

# **Oracle Utilities Integration for Device Operations**

Installation Guide

Release 12.1

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Oracle Utilities Integration for Device Operations, Release 12.1 Installation Guide

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# Preface

This document is intended for anyone implementing the Oracle Utilities Integration for Device Operations.

## Documentation and Resources

For more information regarding this integration, foundation technology and the edge applications, refer to the following documents:

### Product Documentation

Topic	Description
<b>Integration documentation:</b>	
Oracle Utilities Integration for Device Operations Release Notes	
Oracle Utilities Integration for Device Operations Implementation Guide	
Oracle Utilities Integration for Device Operations Installation Guide	Refer to the Oracle Utilities applications documentation page: <a href="http://docs.oracle.com/cd/E72219_01/documentation.html">http://docs.oracle.com/cd/E72219_01/documentation.html</a>
<b>Edge application documentation:</b>	
Oracle Utilities Meter Data Management	
Oracle Utilities Operational Device Management	

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## Additional Documentation

Resource	Location
SOA Suite 12c documentation	Refer to the SOA documentation at: <a href="http://www.oracle.com/technetwork/middleware/soasuite/documentation/index.html">http://www.oracle.com/technetwork/middleware/soasuite/documentation/index.html</a>
Oracle Support	Visit My Oracle Support at <a href="https://support.oracle.com">https://support.oracle.com</a> regularly to stay informed about updates and patches.  Access the support site for the Edge Application Certification Matrix for Oracle Utilities Products (Doc ID 1454143.1) or refer to the Oracle Utilities Integrations page at <a href="http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm">http://my.oracle.com/site/tugbu/productsindustry/productinfo/utilities/integration/index.htm</a>
Oracle Technology Network (OTN) Latest versions of documents	<a href="http://www.oracle.com/technetwork/index.html">http://www.oracle.com/technetwork/index.html</a>
Oracle University for training opportunities	<a href="http://education.oracle.com/">http://education.oracle.com/</a>
Web Services Security	For more information about Web services security using Oracle Fusion Middleware 12c refer to <a href="https://docs.oracle.com/middleware/12211/cross/webservicetasks.htm">https://docs.oracle.com/middleware/12211/cross/webservicetasks.htm</a> .
Oracle Fusion Middleware 12c documentation	Refer to the Oracle applications documentation page: <a href="http://docs.oracle.com/en/middleware/">http://docs.oracle.com/en/middleware/</a>
Oracle Fusion Middleware “What's New In Oracle WebLogic Server”  Section: Standards Support, Supported Configurations and WebLogic Server Compatibility, Database Interoperability  For additional information on the type of database to use.	<a href="http://docs.oracle.com/middleware/1221/wls/NOTES/toc.htm">http://docs.oracle.com/middleware/1221/wls/NOTES/toc.htm</a>
Instructions on installing this integration on non-Windows/ Linux platforms	Refer to Oracle Support Knowledge Article ID 1349320.1.

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## Conventions

The following text conventions are used in this document:

Convention	Meaning
<b>boldface</b>	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.

## Abbreviations

This document includes the following abbreviations:

- ODM - Oracle Utilities Operational Device Management
- MDM - Oracle Utilities Meter Data Management
- DDL - Data Definition Language
- MDS - Metadata Services
- SOA - Service Oriented Architecture
- DVM - Domain Value Map
- EBF - Enterprise Business Flow
- EM - Enterprise Manager

# Chapter 1

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## Overview

This section provides information on prerequisites for installation of the Oracle Utilities Integration for Device Operations.

### Integration Pack Software Requirements

The following software and platforms must be installed and configured before the integration package can be installed.

#### Participating Applications

- Oracle Utilities Meter Data Management - Application version 2.1.0.3 installed on an Oracle database with the latest supported service pack
- Oracle Utilities Operational Device Management - Application version 2.1.1.0 installed on an Oracle database with the latest supported service pack

This integration will work with previous versions of Oracle Utilities Meter Data Management and Oracle Utilities Operational Device Management but not all functionalities will be available.

#### Oracle SOA/ Weblogic Server

- Install SOA Suite 12.2.x with Enterprise Manager on Weblogic Server 12.2.x.

**Note:** This integration does not require installation of the AIA Foundation Pack.

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**Note:** Refer to the Oracle Utilities product Certification Matrix (referenced in the [Additional Documentation](#) section) for the most up to date supported edge application versions.

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# Chapter 2

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## Installation

This section describes the settings and requirements for a successful installation of the Oracle Utilities Integration for Device Operations including:

- [Pre-Installation Tasks](#)
- [Installation Steps](#)
- [Post-Installation Checklist](#)
- [Configuring Edge Applications](#)

### Pre-Installation Tasks

The following tasks should be completed before you install the integration package:

1. Verify that Oracle SOA Suite 12c is installed and running.  
For more information, refer to the documentation at <http://www.oracle.com/technetwork/middleware/soasuite/documentation/index.html>.
2. Login to the **WebLogic Server Administration** console to confirm there are no changes in **Pending Activation** status.  
  
Complete this step to verify that the WebLogic Server is in a healthy state. If any items are in **Pending Activation** status, then there is likely an issue on the server. All issues must be resolved before you can proceed with the installation.
3. Start **Node Manager**, if not already running.
4. Restart the **WebLogic Managed** server and the **WebLogic Admin** server.
5. Verify that the **Weblogic Admin Server**, **Managed Server**, and **Node Manager** are up and running.

Note: The syntax for PRODUCT\_HOME changes depending on whether you are installing on Linux or Windows. The following sections refer to this as \$PRODUCT\_HOME/ in Linux and as %PRODUCT\_HOME%\ in Windows. In general, note that the forward slash (/) is used as the path separator on Linux and the back slash (\) is used on Windows.

Excusing any inadvertent syntax errors in this guide, these conventions should be followed for all commands depending on your operating system.

Also, as installation commands and arguments are lengthy, please copy the installation commands in a text file and verify that the command is formatted correctly without any syntax or formatting errors.

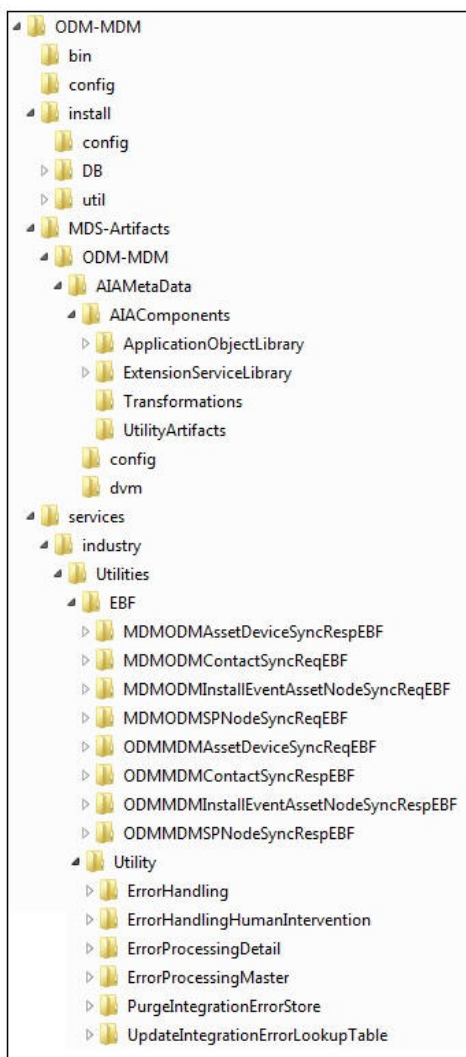
## Installation Steps

Complete the following to install:

1. Download the installation ODM-MDM.zip file from Oracle Software Delivery Cloud (<http://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.



ODM-MDM Product Home Directory

3. Download and apply patch 23295348.
  - a. Refer to the **Readme.txt** file and **PatchInstallInstructions.txt** files included with the patch for more information and installation instructions. The following sub-steps provide more information related to the steps included in the Readme file.

**Note:** As indicated in the Readme.txt file, you must define or populate the values in the Install Properties xml file prior to installing the integration. Refer to Step 1 in the **PatchInstallInstructions.txt** file included in the patch download.

Refer to the [Installation Properties](#) chapter for information about individual properties.

- b. Set the environment variables for Linux and Windows OS:

Variable	Example
Linux and Windows OS	
PATCH_HOME	XXX/23295348
MW_HOME	XXX/Middleware
SOA_HOME	XXX/Middleware/soa
PRODUCT_HOME	The product installation folder. Example: PRODUCT_HOME=/scratch/PRODUCT_HOMES/ ODM-MDM

- c. The commands indicated in the readme file (setWLSEnv.sh on Linux and setWLSEnv.bat on Windows) set the environment variables used for executing the installation scripts.

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

#### Linux

```
export MW_HOME=/Oracle/Middleware/soa
export SOA_HOME=$MW_HOME/soa
export PRODUCT_HOME=/Product_Homes/ODM-MDM
source $MW_HOME/wlserver/server/bin/setWLSEnv.sh
```

#### Windows

```
SET MW_HOME=C:\Oracle\Middleware\soa
SET SOA_HOME=%MW_HOME%\soa
SET PRODUCT_HOME=C:\Product_Homes\ODM-MDM
cd %MW_HOME%\wlserver\server\bin/
setWLSEnv.cmd
```

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 ODM-MDM integration code.

- `PRODUCT_HOME/bin/UnInstallBuild.xml` is used to uninstall ODM-MDM 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 process may take several minutes to complete.

## Installing the Integration

After setting the environment variables, open a command prompt and execute the installation scripts (steps 3 & 4) mentioned in the "Installing the Patch" section in the `PatchInstallInstructions.txt` file included in the patch download. This section provides additional details to supplement those steps.

The `installDB` commands perform the following tasks:

- Create the Error Handling user for the integration.
- Create the Error Handling tables and Error Lookup tables.
- Insert the seed data that is used for Error Handling scenarios that occur during the BPEL flow instances.

The `installWL` commands perform the following tasks:

- Create the JDBC DataSource for the ErrorHandler Module.
- Create an outbound connection pool instance for the database by updating the `DbAdapter_ODMMDM.rar` file.
- Create JMS server/JMS module/JMS connection pool/JMS persistence store/JMS queues and assigns the error queues to the interface queues.
- Create JMS outbound connections to both Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management by updating the `JmsAdapter_ODMMDM.rar` file.

The `installSOA` commands perform the following tasks:

- Update the MDS repository with all artifacts.
- Create the application partition where the composites are deployed.  
For example: ODM-MDM.
- Compile and deploy all composites.

## Post-Installation Checklist

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

1. Restart WebLogic Admin server and SOA server.

This task activates the processes that require a restart after installation and ensures that the installation of all artifacts is successful.

2. Review the logs under the `$PRODUCT_HOME/bin` folder or the log location chosen during the installation.

**Note:** Review the logs under \$MW\_HOME/user\_projects/domains/soa\_domain/servers/<managed-server-name>/logs to check for any deployment errors.

3. Verify that all the JMS resources were created. Refer to [Verifying JMS Configurations](#) for the instructions.
4. Verify that all the JDBC resources were created. Refer to [Verifying JDBC Configurations](#) for the instructions.
5. Verify that all the composites in Enterprise Manager are deployed. Refer to [Verifying Composites in Enterprise Manager](#) for the steps.
6. Verify that the user messaging service is active. Refer to [Verifying the User Messaging Service List](#) for instructions.

## Verifying JMS Configurations

To verify the JMS and JDBC configurations, follow these steps:

1. In the **Administration** console, under the **Domain Structure**, expand **Services** then expand **Messaging**, then select **JMS Servers**.  
Verify that the **ODMMDMJMServer** JMS server is available.  
Click the + sign next to each item to expand.
2. In the **Administration** console, under **Domain Structure**, expand **Services**, then select **Persistent Stores**.  
Verify that the **ODMMDMFileStore** persistent store is available and verify that the **JMSFileStorePath** is correct and the directory has 'write' permissions.
3. In the **Administration** console, under **Domain Structure**, expand **Services**, expand **Messaging**, then select **JMS Modules**.  
Verify that the **ODMMDMJMSModule** JMS module is available.
4. Select the **ODMMDMJMSModule** module (also under **JMS Modules**) and select the **Subdeployments** tab.  
Verify that the **ODMMDMSubDeployment** is available.
5. In the **Administration** console, under **Domain Structure**, expand **Deployments** and find the .rar file name with **JmsAdapter\_ODMMDM**.  
Select this and then select the **Configuration** tab and in that, click on the **Outbound Connection Pools** tab.
6. Expand "oracle.tip.adapter.jms.IJmsConnectionFactory".  
There should be 2 connection pool instances deployed:
  - "eis/wls/ODMMDM\_MDMQueue"
  - "eis/wls/ODMMDM\_ODMQueue"
7. In the **Administration** console, under **Domain Structure**, expand **Services**, then expand **Messaging**, then select **JMS Modules**.
8. Select the **ODMMDMJMSModule** JMS module Request/Response Queue.  
Verify that all the listed queues along with the ConnectionFactory are created as part of the installation:

Connection Factory: **ODMMDMCF** Queues:

Module	Request/Response Queues	Corresponding Error Queues
MDM Contact Sync	MDMContactSyncRequest MDMContactSyncResponse	MDMContactSyncRequestError MDMContactSyncResponseError
MDM Device Sync	MDMDeviceSyncRequest MDMDeviceSyncResponse	MDMDeviceSyncRequestError MDMDeviceSyncResponseError
MDM InstallEvent Sync	MDMInstallEventSyncRequest MDMInstallEventSyncResponse	MDMInstallEventSyncRequestError MDMInstallEventSyncResponseError
MDM SP Sync	MDMSPSyncRequest MDMSPSyncResponse	MDMSPSyncRequestError MDMSPSyncResponseError
ODM AssetNode Sync	ODMAssetNodeSyncRequest ODMAssetNodeSyncResponse	ODMAssetNodeSyncRequestError ODMAssetNodeSyncResponseError
ODM Asset Sync	ODMAssetSyncRequest ODMAssetSyncResponse	ODMAssetSyncRequestError ODMAssetSyncResponseError
ODM Contact Sync	ODMContactSyncRequest ODMContactSyncResponse	ODMContactSyncRequestError ODMContactSyncResponseError
ODM Node Sync	ODMNodeSyncRequest ODMNodeSyncResponse	ODMNodeSyncRequestError ODMNodeSyncResponseError

**Note:** If `JMSMODULENAME|JMSQUEUENAME` does not exist in the rows of the **Destinations** table, it means there are no problems with the installation.

If some of the composites or artifacts mentioned in the document are not available in the integration environment, ensure that all the relevant functional patches are applied in the integration environment.

## Verifying JDBC Configurations

To verify the JDBC configuration, follow these steps:

1. Navigate to **Home > Deployments**.
2. Verify that `DbAdapter_ODMMDM.rar` is deployed, and is in **Active** state.
3. Verify the `eis/DB/ODM-MDMErrorHandling` connection factory details to ensure the connection-factory location matches with that defined in the JCA files. Follow these steps:
  - a. Click `DbAdapter_ODMMDM` on the **Deployments** table.
  - b. On the **Configuration** tab, click **Outbound Connection Pools**.
  - c. Expand `javax.resource.cci.ConnectionFactory` to check the `eis/DB/ODM-MDMErrorHandling` connection factory instance.
4. Verify that the database details are set as required:
  - a. On the left pane, navigate to **Services > Data Sources**.

- b. Click the ODM-MDMEHDS data source to check the JNDI Name: jdbc/ODM-MDMEHDS.
5. Click **Connection Pool** to check the URL and properties.
6. Click **Monitoring**, click **Testing**, select the target server, and then click **Test Data Source**.  
Verify that the data source has been configured successfully

## Verifying Composites in Enterprise Manager

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

1. Login to the Enterprise Manager console.
2. Expand **SOA > soa-infra > ODM-MDM** partition.
3. Verify that all composites are deployed and are in the 'Active' state.
  - ErrorHandler
  - ErrorHandlerHumanIntervention
  - ErrorProcessingDetail
  - ErrorProcessingMaster
  - MDMODMAssetDeviceSyncRespEBF
  - MDMODMContactSyncReqEBF
  - MDMODMInstallEventAssetNodeSyncReqEBF
  - MDMODMSPNodeSyncReqEBF
  - ODMMDMAssetDeviceSyncReqEBF
  - ODMMDMContactSyncRespEBF
  - ODMMDMInstallEventAssetNodeSyncRespEBF
  - ODMMDMSPNodeSyncRespEBF
  - PurgeIntegrationErrorStore
  - UpdateIntegrationErrorLookupTable

## Verifying the User Messaging Service List

To verify the user messaging service list, follow these steps:

1. In the WebLogic Administration console, navigate to **Deployments**.
2. Verify that the **usermessagingdriver-email** email driver is **Active**.
3. If not, navigate to **usermessagingdriver-email > Targets > <managed server>**.  
For example: soa\_server1  
Then, select **Yes** and click **Activate Changes**.
4. In the WebLogic Enterprise Manager console, navigate to **soa-infra** [managed server].

5. Right-click the soa-infra [managed server] node, select **SOA Administration**, and then select **Workflow Properties**.
6. Ensure that the **Notification Mode** under **Workflow Notification Properties** is set to **Email**.
7. Navigate to the User Messaging Service node, and select the **usermessagingserver [managed server]** entry. For example: usermessagingserver (soa\_server1)  
Notice that the email driver is already enabled.
8. In the **Driver Properties** drop down list select **usermessagingdriver-ODMMDM**, and then click **Edit**. The configuration details as are shown in the figure below.

Name	Description	Mandatory	Encoded Credential	Value
OutgoingMailServerSecu...	The security used by SMTP server. Possible values are None, TLS and SSL. Default value is None.			SSL
OutgoingDefaultFromAddr	The default FROM address (if one is not provided in the outgoing message).			joe.smith@company.com
OutgoingUsername	The username used for SMTP authentication. Required only if SMTP authentication is supported by the SMTP server.			joe.smith@company.com
OutgoingPassword	The password used for SMTP authentication. Required only if SMTP authentication is supported by the SMTP server.		<input checked="" type="checkbox"/>	Type of Password <input type="text" value="Use Cleartext Password"/> Password <input type="password" value="*****"/>
IncomingMailServer	The host name of the incoming mail server. Required only if e-mail receiving is supported on the driver instance.			<input type="text"/>
IncomingMailServerPort	Port number of IMAP4 (i.e. 143 or 993) or POP3 (i.e. 110 or 995) server.			<input type="text"/>

## Configuring Edge Applications

To configure the Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management installation, see the instructions in the Oracle Utilities Integration for Device Operations *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 Individual Composites](#)
- [Deploying Individual Composites](#)

### Undeploying Individual Composites

If the composite being deployed involves changes made to the MDS artifacts, you must first undeploy the composite.

To undeploy a composite, follow these steps:

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

**Note:** Ensure to copy the command in Notepad and check for proper syntax before execution.

#### 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.
  - **Composite Name:** Name of the composite to be undeployed to the SOA server. This parameter does not have a default value.
  - **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.
3. Press ENTER to use the default prompted value.

## Deploying Individual Composites

To deploy the individual composites, follow these steps:

**Note:** Refer to [Verifying Composites in Enterprise Manager](#) for the composites for Oracle Utilities Operational Device Management integration to Oracle Utilities Meter Data Management.

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

**Note:** Ensure to copy the command in Notepad and check for proper syntax before execution.

### Linux:

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

### Windows:

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

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: MDMODMSPNodeSyncReqEBF
  - **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. To deploy the composite from Error Handling, pass %PRODUCT\_HOME%/services/industry/Utilities/Utility.

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.

# Chapter 4

## Metadata Store (MDS) Artifacts

Individual Metadata Store (MDS) folders may need to be undeployed, deployed or updated for incremental builds or patches. This section describes the following:

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

Please note the following:

- You can only use the indicated commands to perform folder-level undeployment, deployment or update. The commands do not support file-level actions.
- Validate the **MDS Folder Name** parameter when prompted with default values during undeployment or deployment. Press ENTER to use the default value.
- The **MDS Folder Name** represents the name of the folder to be deployed or undeployed from MDS repository. The folder name should be a relative path inside **<PRODUCT\_HOME>/MDS-Artifacts** beginning with ODM-MDM. Refer to the [Home Directory](#) image in the [Installation](#) chapter for a reference.
- The folder includes an MDS-Artifacts subfolder which contains all the files that can be deployed to MDS.

For example: To undeploy **<PRODUCT\_HOME>/MDS-Artifacts/ODM-MDM/AIAMetaData/dvm** pass **ODM-MDM/AIAMetaData/dvm** as the **MDS Folder Name**.

### Undeploying the MDS Folder

To undeploy a particular folder from MDS:

1. Open a command prompt and execute the following commands for Linux and Windows respectively. These commands undeploy a folder under **PRODUCT\_HOME/MDS-Artifacts** from the MDS repository.

#### Linux

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

**Windows**

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

2. Pass the folder name to be undeployed.  
Validate the **MDS Folder Name** parameter when prompted with default values.  
Press ENTER to use the default value.

## Deploying the MDS Folder

Perform the following steps to deploy the MDS folder:

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 **MDS Folder Name** parameter when prompted with default values during deployment. Press ENTER to use the default value.

**DVM Changes**

When new DVM values are added to a DVM file, the DVM folder must be updated in MDS. This command will not only deploy the files that were changed but the whole DVM folder.

- Pass **/AIAMetaData/dvm** as the **MDS Folder Name** and the entire DVM folder will deploy to MDS.
- **When the DVMs are updated from the SOA composer, verify that the values are updated in the /MDS-Artifacts/ODM-MDM/AIAMetaData/dvm folder.** If not, the changes made from the composer will be overridden by the **PRODUCT\_HOME** values.

### Custom Schema Changes

If custom elements are added to either or both of the edge application schemas, the `ApplicationObjectLibrary` folder must be updated in MDS.

Do one of the following:

- Pass `ODM-MDM/AIAMetaData/AIAComponents/ApplicationObjectLibrary` to deploy the schema folders, or
- Pass `ODM-MDM/AIAMetaData/AIAComponents/ApplicationObjectLibrary/OUODM` to deploy only the ODM schema folder, or
- Replace `with` to deploy only the `schema` folder.

### Concrete WSDL Changes for Extensions

If an extension service needs to be called by a process and the concrete WSDL is updated, the `ExtensionServiceLibrary` folder must be updated in MDS.

Do one of the following:

- Pass `ODM-MDM/AIAMetaData/ApplicationObjectLibrary/ExtensionServiceLibrary` to deploy the extension service library folders, or
- Pass `/AIAMetaData/ApplicationObjectLibrary/` to deploy only the extension library folder, or
- Replace `with` to deploy only the `extension service library`.

## Update MDS

If there is any change in the endpoints of the participating applications, references of those endpoints in the integration have to be updated to point to the correct URIs. In order to make the changes, update the `$PRODUCT_HOME/config/InstallProperties.xml` file with the correct edge application details and `updateMDS`.

1. Open a command prompt and execute the following commands to update MDS.

#### Linux

```
ant -f InstallBuild.xml updateMDS -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml |
tee $PRODUCT_HOME/bin/updatemds.log
```

#### Windows

```
ant -f InstallBuild.xml updateMDS -
DInstallProperties=%PRODUCT_HOME%/config/InstallProperties.xml -l
%PRODUCT_HOME%/bin/updatemds.log
```

This command performs the following tasks:

- Updates the edge application endpoint URIs in `ConfigurationProperties.xml` file

- Updates the edge application endpoint URIs in Application Object Library directory `$PRODUCT_HOME/MDS-Artifacts/OUODM/AIAMetaData/AIAComponents/ApplicationObjectLibrary/<ApplicationFolder>`  
Example: `ODM-MDM/MDS-Artifacts/ODM-MDM/AIAMetaData/AIAComponents/ApplicationObjectLibrary/OUODM/V1/wsdl`
2. Restart the managed server to see the changes take effect.

# Chapter 5

## Installation Properties

This section includes a listing of applicable installation properties.

Make sure that you follow XML editing standards while editing the InstallProperties.xml file. All XML elements need to be closed properly. The XML element in the InstallProperties.xml file does not contain any attribute.

Login to the WebLogic console to cross verify the values being entered for these properties. Also ensure that the values are relevant to the server where the integration product is to be installed. The build may fail due to inappropriate values.

**Note:** If the dbuser.createflag is set to false, the schema needed for integration error handling will not be automatically created by the install and will need to be created manually prior to running the installation. When creating the user manually, grant connect and resource to the user.

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

### Installation Properties

Property	Description	Example
<b>Configuration Information</b>		
<config>		
modulename	Module name for deployment	ODM-MDM
<b>WorkFlow Notification Properties</b>		
<WorkFlow.Notification>		
<from.emailid>	Valid email address for work flow notifications	Admin.user@yourdomain.com
<mode>	Type of notification mode	EMAIL
<b>SOA Information</b>		
<SOA>		



Property	Description	Example
<b>Admin Server Information</b>		
<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.	7001
<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.	weblogic#1
<domainname>	WebLogic domain name hosting SOA suite.	soa_domain
<b>Managed Server Information</b>		
<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.	8001
<servername>	Managed server name (hosting SOA suite)	soa_server1
<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.	weblogic#1
<b>Oracle HTTP Server Information</b>		
<OHS>		In case of non-cluster environment these properties would be same as <ManagedServer> values
<hostname>	Give a HTTP server host name	Oracle http server where cluster is managed
<portnumber>	Give a HTTP server port name	Port number of the Oracle http server
<servernames>	The list of server names that are defined as Managed Servers/Clusters.	When there are multiple managed servers, provide comma separated values. Example: soa_server1, soa_server2
<Protocol>	The protocol on which Oracle HTTP Server can be accessed.	http or https
<b>MDS DB Information</b>		
<mdsconfig>		

Property	Description	Example
<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
<b>JMS Information</b>		
<serverName>	JMS server name  <b>Note:</b> Do not change this value.	Default: ODMMDMJMServer
<ModuleName>	JMS module name  <b>Note:</b> Do not change this value.	Default: ODMMDMJMSModule
<SubDeploymentName>	Sub deployment name for JMS queues  <b>Note:</b> Do not change this value.	Default: ODMMDMSubDeployment
<PersistentStoreType>	JMS persistent store type (FileStores or DBStore). Deployment script supports a file based persistent store.	Default: FileStores
<JMSServerTarget>	Give one Managed Server name only or Cluster	soa_server1
<PersistentStoreName>	JMS persistent store name	Default: ODMMDMFileStore
<JMSCFName>	JMS connection factory name	Default: ODMMDMCF
<JMSCFJNDI>	JMS Connection factory jndi name	Default: jms/ODM-MDM/ ODMMDMCF
<PersistentStoreFilename>	Directory path name where the file based persistent store should be created.	/scratch/Oracle/Product_Homes/ ODM-MDM/bin
<b>Email Information</b>		
<EMAIL>		
<MailAccessProtocol>	E-mail receiving protocol. The possible values are IMAP and POP3. Required only if e-mail is supported on the driver instance.	IMAP
<OutgoingDefaultFromAddr>	The default FROM address (if one is not provided in the outgoing message).	mail.id@ yourdomain.com
<OutgoingMailServer>	The name of the SMTP server. Mandatory only if an e-mail needs to be sent.	host.yourdomain. com
<OutgoingMailServerPort>	The port number of SMTP server.	465

Property	Description	Example
<OutgoingMailServerSecurity>	The security used by SMTP server. Possible values are None, TLS, and SSL. Default value is None.	SSL
<OutgoingUsername>	The user name used for SMTP authentication. Required only if SMTP authentication is supported by the SMTP server.	mail.id@yourdomain.com
<Outgoingpassword>	The password used for SMTP authentication. Required only if SMTP authentication is supported by the SMTP server.	Yourpassword
<IncomingUserIDs>	The list of user names of the mail accounts the driver instance is polling from. Each name must be separated by a comma. Required only if e-mail receiving is supported on the driver instance.	mail.id@yourdomain.com
<IncomingUserPasswords>	The list of passwords corresponding to the user names. Each password is separated by a comma and must reside in the same position in the list as their corresponding user name appears on the user names list. Required only if e-mail receiving is supported on the driver instance.	Yourpassword
<applicationName>	This is the application name for the user messaging service	ODMMDM
<Capability>	Sets the driver's capability to send or receive messages.	For 12c, the values are SEND, RECEIVE, and BOTH.
<b>Error Handling Database Information</b>		
<EH>		
<dba.dbusername>	User name used to log in as a Database Administrator (DBA). This database hosts the schema required for integrating Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management.	system
<dba.dbuserpassword>	Password used to log in as a Database Administrator (DBA). This database hosts the schema required for integrating Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management.	
<dbusername>	User name used to login to ODM-MDM Error Handling schema for integrating Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management.  This user can be automatically created by the install (set dbuser.createflag to true) or manually outside the install process.	Example: ODMMDMUser

<b>Property</b>	<b>Description</b>	<b>Example</b>
<dbuserpassword>	Password used to log in to ODM-MDM Error Handling schema for integration Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management.	
<dbuser.createflag>	<p>Flag specifying whether to create a new schema or use the existing schema for Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management integration.</p> <p>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.</p> <p>Valid values: true or false (this is case sensitive).</p>	true
<dbhostname>	Database host name used for the Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management integration.	DB_HOST. yourdomain.com
<dbportnumber>	Database port number used for the Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management integration.	1521
<dbsid>	Database SID used for the Oracle Utilities Operational Device Management and Oracle Utilities Meter Data Management integration.	DBSID

# Chapter 6

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## Troubleshooting

This section provides information regarding issues that may arise during installation.

### Password Expiry for Database

If a password expires or is changed, credential issues may arise with the Meta Data Store (MDS) or with an integration specific database. To fix this issue, perform the following steps:

1. Reset or unlock the password for the corresponding database (MDS or integration specific database).
2. Change the password for the data source for which the password is changed/or locked from the Weblogic Administration Console.
3. Change the password in the **InstallationProperties.xml** for the database instance (this helps only while reinstalling).
4. Perform the following steps to find the **adf-config.xml** file that is generated during installation.

The file is generally located at `$PRODUCT_HOME/install/util/template/`.

- a. Identify the correct “metadata-store-usage” from the “meta-data-namespaces” element by the path mentioned above.
- b. In the “metadata-store-usage” element, find the element property with the attribute value as “jdbc-password” for the “name” attribute.
- c. Change the password for the value attribute in the property element.

# Chapter 7

## Uninstalling the Integration

This section provides steps for:

- [Uninstalling the Integration](#)
- [Uninstalling the UsageMessagingDriver-Email](#)

### 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.

**Note:** Copy commands in a text editor and verify proper syntax before execution.

**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. Undeploys all the composites from the Enterprise Manager partition.
- b. Deletes the partition.
- c. Undeploys 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.

**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 ODM-MDM partition created during installation are deleted.

## Uninstalling the UsageMessagingDriver-Email

To uninstall the UsageMessagingDriver:

1. Open the **Enterprise Manager** console.
2. Expand the **Usage Message Service**.
3. Right-click on the **usermessagingdriver-email**.
4. Select the **Email Driver Properties** menu item.
5. In the **Email Driver Properties** table, find the row with the instance set as “usermessagingdriver-[integration]” or “usermessagingdriver-UGBUEMAIL”.
6. Click **Delete**.
7. Click **Yes** in the confirmation dialog box.