

**SOA Based Service Catalog for Oracle  
Utilities ICS Adapter**

Installation Guide

Release 12.1

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SOA Based Service Catalog for Oracle Utilities ICS Adapter, Release 12.1 Installation Guide

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This document is intended for anyone implementing the SOA Based Service Catalog for Oracle Utilities ICS Adapter.

## 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>	
SOA Based Service Catalog for Oracle Utilities ICS Adapter 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>
SOA Based Service Catalog for Oracle Utilities ICS Adapter Implementation Guide	
Oracle Utilities ICS Adapter documentation	Refer to the Oracle Utilities ICS Adapter documentation page: <a href="https://docs.oracle.com/cloud/latest/intcs_gs/ICSUT/toc.htm">https://docs.oracle.com/cloud/latest/intcs_gs/ICSUT/toc.htm</a>
Oracle Utilities Customer Care and Billing documentation	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>

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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”	<a href="http://docs.oracle.com/middleware/1221/wls/NOTES/whatsnew.htm#NOTES570">http://docs.oracle.com/middleware/1221/wls/NOTES/whatsnew.htm#NOTES570</a>
Section: Standards Support, Supported Configurations and WebLogic Server Compatibility, Database Interoperability	
For additional information on the type of database to use.	
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

The following table lists the commonly used abbreviations in this guide.

Abbreviation	Definition
BPEL	Business Process Execution Language
CCB	Oracle Utilities Customer Care and Billing
DB	Database
DVM	Domain Value Map
ICS	Integration Cloud Service
MDS	Meta Data Store
OAAF	Oracle Utilities Application Framework
SOA	Service Oriented Architecture

# Chapter 1

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## Overview

This section provides information on prerequisites for installation of the SOA Based Service Catalog for Oracle Utilities ICS Adapter.

### Integration Pack Software Requirements

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

#### Oracle SOA/ Weblogic Server

- Oracle SOA suite 12c with Oracle Enterprise Manager 12.1.3.0.0 on WebLogic Server 12.1.3.0.0.

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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 SOA Based Service Catalog for Oracle Utilities ICS Adapter including:

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

### 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.

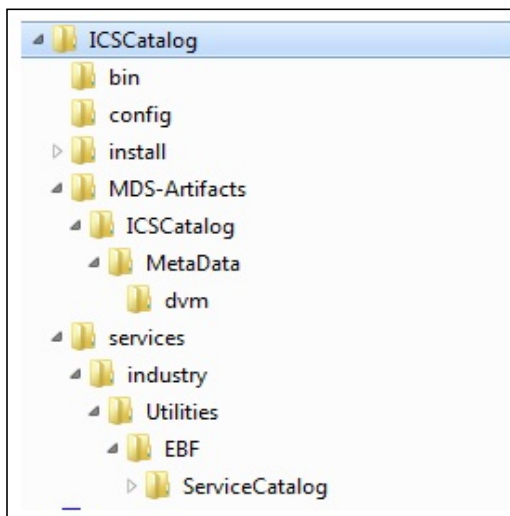
Excusing any inadvertent syntax errors in this guide, these conventions should be followed for all commands depending on your operating system.

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 **ICSCatalog.zip** file from Oracle Software Delivery Cloud (<http://edelivery.oracle.com/>).
2. Extract the zip file to get the installation folder. This folder includes subfolders such as bin, config, Install, MDS-Artifacts, and services.



**ICS Catalog Home Directory**

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

Variable	Example
Linux and Windows OS	
MW_HOME	XXX/Middleware/Oracle_Home
SOA_HOME	XXX/Middleware/Oracle_Home/soa
PRODUCT_HOME	Directory where ICSCatalog.zip is extracted.
	Example:
	Unix/Linux: PRODUCT_HOME=/slot/oracle/ICSCatalog
	Windows: PRODUCT_HOME=D:\Oracle\ICSCatalog

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/server/bin/setWLSEnv.sh
```

**Windows**

```
cd %MW_HOME%/wlserver/server/bin/
setWLSEnv.bat
```

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

**Linux**

```
export MW_HOME=/Oracle/Middleware/Oracle_Home
export SOA_HOME=$MW_HOME/soa
export PRODUCT_HOME=/Product_Homes/ICSCatalog
source $MW_HOME/wlserver/server/bin/setWLSEnv.sh
```

**Windows**

```
SET MW_HOME=C:\Oracle\Middleware\OracleHome12.1.3
SET SOA_HOME=%MW_HOME%\soa
SET PRODUCT_HOME=C:\Product_Homes\ICSCatalog
cd %MW_HOME%/wlserver/server/bin/
setWLSEnv.bat
```

**Note:** The installation process may take several minutes to complete.

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.

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

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 ICSCatalog integration code.
- `$PRODUCT_HOME/bin/UnInstallBuild.xml` is used to uninstall ICSCatalog integration code.
- `$PRODUCT_HOME/bin/DeployUndeployUtility.xml` is used to deploy/undeploy individual composite/ MDS folder and then restart the managed server.

## SOA Based Catalog for Installing the ICS Adapter

After setting the environment variables, open the Command prompt window and execute the following installation scripts in Linux and Windows respectively.

To install, follow these steps:

1. Execute the following commands at the Command prompt:

**Linux**

```
cd $PRODUCT_HOME/bin
```

```
ant -f InstallBuild.xml installSOA -
DInstallProperties=$PRODUCT_HOME/config/InstallProperties.xml
-l InstallICSCatalog.log
```

### Windows

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

These commands perform the following tasks:

- Update the MDS repository with all artifacts.
  - Create ICSCatalog partition.
  - Compile and deploy ServiceCatalog composite.
2. After executing the commands mentioned above, bounce the managed server and admin server manually.

## Post-Installation Checklist

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

1. Review the install log InstallICSCatalog.log to check for any installation errors.
2. Review the logs under \$MW\_HOME/user\_projects/domains/soa\_domain/servers/soa\_server1/logs to check for any deployment errors.
3. Verify that the composite in Enterprise Manager is deployed.
  - a. Login to Enterprise Manager.
  - b. Navigate to SOA > soa-infra > ICSCatalog.
  - c. Verify that the ServiceCatalog composite is deployed and is in 'active' state.

# Chapter 3

## Individual Composites

This section describes how to deploy/ undeploy individual composites for incremental builds or patches, including:

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

### Undeploying Composites

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

1. Open a command prompt and execute the following commands 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 deployment. Press ENTER to use the default value.
  - **Composite Name:** Name of the composite to be undeployed to 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: If you plan to undeploy the composite from <PRODUCT\_HOME>/services/industry/Utilities/EBF, then 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.

- **SOA Partition Name:** The SOA partition name from where the composite should be undeployed.
3. Press Enter to use the default value.

## Deploying Individual Composites

Perform the following steps to deploy individual composites:

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

For example: ServiceCatalog

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

For example: Deploy the composite from **<PRODUCT\_HOME>/services/industry/Utilities/EBF**, then 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.
3. Press Enter to use the default value.

# Chapter 4

## Metadata Store (MDS) Artifacts

This section describes how to deploy and undeploy individual Metadata Store (MDS) folders for incremental builds or patches:

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

### Undeploying the MDS Folder

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

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

- **MDS Folder Name:** Name of the folder to be undeployed from MDS repository. The folder name should be a relative path inside `<PRODUCT_HOME>/MDS-Artifacts`, beginning with `ICSCatalog`.

For example: To undeploy `<PRODUCT_HOME>/MDS-Artifacts/ICSCatalog/MetaData/dvm` pass `ICSCatalog/MetaData/dvm` as the MDS folder name.

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

# 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 following parameters when prompted with default values during deployment. Press ENTER to use the default value.
  - **MDS Folder Name:** Name of folder to be deployed from MDS repository. The folder name should be a relative path inside **<PRODUCT\_HOME>/MDS-Artifacts**, beginning ICSCatalog.
  - **DVM changes:** When new DVM values are added to a DVM file(s), the DVM folder must be updated in MDS. This command will not only deploy the file(s) that were changed but the whole DVM folder. Pass ICSCatalog/MetaData/dvm as the MDS folder name and it will deploy the whole DVM folder to MDS.

**Note:** When the DVMs are updated from the SOA composer, verify that the values are updated in the /MDS-Artifacts/ICSCatalog/MetaData/dvm folder. Else, the changes made from the composer will be overridden by the PRODUCT\_HOME values.



# 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 (XPath Representation)	Description	Example
<config>		
<modulename>	Name of the integration module.	Default: ICSCatalog Do not change this value.
SOA Information		
<config>		
<SOA>		
Admin Server Information		
<AdminServer>		
<hostname>	Host name of the server where admin server hosting SOA suite is installed.	adminserver.example.oracle.com
<portnumber>	Port number the admin server (hosting SOA suite) is listening to.	7001

<b>Property (XPath Representation)</b>	<b>Description</b>	<b>Example</b>
<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.	managedserver.example.oracle.com
<portnumber>	Port number the managed server (hosting SOA suite) is listening to.	8001
<servername>	Managed server name (hosting SOA suite)	Managedserver1
<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.	
MDS DB Information		
<mdsconfig>		
<mdsdbusername>	User name used to log in to MDS schema.	XXX_MDS
<mdsdbuserpassword>	Password used to log in to MDS schema.	
<mdsdbhostname>	Host name of the server hosting the database containing MDS schema.	Db.hostname.oracle.com
<mdsdbportnumber>	Port number of the database containing MDS schema.	1521
<mdsdbsid>	SID of the database containing MDS schema.	SID

# 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) 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/config/adf/META-INF.

- 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

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## Uninstalling the Integration

To uninstall the integration, complete the following steps:

1. Restart the WebLogic Admin server and the SOA server.
2. Set the environment variables as mentioned above in the installation steps.
3. 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 UnInstallICSCatalog.log
```

### Windows

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

These commands perform the following tasks:

- Remove the MDS artifacts created by the installation.
  - Delete ICSCatalog partition.
  - Undeploy ServiceCatalog composite.
4. After executing the commands mentioned above, bounce the managed server and admin server manually.