

**Oracle® Utilities Customer Care and
Billing Integration to Oracle Utilities
Service Order Management**

Installation Guide

Release 2.1.0 Service Pack 3

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Chapter 1

Overview

This guide describes the installation steps that must be completed to integrate Oracle Utilities Customer Care and Billing (CCB) with Oracle Utilities Service Order Management (SOM).

Additional Resources

The following additional resources are available:

Resource	Location
Oracle Utilities Customer Care and Billing Integration to Oracle Utilities Service Order Management Implementation Guide	Same folder as this document, with the distribution for this product
Oracle Utilities Smart Grid Gateway Release 2.1.0 Service Pack 3 Release Notes	Refer to Oracle Utilities Service Order Management documentation located on the Oracle Software Delivery Cloud or on Oracle Technology Network: https://edelivery.oracle.com/ http://www.oracle.com/technetwork/documentation
Oracle Utilities Service Order Management Release 2.1.0 Service Pack 3 Documentation	See to Oracle Utilities Service Order Management Installation documentation located on Oracle Software Delivery Cloud at: https://edelivery.oracle.com
Oracle Utilities Customer Care and Billing v2.4.0.3 (or later) Documentation	See to Oracle Utilities Customer Care and Billing Installation documentation on Oracle Software Delivery Cloud at: https://edelivery.oracle.com
Oracle Utilities Customer Care and Billing v2.5.0 Documentation	https://edelivery.oracle.com
Installing SOA Suite 11g with Enterprise Manager 11.1.1.6 on Weblogic Server 11g (10.3.6)	See the SOA documentation at: http://www.oracle.com/technetwork/middleware/soasuite/documentation/soa11gdoc-2212842.html#111160
Instructions on installing this integration on non-Windows/ Linux platforms	See the Oracle Support Knowledge article ID 1349320.1.

Abbreviations

The following terms are used in this document:

- SOM - Service Order Management
- CCB - Oracle Utilities Customer Care and Billing
- MDS - Metadata Store
- EBF - Enterprise Business Flow
- SOA - Service-Oriented Architecture
- AIA - Application Integration Application
- DVM - Domain Value Map
- OHS - Oracle HTTP Server

Chapter 2

Installation

The following sections describe the settings and requirements for a successful installation of Oracle Utilities Customer Care and Billing Integration to Oracle Utilities Service Order Management, Release 2.1.0 Service Pack 3.

Complete the following installation steps and then configure the edge applications for the integrated functionality:

- [Integration Pack Software Requirements](#)
- [Pre-Installation Tasks](#)
- [Installation Steps](#)
- [Post-Installation Checklist](#)
- [Configuring Edge Applications](#)

2.1 Integration Pack Software Requirements

Before installing the integration package, verify that the following software and applications are properly installed and configured.

Note: For complete details, refer to the product specific installation instructions.

Participating Applications

- Oracle Utilities Service Order Management - Application version v2.1.0.3 installed on an Oracle database with the latest supported service pack
- Oracle Utilities Customer Care and Billing - Application version v2.4.0.3 or later, as well as v2.5.0, installed on an Oracle database with the latest supported service pack.

Oracle SOA/ Weblogic Server

- Oracle SOA Suite 11g with Enterprise Manager 11.1.1.6 on Weblogic Server 11g (10.3.6)

Note: This integration does not require to install the AIA Foundation Pack.

2.2 Pre-Installation Tasks

Complete the following tasks before installing the integration media pack.

1. Ensure that Oracle SOA Suite 11gR1 PS5 or higher with Enterprise Manager is installed and running. For more details, see <http://www.oracle.com/technetwork/middleware/soasuite/documentation/soa11gdoc-2212842.html#111160>.
2. Login to the WebLogic Server console to confirm there are no changes in the **Pending Activation** status.
3. Start the Node Manager, if not already running.
4. Restart the Enterprise Manager and WebLogic Admin Server.
5. Ensure that the WebLogic Admin Server, SOA Server, and Node Manager are up and running.

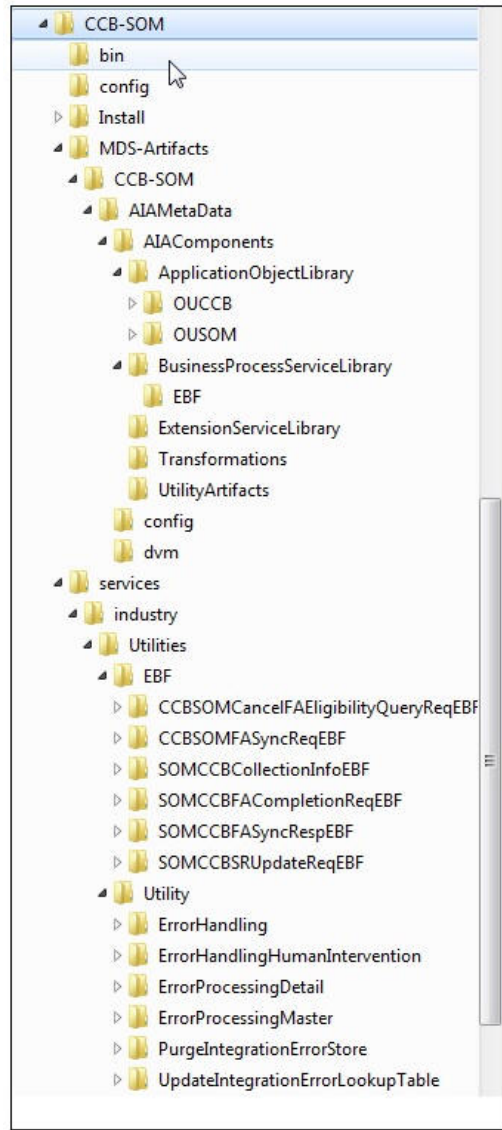
2.3 Installation Steps

To install the integration follow these steps:

1. Download the installation zip file from Oracle Software Delivery Cloud (<https://edelivery.oracle.com>).

Note: For specific instructions about installing this integration on non-Windows/ Linux platforms, see Oracle Support knowledge article ID 1349320.1.

2. Extract the zip file to get the installation folder.
This folder includes subfolders such as bin, config, Install, MDS-Artifacts, and services.



Installation Folder

3. Set the following environment variables for Linux and Windows operating system:

Variable	Example
SOA_HOME	XXX/Middleware/Oracle_SOA1
MW_HOME	XXX/Middleware
PRODUCT_HOME	Directory where CCB_SOM.zip is extracted

Example:
 Linux: PRODUCT_HOME=/slot/oracle/CCB-SOM
 Windows: PRODUCT_HOME=D:\Oracle\CCB-SOM

Below is an example to set up environment variables in a typical installation:

- **Linux:**

```
export SOA_HOME=/slot/ems66xx/oracle/Middleware/Oracle_SOA1
export MW_HOME=/slot/ems66xx/oracle/Middleware
export PRODUCT_HOME=/slot/ems66xx/oracle/CCB-SOM
source "${MW_HOME}/wlserver_10.3/server/bin/setWLSEnv.sh"
cd $PRODUCT_HOME/bin
```

- **Windows:**

```
SET SOA_HOME=C:\Middleware\Oracle_SOA1
SET MW_HOME=C:\Middleware
SET PRODUCT_HOME=C:\CCB-SOM
C:\Middleware\wlserver_10.3\server\bin\setWLSEnv.cmd
cd %PRODUCT_HOME%\bin
```

Note: The syntax for PRODUCT_HOME changes depending on whether you are installing on Linux or Windows. It is referred to as \$PRODUCT_HOME in Linux and %PRODUCT_HOME% in Windows. If you are using Windows, replace \$PRODUCT_HOME with %PRODUCT_HOME% throughout the document.

The following commands (setWLSEnv.sh on Linux and setWLSEnv.bat on Windows) set the environment variables used for executing the installation scripts:

- **Linux:**

```
source "${MW_HOME}/wlserver_10.3/server/bin/setWLSEnv.sh"
```

- **Windows:**

```
cd %MW_HOME%\wlserver_10.3\server\bin\
setWLSEnv.cmd
```

4. Modify the \$PRODUCT_HOME/config/InstallProperties.xml file and ensure that the values entered are relevant to the server where the integration product has to be installed.

Use a text editor to update the InstallProperties.xml file. Login to the WebLogic console to cross verify the values being entered for these properties, as the build may fail due to inappropriate values.

The table below lists the properties available in the InstallProperties.xml file along with their usage. The default values are specified wherever applicable.

Note: If the installation fails due to the incorrect values defined in the installProperties.xml file, execute uninstall, populate the correct values, and then re-execute the install.

Property	Description	Example
Oracle Utilities Customer Care and Billing Application Information		
<CCB>		
<ApplicationUsername>	Application login username	CCBUSER
<ApplicationPassword>	Application login password	CCBPWD

Property	Description	Example
Oracle Utilities Service Order Management Application Information		
<SOM>		
<ApplicationUsername>	Application login username	SOMUSER
<ApplicationPassword>	Application login password	SOMPWD
WorkFlow Notification Properties		
<WorkFlow.Notification>		
<from.emailid>	Valid email address for work flow notifications	Admin.user@yourdomain.com
<mode>	Type of notification mode	EMAIL
SOA Information		
Admin Server Information		
<AdminServer>		
<hostname>	Host name of the server where admin server hosting SOA suite is installed.	SOA_Admin. yourdomain.com
<portnumber>	Port number the admin server (hosting SOA suite) is listening to.	
<servername>	Admin server name (hosting SOA suite)	AdminServer
<username>	User name used to log in as an Admin server (hosting SOA suite) administrator.	weblogic
<password>	Password used to log in as an Admin server (hosting SOA suite) administrator.	
<domainname>	WebLogic domain name hosting SOA suite.	soa_domain
Managed Server Information		
<ManagedServer>		
<hostname>	Host name of the server where managed server (hosting SOA suite) is installed.	SOA_MS. yourdomain.com
<portnumber>	Port number the managed server (hosting SOA suite) is listening to.	
<servername>	Managed server name (hosting SOA suite)	soa_server1

Property	Description	Example
<username>	User name used to log in to managed server (hosting SOA suite) as an administrator.	weblogic
<password>	Password used to log in to managed server (hosting SOA suite) as an administrator.	
Oracle HTTP Server Information		
<OHS>		In case of non-cluster environment these properties would be same as <ManagedServer> values
<hostname>	Oracle HTTP server host name	SOA_MS. yourdomain.com
<Portnumber>	Oracle HTTP server port number	Port number of the Oracle http server
<servernames>	Server names on cluster	soa_server1 In case of multiple managed servers, provide comma to separate the values. For example: soa_server1, soa_server2
MDS DB Information		
<mdsconfig>		
<mdsdbusername>	User name used to log in to MDS schema.	SOA_MDS
<mdsdbuserpassword>	Password used to log in to MDS schema.	manager
<mdsdbhostname>	Host name of the server hosting the database containing MDS schema.	MDSDB_HOST. yourdomain.com
<mdsdbportnumber>	Port number of the database containing MDS schema.	1521
<mdsdbsid>	SID of the database containing MDS schema.	MDSDBSID

Property	Description	Example
JMS Information		
<serverName>	<p>Server name hosting the JMS queue. If the Oracle Utilities Customer Care and Billing queues are hosted and targeted on a WebLogic domain hosting SOA suite, then do not change this value.</p> <p>If the Oracle Utilities Customer Care and Billing queues are on a different WebLogic domain, then this value should be unique across domains.</p> <p>For more details, see the <i>WebLogic Administrator Guide</i>.</p>	Default: CCBSOMJMSServer
<ModuleName>	Module name hosting the JMS	Default: CCBSOMJMModule
<SubDeploymentName>	Sub deployment name for JMS queues	Default: CCBSOMSubDeployment Note: Do not change this value.
<TargetServerName>	<p>WebLogic managed server name.</p> <p>This property usually is same as the managerserver name.</p>	Default: soa_server1
<PersistentStoreType>	JMS persistent store type (FileStores or DBStore). Deployment script supports a file based persistent store.	Default: FileStores
<PersistentStoreName>	JMS persistent store name	Default: CCBSOMFileStore
<JMSCFName>	JMS connection factory name	Default: CCBSOMCF
<JMSCFJNDI>	JMS Connection factory jndi name	Default: jms/ CCB-SOM/ CCBSOMCF
Error Handling Schema Information		
<EH>		
<dba.dbusername>	User name used to log in as a Database Administrator (DBA). This database hosts the schema required for integrating Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management.	system

Property	Description	Example
<dba.dbuserpassword>	Password used to log in as a Database Administrator (DBA). This database hosts the schema required for integrating Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management.	
<dbusername>	User name used to login to CCB-SOM schema for integrating Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management. This user can be automatically created by the install (set dbuser.createflag to true) or manually outside the install process.	Example: CCBSOMUser
<dbuserpassword>	Password used to log in to CCB-SOM schema for integrating Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management.	
<dbuser.createflag>	Flag specifying whether to create a new schema or use the existing schema for Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management integration. If the schema is created manually outside of the installation process, then set this value to “false”. Else, set the value to “true”, if the installation script should automatically create the schema. Valid values: true or false (this is case sensitive).	true
<dbhostname>	Database host name used for the Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management integration.	DB_HOST. yourdomain.com
<dbportnumber>	Database port number used for the Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management integration.	1521
<dbsid>	Database SID used for the Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management integration.	DBSID

Note: If the `dbuser.createflag` is set to `false`, the schema needed for Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management integration error handling is not automatically created by the install. The schema needs to be created manually before running the install. When creating the user manually, grant connect and resource to the user.

Also, note the following:

- `$PRODUCT_HOME/Install/util/ant` folder contains all the ant build scripts.
- `$PRODUCT_HOME/bin/InstallBuild.xml` is used to install the CCB-SOM integration code.
- `$PRODUCT_HOME/bin/UnInstallBuild.xml` is used to uninstall the CCB-SOM integration code.
- `$PRODUCT_HOME/bin/DeployUndeployUtility.xml` is used to deploy/ undeploy individual composite/ MDS folder and then restart the managed server.

Note: The installation and uninstallation process may take several minutes or more to complete. Stand by until the install and uninstall processes are complete.

2.3.1 Installing the Integration

After setting the environment variables, open the Command prompt window and execute the following installation scripts in Linux and Windows respectively. Note that the installation process is divided into three steps.

Step1: Execute the following commands to create the database objects required for the Error Handling module and the database artifacts required for the integration.

- **Linux**

```
cd $PRODUCT_HOME/bin
ant -f InstallBuild.xml InstallDB -DInstallProperties=$PRODUCT_HOME/
config/InstallProperties.xml -l InstallDB.log
```

- **Windows**

```
cd %PRODUCT_HOME%\bin
ant -f InstallBuild.xml InstallDB -DInstallProperties=%PRODUCT_HOME%/
config/InstallProperties.xml -l InstallDB.log
```

Step 2: Execute the following commands at the Command prompt:

- **Linux**

```
cd $PRODUCT_HOME/bin
ant -f InstallBuild.xml InstallWL -DInstallProperties=$PRODUCT_HOME/
config/InstallProperties.xml -l InstallWL.log
```

- **Windows**

```
cd %PRODUCT_HOME%\bin
ant -f InstallBuild.xml InstallWL -DInstallProperties=%PRODUCT_HOME%/
config/InstallProperties.xml -l InstallWL.log
```

These commands perform the following tasks:

1. Create the JDBC DataSource for the ErrorHandler module.
2. Create an outbound connection pool instance for the database by updating the DBAdapter_CCBSOM.rar file.
3. Create JMS server/ JMS module/ JMS connection pool/ JMS persistence store/ JMS queues and assign error queues to the interface queues.
4. Create JMS outbound connections to Oracle Utilities Customer Care and Billing by updating the JMSAdapter_CCBSOM.rar file.
5. Create the csf key for Oracle Utilities Service Order Management and Oracle Utilities Customer Care and Billing by creating CCB-SOM_SOM and CCB-SOM_CCB respectively.

After executing the commands mentioned above, bounce the managed server and admin server manually.

Step 3: Execute these commands at the command prompt:

- **Linux**

```
cd $PRODUCT_HOME/bin
ant -f InstallBuild.xml InstallSOA -DInstallProperties=$PRODUCT_HOME/
config/InstallProperties.xml -l InstallSOA.log
```

- **Windows**

```
cd %PRODUCT_HOME%\bin
ant -f InstallBuild.xml InstallSOA -DInstallProperties=%PRODUCT_HOME%/
config/InstallProperties.xml -l InstallSOA.log
```

These commands perform the following tasks:

1. Update the MDS repository with all artifacts.
2. Create the application partition where the composites are deployed. For example: CCB-SOM
3. Deploy all composites.

2.4 Post-Installation Checklist

After executing the installation scripts, follow these steps to complete the installation:

1. Verify that all the JMS and JDBC resources were created. See [Verifying JMS and JDBC Configurations](#) for the instructions.
2. Verify if all the composites in Enterprise Manager are deployed. See [Verifying Composites in Enterprise Manager](#) for the steps.
3. Review the logs under \$WL_HOME/user_projects/domains/soa_domain/servers/<managed-server-name>/logs to check for any deployment errors.
4. Check if the csf-keys are generated. See [Verifying the csf-key Generation](#) for the instructions.

2.4.1 Verifying JMS and JDBC Configurations

To verify the JMS configurations, follow these steps:

1. Open a WebLogic Admin console and navigate to Home/JMS Modules/CCBSOMJModule.
2. Verify if the queues and the CCBSOMCF connection factory are created successfully as shown in the figure below.

Summary of Resources				
Name	Type	JNDI Name	Subdeployment	Targets
CCBFAsyncRequest	Queue	jms/CCB-SOM/CCBFAsyncRequest	CCBSOMSubDeployment	CCBSOMHMServer
CCBFAsyncRequestError	Queue	jms/CCB-SOM/CCBFAsyncRequestError	CCBSOMSubDeployment	CCBSOMHMServer
CCBFAsyncResponse	Queue	jms/CCB-SOM/CCBFAsyncResponse	CCBSOMSubDeployment	CCBSOMHMServer
CCBFAsyncResponseError	Queue	jms/CCB-SOM/CCBFAsyncResponseError	CCBSOMSubDeployment	CCBSOMHMServer
CCBSOMCF	Connection Factory	jms/CCB-SOM/CCBSOMCF	CCBSOMSubDeployment	CCBSOMHMServer
SOMFACompletionRequest	Queue	jms/CCB-SOM/SOMFACompletionRequest	CCBSOMSubDeployment	CCBSOMHMServer
SOMFACompletionRequestError	Queue	jms/CCB-SOM/SOMFACompletionRequestError	CCBSOMSubDeployment	CCBSOMHMServer
SOMFASyncRequest	Queue	jms/CCB-SOM/SOMFASyncRequest	CCBSOMSubDeployment	CCBSOMHMServer
SOMFASyncRequestError	Queue	jms/CCB-SOM/SOMFASyncRequestError	CCBSOMSubDeployment	CCBSOMHMServer
SOMFASyncResponse	Queue	jms/CCB-SOM/SOMFASyncResponse	CCBSOMSubDeployment	CCBSOMHMServer
SOMFASyncResponseError	Queue	jms/CCB-SOM/SOMFASyncResponseError	CCBSOMSubDeployment	CCBSOMHMServer
SOMSRUpdateRequest	Queue	jms/CCB-SOM/SOMSRUpdateRequest	CCBSOMSubDeployment	CCBSOMHMServer
SOMSRUpdateRequestError	Queue	jms/CCB-SOM/SOMSRUpdateRequestError	CCBSOMSubDeployment	CCBSOMHMServer

3. Navigate to **Services > Persistent Stores > CCB-SOMFileStore**.
4. Verify that the JMSFileStorePath is correct and the directory has 'write' permissions.

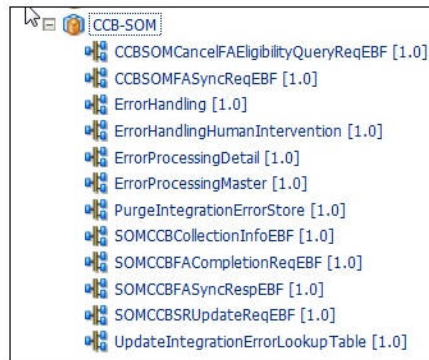
To verify the JDBC configurations, follow these steps:

1. Navigate to Home > Deployments.
2. Verify that DbAdapter_CCBSOM.rar is deployed, and is in 'Active' state.
3. Verify the eis/DB/SOM-MWMErrrorHandling connection factory details to ensure the connection-factory location matches with that defined in the JCA files. Follow these steps:
 - a. Click **DbAdapter_CCBSOM** in the **Deployments** table.
 - b. On the **Configuration** tab, click **Outbound Connection Pools**.
 - c. Expand **javax.resource.cci.ConnectionFactory** to check the eis/DB/CCB-SOMErrorHandling connection factory instance.
4. Ensure the database details are as required:
 - a. On the left pane, navigate to **Services > Data Sources**.
 - b. Click **CCB-SOMEHDS** to check the **JNDI Name**. The JNDI name should be 'jdbc/CCB-SOMEHDS'.
5. Click **Connection Pool** to check the URL and the data source properties.
6. Click **Monitoring > Testing**, select the target server, and then click **Test Data Source**. Check if the data source has been configured successfully.

2.4.2 Verifying Composites in Enterprise Manager

To verify that the CCB-SOM partition was created with all the composites deployed, follow these steps:

1. Login to the Enterprise Manager console.
2. Navigate to the **Farm_soa_domain > SOA > soa-infra > CCB-SOM** partition.
3. Verify that all composites are deployed and are in 'active' state.



2.4.3 Verifying the csf-key Generation

To verify if the csf-key is created successfully, perform the following steps:

1. Login to the Enterprise Manager console.
2. Navigate to **Farm_soa_domain > WebLogic_Domain > soa_domain**.
3. Right-click **soa_domain**, and then select **Security > Credentials**.
4. Expand the **oracle.wsm.security** map.
5. Check if the following keys are available:
 - CCB-SOM_CCB
 - CCB-SOM_SOM

2.5 Configuring Edge Applications

To configure the Oracle Utilities Customer Care and Billing and Oracle Utilities Service Order Management installation, see the instructions in the *Oracle Utilities Customer Care and Billing Integration to Oracle Utilities Service Order Management Implementation Guide*.

Chapter 3

Individual Composites

This chapter describes how to deploy and undeploy individual composites for incremental builds or patches. It includes the following sections:

- [Undeploying Composites](#)
- [Deploying Individual Composites](#)

3.1 Undeploying Composites

To undeploy a composite, follow these steps:

1. Execute the following commands in the Command prompt for Linux and Windows respectively:

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f DeployUndeployUtility.xml -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml
UnDeployComposite
```

- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f DeployUndeployUtility.xml -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
UnDeployComposite
```

2. Validate the following parameters when prompted with default values during the deployment. Press ENTER to use the default prompted value.

- **Composite Name:** Name of the composite to be undeployed to the SOA server. This parameter does not have a default value. Enter the composite name to be un-deployed.

For example: SOMCCBFACompletionReqEBF

- **Composite Folder Location:** The folder name should be an absolute path, beginning with <PRODUCT_HOME>/services/industry/Utilities/<EBF/utility>.

For example: To undeploy the composite from <PRODUCT_HOME>/services/industry/Utilities/EBF, pass <PRODUCT_HOME>/services/industry/Utilities/EBF to this property.

Note: The default value for this property is %PRODUCT_HOME%/services/industry/Utilities/EBF, as most of the business-specific composites reside in this folder.

- **SOA Partition Name:** The SOA partition name from where the composite should be undeployed. For example: CCB-SOM

3.2 Deploying Individual Composites

To deploy the individual composites, follow these steps:

Note: See [Verifying Composites in Enterprise Manager](#) for the composites for Oracle Utilities Customer Care and Billing integration to Oracle Utilities Service Order Management.

1. Execute the following commands in the Command prompt for Linux and Windows respectively:

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f DeployUndeployUtility.xml DeployComposite -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml
```

- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f DeployUndeployUtility.xml DeployComposite -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
```

2. Validate the following parameters when prompted with default values during the deployment.

- **Composite Name:** Name of the composite to be deployed to SOA server. This parameter does not have a default value.

For example: SOMCCBFACompletionReqEBF

- **Composite Folder Location:** The folder name should be an absolute path beginning with %PRODUCT_HOME%/services/industry/Utilities/<EBF/utility>.

For example: To deploy the composite from %PRODUCT_HOME%/services/industry/Utilities/EBF, pass %PRODUCT_HOME%/services/industry/Utilities/EBF to this property.

The default value for this property is %PRODUCT_HOME%/services/industry/Utilities/EBF, as most of the business-specific composites reside in this folder.

- **Partition Name:** The SOA partition name to which the composite should be deployed. For example: CCB-SOM

Chapter 4

MDS Folders

This chapter describes how to deploy and undeploy the individual MDS folders for incremental builds or patches, including:

- [Undeploying the MDS Folder](#)
- [Deploying the MDS Folder](#)

4.1 Undeploying the MDS Folder

To undeploy a particular folder from MDS, execute the following commands, and then pass the folder name to be undeployed.

Execute the following commands in the Command prompt for Linux and Windows respectively. These commands undeploy a folder under \$PRODUCT_HOME/MDS-Artifacts from the MDS repository.

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f DeployUndeployUtility.xml UnDeployMDS -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml
```

- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f DeployUndeployUtility.xml UnDeployMDS -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
```

Note: Use this command to perform the complete MDS undeployment only.

4.2 Deploying the MDS Folder

To deploy the MDS folder, perform the following steps:

1. Open a Command prompt and execute the following commands in Linux and Windows respectively:

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f DeployUndeployUtility.xml -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml
DeployMDS
```

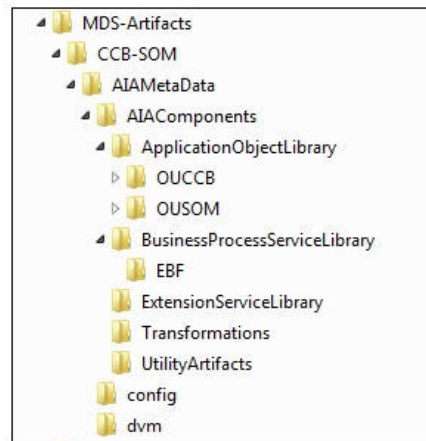
- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f DeployUndeployUtility.xml -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
DeployMDS
```

2. Validate the following parameters when prompted with default values during deployment. Press ENTER to use the default prompted value.

- **SOA Server Hostname:** Host name of the server hosting the SOA server. The managed server host name is selected by default that is passed as the InstallProperties property in the ant command.
- **SOA Server Portnumber:** Port number of the server hosting the SOA server. The managed server port number is selected by default that is passed as the InstallProperties property in the ant command.
- **SOA Server Username:** User name used to connect to the SOA server. The managed server user name is selected by default that is passed as the InstallProperties property in the ant command.
- **SOA Server Password:** Password used to connect to the SOA server. The managed server password is selected by default that is passed as the InstallProperties property in ant command.
- **MDS Folder Name:** Name of folder to be deployed from the MDS repository. The folder name should be a relative path inside %PRODUCT_HOME%/MDS-Artifacts, beginning CCB-SOM.

The figure below shows the CCB-SOM folder with MDS-Artifacts as its sub folder including all the files to be deployed to MDS.



- **DVM Changes**

When the new DVM values are added to a DVM file(s), the DVM folder must be updated in MDS. This command not only deploys the file(s) that changed but the whole DVM folder. Pass CCB-SOM/AIAMetaData/dvm as the MDS folder name and it deploys the whole DVM folder to MDS.

Note: When the DVMs are updated from the SOA composer, ensure that the values are updated in the <PRODUCT_HOME>/MDS-Artifacts/CCB-SOM/AIAMetaData/dvm folder. Else, the changes

made from the composer will be overridden by the PRODUCT_HOME values.

- **Custom Schema Changes**

If custom elements are added to the Oracle Utilities Customer Care and Billing or Oracle Utilities Service Order Management schema or both, the ApplicationObjectLibrary folder has to be updated in MDS.

Pass CCB-SOM/AIAMetaData/ApplicationObjectLibrary to deploy the schema folders or pass CCB-SOM/AIAMetaData/ApplicationObjectLibrary/OUCCB to deploy only the Oracle Utilities Customer Care and Billing schema folder or change OUCCB and replace it with OUSOM to deploy only the Oracle Utilities Service Order Management schema folder.

- **Concrete WSDL Changes for Extensions**

If the extension service needs to be called by a process and the concrete WSDL is updated, the ExtensionServiceLibrary folder has to be updated in MDS. Pass CCB-SOM/AIAMetaData/ExtensionServiceLibrary to deploy the extension service library.

Note: Use this command to perform the folder-level deployment only. The command does not support file-level deployment.

Chapter 5

Uninstalling the Integration

To uninstall the integration, follow these steps:

1. Restart the WebLogic Admin server and the SOA server.
2. Set the environment variables as mentioned in the [Installation Steps](#) section.
3. The uninstallation process is divided into three steps. Execute the commands in each of those steps.

Step1: Execute the following commands at the Command prompt:

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f UnInstallBuild.xml UnInstallSOA -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml -
l UnInstallSOA.log
```

- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f UnInstallBuild.xml UnInstallSOA -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
-l UnInstallSOA.log
```

These commands perform the following tasks:

- a. Undeploy all the composites from the Enterprise Manager partition.
- b. Delete the partition.
- c. Undeploy the MDS artifacts.

Step 2: Execute the following commands at the Command prompt:

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f UnInstallBuild.xml UnInstallWL -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml -
l UnInstallWL.log
```

- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f UnInstallBuild.xml UnInstallWL -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
-l UnInstallWL.log
```

These commands perform the following tasks:

1. Delete the JMS resources (JMS module/ JMS persistent store/ JMS server).
2. Undeploy the JMS outbound connection pool.
3. Undeploy the database outbound connection pool.
4. Delete the JDBC data source for the Error Handling module.
5. Remove the work flow notification that is created.
6. Delete the csf-keys generated.

After executing the commands mentioned above, bounce the managed server and admin server manually.

Step 3: Execute the following commands at the Command prompt:

- **Linux:**

```
cd $PRODUCT_HOME/bin
ant -f UnInstallBuild.xml UnInstallDB -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml -
l UnInstallDB.log
```

- **Windows:**

```
cd %PRODUCT_HOME%\bin
ant -f UnInstallBuild.xml UnInstallDB -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml
-l UnInstallDB.log
```

These commands drop the database objects created for the Error Handling module and the artifacts created for the integration.

After a successful uninstall, all JMS, JDBC resources, and the CCB-SOM partition created during installation are deleted.

Troubleshooting

This chapter describes the issues that may arise during the deployment/ undeployment of composites and provides the respective workaround to address them. It includes the following:

- [Password Expiry for Database](#)
- [Security Policies](#)

Password Expiry for Database

If a password expires or is changed, then connection issues arise with the Meta Data Store, Error Handling Data Store, or integration specific database.

To address this issue, follow these steps:

1. Reset the password or unlock the corresponding database (MDS, EH database, or integration specific database).
2. Change the password for the data source through the WebLogic Administration Console for the database instance where the password is changed/locked.
3. Change the password in the InstallationProperties.xml for that database instance. (This helps only when reinstalling.)
4. Identify the adf-config.xml file that is generated during the installation. It is generally located at `$PRODUCT_HOME/Install/config/.adf/META-INF`.
 - a. Identify the correct metadata-store-usage from the meta-data-namespaces element by the path.
 - b. In the metadata-store-usage element, find out the property with “jdbc-password” as the attribute value for “name” attribute.
 - c. Change the password for the value attribute in the property element.

Security Policies

Except for the policies used for invoking the edge application services (for example: oracle/wss_http_token_client_policy), ensure that all the composites have appropriate policies or no policies at all.