Oracle® Fusion Middleware

Installing and Configuring Oracle Service Bus

12*c* (12.2.1)

E57276-05

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Documentation for installers and system administrators that describes how to install and configure Oracle Service Bus.

ORACLE

Oracle Fusion Middleware Installing and Configuring Oracle Service Bus, 12*c* (12.2.1)

E57276-05

Primary Author: Ingrid Snedecor

Contents

Preface

This document describes how to install and configure Oracle Service Bus.

Audience

This document is intended for system administrators or application developers who are installing and configuring Oracle Service Bus. It is assumed that readers are familiar with web technologies and have a general understanding of Windows and UNIX platforms.

Related Documents

For more information, see the following documents in the Oracle Fusion Middleware library:

- *Planning an Installation of Oracle Fusion Middleware*
- *Installing and Configuring the Oracle Fusion Middleware Infrastructure*
- *Developing Services with Oracle Service Bus*
- *High Availability Guide*
- *WLST Command Reference for SOA Suite*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

About the Oracle Service Bus Installation

The standard installation for Oracle Service Bus described in this guide creates the standard topology, which represents a sample starting topology for this product.

1.1 Using the Standard Installation Topology as a Starting Point

The standard installation topology is a flexible topology that you can use as a starting point in production environments.

The information in this guide helps you to create a standard installation topology for Oracle Service Bus. If appropriate and required, you can later extend the standard installation topology to create a secure and highly available production environment (see Next Steps After Configuring the Domain).

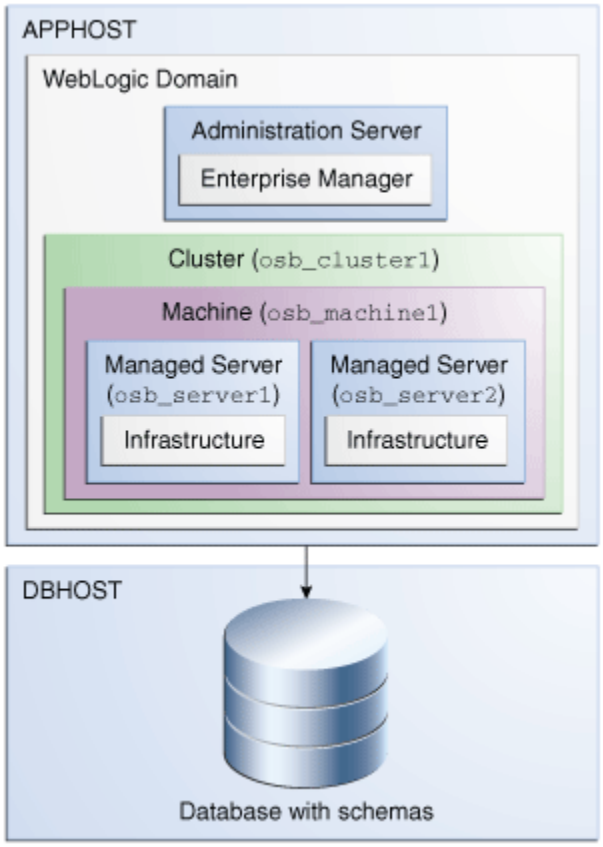
The standard installation topology represents a sample topology for this product. It is not the only topology this product supports. For more information, see About the Standard Installation Topology in *Planning an Installation of Oracle Fusion Middleware*.

1.1.1 About the Oracle Service Bus Standard Installation Topology

This topology represents a standard WebLogic Server domain that contains an Administration Server and one or more clusters containing one or more Managed Servers.

The following figure shows the standard installation topology for Oracle Service Bus.

See Table 1-1 for information on elements of this topology.



For configuration instructions, see Configuring the Oracle Service Bus Domain.

1.1.2 About Elements in the Standard Installation Topology Illustration

The standard installation topology typically includes common elements.

The following table describes all elements of the topology illustration:

Table 1-1 Description of Elements in Standard Installation Topologies

Element	Description and Links to Related Documentation
APPHOST	A standard term used in Oracle documentation to refer to the machine that hosts the application tier.
DBHOST	A standard term used in Oracle documentation to refer to the machine that hosts the database.
WebLogic Domain	A logically related group of Java components (in this case, the Administration Server, Managed Servers, and other related software components). For more information, see What Is an Oracle WebLogic Server Domain? in *Understanding Oracle Fusion Middleware*.

Table 1-1 (Cont.) Description of Elements in Standard Installation Topologies

Element	Description and Links to Related Documentation
Administration Server	Central control entity of a WebLogic domain. It maintains configuration objects for that domain and distributes configuration changes to Managed Servers. For more information, see What Is the Administration Server? in *Understanding Oracle Fusion Middleware*.
Enterprise Manager	The Oracle Enterprise Manager Fusion Middleware Control is a primary tool used to manage a domain. For more information, see Oracle Enterprise Manager Fusion Middleware Control in *Understanding Oracle Fusion Middleware*.
Cluster	A collection of multiple WebLogic Server instances running simultaneously and working together. For more information, see Overview of Managed Servers and Managed Server Clusters in *Understanding Oracle Fusion Middleware*.
Machine	A logical representation of the computer that hosts one or more WebLogic Server instances (servers). Machines are also the logical glue between the Managed Servers and the Node Manager. In order to start or stop the Managed Servers using the Node Manager, associate the Managed Servers with a machine.
Managed Server	A host for your applications, application components, web services, and their associated resources. For more information, see Overview of Managed Servers and Managed Server Clusters in *Understanding Oracle Fusion Middleware*.
Infrastructure	A collection of services that include the following: • Metadata repository (MDS) Contains metadata for Oracle Fusion Middleware components, such as the Oracle Application Developer Framework. For more information, see What Is the Metadata Repository? in *Understanding Oracle Fusion Middleware*. • Oracle Application Developer Framework (Oracle ADF) • Oracle Web Services Manager (OWSM)

1.2 Understanding Insight Integration with Oracle Service Bus

You can configure an Oracle Real-Time Integration Business Insight (Insight) agent with Oracle Service Bus to collect metrics.

Note: Insight is available only if you have applied the 12*c* (12.2.1) Oracle Real-Time Integration Business Insight install patches released in March 2016. For more information, see the Release Notes.

Insight allows business users to model, collect, and monitor business-level metrics using web-based dashboards and reports, without the need to modify their already-deployed integrations and applications. Insight is collocated with the BAM Managed

Server. The business metrics are collected by Insight *agents* that are co-located with Oracle SOA Suite or Oracle Service Bus Managed Servers and made available to the central application, viewed using BAM dashboards and reports.

To include an Insight agent with Oracle Service Bus, you select the Insight Service Bus Agent template in the Configuration Wizard. See Selecting the Configuration Templates for Oracle Service Bus.

For more information about Insight, see:

- *Understanding Oracle Real-Time Integration Business Insight*
- *Getting Started with Oracle Real-Time Integration Business Insight*
- *Using Oracle Real-Time Integration Business Insight*
- *Administering Oracle Real-Time Integration Business Insight*
- Understanding the Oracle Real-Time Integration Business Insight Standard Installation Topology in *Installing and Configuring Oracle SOA Suite and Business Process Management*

1.3 About Secondary Topologies

Secondary topologies include configurations with components that require additional installation or configuration steps on top of the standard topology.

This is a test of using a variable for an xref from a shared topic to a shared topic:

The main sections of this guide describe how to install and configure a standard installation topology. The secondary topologies contain several products that are not identified or included in the standard installation topologies.

For guidelines to install and configure secondary topologies, see Oracle Service Bus and Oracle Enterprise Scheduler Topology.

1.4 Using This Document to Extend an Existing Domain

The procedures in this guide describe how to create a new domain. The assumption is that no other Oracle Fusion Middleware products are installed on your system.

If you have installed and configured other Oracle Fusion Middleware products on your system (for example, Fusion Middleware Infrastructure, with a domain that is up and running), use the same instructions to extend your existing domain. If you choose extend an existing domain, read Installing Multiple Products in the Same Domain for detailed information.

2

Preparing to Install and Configure Oracle Service Bus

To prepare for your Oracle Service Bus installation, verify that your system meets the basic requirements, then obtain the correct installation software.

Roadmap for Installing and Configuring a Standard Installation Topology
: This roadmap provides all the steps required to install and configure a standard Oracle Service Bus installation topology.

Roadmap for Verifying Your System Environment
: Before you begin the installation and configuration process, you must verify your system environment.

About Product Distributions
: You create the initial Oracle Service Bus domain using the Oracle Fusion Middleware Infrastructure distribution, which contains both Oracle WebLogic Server software and Oracle Java Required Files (JRF) software.

2.1 Roadmap for Installing and Configuring a Standard Installation Topology

This roadmap provides all the steps required to install and configure a standard Oracle Service Bus installation topology.

Table 2-1 Standard Installation Roadmap

Task	Description	Documentation
Verify your system environment	Before beginning the installation, verify that the minimum system and network requirements are met.	See Roadmap for Verifying Your System Environment.
Check for any mandatory patches that will be required before or after the installation	Review the Oracle Fusion Middleware Infrastructure release notes to see if there are any mandatory patches required for the software products you are installing.	See Install and Configure in *Release Notes for Oracle Fusion Middleware Infrastructure*.
Obtain the appropriate distributions	Obtain the Oracle Fusion Middleware Infrastructure and Oracle Service Bus distributions.	See About Product Distributions.

Table 2-1 (Cont.) Standard Installation Roadmap

Task	Description	Documentation
Determine your installation directories	Verify that the installer can access or create the required installer directories. Also, verify that the directories exist on systems that meet the minimum requirements.	See What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*.
Install prerequisite software	Install Oracle Fusion Middleware Infrastructure to create the Oracle home directory for Oracle Service Bus.	For Oracle Fusion Middleware Infrastructure, see *Installing and Configuring the Oracle Fusion Middleware Infrastructure*. You only need to perform the installation for Infrastructure. You do not need to configure a domain for Infrastructure.
Install the software	Run the Oracle Universal Installer to install Oracle Service Bus. Installing the software transfers the software to your system and creates the Oracle home directory.	See Installing the Oracle Service Bus Software.
Select a database profile and review any required custom variables.	Before you install required schemas in the database, review the information about any custom variables you will need to set for the Oracle Service Bus schemas.	See Understanding Database Requirements for an Oracle Fusion Middleware Installation.
Create the schemas	Run the Repository Creation Utility to create the schemas required for configuration.	See Creating the Database Schemas.
Create a WebLogic domain	Use the Configuration Wizard/Assistant to create and configure the WebLogic domain.	See Configuring the Domain for creating the standard topology for Oracle Service Bus .
Administer and prepare your domain for high availability	Discover additional tools and resources to administer your domain and configure your domain to be highly available.	See Next Steps After Configuring the Domain.

2.2 Roadmap for Verifying Your System Environment

Before you begin the installation and configuration process, you must verify your system environment.

The following table identifies important tasks and checks to perform to ensure that your environment is properly prepared for installing and configuring Oracle Service Bus.

Table 2-2 Roadmap for Verifying Your System Environment

Task	Description	Documentation
Verify certification and system requirements	Verify that your operating system is certified and properly configured for installation and configuration.	See Verifying Certification, System, and Interoperability Requirements.

Table 2-2 (Cont.) Roadmap for Verifying Your System Environment

Task	Description	Documentation
Identify a proper installation user	Verify that the installation user has the proper permissions to install and configure the software.	See Selecting an Installation User.
Select the installation and configuration directories on your system	Verify that you can create the necessary directories for installation and configuration, according to the recommended directory structure.	See Understanding Directories for Installation and Configuration.
Install a certified JDK	The installation program for the distribution requires a certified JDK present on your system.	See Understanding JDK Requirements for an Oracle Fusion Middleware Installation.
Install and configure a database for mid-tier schemas	To configure your WebLogic domain, you must have access to a certified database that is properly configured for schemas required by Oracle Service Bus.	See Understanding Database Requirements for an Oracle Fusion Middleware Installation.

Verifying Certification, System, and Interoperability Requirements
: Oracle recommends that you use the certification matrix and system requirements documents with each other to verify that your environment meets the requirements for installation.

Selecting an Installation User
: The user who performs installation and configuration on your system requires sufficient permissions and privileges.

Understanding Directories for Installation and Configuration
: During the installation and domain configuration process, you must plan on providing the locations for these directories: Oracle Home, Domain Home, and the Application Home.

Understanding JDK Requirements for an Oracle Fusion Middleware Installation
: Most Fusion Middleware products are in `.jar` file format. These distributions do *not* include a JDK. To run a `.jar` distribution installer, you must have a certified JDK already installed on your system.

Understanding Database Requirements for an Oracle Fusion Middleware Installation
: Many Oracle Fusion Middleware products require database schemas prior to configuration. If you do not already have a database where you can install these schemas, you must install and configure a certified database.

2.2.1 Verifying Certification, System, and Interoperability Requirements

Oracle recommends that you use the certification matrix and system requirements documents with each other to verify that your environment meets the requirements for installation.

1. **Verifying your environment meets certification requirements**

Make sure that you are installing your product on a supported hardware and software configuration. For more information, see the certification document for your release on the *Oracle Fusion Middleware Supported System Configurations* page.

Oracle has tested and verified the performance of your product on all certified systems and environments. Whenever new certifications occur, they are added to the proper certification document right away. New certifications can be released at any time. Therefore, the certification documents are kept outside the documentation libraries and are available on Oracle Technology Network.

2. **Using the system requirements document to verify certification**

   Oracle recommends that you use the *Oracle Fusion Middleware System Requirements and Specifications* document to verify that the certification requirements are met. For example, if the certification document indicates that your product is certified for installation on 64-Bit Oracle Linux 6.5, use this document to verify that your system meets the required minimum specifications. These include disk space, available memory, specific platform packages and patches, and other operating system-specific items. System requirements can change in the future. Therefore, the system requirement documents are kept outside of the documentation libraries and are available on Oracle Technology Network.

3. **Verifying interoperability among multiple products**

   See Oracle Fusion Middleware 12c Interoperability and Compatibility in *Understanding Interoperability and Compatibility* to learn how to install and run multiple Fusion Middleware products from the same release or mixed releases with each other.

2.2.2 Selecting an Installation User

The user who performs installation and configuration on your system requires sufficient permissions and privileges.

Understanding User Permissions
: The user who installs a Fusion Middleware product owns the files and has certain permissions on the files.

Understanding Non-Default User Permissions on UNIX Operating Systems
: Changing the default permissions setting reduces the security of the installation and possibly your system. Oracle does not recommend changing default permission settings.

Verifying the Installation User has Administrator Privileges on Windows Operating Systems
: To update the Windows Registry, you must have Administrator privileges.

2.2.2.1 Understanding User Permissions

The user who installs a Fusion Middleware product owns the files and has certain permissions on the files.

- Read and write permissions on all non-executable files (for example, `.jar`, `.properties`, or `.xml`). All other users in the same group as the file owner have read permissions only.

- Read, write, and execute permissions on all executable files (for example, `.exe`, `.sh`, or `.cmd`). All other users in the same group as the file owner have read and execute permissions only.

This means that someone other than the person who installs the software can use the installed binaries in the Oracle home to configure a domain or set of Fusion Middleware products.

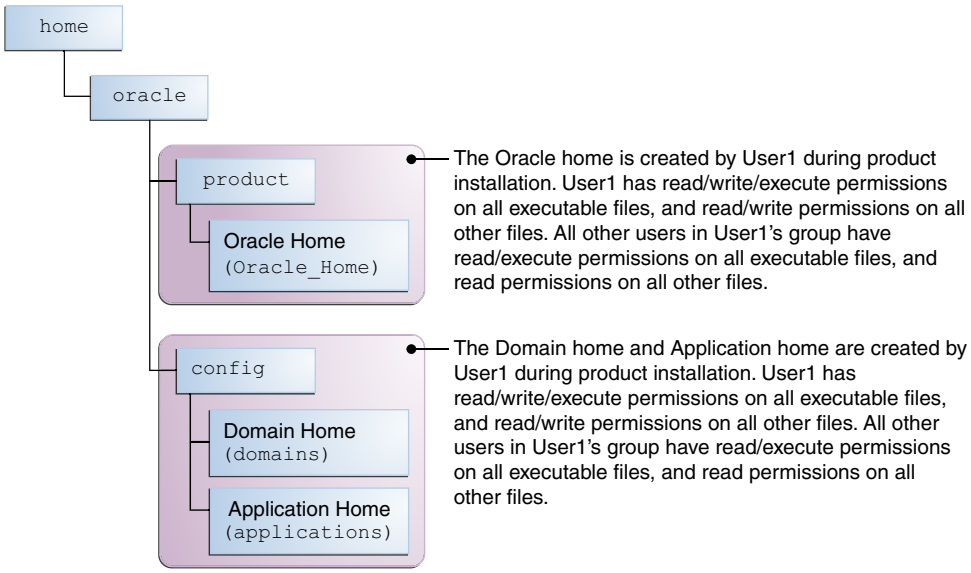
During configuration, the files generated by the configuration process are owned by the user who ran the Configuration Wizard, with the same permissions as described above for the installation user. However, security-sensitive files are not created with group permissions. Only the user that created the domain has read and write permissions and can administer the domain.

Consider the following examples:

- **Example 1: A Single User Installs the Software and Configures the Domain**

  This example shows the permissions if the same user installs the software and configures the domain.

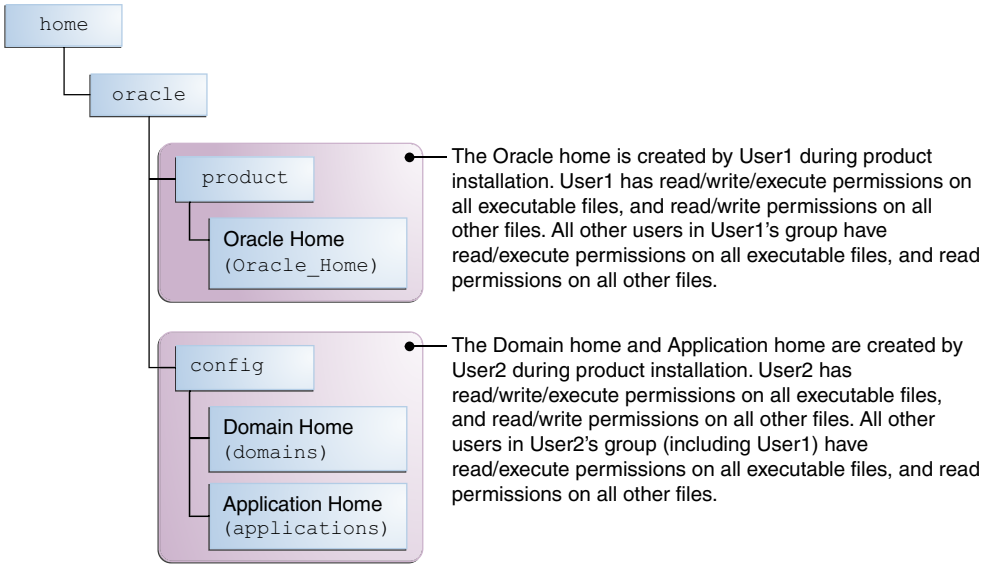
  To ensure the proper permissions and privileges for all files, Oracle recommends that the same owner perform both tasks: install the Oracle Fusion Middleware product and configure the WebLogic Server domain using the Configuration Wizard.



  If the user who creates the domain is different than the user who installed the software, then both users must have the same privileges, as shown in the next example.

- **Example 2: The Oracle Home and Domain are Created by Different Users**

  This example shows the permissions where one user creates the Oracle home and another user configures the domain.



Note: Certain domain files do not have group permissions. For example, cwallet.sso.

Consider the following items before running the installer:

- On UNIX operating systems, Oracle recommends that you set `umask` to `027` on your system before you install the software. This ensures that file permissions are set properly during installation. Use the following command:

  ```
  umask 027
  ```

  You must enter this command in the same terminal window from which you plan to run the product installer.

- On UNIX operating systems, do not run the installation program as the `root` user. If you run the installer as a root user, the startup validation may fail and you cannot continue the installation.

- When you manage a product installation (for example, applying patches or starting managed Servers), use the same user ID that you used to install the product.

- On Windows operating systems, you must have Administrative privileges to install the product. See Verifying the Installation User has Administrator Privileges on Windows Operating Systems for more information.

2.2.2.2 Understanding Non-Default User Permissions on UNIX Operating Systems

Changing the default permissions setting reduces the security of the installation and possibly your system. Oracle does not recommend changing default permission settings.

If other users require access to particular files or executable, consider using the UNIX `sudo` command (or other similar command) in lieu of changing file permissions.

Refer to your UNIX operating system Administrator's Guide or contact your operating system vendor if you need further assistance.

2.2.2.3 Verifying the Installation User has Administrator Privileges on Windows Operating Systems

To update the Windows Registry, you must have Administrator privileges.

By default, members with the Administrator privilege sign in to the system with regular privileges, but can request elevated permissions to perform administrative tasks.

To perform a task with elevated privileges:

1. Find the Command Prompt item, either from the Start menu or the Windows icon in the lower-left hand corner.
2. Right-click Command Prompt and select **Run as administrator**.

   This opens a new command prompt window, and all actions performed in this window will be done with administrator privileges.

   Note: If you have User Access Control enabled on your system, you may see an additional window asking you to confirm this action. Confirm and continue with this procedure.

3. Perform the desired task.

   For example, to start the product installer:

   For a jar file, enter:

   ```
   java –jar distribution_name.jar
   ```

   For an executable (`.exe`, `.bin`, or `.sh` file), enter:

   ```
   distribution_name.exe
   ```

2.2.3 Understanding Directories for Installation and Configuration

During the installation and domain configuration process, you must plan on providing the locations for these directories: Oracle Home, Domain Home, and the Application Home.

The following sections provide information to help you decide where you want to create these directories:

Understanding the Recommended Directory Structure
: Oracle recommends specific locations for the Oracle Home, Domain Home, and Application Home.

About the Oracle Home Directory
: When you install any Oracle Fusion Middleware product, you must use an Oracle home directory.

About the Domain Home Directory
: The Domain home is the directory where domains that you configure are created.

About the Application Home Directory
: The Application home is the directory where applications for domains you configure are created.

Installing Multiple Products in the Same Domain
: There are two methods for installing and configuring multiple products in one domain.

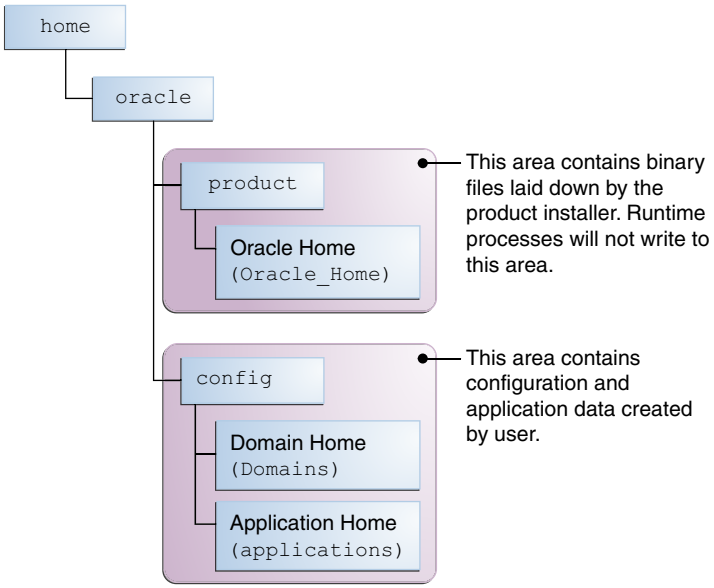
Preparing for Shared Storage
: Oracle Fusion Middleware enables you to configure multiple Oracle WebLogic Server domains from a single Oracle home. This allows you to install the Oracle home in a single location on a shared volume and reuse the Oracle home for multiple host installations.

2.2.3.1 Understanding the Recommended Directory Structure

Oracle recommends specific locations for the Oracle Home, Domain Home, and Application Home.

Oracle recommends a directory structure similar to the one shown in Figure 2-1.

Figure 2-1 Recommended Oracle Fusion Middleware Directory Structure



A base location (Oracle base) should be established on your system (for example, `/home/oracle`) and from there, two separate branches should be created. The `product` directory should contain the product binary files and all of the Oracle home directories. The `config` directory should contain your domain and application data.

Oracle recommends that you do not keep your configuration data anywhere underneath the Oracle home; if you upgrade your product to another major release, you will be required to create a new Oracle home for binaries. You must also make sure that your configuration data exist in a location to which the binaries in the Oracle home have access.

The `/home/oracle/product` (for the Oracle home) and `/home/oracle/config` (for the application and configuration data) directories are used in examples throughout the documentation; be sure to replace these directories with the actual directories on your system.

2.2.3.2 About the Oracle Home Directory

When you install any Oracle Fusion Middleware product, you must use an Oracle home directory.

This directory is a repository for common files that are used by multiple Fusion Middleware products installed on the same machine. These files are essential to ensuring that Fusion Middleware operates correctly on your system. They facilitate checking of cross-product dependencies during installation. For this reason, you can consider the Oracle home directory a *central support directory* for all Oracle Fusion Middleware products installed on your system.

Fusion Middleware documentation refers to the Oracle home directory as *ORACLE_HOME*.

Oracle Home Considerations

Keep the following in mind when creating the Oracle home directory and installing Fusion Middleware products:

- Do not include spaces in the name of your Oracle home directory; the installer gives you an error message if your Oracle home directory path contains spaces.
- You can install only one instance of each Oracle Fusion Middleware product in a single Oracle home directory. If you need to maintain separate versions of a product on the same machine, each version must be in its own Oracle home directory.

  Although you can have several different products in a single Oracle home, only one version of each product can be in the Oracle home.

Multiple Home Directories

Although in most situations, a single Oracle home directory is sufficient, it is possible to create more than one Oracle home directory. For example, you need to maintain multiple Oracle home directories in the following situations:

- You prefer to maintain separate development and production environments, with a separate product stack for each. With two directories, you can update your development environment without modifying the production environment until you are ready to do so.
- You want to maintain two different versions of a Fusion Middleware product at the same time. For example, you may want to install a new version of a product while keeping your existing version intact. In this case, you must install each product version in its own Oracle home directory.
- You need to install multiple products that are not compatible with each other. See Oracle Fusion Middleware 12*c* (12.2.1) Interoperability and Compatibility in *Understanding Interoperability and Compatibility* for more information.

> **Note:** If you create more than one Oracle home directory, you must provide non-overlapping port ranges during the configuration phase for each product.

2.2.3.3 About the Domain Home Directory

The Domain home is the directory where domains that you configure are created.

The default Domain home location is *ORACLE_HOME*`/user_projects/domains/`*domain_name*. However, Oracle strongly recommends that you do not use this default location. Put your Domain home *outside* of the Oracle home directory, for example, in `/home/oracle/config/domains`. The `config` directory should contain domain and application data. Oracle recommends a separate domain directory

so that new installs, patches, and other operations update the *ORACLE_HOME* only, *not* the domain configuration.

See Understanding the Recommended Directory Structure for more about the recommended directory structure and locating your Domain home.

Fusion Middleware documentation refers to the Domain home directory as *DOMAIN_HOME* and includes all folders up to and including the domain name. For example, if you name your domain `exampledomain` and locate your domain data in the `/home/oracle/config/domains` directory, the documentation would use *DOMAIN_HOME* to refer to `/home/oracle/config/domains/exampledomain`.

2.2.3.4 About the Application Home Directory

The Application home is the directory where applications for domains you configure are created.

The default Application home location is *ORACLE_HOME*`/user_projects/applications/`*domain_name*. However, Oracle strongly recommends locating your Application home *outside* of the Oracle home directory; if you upgrade your product to another major release, you must create a new Oracle home for binaries.

See Understanding the Recommended Directory Structure for more about the recommended directory structure and locating your Application home.

Fusion Middleware documentation refers to the Application home directory as *APPLICATION_HOME* and includes all folders up to and including the domain name. For example, if you name your domain `exampledomain` and you locate your application data in the `/home/oracle/config/applications` directory, the documentation uses *APPLICATION_HOME* to refer to `/home/oracle/config/applications/exampledomain`.

2.2.3.5 Installing Multiple Products in the Same Domain

There are two methods for installing and configuring multiple products in one domain.

- **Method 1.**

  Install and configure Product A, including creating the schemas and starting all servers in the domain to verify a successful domain configuration.

  This is the method used in all installation guides in the Fusion Middleware library. You can repeat this process for as many products as necessary. It allows you to validate one product at a time and add more products incrementally.

  To install Product B, you stop the Administration Server to prevent any updates to the domain while you are adding the new product. Then, follow instructions in the installation guide for Product B, including creating the necessary schemas. Finally, extend the Product A domain to include Product B before starting all of the servers again.

- **Method 2.**

  Install all of the necessary products, then create the schemas for all of the products. After creating the schemas, configure the domain using all of the necessary product templates, then start all the servers.

  This method of creating a multi-product domain may be slightly faster; however, the installation guides in the Fusion Middleware library do not provide specific instructions for this method of domain creation. You will need to refer to the supporting documentation as appropriate.

2.2.3.6 Preparing for Shared Storage

Oracle Fusion Middleware enables you to configure multiple Oracle WebLogic Server domains from a single Oracle home. This allows you to install the Oracle home in a single location on a shared volume and reuse the Oracle home for multiple host installations.

If you plan to use shared storage in your environment, see Using Shared Storage in *High Availability Guide* for more information.

For configuration requirements specific to Managed File Transfer, see High Availability Properties in *Using Oracle Managed File Transfer*

2.2.4 Understanding JDK Requirements for an Oracle Fusion Middleware Installation

Most Fusion Middleware products are in `.jar` file format. These distributions do *not* include a JDK. To run a `.jar` distribution installer, you must have a certified JDK already installed on your system.

Make sure that the JDK is installed *outside* of the Oracle home. If you install the JDK under the Oracle home, you will encounter problems when you try to perform tasks in the future. Oracle Universal Installer validates that the Oracle home directory is empty; the install will not progress until you specify an empty directory. Oracle recommends that you locate your JDK installation in the `/home/oracle/products/jdk` directory.

Some products (such as Oracle HTTP Server and Oracle JDeveloper) are available as **platform-specific distributions**. Platform-specific distributions have a `.bin` (for UNIX operating systems) or `.exe` (for Windows operating systems) installer; in these cases, a platform-specific JDK is in the distribution and you do not need to install a JDK separately. However, you may need to upgrade this JDK to a more recent version, depending on the JDK versions that are certified.

Always verify the required JDK version by reviewing the certification information on the *Oracle Fusion Middleware Supported System Configurations* page.

To download the required JDK, navigate to the following URL and download the Java SE JDK:

http://www.oracle.com/technetwork/java/javase/downloads/index.html

2.2.5 Understanding Database Requirements for an Oracle Fusion Middleware Installation

Many Oracle Fusion Middleware products require database schemas prior to configuration. If you do not already have a database where you can install these schemas, you must install and configure a certified database.

To find a certified database for your operating system, see the certification document for your release on the *Oracle Fusion Middleware Supported System Configurations* page.

To make sure your database is properly configured for schema creation, see "Repository Creation Utility Requirements" in the *Oracle Fusion Middleware System Requirements and Specifications* document.

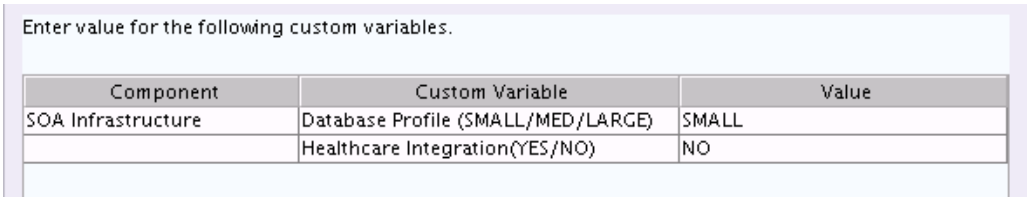
After your database is properly configured, you use the Repository Creation Utility (RCU) to create product schemas in your database. This tool is available in the Oracle home for your Oracle Fusion Middleware product. For more information about the

RCU, see Understanding Repository Creation Utility in *Creating Schemas with the Repository Creation Utility*.

About the Custom Variables Required for the SOA Suite Schemas
When you install the Oracle SOA Suite schemas, you are prompted to set two custom variables, which affect the way in which these schemas are created in the database.

2.2.5.1 About the Custom Variables Required for the SOA Suite Schemas

When you install the Oracle SOA Suite schemas, you are prompted to set two custom variables, which affect the way in which these schemas are created in the database.


Enter value for the following custom variables.

Component	Custom Variable	Value
SOA Infrastructure	Database Profile (SMALL/MED/LARGE)	SMALL
	Healthcare Integration(YES/NO)	NO

These variables are explained further in the following sections:

About the Database Profile Custom Variable
The Database Profile custom variable on the Repository Creation Utility (RCU) Custom Variables screen allows you to identify the predicted size or "profile" of the database on which you are installing the SOA Infrastructure schema.

About the Healthcare Integration Custom Variable
The Healthcare Integration custom variable helps to activate the Healthcare Integration User Interface for Oracle SOA Suite. The interface is not supported for Oracle Business Process Management.

2.2.5.1.1 About the Database Profile Custom Variable

The Database Profile custom variable on the Repository Creation Utility (RCU) Custom Variables screen allows you to identify the predicted size or "profile" of the database on which you are installing the SOA Infrastructure schema.

To estimate the size of the database required for your Oracle SOA Suite configuration, consider the information in Developing a Database Growth Management Strategy in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*.

If you enter **SMALL** or **MEDIUM** as the database profile, the RCU performs no special actions when the schema is created. The **SMALL** and **MEDIUM** options should be entered for informational purposes only.

If you enter **LARGE** as the database profile, the RCU creates the SOA Infrastructure schema using an Oracle database feature called Interval Partitioning. Interval partitioning improves the efficiency of the database when large numbers of composite applications must be processed. When you select the **LARGE** database profile, the RCU creates the interval partitioned tables in a manner supported by the Oracle SOA Suite purging scripts and guidelines.

For more information about database partitioning, see the following sections of the *Oracle Database VLDB and Partitioning Guide*:

- Partitioning Concepts
- Interval Partitioning

2.2.5.1.2 About the Healthcare Integration Custom Variable

The Healthcare Integration custom variable helps to activate the Healthcare Integration User Interface for Oracle SOA Suite. The interface is not supported for Oracle Business Process Management.

If you are *not* planning to use the Healthcare Integration User Interface for Oracle SOA Suite, then set the value of the Healthcare Integration custom variable to **NO**. If you *are* planning to use the Healthcare Integration User Interface for Oracle SOA Suite, set it to **YES**. Otherwise, the Healthcare Integration User Interface will not function properly after it is installed and configured.

When set to **YES**, the RCU creates additional materialized views in the database, which are required by the Healthcare Integration User Interface. When set to **NO**, you can perform these additional schema configuration tasks later by running the following SQL script on the database. This script is installed in the Oracle Fusion Middleware Oracle home when you select the Healthcare with B2B installation type:

`ORACLE_HOME/common/sql/soainfra/sql/oracle/b2b_mv.sql`

For more information, see Using the Oracle SOA Suite for Healthcare Integration User Interface in *Healthcare Integration User's Guide for Oracle SOA Suite*.

2.3 About Product Distributions

You create the initial Oracle Service Bus domain using the Oracle Fusion Middleware Infrastructure distribution, which contains both Oracle WebLogic Server software and Oracle Java Required Files (JRF) software.

Oracle JRF software consists of:

- Oracle Web Services Manager
- Oracle Application Development Framework (Oracle ADF)
- Oracle Enterprise Manager Fusion Middleware Control
- Repository Creation Utility (RCU)
- Other libraries and technologies required to support Oracle Fusion Middleware products

Installing Oracle Fusion Middleware Infrastructure is a prerequisite to installing Oracle Service Bus.

3

Installing the Oracle Service Bus Software

Follow the steps in this section to install the Oracle Service Bus software.

Before beginning the installation, ensure that you have verified the prerequisites and completed all steps covered in Preparing to Install and Configure Oracle Service Bus.

Verifying the Installation Checklist
: The installation process requires specific information.

Starting the Installation Program
: Before running the installation program, you must verify the JDK and prerequisite software is installed.

Navigating the Installation Screens
: The installer shows a series of screens where you verify or enter information.

Verifying the Installation
: After you complete the installation, verify it was successful by completing a series of tasks.

3.1 Verifying the Installation Checklist

The installation process requires specific information.

Table 3-1 lists important items that you must know before, or decide during, Oracle Service Bus installation.

Table 3-1 Installation Checklist

Information	Example Value	Description
`JAVA_HOME`	`/home/Oracle/Java/jdk1.8.0_60`	Environment variable that points to the Java JDK home directory.
Database host	`examplehost.exampledomain`	Name and domain of the host where the database is running.
Database port	`1521`	Port number that the database listens on. The default Oracle database listen port is `1521`.
Database service name	`orcl`	Oracle databases require a unique service name. The default service name is `orcl`.

Table 3-1 (Cont.) Installation Checklist

Information	Example Value	Description
DBA username	`SYS`	Name of user with database administration privileges. The default DBA user on Oracle databases is `SYS`.
DBA password	`myDBApw957`	Password of the user with database administration privileges.
`ORACLE_HOME`	`/home/Oracle/`*`product`*`/ORACLE_HOME`	Directory in which you will install your software. This directory will include Oracle Fusion Middleware Infrastructure and Oracle Service Bus, as needed.
WebLogic Server hostname	`examplehost.exampledomain.com`	Host name for Oracle WebLogic Server and Oracle Service Bus consoles.
Console port	`7001`	Port for Oracle WebLogic Server and Oracle Service Bus consoles.
`DOMAIN_HOME`	`/home/Oracle/config/domains/osb_domain`	Location in which your domain data is stored.
`APPLICATION_HOME`	`/home/Oracle/config/applications/osb_domain`	Location in which your application data is stored.
Administrator user name for your WebLogic domain	`weblogic`	Name of the user with Oracle WebLogic Server administration privileges. The default administrator user is `weblogic`.
Administrator user password	`myADMpw902`	Password of the user with Oracle WebLogic Server administration privileges.
FTP Port	`7021`	Port for embedded FTP server.
RCU	*`ORACLE_HOME`*`/oracle_common/bin`	Path to the Repository Creation Utility (RCU).
RCU schema prefix	`OSB`	Prefix for names of database schemas used by Oracle Service Bus.

Table 3-1 (Cont.) Installation Checklist

Information	Example Value	Description
RCU schema password	`myRCUpw674`	Password for the database schemas used by Oracle Service Bus.
Configuration utility	*`ORACLE_HOME`*`/oracle_common/common/bin`	Path to the Configuration Wizard for domain creation and configuration.
`$FTP_ROOT`	`$DOMAIN_HOME/`*`product`*`/ftp_root`	Embedded FTP server root directory.

3.2 Starting the Installation Program

Before running the installation program, you must verify the JDK and prerequisite software is installed.

To start the installation program:

1. Sign in to the host system.
2. If you have not already done so, verify that a certified JDK is installed on your system: enter `java -version` on the command line. For 12*c* (12.2.1), the certified JDK is 1.8.0_60 and later.

   For more information, see:

   - *Oracle Fusion Middleware Supported System Configurations*
   - Installing a JDK in *Planning an Installation of Oracle Fusion Middleware*.
3. Verify that you have installed all prerequisite software, such as Oracle Fusion Middleware Infrastructure.
4. Go to the directory where you downloaded the installation program.
5. Start the installation program by running the `java` executable from the JDK directory. For example:

   - (UNIX) `/home/Oracle/Java/jdk1.8.0_60/bin/java –jar fmw_12.2.1.0.0_osb.jar`
   - (Windows) `C:\home\Oracle\Java\jdk1.8.0_60\bin\java -jar fmw_12.2.1.0.0_osb.jar`

   Note:

   You can also start the installer in silent mode using a saved response file instead of launching the installer screens. For more about silent or command line installation, see Using the Oracle Universal Installer in Silent Mode in *Installing Software with the Oracle Universal Installer*.

When the installation program appears, you are ready to begin the installation.

3.3 Navigating the Installation Screens

The installer shows a series of screens where you verify or enter information.

The following table lists the order in which installer screens appear. If you need additional help with an installation screen, click **Help**.

Table 3-2 Oracle Service Bus Install Screens

Screen	Description
Installation Inventory Setup	On UNIX operating systems, this screen opens if this is the first time you are installing any Oracle product on this host. Specify the location where you want to create your central inventory. Make sure that the operating system group name selected on this screen has write permissions to the central inventory location. For more about the central inventory, see Understanding the Oracle Central Inventory in *Installing Software with the Oracle Universal Installer*. This screen does not appear on Windows operating systems.
Welcome	On this screen, review the information to make sure that you have met all the prerequisites, then click **Next**
Auto Updates	On this screen, select to skip automatic updates, select patches, or search for the latest software updates, including important security updates, through your My Oracle Support account.
Installation Location	Use this screen to specify your Oracle home directory location. This Oracle home should already contain Oracle Fusion Middleware Infrastructure and any other12*c* (12.2.1)products that have been installed. You can click **View** to verify and ensure that you are installing Oracle Service Bus in the correct Oracle home. See Understanding Directories for Installation and Configuration.
Installation Type	Select **Service Bus**.
Prerequisite Checks	This screen verifies that your system meets the minimum necessary requirements. To view the list of tasks that gets verified, select **View Successful Tasks**. To view log details, select **View Log**. If any prerequisite check fails, then an error message appears at the bottom of the screen. Fix the error and click **Rerun** to try again. To ignore the error or the warning message and continue with the installation, click **Skip** (not recommended).
Installation Summary	Use this screen to verify installation options you selected. If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. The response file collects and stores all the information that you have entered, and enables you to perform a silent installation (from the command line) at a later time. Click **Install** to begin the installation.

Table 3-2 (Cont.) Oracle Service Bus Install Screens

Screen	Description
Installation Progress	This screen shows the installation progress. When the progress bar reaches 100% complete, click **Finish** to dismiss the installer, or click **Next** to see a summary.
Installation Complete	This screen displays the Installation Location and the Feature Sets that are installed. Review this information and click **Finish** to close the installer.

3.4 Verifying the Installation

After you complete the installation, verify it was successful by completing a series of tasks.

Reviewing the Installation Log Files
: Review the contents of the installation log files to make sure that the installer did not encounter any problems.

Checking the Directory Structure
: The contents of your installation vary based on the options you selected during the installation.

Viewing the Contents of the Oracle Home
: You can view the contents of the Oracle home using the `viewInventory` script.

3.4.1 Reviewing the Installation Log Files

Review the contents of the installation log files to make sure that the installer did not encounter any problems.

By default, the installer writes logs files to the *`Oracle_Inventory_Location`*`/logs` (on UNIX operating systems) or *`Oracle_Inventory_Location`*`\logs` (on Windows operating systems) directory.

For a description of the log files and where to find them, see Installation Log Files in *Installing Software with the Oracle Universal Installer*.

3.4.2 Checking the Directory Structure

The contents of your installation vary based on the options you selected during the installation.

For more information about the directory structure after installation, see What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*.

3.4.3 Viewing the Contents of the Oracle Home

You can view the contents of the Oracle home using the `viewInventory` script.

For more information, see Viewing the Contents of an Oracle Home in *Installing Software with the Oracle Universal Installer*.

4

Configuring the Oracle Service Bus Domain

After you have installed Oracle Service Bus, you can configure the domain, which you can also extend for high availability.

The configuration steps presented here assume that you have completed the installation steps covered in:

- Preparing to Install and Configure Oracle Service Bus
- Installing the Oracle Service Bus Software

Refer to the following sections to create the database schemas, configure a WebLogic domain, and verify the configuration:

Creating the Database Schemas
: Before you can configure an Oracle Service Bus domain, you must install required schemas on a certified database for use with this release of Oracle Fusion Middleware.

Configuring the Domain
: Use the Configuration Wizard to create and configure a domain.

Starting the Servers
: After configuration is complete, start Node Manager, then the WebLogic Administration Server and Managed Servers.

Verifying the Configuration
: After completing all configuration steps, you can perform additional steps to verify that your domain is properly configured.

4.1 Creating the Database Schemas

Before you can configure an Oracle Service Bus domain, you must install required schemas on a certified database for use with this release of Oracle Fusion Middleware.

Installing and Configuring a Certified Database
: Before creating the database schemas, you must install and configure a certified database, and verify that the database is up and running.

Starting the Repository Creation Utility
: Start the Repository Creation Utility (RCU) after verifying that a certified JDK is installed on your system.

Navigating the Repository Creation Utility Screens to Create the Schemas
: Enter required information in the RCU screens to create the database schemas.

4.1.1 Installing and Configuring a Certified Database

Before creating the database schemas, you must install and configure a certified database, and verify that the database is up and running.

For more information, see Understanding Database Requirements for an Oracle Fusion Middleware Installation.

4.1.2 Starting the Repository Creation Utility

Start the Repository Creation Utility (RCU) after verifying that a certified JDK is installed on your system.

To start the RCU:

1. Verify that a certified JDK already exists on your system by running `java -version` from the command line. For 12*c* (12.2.1), the certified JDK is 1.8.0_60 and later. For more information, see Understanding JDK Requirements for an Oracle Fusion Middleware Installation .
2. Ensure that the `JAVA_HOME` environment variable is set to the location of the certified JDK. For example:
   - (UNIX) `setenv JAVA_HOME /home/Oracle/Java/jdk1.8.0_60`
   - (Windows) `set JAVA_HOME=C:\home\Oracle\Java\jdk1.8.0_60`
3. Go to the `/oracle_common/bin` directory :
   - (UNIX) *`ORACLE_HOME`*`/oracle_common/bin`
   - (Windows) *`ORACLE_HOME`*`\oracle_common\bin`
4. Enter the following command:
   - (UNIX) `./rcu`
   - (Windows) `rcu.bat`

4.1.3 Navigating the Repository Creation Utility Screens to Create the Schemas

Enter required information in the RCU screens to create the database schemas.

Introducing the RCU
: The Welcome screen is the first screen that appears when you start the RCU.

Selecting a Method of Schema Creation
: Use the Create Repository screen to select a method to create and load component schemas into the database.

Providing Database Connection Details
: On the Database Connection Details screen, provide the database connection details for the RCU to connect to your database.

Specifying a Custom Prefix and Selecting Schemas
: On the Select Components screen, specify a custom prefix and select the product database schema.

Specifying Schema Passwords
: On the Schema Passwords screen, specify how you want to set the schema passwords on your database, then enter and confirm your passwords.

Specifying Custom Variables
: On the Custom Variables screen, specify the custom variables for the SOA Infrastructure schema.

Completing Schema Creation
: Navigate through the remaining RCU screens to complete schema creation.

4.1.3.1 Introducing the RCU

The Welcome screen is the first screen that appears when you start the RCU.

Click **Next**.

4.1.3.2 Selecting a Method of Schema Creation

Use the Create Repository screen to select a method to create and load component schemas into the database.

On the Create Repository screen:

- If you have the necessary permission and privileges to perform DBA activities on your database, select **System Load and Product Load**. This procedure assumes that you have SYSDBA privileges.
- If you do *not* have the necessary permission or privileges to perform DBA activities in the database, you must select **Prepare Scripts for System Load** on this screen. This option generates a SQL script that you can give to your database administrator. See Understanding System Load and Product Load in *Creating Schemas with the Repository Creation Utility*.
- If the DBA has already run the SQL script for System Load, select **Perform Product Load**.

4.1.3.3 Providing Database Connection Details

On the Database Connection Details screen, provide the database connection details for the RCU to connect to your database.

Note:

If you are unsure of the service name for your database, you can obtain it from the `SERVICE_NAMES` parameter in the initialization parameter file of the database. If the initialization parameter file does not contain the `SERVICE_NAMES` parameter, then the service name is the same as the global database name, which is specified in the `DB_NAME` and `DB_DOMAIN` parameters.

For example:

Database Type: `Oracle Database`
Name: `examplehost.exampledomain.com`
Port: `1521`

Service Name: `Orcl.exampledomain.com`
User Name: `sys`
Password: `******`
Role: `SYSDBA`

Click **Next** to proceed, then click **OK** in the dialog window that confirms a successful database connections.

4.1.3.4 Specifying a Custom Prefix and Selecting Schemas

On the Select Components screen, specify a custom prefix and select the product database schema.

Select **Create new prefix**, specify a custom prefix, then select **SOA Suite** schema. This will automatically select SOA Infrastructure, along with the following schemas as dependencies:

- User Messaging Service
- Metadata Services
- WebLogic Services
- Oracle Platform Security Services
- Audit Services
- Audit Services Append
- Audit Services Viewer

> **Tip:**
>
> Make a note of the custom prefix you choose to enter here; you will need this later on during the domain creation process.

A schema called Common Infrastructure Services is also automatically created; this schema is grayed out (you can't select it or deselect it). This schema enables you to retrieve information from the RCU during domain configuration. For more information, see Understanding the Service Table Schema in *Creating Schemas with the Repository Creation Utility*.

The custom prefix logically groups these schemas together for use in this domain only; you must create a unique set of schemas for each domain as schema sharing across domains is not supported.

> **See Also:**
>
> For more information, see the following topics in *Creating Schemas with the Repository Creation Utility*:
>
> - Understanding Custom Prefixes
> - Planning Your Schema Creation

Click **Next** to proceed, then click **OK** to confirm that prerequisite checking for schema creation was successful.

4.1.3.5 Specifying Schema Passwords

On the Schema Passwords screen, specify how you want to set the schema passwords on your database, then enter and confirm your passwords.

Tip:

You must make a note of the passwords you set on this screen; you will need them later on during the domain creation process.

4.1.3.6 Specifying Custom Variables

On the Custom Variables screen, specify the custom variables for the SOA Infrastructure schema.

For the Oracle SOA Suite standard installation topology, accept both default values for **Database Profile** (**Small**) and **Healthcare Integration** (**No**).

For more information, see About the Custom Variables Required for the SOA Suite Schemas.

Tip:

For more information about the options on this screen, see Custom Variables in *Creating Schemas with the Repository Creation Utility*.

4.1.3.7 Completing Schema Creation

Navigate through the remaining RCU screens to complete schema creation.

On the Map Tablespaces screen, the Encrypt Tablespace check box appears *only* if you enabled TDE (Transparent Data Encryption) in the database (Oracle or Oracle EBR) when you start the RCU. Select the **Encrypt Tablespace** check box if you want to encrypt all new tablespaces that the RCU will create.

When you reach the Completion Summary screen, click **Close** to dismiss the RCU.

4.2 Configuring the Domain

Use the Configuration Wizard to create and configure a domain.

For information on other methods to create domains, see Additional Tools for Creating, Extending, and Managing WebLogic Domains in *Creating WebLogic Domains Using the Configuration Wizard*.

Starting the Configuration Wizard
: Start the Configuration Wizard to begin configuring a domain.

Navigating the Configuration Wizard Screens to Create and Configure the Domain
: Enter required information in the Configuration Wizard screens to create and configure the domain for the topology.

4.2.1 Starting the Configuration Wizard

Start the Configuration Wizard to begin configuring a domain.

To start the Configuration Wizard:

1. Go to the `/oracle_common/common/bin` directory:

(UNIX) *ORACLE_HOME*/oracle_common/common/bin

(Windows) *ORACLE_HOME*\oracle_common\common\bin

where *ORACLE_HOME* is your 12*c* (12.2.1) Oracle home.

2. Enter the following command:

   (UNIX) `./config.sh`

   (Windows) `config.cmd`

4.2.2 Navigating the Configuration Wizard Screens to Create and Configure the Domain

Enter required information in the Configuration Wizard screens to create and configure the domain for the topology.

Note:

You can use this procedure to extend an existing domain. If your needs do not match the instructions in the procedure, be sure to make your selections accordingly, or see the supporting documentation for more details.

Selecting the Domain Type and Domain Home Location
: You must select a Domain home directory location, optimally outside the Oracle home directory.

Selecting the Configuration Templates for Oracle Service Bus
: Use the Templates screen to select the templates you require.

Selecting the Application Home Location
: Use the Application Location screen to select the location to store applications associated with your domain, also known as the *Application home* directory.

Configuring the Administrator Account
: Use the Administrator Account screen to specify the user name and password for the default WebLogic Administrator account for the domain.

Specifying the Domain Mode and JDK
: Use the Domain Mode and JDK screen to specify the domain mode and Java Development Kit (JDK).

Specifying the Database Configuration Type
: Use the Database Configuration type screen to specify details about the database and database schema.

Specifying JDBC Component Schema Information
: Use the JDBC Component Schema screen to verify or specify details about the database schemas.

Testing the JDBC Connections
: Use the JDBC Component Schema Test screen to test the data source connections.

Selecting Advanced Configuration
: Use the Advanced Configuration screen to complete the domain configuration.

Configuring the Administration Server Listen Address
: Use the Administration Server screen to select the IP address of the host.

Configuring Node Manager
: Use the Node Manager screen to select the type of Node Manager you want to configure, along with the Node Manager credentials.

Configuring Managed Servers for Oracle Service Bus
: Use the Managed Servers screen to configure Managed Servers.

Configuring the Administration Server as the Oracle Service Bus Runtime Server
: Beginning with 12*c* (12.1.3), you can configure the administrator server as the Oracle Service Bus runtime server if you require a standalone Oracle Service Bus domain.

Configuring a Cluster for Oracle Service Bus
: Use the Clusters screen to create a new cluster.

Assigning Oracle Service Bus Managed Servers to the Cluster
: Use the Assign Servers to Clusters screen to assign Managed Servers to the new cluster.

Configuring Coherence Clusters
: Use the Coherence Clusters screen to configure the Coherence cluster.

Creating a New Oracle Service Bus Machine
: Use the Machines screen to create new machines in the domain. A machine is required so that Node Manager can start and stop servers.

Assigning Servers to Oracle Service Bus Machines
: Use the Assign Servers to Machines screen to assign the Administration Server and Managed Servers to the new machine you just created.

Reviewing Your Configuration Specifications and Configuring the Domain
: The Configuration Summary screen shows detailed configuration information for the domain you are about to create.

Writing Down Your Domain Home and Administration Server URL
: The Configuration Success screen shows information about the domain you just configured.

4.2.2.1 Selecting the Domain Type and Domain Home Location

You must select a Domain home directory location, optimally outside the Oracle home directory.

Oracle recommends that you locate your Domain home in accordance with the directory structure in What are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*, where the Domain home is located outside the Oracle home directory. This directory structure helps avoid issues when you need to upgrade or reinstall software.

Note:

If you want to use an Oracle Real-Time Integration Business Insight agent (Insight Service Bus agent) to collect business metrics:

- Insight must be co-located in the same domain as BAM. See Understanding Insight Integration with Oracle Service Bus.
- If you configure BAM and Insight in a separate domain from the Oracle Service Bus domain, then the Oracle Service Bus domain cannot also include BAM. If Oracle Service Bus and BAM are co-located in the same domain, then the BAM data source entries must reference the local SOA schema. Insight agents (in the SOA and Oracle Service Bus domains) access the remote BAM/Insight domain's SOA schema through the BAM data source entries. However, if the BAM data source must reference the local SOA schema for BAM to work in the Oracle Service Bus domain, then the Insight agents cannot access the remote BAM/Insight domain's SOA schema.
- If you configure an Oracle Service Bus domain to include an Insight Service Bus agent that communicates with a remote BAM/Insight domain, then you will need to manually edit the BAM data source entries to reference the SOA schema of the BAM/Insight domain. For more information, see Specifying JDBC Component Schema Information.
- If BAM and Insight are co-located in the same domain as Oracle Service Bus, then the BAM data source entries reference the correct SOA schema (in the Oracle Service Bus domain), and no manual updates are necessary.

To specify the Domain type and Domain home directory:

1. On the Configuration Type screen, select **Create a new domain**.

   Note: You can also *extend* your existing Oracle Service Bus domain to include an Insight agent by selecting **Update an existing domain**. For information about extending a domain, see *Enterprise Deployment Guide for Oracle SOA Suite*. When an existing domain is extended to include the Insight Service Bus Agent template, you will need to repack and unpack the domain in all the machines that host the servers of that cluster.

2. In the Domain Location field, specify your Domain home directory.

For more about other options on this screen, see Configuration Type in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.2 Selecting the Configuration Templates for Oracle Service Bus

Use the Templates screen to select the templates you require.

On the Templates screen, make sure **Create Domain Using Product Templates** is selected, then select the following templates:

- Oracle Service Bus - 12.2.1.0 [osb]

  Selecting this template automatically selects the following as dependencies:

  - WebLogic Advanced Web Services for JAX-RPC Extension
  - ODSI XQuery 2004 Components
  - Oracle Enterprise Manager
  - Oracle WSM Policy Manager
  - Oracle JRF
  - WebLogic Coherence Cluster Extension

- Insight Service Bus Agent - 12.2.1.0 [osb] if you want to include an Oracle Real-Time Integration Business Insight agent with Oracle Service Bus.

  For more information, see Understanding Insight Integration with Oracle Service Bus.

  Tip:

  For more information about this screen, see Templates in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.3 Selecting the Application Home Location

Use the Application Location screen to select the location to store applications associated with your domain, also known as the *Application home* directory.

Oracle recommends that you locate your Application home in accordance with the directory structure in What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*, where the Application home is located outside the Oracle home directory. This directory structure helps avoid issues when you need to upgrade or re-install your software.

Tip:

For more about the Application home directory, see About the Application Home Directory.

For more information about this screen, see Application Location in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.4 Configuring the Administrator Account

Use the Administrator Account screen to specify the user name and password for the default WebLogic Administrator account for the domain.

Oracle recommends that you make a note of the user name and password that you enter on this screen; you need these credentials later to boot and connect to the domain's Administration Server.

4.2.2.5 Specifying the Domain Mode and JDK

Use the Domain Mode and JDK screen to specify the domain mode and Java Development Kit (JDK).

On the Domain Mode and JDK screen:

- Select **Production** in the **Domain Mode** field.
- Select the **Oracle HotSpot JDK** in the **JDK** field.

Tip:

For more information about this screen, see Domain Mode and JDK in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.6 Specifying the Database Configuration Type

Use the Database Configuration type screen to specify details about the database and database schema.

On the Database Configuration type screen, select **RCU Data**. This option instructs the Configuration Wizard to connect to the database and Service Table (STB) schema to automatically retrieve schema information for schemas needed to configure the domain.

Note:

If you select **Manual Configuration** on this screen, you must manually fill in parameters for your schema on the next screen.

After selecting **RCU Data**, fill in the following fields:

Field	Description
DBMS/Service	Enter the database DBMS name, or service name if you selected a service type driver. Example: `orcl.exampledomain.com`
Host Name	Enter the name of the server hosting the database. Example: `examplehost.exampledomain.com`
Port	Enter the port number on which the database listens. Example: `1521`
Schema Owner Schema Password	Enter the username and password for connecting to the database's Service Table schema. This is the schema username and password entered for the Service Table component on the Schema Passwords screen in the RCU (see Specifying Schema Passwords). The default username is *`prefix`*`_STB`, where *`prefix`* is the custom prefix that you defined in the RCU.

Click **Get RCU Configuration** when you finish specifying the database connection information. The following output in the Connection Result Log indicates that the operation succeeded:

```
Connecting to the database server...OK
Retrieving schema data from database server...OK
Binding local schema components with retrieved data...OK

Successfully Done.
```

Tip:

For more information about the schema installed when the RCU is run, see Understanding the Service Table Schema in *Creating Schemas with the Repository Creation Utility*.

For more information about this screen, see Database Configuration Type in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.7 Specifying JDBC Component Schema Information

Use the JDBC Component Schema screen to verify or specify details about the database schemas.

Verify that the values on the JDBC Component Schema screen are correct for all schemas. Review the following to understand when the schema table may not be populated correctly for BAM:

- If you configure an Oracle Service Bus domain to include an Insight Service Bus agent that communicates with a remote BAM/Insight domain, then you will need to manually edit the BAM data source entries to reference the SOA schema of the BAM/Insight domain. The data sources that you will need to edit are:
  - `BamDataSource` (`SOAINFRA` schema)
  - `BamJobSchedDataSource` (`WLS` schema)
  - `BamLeasingDataSource` (`WLS_RUNTIME` schema)
  - `BamNonJTADataSource` (`SOAINFRA` schema)
  - `mds-bam` (`MDS` schema)
- If BAM and Insight are collocated in the same domain as Oracle Service Bus, then the BAM data source entries reference the correct SOA schema (in the Oracle Service Bus domain), and no manual updates are necessary.

Tip:

For high availability environments, see the following sections in *High Availability Guide* for additional information on configuring data sources for Oracle RAC databases:

- Configuring GridLink Data Sources with Oracle RAC
- Configuring Multi Data Sources

For more information about this screen, see JDBC Component Schema in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.8 Testing the JDBC Connections

Use the JDBC Component Schema Test screen to test the data source connections.

A green check mark in the Status column indicates a successful test. If you encounter any issues, see the error message in the Connection Result Log section of the screen, fix the problem, then try to test the connection again.

By default, the schema password for each schema component is the password you specified while creating your schemas. If you want different passwords for different schema components, manually edit them in the previous screen (JDBC Component

Schema) by entering the password you want in the **Schema Password** column, against each row. After specifying the passwords, select the check box corresponding to the schemas that you changed the password in and test the connection again.

Tip:

For more information about this screen, see JDBC Component Schema Test in *Creating WebLogic Domains Using the Configuration Wizard* .

4.2.2.9 Selecting Advanced Configuration

Use the Advanced Configuration screen to complete the domain configuration.

On the Advanced Configuration screen, select:

- Administration Server

  Required to properly configure the listen address of the Administration Server.

- Node Manager

  Required to configure Node Manager.

- Topology

  Required to configure the Oracle Service Bus Managed Server.

Optionally, select other available options as required for your desired installation environment. The steps in this guide describe a standard installation topology, but you may choose to follow a different path. If your installation requirements extend to additional options outside the scope of this guide, you may be presented with additional screens to configure those options. For information about all Configuration Wizard screens, see Configuration Wizard Screens in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.10 Configuring the Administration Server Listen Address

Use the Administration Server screen to select the IP address of the host.

Select the drop-down list next to **Listen Address** and select the IP address of the host where the Administration Server will reside, or use the system name or DNS name that maps to a single IP address. Do *not* use `All Local Addresses`.

Do *not* specify any server groups for the Administration Server.

4.2.2.11 Configuring Node Manager

Use the Node Manager screen to select the type of Node Manager you want to configure, along with the Node Manager credentials.

Select **Per Domain Default Location** as the Node Manager type, then specify Node Manager credentials.

Tip:

For more information about this screen, see Node Manager in *Creating WebLogic Domains Using the Configuration Wizard*.

For more about Node Manager types, see Node Manager Overview in *Administering Node Manager for Oracle WebLogic Server*.

4.2.2.12 Configuring Managed Servers for Oracle Service Bus

Use the Managed Servers screen to configure Managed Servers.

On the Managed Servers screen, a new Managed Server named `osb_server1` is automatically created by default.

To configure Managed Servers for Oracle Service Bus:

1. In the Listen Address drop-down list, select the IP address of the host on which the Managed Server will reside or use the system name or DNS name that maps to a single IP address. Do not use `All Local Addresses`.
2. In the Server Groups drop-down list, make sure that **OSB-MGD-SVRS-COMBINED** is selected. This server group ensures that Oracle Service Bus and Oracle Web Services Manager (OWSM) services are targeted to the same Managed Server.
   - If you want to have OWSM Policy Manager in a different server from the Oracle Service Bus server, select **OSB-MGD-SVRS-ONLY**. This targets only Oracle Service Bus but not OWSM Policy Manager to the server.
   - If you plan to configure a cluster that includes both SOA and Oracle Service Bus Managed Servers on the same machine, you must assign both the **OSB-MGD-SVRS-COMBINED** and **SOA-MGD-SVRS** server groups to each Managed Server. Otherwise, domain creation will fail.
3. Configuring a second Managed Server is one of the steps needed to configure the standard topology for high availability. If you are not creating a highly available environment, then this step is optional.

   Click **Add** and select **OSB-MGD-SVRS-COMBINED** to create a second Managed Server named `osb_server2`.

Note:

For more information about the high availability standard topology, see Understanding the Fusion Middleware Standard HA Topology in *High Availability Guide*.

For more information about the next steps to prepare for high availability after your domain is configured, see Preparing Your Environment for High Availability.

These server names are referenced throughout this document. If you choose different names be sure to replace them as needed.

Tip:

For more information about this screen, see Managed Servers in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.13 Configuring the Administration Server as the Oracle Service Bus Runtime Server

Beginning with 12*c* (12.1.3), you can configure the administrator server as the Oracle Service Bus runtime server if you require a standalone Oracle Service Bus domain.

To use the administration server as the Oracle Service Bus runtime server, you must create a compact domain. However, a compact domain is supported only in the developer environment, not the production environment. Therefore, Oracle does not support Oracle Service Bus running in the administration server in production. To create a compact domain in a testing and development environment, see Configuring a Compact Domain in *Installing SOA Suite and Business Process Management Suite Quick Start for Developers*.

> **Note:** You can follow the steps in *Installing SOA Suite and Business Process Management Suite Quick Start for Developers* to create a compact domain even if you did not use the Quick Start installation to install Oracle Service Bus.

4.2.2.14 Configuring a Cluster for Oracle Service Bus

Use the Clusters screen to create a new cluster.

On the Clusters screen:

1. Click **Add**.
2. Specify `osb_cluster1` in the Cluster Name field.
3. Leave the Cluster Address field blank.

By default, server instances in a cluster communicate with one another using unicast. If you want to change your cluster communications to use multicast, see Considerations for Choosing Unicast or Multicast in *Administering Clusters for Oracle WebLogic Server*.

You can also create clusters using Fusion Middleware Control. In this case, you can configure cluster communication (unicast or multicast) when you create the new cluster. For more information, see "Create and configure clusters" in *Oracle WebLogic Server Administration Console Online Help*.

> **Tip:**
>
> For more information about this screen, see Clusters in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.15 Assigning Oracle Service Bus Managed Servers to the Cluster

Use the Assign Servers to Clusters screen to assign Managed Servers to the new cluster.

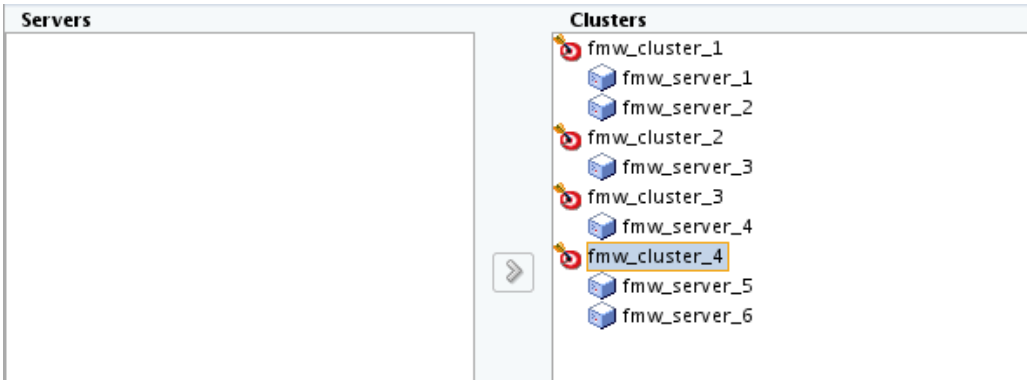
On the Assign Servers to Clusters screen:

1. In the Clusters pane, select the cluster to which you want to assign the Managed Servers; in this case, `osb_cluster1`.
2. In the Servers pane, assign `osb_server1` to `osb_cluster1` by doing one of the following:
   - Click once on `osb_server1` to select it, then click the right arrow to move it beneath the selected cluster (`osb_cluster1`) in the Clusters pane.
   - Double-click on `osb_server1` to move it beneath the selected cluster (`osb_cluster1`) in the Clusters pane.

3. Repeat to assign `osb_server2` to `osb_cluster1`.

The following image shows a generic example of the Clusters pane after Managed Servers are assigned to clusters.

Figure 4-1 Managed Servers Assigned to Clusters



Tip:

For more information about this screen, see Assign Servers to Clusters in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.16 Configuring Coherence Clusters

Use the Coherence Clusters screen to configure the Coherence cluster.

Leave the default port number as the Coherence cluster listen port. After configuration, the Coherence cluster is automatically added to the domain.

Note:

Setting the unicast listen port to `0` creates an offset for the Managed Server port numbers. The offset is `5000`, meaning the maximum allowed value that you can assign to a Managed Server port number is `60535`, instead of `65535`.

See Table 5-2 for more information and next steps for configuring Coherence.

Note:

For Coherence licensing information, see Oracle Coherence Products in *Licensing Information*.

4.2.2.17 Creating a New Oracle Service Bus Machine

Use the Machines screen to create new machines in the domain. A machine is required so that Node Manager can start and stop servers.

Tip:

If you plan to create a high availability environment and know the list of machines your target topology requires, you can follow the instructions in this section to create all the machines at this time. For more information, see Optional Scale Out Procedure in *High Availability Guide*.

To create a new Oracle Service Bus machine so that Node Manager can start and stop servers:

1. Select the Machine tab (for Windows) or the UNIX Machine tab (for UNIX), then click **Add** to create a new machine.
2. In the Name field, specify a machine name, such as `osb_machine1`.
3. In the Node Manager Listen Address field, select the IP address of the machine in which the Managed Servers are being configured.

   You must select a specific interface and not `localhost`. This allows Coherence cluster addresses to be dynamically calculated.
4. Verify the port in the Node Manager Listen Port field.
5. Repeat these steps to add more machines, if required.

Note:

If you are extending an existing domain, you can assign servers to any existing machine. It is not necessary to create a new machine unless your situation requires it.

Tip:

For more information about this screen, see Machines in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.18 Assigning Servers to Oracle Service Bus Machines

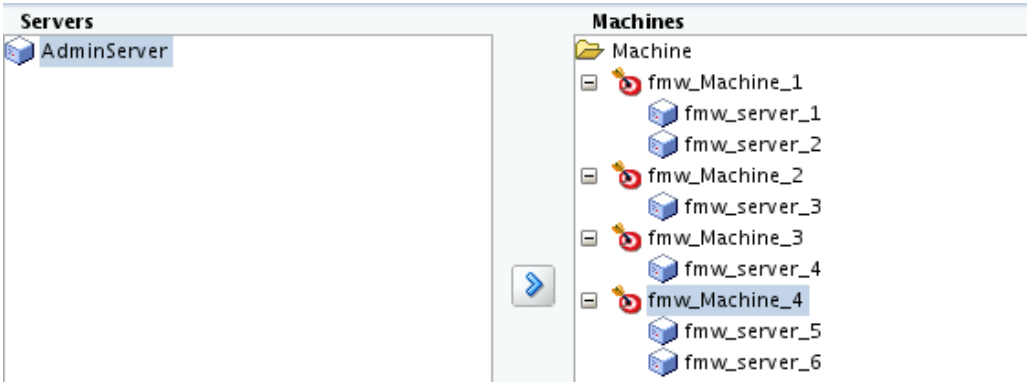
Use the Assign Servers to Machines screen to assign the Administration Server and Managed Servers to the new machine you just created.

On the Assign Servers to Machines screen:

1. In the Machines pane, select the machine to which you want to assign the servers, such as `osb_machine1`.
2. In the Servers pane, assign `AdminServer` to the selected machine by doing one of the following:
   - Click once on `AdminServer` to select it, then click the right arrow to move it beneath the selected machine in the Machines pane.
   - Double-click on `AdminServer` to move it beneath the selected machine in the Machines pane.
3. Repeat these steps to assign all Managed Servers to their respective machines.

The following figure shows a generic example of the Machines pane after Managed Servers for a product are assigned to machines.

Figure 4-2 Assign Managed Servers to Machines



Tip:

For more information about this screen, see Assign Servers to Machines in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.19 Reviewing Your Configuration Specifications and Configuring the Domain

The Configuration Summary screen shows detailed configuration information for the domain you are about to create.

Review each item on the screen and verify that the information is correct. To make any changes, go back to a screen by clicking the **Back** button or selecting the screen in the navigation pane. Domain creation does not start until you click **Create**.

Tip:

For more information about this screen, see Configuration Summary in *Creating WebLogic Domains Using the Configuration Wizard*.

4.2.2.20 Writing Down Your Domain Home and Administration Server URL

The Configuration Success screen shows information about the domain you just configured.

Make a note of the following items because you need them later:

- Domain Location
- Administration Server URL

You need the domain location to access scripts that start Node Manager and Administration Server, and you need the URL to access the Administration Server.

Click **Finish** to dismiss the Configuration Wizard.

4.3 Starting the Servers

After configuration is complete, start Node Manager, then the WebLogic Administration Server and Managed Servers.

Note:

For more information on additional tools you can use to manage your domain, see Overview of Oracle Fusion Middleware Administration Tools in *Administering Oracle Fusion Middleware*.

Starting Node Manager

Starting the Administration Server

Starting the Managed Servers

4.3.1 Starting Node Manager

To start the per-domain Node Manager:

1. Go to the *DOMAIN_HOME*/bin directory.
2. Enter the following command:
   - (UNIX) Using `nohup` and `nm.out` as an example output file:

     ```
     nohup ./startNodeManager.sh > LOG_DIR/nm.out&
     ```

     where *LOG_DIR* is the location of directory in which you want to store the log files.
   - (Windows) `startNodeManager.cmd`

Note:

On Windows operating systems, Oracle recommends that you configure Node Manager to run as a startup service. This allows Node Manager to start up automatically each time the system is restarted.

See Running Node Manager as a Startup Service in *Administering Node Manager for Oracle WebLogic Server*.

4.3.2 Starting the Administration Server

To start the Administration Server:

1. Go to the *DOMAIN_HOME*/bin directory.
2. Enter the following command:
   - (UNIX)

     ```
     ./startWebLogic.sh
     ```
   - (Windows)

     ```
     startWebLogic.cmd
     ```

If you selected **Production Mode** on the Domain Mode and JDK screen when you created the domain, you see a prompt for the Administrator user login credentials as provided on the Administrator Account screen.

Tip:

For more information about starting the Administration Server, see Starting and Stopping Administration Servers in *Administering Oracle Fusion Middleware*.

In production mode, a boot identity file can be created to bypass the need to provide a user name and password when starting the Administration Server. For more information, see Creating a Boot Identity File for an Administration Server in *Administering Server Startup and Shutdown for Oracle WebLogic Server*.

You can verify that the Administration Server is up and running by accessing the Administration Server Console. The URL is provided on the Configuration Success screen in Writing Down Your Domain Home and Administration Server URL (`http://administration_server_host:administration_server_port/console`). The default Administration Server port number is `7001`.

Note:

Make sure that the database hosting your product schemas is up and running and accessible by the Administration Server.

For more information about how to use the Administration Console, see Getting Started Using Oracle WebLogic Server Administration Console in *Administering Oracle Fusion Middleware*.

4.3.3 Starting the Managed Servers

To start the Managed Servers:

1. Log in to Oracle Fusion Middleware Control:

   `http://administration_server_host:administration_server_port/em`

   The Administration Server host and port number were in the URL on the End of Configuration screen (Writing Down Your Domain Home and Administration Server URL). The default Administration Server port number is `7001`.

   The login credentials were provided on the Administrator Account screen (Configuring the Administrator Account).

2. The Enterprise Manager landing page lists the servers configured for this domain and displays their status (such as **Running** or **Shutdown**). For a newly configured domain, only the **AdminServer(admin)** will be running.

   Select the first Managed Server.

3. Next to the **WebLogic Server** menu, select **Start Up**.

4. Repeat Steps 3 and 4 to start all Managed Servers.

5. On the main landing page, verify that all the Managed Servers are up and running.

4.4 Verifying the Configuration

After completing all configuration steps, you can perform additional steps to verify that your domain is properly configured.

To verify that the domain is configured properly, see Performing Additional Domain Configuration Tasks.

5

Next Steps After Configuring the Domain

After configuring a product domain, there are additional tasks that you may want to perform.

Performing Basic Administrative Tasks
: Review the administrative tasks you will likely want to perform on a new domain.

Performing Additional Domain Configuration Tasks
: Review additional configuration tasks you will likely want to perform on a new domain.

Preparing Your Environment for High Availability
: Scaling out for high availability requires additional steps.

5.1 Performing Basic Administrative Tasks

Review the administrative tasks you will likely want to perform on a new domain.

Table 5-1 Basic Administration Tasks for a New Domain

Task	Description	More Information
Getting familiar with Fusion Middleware administration tools	Get familiar with various tools that you can use to manage your environment.	See Overview of Oracle Fusion Middleware Administration Tools in *Administering Oracle Fusion Middleware*.
Starting and stopping products and servers	Learn how to start and stop Oracle Fusion Middleware, including the Administration Server, Managed Servers, and components.	See Starting and Stopping Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.
Configuring Secure Sockets Layer (SSL)	Learn how to set up secure communications between Oracle Fusion Middleware components using SSL.	See Configuring SSL in Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.
Monitoring Oracle Fusion Middleware	Learn how to keep track of the status of Oracle Fusion Middleware components.	See Monitoring Oracle Fusion Middleware in *Administering Oracle Fusion Middleware*.
Understanding Backup and Recovery Procedures	Learn recommended backup and recovery procedures for Oracle Fusion Middleware.	See Introduction to Backup and Recovery in *Administering Oracle Fusion Middleware*.

Table 5-1 (Cont.) Basic Administration Tasks for a New Domain

Task	Description	More Information
Getting familiar with database purging	Get familiar with scheduling and running purge jobs that automatically remove older flow instances, adapter reports, and fault alerts data from the database.	See Managing Database Growth in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*.

5.2 Performing Additional Domain Configuration Tasks

Review additional configuration tasks you will likely want to perform on a new domain.

Table 5-2 Additional Domain Configuration Tasks

Task	Description	More Information
Deploying Applications	Learn how to deploy your applications to Oracle Fusion Middleware.	See Deploying Applications in *Administering Oracle Fusion Middleware*.
Adding a Web Tier front-end to your domain	Oracle Web Tier hosts Web pages (static and dynamic), provides security and high performance along with built-in clustering, load balancing, and failover features. In particular, the Web Tier contains Oracle HTTP Server.	To install and configure Oracle HTTP Server in the WebLogic Server domain, see Configuring Oracle HTTP Server in a WebLogic Server Domain in *Installing and Configuring Oracle HTTP Server*. See also Installing Multiple Products in the Same Domain for important information.
Tuning and configuring Coherence for your topology	The standard installation topology includes a Coherence cluster that contains storage-enabled Managed Coherence Servers. This configuration is a good starting point for using Coherence, but depending upon your specific requirements, consider tuning and reconfiguring Coherence to improve performance in a production environment.	For more about Coherence clusters, see Configuring and Managing Coherence Clusters in *Administering Clusters for Oracle WebLogic Server*. For information on tuning Coherence, see Performance Tuning in *Administering Oracle Coherence*. For information on storing HTTP session data in Coherence, see Using Coherence*Web with WebLogic Server in *Administering HTTP Session Management with Oracle Coherence*Web*. For more about creating and deploying Coherence applications, see Getting Started in *Developing Oracle Coherence Applications for Oracle WebLogic Server*.

5.3 Preparing Your Environment for High Availability

Scaling out for high availability requires additional steps.

Table 5-3 provides a list of tasks to perform if you want to scale out your standard installation environment for high availability.

Table 5-3 Tasks Required to Prepare Your Environment for High Availability

Task	Description	More Information
Scaling out to multiple host computers	To enable high availability, it is important to provide failover capabilities to another host computer. That way, if one computer goes down, your environment can continue to serve the consumers of your deployed applications.	See Scaling Out a Topology (Machine Scaleout) in the *High Availability Guide*.
Configuring high availability for your Web Tier components.	If you have added a Web tier front-end, then you must configure the Web Tier for high availability, as well as the WebLogic Server software.	See Configuring High Availability for Web Tier Components in *High Availability Guide*.
Setting up a front-end load balancer	A load balancer can be used to distribute requests across servers more evenly.	See Server Load Balancing in a High Availability Environment and Configuring Load Balancer Virtual Server Names and Ports in *High Availability Guide*.
Configuring Node Manager	Node Manager enables you to start, shut down, and restart the Administration Server and Managed Server instances from a remote location. This document assumes you have configured a per-domain Node Manager. Review the Node Manager documentation for information on advanced Node Manager configuration options and features.	See Advanced Node Manager Configuration in *Administering Node Manager for Oracle WebLogic Server*.

6

Deinstalling or Reinstalling Oracle Service Bus

Follow the instructions in this section to deinstall or reinstall Oracle Service Bus.

Oracle recommends that you always use the instructions in this section to remove the software. If you try to remove the software manually, you may encounter problems when you try to reinstall the software again at a later time. Following the procedures in this section ensures that the software is properly removed.

6.1 About Product Deinstallation

The Oracle Fusion Middleware deinstaller removes the software from the Oracle home directory.

The following table summarizes the deinstallation procedure and links to supporting documentation.

Table 6-1 Roadmap for Product Deinstallation

Task	Description	Documentation
Stop Oracle Fusion Middleware	All servers and processes in your domain should be stopped before running the deinstaller.	See Stopping Oracle Fusion Middleware.
Remove your database schemas	Run Repository Creation Utility to remove your database schemas.	See Removing Your Database Schemas.
Remove the software	Run the product deinstaller to remove Oracle Fusion Middleware Infrastructure. Note that if your Oracle home contains multiple products, you must run the deinstaller multiple times, once for each product.	See Deinstalling the Software.
Remove the Oracle home directory	The deinstaller does not remove all files and folders from the Oracle home directory. After the deinstaller is finished, you must manually remove the Oracle home to complete your product removal.	See Removing the Oracle Home Directory Manually.
Remove your domain and application data	The deinstaller does not remove data contained in your Domain home or Application home directories, even if they are located inside the Oracle home. You must remove these directories manually.	See Removing the Domain and Application Data.

6.2 Stopping Oracle Fusion Middleware

Before running the deinstaller, Oracle recommends that you stop all servers and processes associated with the Oracle home you are going to remove.

For more information, see Stopping an Oracle Fusion Middleware Environment in *Administering Oracle Fusion Middleware*.

6.3 Removing Your Database Schemas

Before you remove the Oracle home, Oracle recommends that you run the Repository Creation Utility (RCU) to remove database schemas associated with this domain.

Each domain has its own set of schemas, uniquely identified by a custom prefix (see Understanding Custom Prefixes in *Creating Schemas with the Repository Creation Utility*). This set of schemas cannot be shared with any other domain (see Planning Your Schema Creation in *Creating Schemas with the Repository Creation Utility*).

If there are multiple sets of schemas on your database, be sure to identify the schema prefix associated with the domain you are removing.

For schema removal steps, see Dropping Schemas in *Creating Schemas with the Repository Creation Utility*.

6.4 Deinstalling the Software

Follow the instructions in this section to start the product deinstaller and remove the software.

If you want to perform a silent (command-line) deinstallation, see Running the Oracle Universal Installer for Silent Deinstallation in *Installing Software with the Oracle Universal Installer*.

6.4.1 Starting the Deinstallation Program

To start the deinstaller:

- **On UNIX**

  On the command line, enter the following commands:

  ```
  cd $ORACLE_HOME/oui/bin
  ./deinstall.sh
  ```

- **On Windows**

  Do one of the following:

  – Use a file manager window to navigate to the *ORACLE_HOME*`\oui\bin` directory and double click on `deinstall.cmd`.

  – Open a command prompt and enter the following commands:

  ```
  cd %ORACLE_HOME%\oui\bin
  deinstall.cmd
  ```

  – From the **Start** menu, select **All Programs**, then **Oracle**, then **OracleHome**, and then **Uninstall Oracle Software**.

6.4.2 Selecting the Product to Deinstall

Because multiple products exist in the Oracle home, ensure that you are deinstalling the correct product.

After you run the deinstaller, the Distribution to Uninstall screen opens. From the drop-down list, select **ServiceBus 12.2.1.0** and click **Uninstall**. The deinstallation program shows the screens listed in Navigating the Deinstallation Screens.

Note:

You can deinstall Oracle Fusion Middleware Infrastructure after you deinstall Oracle Service Bus software by running the deinstallation wizard again. Before doing so, make sure there are no other products using the Infrastructure; those products will no longer function once the Infrastructure is removed. You will not encounter the Distribution to Uninstall screen if no other software depends on Oracle Fusion Middleware Infrastructure. For deinstallation instructions, see Deinstalling Oracle Fusion Middleware Infrastructure in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.

6.4.3 Navigating the Deinstallation Screens

The deinstaller shows a series of screens to confirm the deinstallation of the software.

If you need more help with a deinstallation screen listed in Table 6-2, click **Help** on the screen.

Table 6-2 Deinstallation Screens and Descriptions

Screen	Description
Welcome	Introduces you to the product deinstaller.
Deinstallation Summary	Shows the Oracle home directory and its contents that will be deinstalled. Verify that this is the correct directory. If you want to save these options to a response file, click **Save Response File** and enter the response file location and name. You can use response file later during a silent deinstallation. For more on silent or command line deinstallation, see Running the Oracle Universal Installer for Silent Deinstallation in *Installing Software with the Oracle Universal Installer*. Click **Deinstall** to begin removing the software.
Deinstallation Progress	Shows the deinstallation progress.
Deinstallation Complete	Appears when the deinstallation is complete. Review the information on this screen, then click **Finish** to dismiss the deinstaller.

6.5 Removing the Oracle Home Directory Manually

After deinstalling the software, you must manually remove your Oracle home directory and any existing subdirectories that the deinstaller did not remove.

For example, if your Oracle home directory is `/home/Oracle/product/ORACLE_HOME` on a UNIX operating system, enter the following commands:

```
cd /home/Oracle/product
rm -rf ORACLE_HOME
```

On a Windows operating system, if your Oracle home directory is `C:\Oracle\Product\ORACLE_HOME`, use a file manager window and navigate to the `C:\Oracle\Product` directory, then right-click on the `ORACLE_HOME` folder and select **Delete**.

6.6 Removing the Program Shortcuts on Windows Operating Systems

On Windows operating systems, you must also manually remove the program shortcuts; the deinstaller does not remove them for you.

To remove the program shortcuts on Windows:

1. Go to the `C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Oracle\`*`ORACLE_HOME`*`\`*`Product`* directory.
2. If you only have one product installed in your Oracle home, delete the *`ORACLE_HOME`* directory. If you have multiple products installed in your Oracle home, delete all products before deleting the *`ORACLE_HOME`* directory.

6.7 Removing the Domain and Application Data

After deinstalling the software, you must remove the domain and application data.

To remove the domain and application data:

1. Manually remove your Domain home directory. For example:

   On a UNIX operating system, if your Domain home directory is `/home/Oracle/config/domains/osb_domain`, enter the following command:

   ```
   cd /home/Oracle/config/domains
   rm -rf osb_domain
   ```

   On a Windows operating system, if your Domain home directory is `C:\Oracle\Config\domains\osb_domain`, use a file manager window and navigate to the `C:\Oracle\Config\domains` directory, then right-click on the `osb_domain` folder and select **Delete**.

2. Manually remove your Application home directory. For example:

   On a UNIX operating system, if your Application home directory is `/home/Oracle/config/applications/osb_domain`, enter the following commands:

   ```
   cd /home/Oracle/config/applications
   rm -rf osb_domain
   ```

   On a Windows operating system, if your Application home directory is `C:\Oracle\Config\applications\osb_domain`, use a file manager window and navigate to the `C:\Oracle\Config\applications` directory, then right-click on the `osb_domain` folder and select **Delete**.

3. Back up the `domain_registry.xml` file in your Oracle home, then edit the file and remove the line associated with the domain you are removing. For example, to remove the `osb_domain`, find the following line and remove it:

   ```
   <domain location="/home/Oracle/config/domains/osb_domain"/>
   ```

   Save and exit the file when you are finished.

6.8 Reinstalling the Software

You can reinstall your software into the same Oracle home as a previous installation only if you deinstalled the software by following the instructions in this section, including manually removing the Oracle home directory.

When you reinstall, you can then specify the same Oracle home as your previous installation.

Consider the following cases where the Oracle home is not empty:

- Installing in an existing Oracle home that contains the same feature sets.

  The installer warns you that the Oracle home you specified during installation already contains the same software you are trying to install.

  Your options are:

  – Select a different Oracle home directory.

  – Select a different installation type. In this case, only the feature sets that do not exist in the Oracle home directory are installed.

  – Select a different Oracle home directory.

- Installing in an existing, non-empty Oracle home.

  For example, suppose that you chose to create your Domain home or Application home somewhere inside your existing Oracle home. This data is not removed during the deinstallation process, so if you try to reinstall into the same Oracle home, the installer does not allow it. Your options are:

  1. Deinstall your software from the Oracle home (as this section describes) and then remove the Oracle home directory. After you deinstall the software and remove the Oracle home directory, you can reinstall and reuse the same Oracle home location. Any domain or application data that was in the Oracle home must be re-created.

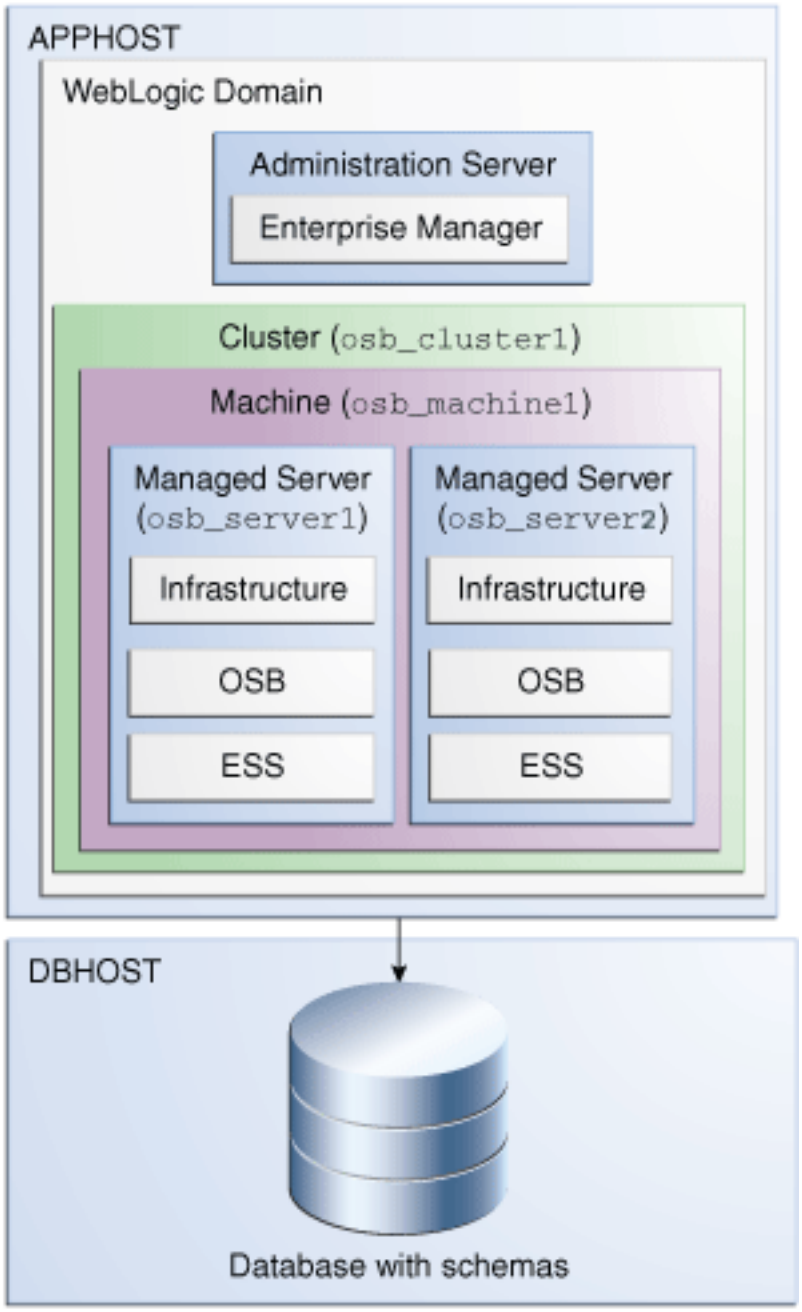
  2. Select a different Oracle home directory.

A

Oracle Service Bus and Oracle Enterprise Scheduler Topology

Use this topology to integrate the capabilities of Oracle Enterprise Scheduler with Oracle Service Bus.

The topology is similar to the Oracle Service Bus standard installation topology, described in About the Oracle Service Bus Standard Installation Topology. However, in this topology, the Oracle Enterprise Scheduler software is targeted to the Oracle WebLogic Server cluster, in addition to the Oracle Fusion Middleware Infrastructure and Oracle Service Bus software.


APPHOST
WebLogic Domain
Administration Server
Enterprise Manager
Cluster (osb_cluster1)
Machine (osb_machine1)
Managed Server (osb_server1)
Infrastructure
OSB
ESS
Managed Server (osb_server2)
Infrastructure
OSB
ESS
DBHOST
Database with schemas

Roadmap for Installing and Configuring the Oracle Service Bus and Oracle Enterprise Scheduler Topology

Table A-1 Installation and Configuration Steps for Oracle Service Bus and Oracle Enterprise Scheduler

Task	Description	More Information	Special Instructions
Verify your system environment	Before beginning the installation, verify that the minimum system and network requirements are met.	See Roadmap for Verifying Your System Environment.	None.
Obtain the appropriate distribution	Both Oracle Service Bus and Enterprise Schedule Services require an existing Oracle Fusion Middleware Infrastructure installation; when you install Oracle Service Bus, Enterprise Schedule Services gets installed, too, and Oracle Service Bus must be installed in the same Oracle Home as Oracle Fusion Middleware Infrastructure.	See About Product Distributions.	You must obtain both Oracle Fusion Middleware Infrastructure and Oracle Service Bus distributions.
Determine your installation directories	Verify that the directories that will need to be created can be created or accessed by the installer, and exist on systems that meet the minimum requirements.	See What Are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*.	None.
Install Oracle Fusion Middleware Infrastructure	Install Oracle Fusion Middleware Infrastructure to create the Oracle home directory for Oracle Service Bus.	See Installing the Infrastructure Software in *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.	None.
Install the software	Install the Oracle Service Bus software into the existing Infrastructure Oracle home. When you install Oracle Service Bus, Enterprise Schedule Services gets installed too.	See Installing the Oracle Service Bus Software.	None.

Table A-1 (Cont.) Installation and Configuration Steps for Oracle Service Bus and Oracle Enterprise Scheduler

Task	Description	More Information	Special Instructions
Create a WebLogic domain	Use the configuration wizard to create and configure the WebLogic domain. Ensure that you select the appropriate options on the configuration screens.	See Configuring the Oracle Service Bus Domain.	Follow the instructions provided for specific screens in Table A-2.
Start the servers	Once you complete the domain creation, start the Administration and Managed Servers.	See Starting the Servers.	Start the Managed server on which wsm-pm is targeted before you start the Managed Server on which Oracle Enterprise Scheduler is deployed.
Verify the configuration	Verify to ensure that the domain is configured properly.	See Verifying the Configuration.	None.
Next steps after installing and configuring Oracle Service Bus and Enterprise Schedule Services	You can perform administrative as well as management tasks for the domain that you have just configured.	See Next Steps After Configuring the Domain.	None.

Configuration Options to Select for the Oracle Service Bus and Oracle Enterprise Scheduler

Almost all of the screens and options that you must select while configuring Oracle Service Bus and Enterprise Schedule Services are identical to the ones provided in Configuring the Domain. However, there are a couple of screens on which you must select different options. The following table lists the key screens and options. Ensure that you select the configuration options as provided on this table.

Table A-2 Key Screens and Configuration Options for Oracle Service Bus and Enterprise Schedule Services Topology

Screen	Description
Select Components	This screen appears when you run RCU to create schemas. In addition to the schema list provided in Specifying a Custom Prefix and Selecting Schemas, select **Oracle Enterprise Scheduler**.

Table A-2 (Cont.) Key Screens and Configuration Options for Oracle Service Bus and Enterprise Schedule Services Topology

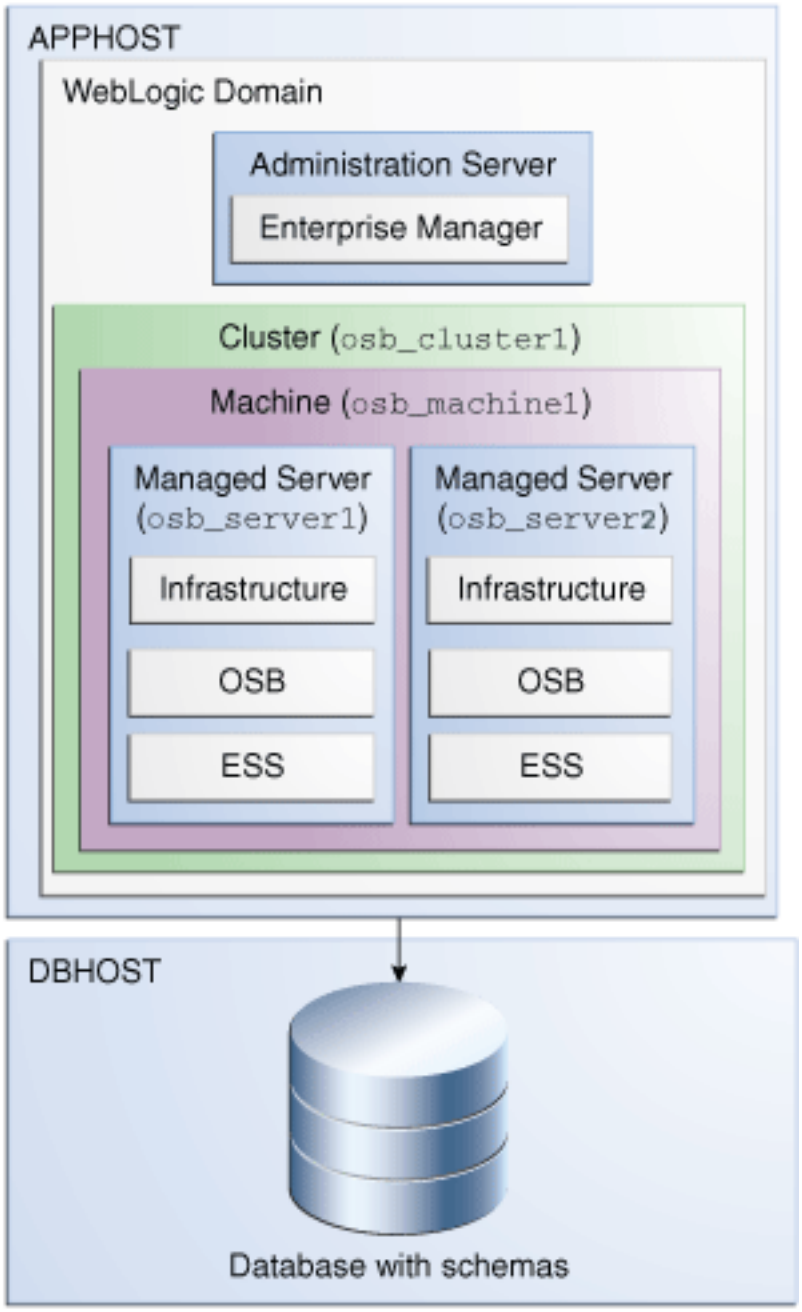
Screen	Description
Templates	This screen appears after you start the configuration wizard to create your domain. In addition to the templates listed in Selecting the Configuration Templates for Oracle Service Bus, select the following templates: • Oracle Enterprise Scheduler Service Basic - 12.2.1.0 [oracle_common] • Oracle Enterprise Manager Plugin for ESS - 12.2.1.0 [em]
Managed Servers	On the Managed Servers screen (Configuring Managed Servers for Oracle Service Bus), two managed servers, **osb_server1** and **ess_server1**, are created. Delete **ess_server1** and create **osb_server2**. Ensure that in the Listen Address drop-down list, you select the IP address of the host on which the Managed Server will reside. Do not use `All Local Addresses`. In the Server Groups drop-down list, ensure that **osb_server1** and **osb_server2**are targeted to **OSB-MGD-SVRS_COMBINED** and **ESS_MGD_SVRS**.
Assign Servers to Clusters	On this screen (Assigning Oracle Service Bus Managed Servers to the Cluster), assign both **osb_server1** and **osb_server2** to **osb_cluster1**.
Assign Servers to Machine	On this screen (Assigning Servers to Oracle Service Bus Machines), assign the **AdminServer**, **osb_server1** and **osb_server2** to **osb_machine1**.

Oracle Service Bus and Oracle Enterprise Scheduler Topology
: Use this topology to integrate the capabilities of Oracle Enterprise Scheduler with Oracle Service Bus.

A.1 Oracle Service Bus and Oracle Enterprise Scheduler Topology

Use this topology to integrate the capabilities of Oracle Enterprise Scheduler with Oracle Service Bus.

The topology is similar to the Oracle Service Bus standard installation topology, described in About the Oracle Service Bus Standard Installation Topology; however, in this topology, the Oracle Enterprise Scheduler software is targeted to the Oracle WebLogic Server cluster, in addition to the Oracle Fusion Middleware Infrastructure and Oracle Service Bus software.



Roadmap for Installing and Configuring the Oracle Service Bus and Oracle Enterprise Scheduler Topology

Table A-3 Installation and Configuration Steps for Oracle Service Bus and Oracle Enterprise Scheduler

Task	Description	More Information	Special Instructions

Table A-3 (Cont.) Installation and Configuration Steps for Oracle Service Bus and Oracle Enterprise Scheduler

Verify your system environment	Before beginning the installation, verify that the minimum system and network requirements are met.	See Roadmap for Verifying Your System Environment.	None.
Obtain the appropriate distribution	Both Oracle Service Bus and Enterprise Schedule Services require an existing Oracle Fusion Middleware Infrastructure installation; when you install Oracle Service Bus, Enterprise Schedule Services gets installed, too, and Oracle Service Bus must be installed in the same Oracle Home as Oracle Fusion Middleware Infrastructure.	See About Product Distributions.	You must obtain both Oracle Fusion Middleware Infrastructure and Oracle Service Bus distributions.
Determine your installation directories	Verify that the directories that will need to be created can be created or accessed by the installer, and exist on systems that meet the minimum requirements.	See What are the Key Oracle Fusion Middleware Directories? in *Understanding Oracle Fusion Middleware*.	None.
Install Oracle Fusion Middleware Infrastructure	Install Oracle Fusion Middleware Infrastructure to create the Oracle home directory for Oracle Service Bus.	See *Installing and Configuring the Oracle Fusion Middleware Infrastructure*.	None.
Install the software	Install the Oracle Service Bus software into the existing Infrastructure Oracle home. When you install Oracle Service Bus, Enterprise Schedule Services gets installed too.	See Installing the Oracle Service Bus Software.	None.
Create a WebLogic domain	Use the configuration wizard to create and configure the WebLogic domain. Ensure that you select the appropriate options on the configuration screens.	See Configuring the Oracle Service Bus Domain.	Follow the instructions provided for specific screens in Table A-4.

Table A-3 (Cont.) Installation and Configuration Steps for Oracle Service Bus and Oracle Enterprise Scheduler

Start the servers	Once you complete the domain creation, start the Administration and Managed Servers.	See Starting the Servers.	Start the Managed server on which wsm-pm is targeted before you start the Managed Server on which Oracle Enterprise Scheduler is deployed.
Verify the configuration	Verify to ensure that the domain is configured properly.	See Verifying the Configuration.	None.
Next steps after installing and configuring Oracle Service Bus and Enterprise Schedule Services	You can perform administrative as well as management tasks for the domain that you have just configured.	See Next Steps After Configuring the Domain.	None.

Configuration Options to Select for the Oracle Service Bus and Oracle Enterprise Scheduler

Almost all of the screens and options that you must select while configuring Oracle Service Bus and Enterprise Schedule Services are identical to those provided in Configuring the Domain. However, there are a couple of screens on which you must select different options. The following table lists the key screens and options. Ensure that you select the configuration options as provided on this table.

Table A-4 Key Screens and Configuration Options for Oracle Service Bus and Enterprise Schedule Services Topology

Screen	Description
Select Components	This screen appears when you run RCU to create schemas. In addition to the schema list provided in Specifying a Custom Prefix and Selecting Schemas, select **Oracle Enterprise Scheduler**.
Templates	This screen appears after you start the configuration wizard to create your domain. In addition to the templates listed in Selecting the Configuration Templates for Oracle Service Bus, select the following templates: • **Oracle Enterprise Scheduler Services Basic - 12.2.1 [oracle_common]** • **Oracle Enterprise Manager Plugin for ESS - 12.2.1 [em]**

Table A-4 (Cont.) Key Screens and Configuration Options for Oracle Service Bus and Enterprise Schedule Services Topology

Managed Servers	On this screen, two managed servers are created: `osb_server1` and `ess_server1`. Delete `ess_server1` and create `osb_server2`. Ensure that in the **Listen Address** drop-down list, you select the IP address of the host on which the Managed Server will reside. Do not use `All Local Addresses`. In the **Server Groups** drop-down list, ensure that `osb_server1` and `osb_server2` are targeted to **OSB-MGD-SVRS_COMBINED** and **ESS_MGD_SVRS**.
Assign Servers to Clusters	On this screen, assign both `osb_server1` and `osb_server2` to `osb_cluster1`.
Assign Servers to Machine	On this screen, assign the `AdminServer`, `osb_server1`, and `osb_server2` to `osb_machine1`.