

Oracle® Enterprise Manager
Plug-in for Oracle Database Appliance User's Guide
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Contents

Preface	v
Audience	v
Documentation Accessibility	v
Related Documents	v
Conventions	vi
1 Introduction to the Oracle Database Appliance Plug-in	
Oracle Database Appliance Plug-in Features	1-1
Monitoring Features	1-1
Target Discovery Features	1-1
Oracle Database Appliance Plug-in Supported Hardware and Software	1-2
2 Oracle Database Appliance Plug-in Installation and Deployment	
Oracle Database Appliance Plug-in Deployment Prerequisites	2-1
Create a Database Server ILOM Service Processor User	2-1
Create Monitoring OS User on Oracle Database Appliance Server	2-2
Verify Software Versions	2-3
Verify Names Resolution	2-3
Verify Firewall Configuration	2-3
Installing Enterprise Manager Agent	2-4
Installing Enterprise Manager Agent Using the Push Method	2-5
Deploying the Oracle Database Appliance Plug-in	2-6
Import the Oracle Database Appliance Plug-in Archive File Locally	2-6
Import the Oracle Database Appliance Plug-in Archive File Remotely	2-7
Deploy Oracle Database Appliance Plug-in on Enterprise Manager Cloud Control (OMS Servers)	2-7
Deploy Oracle Database Appliance Plug-in to the Management Agents on Both Oracle Database Appliance Server Nodes (Hosts)	2-8
3 Oracle Database Appliance Discovery	
Oracle Database Appliance Discovery Requirements	3-1
Oracle Database Appliance Discovery Process	3-1
Discover the Virtual Platform	3-2
Discover Grid Infrastructure and Oracle RAC	3-4
Discover Grid Infrastructure (Cluster) Targets	3-4

Discover Oracle Real Application Clusters Targets.....	3-5
Removing an Oracle Database Appliance Target.....	3-5

4 Post-Discovery Configuration

Modifying Metrics Thresholds.....	4-1
Configuring Notifications	4-2
Creating Blackouts	4-3

5 Monitoring Oracle Database Appliance

Monitoring All Oracle Database Appliance Targets.....	5-1
Available Data for All (or Groups of) Oracle Database Appliance Targets	5-1
Monitoring Groups of Oracle Database Appliance Targets.....	5-5
Creating an Oracle Database Appliance Group	5-5
Modifying an Oracle Database Appliance Group.....	5-7
Deleting an Oracle Database Appliance Group.....	5-8
Monitoring Individual Oracle Database Appliance Targets.....	5-9
Available Data for an Individual Oracle Database Appliance Target.....	5-9
Viewing Oracle Database Appliance Topology.....	5-12

6 Troubleshooting Oracle Database Appliance Plug-in

Host Discovery Troubleshooting.....	6-1
Prerequisite Check Failure.....	6-1
Host Discovery is Done Without Enabling the Root Privileges.....	6-2
Oracle Database Appliance Discovery Troubleshooting.....	6-3
Discovery Requires Root User.....	6-4
File /opt/oracle/oak/onecmd/onecommand.params Required	6-4
Metric Collection Error After Discovery.....	6-4
Plug-in Versions Do Not Match.....	6-4
Plug-in Version is Not the Same on the Two Host Nodes.....	6-4
Monitoring Credentials Set Incorrectly.....	6-5
Oracle Database Appliance ECM Configuration Data Troubleshooting	6-5
OAK-Based Metric Collection Troubleshooting.....	6-6
How to Determine Which Node Agent is Monitoring the Oracle Database Appliance Machine .	6-6
Viewing OAK Metrics	6-6

Index

Preface

Oracle Enterprise Manager provides the tools to effectively and efficiently manage your Oracle Database Appliance. With a consolidated view of the Oracle Database Appliance, Oracle Enterprise Manager provides a dashboard containing all of the hardware components and their physical location with indications of status.

This document provides the installation and administration instructions to set up Oracle Enterprise Manager to monitor and manage your Oracle Database Appliance.

This preface contains these topics:

- [Audience](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Audience

This system monitoring installation guide is for users who perform administrative and problem-resolution tasks on Oracle Database Appliance.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

These books may be of particular interest:

- *Oracle Database Appliance Getting Started Guide*
- *Oracle Database Appliance Administration and Reference Guide*
- Oracle Enterprise Manager Cloud Control Documentation 12c Release 4

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Introduction to the Oracle Database Appliance Plug-in

The Oracle Database Appliance plug-in features monitoring dashboards and streamlined target discovery. The plug-in supports all Oracle Database Appliance hardware platforms and Oracle Appliance Manager software versions 12.1.2.2.0 and later. See the following topics for more details:

- [Oracle Database Appliance Plug-in Features](#)
- [Oracle Database Appliance Plug-in Supported Hardware and Software](#)

Oracle Database Appliance Plug-in Features

The Oracle Database Appliance plug-in release 12.1.0.1.0 includes the following features:

- [Monitoring Features](#)
- [Target Discovery Features](#)

Monitoring Features

With the Oracle Database Appliance plug-in, you can monitor Oracle Database Appliance targets using Oracle Enterprise Manager Cloud Control 12c. The plug-in provides seamless integration with supported Oracle Database Appliance software so that you can receive information about any Oracle Database Appliance target. Features include:

- Monitoring of the Oracle Database Appliance as an Enterprise Manager target
- Monitoring a dynamic group of Oracle Database Appliance systems using tags
- Oracle Database Appliance components (DB, ILOM, HOST, Virtual Machines, Hypervisor, ASM, and Oracle Appliance Manager) are grouped and can be monitored under a target

Target Discovery Features

The target discovery process is streamlined and simplified with the Oracle Database Appliance plug-in. Features include:

- Custom discovery process which collects credentials, discovers and validates configurations, and gives you the ability to group Oracle Database Appliance systems during discovery
- Discovery prerequisite checks updates, including:

- Check for critical configuration requirements
- Prevent discovered targets from being rediscovered
- Credential validation and named credential support
- Ability to apply a custom name to the Oracle Database Appliance target

Oracle Database Appliance Plug-in Supported Hardware and Software

Oracle Enterprise Manager Cloud Control 12c and the Oracle Database Appliance plug-in are supported on the following Oracle Database Appliance configurations:

- All Oracle Database Appliance hardware configurations from Version 1 through X5-2
- All Oracle Appliance Manager software versions from 12.1.2.2.0
- Oracle Enterprise Manager Cloud Control 12c (12.1.0.4) and later

Oracle Database Appliance Plug-in Installation and Deployment

This chapter provides instructions for deploying the Oracle Database Appliance plug-in. The following topics are discussed:

- [Oracle Database Appliance Plug-in Deployment Prerequisites](#)
- [Installing Enterprise Manager Agent](#)
- [Deploying the Oracle Database Appliance Plug-in](#)

Oracle Database Appliance Plug-in Deployment Prerequisites

Before deploying the Oracle Database Appliance plug-in, make sure the following prerequisites are met:

- [Create a Database Server ILOM Service Processor User](#)
- [Create Monitoring OS User on Oracle Database Appliance Server](#)
- [Verify Software Versions](#)
- [Verify Names Resolution](#)
- [Verify Firewall Configuration](#)

Create a Database Server ILOM Service Processor User

For the Enterprise Manager agent to communicate with an ILOM service processor, there must be a specific user ID established on the ILOM service processor.

Note: Adding the specific user ID requires administrator level privilege on the ILOM service processor.

The specific ILOM user ID can be added in the ILOM service processor web interface, ILOM CLI, or with the `ipmitool` command. This example uses ILOM CLI.

For security reasons, the password to the ILOM service processor root user ID does not appear in the ILOM CLI commands in this example.

1. Log in to the Service Processor as root:

```
# ssh root@[Service Processor IP]
Password:
```

2. Change to the `users` directory:

```
-> cd /SP/users
```

3. Create the oemuser user and password:

```
-> create oemuser
```

```
Creating user...
```

```
Enter new password: *****
```

```
Enter new password again: *****
```

```
Created /SP/users/oemuser
```

4. Change to the new user's directory and set the role:

```
-> cd oemuser
```

```
/SP/users/oemuser
```

```
-> set role='cro'
```

```
-> Set 'role' to 'cro'
```

5. Test the ILOM user ID created in step 3 by listing the last 10 system events:

```
-> ipmitool -I lan -H sc-odax5-1.es.aus.osc -U oemuser -P welcome1 -L USER sel
list last 10
```

6. Repeat steps 1 through 5 for the rest of the server node ILOM service processors in your Oracle Database Appliance.

Create Monitoring OS User on Oracle Database Appliance Server

The root user can perform monitoring on Oracle Database Appliance agents. However, if the root user is not accessible for security reasons, an alternative method is to create a monitoring OS user as the monitoring user, and set the privilege delegation appropriately.

The following is an example that creates an **oak/welcome2** user for the purpose of monitoring Oracle Database Appliance.

1. Run the following commands

```
#useradd oak
#passwd oak
```

2. Add SUDO privilege for user oak.

a. Modify the /etc/sudoers file on the host using the visudo command.

b. Add the following commands to the /etc/sudoers file.

```
Cmdnd_Alias  PLUGIN_AGENT_SCRIPT=$PERL_HOME/bin/perl
$AGENT_HOME/plugins/$PLUGIN_OPAR_VERSION /scripts/*.pl* , \
$AGENT_HOME/sbin/nmosudo DEFAULT_PLUGIN DEFAULT_FUNCTIONALITY
DEFAULT_SUBACTION DEFAULT_ACTION perl -e exit 0
MONITOR_USER ALL=(ALL) PLUGIN_AGENT_SCRIPT
```

Note that:

\$AGENT_HOME is the absolute path to the installed agent home. The agent home directory is created during agent deployments to the hosts. For example, /u01/app/agent_home/

\$PLUGIN_OPAR_VERSION is the complete Oracle Database Appliance Plug-in OPAR file that is deployed to the OMS and the agents. It is in the format

`oracle.dba.odba.agent.plugin_12.1.0.1.0`, where 12.1.0.1.0 is the plug-in version, that might increase in the future.

`$PERL_HOME` is the absolute path to the installed executable Perl. For example, `/u01/app/agent_home/core/12.1.0.4.0/perl/`

3. Set privilege delegation to the host targets.
 - a. Log in to Enterprise Manager.
 - b. In the **Setup** menu select **Security**, then **Privilege Delegation**.
 - c. Select the SUDO type.
 - d. Apply `/usr/bin/sudo -u %RUNAS% %COMMAND%` to **Sudo Command Settings**.

Verify Software Versions

Oracle Database Appliance Software

The supported version is Oracle Appliance Manager 12.1.2.2.0. To verify the software version on Oracle Database Appliance run the command:

```
# oakcli show version
```

See Also: *Oracle Database Appliance Administration and Reference Guide* for information about the `oakcli show version` command.

Grid Infrastructure/DB Cluster

Grid Infrastructure/DB Cluster is required to be up and running before discovery. The Oracle Database Appliance deployment should be completed and the Grid Infrastructure cluster should be up and running prior to deploying the plug-in.

Verify Names Resolution

Each server node should be verified to be able to resolve the hostnames of the ILOM servers. If the names of those components are not registered in DNS, then entries can be added to the `/etc/hosts` file of each server node.

Verify Firewall Configuration

To verify the firewall configuration:

1. Allow ping

In many secure network environments, it is normal for the ping service to be disabled. Enterprise Manager uses ping to establish the basic availability and status of the Oracle Database Appliance.

- The server nodes need to have the ping service and port enabled from the OMS Server(s).
- All other Oracle Database Appliance components (such as ILOM servers) need to have the ping service and port enabled from the server nodes (where the agents are running).

Note: The ping traffic overhead is minimal. The agent pings the targets every five minutes.

2. Open Database Ports

The database listener ports must be opened for the Enterprise Manager OMS server(s). Note that Oracle Database Appliance databases will use SCAN listeners; so, ports will need to be opened for the base server node, the node virtual IP, and scan listeners addresses.

3. Open Enterprise Manager Upload Port

The Enterprise Manager Cloud Control 12c agents require access to the Enterprise Manager Servers upload service, normally configured on port 4889 for HTTP uploads and 4900 for HTTPS. To verify the ports assigned, run the following command on the OMS server command line.

```
$ emctl status oms -details
```

These ports will need to be opened for each of the server nodes.

4. Open Agent Ports

The OMS server(s) will need to be able to connect to the Enterprise Manager Cloud Control 12c Agent HTTP/HTTPS port on each server node. The Agent port defaults to 3872. If port 3872 is not available, the next available port starting from port 1830 is used.

To identify the port used:

- Run the following command on the server node command line:

```
$ emctl status agent
```

- Alternatively, you can look for the value of the `EMD_URL` property in the `emd.properties` file the following directory:

```
<AGENT_HOME>/agent_inst/sysman/config
```

5. Open SSH Ports

The Enterprise Manager Cloud Control 12c Agents require `ssh` access to the Oracle Database Appliance components they monitor. As the Agents will run on the server nodes the `ssh` ports, 22, on each of the ILOMs will need to be opened for each of the server nodes.

Note: The `emkit` configures `ssh` access but still requires the ports to be opened first.

6. Allow UDP Traffic (SNMP Ports)

All Oracle Database Appliance components need to be able to send SNMP traps to the Agents running on the server nodes. SNMP uses the UDP protocol so the Agent port and port 162 need to be opened for UDP traffic between the ILOMs and the Agent.

Installing Enterprise Manager Agent

Deploy the Enterprise Manager agent on `ODA_BASE` for Oracle Database Appliance Virtualized Platform deployment, and in Linux Hosts for Oracle Database Appliance Bare Metal deployment.

Note: Enterprise Manager target discovery supports the use of either management network hostname or client network hostname for the server nodes. When installing the Enterprise Manager agent on the server nodes, you should use the same hostname as used in Oracle Clusterware.

You can identify the hostname of the nodes in the cluster by running the `olsnodes` command on one of the server nodes. It is recommended that a fully qualified hostname, including the domain name, be used when specifying an Enterprise Manager agent hostname.

Notes:

- The Enterprise Manager agent must be deployed to all server nodes of the Oracle Database Appliance. The host target name of the server node must be the fully qualified host name, for example, `dbm1db01.mydomain.com`.
 - Non-fully qualified hostname (for example, `dbm1db01`) or IP address must **not** be used for the host target name of the server node.
 - The same version of the Enterprise Manager agent and the same version of the plug-ins should be deployed on all server nodes within the same Oracle Database Appliance.
-
-

See Also: *Oracle Enterprise Manager Cloud Control Basic Installation Guide* for information about installing management agents

Installing Enterprise Manager Agent Using the Push Method

To install Enterprise Manager Agent using the push method:

1. Add the Oracle Database Appliance server nodes as host targets to Oracle Enterprise Manager Cloud Control 12c. From the Enterprise Manager home page, click the **Setup** menu (upper right corner), **Add Target**, then **Add Targets Manually**.
2. On the *Add Host Targets: Host and Platform* screen, specify a session name. Then identify the fully qualified hostnames and select the platform.

Note: If the Agent software is not available for your platform, go to the Extensibility page and download it first.

3. Click **Next** to add the details for the host.
4. On the *Installation Details* screen, provide the following information:
 - Installation Base Directory
 - Instance Directory
 - Named Credential
 - For Port, leave this field blank. As part of the installation process, an available port will be selected automatically.

5. Click **Next** to review the details about the host.
6. Click **Deploy Agent** to start the agent deployment process.
7. As the deployment process continues, remote prerequisite checks are automatically checked. If there are no issues, you will be presented with an Agent Deployment Summary with an indication that the agent deployment has passed.

Important: If the `root.sh` was not executed during deployment, then make sure to execute it on all server nodes.

Installing Oracle Management Agent in Silent Mode Option

You can install Oracle Management Agent in silent mode as an alternative to installing it using the Add Host Target Wizard. Silent mode requires you to use a response file for providing the installation details and a deployment script for silently installing the Management Agent using the information supplied in the response file.

See the *Installing Oracle Management Agent in Silent Mode* chapter in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide* for more information:

http://docs.oracle.com/cd/E24628_01/install.121/e24089/install_agent_usng_rsp.htm#CEGGACJE

Deploying the Oracle Database Appliance Plug-in

Oracle Enterprise Manager Plug-in for Oracle Database Appliance is delivered as a plug-in archive file (*.opar) named 12.1.0.VERSION.0_oracle.dba.odba_2000_0.opar.

Assuming you have an existing Oracle Enterprise Manager installation that you plan to use, and you have installed Oracle Enterprise Manager Agent, you are ready to deploy the Oracle Database Appliance Plug-in as follows:

1. [Import the Oracle Database Appliance Plug-in Archive File Locally](#) (steps on page 2-6) or [Import the Oracle Database Appliance Plug-in Archive File Remotely](#) (steps on page 2-7)
2. [Deploy Oracle Database Appliance Plug-in on Enterprise Manager Cloud Control \(OMS Servers\)](#) (steps on page 2-7)
3. [Deploy Oracle Database Appliance Plug-in to the Management Agents on Both Oracle Database Appliance Server Nodes \(Hosts\)](#) (steps on page 2-8)

Import the Oracle Database Appliance Plug-in Archive File Locally

To import the Oracle Database Appliance plug-in archive file locally, follow these steps.

1. Copy the Oracle Database Appliance Plug-in OPAR file to the OMS host system.
2. Open a terminal (such as PuTTY) on the OMS host machine and connect as `oracle` user.
3. Copy the OPAR file to the host.
4. Log on to OMS using `emcli`.

```
$ /u01/OracleHomes/Middleware/oms/bin/emcli login -username=user_name  
-password=password
```

5. Import the OPAR file to OMS using emcli.

Importing ensures the content that you have created and packaged in the plug-in is available with Enterprise Manager Cloud Control.

```
$ /u01/OracleHomes/Middleware/oms/bin/emcli import_update -file=OPAR_FILE_
LOCATION -omslocal
```

For example,

```
/u01/OracleHomes/Middleware/oms/bin/emcli import_update
-file=/tmp/12.1.0.VERISON.0_oracle.dba.odba_2000_0.opar -omslocal
```

Note: Append the `-omslocal` flag because the plug-in archive is on the same system where you are running this command (copied in step 3 above). Specify the absolute path name that exists on the system.

Import the Oracle Database Appliance Plug-in Archive File Remotely

If you are running EMCLI on a different system than the system where you created the plug-in archive (*.opar file), then run the following command:

```
emcli import_update
-file="path to the .opar file"
-host="host name of plug-in host"
-credential_name="credential for plug-in host"
-credential_owner="credential owner on the plug-in host"
```

where:

-file is the absolute path to the *.opar file on the system where you created the archive.

-host is the host name for the host target where the file is available.

-credential_name is the name of the credentials on the remote system you are connecting to.

-credential_owner is the owner of the credentials on the host system you are connecting to.

For example:

```
emcli import_update
-file=/tmp/sample_plugin.opar
-host="host1.acme.com"
-credential_name="myOracleCred"
-credential_owner="myPassword"
```

Deploy Oracle Database Appliance Plug-in on Enterprise Manager Cloud Control (OMS Servers)

To deploy the Oracle Database Appliance plug-in do the following steps.

1. Open a web browser and log in to Enterprise Manager Cloud Control.
2. Open the **Setup** menu, and select **Extensibility** then **Plug-ins**.
3. Under **Engineered System** select **ORACLE DATABASE APPLIANCE**.
4. Click **Deploy on** and follow the instructions.

This step takes approximately 3 to 5 minutes, including stopping and restarting OMS. During the deployment use `/u01/OracleHomes/Middleware/oms/bin/emctl status oms -details` to check OMS status.

5. Wait until OMS is back up.

Deploy Oracle Database Appliance Plug-in to the Management Agents on Both Oracle Database Appliance Server Nodes (Hosts)

To deploy the Oracle Database Appliance plug-in to the management agents on both Oracle Database Appliance nodes, do the following steps.

1. Open a web browser and log in to Enterprise Manager Cloud Control.
2. Open the **Setup** menu and select **Extensibility** then **Plug-ins**.
3. Under **Engineered System** select **ORACLE DATABASE APPLIANCE**.
4. Click **Deploy on** and choose **Management Agents**.

This step takes approximately 2 minutes depending on how many agents are deployed at the same time. This step does not restart OMS. Wait until the deployment process is finished.

Oracle Database Appliance Discovery

This chapter provides instructions for discovery of the Oracle Database Appliance through Enterprise Manager Cloud Control 12c.

The following sections describe how to discover the Oracle Database Appliance and other supported targets:

- [Oracle Database Appliance Discovery Requirements](#)
- [Oracle Database Appliance Discovery Process](#)
- [Discover the Virtual Platform](#)
- [Discover Grid Infrastructure and Oracle RAC](#)
- [Removing an Oracle Database Appliance Target](#)

See Also: *Oracle Enterprise Manager Cloud Control Administrator's Guide* for more information about discovering and promoting targets

Oracle Database Appliance Discovery Requirements

Before you begin the discovery process, verify the following items to ensure a smooth discovery.

- Install agents on Oracle Database Appliance.
 - On bare metal deployments, the agent must be deployed on each node.
 - On virtualized platform deployments, the agent must be deployed on each node in ODA_BASE.
- Deploy Oracle Database Appliance Plug-in on the agents.
- If you are using the virtualized platform, the Oracle Virtualized Infrastructure Plug-In can be deployed to monitor running virtual machines and view the Hypervisor statistics.
- The host names of the server nodes in each individual Oracle Database Appliance should have a unique name within the enterprise.

See Also: *Oracle Enterprise Manager Cloud Administration Guide* for more information about monitoring the hypervisor and dom0

Oracle Database Appliance Discovery Process

To discover an Oracle Database Appliance target, follow these steps:

1. From the Enterprise Manager home page, select the **Setup** menu (upper right corner), **Add Target**, and then **Add Targets Manually**.
2. Select the **Add Targets Using Guided Process** option. From the Target Types drop-down, select **Oracle Database Appliance**. Click **Add Using Guided Process**. Enterprise Manager displays the Oracle Database Appliance Discovery page.
3. Click **Discover Now**.
4. On the Agent URL page, enter the following information and click Next:
 - Agent URL: Click the Browse icon to open a list of Oracle Database Appliance agents to choose from. Select one and click Select.
 - Credential: Select New and configure the root credential for Oracle Database Appliance Discovery. Check the Save As box to give this credential a name for future use.

The Discovered Targets page opens and shows detail about the system

5. On the Discovered Targets page, you can optionally edit the fields, then click **Next**.
6. On the Credentials page, use the credentials you configured or used in Step 4. Uncheck the **Same as the first one** checkbox if the password is different on each node, then click Next.
7. Optionally, on the Tag Cloud page, you can select existing tags or create new ones to associate with the discovered system. You can also configure tags in the Oracle Database Appliance home page.

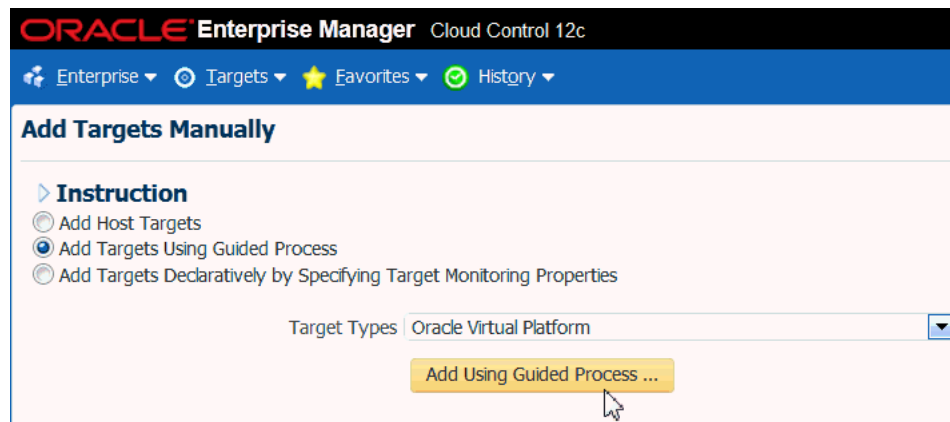
The Add Tag button is located at the bottom of the page under the list of available tags. See "[Creating an Oracle Database Appliance Group](#)" on page 5-5 for instructions about creating tags.

8. On the Review page, verify each section is correct. Click Back to return to previous pages.
9. If the information on the Review page is correct, click **Submit**.
10. On the Target Creation Summary page, click **OK**.

Discover the Virtual Platform

If you have deployed the Oracle Database Appliance Virtualized Platform, follow these steps to discover the Hypervision and Virtual Servers.

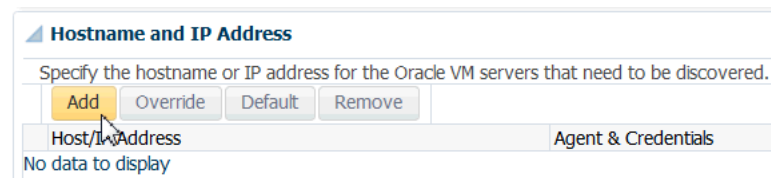
1. In the Enterprise Manager **Setup** menu, select **Add Target**, then **Add Targets Manually**.
2. In the Add Targets Manually page, select **Add Targets Using Guided Process** and choose the **Oracle Virtual Platform** target type.



3. Click **Add Using Guided Process**.
4. On the Discover Oracle Virtual Platforms page, next to the **Monitoring Agent** field, click the search icon (magnifying glass).
5. In the **Search and Select: Agent Targets** dialog, the agent that is deployed in the ODA_BASE domain on Node 0, and click **Select**.

The failover monitoring agent can be chosen as the Node 1 ODA_BASE agent.

6. Enter the host credentials of the DOM0 of the Oracle Database Appliance server, then click the **Add** button in the Hostname and IP Address section of the page as shown below.



7. Enter the Dom0 node names in the Discover Virtual Servers dialog, and click Add.
8. Click **Submit** in the upper right corner of the page.

Discover Oracle Virtual Platforms

Submit Cancel

Register Oracle Virtual Platforms with Enterprise Manager. Target credentials and/or monitoring agent can be specified for each target. If set, these override the defaults for that target.

Default Monitoring Agent and Credentials

Specify the default Monitoring Agent and Credentials for the Oracle Virtual Platforms to be discovered

* Monitoring Agent

Fallover Monitoring Agent

Privileged User Yes No

Credential type

Credential Properties

* Username

* Password

Run Privilege

Hostname and IP Address

Specify the hostname or IP address for the Oracle VM servers that need to be discovered.

Host/IP Address	Agent & Credentials	Monitoring Agent	Username
oda1.acme.com	Default		
oda2.acme.com	Default		

Global Target Properties (Optional)

Once the job completes, it may take a few minutes for the targets to be visible under the Oracle Database Appliance target.

See Also: *Oracle Enterprise Manager Cloud Administration Guide* for more information about the Oracle Virtual Infrastructure plug-in

Discover Grid Infrastructure and Oracle RAC

The following sections provide instructions for discovering Grid Infrastructure and Oracle Real Application Clusters targets:

- [Discover Grid Infrastructure \(Cluster\) Targets](#)
- [Discover Oracle Real Application Clusters Targets](#)

See Also: *Oracle Enterprise Manager Cloud Control Administrator's Guide* for more information about discovering and promoting targets

Discover Grid Infrastructure (Cluster) Targets

To discover the Grid Infrastructure targets:

1. From the Setup menu, select **Add Target**, then **Add Targets Manually**.
2. In the Add Targets Manually page, select **Add Targets Using Guided Process** and **Target Type as Oracle Cluster and High Availability Service**.
3. Click **Add Using Guided Process** and follow the instructions in the wizard.
4. On the Add Cluster Target: Specify Host page, select the first database node and click **Discover Target**.
5. The cluster home details are displayed. Ensure that all database nodes are shown in Cluster Host and High Availability Services Targets section.
6. Click **Save**.

See Also: *Oracle Enterprise Manager Cloud Control Administrator's Guide* for more information about discovering database targets

Discover Oracle Real Application Clusters Targets

To discover Oracle RAC targets:

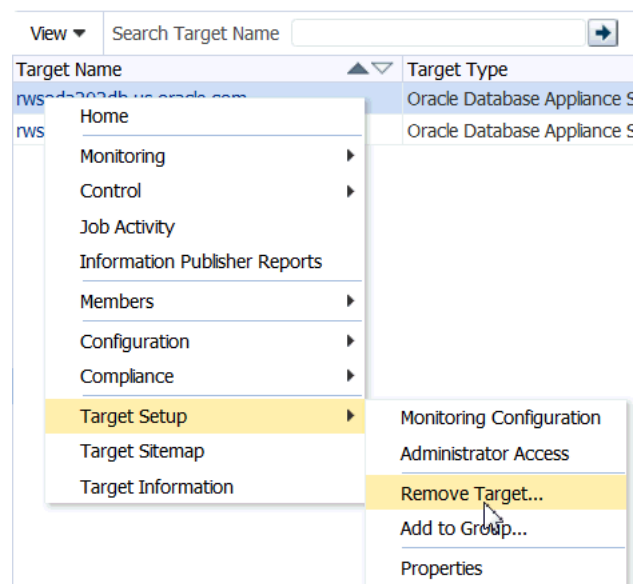
1. From the Setup menu, select **Add Targets**, then **Add Targets Manually**.
2. In the Add Targets Manually page, select **Add Targets Using Guided Process** and **Target Type as Oracle Database, Listener and Automatic Storage Management**.
3. Click **Add Using Guided Process** and follow the instructions in the wizard.
4. In the wizard pages, configure Cluster Databases (dbsnmp password required) and Cluster ASM (asmsnmp password required).

See Also: *Oracle Enterprise Manager Cloud Control Administrator's Guide* for more information about discovering and promoting targets

Removing an Oracle Database Appliance Target

If you need to remove an Oracle Database Appliance target, you can perform this task within Enterprise Manager Cloud Control 12c:

1. Open the Enterprise Manager **Target** menu, and select **All Targets**.
2. In the All Targets page, in the navigation tree, find and expand the **Engineered Systems** category.
3. Select **Oracle Database Appliance System**.
4. Right click the target name to open a context menu.



5. Select **Target Setup**, then **Remove Target**.
6. A warning page will display to confirm the target deletion. Click **Yes** to continue.

Post-Discovery Configuration

Once Oracle Enterprise Manager Plug-in for Oracle Database Appliance has been deployed and Oracle Database Appliance targets are discovered, you can start monitoring and managing the Oracle Database Appliance system targets. Optionally, you can setup notifications for alerts and incidents and create blackout periods for the duration of system maintenance activities.

- [Modifying Metrics Thresholds](#)
- [Configuring Notifications](#)
- [Creating Blackouts](#)

Modifying Metrics Thresholds

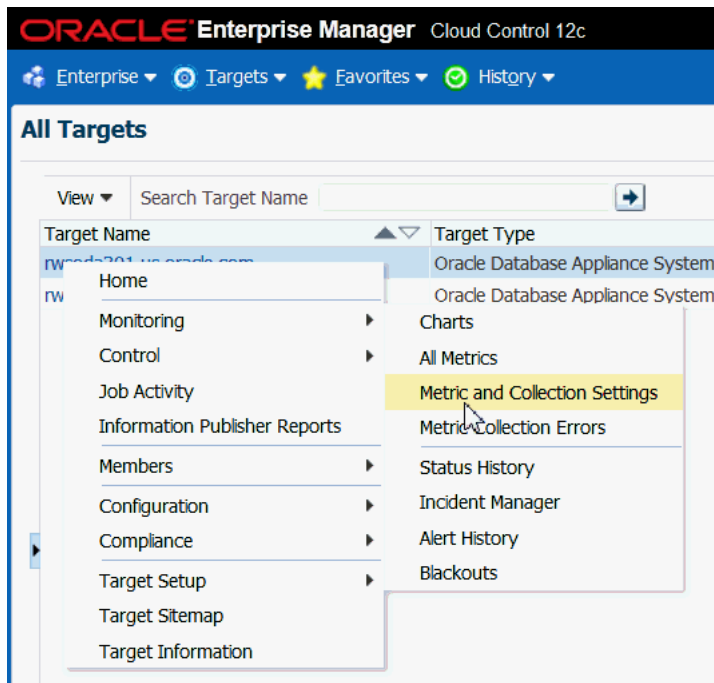
You can modify the default thresholds for different metrics for an Oracle Database Appliance system based on your requirements to meet SLAs. You can also create a set of standard threshold values that you apply across multiple Oracle Database Appliance systems. Further, you may have different threshold limits for different types of systems such as production, test, development, and so forth.

Table 4–1 Default Thresholds for Hosts

Metric	Warning Threshold	Critical Threshold
Disk Device Busy (%)	80	95
Filesystem Space Available (%)	20	5
CPU Utilization (%)	80	95
Memory Utilization (%)	80	95
Swap Utilization (%)	80	95

You can view and modify the thresholds by selecting **Monitoring** and **Metric and Collection Settings** from the drop down menu for Oracle Database Appliance host as shown in [Figure 4–1](#).

Figure 4–1 Viewing and Modifying Metrics and Collection Settings

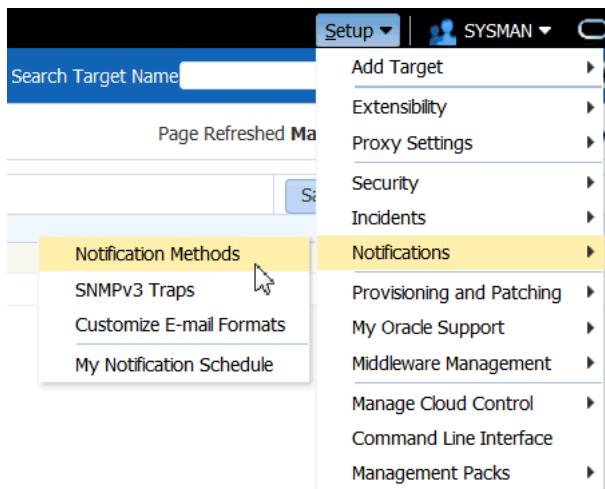


Configuring Notifications

Just as with other targets, you can setup to receive email notifications from Oracle Enterprise Manager Cloud Control when incidents occur on Oracle Database Appliance. For example, you can configure notification to be sent to an Administrator’s email when certain events or incidents occur on Oracle Database Appliance hosts.

You can setup notification by going to the Enterprise Manager **Setup** menu and selecting **Notifications** and **Notification Methods** as shown in [Figure 4-2](#).

Figure 4–2 Setting Up Notification Methods



Notification Methods allow you to globally define different mechanisms for sending notifications. These include email, SNMP traps, PL/SQL procedures and running

custom scripts. Once defined, Notification Methods are used by Incident Rules to send notifications to administrators for events, incidents, or problems.

See Also: *Oracle Enterprise Manager Cloud Control Administrator's Guide 12c* for more information about setting up notifications.

Creating Blackouts

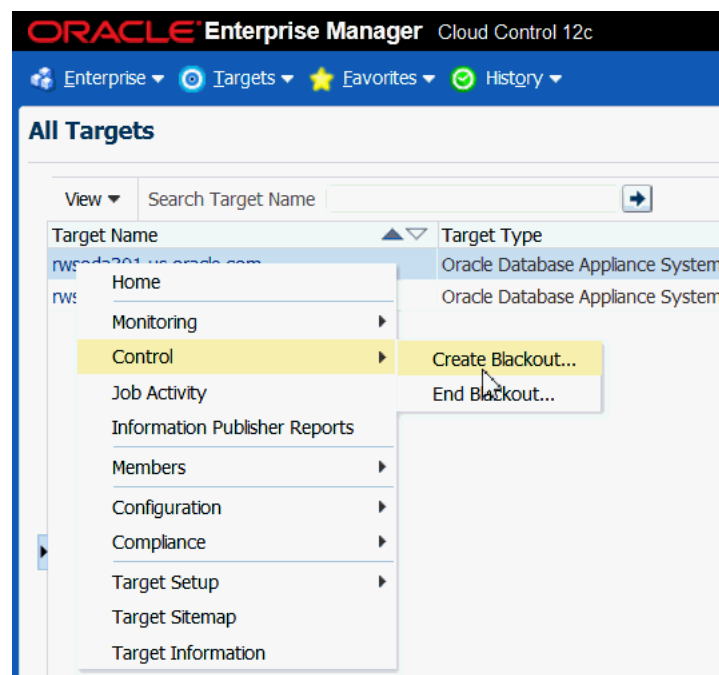
Blackouts are a means to suspend monitoring on one or a group of targets in order to perform maintenance operations. For example, during an Oracle Database Appliance patching event, you might decide to set up a blackout for the target Oracle Database Appliance system to suspend monitoring and notifications. You can also create a blackout at fine-grained level, such as at a database level, when only one of the several databases running on Oracle Database Appliance might be down for maintenance.

Note: To blackout a target, you must have Blackout Target privileges on the target.

You can create blackouts for an Oracle Database Appliance system by selecting the Oracle Database Appliance system and clicking on Oracle Database Appliance System drop down menu as shown in [Figure 4-3](#). Click on **Control** and then select **Create Blackout**. The Create Blackout page appears.

Note: When an Oracle Database Appliance target is in Blackout state, all of its members and host targets go to Blackout state.

Figure 4-3 *Creating a Blackout for Oracle Database Appliance*



To create a blackout for multiple Oracle Database Appliance systems, from the Enterprise menu select **Monitoring** and then select **Blackouts**.

See Also: *Oracle Enterprise Manager Cloud Control Administrator's Guide 12c* for more information about Blackouts

Monitoring Oracle Database Appliance

Oracle Enterprise Manager Database Appliance management simplifies monitoring by integrating all hardware and software components into one entity. You can view all critical issues in the system, monitor performance, and drill down to individual targets from the Oracle Database Appliance home page.

- [Monitoring All Oracle Database Appliance Targets](#)
- [Monitoring Groups of Oracle Database Appliance Targets](#)
- [Monitoring Individual Oracle Database Appliance Targets](#)
- [Viewing Oracle Database Appliance Topology](#)

Monitoring All Oracle Database Appliance Targets

By default, when you open the Oracle Database Appliance home page, you will see data aggregated from all of the Oracle Database Appliance systems that are managed by Oracle Enterprise Manager.

To display data for all systems:

1. From the **Targets** menu, select **Oracle Database Appliance**.

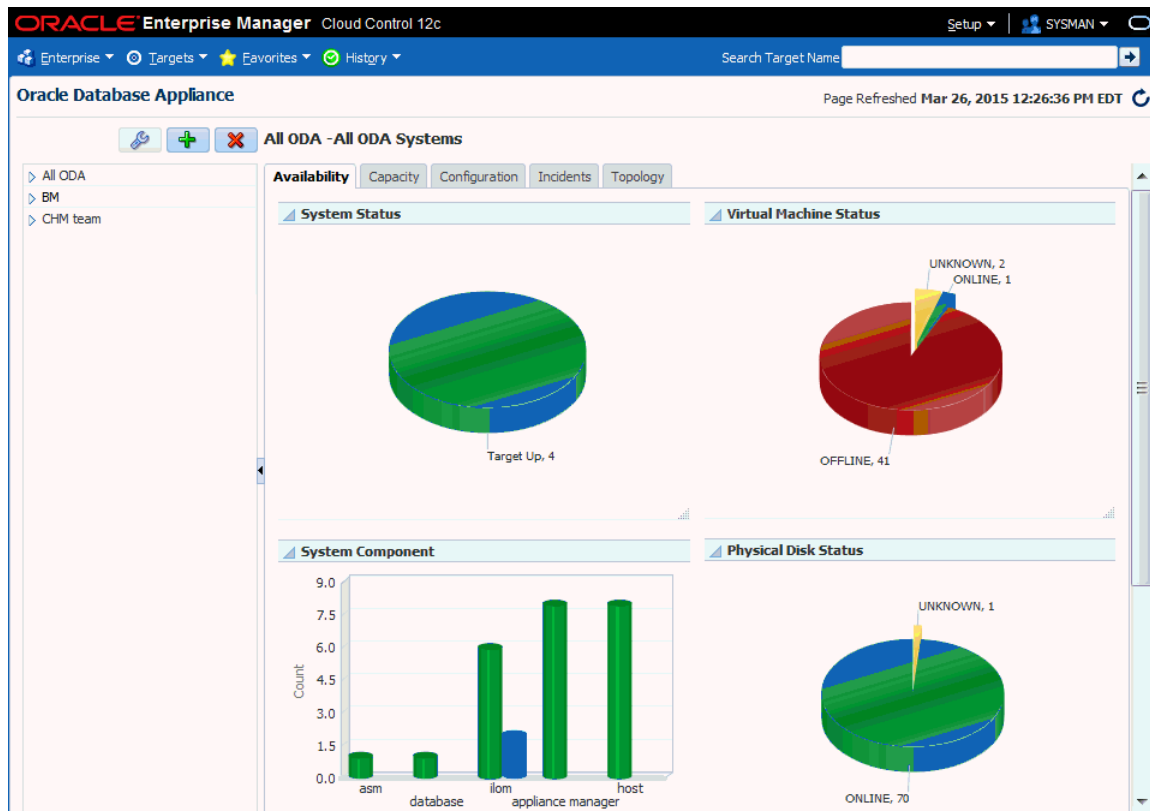
Enterprise Manager displays the Oracle Database Appliances page showing all the available targets.

2. Use the tabs in the Oracle Database Appliance home page to monitor the aggregated topology.

Available Data for All (or Groups of) Oracle Database Appliance Targets

Whether you are monitoring all or a subset (group) of the Oracle Database Appliance systems in the topology, the data are organized and grouped in tabs on the Oracle Database Appliance home page, as show in [Figure 5-1](#).

Figure 5–1 Oracle Database Appliance Home Page



Oracle Database Appliance Availability Tab

The Availability tab contains several charts displaying the states of the Oracle Database Appliances.

System Status

The System Status pie chart indicates whether the Oracle Database Appliance systems in the selected group are currently online or offline.

You can click on the sections of the pie chart to view detailed information about the system availability represented by the chart. The details are displayed in the table at the bottom of the page.

Virtual Machine Status

The Virtual Machine Status chart displays the status (online, offline, or missing) of all of the virtual machines in the selected group. If Oracle Database Appliance is not deployed with the Virtualized Platform, this chart is not displayed.

You can click on the elements in the chart to view detailed status information about the virtual machine components. The details are displayed in the table at the bottom of the page.

System Component

The System Component graph displays the status (online, offline, or missing) of components such as Appliance Manager, Oracle ASM, Oracle Database, hosts, and ILOMs for the selected group.

You can click on the bars in the chart to view detailed information about the components represented by the bar. The details are displayed in the table at the bottom of the page.

Physical Disk Status

The Physical Disk Status chart displays the status of all of the disks in the selected group.

You can click on the sections of the pie chart to view detailed information about the physical disk availability represented by the chart. The details are displayed in the table at the bottom of the page.

Availability Table

The table at the bottom of the page changes based on elements you click on in the other sections of the page

To display the system status of each system in the group, click the pie chart in the System Status section. The table lists all Oracle Database Appliance systems in the selected group, along with their statuses. Each Oracle Database Appliance system name is a URL link, which, if clicked, opens the Oracle Database Appliance system home page of the selected system.

The Oracle Database Appliance system home page contains detailed information for one Oracle Database Appliance system. See "[Monitoring Individual Oracle Database Appliance Targets](#)" on page 5-9 for more information.

Oracle Database Appliance Capacity Tab

The Capacity tab displays the space, memory, and CPU capacities that are utilized by the managed Oracle Database Appliance systems.

Local Filesystem Space Utilization

Each Oracle Database Appliance server node contains 600GB local storage. The local file system space utilization chart displays the mount points and their space utilization. Place your mouse over the bar to display the mount point details. Clicking on a bar in the chart lists all systems in that utilization range in the table at the bottom of the Capacity tab.

CPU Load

Systems are grouped in ranges of percentage of CPU utilization. Clicking on a bar in the chart lists all systems in that CPU load range in the table at the bottom of the Capacity tab.

Memory Utilization

The Memory Utilization chart displays the memory utilization across the Oracle Database Appliances in the group. The bars represent the percentage of memory utilization. Place your mouse over the bar to display the total number of nodes in this utilization range. Clicking on a bar in the chart lists all systems in that utilization range in the table at the bottom of the Capacity tab.

Shared Filesystem Space Utilization

Oracle Database Appliance uses ACFS file systems to store database and non-database files, guestVM templates, and virtual disk. The chart displays the shared file space utilization groupings, and the number of mount points that fall into this utilization grouping. Place your mouse over the bar to display the utilization group and number

of mount points. Clicking on a bar in the chart lists all systems in that utilization range in the table at the bottom of the Capacity tab.

Disk Group Space Utilization

Disk groups (such as RECO, REDO, DATA, and FLASH) are grouped in ranges of percentage of space utilization. Clicking on a bar in the chart lists all systems in that utilization range in the table at the bottom of the Capacity tab.

Oracle Database Appliance Configuration Tab

The Configuration tab displays the hardware and software configurations on the managed Oracle Database Appliance systems.

Configured Cores

The pie chart displays a segment representing the number of systems with a similar number of cores configured. Clicking a segment causes the table at the bottom of the tab to display the names of each system with that number of configured cores.

Hardware Type

The pie chart displays a segment representing the number of systems with a similar hardware platform (such as X5-2, X4-2, X3-2, and V1). Clicking a segment causes the table at the bottom of the tab to display the names of the systems with that hardware platform.

Configuration Type

The pie chart displays a segment representing the number of systems with a similar configuration type (such as VM-ODA_BASE). Clicking a segment causes the table at the bottom of the tab to display the names of the systems with that configuration type.

Version

The pie chart displays a segment representing the number of systems with the same software version (such as 12.1.2.2.0). Clicking a segment causes the table at the bottom of the tab to display the names of the systems with that software version.

Capacity Table

The table at the bottom of the page changes based on elements you select in the other sections of the page.

Oracle Database Appliance Incidents Tab

The Incidents tab displays all incidents related to all or a subset (group) of the Oracle Database Appliance systems managed by Oracle Enterprise Manager. The Summary links are clickable, opening a page with details about the selected incident.

You can adjust the columns and order of the table using the options in the View menu.

You can filter the incidents by category using the Category drop-down list.

Oracle Database Appliance Topology Tab

Use the Topology tab of the Oracle Database Appliance home page to view the topology of all systems or a group of systems. See "[Viewing Oracle Database Appliance Topology](#)" on page 5-12 for more information.

Monitoring Groups of Oracle Database Appliance Targets

Oracle Database Appliance systems are grouped using *tags*. When you monitor groups of targets, the Oracle Database Appliance home page only displays an aggregate of the data available for the group of targets defined by the tag. Oracle Database Appliance targets can belong to more than one group.

To monitor a group of Oracle Database Appliance systems, click on its tag in the tree on the left side of the page.

[figure of display showing data for a group]

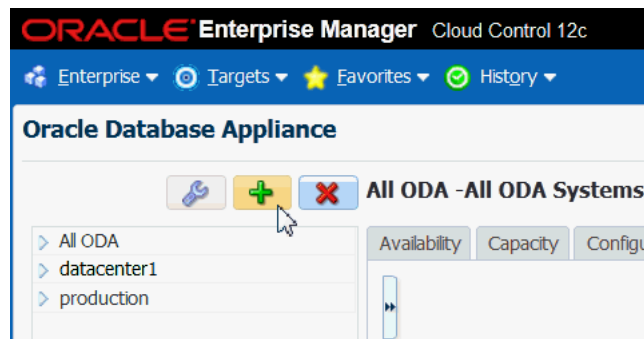
Creating an Oracle Database Appliance Group

To create a group of Oracle Database Appliance targets, you create a tag, and then add targets to the tag.

1. From the **Targets** menu, select **Oracle Database Appliance**.

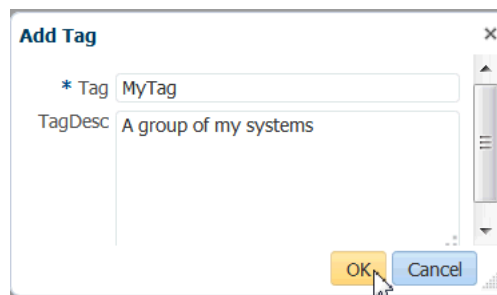
Enterprise Manager displays the Oracle Database Appliances page showing all the available system groups in the navigation tree.

2. Click the green plus sign icon (Add Tag) above the navigation tree as shown here.

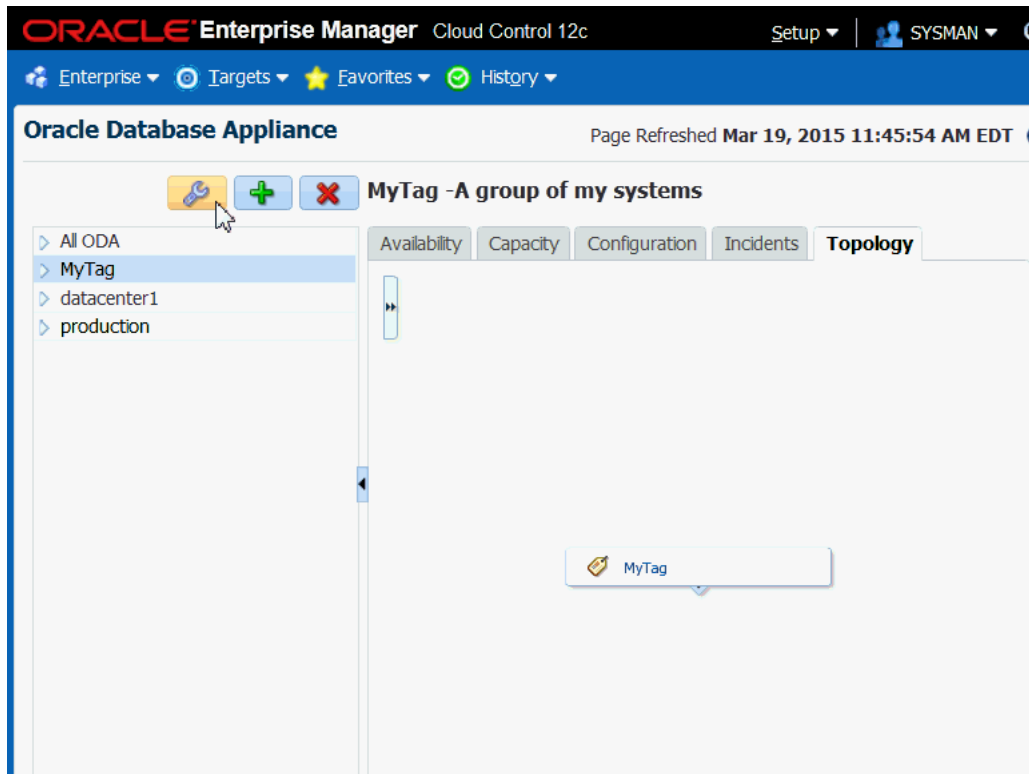


Clicking the icon opens the Add Tag dialog.

3. Enter a display name for the tag, enter an optional description, and click OK.



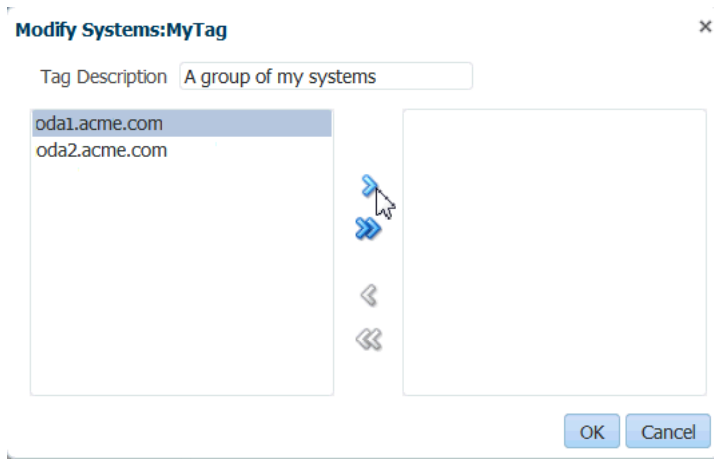
4. Select the tag in the navigation tree, and click the wrench icon (Modify Systems).



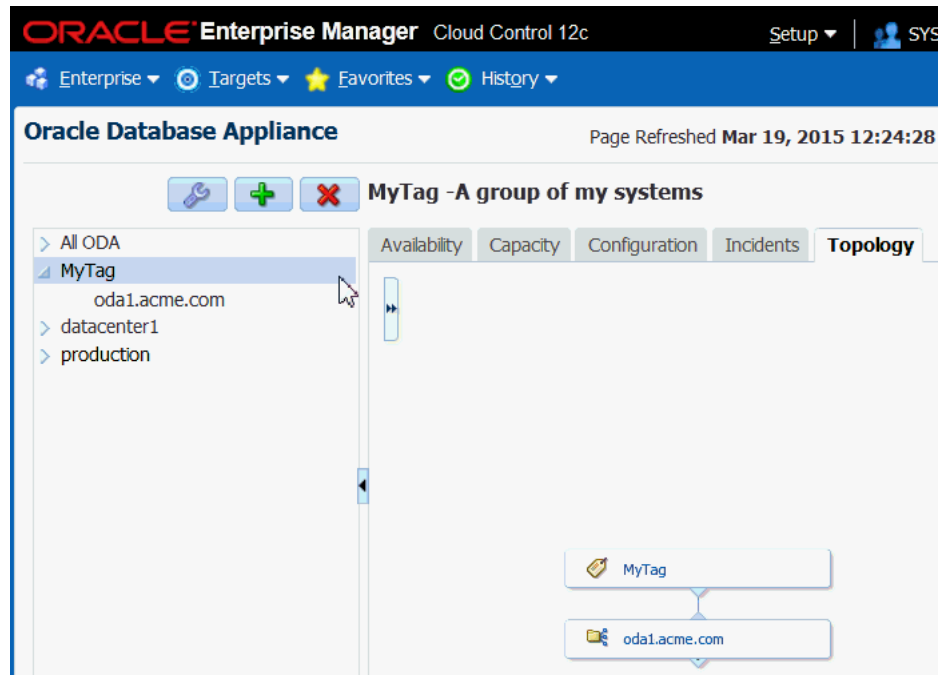
Note that when you select the tag in the navigation tree, the topology tab shows a representation of MyTag, the tag created for this example, but there are no systems branched from it.

The Modify Systems dialog opens.

5. Select systems to add to the group by moving them from the left column to the right column in the Modify Systems dialog, then click OK.



If you expand the tag in the navigation tree the selected systems appear beneath it and you can refresh the topology diagram to show the added system.



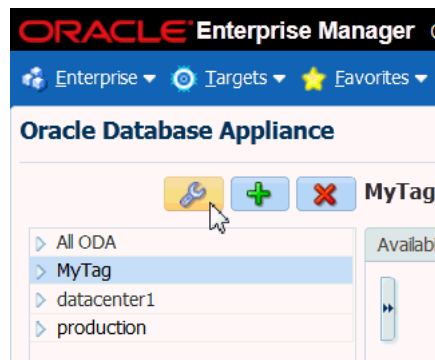
Modifying an Oracle Database Appliance Group

You can add or remove targets from a group at any time.

1. From the **Targets** menu, select **Oracle Database Appliance**.

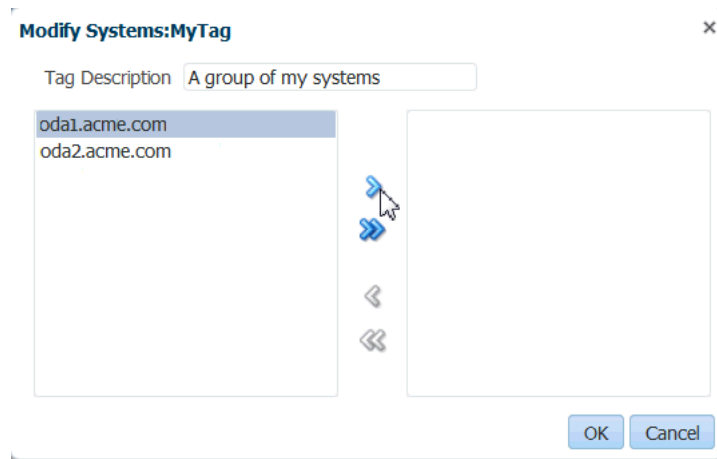
Enterprise Manager displays the Oracle Database Appliances home page showing all of the available system groups in the navigation tree.

2. Select the tag in the navigation tree, and click the wrench icon (Modify Systems).



The Modify Systems dialog opens.

3. Select systems to add or remove from the group by moving them to the left or to the right in the Modify Systems dialog, then click OK.



Deleting an Oracle Database Appliance Group

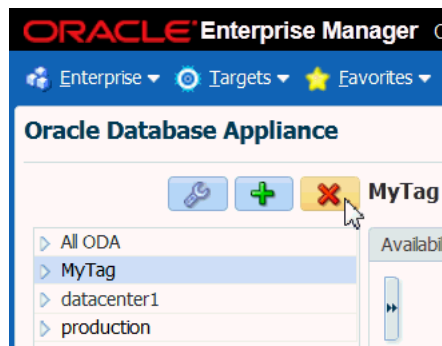
You can delete a group of targets by removing the tag.

1. From the **Targets** menu, select **Oracle Database Appliance**.

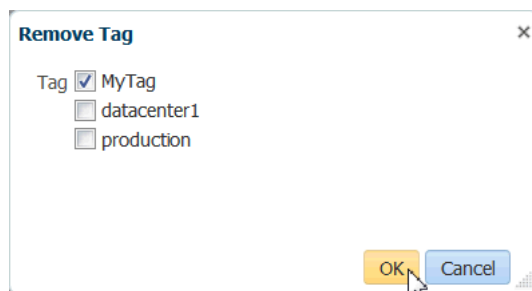
Enterprise Manager displays the Oracle Database Appliances page showing all the available system groups in the navigation tree.

2. Select the group you want to delete, then click the red X icon (Remove Tag) above the navigation tree.

The **All ODA** tag cannot be deleted because it is the default tag for all of the discovered Oracle Database Appliances.



3. In the Remove Tag dialog, select the checkbox next to the group you want to delete and click OK.



Removing the tag from the navigation tree does not remove any Oracle Database Appliance targets from Enterprise Manager. For information about removing a

target see ["Removing an Oracle Database Appliance Target"](#) on page 3-5.

Monitoring Individual Oracle Database Appliance Targets

URL links are used to display the names of the Oracle Database Appliance systems, and clicking a link opens the page for monitoring that individual system.

1. From the **Targets** menu, select **Oracle Database Appliance**.

Enterprise Manager displays the Oracle Database Appliances page showing all the available targets.

2. Select All ODA in the navigation tree on the left side of the page.

The systems are listed under the expanded All ODA group.

3. Select the link corresponding to the system you want to monitor.

The target page opens as shown here.

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The main content area displays the monitoring page for an Oracle Database Appliance System named 'oda1.acme.com'. The page is divided into several sections:

- Target Navigation:** A tree view on the left shows the hierarchy: Oracle Database Appliance System > Appliance Manager > ASM > Host > Hypervisor > ILOM > Oracle Database > Virtual Server.
- General:** The main section shows the system's availability, configuration, hardware, and system status. The availability is shown as a green bar with an upward arrow. The configuration section shows the platform as VM-ODA_BASE, hardware as X5-2, and version as 12.1.1.2.2.0. The hardware section shows a table of oak names and power supply status.
- Availability:** A green bar with an upward arrow indicates the system's availability.
- Configuration:** Shows Platform: VM-ODA_BASE, Hardware: X5-2, and Version: 12.1.1.2.2.0. Tags include Test BM, production, and datacsr.
- Hardware:** A table showing Oak Name and Power Supply status. The table has 3 rows, with the first two rows showing 'oda1n1_oak...' and 'oda1n2_oak...' with green checkmarks.
- System Status:** A section showing the system's status, including a CPU usage graph and a rack view of the hardware.

Available Data for an Individual Oracle Database Appliance Target

You can monitor all components of the Oracle Database Appliance. Oracle Database Appliance monitors all subcomponent targets, whether hardware or software. This includes the hosts, databases, virtualization, ASM, and more.

On the left hand side of the individual Oracle Database Appliance, you can navigate to the specific component details which includes Appliance Manager, ASM, Host, Hypervisor, ILOM, Oracle Databases, and the virtualization components.

Oracle Database Appliance System General Tab

The General tab has several sections.

Availability

The Availability section lists the name, type, status, and availability for the last 24 hours of all of the components in the Oracle Database Appliance. The links in the Name column redirects the page to the home page of the component selected.

Configuration

The Configuration section displays the platform, hardware type, software version, and tags configured for the Oracle Database Appliance.

Each tag is clickable, once clicked will redirect the page to the Oracle Database Appliance home page displaying the data pertinent to the group of systems configured with the selected tag.

CPU

The CPU chart shows the CPU utilization percentage of hosts for the last 24 hours.

Hardware

The Hardware table shows the status of power supply, enclosure, cooling, and memory of each oak target. Statuses include online, offline, pending, and unknown.

You can move your mouse to the status icon to see a popup of the detailed status for each category. The Oak Name links redirect the page to the OakHome page.

System Status

The System Status is an illustration of the back panel of the Oracle Database Appliance. A green light indicates that a node is online; a red light means either the system is offline or the status is unknown. You can hover your mouse over each of the disks to see a popup displaying the status for each disk.

Memory

The Memory chart shows the memory utilization percentage of hosts for the last 24 hours.

Incidents

The Incidents table lists the incidents for the selected Oracle Database Appliance. The Summary links are clickable, opening a page with details about the selected incident.

You can adjust the columns and order of the table using the options in the View menu.

You can filter the incidents by category using the Category drop-down list.

Oracle Database Appliance Target Virtual Machine Tab

The Virtual Machine tab lists information in the following six categories: Virtual Machine, Repository, Network, Vdisk, VM Template, and CPU Pool. This tab only appears in Oracle Database Appliance targets configured with Virtualized Platform environments and not in Oracle Database Appliance targets configured with Bare Metal environments.

The Virtual Machine tab has several groupings of sections. Use the list of links on the left side of the Virtual Machine tab to view each section.

Virtual Machine

When the Virtual Machine category is selected, the tab displays a summary, a list of virtual machines, and further details about virtual machine metrics.

The Virtual Machine list shows summary information for all the virtual machines created by users in the Oracle Database Appliance, including virtual machine name, memory, CPU, repository, node number, and state. You can select a virtual machine name and the detailed information is shown in the Details section to the right.

Repository

When Repository is selected, the tab displays a summary, a list of repositories, and further details about repository metrics.

The Repository list shows summary information for all of the repositories created by users in the Oracle Database Appliance, including repository name, free space, node number, and state. You can expand the repository name using the grey arrow to display the node number and state. You can select a repository name and the detailed information is shown in the Details section to the right.

Network

When Network is selected, the tab displays a list of VLANs and related summary information, including name, interface, node number, and ID.

You can select a VLAN name to display the list of virtual machines attached to the VLAN in the Details section to the right.

Vdisk

When Vdisk is selected, the tab displays summary information about vdisks created by users, including the repository, name, size, and type. You can select a vdisk name to display detailed information in the Details section to the right.

VM Template

When VM Template is selected, the tab displays summary information for all the virtual machine templates created by users in the Oracle Database Appliance, including template name, memory, CPU, and repository. You can select a template name to display detailed information in the Details section to the right.

CPU Pool

When CPU Pool is selected, the tab displays all of the CPU pools for node 1 and node 2 in the Oracle Database Appliance. You can click a pool name to display details about the Node1 and Node2 CPUs in the Details section to the right.

Oracle Database Appliance Target Storage Tab

The Storage tab displays all of the physical disk and ASM disk information. On the left, the pie charts and lists show the number of disks and their statuses. You can select a disk name to display detailed information for an individual disk in the Details section to the right.

Oracle Database Appliance Target Version Tab

The Version tab displays a list of the component versions on the Oracle Database Appliance target.

Oracle Database Appliance Target Topology Tab

The Topology tab displays the topology of the individual target. The individual targets define one physical Oracle Database Appliance that consists of several components including hosts, databases, virtual machines, etc.

See Also: [Viewing Oracle Database Appliance Topology](#)

Viewing Oracle Database Appliance Topology

The Oracle Database Appliance plug-in provides a Topology Viewer that allows you to view the relationships between the components within the Oracle Database Appliance. You can zoom, pan, see selection details and summary information, and evaluate aggregate components. Unique icons are used for each object type, and standardized visual indicators are used across all applications.

Select the Topology tab of the Oracle Database Appliance home page or system page to view the topology of the system by group or individual target. Groups are a collection of Oracle Database Appliance systems. The individual targets define one physical Oracle Database Appliance that consists of several components including hosts, databases, virtual machines, and more.

To view the topology of an existing Oracle Database Appliance target:

1. From the **Targets** menu, select **Oracle Database Appliance**.

Enterprise Manager displays the Oracle Database Appliances page showing all the available targets.

2. From the Oracle Database Appliance page, select the Oracle Database Appliance target (group or individual system) whose topology you want to view.
3. Select the **Topology** tab.

You can click an element in the Topology and view data associated with the element.

Each Oracle Database Appliance system tree node has three children: Hosts, Databases, and Virtualization. You can click the system tree node to open a popup which contains information about the system, including system name, availability, and a list of components and their statuses.

Troubleshooting Oracle Database Appliance Plug-in

Troubleshooting tips and techniques for the Oracle Database Appliance plug-in include the following items.

- [Host Discovery Troubleshooting](#)
- [Oracle Database Appliance Discovery Troubleshooting](#)
- [Metric Collection Error After Discovery](#)
- [Oracle Database Appliance ECM Configuration Data Troubleshooting](#)
- [OAK-Based Metric Collection Troubleshooting](#)

Host Discovery Troubleshooting

For problems with host discovery check the following solutions:

- [Prerequisite Check Failure](#)
- [Host Discovery is Done Without Enabling the Root Privileges](#)

Prerequisite Check Failure

Possible causes for the prerequisite check failure are displayed in the Agent Deployment Details page as shown in the following figure. Recommended solutions are given in the page.

Figure 6–1 Agent Deployment Errors and Solutions

Agent Deployment Details: rwsoda301c1n1.us.oracle.com

Initialization Details

Remote Prerequisite Check Details

OMS Log Location: rcebox2.us.oracle.com:/u01/app/oc_inst/jem/EMGC_OMS1/sysman/agentpush/2015-03-19_16-17-23-PM/logs/rwsoda301c1n1.us.oracle.com/remote_prereq.log
 Show only warnings and failures

Prerequisite Check Name	Status	Error	Cause	Recommendation
Is the software certified on the current operating system?	✓			
Are the required packages installed on the current operating system?	✓			
Is the software compatible with the current operating system?	✓			
Checking for sufficient disk space in the Inventory Location	✓			
Checking for write permissions on the inventory.	✓			
Checking TimeZone settings...	✓			
Checking Agent Base Directory Ownership...	✓			
Checking for port availability and hostname validity...	✓			
Checking old Oracle Home existence in the inventory...	✓			
Is the host name valid?	✓			
Is the installation base directory or the agent home already registered with the inventory?	✗	The Agent Oracle Home or Install Base Directory, is already registered with the inventory.	Expected result: New Agent Oracle Home should not be registered with inventory Actual Result: Agent Oracle Home with same value /u01/app/agent_rac05box2_7801/core/12.1.0.4.0 exists Check complete. The overall result of this check is: Failed	Either change the Install Base Directory or Uninstall the Agent Oracle Home that registered with inventory
Can the host communicate with the OMS using HTTP(S)?	✓			
Does the Privilege Delegation tool exist on the remote host?	✓			

Figure 6–2 Agent Deployment Errors and Solutions

Agent Deployment Details: rwsoda301c1n1.us.oracle.com

Initialization Details

Remote Prerequisite Check Details

Agent Deployment Details

OMS Log Location: rcebox2.us.oracle.com:/u01/app/oc_inst/em/EMGC_OMS1/sysman/agentpush/2015-03-19_16-17-23-PM/applogs/rwsoda301c1n1.us.oracle.com_deploy.log
 Show only warnings and failures

Deployment Phase Name	Status	Error	Cause	Recommendation
Installation and Configuration	✗	Execution of command /u01/app/agent_rac05box2_7801_x3/AD_ATMP_2015-03-19_16-17-23-PM/agentDeploy.sh -ignorePrereqs ORACLE_HOSTNAME=rwsoda301c1n1.us.oracle.com AGENT_BASE_DIR=/u01/app/agent_rac05box2_7801_x3 OMS_HOST=rcebox2.us.oracle.com EM_UPLOAD_PORT=4901 AGENT_INSTANCE_HOME=/u01/app/agent_rac05box2_7801_x3/agent_inst b_doDiscovery=false b_startAgent=false b_forceInstCheck=true AGENT_PORT=4901 on host rwsoda301c1n1.us.oracle.com Failed	Error Message: /u01/app/agent_rac05box2_7801_x3 Directory has space less than 1 GB. Make sure that the agent base directory has space more than 1 GB. Exit Code :1	Fix the cause of the error and retry the operation
Secure Agent	○			
Root.sh	○			
Collect Log	✓			
Clean up	○			

Host Discovery is Done Without Enabling the Root Privileges

Failure to run root.sh manually results in metric collection failure. The Agent Deployment Details page displays the following:

Figure 6–3 Agent Deployment Errors and Solutions

Agent Deployment Details: rwsoda301c1n1.us.oracle.com

Remote Prerequisite Check Details
 OMS Log Location: rcebox2.us.oracle.com:/u01/app/oc_inst/em/EMGC_OMS1/sysman/agentpush/2015-03-19_16-17-23-PM/logs/rwsoda301c1n1.us.oracle.com/remete_prereq.log
 Show only warnings and failures

Prerequisite Check Name	Status	Error	Cause	Recommendation
Is the software certified on the current operating system?	✓			
Are the required packages installed on the current operating system?	✓			
Is the software compatible with the current operating system?	✓			
Checking for sufficient disk space in the Inventory Location	✓			
Checking for write permissions on the inventory.	✓			
Checking TimeZone settings...	✓			
Checking Agent Base Directory Ownership...	✓			
Checking for port availability and hostname validity...	✓			
Checking old Oracle Home existence in the inventory...	✓			
Is the host name valid?	✓			
Is the installation base directory or the agent home already registered with the inventory?	✓			
Can the host communicate with the OMS using HTTP(S)?	✓			
Does the Privilege Delegation tool exist on the remote host?	✓			
Do you have the privileges to run as root using the Privilege Delegation tool?	⚠		The "requiretty" flag is set in the sudoers file on the remote host, and as a result, the user will not be able to run sudo over ssh.	<ul style="list-style-type: none"> Either set the "oracle.sysman.prov.agentpush.enablePty" property to true in the "/u01/app/middleware_x3/oms/sysman/prov/agentpush/agentpush.properties" file, which is present on the OMS host, or disable the "requiretty" flag in the sudoers file. You can also ignore this warning and continue in which case the root.sh, any preinstallation or postinstallation scripts specified with run as root enabled will not be run and you have to run them manually after installation.

Figure 6–4 Agent Deployment Errors and Solutions

✓ Agent Deployment Succeeded Done

Agent Deployment Summary: ADD_HOST_SYSMAN_Mar_19_2015_4:17:23_PM_EDT

Platform	Host	Initialization	Remote Prerequisite Check	Agent Deployment
Linux x86-64	rwsoda301c1n1.us.oracle.com	✓	⚠	✓
Linux x86-64	rwsoda301c1n2.us.oracle.com	✓	⚠	✓

Agent Deployment Details: rwsoda301c1n1.us.oracle.com

Initialization Details

Remote Prerequisite Check Details

Agent Deployment Details
 OMS Log Location: rcebox2.us.oracle.com:/u01/app/oc_inst/em/EMGC_OMS1/sysman/agentpush/2015-03-19_16-17-23-PM/applogs/rwsoda301c1n1.us.oracle.com_deploy.log
 Show only warnings and failures

Deployment Phase Name	Status	Error	Cause	Recommendation
Installation and Configuration	✓			
Secure Agent	✓			
Root.sh	ⓘ		The root.sh script was not run because the user did not have the privilege to run as root using the Privilege Delegation tool.	Manually run the following script(s) on the remote host as a root user <ul style="list-style-type: none"> /u01/app/agent_rac05bax2_7801_x3/core/12.1.0.4.0/root.sh
Collect Log	✓			
Clean up	✓			

If the warning is ignored during the host discovery, the root.sh script that exists on the remote host must be run manually after agent deployment is done.

Oracle Database Appliance Discovery Troubleshooting

Very often, the error message itself will include the cause for the error. Look for error messages in the OMS and agent logs (case insensitive search for **odadiscovery**) or in the guided discovery flow itself.

Check the following solutions:

- [Discovery Requires Root User](#)
- [File /opt/oracle/oak/onecmd/onecommand.params Required](#)

Discovery Requires Root User

Oracle Database Appliance discovery must be done by the root user. As part of any discovery troubleshooting, possible causes can include:

- Some other user is given to perform the discovery
- An incorrect root password was entered

File /opt/oracle/oak/onecmd/onecommand.params Required

The file /opt/oracle/oak/onecmd/onecommand.params is required as prerequisite for guided discovery. As part of any discovery troubleshooting, possible causes can include:

- The onecommand.params file is missing or not accessible
- Some of the fields in onecommand.params file are missing. This can be fixed on the Discovered Targets page where the user can manually enter all the required information.

Metric Collection Error After Discovery

For problems with metric collection found after discovery, check the following solutions:

- [Plug-in Versions Do Not Match](#)
- [Plug-in Version is Not the Same on the Two Host Nodes](#)
- [Monitoring Credentials Set Incorrectly](#)

Plug-in Versions Do Not Match

Verify that the agent side plug-in version matches the OMS side plug-in version.

Plug-in Version is Not the Same on the Two Host Nodes

Verify that the plug-in version is the same on both of the host nodes.

To check the Enterprise Manager Oracle Database Appliance Plug-in versions on the OMS and agents:

1. Open the Enterprise Manager **Setup** menu and select **Extensibility**, then choose **Plug-ins**.
2. On the Plug-ins page expand the **Engineered Systems** folder and find the **Oracle Database Appliance** row as shown below.

Plug-ins

Page Refreshed Mar 24, 2015 5:39:59 PM EDT

This page lists the plug-ins available, downloaded, and deployed to the Enterprise Manager system. Use this page to deploy or undeploy plug-ins.

Name	Version			Management Agent with Plug-in	Description
	Latest Available	Latest Downloaded	On Management Server		
▶ Databases ⓘ					
▶ Engineered Systems ⓘ					
Exalogic Elastic Cloud Infrastru	12.1.0.2.0	12.1.0.2.0		0	Elastic Cloud Infrastructure
Oracle Big Data Appliance	12.1.0.4.0	12.1.0.4.0		0	Enterprise Manager for Big Data Appliance provides comprehensive management for Oracle Big Data Appliance and related targets of Hadoop
Oracle Database Appliance	12.1.0.35.0	12.1.0.35.0	12.1.0.34.0	6	Enterprise Manager for Oracle Database Appliance provides comprehensive monitoring and management for Oracle Database Appliance and related targets.

The **Latest Downloaded** column shows the version uploaded to Enterprise Manager repository.

The **On Management Server** column shows the plug-in version deployed on the Management Server.

- If the value in the **Management Agent with Plug-in** column is non-zero, click on the number.

A page opens which lists the agents that have the plug-in, and the **Plug-in Version on Management Agent** column shows the plug-in version deployed on the agent.

Monitoring Credentials Set Incorrectly

Verify that the monitoring credentials were set correctly.

- Log in to Enterprise Manager.
- Click **Setup**, then **Security**, and then **Monitoring Credentials**.
- On the Monitoring Credentials page, click the **Oracle Database Appliance Manager** target type, then set the monitoring credentials.

Oracle Database Appliance ECM Configuration Data Troubleshooting

This data is scheduled to run the collection every 24 hours by default. To check for data availability and last collected time:

- From the Enterprise Manager Cloud Control console:
 - Click **Targets**, then **All Targets**.
 - Click the Oracle Database Appliance Manager target from the list.
 - Click **Configuration**, and choose the **Last Collected** option.
 - On the Latest Configuration page, click **Actions**, then **Refresh**.
- From the command line run:

```
# emctl control agent runCollection
# target_name:target_type <collectionName>
```

3. You can also verify that ECM data are collected and presented in Enterprise Manager Repository using SQL plus.

OAK-Based Metric Collection Troubleshooting

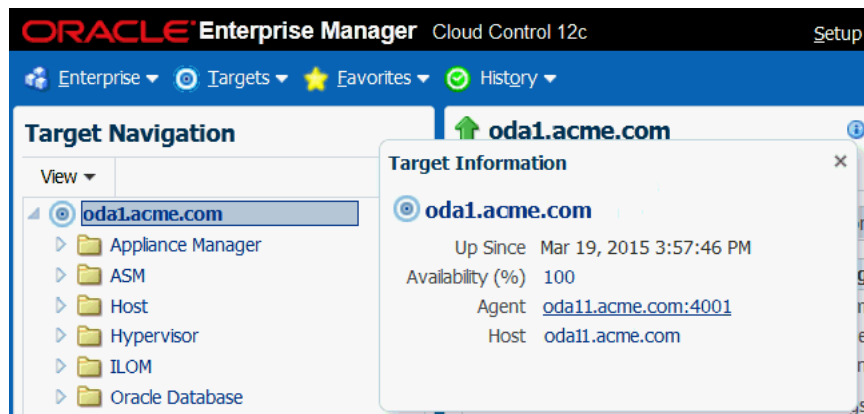
Oracle Database Appliance is a multi-agent target like Oracle RAC. At a given point in time, Oracle Database Appliance is monitored by only one node's agent, which is the master agent. OMS determines which node's agent will do the actual monitoring, and this is referred to as the OMS mediated target. The data displayed in the Oracle Database Appliance Target Navigation page is based on the OAK metric collection from the node running the master agent.

How to Determine Which Node Agent is Monitoring the Oracle Database Appliance Machine

To determine which node agent is monitoring Oracle Database Appliance, click on the information icon next to Oracle Database Appliance machine name in the Oracle Database Appliance Target Navigation page as shown below.

There are many ways to access the page. In this example we start from the Enterprise Manager Targets menu.

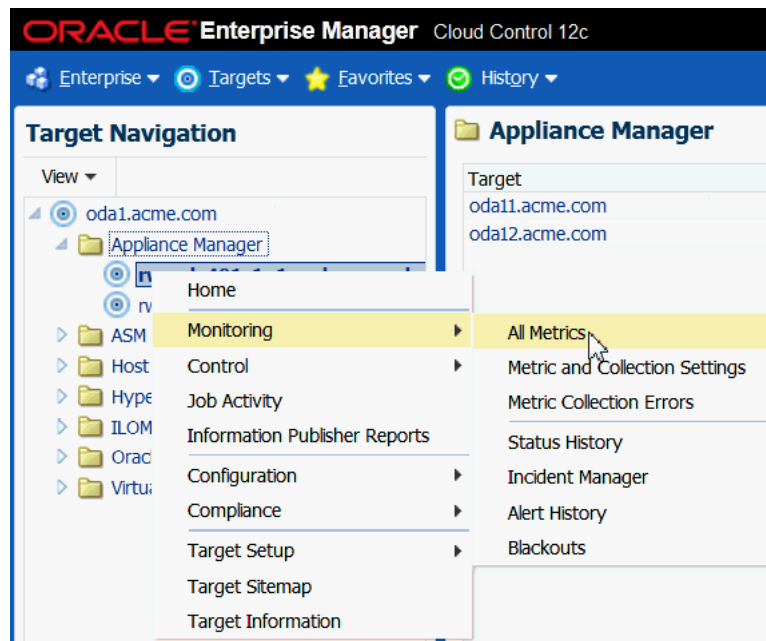
1. Open the Enterprise Manager **Target** menu, and select **All Targets**.
2. In the All Targets page, in the navigation tree, find and expand the **Engineered Systems** category.
3. Select **Oracle Database Appliance System**.
4. Click the information icon next to the Oracle Database Appliance machine name in the target page to display the Agent name.



Viewing OAK Metrics

To view OAK metrics:

1. Right click on an OAK target under **Appliance Manager**, then select **Monitoring**, then **All Metrics**.



2. Choose a metric to see details.

Index

A

agent installation, 2-4, 2-5, 2-6
agent, master, 6-6
ALL ODA, 5-1
archive, plug-in, 2-6
availability, 5-2
availability monitoring, 5-10

B

blackouts, 4-3

C

capacity, monitoring, 5-3
cluster discovery, 3-4
cluster prerequisites, 2-3
configuration, 5-4, 5-10
configuration type chart, 5-4
configured cores chart, 5-4
CPU chart
 target, 5-10
CPU load chart, 5-3
CPU pool, 5-11
create group, 5-5
create tag, 5-5
creating
 ILOM service processor user, 2-1
 monitoring user, 2-2
credentials, 6-5

D

database server ILOM service processor user, 2-1
DB Cluster, 2-3
delete group, 5-8
delete Oracle Database Appliance target remove
 target, 3-5
delete tag, 5-8
deploy plug-in, 2-6
deploy plug-in on Enterprise Manager, 2-7
deploy plug-in to management agents, 2-8
deployment prerequisites, 2-1
discover
 Grid Infrastructure, 3-4
 Oracle Database Appliance, 3-1

Oracle RAC, 3-4
 virtual platform, 3-2
discover troubleshooting, 6-4
discovery
 Grid Infrastructure, 3-4
 Oracle RAC, 3-5
 post-discovery configuration and verification, 4-1
 review page, 3-2
disk group space utilization chart, 5-4
disk status chart, 5-3
DNS, 2-3
drilling down, 5-9

E

EMCLI, 2-7
Enterprise Manager agent installation, 2-4, 2-5, 2-6
Enterprise Manager support, 1-2
Enterprise Manager, deploy plug-in on, 2-7

F

features, 1-1
 monitoring, 1-1
 target discovery, 1-1
firewall configuration, 2-3

G

Grid Infrastructure, 2-3
 discovery, 3-4
group deletion, 5-8
group modification, 5-7
group targets, 5-5
guided discovery, 3-1

H

hardware monitoring, 5-10
hardware supported, 1-2
hardware type chart, 5-4
host discovery, 6-1

I

ILOM creating, 2-1

- ILOM servers, 2-3
- importing plug-in archive, 2-6
- importing plug-in archive remotely, 2-7
- incident monitoring, 5-10
- incidents, monitoring, 5-4
- install
 - Enterprise Manager agent, 2-4, 2-5, 2-6

L

- local file system utilization, 5-3
- local file system utilization chart, 5-3

M

- management agents
 - deploy plug-in to, 2-8
- manually deploy plug-in, 2-6
- master agent, 6-6
- memory monitoring, 5-10
- memory utilization chart, 5-3
- metric collection error, 6-4
- metric threshold modification, 4-1
- modify group, 5-7
- modify tag, 5-7
- monitor, 5-3
 - ALL ODA, 5-1
 - availability, 5-2, 5-10
 - capacity, 5-3
 - configuration type, 5-4
 - configurations, 5-4
 - configured cores, 5-4
 - CPU, 5-10
 - CPU load, 5-3
 - CPU pool, target, 5-11
 - disk group space utilization, 5-4
 - general system information, 5-10
 - groups of targets, 5-5
 - hardware type, 5-4
 - incidents, 5-4
 - incidents, target, 5-10
 - machine, 5-9
 - memory utilization, 5-3
 - memory, target, 5-10
 - network, target, 5-11
 - physical disk status, 5-3
 - shared file system utilization, 5-3
 - storage, target, 5-11
 - system components, 5-2
 - system configuration, 5-10
 - system status, 5-2
 - system status, target, 5-10
 - tags, 5-5
 - target, 5-9
 - target hardware, 5-10
 - topology, 5-4
 - topology, target, 5-12
 - vdisk, target, 5-11
 - version, target, 5-11
 - virtual machine repository, target, 5-11

- virtual machine status, 5-2
- virtual machine, target, 5-10, 5-11
- VM template, target, 5-11
- monitor version, 5-4
- monitoring
 - creating user for, 2-2
- monitoring features, 1-1

N

- names resolution, 2-3
- network monitoring, 5-11
- notifications, 4-2

O

- oak metrics, viewing, 6-6
- oak user, 2-2
- oak-based metric collection, 6-6
- OPAR file, 2-6, 2-7
- Oracle Database Appliance
 - view topology, 5-4, 5-12
- Oracle RAC discovery, 3-4, 3-5
- Oracle Virtual Platform discovery, 3-2

P

- physical disk status chart, 5-3
- plug-in
 - deploy on Enterprise Manager, 2-7
 - deploy to management agents, 2-8
- plug-in archive import, 2-6
- plug-in archive, importing remotely, 2-7
- plug-in deployment, 2-6
- plug-in versions, 6-4
- prerequisite
 - verify software versions, 2-3
- prerequisite checks failure, 6-1
- prerequisites
 - database server ILOM service processor user, 2-1
 - firewall configuration, 2-3
 - Grid Infrastructure, 2-3
 - guided discovery, 3-1
 - monitoring user creation, 2-2
 - names resolution, 2-3
 - plug-in deployment, 2-1
- push method, 2-5

R

- remotely importing plug-in archive, 2-7
- root privileges, 6-2
- root user, 2-2, 6-4

S

- shared file system space utilization chart, 5-3
- silent mode, 2-6
- software supported, 1-2
- software version verification, 2-3
- storage monitoring, 5-11

- sudo user configuration, 2-2
- supported hardware and software, 1-2
- system components chart, monitoring, 5-2
- system configuration, 5-10
- system monitoring, 5-10
- system status chart, 5-2
- system status monitoring, 5-10

T

- tag deletion, 5-8
- tag modification, 5-7
- target
 - availability, 5-10
 - configuration, 5-10
 - CPU chart, 5-10
 - CPU pool, 5-11
 - hardware, 5-10
 - incidents, 5-10
 - memory, 5-10
 - network, 5-11
 - storage, 5-11
 - system status, 5-10
 - topology, 5-12
 - vdisk, 5-11
 - version, 5-11
 - virtual machine, 5-10, 5-11
 - virtual machine repository, 5-11
 - VM template, 5-11
- target discovery, 3-1, 3-2, 3-4, 3-5
- target discovery features, 1-1
- target group
 - modify, 5-7
- target group create, 5-5
- target group deletion, 5-8
- target removal, 3-5
- targets
 - drilling down, 5-9
- threshold modification for metrics, 4-1
- topology, 5-12
- topology view, 5-4
- topology, target, 5-12
- troubleshooting, 6-1
 - discovery, 6-1, 6-4
 - ECM configuration, 6-5
 - host discovery, 6-1
 - incorrect user, 6-4
 - metric collection, 6-2, 6-4, 6-5
 - oak-based metric collection, 6-6
 - Oracle Database Appliance discovery, 6-3
 - prerequisite checks, 6-1

V

- vdisk, 5-11
- verify
 - firewall configuration, 2-3
 - names resolution, 2-3
 - software versions, 2-3
- version, 5-11

- version chart, 5-4
- versions match, 6-4
- versions supported, 1-2
- view topology, 5-4, 5-12
- virtual machine monitoring, 5-10, 5-11
- virtual machine repository monitoring, 5-11
- virtual machine status chart, 5-2
- virtual platform discovery, 3-2
- VLANs, 5-11
- VM template, 5-11

