Oracle® Database Appliance Simulator Labs



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ORACLE

Oracle Database Appliance Simulator Labs, Release 19.26 for Linux x86-64

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Contents

Preface

Audience	V
Documentation Accessibility	V
Related Documents	V
Conventions	vi

1 Setting Up the Oracle Database Appliance Simulator

1-1
1-2
1-4
1-5
1-6
1-7

2 Connecting to the Oracle Database Appliance OCI Lab Environment

About Oracle Database Appliance Simulator Lab Exercises	2-1
Requirements for Oracle Database Appliance Simulator Lab Exercises	2-2
Connecting to the Simulator Using the BUI	2-2
Connecting to the Simulator Using ODACLI Commands	2-3

3 Oracle Database Appliance Simulator Lab Exercises

Lab 1 - Deploy Appliance	3-1
Step 1 - Add the Appliance to the Network	3-2
Step 2 - Update the Repository with the Oracle Database Appliance Software	3-3
Step 3 - Enable Multi-User Access	3-5
Step 4 - Deploy the Appliance	3-6
Step 5 - Validate the Deployment	3-7
Step 6 - Networking	3-7
Lab 2 - Manage Databases	3-7
Step 1 - Create a new database using the BUI	3-8
Step 2 - View the Databases and Database Homes Using the CLI	3-8

Step 3 - Delete a Database	3-9
Step 4 - Create a Database with the CLI	3-10
Step 5 - Delete and Recreate a Database	3-11
Step 6 - Create a CPU Pool for a Database	3-12
Step 7 - Delete a Database Home	3-13
Step 8 - Create Database Backups on Local Disk, External NFS Storage, or on Oracle Cloud	3-13
Lab 3 - Patch and Update	3-14
Step 1 - Update the Oracle Database Appliance Repository with Latest Patches	3-14
Step 2 - Update the DCS Agent (If not done already)	3-16
Step 3 - Update the Server	3-16
Step 4 - Patch a Database: Update a Database to point to a New Database Home	3-17
Lab 4 - Virtualization: Create Application and Database KVMs	3-20
Step 1 - Create an Application KVM (Compute Instance)	3-20
Step 2 - Create a Database KVM (Database System)	3-25
Lab 5 - Multi-User Access	3-27
Step 1 - Create New Users	3-28
Step 2 - Grant a Resource to a User	3-28
Step 3 - Create a Resource by a User	3-30
Lab 6 - Monitoring and Resources	3-31
Step 1 - Advanced Information, Security Reports, Diagnostics, Online Help	3-32
Step 2 - Hardware Monitoring and Feature Tracking	3-33
Step 3 - Review Appliance Configuration	3-36
Step 4 - Review Storage Configuration	3-40
Step 5 - Review Network Status	3-44

Index

Preface

Oracle Database Appliance is an optimized, prebuilt database system that is easy to deploy, operate, and manage. By integrating hardware and software, Oracle Database Appliance eliminates the complexities of nonintegrated, manually assembled solutions. Oracle Database Appliance reduces the installation and software deployment times from weeks or months to just a few hours while preventing configuration and setup errors that often result in suboptimal, hard-to-manage database environments.

- Audience
- Documentation Accessibility
- Related Documents
- Conventions

Audience

This guide is intended for anyone who configures, maintains, or uses Oracle Database Appliance:

- System administrators
- Network administrators
- Database administrators
- Application administrators and users

This book does not include information about Oracle Database architecture, tools, management, or application development that is covered in the main body of Oracle Documentation, unless the information provided is specific to Oracle Database Appliance. Users of Oracle Database Appliance software are expected to have the same skills as users of any other Linux-based Oracle Database installations.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

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Related Documents

For more information about Oracle Database Appliance, go to http://www.oracle.com/goto/oda/docs and click the appropriate release.



For more information about using Oracle Database, go to http://docs.oracle.com/database/ and select the database release from the menu.

For more information about Oracle Integrated Lights Out Manager 3.2, see https://docs.oracle.com/cd/E37444_01/.

For more details about other Oracle products that are mentioned in Oracle Database Appliance documentation, see the Oracle Documentation home page at http://docs.oracle.com.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action or terms defined in the text.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace Monospace type indicates commands within a paragraph, URLs, c examples, text that appears on the screen, or text that you enter.	
# prompt	The pound (#) prompt indicates a command that is run as the root user.



1 Setting Up the Oracle Database Appliance Simulator

Understand the tasks for setting up, deploying, and patching Oracle Database Appliance.

The Oracle Database Appliance X8-2 simulator application is a container-base simulator on Oracle Cloud Infrastructure (OCI) that simulates the operation of an Oracle Database Appliance X8-2 single-node or high-availability (2 nodes) system. You must have an OCI account to run the Oracle Database Appliance simulator. When you launch the Oracle Database Appliance simulator on the OCI Marketplace, a simulator VM is started in your tenancy. If you use the Always Free OCI account, due to the 1 GB memory limitation, it is recommended that you set up the simulator with the single-node option. Following are the steps to set up the simulator environment so that you can run the Oracle Database Appliance.

- Prerequisites for Setting up the Simulator Understand the prerequisites for setting up the Oracle Database Appliance simulator.
- Installing the Simulator Follow these steps to install the simulator.
- Accessing the Oracle Database Appliance Simulator Follow these steps to access the simulator.
- Creating a Restore Point or Snapshot for the Oracle Database Simulator You can create a restore point or snapshot at the end of a lab and go back to it, so you do not have to restart the lab from the beginning.
- About BUI Agent Certificate Issue Understand the common BUI issues you may encounter when setting up the Oracle Database Appliance simulator.
- Restarting the Simulator in a Container If the ODACLI commands fails, then check if the Oracle Database simulator is running in the container.

Prerequisites for Setting up the Simulator

Understand the prerequisites for setting up the Oracle Database Appliance simulator.

Requirements

- You must have an OCI account and credentials.
- You must also have the VM IP address to access the simulator VM and setup the environment for the Oracle Database Appliance hands-on labs.

Create a Key with PuTTYgen

If you use Putty to create a key, you must create a key with PuTTYgen:

- 1. Generate key of type RSA.
- 2. Save the private key.



3. Under Public key for pasting into OpenSSH authorized_keys file: copy all contents in the box and paste into a text file and save as a .pub file. This is the key you use when you setup the Oracle Database Appliance simulator instance.

Important:

You must configure network security rules first to access Oracle Database Appliance BUI.

Configure Network Security Rules

- 1. Open your OCI application VM and click on your VCN link above Virtual Cloud Network.
- Click Security Lists in the left panel and click on the Default Security List for your_vcn in the middle of the screen.
- 3. Click Add Ingress Rules and fill in following information:

```
SOURCE TYPE :CIDR
SOURCE CIDR : 0.0.0.0/0
IP PROTOCOL : TCP
```

4. Click Add Ingress Rule. Similarly add egress rule for outgoing traffic, if not already added.

Installing the Simulator

Follow these steps to install the simulator.

Podman is installed in the simulator VM by default.

1. Log into the simulator VM:

```
ssh -i key opc@IP address (OCI public IP address)
```

2. Switch to root user:

\$sudo -s

3. Navigate to the simulator directory, where 19.xx.0.0.0 is the release number.

```
# cd simulator 19.xx.0.0.0
```

4. Run the following command to make sure that podman is running:

podman ps

5. You may see a default container running already, for example, oda-1. If that is the case, then you are set up to connect to the container to run the ODACLI commands already. Run the following command:

./connectContainer.sh -n odasim-1

6. No password is required for an OCI VM.



To access the Oracle Database Appliance simulator:

Ensure that you have access to the port number assigned to the container.

1. Go to the simulator log directory.

```
cd ${SIMULATOR HOME}//log
```

where SIMULATOR_HOME is the directory from which you ran the createOdaSimulatorContainer command.

2. Run the cat command for the most recent log file.

```
cat
ODA Simulator system info:
Executed on: 2023_06_14_06_33_PM
Executed by:
num= 1
dept= oda
hostpubip=
USERS:
Container : oda-1
ODA Console: https://ip_of_simulator_machine :7095/mgmt/index.html
ODA cli access: Connect to the host and run following command:
sh connectContainer.sh -n oda-1
```

Note the port number, for example, 7095.

Following are optional steps for manually managing the containers.

Note that if you are running the simulator standalone on a Linux system, then you must run the following steps.

- 1. Run the following command to make sure podman is running and to view which containers are running:
 - # podman ps
- 2. If you see any unwanted container running, run the cleanup script to start fresh:
 - # ./cleanup odasimulator sw.sh
- 3. Run the simulator setup script:
 - # ./setup_odasimulator_sw.sh noportainer

For always free OCI account with 1GB memory, it is recommended that you set up the simulator with one user and the single node option.

- If a default container is not running, you can manually create a single node container for a user.
 - # ./createOdaSimulatorContainer.sh -d oda -t single -o noportainer



 A single container called oda-1 is created. To view the options, use the following command:

```
# ./createOdaSimulatorContainer.sh -help
```

- 6. For standard OCI account with minimum 2GB memory, it is recommended that you set up the simulator with the high-availability option:
 - # ./createOdaSimulatorContainer.sh -d oda -t ha -o noportainer
- 7. For each Oracle Database Appliance X8-2-HA simulator user, two containers, oda-1-node0 and oda-1-node1, are created. Ignore any warning messages about Agent or Zookeeper. Ensure that you can connect to the container. Note the assigned port numbers in the following output. The port numbers are necessary for logging into the simulator Browser User Interface (BUI).

```
ODA Simulator system info:
Executed on: 2023_06_11_03_23_PM
Executed by:
num= 1
dept= oda
hostpubip= ip_of_simulator_machine
USERS:
Container : oda-1-node0
ODA Console: https://ip_of_simulator_machine:7095/mgmt/index.html
ODA cli access: Connect to the host and run following command:
sh connectContainer.sh -n oda-1-node0
Container : oda-1-node1
ODA Console: https://ip_of_simulator_machine:7097/mgmt/index.html
ODA cli access: Connect to the host and run following command:
sh connectContainer.sh -n oda-1-node1
```

After you have completed the labs, you must clean up the environment by deleting the user containers. The following command deletes instances oda-1-node0 and oda-1-node1:

./deleteOdaSimulatorContainer.sh -t ha -i 1 -n 1 -d oda

Clean up your log files from the lab by deleting your logs in the /simulator_19.26.0.0/log directory. To completely reset the lab, run the following command:

```
# ./cleanup odasimulator sw.sh
```

This deletes all the containers and the volumes.

Accessing the Oracle Database Appliance Simulator

Follow these steps to access the simulator.

For CLI access, connect by SSH to the simulator VM, connect by sudo to root, and connect to the container, for example, odasim-1. No password is required.

```
# ./connectContainer.sh -n odasim-1
```



For a high-availability system, you can access both nodes, for example, oda-1-node0, oda-1-node1.

./connectContainer.sh -n oda-1-node1

For BUI access, use the VM IP address and port number, for example, 7095, 7097.

https://server IP:xxxx/mgmt/index.html

Creating a Restore Point or Snapshot for the Oracle Database Simulator

You can create a restore point or snapshot at the end of a lab and go back to it, so you do not have to restart the lab from the beginning.

For example, once you complete Lab 3, you create a restore point at the beginning of Lab 4. During Lab 4, if there is any error, then you can go back to the restore point at the beginning of Lab 4 instead of starting from Lab 1 again. To create a snapshot, run the following command from the simulator directory:

```
# ./snapshot.sh
Usage: snapshot.sh [-c | -r | -1] [] | -
h
Options:
create [ha|single] Create a new snapshot of the
simulator
restore [ha|single] Restore the simulator to a previous snapshot
list [ha|single] List all snapshots created with their IDs
help, -h Display this help and exit is mandatory. You
only need the name of the environment without 'node0' or 'node1' in case the
simulator environment is HA is either 'ha' or 'single'. Default is 'single'
```

Use this script to create and restore snapshots of the Oracle Database Appliance simulator. This is useful when trying different scenarios or for creating backups.

```
# ./snapshot.sh create oda-1
/scratch/user/simulator_19.26_ade/simulator_19.26.0.0.0/snapshots.dat doesn't
exist. Creating a new one...
Snapshot with ID: 1 has been created successfully. Timestamp: Wed Jun 22
14:01:24 PDT 2023
# ./snapshot.sh list oda-1
ID CONTAINER NAME DEPLOYMENT TYPE TIMESTAMP
1 oda-1 single Wed Jun 22 14:01:24 PDT
2023
```



```
# ./snapshot.sh restore 1 oda-1
Snapshot with ID: 1 has been restored successfully!
```

About BUI Agent Certificate Issue

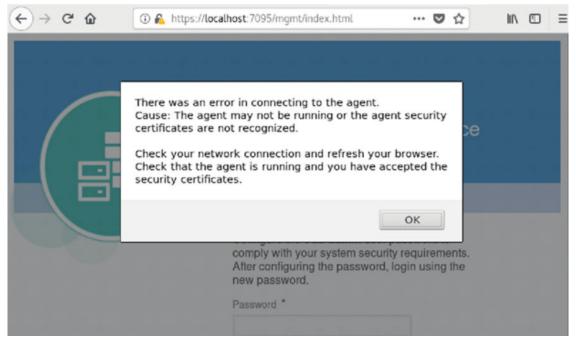
Understand the common BUI issues you may encounter when setting up the Oracle Database Appliance simulator.

Requirements

You may encounter a BUI Agent Certificate Issue. See the following example:

```
https://server IP:7095/mgmt/index.html
Your assigned port number maybe different
```

You may see a BUI agent security certificate error message:



To fix it, you must add a certificate exception to the BUI agent port, with is your assigned port number -1. In this case, the port number is 7094.

```
https://server IP:7094
( Your port number maybe different)
```

Go through the certificate exception process and add the exception. Then go back to your assigned port.

https://server IP:7095/mgmt/index.html

Go through the certificate exception process again and add the exception. Then you can access the BUI to create the appliance.



Restarting the Simulator in a Container

If the ODACLI commands fails, then check if the Oracle Database simulator is running in the container.

Run the following command to check the status of the simulator:

/opt/oracle/dcs/bin/statusOdaStack.sh

If the simulator is not running, then start the simulator as follows:

/opt/oracle/dcs/bin/startOdaStack.sh



2

Connecting to the Oracle Database Appliance OCI Lab Environment

Understand the tasks for connecting to the lab environment.

- About Oracle Database Appliance Simulator Lab Exercises Understand the Oracle Database Appliance simulator lab exercises.
- Requirements for Oracle Database Appliance Simulator Lab Exercises Understand the requirements for running Oracle Database Appliance simulator lab exercises.
- Connecting to the Simulator Using the BUI Follow these steps to connect to the simulator.
- Connecting to the Simulator Using ODACLI Commands Follow these steps to connect to the simulator using ODACLI commands.

About Oracle Database Appliance Simulator Lab Exercises

Understand the Oracle Database Appliance simulator lab exercises.

The exercises in this guide use a container-based Oracle Database Appliance simulator to perform these labs. Performing deployment and patching on an actual ODA would require you to have your own system, and would take a rather long time. The simulator provides a similar experience, but is faster, and you get your own simulator to complete the labs. The simulator simulates an Oracle Database Appliance X8-2 single node or a high-availability (2-node) database appliance.

If you are using the simulator in the OCI Marketplace with an Always Free OCI Account, the memory is limited to 1GB. In this case, set up the simulator with the single-node option due to memory limitation. For more information, refer to the Readme.

Keep in mind this is a simulation. Not all features are supported by the simulator, and no database is actually created and running. Unlike on an actual appliance, the simulator may not display an error if you enter invalid data, and some of the detailed output and screen shots displayed in the command output may not be apply to an actual appliance.

Some command line operations require specifying long UUIDs or file names. Use copy/paste to enter long entries. If you accidentally exit the simulator, simply reconnect to it. It will remember your state.

After the Oracle Database Appliance simulator is set up in the OCI VM, you must log into the Oracle Database Appliance simulator VM with your credentials or key. You can perform the labs in this book with both Command Line Interface (CLI) and a web Browser User Interface (BUI) similar to how you work on an actual Oracle Database Appliance.



Requirements for Oracle Database Appliance Simulator Lab Exercises

Understand the requirements for running Oracle Database Appliance simulator lab exercises.

You need a web browser on your local system to perform the BUI tasks in the labs. Make sure you have the public Oracle Database Appliance simulator VM IP address and the simulator container port number (for example, 7095).

Make sure to log in as odaadmin with **Enable Multi-User Access** checked. You need a console on your local system to connect to the Oracle Database Appliance simulator container and switch to odaadmin (su odaadmin) user to run the CLI commands in the labs. Make sure you have the container name (for example, odasim-1). By default, a container called odasim-1 is created. Firefox and Chrome are the recommended web browsers for this lab. If you run into BUI agent credential issue, refer to the Troubleshooting section in the Readme document for details.

Connecting to the Simulator Using the BUI

Follow these steps to connect to the simulator.

Connect to the simulator as follows:

 Use the OCI VM public IP address and port number to log into the Browser User Interface (BUI) and enable multi-user access:

https://IP Address:xxxx/mgmt/index.html (for example: 7095)

2. You must first complete running the odacli configure-firstnet command and then run the odacli update-repository command in the Lab 1 (using CLI). Note that if you run into BUI agent credentials issue, refer to the Troubleshooting section in the Readme document for details.



3. Set a new password based on the required rules. For simplicity, you can use a password similar to WELcome12## or use your own unique password.

↔ ⇒ ŵ	🛈 🐔 https://localhost:7095/mgmt/index.html	(110%) ···· 🛛 🏠 C ² 🔍 Se	earch 🛛 🕅 😨 💿 🗿	0 0 ≡
		Oracle Database Applia	ance	
		Configure the oda-admin user passy security requirements. After configuri new password. Password *		
		Confirm Password *		
		Submit		
			ORACLE	

 You can then login as odaadmin with the new password. The Appliance page is displayed after you log into Oracle Database Appliance.

	pliance Current User: odaadmin Resources V Account V Q Search Documentation
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Diagnostics
Overview	⑦ Help
Compute Instances	Oracle Database Appliance is not configured.
DB Systems	Click Create Appliance to get started.
Network	Create Appliance Refresh
CPU Pool	Learn More
Oracle ASR	
Patch Manager	
Parameter Repository	

Connecting to the Simulator Using ODACLI Commands

Follow these steps to connect to the simulator using ODACLI commands.

Run the following script to connect to the container. This script is usually located in the simulator directory (for example, simulator_19.xx.0.0.).



1. To access the default single node simulator (for example, odasim-1), run the following command. You need to switch to the odaadmin user with earlier password you set with the Browser UI to run the CLI commands.

```
# ./connectContainer.sh -n odasim-1
[root@odasim-1 /]# su odaadmin
[odaadmin@odasim-1 /]$
```

2. Or if you have created a 2-node Oracle Database Appliance (high-availability) simulator, you can access each node independently. To access the first node (node0), run the following command.

```
# ./connectContainer.sh -n oda-1-node0
[root@oda-1-node0 /]#
```

3. To access the second node (node1), run the following command:

```
# ./connectContainer.sh -n oda-1-node1
[root@oda-1-node1 /]#
```

Note:

ake sure you have a command line window and a web browser open for the lab exercises as some lab exercises require ODACLI command line input and entries in the web browser (BUI).



Oracle Database Appliance Simulator Lab Exercises

Perform these simulator lab exercises.

The lab exercises use a mix of command line and web-based administration tools. On the BUI, if you encounter any certificate warnings, simply accept them. Note in the output examples below, the text you type is in bold, and the text output in the simulator is not. Note that some examples in the lab may show steps for a 2-node high-availability simulator, and if you are running a single-node simulator, then you can ignore the information for the second node.

- Lab 1 Deploy Appliance
 Simulator lab exercise to deploy Oracle Database Appliance.
- Lab 2 Manage Databases In this lab, we will create and delete databases in the appliance. We can do this using the command line (CLI) or BUI.
- Lab 3 Patch and Update If you just completed Lab 2, the simulator should have two databases, db3 and db4.
- Lab 4 Virtualization: Create Application and Database KVMs Virtualization provides many benefits to customers such as cost savings through consolidation and better resource utilization, Virtual Machine (VM) isolation that provides better security, and KVM license hard partitioning support.
- Lab 5 Multi-User Access Oracle Database Appliance Multi-User Access can enhance the security of your appliance and provide an efficient mechanism for role separation.
- Lab 6 Monitoring and Resources
 Use either the command line or the BUI to monitor Oracle Database Appliance software, hardware, and feature usage.

Lab 1 - Deploy Appliance

Simulator lab exercise to deploy Oracle Database Appliance.

- Step 1 Add the Appliance to the Network
 On an actual appliance, after you first install Oracle Database Appliance into your data center rack, you must configure it to use the IP address your network administrator has assigned it.
- Step 2 Update the Repository with the Oracle Database Appliance Software When you receive your Oracle Database Appliance, you must download the Oracle software prior to deployment from *My Oracle Support*.
- Step 3 Enable Multi-User Access You can deploy the appliance using either the BUI or the command line. The command line is useful for scripted and silent installations. This lab uses the BUI.
- Step 4 Deploy the Appliance You can deploy the appliance using either the BUI or the command line. The command line is useful for scripted and silent installations. This lab uses the BUI.



- Step 5 Validate the Deployment Validate the deployment.
- Step 6 Networking Check the network.

Step 1 - Add the Appliance to the Network

On an actual appliance, after you first install Oracle Database Appliance into your data center rack, you must configure it to use the IP address your network administrator has assigned it.

The easiest way to do this is to first configure Oracle ILOM using a network or serial connection. Oracle Database Appliance includes a command odacli configure-firstnet to make it very easy to get Oracle Database Appliance on the network. Once your appliance is on the network, you can complete the rest of the deployment steps from any networked computer.

Note:

You must use ODACLI command to set up the network before you log into the Browser User Interface (BUI).

Run the network configuration command odacli configure-firstnet at the Linux prompt. Respond to the prompts as in the example below. Since this is a simulation, to configure the network, you can use any IP address (for example, 192.168.0.100) to complete this step.

```
[root@xx ~]$ odacli configure-firstnet
bonding interface is:
Using bonding public interface (yes/no) [yes]:
Select the Interface to configure the network on () [btbond1]:
Configure DHCP on btbond1 (yes/no) [no]:
INFO: You have chosen Static configuration
Use VLAN on btbond1 (yes/no) [no]:
Enter the IP address to configure : 192.168.0.100
Enter the Netmask address to configure : 255.255.255.0
Enter the Gateway address to configure [192.168.0.1] :
INFO: Restarting the network
Shutting down interface :
                                  [ OK ]
                                   [ OK ]
Shutting down interface plp1:
Shutting down interface em1:
                                     [ OK ]
Shutting down interface p1p2:
                                     [ OK ]
Shutting down loopback interface:
                                             [ OK ]
Bringing up loopback interface: [ OK ]
Bringing up interface : [ OK ]
Bringing up interface em1: [ OK ]
Bringing up interface plp1: Determining if ip address 192.168.16.24 is
already in use for device p1p1...
                                  [ OK ]
Bringing up interface plp2: Determining if ip address 192.168.17.24 is
already in use for device p1p2... [ OK ]
Bringing up interface btbond1: Determining if ip address 192.168.0.100 is
already in use for device btbond1... [ OK ]
INFO: Restarting the DCS agent
```



Note:

If this is an Oracle Database Appliance X8-2-HA system, then you must run the command odacli configure-firstnet on the second node (node1). Log into node1 and run the command odacli configure-firstnet again. You can use 192.168.0.101 for the IP address for node1.

Step 2 - Update the Repository with the Oracle Database Appliance Software

When you receive your Oracle Database Appliance, you must download the Oracle software prior to deployment from *My Oracle Support*.

Refer to the *Oracle Database Appliance Release Notes* for the latest Oracle Database Appliance release, for details about the patches to download. Specifically, you must download the Oracle Grid Infrastructure Clone files, Oracle Database Clone files, and the Server Patch Bundle.

For our lab exercises, the simulated versions of these files in the simulator already exist. For the labs, you will first deploy the Oracle Database Appliance with the Oracle Database Appliance release 19.25 patches, and then in the third lab you will patch the Oracle Database Appliance and databases to the latest 19.26 release.

The clone files are listed below. The other file in the directory contains patches, and will be used in the patching lab. Note about file paths: you must specify the full path of the files you specify in the odacli update-repository command.

Filename	Description
odacli-dcs-19.25.0.0.0- <i>date</i> -DB-19.25.0.0.zip	Oracle Database 19.25 Clone Files
odacli-dcs-19.25.0.0.0- <i>date</i> -GI-19.25.0.0.zip	Oracle Grid Infrastructure 19.25 Clone Files
odacli-dcs-19.26.0.0.0- <i>date</i> -ODAVM-19.26.0.0.zip	DB 19.26 DB System Template (used in lab 4)
oda-sm-19.26.0.0.0- <i>date</i> -server.zip	Oracle Database Appliance 19.26 Patch Bundle (used in lab 3)
odacli-dcs-19.26.0.0.0- <i>date</i> -DB-19.26.0.0.zip	DB 19.26 Clone Files (used in lab 3)
odacli-dcs-19.26.0.0.0- <i>date</i> -GI-19.26.0.0.zip	Oracle Grid Infrastructure 19.26 Clone Files (used in lab 3)

Table 3-1 Oracle Database Appliance Patches

You must update the Oracle Database Appliance repository, so that Oracle Database Appliance knows about the files. Run the odacli update-repository command for each clone file.

Hint: to reduce amount of manual typing and typing errors, use copy and paste functions to copy the file name or tab function to auto complete a file name. Also, use the up arrow to repeat the previous command, and then edit the file name.

Note: On an actual Oracle Database Appliance, you must update the DCS agent first, before updating the repositories. It is release dependent, so check the patching steps in the *Oracle Database Appliance Deployment and User's Guide* for your hardware model.



On an actual Oracle Database Appliance, local boot drive storage space is limited. It is recommended that you copy only the Oracle Grid Infrastructure clone file first, update the repository, deploy the Oracle Database Appliance, and then copy the database clone files to Oracle ACFS storage to deploy databases. Check the latest Oracle Database Appliance documentation for the steps.

Go to the command line window and entering the following odacli commands.

```
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-
dcs-19.25.0.0.0-date-GI-19.25.0.0.zip
{
  "jobId" : "4d428b05-a33f-4fe0-82ec-56849503aa28",
  "status" : "Running",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.25.0.0.0-date-
GI-19.25.0.0.zip",
  "reports" : [],
  "createTimestamp" : "December 8, 2024 00:05:38 AM UTC",
  "resourceList" : [],
  "description" : "Repository Update",
  "updatedTime" : "December 8, 2024 00:05:38 AM UTC"
}
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-
dcs-19.25.0.0.0-date-DB-19.25.0.0.zip
{
  "jobId" : "bb1caa66-7d19-4de1-a074-f475f4a2505a",
  "status" : "Running",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.25.0.0.0-date-
DB-19.25.0.0.zip",
  "reports" : [],
  "createTimestamp" : "December 8, 2024 00:08:58 AM UTC",
  "resourceList" : [ ],
  "description" : "Repository Update",
  "updatedTime" : "December 8, 2024 00:08:58 AM UTC"
}
```

When you run commands using the ODACLI command line tool, most operations are asynchronous, meaning that they return a job ID immediately while the job runs in the background. This means that to get information on long running background jobs, you can query the status of the job. At this point, the clone files are all loaded into the repository, so we are ready to deploy the appliance and create a database.

You can also use the Browser-based User Interface (BUI) to update the Oracle Database Appliance repository, by pasting the complete file path of the patch file or even clone file in the patch bundle location box of the Repository Manager in the web BUI. However, it is not necessary as you have used command line to update the repository (clone files) already.

Step 3 - Enable Multi-User Access

You can deploy the appliance using either the BUI or the command line. The command line is useful for scripted and silent installations. This lab uses the BUI.

After you configure the firstnet and update the repository, log into Oracle Database Appliance BUI using **odaadmin** and the previously-created password (for example, WELcome12##)

Multi-User access can only be enabled during initial provisioning of Oracle Database Appliance. Select the **Enable Multi-User Access** checkbox.

	Oracle Database Appliance	
	Configure the user password to comply with your system security requirements. After configuring the password, login using the new password. If multi-user access is enabled, the same credentials are used for the BUJ and for system login to run CLI commands.	
	Password *	
	Confirm Password *	
	Enable Multi-User Access ③ Configure Multi-User Access Settings	
og into BUI.	Submit	
Jy into Don		

Log into BUI.

Oracle Database Appliance

User Name *

Idadmin

User name wany ontain only numbers and letters.

OP Passevord * @

Image: Parget password?

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ORACLE



Step 4 - Deploy the Appliance

You can deploy the appliance using either the BUI or the command line. The command line is useful for scripted and silent installations. This lab uses the BUI.

After you configure the firstnet and update the repository, log into Oracle Database Appliance BUI using odaadmin and previously created password (for example, WELcome12##).

https://OCI	public	ΙP	Address>:xxxx/	/mgmt/	/index.	html
-------------	--------	----	----------------	--------	---------	------

Oracle Database Appliance
User Name * daadmin User name may contain only numbers and letters. ODA Password * ③ Login Forgot password?

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ORACLE

This takes you to the **Appliance** tab in the BUI. It should show that the appliance is not yet deployed.

Click **Create Appliance** to start the deployment wizard. Fill in the first page of the form as shown below. Most fields are self-explanatory. A possible exception is the Data Storage Percentage. This will affect how much space is allocated for backups. By default, 80% is allocated for data and 20% is allocated for archive logs. You can also specify a different percentage. Select Disk Group Redundancy as Flex. You can specify individual database storage redundancy later, either Mirror (double mirroring) or High (triple mirroring). Create a password. Be aware there is a password complexity test that will reject simple passwords such as test and other common variants. However, WELcome12## will work if you want to use that password for these lab exercises.

You can also load a configuration file, for example, oda.json that was saved previously to avoid manual entries. To create a configuration file, you manually fill in all the information then click **Save Configuration** at the end.

Click on each tab. In the Network Information page, you can configure the network for the public Client Access network here. Since this is a single node simulator, the information is prepopulated from the configure-firstnet process. You can also configure the Oracle ILOM network if you choose. Enter values for the IP Address, Subnet Mask, Gateway, and specify the interface to be used for the public network.

In the User and Group Selection screen, enter the 19xx ID. If multi-user access is enabled, you should enter the 9xxx IDs.

Next is the Database screen. Specify the database name and other database related information as shown below. Select DB Version as 19.26.0.0.250121.

To configure Oracle ASR, specify credentials here. This is also where you can save the configuration file, for example, oda.json for later use.

Click **Submit** to continue and click **Yes** in the confirmation box. This will bring up a link to the job status. Similar to ODACLI, operations are asynchronous, and return immediately with a job ID. That job ID can then be used to monitor progress. This allows the administrator to perform other tasks, if desired while the operations completes.

Click the job ID to see the status.

In the simulation, the deployment job status will complete within 1-2 minutes. You can see the various steps running, and their status changing to Success as they complete. Click the **Refresh** button to more quickly refresh the screen. In an actual appliance, the deployment takes about 60-90 minutes to complete.

Step 5 - Validate the Deployment

Validate the deployment.

Click on the **Database** tab at the top right of the BUI. The deployed database is displayed.

Click on the database name for more details about the database. Drill down to the Database Home to see information about the database home.

You can also verify that the appliance is properly deployed by clicking the **Appliance** tab to see more details.

Step 6 - Networking

Check the network.

You can check the network by clicking on the Network tab on the BUI Appliance page.

You can also create a new VLAN by clicking **Create Network** and specifying the network information.

Click on the **Create** button, then submit the job.

This concludes Lab 1.

Lab 2 - Manage Databases

In this lab, we will create and delete databases in the appliance. We can do this using the command line (CLI) or BUI.

You must complete Lab 1 before starting Lab 2.

- Step 1 Create a new database using the BUI Uses the BUI to create a new database.
- Step 2 View the Databases and Database Homes Using the CLI This lab uses ODACLI to view databases and database homes.
- Step 3 Delete a Database This lab uses the BUI to delete a database.
- Step 4 Create a Database with the CLI This lab uses ODACLI to create a database.



- Step 5 Delete and Recreate a Database This lab uses ODACLI to delete a database.
- Step 6 Create a CPU Pool for a Database This lab uses the BUI to create a CPU pool.
- Step 7 Delete a Database Home You can delete a database home using the BUI or the command line. This lab uses BUI to delete a database home.
- Step 8 Create Database Backups on Local Disk, External NFS Storage, or on Oracle Cloud

Backing up and restoring Oracle databases on Oracle Database Appliance involves two simple steps: Create a backup policy and attach the backup policy to a database.

Step 1 - Create a new database using the BUI

Uses the BUI to create a new database.

On the Oracle Database Appliance BUI, click the **Database** tab in the web page. You will see the database db1 created during deployment.

In the upper right-hand corner, there is a **Create Database** button. Click it. It brings up the Create Database wizard.

Choose Create Database, and click Next.

Specify the **DB Name**, for example, db2, and if you are creating a CDB, a **PDB Name**. Also remember to scroll down and enter a password that would in an actual appliance be used for SYS, SYSTEM, and PDB Admin.

When finished, click on the **Create** button. Click **Yes** to confirm. Beware of the password complexity checker—"WELcome12##" will pass the test.

This will bring up a link to the job status. Similar to ODACLI, operations on the BUI are asynchronous, and return immediately with a job ID. That job ID can then be used to monitor progress. This allows the administrator to perform other tasks if desired while long running operations complete.

Click the job ID to see the status. In the simulation, the job will complete within 30 seconds. You can see the various steps running, and their status changing to Success as they complete. Click the **Refresh** button to refresh the screen more quickly.

On an actual appliance, these steps take about 20 minutes to complete.

Once the operation completes, click on the **Database** tab at the top right of the web page. This should show the newly-created database.

See detailed database information by clicking on the database name, for example, db2. You can also view the newly-created home by clicking on the Database Home link in the left-hand column of the **Database** tab.

Step 2 - View the Databases and Database Homes Using the CLI

This lab uses ODACLI to view databases and database homes.

You can also manage databases from the command line. Go to the command line window. Use the odacli list-databases command to view your databases. Then use odacli describe-database



to see the details for a specific database. Be sure to use the database ID shown in the odacli list-databases command, not the ID shown in the example.

\$ odacli describe-database -i d1e615c3-5855-4b19-9ad0-40b620ac5f13 Database details _____ ID: d1e615c3-5855-4b19-9ad0-40b620ac5f13 Description: db2 DB Name: db2 DB Version: 19.25.0.0.241015 DB Type: SI DB Role: PRIMARY DB Target Node Name: node 0 DB Edition: EE DBID: Instance Only Database: false CDB: false PDB Name: PDB Admin User Name: SEHA Enabled: false Class: OLTP Shape: odb1 Storage: ASM DB Redundancy: MIRROR CharacterSet: AL32UTF8 National CharacterSet: AL16UTF16 Language: AMERICAN Territory: AMERICA Home ID: a1314be1-2c6f-411f-b2c7-61444449f02b Console Enabled: false TDE Wallet Management: TDE Enabled: false Level 0 Backup Day: Sunday AutoBackup Enabled: true Created: December 8, 2024 1:18:48 AM UTC DB Domain Name: example.com Associated Networks:

Step 3 - Delete a Database

This lab uses the BUI to delete a database.

You can also delete a database from the **Database** tab. Click the **Database** tab to view the list of databases.

Click the Action dropdown to the right of the db1 database, and then select Delete. Click Yes to confirm, and then close the status box.

The Database list should reflect the delete operation. Click **Refresh**, if necessary. After the database delete operation, only db2 is left.



Step 4 - Create a Database with the CLI

This lab uses ODACLI to create a database.

There are many options you can specify when using the CLI to create a new database. Type odacli create-database -h to see the options. Note that only the database name is required. Create a new database and database home named db3 as follows. You will be prompted for a password for SYS, SYSTEM, and PDB admin. To meet password complexity requirements, use WELcome12## for this lab.

```
$ odacli create-database -n db3 -v 19.23.0.0.240416
Job details
_____
               ID: 2051bf5b-4815-4cd2-8d85-e51367ba3269
         Description: Database service creation with db name: db3
            Status: Created
            Created: December 8, 2024 1:45:49 AM UTC
            Message:
Task Name
                               Start Time
End Time
                           Status
_____
                                         _____
_____ ___
$ odacli describe-job -i 2051bf5b-4815-4cd2-8d85-e51367ba3269
Job details
_____
               ID: 2051bf5b-4815-4cd2-8d85-e51367ba3269
         Description: Database service creation with db name: db3
            Status: Success
            Created: December 8, 2024 1:45:49 AM UTC
            Message:
Task Name
                               Start Time
End Time
                           Status
 _____
_____ ____
Validating dbHome available space December 8, 2024 1:45:50 AM UTC
December 8, 2024 1:45:50 AM UTC Success
                          December 8, 2024 1:45:50 AM UTC
Setting up ssh equivalance
December 8, 2024 1:45:50 AM UTC Success
Setting up ssh equivalance
                              December 8, 2024 1:45:50 AM UTC
December 8, 2024 1:45:50 AM UTC Success
Creating ACFS database home December 8, 2024 1:45:51 AM UTC
December 8, 2024 1:45:51 AM UTC Success
Validating dbHome available space
                              December 8, 2024 1:45:51 AM UTC
December 8, 2024 1:45:51 AM UTC Success
Configuring user access to ACFS DBHome base storage December 8, 2024 1:45:51
AM UTC
       December 8, 2024 1:45:51 AM UTC
                                  Success
Creating DbHome Directory
                               December 8, 2024 1:45:51 AM
```

In an actual appliance, this command would run a job in the background for approximately 40 minutes. As with the GUI, you can monitor the progress if you choose, but the Linux prompt returns immediately. Because this is a simulation, you should see your new database and

home almost immediately. Verify creation of the new database using the following odacli command:

\$ odacli list-databases

ID Version	CDB	Class	DB Na: Shape	-	Type DB Status DbHomeID			
d1e615c3-5855-4b1	9-9ad0-40b62	20ac5f13	db2	SI				
19.25.0.0.241015	false	OLTP	odb1	ASM	CONFIGURED			
a1314be1-2c6f-411f-b2c7-61444449f02b								
324a42ea-bba2-477	d-8bca-5a26a	af159f1c	db3	SI				
19.25.0.0.241015	false	OLTP	odb1	ASM	CONFIGURED			
ecfa440e-2482-40c1-8ccd-67316cd48ba2								

Note:

When you log in as an odaadmin user and create a database, the database runs with the odaadmin user as the owner. It is recommended that you create the database logging in as an oracle user.

Step 5 - Delete and Recreate a Database

This lab uses ODACLI to delete a database.

You can also use CLI to delete a database. Run odacli delete-database to remove database db2. Be sure to use the ID of your db2 database, which is likely different from the one in this workbook. Note that you can also use the database name instead of the ID.

```
$ odacli delete-database -i d1e615c3-5855-4b19-9ad0-40b620ac5f13
{
  "jobId" : "ccde4700-3c1e-423a-8079-477f49f8cd5f",
  "status" : "Running",
  "message" : null,
  "reports" : [ {
    "taskId" : "TaskZJsonRpcExt 10048",
    "taskName" : "Validate db d1e615c3-5855-4b19-9ad0-40b620ac5f13 for
deletion",
    "taskResult" : "OK",
    "startTime" : " December 8, 2024 01:49:40 AM UTC",
    "endTime" : " December 8, 2024 01:49:40 AM UTC",
    "status" : "Success",
    "taskDescription" : null,
    "parentTaskId" : "TaskSequential 10046",
    "jobId" : "ccde4700-3c1e-423a-8079-477f49f8cd5f",
    "tags" : [ ],
    "reportLevel" : "Info",
$ odacli list-databases
ID
                                         DB Name
                                                    DB Type DB
                  CDB
                             Class
Version
                                      Shape
                                               Storage
                                                           Status
```



DbHomeID _____ ____ _____ 324a42ea-bba2-477d-8bca-5a26af159f1c db3 SI 19.25.0.0.241015 false OLTP odb1 ASM CONFIGURED ecfa440e-2482-40c1-8ccd-67316cd48ba2 Using the CLI, create a new database db4. \$ odacli create-database -n db4 -v 19.23.0.0.240416 Enter SYS, SYSTEM and PDB Admin user password: Retype SYS, SYSTEM and PDB Admin user password: Job details _____ ID: aa259376-4ac0-474a-8730-8c8e1c8ac504 Description: Database service creation with db name: db4 Status: Created Created: December 8, 2024 1:51:50 AM UTC Message: Task Name Start Time End Time Status _____ # odacli list-databases ТD DB Name DB Type DB Version CDB Class Shape Storage Status DbHomeID _____ ____ _____ 324a42ea-bba2-477d-8bca-5a26af159f1c db3 SI 19.25.0.0.241015 false OLTP odb1 ASM CONFIGURED ecfa440e-2482-40c1-8ccd-67316cd48ba2 SI db4 deac01db-eaa8-4f4e-a511-aea042be3a18 db4 SI odb1 ASM CONFIGURED 19.25.0.0.241015 false OLTP

Step 6 - Create a CPU Pool for a Database

This lab uses the BUI to create a CPU pool.

c3c63738-703e-4c1d-98de-95b551b67468

You can create a CPU pool for a bare-metal database to improve CPU resource management and quality of service for a database.

Click the Appliance tab, then click CPU Pool on the left, and then click Create.

Specify the CPU Pool Name as cpupool1, select CPU Pool Type as Bare Metal, and Number of CPU Cores as 2, then click **Create**.

You can see that CPU Pool cpupool1 has been created.



Step 7 - Delete a Database Home

You can delete a database home using the BUI or the command line. This lab uses BUI to delete a database home.

Go to the **Database** tab, then click on the Database Home to see all the database homes. Click on **Actions**, then click **Delete** (for example, home1).

You can see that the database home is deleted.

Step 8 - Create Database Backups on Local Disk, External NFS Storage, or on Oracle Cloud

Backing up and restoring Oracle databases on Oracle Database Appliance involves two simple steps: Create a backup policy and attach the backup policy to a database.

To back up to an external NFS storage, you must create an NFS mount point first.

To back up to the Oracle Cloud, you must obtain and create Object Store credentials first. A default backup policy is created but it is not associated with the database unless you explicitly modify the database and attach the policy.

To create a new backup policy, click on the **Backup Policy** tab and then click **Create**.

Then, name the Backup Policy (for example, DiskBackup), Backup Destination (Internal FRA/ Local Disk or External FRA/External NFS Storage or Object Store/Oracle Cloud), and Recovery Window in days, then click **Create**.

To back a database to an external NFS storage, you need to specify a mount point such as /u03/app/oracle/oradata/nfs backup.

You can see the DiskBackup policy has been created.

Next, you select the database, for example, db4, that you want to backup. Attach the bakup policy to the db4 database by clicking **Modify** under Actions.

Assign a CPU pool to db4 at the same time.

Select DiskBackup as the Backup Policy and cpupool1 as the CPU pool for db4, and then click **Modify**.

Once the job is completed, you can verify that the backup policy is listed under Database Information of the database, for example, db4. You can also see that a CPU pool is assigned to db4.

Once this configuration is completed, Oracle Database Appliance will start backing up the database to the disk regularly and produce backup reports. Click on the database name to view the database details and then switch to the Backup Information tab.

You can also click Manual Backup, then click Start to back up a database manually.

You can see the details of the Backup Report by clicking on the Backup Report ID.

In addition to backing up to local disk, you can back up to Oracle Cloud or NFS location. To back up databases in Oracle Database Appliance to Oracle Cloud, you must obtain Object Store credentials first.

Once you have your credentials, click the **Object Store** tab, then click **Create**.



Enter the required Object Store Credentials including the name.

You can now create a backup policy, specify the Object Store as the backup destination, and attach a database to the policy. Oracle Database Appliance will start backing up the database to the Oracle Cloud regularly.

This concludes Lab 2.

Lab 3 - Patch and Update

If you just completed Lab 2, the simulator should have two databases, db3 and db4.

For Lab 3, you will use the CLI to update the repository and BUI to update the Oracle Database Appliance infrastructure including the server. You will also use the BUI to patch a database home from release 19.25 to 19.26.

Starting with Oracle Database Appliance release 19.11, patching of Oracle Database Appliance is out-of-place. The new Oracle Grid Infrastructure home will be placed on the local system/boot drive, and all new database homes will be placed on Oracle ACFS file system on the data drives. In an Oracle Database Appliance high-availability system, the database homes will be placed on the shared storage.

Note: On an actual Oracle Database Appliance, you may have to update the server repository and the DCS agent before updating the database and Oracle Grid Infrastructure clone files in the repositories. This is release dependent, so check the patching steps in the Oracle Database Appliance documentation first.

- Step 1 Update the Oracle Database Appliance Repository with Latest Patches You must download the server patch file for Oracle Database appliance release 19.26.
- Step 2 Update the DCS Agent (If not done already) The next step is to update the DCS agent on both nodes for a high-availability system with the BUI, before updating the server. Use ODACLI to update the DCS agent.
- Step 3 Update the Server The next step is to update the server. The server update includes firmware, operating system, and Oracle Grid Infrastructure updates.
- Step 4 Patch a Database: Update a Database to point to a New Database Home Because you may not want to patch all databases at once, first identify which database home corresponds to which database.

Step 1 - Update the Oracle Database Appliance Repository with Latest Patches

You must download the server patch file for Oracle Database appliance release 19.26.

Refer to the *Oracle Database Appliance Release Notes* for the latest Oracle Database Appliance patches.

The server patch updates the firmware and operating system. You must patch the server before you patch the databases. When patching databases, you can choose to patch a subset, if required. However, it is recommended to patch all databases to keep them current.

For this lab, we have downloaded simulated release 19.26 patches for the server, Oracle Grid Infrastructure, and database clone files to your simulator.

You must update the repositories with the latest server patch, Oracle Grid Infrastructure, and database clone files, as well as additional applicable database clone files. For example, if you



plan to patch Oracle Database from release 19.25 to 19.26, you must update the repository with the 19.25 Oracle Grid Infrastructure and database clone files first.

Before you start patching the server, you can check the current installed components from the BUI. Go to the **Infrastructure Patching** tab. Note all the installed 19.25 components. Since you have not updated the repository to 19.26, all components are displayed as up to date. Next, update the server repository. The server patch file is oda-sm-19.26.0.0.0-*date*-server.zip.

```
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/oda-sm-19.26.0.0.0-
date-server.zip
{
    "jobId" : "b3794603-4fbb-42a4-89ee-791d420e68a6",
    "status" : "Running",
    "message" : "/opt/oracle/dcs/patchfiles/oda-sm-19.26.0.0.0-date-server.zip",
    "reports" : [],
    "createTimestamp" : "December 8, 2024 06:29:42 AM UTC",
    "resourceList" : [],
    "description" : "Repository Update",
    "updatedTime" : "December 8, 2024 06:29:42 AM UTC"
}
```

For an actual Oracle Database Appliance, you may need to update the DCS agent first, before updating repository with the 19.26 Oracle Grid Infrastructure and database clone files, if you want to create a 19.26 database or patch a database to 19.26. See the *Oracle Database Appliance Deployment and User's Guide* for your hardware model.

Run the following commands to update the Oracle Database Appliance repository with these patches. You must use the full path for the file names.

```
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-
dcs-19.26.0.0.0-date-GI-19.26.0.0.zip
{
  "jobId" : "529141f1-c5fb-42a6-ad1e-0b5540781a71",
  "status" : "Waiting",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.26.0.0.0-date-
GI-19.26.0.0.zip",
  "reports" : [],
  "createTimestamp" : "December 8, 2024 06:32:43 AM UTC",
  "resourceList" : [ ],
  "description" : "Repository Update",
  "updatedTime" : "December 8, 2024 06:32:43 AM UTC"
}
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-
dcs-19.26.0.0.0-date-DB-19.26.0.0.zip
{
  "jobId" : "6478c708-bef8-4d5a-83a6-b411fe9b3e7d",
  "status" : "Running",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.26.0.0.0-date-
DB-19.26.0.0.zip",
  "reports" : [ ],
  "createTimestamp" : "December 8, 2024 06:33:13 AM UTC",
  "resourceList" : [ ],
```

```
"description" : "Repository Update",
"updatedTime" : "December 8, 2024 06:33:13 AM UTC"
}
```

After you update the repository, you can use the web console to see the 19.26.0.0.0 available component versions.

Step 2 - Update the DCS Agent (If not done already)

The next step is to update the DCS agent on both nodes for a high-availability system with the BUI, before updating the server. Use ODACLI to update the DCS agent.

From the BUI, go to the **Appliance** tab, click **Infrastructure Patching**, and click **Refresh** to check the DCS Agent status.

- 1. In the BUI, click Appliance and then click Infrastructure Patching on the lefthand pane.
- 2. Using ODACLI, update the DCS agent:

[root@oda1 opt]# /opt/oracle/dcs/bin/odacli update-dcsagent -v 19.26.0.0.0

Step 3 - Update the Server

The next step is to update the server. The server update includes firmware, operating system, and Oracle Grid Infrastructure updates.

Follow these steps to update the server:

1. Using ODACLI, update the DCS admin, DCS components, and DCS agent:

```
[root@oda1 opt]# /opt/oracle/dcs/bin/odacli update-dcsadmin -v 19.26.0.0.0
[root@oda1 opt]# /opt/oracle/dcs/bin/odacli update-dcscomponents -v
19.26.0.0.0
[root@oda1 opt]# /opt/oracle/dcs/bin/odacli update-dcsagent -v 19.26.0.0.0
```

If the DCS components are updated, then the message "status" : "Success" is displayed on the command line. For failed updates, fix the error and then proceed with the update.

Note:

You must log into the Browser User Interface again after running the odacli update-dcscomponents command.

- In the BUI, click the Appliance tab, and then click Infrastructure Patching on the lefthand pane.
- In the SERVER section, view the Component Details. If you just updated the Patch Repository, click Refresh.

After the patch is uploaded to the Patch Repository, the Component Details on the page are updated with the Installed Version and Available Version for each component.

 Click Precheck to run patching prechecks. On an actual appliance, you must run the patching prechecks before updating the server and other components. Click View Pre-



check Reports to view the patching prechecks report. If there are no errors in the report, then click **Apply Patch** to begin the job to patch the server components. For high-availability systems, when updating the server on the bare metal system, you can select the **Node to Update**. You can choose the node that you want to update or you can choose to update both nodes.

Note:

Since this is a simulator, the prechecks report is not generated.

5. In the STORAGE section, click **Refresh** to refresh the Component Details. Click **Precheck** to run patching prechecks. You must run the patching prechecks before updating the storage components. Click **View Pre-check Reports** to view the patching prechecks report. If there are no errors in the report, then click **Apply Patch** to begin the job to patch the storage components. Click **View Jobs** for the job status.

Note:

Since this is a simulator, the prechecks report is not generated.

For high-availability environment, you can select the **Rolling** check box to perform rolling patching of storage components.

Patching an actual Oracle Database Appliance will take some time, whereas the simulator speeds up the whole process. The Linux prompt returns immediately, and the patch runs in the background. You can monitor the progress of the patch job by checking the **Activity** tab.

Step 4 - Patch a Database: Update a Database to point to a New Database Home

Because you may not want to patch all databases at once, first identify which database home corresponds to which database.

You can use either the command odacli update-dbhome or the BUI to update the database homes, and thus the databases, running on the appliance. Each home is updated independently, giving you control over when you patch your databases.

To update the database homes using the BUI, follow these steps:

- 1. Navigate to the **Database Home** tab.
- 2. Select the database home you want to patch.
- 3. Select the **Patch Version** for the database home.
- 4. To patch multiple database homes, select each database home to be patched and the patch version for each database home.
- 5. Select the **Node to Update**. You can choose the node that you want to update or you can choose to update all nodes.
- 6. Click Patch. Select Precheck to run pre-checks before patching the database.



Note:

Since this is a simulator, the prechecks report is not generated.

 On the Patch page, for the database to be patched, click Actions and select Apply to patch the database.

Now, we will use the CLI to patch database db4. The odacli list-databases command displays details about each database, its ID and its database home ID. Those database homes will be the ones we will patch by supplying the database home ID to the patching command. You can also see more information, such as the name of the database home, using the odacli list-dbhomes command.

\$ odacli list-databases

ID Version DbHomeID	CDB	Class		ame DB Storage	Type Sta		
324a42ea-bba2-477 19.25.0.0.241015 ecfa440e-2482-40c deac01db-eaa8-4f4 19.25.0.0.241015 c3c63738-703e-4c1 \$ odacli list-dbh	false 1-8ccd-6731 e-a511-aea0 false .d-98de-95b5	OLTP 6cd48ba2 042be3a18 OLTP	db3 odb1 db4 odb1	ASM SI		CONFIGURED	
ID Version Location			Name Home Stat			DB	
a1314be1-2c6f-411f-b2c7-61444449f02b 19.25.0.0.241015 product/19.0.0.0/dbhome_2 CONFIGURED ecfa440e-2482-40c1-8ccd-67316cd48ba2 19.25.0.0.241015 product/19.0.0.0/dbhome_3 CONFIGURED c3c63738-703e-4c1d-98de-95b551b67468 19.25.0.0.241015 product/19.0.0.0/dbhome_4 CONFIGURED			OraDB19000_home2 /u01/app/odaorahomebase/odaadmin/ OraDB19000_home3 /u01/app/odaorahomebase/odaadmin/ OraDB19000_home4 /u01/app/odaorahomebase/odaadmin/				

```
$ odacli update-dbhome -i c3c63738-703e-4c1d-98de-95b551b67468 -v 19.26.0.0.0
{
    "jobId" : "af879f3e-9c50-4dfd-86db-5d380a42f8d2",
    "status" : "Created",
    "message" : null,
    "reports" : [ ],
```



```
"createTimestamp" : " December 8, 2024 06:59:59 AM UTC",
    "resourceList" : [ ],
    "description" : "DB Home Patching: Home Id is
    c3c63738-703e-4c1d-98de-95b551b67468",
    "updatedTime" : " December 8, 2024 06:59:59 AM UTC"
}
```

Use the clipboard to copy the DB home ID for db4. Then use the DB home ID with the odacli update-dbhome command to update the home for db4. Verify that the job has completed successfully using the command odacli describe-job.

```
$ odacli describe-job -i af879f3e-9c50-4dfd-86db-5d380a42f8d2
Job details
_____
              ID: af879f3e-9c50-4dfd-86db-5d380a42f8d2
        Description: DB Home Patching: Home Id is
c3c63738-703e-4c1d-98de-95b551b67468
           Status: Success
           Created: December 8, 2024 6:59:59 AM UTC
           Message:
Task Name
                             Start Time
End Time
                         Status
 _____
Adding USER SSH EQUIVALENCE
                             December 8, 2024 7:00:02 AM UTC
December 8, 2024 7:00:02 AM UTC Success
Adding USER SSH EQUIVALENCE December 8, 2024 7:00:02 AM UTC
December 8, 2024 7:00:02 AM UTC Success
```

Verify that database home db4 is updated to the release 19.26. You can use either the BUI or CLI for verification.

```
# odacli list-dbhomes
ΤD
                                Name
                                                 DB
Version
                              Home
Location
                                Status
 _____
 _____
   _____
a1314be1-2c6f-411f-b2c7-61444449f02b
                             OraDB19000 home2
19.25.0.0.241015
                               /u01/app/odaorahomebase/odaadmin/
product/19.0.0.0/dbhome 2 CONFIGURED
ecfa440e-2482-40c1-8ccd-67316cd48ba2
                                OraDB19000 home3
19.25.0.0.241015
                               /u01/app/odaorahomebase/odaadmin/
product/19.0.0.0/dbhome 3 CONFIGURED
c3c63738-703e-4c1d-98de-95b551b67468
                                OraDB19000 home4
19.26.0.0.250121
                               /u01/app/odaorahomebase/odaadmin/
product/19.0.0.0/dbhome 4 CONFIGURED
```

You can also use the BUI to update the database homes by navigating to the **Database** tab and then selecting the Database Home on the left panel. You have already updated database db4 by pointing to a new home using the command line.



This concludes Lab 3.

Lab 4 - Virtualization: Create Application and Database KVMs

Virtualization provides many benefits to customers such as cost savings through consolidation and better resource utilization, Virtual Machine (VM) isolation that provides better security, and KVM license hard partitioning support.

Kernel-based VM (KVM) is an industry standard virtualization technology that is also used in Oracle Cloud and other public clouds.

You will use Oracle Database Appliance BUI to create an application KVM, called Compute Instance, and a database KVM, called Database System.

- Step 1 Create an Application KVM (Compute Instance) Understand the steps to create an application KVM.
- Step 2 Create a Database KVM (Database System) Understand the steps to create a database KVM.

Step 1 - Create an Application KVM (Compute Instance)

Understand the steps to create an application KVM.

Before you create an application KVM on Oracle Database Appliance, you must create the following:

- CPU Pool
- VM Storage
- Virtual Disk
- Virtual Network

You must create a guest operating system (Linux or Windows) ISO image to create the application KVM instance. After that, you must configure the guest operating system, networking (set IP address) so that you can access the VM to install applications. You can also modify and delete an application KVM.

First, create a CPU Pool for the application KVM. In the BUI, click **CPU Pool**, and then click **Create**. Enter the following information, then click **Create**.

You can see the CPU pool cpupool1 is created. A CPU pool is optional and not required to create an application KVM.

Next, create the VM Storage.



c		Appliance	System: dshos	t1 Current User: odaadmin Re	esources 🔻 Accoun	nt 🔹 🔍 Search I	Documentation
			Appliance Databa	se Object Store Monitorin	ng Security Multi-L	User Access Activ	vity Diagnostics
	Overview	VM Instances VM Storage Virtua	al Disks Virtual Net	tworks		⑦ Help	
	Compute Instances						
1	DB Systems	Create VM Storage					
	Network	Storage Name *	S	storage Size *			
	CPU Pool	vmstor1		5 ~ ^	GB	•	
	Oracle ASR	ASM Disk group	R	Redundancy			
	Patch Manager	Select ASM Disk group	•	Mirror		•	
	Parameter Repository						
					Cancel Create	te >	

Select the VM Storage tab, and then click Create VM Storage.

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Enter the following information for vmstor1, and then click **Create**. VM Storage can be used by different application KVMs. You can see vmstor1 is created.

Next, create a virtual disk vdisk to be used by the application KVM. Select the **Virtual Disks** tab and click **Create Virtual Disk**.

	Appliance	System: dshost1 C	urrent User: odaadmin Reso	ources 👻 Account 👻	Q Search Documentation
	,	Appliance Database	Object Store Monitoring	Security Multi-User Ad	ccess Activity Diagnostics
Overview	VM Instances VM Storage Virtual D	isks Virtual Network	5		(?) Help
Compute Instances					
DB Systems	Create Virtual Disk				
Network	Use the options below to create a new Virtual Disk	, or clone an existing Virtual	Disk.		
CPU Pool	Create Virtual Disk				
Oracle ASR	O Clone Virtual Disk				
Patch Manager				Cancel Next >	
Parameter Repository					
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	ACLE [®] Databa	ase Appliance	System: dshost1 Current Use	r: odaadmin Resources 🔻	Account - Q Search Documentation
			Appliance Database Object St	ore Monitoring Security	Multi-User Access Activity Diagnostics
Ov	erview	VM Instances VM Storage Virtu	ual Disks Virtual Networks		(?) Help
Co	mpute Instances				
DB	Systems	Create Virtual Disk			
Net	twork	Virtual Disk Name *	Disk Size *		
CP	U Pool	vdisk1	1	~ ^ GB	•
Ora	acle ASR	VM Storage Name *			
Pat	ch Manager	vmstor1	 Sparse Shared 		
Par	rameter Repository				
				< Back Cancel	Create >

Select Create Virtual Disk, then click Next.

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Enter the following information for vdisk1, and then click Create. You can see vdisk1 is created.

C	DRACLE [®] Database A	ppliance	System: dshost1	Current User: oda	admin Resou	irces 🔻	Account 🔻	Q Search Docun	nentation
		Appli	iance Database	Object Store	Monitoring	Security	Multi-User Acc	ess Activity	Diagnostics
	Overview	VM Instances VM Storage Virtual Disks	Virtual Netwo	rks				⑦ Help	
	Compute Instances	Q Search							
	DB Systems	Q search	Sort	by: Created: Nev	w to (👻	Create	Refresh		
	Network	Page <u>1</u> of 1 (1 of 1 items) < (1)	>						
	CPU Pool	vdisk1 ID: 8d28de0d-482f-4bff-a582-983fd8e989d8 Copy	VM Ctorogo	u umotor1					
	Oracle ASR	Size: 1.00 GB State: CONFIGURED	py VM Storage: vmstor1 Shared: NO Sparse: NO				Actions 👻		
	Patch Manager	Created: Fri, Jan 13, 2023, 09:05:03 PM GMT							
	Parameter Repository								

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Create a virtual network for the KVM:

Select the Virtual Networks tab, and then click Create Virtual Network.

Specify the Virtual Network information, t	then click	Create.	
	Customi debesti	Current Hears adaption	Deseures

ORACLE [®] Database	Appliance System: dshost1 Current User: odaadmin Resources - Account - Q Search Documenta	.tion
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Dia	agnostics
Overview	VM Instances VM Storage Virtual Disks Virtual Networks	
Compute Instances		
DB Systems	Create Virtual Network	
Network	Name * IP Address * VLAN ID	
CPU Pool	vnet1 192.168.16.23 1 ~ ^	
Oracle ASR	Network Type * Subnet Mask	
Patch Manager	Bridged	
Parameter Repository	Bridge Name Gateway	
	192.168.16.17	
	Interface '	
	btbond1 -	
	Cancel Create >	

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You can see the virtual network vnet1 is created.

	Appliance	System: dshost1 Current User: odaadmin Resources -	Account Q Search Documentation
	Appli	iance Database Object Store Monitoring Securi	y Multi-User Access Activity Diagnostics
Overview	VM Instances VM Storage Virtual Disks	Virtual Networks	⑦ Help
Compute Instances			
DB Systems	Q Search	Sort by: Created: New to (- Created	Refresh
Network	Page 1 of 1 (1 of 1 items) $ \langle \langle \rangle \rangle$	Х	
CPU Pool	vnet1		
Oracle ASR	ID: 8cd2d3ae-692d-4b6a-bf43-a4ac59d15946 Copy Type: Bridged Bridge: brvnet1	Name: vnet1 Interface: btbond1 State: CONFIGURED	Actions 👻
Patch Manager	Uniform: NO	Created: Fri, Jan 13, 2023, 09:06:30 PM GMT	
Parameter Repository			

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Create an application KVM (Compute Instance):

	Appliance System: dshost1 Current User: odaadmin Resources V Account V Q Search Documentation	ion
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Diag	gnostics
Overview	VM Instances VM Storage Virtual Disks Virtual Networks ⑦ Help	
Compute Instances		
DB Systems	VM Instance is not available.	
Network	Click Create to create a new VM.	
CPU Pool		
Oracle ASR	Create Refresh	
Patch Manager	Learn More	
Parameter Repository		

Select the VM Instances tab, and then click Create.

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Select Create VM Instance, then click Next.

	Appliance	System: dshost1 Current User	r: odaadmin Resources 👻 Account 👻	Q Search Documentation
		Appliance Database Object Sto	ore Monitoring Security Multi-User	Access Activity Diagnostics
Overview	VM Instances VM Storage Vir	tual Disks Virtual Networks		(?) Help
Compute Instances				
DB Systems	Create VM Instance			
Network	VM Name *	CPU Pool Name	Virtual Disk Names	
CPU Pool	vm1	Select CPU Pool	vdisk1 ×	
Oracle ASR	VM Description	Maximum number of vCPUs to use	Virtual Networks	
Patch Manager		1 ~ ^	Click to see available vNetworks	
Parameter Repository	Disk Group	Number of vCPUs to use *	Specify VM disk size	
	Select Disk group 👻	1 ~ ^	1 ~ ^ GB •	
	VM Storage Name *	Maximum Memory Size		
	vmstor1 -	1 ~ ^ GB •		
	Source Installation *	Memory Size *		
	:/deblsen/Downloads/OL77_x86_64.iso	1 ~ ~ GB •		

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Specify the information for vm1, then click **Create**. Note the Source Installation path to the Linux ISO image. Note that the VM disk size is 10GB. VM disk is the local system boot disk where the Linux image is installed.



	Appliance System: dshost1 Current User: odaadmin Resources - Account - Q Search Documentation
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Diagnostics
Overview	VM Instances VM Storage Virtual Disks Virtual Networks 3 Help
Compute Instances	
DB Systems	Q Search Sort by: Created: New to (- Create Refresh Show Advanced Search Show Advanced Search Show Advanced Search Show Advanced Search
Network	Page 1 of 1 (1 of 1 items) $ \langle \langle 1 \rangle \rangle$
CPU Pool	
Oracle ASR	vm1 VM Storage: vmstor1 ID: 0cd4014d-4608-4775-8cf2-f071b75734fd Copy VM Storage: vmstor1 OS Type: NONE OS Variant: NONE Actions ▼
Patch Manager	Current State: ONLINE Target State: ONLINE Current Node: Created: Fri, Jan 13, 2023, 09:07:51 PM GMT
Parameter Repository	
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You can see vml instance is created.

You can see the detailed information by clicking on vm1.

If you want to modify the VM instance, then click the VM Instance tab. For vm1, click the Actions dropdown and then click **Modify**.

To delete an application KVM, from the **VM Instances** tab, click the Actions dropdown, and then click **Delete**.

Step 2 - Create a Database KVM (Database System)

Understand the steps to create a database KVM.

To create a database KVM (Database System) in Oracle Database Appliance, you must first download the DB system image (database VM template) into the appliance, then update the repository so that the database VM template is saved in Oracle Database Appliance.

```
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-
dcs-19.26.0.0.0-date-ODAVM-19.26.0.0.zip
{
  "jobId" : "2d45004d-923b-45d9-b27c-cfbda391edb6",
  "status" : "Running",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.26.0.0.0-date-
ODAVM-19.26.0.0.zip",
  "reports" : [],
  "createTimestamp" : "December 8, 2024 07:45:04 AM UTC",
  "resourceList" : [],
  "description" : "Repository Update",
  "updatedTime" : "October 26, 2022December 8, 2024 07:45:05 AM UTC"
}
```



C	DRACLE [®] Database A	Appliance		Syste	em: dshost1	Current User: oda	aadmin Reso u	irces 🔻	Account 👻 🤇	Q Search Docur	nentation
				Appliance	Database	Object Store	Monitoring	Security	Multi-User Acce	ess Activity	Diagnostics
	Overview Compute Instances DB Systems Network CPU Pool Oracle ASR	DB Systems	Virtual Networks	There Click Create t		v DB System.				⑦ Help	
	Patch Manager Parameter Repository				Learn More						

In the BUI, select **DB Systems** on the left, and click **Create**.

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Enter the System Information, Network Information, CPU Pool and Database Information, then click **Create**.

	ppliance	System: dshost1 Current User	odaadmin Resources 🔻 🖌	Account Q Search Documentation
		Appliance Database Object Sto	re Monitoring Security	Multi-User Access Activity Diagnostics
Overview	Load Configuration Browse No file sele	cted.		⑦ Help
Compute Instances				
DB Systems	System Information			
Network	DB System Name *	Region	CPU Pool Name	
CPU Pool	dbsystem1	Other -	Select CPU Pool	•
Oracle ASR	Domain Name *	Time Zone	Force Run ③	
Patch Manager	us.oracle.com	GMT •	Use Reserved CPU Cores	
Parameter Repository	Disk Group for VM Storage *	DNS Servers	Memory Size	
	DATA		Size V A GB	▼
	VM Storage Redundancy		System Password *	
	Select Redundancy -			
	Public Network	NTP Servers	Confirm Password *	
	Select Public Network -		•••••	

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Note the database shape selected will determine the number of CPU cores assigned to the database. A database CPU pool is automatically created, or a database CPU Pool can be selected. A default network is also be automatically assigned to the database, or a network can be selected. Make sure CDB is selected.

	Appliance Sy	vstem: dshost1 Current User: odaadmin Resources 🔻	Account 👻	Q Search Documentation
	Applianc	e Database Object Store Monitoring Security	Multi-User Acc	ess Activity Diagnosti
Overview	DB Systems Virtual Networks			⑦ Help
Compute Instances				
DB Systems	Q Search	Sort by: Created: New to (Create DB System	Refresh	
Network	Page 1 of 1 (1 of 1 items) $ \langle \langle 1 \rangle \rangle$	х		
CPU Pool	dbsystem1 Shape: odb2	ID: fe58dd13-8087-4743-8628-7e7dbbebdf6c Copy Cores: 2		
Oracle ASR	Memory: 16.00 GB Grid Version: 23.1.0.0.0 Status: CONFIGURED	Image: 23.1.0.0.0 DB Version: Created: Fri, Jan 13, 2023, 09:10:11 PM GMT	Actions 👻	
Patch Manager	Updated: Fri, Jan 13, 2023, 09:10:13 PM GMT	Created. Ph, Jan 15, 2025, 05:10:11 PW GWT		
Parameter Repository	VMs VM host name: node0.us.oracle.com	Current state: UNKNOWN		

You can see that a database KVM dbsystem1 is created.

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You can find the details for dbsystem1 by clicking on it.

You can modify the DB System by clicking Actions and then selecting Modify.

You can change the database shape from odb2 (2 cores) to odb4 (4 cores).

Click the DB Systems tab on the left to verify that dbsystem1 has 4 cores now.

This concludes Lab 4.

Lab 5 - Multi-User Access

Oracle Database Appliance Multi-User Access can enhance the security of your appliance and provide an efficient mechanism for role separation.

With multi-user access, you can provide separate access to database administrators to manage databases and create multiple users with different roles that restrict them from accessing resources created by other users and restrict the set of operations they can perform.

In this lab, you will create two new users, user1 and user2, assign a resource, for example, database to user1, then create a database using user2. You will verify that both users have access to different resources.

- Step 1 Create New Users Understand the steps to create new users.
- Step 2 Grant a Resource to a User • Understand the steps to grant a resource to a user.
- Step 3 Create a Resource by a User • Understand the steps to create a resource.



Step 1 - Create New Users

Understand the steps to create new users.

Navigate to the **Multi-User Access** tab in the BUI. Create a new user, user1, and provide a temporary password. The password for user1 must be changed on the first login.

	Appliance	System: da	shost1 Current User: od	laadmin Resou	rces 🔻 🖌	Account 🝷 📿	Search Docun	nentation
		Appliance Dat	abase Object Store	Monitoring	Security	Multi-User Acces	Activity	Diagnostics
Users	Create User					Ċ	Help	
Roles Entitlements Resources	Use the options below to create a new user. If login to run CLI commands. User ID * newUserId2 C Generate mTLS certificate	multi-user access is e	Confirm ODA password	1.	he BUI and for	system		
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Go to the Users tab on the left to verify that the new user, user1, is created.

Create a second user, user2 using the same process.

Go to the Users tab on the left to verify that user2 is created.

Step 2 - Grant a Resource to a User

Understand the steps to grant a resource to a user.

You will grant a resource, db5, to user1. Go the Resources tab on the left, click on Show Advanced Search, select ODA_DB, and click Search. On db5, click Actions, and then select Grant Resource Access.

	Appliance Sys	stem: dshost1 Current User: odaadmin Resources 🔻	Account Q Search Documentation
	Appliance	Database Object Store Monitoring Security	Multi-User Access Activity Diagnostics
Users	Resources		(?) Help
Roles			
Entitlements	Q Search	Sort by: Created: New to (•	Refresh
Resources	Page 1 of 1 (1-7 of 7 items) < 4 1	>	
	backupdb ID: 69349ccf-70e7-474e-b9d3-354e92330cac Copy Primary Owner: odaadmin Active: in: Location: /u02/app/oracle/oradata/backupdb/u03/app/orac	Type: ODA_DBSTORAGE Shared Access: Ocreated: Fri, Jan 13, 2023, 09:31:46 PM GMT Greated: Fri, Jan 13, 2023, 09:31:46 PM GMT Jeffast_recovery_areal/u04/app/oracle/redo/backupdb/	Actions 🔻
	OraDB23000_home1 ID: 3f3h7c74-ea82-4d05-a1d6-c6544c6c2cd4 Copy Primary Owner: odaadmin Active: true Location: /u01/app/odaorahomebase/odaadmin/product/2	Type: ODA_DBHOME Shared Access: Created: Fri, Jan 13, 2023, 09:31:46 PM GMT 3.0.0.0/dbhome_1	Actions 👻
	backupdb ID: eedcfa71-25e8-45c6-bbb1-01e78a54bc1d Copy Primary Owner: odaadmin Active: rrue	Type: ODA_DB Shared Access: Created: Fri, Jan 13, 2023, 09:31:45 PM GMT	Actions 🔻

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	Appliance	Syster	n: dshost1	Current User: oda	aadmin Reso	ources 🔻	Account 👻	Q Search Doci	umentation
		Appliance	Database	Object Store	Monitoring	Security	Multi-User Acc	cess Activity	Diagnostics
Users Roles	Grant Resource Access							⑦ Help	
Entitlements	Grant user shared access to DCS resource bac User Name *	kupdb. Select th	e user name	to whom access is	to be granted.				
Resources	newUserId1		•						
						< Cancel	Grant >		

In the User Name drop-down, select user1, then click Grant.

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To verify that user1 has access to db5, click on the **Resources** tab on the left again. Note that user1 now has shared access to db5. Note that this database was originally created by the odaadmin user.

Note:

When you create a new user, you cannot grant or revoke access for that user immediately after creation since the user is in inactive state. The drop down list for user selection is read-only which means you can only select from an existing list of users. The ODA-DB user was not listed in the drop down at first because the ODA-DB user was in an inactive state. Once the user account is activated, it is listed the Grant and Revoke access list.

Log in as user1 to verify access to db5.

Specify the temporary password created by the odaadmin user, and you are prompted to provide a new password. You can use a password similar to WELcome12## or create your own.



 When you log in with the new password, note that the Current User is displayed as user1. Note that there are fewer tabs on the top for user1.

 ORACLE Database Appliance
 System: dshost1
 Current User: newUserId1
 Resources + Account + Q Search Documentation...

 Appliance
 Database
 Object Store
 Security
 Activity

	base Appliance	System: dshost1 Current User: newUserId1 Res		Q Search Documentation
		A	ppliance Database Obj	ect Store Security Activity
Database	Database Home			(?) Help
Database Home				
Backup Policy	Q Search Sort by:	Created: New to (Precheck Refresh	
Backup Reports				
	Page 1 (0 of 0 items) <	Show All Database Homes		
	No Data	Q Search		Sort by: Created: New to (
		Page <u>1</u> of 1 (1-3 of 3 items) < 4 1 >	Я	
		Name: OraDB23000_home1 ID: 3f3b7c74-ea62-4d05-a1d6-c6544c6c2cd4 Copy Version: 23.1.0.0.210720	Location: /u01/app/odaora /23.0.0.0/dbhome_1 Edition: EE	ahomebase/odaadmin/product
		Name: OraDB19000_home1 ID: ce319d9b-2bf1-4fc6-ab96-06374bcfb347_Copy Version: 19.12.0.0.210720	Location: /u01/app/odaora /19.0.0.0/dbhome_1 Edition: EE	homebase/odaadmin/product
pyright © 2011, 2023 Orac	le and/or its affiliates. All rights reserved	Name: OraDB23000, home1		

Click on the Database tab, and note that user1 has access to db5.

Step 3 - Create a Resource by a User

Understand the steps to create a resource.

Log in as user2, create a database, and have exclusive access to the database. First, log in as user2 with the temporary password created by odaadmin.

A new password for user2 is required. You can use a password similar to WELcome12##, or create your own.

Log in as user2 with the new password.

Click on the Database tab. There are no database available to user2. Click Create Database.

	Appliance	s	ystem: dshost1	Current U	ser: newUser	Id1 Resources	 Accourt 	nt 🕶 🏾	Q Searc	h Documenta	tion
						Applianc	e Database	Obje	ct Store	Security	Activity
Database									(?) Help		
Database Home			There is no data	abase.							
Backup Policy		Click C	Create to create a r	new databa	ase.						
Backup Reports		Create	Show All Databa	ases	Refresh						
			Learn More	e							

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Create a new database, user2db1.

Click **Create** and verify that the database is created.



Log in as user1 to verify that user1 does not have access to user2db1.

You can verify that user1 only has access to db5.

Log in as odaadmin to review resources and user access.

When logged in as the odaadmin user, you can view all the databases.

Click on the **Multi-User Access** tab, then click on the **Resources** tab on the left. Use the Advanced Search feature and search for ODA_DB, You can see the Primary Owner of the database and Shared Access users for the databases. The user1 has access to db5, and user2 has access to user2db1.

This concludes Lab 5.

Lab 6 - Monitoring and Resources

Use either the command line or the BUI to monitor Oracle Database Appliance software, hardware, and feature usage.

Oracle Database Appliance also provides security reports, diagnostic information, and context sensitive online help (documentation, FAQ, blogs). An Oracle Enterprise Manager plug-in is available if you want to use Oracle Enterprise Manager to monitor your IT infrastructure. This lab will demonstrate how to monitor Oracle Database Appliance with BUI and ODACLI commands.

- Step 1 Advanced Information, Security Reports, Diagnostics, Online Help Understand how to view resources in the BUI.
- Step 2 Hardware Monitoring and Feature Tracking The BUI displays Oracle Database Appliance hardware status and tracks feature usage including High Water Marks.
- Step 3 Review Appliance Configuration ODACLI assists in the fast deployment, patching, and easy management of Oracle Database Appliance.
- Step 4 Review Storage Configuration Review the following odaadmcli commands that provide information about Oracle Database Appliance configuration.
- Step 5 Review Network Status Review the following odaadmcli commands that provide information about Oracle Database Appliance configuration.



Step 1 - Advanced Information, Security Reports, Diagnostics, Online Help

Understand how to view resources in the BUI.

To view the Oracle Database Appliance software components, click on the **Advanced Information** tab on the Appliance Overview page.

	Appliance System: dshost1 Current User: odaadmin Resources V Account V Q Search Documentation	tion
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Dia	gnostics
Overview	Basic Information Advanced Information ③ Help	
Compute Instances DB Systems	Node Name: node0.us.oracle.com Last Collection Time: Sun Jun 26 2022 01:00:00 GMT+0000 (Coordinated Universal Time)	
Network	> Grid Infrastructure	
CPU Pool	> Database Homes	
Oracle ASR	> Firmware Controller	
Patch Manager	> Firmware Disk	
Parameter Repository	> ILOM	
	> BIOS	
	> List of Operating System RPMs	

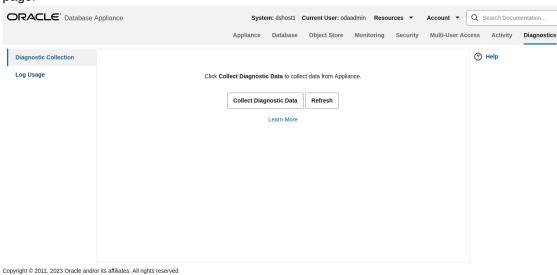
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To view security-related information, click on the Security tab on the Appliance page.

ORACLE [®] Database A	Appliance	System: dshost1	Current User: odaadmin R	sources 🔻	Account 🔻	Q Search Docun	nentation
		Appliance Database	Object Store Monitorin	ng Security	Multi-User Ac	cess Activity	Diagnostics
Audit Records DBSAT Reports Trace File Redaction	Audit Records Q Search Show Advanced Search Page 1 of 1 (1-3 of 3 items)		Sort by: Created	: New to (🔻	Refresh	(?) Help	
	Page 1 of 1 (1-3 of 3 items) 9ea51537-b037-4de8-9a23-c48f81d1bbe2 * Resource type: BM_CPU_POOL DCS User name: odiaadmin	 ▲ 1 → > Copy Resource name: cpupool1 OS User name: odaadmin 	Operation typp Created: Fri, Ji GMT	e: MODIFY an 13, 2023, 09:1	4:50 PM		
	0cbec5bf-3ac4-4e1a-8aff-04ef0a4af6a9 Cc Resource type: BM_CPU_POOL DCS User name: odaadmin	Resource name: cpupool1 OS User name: odaadmin	Operation type Created: Fri, Ji GMT	e: CREATE an 13, 2023, 09:1	3:17 PM		
	b8711a6e-4218-4b25-8173-5cd3413e0885 Resource type: DBSYSTEM DCS User name: odaadmin	Copy Resource name: dbsystem1 OS User name: odaadmin	Operation type Created: Fri, Ji GMT	e: CREATE an 13, 2023, 09:1	0:11 PM		

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To view diagnostic and log usage information, click on the **Diagnostics** tab on the Appliance page.

To view context sensitive in-line help information, click on Help.

You can also click inside the search box on the top right corner to search the Oracle Database Appliance documentation by topics.

To view online help information such as Oracle Database Appliance documentation, FAQ, and blogs, click on the Resources tab on the Appliance page.

Step 2 - Hardware Monitoring and Feature Tracking

The BUI displays Oracle Database Appliance hardware status and tracks feature usage including High Water Marks.

	Appliance	System	n: dshost1	Current User: oda	admin Reso	urces 🔻	Account 👻	Q Search Docu	mentation
		Appliance	Database	Object Store	Monitoring	Security	Multi-User Acc	ess Activity	Diagnostics
Summary							Refresh	⑦ Help	
System Components	Last Collection time: Fri, Jan 13, 2023, 09:50:41	L PM GMT							
Hardware View	Status								
Storage	Login to the ILOM console of odasim-1 for more	details.							
Node Components	Subsystem 🗘			Status 🗘					
Hardware View	► Storage			ONLINE					
Memory	Memory			OK					
Power	Power			OK					
Cooling	► Cooling			ОК					
Networking	Networking			ОК					
Feature Tracking									
ORAchk Report									
Convright @ 2011, 2022 Oracle and	1 1 Mart 1 All 1 1 1								

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Hardware Status

	e Appliance System: dshost1 Current User: odaadmin Resources V Account V Q Search Documentation
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Diagnostics
Summary System Components Hardware View	Locate Button/LED Service Required LED: Top Fan Module (C) Help Service Action Required LED System OK LED Service Required LED: Over Temperature Warning System OK LED Do Not Service LED
Storage Node Components Hardware View	(See Service Manual for LED descriptions)
Memory Power Cooling	
Networking	RFID Tag NVMe SSDs (x12)
Feature Tracking ORAchk Report	Filler Filler Filler Filler Filler Filler SSD0 SSD1 Filler Filler

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Storage Configuration

	Appliance			Syste	m: dshost1	Curre	ent User: odaadmir	n Resour	ces 🔻	Account	• [Q Search Docu	mentation
				Appliance	Database	Ob	oject Store Mor	nitoring	Securit	y Multi-Us	er Acc	ess Activity	Diagnostics
Summary	Storage											⑦ Help	
System Components													
Hardware View	Name 🗘	State ≎	Disk Type ≎	ASM Disk List	Disk Size(GB)	٥	Multipath List ≎	Total Sectors	٥	Sector Size(Bytes)	0		
Storage	pd_00	ONLINE	NVD	data_00;reco_00	5961.63		/dev/nvme0n1	12502446	6768	512			
Node Components	pd_04	ONLINE	NVD	data_04;reco_04	5961.63		/dev/nvme1n1	12502446	6768	512			
Hardware View													
Memory													
Power													
Cooling													
Networking													
Feature Tracking													
ORAchk Report													

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Hardware View

DRACLE [®] Database	Appliance System: dshost1 Current User: odaadmin Resources - Account - Q Search Documentation
	Appliance Database Object Store Monitoring Security Multi-User Access Activity Diagnos
Summary	PCie Siots (x11)
System Components	PCke alota 7-11 PCfe alota 1-6 X16, X6, x8, X
Hardware View	Poar View
Storage	ODA X8-25: PCle slot 2 (optional cards) Filler panel NVMe Switch PCle slot 8 (optional cards) Dual Port 25Cb Ethermet Adapter or
Node Components	ODA X6-041: Dual Port25G0E Bennert Adapter or Ouad Port 100Base-1 Adapter or Piller panel P5 Status Indicators Dual Port25G0E Bennert Adapter or Ouad Port 100Base-1 Adapter P5 Status Indicators
Hardware View	Paral-Bon-Notabelling
Memory	Poter Bugglins (42) P51 P52
Power	PCIe slot 7 Guad Pert 100Base-T Adapter
Cooling	100100088er [®] Due Port 350b Ethernet Adapter (NET9) (not shown)
Networking	Disk Drives (x12) (under cover) Disk Drives (x12)
Feature Tracking	
ORAchk Report	

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Feature Tracking

The Feature Tracking output displayed in the simulator may not match the display on an actual Oracle Database Appliance. Following is a sample output:

	ppliance			S	ystem: dshost1	Current User: oda	aadmin Res	ources 🔻	Account 👻	Q	Search Docum	entation
				Applianc	e Database	Object Store	Monitoring	Security	Multi-User Ac	cess	Activity	Diagnostics
Summary	Feature Usag	e High W	/ater Marks							0	Help	
System Components	Q Search	_							Help			
Hardware View									нер			
Storage	Last Collection t	ime: Thu, Jan 1	L, 1970, 12:0	00:00 AM GMT								
Node Components	Feature Name	≎ Categor		Currently Sed	Detected Usage	≎ Total Samp	les ^{\$}	Last Detect Time	ed Usage 💲			
Hardware View	No data to displa	ıy.										
Memory												
Power												
Cooling												
Networking												
Feature Tracking												
ORAchk Report												

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High Water Marks

The High Water Marks output displayed in the simulator may not match the display on an actual Oracle Database Appliance.

	Appliance		Syster	n: dshost1	Current User: oda	admin Reso	urces 🔻	Account 👻	Q Search Docu	mentation
			Appliance	Database	Object Store	Monitoring	Security	Multi-User Acc	cess Activity	Diagnostics
Summary	Feature Usage	High Water Marks							(?) Help	
System Components	Q Search		, ,				Help	Download		
Hardware View	Last Collection time: Th	u lan 1 1970 12:00:	00 AM GMT							
Storage										
Node Components	Measured Feature Na	me ≎	High Water Mark	\$	Last Changed	Time ≎	Categ	jory ≎		
Hardware View	No data to display.									
Memory										
Power										
Cooling										
Networking										
Feature Tracking										
ORAchk Report										

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Step 3 - Review Appliance Configuration

ODACLI assists in the fast deployment, patching, and easy management of Oracle Database Appliance.

The Oracle Database Appliance command line interfaces (odacli, odaadmcli) are tools that can also be used to install, configure, and interrogate the status of Oracle Database Appliance.

Review the following odaadmcli commands that provide information about Oracle Database Appliance configuration. The sample output displayed in the simulator may not match exactly with the sample output on an actual appliance. For more details, refer to the Oracle Database Appliance documentation library for the latest release.

Note:

The Oracle Database Appliance simulator does not support odaadmcli commands. The odaadmcli command examples in this guide are representative of the sample output when running the odaadmcli commands on an actual Oracle Database Appliance deployment.

Command: odaadmcli show server

Description: Displays the server/node status, including Oracle ILOM IP address, firmware version, power consumption, and other details. This is helpful for an at-a-glance view of basic server and node information.

\$ sudo odaadmcli show server

Power State	:	On
Open Problems	:	0
Model	:	ODA X7-2-HA



```
: Rack Mount
         Туре
         Part Number
Serial Number
                                 : ODA X7-2-HA
                                 : 1750XD0003
         Primary OS
                                 : Not Available
         ILOM Address
                                  : 10.145.203.81
         ILOM MAC Address : 00:10:E0:DA:CD:66
         Description
                                 : Oracle Database Appliance X7-2 High
Availability 1750XD0003
         Locator Light
                                 : Off
         Actual Power Consumption : 302 watts
         Ambient Temperature: 20.250 degree COpen Problems Report: System is healthy
```

Command: odacli describe-system

Description: Displays Oracle Database Appliance deployment status.

\$ sudo odacli describesystem

Appliance Information

ID:

Name:

oda

Platform:

Data Disk Count:

9

CPU Core Count:

36

Created: December 8, 2024 8:25:14 PM

GMT

System Information

oda

```
Domain Name:
example.com
         Time Zone:
GMT
         DB Edition:
ΕE
        DNS Servers:
1.1.1.1
        NTP
Servers:
Disk Group
Information
  _____
DG Name
                  Redundancy
Percentage
   _____
_____
Data
                  Flex
80
Reco
                  Flex
20
Redo
                  High
100
Flash
                  Flex
                                    100
```

Command: odaadmcli show processor

Description: This command displays information about the CPUs running in the system.

\$ sudo odaadmcli show
processor

NAME HEALTH HEALTH_DETAILS PART_NO. LOCATION MODEL MAX_CLK_SPEED TOTAL_CORES ENABLED_CORES CPU_0 OK - SR3AX P0 (CPU 0) Intel(R) Xeon(R) Gold 6140 CP 2.300 GHz 18 NA



CPU_1 OK - SR3AX P1 (CPU 1) Intel(R) Xeon(R) Gold 6140 CP 2.300 GHz 18 NA

Command: odaadmcli show memory

Description: This command displays information about the memory.

\$ sudo odaadmcli show memory

NAME HEALTH HEALTH_DETAILS PART_NO. SERIAL_NO. LOCATION MANUFACTURER MEMORY SIZE CURR CLK SPEED ECC Errors

```
DIMM_0 OK - 3A4K40BB2-CTD 00CE021743373400D8 P0/D0 Samsung 32 GB 2666 MHz 0
DIMM_11 OK - 3A4K40BB2-CTD 00CE02174337340065 P0/D1 Samsung 32 GB 2666 MHz 0
DIMM_12 OK - 3A4K40BB2-CTD 00CE0217433734000D P1/D0 Samsung 32 GB 2666 MHz 0
DIMM_14 OK - 3A4K40BB2-CTD 00CE02174237318364 P1/D2 Samsung 32 GB 2666 MHz 0
DIMM_16 OK - 3A4K40BB2-CTD 00CE0217423731A19A P1/D4 Samsung 32 GB 2666 MHz 0
DIMM_19 OK - 3A4K40BB2-CTD 00CE02174237318394 P1/D7 Samsung 32 GB 2666 MHz 0
DIMM_20 OK - 3A4K40BB2-CTD 00CE02174237318394 P1/D7 Samsung 32 GB 2666 MHz 0
DIMM_21 OK - 3A4K40BB2-CTD 00CE0217423731A195 P1/D9 Samsung 32 GB 2666 MHz 0
DIMM_23 OK - 3A4K40BB2-CTD 00CE0217423731A365 P1/D1 Samsung 32 GB 2666 MHz 0
DIMM_23 OK - 3A4K40BB2-CTD 00CE0217433734007B P0/D4 Samsung 32 GB 2666 MHz 0
DIMM_4 OK - 3A4K40BB2-CTD 00CE0217433734007B P0/D4 Samsung 32 GB 2666 MHz 0
DIMM_7 OK - 3A4K40BB2-CTD 00CE02174337340013 P0/D7 Samsung 32 GB 2666 MHz 0
```

Command: odaadmcli show power

Description: This command displays information about the power details for the appliance.

```
$ sudo odaadmcli show power
NAME HEALTH HEALTH_DETAILS PART_NO. SERIAL_NO. LOCATION INPUT_POWER
OUTPUT_POWER INLET_TEMP EXHAUST_TEMP
Power_Supply_0 OK - 7333459 465824T+1647D30456 PS0 Present 135 watts 20
degrees C 42.500 degree C
Power_Supply_1 OK - 7333459 465824T+1647D30762 PS1 Present 146 watts 20
degrees C 51.500 degree C
```

Command: odaadmcli show cooling

Description: This command displays information about the cooling of the appliance.

\$ sudo odaadmcli show cooling NAME HEALTH HEALTH_DETAILS LOCATION FAN % FAN SPEED Fan_0 OK - FM0 35 % 6900 RPM Fan_1 OK - FM0 34 % 5900 RPM Fan_10 OK - FM2 32 % 6200 RPM Fan_11 OK - FM2 31 % 5500 RPM Fan_12 OK - FM3 32 % 6300 RPM Fan_13 OK - FM3 31 % 5500 RPM Fan_14 OK - FM3 31 % 5500 RPM Fan_15 OK - FM3 31 % 5500 RPM Fan_2 OK - FM0 36 % 6800 RPM Fan_3 OK - FM0 34 % 5900 RPM



Fan_4	OK	-	FM1	35	0 0	6800	RPM
Fan_5							
Fan_6	OK	-	FM1	32	00	6300	RPM
Fan_7							
Fan_8	OK	-	FM2	32	00	6300	RPM
Fan_9	OK	-	FM2	31	010	5500	RPM

Step 4 - Review Storage Configuration

Review the following odaadmcli commands that provide information about Oracle Database Appliance configuration.

Command: odaadmcli show disk

Description: This command is helpful for getting a view into the device mapping and current state of the hard disks. The output lists the drives in the ODA X7-2-HA.

\$ sudo odaadmcli show disk

	NAME		PATH	
TYPE	0 1 0 0	STATE	() ()	STATE_DETAILS
HDD	e0_pd_00	ONLINE	/dev/sdbv	Good
	e0_pd_01	01122112	/dev/sdbw	0000
HDD		ONLINE		Good
HDD	e0_pd_02	ONLINE	/dev/sdbx	Good
1100	e0 pd 03	ONDINE	/dev/sdby	0000
HDD		ONLINE		Good
HDD	e0_pd_04	ONLINE	/dev/sdbz	Good
עעא	e0 pd 05	ONTINE	/dev/sdca	900u
HDD		ONLINE		Good
ממנו	e0_pd_06	ONI THE	/dev/sdcb	Cood
HDD	e0 pd 07	ONLINE	/dev/sdcc	Good
HDD	··_1 ·_ ·	ONLINE		Good
	e0_pd_08		/dev/sdcd	
HDD	e0 pd 09	ONLINE	/dev/sdce	Good
HDD	eo_pa_03	ONLINE	, act, sace	Good
	e0_pd_10		/dev/sdcf	
HDD	e0 pd 11	ONLINE	/dev/sdcg	Good
HDD	eo_pa_11	ONLINE	/uev/sucy	Good
	e0_pd_12		/dev/sdch	
HDD	0.0 nd 12	ONLINE	/dev/sdci	Good
HDD	e0_pd_13	ONLINE	/dev/sdci	Good
	e0_pd_14		/dev/sdcj	
HDD	- 01 1 F	ONLINE	/ -] /] -]-	Good
SSD	e0_pd_15	ONLINE	/dev/sdck	Good
	e0_pd_16		/dev/sdcl	
SSD		ONLINE		Good



	e0_pd_17		/dev/sdcm	
SSD	0 1 1 0	ONLINE		Good
SSD	e0_pd_18	ONLINE	/dev/sdcn	Good
555	e0_pd_19	ONDINE	/dev/sdco	0004
SSD		ONLINE		Good
SSD	e0_pd_20	ONLINE	/dev/sdcp	Good
550	e0 pd 21	ONTINE	/dev/sdcq	900u
SSD		ONLINE	-	Good
0.05	e0_pd_22	0.11 T.15	/dev/sdcr	
SSD	e0 pd 23	ONLINE	/dev/sdcs	Good
SSD	<u>-</u>	ONLINE	,, 0000	Good

Command: odaadmcli show diskgroup

Description: Lists Oracle ASM disk groups configured on Oracle Database Appliance.

DATA is where the database data files are stored.

FLASH is where the hot files or small databases can be placed to improve performance. RECO is where the backups, archive logs, and redo logs of the database are stored. REDO is where the redo logs of the database are stored.

\$ sudo odaadmcli show diskgroup

DiskGroups DATA FLASH RECO REDO

Command: odaadmcli show fs

Description: Lists the details of the Oracle Database Appliance X8-2 file systems, including total Space, Free Space, Disk Group, and other details.

The sample output displayed in the simulator may not match exactly with the sample output on an actual appliance. For more details, refer to the Oracle Database Appliance documentation library for the latest release.

\$ sudo odaadmcli show fs

Type Diskgroup	Total Space Mount Point	Free Space	Total DG Space	Free DG Space
ext3	30109M	25254M	-	
-	/			
ext3	476M	405M	-	
-	/boot			
ext3	60347M	22117M	-	
-	/opt			
ext3	100665M	72839M	-	
-	/u01			



acfs 5120M 4625M 112116480M 111977204M DATA /opt/oracle/dcs/commonstore

Command: odaadmcli show raidsyncstatus

Description: Lists the status of the boot disk HW RAID.

\$ sudo od	aadmcli show r	aidsyncstatus	
Raid Type	Raid Device	Partitions	RaidStatus Recovery
RecoveryPe	rcentage		
S/W Raid	md0	sdb2 sda2	UU
No		N/A	
S/W Raid	md1	sdb3 sda3	UU
No		N/A	

Command: odaadmcli show storage

\$ sudo odaadmcli show storage

Description: The following command displays the storage controllers and drives.

==== BEGIN STORAGE DUMP ====== Host Description: Oracle Corporation: ORACLE SERVER X7-2 Total number of controllers: 2 Τd = 0 Serial Num = 500605b00d3e88c0 Vendor = LSI Logic Model = ORCL-EXT-SAS3 FwVers = 13.00.00.00 strId = mpt3sas:3b:00.0
Id = 1 Serial Num = 500605b00d3e8450 Vendor = LSI Logic Model = ORCL-EXT-SAS3 FwVers = 13.00.00.00 strId = mpt3sas:5e:00.0 Total number of expanders: 2 = 0 Id Serial Num = 50800200022f163f Vendor = ORACLE = DE3-24C Model FwVers = 0306 strId = Secondary = 50800200022e41be WWN Id = 1 Serial Num = 50800200022f163f Vendor = ORACLE = DE3-24C Model FwVers = 0306 strId = Primary = 50800200022e447e WWN



Tot	al number of PDs: 24						
100	/dev/sdaa	HGST	HDD	9796gb	slot:	0	exp:
0	H7210A520SUN010T			2			-
	/dev/sdab	HGST	HDD	9796gb	slot:	1	exp:
0	H7210A520SUN010T						
0	/dev/sdac	HGST	HDD	9796gb	slot:	2	exp:
0	H7210A520SUN010T /dev/sdad	цсоп	ממוז	0706~h	ala+.	3	
0	H7210A520SUN010T	HGST	HDD	9796gb	SIOU:	2	exp:
0	/dev/sdae	HGST	НДД	9796qb	slot:	4	exp:
0	H7210A520SUN010T			5 / 5 0 g.o	02001	-	0115.
	/dev/sdaf	HGST	HDD	9796gb	slot:	5	exp:
0	H7210A520SUN010T						
	/dev/sdag	HGST	HDD	9796gb	slot:	6	exp:
0	H7210A520SUN010T						
	/dev/sdah	HGST	HDD	9796gb	slot:	7	exp:
0	H7210A520SUN010T	1000	UDD	0706-1	- 1	0	
0	dev/sdai/ h7210A520SUN010T	HGST	HDD	9796gb	slot:	8	exp:
0	/dev/sdaj	HGST	нор	9796qb	slot·	9	exp:
0	H7210A520SUN010T	11001	1100	5750gb	5100.	2	crp.
Ū	/dev/sdak	HGST	HDD	9796qb	slot:	10	exp:
0	H7210A520SUN010T			2			-
	/dev/sdal	HGST	HDD	9796gb	slot:	11	exp:
0	H7210A520SUN010T						
	/dev/sdam	HGST	HDD	9796gb	slot:	12	exp:
0	H7210A520SUN010T			00001	. .	10	
0	/dev/sdan H7210A520SUN010T	HGST	HDD	9796gb	slot:	13	exp:
0	/dev/sdao	HGST	חחש	9796qb	slot.	1 /	exp:
0	H7210A520SUN010T	11651	IIDD	979090	5100.	14	exp.
Ũ	/dev/sdap	HGST	SSD	3200gb	slot:	15	exp:
0	HBCAC2DH2SUN3.2T			2			1
	/dev/sdaq	HGST	SSD	3200gb	slot:	16	exp:
0	HBCAC2DH2SUN3.2T						
	/dev/sdar	HGST	SSD	3200gb	slot:	17	exp:
0	HBCAC2DH2SUN3.2T			2000 1	- .	1.0	
0	/dev/sdas/ HBCAC2DH2SUN3.2T	HGST	SSD	3200gb	slot:	18	exp:
0	/dev/sdat	HGST	990	3200gb	slot.	1 9	exp:
0	HBCAC2DH2SUN3.2T	11651	222	52009D	5100.	ТЭ	exp.
Ũ	/dev/sdau	HGST	SSD	800gb	slot:	20	exp:
0	HBCAC2DH4SUN800G			2			1
	/dev/sdav	HGST	SSD	800gb	slot:	21	exp:
0	HBCAC2DH4SUN800G						
	/dev/sdaw	HGST	SSD	800gb	slot:	22	exp:
0	HBCAC2DH4SUN800G				. .	0.0	
^	/dev/sdax	HGST	SSD	800gb	slot:	23	exp:
0	HBCAC2DH4SUN800G = END STORAGE DUMP ===						
=	- TUD STOKAGE DOWL ==:						

Step 5 - Review Network Status

Review the following odaadmcli commands that provide information about Oracle Database Appliance configuration.

Command: odaadmcli show network

Description: Displays the MAC address, health status, and temperature of the network ports.

\$ sudo odaadmcli show network

NAME	HEALTH	HEA	ALTH DETAILS	LOCATION	PART NO	MANUFACTURER
MAC_ADDRESS LINE	K_DETEC:	ΓED	_		-	
DIE_TEMP						
Ethernet_NIC_0	OK	-		NETO	i210	INTEL
00:10:E0:DA:CD:62 no	(eml)		N/A			
Ethernet_NIC_1	OK	-		NET1	BCM5741	7Broadcom
00:10:E0:DA:CD:63 yes	(em2)		N/A			
Ethernet_NIC_2	OK	-		NET2	BCM5741	7Broadcom
00:10:E0:DA:CD:64 yes	(em3)		N/A			
Ethernet_NIC_3	-	-		NET3	X540	INTEL
00:0A:F7:CF:36:38 yes	(p1p2)		-			
Ethernet_NIC_4	-	-		NET4	X540	INTEL
00:0A:F7:CF:36:30 yes	(plpl)		-			

This concludes Lab 6.



Glossary



Index

S

simulator, 1-2, 1-4, 1-5, 1-7, 2-2, 2-3, 3-2, 3-3, 3-5–3-14, 3-16, 3-17, 3-20, 3-25, 3-28, 3-30, 3-32, 3-33, 3-36, 3-40, 3-44

