

Using Oracle Enterprise Manager Cloud Control 12c

Activity Guide

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Reference Material for All Practices

Practices Reference Material

Overview

These pages provide a ready reference of host names, usernames, and passwords that you will be using throughout the practices.

Reference Material for All Practices

Practice 1-1: Getting to Know Your Classroom Environment

Hostname	Username/Passwords	Database Instance(s)	Applications
Your classroom PC	vncuser/vnctech root/oracle		
em12.example.com	root/oracle oracle/oracle	em12rep.example.com system/Oracle123 sys/Oracle123	EM sysman/Oracle123 dbsnmp/dbsnmp emadmin/emadmin
dbtarget.example.com	root/oracle oracle/oracle	orcl system/Oracle123	

Practices for Lesson 1: Introduction

Chapter 1

Practices for Lesson 1

Practices Overview

You will log in to your terminal, view the lecture and the hands-on practices. You will also familiarize yourself with the VM environment and your Oracle software environment (the databases, listeners, and Oracle Enterprise Manager running).

Practice 1-1: Checking the Virtual Machines (VMs)

Overview

In this practice, you access your classroom PC `vncuser` user (with the password `vnctech`) and check your VMs in preparation for all the following tasks.

Assumptions

You are logged in to your classroom PC as the `vncuser` user (with the password `vnctech`).

Tasks

1. Double-click the Terminal icon on your desktop.
2. To check your classroom environment, enter: `su - root`, password `oracle`.

```
$ su - root
Password:
```

Name	ID	Mem	VCPUs	State
Time(s)				
Domain-0	0	1024	2	r----- 21048.4
dbtarget	3	2048	1	-b---- 666.7
em12	4	4608	1	-b---- 2427.3

Note the two VMs running: `em12` and `dbtarget`. The `Time(s)` column shows how long they have been running. It is most likely that these numbers will not exactly match with your output.

3. **Skip this step if the previous step completed successfully.**

If for some reason your VMs are not up and running, you must complete the following steps to start them up. From a terminal window, perform the following steps:

```
$ su - root -c "startVMs.sh"
Password: oracle << not displayed
121217 06:18:58 Shutting down VMs =
121217 06:19:01 All VMs have been shutdown =
121217 06:19:01 Starting VMs =
121217 06:19:01 Create new domain /OVS/running_pool/dbtarg = begin
121217 06:19:02 Domain creation = completed
121217 06:19:02 Create new domain /OVS/running_pool/em12/v = begin
121217 06:19:02 Domain creation = completed
121217 06:19:02 Start VM dbtarget = begin
121217 06:19:13 dbtarget: VM start = completed
121217 06:19:13 Start VM em12 = begin
121217 06:19:22 em12: VM start = completed
121217 06:19:22 All VMs have been started = done $
```

Note: This script executes quickly.

4. The following is just for your information. There are no tasks involved. After the VMs are started, many activities occur automatically for you:
 - Domains are created and the VMs are started.
 - Two databases (`em12rep` on `em12` and `orcl` on `dbtarget`) are already created and the instances are automatically started.
 - The appropriate listeners are started.
 - The Oracle Management Agents and the Oracle Management Repository (OMR), including the WebLogic Server, are started.

When all elements are up, you can simply double-click the Firefox icon and access the Cloud Control console (as shown in the next practice).

Your instructor will indicate an approximate time for this set of activities to complete (for example, 15 minutes).

Practice 1-2: Getting to Know Your Oracle Software Classroom Environment

Overview

In this optional practice, you get to know your classroom environment by starting a terminal session and navigating to your host machines as the `oracle` user (with the `oracle` password).

Assumptions

You are logged in to your classroom PC as the `vncuser` user (with the `vntech` password).

Tasks

1. Start a terminal session by double-clicking the Terminal icon.
2. Ping the `dbtarget` host and the `em12` host to confirm that they are running. (**Ctrl + C** cancels the ping command. Output has been omitted for security reasons.)

```
$ ping dbtarget
PING dbtarget.example.com (192.0.2.11) 56(84) bytes of data.
64 bytes from dbtarget.example.com (192.0.2.11): icmp_seq=1 ttl=64 time=0.127 ms
64 bytes from dbtarget.example.com (192.0.2.11): icmp_seq=2 ttl=64 time=0.096 ms
64 bytes from dbtarget.example.com (192.0.2.11): icmp_seq=3 ttl=64 time=0.169 ms
```

```
$ ping em12
PING em12.example.com (192.0.2.12) 56(84) bytes of data.
64 bytes from em12.example.com (192.0.2.12): icmp_seq=1 ttl=64 time=0.101 ms
64 bytes from em12.example.com (192.0.2.12): icmp_seq=2 ttl=64 time=0.074 ms
64 bytes from em12.example.com (192.0.2.12): icmp_seq=3 ttl=64 time=0.095 ms
```

Note that your times may not match exactly the numbers above.

3. Log in to the `em12` host as the `oracle` user with the `oracle` password. Use a secure shell session with the `-X` (capital X) option to forward the X display, just in case it is needed. Accept the RSA key if asked.

```
$ ssh -X oracle@em12
oracle@em12's password: <<< not displayed
Last login: ....
```

4. Your training environment is configured so that the `em12rep` database instance has been started. Verify that the database instance has been started.
 - a. Check if the database and associated listener have been created and started.

```
$ ps -ef | grep pmon
oracle    2880      1  0 10:27 ?          0:00:02 ora_pmon_em12rep
oracle    5471    2798  0 15:39 pts/0      0:00:00 grep pmon
```

Note that your process IDs and times may not match exactly the numbers above.
The Process Monitor (PMON) output shows you the database name (`em12rep`) that you use to set environment variables.

```
$ ps -ef | grep lsnr
oracle    5507  2798  0 15:40 pts/0      00:00:00 grep lsnr
oracle    7222      1  0 10:55 ?          00:00:01
/u01/app/oracle/product/11.2.0/dbhome_1/bin/tnslsnr LISTENER -inherit
```

- b. Set the environment variables for the database instance.

```
$ . oraenv
ORACLE_SID = [oracle] ? em12rep
The Oracle base for
ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1 is
/u01/app/oracle
```

Note that the output of this command depends on the ORACLE_SID value already existing in your environment.

- c. Log in to the database to confirm that it is available, run a simple SQL query, and then exit from SQL*Plus.

```
$ sqlplus / as sysdba
SQL*Plus: Release 11.2.0.3.0 Production on Mon Dec 17 09:33:54
2012
Copyright (c) 1982, 2011, Oracle. All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.3.0 -
64bit Production
With the Partitioning, OLAP, Data Mining and Real Application
Testing options
SQL>
```

```
SQL> select name, log_mode from v$database;
NAME        LOG_MODE
----- -----
EM12REP     NOARCHIVELOG

SQL>
```

The `LOG_MODE` parameter will be used and explained during the database backup practice.
The `V$DATABASE` view displays the currently active database information.

```
SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release
11.2.0.3.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application
Testing options
$
```

5. Exit out of the em12 host.

```
$ exit
logout
Connection to em12 closed.
```

6. Repeat task steps 4 to 6 for the dbtarget host. Log in as the oracle user (with the oracle password).

```
$ ssh -X oracle@dbtarget
oracle@em12's password: <<< not displayed
```

7. Your training environment is configured so that the dbtarget database instance has been started. Verify that the database instance is started.

- a. Check if the database and associated listener have been created and started.

```
$ ps -ef | grep pmon
```

```
$ ps -ef | grep lsnr
```

- b. Set the environment variables for the database instance.

```
$ . oraenv
ORACLE_SID = [orcl] ?
The Oracle base remains unchanged with value /u01/app/oracle
```

- c. Log in to the database to confirm that it is available, run a simple SQL query, and then exit from SQL*Plus.

```
$ sqlplus / as sysdba
SQL> select name, log_mode from v$database;
SQL> exit
```

8. Exit out of the dbtarget host.

```
$ exit
```


Practices for Lesson 2: Reviewing Enterprise Manager Core Concepts

Chapter 2

Practices for Lesson 2

Practices Overview

In this practice, you act as an Enterprise Manager administrator. You access Oracle Enterprise Manager Cloud Control 12c as the `emadmin` user with the `emadmin` password. **Summary** is your home page.

You receive the questions and requests listed below via various emails. (Completing these practice steps has no effect on the other course practices, so choose to answer the questions that are most relevant to you.)

Perform OMS and OMR monitoring tasks logged in to Enterprise Manager Cloud Control as the `emadmin` user with the `emadmin` password:

Your instructor might suggest a time period for these tasks. Please use the tips to complete the tasks if possible, within the suggested time period.

Practice 2-1: Accessing Enterprise Manager

Overview

In this practice, you access Oracle Enterprise Manager Cloud Control 12c as the `emadmin` user with the `emadmin` password.

Assumptions

You are logged in to your classroom PC as the `vncuser` user with the `vnctech` password.

You reviewed the “Console Overview and Customization” demonstration or have the equivalent navigation knowledge.

Tasks

1. Double-click the Firefox icon on your desktop to open a browser for accessing the Enterprise Manager Cloud Control console.
2. Click the EM 12c R2 bookmark on the toolbar, if available. This guides you to a location of this format: `https://<em_server_hostname>.<domain>:<port>/em`. In your case, this location is `https://em12.example.com:7801/em`.
3. If this is the first time you are bringing up a browser, you most likely will receive a Secure Connection Failed message and you need to add a security exception. Click **Or you can add an exception**.
 - a. At the bottom of the page, click **Add Exception**.
 - b. In the Add Security Exception pop-up window, click **Get Certificate**.
 - c. Confirm that “Permanently store this exception” is selected in your training environment and click **Confirm Security Exception**.

The Enterprise Manager Cloud Control console appears.

4. Best practices in using Oracle Enterprise Manager suggest that you create a new EM Administrator and reserve the use of SYSMAN (default EM Administrator and repository owner) only for tasks that are SYSMAN specific. In your environment, a new EM Administrator, `emadmin`, with Super Administrator privileges, has already been created.

Enter `emadmin` in the User Name field and `emadmin` in the Password field. Then click **Login**.

The first time a new user logs in to Enterprise Manager, the “Select Enterprise Manager Home” page appears with choices, such as:

- Summary
- Databases
- Incidents
- SOA
- Middleware

- Infrastructure Cloud
- Composite Application
- Service Request
- Services

Each choice has a Preview and a Select As My Home button. The user emadmin has the **Enterprise Summary** as the default page.

The default page has global menus with the following choices: **Enterprise**, **Targets**, **Favorites**, **History**, and **Search Target Name** (next to the search entry field). Each of the menu items has drop-down menus with further choices.

5. Question: How can you change your home selection after the initial setup?

Answer: **EMADMIN** drop down list > **Select My Home** menu.

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The top navigation bar includes links for Setup, Help, EMADMIN, and Log Out. The main content area is titled "Enterprise Summary". It features several sections: "Overview" (Targets Monitored: 32, Status: Targets with Status 21, 100% Up), "Inventory and Usage" (Platform: Oracle Linux Server release 5.7, Hosts: 2), "Compliance Summary" (Compliance Frameworks, View Trends), "Least Compliant Targets" (View Trends), and "Patch Recommendations" (View by Classification or Target Type, note: Patch recommendations are not available). The interface uses a light blue and white color scheme with various status indicators (green, yellow, red).

Practice 2-2: Monitoring OMS and OMR

Overview

In this practice, you monitor the OMS and the OMR by using the Cloud Control console.

Note: Most likely, your graphs and numbers will look different from the possible answers below.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user with the emadmin password.

Tasks

If needed, navigate to the **Enterprise Summary** page by clicking **Enterprise > Summary**.

This screenshot is the basis for the answers to the next few questions. Your Enterprise Summary page may contain values different from those in this example. These values depend on how long your environment has been running.

The screenshot shows the Oracle Enterprise Manager Cloud Control 12c interface. The main title bar reads "ORACLE Enterprise Manager Cloud Control 12c". The top navigation bar includes links for "Enterprise", "Targets", "Favorites", "History", "Setup", "Help", "EMADMIN", and "Log Out". A search bar for "Target Name" is also present.

The main content area is titled "Enterprise Summary". It contains several sections:

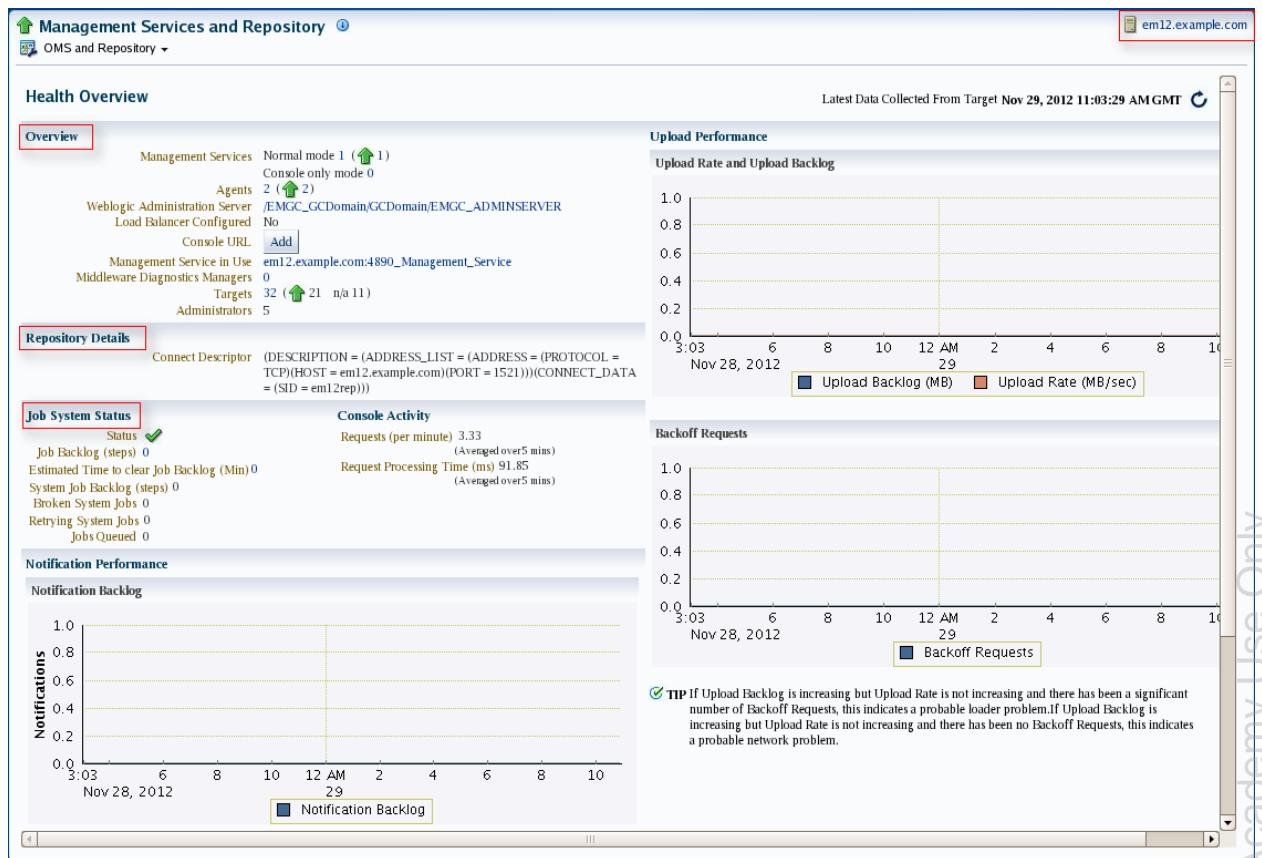
- Overview:** Shows "Targets Monitored 32". A red box highlights the "Status" section, which says "Targets with Status 21". Below it is a large green button labeled "Up (21)" with "100%" underneath.
- Inventory and Usage:** Shows "Platform: Oracle Linux Server release 5.7". A red box highlights this section.
- Compliance Summary:** Shows "Compliance Frameworks" and "Compliance Standards". A red box highlights the "View Trends" link under Compliance Frameworks.
- Least Compliant Targets:** Shows a table with columns for "Target Name", "Target Type", "Standard Evaluations", "Violations", and "Average Compliance Score (%). A red box highlights the "View Trends" link under Least Compliant Targets.
- Incidents:** Shows "Updated in last 24 hours 1" and "Updated in last 7 days 1". A red box highlights the "Break down of incidents updated in last 7 days" table, which includes categories like Availability, Performance, Security, and Others.
- Problems:** Shows "Total Open 0". A red box highlights the "Jobs" section, which lists "Suspended Executions 0", "Problem Executions 0", and "Action Required Executions 0".
- Patch Recommendations:** Shows "Patch recommendations are not available."

1. How many targets are being monitored with Status? (21)
2. What is their status? (21 are up)
3. Do you have any open incidents? (No)
4. Do you have any open problems? (No)
5. What is the platform for your hosts? (Enterprise Linux Server release 5.7)

6. Are you set up to receive patch recommendations? (No) You may have to scroll down to see this information on the page.

The screenshot shows the 'Patch Recommendations' section of the Oracle Enterprise Manager Cloud Control interface. At the top, there is a message: 'Patch recommendations are not available.' This message is highlighted with a red rectangular border. Below this, a warning message states: '⚠ My Oracle Support preferred [credential](#) is not set for any super user. Either set the preferred credentials or change the connection setting to [offline](#) and manually upload the metadata required for generating patch recommendations.' The 'View by' dropdown menu is set to 'Classification'. The 'Jobs' section shows three categories: 'Suspended Executions' (0), 'Problem Executions' (0), and 'Action Required Executions' (0), each with a green checkmark icon.

7. Review the overall status of the Cloud Control.
- Navigate to **Setup > Manage Cloud Control > Health Overview**.
 - Review your Management Services and Repository page to see the name of the host (top-right corner) and the main sections.



- c. Is there a job backlog? If yes, what is the estimated time to clear the job backlog?
(*There is no job backlog in this example.*)
8. Click the “i” quick information icon next to the **Management Services and Repository** page title.



What is the version of the OMS and Repository? (12.1.0.2.0)

When you are finished reviewing the information, click the “x” icon to close the pop-up page.

9. Drill down into the **Management Service in Use**

`em12.example.com:4890_Management_Service`

What is the monitoring agent? (`em12.example.com:3872`)

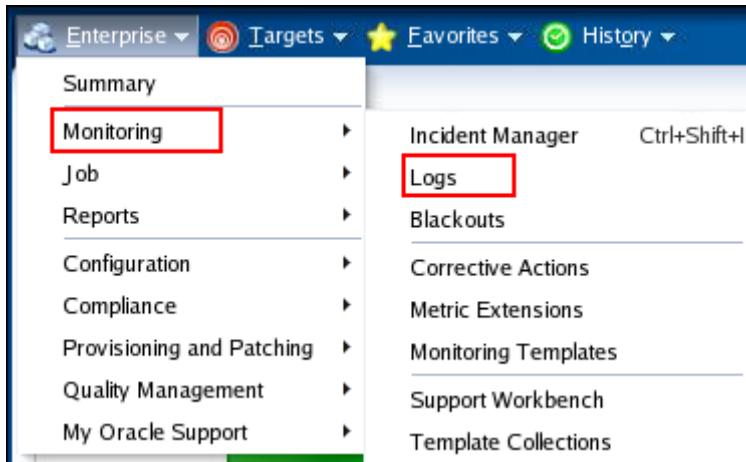
10. Monitor the Repository Operations. Navigate to **Setup > Manage Cloud Control > Repository**.

- What is the name of the database that contains the OMR? (`em12rep.example.com`)
- When will the next Agent Ping operation be executed?

DBMS Job Name	Status	Throughput	Processing Time (%) (Last Hour)	Next Scheduled Run	Last Scheduled Run
Agent Ping	Up	0.00	0.06 ✓	Nov 29, 2012 11:31:11 AM GMT ✓	Nov 29, 2012 11:30:41 AM GMT
Audit System Externalize Process	Up	0.00	0.00 ✓	Nov 29, 2012 10:17:41 PM GMT ✓	Nov 28, 2012 10:17:41 PM GMT
Beacon Service Availability	Up	0.00	0.00 ✓	Nov 29, 2012 11:31:41 AM GMT ✓	Nov 29, 2012 11:30:41 AM GMT
CBO Statistic Collection	Up	0.07	0.41 ✓	Nov 29, 2012 1:17:41 PM GMT ✓	Nov 29, 2012 11:17:41 AM GMT
Compute Metric Baseline Statistics	Up	0.00	0.00 ✓	Nov 29, 2012 11:30:00 PM GMT ✓	Nov 28, 2012 11:30:00 PM GMT
Config Post Load Processing For Target Prop	Up	0.00	0.00 ✓	Nov 29, 2012 11:31:41 AM GMT ✓	Nov 29, 2012 11:30:41 AM GMT
EM Daily Maintenance	Up	0.00	0.00 ✓	Nov 30, 2012 2:00:00 AM GMT ✓	Nov 29, 2012 1:00:00 AM GMT
EM General Purge Policies	Up	0.00	0.00 ✓	Nov 30, 2012 4:00:00 AM GMT ✓	Nov 29, 2012 4:00:00 AM GMT
Feature Usage Statistics Collection	Up	0.00	0.00 ✓	Dec 6, 2012 12:00:00 AM GMT ✓	Nov 29, 2012 12:00:00 AM GMT

- Was the Daily Maintenance job error-free? (Yes)
- What is the space used? (1.627 GB)

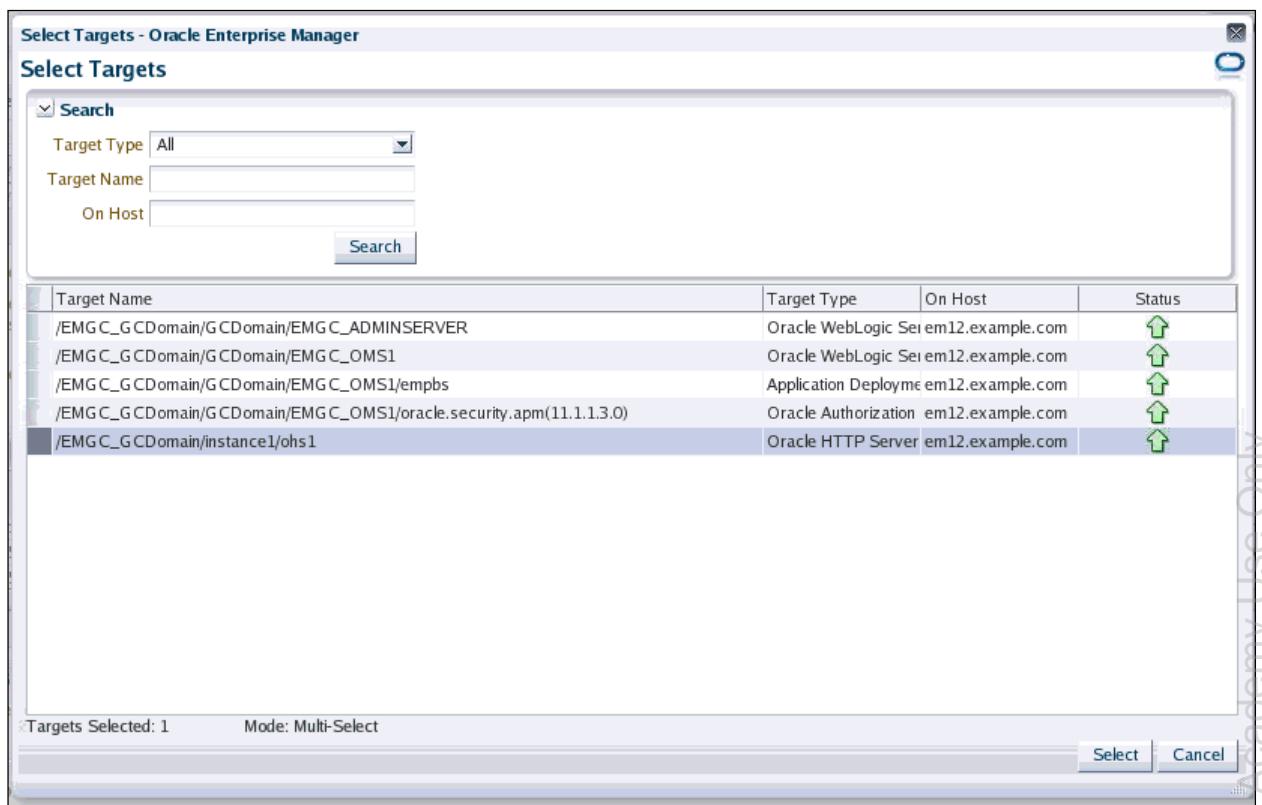
11. To view a list of log files, click **Enterprise > Monitoring > Logs**.



- a. Select the message types that interest you (at a minimum, **Incident Error** and **Error**), and click the **Add** button.

The screenshot shows the 'Logs' search interface. At the top, there's a 'Selected Targets (0)' section with a 'View' dropdown, an 'Add...' button (highlighted with a red box), and a 'Remove...' button. Below this is a table with columns 'Target', 'Target Type', and 'Target Log Files'. A note says '(No targets selected. Add at least one target to search the associated logs.)'. Underneath the table are filters for 'Date Range' (set to 'Most Recent 1 Hours'), 'Message Types' (with 'Incident Error' and 'Error' checked, while 'Warning', 'Notification', 'Trace', and 'Unknown' are unchecked), and a 'Message' search field with the operator 'contains'. A callout bubble points to the 'Unknown' checkbox with the text 'Unclassified messages'.

- b. On the Select Targets page, select EMGC_GCDomain/Instance1/ohs1 and click the Select button.



- c. Select the “Most Recent 1 Day” for the Date Range.
d. Click the Search button.
Wait until the processing is finished. How many log rows did Enterprise Manager return?
e. Click **Enterprise > Summary** to return to the home page.

Practices for Lesson 3: Managing Cloud Control

Chapter 3

Practices for Lesson 3

Practices Overview

Your target database is in the `orcl.example.com` database instance.

In these practices, you set up and test backup and recovery settings, and then perform a one-time backup of the `orcl.example.com` database instance. Optionally, you view backup reports.

Practice 3-1: Preparing Your Database for Backup

Overview

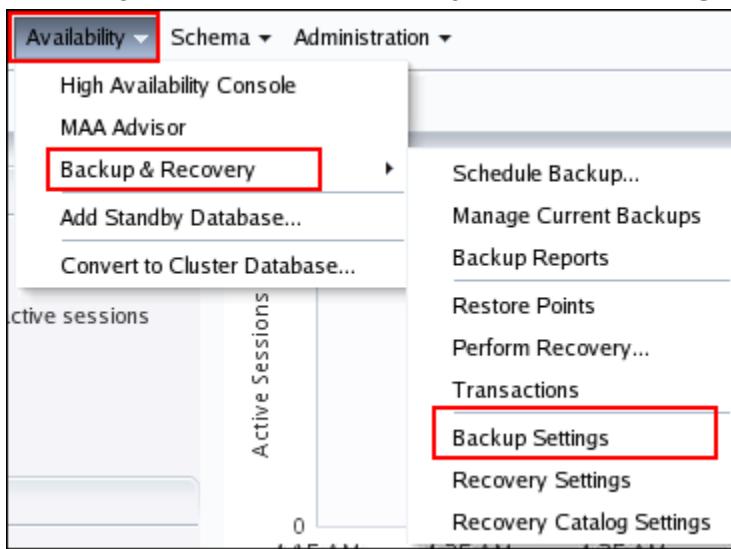
In this practice, you prepare the `orcl.example.com` database instance for backup operations.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the `emadmin` user with the `emadmin` password.

Tasks

1. Navigate to **Targets** (global menu) > **All Targets**.
2. Click the database instance link: `orcl.example.com`.
3. To confirm and change your backup settings, navigate to **Availability** (database instance home page) > **Backup & Recovery** > **Backup Settings**.



4. To perform database administration tasks, your access authorization is checked (either explicitly by your providing database login credentials or implicitly via preferred credentials). In this training environment, the credential named SYS is created with the SYSDBA role and saved as a Named Credential. Enter the username SYS and password Oracle123, select the Save As check box and enter the name NC_DB_SYS. Click **Login**.

The screenshot shows the 'Database Login' dialog box. It has fields for 'Username' (SYS), 'Password' (hidden), 'Role' (SYSDBA), and 'Save As' (checkbox checked, value NC_DB_SYS). There is also a 'Set As Preferred Credentials' checkbox. At the bottom are 'Login' and 'Cancel' buttons.

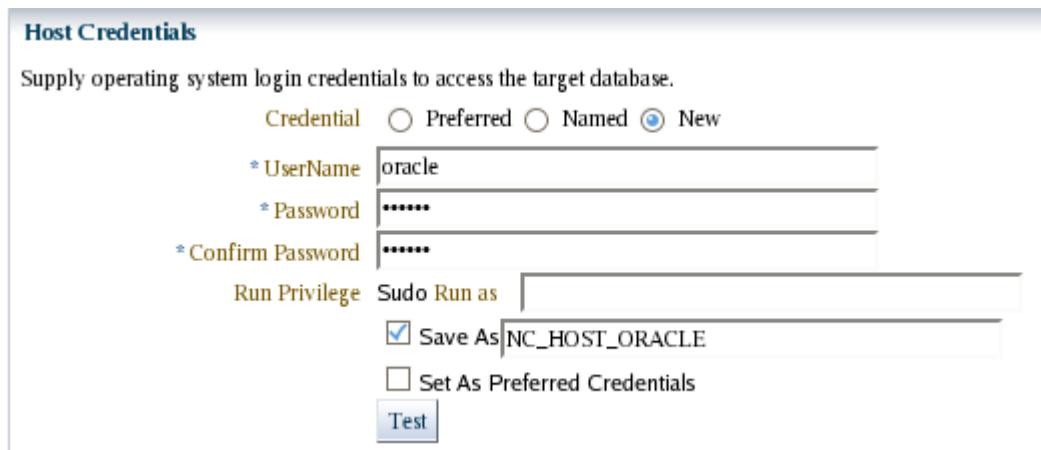
5. Click the **Policy** tab and select or confirm the following options:
- Under Backup Policy:
 - Automatically backup the control file and server parameter file (SPFILE) with every backup and database structural change.**
 - Optimize the whole database backup by skipping unchanged files such as read-only and offline datafiles that have been backed up.**

The screenshot shows the 'Backup Settings' dialog with the 'Policy' tab selected. It displays two checked options under 'Backup Policy': 'Automatically backup the control file and server parameter file (SPFILE) with every backup and database structural change' and 'Optimize the whole database backup by skipping unchanged files such as read-only and offline datafiles that have been backed up'.

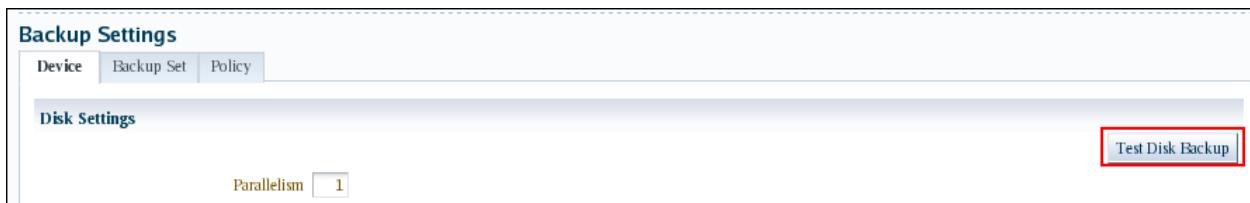
- Under Archived Redo Log Deletion Policy:
Delete archived redo log files after they have been backed up the specified number of times.

c. Under Host Credentials:

Create a new **Named Host Credential** named NC_HOST_ORACLE by entering the **Username** oracle and **Password** oracle and selecting to **Save As** NC_HOST_ORACLE.

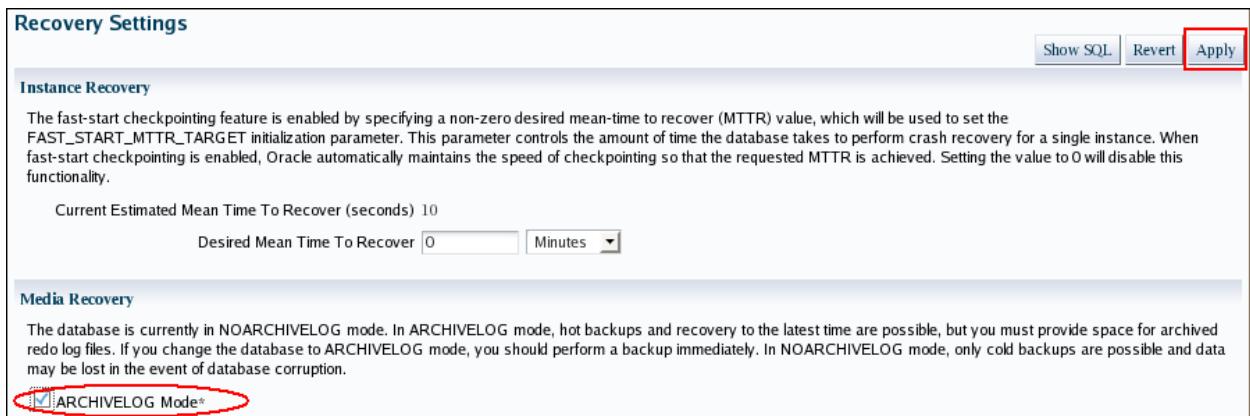


6. Click the **Device** tab, review any settings that interest you, and then click **Test Disk Backup**.

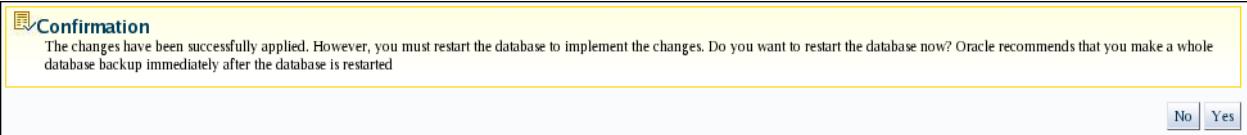


Most likely, you see a processing indicator, which should be followed by a success message.

7. Click **OK** to save your backup settings.
8. To change your recovery settings and determine if a restart of the database is needed, navigate to **Availability > Backup & Recovery > Recovery Settings**.
9. Click **ARCHIVELOG Mode**, and then click **Apply**.



10. This setting requires a database restart. After reading the entire Confirmation, click **Yes**.



11. To restart the database, select NC_HOST_ORACLE as the host named credential and NC_DB_SYS as the database named credential. Then click **OK**.
 12. On the next screen, click **Show SQL**, followed by **Return**.

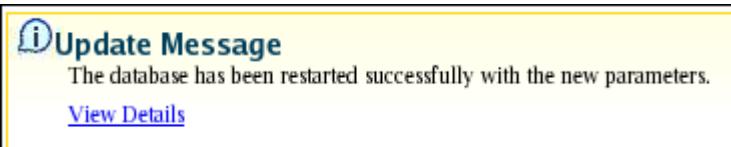
Show SQL

```
SHUTDOWN immediate
STARTUP mount
ALTER DATABASE ARCHIVELOG
ALTER DATABASE OPEN READ WRITE
```

The **startup** command will use a **temporary file as pfile with the** following init.ora **parameters**:
 spfile='/u01/app/oracle/product/11.2.0/dbhome_1/dbs/spfileorcl.ora'

13. Click **Yes** to restart your database.

A progress indicator is displayed, followed by a success message.



Practice 3-2: Performing a Backup

Overview

In this practice, you create a one-time backup of the `USERS` tablespace (for training purposes). For the sake of practicing the workflow, select the following backup settings:

- Full Backup – selected
- Also back up all archived logs on disk – **deselected**
- Delete obsolete backups – selected

Note: For a “complete online backup,” both data files and archive logs are needed; so normally you do select to back up the archive logs.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the `emadmin` user with the `emadmin` password. Your database is prepared for backups (with `ARCHIVELOG` mode enabled) as outlined in Practice 3-1. You start on the `orcl.example.com` database instance page.

Tasks

1. To schedule your training backup, navigate to **Availability > Backup & Recovery > Schedule Backup**.
2. Ensure that **Tablespaces** is selected under Customized Backup and `NC_HOST_ORACLE` is selected as the **Named Credential** for the Host.
3. Click **Schedule Customized Backup**.

Schedule Backup

Oracle provides an automated backup strategy based on your disk and/or tape configuration. Alternatively, you can implement your own customized backup strategy.

Oracle-Suggested Backup

Schedule a backup using Oracle's automated backup strategy.

This option will back up the entire database. The database will be backed up on daily and weekly intervals.

Customized Backup

Select the object(s) you want to back up.

Whole Database
 Tablespaces
 Datafiles
 Archived Logs
 All Recovery Files on Disk

Includes all archived logs and disk backups that are not already backed up to tape.

Backup Strategies

Oracle-suggested:

- Provides an out-of-the-box backup strategy based on the backup destination
- Sets up recovery window for backup management
- Schedules recurring and immediate backups
- Automates backup management

Customized:

- Specify the objects to be backed up
- Choose disk or tape backup destination
- Override the default backup settings
- Schedule the backup

Host Credentials

Supply operating system login credentials to access the target database.

Credential: Preferred **Named** New

Credential Name: **NC_HOST_ORACLE**

Attribute	Value
UserName	oracle
Password	*****
More Details	

4. Click **Add** to add a tablespace.
5. Select the `USERS` tablespace and click the **Select** button.
6. Click **Next**.

7. Confirm the following settings, which are chosen to save space in the training environment, and then click **Next**.
- Full Backup – selected
 - Also back up all archived logs on disk – **deselected**
 - Delete obsolete backups – selected

Backup Type

Full Backup

Use as the base of an incremental backup strategy

Incremental Backup

A level 1 cumulative incremental backup includes all blocks changed since the most recent level 0 backup.

Refresh the latest datafile copy on disk to the current time using the incremental backup

Advanced

Also back up all archived logs on disk

Delete all archived logs from disk after they are successfully backed up

Delete obsolete backups

Delete backups that are no longer required to satisfy the retention policy.

Use proxy copy supported by media management software to perform a backup

If proxy copy of the selected files is not supported, a conventional backup will be performed.

Maximum Files per Backup Set

Section Size KB

Backs up large files in parallel, using sections of the specified size. (This parameter overrides Maximum Backup Piece Size in Backup Settings.)

8. Accept **Disk** as destination and click **Next**.
9. Accept the default **Job Name** and Schedule of **One Time (Immediately)** and click **Next**.
10. Review your job definition and click **Submit Job**.
11. You should receive a job submission success message. Click **View Job**.

12. Refresh  the **Execution: orcl.example.com** page until the job finishes successfully.

Name	Targets	Status	Started	Ended	Elapsed Time
Execution: orcl.example.com	orcl.example.com	Succeeded	Dec 3, 2012 4:39:30 PM GMT+00:00	Dec 3, 2012 4:39:40 PM GMT+00:00	10 seconds
Step: Prebackup	orcl.example.com	Succeeded	Dec 3, 2012 4:39:30 PM GMT+00:00	Dec 3, 2012 4:39:32 PM GMT+00:00	2 seconds
Step: Backup	orcl.example.com	Succeeded	Dec 3, 2012 4:39:32 PM GMT+00:00	Dec 3, 2012 4:39:39 PM GMT+00:00	7 seconds
Step: Post Backup	orcl.example.com	Succeeded	Dec 3, 2012 4:39:39 PM GMT+00:00	Dec 3, 2012 4:39:40 PM GMT+00:00	0 seconds

13. Review the backup steps, especially click the Succeeded link for Step: Backup. Here is an excerpt.

Job Activity > Execution: orcl.example.com > Step: Backup
Step: Backup

Status	Succeeded	Started	Dec 3, 2012 4:39:32 PM GMT+00:00
Exit Code	0	Ended	Dec 3, 2012 4:39:39 PM GMT+00:00
Step ID	1834	Step Elapsed Time	7 seconds
Targets	orcl.example.com	Management Service	em12.example.com:4890_Management_Service

TIP Management Service from which the job step was dispatched.

Output Log

```

Recovery Manager: Release 11.2.0.3.0 - Production on Mon Dec 3 16:39:33 2012
Copyright (c) 1982, 2011, Oracle and/or its affiliates. All rights reserved.

RMAN>
connected to target database: ORCL (DBID=1328248373)
using target database control file instead of recovery catalog

RMAN>
echo set on

RMAN> set command id to 'BACKUP_ORCL.EXAMPL_120312043930';
executing command: SET COMMAND ID

RMAN> backup device type disk tag 'BACKUP_ORCL.EXAMPL_120312043930' tablespace 'USERS' ;
Starting backup at 03-DEC-12
allocated channel: ORA_DISK_1
channel ORA_DISK_1: SID=51 device type=DISK
channel ORA_DISK_1: starting full datafile backup set
channel ORA_DISK_1: specifying datafile(s) in backup set
input datafile file number=00004 name=/u01/app/oracle/oradata/orcl/users01.dbf
channel ORA_DISK_1: starting piece 1 at 03-DEC-12
channel ORA_DISK_1: finished piece 1 at 03-DEC-12
piece handle=/u01/app/oracle/fast_recovery_area/ORCL/backupset/2012_12_03
/o1_mf_nnndf_BACKUP_ORCL_EXAMPL_1_8csog8hm_.bkp tag=BACKUP_ORCL.EXAMPL_120312043930 comment=NONE
channel ORA_DISK_1: backup set complete, elapsed time: 00:00:01
Finished backup at 03-DEC-12

```

14. Use the global menu **Targets > Databases**. Under **Job Activities**, notice the latest run of the Backup Job you just performed.
15. Navigate to the `orcl.example.com` home page (under members). To review backup reports, navigate to **Availability > Backup & Recovery > Backup Reports**, then review the details and status of your last backup job.

16. Optionally, for backup administration tasks, you can navigate to **Availability > Backup & Recovery > Manage Current Backups**.

The screenshot shows the Oracle Database Control interface with the URL [orcl.example.com](#). The top navigation bar includes links for Oracle Database, Performance, Availability, Schema, and Administration. The user is logged in as SYS with session ID dbtarget.example.com.

The main page title is "Manage Current Backups". A message at the top states: "This backup data was retrieved from the database control file." Below this are tabs for "Backup Sets" and "Image Copies", with "Backup Sets" selected.

The search section includes filters for Status (Available), Contents (Datafile, Archived Redo Log, SPFILE, Control File checked), and Completion Time (Within a month). A "Go" button is present.

The results table has columns: Select, Key, Tag, Completion Time, Contents, Device Type, Status, Keep, and Pieces. It lists two backup entries:

Select	Key	Tag	Completion Time	Contents	Device Type	Status	Keep	Pieces
<input type="checkbox"/>	3	TAG20121203T163937	Dec 3, 2012 4:39:38 PM	CONTROLFILE, SPFILE	DISK	AVAILABLE	NO	1
<input type="checkbox"/>	2	BACKUP_ORCL.EXAMPLE_120312043930	Dec 3, 2012 4:39:36 PM	DATAFILE	DISK	AVAILABLE	NO	1

Buttons at the bottom of the results table include Crosscheck, Change to Unavailable, Delete, and Validate.

Practices for Lesson 4: Monitoring Targets

Chapter 4

Practices for Lesson 4

Practices Overview

Enterprise Manager Cloud Control monitors all its managed targets. That is, metrics are collected for each managed target according to predefined collection schedules.

1. In these practices, you monitor targets with templates. First, review the Oracle-provided templates.
 - Do all monitored items have the same collection schedule?
 - Which setting is used to prevent false alerts due to spikes in metric values?
 - Can you edit or delete Oracle-provided templates?
2. Next, use the Create Like functionality to create your own monitoring template for an agent, named `My Host` template with “CPU in I/O Wait (%)” thresholds of 1 and 30. You want alerts to trigger and clear in about 10 minutes.
3. When your new template is complete, compare the monitoring settings of your template with a target, and then you apply this template, so that Cloud Control will automatically monitor the managed target with your customized settings.
Note: Comparing a Monitoring Template is just an example to show you the workflow. In your own organization, you might use this functionality for ad-hoc comparison of a template against a target that is not part of an administration group.
4. In this practice, you compare the host metric “CPU in I/O Wait (%)" of the `dbtarget.example.com` host to the `em12.example.com` host. Which host shows a higher wait time?

Note that the important monitoring tasks, such as monitoring a target that has a Down status, is covered in the Managing Incidents practice.

Practice 4-1: Reviewing Oracle-Provided Monitoring Templates

Overview

In this practice, you review the Oracle-provided templates.

- Do all monitored items have the same collection schedule?
- Which setting is used to prevent false alerts due to spikes in metric values?
- Can you edit or delete Oracle-provided templates?

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user with the emadmin password.

Tasks

1. Navigate to **Enterprise** (global menu) > **Monitoring** > **Monitoring Templates**.
2. If the Oracle-provided templates are not displayed, select “Display Oracle Certified templates” and then click **Go**.

Monitoring Templates

Monitoring Templates can be used to apply a subset of monitoring settings to multiple targets. This allows you to standardize monitoring across your enterprise. When a template is applied to a target, any monitoring settings not specified in the template remain unaffected on the target. Page Refreshed

Search

Template Name
Target Type Display Oracle Certified templates

Pending Apply Operations 0			
Apply	View	Edit	Create Like
Delete	Compare Settings	Export	Create Set Default Templates Import
Select	Name ▾	Target Type	Pending Apply Operations Own
<input checked="" type="radio"/>	Oracle Certified-Enable RAC Security Configuration Metrics	Cluster Database	0 SYSI
<input type="radio"/>	Oracle Certified-Enable Listener Security Configuration Metrics	Listener	0 SYSI
<input type="radio"/>	Oracle Certified-Enable Database Security Configuration Metrics	Database Instance	0 SYSI
<input type="radio"/>	Oracle Certified-Disable RAC Security Configuration Metrics	Cluster Database	0 SYSI
<input type="radio"/>	Oracle Certified-Disable Listener Security Configuration Metrics	Listener	0 SYSI
<input type="radio"/>	Oracle Certified-Disable Database Security Configuration Metrics	Database Instance	0 SYSI
<input type="radio"/>	Oracle Certified Template for WebLogic Server Template	Oracle WebLogic Server	0 SYSI
<input type="radio"/>	Oracle Certified Template for Oracle VM Server Pool, Server and Guest Performance metrics	Oracle VM Server Pool	0 SYSI
<input type="radio"/>	Oracle Certified Template for Host targets	Host	0 SYSI
<input type="radio"/>	Oracle Certified Template for Agent targets	Agent	0 SYSI
<input type="radio"/>	Oracle Certified Oracle VM Zone template for Response and Configuration metrics	Oracle VM Zone	0 SYSI

3. Review the list of Oracle-provided templates and click the “**Oracle Certified Template for Host targets**” link.
4. On the “**View Monitoring Template: Oracle certified template host targets**” page, click the **Metric Thresholds** tab.

5. Click **Collapse All**, and then expand the “Oracle Certified Template for Host targets” folder.
Do all monitored items have the same collection schedule?
Answer: No
6. Expand the **Load** node and click the **Edit** icon for **CPU in I/O Wait %**.

Metric	Comparison Operator	Warning Threshold	Critical Threshold	Corrective Actions	Collection Schedule	Edit
▽ Oracle Certified Template for Host targets						
▷ Disk Activity					Every 15 Minutes	
▷ File and Directory Monitoring					Every 15 Minutes	
▷ Filesystems					Every 15 Minutes	
▀ Load					Every 5 Minutes	
CPU in I/O Wait (%)	>	40	80	None		
CPU Utilization (%)	>	80	95	None		
Free Memory (%)	<	20	5	None		
Logical Free Memory (%)	<	20	5	None		
Memory Utilization (%)	>	80	95	None		
Run Queue Length (5 minute average,per core)	>	10	20	None		
Swap Utilization (%)	>	80	95	None		
▷ Zombie Processes					Every 15 Minutes	

7. Review the “View Advanced Settings: CPU in I/O Wait %” page. Which setting is used to prevent false alerts due to spikes in metric values?

Monitoring Templates

Monitoring Templates > View Monitoring Template: Oracle Certified Template for Host targets > View Advanced Settings: CPU in I/O Wait (%)

View Advanced Settings: CPU in I/O Wait (%)

OK

Corrective Actions

Warning <none>
Critical <none>
 Allow only one corrective action for this metric to run at any given time

Advanced Threshold Settings

Comparison Operator >	Number of Occurrences
Warning Threshold 40	To prevent false alerts due to spikes in metric values, the Number of Occurrences determines the period of time a collected metric value must remain above or below the threshold value before an alert is triggered or cleared. For example, if a metric value is collected every 5 minutes, and the Number of Occurrences is set to 6, the metric values (collected successively) must stay above the threshold value for 30 minutes before an alert is triggered. Likewise, once the alert is triggered, the same metric value must stay below its threshold for 6 consecutive occurrences (30 minutes) before it is cleared. For server-generated alerts, the evaluation frequency is determined by Oracle Database internals. Server Evaluation Frequency is used, instead of Collection Schedule.
Critical Threshold 80	
Number of Occurrences 2	
Collection Schedule Every 5 Minutes	
Time before alert is triggered/cleared 10 Minutes	

OK

Answer: The Number of Occurrences

8. Click **OK**, and then click the **Monitoring Templates** link (top left).
9. Select any Oracle-provided template that interests you in the Monitoring Templates list, and then click **Edit**. Can you edit Oracle-provided templates?
Answer: No
10. Select another Oracle-provided template and then click **Delete**. Can you delete Oracle-provided templates?
Answer: No

Practice 4-2: Creating a Monitoring Template

Overview

In this practice, you use the Create Like functionality to create your own monitoring template for a host. You name the template My Host template with CPU in I/O Wait % thresholds of 1 and 30. You want alerts to trigger and clear in about 10 minutes.

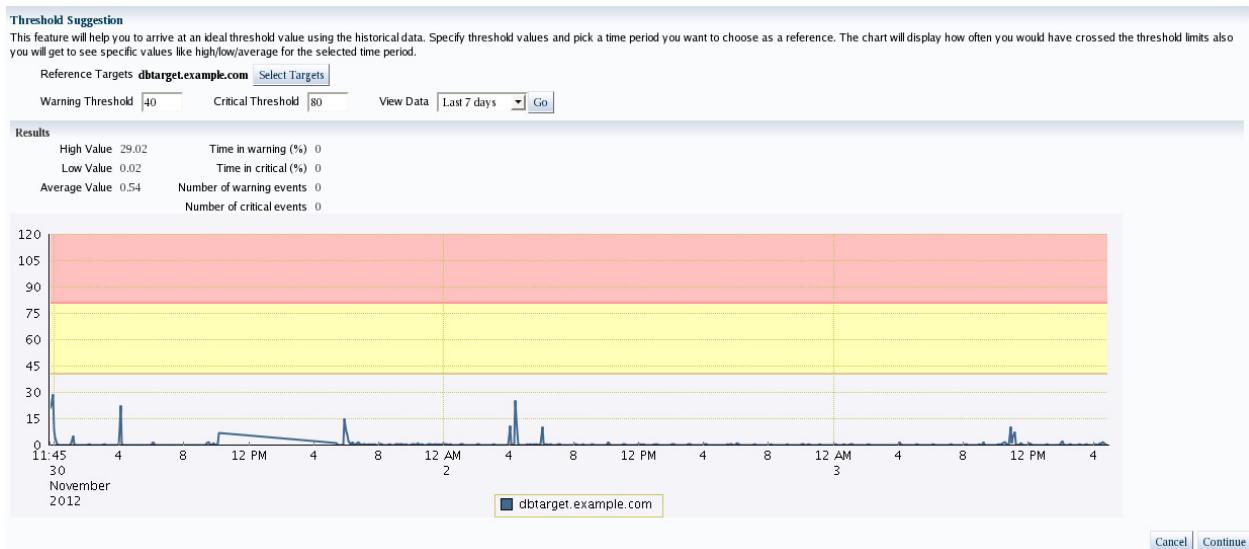
Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user with the emadmin password and have navigated to **Enterprise > Monitoring > Monitoring Templates**.

You reviewed the “Administer Monitoring Templates” demonstration or have the equivalent navigation knowledge.

Tasks

- On the Monitoring Templates page, select “**Oracle Certified Template for Host targets**” and click **Create Like**.
- Enter **My Host template** as Name and, optionally, change the description to read: “**This is based on an Oracle Certified Template for Host targets.**”
- Click the **Metric Thresholds** tab.
- In the Load section, select **CPU in I/O Wait %** and click the Edit (pencil) icon.
- Before you specify your threshold values, use the Threshold Suggestion on the bottom part of the page to adjust (if needed) the values of this practice. Click **Select Targets** and select the **dbtarget.example.com** host.



6. The results are automatically displayed. Assume that based on these results, you decide to set the **Warning Threshold** to **1** and the **Critical Threshold** to **5**.

Advanced Threshold Settings

Comparison Operator >

Warning Threshold 1

Critical Threshold 5

Number of Occurrences 2

Collection Schedule Every 5 Minutes

7. Confirm that the **Number of Occurrences** is set to **2**, because the **Collection Schedule** is set to **Every 5 Minutes** and you want alerts to trigger and clear in about 10 minutes.
8. Click **Continue**.
9. You should receive the information, “The settings have been modified but not saved to the repository. You can make further changes to the settings and click the OK button to save the data.” Click **OK** to save **My Host template** in the management repository.
10. Confirm that your newly created monitoring template appears in the list of monitoring templates. (Hint: Sort by **Owner** and you should see your template listed first.)

Monitoring Templates						Previous	1-25 of 45	Next
Select	Name	Target Type	Pending Apply Operations	Owner	Last Modified By	Last Modified		
<input checked="" type="radio"/>	My Host template	Host	0	EMADMIN	EMADMIN	Dec 3, 2012 5:05:16 PM UTC		

Practice 4-3: Comparing and Applying a Monitoring Template

Overview

When your new template is created, compare the monitoring settings of your template with a target and then apply this template, so that Cloud Control will automatically monitor the managed target with your customized settings.

Note: Comparing a Monitoring Template is just an example to show you the workflow. In your own organization, you might use this functionality for ad-hoc comparison of a template against a target that is not part of an administration group.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user with the emadmin password and have navigated to **Enterprise > Monitoring > Monitoring Templates**.

Tasks

1. Select the newly created **My Host template** and click **Compare Settings**.
2. On the Compare Monitoring Template My Host template: General page, click **Add**.
3. Select the dbtarget.example.com target and click **Select**.
4. Click **Continue** to initiate the comparison.
5. Note the red values and the **Diffs** icon. The icons are explained at the bottom of the page. The change in the collection frequency will affect a number of metrics. If you are working with a small window, you might need to scroll to see both your template and the target values.

Compare Monitoring Template

Template (My Host template)										Host (dbtarget.example.com)			
Metric	Diffs	Thresholds			Collection Schedule		Thresholds			Collection Schedule			
		Warning	Critical	Number of Occurrences	Collection Frequency	Upload Interval	Warning	Critical	Number of Occurrences	Collection Frequency	Upload Interval		
Load:CPU in I/O Wait (%)	☒	1	5	2	Every 5 Minutes	1			2	Every 5 Minutes	1		
File and Directory Monitoring:File or Directory Attribute Not Found	☒		0	1	Every 15 Minutes	1			1	Every 15 Minutes	1		
Load:Free Memory (%)	☒	20	5	2	Every 5 Minutes	1			2	Every 5 Minutes	1		
Load:Logical Free Memory (%)	☒	20	5	2	Every 5 Minutes	1			2	Every 5 Minutes	1		
Zombie Processes:Processes in Zombie State (%)	☒	35	50	1	Every 15 Minutes	60			1	Every 15 Minutes	60		
Load:Run Queue Length (5 minute average,per core)	☒	10	20	2	Every 5 Minutes	1			2	Every 5 Minutes	1		

▼ Metrics with Thresholds

Template (My Host template)										Host (dbtarget.example.com)			
Metric	Diffs	Thresholds			Collection Schedule		Thresholds			Collection Schedule			
		Collection Frequency	Upload Interval	Collection Frequency	Upload Interval								
No data													

▼ Other Collected Items

Template (My Host template)										Host (dbtarget.example.com)			
Metric	Diffs	Collection Schedule			Collection Schedule		Collection Schedule			Collection Schedule			
		Collection Frequency	Upload Interval	Collection Frequency	Upload Interval	Collection Frequency	Upload Interval						
No data													

▼ Metric Extensions

Template (My Host template)										Host (dbtarget.example.com)			
Metric Extension	Diffs	Template (My Host template)			Version		Host (dbtarget.example.com)			Version			
		Version	Version	Version	Version	Version	Version						
No data													

☒ Values in target and template are different.
☐ Exists only in template
☒ Exists only in target
☒ Metric is marked for deletion in template

6. Click **Apply Template**.

7. Confirm that the Apply Option is set to “Template will only override metrics that are common to both template and target,” select the dbtarget.example.com target, leave the rest of the selections as default, and click **OK**.

You should receive a success message. Temporarily, you might see a 1 in the **Pending Apply Operation** column for your template.

Select	Name	Target Type	Pending Apply Operations	Owner	Last Modified By
	My Host template	Host	1	EMADMIN	EMADMIN

8. Refresh the page until you see 0 in this column, which indicates that your monitoring template is applied to the target and Cloud Control will automatically monitor this agent target with your customized settings.

Practice 4-4: Comparing Metric Settings

Overview

In this practice, you compare the host metric “CPU in I/O Wait (%)” of the em12.example.com host to the dbtarget.example.com host. Which host shows a higher wait time?

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user with the emadmin password.

Tasks

1. Navigate to **Targets** (global menu) > **Hosts** and click the dbtarget.example.com link.
2. Navigate to **Host** (drop-down) > **Monitoring** > **All Metrics**.
3. In the left navigation tree, expand the **Load** node and click **CPU in I/O Wait (%)**. The metric details appear on the right.
4. Click **Compare Targets**.
5. On the “Search and Select: Targets” page, select the em12.example.com host, and click **Select**.
6. The Metric Value History graph now shows values for both hosts. Which host shows a higher wait time?



Answer: In this example, the em12.example.com host. (Your answer may be different.)

7. Return to the Enterprise Summary page.

Practices for Lesson 5: Managing Hosts

Chapter 5

Practices for Lesson 5

Practices Overview

In these practices, you will perform tasks that involve your host targets. There are often multiple ways in which to reach a particular page. This activity guide just shows one of them to avoid redundancy.

- a. On a Linux system, Yet another Setup Tool (YaST), a Linux operating system setup and configuration tool, must be installed in order to administer the host OS directly from the Cloud Control console. You must verify that this has been done by navigating and viewing the Default System Run Levels. This task is a **prerequisite** for other activities.
- b. Next, you answer a list of questions that you received via various emails. (This practice has no effect on the following activities, so choose to answer the questions that will be most relevant for you after this course.)
- c. Lastly, execute Linux OS commands and use a file editor remotely on a managed host. This task has no effect on the following activities. Execute the practice if this task is relevant for you after this course.

Practice 5-1: Verifying YaST

Overview

In this practice, you verify a host configuration of Yet another Setup Tool (YaST), a Linux operating system setup and configuration tool, so that you can administer the host OS directly from the Cloud Control console. You test access by navigating and viewing the Default System Run Levels.

Note: This practice is a **prerequisite** for other course activities.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the `emadmin` user with the `emadmin` password.

You reviewed the “Install YaST” demonstration or have the equivalent knowledge.

Tasks

1. First, test if YaST is installed by performing the following tasks:
 - a. Navigate to **Targets** (global menu) > **Hosts**.
 - b. On the Host overview page, click the `dbtarget.example.com` link.

Hosts		Search		Go	Advanced Search			
	Name	Status	Pending Activation	Incidents				Compliance Violations
Select	Name	Status	Pending Activation	-	0	0	0	0
<input checked="" type="radio"/>	dbtarget.example.com		-					0 0 0
<input type="radio"/>	em12.example.com		-		0	1	0	0

TIP For an explanation of the icons and symbols used in this page, see the [Icon Key](#).

- c. On the `dbtarget.example.com` home page, navigate to **Host > Administration > Default System Run Level**.
- d. If Enterprise Manager returns the “Required Installations” page, it means that YaST is not yet installed. You can access this functionality only by performing the YaST and EM Wrapper installation. This is the message you would get, included here for reference only:

Required Installations

To administer a host through Enterprise Manager, you will need to install the following scripts. Follow the steps below and click 'Finish' button when you are done.

Step 1 **Install YaST and EM Wrapper Scripts** from <http://oss.oracle.com/projects/yast>

Finish

After a successful installation of YaST, you would return to Enterprise Manager and click **Finish** as shown above for reference.

- In the Oracle training environment, you do **not** need to access the URL and download the YaST software. YaST is already installed on the dbtarget host. In a production environment, be sure to coordinate with the system administrator so that the correct YaST packages are installed for your system.

The screenshot shows the Oracle Enterprise Manager interface for a host named dbtarget.example.com. The top navigation bar includes a logo, the host name, and a 'Host' dropdown. Below the header, a breadcrumb trail shows 'Host: dbtarget.example.com > Host Administration'. The main content area has three tabs: 'System Services' (selected), 'Network', and 'Settings'. Under 'System Services', there are links for 'Services', 'Default System Run Level' (which is highlighted with a red box), 'Host Lookup Table', and 'NFS Client'. The 'Network' tab contains links for 'Network Cards', 'Host Lookup Table', and 'NFS Client'. The 'Settings' tab contains a single link for 'User and Group Administration'.

- Select Default System Run Level.**
- Specify the host credentials. Most likely there is no defined Named Credential for the dbtarget host specifically. So far, you should have only defined a host credential for accessing the database on dbtarget.
 - Select to create **New**.
 - Username** oracle and **Password** oracle.
 - Save As** NC_DBTARGET_ORACLE.
 - Select to **Set As Preferred Credential**- Normal Host Credentials.
 - Click **OK**.
- A processing page will appear while the OS executes the task and provides you with the information through the Enterprise Manager interface. You then see the Default System Run Level page.

The screenshot shows the 'Default System Run Level' configuration page. At the top, there are 'Cancel' and 'Save' buttons. Below them, a note says 'This is the run level into which the system boots by default.' On the right, there are 'Credentials' (oracle) and 'Change' buttons. The main form has two sections: 'Current System Run Level' (set to '3: Full multiuser mode with network') and 'Default System Run Level After Restart'. The 'Default System Run Level After Restart' dropdown menu lists seven options (0-6) with radio buttons. Option 3 ('Full multiuser mode with network') is selected. At the bottom right are 'Cancel' and 'Save' buttons.

- Review the information on this page. What is the current System Run Level for this host? (*Full multiuser mode with network*)
"Run level" defines the state of the machine after a boot. Level 3 starts the system normally.

Practice 5-2: Monitoring Hosts

Overview

In this practice, you answer a list of monitoring questions that you received via various emails. This practice has no effect on the following activities, so choose to answer the questions that will be most relevant for you after this course.

Note: Your values may be different than the ones displayed here.

Tip: If you wish to answer all of them, you might not want to do it sequentially. As in real life, the questions jump between topics.

- 1) What is the status of your host targets?
- 2) How many incidents are reported for each target?
- 3) What is the Average Compliance Score?
- 4) What is the CPU Utilization %?
- 5) What is the Memory Utilization %?
- 6) How many host targets are monitored?
- 7) Are all related targets available?
- 8) View the network utilization information on the dbtarget.example.com host. Is your read or write rate higher?
- 9) How large is the file system for the em12.example.com host?
- 10) Which network services can you administer from the em12.example.com host?
- 11) Determine the CPUs of your latest configuration on the em12.example.com host.
- 12) What is the Availability (%) of the dbtarget.example.com host?
- 13) What is the operating system on which the host is running?
- 14) What is the agent name on the dbtarget.example.com host?
- 15) How many “targets with status” do you have?

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

You reviewed the following demonstrations or have the equivalent navigation knowledge:

- Monitor and Manage All Hosts
- Monitor an Individual Host
- Administer a Linux Host

Tasks

1. What is the status of your host targets?

Navigate to **Targets** (global menu) > **Hosts**. (*All hosts are Up.*)

The screenshot below is used to provide answers to this and subsequent questions.

Hosts

Search Go Advanced Search

Configure Remove Add

Select	Name	Status	Pending Activation	Incidents	Compliance Violations	Average Compliance score	CPU Util %	Mem Util %	Total IO/sec	
<input checked="" type="radio"/>	dbtarget.example.com		-		0 0 0 0	0 0 0	-	0.9	55.01	26.29
<input type="radio"/>	em1 2.example.com		-		0 1 0 0	0 0 0	-	4.5	71	118.61

TIP For an explanation of the icons and symbols used in this page, see the Icon Key.

Related Links
Customize Table Columns Run Host Command

2. How many incidents are reported for each target? (*One or zero incidents*)
3. What is the Average Compliance Score? (*Unavailable*)
4. What is the CPU Utilization %? (*0.9 and 4.5*)
5. What is the Memory Utilization %? (*755.01 and 71*)
6. How many host targets are monitored? (*2 hosts*)
7. Are all related targets available? (*Yes*)

Navigate to **Targets > Hosts > dbtarget.example.com > Host** (drop-down) > **Related Targets**.

dbtarget.example.com

Host

Related Targets

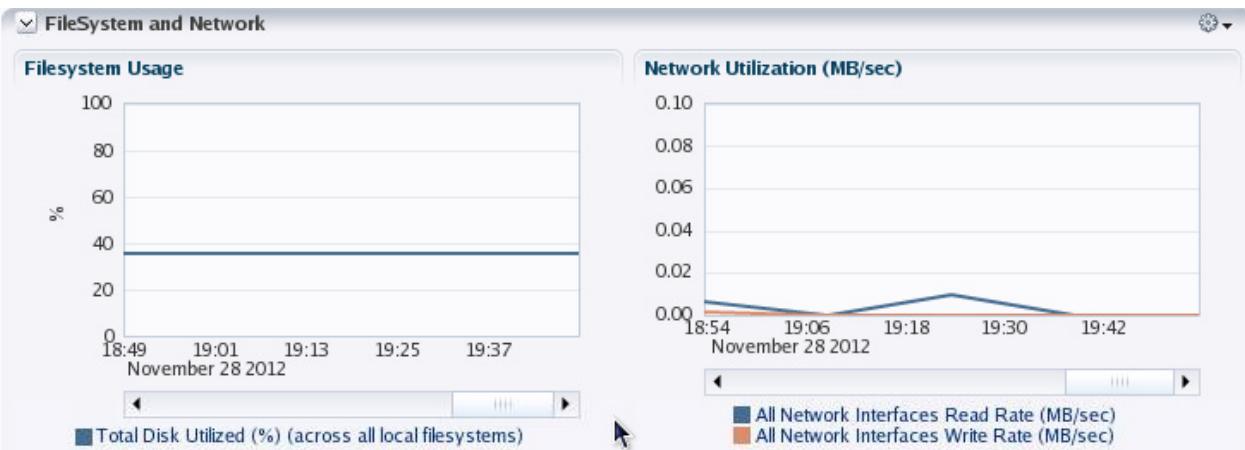
Page Refreshed Nov 28, 2012 8:04:37 PM GMT

Remove Select All | Select None

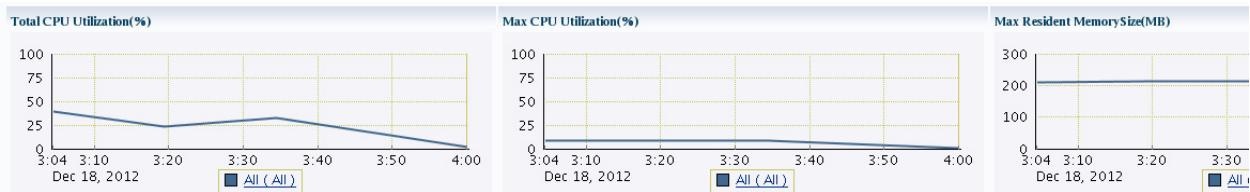
Select	Name	Installed location	Availability	Compliance Violations	Compliance Score (%)	Type	Last Load Time	Incidents
<input type="checkbox"/>	dbtarget.example.com:3872	/u01/app/oracle/agent/core/12.1.0.2.0		0 0 0	-	Agent	Nov 28, 2012 7:59:57 PM	
<input type="checkbox"/>	orcl.example.com	/u01/app/oracle/product/11.2.0/dbhome_1		0 0 0	-	Database Instance	Nov 28, 2012 8:02:03 PM	
<input type="checkbox"/>	LISTENER_dbtarget.example.com	/u01/app/oracle/product/11.2.0/dbhome_1		0 0 0	-	Listener	Nov 28, 2012 8:01:03 PM	
<input type="checkbox"/>	OraDb1g_home1_1_dbtarget	/u01/app/oracle/product/11.2.0/dbhome_1	n/a	0 0 0	-	Oracle Home	Not available	
<input type="checkbox"/>	agent12c1_2_dbtarget	/u01/app/oracle/agent/core/12.1.0.2.0	n/a	0 0 0	-	Oracle Home	Not available	

8. View a few additional key metrics. What is the network utilization for the dbtarget.example.com host? Is the read or write rate higher?

Navigate to **Targets > Hosts > dbtarget.example.com** (*Read rate is higher here*).



9. What are the Program Resource Utilization metrics? Navigate to **Host > Monitoring > Program Resource Utilization** and review the total CPU Utilization, Max CPU Utilization and Max Memory Resident Size.



10. How large is the file system for the em12.example.com host? (48.05 GB)
Navigate to **Targets > Hosts > em12.example.com**.

General

IP Address 192.0.2.12
Operating System Oracle Linux Server release 5.7
File System(GB) 48.05
Memory Size(MB) 4006
Address Length(bits) 64-bit

11. Which network services can you administer from the dbtarget.example.com host?
Navigate to **Targets > Hosts > dbtarget.example.com > Host (drop-down) > Net Services Administration > Administer (drop-down) (Listeners, Directory Naming, Local Naming, Network Profile, File Location, Group Copy of Network Config Files)**

dbtarget.example.com

Host: dbtarget.example.com > Net Services Administration

Net Services Administration

Net Services Administration allows you to configure or administer the following network components:

- Listener: Allows configuration and administration functions on listeners.
- Directory Naming: Allows configuration and administration of Net service names on a Directory server.
- Local Naming: Allows configuration and administration of Net service names on a client's tnsnames.ora file.
- Network Profile: Allows configuration of preferences for Oracle Net Services features on the client or server.

Choose a configuration file location, then select the feature that you want to administer and click 'Go'.

Administrator	Listeners	Go
Select	Listeners	Oracle Home
/u01/app/oracle/product/11.2.0/dbhome_1	network/admin	/u01/app/oracle/product/11.2.0/dbhome_1

12. Determine the CPUs of your latest configuration on the dbtarget Targets > Hosts > dbtarget.example.com > Host (drop-down) > Configuration > Last Collected > Hardware > CPUs. (Intel 2 Core CPU)

Actions ▾

Search

Number of CPU Sockets

Search Reset + Add

CPU

Collected Nov 28, 2012 4:05:27 PM

Number of CPU Sockets	Vendor Name	Implementation	Cores per CPU Socket	Threads per CPU	Hyper-threading	Frequency (MHz)	ECache
1	GenuineIntel	Intel(R) Core(TM)2 Duo CPU E6550 @ 2.33GHz	1	1	0	2327	4

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13. What is the Availability (%) of the dbtarget host? (100%)

Navigate to **Targets > Hosts > dbtarget.example.com > "i" icon**. This screenshot also applies to the next few questions.

Target Information

dbtarget.example.com

Up Since Nov 28, 2012 3:47:34 PM

Availability (%) 100

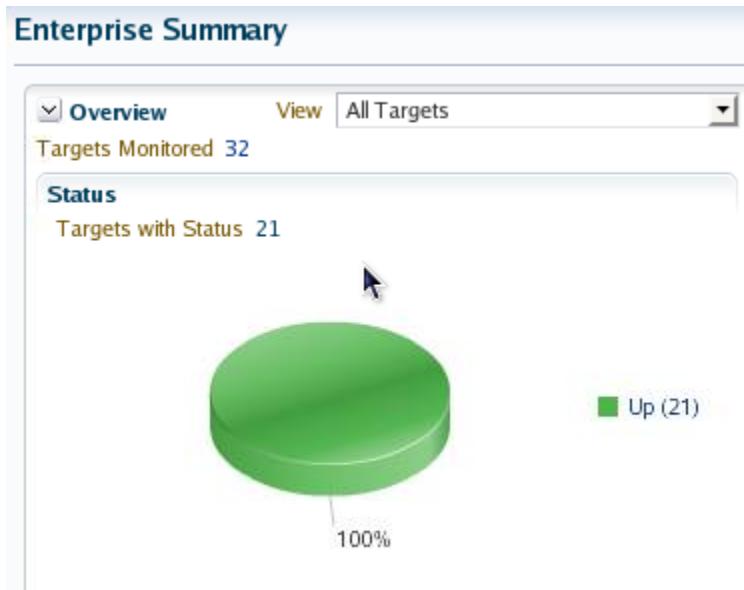
Version Oracle Linux Server release 5.7

Agent dbtarget.example.com:3872

14. What is the operating system on which the dbtarget.example.com host is running? (*Enterprise Linux Server Release 5.7*)

15. What is the agent name on the dbtarget.example.com host?
(*dbtarget.example.com:3872*)

16. How many “targets with status” do you have in your enterprise? (*21 in this case*)
Navigate to **Enterprise > Summary**.



Practice 5-3: Working Remotely in the Host OS

Overview

In this practice, you execute Linux OS commands and use a file editor remotely on a managed host. (Again, this task has no effect on the following activities. Execute the practice if this task is relevant for you after this course.)

Assumptions

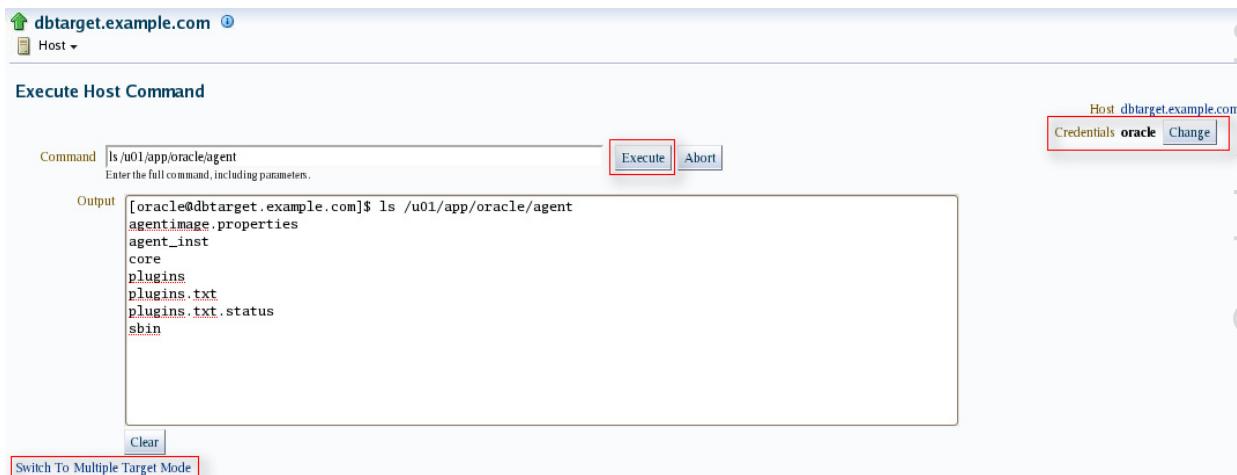
You are logged in to Enterprise Manager Cloud Control as the `emadmin` user (with the `emadmin` password).

You reviewed the following demonstrations or have the equivalent navigation knowledge:

- Monitor and Manage All Hosts (Executing OS command section)
- Use the Remote File Editor

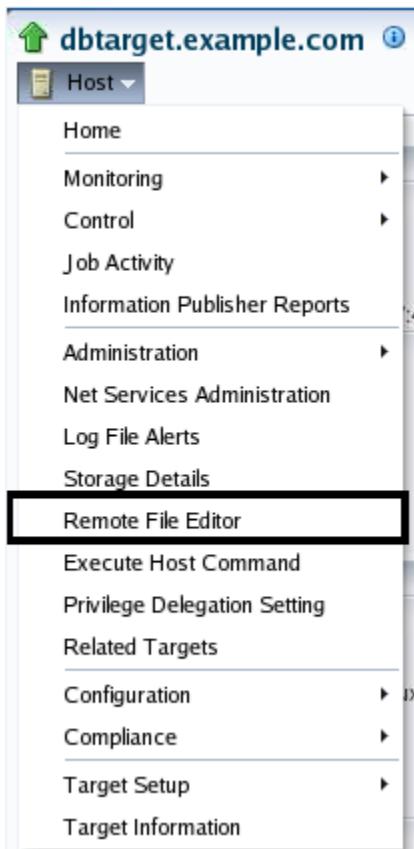
Tasks

1. In this first task, you execute a Linux command remotely.
 - a. Navigate to **Targets** (Global menu) > **Hosts**.
 - b. Click the `dbtarget.example.com` link.
 - c. Click the **Host** drop-down, and then click **Execute Host Command**.
 - d. A **Preferred Credential** should already be set up for this host, namely `oracle`. If not, select the **Named** radio button and use the credential named `NC_DBTARGET_ORACLE`. Click **OK**.
 - e. Note at the bottom of the Run Host Command page that you can switch from single target to multiple targets mode. In the task, you execute the following commands only on the `dbtarget.example.com` host. Enter `ls /u01/app/oracle/agent` in the Command field and click **Execute**.



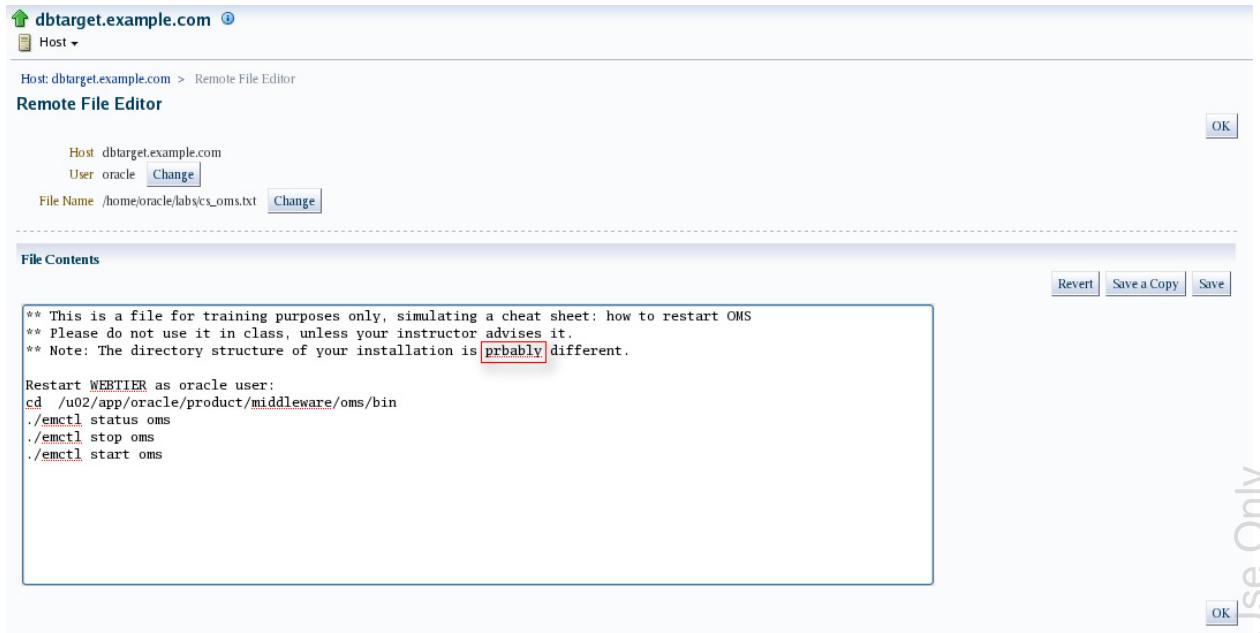
On the Run Host Command page for multiple targets, the result is displayed in the bottom section with the details expanded. (The content of your directory may be different.)

2. For the next task, you use the Remote File Editor to correct a typographical error in a file on the dbtarget.example.com host. The cs_oms.txt file is in the /home/oracle/labs directory.
 - a. On the dbtarget.example.com host home page, navigate to **Host > Remote File Editor**.



- b. If prompted, select NC_HOST_ORACLE as your **Named Credential** and click **OK**. Or, allow the Preferred Credential oracle to be used.
 - c. Either use the flashlight icon to navigate to the /home/oracle/labs directory and select the cs_oms.txt file, or enter the path and file name in the File Name field: /home/oracle/labs/cs_oms.txt. Click **Continue**.

- d. Fix the error in the word “probably” by adding the letter “o.” Click **Save** and then **OK**.



The screenshot shows a 'Remote File Editor' window for host 'dbtarget.example.com'. The file being edited is 'cs_oms.txt' located at '/home/oracle/labs/cs_oms.txt'. The file contents are as follows:

```
## This is a file for training purposes only, simulating a cheat sheet: how to restart OMS
## Please do not use it in class, unless your instructor advises it.
## Note: The directory structure of your installation is prbbably different.

Restart WEBTIER as oracle user:
cd /u02/app/oracle/product/middleware/oms/bin
./emctl status oms
./emctl stop oms
./emctl start oms
```

The word 'prbbably' in the third line is highlighted in red. At the bottom right of the editor window, there are buttons for 'Revert', 'Save a Copy', and 'Save'. An 'OK' button is also present in the top right corner of the entire dialog.

Practices for Lesson 6: Managing Groups

Chapter 6

Practices for Lesson 6

Practices Overview

In these practices, you manage groups.

1. Create a privilege-propagating group for your database instance, named PPG_DB_GROUP. You want to explicitly assign targets to this group. Which group type do you select?
2. Assign an Oracle-provided monitoring template to the PPG_DB_GROUP group.
3. Create a second group that does not propagate privileges when new targets are added.
4. Test the PPG_DB_GROUP as the DB_ADMIN user.

Practice 6-1: Creating a Privilege-Propagating Group

Overview

In this practice, you create a privilege-propagating group named PPG_DB_GROUP for your database instance. You want to explicitly assign targets to this group. Which group type do you select?

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Create the DB_ADMIN user.
 - a. Logged in as the emadmin user, navigate to **Setup > Security > Administrators**.
 - b. Click **Create** and enter the following values: DB_ADMIN as the Name, dbadmin as the Password, and DEFAULT as the Password Profile.

Create Administrator: Properties

* Name	DB_ADMIN
* Password	*****
* Confirm Password	*****
Password Profile	DEFAULT
You can create additional password profile using database admin pages <input type="checkbox"/> Prevent password change <small>When checked, administrator is not allowed to change his/her own password.</small> <input type="checkbox"/> Expire password now <small>When selected, administrator account will be created with expired state. On next login, administrator will be forced to change password.</small>	
E-mail Address	Specify one or more e-mail addresses separated by a comma or space. If you are entering these for the first time, they will be used to create a default 24x7 notification schedule for this administrator.
Contact	
Location	
Department	
Cost Center	
Line of Business	
Description	EM administrator for the database
<input type="checkbox"/> Super Administrator	

Note the Super Administrator box NOT checked. Click **Next**.

- c. On the “Create Administrator DB_ADMIN: Roles” page, select the following roles: **EM_ALL_VIEWER**, **EM_USER** (already selected), and **PUBLIC**(already selected). Then click **Next**.

Create Administrator DB_ADMIN: Roles

Roles are sets of permissions that can be applied to individual Administrators. Granting Roles is a convenient way to grant multiple the roles from the Available roles below to assign to the administrator.

Available Roles	Selected Roles
EM_ALL_ADMINISTRATOR	EM_ALL_VIEWER
EM_ALL_DESIGNER	EM_USER
EM_ALL_OPERATOR	PUBLIC
EM_CBA_ADMIN	
EM_CLOUD_ADMINISTRATOR	
EM_COMPLIANCE_DESIGNER	
EM_COMPLIANCE_OFFICER	
EM_CPA_ADMIN	
EM_HOST_DISCOVERY_OPERATOR	
EM_INFRASTRUCTURE_ADMIN	
EM_PATCH_ADMINISTRATOR	
EM_PATCH_DESIGNER	
EM_PATCH_OPERATOR	
EM_PLUGIN_AGENT_ADMIN	
EM_PLUGIN_OMS_ADMIN	
EM_PLUGIN_USER	
EM_PROVISIONING_DESIGNER	
EM_PROVISIONING_OPERATOR	
EM_SSA_ADMINISTRATOR	
EM_SSA_USER	

Move
 Move All
 Remove
 Remove All

- d. On the “Create Administrator DB_ADMIN: Target Privileges” page, select the **View any Target** privilege.
- e. Scroll down to the Target Privileges section and click **Add**.
- f. On the “Search and Add: Targets” page, select **Database Instance** as Target Type.

- g. Click **Select All** and then the **Select** button to add both database instances under Target Privileges.

Search and Add: Targets

Search

Target Type	Database Instance
Target Name	
On Host	
Go	

Select All **Select None**

Select	Name	Type	Host	Status
<input checked="" type="checkbox"/>	em12rep.example.com	Database Instance	em12.example.com	
<input checked="" type="checkbox"/>	orcl.example.com	Database Instance	dbtarget.example.com	

Select

- h. In the Target Privileges section, click the **Edit** icon in the **Manage Target Privilege Grants** column for the first database instance.

Target Privileges

Target Privileges give the Administrator the right to perform particular actions on targets. Table below shows privileges on the targets which would be granted to the Administrator. Click on Add button to add targets for granting target privileges, see the existing grant on a target.

Use "Grant to All" button to assign privileges to all targets. Use "Grant to Selected" button to assign privileges to multiple targets. Privileges for the selected targets will be replaced by the batch settings. To edit individual privileges use the "Edit" icon.

Name	Type	All target types	Go	Clear
Remove	Grant to Selected	Add	Grant to All	
Select All	Select None			
Select	Name	Type	Manage Target Privilege Grants	
<input type="checkbox"/>	em12rep.example.com	Database Instance	View	
<input type="checkbox"/>	orcl.example.com	Database Instance	View	

- i. On the "Create Administrator DB_ADMIN: Target Privileges" page, select **Full** (in addition to the already selected View) privilege and click **Continue**.
 - j. Scroll to the Target Privileges section again. Click the **Manage Target Privilege Grants** icon for the second database instance.
 - k. On the "Create Administrator DB_ADMIN: Target Privileges" page, select **Full** (in addition to the already selected View) privilege and click **Continue**.
 - l. On the "Create Administrator DB_ADMIN: Target Privileges" page, click **Next**.
 - m. Review the resource privileges and accept the defaults. Click **Next**.
 - n. Review your DB_ADMIN definitions and click **Finish**. You receive a confirmation that the DB_ADMIN user has been created.
2. Create a group.
- a. Navigate to **Targets > Groups** and click **Create**. The drop-down shows three types: **Group**, **Dynamic Group**, and **Administration Group**. You want to explicitly assign targets to this group. Which group type do you select?
Possible answer: You select "Group," because Cloud Control assigns targets based on target properties for administration groups.
 - b. On the "Add Target, Create Group" page, enter **PPG_DB_GROUP** in the Name field.
 - c. Select "Privilege Propagation Enabled" and specify your time zone.
 - d. In the Members section, click **Search By Criteria**.

- e. On the “Search By Criteria and Select: Targets” page, ensure that only your two database instances are selected (deselect any others), and then click **Select**.

Select All Select None		Applicable Target Types	Host	Status
Select	Target Name			
<input type="checkbox"/>	dbtarget.example.com	Host	dbtarget.example.com	
<input type="checkbox"/>	em12.example.com	Host	em12.example.com	
<input checked="" type="checkbox"/>	em12rep.example.com	Database Instance	em12.example.com	
<input checked="" type="checkbox"/>	orcl.example.com	Database Instance	dbtarget.example.com	

- f. Click the **Charts** tab.
g. Review and accept the default charts. Then click the **Columns** tab.
h. Optionally, shorten the Abbreviations to customize your group page and dashboard.
i. Click the **Dashboard** tab.
j. Enter 2 as Refresh Frequency (minutes).
k. Click the **Access** tab.
l. On the Group Access page, click **Add**.
m. On the “Search and Select Administrator or Role” page, select **DB_ADMIN** and click **Select**.
n. Select **Full** in the “Manage Target Privilege Grants” menu and click **OK** to create your privilege-propagating group.

Edit Privilege Propagating Group : PPG_DB_GROUP

General	Charts	Columns	Dashboard	Access
Owner EMADMIN				OK Cancel
Remove Add				
Select All Select None				
Select Name	Type	Description	Manage Target Privilege Grants	
<input type="checkbox"/> DB_ADMIN	Administrator	EM administrator for the database	<input type="text" value="Full"/>	

- o. You receive a confirmation message indicating the **PPG_DB_GROUP** has been added. Click **OK** to close the information window.
3. Assign an Oracle-provided monitoring template to the **PPG_DB_GROUP** group.
a. Navigate to **Enterprise** (global menu) > **Monitoring** > **Monitoring Templates**.
b. If the Oracle-provided templates are not displayed, select “Display Oracle provided templates and Oracle Certified templates” and then click **Go**.

- c. Select the **Oracle Certified-Enable Database Security Configuration Metrics** monitoring template for the Database Instance target type and click **Compare Settings**.

Monitoring Templates					
	Template Name	Target Type	Count	Owner	Action
<input type="radio"/>	Oracle provided Agent template	Agent	0	SYSMAN	
<input type="radio"/>	Oracle Certified-Enable RAC Security Configuration Metrics	Cluster Database	0	SYSMAN	
<input type="radio"/>	Oracle Certified-Enable Listener Security Configuration Metrics	Listener	0	SYSMAN	
<input checked="" type="radio"/>	Oracle Certified-Enable Database Security Configuration Metrics	Database Instance	0	SYSMAN	
<input type="radio"/>	Oracle Certified-Disable RAC Security Configuration Metrics	Cluster Database	0	SYSMAN	
<input type="radio"/>	Oracle Certified-Disable Listener Security Configuration Metrics	Listener	0	SYSMAN	
<input type="radio"/>	Oracle Certified-Disable Database Security Configuration Metrics	Database Instance	0	SYSMAN	
<input type="radio"/>	Oracle Certified Template for WebLogic Server Template	Oracle WebLogic Server	0	SYSMAN	
<input type="radio"/>	Oracle Certified Template for Host targets	Host	0	SYSMAN	
<input type="radio"/>	Oracle Certified Template for Agent targets	Agent	0	SYSMAN	
<input type="radio"/>	Oracle certified - OVM Server Pool, Server & Guest perf metrics	Oracle VM Server Pool	0	SYSMAN	
<input type="radio"/>	Oracle certified - Oracle VM Zone Response & Config metrics	Oracle VM Zone	0	SYSMAN	
<input type="radio"/>	Oracle certified - Oracle VM Server Response & Config metrics	Oracle VM Server	0	SYSMAN	
<input type="radio"/>	Oracle certified - Oracle VM Manager Response & Config metrics	Oracle VM Manager	0	SYSMAN	

[Apply](#) [View](#) [Edit](#) [Create Like](#) [Delete](#) [Compare Settings](#) [Export](#) | [Create](#) [Set Default Templates](#) [Import](#)

- d. Click **Add** to add a destination target.
- e. On the “Search and Select: Targets” page, select the `orcl.example.com` database instance and click **Select**.
- f. Click **Continue**.
- g. The “Compare Monitoring Template” page should show a lot of metrics with differences.
- h. Click **Apply template**.
- i. Verify the Apply option selected is “Template will only override metrics that are common to both template and target.” and click **OK**.

Apply Monitoring Template Oracle Certified-Enable Database Security Configuration Metrics: General

Source Template **Oracle Certified-Enable Database Security Configuration Metrics**

Target Type **Database Instance**

Owner **SYSMAN**

Apply Options

Template will completely replace all metric settings in the target.

Applying the template removes the thresholds of the metrics that are present in the target but not included in the template. This disables alert functionality for these metrics. Metric data will continue to be collected.

Template will only override metrics that are common to both template and target.

- j. You receive a confirmation message.

Practice 6-2: Creating a Second Group

Overview

In this practice, you create a second group that does not propagate privileges when new targets are added. Use the Create Like functionality to facilitate your task.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. To create a second group, navigate to **Targets** (global menu) > **Groups**.
2. Select the **PPG_DB_GROUP** and click **Create Like**.
3. Enter **DB_GROUP** in the Name field and **deselect** Privilege Propagation.
4. Click **OK** to create your second group.
5. Click **OK** to dismiss the informational message indicating your DB_GROUP has been created.
6. Note the different Group Type icons, which distinguish a “Group” from a “Privilege Propagating Group.”

The screenshot shows the 'Groups' page in Oracle Enterprise Manager. At the top, there's a search bar with fields for 'Name', 'Search', 'Advanced Search', and 'Save Search Criteria'. Below the search bar is a toolbar with options: View, Create, Create Like, Edit, Remove, View Members, Customize Page, Associate Template Collection, and Disassociate Template Collection. The main area displays a table of groups. The columns are 'Name' and 'Group Type'. The 'Name' column lists 'DB_GROUP' and 'PPG_DB_GROUP'. The 'Group Type' column shows icons: a blue square for DB_GROUP and a blue circle with a dot for PPG_DB_GROUP. A red box highlights the 'Group Type' column for the DB_GROUP row. The table also includes a 'Members' column showing 'Database Instance(2)' for both groups, and a 'Member Status Summary' and 'Incidents' section at the bottom right.

Name	Group Type	Members	Member Status Summary	Incidents
DB_GROUP		Database Instance(2)	- 2 - - - - - -	- 2 - - - - - -
PPG_DB_GROUP		Database Instance(2)	- 2 - - - - - -	- 2 - - - - - -

Practice 6-3: Testing the Group

Overview

In this practice, you test the PPG_DB_GROUP group as the DB_ADMIN user. You will see that your restriction is effective, that you cannot perform host configuration tasks.

Assumptions

Tasks

1. To test as a different user, first log out as the emadmin user.
2. Log in as the DB_ADMIN user with the dbadmin password.
3. The first time you log in to Enterprise Manager Could Control, the “Select Enterprise Manager Home” page is displayed. In your role as Enterprise Manager Administrator for databases, click “**Select As My Home**” in the **Databases** section.
4. To confirm that you cannot configure hosts as the DB_ADMIN user:
 - a. Click **Targets** (global menu) > **Hosts**.
 - b. Select one of the hosts and click **Configure**.
 - c. As expected, you receive an error message.



- d. Acknowledge the error by clicking **OK**.
- e. Log out of Enterprise Manager Cloud Control.

5. Log in again as the emadmin user with the emadmin password.

Practices for Lesson 7: Managing Systems and Services

Chapter 7

Practices for Lesson 7

Practices Overview

In your organization, you might have customized applications that you want to monitor with Enterprise Manager. To practice the workflow for such a task, these practices allow you to:

1. Optionally, review existing systems and services and answer the following questions (choose the ones that are relevant for you):
 - What is the status of the Daily Maintenance job?
 - When was the Daily Maintenance job last executed?
 - Is there a Beacon job that tests availability? If yes, what is its frequency?
 - Are there any jobs for which information is not available?
 - What is the name of the Management Service for the OMS and OMR?
 - Which OMS applications does it include?
 - What is this service a member of?
 - What are the service levels over the last 7 days for each of the services displayed on the Enterprise Manager Dashboard?
 - To which system do they belong?
 - Use the Services overview page to determine which service is monitored by a beacon.
2. Create a sample system named `MY_SYSTEM`.
3. Optionally, create a Generic Service named `MY_SERVICE` and select the `MY_SYSTEM` system to host the service. Define the availability based on a system. (*This practice is considered optional, because you will create another generic service in Practice 7-4, for web transactions that use service tests with beacons to check availability.*)
4. Establish access to the WebLogic Administration Console. (In your organization, this would be access to the custom application, which you want to monitor.)
You create an additional generic service, called `MY_WEB_SERVICE`, for the web transaction type by using the URL for the WebLogic Administration console application. Specify the URL as `https://<hostname>. <domain>:7101/console`. Select the `MY_SYSTEM` system that you created in the earlier practice. Define availability based on a Service Test and enter the name as `WLConsole`. Create beacons by the name `Rio Beacon` and `My EM Beacon`, and select any agents.

5. Then assume that you do not have access to the Internet Explorer browser; therefore, you have to create a web transaction manually. You add three steps with URLs from the WebLogic Administration console application. You enable the web transaction, change the key service test to include it, and then verify that it works.

Practice 7-1: Reviewing Existing Systems and Services

Overview

In this optional practice, you review systems and services, which Enterprise Manager defined for you. If you are already familiar with them, you can skip this practice.

Note: Your screenshots may display different results.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. To review existing systems, such as the OMS and Repository System, navigate to **Setup > Managed Cloud Control > Repository**.
2. View information about the DBMS jobs to answer the questions that follow.
 - a. Examine the **Repository Scheduler Jobs Status** section. The screenshot below is used to answer the questions that follow. Your answers may vary from the example shown.

DBMS Job Name	Status	Throughput	Processing Time (%) (Last Hour)	Next Scheduled Run	Last Scheduled Run
Agent Ping	Up	0.00	0.06 ✓	Nov 29, 2012 12:34:41 PM GMT ✓	Nov 29, 2012 12:34:41 PM GMT ✓
Audit System Externalize Process	Up	0.00	0.00 ✓	Nov 29, 2012 10:17:41 PM GMT ✓	Nov 28, 2012 10:17:41 PM GMT ✓
Beacon Service Availability	Up	0.00	0.00 ✓	Nov 29, 2012 12:34:41 PM GMT ✓	Nov 29, 2012 12:34:41 PM GMT ✓
CBO Statistic Collection	Up	0.00	0.00 ✓	Nov 29, 2012 1:17:41 PM GMT ✓	Nov 29, 2012 11:17:41 AM GMT ✓
Compute Metric Baseline Statistics	Up	0.00	0.00 ✓	Nov 29, 2012 11:30:00 PM GMT ✓	Nov 28, 2012 11:30:00 PM GMT ✓
Config Post Load Processing For Target Prop	Up	0.00	0.00 ✓	Nov 29, 2012 12:34:41 PM GMT ✓	Nov 29, 2012 12:34:41 PM GMT ✓
EM Daily Maintenance	Up	0.00	0.00 ✓	Nov 30, 2012 1:00:00 AM GMT ✓	Nov 29, 2012 1:00:00 AM GMT ✓
EM General Purge Policies	Up	0.00	0.00 ✓	Nov 30, 2012 4:00:00 AM GMT ✓	Nov 29, 2012 4:00:00 AM GMT ✓
Feature Usage Statistics Collection	Up	0.00	0.00 ✓	Dec 6, 2012 12:00:00 AM GMT ✓	Nov 29, 2012 12:00:00 AM GMT ✓
Job Step Scheduler	Up	0.00	0.00 ✓	Nov 29, 2012 12:35:27 PM GMT ✓	Nov 29, 2012 12:33:27 PM GMT ✓

 - b. What is the status of the EM Daily Maintenance job? (*Up*)
 - c. When was the Daily Maintenance job last executed? (*Last Scheduled Run column*)
 - d. Is there a Beacon job that tests availability? (*Yes, Beacon Service Availability*)
 - e. Are there any jobs for which information is not available? (*No*)
3. Click the **Management Services and Repository** link located at the top left. What is the name of the Management Service in use?
(em12.example.com:4889_Management_Service)
4. Click the **Management Service in Use** link. Which OMS applications does the Management Service include?
(em12.example.com:4889_Management_Service_CONSOLE and em12.example.com:4889_Management_Service_PBS)

The screenshot shows the Oracle Management Service interface. At the top, there's a header bar with the URL "em12.example.com:4890_Management_Service" and an "i" icon (highlighted with a red box). Below the header is a "Summary" section with a "General" tab selected. The "General" section displays various service details:

- Status: Up
- Availability (%): 100
- Monitoring Agent: em12.example.com:3872
- Host: em12.example.com
- Oracle Home: /u01/app/oracle/middleware/oms
- Version: 12.1.0.2.0
- Upload Port: 4890
- Secure Upload Port: 4901
- Upload Locked: true
- Console Port: 7789
- Secure Console Port: 7801
- Console Locked: true

Below the General section is another summary section titled "OMS Applications" with a table:

Name	Status
em12.example.com:4890_Management_Service_CONSOLE	
em12.example.com:4890_Management_Service_PBS	

- Click the "i" icon. What is this service a member of? (*Management Services and Repository*)

A modal dialog titled "Target Information" is displayed. It shows the following details for the service "em12.example.com:4890_Management_Service":

- Up Since: Nov 28, 2012 3:02:33 PM
- Availability (%): 100
- Version: 12.1.0.2.0
- Oracle Home: /u01/app/oracle/middleware/oms
- Agent: em12.example.com:3872
- Host: em12.example.com
- Member of: Management Services and Repository

- Click the **Management Services and Repository** link to return.
- Navigate to **Targets** (global menu) > **Services**.
- To which system do they belong? (*View the Key Component Summary section: Management Services and Repository*)

9. Optionally, review any other services that interest you.

Services										Page Refreshed Dec 3, 2012 9:17:31 PM UTC									
Services Features ▾			Type ALL	Name %	Search	Advanced Search													
View ▾		Configure	Remove	Type	Generic Service	Add	Service Level Agreement Status			Incidents		System			Key Tests				
Name			Type	Status		Performance			Usage		Name		Key Components			Status		Incidents	Monitoring Beacons
				Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green
EM Console Service	EM Service			Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green
EM Jobs Service	EM Service			Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green	Yellow	Red	Green

10. Navigate to **Targets** (global menu) > **Services**. Which service is monitored by a beacon?
(EM Console Service)

Practice 7-2: Creating a System

Overview

In this practice, you create a test system called `MY_SYSTEM`, with target members from your database target. Assume that the system is located in Vienna. This system will be used in the following practices.

Assumptions

You are logged into Enterprise Manager Cloud Control as the `emadmin` user (with the `emadmin` password).

Tasks

1. Navigate to **Targets > Systems**.
2. Click **Add**.
3. On the “Create Generic System: General” page enter the following values. Be sure to expand “System Properties” and scroll down to access all of the fields.

Field Name	Value
Name	<code>MY_SYSTEM</code>
Comment	Test system
Privilege Propagating System	Not Selected
Contact	<your name>
Lifecycle Status	Test
Line of Business	Financials
Location	Vienna
Time Zone	Vienna (CET)

4. In the Members section (*middle of the page*), click **Add**.
5. Note that the following example is only for training purposes. (The database is already part of the database system.) Select and add the following target members:
 - `orcl.example.com`
 - `orcl.example.com_sys`
 - `dbtarget.example.com`
 - `dbtarget.example.com:3872`

Order by Host name, hold down the Ctrl key and select your targets, then click **Select**.

Members	
Name	Type
dbtarget.example.com	Host
dbtarget.example.com:3872	Agent
orcl.example.com	Database Instance
orcl.example.com_sys	Database System

6. Click **Next**.

7. On the “Create Generic System: Define Associations” page, select **Show associations automatically detected by Enterprise Manager** if no associations are displayed.
8. Review the list and click **Next**.
9. On the “Create Generic System: Availability Criteria” page, select **Any Of The Key Members**. Move the dbtarget.example.com (Host) and orcl.example.com (Database Instance) to the Key Members list. Click **Next**.

Create Generic System : Availability Criteria

Specify the targets that need to be up in order for the system to be considered up. All members with availability and not in broken state are candidates for key Members.

Availability Criteria Any Of The Key Members All Of The Key Members

Key Members

Members
dbtarget.example.com:3872 (Agent) orcl.example.com._sys (Database System)

10. Accept the Oracle suggested charts and click **Next**.
11. Review your definitions and click **Finish**. You receive a confirmation message that your system was created.
12. Click **Targets** (global menu) > **Systems** to confirm that MY_SYSTEM is created and has the status of "Up".

Systems

Page Refreshed Dec 3, 2012 9:26:45 PM UTC

A system is a collection of related manageable entities which together provide one or more business functions. Members of any system can have well-defined relationships amongst themselves, called associations.

Search

Type: Generic System

Name:

View ▾ | Edit | Remove | Customize Page | Generic System | + Add

Name	Status	Type	Members	Member Status Summary	Incidents
MY_SYSTEM	Up	Generic System	Host(1), Database Instance(1), Database System(1), ... More		

13. Click the **MY_SYSTEM** link in the Name column and review your MY_SYSTEM home page.

Practice 7-3: Creating a Generic Service

Overview

In this optional practice, you create a Generic Service named `MY_SERVICE` and select the `MY_SYSTEM` system to host the service. Define the availability based on a system. (*This practice is considered optional, because you will create another generic service for web transactions, which use service tests with beacons to check availability, in the next practice.*)

Assumptions

You are logged in to Enterprise Manager Cloud Control as the `emadmin` user (with the `emadmin` password).

Tasks

1. Navigate to **Targets** (global menu) > **Services**.
2. Make sure that **Generic Service** is selected as Type. Click **Add**.

The screenshot shows the 'Services' page in Oracle Enterprise Manager Cloud Control. The top navigation bar includes 'Services Features' and a search bar. Below it, a toolbar has buttons for 'View', 'Configure', 'Remove', 'Type' (set to 'Generic Service'), 'Go', 'Advanced Search', and 'Add' (which is highlighted with a red box). The main area is a grid table with columns: Name, Type, Status, Service Level Agreement Status, Incidents, Performance, Usage, and Name. Two rows are visible: 'EM Console Service' (EM Service, Management Services and Repository) and 'EM Jobs Service' (EM Service, Management Services and Repository). Each row has a green upward arrow icon in the first column.

3. On the “Create Generic Service: General” page, enter `MY_SERVICE` in the Name field and click **Select System**.
4. Select the previously created `MY_SYSTEM` and click **Select**.
5. When you select the system, all its components are automatically selected. Click **Next** to define availability.
6. Select **System** from the “Define availability based on” drop-down list. Retain the default settings for the rest of the options and click **Next**.

7. Click **Next** on the “Create Generic Service: Performance Metrics” page.

8. Click **Next** on the “Create Generic Service: Usage Metrics” page.

9. On the “Create Generic Service: Review” page, review your service definition. Why did the Create Generic Service wizard not create beacons for you?

Possible answer: Because your Availability test is defined based on the system, not on a service.

10. Click **Finish** to create the generic service.
 You should receive a confirmation message.

Services

Page Refreshed Dec 3, 2012 9:38:06 PM UTC

Confirmation
Generic Service MY_SERVICE has been added.

Services Features ▾

Type	All	Name	%	Search	Advanced Search					
Type	Generic Service	Add								
Name	Type	Status	Service Level Agreement Status	Incidents	System	Key Tests				
				Performance	Usage	Name				
							Incidents			
							Monitoring Beacons			
MY_SERVICE	Generic Service		-	-	-	MY_SYSTEM	1	0 0 0 0	n/a	- 0
EM Console Service	EM Service		-	-	-	Management Services and Repository	7	0 2 0 0	1	- 1
EM Jobs Service	EM Service		-	-	-	Management Services and Repository	4	0 2 0 0	n/a	- 0

11. Optionally, review your new MY_SERVICE service home page.

MY_SERVICE
 Generic Service ▾

Generic Service: MY_SERVICE

Home Charts Test Performance System Monitoring Configuration Topology

Page Refreshed Dec 3, 2012 9:38:44 PM GMT

General

Status Up Black Out
 Up Since Dec 3, 2012 9:27:06 PM
 Last Calculated Dec 3, 2012 9:37:06 PM
 Availability (%) 100
 (Last 24 Hours)
 Performance
 Usage
 Actual Service Level (%) 100.00
 (Last 24 Hours)
 Expected Service Level (%) 85.00

Key Component Summary

System MY_SYSTEM (Topology)	Status 1	Test Type	Status	Alerts
Incidents 0	0	No Test Defined.		

Key Test Summary

Test	Test Type	Status	Alerts
No Test Defined.			

Practice 7-4: Monitoring a Web Application

Overview

In this practice, you create a web application and specify the URL for the WebLogic Administration console application. Specify the name as `WLConsole` and specify the URL as `https://<hostname>.<domain>:7101/console`. Select the `MY_SYSTEM` system that you created in the earlier practice. Define availability based on a Service Test and enter the name as `WLConsole`. Create beacons by the name `Rio Beacon` and `My EM Beacon`, and select any agents.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the `emadmin` user (with the `emadmin` password).

Tasks

For this practice to work correctly, you need to access the WebLogic Administration page from a browser, but you do not need to log in to WebLogic Administration.

1. Open a new browser tab or window and enter a URL similar to the following:
`https://<hostname>.<domain>:7102/console`
In your environment, navigate to:
`https://em12.example.com:7102/console`
2. Most likely, you receive a Secure Connection Failed message and you need to add a security exception. Click **Or you can add an exception**.
 - a. At the bottom of the page, click **Add Exception**.
 - b. In the Add Security Exception pop-up window, click **Get Certificate**.
 - c. Confirm that "Permanently store this exception" is selected in your training environment and click **Confirm Security Exception**.
 - d. The WebLogic Server Administration Console appears. There is no need to log in as the `weblogic` user.
3. Return to your Cloud Control console window.
4. Click the **Add** button on the **Services** page (or navigate to **Setup** (global menu) > **Add Target** > **Generic Service** > **Add**).
5. Enter `MY_WEB_SERVICE` in the Name field, select a time zone if you want, and click **Select System**.
6. Select your previously created `MY_SYSTEM` and click **Select**.
7. Click **Next** to define the Availability of the new service.
8. On the "Create Generic Service: Availability" page, confirm that you define availability based on **Service Test** and click **Next**.

9. The “Create Generic Service: Service Test” page changes depending on the Test Type that you choose. Leave **Web Transaction** as Test Type (default) and enter or confirm the following values and then click **Next**:

Field	Value
Name	WLConsole
Description (optional)	WebLogic Administration Console
Collection Frequency (minutes)	5
Basic Single URL	https://em12.example.com:7102/console

10. A "beacon" is a function within the Management Agent that executes tests at regular intervals.

A service is considered available if the test executes successfully on at least one key beacon.

In your organization, you might use existing beacons. Here you create a new one for training purposes. On the “Create Generic Service: Beacons” page, click **Create**.

11. Use the search icon to select `dbtarget.example.com:3872` as Agent.

12. Name the beacon **Rio Beacon** and click **Continue**.

Beacons: Create Beacon

Select a Management Agent to enable its beacon functionality.

* Agent	<input type="text" value="dbtarget.example.com:3872"/>	
* Name	<input type="text" value="Rio Beacon"/>	You can name the beacon based on its geographic location.

13. It might take a little while for the beacon to be created. When it is displayed on the “Create Generic Service: Beacons” page, click **Create** again to create a second new beacon.

14. Click the flashlight icon to select the agent that will act as a beacon. Select an agent other than the one you previously selected (em12.example.com:3872), and click **Select**. Name the beacon **My EM Beacon** and click **Continue**. Both beacons are listed but their status may be unknown for now. Click **Next** and **Back** to refresh the status.

		Verify Service Test	Remove	Add	Create						
Select	Name	Version	Operating System		Status	Key Beacon					
	Rio Beacon	12.1.0.2.0	Linux			<input checked="" type="checkbox"/>					
	My EM Beacon	12.1.0.2.0	Linux			<input checked="" type="checkbox"/>					

15. Optionally, when a beacon has the status "Up," you can click Verify Service Test and review the test results.

Beacon	Status	Perceived Total Time (ms)	DNS Time (ms)	Connect Time (ms)	Redirect Time (ms)	First Byte Time (ms)	HTML Time (ms)	Non-HTML Time (ms)	Total Time (ms)	Transfer Rate (KB per second)	Perceived Slo
Rio Beacon		66	0	6	29	40	0	1	79	772.8	

16. Click **Next** after you defined (and optionally tested) the two beacons.
 17. Keep the default settings on the “Create Generic Service: Performance Metrics” page and click **Next**.
 18. Click **Next** on the “Create Generic Service: Usage Metrics” page.
 19. Review the entire page and click **Finish**.

Create Generic Service: Review

Previous Performance Metrics Usage Metrics Review

Availability: Based on Service Test

System

Component	Type	Key Component
LISTENER_dbtarget.example.com	Listener	<input checked="" type="checkbox"/>
dbtarget.example.com	Host	<input checked="" type="checkbox"/>
dbtarget.example.com:3872	Agent	<input checked="" type="checkbox"/>
orcl.example.com	Database Instance	<input checked="" type="checkbox"/>
orcl.example.com_sys	Database System	<input checked="" type="checkbox"/>

Service Test

Test Type: Web Transaction
 Name: WLConsole
 Collection Frequency (minutes): 5
 Description: Weblogic Admin C

Transaction
 Basic Single URL: https://em12.example.com:7102/console

Beacons

Name	Version	Operating System	Status	Key Beacon
Rio Beacon	12.1.0.2.0	Linux		<input checked="" type="checkbox"/>
My EM Beacon	12.1.0.2.0	Linux		<input checked="" type="checkbox"/>

Performance

Metric Name	Comparison Operator	Warning Threshold	Critical Threshold
Perceived Time per Page (ms)	>=	6000	12000

Chart on Home Page: Perceived Time per Page (ms)

20. The web application is successfully added. The status shows "Pending." After a little while it should change automatically to "Up."

Name	Type	Status	Service Level Agreement Status			Incidents			System					Key Tests		
			Performance	Usage	Name	Status	Incidents	Monitoring Beacons								
MY_SERVICE	Generic Service	▲	- - - - -	- - - - -	MY_SYSTEM	▲ 1	0 0 0 0	n/a	-	0						
EM Console Service	EM Service	▲	- - - - -	- - - - -	Management Services and Repository	▲ 7	0 2 0 0	▲ 1	-	1						
EM Jobs Service	EM Service	▲	- - - - -	- - - - -	Management Services and Repository	▲ 4	0 2 0 0	n/a	-	0						
MY_WEB_SERVICE	Generic Service	⌚	- - - - -	- - - - -	MY_SYSTEM	▲ 5	0 0 0 0	⌚ 1	-	2						

Practice 7-5: Creating and Testing a Web Transaction

Overview

In this practice, you manually create a web transaction with three steps. You enable the web transaction, change the key service test to include it, and then verify that it works.

In this practice, the assumption is that you do not have access to the Internet Explorer browser; therefore, you have to create a transaction manually. Specify the transaction name as `BrowseWLConsole` for the transaction that is also called Service Test. Scroll down and click **Create** to create the steps of the transaction.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the `emadmin` user (with the `emadmin` password).

You opened a browser with a URL similar to the following:

`https://<hostname>.<domain>:7102/console`, for example:

`https://em12.example.com:7102/console`. The WebLogic Server Administration Console is displayed. Initially, there is no need to log in.

Tasks

1. Navigate to **Targets** (global menu) > **Services**.
2. Click **MY_WEB_SERVICE**.
3. The **MY_WEB_SERVICE** home page is displayed. To create a transaction, click the **Monitoring Configuration** tab.

Generic Service: MY_WEB_SERVICE

General

- Status: Up (Black Out)
- Last Calculated: Dec 4, 2012 7:21:31 AM
- Availability (%): 100 (Last 24 Hours)
- Performance: ✓
- Usage: ✓
- Actual Service Level (%): 100.00 (Last 24 Hours)
- Expected Service Level (%): 85.00

Performance

Key Component Summary

- System: MY_SYSTEM (Topology)
- Status: 5
- Incidents: 0

Key Test Summary

Test	Type	Status	Alerts
WLConsole	Web Transaction	Up	0

4. Click **Service Tests and Beacons**.
5. To create a new transaction, make sure that the Test Type is **Web Transaction** and click **Add**.

Service Tests

All enabled service tests are run by the beacons shown below.

Select	Service Test	Test Type	Enabled	Status	Key Service Test
<input checked="" type="radio"/>	WLConsole	Web Transaction	Yes		<input checked="" type="checkbox"/>

6. You see a message stating that Microsoft Internet Explorer is required for some operations. In this practice, the assumption is that you do not have access to the Internet Explorer browser; therefore, you have to create a transaction manually. Specify the transaction name as **BrowseWLConsole** for the transaction that is also called Service Test. Scroll down and click **Create** to create the steps of the transaction.

Generic Service: MY_WEB_SERVICE > Service Tests and Beacons > Create Service Test

Information
Microsoft Internet Explorer 7.0 or above is required to perform the following operations: (1) Record a New Web Transaction, and (2) to Play a Web Transaction. The corresponding buttons are disabled in this browser.

Create Service Test

Define a service test to monitor the availability of this service. Based on the test type you select, a set of relevant metrics are collected.

Test Type	Web Transaction	Description
* Name	BrowseWLConsole	
* Collection Frequency (minutes)	5	

Transaction

Record a Transaction

Steps

Create TIP Once you click OK to save the transaction, the name of the step can no longer be changed.
URL may contain Regular Expression Variables, such as [paramFor...], which are defined in an earlier step (usually the previous step).

7. Define Step 1:
- Enter **Step 1** in the Name field.
 - Enter the URL of the WebLogic Server Administration Console home page in the URL field: `https://em12.example.com:7102/console`
 - Click **Continue**.
8. Under **Steps**, click **Insert After** and add the second step.

Create Service Test

Define a service test to monitor the availability of this service. Based on the test type you select, a set of relevant metrics are collected.

Test Type	Web Transaction	Description
* Name	BrowseWLConsole	
* Collection Frequency (minutes)	5	

Transaction

Record a Transaction

Playback Mode Request Simulation Browser Simulation

Collection Granularity The amount of data collected by the Agent. Step mode collects the most amount of data, Transaction mode collects the least amount of data.

Steps

Insert Before **Insert After**

Select	Name	URL	HTTP Method	Success String
<input checked="" type="radio"/>	Step 1	<code>https://em12.example.com:7102/console</code>	GET	

Tip
The playback mode cannot be changed once the transaction has been saved. Request Simulation Play back the Web transaction by sending a series of HTTP requests.

TIP Once you click OK to save the transaction, the name of the step can no longer be changed.
URL may contain Regular Expression Variables, such as [paramFor...], which are defined in an earlier step (usually the previous step).

9. Define the second step:
 - a. Enter **Step 2** in the Name field.
 - b. Enter the URL of the WebLogic Server Administration Console home page `https://em12.example.com:7102/console/login/LoginForm.jsp` in the URL field.
 - c. Select **Post** from the HTTP Method drop-down list.
 - d. Click **Show** for POST Data and enter the following string:
`j_username=weblogic&j_password=weblogic`
 - e. Click **Continue**.

Create Step (Insert After)

* Name	Step 2	Cancel	Continue																																						
Input Parameters																																									
<table border="1"> <tr> <td colspan="2">Nonsensitive Parameters</td> </tr> <tr> <td>Name</td> <td>Value</td> </tr> <tr> <td colspan="2">Example: Name = USR, Value = jsmith. During playback, "[USR]" in the URL or POST Data fields will be substituted with "jsmith".</td> </tr> <tr> <td colspan="2">+</td> </tr> <tr> <td colspan="2">Sensitive Parameters</td> </tr> <tr> <td>Name</td> <td>Value</td> </tr> <tr> <td colspan="2">+</td> </tr> <tr> <td colspan="4">Values are marked. Reentry of values for Sensitive Parameters is required when the URL is changed or a new sensitive parameter reference is added to POST Data or DHTML Actions.</td> </tr> <tr> <td colspan="4">Request</td> </tr> <tr> <td colspan="4"> <table border="1"> <tr> <td>* URL:</td> <td>https://em12.example.com:7102/console/login/LoginForm.jsp</td> </tr> <tr> <td>HTTP Method:</td> <td>POST</td> </tr> <tr> <td>POST Data</td> <td> <input checked="" type="checkbox"/> Hide <input type="checkbox"/> Show <code>j_username=weblogic&j_password=weblogic</code> </td> </tr> <tr> <td>HTTP Headers</td> <td>> Show</td> </tr> <tr> <td>Recorded Query Parameter</td> <td>This is used by version 10.2.0.3 or earlier beans.</td> </tr> <tr> <td>Request Mode</td> <td>User Action</td> </tr> </table> </td> </tr> </table>				Nonsensitive Parameters		Name	Value	Example: Name = USR, Value = jsmith. During playback, "[USR]" in the URL or POST Data fields will be substituted with "jsmith".		+		Sensitive Parameters		Name	Value	+		Values are marked. Reentry of values for Sensitive Parameters is required when the URL is changed or a new sensitive parameter reference is added to POST Data or DHTML Actions.				Request				<table border="1"> <tr> <td>* URL:</td> <td>https://em12.example.com:7102/console/login/LoginForm.jsp</td> </tr> <tr> <td>HTTP Method:</td> <td>POST</td> </tr> <tr> <td>POST Data</td> <td> <input checked="" type="checkbox"/> Hide <input type="checkbox"/> Show <code>j_username=weblogic&j_password=weblogic</code> </td> </tr> <tr> <td>HTTP Headers</td> <td>> Show</td> </tr> <tr> <td>Recorded Query Parameter</td> <td>This is used by version 10.2.0.3 or earlier beans.</td> </tr> <tr> <td>Request Mode</td> <td>User Action</td> </tr> </table>				* URL:	https://em12.example.com:7102/console/login/LoginForm.jsp	HTTP Method:	POST	POST Data	<input checked="" type="checkbox"/> Hide <input type="checkbox"/> Show <code>j_username=weblogic&j_password=weblogic</code>	HTTP Headers	> Show	Recorded Query Parameter	This is used by version 10.2.0.3 or earlier beans.	Request Mode	User Action
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* URL:	https://em12.example.com:7102/console/login/LoginForm.jsp																																								
HTTP Method:	POST																																								
POST Data	<input checked="" type="checkbox"/> Hide <input type="checkbox"/> Show <code>j_username=weblogic&j_password=weblogic</code>																																								
HTTP Headers	> Show																																								
Recorded Query Parameter	This is used by version 10.2.0.3 or earlier beans.																																								
Request Mode	User Action																																								

10. Scroll again to the Steps section and click **Insert After**.
11. Define the third step.
 - a. Enter **Step 3** in the Name field.
 - b. Enter the WebLogic Server Administration Console home page URL in the URL field:
To obtain the URL, you can log in to the WebLogic Server Administration Console as the `weblogic` user with the `Oracle123` password, move the cursor over **Log Out**, right-click, click **Copy Link Location** to copy the URL from the Log Out link, and then paste it in the URL field in the Cloud Control console.
 - c. Verify that **GET** is selected from the HTTP Method drop-down list.
 - d. Click **Continue**.

Create Step (Insert After)

* Name Step 3

Input Parameters

Name	Value
Example: Name = USR, Value = jsmith. During playback, "[USR]" in the URL or POST Data fields will be substituted with "jsmith".	[]

Sensitive Parameters

Name	Value
Values are masked. Reentry of values for Sensitive Parameters is required when the URL is changed or a new sensitive parameter reference is added to POST Data or DHTML Actions.	[]

Request

* URL: https://em12.example.com:7102/console/jsp/common/warnuserlocked.jsp

HTTP Method: GET

POST Data

HTTP Headers: Show

Recorded Query Parameter: This is used by version 10.2.0.3 or earlier beacons.

Request Mode: User Action

12. To create the Service Test, click **OK** to save these steps. You should receive a confirmation message.

MY_WEB_SERVICE

Generic Service: MY_WEB_SERVICE > Service Tests and Beacons

Confirmation

The service test "BrowseWLConsole" has been created successfully.

Service Tests and Beacons

Specify the service tests and beacons to monitor the availability and performance of your service.

Service Tests

All enabled service tests are run by the beacons shown below.

Select	Service Test	Test Type	Enabled	Status	Key Service Test
<input checked="" type="radio"/>	BrowseWLConsole	Web Transaction	No		<input type="checkbox"/>
<input type="radio"/>	WLConsole	Web Transaction	Yes		<input checked="" type="checkbox"/>

Beacons

Specify the beacons that will execute the service tests.

Select	Name	Version	Operating System	Status	Key Beacon
<input checked="" type="radio"/>	My EM Beacon	12.1.0.2.0	Linux		<input checked="" type="checkbox"/>
<input type="radio"/>	Rio Beacon	12.1.0.2.0	Linux		<input checked="" type="checkbox"/>

13. The web transaction is successfully saved. The next step is to enable the web transaction. To do so, select the BrowseWLConsole transaction and click the **Enable** button.
14. You should receive a confirmation. To make this service test a key service test, select the check box in the Key Service Test column. Click **Change Key Tests**.

Service Tests

All enabled service tests are run by the beacons shown below.

Select	Service Test	Test Type	Enabled	Status	Key Service Test
<input checked="" type="radio"/>	BrowseWLConsole	Web Transaction	Yes		<input checked="" type="checkbox"/>
<input type="radio"/>	WLConsole	Web Transaction	Yes		<input checked="" type="checkbox"/>

Change Key Tests

Again, you should receive a confirmation: "The key tests have been updated successfully."

15. Verify that the service tests (WLConsole and BrowseWLConsole) are working.

a. Select BrowseWLConsole and click **Verify Service Test**.

Generic Service: MY_WEB_SERVICE > Service Tests and Beacons

Confirmation
The key tests have been updated successfully.

Service Tests and Beacons

Specify the service tests and beacons to monitor the availability and performance of your service.

Service Tests

All enabled service tests are run by the beacons shown below.

2 Verify Service Test | Enable | Disable | Remove | View | Edit | Test Type | ATS Transaction | Add

Select	Service Test	Test Type	Enabled	Status	Key Service Test
<input checked="" type="radio"/>	BrowseWLConsole	Web Transaction	Yes		<input checked="" type="checkbox"/>
<input type="radio"/>	WLConsole	Web Transaction	Yes		<input checked="" type="checkbox"/>

Tip
This page allows you to add, remove, and edit service and beacons for your service, but availability is defined separately.

To change the availability definition for your service, "Availability Definition" under Related Links.

b. There are no test results. Select both beacons (one at a time) and click **Perform Test**.

c. Scroll horizontally to review all the results.

Generic Service: MY_WEB_SERVICE > Service Tests and Beacons > Verify Service Test

Verify Service Test

Select the beacons to verify the service test. Execution results for selected beacons are displayed in the results table.

Service Test | BrowseWLConsole | Beacon | My EM Beacon | Perform Test

Enable Logging

Results

Beacon	Status	Perceived Total Time (ms)	DNS Time (ms)	Connect Time (ms)	Redirect Time (ms)	First Byte Time (ms)	HTML Time (ms)	Non-HTML Time (ms)	Total Time (ms)	Transfer Rate (KB per second)	Perceived
My EM Beacon		25	0	7	5	3	0	1	30	2,256.2	

Tip

- Check the **Enable Logging** check box, and **Perform Test** to generate a log file of the transaction playback.
- Click the **Download Log** icon to retrieve the log file.
- For Web transaction monitoring issues, create an SR and upload this log file.

Generic Service: MY_WEB_SERVICE > Service Tests and Beacons > Verify Service Test

Verify Service Test

Select the beacons to verify the service test. Execution results for selected beacons are displayed in the results table.

Service Test | BrowseWLConsole | Beacon | My EM Beacon | Perform Test

Enable Logging

Results

Beacon	Status	Perceived Total Time (ms)	DNS Time (ms)	Connect Time (ms)	Redirect Time (ms)	First Byte Time (ms)	HTML Time (ms)	Non-HTML Time (ms)	Total Time (ms)	Transfer Rate (KB per second)	Perceived
My EM Beacon		25	0	7	5	3	0	1	30	2,256.2	

Tip

- Check the **Enable Logging** check box, and **Perform Test** to generate a log file of the transaction playback.
- Click the **Download Log** icon to retrieve the log file.
- For Web transaction monitoring issues, create an SR and upload this log file.

Practices for Lesson 8: Using the Job System

Chapter 8

Practices for Lesson 8

Practices Overview

In these practices, you will perform tasks with the Enterprise Manager Job system. The third practice depends on completing the first one.

- Create and edit a job that runs a SQL script immediately.
- Create a job that runs a host command. You want the job to list a path and directory content (`pwd ; ls`) each day at 8:00 AM on all your hosts. The job name is `My OS Job`. Change the suggested time to something that enables you to see the job run while you are working on this practice.
- Use the Create Like functionality, to create a second SQL job that should be executed for two database instances. Perform this task only if you have time.

Practice 8-1: Creating and Executing a Simple SQL Job

Overview

In this practice, you create and edit a job that runs a SQL script immediately. (The steps are divided into “create” and “edit” only for training purposes.)

Create a simple job called MY SQL Job that runs a SQL script against the Enterprise Manager Repository. Save the job to the Job Library. Then edit the job to modify the credentials, provide access, and execute the job.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Navigate to **Enterprise** (global Menu) > **Job** > **Library**.
2. Click the **Create Library Job** drop-down and review the different types of jobs that Enterprise Manager supports.
3. Select **SQL Script** and click **Go**.
4. On the General tabbed page, enter **My SQL Job** in the Name field and, optionally, Run a simple SQL query in the Description field.
5. To add a target, click **Add**.
6. Ensure that the Target Type is **Database Instance**, then select the database that is hosting the Enterprise Manager repository (`em12rep.example.com`), and click **Select**.
7. You should see your database listed in the Target section. Now click the **Parameters** subtab.
8. Enter the following query in the SQL Script box:

```
SELECT TABLESPACE_NAME, USED_SPACE, TABLESPACE_SIZE,
USED_PERCENT FROM SYS.DBA_TABLESPACE_USAGE_METRICS;
```

Name	Description
%end_root%	location of Agent
%perlbin%	location of Perl binary used by Agent
%TargetName%	target name
%TargetType%	target type
%orcl_gtp_line_of_bus%	Line of Business

9. Click **Save to Library**.
10. You should see a confirmation message indicating that the job was created.
11. To edit your job, click the **MY SQL JOB** link in the confirmation.
12. On the “Edit ‘SQL Script’ Library Job: MY SQL JOB” page, click the **Credentials** tab.

13. As Database Credentials, create a new Named Credential for the SYS user, password Oracle123 specifically for the em12rep database, and name it NC_EM12REP_SYS. Enter a new Named Credential oracle/oracle for the repository host, NC_EM12_ORACLE, as the Named Credential for the host.

Database Credentials

Credentials to login into Oracle Database from SQL*Plus.

Credential Preferred Named New

* Username: SYS
* Password:
* Confirm Password:
Role: SYSDBA NC_EM12REP_SYS

Host Credentials

Credentials to authenticate on the host to launch SQL*Plus executable.

Credential Preferred Named New

* UserName: oracle
* Password:
* Confirm Password:
Run Privilege: None NC_EM12_ORACLE

14. Click the **Schedule** tab and confirm that the Type is “One Time (immediately).”
15. Click the **Access** tab and give **Full** Access Level to the **sys** and **SYSTEM** users. Also note the E-Mail Notification for Owner section, emails were set.

Name	Type	Access Level	Remove
EMADMIN	Super Administrator	Owner	
SYS	Super Administrator	Full	
SYSMAN	Super Administrator	View	
SYSTEM	Super Administrator	Full	

16. Click **Save to Library**. You should see a Confirmation message.
17. Click **Submit** to execute your job.
18. On the “Submit 'SQL Script' Job From Library Job 'MY SQL JOB'” page, click **Submit** again.
19. You should receive a message that your job was created successfully. Note that the job system adds a “.” (period) and a digit to your job name. Click this job name link. Your job run should be displayed with the Status Succeeded.

21. Click the **Show** link in the Details column.
22. The Output Log is displayed.

Job Activity > Job Run: MY SQL JOB.1

Job Run: MY SQL JOB.1

Scheduled Dec 4, 2012 10:14:19 AM GMT+00:00
Targets em12rep.example.com

Type SQL Script
Owner EMADMIN
Description Run a simple SQL query

Executions

Targets	Status	Started	Ended	Elapsed Time
All	Succeeded	Dec 4, 2012 10:14:22 AM GMT+00:00	Dec 4, 2012 10:14:29 AM GMT+00:00	7 seconds

Log Report

Show All Details | Hide All Details

Select	Details	Targets	Status	Started	Ended	Elapsed Time
<input checked="" type="radio"/>	<input type="checkbox"/> Hide	em12rep.example.com	Succeeded	Dec 4, 2012 10:14:22 AM GMT+00:00	Dec 4, 2012 10:14:29 AM GMT+00:00	7 seconds

Output Log

```
SQL*Plus: Release 11.2.0.3.0 Production on Tue Dec 4 10:14:27 2012
Copyright (c) 1982, 2011, Oracle. All rights reserved.

SQL> SQL> Connected.
SQL> SQL> SQL> SQL> SQL>
TABLESPACE_NAME USED_SPACE TABLESPACE_SIZE USED_PERCENT
----- ----- -----
EXAMPLE 39656 1068579 3.7110967
MGMT_AD4J_TS 200 1049939 .019048726
MGMT_ECM_DEPOT_TS 6728 1032019 .651925982
MGMT_TABLESPACE 251848 1293139 19.47570
```

[View Complete Log...](#)

23. Optionally, review both the View Complete Log and the Log Report. The navigator may provide faster access than going through the menus.

Practice 8-2: Creating and Executing OS Jobs

Overview

In this practice, you create a job that runs a host command. You want the job to list a path and directory content (`pwd ; ls`) each day at 8:00 AM on all your hosts. The job name is My OS Job.

Tip: You want to change the time to something that enables you to see the job run while you are working on this practice.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Navigate to **Enterprise** (global Menu) > **Job** > **Library**.
2. Confirm that “**OS Command**” is selected in the Create Library Job drop-down and click **Go**.
3. On the “Create ‘OS Command’ Library Job – General” tabbed page, enter My OS Job in the Name field and, optionally, List path and directory content in the Description field. Confirm that the Target Type is **Host**.
4. To add targets, click **Add**.
5. On the “Search and Select: Targets” page, click **Select All**, and then click the **Select** button.
6. You should see your hosts listed in the Target section. Now click the **Parameters** subtab.
7. Confirm that the Command Type is Single Operation and enter `pwd ; ls` in the Command field.
- Tip:** If you are unsure why these two commands can be executed as a single operation, click Help > Enterprise Manager Help, search on "Specifying a Single Operation" and review the topics with "Managing Jobs" as Source.
8. Click the **Credentials** tab.
9. Provide the existing **NC_EM12_ORACLE** as Named Host Credentials.
10. Click the **Schedule** tab, decide if you want to create a One Time job or a repeating one. This Activity Guide describes the Repeating job. Enter the following values (or adjust them to your training environment):

Description	Choices or Values
Frequency Type	<code>By days</code>
Repeat Every	<code>1 Days</code>
Time Zone	Recommendation: Select the time zone of your host computer.

Create 'OS Command' Library Job

[Cancel](#) [Save to Library](#)

General	Parameters	Credentials	Schedule	Access
<p>Type <input type="radio"/> One Time (Immediately) <input type="radio"/> One Time (Later) <input checked="" type="radio"/> Repeating</p> <p>Frequency Type <input type="button" value="By Days"/></p> <p>Repeat Every <input type="text" value="1"/> Days</p> <p>Time Zone <input type="button" value="(UTC+00:00) Universal Time (UTC)"/></p> <p>Start Date <input type="text" value="Dec 4, 2012"/> <input type="button" value=""/></p> <p>Start Time <input type="text" value="10:19"/> <input checked="" type="radio"/> AM <input type="radio"/> PM</p> <p>Grace Period <input checked="" type="radio"/> Indefinite <input type="radio"/> End After <input type="text" value=""/> Hours <input type="text" value=""/> Minutes</p> <p>Repeat Until <input checked="" type="radio"/> Indefinite <input type="radio"/> Specified Date</p> <p>Date <input type="text" value=""/> <input type="button" value=""/> (example: Dec 4, 2012)</p> <p>Time <input type="text" value=""/> <input type="button" value=""/> <input checked="" type="radio"/> AM <input type="radio"/> PM</p>				
Cancel Save to Library				

11. Click the **Access** tab.
12. Give **Full Access Level** to the **SYSMAN** user.

Create 'OS Command' Library Job

[Cancel](#) [Save to Library](#)

General	Parameters	Credentials	Schedule	Access																									
<p>This table contains Administrators and Roles that have access to this job.</p> <table border="1"> <thead> <tr> <th>Add</th> <th>Name</th> <th>Type</th> <th>Access Level</th> <th>Remove</th> </tr> </thead> <tbody> <tr> <td></td> <td>EMADMIN</td> <td>Super Administrator</td> <td>Owner</td> <td><input type="button" value=""/></td> </tr> <tr> <td></td> <td>SYS</td> <td>Super Administrator</td> <td><input type="button" value="View"/></td> <td><input type="button" value=""/></td> </tr> <tr> <td></td> <td>SYSMAN</td> <td>Super Administrator</td> <td><input type="button" value="Full"/></td> <td><input type="button" value=""/></td> </tr> <tr> <td></td> <td>SYSTEM</td> <td>Super Administrator</td> <td><input type="button" value="View"/></td> <td><input type="button" value=""/></td> </tr> </tbody> </table> <p>E-Mail Notification for Owner A Notification rule may be used by any Administrator to receive notifications about this job. The owner may choose to receive e-mail notifications based on any of the selected status values below. E-mail will be sent based on the Owner's notification schedule.</p> <p><input type="checkbox"/> Scheduled <input type="checkbox"/> Running <input type="checkbox"/> Suspended <input type="checkbox"/> Succeeded <input type="checkbox"/> Problems <input type="checkbox"/> Action Required No E-mail addresses are found. The notification schedule is not defined.</p>					Add	Name	Type	Access Level	Remove		EMADMIN	Super Administrator	Owner	<input type="button" value=""/>		SYS	Super Administrator	<input type="button" value="View"/>	<input type="button" value=""/>		SYSMAN	Super Administrator	<input type="button" value="Full"/>	<input type="button" value=""/>		SYSTEM	Super Administrator	<input type="button" value="View"/>	<input type="button" value=""/>
Add	Name	Type	Access Level	Remove																									
	EMADMIN	Super Administrator	Owner	<input type="button" value=""/>																									
	SYS	Super Administrator	<input type="button" value="View"/>	<input type="button" value=""/>																									
	SYSMAN	Super Administrator	<input type="button" value="Full"/>	<input type="button" value=""/>																									
	SYSTEM	Super Administrator	<input type="button" value="View"/>	<input type="button" value=""/>																									
Cancel Save to Library																													

13. Click **Save to Library**, and then submit the job.
14. If you have a timed job, wait for its execution, and then check the output.

Practice 8-3: Creating and Executing Multi-Target Job

Overview

In this optional practice, you use the Create Like functionality to create a second SQL job, which should be executed for two database instances. Perform this task only if you have time.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

You completed the first of these practice tasks, which creates the MY SQL JOB job.

Tasks

1. Navigate to Enterprise > Job > Library.
2. Select “My SQL Job” and click Create Like.
3. On the “Create ‘SQL Script’ Library Job” page, enter **My multi target job** in the Name field and **Run a simple SQL on multiple targets** in the Description field.
4. Click **Add** and then **Select** to add the `orcl.example.com` database instance as a target. (Best practice is to define groups and use them here, so that instead of individual assignment of hundreds or thousands of databases, you only need to assign on group). Click **Select**.
5. Click **Save to Library**.
6. Select **MY MULTI TARGET JOB** and click **Submit**.
7. On the “Submit ‘SQL Script’ Job From Library Job ‘MY MULTI TARGET JOB’” page, click **Submit**.
8. Click the job run link in the confirmation. (You may see the jobs Scheduled, Running, or Succeeded).
9. Click the Refresh icon (top-right) until the job runs have Succeeded.

10. Click **Show All Details** to expand both output logs.

Show All Details Hide All Details			
Select	Details	Targets	Status
<input checked="" type="radio"/>	<input checked="" type="checkbox"/> Hide	orcl.example.com	Succeeded
Output Log			
<pre>SQL*Plus: Release 11.2.0.3.0 Production on Tue Dec 4 10:25:09 2012 Copyright (c) 1982, 2011, Oracle. All rights reserved. SQL> SQL> Connected. SQL> SQL> SQL> SQL> TABLESPACE_NAME USED_SPACE TABLESPACE_SIZE USED_PERCENT ----- EXAMPLE 39656 963309 4.11664378 SYSAUX 80992 1004829 8.06027692 SYSTEM 92296 1012509 9.11557329 TEMP 0 921656 0 UNDOTBS1 288 928696 . </pre>			
View Complete Log...			
<input type="radio"/>	<input checked="" type="checkbox"/> Hide	em12rep.example.com	Succeeded
Output Log			
<pre>SQL*Plus: Release 11.2.0.3.0 Production on Tue Dec 4 10:25:09 2012 Copyright (c) 1982, 2011, Oracle. All rights reserved. SQL> SQL> Connected. SQL> SQL> SQL> SQL> TABLESPACE_NAME USED_SPACE TABLESPACE_SIZE USED_PERCENT ----- EXAMPLE 39656 1068448 3.71155171 MGMT_AD4J_TS 200 1049808 .019051103 MGMT_ECM_DEPOT_TS 6728 1031888 .652008745 MGMT_TABLESPACE 251848 1293008 19.4776 </pre>			
View Complete Log...			

Practices for Lesson 9: Managing Incidents

Chapter 9

Practices for Lesson 9

Practices Overview

In these practices, you will use Incident Manager to administer incidents. First, you intentionally introduce an error by stopping the listener on the `dbtarget` host so that Enterprise Manager produces an availability incident.

Then you find and resolve the incident. You start by gaining an overview, then selecting an incident, performing some administration tasks, and drilling down into the incident details, including the guided resolution.

Practice 9-1: Preparing an Incident

Overview

In this practice, you intentionally introduce an error by stopping the listener on the dbtarget host so that Enterprise Manager produces an availability incident.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

Before using the Incident Manager, create an availability incident as a training example.

1. Open a terminal window on the dbtarget host by double-clicking the terminal icon (on your Dom0 desktop) and enter the following commands:

```
$ ssh -X oracle@dbtarget
oracle@dbtarget's password: <>oracle, not shown
```

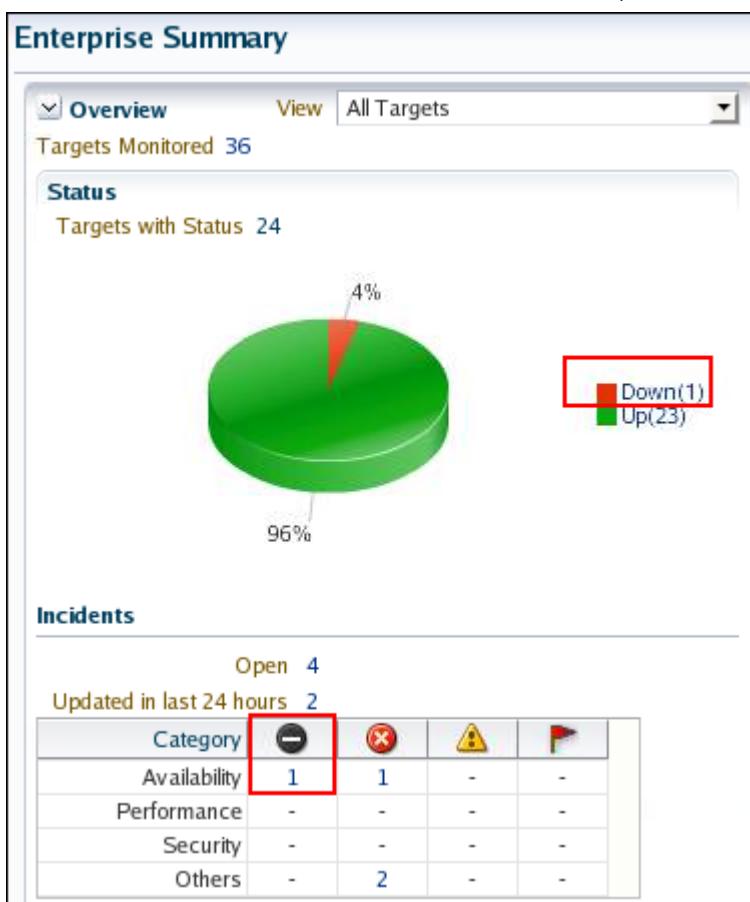
```
[oracle@dbtarget ~]$ . oraenv
ORACLE_SID = [orcl] ? orcl
The Oracle base remains unchanged with value /u01/app/oracle
```

```
[oracle@dbtarget ~]$ $ORACLE_HOME/bin/lsnrctl stop
LSNRCTL for Linux: Version 11.2.0.3.0 - Production on 04-DEC-2012 10:31:01
Copyright (c) 1991, 2011, Oracle. All rights reserved.
Connecting to
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=dbtarget.example.com) (PORT=1521)))
The command completed successfully
```

```
[oracle@dbtarget ~]$ exit
```

2. Navigate to **Enterprise Summary**.

You should see at least one fatal incident. If not, refresh the page until you see it.



Practice 9-2: Finding and Resolving an Incident

Overview

In this practice, you find and resolve an incident in your data center. You could just start on the Enterprise Summary page by clicking a specific digit, which will give you an incident view filtered by that category and type.

In this practice, your workflow is different (just for training purposes). You start by gaining an overview, then select an incident, perform some administration tasks, and drill down into the incident details, including the guided resolution.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

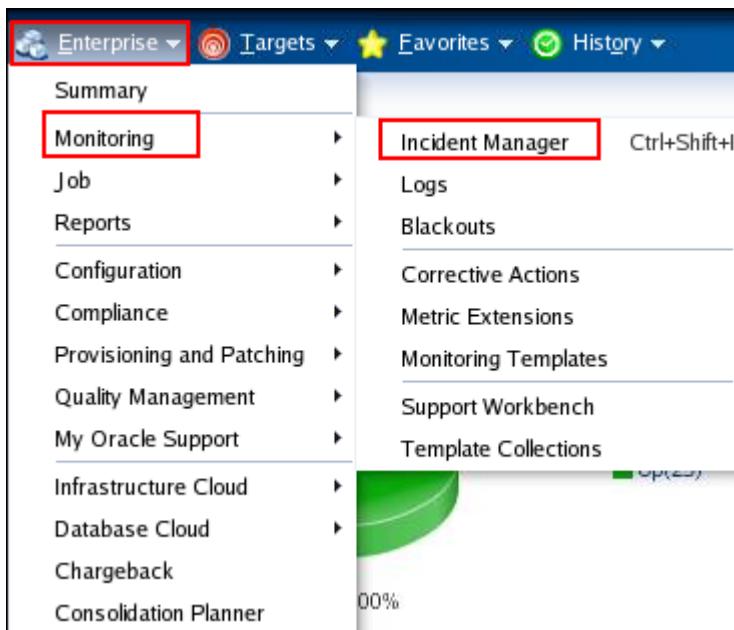
You completed the previous practice, which caused Enterprise Manager to create a backup incident.

You reviewed the following demonstrations or have the equivalent navigation knowledge:

- "Incident Management Overview"
- "Creating an Incident Management View"
- "Viewing Incident Details"

Tasks

1. To gain an overview over all incidents, navigate to **Enterprise > Monitoring > Incident Manager**.



2. Optionally, review any topics of interest in the Getting Started section.
3. Look for the fatal incident. If it is not yet displayed, refresh the page until Enterprise Manager has analyzed the target down issue and created the incident. Most likely, your screen will look different from the one below, depending on what other incidents may have triggered.

Incident Manager: All open incidents

Views Search Actions View View search criteria Acknowledge Clear...

Severity	Summary	Target	Prj	Stg	Last Updated	Owner	Ackno	Escala	Type	Category
	The Oracle HTTP Server instance is down	/EMGC_GCDomain/instance1/ohs1	No	Ne	Dec 4, 2012 10:36:-		No	No	Incident	Availability
	The listener is down: TNS-12541: TNS:no listener	LISTENER_dbtarget.example.com	No	Ne	Dec 4, 2012 10:34:-		No	No	Incident	Availability

- When you select an incident from the list, the incident details are displayed in the bottom part of the page. Click the **Collapse Pane** icon, , located right center to have more space for working with the incident details. At any time, you can click **Restore Pane** and the incident list reappears.

The listener is down: TNS-12541: TNS:no listener .

General Events My Oracle Support Knowledge Updates Related Events And Incidents

Incident Details

ID 562
Target LISTENER_dbtarget.example.com (Listener)

Incident Created Dec 4, 2012 10:34:09 AM GMT
Last Updated Dec 4, 2012 10:34:09 AM GMT
Summary The listener is down: TNS-12541: TNS:no listener .
Internal Event Status
Name
Event Type Target Availability
Category Availability

More

Escalated No Owner -
Priority None Acknowledged No
Status New

Last Incident created by rule (Name = Incident management Ruleset for all targets, Incident creation Comment Rule for target down.; Owner = .): on Dec 4, 2012 10:34:09 AM GMT
 This incident will be automatically cleared when the underlying issue is resolved.

Guided Resolution

Diagnostics Actions
View topology Reevaluate Alert
View recent configuration changes Restart Listener
Blackout Target

How you will work with the administration of incidents in your organization depends, of course, on your business rules. The following is just an example that assumes the collaboration of several administrators.

- To perform incident administration tasks, click **Acknowledge**.

More

Escalated No Owner -
Priority None Acknowledged No
Status New

Last Incident created by rule (Name = Incident management Ruleset for all targets, Incident creation Comment Rule for target down.; Owner = .): on Dec 4, 2012 10:34:09 AM GMT
 This incident will be automatically cleared when the underlying issue is resolved.

Note the changes: The button disappears, the Last Comment is updated, and the user is assigned as Owner.

More

Escalated No Owner EMADMIN
Priority None Acknowledged Yes
Status New

Last Comment (Acknowledged by EMADMIN) EMADMIN on Dec 4, 2012 10:40:26 AM GMT
 This incident will be automatically cleared when the underlying issue is resolved.

- Click **Add Comment**.
- On the Add Comment page, enter **Starting research** and click **OK**.

8. Click refresh page  to see the changes.
9. Click **Manage**.
10. On the Manage page, select **Work in Progress** as Status and click **OK**.

Manage

You can manage the workflow of your incidents to achieve better tracking. When tracking attributes of an incident are updated, any applicable rules will be executed.

Status	Work in progress
Owner	EMADMIN
Priority	None
Escalated	None

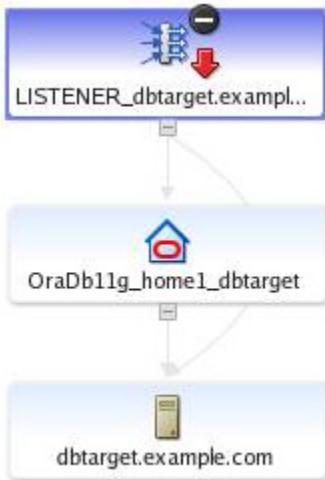
Font:              

Starting research... |

Add Comment

OK Cancel

11. Click refresh page to see the changes.
12. Normally, you would bring up a down target as quickly as possible, but for training purposes assume that you first want to view the topology to see the effect of this down target. So, click **View topology** (under **Guided Resolution**)



13. On the Oracle Listeners home page, you could restart the listener by selecting **Oracle Listener > Control Startup/Shutdown**. Again, for training purposes, return to the Incident Manager (either by clicking the **Back** button in your browser or navigating to **Enterprise > Monitoring > Incident Manager**). Use the **Restore/Collapse** pane icons to adjust the layout of the page, if desired.
14. Select the same "Listener is down" incident and click **Restart Listener** (at the bottom, under **Guided Resolution**)

15. On the Net Services Administration: Host Login page, select the NC_DBTARGET_ORACLE named credentials and click **Login**.
16. On the Start/Stop: LISTENER page, confirm that Start is selected as Operation and click **OK**.
17. A processing window may appear, which should be followed by a Confirmation and the listener being Up.

The screenshot shows the Oracle Enterprise Manager interface for a listener named 'LISTENER_dbtarget.example.com'. A yellow confirmation box at the top states: 'Confirmation' - 'Listener "LISTENER" has been successfully started. Click on "View Details" for details.' Below this, the 'Listener: LISTENER_dbtarget.example.com' page displays the 'General' tab. It shows the listener is 'Up' with 98 availability. The 'State' tab shows TNS Ping (ms) at 0 ms, with 0 established connections per minute and 0 refused connections per minute. A tip message at the bottom left says: 'TIP A "Listener Target" at a specified "Host" and "Port", is considered "UP" only when a listener is running at that end-point, and, the "Listener Parameter File" in the output of the command: "lsnrctl status <listener_name>", also matches the "LISTENER.ORA Location" specified in the target's configuration.'

Assume that the rules in your organization require you to set the incident status to **Closed** and that your username is stored in the OMR.

18. Navigate again to the Incident Manager page and adjust the layout if desired. By default, open incidents are displayed.
19. Click the Search icon with the magnifying glass, then select **Show closed only** and click **Get Results**.
20. To confirm that the incident is correctly closed, click "The listener is up." summary and confirm that the emadmin username is displayed as Owner.

The screenshot shows the Oracle Enterprise Manager Incident Manager page. A search result table is displayed with one row. The row for 'The listener is up.' is highlighted with a red box. The table columns include Severity, Summary, Target, Priority, Last Updated, Owner, Ackno, Escala, Type, and Category. The 'Owner' column for this row shows 'EMADMIN'. Below the table, a summary for the incident is shown with the text 'The listener is up.' and the owner 'EMADMIN' highlighted with a red box. The 'Tracking' section shows the incident was escalated to 'No', has a priority of 'None', and is currently 'Closed'. A note indicates it will be cleared when resolved.

In your environment, you may notice other incidents; it depends on the availability of various components at that point in time.

21. If needed, click Refresh Page to see the changes.
22. Log out of the Oracle Enterprise Manager Console.

Practices for Lesson 10: Patching and Provisioning

Chapter 10

Practices for Lesson 10

Practices Overview

In these practices, you will learn how to automate provisioning and patching of software in your data center. To use the Oracle-provided “Patch Oracle Database” Deployment Procedure in offline mode, you need to fulfill the following requirements:

- Set up and configure the software library, if not already configured
- Set My Oracle Support to “offline”
- Upload the updates (metadata) file
- Run the “Refresh From My Oracle Support” job in offline mode
- Download the patch files to a known location and upload them to the software library

Prerequisites for configuring a software library storage location are available storage space and setting appropriate host credentials.

Practice 10-1: Preparing for Offline Patching

Overview

In this practice, you perform one-time steps to prepare your environment for offline patching:

- Set the **Normal Host Credentials** and the **Privileged Host Credentials** for the host you are patching.
- Verify the software storage location, **MySoftLib**, which points to an area with sufficient available storage space.
- Configure offline patching.
- Upload metadata updates file and run the “Refresh From My Oracle Support” job.
Note: This job is also needed in offline mode, because it computes patch recommendations.

Completing this practice is a prerequisite for the next practice, “Patching Offline.”

Assumptions

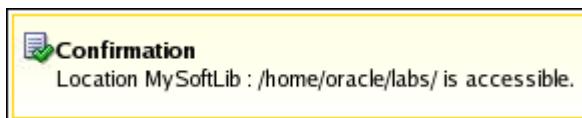
You are logged in to Enterprise Manager Cloud Control as the `emadmin` user (with the `emadmin` password).

Tasks

1. A prerequisite for patching is having a configured software library, a storage area for your software. In your lab environment, a software library was already configured with appropriate space. The user that configured the Software Library, `emadmin`, has view privileges on all the OMSs (in your case, one OMS on the `em12` host).

To check the existing Software Library, navigate to **Setup > Provisioning and Patching > Software Library**.

- a. Select `MySoftLib` and then click **Actions > Check Accessibility**.
- b. You should receive a confirmation.



- c. Optionally, you can click **Show** in the Associated Entities column to view many predefined entity associations. When you are finished reviewing the associated entities, click **Cancel**.

2. Take a look at the **Patches and Updates** page to see the current state of your patching. Navigate to **Enterprise > Provisioning and Patching > Patches and Updates**. Note that your system is set up for **Offline** patching and there are currently no patch recommendations for your system.

3. To set up your patching, navigate to **Setup > Provisioning and Patching > Offline Patching**.

On the **Online and Offline Settings** tab:

- Confirm that the **Connection** is **Offline**.
- In the **Offline** case, the up-to-date patch recommendations must be downloaded separately and made available to this system. The updates have already been downloaded and saved in your environment. Select **Browse** and navigate to `/home/vncuser/labs/updates`.
- Select the `em_catalog.zip` and click **Upload**.

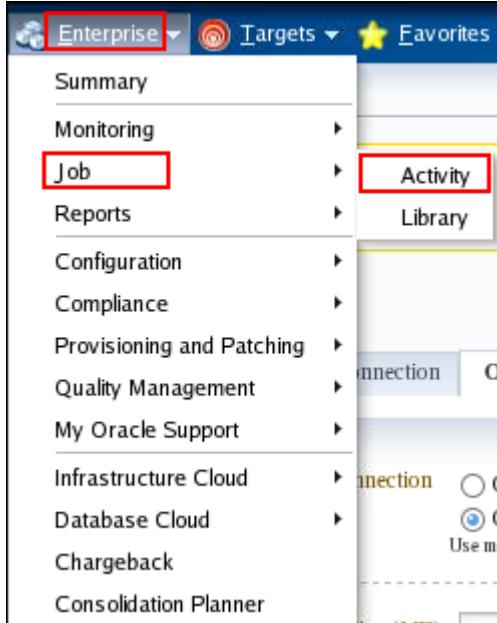
You should receive a success message that includes:

Success: Catalog file has been successfully uploaded. A new "Refresh From My Oracle Support" job has been submitted for processing the file..."

"Offline" means that you must first obtain the metadata required for patching (`em_catalog.zip` file) and later apply the patches. A dedicated job called "Refresh From My Oracle Support" is scheduled by default to run periodically to extract information from the metadata file and display them in Cloud Control console.

4. To extract the information from the metadata file immediately after uploading the file (on-demand), you must create a new “**Refresh From My Oracle Support**” job. The job does not actually connect to MOS in this mode but it computes patch recommendations based on the data uploaded to the repository.

- a. Navigate to **Enterprise > Job > Activity**.



- b. On the Job Activity page, select **Refresh From My Oracle Support** from the Create Jobs drop-down list and click **Go**.

The screenshot shows the 'Job Activity' page. At the top, there are search filters for 'Status' (All), 'Name', and a 'Go' button. Below that is a tip message: 'By default, results for the last 24 hours are displayed. Use "Advanced Search" for more options.' The 'Create Job' dropdown menu is open, showing various job types. The option 'Refresh From My Oracle Support' is highlighted with a blue selection bar and has a red box around the 'Go' button next to it.

View	Runs	Create Job
Select	Name	Refresh From My Oracle Support
ADP Agent Deployment		
ADP Manager Deployment		
ADP Manager Deployment		
Agents Configuration Operation		
Agents Control Operation		
Block Agent		
Clone Home		
Database Configuration		
Delete Assembly Instance		
Deploying Agent Plugin		
Discover Promote Oracle Home Target		
Fusion Middleware Process Control		
Import Application Dependencies from ADP		
JVMD Agent Deployment		
Log Rotation		
OPatch Update		
Oracle Fusion Middleware		
OS Command		
Real-time Monitoring Kernel Module Installation		
Refresh From My Oracle Support		

- c. Provide a name for the job, such as MOS refresh. Click **Submit**.

Create 'Refresh From My Oracle Support' Job

Your Enterprise Manager repository contains patch and release information that was current at the time Enterprise Manager was released. To receive timely notification of critical patch advisories, Oracle recommends that you schedule the Refresh From My Oracle Support job to run daily.

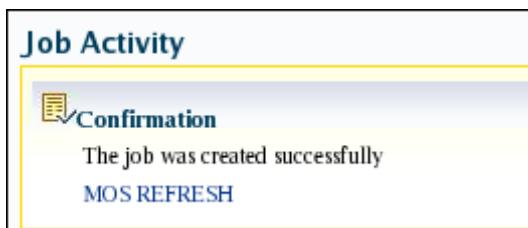
General Parameters Credentials Schedule Access

* Name: MOS refresh

Description:

Cancel Save to Library Submit

You should receive a confirmation that the job was created. Click the job name link.



Note that, depending on your timing, the automatic **Refresh From My Oracle Support** job may be started or even completed. You can choose to repeat it, but you may see an error if they happen to be running at the exact same time.

- d. Refresh the **Job Run: MOS REFRESH** page, until you see the Succeeded status.

Job Activity > Job Run: MOS REFRESH Page Refreshed Dec 5, 2012 11:28:22 AM UTC

Job Run: MOS REFRESH

Scheduled Dec 5, 2012 11:27:32 AM GMT+00:00 Targets 0 targets

Type Refresh From My Oracle Support Owner SYSMAN Description

Executions

Targets: All Status: Succeeded Go

Log Report

Show All Details | Hide All Details

Select	Details	Targets	Status	Started	Ended	Elapsed Time
<input checked="" type="radio"/>	▼ Hide		Succeeded	Dec 5, 2012 11:27:34 AM GMT+00:00	Dec 5, 2012 11:27:58 AM GMT+00:00	24 seconds

Output Log

```
Offline Mode. Using the Metadata Cache.
Please ensure that the data in the Metadata Cache is up to date to avoid stale updates.

ARU Data Details
-----
.../metadata?table=aru_products : Parsing...Done : Loading...Done
Parse Time (ms) : 83
Load Time (ms) : 2846

.../metadata?table=aru_releases : Parsing...Done : Loading...Done
Parse Time (ms) : 25
Load Time (ms) : 2174

.../metadata?table=aru_platforms : Parsing...Done : Loading...Done
Parse Time (ms) : 3
Load Time
```

[View Complete Log...](#)

Delete Run Create Like Edit View Definition

- e. Optionally, click **Show All Details**, and then click **View Complete Log** to review the entire Output Log. The XML files are parsed and loaded.

5. Navigate to **Enterprise > Provisioning and Patching > Patches and Updates** to view the recommended updates based on the uploaded information.
- Click the **All Recommendations** link.

Patches & Updates (Offline Mode)

Patching Quick Links

Patch Recommendations

View by Classification Target Type **Advanced**

Other Recommendations: 21

Security: 4

All Recommendations

- Review patches recommended for each target.
- To filter the patches, you can select one of the categories from the drop-down menu. Check the **Security** option only and then click the magnifying glass to search.

Patches & Updates >

Patch Name	Description	Release	Platform	Class	Security	Target Name	Type	Oracle Home	Host
14681306	JDBC SECURITY PATCH UPDATE 11.1.1.5.0 (CPUOCT2011.1.1.5.0)	Generic PI Security	JDBC	<input type="checkbox"/>	<input checked="" type="checkbox"/> Security	8 n /EMG_C_GCDomain/GCDoma	Oracle Web	/u01/app/oracle/midd	em12c
14681306	JDBC SECURITY PATCH UPDATE 11.1.1.5.0 (CPUOCT2011.1.1.5.0)	Generic PI Security	JDBC	<input type="checkbox"/>	<input checked="" type="checkbox"/> Security	8 n /EMG_C_GCDomain/GCDoma	Oracle Web	/u01/app/oracle/midd	em12c
14390252	DATABASE SECURITY PATCH UPDATE 11.2.0.3.0 (CPUOC 11.2.0.3.0)	Linux x86 - Security	Oracle Database	<input type="checkbox"/>	<input checked="" type="checkbox"/> Security	8 n em12rep.example.com	Database	/u01/app/oracle/prod	em12c
14390252	DATABASE SECURITY PATCH UPDATE 11.2.0.3.0 (CPUOC 11.2.0.3.0)	Linux x86 - Security	Oracle Database	<input type="checkbox"/>	<input checked="" type="checkbox"/> Security	8 n orcl.example.com	Database	/u01/app/oracle/prod	dtarg

Note the recommended security patches. In particular, view:

Patch 14390252: DATABASE SECURITY PATCH UPDATE 11.2.0.3.0 (CPUOCT2012). You will use it in a later exercise.

Practice 10-2: Patching Offline

Overview

Offline mode does not require network connectivity to My Oracle Support (MOS). In this practice, you perform offline patching steps:

1. Upload a patch into the software library.
2. Apply the uploaded patch via a patch plan, which defines deployment details. A patching wizard guides you through the steps.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password). You completed Practice 10-1: Preparing for Offline Patching.

Tasks

1. It is recommended that before you patch, the **EM Target Patchability Report** is run, to analyze your targets and make sure they are “patchable.”
 - a. From the Enterprise menu, select **Reports > Information Publisher Reports**. On the Information Publisher Reports page, search for “patch.”

Information Publisher Reports

Select	Title	Description	Date Generated	Owner
<input type="radio"/>	▼ Information Publisher Reports			
<input type="radio"/>	▼ Deployment and Configuration			
<input type="radio"/>	▼ Patching Automation Reports			
<input checked="" type="radio"/>	EM Target Patchability Report	EM Target Patchability Report about unpatchable Targets		SYSMAN

indicates an Oracle-provided report. Oracle-provided reports cannot be edited, but you can use Create Like to create a report that can be edited.

Related Link [Enterprise Manager Information Publisher Reports](#)

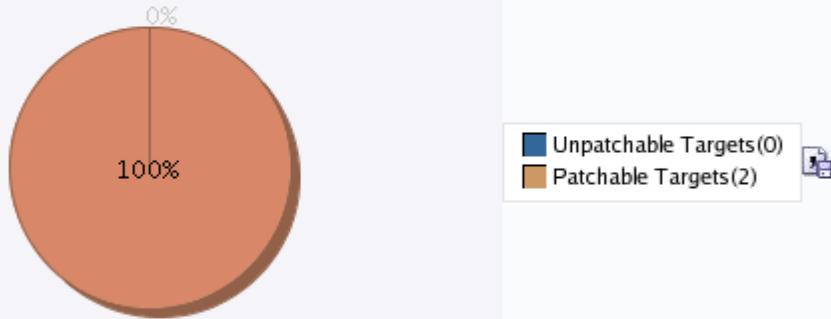
- b. Click **EM Target Patchability Report**. The report is run immediately and the results are displayed.

Information Publisher Reports

EM Target Patchability Report

This report depicts the breakup of the patch-ability of the targets, the issues and problems found with the

Break up of all Targets



Unpatchable Targets(0)
 Patchable Targets(2)

Analysis report of unpatchable targets

Target Name	Target Type	Version	Problem	Details	Recommendation	
(No rows returned)						

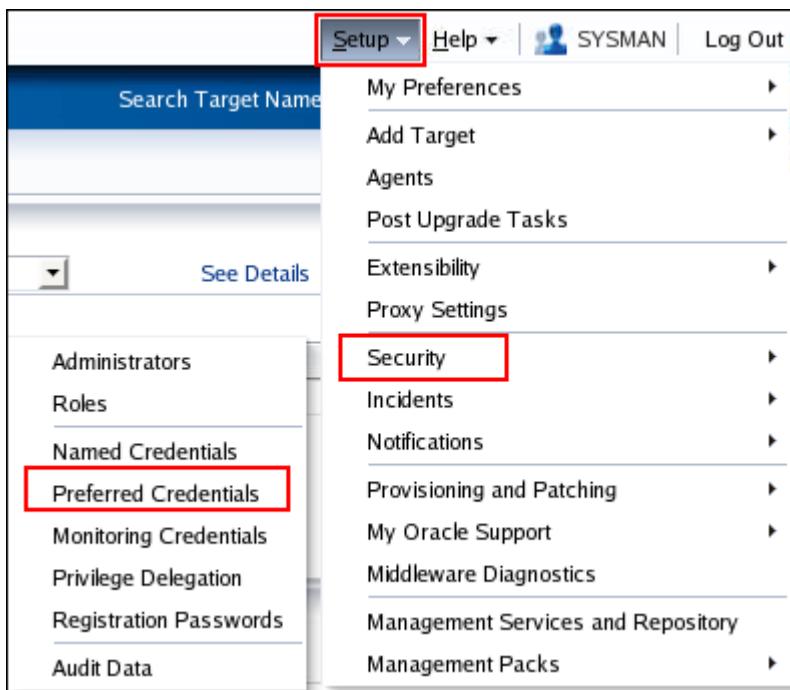
[Return to Information Publisher Report Definitions](#)

2. To perform any patching tasks in Cloud Control, you need to set up Named Credentials for normal operating system user accounts (in your case `oracle`) and Named Credentials for privileged user accounts (`root`). If you do not have access to either Oracle software owner account or `root` account, then you can use Privilege Delegation. Privilege Delegation is a framework that allows you to use either Sudo or PowerBroker to perform an activity with the privileges of another user (usually locked accounts).

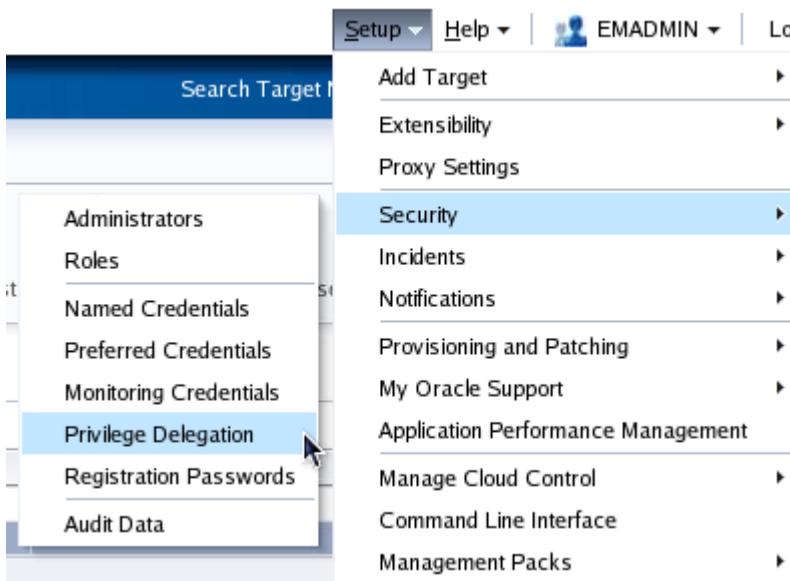
Ideally, these named credentials are saved as Preferred Credentials for your hosts. In general, Preferred Credentials can be set up per target type by setting up Default Preferred Credentials, in which case each target of that type inherits that credential. Or, you can define a specific credential for each target of that type.

In this exercise, you set up Normal and Privileged credentials for a Host type.

- To set or confirm preferred host credentials, navigate to **Setup > Security > Preferred Credentials**.



- On the Preferred Credentials page, select Host and click **Manage Preferred Credentials**.
- On the Host Preferred Credentials page, under the **Target Preferred Credentials** table, check if the **Normal Host Credential** is set for dbtarget.example.com. It should have been set to NC_DBTARGET_ORACLE in a previous exercise. If it is not set, set it now to oracle/oracle.
- Assume that we do not have root privileges to our target. Navigate to **Setup > Security > Privilege Delegation**



- e. You will be patching the dbtarget.example.com host, so select to edit/view the settings for this host.

Security

Manage Privilege Delegation Settings

Both sudo and PowerBroker are privilege delegation tools for UNIX-like environments, which allow administrators to delegate administrative privileges and authorization without disclosing the privileged account's password. You can configure the host with a Privilege Delegation setting, apply a Privilege Delegation setting template or unconfigure the Privilege Delegation setting. Only the first 2,000 rows are shown. Use Search to refine the list.

Select	Details	Host	Status	Type	Operating System	Edit
<input type="checkbox"/>	> Show	dbtarget.example.com		Sudo	Linux	
<input type="checkbox"/>	> Show	em12.example.com		None	Linux	

Sudo/PowerBroker Settings are not supported on Windows targets.

Related Links: Manage Privilege Delegation Setting Templates | Past Apply Operations | Preferred Credentials

- f. Select **Sudo** and enter the **sudo** command : /usr/bin/sudo -u %RUNAS% %COMMAND%
- g. Review the parameters and click **Update** and then **Yes**.
- h. Click the **Preferred Credentials** link at the bottom right.
- i. Highlight the row **Privileged Host Credential** for dbtarget.example.com and click **Set**.
- j. Set the **Default Privileged Host Credential** to a new credential oracle/oracle as shown below; then click **Test and Save**.

Select Named Credential

Credential: Named New

* UserName: oracle

* Password: *****

* Confirm Password: *****

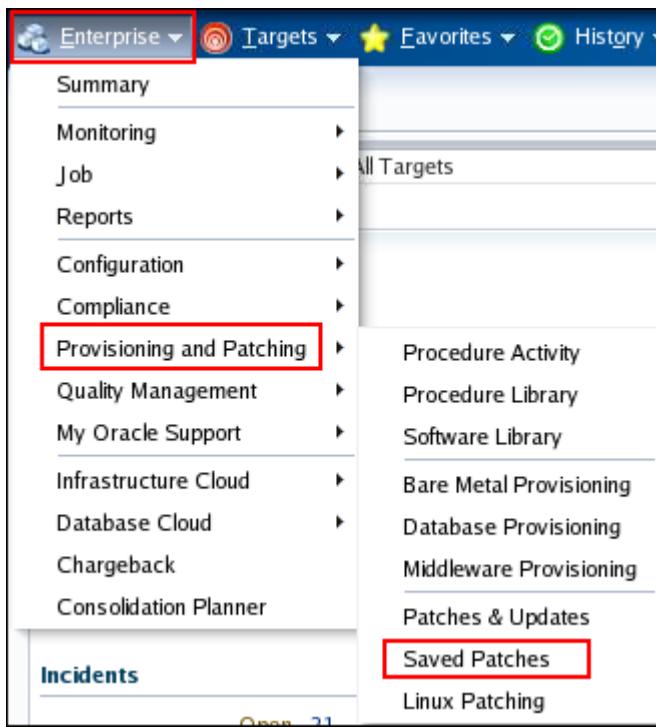
Run Privilege: Sudo Run as: root

Save As: NC_DBTARGET_SUDO_ROOT

Test and Save **Save** **Cancel**

A success message should be displayed at the top of the page.

3. To upload and save a patch in the software library, navigate to **Enterprise > Provisioning and Patching > Saved Patches**.



4. Patches must be pre-saved in a known location. In your environment, one patch was downloaded to be used for this lab.

Click **Upload**. On **Upload Patches to the Software Library**, select the following:

- Basic information: Product Family: Oracle Database and Product: Oracle Database (these are the defaults)
- Patch Metadata:
/home/vncuser/labs/offline_patch/p14390252_112030_American.txt
- Patch zip file:
/home/vncuser/labs/offline_patch/p14390252_112030_Linux-x86-64.zip
- Release: Oracle 11.2.0.3.0
- Platform: Linux x86-64
- Language: American English

Leave the rest of the fields blank, or as the default, and click **Upload**. Look for the success message at the top of the window.

Patching

Saved Patches in Software Library

Software Library Upload Status

Software Library - Successfully uploaded to Oracle Software Library.

Use this page to view a list of patches stored in the Software Library, search patches of your interest, upload new patches to the Software Library, and remove unwanted patches from the Software Library. If you want to products monitored in Enterprise Manager, create a patch plan.

For information about creating a [patch plan](#), refer to Oracle Enterprise Manager Administrator's Guide for Software and Server Provisioning and Patching available in the Enterprise Manager Documentation Library .

Search Go

[Remove](#) | [Upload](#)

Select All | Select None

Select	Patch Number	Created On	Type	Release	Platform	Product	Description
<input type="checkbox"/>	14390252	Mar 9, 2012	Patch	11.2.0.3.0	Linux x86-64	Oracle Database	DATABASE SECURITY PATCH UPDATE 11.2.0.3.0 (CPUOCT2012) Bugs fixed are: 14062794,14062797,13742433,14664355,14062795,13466801,14390252,13632717,14038787,14062796,14063280,12880299,1
<input type="checkbox"/>	6880880	Dec 18, 2012	Patch	11.2.0.0.0	Linux x86-64	Universal Installer	

Note that along with any one-off patches you **must** have saved in the Software Library a copy of the latest **OPatch** (saved as a patch itself under Universal Installer). In your environment, you have **Patch 6880880** version **11.2** of **OPatch** saved in the Library.

5. To perform a patching task, you add a patch to a Plan. Navigate to **Enterprise > Provisioning and Patching > Patches & Updates**.
 - a. On the **Software Library Patch Search** page, enter the patch number 14390252 and click **Search**.

The screenshot shows the 'Software Library Patch Search' interface. The search bar contains the patch number '14390252'. The 'Search' button is highlighted with a red box.

- b. Highlight Patch 14390252 and select to **Add to Plan > Add to New**.

The screenshot shows the 'Patches & Updates (Offline Mode)' page. A context menu is open over patch 14390252, with the 'Add to New...' option highlighted with a red box.

- c. Enter a name for your plan, CPU_OCT2012_PLAN (representing this recommended Critical Patch Update released in Oct 2012), and Name of the target, orcl.example.com; then click **Create Plan**.
- d. At the top right of the page, a confirmation message states that the plan has been created. Click the link **View Plan** to see the details.

Plan "CPU_OCT12" has been created **View Plan** **Hide**

Step 3 : Deployment Options

How to Patch

Patch Out of Place (Recommended) In Place [Explain the choices...](#)

What to Patch

Summary: **Full Migration:** You are patching ALL Database Instance targets.

Existing Oracle Homes

- /u01/app/oracle/product/11.2.0/dbhome_1
- orcl.example.com(Database Instance)
- dbtarget.example.com(Host)
- LISTENER:1521(Listener)

- f. Select to **Override** and assign credentials for the Home to the ones previously created for the **Host** target, as shown below:

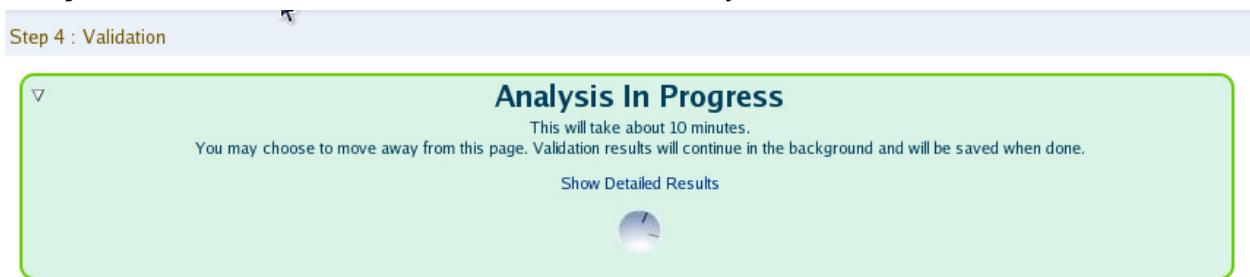
Oracle Home Credentials

Oracle Home Preferred Credentials Use Override

Specify For

Normal Oracle Home Credentials	<input type="button" value="NC_DBTARGET_ORACLE"/>
Privileged Oracle Home Credentials	<input type="button" value="NC_DBTARGET_SUDO_ROOT"/>
Validation will be enabled when all credential fields are selected	
<input type="button" value="Validate Credentials"/>	

- g. Click **Next** to accept all other defaults and advance to **Step 4: Validation**. Click **Analyze**. It should take a few minutes. Click the arrow symbol to view details:



- h. When analysis completes, ensure that there are no issues to be resolved. Optionally, you can click the **Show Detailed Results** to view more details of the analysis. Click **Next** when done.

Step 4 : Validation

Ready For Deployment

Ready For Deployment

Show Detailed Results

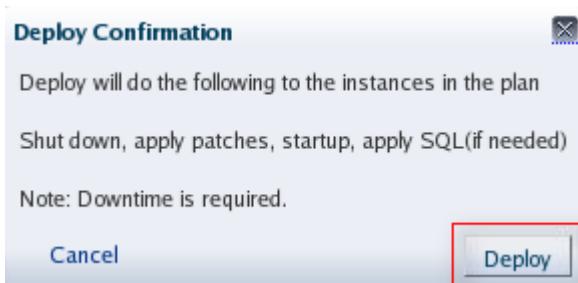
Re-Analyze

Plan last validated Today

▼ Issues to Resolve (None)

No problems exist for the plan. Proceed to Review Screen.

- i. On the “Review and Deploy” page, click **Deploy**.
- j. Acknowledge steps to be performed and click **Deploy**.



6. Click the **Show Detailed Results** link to view the detailed progress. This is a Deployment Procedure and its details are displayed on the Procedure Activity page. Select to Refresh the page every 30 seconds (top right). This task should take approximately 10-15 minutes. Review the steps to ensure that they complete successfully. Notice the green checkmark when completed:

Provisioning

Procedure Activity: CPU_OCT2012_PLAN_Deploy_1355313171165

Elapsed Time: 14 minutes, 57 seconds

Procedure Steps

Select	Name	Type	Status
<input type="checkbox"/>	Initialize	Computation	✓
<input type="checkbox"/>	Check for Supported Configurations	Computation	✓
<input type="checkbox"/>	Check for Target Properties	Computation	✓
<input type="checkbox"/>	For all hosts	Parallel	✓
<input type="checkbox"/>	dbtarget.example.com	host	✓
<input type="checkbox"/>	For all hosts	Parallel	✓
<input type="checkbox"/>	dbtarget.example.com	host	✓
<input type="checkbox"/>	For all homes	Rolling	✓
<input type="checkbox"/>	OraDb11g_home1_1_dbtarget	oracle_home	✓

7. During the patching task, your instructor might suggest additional activities, such as viewing the "Perform Out-of-Place Database Patching." demonstration and answering related questions:
 - a. The demonstration mentions several tests which are performed for you. Which one is the most important for your organization?
 - b. True or False: Before starting the patching operation, you can specify the new Oracle Home. It can only be validated after creation.
 - c. True or False: While patches are applied to a new Oracle Home, the original one is not affected by this operation.
 - d. True or False: The switching from the original to the new Oracle Home occurs during a regular maintenance window.
8. If you want to review the detailed steps again later, you can do so by clicking the Status link. Navigate to **Enterprise > Provisioning and Patching > Patches & Updates**. In the **Plans** section, you see the status of your patch plan.

Plans

Plans

Name	Status	Type	Planned Deployment	Created By	Deployable
CPU_OCT2012_PLAN	Deployed Successfully	Patch	Not Specified	EMADMIN	Yes

Practices for Lesson 11: Managing Configurations

Chapter 11

Practices for Lesson 11

Practices Overview

In these practices, you will view, compare, and search the configuration information in the OMR to monitor and manage your enterprise configuration:

1. View the installed OS packages and their version numbers under Operating System Components.
2. View the configuration history and use the topology viewer.
3. Compare your host configuration with another host configuration.
4. Search for Oracle products installed in Oracle Homes.

Practice 11-1: Viewing Configuration Details

Overview

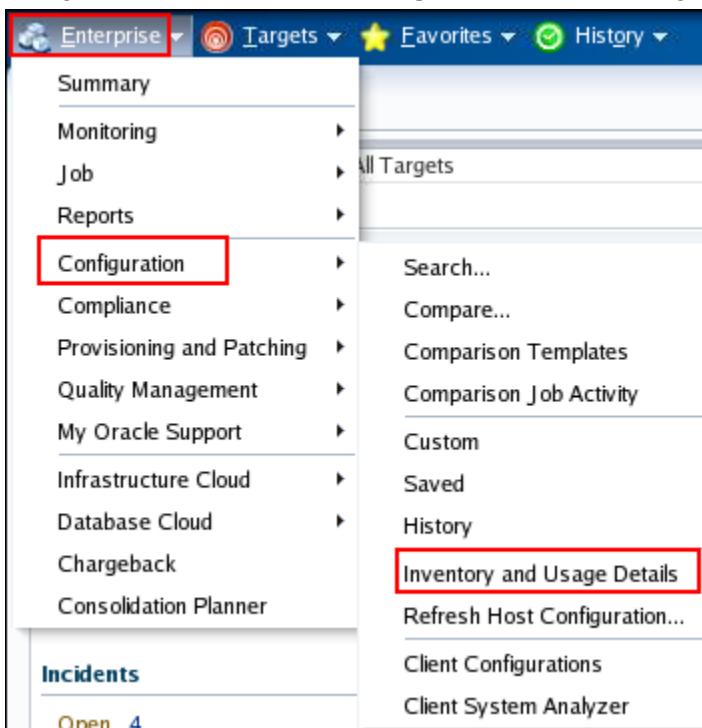
In this practice, you view the installed OS packages and their version numbers under Operating System Components.

Assumptions

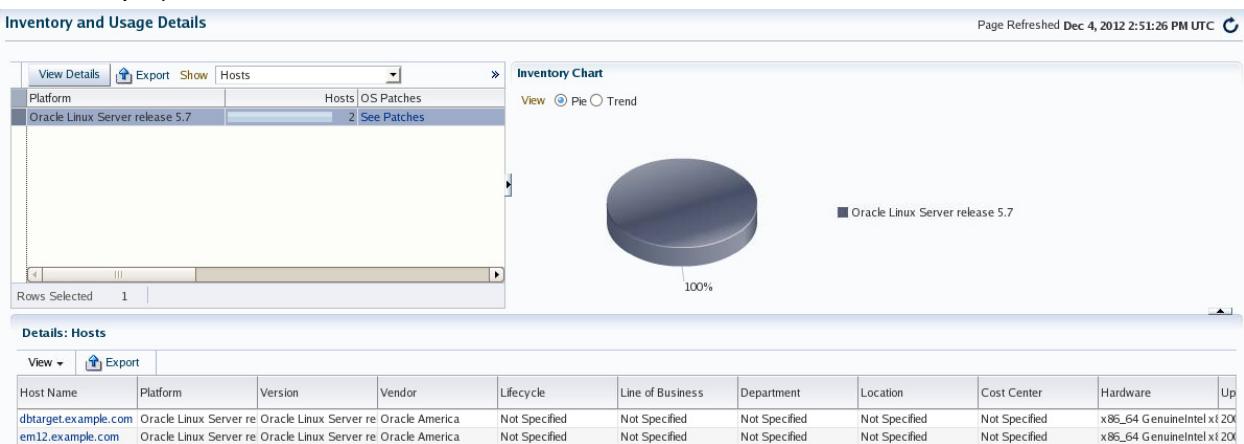
You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Navigate to **Enterprise > Configuration > Inventory and Usage Details**.



You see the configuration information for your host.: Summarized information on the top part of the page, rolled up by the criterion shown in the properties drop-down (Platform in this example).



2. In the Details:Hosts section, click the em12.example.com host link.
Cloud Control navigates to the em12.example.com host home page.
3. From the Host home page, navigate to **Host > Configuration > Last Collected**.
4. On the “**Latest Configuration: em12.example.com**” page, click any hardware or operating system node that interests you. For example, review the installed OS packages and their version numbers under **Operating System Components** (or the **CPUs**).

Name	Type	Version	Installation Date	Description
als-a-lib	Package	1.0.17-1.el5	2011-10-03	
libutempter	Package	1.1.4-4.el5	2011-10-03	
libgcj	Package	4.1.2-51.el5	2011-10-03	
metacity	Package	2.16.0-16.el5	2011-10-03	
poppler-utils	Package	0.5.4-4.4.el5_6.17	2011-10-03	
latencytop	Package	0.5-2.el5	2011-10-03	
zenity	Package	2.16.0-2.el5	2011-10-03	
psgml	Package	1.2.5-4.3	2011-10-03	
python	Package	2.4.3-44.el5	2011-10-03	
rhpl	Package	0.194.1-1.0.2	2011-10-03	
rpm	Package	4.4.2.3-22.0.1.el5	2011-10-03	
pygobject2	Package	2.12.1-5.el5	2011-10-03	
fipscheck-lib	Package	1.2.0-1.el5	2011-10-03	

5. Also, click the **Actions** drop-down to see additional navigation aids.

Practice 11-2: Viewing Configuration History and Topology

Overview

In this optional practice, you view the configuration history and use the topology viewer.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

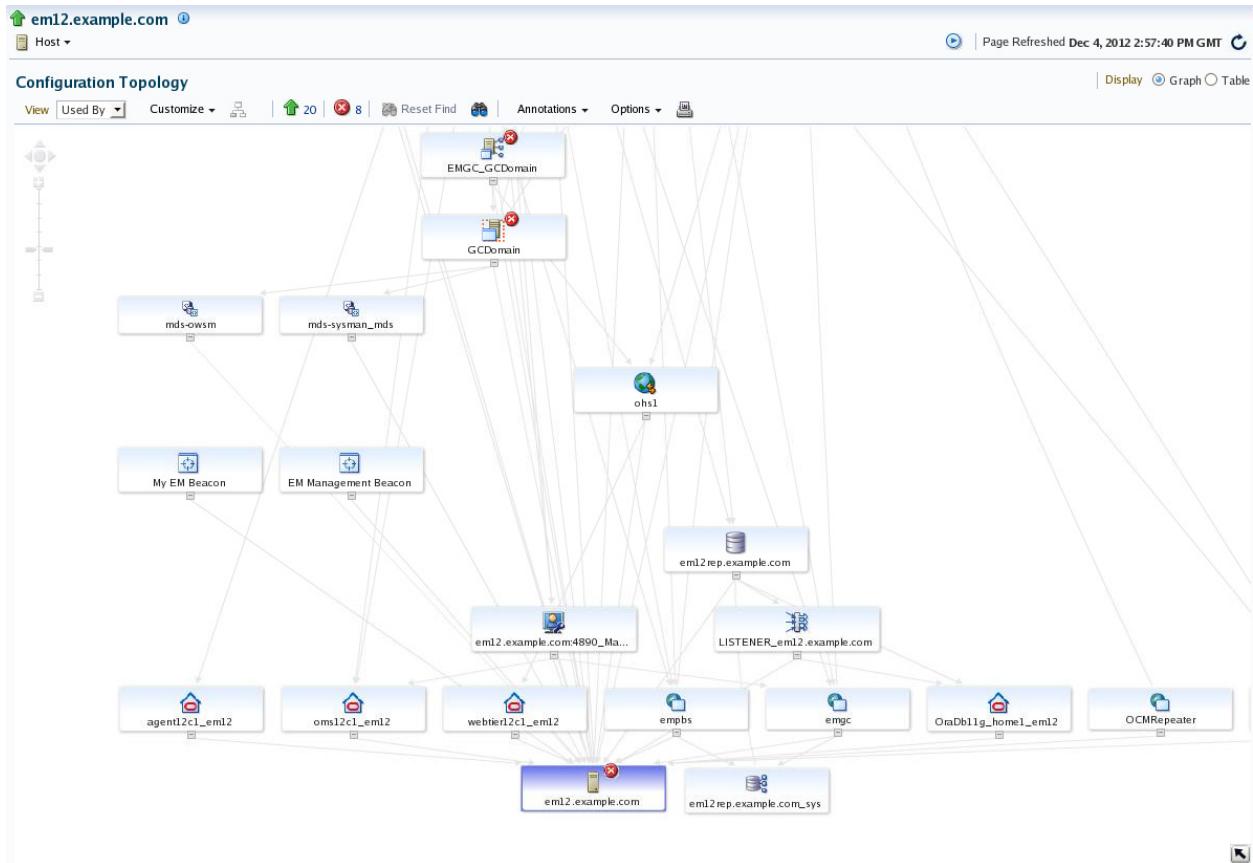
1. Navigate to the em12.example.com host page.
2. On the host home page, navigate to **Host > Configuration > History**.

If there were any configuration changes, this page displays all the configuration changes that occurred on the host during the last seven days. You can change the date parameters to view changes over a longer period of time.

Change Discovered	Target Name	Target Type	History Records
Dec 1, 2012 6:41:07 PM	em12.example.com	Host	11
Nov 30, 2012 1:25:20 PM	em12.example.com	Host	4

3. Navigate to **Host > Configuration > Topology** and select **Used By** in the View menu.

4. The topology map may be too small to read. Use the zoom slider to enlarge it.



5. Click the arrow toggle at the bottom-right to display a miniature topology map, which assists with navigation. Optionally, click **Display Table** and expand the Host target to view the configuration in the table format.
 6. The Configuration Topology page is displayed with the node expanded.

Target Name	Target Type	Available Relationship from Parent
em12.example.com	Host	
/EMG_C_GCDomain/GCDomain/EMG_C_OMSI1/empbs	Application Deployment	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_ADMINSERVER/mds-sysman	Metadata Repository	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_OMSI1/oracle.security.apm(1)	Oracle Authorization Policy Manager	Host For
/EMG_C_GCDomain/GCDomain	Oracle WebLogic Domain	Host For
LISTENER_em12.example.com	Listener	Host For
/em12.example.com:4890_Management_Service_PBS	OMS Platform	Host For
My EM Beacon	Beacon	Host For
em12rep.example.com	Database Instance	Host For
/em12.example.com:4890_Management_Service	Oracle Management Service	Host For
oms12c1_3_em12	Oracle Home	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_OMSI1/empbs	Application Deployment	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_ADMINSERVER	Oracle WebLogic Server	Host For
OraDb1g_home1_em12	Oracle Home	Host For
EMG_C_GCDomain	Oracle Fusion Middleware Farm	Host For
EM Management Beacon	Beacon	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_OMSI1	Oracle WebLogic Server	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_OMSI1/OCMRepeater	Application Deployment	Host For
/em12.example.com:4890_Management_Service_CONSOLE	OMS Console	Host For
webtier12c1_21_em12	Oracle Home	Host For
WebLogicServer10_3_5_0_em12_2233	Oracle Home	Host For
/EMG_C_GCDomain/GCDomain/EMG_C_ADMINSERVER/mds-owsm	Metadata Repository	Host For
agent12c1_8_em12	Oracle Home	Host For
Management Services and Repository	OMS and Repository	Host For
em12.example.com:3872	Agent	Host For
/EMG_C_GCDomain/instance1/ohs1	Oracle HTTP Server	Host For

Practice 11-3: Comparing Configurations

Overview

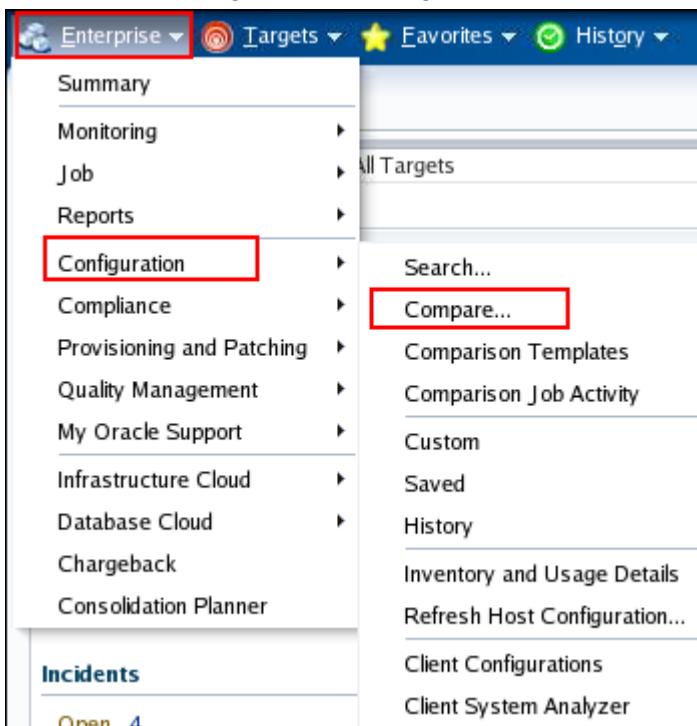
In this practice, you compare your host configuration with another host configuration. The Compare Wizard allows you to compare various types of current or saved configurations with one or more current or saved configurations.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Log out from the previous lab session and log in again as emadmin/emadmin.
2. To compare configurations, navigate to **Enterprise > Configuration > Compare**.



3. On the “Compare Configurations: First Configuration” page, select Host as Target Type and then click **Search**.

Target Name	Target Type
dbtarget.example.com	Host
em12.example.com	Host

4. Select dbtarget.example.com and click **Next**.
5. On the Compare Configurations: Comparison Configurations page, click **Add Configurations**.
6. On the Search and Select Configurations page, confirm that the Target Type is Host and click **Search**.
7. Select em12.example.com and click **OK**.
8. Click **Next**.

9. Accept the **Default Host Comparison Template**, review any **Template Settings** that may interest you, and then click **Next**.
10. Click **Next** on the “Compare Configurations: Schedule and Notify” page.
11. Click **Submit** on the “Compare Configurations: Review and Submit” page.
12. A job run begins. Click the Refresh page icon until the Comparison Result shows **Different**.
13. Optionally, click the Summary tabbed page to confirm that the job run was successful and then click the Results tabbed page again.

14. Click the **Different** link. The page shows detailed results of the target properties, the hardware, and the operating system comparison for two host configurations.

Compare Result

Result for job CONFIGURATION COMPARISON JOB TUE DEC 04 15:05:57 UTC 2012

Compare Job >

Comparison Details

Template Default Host (Modified : 2012-11-30 12:58:16 GMT+00:00)

First Configuration dbtarget.example.com (Host) Second Configuration em12.example.com (Host)

Collected 2012-12-04 00:09:15 (Latest Configuration) Collected 2012-12-03 17:26:58 (Latest Configuration)

Job Details

Show Differences Only Show Ignored

Hardware

Result	Vendor Name
Intel Based Hardware	

Operating System

- Operating System Properties
- File Systems
- Operating System Modules
- Operating System Initialized Sets

Configuration Properties

Result	Configuration Property Name	First	Second
Vendor Name	Intel Based Hardware	Intel Based Hardware	Intel Based Hardware
Memory Size (MB)	1994	4445	
Local Disk Space (GB)	24.48	49.08	

Practice 11-4: Searching Configurations

Overview

In this practice, you search for Oracle products installed in Oracle Homes.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. To compare configurations, navigate to **Enterprise > Configuration > Search**.
 2. A number of searches are already predefined for you. Select **Search Oracle Products installed in Oracle Homes** and click **Run**.
 3. The Edit/Run Search page is displayed.

Note that you can save configuration searches by clicking **Save As** and providing a name.

Practices for Lesson 12: Managing Compliance

Chapter 12

Practices for Lesson 12

Practices Overview

In these practices, you learn about monitoring and managing compliance with business rules. Many compliance rules are predefined in Cloud Control. You can also define your own rules. Compliance rules are grouped together in "compliance standards," which you can assign to a specific target type. Once assigned, compliance is evaluated when there is a configuration change. Compliance standards can be grouped together in "compliance frameworks," which can span multiple target types.

You will work as a super administrator in these practices. By default, the `emadmin` user has access to the Compliance Framework tabbed page, since it is a Super Administrator.

- View predefined compliance framework, standards, rules, and rule details. If you are already familiar with compliance objects, how to search and review them, then consider Practice 12-1 optional and continue with Practice 12-2, Using Compliance Standards.
- Display Management Pack information. You create a new compliance standard, called **My Storage BP for DB**, based on **Storage Best Practices For Oracle Database**. Assign both of your database instances to this compliance standard. Then view the compliance evaluation results.

Practice 12-1: Reviewing Predefined Compliance Objects

Overview

In this practice, you view predefined compliance framework, standards, rules, and rule details. If you are already familiar with compliance objects, how to search and review them, then consider this part 12-1 optional. (Continue with 12-2, Using Compliance Standards.)

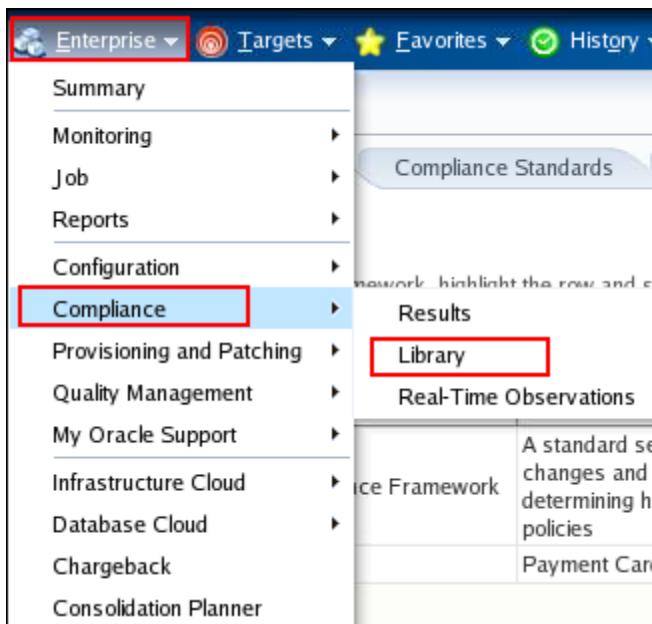
Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

You reviewed the "Utilizing and Reporting for Out-Of-Box Compliance Standards" demonstration or have the equivalent navigation knowledge.

Tasks

- To review predefined compliance objects, navigate to **Enterprise > Compliance > Library**.



- The Compliance Library has several tabbed pages. On the Compliance Frameworks tabbed page, select a framework that interests you, and click **Show Details**.

The example shows the Oracle Generic Compliance Framework.

Action	Compliance Framework	Description	Compliance Framework State	Author	Keywords	Last Updated Date
	Oracle Generic Compliance Framework	A standard set of policies and associated controls for tracking changes and events taking place across your IT infrastructure for determining how well your organization is in compliance with your IT policies	Production	ORACLE	Security	Nov 30, 2012 12:00:00
	PCI DSS (Version 2.0)	Payment Card Industry Data Security Standards (PCI DSS)	Production	ORACLE	Security	Nov 30, 2012 12:00:00
	Oracle Support Compliance	Collection of controls that check for expected environment compliance for Oracle Supportability	Production	ORACLE	Configuration	Nov 30, 2012 12:00:00
	Oracle Identity Management Compliance	A set of standards for performance tuning and best practice of Oracle Identity Management components	Production	ORACLE	Configuration	Nov 30, 2012 12:00:00
	Certification	A set of standards for tracking certifications of Oracle products across your IT infrastructure	Production	ORACLE	Configuration	Nov 30, 2012 12:00:00
	Support Policy	A set of standards for tracking supportability of Oracle products across your IT infrastructure	Production	ORACLE	Configuration	Nov 30, 2012 12:00:00

3. Expand the hierarchy nodes several levels and review the descriptions; then click **Done**.

Select a Compliance Framework hierarchy node to see its details.

- ▼ Oracle Generic Compliance Frame
- ▷ Change and Configuration Mana
- ▷ Emergency Change
- ▼ Access
 - ▷ **System Direct Access**
 - ▷ Database Direct Access
 - ▷ Directory Access Control Lis
 - ▷ Database Access Control Lis
 - ▷ OS Access Control Lists
 - ▷ OS Security Settings
 - ▷ Restricted File Access
 - ▷ Restricted File Integrity
- ▷ Database
- ▷ IT Operations
- ▷ Network Security
- ▷ Segregation of Duties

Properties

System Direct Access

Name System Direct Access
Description Monitor user logins to systems and track unauthorized logins.
Reference Url
Importance Low

Done

4. Click the **Compliance Standards** tab. There are quite a few standards, each for a specific target type.

Actions		View	Create...	Create Like...	Show Details	Edit	Delete...	Associate Targets	Override Target Type Settings	
	Compliance Standard	Description	Compliance Standard State	Applicable To	Keywords					
	Rules for potential WLS v11 problems whi	Rules for potential WLS v11 problems which may result in system outages or downtime.	Production	Oracle WebLogic Domain	Configuration					
	Storage Best Practices for Oracle RAC D	Checks the RAC database storage settings, to ensure that customers are correctly setting up the tablespaces, redologs and segments and therefore avoiding potential space and performance problems.	Production	Cluster Database	Configuration					
	All WLS v10 rules	All WLS v10 rules.	Production	Oracle WebLogic Domain	Configuration					
	Basic Security Configuration For Oracle C	Ensures adherence with basic best-practice security configuration settings that help protect against database-related threats and attacks, providing a more secure operating environment for the Oracle Cluster Database Instance	Production	Database Instance	Security					
	Weblogic Server Configuration Complianc	Configuration checks for Oracle Weblogic Server target	Production	Oracle WebLogic Server	Configuration					
	Patchable Configuration For ASM	Ensures adherence with best-practice patchable configuration settings for ASM target that help make the ASM target could be patched by using EM Patching feature.	Production	Automatic Storage Management	Configuration					

5. Review the predefined standards and then select **Storage Best Practices For Oracle Database** (which is applicable to the Database Instance target type) and then click **Show Details**.
 6. Expand the hierarchy nodes until you can click **Default Temporary Tablespace Set to a System Tablespace** to view its description.

Select a Compliance Standard hierarchy node to see its details.

- ▽ Storage Best Practices for Oracle Database
- ▽ Database Default Tablespace Settings
 - Default Temporary Tablespace Set to a System Tablespace**
 - Default Permanent Tablespace Set to a System Tablespace
- ▷ Tablespace Storage Settings
- ▷ Redolog Storage Settings
- ▷ Segment Storage Settings
- ▷ User Storage Settings

Properties

Default Temporary Tablespace Set to a System Tablespace

Name Default Temporary Tablespace Set to a System Tablespace

Compliance Rule Production

State State

Description Checks if the DEFAULT_TEMP_TABLESPACE database property is set to a system tablespace

Importance High

Done

7. Review any other descriptions that may interest you, and then click **Done**.
 8. Click the **Compliance Standard Rules** tab.

9. Since there are many rules, use the Search functionality for finding the previously viewed **Default Temporary Tablespace Set to a System Tablespace**. Click the ">" icon before Search.

To perform an operation on a rule, highlight the row and select an operation. To delete multiple rules, select multiple rows and click Delete.

Actions	View	Create...	Create Like...	Show Details	Edit	Delete...	
	Rule	Applicable To	Description	Rule Type	Compliance Rule State	Keywords	Author
	Proxy Account	Database Instance	Ensures that the proxy accounts have limited privileges	Repository Rule	Production	Security	ORACLE
	Proxy Account	Cluster Database	Ensures that the proxy accounts have limited privileges	Repository Rule	Production	Security	ORACLE
	Oracle Net Client Trace Dir	Database Instance	Ensures that the client trace directory is a valid directory owned by Oracle set	Repository Rule	Production	Security	ORACLE
	Use of SQL92 Security Features	Database Instance	Ensures use of SQL92 security features	Repository Rule	Production	Security	ORACLE

10. Enter **%tablespace%** as Rule and click **Search**. Then select **Default Temporary Tablespace Set to a System Tablespace** and click **Show Details**.

Match All Any

Rule **%tablespace% 1**

Description

Rule Type

2 Search **Reset**

To perform an operation on a rule, highlight the row and select an operation. To delete multiple rules, select multiple rows and click Delete.

Actions	View	Create...	Create Like...	Show Details	Edit	Delete...	
				4 Show Details			
	Rule	Applicable To	Description	Rule Type	Compliance Rule State	Keywords	Author
	Default Permanent Tablespace Database Instance	Database Instance	Checks if the DEFAULT_PERMANENT_TABLESPACE database property is set to a system tablespace	Repository Rule	Production	Storage	ORACLE
	Default Permanent Tablespace Cluster Database	Cluster Database	Checks if the DEFAULT_PERMANENT_TABLESPACE database property is set to a system tablespace	Repository Rule	Production	Storage	ORACLE
	Default Temporary Tablespace Cluster Database	Cluster Database	Checks if the DEFAULT_TEMP_TABLESPACE database property is set to a system tablespace	Repository Rule	Production	Storage	ORACLE
3	Default Temporary Tablespace Database Instance	Database Instance	Checks if the DEFAULT_TEMP_TABLESPACE database property is set to a system tablespace	Repository Rule	Production	Storage	ORACLE
	Tablespaces Containing RAC Cluster Database	RAC Cluster Database	Checks for tablespaces containing both rollback and data segments	Repository Rule	Production	Storage	ORACLE

11. Scroll to review all details including the SQL Source of how this rule is checked in the data dictionary.

Rule Check Definition

SQL Source `select TABLESPACE_NAME, PROBLEM_CODE, VALUE1, VALUE2, TARGET_GUID from MGMT$CS_DB_REC_TS_SETTINGS where TABLESPACE_NAME like '%s' and`

12. Click **Done** when you are finished reviewing the rule details.

Practice 12-2: Using Compliance Standards

Overview

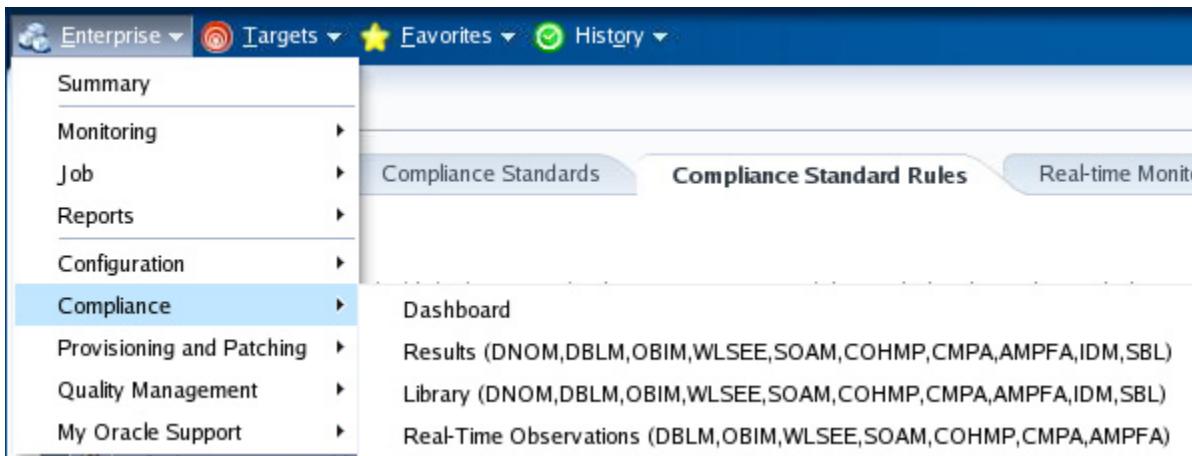
In this practice, you first (optionally) display Management Pack information. You create a new compliance standard, called **My Storage BP for DB**, based on **Storage Best Practices For Oracle Database**. Assign both of your database instances to this compliance standard. Then view the compliance evaluation results.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the **SYSMAN** user (with the **Oracle123** password).

Tasks

1. Navigate to **Setup > Management Packs** and click **Show Management Pack Information**.
2. To assign compliance standards to your database instances, navigate to **Enterprise > Compliance > Library**. Notice the Management Packs shown on the Compliance menu.



3. Click the **Compliance Standards** tabbed page, and then the ">" icon before Search.
4. Select **Database Instance** from the Applicable To drop-down and click **Search**.

5. Because you want to ensure that there are no unexpected changes coming from predefined standards (which may be updated in the future), you create your own set. Select **Storage Best Practices For Oracle Database** and click **Create Like**.

The screenshot shows the Oracle Compliance Standards interface. At the top, there are tabs for 'Compliance Frameworks', 'Compliance Standards' (which is selected), 'Compliance Standard Rules', and 'Real-time Monitoring Facets'. Below the tabs is a search bar with a dropdown menu set to 'Search'. To the right of the search bar are buttons for 'Advanced' and 'Reset'. Underneath the search bar are two input fields: 'Applicable To' (set to 'Database Instance') and 'Keywords'. Below these fields are 'Search' and 'Reset' buttons. A message at the bottom of the search area says: 'To perform an operation on a standard, highlight the row and select an operation. To delete multiple standards, select multiple rows and click Delete.' The main content area displays a table of compliance standards. The columns are: 'Actions', 'View', 'Create...', 'Show Details', 'Edit', 'Delete...', 'Associate Targets', 'Override Target Type Settings', 'Compliance Standard', 'Description', 'Compliance Standard State', 'Applicable To', and 'Keywords'. One row is highlighted in blue, representing the 'Storage Best Practices for Oracle Database' standard. The description for this standard states: 'Checks the database storage settings, to ensure that customers are correctly setting up the tablespaces, redlogs and segments and therefore avoiding potential space and performance problems.' Other rows in the table represent 'Configuration Best Practices for Oracle Database' and 'Basic Security Configuration For Oracle Database', both also checked for 'Storage'.

6. Enter **My Storage BP for DB** for DB as Name and click **Continue**.

7. Click **Save**.

The screenshot shows the properties dialog for the 'My Storage BP for DB' compliance standard. On the left, a tree view shows the standard's structure under 'My Storage BP for DB'. The expanded sections include 'Database Default Tablespace Settings', 'Tablespace Storage Settings', 'Redolog Storage Settings', 'Segment Storage Settings', and 'User Storage Settings'. On the right, the 'Properties' tab is selected. The standard's name is 'My Storage BP for DB', it is applicable to 'Database Instance', and its state is 'Production'. The description is: 'Checks the database storage settings, to ensure that customers are correctly setting up the tablespaces, redlogs and segments and therefore avoiding potential space and performance problems.' The 'Target Property Filter' section lists the author as 'EMADMIN'. The reference URL is 'http://www.oracle.com' and the version is '1'. The 'Keywords' field contains 'Storage'.

8. Select **My Storage BP for DB** and click **Associate Targets**.

The screenshot shows the Oracle Compliance Standards interface again. The 'Associate Targets' button is highlighted in the toolbar. Below the toolbar, a message says: 'To perform an operation on a standard, highlight the row and select an operation. To delete multiple standards, select multiple rows and click Delete.' The main content area shows a table of compliance standards. The columns are: 'Actions', 'View', 'Create...', 'Show Details', 'Edit', 'Delete...', 'Associate Targets', 'Override Target Type Settings', 'Compliance Standard', 'Description', 'Compliance Standard State', 'Applicable To', and 'Keywords'. One row is highlighted in blue, representing the 'My Storage BP for DB' standard. The description for this standard states: 'Checks the database storage settings, to ensure that customers are correctly setting up the tablespaces, redlogs and segments and therefore avoiding potential space and performance problems.'

9. To associate targets, click **Add**.

10. On the ‘Search and Select: Targets’ window, multi-select (Shift-Select) the `orcl.example.com` and `em12rep.example.com` database instances and click the **Select** button.

11. Click **OK**.

12. Read the Save Association message and click **Yes**.
13. You should receive the information that the compliance standard is submitted for processing. Click **OK**.
14. To evaluate the compliance standards, navigate to **Enterprise > Compliance > Results**.
15. Question: What is the compliance score for storage best practices in each database? Click a digit under Target Evaluations.

Compliance Standards	Applicable To	Compliance Standard State	Target Evaluations	Violations	Average Score (%)
Security Recommendations For Oracle Products	Host	Production	2 0 0	2 0 0	51
Storage Best Practices for Oracle Database	Database Instance	Production	0 0 2	0 0 2	99

16. Possible answer: In this example, it is 99%. Close the Compliant Targets page.

Target Name	Last Evaluation Date	Compliance Score (%)
em12rep.example.com	12/4/2012	99
orcl.example.com	12/4/2012	99

17. On the Compliance Results page, drill down to discover why the compliance standard is not 100%.

 - a. Click **Show Details**.
 - b. Then click Violations tab.

Target Name	Violations	Score (%)	Last Evaluation Date
em12rep.example.com	0 0 1	99	12/4/2012
orcl.example.com	0 0 1	99	12/4/2012

- c. The database does not conform to the compliance standard rule as recommended by Oracle Corporation. Click the **Violations** tab to find out.

Rule	Target Name	Applicable To	Severity	Recommendation
Tablespace Not Using Automatic Segment-Space Management	em12rep.example.com	Database Instance	Minor Warning	Stc Oracle recommends changing MANUAL segment-space ma
Tablespace Not Using Automatic Segment-Space Management	orcl.example.com	Database Instance	Minor Warning	Stc Oracle recommends changing MANUAL segment-space ma

Practices for Lesson 13: Producing and Using EM Reports

Chapter 13

Practices for Lesson 13

Practices Overview

In these practices, you will first review the Oracle-provided reports and answer the following question: Can Oracle-provided reports be modified?

Then, you execute the Availability History report for one of your targets. Change the time period to the last seven days.

Next, you create a report using the Create Like functionality. The report definition that you use is Availability History (Target). Name the report: **MY Availability History and Outstanding Alerts**. Add the Open Alerts information, which shows all severities, to this report. Ensure that this report is run using the target privileges of the report owner. Then modify the report layout to the Dashboard style and allow access to the `DB_ADMIN` administrator. (You might also want to test access as the `DB_ADMIN` administrator.)

Practice 13-1: Reviewing and Running Oracle-Provided Reports

Overview

In this practice, you review the Oracle-provided reports and execute the Availability History report for one of your targets. Change the time period to the last seven days.

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Navigate to **Enterprise** (global menu) > **Reports** > **Information Publisher Reports**.
2. Review all the reports provided by Oracle.
3. Can they be modified? (*No.*)
4. Scroll to the Monitoring section (about halfway down) and click the **Availability History (Target)** report. Or, you may Search by Type and select Host.
5. Click the icon to select one of your targets (for example, a database, or host target). The example in the solutions uses a host target, dbtarget.example.com. Your results will vary if you choose a different target type. Click **Select**. Then click **Continue**.

<input type="radio"/>	/EMGC_GCDomain/GCDomain/EMGC_OMSI	Oracle WebLogic Server	em12.example.com	
<input type="radio"/>	/EMGC_GCDomain/GCDomain/EMGC_OMSI/emgc	Application Deployment	em12.example.com	
<input type="radio"/>	/EMGC_GCDomain/GCDomain/EMGC_OMSI/empbs	Application Deployment	em12.example.com	
<input type="radio"/>	/EMGC_GCDomain/GCDomain/EMGC_OMSI/OCMRepeater	Application Deployment	em12.example.com	
<input type="radio"/>	/EMGC_GCDomain/GCDomain/EMGC_OMSI/oracle.security.apm(11.1.1.3.0)	Oracle Authorization Policy Manager	em12.example.com	
<input type="radio"/>	/EMGC_GCDomain/instance1/ohs1	Oracle HTTP Server	em12.example.com	
<input type="radio"/>	agent12c1_2_dbtarget	Oracle Home	dbtarget.example.com	n/a
<input type="radio"/>	agent12c1_8_em12	Oracle Home	em12.example.com	n/a
<input type="radio"/>	DB_GROUP	Group	n/a	n/a
<input checked="" type="radio"/>	dbtarget.example.com	Host	dbtarget.example.com	
<input type="radio"/>	dbtarget.example.com:3872	Agent	dbtarget.example.com	
<input type="radio"/>	EM Console Service	EM Service	n/a	
<input type="radio"/>	EM Jobs Service	EM Service	n/a	
<input type="radio"/>	EM Management Beacon	Beacon	em12.example.com	
<input type="radio"/>	em12.example.com	Host	em12.example.com	

6. Review the report.

Information Publisher Reports

Availability History (Target)

Host: dbtarget.example.com
Time Period: Last 24 Hours UTC [Set Time Period](#)

This shows the availability summary, chart and details for the selected target.

Summary		Availability State					
Overall Availability (%)	100	<ul style="list-style-type: none"> Up Time(100%) Down Time(0%) Blackout Time(0%) Agent Down Time(0%) System Error Time(0%) Status Pending Time(0%) 					
Total Uptime (hours)	24						
Total Downtime (hours)	0						
Total Blackout Time (hours)	0						
Total Unmonitored Time (hours)	0						
Availability (%) = Uptime/(Uptime + Agent Downtime + Target Downtime)							

Target states with duration less than 0.1% will not appear on the pie chart above.

Availability History Details

Availability State	Start Time ▼	End Time	Duration				Message	Comment	Notification	
			Days	Hours	Minutes	Seconds				
	Dec 3, 2012 10:28:19 AM	001	05	21	57					

[Return to Information Publisher Report Definitions](#)

- On the “Information Publisher Reports - Availability History (Target)” page, click **Set Time Period**.
- On the Set Time Period page, select your Time Zone.
- In the “From Current Time” drop-down list, select **Last 7 Days**. Click **Continue**.

Set Time Period

Select the range representing the dates that you want such that the duration is not greater than 99 years.

Note : All Dates/Times are mentioned in UTC timezone

Time Zone : (UTC+00:00) Universal Time (UTC)

From Current Time

Selecting "Last 7 Days" and viewing the report now will display data from 3:51:44 PM on Nov 27, 2012 to 3:51:44 PM on Dec 4, 2012.

Previous Time Period

Selecting "7 Days" and viewing the report now will display data from midnight on Nov 26, 2012 to midnight on Dec 3, 2012.

Calendar Time Period

Selecting "This Week" and viewing the report now will display data from midnight on Dec 1, 2012 to 3:51:44 PM on Dec 4, 2012.

Custom Date Range

The dates can be in the past or future. For eg : Start Date is Nov 27, 2012 and End Date is Dec 4, 2012, then data will be displayed from 00:00:00 of Nov 27, 2012 to 24:00:00 on Dec 4, 2012

Start Date (Format : MMM d, yyyy)

End Date (Format : MMM d, yyyy)

[Cancel](#) [Continue](#)

10. Note that the time period and any time-sensitive information is automatically updated.

Information Publisher Reports

Availability History (Target)

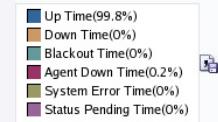
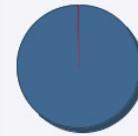
Host dbtarget.example.com
 Time Period Last 7 Days UTC Set Time Period

This shows the availability summary, chart and details for the selected target.

Summary

Overall Availability (%)	99.76
Total Uptime (hours)	88.08
Total Downtime (hours)	0
Total Blackout Time (hours)	0
Total Unmonitored Time (hours) 0.22	
Availability (%) = Uptime/(Uptime + Agent Downtime + Target Downtime)	

Availability State



Target states with duration less than 0.1% will not appear on the pie chart above.

Availability History Details

Availability State	Start Time ▾	End Time	Duration				Message	Comment	Notification
			Days	Hours	Minutes	Seconds			
⬆️	Dec 3, 2012 10:28:19 AM		001	05	23	52			
🔴	Dec 3, 2012 10:15:20 AM	Dec 3, 2012 10:28:19 AM 000	00	12	59				
⬆️	Dec 1, 2012 5:18:46 PM	Dec 3, 2012 10:15:20 AM 001	16	56	33				
⬆️	Nov 30, 2012 11:34:33 PM	Dec 1, 2012 5:18:46 PM	000	17	44	13			

[Return to Information Publisher Report Definitions](#)

Practice 13-2: Creating a Report with Information Publisher

Overview

Background: Suppose you have a host that you are managing and you want to have a report that displays availability history and open alerts for your host. While looking at the Oracle-provided reports, you notice that Availability History (Target) closely matches your needs. You realize that you can perform a “Create Like,” use the information already displayed in the report, and add the Open Alerts information to achieve the report you want. You also want to share this information with the DB_ADMIN administrator.

In this practice, you create a report using the Create Like functionality. The report definition that you use is Availability History (Target). Name the report: **MY Availability History and Outstanding Alerts**. Add the Open Alerts information, which shows all severities, to this report. Ensure that this report is run using the target privileges of the report owner. Then modify the report layout to the Dashboard style and allow access to the DB_ADMIN administrator. (You might also want to test access as the DB_ADMIN administrator.)

Assumptions

You are logged in to Enterprise Manager Cloud Control as the emadmin user (with the emadmin password).

Tasks

1. Navigate to **Enterprise** (global menu) > **Reports** > **Information Publisher Reports**.
2. Select the **Availability History (Target)** report under Monitoring and click **Create Like**.
3. Enter the Title as **My Availability History and Outstanding Alerts**. Accept the existing category and subcategory, or create your own. Enter an appropriate description.
4. Select **Use the specified target** and enter `em12.example.com` in the Target field (or use the flashlight icon to select this host).
5. Select the **Run report using target privileges of the report owner (EMADMIN)** check box.

Create Report Definition

[General](#) [Elements](#) [Schedule](#) [Access](#) [Preview](#)

Information

The Information Publisher reports feature is being replaced by Oracle Business Intelligence (BI) Publisher reports feature. Oracle strongly recommends migrating your reports to BI Publisher. The Information Publisher reports feature will no longer be enhanced and is deprecated as of Enterprise Manager release 12.

* Title <input type="text" value="My Availability History and Outstanding Alerts"/>	Description <input type="text" value="Displays availability history for a target and outstanding alerts."/>
Category <input type="text" value="Monitoring"/>	Add Category
Subcategory <input type="text" value="Availability History"/>	Add Subcategory

Targets

Either the report viewer can select a target, or your report definition can specify the target. An element-specific target, if specified, overrides any choice below.

A target will be selected by the report viewer when viewing the report

Target Type

Use the specified target

Target

Leave blank if this report has no report-wide target

Privileges

The report can be run using the target privileges of either the report viewer or the report owner (EMADMIN). The report is run using the target privileges of the report viewer, unless the following check box is checked.

Run report using target privileges of the report owner (EMADMIN)

No valid when "A target will be selected by the report viewer when viewing the report" is selected

6. Click the **Elements** tab.
7. Click **Add** to add a new element.
8. On the “Add Element” page, select **Open Alerts** and then click **Continue**.
9. Click the **Set Parameters** icon for the **Open Alerts** element.

10. Enter **Outstanding Alerts** in the Header field. Make sure that **Inherit Target** is selected under Targets. Select all severities to display under Options. Click **Continue**.

Create Report Definition > Set Parameters

Set Parameters

Element Type: Open Alerts
Applicable Target Types: Any Target
Element Description: Displays open alerts for selected targets

Header Outstanding Alerts

Targets

Inherit Target
Uses the target that is specified on General or that is selected by the report viewer
 Use All Targets
 Use Element-specific Targets Selected Below

Add

Name	Type
(No targets)	

Options

Severities to Display

- Critical
- Warning
- Under Blackout
- Agent Unreachable
- Metric Collection Error

Rows to Display in Table: 10

11. Click **Preview** to see what your report looks like so far.
12. Click **Return to Create Report Definition** at the bottom left of the page.
13. You want to change the layout to a different style.
14. Click the **General** tab and expand Options, if needed.
15. Select **Dashboard** as Visual Style and click **Preview**.
16. Click your browser's Back button to return to the Create Report Definition page.
17. Click the **Access** tab and then click **Add**.
18. Select **DB_ADMIN** and click the **Select** button.
19. Now, click **OK** to save your own report definitions in the OMR.
20. You should receive a success message and be able to find your report on the Information Publisher Reports page.

<input type="radio"/>	Availability History		
<input type="radio"/>	Availability History (Target)	Displays availability history for a target over the last 24 hours.	SYSMAN
<input checked="" type="radio"/>	My Availability History and Outstanding Alerts	Displays availability history for a target over the last 24 hours.	EMADMIN

21. Optionally, test report access:
- Log out as the emadmin user.
 - Log in to Enterprise Manager as the DB_ADMIN user (with the dbadmin password).
 - Navigate to **Enterprise** (global menu) > **Reports** > **Information Publisher Reports**.
 - Enter **My** in the Title field and click **Go**.
 - Your report should be listed.

Select	Title	Description	Date Generated	Owner
<input type="radio"/>	▼ Information Publisher Reports			
<input type="radio"/>	▼ Monitoring			
<input type="radio"/>	▼ Availability History			
<input checked="" type="radio"/>	My Availability History and Outstanding Alerts	Displays availability history for a target over the last 24 hours.		EMADMIN

document icon indicates an Oracle-provided report. Oracle-provided reports cannot be edited, but you can use Create Like to create a report that can be edited.

Related Link [Enterprise Manager Information Publisher Reports](#)

- Log out as the DB_ADMIN user.

