataSource Settings

# RAC Node-1 Settings

RACNode1URL      = "SETME_URL"
```

```
# RAC Node-2 Settings

RACNode2URL      = "SETME_URL"

# Database settings

OracleXADriver    = "SETME_XADRIVER"
OracleNonXADriver = "SETME_nonXADRIVER"
DBUser            = "SETME_USER"
DBPassword        = "SETME_PASSWORD"
```

Make these edits

1. Set the Listen Address and Listen Port for the Administration Server, the two Access Tier servers, and the two Network Tier servers.
   - Replace the `host*.bea.com` values with either the DNSName or the IP Address of the appropriate servers.
   - Replace the Listen Port values as necessary.

     Note: The Listen Address:Port combinations must be unique.
2. Fill in the appropriate Listen Address:Port combinations to assign the servers to the appropriate clusters. The entry should be comma delimited, with no spaces.
3. Fill in the appropriate Multicast Addresses per cluster.
4. Set the appropriate URLs for each of the RAC instances (only in RAC scripts)
5. Set the appropriate values for the transactional (XA) and localTX(nonXA) datasources (in RAC scripts).

   Set the appropriate values for the `wlng.datasource` (in non-RAC scripts)
6. Set the appropriate values for the `wlng.localTX.datasource`. The values should be non-XA (only in non-RAC scripts).

The following change may also need to be made:

7. If you want to be able to use the Administration Console and Node Manager to start remote servers, you must change the `NodeManager ListenAddress` values in the Configure Managed Servers section. To do so edit the following line for each managed server `set('ListenAddress','localhost')` to change localhost to the correct ListenAddress.

Multi-cluster with additions

If you want to use the WLST script to set up a multi-cluster domain and, at the same time, to add additional servers, you must first make the same edits as in the Multi-cluster standard case. You must also make the following additional kinds of edits. Exactly which edits you need to make depends on how your particular installation is set up.

WLST in offline mode, which is the mode that Oracle Communications Services Gatekeeper scripts use, can access and update only those configuration objects that have been previously persisted to a configuration file. All the provided WLST scripts create this configuration file automatically as they run, but each adds only those objects that are specified in the domain templates. If you need to add more configuration objects, such as additional Managed Servers or Machines, you must add statements to the script to create them before you can configure them.

Note: You can also add servers and machines using the Administrative Console GUI after you set up your core domain. This is a simpler way of accomplishing the same goal.

Create Machines

For example, if you need to add additional Machines, you must create them in the script *before* you assign Managed Servers to them.

Comment Section	Code to add	Value

Configure managed servers	`cd('/')`
	`create('new_Machine_5','Machine')`
	`cd('Machine/new_Machine_5')`
	`create('new_Machine_5','NodeManager')`
		Add as many of these statements as you need, replacing `new_Machine_5` with whatever value is appropriate

Create Managed Servers

After you create the Machine, you can assign Managed Servers to them. You can also add new Managed Servers. In the code below, the new Managed Server `WLNG_NT3` is created and then assigned to `new_Machine_5`, created above.

Comment Section	Statement to edit	Value

Configure managed servers	`cd('/')`
	`create('WLNG_NT3', 'Server')`
	`cd('Server/WLNG_NT3')`
	`set('ListenPort', 8001)`
	`set('ListenAddress', 'myserver5')`
	`set('Machine','new_Machine_5')`
		Create new servers as needed, and set the ListenAddress

Set NodeManager Listen Address

You must also add a section to configure any new Machine (and its Node Manager) being added.:

Comment Section	Statement to add	Value

Configure managed servers	`cd('/')`
	`cd('Machine/new_Machine_5')`
	`set('Name','new_Machine_5')`
	`set('Address','new_Machine_5')`
	`cd('NodeManager/new_Machine_5')`
	`set('ListenAddress','myserver5')`
	`set('ListenPort',5556)`
		One section per added Machine.

Assign New Managed Servers to the appropriate cluster

You must assign any newly-created managed servers to their appropriate cluster by adding an "assign server" line

Comment Section	Statement to add	Value

Configure a cluster and assign the Managed Servers to that cluster.	`cd('/')`
	`[standard]`
	`assign('Server', 'WLNG_NT3','Cluster','WLNG_NT_Cluster')`
		One line per added Managed Server.

Keep unused communication services from being deployed

It is always possible to remove communication services after the initial deployment of Oracle Communications Services Gatekeeper. If you know that your installation is not using one or more communication services and you prefer that they not be deployed at all in your system, you can add the following information to your configuration script. Remember that all communication services consist of two .ear files, an Access Tier version and a Network Tier version. You will need to address both files to completely remove the communication service.

For example, to keep the PX 3.0 Third Party Call communication service from being deployed, add the following to your script:

```
#=====================================================================
# Unassign applications to target
#=====================================================================
cd(‘/’)
unassign('Application', ‘wlng_at_third_party_call_px30#4.0 ', 'Target',
'WLNG_AT_Cluster')
unassign('Application', ‘wlng_nt_third_party_call_px30#4.0 ', 'Target',
'WLNG_NT_Cluster')
```

Run the Script

Once you have made all necessary changes to the script, run it using the following command:

```
java weblogic.WLST <appropriate-version>.py
```

Where to Go From Here

You must now:

- Complete post-installation
- Configure the Oracle Communications Services Gatekeeper software

See Chapter 8, “Completing Post-Installation” for more information.

CHAPTER 8

Completing Post-Installation

This chapter describes the tasks you may have to complete after installing Oracle Communications Services Gatekeeper and configuring the WebLogic Server domain for use with it. These include

- Complete Post-Install Tasks
- Configure Oracle Communications Services Gatekeeper

Complete Post-Install Tasks

You may not need to do all of the following tasks depending on the type of installation with which you are working.

Create JMS Servers for Any Additional NT Servers

If you have added any Network Tier servers to the initial two provided by the domain template, you must edit the configuration to add support for the EDR Service. Each server in the Network Tier requires its own JMS server in order for the EDR Service to work correctly.

For the following task, you must start the Administrative Server in your Oracle Communications Services Gatekeeper installation so that you can use the Management Console to make the necessary adjustments. Unless you are setting up an all in one domain, you will also need to start at least one Network Tier server (this prevents a null pointer error in initializing the Console). For more information on using the Console, please see the *System Administration Guide*, a separate document in this set. The following is an overview only:

1. Start Oracle Communications Services Gatekeeper on the Administrative Server.

   In a command prompt window, go to the domain\bin directory. In the default installation, this would be `<beahome>\user_projects\domains\ocsg-domain\bin`. Run the `startWebLogic` script.

   The Administrative Server will load.

2. Watch the command prompt window as the server loads. Wait until the prompt indicates that the server is in state RUNNING.

3. Start a Network Tier server.

   In a separate command prompt window, go to the domain\bin directory. See step 1 above. Enter the following:

   ```
   startManagedWebLogic networknode0-0 t3://adminhost:7001
   ```

   replacing the first parameter with the name of the NT server and the second with the URL of the Administration Server.

Note: You can also log into the NT server, and run the `startManagedWebLogic` script from there.

4. Watch the command prompt window as the NT server loads. Wait until the prompt indicates that the server is in state RUNNING.

5. Once both servers are in state RUNNING, bring up the Administrative Console.

   In your browser, enter the following address: `http://<hostname>:<port>/console`, where <hostname> is the Administrative Server and port is the ListenAddress assigned during Domain Configuration. The default value is 7001.

6. Login using your login credentials.

   If this is the first time you have logged in, you should use username: `weblogic`; password `weblogic`. There are instructions in the *System Administration Guide* on changing these values once your system is fully configured.

7. Before you can make any changes using the Console, you must click **`Lock & Edit`** in the **`Change Center`** on the left side of the window.

(In the example below, assume that the additional server WLNG_NT3 was created.)

In the Management Console:

1. Select **`Home`** > **`Services`** > **`Messaging`** >**`JMS Servers`** > **`New`**

2. In the Name text box, enter the name of the JMS Server. In our example, this would be JMSServer-NT3
3. In the **`Target`** dropdown menu, select the appropriate server. In our example, this would be WLNG_NT3
4. Click **`Finish`**
5. Click **`Activate Changes`**

Install Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files, if desired

Oracle Communications Services Gatekeeper does *not* require the JCE files, but you can install them if you wish to use JCE providers. For more information, please see the section about the nCipher JCE Provider in *Oracle WebLogic Server Securing WebLogic Server* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/secmanage/.

Set Up Oracle Service Bus to Run with Oracle Communications Services Gatekeeper

If your installation is using the SOA Facade with Oracle Service Bus, you will need to take a number of steps to integrate Oracle Communications Services Gatekeeper with Oracle Service Bus. See Chapter 9, “Installation of SOA Facades” for more information.

Add a Custom Password Validator

Using features available through Oracle. WebLogic Server 10.3, you can create and configure a Password Validation Provider. This will allow you to enforce rules concerning the composition of passwords used with Oracle Communications Services Gatekeeper. In general, the rules include:

- Whether the password may contain the user’s name, or the reverse of that name
- A minimum or maximum password length (composition rules may specify both a minimum and maximum length)
- Whether and how many of the following characters must be in the password:
  - Numeric characters
  - Lowercase alphabetic characters

  - Uppercase alphabetic characters
  - Non-alphanumeric characters (e.g., parentheses or asterisks)

For more information, see "Configuring Authentication Providers" in *Securing WebLogic Server*, at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/secmanage/atn.html#wp1212863. You will need to use WLST to create and configure your Password Validation Provider.

Configure Oracle Communications Services Gatekeeper

Once you have installed the software, configured the domain, and completed any necessary post-installation steps, you can proceed to configuring Oracle Communications Services Gatekeeper itself. The specifics for doing these tasks are presented in the *System Administrator's Guide* and *Managing Accounts and SLAs*, but the following list gives you a general outline of the initial tasks you must perform:

- Create administrative user accounts
- Configure Oracle Communications Services Gatekeeper Container Services
- Configure communication services
- Configure connections with OSA/Parlay gateways, as necessary
- Set up and configure Web Services Security and OAM (JMX) Security
- Configure the Partner Relationship Management interfaces, as necessary
- Configure geo-redundancy, if necessary
- Create service provider and application accounts
- Create service provider and application SLAs
- Create network SLAs
- Configure and deploy any backwards-compatible (Access, deprecated container services, etc.) modules as necessary. For more information, see the *Retired container services* section of the "Deployment model" chapter of the *System Administrator's Guide*, a separate document in this set.

For Further Information

To learn more about installing WebLogic Server products in general, and about the installer program in particular in regard to WebLogic Server, see the WLS Installation Guide.

CHAPTER 9

Installation of SOA Facades

This chapter describes the tasks you have to complete in order to install the SOA Facades for Oracle Communications Services Gatekeeper. It also describes the different deployment types.

Introduction

The Oracle Communications Services Gatekeeper SOA Facades smoothly integrates Oracle Communications Services Gatekeeper into an SOA environment. The SOA Facades are deployed

in Oracle Service Bus and expose an interface identical to the SOAP interfaces in the Web Services SOAP Facades. From an application point of view, there is no difference between interacting with a SOA Facade or a SOAP Facade. Since the SOA Facades are deployed in Oracle Service Bus, this product must be installed in addition to the Oracle Communications Services Gatekeeper.

The SOA Facades and the Access Tier are co-located in one cluster, and the Network Tier is in one cluster.

The Oracle Communications Services Gatekeeper services, both core services and communication services, are deployed in each Oracle Service Bus server and the Service Bus servers are *used instead* of the Access Tier and Network Tier servers.

Task Overview

Below are the main installation steps described:

1. Install Oracle Communications Services Gatekeeper on all servers, see Install Oracle Communications Services Gatekeeper.
2. Install Oracle Service Bus on all servers, see Install Oracle Service Bus.
3. Configure the Domain for the SOA Facades. There are a set of ways to do this, as outlined in:
   a. Configure the Domain Using the Graphical Domain Configuration Wizard.
   b. Configure Oracle Service Bus Domain Using the Console Configuration Wizard.
   c. Configure Oracle Service Bus Domain Using the Configuration Scripts.
4. Add Service Bus settings in the domain configuration script, see Edit Set Domain Environment Script.
5. Make sure that the Service Bus installation directory is set in the domain configuration file, see Verify Domain Configuration Settings.

Note: After installing Oracle Service Bus on a UNIX or Linux system, make sure that the directory `/tmp/alsbTempJars` has the same access privileges as the BEA Home directory. Alternatively, remove the directory `/tmp/alsbTempJars` after the installation if the directory exists.

Install Oracle Communications Services Gatekeeper

Install Oracle Communications Services Gatekeeper in the same manner as for non-SOA installations. See Installing Oracle Communications Services Gatekeeper.

Install Oracle Service Bus

Install Oracle Service Bus on all Oracle Communications Services Gatekeeper servers. See *Oracle Service Bus Installation Guide* at http://download.oracle.com/docs/cd/E13159_01/osb/docs10gr3/install/index.html.

Use the same BEA home directory for Oracle Service Bus as the one used for Oracle Communications Services Gatekeeper.

Configure the Domain

Configure the Domain Using the Graphical Domain Configuration Wizard

The domain configuration is very similar to the domain configuration for a non-SOA Oracle Communications Services Gatekeeper domain configuration. See The Graphical Mode Configuration Wizard.

Always use the configuration template:

OCSG OSB Integration configuration

The configuration template is very similar to the template **OCSG Domain with Access and Network Clusters**.

It contains a few extra configuration settings, as described in Table 9-1.

Table 9-1 SOA Facade specific configuration settings

Window/Tab	Description
Configure JDBC Datasources	An additional datasource, **wlsbjmsrpDatasource,** is added to the configuration template.
wlsbjmsrpDatasource tab	It should be set up in exactly the same way as the datasource **wlng.localTX.datasource**. Make sure it is defined as a non-transactional datasource by leaving the checkbox **Supports global transactions** unchecked.
Configure JMS File Stores	Use the default settings for: • WsseFilestore • FileStore

For information on how to start and use the Oracle Service Bus Domain Configuration Wizards, see *Oracle Service Bus Installation Guide* at http://download.oracle.com/docs/cd/E13159_01/osb/docs10gr3/install/index.html.

Configure Oracle Service Bus Domain Using the Console Configuration Wizard

The Console Configuration Wizard is designed to mimic as closely as possible the choices available in the GUI version, but in a completely text-based form.

See The Console Configuration Wizard.

Configure Oracle Service Bus Domain Using the Configuration Scripts

Oracle Communications Services Gatekeeper provides a WLST script for the SOA Facade installation: `ocsg-osb-integ.py`

Make the same edits to this scripts as for the other configuration scripts, see The Oracle WebLogic Scripting Tool scripts.

Edit Set Domain Environment Script

Edit the script for setting the domain environment to include Oracle Service Bus definitions.

Windows

Find the `setDomainEnv.cmd` script file in `$DOMAIN_HOME\bin` and make the following edits.

1. At the top of the script, add the following snippet of OSB information:

   Note: `<Oracle Service Bus Home directory>` is the installation directory for Oracle Service Bus on your system, for example `c:\bea\osab_10.3`

Listing 9-1 First script snippet

```
set ALSB_HOME=<Oracle Service Bus Home directory>
for %%i in ("%ALSB_HOME%") do set ALSB_HOME=%%~fsi
set ALSB_DEBUG_FLAG=true
set ALSB_DEBUG_PORT=7453
```

2. After the script line that reads

   `set POST_CLASSPATH=`

   add the following snippet:

Listing 9-2 Second script snippet

```
set
POST_CLASSPATH=%POST_CLASSPATH%;%WL_HOME%\..\modules\features\osb.server.m
odules_10.3.0.0.jar;%ALSB_HOME%\lib\flow\sb-flow.jar;%WL_HOME%\..\modules\
com.bea.core.jaxen_1.0.0.0_1-1-1.jar;%ALSB_HOME%\lib\version.jar;%ALSB_HOM
E%\lib\alsb.jar;%ALSB_HOME%\3rdparty\lib\j2ssh-ant.jar;%ALSB_HOME%\3rdpart
y\lib\j2ssh-common.jar;%ALSB_HOME%\3rdparty\lib\j2ssh-core.jar;%ALSB_HOME%
\3rdparty\lib\j2ssh-dameon.jar;%ALSB_HOME%\3rdparty\classes;%WL_HOME%\..\m
odules\com.bea.core.apache.commons.logging_1.1.0.jar
```

Linux/UNIX

Find the `setDomainEnv.sh` script file in `$DOMAIN_HOME/bin` and make the following edits.

1. At the top of the script, add the following snippet of OSB information:

   Note: `<Oracle Service Bus Home directory>` is the installation directory for Oracle Service Bus on your system, for example `/var/bea/osab_10.3`

Listing 9-3 Linux/UNIX script snippet

```
ALSB_HOME="<Oracle Service Bus Home directory>"
export ALSB_HOME
ALSB_DEBUG_FLAG="true"
export ALSB_DEBUG_FLAG
ALSB_DEBUG_PORT="7453"
export ALSB_DEBUG_PORT
```

Verify Domain Configuration Settings

After you have run the script, make sure that your settings are now correct:

1. Verify that the Service Bus installation directory is defined in the domain configuration file.
   a. Open `$DOMAIN_HOME/config/config.xml`.
   b. Verify that value for the variable `ALSB_INSTALL_DIR` is correct and refers to the installation directory for Oracle Service bus, for example `/var/bea/osb_10.3`
2. If you are using Windows, also verify your classpath to make sure it matches Listing 9-2.
   a. Right click **My Computer**
   b. Select **Properties** ->**Advanced** ->**Environment Variables**

Configure the SOA Facades

In addition to configuring the domain and making changes to the environment script, you must also configure the SOA Facades themselves. To do so, follow the information in “Managing and Configuring SOA Facades” in the *Oracle Communications Services Gatekeeper System Administrator’s Guide*, found at http://download.oracle.com/docs/cd/E14148_01/wlcp/ocsg41_otn/admin/soafacades.html

Upgrading Oracle Communications Services Gatekeeper

This chapter describes upgrading Oracle Communications Services Gatekeeper 4.0/4.1 to Oracle Communications Services Gatekeeper 4.1.1

Introduction

An Oracle Communications Services Gatekeeper 4.0/4.1 installation can be upgraded to Oracle Communications Services Gatekeeper 4.1.1 without shutting down the entire cluster or domain, which leads to no service interruption for applications using Oracle Communications Services Gatekeeper. The process is known as a Rolling Upgrade and is a WebLogic Server feature.

The process is based on a rolling scheme, where each server in the domain, one at the time, is stopped, upgraded to the new version, and then started. This process upgrades the WebLogic Server and the Oracle Communications Services Gatekeeper Core services, but leaves all communication services as before the upgrade.

When all servers have been upgraded, the communication services in use need to be upgraded. This is done using in-production redeployment, which is a WebLogic Server feature that enables the communication services to be upgraded without any traffic interruption.

It is strongly recommended that any configuration data be backed up prior to the upgrade.

Limitations

The following limitations applies for the upgrade:

- The patch XUE6 must have been applied to the Oracle Communications Services Gatekeeper 4.0 installation.
- Do not make configuration changes during the upgrade process until all the servers in the cluster have been upgraded. This is especially true for new configuration options. Servers will silently ignore settings that are not understood, and the local configuration file may not be updated properly. Using new configuration options may remove the capability of un-installing a maintenance upgrade in a rolling fashion.
- For a minor release, during the rolling upgrade, there must be two entirely separate installation directories. That is, the location of the old installation and the location of the new installation must be two different directories.
- After running the database migration scripts, new SLAs cannot be added on any server still running version 4.0.

  (Running database migration scripts is not necessary between 4.1 to 4.1.1.)
- Servers on older versions should not be restarted during the upgrade process.
- The Service Enabler for Parlay X 2.1/Extended Web Services/SMPP must be redeployed, see Upgrade Communication Services and Interceptors.
- The Service Enabler for Parlay X 2.1/Extended Web Services/SMPP must be redeployed, see Upgrade Communication Services and Interceptors.
- The Service Enablers for SIP Communication Services can not use registered notifications after an upgrade, see Upgrade Communication Services and Interceptors.

Task Overview

The upgrade process is divided into a set of sub-steps, see below:

Step 1: Upgrade the Servers

Step 2: Upgrade the Communication Services

Step 3: Configure New Features

Step 4: Post Upgrade Procedure

Step 1: Upgrade the Servers

Below is a description of the upgrade process for the servers. All steps must be performed on all servers, unless stated otherwise. The first server to upgrade must be the Administration Server.

1. Prepare the server to be upgraded. See Prepare to Upgrade.
2. Stop the Administration server, see Stop Server.
3. Upgrade the Administration server to the new version, see Upgrade Server to New Version.
4. Migrate the database, see Migrating the Database. This step should only be performed once.

   This step is not necessary if you are moving from 4.1 to 4.1.1.
5. Verify that the $PATH and $CLASSPATH environment variables point to the upgraded environment. Clean the shell environment and setup the environment variables according to the instruction in Upgrade Server to New Version if necessary.
6. Start the Administration server.
7. Repeat the following steps on each managed server:
   a. Stop the managed server, see Stop Server.
   b. Upgrade the managed server to the new version, see Upgrade Server to New Version.
   c. Verify that the $PATH and $CLASSPATH environment variables point to the upgraded environment. Clean the shell environment and setup the environment variables according to the instruction in Upgrade Server to New Version if necessary.
   d. Start the managed server.

Step 2: Upgrade the Communication Services

When all servers have been upgraded, the Communication Services must be upgraded, see Upgrade Communication Services and Interceptors.

If the new SIP-type Communication Services are to be used, the co-located Oracle Converged Application Server must be used.

Step 3: Configure New Features

Oracle Communications Services Gatekeeper 4.1 has a set of new features that must be manually installed and configured when upgrading. Note that it is only necessary to perform these steps if you are using this new functionality.

This step is not necessary if you are upgrading from 4.1 to 4.1.1.

- Using New Features in an Upgraded Environment

- Upgrading SIP Connectivity
- Using RESTFul Service Facades
- Using SOA Service Facades

Step 4: Post Upgrade Procedure

When all servers have been upgraded, two new singleton services must be added and new CDR, EDR, and alarm definitions must added.

Follow the steps below to perform the post-upgrade procedures:

1. Add the singleton services BudgetEnforcementProxy and GeoStorageProxy. Starting in the Administration console in the **Domain Structure** pane:

   a. Choose **Environment**–>**Clusters**–><**Network Tier cluster**>. Choose the **Singleton Services** tab.

   b. Click New, and enter the following:

      In the **Name** field, enter `BudgetEnforcementProxy`

      In the **`Class Name`** field, enter
      `com.bea.wlcp.wlng.core.budget.BudgetEnforcementSingletonService`

   c. Click **`Finish`**.

   Note: If you are upgrading from 4.1 to 4.1.1, you do not need to complete **d** or **e**.

   d. Click New, and enter the following:

      In the **Name** field, enter `GeoStorageProxy`

      In the **`Class Name`** field, enter
      `com.bea.wlcp.wlng.geostorage.GeoStorageSingletonService`

   e. Click **`Finish`**.

2. To update the CDR, EDR and Alarm information for the new and updated services, use the EDR Configuration page in the Administration Console. See Reference: New EDR, CDR, and Alarm definitions for a list of new and changed EDRs, CDRs, and Alarms.

Prepare to Upgrade

Using the Administration console, delete the `BudgetEnforcementProxy` singleton service. Starting in the **Domain Structure** pane, choose **Environment**–>**Clusters**–><**Network Tier**

cluster>. Choose the **Singleton Services** tab. Check the check-box `BudgetEnforcementProxy` and click **`Delete`**.

Migrating the Database

Some aspects of the way Oracle Communications Services Gatekeeper stores information in the database have changed with this release. You must run a set of migration scripts to upgrade your current data to Service Gatekeeper 4.0 formats.

This step is not necessary for upgrades from 4.1 to 4.1.1.

These scripts are located in the `migration.zip` file, which is found in `<$BEA_HOME for OCSG 4.1>/wlserver_10.3/common/templates/scripts/`

Note: The database scripts for MySQL (migrate_mysql.txt) and Oracle Database (migrate_oracle.txt) must be updated. Change from:

```
UPDATE wlng_slas set sla_scope = 'sp_node' where
sla_type='service_provider';
```

to:

```
UPDATE wlng_slas set sla_scope = 'sp' where
sla_type='service_provider_node';
```

Database Migration

To run the script:

1. Create a `migration` directory under the `scripts` directory.
2. Unzip the `migration.zip` file into the `migration` directory.
3. Make sure the environment variables JAVA_HOME and ORACLE_HOME (for ORACLE DB) or MYSQL_HOME (for MySQL) are set properly.
4. Run the script with the required parameters, as follows (replace CAPS with appropriate values):

   ```
   db_migration.sh <DB TYPE [oracle | mysql]> <DB HOST> <DB NAME | ORACLE
   SERVICE NAME> <DB USERID> <PASSWORD>
   ```

Stop Server

Stop the server gracefully so all in-flight requests are processed before the shutdown start.

For information on how to stop a server using the administration console, see section *Shutdown servers in a cluster* in the *Administration Console Online Help* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/ConsoleHelp/core/index.html.

For information about using the Graceful Shutdown command, see shutdown in *WebLogic Scripting Tool* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/config_scripting/index.html.

You must shut the server down before starting to upgrade it.

Upgrade Server to New Version

Follow the steps below to upgrade the server:

1. Install Oracle Communications Services Gatekeeper 4.1.1, see Installing Oracle Communications Services Gatekeeper.

   Install it under a directory different from the $BEA_HOME directory used for your previous Oracle Communications Services Gatekeeper, whether it is 4.0 or 4.1. Do not configure the domain. The domain configuration used in your previous Oracle Communications Services Gatekeeper installation will be used.

2. Setup necessary environment variables.

   On Windows: run the script
   `$BEA_HOME_411\wlserver_10.3\server\bin\setWLSEnv.cmd`

   On UNIX: source the script
   `$BEA_HOME_411/wlserver_10.3/server/bin/setWLSEnv.sh`

   `$BEA_HOME_411` refers to the `$BEA_HOME` directory for Oracle Communications Services Gatekeeper 4.1.1

3. Change directory to
   `$BEA_HOME_411/wlserver_10.3/common/templates/scripts/upgrade` and execute the target dist in the ant script. The ant script takes the following arguments:

   -Ddomain40.home, the $DOMAIN_HOME directory used in your **previous** Oracle Communications Services Gatekeeper installation, either 4.0 or 4.1.

   -Dbea40.home, the $BEA_HOME directory used in your **previous** Oracle Communications Services Gatekeeper installation, either 4.0 or 4.1.

   -Dbea41.home, the $BEA_HOME directory used in your **new** Oracle Communications Services Gatekeeper 4.1.1 installation.

-Dwlsold.home, the $WLS_HOME directory used in your **previous** Oracle Communications Services Gatekeeper installation, either 4.0 or 4.1.

-Dwlsnew.home, the $WLS_HOME directory used in your **new** Oracle Communications Services Gatekeeper 4.1.1 installation.

-Docsg.home, the $OCSG_HOME directory used in your **new** Oracle Communications Services Gatekeeper 4.1.1 installation.

-Dserver.name, the server name.

Example: (for 4.0 to 4.1/4.1.1):

```
ant dist -Ddomain40.home=/usr/local/ocsg-install/user_projects/domains/ocsg-domain
-Dbea40.home=/usr/local/ocsg40-install -Dbea41.home=/usr/local/ocsg41-install
-Dwlsold.home=/usr/local/ocsg40-install/wlserver_10.3
-Dwlsnew.home=/usr/local/ocsg41-install/wlserver_10.3
-Docsg.home=/usr/local/ocsg41-install/ocsg_4.1
-Dserver.name=AdminServer
```

Example: (for 4.1.0 to /4.1.1):

```
ant dist -Ddomain40.home=/usr/local/ocsg-install/user_projects/domains/ocsg-domain
-Dbea40.home=/usr/local/ocsg410-install -Dbea41.home=/usr/local/ocsg411-install
-Dwlsold.home= /usr/local/ocsg410-install/wlserver_10.3
-Dwlsnew.home=/usr/local/ocsg411-install/wlserver_10.3
-Docsg.home=/usr/local/ocsg411-install/ocsg_4.1
-Dserver.name=AdminServer
```

If the default installation directories were used, only these arguments need to be defined: Ddomain40.home, -Dbea40.home, -Dbea41.home, Dserver.name.

4. If the co-located Oracle Converged Applications Server is to be used for SIP connectivity, follow the instructions in Upgrading SIP Connectivity. This should be done only on the Administration Server.

   This step is not necessary for upgrade from 4.1 to 4.1.1.

5. If the RESTful Service Facades are to be used, follow the instructions in Using RESTFul Service Facades. This should be done only on the Administration Server.

   This step is not necessary for upgrade from 4.1 to 4.1.1.

6. Set access privileges on the files. Change permission to read/write/execute on all files in `$DOMAIN_HOME/bin`.

7. The upgrade script assumes that the JDK was installed in `$BEA_HOME_41/jdk160_05` (SUN) or `$BEA_HOME_41/jrockit_160_05` (JRockit). Verify that the JDK you are using is installed in the appropriate directory. If the generic UNIX installer is used, the JDK is not provided so this must be installed. If generic installer was used to install Oracle Communications Services Gatekeeper, make sure to set the JAVA_HOME, defined in `$DOMAIN_HOME/bin/setDomainEnv.sh` to the right path in the file system.

Upgrade Communication Services and Interceptors

Note: The infrastructure for the RESTful Service Facades needs to be deployed before upgrading the Communications Services. See Using RESTFul Service Facades.

When the upgraded Oracle Communications Services Gatekeeper domain has been started, each Communication Service needs to be upgraded. This is done using the hitless upgrade procedure.

Refer to Hitless Upgrade Using Production Redeployment in *Oracle Communications Services Gatekeeper System Administrator's Guide* for directions on how to perform a hitless upgrade.

The EAR names for each communication service and the JAR names for the network protocol plug-in are found under the heading "Properties for <Communication service>" in the section of *Oracle Communications Services Gatekeeper System Administrator's Guide* which describes the appropriate Communication Service. There are a new set of Communication Services provided with Oracle Communications Services Gatekeeper:

- Parlay X 2.1 Payment/Diameter
- Native SMPP
- Native MM7

These must be deployed manually, as they are not deployed automatically during an upgrade. Refer to the individual sections for each of these Communication Services in *Oracle Communications Services Gatekeeper System Administrator's Guide* for information on which EARs to deploy.

The Service Enablers for the SIP plug-ins have been updated to work with a co-located Oracle Converged Application Server. These must be redeployed, and cannot be upgraded using the hitless upgrade procedure. In order for the new SIP-type plug-ins to be functional, the steps involving upgrading the SIP Connectivity must be performed. Any subscriptions for notifications that have been registered by an application must be unregistered prior to the upgrade and then re-registered after the upgrade since there are incompatible changes to the store. Exceptions will be thrown if old data is accessed after the upgrade.

The Service Enabler for Parlay X 2.1/Extended Web Services Binary SMS/SMPP does not support to be hitlessly upgraded from the version that was a part of Oracle Communications Services Network Gatekeeper 4.0 to the version included in Oracle Communications Services Network Gatekeeper 4.0. The 4.0 version must be undeployed before the servers are upgraded and then the new version is deployed after the servers are upgraded.

The Service interceptors have also been updated. Deploy:

- interceptor.ear
- cdr_to_diameter.ear

in the same manner as the Communication Services. The Service Interceptors are located in the directory `$OCSG_HOME/applications`, where `$OCSG_HOME` is the installation directory for Oracle Communications Services Gatekeeper 4.1.

Using New Features in an Upgraded Environment

A set of new features and components were added in Oracle Communications Services Gatekeeper 4.1. This section describes how to leverage these features.

Upgrading SIP Connectivity

Oracle Communications Services Gatekeeper used WebLogic SIP server to connect to the SIP network. A standalone SIP Server installation was used.

Oracle Communications Services Gatekeeper 4.1 has Oracle Converged Application Server co-located with the Network Tier server.

Follow the instructions below to use Converged Application Server for SIP Communication Services.

Note: Make sure that the modifications are done only on the Administration server and it is shut down while doing edits to config.xml.

1. Edit the configuration file $DOMAIN_HOME/config/config.xml. Use Listing 10-1 as an example when adding SIP-specific settings. One <server> entry is needed per Network Tier Server.
2. Edit the configuration file $DOMAIN_HOME/config/config.xml. Add the SIP custom resource definitions stated in Listing 10-2 after the Network Tier custom resource definition. The parts that must be updated are presented in bold. Correlate the server names, defined in <target> with the server names defined in $DOMAIN_HOME/config/custom/datatier.xml.

3. Restart the server after the configuration file has been updated.

Listing 10-1 Example config.xml with SIP definitions

```
<server>
    <name>WLNG_NT1</name>
    <max-message-size>20000000</max-message-size>
    <log>
      <name>WLNG_NT1</name>
      <log-file-severity>Info</log-file-severity>
      <memory-buffer-severity>Info</memory-buffer-severity>
    </log>
    <machine>NT1</machine>
    <listen-port>8001</listen-port>
    <cluster>WLNG_NT_Cluster</cluster>
    <web-server>
      <name>WLNG_NT1</name>
      <web-server-log>
        <logging-enabled>false</logging-enabled>
      </web-server-log>
    </web-server>
    <listen-address>host-nt1.bea.com</listen-address>
    <network-access-point>
      <name>sipchannel</name>
      <protocol>sip</protocol>
      <listen-port>5060</listen-port>
      <public-port>5060</public-port>
      <http-enabled-for-this-protocol>false</http-enabled-for-this-protocol>
```

```
      <tunneling-enabled>false</tunneling-enabled>
      <outbound-enabled>true</outbound-enabled>
      <enabled>true</enabled>
      <two-way-ssl-enabled>false</two-way-ssl-enabled>
      <client-certificate-enforced>false</client-certificate-enforced>
    </network-access-point>
    <network-access-point>
      <name>sips</name>
      <protocol>sips</protocol>
      <listen-port>5061</listen-port>
      <public-port>5061</public-port>
      <http-enabled-for-this-protocol>false</http-enabled-for-this-protocol>
      <tunneling-enabled>false</tunneling-enabled>
      <outbound-enabled>true</outbound-enabled>
      <enabled>true</enabled>
      <two-way-ssl-enabled>false</two-way-ssl-enabled>
      <client-certificate-enforced>false</client-certificate-enforced>
    </network-access-point>
    <jta-migratable-target>
      <name>WLNG_NT1</name>
      <user-preferred-server>WLNG_NT1</user-preferred-server>
      <cluster>WLNG_NT_Cluster</cluster>
    </jta-migratable-target>

<managed-server-independence-enabled>false</managed-server-independence-enable
d>
  </server>
<server>
```

```
<name>WLNG_NT2</name>
<max-message-size>20000000</max-message-size>
<log>
  <log-file-severity>Info</log-file-severity>
  <memory-buffer-severity>Info</memory-buffer-severity>
</log>
<machine>NT2</machine>
<listen-port>8001</listen-port>
<cluster>WLNG_NT_Cluster</cluster>
<web-server>
  <web-server-log>
    <logging-enabled>false</logging-enabled>
  </web-server-log>
</web-server>
<listen-address>host-nt2.bea.com</listen-address>
<network-access-point>
  <name>sipchannel</name>
  <protocol>sip</protocol>
 <listen-port>5070</listen-port>
  <public-port>5070</public-port>
 <http-enabled-for-this-protocol>false</http-enabled-for-this-protocol>
  <tunneling-enabled>false</tunneling-enabled>
  <outbound-enabled>true</outbound-enabled>
  <enabled>true</enabled>
  <two-way-ssl-enabled>false</two-way-ssl-enabled>
  <client-certificate-enforced>false</client-certificate-enforced>
</network-access-point>
```

```
    <network-access-point>
     <name>sips</name>
      <protocol>sips</protocol>
      <listen-port>5071</listen-port>
      <public-port>5071</public-port>
     <http-enabled-for-this-protocol>false</http-enabled-for-this-protocol>
      <tunneling-enabled>false</tunneling-enabled>
      <outbound-enabled>true</outbound-enabled>
      <enabled>true</enabled>
      <two-way-ssl-enabled>false</two-way-ssl-enabled>
      <client-certificate-enforced>false</client-certificate-enforced>
    </network-access-point>
    <jta-migratable-target>
      <user-preferred-server>WLNG_NT2</user-preferred-server>
      <cluster>WLNG_NT_Cluster</cluster>
    </jta-migratable-target>

<managed-server-independence-enabled>false</managed-server-independence-enable
d>
  </server>
```

Listing 10-2 Custom resource definitions for SIP to be edited in config.xml

```
    <custom-resource>
    <name>sipserver</name>
    <target>WLNG_NT_Cluster</target>
    <descriptor-file-name>custom/sipserver.xml</descriptor-file-name>
```

```
<resource-class>com.bea.wcp.sip.management.descriptor.resource.SipServerRe
source</resource-class>

<descriptor-bean-class>com.bea.wcp.sip.management.descriptor.beans.SipServ
erBean</descriptor-bean-class>

</custom-resource>


<custom-resource>

<name>datatier</name>

<target>WLNG_NT_Cluster</target>

<descriptor-file-name>custom/datatier.xml</descriptor-file-name>

<resource-class>com.bea.wcp.sip.management.descriptor.resource.DataTierRes
ource</resource-class>

<descriptor-bean-class>com.bea.wcp.sip.management.descriptor.beans.DataTie
rBean</descriptor-bean-class>

</custom-resource>


<custom-resource>

<name>approuter</name>

<target>AdminServer</target>

<descriptor-file-name>custom/approuter.xml</descriptor-file-name>

<resource-class>com.bea.wcp.sip.management.descriptor.resource.AppRouterRe
source</resource-class>

<descriptor-bean-class>com.bea.wcp.sip.management.descriptor.beans.SipServ
erBean</descriptor-bean-class>

</custom-resource>
```

Using RESTFul Service Facades

RESTful Service Facades are new to Oracle Communications Services Gatekeeper 4.1.

Follow the instructions below to use the RESTful service Facades.

Note: Make sure that the modifications are done only on the Administration server and it is shut down while doing edits to config.xml.

1. Add the settings specified in Listing 10-3 to $DOMAIN_HOME/config/config.xml. Correlate the server names, defined in <target>, with the actual server names.
2. Change the dd-model for all deployed applications from CustomRolesandPolicies to DDOnly. The following is required in the <app-deployment> sections of $DOMAIN_HOME/config.xml:
   `<security-dd-model>DDOnly</security-dd-model>`
3. Deploy the following files in all Access Tier servers:
   - $BEA_HOME/wlserver_10.3/common/deployable-libraries/pubsub-1.0.war,
   - $BEA_HOME/ocsg_4.1/applications/rest.jar

   See *Oracle WebLogic Server Deploying Applications to WebLogic Server* at http://download.oracle.com/docs/cd/E12840_01/wls/docs103/deployment/ for a description of the different deployment options.

Note: If your installation uses multiple AT clusters, only one AT cluster can host RESTful facades. See the ”Deployment Model for Communications Services” chapter, the “Deployment of SOAP and RESTful Facades on Multiple AT Clusters” section in the *System Administrator’s Guide* for more information.

Listing 10-3 RESTful Service Facade definitions

```
<jms-server>
<name>JMSServer-AT1</name>
<target>WLNG_AT1</target>
</jms-server>

<jms-server>
<name>JMSServer-AT2</name>
```

```
<target>WLNG_AT2</target>
</jms-server>

<jms-system-resource>
<name>WLNG_ATJMSResource</name>
<target>WLNG_AT_Cluster</target>
<descriptor-file-name>jms/wlng_at-jms.xml</descriptor-file-name>
</jms-system-resource>
```

Using SOA Service Facades

SOA Service Facades are new to Oracle Communications Services Gatekeeper 4.1. For information on how to install the SOA Service Facades, see Installation of SOA Facades.

Reference: New EDR, CDR, and Alarm definitions

Oracle Communications Services Gatekeeper 4.1 has introduced a set of new and changed EDR, CDR, and alarm definitions.

Refer to each of the following sections for a list of the changes:

- EDRs
- CDRs
- Alarms

The list contains IDs of the entries. Use the EDR configuration file `wlng-edr.xml`, and copy the definitions into the EDR Configuration page in the Administration console.

The EDR configuration file is located in the directory `config/custom` in the JAR file `$BEA_HOME_41/wlserver_10.3/common/templates/domains/ocsg-domain.jar`

EDRs

Below is a list of changed and new EDRs. Copy the EDR definitions, not just the ID. These changes reflect 4.1 unless they are specifically marked 4.1.1.

Table 10-1 New or changed EDRs

Container service/Communication Service	EDR ID
Parlay X 2.1 Presence/SIP	Changed: edr id="2000"
	Changed: edr id="2001"
	Changed: edr id="2002"
	Changed: edr id="2003"
	Changed: edr id="2004"
	Changed: edr id="2005"
	Changed: edr id="2006"
	Changed: edr id="2007"
	Changed: edr id="2008"
	Changed: edr id="2009"
	Added: edr id="2010"
	Added: edr id="2011"
	Added: edr id="2012"
	Added: edr id="2013"
	Added: edr id="2014"
	Added: edr id="2015"
Binary SMS/SMPP and Parlay X 2.1 Short Messaging/SMPP	Added: edr id="7201"
	Added: edr id="7202"

Table 10-1 New or changed EDRs

Container service/Communication Service	EDR ID
	Added: edr id="7203"
	Added: edr id="7204"
	Added: edr id="7205"
	Added: edr id="7301"
	Added: edr id="7302"
	Added: edr id="7303"
	Added: edr id="7304"
	Added: edr id="7305"
	Added: edr id="7306"
	Added: edr id="7307"
Parlay X 2.1 Call Notification/SIP	Changed: edr id="8014"
	Changed: edr id="8015"
	Changed: edr id="8016"
	Changed: edr id="8017"
	Changed: edr id="8018"
	Changed: edr id="8019"
	Changed: edr id="8020"
	Changed: edr id="8021"
Parlay X 2.1 Third Party Call /SIP and INAP	Changed: edr id="8024"
Parlay X 2.1 Third Party Call /SIP	Added: edr id="8028"

Table 10-1 New or changed EDRs

Container service/Communication Service	EDR ID
	Added: edr id="8029"
Parlay X 2.1 Terminal Location	Added: edr id="9020"
	Added: edr id="9021"
	Added: edr id="9022"
Parlay X 3.0 Call Notification/Parlay	Added: edr id="11020"
	Added: edr id="11020"
	Added: edr id="11021"
	Added: edr id="11022"
	Added: edr id="11030"
	Added: edr id="11031"
	Added: edr id="11032"
	Added: edr id="11033"
	Added: edr id="11034"
	Added: edr id="11035"
	Added: edr id="11036"
WAP Push/PAP	Changed: edr id="14002"
	Added: edr id="14003"
Native MM7	Added: edr id="401000"
	Added: edr id="401001"
	Added: edr id="401004"

Table 10-1 New or changed EDRs

Container service/Communication Service	EDR ID
	Added: edr id="401002"
	Added: edr id="401005"
	Added: edr id="401003"
	Added: edr id="401006"
	Added: edr id="401007"
Native SMPP	Added: edr id="400000"
	Added: edr id="400001"
	Added: edr id="400002"
	Added: edr id="400003"
	Added: edr id="400004"
	Added: edr id="400005"
	Added: edr id="400006"
	Added: edr id="400007"
	Added: edr id="400008"
	Added: edr id="400009"
	Added: edr id="400010"
	Added: edr id="400011"
	Added: edr id="400020"
	Added: edr id="400021"
	Added: edr id="400022"
	Added: edr id="400023"

Table 10-1 New or changed EDRs

Container service/Communication Service	EDR ID
	Added: edr id="400024"
	Added: edr id="400025"
	Added: edr id="400026"
	Added: edr id="400027"
	Added: edr id="400028"
	Added: edr id="400029"
	Added: edr id="400030"
	Added: edr id="400031"
	Added: edr id="400100"
	Added edr id=”400101”
	Added 4.1.1 edr id=”400102”
	Added 4.1.1 edr id=”400103”
	Added: edr id="400110"
	Added: edr id="400111"
	Added: edr id="400112"
Parlay X 2.1 Payment/Diameter	Added: edr id="15001"
	Added: edr id="15001"
	Added: edr id="15002"
	Added: edr id="15003"
	Added: edr id="15004"
	Added: edr id="15005"

Table 10-1 New or changed EDRs

Container service/Communication Service	EDR ID
	Added: edr id="15006"
	Added: edr id="15007"
	Added: edr id="15001"
Credit Control Interceptor	Added: edr id="16001"
	Added: edr id="16002"

CDRs

Below is a list of changed and new CDR definitions.

Locate the CDR definition for the new CDR based on the method name and the package name in the EDR definition file. For new CDRs, copy the whole entry. If it is an existing and changed CDR, edit the listing. Example:

```
<cdr>
  <filter>
    <method>
      <name>void callConnected</name>
      <class>com.bea.wlcp.wlng.plugin.tpc.sip.south.SipContextMapper</clas
s>
     <position>after</position>
   </method>
  </filter>
</cdr>
```

Table 10-2 Changed or new CDRs

Communication Service	CDR Definition
Parlay X 2.1Presence/SIP	void notifyBusy New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallNotificationPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallNotificationPlugin
	void notifyCalledNumber New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallNotificationPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallNotificationPlugin
	void notifyNoAnswer New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallNotificationPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallNotificationPlugin
	void notifyNotReachable New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallNotificationPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallNotificationPlugin
	Action handleBusy New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallDirectionPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallDirectionPlugin
	Action handleCalledNumber New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallDirectionPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallDirectionPlugin

Table 10-2 Changed or new CDRs

Communication Service	CDR Definition
	Action handleNoAnswer New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallDirectionPluginImpl
	Action handleNotReachable New: com.bea.wlcp.wlng.plugin.callnotification.sip.south.CallDirectionPluginImpl Old: com.bea.wlcp.wlng.plugin.callnotification.sip.CallDirectionPlugin
Parlay X 2.1/SIP	New entry: void callConnected com.bea.wlcp.wlng.plugin.tpc.sip.south.SipContextMapper
	New entry: void callReleased com.bea.wlcp.wlng.plugin.tpc.sip.south.SipContextMapper
Parlay X 3.0 Third Party Call/Parlay	New entry: void callEnded com.bea.wlcp.wlng.plugin.tpc.parlay.south.callback.AppMultiPartyCallPluginSouth
Native SMPP	New entry: void receiveSubmitSmResponse com.bea.wlcp.wlng.plugin.legacy.smpp.north.UpstreamSmppAgentImpl
	New entry: void receiveSubmitSmMultiResponsei com.bea.wlcp.wlng.plugin.legacy.smpp.north.UpstreamSmppAgentImpl
	New entry: void sendDeliverSmResp com.bea.wlcp.wlng.plugin.legacy.smpp.southbind.SmppPluginSouthImpl

Table 10-2 Changed or new CDRs

Communication Service	CDR Definition
Parlay X 2.1 Payment/Diameter	New entry: ChargeAmountResponse chargeAmount com.bea.wlcp.wlng.plugin.payment.diameter.north.AmountChargingPlugInNorth
	New entry: RefundAmountResponse refundAmount com.bea.wlcp.wlng.plugin.payment.diameter.north.AmountChargingPlugInNorth
	New entry: ChargeSplitAmountResponse chargeSplitAmount com.bea.wlcp.wlng.plugin.payment.diameter.north.AmountChargingPlugInNorth
	New entry: ReserveAmountResponse reserveAmount com.bea.wlcp.wlng.plugin.payment.diameter.north.ReserveAmountChargingPluginNorth
	New entry: ReserveAdditionalAmountResponse reserveAdditionalAmount com.bea.wlcp.wlng.plugin.payment.diameter.north.ReserveAmountChargingPluginNorth
	New entry: ChargeReservationResponse chargeReservation com.bea.wlcp.wlng.plugin.payment.diameter.north.ReserveAmountChargingPluginNorth
	New entry: ReleaseReservationResponse releaseReservation com.bea.wlcp.wlng.plugin.payment.diameter.north.ReserveAmountChargingPluginNorth

Alarms

Below is a list of changed and new alarms. Copy the new alarm definitions, not just the ID.

Table 10-3 New or changed alarms

Container service/Communication Service	Alarm ID
Container service	Added: alarm id="102826"
	Added: alarm id="102827"
	Removed: alarm id="103825"
	Changed: alarm id="102827"
	Added: alarm id="102828"
	Removed: alarm id="103826"
	Added: alarm id="102829
	Added: alarm id="102830"
	Added: alarm id="102831"
	Added alarm id="102832"
	Added: alarm id="102833"
	Added: alarm id="102834"
	Added: alarm id="102835"
	Added: alarm id="102836"
	Added: alarm id="102837"
	Added: alarm id="102838"
	Added: alarm id="102839"
	Added: alarm id="102840"

Table 10-3 New or changed alarms

Container service/Communication Service	Alarm ID
	Added: alarm id="102841"
	Added: alarm id="102842"
	Added: alarm id="102841"
	Added: alarm id="103827"
	Added: alarm id="103833"
Parlay X 2.1 Short Messaging/SMPP	Changed: alarm id="110602"
	Changed: alarm id="110616"
Parlay X 2.1 Presence/SIP	Removed: alarm id="110900"
	Changed: alarm id="110901"
	Changed: alarm id="110902"
	Changed: alarm id="110904"
	Removed: alarm id="110906"
	Changed: alarm id="110907"
	Changed: alarm id="110908"
	Changed: alarm id="110909"
	Changed: alarm id="110910"
	Changed: alarm id="110918"
	Changed: alarm id="110922"
	Removed: alarm id="110923"
	Removed: alarm id="110924"

Table 10-3 New or changed alarms

Container service/Communication Service	Alarm ID
Parlay X 2.1 Payment/Diameter	Added: alarm id="114201"
	Added: alarm id="114201"
	Added: alarm id="114202"
Container Service	Added: alarm id="111007"
SOAP to SOAP Communication Services	Added: alarm id="125101"
	Added: alarm id="125102"
CdrToDiameter	Added alarm id="113400
	Added: alarm id="113401"
	Added: alarm id="113402"
	Added: alarm id="113403"
	Added: alarm id="113404"
	Added: alarm id="113405"
	Added: alarm id="113406"
Credit Control Service Interceptor	Added: alarm id="113500"
	Added: alarm id="113501"
	Added: alarm id="113502"
	Added: alarm id="113503"
	Added alarm id="113504"
Geo-redundancy Container Service	Added: alarm id="113601"

Table 10-3 New or changed alarms

Container service/Communication Service	Alarm ID
	Added: alarm id="113602"
	Added alarm id="113701"
	Added: alarm id="113702"
Native MM7	Added: alarm id="401050"
	Added: alarm id="401051"
	Added: alarm id="401052"
	Added: alarm id="401053"
Native SMPP	Added: alarm id="400104"
	Added: alarm id="400105"
	Added: alarm id="400106"
	Added: alarm id="400107"
	Added: alarm id="400110"
	Added: alarm id="400111"
	Added: alarm id="400112"
	Added: alarm id="400113"
	Added: alarm id="400114"