Oracle® Retail Modeling Engine

Installation Guide

Release 14.0.1

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Oracle® Retail Modeling Engine Installation Guide, Release 14.0.1

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Contents

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Oracle Retail Modeling Engine Installation Guide, Release 14.0.1

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Preface

Oracle Retail Installation Guides contain the requirements and procedures that are necessary for the retailer to install Oracle Retail products.

Audience

This Installation Guide is for the following audiences:

- Database administrators
- System analysts and designers
- Integrators and implementation staff

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Documents

For more information, see the following documents in the Oracle Retail Modeling Engine Release 14.0 documentation set:

- *Oracle Retail Advanced Science Engine Security Guide*
- *Oracle Retail Advanced Science Engine Implementation Guide*
- *Oracle Retail Modeling Engine Release Notes*
- *Oracle Retail Modeling Engine User Guide*

Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

https://support.oracle.com

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 14.0) or a later patch release (for example, 14.0.1). If you are installing the base release or additional patches, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch releases can contain critical information related to the base release, as well as information about code changes since the base release.

Improved Process for Oracle Retail Documentation Corrections

To more quickly address critical corrections to Oracle Retail documentation content, Oracle Retail documentation may be republished whenever a critical correction is needed. For critical corrections, the republication of an Oracle Retail document may at times not be attached to a numbered software release; instead, the Oracle Retail document will simply be replaced on the Oracle Technology Network Web site, or, in the case of Data Models, to the applicable My Oracle Support Documentation container where they reside.

This process will prevent delays in making critical corrections available to customers. For the customer, it means that before you begin installation, you must verify that you have the most recent version of the Oracle Retail documentation set. Oracle Retail documentation is available on the Oracle Technology Network at the following URL:

http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html

An updated version of the applicable Oracle Retail document is indicated by Oracle part number, as well as print date (month and year). An updated version uses the same part number, with a higher-numbered suffix. For example, part number E123456-02 is an updated version of a document with part number E123456-01.

If a more recent version of a document is available, that version supersedes all previous versions.

Oracle Retail Documentation on the Oracle Technology Network

Documentation is packaged with each Oracle Retail product release. Oracle Retail product documentation is also available on the following Web site:

http://www.oracle.com/technetwork/documentation/oracle-retail-100266.html

(Data Model documents are not available through Oracle Technology Network. These documents are packaged with released code, or you can obtain them through My Oracle Support.)

Documentation should be available on this Web site within a month after a product release.

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

Overview

This chapter provides an overview of Oracle Retail Modeling Engine (ORME) and a road map for installing the application. It contains the following sections:

Introduction

The Oracle Retail Modeling Engine performs data mining and produces model parameters to support Category Management, Retail Demand Forecasting, and Retail Analytics. The ORME release contains the following modules:

Customer Decision Tree, Demand Transference, Advanced Clustering, and Market Basket Analysis.

- Customer Decision Trees identify the decisions a customer makes when choosing a particular product. The decision tree is produced by algorithms that analyze historical customer sales data. It illustrates how customers shop and how they evaluate the importance of different product attributes when making buying decisions. Such information can be useful to a retailer in terms of product selection and display.
- Demand Transference helps you to compare products based on their similarities in order to determine what, if any, products customers might buy if the product they want to buy is for some reason unavailable. In this way, planning and ordering can be optimized. DT calculates similarities by comparing the attributes of the two products. If you are using CDT in conjunction with DT, you also have available the similarities calculated by CDT, which are based on customer-supplied transaction data.
- Advanced Clustering lets you create store clusters based on common features such as customer demographics in order to manage merchandise assortments and pricing strategies in a targeted way. Clusters can help retailers to understand who shops in their stores and what their preferences are.
- Market Basket Analysis uses RA sales data to perform Association Rule Mining and Historic Promotion Baseline calculations and enable RA to present metrics on promotional sales lift. MBA uses RA sales data and interacts directly with RA for its inbound and outbound data interfaces.

Overview of Oracle Configuration Manager

Oracle Premier Support offers an automated support capability through the Software Configuration Manager and Oracle Configuration Manager (OCM). OCM is a configuration data collector that provides continuous tracking of key Oracle and system configuration settings for machines on which it is installed. This tool collects configuration details for customer environments and uploads it to a repository that is viewable through the My Oracle Support Web site.

The OCM Installer packaged with this release installs the latest version of OCM. The following document is available through My Oracle Support. Access My Oracle Support at the following URL:

`https://support.oracle.com`

Oracle Configuration Manager Installer Guide **(Doc ID: 835024.1)**

This guide describes the procedures and interface of the Oracle Retail Oracle Configuration Manager Installer that a retailer runs near the completion of its installation process.

> **Important:** In case you choose to install the OCM collector, ensure that you have the My Oracle Support user account name, customer support identification number, and the country code (where the support agreement was issued) for the OCM installation.

Road Map for Installing ORME

This guide explains how you can install and set up the ORME application, along with the required and optional software.

The instructions in this guide assume knowledge of application servers, databases, and application installation or administration, and are intended for system administrators and experienced IT personnel. Before carrying out any of these activities, ensure that you understand UNIX commands (including shell configuration and scripting), directory operations, and symlinks.

In order to implement ORME for production, you must perform the following installation tasks in a sequence:

Table 1–1 Road Map for Installing ORME

Task	Description
Pre-installation Tasks	
1.	Plan your environment, based on your business needs. For more information on the planning process and the supported configurations, see Chapter 2, "Planning the Installation". When planning the environment, you must also review the security recommendations, and take the necessary steps to ensure secured deployment and configuration. For more information, see *Oracle Retail Advanced Science Engine Security Guide*.
2.	Set up the application database. For more information, see Chapter 3, "Setting Up the Database".
3.	Set up your application server. For more information, see Chapter 4, "Setting Up the Application Server".
4.	Set up users and roles. For more information, see Chapter 4, "Setting Up the Application Server".

Table 1–1 (Cont.) Road Map for Installing ORME

Task	Description
5.	Set up the password stores. For more information, see Chapter 5, "Setting Up Password Stores".
Installation Task	
6.	Access the ORME installation software, set up the install.properties file, and run the Oracle installer. For more information, see Chapter 6, "Installing ORME".

2

Planning the Installation

Before installing Retail Modeling Engine, you must first determine the performance and availability goals for your business, and then plan the hardware, network, and storage requirements accordingly. This chapter provides some basic considerations for the installation. It also includes the list of hardware and software requirements.

This chapter includes the following sections:

Installation Prerequisites

The application installer must be run from a Linux, AIX, or Solaris application server with the following installed:

> **Note:** MBA does *not* require WebLogic, ADF, Java JDK, or MDS. MBA only requires Oracle Database Client.

- WebLogic Server 10.3.6 with Enterprise Manager
- ADF 11.1.1.7.0 Runtime
- Oracle Database Client (sqlplus)
- Java JDK 1.7.0_51 (or later) 64-bit
- Oracle Metadata Services (MDS) setup

Oracle MDS Setup

The installation of the ORME standalone application requires an Oracle MDS Repository. For information on managing the Metadata Repository, see http://docs.oracle.com/cd/E28271_01/core.1111/e10105/repos.htm#ASADM260.

Creating the MDS Repository

If an MDS Repository is not available for use by the application, then you must create one. For detailed instructions, see

http://www.oracle.com/technetwork/articles/adf/part10-085778.html

Creating the ORME MDS Partition

If the ORME MDS Partition is not available for use by the application, then you must create one. For detailed instructions, see http://docs.oracle.com/cd/E28271_01/core.1111/e10105/repos.htm#ASADM260 sub-section 14.3.7.2 "Creating a New Partition and Reassociating the Application to It."

> **Note:** When you create the partition in the MDS Repository, you must use 'mds-RSE' as the Repository Name and 'cdm_app_V2.0' as the Partition Name. For example, if you are using WLST to create the partition, you must use the command createMetadataPartition(repository='mds-RSE', partition='cdm_app_V2.0')

Registering the MDS Repository with the WebLogic Server Domain

After you create the repository, you must register is with the WebLogic Server domain where the application is to be installed. For detailed instructions, see http://www.oracle.com/technetwork/articles/adf/part10-085778.html sub-section 14.3.2.1

Registering a Database-Based MDS Repository

When you register the MDS Repository in the Domain, you must use 'RSE' as the Name and 'ORACLE' as the database vendor. See 14.3.2.1.2 "Registering a Database-Based MDS Repository Using WLST" for more details.

Overview of the Planning Process

Planning your process prior to an installation also gives you a better understanding of the environment, and enables you to adapt faster to any future changes in the environment setup.

Planning Your Environment

Use the following steps to plan and prepare the product environment:

1. Plan and design the infrastructure, based on your business needs, for the installation. This includes:
   - Meeting the hardware and associated software requirements.
   - Acquiring the prerequisite software (and licensing).
   - Gathering the capacity data.
   - Planning the data security policies.
   - Designing the backup and recovery strategies.
2. Determine the size of the setup.
3. Identify source systems. Identify the systems that will exchange data with ORME.

Supported Configurations

This section describes the hardware and network requirements for ORME, and includes the following topics:

Network Requirements

This section describes basic requirements for your network infrastructure:

- For connections between servers use the following:
  - Minimum: 100 MBps switched ethernet.
  - Recommended: 1000 MBps.
- For connections to the desktop, 100 MBps is sufficient.

Database Requirements

ORME requires the use of the Oracle Database Server 11g Release 2 (11.2.0.3.0). The following table lists the supported database configuration:

Table 2–1 Database Requirements

Software	Requirement
Database (64-bit)	Oracle Database 11*g* Release 2 (11.2.0.4.0) Patch 13566938
Database Features	Oracle Partitioning **Important:** Although this database feature is available in the Oracle Database Enterprise Edition, you may need a separate license to use this feature. For more information, refer to the *Oracle Database Licensing Information 11g Release 2*.
Operating System (64-bit)	■ Oracle Linux 6 Update 3, x86-64 architecture based system. ■ Oracle Solaris 11 Update 11, SPARC based system. ■ IBM AIX 6.1 Technology Level 6 (TL6), Power processor based system. ■ Red Hat Enterprise Linux 6 Update 3, x86-64 based system. ■ IBM AIX 7.1 Technology Level 1 (TL1), Power processor based system.
Utilities	File Transfer Protocol utility (ftp or ssh/scp/rsync) sudo utility

Application Server Requirements

The ORME application requires the use of Oracle WebLogic Server 11*g* Release 1 (10.3.6), extended to use ADF 11.1.1.7.0 with a patch for JPA 2.0. Table 2–2 lists the supported application server configuration:

Table 2–2 Application Server Requirements

Software	Requirement			
Operating Systems (64-bit)	Oracle Linux Release 6.3, x86-64 based.	Oracle Solaris 11, u 11 SPARC-based.	IBM AIX 6.1 Technology Level 6 (TL6) and IBM AIX 7.1 Technology Level 1 (TL1) Power processor -based.	Red Hat Enterprise Linux 6 Update 3.
JVM (64-bit)	Oracle's JDK 1.7.0 Update 51.	Oracle's JDK 1.7.0 Update 51.	IBM JDK 1.7 sp5.	Oracle's JDK 1.7.0 Update 51.

Client System Requirements

The following table lists the supported client system options:

Table 2–3 Client System Environment

Software	Requirements
Microsoft Windows 7 Service Pack 1	One of the following browsers: ■ Mozilla Firefox Enterprise Version 24.0 ■ Microsoft Internet Explorer 8.0 (32-bit) ■ Microsoft Internet Explorer 9.0 (32-bit)

Supported Oracle Retail Products

The following table lists the supported Oracle Retail products:

Table 2–4 Supported Oracle Retail Products

Product	Version
Oracle Retail Assortment and Space Optimization	14.0.1
Oracle Retail Analytics	14.0.1

3

Setting Up the Database

This chapter describes how you can set up your database and provides details about the various database components. It contains the following sections:

- Installing the Database
- Database Parameters
- Creating the Default Tablespaces
- Creating the Data User Accounts

> **Note:** If your database requires multi-byte support, specify the following properties in your init.ora file:
>
> CHARACTER_SET=AL32UTF8
>
> NLS_LENGTH_SEMANTICS=CHAR

This chapter includes specific instructions required for Retail Modeling Engine. Since the installation instructions for the database may vary based on the operating system, Oracle recommends that you refer to the relevant installation documentation included with the database.

Installing the Database

The application requires the use of Oracle 11g Release 2 (11.2.0.3.0) (64-bit). In addition, you must install patch 13566938 on top of 11.2.0.3.

> **Note:** Before starting the installation, ensure that you have sufficient privileges to perform any database administrator (DBA) level tasks.

Install the database for the application, along with the software, referring to the Oracle Database 11g Release 2 Documentation.

> **Important:** The database must be secured using the recommendations provided in the *Oracle Database 11g Release 2 Security Guide*. For additional specific guidance for securing the database for use with ORME, refer to the *Oracle Retail Advanced Science Engine Security Guide*.

Time Zone Consideration

Ensure that the time zone set up for the database matches the time zone set for the users. Oracle recommends that you set the TZ UNIX environment variable for the database instance and TNS listener to the time zone set for the end users.

Database Parameters

The database parameters shown in Table 3–1, " Suggested Values for Database Parameters" are sample values that can be used with the test dataset included with ORME. Tune these parameters to suitable values for your environment.

Table 3–1 Suggested Values for Database Parameters

Database Parameter	Suggested Value
PARALLEL_MAX_SERVERS	Customer determines. See Setting Parallel Processing Parameters.
PARALLEL_THREADS_PER_CPU	Customer determines. See Setting Parallel Processing Parameters.
JOB_QUEUE_PROCESSES	Set a value between 2 through 1000 based on the recommendation provided in the section JOB_QUEUE_PROCESSES Recommendation.

Setting Parallel Processing Parameters

The settings for PARALLEL_MAX_SERVERS and PARALLEL_THREADS_PER_CPU database parameters are dependent on your specific hardware configuration. You should set these parameters so that a sufficient number of parallel resources are available for the various processes that are run by this application.

For example, if the various Degree of Parallelism (DOP) configuration parameters are set up so that ten threads can run simultaneously, but the combination of PARALLEL_MAX_SERVERS and PARALLEL_THREADS_PER_CPU are set up so that only five sessions can get parallel threads, then performance will be degraded for five of the parallel threads. Therefore, you should make sure that the number of sessions that can use parallel server resources are sufficient for the number of concurrent database processes that can be run. To do this, either increase the PARALLEL_MAX_SERVERS or decrease the PARALLEL_THREADS_PER_CPU, or decrease the various DOP configuration values, so that database resources are efficiently utilized without causing a bottleneck on the throughput for some processing.

Here is a suggested approach to setting the parameters. Allow a minimum of 12 concurrent processes to get some parallel resources. In this way the installer can set PARALLEL_THREADS_PER_CPU to a value that enables a comfortable setting for PARALLEL_MAX_SERVERS, where PARALLEL_MAX_SERVERS is set to 12* CPU_COUNT * PARALLEL_THREADS_PER_CPU.

JOB_QUEUE_PROCESSES Recommendation

The number of concurrent database threads for various application processes can be controlled by changing entries in the RSE_CONFIG table. These entry names typically will contain “DOP” as part of its PARAM_NAME. The JOB_QUEUE_PROCESSES value must be configured high enough to allow all DOP values to be executed without being constrained by the JOB_QUEUE_PROCESSES configuration. The actual number of concurrent threads is the lesser of the database configuration value for JOB_QUEUE_PROCESSES and the sum of all the “DOP” configuration parameter values.

Note that some processes can be run by multiple simultaneous users. Therefore, if the JOB_QUEUE_PROCESSES limit is defined at 6 and the maximum DOP configuration value is set at 2, then there will be an imposed limit of 3 processes running at a time. This limit can impact the performance of processing for some tasks, so make sure that the JOB_QUEUE_PROCESSES limit and the various DOP configuration values are set appropriately in order to work together efficiently while allowing proper use of database resources.

Note: JOB_QUEUE_PROCESSES *MUST* be set to greater than 2 or the application may hang.

Creating the Default Tablespaces

When you run the Oracle installer, schemas and tables for the application are installed on the database you create. For the schemas and tables to install successfully, the database must include certain default tablespaces.

ORME uses the tablespace that is specified as the default tablespace for the schema. If you need to change the tablespace for individual tables or indexes, you should do this after the installation is complete. All tables whose names begin with "PROTO$" are used as prototypes to create transient tables (that is, tables that start with TMP$) for various database processes. If you want to keep these transient tables in a separate tablespace (for a different backup strategy) then you can move the tables whose names begin with "PROTO$" to another tablespace. All subsequent transient tables that are built off of these prototypes will be placed in that tablespace.

Use the Oracle 11g Database Configuration Assistant to create a default database with the tablespace mentioned in Table 3–2, Business Database Tablespace. For more information on using the Configuration Assistant, see the Installation documentation associated with the version of the Oracle database you are installing.

Table 3–2 Business Database Tablespace

Tablespace	Description
<User-supplied Name>	Required. Application tablespace for the ORME tables.

Note: The recommended size of tablespace depends on the amount of data being stored and can change based on the size of your implementation.

Creating the Data User Accounts

You must create one database user to be used during the installation to create staging tables, core hierarchy tables, and application-specific tables.

To create the user accounts:

1. At the SQL prompt, type the following statement to create the users, and assign a name to the default tablespace:

   ```
   CREATE USER <User-assigned SchemaName> IDENTIFIED BY <PASSWORD> DEFAULT
   TABLESPACE <User-assigned TablespaceName>;
   ```

2. Once the users are created, use the Database Configuration Assistant and grant the following access privileges to all the users:

   - ALTER SESSION

- CREATE JOB
- CREATE MATERIALIZED VIEW
- CREATE MINING MODEL (This is only required if ORME/MBA is installed and the customer uses the ARM processes. ORME/AC also supports the use of this, so if AC configurations retain this option, and the customer uses it, then this permission is also required.)
- CREATE PROCEDURE
- CREATE SEQUENCE
- CREATE SESSION
- CREATE SYNONYM
- CREATE TABLE
- CREATE TYPE
- CREATE VIEW
- UNLIMITED TABLESPACE
- QUERY REWRITE

3. Grant the following roles to all users:
   - CONNECT
   - RESOURCE
   - EXECUTE_CATALOG_ROLE
4. Grant the following system privilege to the ORASE user:
   - SELECT ANY DICTIONARY

   Note: This allows access to V$LOCKED_OBJECT, DBA_USERS, and DBA_ROLES.

5. Grant the following object privileges to all users:
   - EXECUTE on DBMS_LOCK
   - EXECUTE on DBMS_STATS
   - EXECUTE on DBMS_METADATA
   - EXECUTE on DBMS_RANDOM
   - EXECUTE on DBMS_UTILITY
   - EXECUTE on DBMS_PARALLEL_EXECUTE

4

Setting Up the Application Server

Before installing Retail Modeling Engine, you must set up a domain on the application server. Based on your business need, you must set up a domain to include one or more server instances and logically related resources and services.

ORME supports the use of Oracle WebLogic Server 11*g* Release 1 (10.3.6) extended to use Oracle Application Development Runtime (ADF) Release 11.1.1.7. This chapter provides instructions on setting up the WebLogic server for your business. It contains the following sections:

- Setting Up the WebLogic Server
- Restarting the Application Server
- Setting Up JVM Memory Settings
- Setting Up Users and Roles
- Setting Up JTA Timeout Seconds

> **Note:** This chapter includes specific instructions required for ORME. Since the installation instructions for an application server may vary based on the operating system, Oracle recommends that you refer to the relevant installation documentation included with the application server.

Setting Up the WebLogic Server

This section describes how you can set up a domain on the WebLogic server. It contains the following sections:

- Installing the WebLogic Server
- Installing the Oracle Application Development Runtime Patch
- Setting Up a WebLogic Domain
- Setting Up the WebLogic Startup Script

> **Note:** The WebLogic server must be secured using the security recommendations provided in the *Oracle Fusion Middleware Information Roadmap for Oracle WebLogic Server*. For additional specific guidance on securing the WebLogic server for ORME, refer to the *Oracle Retail Advanced Science Engine Security Guide*.

Installing the WebLogic Server

Install the Oracle WebLogic Server Release 11*g* Release 1 (10.3.6), referring to the Oracle WebLogic Server Documentation for guidance.

In this guide, the WebLogic installation directory is referred to as the <WLS_HOME> directory.

Installing the Oracle Application Development Runtime Patch

ORME also requires that the WebLogic Server is extended to use ADF 11.1.1.7. You must install this patch before you set up the WebLogic domain.

After installing ADF, you must apply a patch on top of ADF 11.1.7. The patch is called ADF Patch 16788543. You can find it here:
http://aru.us.oracle.com:8080/ARU/ViewCheckin/process_form?bug=16788543

To download and apply the patch:

1. Log on to the Oracle Technology Network Web site and download the patch. To download this patch:
   a. In a Web browser, open the following URL:

      ```
      https://otn.oracle.com/
      ```

   b. On the **Oracle Technology Network** page, in the horizontal menu, hover your mouse cursor over **Downloads**, and then click **JDeveloper and ADF** under the **Developer Tools** section. The **Oracle JDeveloper Software** page appears.
   c. Click the **Downloads** tab.
   d. On the **Downloads** tab, click the **Download** link under the **Oracle Application Development Runtime Installer** section. The **Application Development Framework** page appears.
   e. Click the **Downloads** tab.
   f. In the **Downloads** tab, review and accept the license agreement.
   g. Under the **Oracle ADF Downloads** area, select **11.1.1.7** from the drop-down list under **Application Development Runtime**, and then click **Download**.
2. Unpack the ZIP file to a temporary directory and navigate to this location.
3. Install Application Development Runtime 11.1.1.7 by running the installer.

You can now set up your WebLogic domain. For more information, see Setting Up a WebLogic Domain.

Setting Up a WebLogic Domain

Use the WebLogic Configuration Wizard to create and set up a domain on the WebLogic Server. This section describes how you can create and set up a domain.

To set up a WebLogic domain:

1. Navigate to the **<WLS_HOME>/wlserver_10.3/common/bin** directory, and run the following command to start the WebLogic Configuration Wizard in the graphical mode:

   ```
   sh config.sh
   ```

2. On the WebLogic Configuration Wizard, follow the steps listed in Table 4–1:

Table 4–1 Steps to Set Up a WebLogic Domain

Step	Window	Task
1.	*Welcome*	
		Click the **Create a new WebLogic domain** option, and then click **Next**.
2.	*Select Domain Source*	
		Click the **Generate a domain configured automatically to support the following products** option, select the **Oracle Enterprise Manager - 11.1.1.0 [oracle_common]** check box, and then click **Next**. This also selects **Oracle JRF - 11.1.1.0 [oracle_common]**, which is also required. Note that the **Basic WebLogic Server Domain - 10.3.6.0 [wlserver_10.3]** check box is automatically selected and greyed out.
3.	*Specify Domain Name and Location*	
		Enter a domain name in the **Domain Name** field.
		In the **Domain location** field, specify the location where you want to install the domain.
4.	*Configure Administrator User Name and Password*	
		Set up an administrative user name and password. **Important:** Please keep a note of the user name and password. You must set up an alias in a password store using this user name and password. The Oracle Installer uses the alias name for this user account to connect to the WebLogic Server during the application installation. For more information on setting up a password store and an alias, see Setting Up the Credential Storage Manager Password Store.
5.	*Configure Server Start Mode and JDK*	
		Under **WebLogic Domain Startup Mode**, click **Production Mode**.
		Under **JDK Selection**, select the relevant JDK.
		Click **Next**.
6.	*Select Optional Configuration*	
		Select the configurations you want to customize and click **Next**. Go to Step 7. Note that ORME does not require a WebLogic cluster-based configuration. You can choose to skip selecting the **Managed Servers, Clusters and Machines** check box.
		OR
		Proceed directly to creating your domain. Skip the following steps and go to Step 8.

Table 4–1 (Cont.) Steps to Set Up a WebLogic Domain

Step	Window	Task
7.	*Configure the Administration Server*	
		Enter relevant information in the following fields: ■ **Name** – Valid server name. (String of characters that can include spaces.) ■ **Listen address** – Listen address for a server instance. ■ **Listen port** – Valid value for the listen port. ■ **SSL listen port** – Valid value to be used for secure requests. ■ **SSL enabled** – Select this check box to enable SSL. You can enter values in the SSL listen port field once you select this check box.
8.	*Configuration Summary*	
		Review and confirm the configuration summary, and then click **Next**.
9.	*Creating Domain*	
		Displays the domain configuration progress.
		Once the configuration is complete, click **Done**.

Listen Port Configuration

Once the WebLogic domain for ORME is created, ensure that you manually disable the HTTP port and enable the HTTPS port. This ensures that only a secure channel is used for accessing ORME.

You must also ensure that the secure HTTPS port number is changed to a non-default value. This value must be environment-specific, non-standard, and not easily predictable.

For more information on configuring the listen ports, refer to the *Oracle Fusion Middleware Administrator's Guide*.

WebLogic Domain Configuration

To configure the WebLogic domain, you must install the JPA patch.

Installing the JPA 2.0 Patch WLS 10.3.6 must be patched to use JPA 2.0. For more information, see:

`http://docs.oracle.com/cd/E23943_01/web.1111/e13720/using_toplink.htm#CIHDJHHI`

Setting Up the WebLogic Startup Script

To set up the WebLogic Startup script:

- Navigate to the **<WLS_HOME>/user_projects/domains/<your domain name>/bin** directory and ensure that the following parameters are set within the **startWebLogic.sh** script:
  - **WLS_HOME** – The WebLogic installation directory.
  - **WLS_USER** – The WebLogic administrator user name.

- **WLS_PW** – The password associated with the WebLogic administrator user account.
- **JAVA_VENDOR** – The Java Development Kit (JDK) installed for the WebLogic Server. You can specify WebLogic, IBM, HP, or Sun.
- **JAVA_HOME** – The location where the JDK is installed.
- **JAVA_OPTIONS** – Only for diagnostics, such as verbose garbage collection logging.
-

For Example

```
#!/bin/sh
WL_HOME=${WLS_HOME}/wlserver_10.3"<location where WebLogic Server is installed>"
WLS_USER=<weblogic admin user name>
WLS_PW=<weblogic admin password>
PRODUCTION_MODE="true"
JAVA_VENDOR="<name of the JDK>"
JAVA_HOME="<location where JDK is installed>"
. ${WL_HOME}/common/bin/commEnv.sh
SERVER_NAME="admin"
CLASSPATH="${WEBLOGIC_CLASSPATH}:${POINTBASE_CLASSPATH}:${JAVA_
HOME}/jre/lib/rt.jar:${WL_HOME}/server/lib/webservices.jar:${CLASSPATH}"
CLASSPATH=${CLASSPATH}
export CLASSPATH
${JAVA_HOME}/bin/java ${JAVA_VM} ${MEM_ARGS} ${JAVA_OPTIONS}
-Dweblogic.Name=${SERVER_NAME} -Dweblogic.ProductionModeEnabled=${PRODUCTION_MODE}
-Dweblogic.management.username=${WLS_USER} -Dweblogic.management.password=${WLS_
PW} -Djava.security.policy="${WL_HOME}/server/lib/weblogic.policy" weblogic.Server
2>> console.log >& 2 &
```

Note: You can choose to remove the WLS_USER and WLS_PW parameters from the script. When you run the WebLogic Startup script again, you will be prompted to enter the administrative user name and password.

Including the WebLogic administrator user name and password inside the startWebLogic.sh script allows the script to be run silently and in the background, with no additional prompts.

Restarting the Application Server

If the application server needs to be re-started, you must first shut down the server. To do this:

1. Navigate to <WLS_Home>/user_projects/domains/<*your domain name*>/bin
2. Run the command ./stopWebLogic.sh
3. Enter the Administrator user name and password if prompted to.
4. After the server is successfully shut down, use startWebLogic.sh to restart the server.

If the server does not shut down using this procedure, you may need to kill the back-end process. To do this:

1. Obtain the process ID (PID) for that process.

2. Run the command:
   kill -9 *<PID1>*
3. After the server is successfully shut down, use **startWebLogic.sh** to restart the server.

Setting Up JVM Memory Settings

The default WebLogic JVM memory settings may not be sufficient for your implementation to run the application. When running the application on memory settings that are too low, the user interface may freeze up and the following error may get logged in the WebLogic logs:

```
Exception in thread "JMX Framework document pooling thread"
java.lang.OutOfMemoryError: GC overhead limit exceeded.
Exception in thread "CacheCleaner" java.lang.OutOfMemoryError: GC overhead limit
exceeded.
```

To prevent this from occurring, modify the MEM_ARGS settings to use a minimum of "1024m" in the *<WebLogic domain directory>/bin/setDomainEnv.sh*. Modify only the MEM_ARGS values for the JVM they are using for WebLogic.

For example,

For a 64-bit Sun JDK, modify the following values:

```
WLS_MEM_ARGS_64BIT="-Xms1024m -Xmx1024m"
MEM_PERM_SIZE_64BIT="-XX:PermSize=1024m"
MEM_MAX_PERM_SIZE_64BIT="-XX:MaxPermSize=1024m"
```

Once you change these values, restart the WebLogic server for them to take effect.

Setting Up Users and Roles

Once the WebLogic Server is installed, you must also set up security and authentication for the application using the WebLogic Administration Console. This process includes the setting up of roles (Global Roles), users and assigning the users to the relevant roles. For more information, refer to the WebLogic Administration Console Online Help.

For ORME, you must create the following four user login roles:

- Clustering Advanced Analyst (Role Name: AdvancedAnalyticRole) – responsible for analytical configuration, testing, and cluster analysis in the Clustering module of ORME.
- Clustering Business User (Role Name: BusinessRole) – responsible for analytical configuration, testing, and cluster analysis in the Clustering module of ORME
- Customer Decision Tree Analyst (Role Name: ConsumerDecisionTreeRole) – responsible for analytical configuration, testing, and decision tree analysis in the CDT module of ORME.
- Demand Transference Analyst (Role Name: DemandTransferenceRole) – responsible for analytical configuration, testing, and model analysis in the DT module of ORME.

Table 4–2 ORME Users and Roles

Privilege	Data Access	Clustering Advanced Analyst	Clustering Business Analyst	Customer Decision Tree Analyst	Demand Transference Analyst
Advanced Clustering	All	X	X		
Customer Decision Tree	All			X	
Demand Transference	All				X

Setting Up JTA Timeout Seconds

For ORME, you must also set the Java Transaction API (JTA) transaction timeout seconds for active transactions. To set up the JTA timeout seconds:

1. Log on to the **WebLogic Server Administration Console**.
2. On the left navigation panel, under **Domain Structure**, expand **Services**, and then click **JTA**. The **Settings** page appear with **JTA** tab appearing within the **Configuration** tab.
3. On the **JTA** tab, set the value for the **Timeout Seconds** field to **60**.
4. Click **Save**, and then log out.

5

Setting Up Password Stores

Password stores are secure software containers that store the encrypted user credentials. As part of the Oracle Software Security Assurance (OSSA) program, sensitive information such as user credentials must be encrypted and stored in a secure location called as the password stores. When the installation starts, all the necessary user credentials will be retrieved from the password stores based on the alias name associated with the user credentials. The relevant applications, installers, and scripts can retrieve the credentials using aliases that were set up when encrypting and storing the user credentials in the password store.

Once configured, the application installation and the other relevant scripts no longer need to use embedded user names and password. This reduces any security risks that may exist because user names and passwords are no longer exposed.

This chapter describes how you can set up the password stores. It includes the following steps:

1. Review and understand the required password stores configuration. See Password Stores Configuration Overview.
2. Set up a password store for the database user accounts using Oracle Wallet on the application database side. In this document, this password store is referred to as the *Oracle Secret Store*. See Setting Up the Oracle Secret Store.
3. Set up another password store for the application installation using the Credential Storage Manager. This password store will store the user credentials of the relevant application server and the database user accounts. In this document, this password store is referred to as the *Credential Storage Manager Password Store*. See Setting Up the Credential Storage Manager Password Store.

> **Note:** In a clustered-based implementation, ensure that the password stores are installed at a location that is accessible to all the cluster nodes

Important Consideration

Before you start setting up the password stores, ensure that you have the set up the following:

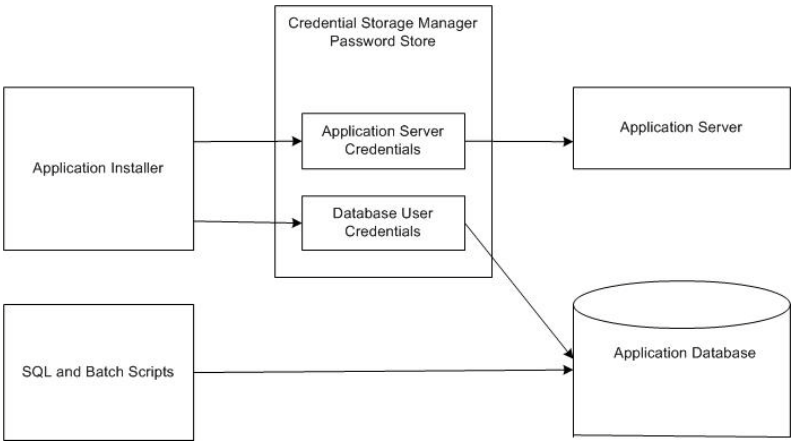
- Environment variables.
- Latest supported JDK.

Password Stores Configuration Overview

Before you start the application installation, you must set up the Credential Storage Manager Password Store. This password store is used for the application installation, and set up using the Credential Storage Manager available in the ORME installation media. This password store will store user credentials for the application server and database user accounts.

The following figure illustrates the password stores setup and usage for an installation:

Figure 5–1 Password Stores Required for Installation



Setting Up the Oracle Secret Store

After the database is installed and the default database user accounts are set up, administrators must set up a password store using the Oracle wallet. This involves assigning an alias for the user name and associated password for each database user account. This password store must be accessible to the installed applications.

This section describes the steps you must take to set up a wallet and the aliases for the database user accounts. For more information on configuring authentication and password stores, see the *Oracle Database Security Guide*.

Note: In this section, <wallet_location> is a placeholder text for illustration purposes. Before running the command, ensure that you specify the path to the location where you want to create and store the wallet.

To set up a password store for the database user accounts, perform the following steps:

1. Create a wallet using the following command:

   ```
   mkstore -wrl <wallet_location> -create
   ```

   After you run the command, a prompt appears. Enter a password for the Oracle Wallet in the prompt.

   Note: The mkstore utility is included in the Oracle Database Client installation.

The wallet is created with the auto-login feature enabled. This feature enables the database client to access the wallet contents without using the password. For more information, refer to the *Oracle Database Advanced Security Administrator's Guide*.

2. Create the database connection credentials in the wallet using the following command:

```
mkstore -wrl <wallet_location> -createCredential <alias-name>
<database-user-name>
```

After you run the command, a prompt appears. Enter the password associated with the database user account in the prompt.

3. Repeat Step 2 for all the database user accounts.

4. Update the sqlnet.ora file to include the following statements:

```
WALLET_LOCATION = (SOURCE = (METHOD = FILE) (METHOD_DATA = (DIRECTORY =
<wallet_location>)))
SQLNET.WALLET_OVERRIDE = TRUE
SSL_CLIENT_AUTHENTICATION = FALSE
```

5. Update the tnsnames.ora file to include the following entry for each alias name to be set up.

```
<alias-name> =
    (DESCRIPTION =
     (ADDRESS_LIST =
            (ADDRESS = (PROTOCOL = TCP) (HOST = <host>) (PORT = <port>))
       )
       (CONNECT_DATA =
           (SERVICE_NAME = <service>)
        )
     )
```

In the previous example, <alias-name>, <host>, <port>, and <service> are placeholder text for illustration purposes. Ensure that you replace these with the relevant values.

Setting Up Wallets for Database User Accounts

The following example shows how to set up wallets for database user accounts for ORME.

To set up wallets for database user accounts, do the following.

1. Create a new directory called wallet under your folder structure.

```
mkdir /u00/product/oracle/orme/wallets/runtime
mkdir .wallet
```

> **Note:** The default permissions of the wallet allow only the owner to use it, ensuring the connection information is protected. If you want other users to be able to use the connection, you must adjust permissions appropriately to ensure only authorized users have access to the wallet.

2. Create a sqlnet.ora in the wallet directory with the following content.

```
WALLET_LOCATION =   (SOURCE =     (METHOD = FILE)     (METHOD_DATA =
(DIRECTORY =  /u00/product/oracle/orme/runtime/wallet)) )
SQLNET.WALLET_OVERRIDE=TRUE
SSL_CLIENT_AUTHENTICATION=FALSE
```

Note: WALLET_LOCATION must be on line 1 in the file.

3. Set up a tnsnames.ora in the wallet directory. This tnsnames.ora includes the standard tnsnames.ora file. Then, add two custom tns_alias entries that are only for use with the wallet. For example

```
sqlplus /@ orcsid04_ormeuser.
ifile = /u00/oracle/product/11.2.0.1/network/admin/tnsnames.ora

orcsid04_ormeuser =
  (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = tcp)
  (host = mspxxxxx.us.oracle.com) (Port = 1521)))
    (CONNECT_DATA = (SID = dvols29) (GLOBAL_NAME = dvols29)))

orcsid04_ormeuser.world =
  (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = tcp)
  (host = mspxxxxx.us.oracle.com) (Port = 1521)))
    (CONNECT_DATA = (SID = dvols29) (GLOBAL_NAME = dvols29)))
```

Note: It is important to not just copy the tnsnames.ora file because it can quickly become out of date. The ifile clause (shown above) is key.

4. Create the wallet files. These are empty initially.
   a. Ensure you are in the intended location.

      ```
      $ pwd
      /u00/product/oracle/orme/wallets/runtime/.wallet
      ```

   b. Create the wallet files.

      ```
      $ mkstore -wrl . -create
      ```

   c. Enter the wallet password you want to use. It is recommended that you use the same password as the UNIX user you are creating the wallet on.
   d. Enter the password again.

      Two wallet files are created from the above command: ewallet.p12 and cwallet.sso.

5. Create the wallet entry that associates the user name and password to the custom tns alias that was setup in the wallet's tnsnames.ora file.

   ```
   mkstore -wrl . -createCredential <tns_alias> <username> <password>
   ```

   For example

   ```
   mkstore -wrl . -createCredential orcsid04_ormeuser ormeuser ormeuser_passwd
   ```

6. Test the connectivity. The ORACLE_HOME used with the wallet must be the same version or higher than what the wallet was created with.

```
$ export TNS_ADMIN=/u00/product/oracle/orme/wallets/runtime/.wallet /* This is
very important to use wallet to point at the alternate tnsnames.ora created in
this example */

$ sqlplus /@orcsid04_ormeuser

SQL*Plus: Release 11

Connected to:
Oracle Database 11g

SQL> show user
USER is "ormeuser"
```

Running batch programs or shell scripts would be similar:

```
Ex: dtesys /@orcsid04_ormeuser
script.sh /@orcsid04_ormeuser
```

As shown in the example above, users can ensure that passwords remain invisible.

Additional Database Wallet Commands

The following is a list of additional database wallet commands.

- Delete a credential on wallet

  ```
  mkstore -wrl . -deleteCredential orcsid04_ormeuser
  ```

- Change the password for a credential on wallet

  ```
  mkstore -wrl . -modifyCredential orcsid04_ormeuser ormeuser ormeuser_new_passwd
  ```

- List the wallet credential entries

  ```
  mkstore -wrl . -list
  ```

  This command returns values such as the following.

  ```
  oracle.security.client.connect_string1
  oracle.security.client.user1
  oracle.security.client.password1
  ```

- View the details of a wallet entry

  ```
  mkstore -wrl . -viewEntry oracle.security.client.connect_string1
  ```

  Returns the value of the entry:

  ```
  orcsid04_ormeuser

  mkstore -wrl . -viewEntry oracle.security.client.user1
  ```

  Returns the value of the entry:

  ```
  ormeuser

  mkstore -wrl . -viewEntry oracle.security.client.password1
  ```

  Returns the value of the entry:

  ```
  orcsid04_ormeuser_newpassword
  ```

Setting Up the Credential Storage Manager Password Store

Before starting the application installer, you must set up the user credentials for the application server and database user accounts. The application installation includes a Credential Storage Manager that you can use to set up a password store for the application installation. In this document, this password store is referred to as the *Credential Storage Manager Password Store*.

To set up the Credential Storage Manager Password Store:

1. Navigate to the following subfolder in the <ORME_CD_IMAGE> folder:

   ```
   <ORME_CD_IMAGE>/cdm/installer/retail-public-security-api/bin
   ```

   For more information on the <ORME_CD_IMAGE> folder, see Chapter 6, "Installing ORME."

2. Run the save_credential.sh script. You can add new or update using save-credential.sh as follows:

   ```
   save_credential.sh -a <alias-name> -u <user-name> -p <partition-name> -l
   <locationOfWalletDir>
   ```

   Note: In the command above, <alias-name>, <user-name>, <partition-name>, and <locationofwalletDir> are placeholder text for illustration purposes. For each set of user name and associated password, you must specify an unique alias name.

   For the <alias-name> argument, you must specify the name you want for the alias. This is the information that you will give to the ORME Installer.

   For the <user-name> argument, you must specify the DB Schema Username or the WLS Domain Admin Username.

   For the <partition-name> argument, you must specify the proper partition name used by the installer. Partition Name to be used for the ORME Installer is "DEFAULT_KEY_PARTITION_NAME" (without the "").

   For the <locationofwalletDir> argument, you must specify the location where you want to store the wallet file that contains the encrypted user credentials. Keep a note of this location.

   Example:

   ```
     ./save_credential.sh  -p  DEFAULT_KEY_PARTITION_NAME  -a ORME_DB_ALIAS -u
   ORME_PROD_DB -l /u00/product/oracle/orme/wallet

   ------------------------------------------------------
   ------------------------------------------------------
   Retail Public Security API Utility
   ------------------------------------------------------
   ------------------------------------------------------
   Enter password:
   Verify password:
   ```

Note: save_credential.sh can also be used to update the information in wallet.

3. If you are unsure about the information that is currently in the wallet, use dump_credentials.sh as follows:

```
./dump_credentials.sh <wallet-location>
```

Example:

```
  ./dump_credentials.sh /u00/product/oracle/orme/wallet

------------------------------------------------------------
------------------------------------------------------------
Retail Public Security API Utility
------------------------------------------------------------
------------------------------------------------------------



------------------------------------------------------------
------------------------------------------------------------
Below are the credentials found in the wallet at the location:
/u00/product/oracle/orme/wallet
------------------------------------------------------------
------------------------------------------------------------

Application level key partition name: DEFAULT_KEY_PARTITION_NAME

User Name Alias: ORME_DB_ALIAS
User Name:ORME_PROD_DB
```

Important Considerations

- Alias names are case sensitive.
- Keep a note of all the aliases you have set up. During the application installation, you will need to enter the alias names for the application installer to connect to the database and application server.

6

Installing ORME

After you have set up your database and application server, you can install the applications using the guidelines provided in this chapter. This chapter contains the following sections:

> **Note:** ORASE (Advanced Science Engine) is the correct term for RSE.
>
> AC (Advanced Clustering) is the correct term for CIS.
>
> Make a note of this when running the ORME Installer.

Overview of the Installation Process

In order to install ORME, your first task is to obtain the installation media. You can then choose the installation mode you prefer. Whichever mode you use, you first need to set up the ORME properties file. The installation modes are as follows:

- **Graphical or Text mode** – In the graphical or text mode, the Oracle Installer displays a graphical user interface and prompts you to enter or modify the value of the properties specified in the properties file.
- **Silent mode** – In the silent mode, the installer processes the properties file without any manual intervention.

> **Note:** ORME must be installed from the same system that contains your WebLogic Server installation and domains.

Accessing the Installation Software

In order to install ORME, you first need to obtain the software media, which is available on DVD or from a ZIP file. This section explains how to download the ORME software ZIP file from the Oracle Software Delivery Cloud Web site.

To download the ORME software:

1. From the application server where you will be installing ORME, open a browser and navigate to the following URL:

   http://edelivery.oracle.com/

   The **Oracle Software Delivery Cloud** download page displays.

   Note: Installation media files for an Enterprise release (for example, 14.0) are available on the *Oracle Software Delivery Cloud* Web site (http://edelivery.oracle.com), and Patch releases (14.0.x) and Hot Fixes (14.0.x.y) are available on the *My Oracle Support* Web site (https://support.oracle.com).

2. On the **Oracle Software Delivery Cloud** page, click **Sign In/Register**.
3. On the **Sign In** page, log on to the **Oracle Software Delivery Cloud** Web site.
4. On the **Terms & Restrictions** page, review and accept the licensing agreement by selecting the check boxes.
5. Click **Continue**. The **Media Pack Search** window opens.
6. Respond to the following and click **Go.**
   - **License List** - Review the list to determine which Product Packs you need to download.
   - **Product Pack** - Select **Oracle Retail Applications.**
   - **Platform** - Select the desired operating system.

   The **Oracle Retail Analytics Media Pack** window opens.
7. In the **Select** column, click **Download** next to Oracle Retail Modeling Engine.
8. Unpack the ZIP file to a temporary directory. In this guide, the directory that contains the installation media is referred to as the <ORME_CD_IMAGE> directory.

   Now you can set up your ORME installation properties file.

Setting Up install.properties File

In order to install the ORME application, you first need to specify the properties to use during the installation process. The ant.install.properties file, available for each installation, helps you specify the necessary properties for the installation.

To set up your ant.install.properties file:

1. From the installation media, copy the **ant.install.properties.sample** file to your system and rename the file to **ant.install.properties**.
2. Edit the install.properties file, specifying values as described within the file, and save it. For more information about the properties included in the install.properties file, see Install.properties Parameters Reference.

Install.properties Parameters Reference

The following table describes the parameters in the ant.install.properties file that you must set up before you install the ORME application:

Table 6–1 The ant.install.properties Parameters Reference

Parameter	Description
ant.install.config.version = [Version Number]	The version of the ORME 14.0.0 installer configuration. Default = 1.1
basedir = [fullpath directory]	The directory where the ORME 14.0.0 installer has been unzipped and the directory from which install.sh is run. Default = fullpath equivalent of ./
input.admin.port = [Admin Port Number]	WLS Application Server port number. Default = <Empty> If the SSL port is to be used for the installation, enter that here.
input.admin.username.alias = [Admin Alias]	Oracle Wallet Alias Name for WLS Server Name. Default = <Empty>
input.cdm.app = [true or false]	Set to true if any of the ORME.Apps should be installed, otherwise false. Default = false
input.cdm.db = [true or false]	Set to true if any of the ORME.DBs should be installed, otherwise false. Default = false
input.cdt.dbinstall = [true or false]	to true to install the ORME CDT DB component. Default = false
input.cdt.war.install = [true or false]	Set to true to install the ORME CDT App component. Default = false
input.cis.dbinstall = [true or false]	Set to true to install the ORME CIS DB component. Default = false
input.cis.war.install = [true or false]	Set to true to install the ORME CIS App component. Default = false
input.datasource.alias = [schema Alias]	Oracle Wallet Alias for ORME DB. Default = <Empty>
input.datasource.sid = [Oracle SID/DB name]	WLS Datasource SID for ORME DB Default = <Empty>
input.datasource.url = jdbc:oracle:thin:@[host]:[port]:[dbname]	WLS Datasource URL for ORME DB. Default = <Empty>
input.dt.dbinstall = [true or install]	Set to true to install the ORME DT DB component. Default = false
input.dt.war.install = [true or false]	Set to true to install the ORME DT App component. Default = false
input.enable.ssl = [true or false]	If using SSL Port to communicate with WLS Application Server, set to true. Default = false
input.lang.code = [de, el, en, es, fr, hr, hu, it, ja, ko, nl, pl, pt, ru, sv, tr, zh, zh_TW]	Installed language selection. Default = en
input.mba.dbinstall = [true or false]	Set to true to install the ORME MBA DB component. Default = false
input.new.install = [true or false]	If a new installation, set to true. Setting to true will cause rse.home directory to be deleted prior to copying installation files to it. Default = false
input.radm.datasource.alias = [RADM user alias]	Oracle Wallet Alias for RADM DB. Default = <Empty>
input.radm.datasource.sid = [Oracle SID/DB name]	WLS Datasource SID for RADM DB. Default = <Empty>
input.retrieve.credentials = [yes or no]	Set to yes if using Oracle Wallet for credentials. Default = no

Table 6–1 (Cont.) The ant.install.properties Parameters Reference

Parameter	Description
input.rse.home = [full path to RSE home directory]	Directory where the ORME files are installed. Default = <Empty>
input.target.name = [Admin/Managed Server]	WLS Admin Server Name or WLS Managed Server Name. Default = AdminServer
input.wallet.dir = [fullpath to wallet directory]	Directory that contains Oracle Wallet entries. Default = ./
input.wls.target = [Application Server Hostname]	WLS Application Server hostname. Default = <Empty>
input.rabatch.grant.recipient = [RADM user alias or Role]	Oracle Wallet Alias for RADM DB or RADM Database Role that is to be granted DB privilege to run ORME Batch Processes.
input.rase.db.batch.user.alias = [ORASE user alias]	Oracle Wallet Alias for ORASE DB.
input.tnsadmin.dir = [full path to Oracle Wallet directory]	Oracle Wallet directory where input.rase.db.batch.user.alias is defined.

Setting Up Environment Variables

Before you start the installation, make sure that the following environment variables are set in the system:

- JAVA_HOME
- ORACLE_HOME
- ORACLE_SID
- TNS_ADMIN
- PATH
- LD_LIBRARY_PATH
- WL_HOME
- WEBLOGIC_DOMAIN_HOME
- NLS_LANG

Although it is recommended that these variables be set up in relevant bash shell startup files (`.bash_profile`) of the system, you can also set up the variables using the **export** command at the UNIX prompt. For more information on setting up these variables in the startup files, refer to the operating system documentation.

> **Note:** You must install Oracle Java JDK 1.7.0 Update 51 manually and set up the JAVA_HOME environment variable to point to the Oracle JAVA JDK 1.7.0 Update 51 installation directory.

To set up the environment variables for the current session, at the UNIX prompt type the following commands in sequence:

```
#Export JAVA_HOME
export JAVA_HOME=<path where JVM is installed>
#Example: export JAVA_HOME=/usr/lib/java/jdk1.7.0_51
```

```
#Export ORACLE_HOME
export ORACLE_HOME=<path where the Oracle database is installed>
#Example: export ORACLE_HOME=/u01/app/oracle/product/11.2.0/db_1

#Export ORACLE_SID
export ORACLE_SID=<Oracle System ID of ORASE DB Schema>
#Example: export ORACLE_SID=ORASE_TEST

#Export TNS_ADMIN
export TNS_ADMIN=<the location where sql.ora and tnsnames.ora are stored>
#Example: export TNS_ADMIN=${ORACLE_HOME}/network/admin

#Update PATH
export PATH=${ORACLE_HOME}/bin:${PATH}
export PATH=${JAVA_HOME}/bin:${PATH}

#Update LD_LIBRARY_PATH
export LD_LIBRARY_PATH=${ORACLE_HOME}/lib:${LD_LIBRARY_PATH}

#Export WL_HOME
export WL_HOME=<the location where the WebLogic Server is installed>
#Example: WL_HOME=/u00/middleware/weblogic_1036/wlserver_10.3

#Export WEBLOGIC_DOMAIN_HOME
export WEBLOGIC_DOMAIN_HOME=<the location where the WebLogic Domain is installed>
WEBLOGIC_DOMAIN_HOME
#Example: WL_HOME=/u00/middleware/weblogic_1036/wlserver_10.3

#Export NLS_LANG
export NLS_LANG=AMERICAN_AMERICA.AL32UTF8
```

Note: Once the ORACLE_HOME environment variable is set up, the password stores set up with the alias, ensure that you can connect to the database via sqlplus using the following command:

```
$sqlplus /@<alias_name>
```

Installing ORME

The ORME installation media includes an Oracle installer that you must run to install the application. the installer installs the application based on the input specified in an application properties file, ant.install.properties.

You can install the ORME application in one of the following ways:

- Graphical or Text Mode: The installer prompts you to enter or modify the value of the properties specified in the installation properties file.
- Silent Mode: The installer processes the values set in the properties file without any manual intervention from you.

Installing ORME in Graphical or Text Mode

To install ORME in graphical or text mode, complete the following steps. Although this section describes how you can install ORME in graphical mode, the same instructions appear on the screen as text instructions if you are installing the application in text mode.

Note: Although you do not have to set up the installation properties file when you are installing the application in graphical or text mode, it can be helpful to do so. If you set up the values in the properties file, those values will be taken as the default values in the graphical or text mode dialog boxes. For information on setting up the properties file, see Setting Up install.properties File.

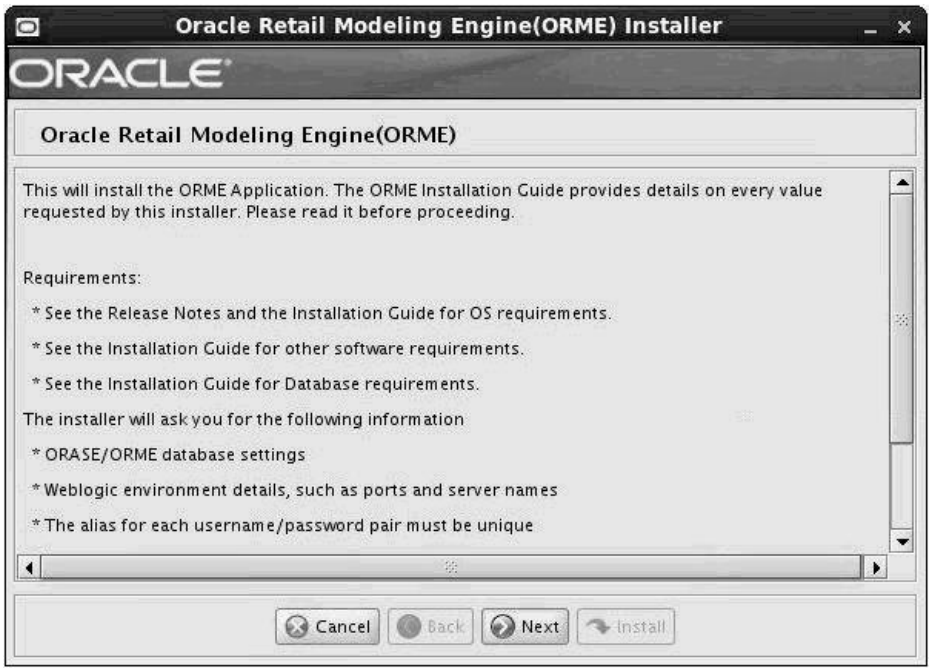
To install the ORME application in graphical mode:

1. Ensure that the WebLogic application server software is running and that the database is accessible.
2. If you are viewing the installer from a Windows client:
   - On the **Windows** client, start an **Xserver** program that enables you to emulate the X terminal.
   - On the application server, set the display for the Windows client where you want the Oracle Installer to display as follows:

     ```
     export DISPLAY=<IP address>:0.0
     ```
3. From the application server machine, enter the following command:

   ```
   ./install.sh
   ```
4. The ORME welcome window appears. Click **Next**.

Figure 6–1 Welcome



5. The ORME Components window appears. Select the components you want to install.

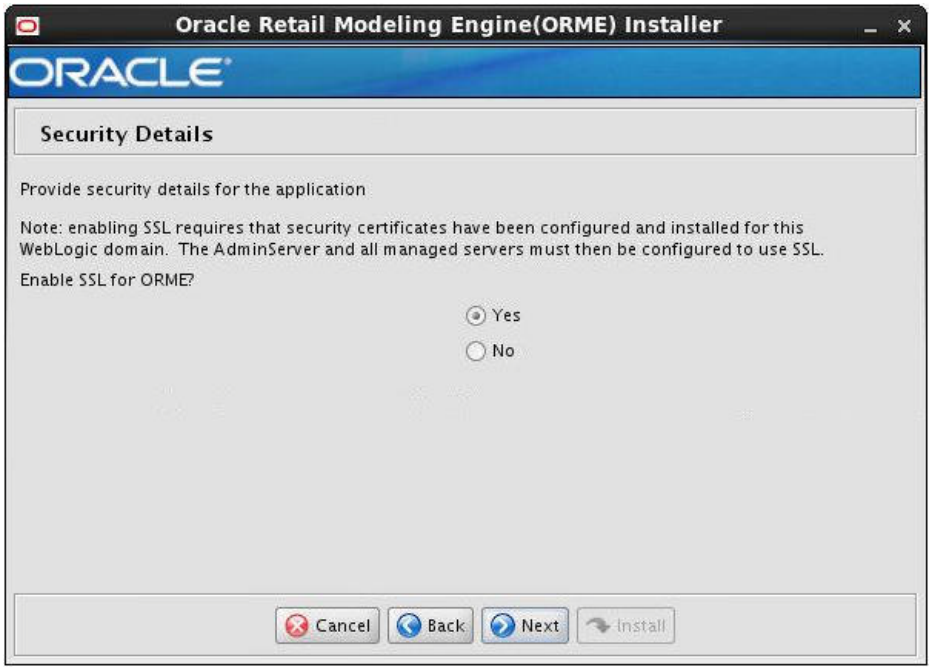
Figure 6–2 RSE ORME Components

6. The Security Details window appears.

   - Select **Yes** to install ORME on a WebLogic environment configured to use SSL. In this case, SSL must be configured and the ports must be enabled for the administration server or the managed server.
   - Select No to install ORME using a WebLogic environment configured without SSL. In this case, non-SSL ports must be enabled for the adminstration server or the managed server.

   Click **Next**.

Figure 6–3 Security Details

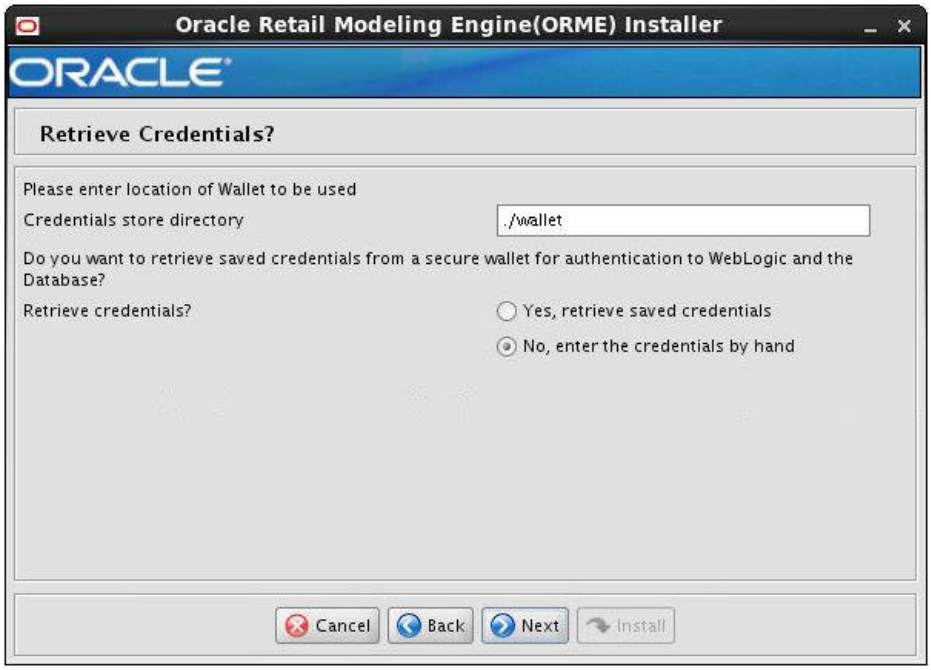


7. The Retrieve Credentials? window appears. Select how you want to retrieve user credentials from the Oracle Wallet:

   - Select **Yes** to indicate that the installer should read the user credentials from an Oracle Wallet and specify the location of the Oracle Wallet.
   - Select **No** to indicate that you are going to enter the user credentials in the user interface and specify a location where you want the credentials to be stored temporarily. (This directory will be deleted after the installation.)

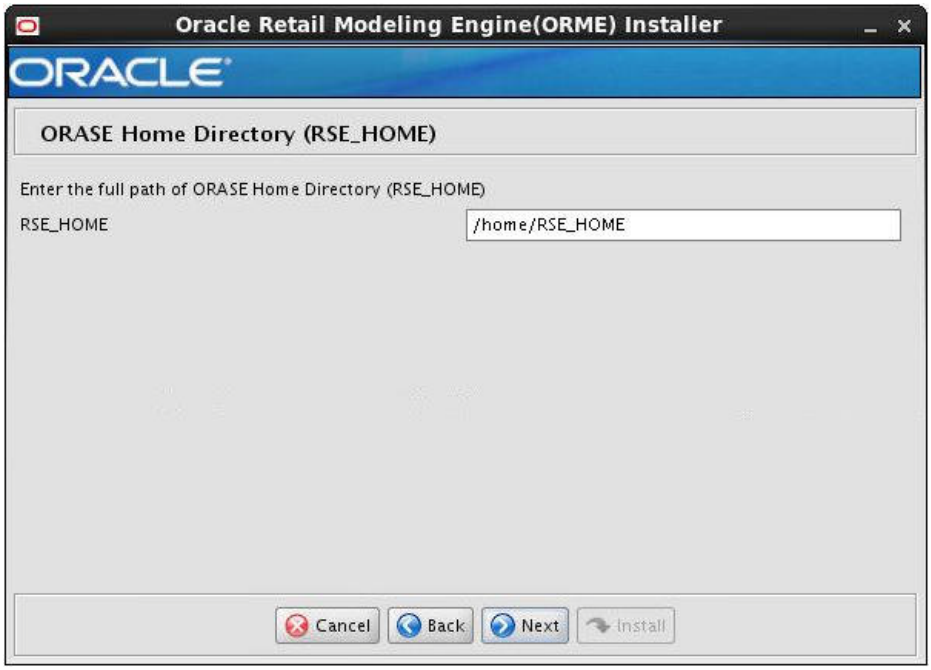
   Click **Next**.

Figure 6–4 Retrieve Credentials?



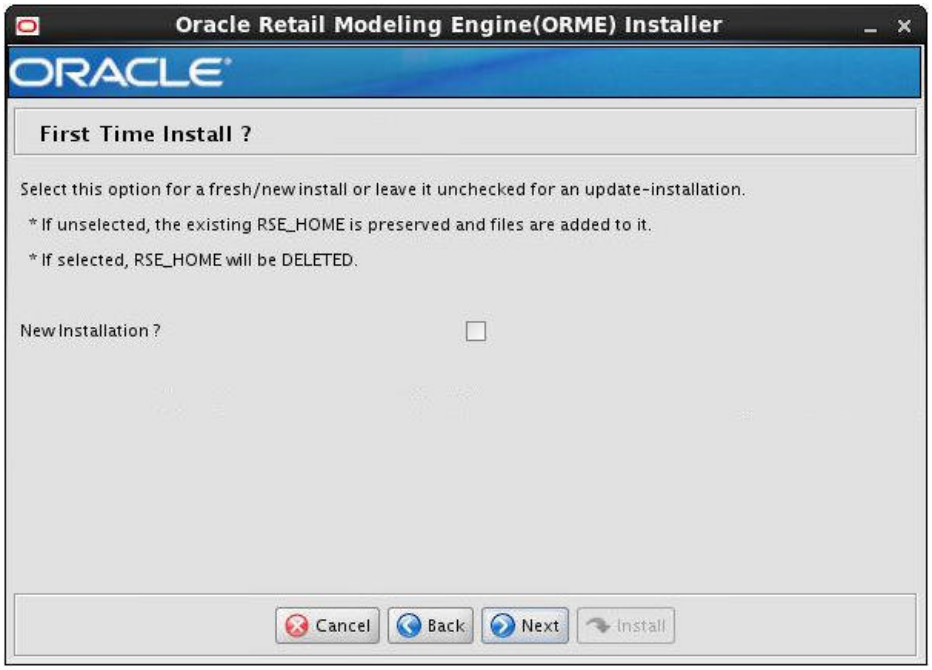
8. The RSE_HOME window appears. Enter the path to the location where you are installing the ORME files and click **Next**.

Figure 6–5 RSE Home



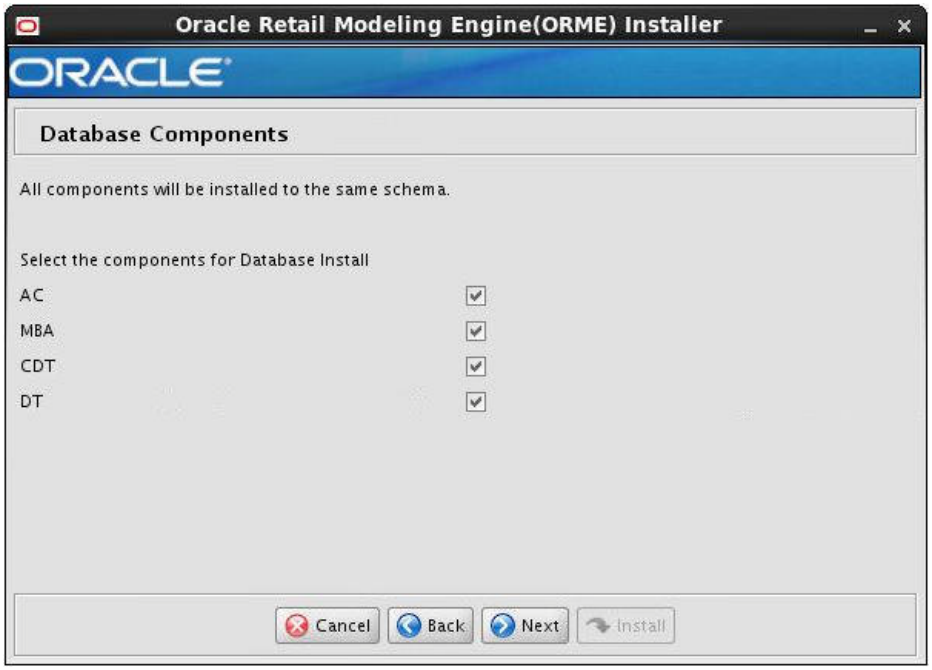
9. The First time Install? window appears. If you are installing the application for the first time, select the check box and click **Next**. If you select the check box, RSE_HOME will be deleted.

Figure 6–6 First Time Install?



10. The Database Components window appears. Select the components you want to install and click **Next**.

Figure 6–7 Database Components



11. The Application Components window appears. Select the components you want to install and click **Next**.

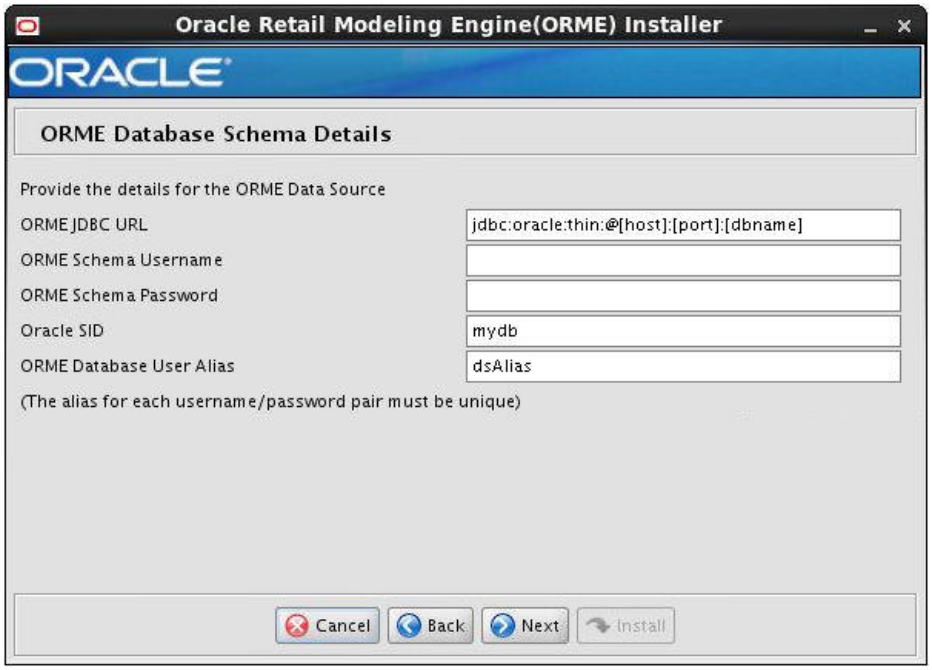
Figure 6–8 Application Components

12. The RSE Database Schema Details window appears. Enter the relevant information, as described in RSE Database Schema Details, and click **Next**.

Table 6–2 RSE Database Schema Details

Field	Description
ORME JDBC URL	The URL for the JDBC.
Schema User Name	The user name for the schema.
Schema Password	The password associated with the user name.
Oracle SID	The Oracle system ID.
Database User Alias	The alias for the database user.

Figure 6–9 RSE Database Schema Details

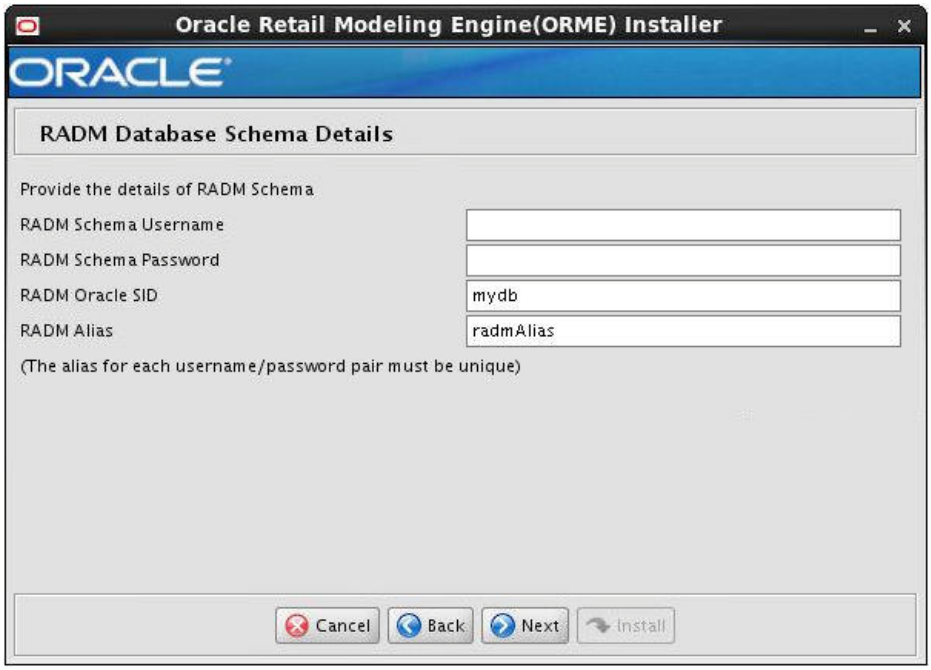


13. The RADM Database Schema Details window appears. Enter the relevant information, as described in RADM Database Schema Details, and click **Next**.

Table 6–3 RADM Database Schema Details

Field	Description
RADM Schema User Name	The user name for the RADM schema.
RADM Schema Password	The password associated with the user name.
RADM Oracle SID	The RADM Oracle system ID.
RADM Alias	The alias for RADM.

Figure 6–10 RADM Database Schema Details

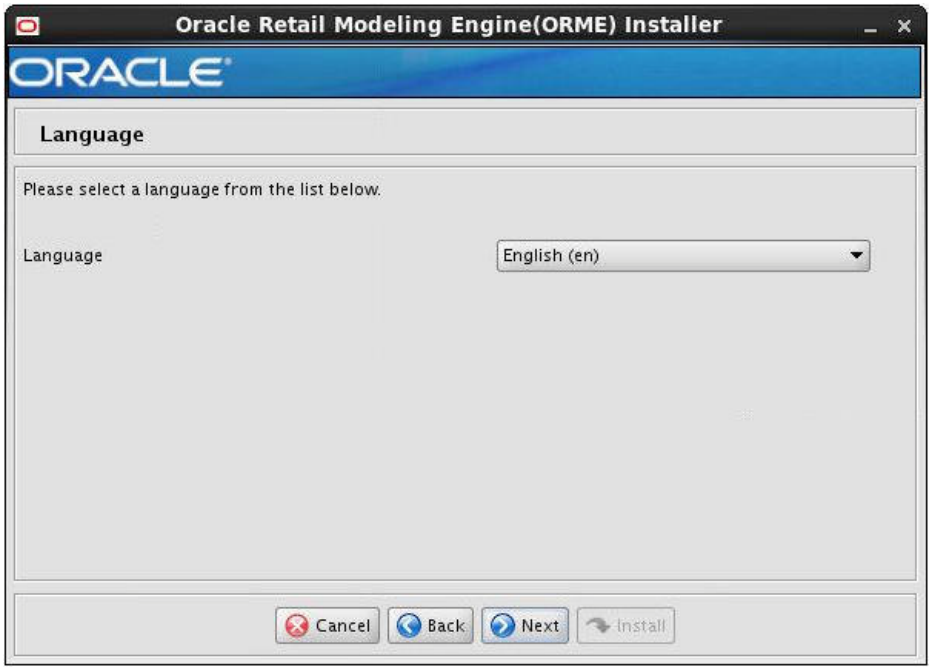


14. The RA Database Schema Details window appears. Enter an RA schema/role and click **Next**.

Figure 6–11 RA Database Schema Details

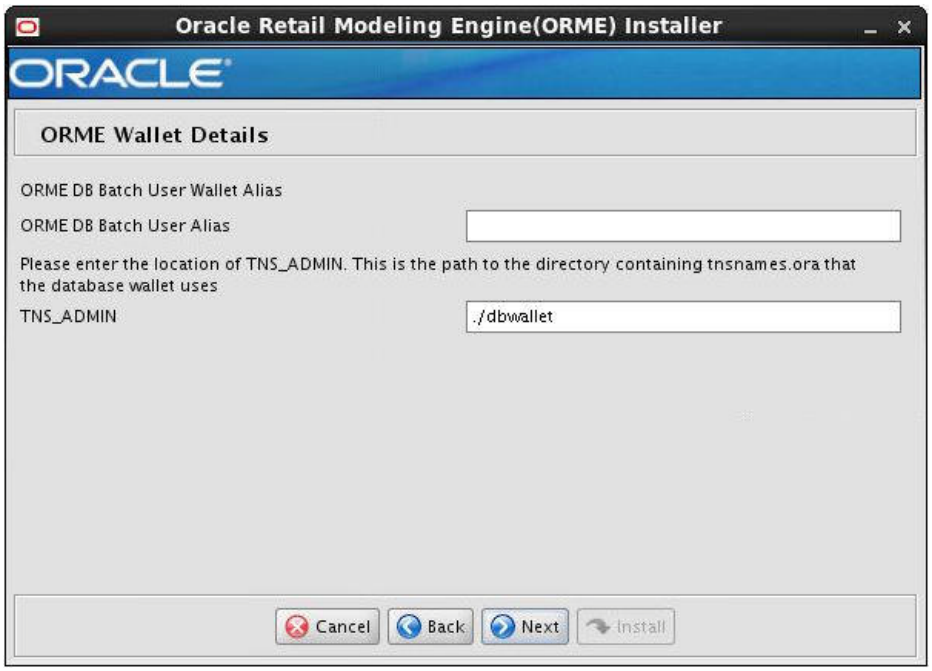
15. The Language window appears. Select the appropriate language from the drop-down list and click **Next**.

Figure 6–12 Language



16. The Wallet Details window appears. Enter the batch user wallet alias and the TNS_ADMIN values. These values are entered into the RASE_HOME/common/scripts/lib/rse_env file. Click **Next**.

Figure 6–13 Wallet Details

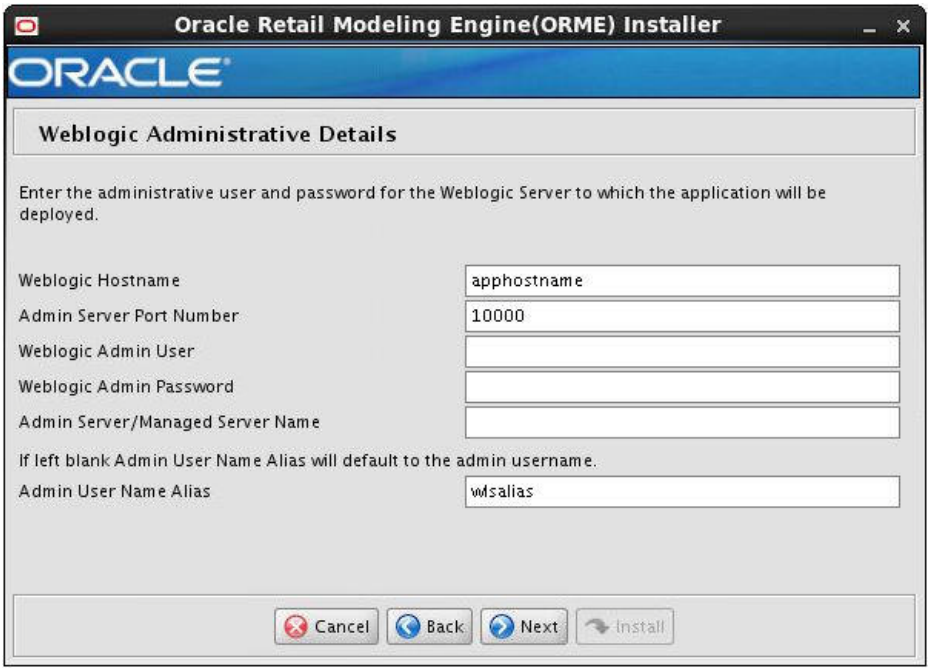


17. The WebLogic Administrative Details window appears. Enter the appropriate information, described in WebLogic Administrative Details, in the fields provided and click **Next**.

Table 6–4 WebLogic Administrative Details

Field	Description
WebLogic Hostname	The host name of the application server.
Admin Server Port Number	The port number associated with the application server.
WebLogic Admin User Name	The administrative user name for the application server.
WebLogic Admin Password	The password associated with the administrative user name.
Admin Server/Managed Server Name	The name of the admin server or the managed server. This is the target for the application.
Admin User Name Alias	The alias name for the administrative user. This information enhances the security of the application. If you leave this field blank, the alias name defaults to the administrative user name.

Figure 6–14 WebLogic Administrative Details



18. The Installation Summary window appears. Review the installation summary and when satisfied click **Next**.

Figure 6–15 Database Installation Summary

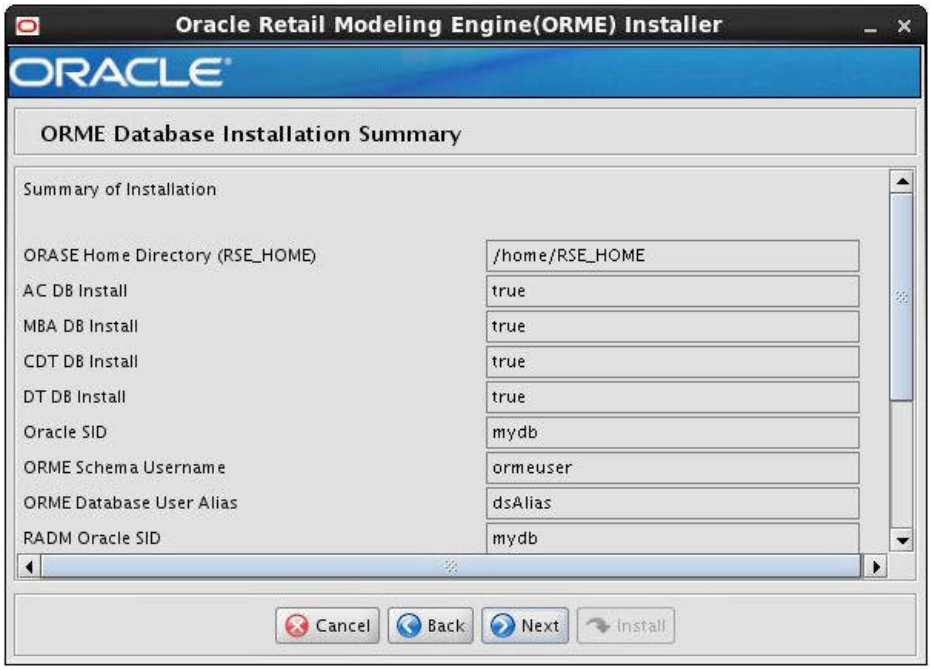
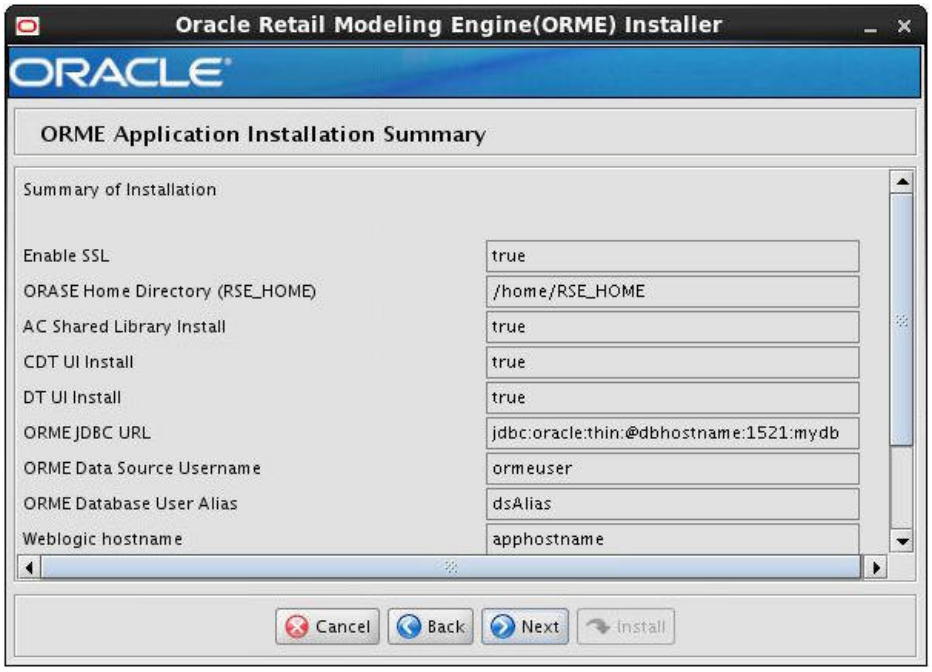
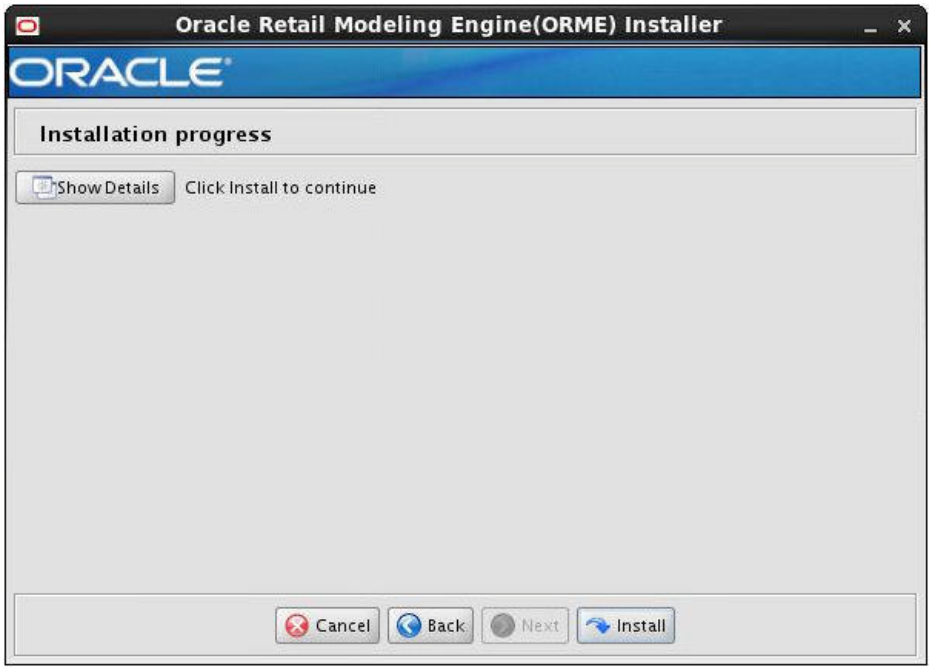


Figure 6–16 ORME Application Installation Summary



19. The Installation Progress window appears. Click **Install** to start the installation.

Figure 6–17 Installation Progress



20. After the installation is complete, click **Exit** to close the Installer.

Installing ORME in Silent Mode

Silent mode is not interactive. To install the ORME application in silent mode:

1. Ensure that you have completed Setting Up install.properties File.

   Note: Make sure that the ant.install.properties file is available in the same directory as the install.sh script.

2. Ensure that you have saved the following user credentials in an Oracle Wallet:
   - WebLogic domain administration user credential (if you are installing application components)
   - Database user credential
   - RADM database user credential (if you are installing database components)

   The silent mode installer does not ask for user credentials. Instead, it retrieves the user credentials from the Oracle Wallet.

   Note: The installation property input.retrieve.credentials must be set to a value of **Yes**.

3. Ensure that the WebLogic Server is running and that the database is accessible.
4. Navigate to the Dashboard installation folder and enter the following command:

   ```
   ./install.sh silent
   ```

Logging In

Once ORME installed, you can access the application using the following URL:

http://<SERVER>:<PORT>/cdm/faces/oracle/retail/rse/cdm/fe/view/page/CentralizedDemandModelling.jspx

About install.sh

The install.sh script enables you to launch the Oracle installer and install the application.

Syntax

install.sh [text | silent]

Arguments

The following table describes the arguments you can use along with the install.sh. You can specify [text] or [silent] as optional arguments. If neither is specified, the Oracle Installer displays the default Graphical Mode user interface and prompts you to enter or modify the value of the properties specified in the properties file.

Argument	Description
text	Optional. Console mode. If you include this option, the Oracle Installer user interface displays a console user interface and prompts you to enter or modify the value of the properties specified in the properties file.
silent	Optional. Silent mode. If you include this option, the installer processes the properties file (ant.installer.properties) without any manual intervention.

A

Appendix: Installation Order

This appendix provides a guideline for the order in which the Oracle Retail applications should be installed. If a retailer has chosen to use only some of the applications, the order is still valid, less the applications not being installed.

> **Note:** The installation order is not meant to imply integration between products.

Enterprise Installation Order

1. Oracle Retail Merchandising System (RMS), Oracle Retail Trade Management (RTM), Oracle Retail Sales Audit (ReSA). Optional: Oracle Retail Fiscal Management (ORFM)

   > **Note:** ORFM is an optional application for RMS if you are implementing Brazil localization.

2. Oracle Retail Service Layer (RSL)
3. Oracle Retail Extract, Transform, Load (RETL)
4. Oracle Retail Active Retail Intelligence (ARI)
5. Oracle Retail Warehouse Management System (RWMS)
6. Oracle Retail Invoice Matching (ReIM)
7. Oracle Retail Price Management (RPM)

   > **Note:** During installation of RPM, you are asked for the RIBforRPM provider URL. Since RIB is installed after RPM, make a note of the URL you enter. If you need to change the RIBforRPM provider URL after you install RIB, you can do so by editing the remote_service_locator_info_ribserver.xml file.

8. Oracle Retail Allocation
9. Oracle Retail Central Office (ORCO)
10. Oracle Retail Returns Management (ORRM)
11. Oracle Retail Back Office (ORBO)
12. Oracle Retail Store Inventory Management (SIM)

Note: During installation of SIM, you are asked for the RIB provider URL. Since RIB is installed after SIM, make a note of the URL you enter. If you need to change the RIB provider URL after you install RIB, you can do so by editing the remote_service_locator_info_ribserver.xml file.

13. Oracle Retail Predictive Application Server (RPAS)
14. Oracle Retail Demand Forecasting (RDF)
15. Oracle Retail Category Management (CM)
16. Oracle Retail Analytics (RA)
17. Oracle Retail Modeling Engine (ORME)
18. Oracle Retail Assortment and Space Optimization (ORASO)
19. Oracle Retail Replenishment Optimization (RO)
20. Oracle Retail Analytic Parameter Calculator Replenishment Optimization (APC-RO)
21. Oracle Retail Regular Price Optimization (RPO)
22. Oracle Retail Merchandise Financial Planning (MFP)
23. Oracle Retail Size Profile Optimization (SPO)
24. Oracle Retail Assortment Planning (AP)
25. Oracle Retail Item Planning (IP)
26. Oracle Retail Item Planning Configured for COE (IP COE)
27. Oracle Retail Advanced Inventory Planning (AIP)
28. Oracle Retail Integration Bus (RIB)
29. Oracle Retail Services Backbone (RSB)
30. Oracle Retail Financial Integration (ORFI)
31. Oracle Retail Point-of-Service (ORPOS)
32. Oracle Retail Markdown Optimization (MDO)
33. Oracle Retail Clearance Optimization Engine (COE)
34. Oracle Retail Analytic Parameter Calculator for Markdown Optimization (APC-MDO)
35. Oracle Retail Analytic Parameter Calculator for Regular Price Optimization (APC-RPO)