

**Oracle® Retail Analytic Parameter Calculator for
Markdown Optimization**

Installation Guide

Release 13.2.2

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Oracle® Retail Analytic Parameter Calculator for Markdown Optimization Installation Guide, Release 13.2.2

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- Are the implementation steps correct and complete?
- Did you understand the context of the procedures?
- Did you find any errors in the information?
- Does the structure of the information help you with your tasks?
- Do you need different information or graphics? If so, where, and in what format?
- Are the examples correct? Do you need more examples?

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Preface

This guide explains the procedure for installing the Oracle Retail Analytic Parameter Calculator for Markdown Optimization (APC-MDO) application.

Audience

This document is intended for system administrators and assumes that you are familiar with the following:

- Installing and configuring application server software
- Installing and configuring relational database management systems
- Installing and configuring distributed client/server applications

Documentation Accessibility

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<http://www.oracle.com/accessibility/support.html> if you are hearing impaired.

Related Documents

For more information, see the following documents in the Oracle Retail Analytic Parameter Calculator for Markdown Optimization Release documentation set:

- *Oracle Retail Analytic Parameter Calculator for Markdown Optimization Configuration Guide*
- *Oracle Retail Analytic Parameter Calculator for Markdown Optimization Release Notes*
- *Oracle Retail Analytic Parameter Calculator for Markdown Optimization 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, 13.1) or a later patch release (for example, 13.1.2). If you are installing the base release, additional patch, and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

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/technology/documentation/oracle_retail.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.
<i>italic</i>	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.

This chapter provides an overview of Oracle Retail Analytic Parameter Calculator for Markdown Optimization (APC-MDO) and a roadmap for implementing the application. It contains the following:

- [Introduction](#)
- [Overview of Oracle Configuration Manager](#)
- [APC-MDO Implementation Roadmap](#)

Introduction

APC-MDO is a single-user application that calculates the demand parameters required to perform forecasting. It uses the historical data to calculate and derive the demand parameters.

APC-MDO generates a set of text files that contain the calculated demand parameters. These parameters are loaded into the MDO schema during implementation.

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 (formerly MetaLink). 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.

OCM Documentation Link

<http://www.oracle.com/technology/documentation/ocm.html>

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.

APC-MDO Implementation Roadmap

This guide explains how you can install and set up the APC-MDO application and the required and optional software of that application.

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 APC-MDO for production, you must perform the following tasks in sequence:

1. Plan the installation.
2. Set up the APC-MDO database.
3. Install the WebLogic application server.
4. Obtain the APC-MDO installation software.
5. Install the APC-MDO application.
6. Complete the post-installation tasks.

Planning Your Installation

Before installing APC-MDO, you must first determine the performance and availability goals for your business and then plan the hardware, network, and storage requirements accordingly. This chapter contains some basic considerations for the implementation of the APC-MDO application.

This chapter contains the following topics:

- [Overview of the Planning Process](#)
- [Supported Configurations](#)

Overview of the Planning Process

Planning your implementation prior to an installation 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 required software (and licensing).
 - Gathering capacity data.
 - Planning the data security policies.
 - Designing the backup and recovery strategies.
2. Determine the size of the implementation.
3. Identify source systems. Identify the systems that will exchange data with APC-MDO.

Sizing Considerations

The APC-MDO schema is installed under the User tablespace. Sizing considerations for this tablespace should use the following variables and formulas as a guideline.

Table 2–1 Sizing Variables

A = number of activities (also known as item-weeks).

M = number of nodes in the merchandise hierarchy that are in the Raw-AP calculation.

L = number of nodes in the location hierarchy that are in the Raw-AP calculation.

SC = number of year-independent season codes. For example, if your implementation uses monthly season codes, this value is 12.

Sizing Formula

Number of gigabytes = $(A * 4.16 / 10 \text{ million}) + (M * L * SC * 1.4 / 1 \text{ million})$

Supported Configurations

This section describes the hardware and network requirements for the APC-MDO application and includes the following topics:

- [Network Requirements](#)
- [Database Requirements](#)
- [Application Server Requirements](#)
- [Client System Requirements](#)

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

APC-MDO requires the use of the Oracle database as described in the following table:

Table 2–2 Database Requirements for APC-MDO

Software	Requirement
Database (64-bit)	Oracle Database 11g Release 2 (11.2.0.1.0)
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 <i>Oracle Database Licensing Information 11g Release 2</i> .

Table 2–2 (Cont.) Database Requirements for APC-MDO

Software	Requirement			
Operating System (64-bit)	Oracle Linux 5.0 Update 3	Oracle Solaris 10 (SPARC) Update 8 timezone patch 122032-01 or later and libc patch 119689-07 or later	HP-UX 11i v3 Update 1 (11.31), Itanium-based	IBM AIX 6.1 Technology Level (TL) 4
Utilities	file transfer protocol utility (ftp or ssh/scp/rsync) sudo utility			

User Requirements

Your implementation may require you to set up multiple user accounts and user groups. Ensure that the user accounts, UIDs, user groups, GIDs, home directory, and shell are set up consistently across all the clusters and servers.

Application Server Requirements

APC-MDO supports the use of Oracle WebLogic Server 11g Release 1 (10.3.2). The following table lists the supported operating systems and the associated application server versions:

Table 2–3 Application Server Requirements for APC-MDO

Software	Requirement			
Application Servers	Oracle WebLogic Server 11g Release 1 (10.3.2), extended to use ADF 11.1.1.2.0 along with the following patch: <ul style="list-style-type: none"> ▪ Patch 9538640 – PS1 CUMULATIVE MLR2 (RT) BASED JDEVADF_11.1.1.2.PS1_GENERIC_100329.1609.5562 			
Database Client	Oracle Database 11g Client Release 2 (11.2.0.1.0)			
Operating Systems (64-bit)	Oracle Linux Release 5.0 Update 3	IBM AIX 6.1 Technology Level (TL) 4	Oracle Solaris 10 (SPARC) Update 8 timezone patch 122032-01 or later and libc patch 119689-07 or later	HP-UX 11i v3 Update 1 (11.31), Itanium-based
JVM (64-bit)	Oracle's JDK 6.0 Update 18	IBM JDK 1.6 SR6	Oracle's JDK 6.0 Update 18	HP UX JDK 1.6.0.07

Note: For more information on downloading and installing Oracle Application Development Framework (ADF), visit the Oracle Technology Network Web site at
<http://www.oracle.com/technetwork/developer-tools/adf/overview/index.html>

User Requirements

Your implementation may require you to set up multiple user accounts and user groups. Ensure that the user accounts, UIDs, user groups, GIDs, home directory, and shell are set up consistently across all the clusters and servers.

Client System Requirements

The following table lists the supported client system options:

Table 2–4 Client System Environment

Software	Requirements
Windows XP Professional SP3 (with Office 2003)	<ul style="list-style-type: none"><li data-bbox="724 373 998 401">■ Microsoft Office 2003<li data-bbox="724 411 1097 438">■ Microsoft Internet Explorer 7.0

Setting Up the Database

This chapter describes how to set up the database and the various database components. It contains the following:

- [Creating the APC-MDO Database](#)

Creating the APC-MDO Database

The APC-MDO database can be created as another instance on an existing Oracle Database Server.

Note: When APC-MDO is running, it will consume application server resources such as memory and CPU. These are important considerations if your application server has additional instances.

The asds schema must have Select privileges on the v\$parameter table. The DBA should grant these privileges when she creates the asds schema.

The asds schema, as installed by the installer, uses only a single tablespace. The DBA should decide whether or not to move the objects in the asds schema to different tablespaces.

For more information on setting up the relevant database user accounts and privileges, refer to the *Oracle Retail Markdown Optimization Installation Guide*.

Installing the asds Schema

The schema for APC-MDO is referred to as the “asds Schema”. The APC-MDO installer will automatically install the application-specific objects in the asds database schema. The database will be created under the application tablespace.

The asds schema must be installed on the same Oracle Database Server instance as the Oracle Retail Markdown Optimization (MDO) product. APC-MDO will use this schema to obtain historical data from MDO.

loadSchema.sh

The loadSchema.sh -u script does not drop any tables except the tables that belong to APC-MDO.

Here is a description of the loadSchema.sh functionality. To use the script, you must have an Oracle instance, an MDO schema, and an asds schema. Both schemas must be in the same Oracle instance. You must set up the tablespace and the indexspace.

This script is specifically used to load data from a MDO schema into an asds schema. It has several restrictions:

- The asds and MDO schemas must be located in the same Oracle instance for this script to work, because this script creates synonyms that point to the MDO schema without using db links.
- This script cannot be used to update an existing asds schema. This script can only be used to drop an existing asds schema, re-create the asds schema, and then load MDO data into the asds schema.
- This script does not automatically drop an existing asds schema. You need to use the -u option to first drop an existing asds schema. Run the script again to re-create the asds schema and load data from MDO. Note that the -u option will drop only asds tables; if there are other tables in the schema, those tables will not be dropped. You need to drop those manually if you want them dropped. In addition, the -u option does not drop the temporary tables that APC-MDO creates while it runs. There should be no need to drop these, since APC-MDO overwrites these tables once the script runs.

Setting Up the WebLogic Application Server

Before installing APC-MDO, 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.

APC-MDO supports the use of Oracle WebLogic Server 11g Release 1 (10.3.2). This chapter provides instructions on setting up the application server selected for your business. It contains the following section:

- [Setting Up the WebLogic Server](#)
- [Setting Up JVM Memory Settings](#)
- [Restarting the Application Server](#)

Note: This chapter includes specific instructions required for APC-MDO. 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 ADF Cumulative MLR Patch](#)
- [Setting Up a WebLogic Domain](#)
- [Setting Up the WebLogic Startup Script](#)

Installing the WebLogic Server

Install the Oracle WebLogic Server Release 11gR1 (10.3.2), referring to the Oracle WebLogic Server Documentation for guidance.

APC-MDO also requires that the WebLogic Server is extended to use ADF 11.1.1.2.0. For more information on downloading and installing Oracle Application Development Framework (ADF), visit the Oracle Technology Network Web site at <http://www.oracle.com/technetwork/developer-tools/adf/overview/index.html>.

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

Installing the Oracle ADF Cumulative MLR Patch

Before you set up a WebLogic domain, you must apply the Oracle Application Development Framework (ADF) Cumulative MLR Patch 9538640.

To download and apply the patch:

1. Log on to the My Oracle Support Web site and download the patch 9538640. To download this patch:
 - a. In a Web browser, open the following URL:
`https://support.oracle.com/`

The My Oracle Support Web page appears.
 - b. Select a language and sign on to the Web site by clicking **Sign In**.
 - c. Once you sign in, the **My Oracle Support | Dashboard** screen appears.
 - d. Click the **Patches & Updates** tab.
 - e. On the **Patch & Updates** screen, under **Patch Search**, click **Patch ID or Number**.
 - f. In the **Patch ID or Number is** field, enter **9538640**.
 - g. Optionally, you can also choose a platform from the **Platform is** drop-down list.
 - h. Click **Search**. The **Patch Search Results** screen appears.
 - i. In the **Patch Search Results** screen, under **Patch ID**, click the relevant patch.
 - j. On the next screen, click **Download** (which appears on the left side of the screen).

Note: On the **Patch Search Results** screen, you can also select the row that matches the patch description, and then click **Download** on the toolbar that appears under the selected row.

2. Unpack the ZIP file to a temporary directory and navigate to this location.
3. Set the ORACLE_HOME and PATH environment variables using the following commands:

```
export ORACLE_HOME=$WLS_HOME
export PATH=$PATH:$WLS_HOME/oracle_common/OPatch
```

4. At the command prompt, run the following command to apply the patch:
`opatch apply`
5. Follow the prompts to complete the patch installation. For detailed instructions, refer to the README.txt file included in the patch directory.

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 the table below:

Table 4–1 Steps to Set Up a WebLogic Domain

Step	Screen	Task
1.	<i>Welcome Screen</i>	Click the Create a new WebLogic domain option, and then click Next .
2.	<i>Select Domain Source Screen</i>	Click the Generate a domain configured automatically to support the following products option, select the Oracle JRF - 11.1.1.0 [oracle_common] check box, and then click Next . Note that the Basic WebLogic Server Domain - 10.3.2.0 [wlserver_10.3] check box is automatically selected and greyed out.
3.	<i>Specify Domain Name and Location Screen</i>	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.	<i>Configure Administrator User Name and Password Screen</i>	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 a Password Store for the Application Installation .
5.	<i>Configure Server Start Mode and JDK Screen</i>	Under WebLogic Domain Startup Mode , click Production Mode . Under JDK Selection , select the relevant JDK. Click Next .
6.	<i>Select Optional Configuration Screen</i>	Select the configurations you want to customize and click Next . Go to Step 7. APC-MDO is not supported on WebLogic cluster-based configuration. You can choose to skip selecting the Managed Servers, Clusters and Machines check box. OR

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

Step	Screen	Task
		Proceed directly to creating your domain. Skip the following steps and go to Step 8.
7.	<i>Configure the Administration Server Screen</i>	<p>Enter relevant information in the following fields:</p> <ul style="list-style-type: none"> ■ 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. <p>Click Next.</p>
8.	<i>Configuration Summary Screen</i>	Review and confirm the configuration summary, and then click Next .
9.	<i>Creating Domain Screen</i>	<p>Displays the domain configuration progress.</p> <p>Once the configuration is complete, click Done.</p>

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** – In case the system that hosts the WebLogic server runs on a newer Intel-based processor, you must append `-XX:-UseSSE42Intrinsics` to the `JAVA_OPTIONS` parameter above. For more information, see <http://www.oracle.com/technetwork/developer-tools/jdev/knowissues-086971.html#faces18>.
 - **CONFIGROOT** – The application configuration root directory.

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>"
. ${WL_HOME}/common/bin/commEnv.sh
SERVER_NAME="admin"
CONFIGROOT=<APC-MDO INSTALLATION DIRECTORY>/config
JAVA_OPTIONS=$JAVA_OPTIONS -Dcom.profitlogic.configroot=$CONFIGROOT"
-XX:-UseSSE42Intrinsics
CLASSPATH="${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 &
```

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 "512m" 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="-Xms512m -Xmx512m"
MEM_PERM_SIZE_64BIT="-XX:PermSize=512m"
MEM_MAX_PERM_SIZE_64BIT="-XX:MaxPermSize=512m"
```

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

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 the scripts, refer to the WebLogic Server documentation.

Setting Up Password Stores

Before you start the application installation, you must set up a password store for the database user accounts using Oracle Wallet. You must also 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.

This chapter describes the steps you must use to set up the relevant password stores. It includes the following sections:

- [About Password Stores](#)
- [Setting Up a Password Store for the Database User Accounts](#)
- [Setting Up a Password Store for the Application Installation](#)

Note: The password stores must be set up on different directories or locations.

About Password Stores

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 that are referred to as the password stores. The password stores are secure software containers that store the encrypted 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.

When the installation starts, all the necessary user credentials will be retrieved from the Oracle Wallet based on the alias name associated with the user credentials.

Setting Up a Password Store for the Database User Accounts

Once the database is installed and the default database user accounts set up, you 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. The alias will later be used during the application installation. This password store must be created on the system where the application server and database client are installed.

Note: Before you proceed, ensure that you set up the TNS_ADMIN environment variable. For more information, see [Setting Up Environment Variables](#).

This section highlights the steps you must take to set up a wallet and then the aliases for the database user accounts. For more information on configuring authentication and password stores, refer to 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:

1. Create a wallet using the following command:

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

Once you run the command, a prompt appears to enter a password for the Oracle Wallet.

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>
```

Once you run the command, a prompt appears to enter the password associated with the database user account.

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

Setting Up a Password Store for the Application Installation

Before starting the application installer, you must set up the user credentials for the application server and the database user accounts.

Note: In this section <MDO_CD_IMAGE> refers to the location where you extract the Markdown Optimization installation media. To proceed ahead, you must first access and extract the installation media. For more information, see [Accessing the Installation Software](#).

The application installation includes a Credential Storage Manager that you can use to set up a password store for the application installation.

To set up a password store for the application installation using the Credential Storage Manager:

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

```
<MDO_CD_IMAGE>/CSM/lib/
```

For more information on the <MDO_CD_IMAGE> folder, see [Chapter 6, "Installing APC-MDO."](#)

2. Run the following command:

```
java -jar retail-public-security-api.jar <alias-name> <user-name>
<locationofwalletDir>
```

Once you run this command, you will be prompted to enter the password associated with the user name.

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

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. You will need to set this location as the value for the CSM_HOME before starting the application installation. For more information, see [Setting Up Environment Variables](#).

3. Repeat step 2 to set up aliases for all the database and application server administrative user accounts.

Important: You must name the alias for the application server administrative user as *weblogicadmin*, and set this alias up in the CSM_HOME location.

Example

To set up an alias with a name **MDOAdminAlias** for the user **mdo-admin** and store the wallet file at **/u00/product/oracle/mdo/wallet/**, specify the following:

```
java -jar retail-public-security-api.jar MDOAdminAlias mdo-admin  
/u00/product/oracle/mdo/wallet/
```

Important Considerations

- For database user accounts, ensure that you set up the same alias names between the password stores (Oracle Wallet and Credential Store Manager).
- 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.

Installing APC-MDO

After you have set up the database and the application server, you can install APC-MDO using the guidelines provided in this chapter.

This chapter contains the following:

- "Overview of the Installation Process"
- "Accessing the Installation Software"
- "Setting Up Your Installation Properties File"
- "Setting Up Environment Variables"
- "Preparing The UNIX Terminal Emulator and SSH Client"
- "Installing APC-MDO in Silent Mode"
- "Installing APC-MDO Using the Installer"
- "Post-Installation Tasks"
- "Upgrading to the Latest Release of APC-MDO"

Overview of the Installation Process

In order to install APC-MDO, 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 APC-MDO properties file. The installation modes are as follows:

- **Graphical mode** – In the graphical 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.

Accessing the Installation Software

The APC-MDO installation software is bundled with the Oracle Retail Markdown Optimization (MDO) product software. The software media is available from the Oracle E-Delivery site.

To download the software:

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

<http://edelivery.oracle.com/>

The **Oracle E-Delivery** download page displays.

Note: Installation media files for an Enterprise release (13.0) are available on the *Oracle Electronic Delivery* Web site (<http://edelivery.oracle.com>) and Patch releases (13.0.x) and Hot Fixes (13.0.x.y) are available on the *My Oracle Support* Web site (<https://metalink.oracle.com>).

2. Select a language, and click **Continue**.

The **Export Validation** screen displays.

3. Respond to the following and click **Continue**.

- **Full Name** – enter your full name.
- **Company Name** – enter your company name.
- **E-mail Address** – enter your e-mail address.
- **Country** – select your country.
- **License Agreement** – select the License Agreement check box.
- **Export Restrictions** – select the Export Restrictions check box.

The **Media Pack Search** screen displays.

4. Respond to the following prompts, and then click **Go**.

- **License List** – review the list to determine which Product Packs you need to download.
- **Product Pack** – select **Oracle Retail Applications**.
- **Platform** – (optional). Select the desired operating system.

The **Oracle Retail Markdown Optimization Media Pack** screen displays.

5. In the **Select** column, click **Download**.

Oracle E-Delivery writes a Zip file to the default location you have selected for downloads.

6. Unpack the Zip file to a temporary directory.

Setting Up Your Installation Properties File

In order to install APC, you first need to specify the properties to use during the installation process. These properties are specified in the `install.properties` file.

To set up your `install.properties` file:

1. Ensure that your `<MDO_CD_IMAGE>` directory exists and is populated as described in [Accessing the Installation Software](#), on page 6-1.
2. Navigate to the `<MDO_CD_IMAGE>/APC` directory and copy the `reference.apc.install.properties` file to the same directory, naming it `install.properties`.
3. Edit the `install.properties` file, specifying values as described within the file, and save it. For more information on the parameters, see [Install.properties Parameter Reference](#).

Now you can install APC, using either of the following modes:

- [Installing APC-MDO in Silent Mode](#)
- [Installing APC-MDO Using the Installer](#)

Install.properties Parameter Reference

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

Table 6–1 Install.properties Parameters Reference

Parameter	Description
Architecture Properties	
basedest.basedest.dir	Use this parameter to specify the path to the base installation folder.
basedest.baselog.dir	Use this parameter to specify the path to the folder that contains the log files.
basedest.basespool.dir	Use this parameter to specify the path to the folder that contains the spool files.
architecture	Use this parameter to specify the operating system for the application. Valid values are aix_powerpc, linux_i686, linux_x86_64, sunos_sun4u, or hpux_ia64.
http.protocol	The type of HTTP protocol used to host the APC application.
install.command.shell	The shell command to use when you want to execute the shell scripts.
Database Properties	
install.database	Use this parameter to specify the installed database.
Oracle Properties	
dbms.oracle.host	The host name or IP address where the Oracle database is installed.
dbms.oracle.port	The port to connect to the Oracle database.
dbms.oracle.db	Use this parameter to specify the Oracle database name.
dbms.oracle.alias	Use this parameter to specify the Oracle database alias name.
Application Server Properties	
install.appserver	The default application server for the application.
WebLogic Properties	
bea.home	Use this parameter to specify the path to the Oracle Middleware base directory. For example, /u00/Oracle/Middleware.
weblogic.server	Use this parameter to specify the name of the server instance.
weblogic.domain	Use this parameter to specify the WebLogic domain name.
weblogic.admin.port	Use this parameter to specify the port to connect to the WebLogic application server.
weblogic.admin.alias	Use this parameter to specify the alias name set up for the WebLogic Server administrative user account. You must name the alias for the application server administrative user as weblogicadmin, and set this alias up in the CSM_HOME location. For more information, see Setting Up a Password Store for the Application Installation .
weblogic.server.address	Use this parameter to specify the URL to connect to the WebLogic application server.
weblogic.home	Use this parameter to specify the path to the WebLogic server installation.

Table 6–1 (Cont.) Install.properties Parameters Reference

Parameter	Description
host.list	This is the list of managed servers, where you want the installer to deploy an instance of Calculation Engine. <hostname1,hostname2...>, When installing in a clustered environment across multiple hosts, the install base needs to be replicated on all the hosts involved. (This is not needed if the install base is on network drive shared among the servers).
Post-installation Properties Files	
install.properties.savefile	Use this parameter to specify the path to the folder where you want to store the properties file (last-session.properties) that contains the parameter values used in the last installation session.
missing.properties.savefile	Use this parameter to specify the path to the folder where you want to store the properties file (missing-entries.properties) that contains the parameter values the Oracle installer tried to use during installation.
Oracle Configuration Manager (OCM) Properties	
basedest.baseocm.dir	Use this parameter to specify the path to the folder that contain the OCM files. Oracle recommends that this path be in the base installation folder.
product.ocm.install	Use this parameter to accept or decline the OCM license agreement. The value defaults to <i>no</i> and indicates that OCM will not be installed (rest of the OCM properties are ignored).
ocm.distribution	Use this parameter to specify the architecture of the operating system on which OCM is being installed.
ocm.disconnected	Use this parameter to specify one of the following OCM connection mode: <ul style="list-style-type: none"> ■ Connected – to proceed installing OCM. You must also procure the Customer Support Identifier, My Oracle Support user account name, and the country code to install the OCM. ■ Disconnected – to skip the OCM configuration.
ocm.csi_id	Use this parameter to specify the Customer Support identification number.
ocm.metalink_id	Use this parameter to specify the My Oracle Support user account name associated with the Customer Support identification number.
ocm.country_code	Use this parameter to specify the country code where the support agreement was initiated.
ocm.http.proxyenabled	Use this parameter to indicate that the system will connect to the Internet using proxy. Valid values are <i>yes</i> or <i>no</i> .
ocm.http.proxyhost	Use this parameter to specify the host name of the proxy server.
ocm.http.proxyport	Use this parameter to specify the port number of the proxy server.
ocm.http.proxyuser	Use this parameter to specify the user name to connect to the proxy server.
ocm.http.proxypassword	Use this parameter to specify the password associated with the user name to connect to the proxy server.
APC Database Settings	
product.apc.description	Use this parameter to specify the product description.
database.apcdb.oracle.address	Use this parameter to specify the URL (host name or IP address) where the APC database is installed.
database.apcdb.oracle.dbalias	Use this parameter to specify the database alias name.
database.apcdb.oracle.dbname	Use this parameter to specify the database name.

Table 6–1 (Cont.) Install.properties Parameters Reference

Parameter	Description
database.apcdb.oracle.dbport	Use this parameter to specify the port to connect to the database.
database.apcdb.oracle.create	Use this parameter to indicate that a new APC database must be created.
database.apcdb.oracle.upgrade	Use this parameter to specify that the existing database be upgraded to include the APC schema.

Setting Up Environment Variables

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

- JAVA_HOME
- ORACLE_HOME
- PATH
- LD_LIBRARY_PATH (applies to Linux, HP-UX, Solaris based systems)
- LD_LIBRARY_PATH_64 (applies to Linux, HP-UX, Solaris based systems)
- LIBPATH (applies to IBM AIX based systems)
- TNS_ADMIN
- CSM_HOME

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.

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

```
export JAVA_HOME=<path where JVM is installed>
For example, /usr/lib/java/jdk1.6
```

```
export ORACLE_HOME=<path where the Oracle client is installed>
For example, /u01/app/oracle/product/11.2.0/db_1
```

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

```
export LD_LIBRARY_PATH=$ORACLE_HOME/lib;$LD_LIBRARY_PATH
For example, export LD_LIBRARY_PATH=$ORACLE_HOME/lib;$LD_LIBRARY_PATH
```

```
export LIBPATH=$ORACLE_HOME/lib;$LIBPATH
For example, export LIBPATH=$ORACLE_HOME/lib;$LIBPATH
```

```
export LD_LIBRARY_PATH_64=$ORACLE_HOME/lib;$LD_LIBRARY_PATH_64
For example, export LD_LIBRARY_PATH_64=$ORACLE_HOME/lib;$LD_LIBRARY_PATH_64
```

```
export TNS_ADMIN=<path where the tnsnames.ora file for the database is located.>
For example, /u01/app/oracle/product/11.2.0/db_1/NETWORK/ADMIN
```

```
export CSM_HOME=<path where the Oracle Wallet is installed>
For example, /u00/product/oracle/mdo/wallet/
```

Preparing The UNIX Terminal Emulator and SSH Client

In order to run the APC-MDO installer, you will need to use a UNIX terminal emulator. In addition, the SSH Client must be configured to allow x-forwarding. Refer to the documentation for the SSH Client for instructions on how to enable x-forwarding.

Installing APC-MDO in Silent Mode

This section describes how to install APC-MDO in silent mode. Silent mode is non-interactive.

Note: You must install ADF 11.1.1.2.0 on the WebLogic server before you can install APC-MDO.

To install APC-MDO in silent mode, complete the following steps:

1. Make sure that you have completed "[Setting Up Your Installation Properties File](#)" on page 6-2.
2. Make sure that the application server is running.
3. From the application server machine, enter the following command:

```
bash install.sh -s -p APC/install.properties -x APC.xml
```

install.sh

The install.sh command enables you to install APC.

Syntax

```
install.sh [-s] [-p <path-to-install.properties>] [-x] <path-to-APC.xml-file>
```

Arguments

Use any arguments listed below as needed.

Argument	Description
-s	Optional. Silent mode. If you omit this option, the Oracle Installer user interface displays.
-p <path-to- install.properties>	Optional. Specifies an alternate path to the install.properties file. Defaults to ./install.properties.
-x <APC.xml>	Specifies an alternate XML install script file within the ./InstallScripts directory.
-h	Optional. Prints a help message.

Return Value

When run in silent mode (install.sh -s), the script displays a trace message to stdout (the console). When run in the Graphical mode (the default), the messages or logs appear in the user interface itself.

Installing APC-MDO Using the Installer

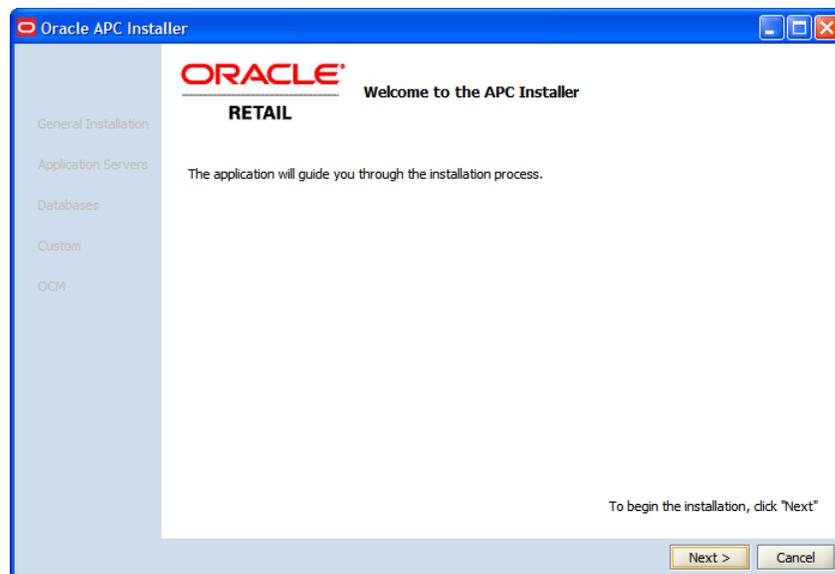
Note: You must install ADF 11.1.1.2.0 on the WebLogic server before you can install APC-MDO.

To install APC-MDO interactively using the Installer, complete the following steps:

1. Make sure that you have completed [Setting Up Your Installation Properties File](#) on page 6-2.
2. From the Windows client, start the UNIX terminal emulator.
3. Make sure that the application server software is running.
4. Navigate to the directory (for example, <MDO_CD_IMAGE>) that contains the installer shell script.
5. Start the installer by issuing the following command:

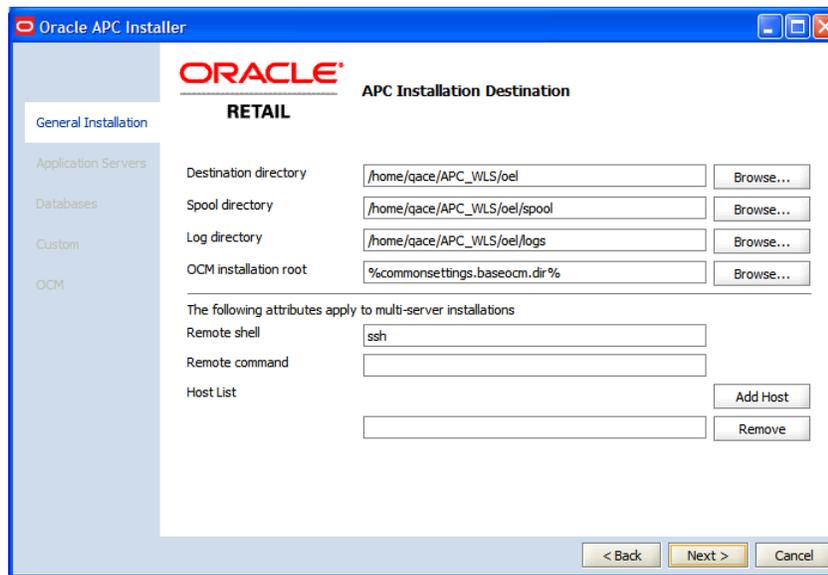
```
bash install.sh -p APC/apc.install.properties -x APC.xml
```
6. The installer opens and displays the **APC Installer Welcome Screen**. Click **Next**.

Figure 6–1 APC Installer Welcome Screen



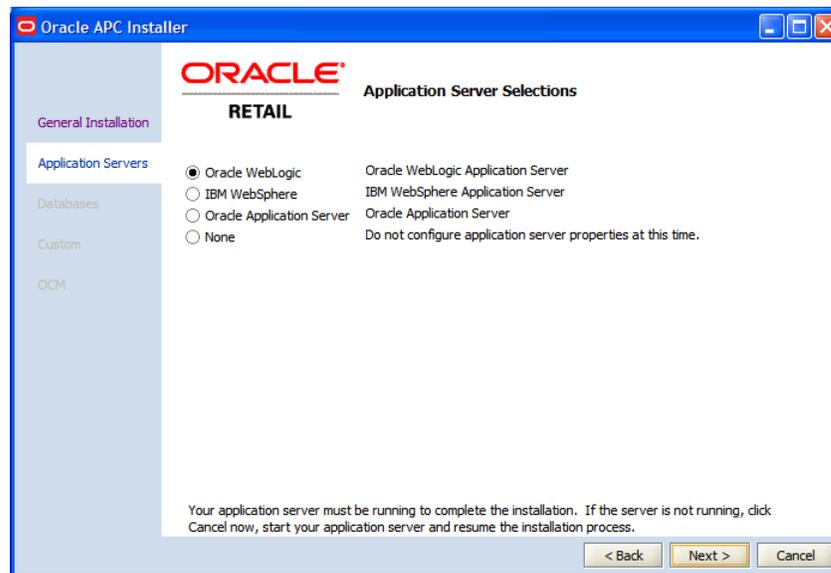
7. The **APC Installation Destination** screen opens.

Figure 6–2 APC Installation Screen



- **Destination Directory** – enter the path to the APC-MDO installation target directory.
 - **Spool Directory** – enter the path to the APC-MDO spool directory.
 - **Log Directory** – enter the path to the APC-MDO log files.
 - **OCM Installation root** – enter the path where the Oracle Configuration Manager (OCM) is installed.
 - **Remote shell** – this field is populated by default.
 - **Remote command** – leave blank.
 - **Host List** – leave blank.
 - Click **Next**.
8. The **Application Server Selections** screen opens.

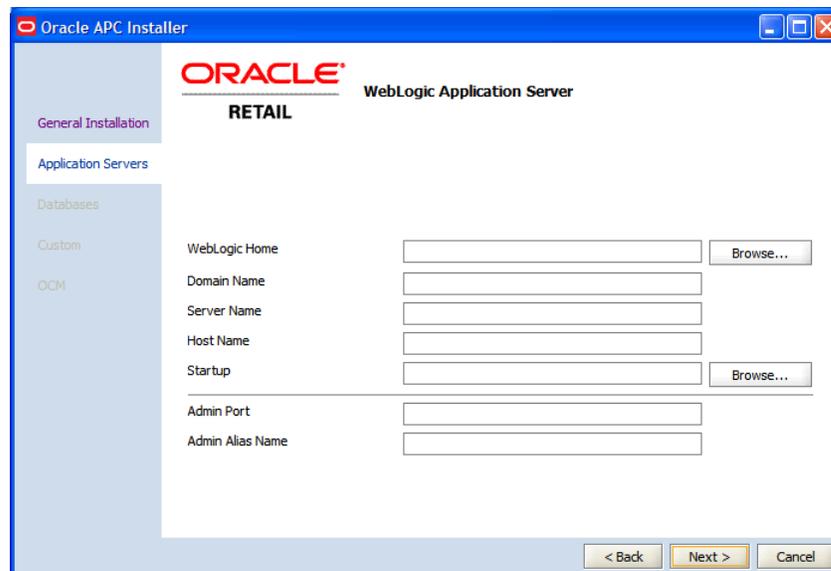
Figure 6–3 Application Server Selections



- Select **Oracle WebLogic**.
- Click **Next**.

9. The **WebLogic Application Server** screen appears.

Figure 6–4 WebLogic Application Server Screen



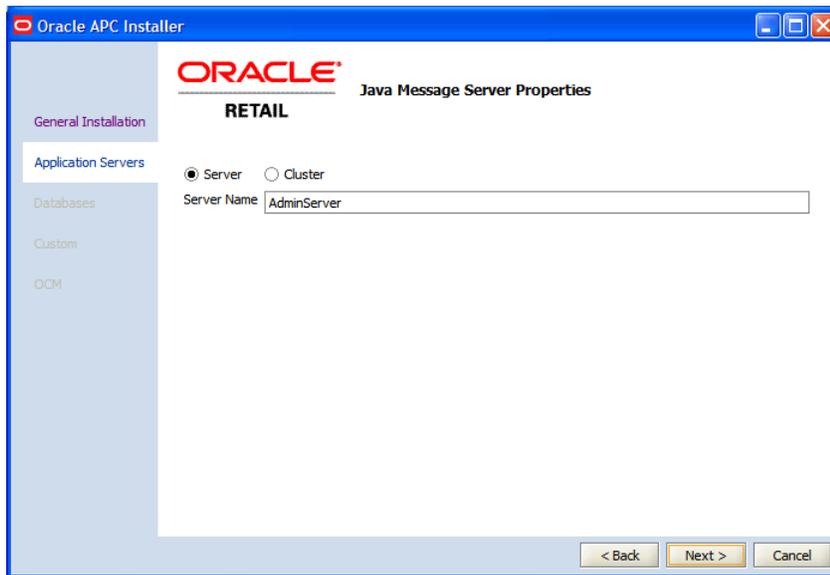
- **WebLogic Home** – enter the location of the WebLogic installation.
- **Domain Name** – enter the domain name for the WebLogic installation.
- **Server Name** – enter the server name for the WebLogic installation.
- **Host Name** – enter the host name for the WebLogic installation.
- **Startup** –left blank
- **Admin Port** – enter the administrative port for the WebLogic installation.

- **Admin Alias** – enter the WebLogic administrative user alias.
- Click **Next**.

Note: If the installation does not continue to the next screen, check the application server information and/or the status of the application server.

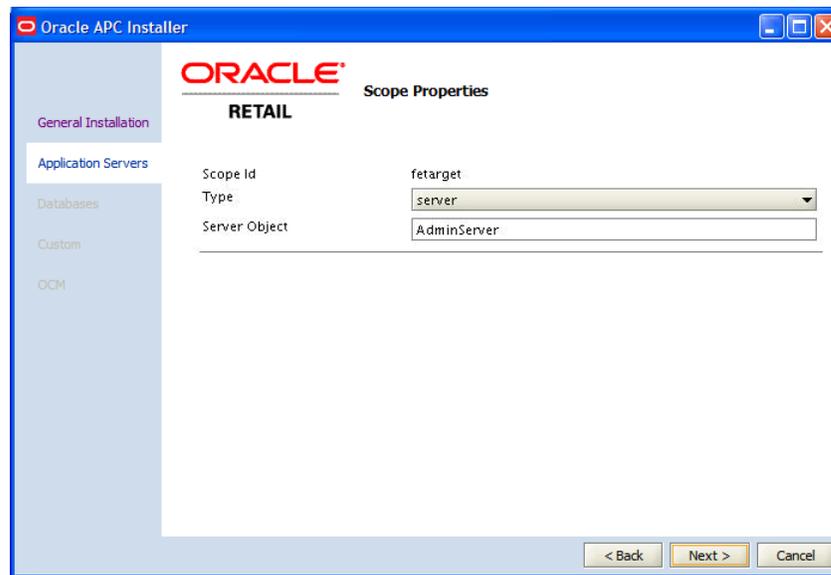
10. The **Java Message Server Properties** screen appears.

Figure 6–5 Java Message Server Properties Screen



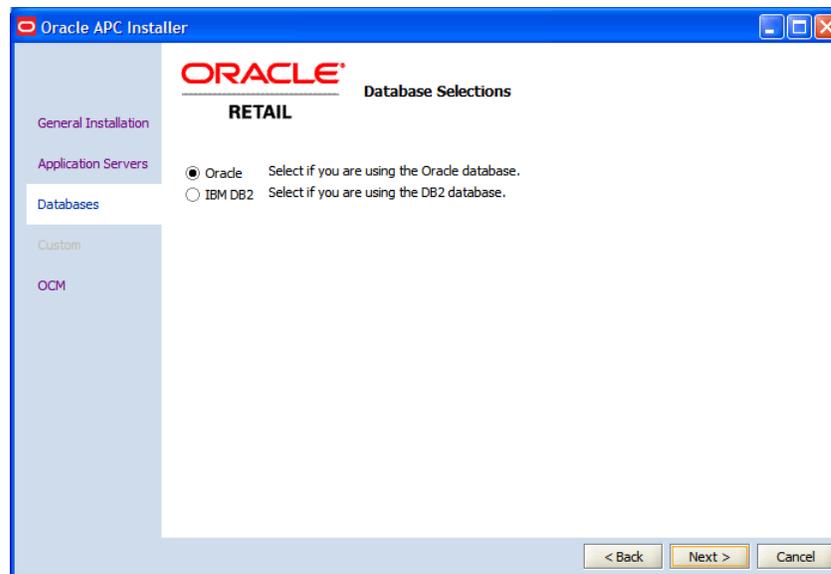
- Select **Server**.
- **Server Name Field** – enter the name of the server that you may have set up as a Java Message Server (JMS).
- Click **Next**.

11. The **Scope Properties** screen appears.

Figure 6–6 Scope Properties Screen

- Enter the server name.
- Click **Next**.

12. The **Database Selections** screen appears.

Figure 6–7 Database Selections Screen

- Select **Oracle**.

Note: APC-MDO does not support the use of DB2.

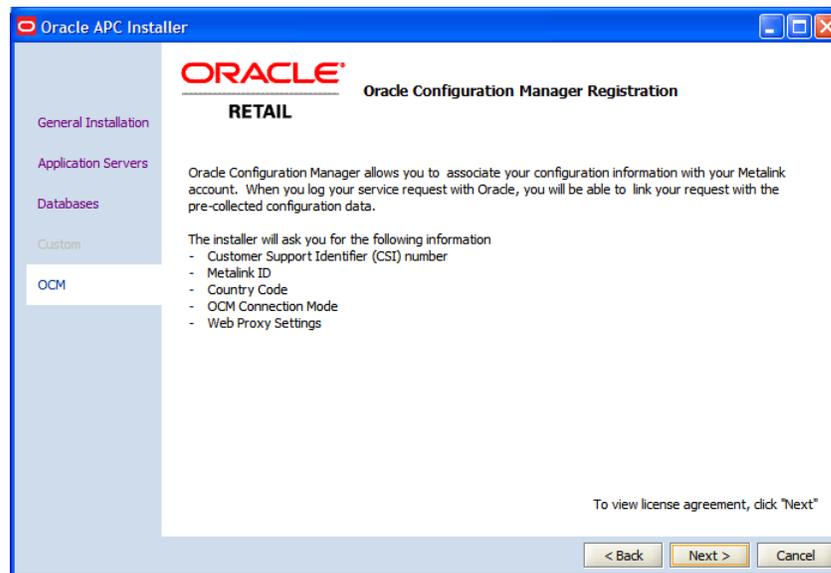
- Click **Next**.

13. The **Database Properties** screen appears.

Figure 6–8 Database Properties Screen

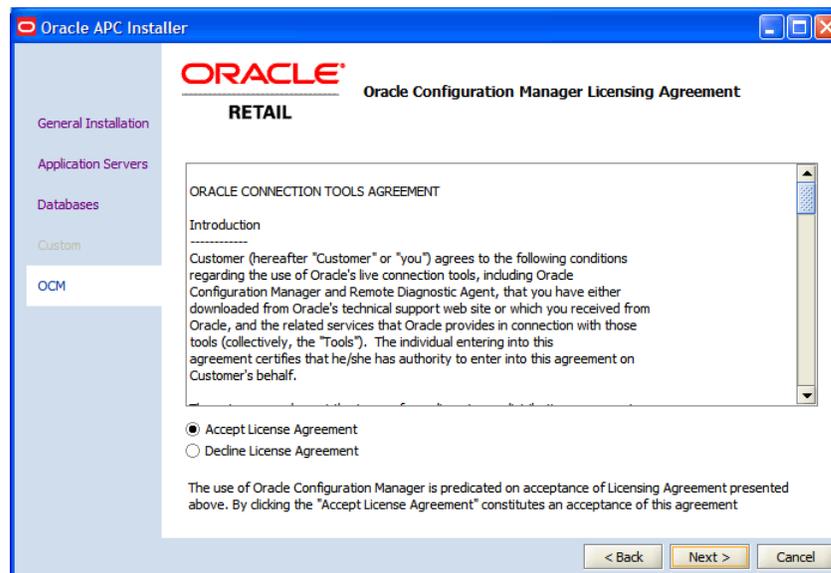
- **RAC Database** – leave this field blank. There is no support for Oracle RAC in this release of APC-MDO.
- **Database server address** – enter the address of the database server.
- **Database server port** – enter the server port number associated with the database.
- **Database name** – enter the name used to identify the database.
- **Database alias** – enter the database alias.
- **RAC Host List** – leave this field blank.
- **Database URL** – (optional). Enter the database’s URL.
- **Tables** – select one of the following options:
 - **No Change** – select this option if you have an existing database schema that you do not want to modify. This enables you to configure data sources and EAR files without affecting the database.
 - **Create** – select his option if you are installing a new database schema for APC-MDO. The Oracle Installer drops all the schemas and creates new ones.
 - **Upgrade** – select this option if you have an existing database schema that you want to update. Any existing data remains intact. It is modified on a row-by-row, column-by-column basis, depending on the actions specified in the database patches.

14. Click **Next**. The **Oracle Configuration Manager Registration** screen opens.

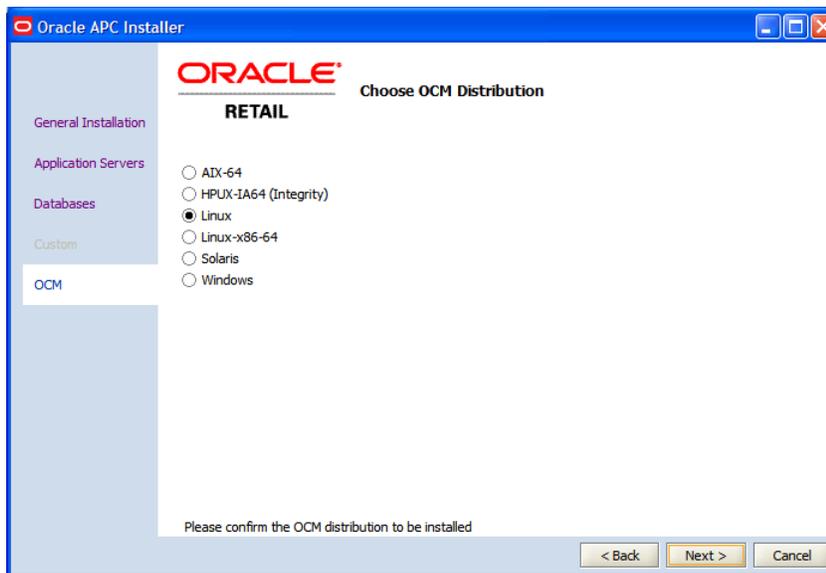
Figure 6–9 Oracle Configuration Manager Registration

- Click Next.

15. The Oracle Configuration Manager Licensing Agreement screen opens.

Figure 6–10 Oracle Configuration Manager Licensing Agreement Screen

16. Accept the license agreement, and click Next. The **Choose OCM Distribution** screen appears.

Figure 6–11 Choose OCM Distribution Screen

17. On the **Choose OCM Distribution** screen, select the operating system hosting the application, and click **Next**. The **Choose OCM Connection Mode** screen appears.

Figure 6–12 Choose OCM Connection Mode Screen

18. On the **Choose OCM Connection Mode** screen, select one of the following modes:
- **Disconnected** – select this mode of OCM installation, when there is no way to access the Oracle servers or you want to keep the automatic collection of configuration data disabled. The **Selection Verification** screen appears. Go to Step 29.
 - **Connected** – select this mode to continue installing OCM, and click **Next**. The **Oracle Customer Information** screen appears.

19. On the **Oracle Customer Information** screen, specify your Customer Support Identifier (CSI) number, My Oracle Support account user name, and the country code where the service agreement is initiated.

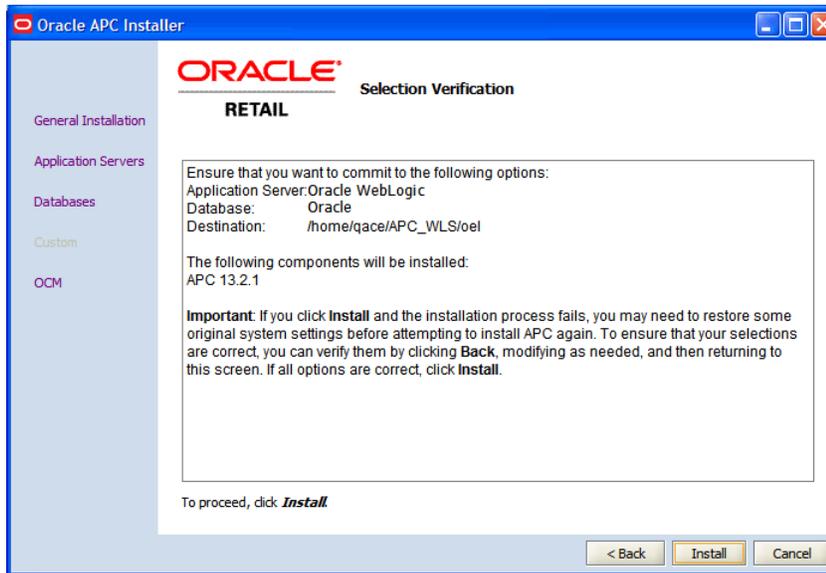
Figure 6–13 Oracle Customer Information Screen

20. Click **Next**. The **Proxy Server Details** screen appears.

Figure 6–14 Proxy Server Details Screen

21. On the **Proxy Server Details** screen, enter the relevant proxy server details, and click **Next**. The **Select Verification** screen appears.

Note: Skip this step if your connection to the Internet does not require a proxy server.

Figure 6–15 Selection Verification Screen

22. Review the **Selection Verification** screen, and click **Install**.

The **APC Installation Status** screen appears. Once the installation is complete,

23. To complete installation:

- Click **Finish** to exit.
- Click **Show Log** to view the installation log file.

Post-Installation Tasks

After the installer has finished, complete the following steps:

1. Navigate to the directory where APC-MDO is installed. This is the directory you defined using the basedest.basedest.dir within the apc.install.properties file.
2. Review the backend configuration file located in the following directory:

```
./modules/APC/config/ecf.conf
```

This file stores the WebLogic administrative alias, and does not need to be modified unless you did not create the "weblogicadmin" alias before installation.

3. Next, navigate to the bin directory, located in

```
./modules/APC/bin
```

4. Within this directory, issue the following command:

```
nohup runAPC.sh -l t3://<host>:<Port> > APCBackEnd &
```

where <host> is the machine where WebLogic is running and <Port> is the WebLogic Admin port.

5. The only way to shut down the APC-MDO back-end process is to manually kill the process. When you start APC-MDO, using runAPC.sh, it spawns a child process. To stop APC-MDO you must kill the runAPC.sh process and the java process. To do this manually:

1. Log into the server where the APC-MDO back-end is running.

2. Enter the command:

```
ps -ef | grep runAPC
```

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

4. Enter the command:

```
ps -ef | grep java
```

5. Identify the correct java process associated with runAPC.sh and obtain the PID for that process.

6. Run the command:

```
kill -9 <PID1>
```

Logging In

Once APC-MDO is installed, you can access the application using the following URL:

```
http://<host-name>:<port>/apc
```

Or navigate directly to the Login page using the following URL:

```
http://<host-name>:<port>/apc/faces/Login
```

Where,

- <host-name> is the host name of the server where the application is installed.
- <port> is the associated port number for the application.

Upgrading to the Latest Release of APC-MDO

This section describes how you can upgrade from a previous release to the APC-MDO Release 13.2.1 (or above) and retain the existing configuration. Before you start the upgrade process, Oracle recommends that you study, procure, and set up the system configuration required for the upgrade. For more information, see [Planning Your Installation](#).

Note: When upgrading to APC-MDO Release 13.2.1, the application user interface cannot be upgraded from a previous release. This is because the APC-MDO Release 13.2.1 no longer supports the application server version that was supported in the previous releases. You will need to install the supported application server, set up a new domain, and then install the APC-MDO application.

To upgrade to the latest release of APC-MDO:

1. Download the latest APC installation media files. For more information, see [Accessing the Installation Software](#).

Note: Installation media files for an Enterprise release (13.2) are available on the *Oracle Electronic Delivery* Web site (<http://edelivery.oracle.com>) and Patch releases (13.2.x) and Hot Fixes (13.2.x.y) are available on the *My Oracle Support* Web site (<https://support.oracle.com>).

2. Back up the database, configuration root, custom scripts, and so on.

3. To save the previous parameter files or use an existing configuration file, refer to the section *Loading a Configuration* in the *Oracle Retail Analytic Parameter Calculator for Markdown Optimization User Guide*.
4. Upgrade the operating system referring to the operating system documentation for guidance. Also, apply the necessary patches as described in the chapter [Planning Your Installation](#).

Note: Although you can upgrade an operating system from an existing version, Oracle recommends that you do a clean installation of the operating system.

5. Install and set up the supported application server (Oracle WebLogic Server) referring to the application server documentation for guidance. For more information on the application server configuration required for APC-MDO, see [Setting Up Your Application Server](#).
6. Once you have set up the application server, edit the *install.properties* file and set up the database parameters in the following manner:
 - For the APC DB, set up the following parameters to indicate an upgrade to the existing database or schema:
 - set the **database.apcdb.oracle.upgrade** parameter to **yes**.
 - set the **database.apcdb.oracle.create** parameter to **no**.

If a database schema did not exist before the upgrade and if you want to create them now, set the **database.<dbschema>.oracle.upgrade** parameter to **no** and the **database.<dbschema>.oracle.create** parameter to **yes** for the relevant database schema.

7. Before you run the installer, set up the environment variables required for the APC installation. For more information, see [Setting Up Environment Variables](#).
8. Run the APC installer and install the application. For more information, see [Installing APC-MDO in Silent Mode](#) or [Installing APC-MDO Using the Installer](#). In case you choose to install the application in the graphical mode, ensure that you select the **Upgrade** check box in the **Database Properties** screens.

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