Enterprise Manager for Oracle Utilities Installation Guide

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Enterprise Manager for Oracle Utilities extends Oracle Enterprise Manager Cloud Control to allow monitoring and management of Oracle Utilities Application Framework-based products on remote servers.

When Enterprise Manager for Oracle Utilities is deployed, the following features and capabilities are available:

- Product discovery
- Target monitoring
- Environment assessment
- Patch identification and installation
- Patch migration from one environment to another
- View product configuration files

This document describes the various configuration and operational activities available to administrators of Enterprise Manager for Oracle Utilities.

NOTE: Prior versions of this product were released as Application Management Pack for Oracle Utilities. Please note that any references to Application Management Pack for Oracle Utilities that may occur within this document or in images within this document refer instead to the product's new name, Enterprise Manager for Oracle Utilities.

Related Documentation and Resources

The **Help** menu provides links to **Enterprise Manager Help**, **Oracle Online Documentation**, **Oracle Online Forums**, and the **Oracle Technology Network (OTN)**, where the complete documentation for Oracle Enterprise Manager 12*c* is available.

This document and other Enterprise Manager for Oracle Utilities-specific documentation is available on the Oracle Utilities section of the **Oracle Technology Network (OTN)** documentation site.

Additional information on Oracle Enterprise Manager-specific features and functionality relating to this product is available in the Enterprise Manager Cloud Control Documentation (http://docs.oracle.com/en/enterprise-manager/).

> **Note:**
>
> The documentation that accompanies this product is subject to revision and updating. Additional information that may relate to the functionality and features in this product may be found on My Oracle Support (MOS) at https://support.oracle.com (sign-in required). To find all articles relating to this product, enter the search term "Enterprise Manager for Oracle Utilities" (or for related articles, search on the product's previous name, "Application Management Pack for Oracle Utilities").

Supported Product Versions

This release of Enterprise Manager for Oracle Utilities supports the following Oracle products:

Table 1. Product Support

Product	Version
Oracle Enterprise Manager	24.1.0.0.0
Oracle Utilities Application Framework	4.4.0.3.*, 4.5.0.0.0, 4.5.0.0.1, 4.5.0.1.0, 4.5.0.1.1, 4.5.0.1.3, 24.1.0.0.0, 25.9.0.0.0.

Requirements

The following are the operating system and software requirements for the Enterprise Manager for Oracle Utilities plug-in.

> ⚠️ **Important:**
>
> 1. Ensure that the latest service packs are installed for all Oracle Utilities Application Framework-based products before installing Enterprise Manager for Oracle Utilities. Refer to the release notes for a list of patches that must be applied to the Oracle Utilities Application Framework product.
>
> 2. Installation of Service Packs for any OUAF product is not supported in this release.

Oracle Enterprise Manager Requirements with the Enterprise Manager for Oracle Utilities Plug-in

Supported Operating Systems, Database, and Browsers

Refer to the Oracle Enterprise Manager Documentation on Oracle Help Center and the Certification Matrix for Oracle Utilities Products (Doc ID: 1454143.1) for details around supported versions.

Dependency on Specific EM Components

- This version of the plug-in is incompatible with previous releases of the Oracle Utilities Plugin. Please ensure that all previous versions are undeployed from all Agents and Oracle Management Servers (OMS), and is also deleted from the Software Library before deploying this version.
- Oracle Fusion Middleware plug-in is required.

Oracle Utilities Application Framework Requirements

Refer to the Certification Matrix for Oracle Utilities Products (Doc ID: 1454143.1) for information about Oracle Utilities Application Framework requirements

Downloading and Importing Enterprise Manager for Oracle Utilities

Checking for Enterprise Manager for Oracle Utilities Availability

Enterprise Manager makes functional updates available by publishing them to the Enterprise Manager Store, an external site that is periodically checked by Cloud Control to obtain information about available updates. Through this facility, Enterprise Manager for Oracle Utilities may be available for immediate deployment on Enterprise Manager.

To check for the availability of Enterprise Manager for Oracle Utilities, follow the instructions in the "Checking the Availability of Plug-ins" topic (http://docs.oracle.com/cd/E24628_01/doc.121/ e24473/plugin_mngr.htm#CJGDBDGD) in the *Enterprise Manager Cloud Control Administrator's Guide* documentation.

If present, Enterprise Manager for Oracle Utilities is already available for deployment, allowing you to bypass the installation procedures described in this section and immediately proceed to the deployment task described in Deploying Enterprise Manager for Oracle Utilities on OMS *(on page 6)*.

After deploying Enterprise Manager for Oracle Utilities, target environment instances must be added for central monitoring and management.

Installation Procedures If the Management Pack is Not Present

If Enterprise Manager for Oracle Utilities is not available for immediate deployment, it must be downloaded and imported using the instructions provided in the "Downloading Plug-ins" topic (http:// docs.oracle.com/cd/E24628_01/doc.121/e24473/plugin_mngr.htm#CJGBEAHJ) in the *Enterprise Manager Cloud Control Administrator's Guide* documentation.

After downloading and importing Enterprise Manager for Oracle Utilities, the plug-in must be deployed on Management Servers and Management Agents.

After deploying Enterprise Manager for Oracle Utilities, target environment instances must be added for central monitoring and management.

Positioning the Installation File

> ✏️ **Note:**
> This procedure is not required if Enterprise Manager for Oracle Utilities is available for immediate deployment as described earlier in the topic, *Downloading and Importing Enterprise Manager for Oracle Utilities*.

> ✏️ **Note:**
> To complete the final step in this procedure, Java JDK must be installed on the machine on which the Enterprise Manager for Oracle Utilities will be downloaded. Java packages may be downloaded from http://www.oracle.com/technetwork/java/archive-139210.html.

The installation file for Enterprise Manager for Oracle Utilities (AMP-V24.1.1.0.0-MultiPlatform.jar) is available on the Oracle Software Delivery Cloud site. The jar can be installed using the Enterprise Manager Command Line (EMCLI) utility on either Linux/UNIX or Windows platforms.

To download and position Enterprise Manager for Oracle Utilities for installation:

1. Log in to the Oracle Software Delivery Cloud at https://edelivery.oracle.com, and click the boxes on the **Terms and Restrictions** page to access the **Media Pack Search** page.
2. Select **Oracle Utilities Applications** from the product drop-down list, a platform from the **Platform** list, and click **Go** to list downloadable media packs.
3. Locate and click the Enterprise Manager for Oracle Utilities item to advance to the **Download** page.
4. Click the **Download** button and save the file to a temporary location (e.g., `c:/mediapacks`).
5. Extract the `opar` files from the downloaded file (example download location shown below):

```
cd c:/tempdir

jar -xvf AMP-V24.1.1.0.0-MultiPlatform.jar
```

Configuring the Software Library

> **Note:**
>
> This procedure is *not* required if you configured the software library during Enterprise Manager installation.

To configure the software library, follow the instructions in the "Configuring an OMS Shared Filesystem Location" topic (http://docs.oracle.com/cd/E24628_01/doc.121/e24473/softwarelib.htm#CHDJGAFB) in the *Enterprise Manager Cloud Control Administrator's Guide* documentation.

Setting Up the EMCLI Utility

> **Note:**
>
> This procedure is not required if Enterprise Manager for Oracle Utilities is available for immediate deployment as described earlier in the topic, *Downloading and Importing Enterprise Manager for Oracle Utilities*.

The Enterprise Manager Command Line (EMCLI) utility is required to import the plug-in archive for deployment to Enterprise Manager.

To set up EMCLI for Enterprise Manager for Oracle Utilities, follow the instructions in the "Setting Up the EM CLI Utility" topic (http://docs.oracle.com/cd/E24628_01/doc.121/e25161/package.htm#CACFABCC) in the *Enterprise Manager Cloud Control Extensibility Programmer's Reference* documentation.

Importing Enterprise Manager for Oracle Utilities

> ✏️ **Note:**
> This procedure is not required if Enterprise Manager for Oracle Utilities is available for immediate deployment as described earlier in the topic, *Downloading and Importing Enterprise Manager for Oracle Utilities*.

Enterprise Manager for Oracle Utilities must be imported into Enterprise Manager Cloud Control using the `emcli import_update` command.

To perform the import for Enterprise Manager for Oracle Utilities, follow the instructions in the "Importing the Plug-in Archive" topic (http://docs.oracle.com/cd/E24628_01/doc.121/e25161/package.htm#CACGJFHA) in the *Enterprise Manager Cloud Control Extensibility Programmer's Reference* documentation.

Deploying Enterprise Manager for Oracle Utilities on OMS

Since this release is not compatible with previous releases, you must undeploy previous releases from OMS and from all agents. For details, see the instructions in Section 16, Managing Plug-Ins, in the *Enterprise Manager Cloud Control Administrator's Guide* (http://docs.oracle.com/cd/E24628_01/doc.121/e24473/plugin_mngr.htm#CHDFDJAB).

When undeployment is complete, delete the previous releases from the Self Update Plugin Store (**Setup > Extensibility > Self Update > Plug-in**) before deploying this version.

As with other plugins, Enterprise Manager for Oracle Utilities must be deployed on Oracle Management Service (OMS) and Management Agents before it can be used to monitor targets.

To deploy Enterprise Manager for Oracle Utilities on the management servers Enterprise Manager for Oracle Utilities, follow the instructions in the "Deploying Plug-ins to Oracle Management Service" topic (http://docs.oracle.com/cd/E24628_01/doc.121/e24473/plugin_mngr.htm#CJGCDHFG) in the *Enterprise Manager Cloud Control Administrator's Guide* documentation.

Important Notes Regarding Deployment and Undeployment

- To avoid permission issues, we recommend that the host agent be deployed using the same user name as the OUAF system user (`cissys`). Alternatively, the agent user must have the same access rights as the OUAF system user of the Oracle Utilities Framework environments to be monitored.
- You can import multiple versions of the same plug-in. Versions can be selected from a list if you are using Cloud Control to deploy the plug-in, or can be specified on the command line if using EMCLI.
- However, only one version can be deployed on the Oracle Management Service (OMS) at any given time. If a later version has been deployed previously, it cannot be downgraded to an earlier version. If you want to deploy a later version, the earlier version must be undeployed from all agents on which it has been deployed, as well as from OMS.
- Due to major differences in the target model in this release of the plug-in, the metrics collected previously do not translate to the new model. Thus, deploying this plug-in results in loss of historical data collected by the previous plug-in releases.
- It is required that OMS and the agent have the same version of the plug-in.
- Available updates are listed on the **Plug-ins** page.

Adding Instances for Monitoring

After successfully deploying the plug-in, add target instances for central monitoring and management.

Environment Discovery

In order for a target to be monitored, it must first be discovered and promoted. Discovery is the process of making a target instance known to OEM. Once this has been done, the target needs to be promoted from an unmanaged to a managed state. This process requires some prerequisite steps.

> ✏️ **Note:**
> Oracle recommends after upgrading the plugin, delete existing targets and re-discover.

1. All components of the environment should be up, namely, the web application, the web service and batch servers.

2. JMX should be configured on the target environment. To test this, use jconsole and connect to the JMX servers using the JMX URLs. You can search the WebLogic log for the Web and EJB JMX URLs. Examples:

```
service:jmx:rmi:///jndi/rmi://{host}:{ejbJmxPort}/oracle/ouaf/ejbAppConnector
```

```
service:jmx:rmi:///jndi/rmi://{host}:{webJmxPort}/oracle/ouaf/webAppConnector
```

The threadpoolworker logs would have the batch JMX URLs. For example, `service:jmx:rmi:/
//jndi/rmi://{host}:{batchJmxPort}/oracle/ouaf/batchConnector`

In FW 2.2, this would be `service:jmx:rmi:///jndi/rmi://{host}:{batchJmxPort}/spl/
fw/jmxConnector`

Make sure you can connect to the URLs and that the OEMTargetsBean is present, as illustrated in
the following image:

> **Note:**
> Here, the host should be fully qualified domain name.
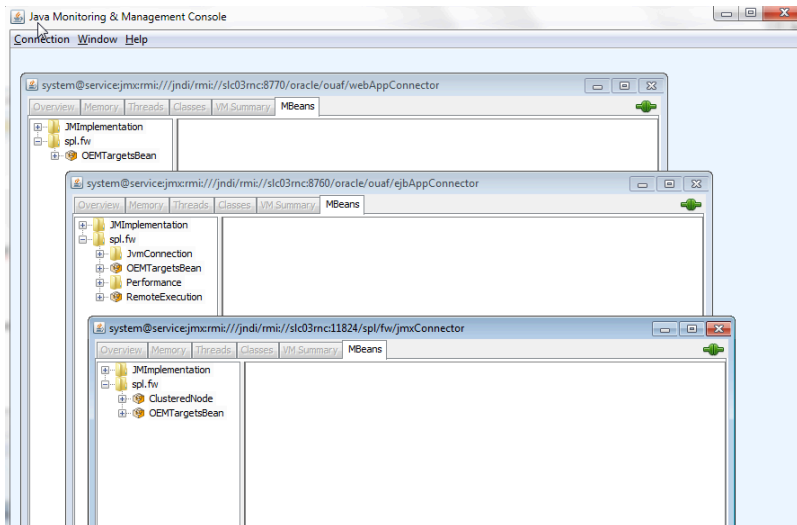
Expand the OEMTargetsBean, click **Operations**, then click the **toXML** button. A window should
popup and return the XML of the targets that will be discovered. Do this for each JMX connection.
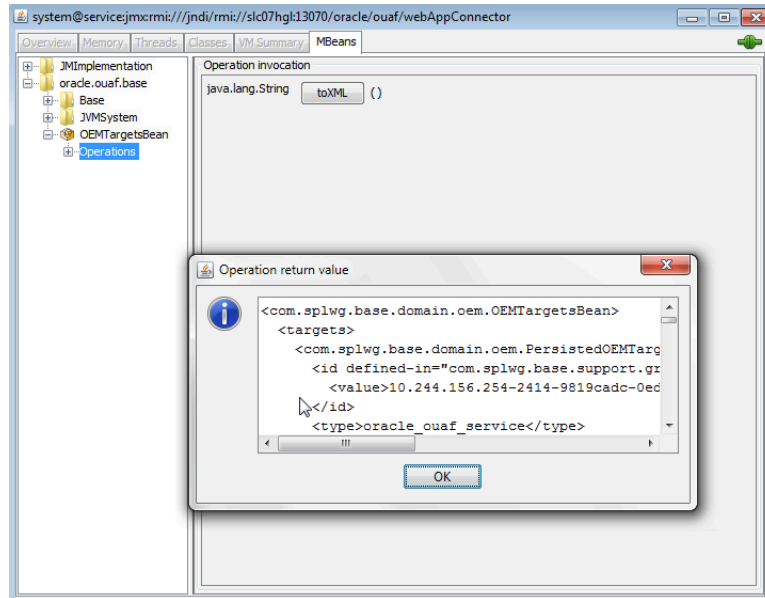
3. Target monitoring can be performed via JMX or REST API. You can prefer to use REST API option, if you have any firewall restrictions. Details, to enable "JMX over REST" feature, are available below.

   a. Run configreEnv using FW menu options, choose option 57 and provide appropriate values for the displayed variables.

   b. **JMX_REST_SERVICE_FLAG: This flag in the Menu options is to enable the REST API. If this is false, then the communication happens using via JMX, the old way of the plugin communication.**

   c. **JMX_REST_SERVICE_FLAG is true and JMX_HTTPSSL_FLAG false, the communication happens over the HTTP. JMX_REST_SERVICE_FLAG is true and JMX_HTTPSSL_FLAG true, the communication happens over the HTTPS.**

   d. More details are available in respective Utilities FW product documentation.

4. The WebLogic domain/Fusion middleware must be discovered. To do this, perform the following:

   ◦ The WebLogic admin server must be started. Verify that it is by logging into the WebLogic console.

   ◦ Discover the WebLogic domain and Fusion middleware using guided discovery. On the grid console, go to **Setup > Add Targets > Add Targets Manually**. Select the following options on the page:
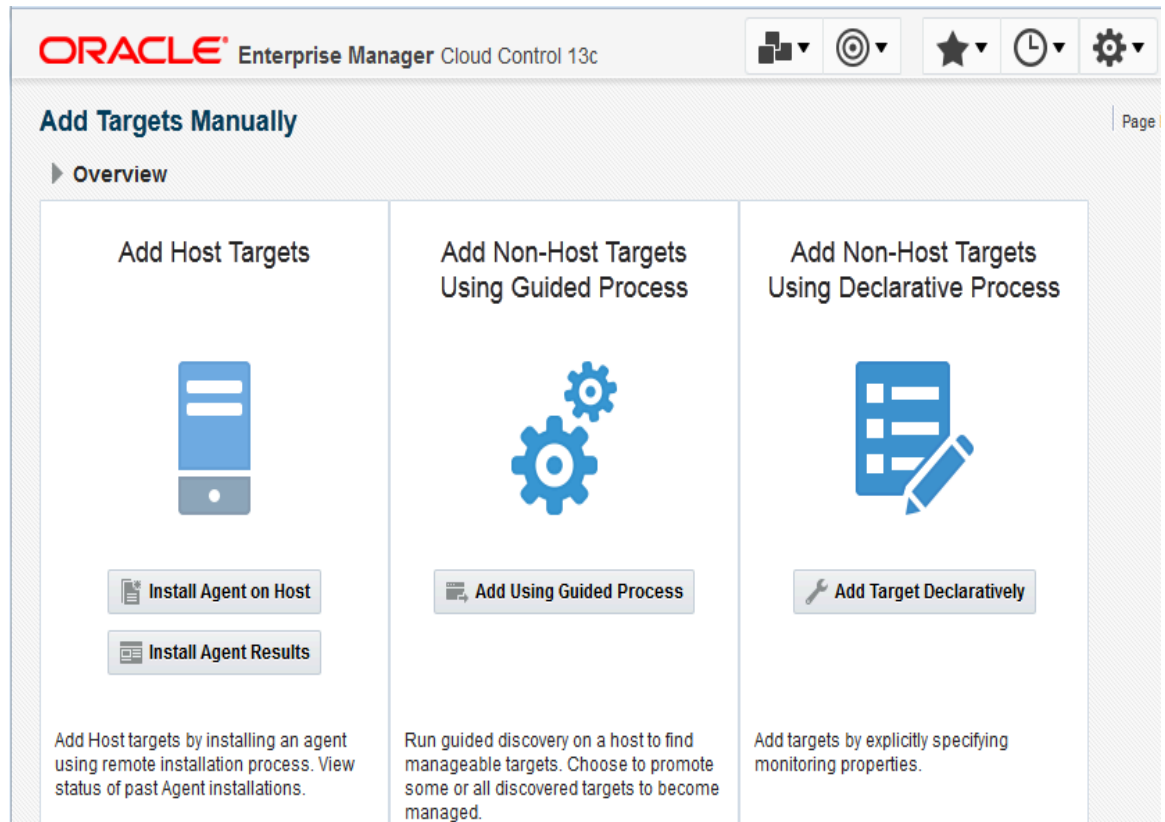
- ◦ Click **Add Using Guided Process**, enter the entries for the WebLogic admin server, then continue until the WebLogic domain/Fusion middleware is discovered.

If WebLogic is configured with SSL, use the **t3s** protocol.

To discover OUAF target environments:

1. Log in to Enterprise Manager.
2. Choose **Setup > Add target > Configure Auto Discovery**.
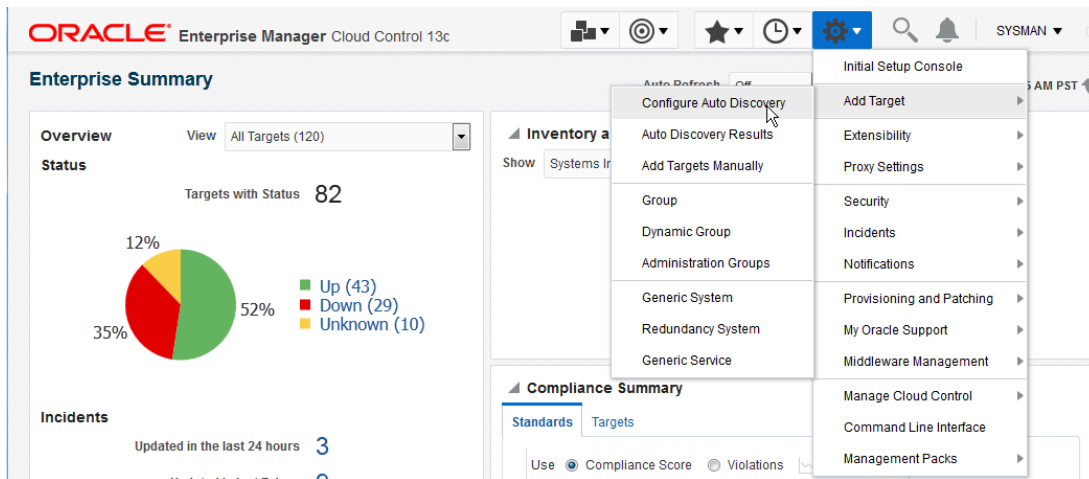
Figure 1. Selecting Auto Discovery

3. On the **Setup Discovery** page, click the host where discovery is to be run, then click the **Discovery Modules** button.
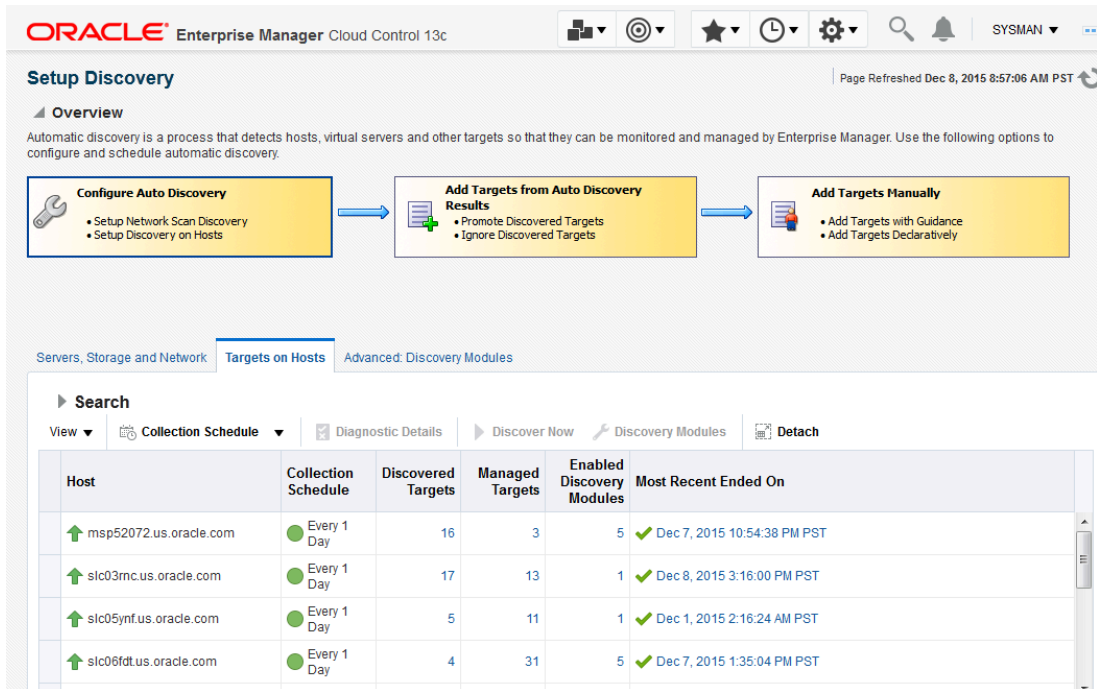
Figure 2. Setup Discovery

4. Ensure that the **Enterprise Manager for Oracle Utilities** module is on the **Discovery Module** list.
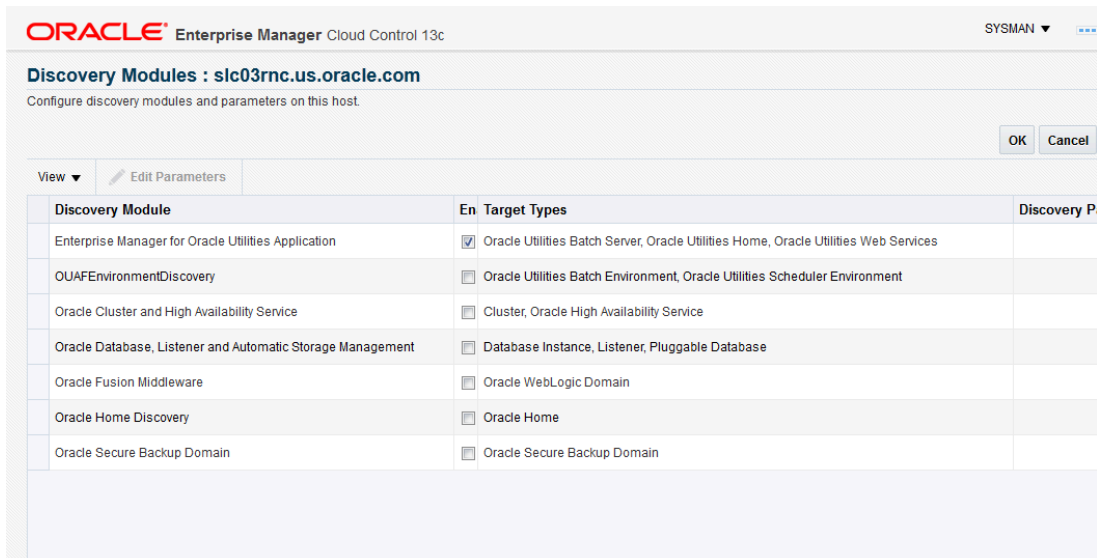
Figure 3. Verifying the module

5. Once back on the **Setup Discovery** page, select the host again to enable the buttons at the top. When the desired host is selected, click the **Discover Now** button.
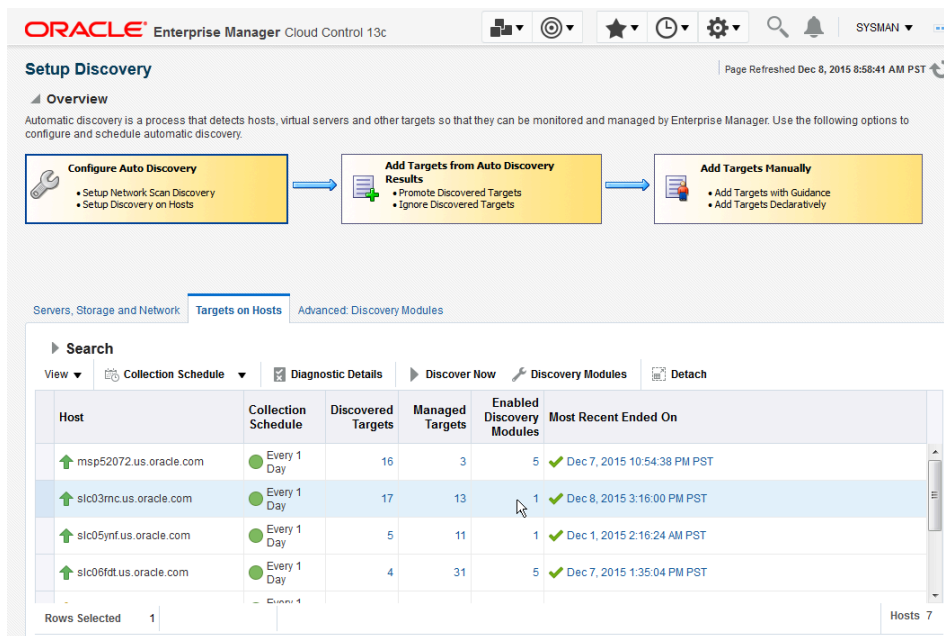
Figure 4. Running the discovery

The **Target Discovery (Agent Based)** window opens.

6. Click **OK** in the **Discover Now** dialog to confirm that you want to run the discovery.
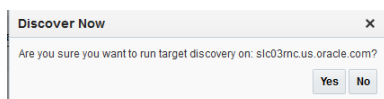
Figure 5. Confirming the discovery

7. A confirmation dialog appears on successful discovery of the host. Click **Close** to dismiss the confirmation dialog.
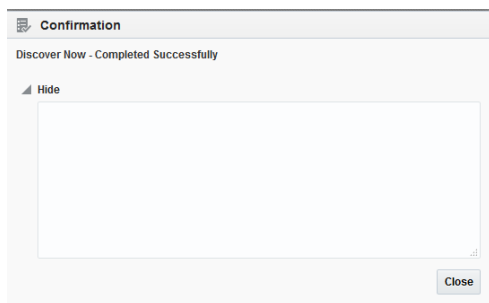
Figure 6. Host discovery confirmation dialog

Promoting Targets

To promote targets so they can be managed:

1. Log in to Enterprise Manager.
2. Choose **Setup > Configure Auto Discovery.**
   The **Setup Discovery** window opens. Go to the **Targets on Hosts** tab.

Figure 7. Setup Discovery window

3. For the host on which the discovery was run, click on the number that is in the **Discovered Targets** column.

Figure 8. Choosing a target

4. A list of targets that were discovered but not yet promoted is displayed. Select the target you want to promote, then click the **Promote** button.
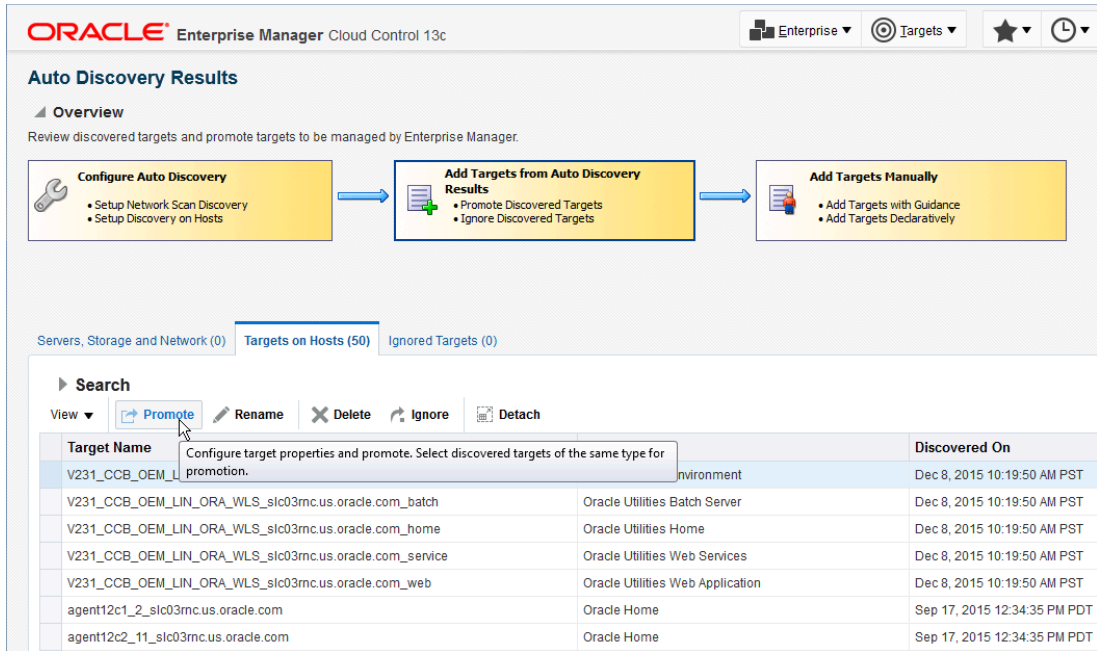
Figure 9. Promoting the target

5. All related members of the target system are shown and promoted at the same time. Click the **Promote** button.
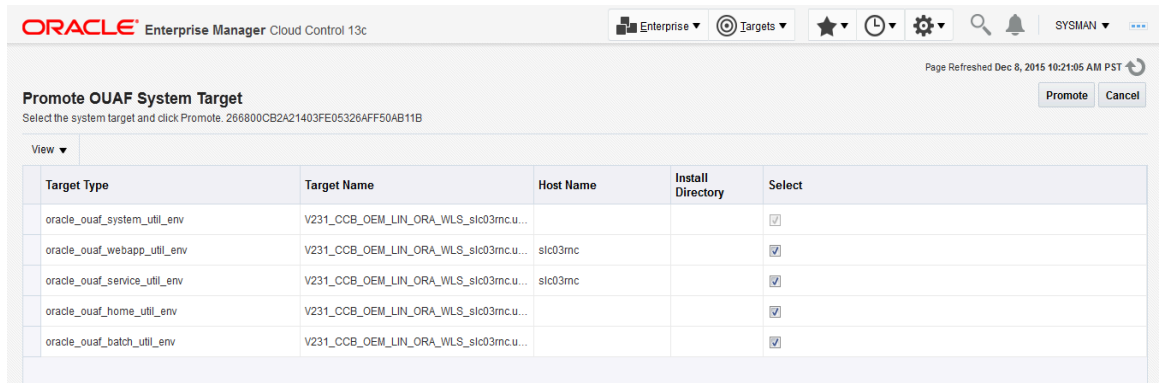

Figure 10. Unmanaged system targets

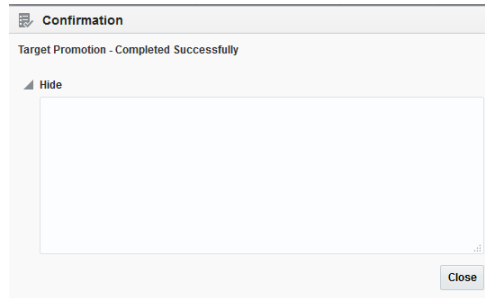6. A confirmation dialog appears when the promotion is successful.

Figure 11. Confirmation dialog

7. Click **Close** to dismiss the confirmation dialog.

8. If any changes are made to the environment configuration using the command-line utilities (e.g., `configureEnv.sh/cmd`), the corresponding changes must also be made to the target properties. The quickest way to do this is to remove the target and perform the discovery and promotion process. You can also make changes by choosing **Target > Setup > Monitoring Configuration** and making the appropriate updates on the UI page.
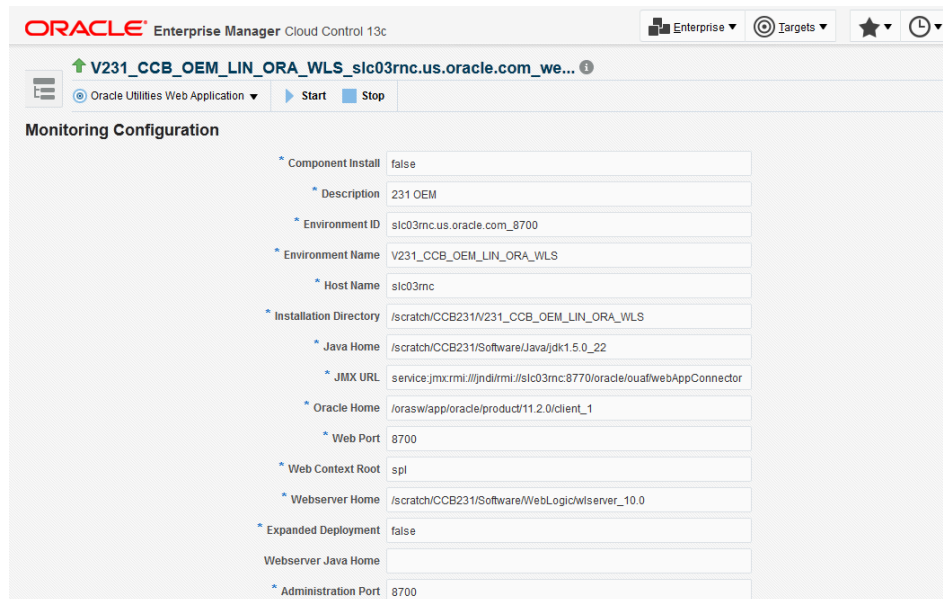

Figure 12. Monitoring Configuration page

Post-Promotion Tasks

The following tasks are required after a target is promoted.

1. **Configure monitoring credentials**. This task creates the monitoring credentials for the web application, web services, and batch server targets. It involves navigating to **Setup > Security > Monitoring Credentials** and enter the JMX credentials for all three target types. For example, the

following steps configure the credentials for the batch server. Follow the same steps for the web application and web services targets.
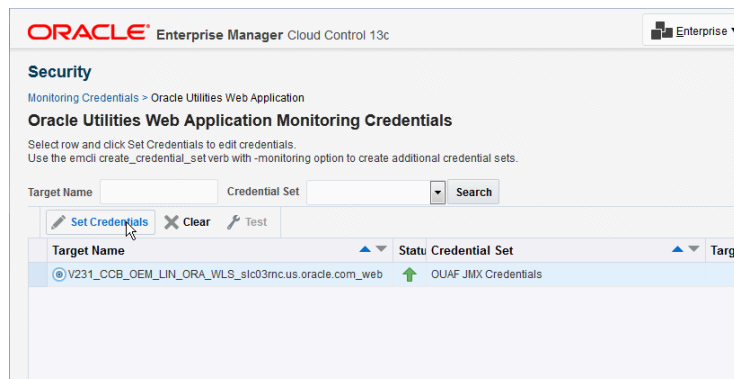
    a. Select the target type and click the **Manage Monitoring Credentials** button.
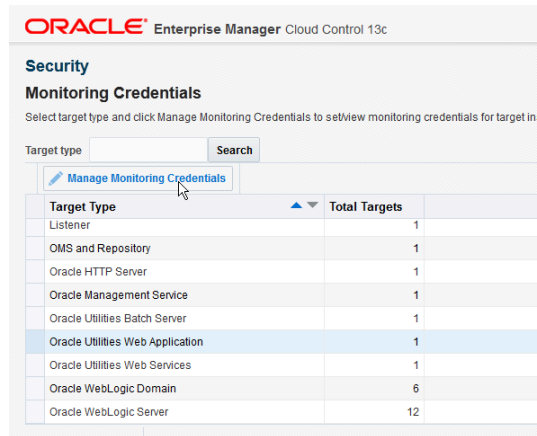
    b. Select the target and click the **Set Credentials** button.
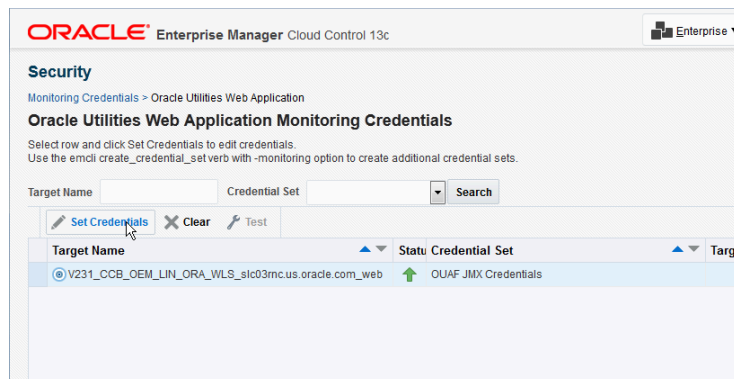
    c. Enter the JMX credentials. This should match the JMX credentials of the OUAF environment.
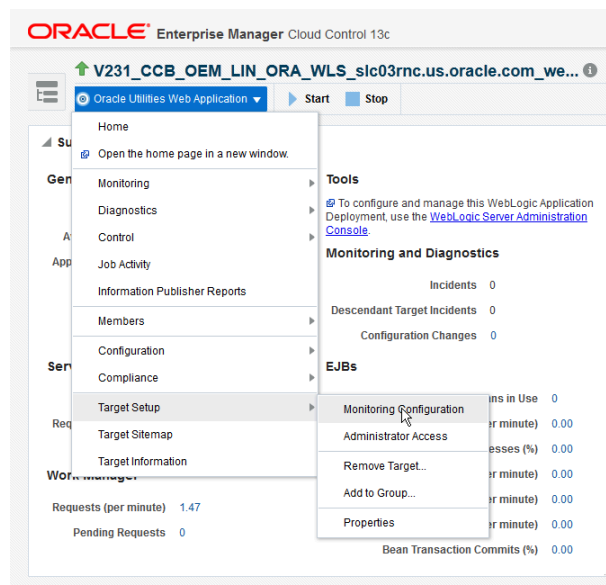
d. If you prefer to use Rest API option, enter the JMX http credentials. This should match the JMX http credentials of the OUAF environment.

e. Repeat for the Web application and Web services targets.

2. **Set up monitoring configuration**. For all Framework version 2.2.0-based environments, ensure that the target monitoring configuration contain the appropriate settings for Java Home and Oracle Home, Web Server Home and Web Server Java Home values. These are the environment variables that are set in the host before you run splenviron.cmd/sh. Note that Web Server Home is the location on which the WebLogic software is installed (e.g., `/spl/middleware10.3.3./wlserver_10.3`). Web Server Java Home is the Java location that is used as JAVA_HOME by the Web Server. For WebLogic servers on Linux, it is same value as JROCKIT_HOME. Set up monitoring configuration for all target types.

a. For example, to setup the monitoring configuration for the batch server, first click on the target drop-down on the upper left, then choose **Target Setup > Monitoring Configuration.**

b. Then enter the appropriate information:

c. Repeat for the Web application and Web services targets.

Target Availability Issues After Migration to Latest Version of Enterprise Manager

Perform the following actions for Availability Evaluation issue.

On OMS Server:

./emcli modify_target -name="WEB_TARGET_NAME" -type="oracle_ouaf_webapp_util_env" -properties="web_appurl_tp:TRANSFER_PROTOCAL " -on_agent

./emcli modify_target -name="SERVICE_TARGET_NAME" -type="oracle_ouaf_service_util_env" -properties="web_appurl_tp:TRANSFER_PROTOCAL" -on_agent

./emcli modify_target -name="BATCH_TARGET_NAME" -type="oracle_ouaf_batch_util_env" -properties="batch_mode:BATCH_MODE" -on_agent

On Agent:

./emctl reload agent dynamicproperties -upload_timeout 240
WEB_TARGET_NAME:oracle_ouaf_webapp_util_env

./emctl reload agent dynamicproperties -upload_timeout 240
SERVICE_TARGET_NAME:oracle_ouaf_service_util_env

./emctl reload agent dynamicproperties -upload_timeout 240 BATCH_TARGET_NAME: oracle_ouaf_batch_util_env

Here, in the above commands replace WEB_TARGET_NAME, SERVICE_TARGET_NAME, BATCH_TARGET_NAME, TRANSFER_PROTOCAL(http/https), BATCH_MODE, with their actual values as per the target environment.

Undeploying Enterprise Manager for Oracle Utilities

To undeploy Enterprise Manager for Oracle Utilities, you must undeploy from both Management Agents and Management Servers.

To undeploy Enterprise Manager for Oracle Utilities from Management Agents, follow the instructions in the "Undeploying Plug-ins from Oracle Management Agent" topic (http://docs.oracle.com/cd/E24628_01/doc.121/e24473/plugin_mngr.htm#CJGEFADI) in the *Enterprise Manager Cloud Control Administrator's Guide* documentation.

To undeploy Enterprise Manager for Oracle Utilities from Management Servers, follow the instructions in the "Undeploying Plug-ins from Oracle Management Service" topic (http://docs.oracle.com/cd/E24628_01/doc.121/e24473/plugin_mngr.htm#CJGEIECI) in the *Enterprise Manager Cloud Control Administrator's Guide* documentation.