Oracle® Database Appliance Oracle® Database Appliance Simulator Labs





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Simulator Labs for Oracle Database Appliance - Release 19.15



Preface

This document provides instructions for Oracle Database Appliance simulator labs. Additionally, this document provides you with practices for key new features.

Audience

Read Oracle Database Appliance Release Notes if you want to learn about features, options, and enhancements that are new in Oracle Database Appliance release 19.15.

Documentation Accessibility

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

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Related Documents

For more information, see the following documents in the Oracle Database Appliance documentation set:

- Oracle Database Appliance Deployment and User's Guide
- Oracle Database Appliance Frequently Asked Questions
- Oracle Database Licensing Information User Manual
- Oracle Database Security Guide

Conventions

The following text conventions are used in this document:



Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
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, code in examples, text that appears on the screen, or text that you enter.



Setting Up the Oracle Database Appliance Simulator

- About the Simulator
- Accessing the ODA Simulator
- Prerequisites for Setting up the Simulator
- Installing the Simulator
- Creating a Restore Point or Snapshot for the Oracle Database Simulator
- BUI Agent Certificate Issue
- Restarting ODA Simulator in a Container



About the Simulator

Overview

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 highavailability (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 1GB 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 hands-on labs to learn how to deploy, patch, and manage an Oracle Database Appliance.



Accessing the ODA 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 the second node or container, for example, 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



Prerequisites for Setting up the 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.
- 5. Similarly add egress rule for outgoing traffic, if not already added.



Installing the Simulator

Docker is installed in the Simulator VM by default.

Log into the simulator VM:

```
ssh -i key opc@IP address
```

(OCI public IP address)

Switch to root user:

\$sudo -s

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

cd simulator_19.xx.0.0.0

Run the following command to make sure that the docker is running:

docker ps

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

No password is required for an OCI VM. Note that if you run the simulator on a Mac system, then use the Mac password to login.

To access the Oracle Database Appliance simulator through GUI or Browser User Interface (BUI):

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

Go to the simulator log directory.



//log

Run the cat command for the most recent log file.

```
cat
ODA Simulator system info:
Executed on: 2021_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 in a Linux or Mac system, then you must run the following steps.

Run the following command to make sure the docker is running and to view which containers are running:

#docker ps

If you see any unwanted container running, run the cleanup script to start fresh:

#./cleanup_odasimulator_sw.sh

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
```

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

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: 2021_04_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-node0
```



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 o**da-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 19.11.0.0.0/log directory.

To completely reset the lab, run the following command:

./cleanup_odasimulator_sw.sh

This deletes all the containers.



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_19.12_ade/simulator_19.12.0.0.0/snapshots.dat doesn't ex
ist. Creating a new one...
Snapshot with ID: 1 has been created successfully. Timestamp: Wed Sep 22 14:01:2
4 PDT 2021
# ./snapshot.sh list oda-1
ID CONTAINER NAME DEPLOYMENT TYPE TIMESTAMP
1 oda-1 single Wed Sep 22 14:01:24 PDT 2021
# ./snapshot.sh restore 1 oda-1
Snapshot with ID: 1 has been restored successfully!
```



BUI Agent Certificate Issue

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

https://server IP:7097/mgmt/index.html				
Your assigned	port	number	maybe	different

You may see a BUI agent security certificate error message:

Applications Places	Firefox	Mon 11:	33	40)	6
	Oracle Database Appliance Appliance - Mozilla Firefox		-		×
🚸 Oracle Linux	× 👔 Portainer 🛛 🗙 🌍 Oracle Database Appl	iano 🗙	+		
↔ ∀ ☆	④ ♣ https://localhost:7095/mgmt/index.html	☆	lil/		≡
	There was an error in connecting to the agent. Cause: The agent may not be running or the agent security certificates are not recognized. Check your network connection and refresh your browser. Check that the agent is running and you have accepted the security certificates. OK Comply with your system security requirement After configuring the password, login using new password. Password *	ents.			
paul@localhost:/simulate	or_19.6/log Oracle Database Appliance Applianc			-	1/4

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 7097-1 or 7096.



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



https://:7097/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 ODA 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



About Oracle Database Appliance Simulator Lab Exercises

- Connecting to the Oracle Database Appliance OCI Lab Environment
- Connecting to the Simulator Using BUI
- Connecting to the Simulator Using ODACLI



Connecting to the Oracle Database Appliance OCI Lab Environment

Overview

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 <bold>Always Free OCI Account</bold>, 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

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 ODA simulator container and switch to odaadmin (su odaadmin) user to run the CLI commands in the labs. Make sure you have the container name (e.g 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 BUI

Connect to the simulator as follows:

1. Use the OCI VM public IP address and port number to log into ODA BUI and enable Multi-User Access

https://<IP Address>:xxxx/mgmt/index.html (e.g. 7095)

2. You must first complete odacli configure-firstnet and run the odacli update-repository commands in the Lab 1 (using CLI)

Note that if you run into BUI agent credential issue, refer to the Troubleshooting section in the Readme document for details.

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 BUI and for system login to run CLI commands. Password * Confirm Password *
Enable Multi-User Access (N/A for DB System) Note: You cannot disable or enable Multi-User Access after you have provisioned the appliance Configure Multi-User Access Settings Submit

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

You can then login as odaadmin with the new password.



Oracle Database Appliance
User Name * odaadmin
ODA Password 🚳
•••••
Login Forgot password?

The Appliance page is displayed after you log into Oracle Database Appliance.

ORACLE	Database Appliance	Current User: odaadm	in 🗎 Resources 🔻 Account 🔻	9 Search OD4 Documentation for
		Appliance Database Object Store	Monitoring Security Multi-U	Iser Access Activity Diagnostics
Appliance				Help
Overview				
Compute Instances				
DB Systems				
Network				
CPU Pool				
Oracle ASR				
Patch Manager		Oracle Database Appliance is not configured.		
		Click Create Appliance to get started.		
		Create Appliance		
		Learn More		



Connecting to the Simulator Using ODACLI

Run the following script to connect to the container. This script is usually located in the simulator directory (for example, simulator_19.xx.0.0.0)

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 /]$
```

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

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

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

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

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

Note:



Simulator Labs Overview

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
- Lab 2 Manage Databases
- Lab 3 Patch and Update
- Lab 4 Virtualization: Create Application and Database KVMs
- Lab 5 Multi-User Access
- Lab 6 Monitoring and Resources



Lab 1 - Deploy Appliance

- Step 1 Enable Multi-User Access
- Step 2 Add the Appliance to the Network
- Step 3 Update the Repository with the Oracle Database Appliance Software
- Step 4 Deploy the Appliance
- Step 5 Validate the Deployment
- Step 6 Networking

Step 1 - 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 odaad min and the previously-created password (for example, WELcome12##)

```
https://OCI public <IP Address>:xxxx/mgmt/index.html)
```

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 BUI and for system login to run CLI commands. Password * Confirm Password * Confirm Password * Enable Multi-User Access (N/A for DB System) Note: You cannot disable or enable Multi-User Access after you have provisioned the appliance Configure Multi-User Access Settings

Log into BUI:



Oracle Database Appliance
User Name *
odaadmin
ODA Password 🚱
•••••
Login Forgot password?

Step 2 - 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 ILOM using a network or serial connection. Oracle Database Appliance includes a command oda cli 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.

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.

```
[oracle@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 ]
Shutting down interface eml:
                                      [ OK ]
                                      [ OK ]
Shutting down interface plp1:
Shutting down interface p1p2:
                                      [ OK ]
Shutting down loopback interface:
                                             [ OK ]
Bringing up loopback interface: [ OK ]
Bringing up interface :
                           [ OK ]
Bringing up interface eml: [ OK ]
Bringing up interface plp1: Determining if ip address 192.168.16.24 is already i
n use for device plpl... [ OK ]
Bringing up interface p1p2: Determining if ip address 192.168.17.24 is already i
n use for device p1p2...
                         [ OK ]
Bringing up interface btbond1: Determining if ip address 192.168.0.100 is alread
y in use for device btbond1...
                                [ OK ]
INFO: Restarting the DCS agent
```

If this is an Oracle Database Appliance X8-2-HA system, you must run the command odac li configure-firstnet on the second node (node-1). Log into node-1 and run the command odacli configure-firstnet again. You can use 192.168.0.101 for the IP address for node-1.

Step 3 - 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 19.13 patches, and then in the third lab you will patch the Oracle Database Appliance and databases to the latest 19.14 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-r epository command.

Filename	Description
odacli-dcs-19.15.0.0.0-220425-GI-19.15.0.0.zip	Oracle Grid Infrastructure 19.14 Clone Files



odacli-dcs-19.15.0.0.0-220425-DB-19.15.0.0.zip	Oracle Database 19.14 Clone Files
odacli-dcs-19.15.0.0.0-220507-ODAVM- 19.15.0.0.zip	DB 19.15 DB System Template (used in lab 4)
oda-sm-19.15.0.0.0-220507-server.zip	ODA 19.15 Patch Bundle (used in lab 3)
odacli-dcs-19.15.0.0.0-220425-GI-19.15.0.0.zip	Oracle Grid Infrastructure 19.15 Clone Files (used in lab 3)
odacli-dcs-19.15.0.0.0-220425-DB-19.15.0.0.zip	DB 19.14 Clone Files (used in lab 3)
odacli-dcs-12.1.0.2.0-220425-DB-19.15.0.0.zip	DB 12.1 Clone Files (used in lab 3)

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-19.14.0.0.-
220118-GI-19.14.0.0.zip
{
    "jobId" : "4d428b05-a33f-4fe0-82ec-56849503aa28",
    "status" : "Running",
    "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.14.0.0.0-220118-GI-19.14
.0.0.zip",
    "reports" : [],
    "createTimestamp" : "April 26, 2022 00:05:38 AM UTC",
    "resourceList" : [],
    "description" : "Repository Update",
```

```
"updatedTime" : "April 26, 2022 00:05:38 AM UTC"
}
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-dcs-19.14.0.0.0-
220118-DB-19.14.0.0.zip
{
    "jobId" : "bblcaa66-7d19-4de1-a074-f475f4a2505a",
    "status" : "Running",
    "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.14.0.0.0-220118-DB-19.14
.0.0.zip",
    "reports" : [ ],
    "createTimestamp" : "April 26, 2022 00:08:58 AM UTC",
    "resourceList" : [ ],
    "description" : "Repository Update",
    "updatedTime" : "April 26, 2022 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 patch manager in the web BUI. However, it is not necessary as you have used command line to update the repository (clone files) already.

ORACLE	Database Appliance Current User: odaadmin Resources v Account v Q Search ODA Documentation for
Appliance Overview	Update Repository Update Server/Storage Cleanup Repository
Compute Instances DB-Systems Network CPU Pool Oracle ASR Patch Manager	Update Patch Repository Download the Oracle Database Appliance patch bundles from My Oracle Support and save the concatenated zip file in a directory on the appliance. For multi-node systems, save the concatenated file in a directory on each node. Then, enter a comma-separated list of absolute file paths (without spaces) for the patch bundles on the appliance. Note: After updating the Patch Repository or components, refresh the page to display the latest information. Patch Bundle Location:
	Update Repository

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 odaad min and previously created password (for example, WELcome12##)

https://OCI public IP Address>:xxxx/mgm	nt/index.html
	Oracle Database Appliance
	User Name * odaadmin ODA Password @ Login Forgot password?

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

Database Appliance	Current User: odaadmin 🔋 Resources v Account v	9. Search ODA Documentation for
	Appliance Database Object Store Monitoring Security Multi-Us	er Access Activity Diagnostics
		Help
	Iracle Database Appliance is not configured.	
	Click Create Appliance to get started.	
	Create Accelerce	
	Learn More	
	Database Appliance	Database Appliance Current User: odiadmin Resources × Account Appliance Database Object Store Monitoring Security Multi-Unit Oracle Database Appliance is not configured. Click Create Appliance to get started. Create Appliance Learn More

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.

	Dutabase Appliance		Current User: eduadmin 🔒 Resources Applance Database Object Store Monitoring	 Account = Q Search ODA Documentation for Security Multi-Over Access Activity Diagnostics
Appliance	Create Appliance			O Hulp
Compute Instances DB Systems	Load Configuration Browse No file selected. System Information			
Network	Host Name *	Region	Assign same password for admin, oracle, grid users	
CPU Pool	oda Domain Name *	Other + Time Jone	System Password *	
Oracle ASR	example.com	GMT +	Contem System Passeed *	
Patch Manager	Diskgroup Redundancy Piex * Cuta Storage Percentage *	DNS Servers	Drack User Password *	
	80 Disk Group for Database Home Storage *		Confirm Oracle User Password *	
	040A + 80 V ^ G8	NTP serven	Grid User Password *	
			Confirm Grid User Password *	

Scroll down to continue. This brings up the Network screen. You can configure the network for the public Client Access network here. Since this is a single node simulator, the information is pre-populated from configure-firstnet process. You can also configure the 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.

Network Information Note: Use the command odacli configure-fi the Client Access Network.	thet to configure the public network before creating the appliance. Configuring the public network provides the information needed	d for
Client Access Network	ILOM Network	
IP Address *	ILOM Host Name	
192.168.0.100		
Subnet Mask *	IP Address	
255.255.255.0		
Gateway *	Subnet Mask	
192.168.0.1	· · · · · · · · · · · · · · · · · · ·	
Interface *	Gateway	
btbond1		

Scroll down to continue. This brings up the User and Group Selection screen. Enter the 19xx ID as shown below.



ser and Group Selection		
Customize Users & Groups 🔹 Yes 🔿 No		Allow OS Role Separation 🔹 Yes 🔿 N
GI User *	GI UserID *	
grid	1900	
DB User *	D8 UserID *	
oracle	1901	
install Group *	Install GroupID *	
oinstall	1901	
DBA Oper Group *	DBA Oper GroupID *	
dbaoper	1902	
DBA Group *	DBA GroupID *	
dba	1903	
ASM Admin Group *	ASM Admin GroupID *	
asmadmin	1904	
ASM Oper Group *	ASM Oper GroupID *	
asmoper	1905	
ASM DBA Group *	ASM DBA GroupID *	
asmdba	1906	

Next is the Database screen.

Specify the database name and other database related information as shown below. Select DB Version as **19.13**.

Create Initial Database	and PDB Admin User Password firm Password * racter Set 120/TF8 Ional Character Set 10/TF16 guage RERCAN Itory		
Nexues * Database Edition Si DB Unique Name Interprise Edition Si DB Unique Name Database Edition Si DB Unique Name Database Class Oc DB Unique Name Storage Oc 193.10.0.211019 Configure IM Express Na CDB Yes * No ASM A Database Redundancy Minor A Database IM Express Yes * No A Namor A A Configure IM Express Yes * No A Namor A A Configure IM Express Yes * No A Nagnostics Information Xes * No A Reduct sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Instrume Table Expected interprint Yes * No	and PDB Admin User Password film Password racter Set 120/078 16/07F16 guage KRACAN terror		
Bit Name* Database Edition Si dd1 Interprise Edition Si DB1 Unique Name Database Edition Si DB1 Version Size Cities 133.0.0.211079 Core Size Core 133.0.0.211079 Core Size Core 133.0.0.211079 Core Size Core 133.0.0.211079 Core Size Core ASM Core Size Na Core Yes<* No	and PDB Admin User Password firm Password * racter Set 12/UTF8 IGUTF16 guage ERICAN IBOY		
db1 Interprise (dtion • Otabase Class Otabase Otabas	firm Password * racter Set J2UTF8 Guage Guage ERRCAN Itory	•	
DB Unique Name dd1u dd1u dd1u DU tabase Class CUP UP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP U CUP	firm Password * aracter Set 320/TF8 320/TF8 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	•	
dotu OCP • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • <td>racter Set 120176 Ional Character Set 16017F16 guage RERCAN RERCAN</td> <td></td> <td></td>	racter Set 120176 Ional Character Set 16017F16 guage RERCAN RERCAN		
DB Version Shape O 18.13.00.211099 adbit(If Core, BGB Memory) a Storage N ASM A Database Redundancy Ia Database Redundancy Ia Mirror A Configure EM Express Yes No Ia Redact sensitive information No Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Instrume File Instraction No	racter Set 32UTF8 16UTF16 04Age RERCAN Itory		
19.13.00.211099 • odb1(1 Core, 8/38 Memory) • A Storage No ASM • A Database Redundancy • A Minor • • A Configure EM Express • No Reduct sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Institute Table Express • No	32UTF8 ional Character Set 16UTF16 guage RERACAN itory		
Storage No Storage No ASM NO ASM NO ASM NO A	ional Character Set 16UTF16 guage RERCAN itory		
ASM ASM	16UTF16 guage RERICAN itory		
Database Redundancy La Mirror Vis • No Configure EM Express Vis • No A Big Redact sensitive information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Institute Table Express Vis • No	guage RERICAN Itory		
Mirror Configure EM Express Ves No Ro	RERICAN Itory	10.00	
Configure EM Express O Yes No Root Reduct Sensitive information Such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Insele Taxor File Instantion O Yes No	itory		
agnostics Information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Insele Torse File Instaction Yes = No	al the " A		
Er TL Co Ingenostics Information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Insele Torce File Instaction Yes ● No	AL PORTA		
Ti contraction Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Inside Tace File Redaction (2) Yes • No	ble TDE 🔘 Yes 🔹 No		
Redact sensitive information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Inside Taxe File Redaction (2) Yes • No	Wallet Password		
C lagnostics Information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Insele Taxe File Instaction (1997) 190			
Hagnostics Information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Inside Taxe File Bedaction (2) Yes • No	firm TDE Wallet Password		
Nagnostics Information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Inside Tace File Redaction () Yes • No			
iagnostics Information Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect Inside Torce File Instaction (1995) 190			
Redact sensitive information such as IP and MAC addresses, host names, user names, database and tablespace names, and ports in diagnostic collect name file instantion 🔍 Yes 🖲 No			
Inside factor file factories 🔍 Ves 🔍 No	205		
Inable Trace File Reduction Vis No			
Configure and enable Oracle Auto Service Request (Oracle ASR) now or later.			
facele AFR O Mar B Ma			
INTER VOIC O 422 4 MAN			

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.

ORACLE Database Applance		Current Uver: adaadmin: 🛔 Resources * Account * 🔍 Search (the Documentation for.
		Applane Establish Olgori litere Membring Security Multi-cher Access Actually Diagnostics
Applance		0~~
Danning		
Compute Instances		
OR Systems		
Tertech		
On the		
Chade ASA		
	Charlo Database Applates to Being configured. Dense gas to Relative page to nor you details. Inter Network Add Status Status Status The gife to providen the applicator is submitted. Click the link to display pild details. NOTION: Sec. 4.48-542 (JMR6.1989)	

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.

ORACLE Database Appliance		Carent User, adaadmin 🔒 Resource + Account + 🔍 Second COL Deconversion Sc.
		Applance Database Object Store Monitoring Society Multi-Star Activity Diagnostics
such Q		Called Dagnostics Refresh Back
Pervisions service creation 40: 5107116 2014 - 640-3075 (00166-5006) Genetic Fili (4: 5: 5212) 2434 (2) PAR Menogic Benetic Scores Pape (1) of 12: (5: 64:05:000) (1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1: 1		
Setting up Network Stert Time: In Feb 25 2022 14:54:30 GWT-0800 (Pacific Standard Time)	End Time: 14 Feb 25 2022 16:54:30-GMT-0800 (Psc/lc Standard Time)	States: Success
Of usinghoup "sendbaronation Blant Time: In Feb 25 2022 16:56:30 GMT-0600 (Paolic Standard Time)	End Time: Fri Feb 25 2022 16:54:30 GMT-0800 (Pacific Standard Time)	Station: Success
OS usergroup 'semper'investion Start Tases IN No.25 2022 16:56:30 Obt1-0000 (Nuclic Standard Time)	End Time: H1 Heb 25 2022 16:56:30 GMT-0800 (hashs Standard Time)	Status: Surres
Of usingroup sumadminicrosation Start Time: In Fro 25 2022 16:56:30 OMT-0800 (Pacific Standard Time)	End Time: IN Not 25 2022 16:54:30 GMT-0800 (Pacific Standard Time)	Status: Success
DS weregroup (dballowation Biert Time: Ini Inio 25 2022 16:56:30 GMT 0000 (Picole Standard Time)	End Time: In Neb 25 2022 16:56:30 GMT 0800 (Pacific Standard Time)	Statist: Sorters

Step 5 - Validate the Deployment

Next, click on the **Database** tab at the top right of the BUI. The deployed database is displayed. The web pages refresh every few seconds, so if the database does not show up at first, wait till the page refreshes. Click on the database name for more details about the database. Click on the **Database Home** link in the left-hand column, when viewing the **Database** tab to see information about the database home. Note this may take up to a minute to display.

You can also verify that the appliance is properly deployed by clicking the **Appliance** tab to see more details. The view is similar to the screen displayed as follows, taking into account that this is a simulation:



Applance Overview Compute Instances DB Systems Antonik CPU Pool Cractor ASR	Beric Information System Informa	n Advanced Information ID: Platform: Data Diak Count: CPU Core Count: DCS Agent: G2:	Sekcat2-b385-4205-5ed6-7a28156236a7 38-25 2 39.30.00 19.13.00.0	-	pares pares	ene orderd zone	moneous sec	O may	a Adady	Lagree
58 Systems Natwork CPU Pool Oracle ASR		ID: Platform: Data Dink Count: CPU Core Count: DCS Agent: GR:	5e4cx802-b380-420b-fed6-7a2815623847 X8-25 2 8 19.13.00.0 19.13.00.0							
Path Manager	Disk Group Info	Created: Hoot Name: Domain Name: Time Zone: DNS Servers: NTP Servers: smation	Tri Feb 25 2022 456/27 PM oda example.com GMT 1.1.1.1							
							Refresh			
	Name	Redundancy	Physical Total Space	Physical Free Space	Lo	gical Free Space				
	► DATA	FLEX	11.0 TB	10.0 78	33	13 TB - 5.0 TB				
	+ RECO	PLEX	490.0-68	325.0 68	10	8.33 G8 - 162.5 G8				

Step 6 - Networking

You can check the network by clicking on the **Network** tab on the left hand pane in the BUI.

ORACLE	Outabase Appliance		Applance	Current L Database	Joer: odaadmi Olgest Store	n Reso	roes + Securi	Account +	Access	Activity	Diagnostics
Applance Overviee Congute Instances OR Systems Particults Citu Hoal Overlee ADR Patch Manager	Base Noteenels Shee Interface aurch Q. Page of 1. (10 if Internit) Public-ontrock C. Public-ontrock Status: (0.0010/0400 Status: (0.0010/0400 Status: (0.0010/0400 Noteenels Status: (0.0010/0400 Status: (0.0010/0400 Status: (0.0010/0400	Noded IP Address: 192,168.0.100 VIP Address: 192,168.0.100 VIP Address: 192,168.0.100		Sort by:	Crasted New It	Creater No Old = 8	teorit elech	O may			

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

	Database Appliance				Applance	Current User: edaadmin Database Object Store	Besources * Account * Monitoring Security Multi-	9 Search ODI Documentation for. Jeer Access Activity Diagnostics
ppliance							O Holy	
Overview	Create Network							
Compute Instances								
DB Systems	Enable Vian 💌 Yes 🔿 N	•	Default Network 🕓 Yes	• No				
Network	Name *		Subnet Mask *		M *			
	backup		255.255.255.252		100	~ A		
CPU Pool	# Address.*		Geterway					
Dructa AKR	192.168.0.200		192.168.0.201					
	Network Type		Interface *					
Fatch Manager	Backup		b/bond1					
						6.64	contra 2	

Click on the **Create** button, then submit the job. Following is an example that shows the backup VLAN has been created.



ORACLE	Database Appliance		Applance	Current Database	User: odaadm Olject Store	in B Resource	es = J Security	Account + 🧣 Scient Multi-Oser Access	Activity	Diagnostics
Appliance Danides Compute Instances DB Systems Atmoch CRU Pilos Oracle XR Patch Manager	Brew Numeric Brew Insurtices auenth Q Poper of 1 (1-2 of 2 item) Poper of 1 (1-2 of 2 item) Bockup Setter: COMPOUND States: COMPOUND Network Type: Backup Setter: ESS25525252 Gatemary: 192:586.021 Interface: Name: ESOM: 1:00 Interface: Name: ESOM: 1:00	Node0 IP Address: 192.168.0.200		Sort by	Created New 1	Create Notes	erk enh	0 ndy		
	Public-restand: Fire Fire 25 2022 4/56/27 PM Startur: CONHOURED Network Type: Public Subwet Mark: 355/352/50 Generary 18/2/96/61 Interface Name: Ubdod1 Interface Type: Bond SCAN Vaname: rodo-Scan SCAN Vaname: rodo-Scan	Nodol 19 Addwsz: 192 168.0.100 19 Notarie nodol-vip 19 Addwsz: 192.168.0.100				Actions *				

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 Web GUI
- Step 2 Delete a Database
- Step 3 View the Databases and Database Homes Using the CLI
- Step 4 Create a New Database with the CLI
- Step 5 Delete and Recreate a Database
- Step 6 Create a CPU Pool for a Database
- Step 7 Delete a Database Home
- Step 8 Create Database Backups on Local Disk, External NFS Storage, or on Oracle Cloud

Step 1 - Create a new database using the Web GUI

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.

ORACLE	Dutabase Appliance	Current User: eduadmin Applance Database Object Store	Resources = Account = Q, Search CDA Documentation for. Monitoring Security Multi-One Access Activity Diagnostics
Database Detabase Detabase Home Storage Detabase Home Backup Policy	auenth Q. Page of 1 (1 of 1 lamm) x x x dol1 10: 61/63/ef -46/75-40/10/2121/55/010 Copy Status (CONFUCIED) Status (CONFUCIED) Copy Status (CONFUCIED) Copy Status (CONFUCIED)	Sort by: Created New to Oil • Referent CDB: falle D9 Version: 10.0.211019 Starage: ASM System Name: cds	Create Database Actors *

Choose Create Database, and click Next.

ORACLE	Database Applance Current User: odsadmin 🐌 Resources v 🔍 Search ODA Documentation for. Applance Object Soure Monitoring Security Multi-User Access Activity Diagnostics
Database Database Database Home Storage Database Home Backup Policy	Create Database Use the captions below to create a database, or done a database. Database can be cloned from one appliance, or to the same appliance. Create Database Create Create Database Create Cre

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.



ORACLE	Database Appliance			Current User: ediaad	âmin 💧 Resources 🔻	Account v 9, Search COI Documentation for.
			Appla	nce Database Object Sto	ore Monitoring Secur	ty Multi-User Access Activity Diagnostics
Database Database	Create Database					0 may
Database Home Storage	D8 Name *	Database Edition	SYS and PDB	Admin User Password *		
	442	Enterprise Edition				
Database Prome	DB Unipue Name	Database Class	Confirm Pasa	* box		
Backup Policy		0679				
	Use Existing DB Home	Shape	Ovaracter Set			
	Nes . No	odb1(7 Core, 8G8 Memory)	 AU32/7/8 			
	DB Version	Storage	National Char	ractor Set		
	19.13.0.0211019 *	ASM	 AL16U7716 			
	CDB C No. · No	Database Redundancy	Language			
		Mirror	 AMERICAN 			
		Networks *	Tarritory			
		Public network ×	AMERICA			
		CPU Pool Name	Enable TDE	Tes . No		
		Select CPU Pool	TDE Walter Pr	niteriord		
		Configure DM Express 🔿 Yes 🔹 No	Conten 100	Wallet Password		
				< Back	Cancel Create >	

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.

ORACLE	Database Appliance	Current User: odaadmin 🐌 Resources 🖛 /	count + 9, Search ODA Documentation for.
search	4	Albonice connection memory second	Collect Diagnostics Refresh Back
Database service creation w ID: 09365000-c345-4534-b817-94 Created: Fri Feb 25 2022 5:18:48 Message: Status: Success Page of 6 (1-5 of 26 items)	ith db name: db2 £2460/81974 PM K < 1 2 3 4 5 6 → X		
Validating dbHome available sp Start Time: Fri Feb 25 2022 17	pace :18:50 GMT-0800 (Pacific Standard Time)	End Time: Fri Feb 25 2022 17:18:50 GMT-0800 (Pacific Standard Time)	Status: Success
Setting up ssh equivalance Start Time: Fri Feb 25 2022 17	:18:50 GMT-0800 (Pacific Standard Time)	End Time: Fri Feb 25 2022 17:18:50 GMT-0800 (Pacific Standard Time)	Status: Success
Setting up ssh equivalance Start Time: Fri Feb 25 2022 17	:18:50 GMT-0800 (Pacific Standard Time)	End Time: Fri Feb 25 2022 17:18:51 GMT-0800 (Pacific Standard Time)	Status: Success
Creating ACFS database home Start Time: Fri Feb 25 2022 17	:18:51 GMT-0800 (Pacific Standard Time)	End Time: Fri Feb 25 2022 17:18:52 GMT-0800 (Pacific Standard Time)	Status: Success
Validating dbHome available sp Start Time: Fri Feb 25 2022 17	pace 18:52 GMT-0800 (Pacific Standard Time)	End Time: Fri Feb 25 2022 17:18:52 GMT-0800 (Pacific Standard Time)	Status: Success

Once the operation completes, click on the **Appliance** tab and then the **Database** tab at the top right of the web page. This should show the newly-created database. The web pages refreshes every few seconds, so if the database does not show up at first, wait till the page refreshes.



ORACLE	Database Appliance	Appliance	Current User: odaadmin Database Object Store	Resources * Account Monitoring Security Mult	 Q Search ODA Documentation for i-User Access Activity Diagnostics
Database Database Database Home Storage	search Q. Page of 1 (1-2 of 2 items) K < 1	Sort by:	Created: New to Old +	Refresh Create Database	0 Help
Database Home Backup Policy	db2 IID: d1e615c3-5855-4b19-9ad0-40b620ac5f13 Copy Status: CONFIGURED Created: Fri Feb 25 2022 5:18:48 PM	CDB: false DB Version: 19.13.0.0.211019 System Name: oda	Shape: odb1 Storage: ASM	Actions *	
	db1 ID: 63fc04ef-4e75-4f1b-9a71-6087212b5b50 Copy Status: CONFIGURED Created: Fir Feb 22022 45627 FM	CDB: false DB Version: 19.13.0.0.211019 System Name: oda	Shape: odb1 Storage: ASM	Actions *	

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 - Delete a Database

You can also delete a database from the **Database** tab. Click the **Appliance** tab and then **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 deletion. Click **Refresh**, if necessary.

ORACLE	Database Appliance	Appliance	Current User: odaadmin Database Object Store	Resources * Account Monitoring Security Mult	Q Search ODA Documentation for.
Database Database Database Home Storage	search Q, Page of 1 (1-2 of 2 items) K < 1	Sort by:	Created: New to Old 👻	Refresh Create Database	O Help
Database Home Backup Policy	db2 ID: d1e615c3-5855-4b19-9ad0-40b620ac5f13 Copy Status: CONFIGURED Created: Fri Feb 25 2022 5:18:48 PM	CDB: false DB Version: 19.13.0.0.211019 System Name: oda	Shape: odb1 Storage: ASM	Actions *	
	db1 ID: 638c04ef-4e75-4f1b-9a71-6087212b5b50 Copy Status: CONFIGURED Created: Fri Feb 25 2022 4:56:27 PM	CDB: false DB Version: 19.13.0.0.211019 System Name: oda	Shape: odb1 Storage: ASM	Actions V View Modify Move Upgrade	
				Delete	

After the database delete operation, only db2 is left.





Step 3 - View the Databases and Database Homes Using the CLI

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

ID: d1e615c3-5855-4	4b19-9ad0-40b620ac5f13
Description:	db2
DB Name:	db2
DB Version:	19.14.0.0.220118
DB Type:	SI
DB Role:	PRIMARY
DB Target Node Name:	node_0
DB Edition:	EE
DBID:	
nstance Only Database:	talse
CDB:	talse
PDB Name:	
PDB Admin User Name:	
SEHA Enabled:	Ialse
Class:	
Shape:	
DD Dedunder sur	ASM
DB Redundancy:	
Mational CharacterSet:	
Nacional Characterset:	ALIOUIFIO
Torritory.	AMEDICA
Homo ID.	$a_{1314bo1-2c6f-411f-b2c7-61444440f02b}$
Console Enabled.	
TDE Wallet Management.	14150
TDE TRANSPORTE	false
Level () Backup Dav.	Sunday
AutoBackup Enabled	true
Created:	April 26, 2022 1:18:48 AM UTC
DB Domain Name:	example.com
Description of Mathematica	

Step 4 - Create a New Database with the CLI

There are many options you can specify when using the CLI to create a new database. Type odacli create-d atabase -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.

.Tob details								
							_	
	ID:	2051bf5b-4815	5-4cd2-8d	85-	e5136	7ba3269	11. 0	
	Description:	Database serv	/ice crea	L10	n witi	n ab nam	e: ab3	
	Created:	April 26, 202	22 1:45:4	9 AI	M UTC			
	Message:	- <u>-</u> ,,						
Task Name	-		Start '	Tim	е			End
Time		Status						
				5 -	E1 2 C 71	- 2260		
S ODACII DE	scribe-job -1	20510150-4815-	-4ca2-8a8	5-е	513671	ba3269		
Job details	5						_	
	ID:	2051bf5b-4815	5-4cd2-8d	85-	e5136	7ba3269		
	Description:	Database serv	vice crea	tio	n with	n db nam	e: db3	
	Status:	Success	00 1.45.4	0 71				
	Message:	APIII 20, 202	22 I.4J.4	JA	M OIC			
Task Name	1100004901		Start '	Tim	е			End
Time 		Status						
				0.0				
Validating	dbHome availab	le space	April	26,	2022	1:45:50	AM UTC	April
Setting up	ssh equivalanc	DUCCESS	April	26.	2022	1:45:50	AM UTC	April
26, 2022 1:	45:50 AM UTC	Success	пртт	20,	2022	1.10.00	101010	11PIII
Setting up	ssh equivalanc	e	April :	26,	2022	1:45:50	AM UTC	April
26, 2022 1:	45:50 AM UTC	Success	-					-
Creating AC	CFS database ho	me	April 2	26,	2022	1:45:51	AM UTC	April
26, 2022 1:	45:51 AM UTC	Success		0.0	0000			
Validating	dbHome availab	space	April 2	26,	2022	1:45:51	AM UTC	Aprıl
20, 2022 l: Configuring	HUIUIU AMIUIU	O ACES DRHome	hase sto	rac	o Anr	1 26 2	022 1.45.	51 AM ITT
C April	26, 2022 1:45:	51 AM UTC	Success	Lay	C APL.	LI 20 , 2	ULL I.IJ.	JI MI UI
- <u>-</u>	,							

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
TD
                               DB Name
                                       DB Type DB Version
CDB
        Class
               Shape Storage Status DbHomeID
    _____ ___
d1e615c3-5855-4b19-9ad0-40b620ac5f13
                               db2 SI 19.14.0.0.220118
false OLTP odb1 ASM CONFIGURED a1314be1-2c6f-411f-b2c7-6144444
9f02b
324a42ea-bba2-477d-8bca-5a26af159f1c db3 SI 19.14.0.0.220118
      OLTP odb1 ASM CONFIGURED ecfa440e-2482-40c1-8ccd-67316
false
cd48ba2
```

Step 5 - Delete and Recreate 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" : "April 26, 2022 01:49:40 AM UTC",
   "endTime" : "April 26, 2022 01:49:40 AM UTC",
   "status" : "Success",
   "taskDescription" : null,
   "parentTaskId" : "TaskSequential 10046",
   "jobId" : "ccde4700-3c1e-423a-8079-477f49f8cd5f",
   "tags" : [],
   "reportLevel" : "Info",
$ odacli list-databases
TD
                                      DB Name DB Type DB Version
CDB
          Class Shape Storage
                                     Status
                                                  DbHomeID
                           _____ ____
```

```
_____

      324a42ea-bba2-477d-8bca-5a26af159f1c
      db3
      SI
      19.15.0.0.220419

      false
      OLTP
      odb1
      ASM
      CONFIGURED
      ecfa440e-2482-40c1-8ccd-673

16cd48ba2
$ 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" : "April 26, 2022 01:49:40 AM UTC",
    "endTime" : "April 26, 2022 01:49:40 AM UTC",
    "status" : "Success",
    "taskDescription" : null,
    "parentTaskId" : "TaskSequential 10046",
    "jobId" : "ccde4700-3c1e-423a-8079-477f49f8cd5f",
    "tags" : [],
    "reportLevel" : "Info",
$ odacli list-databases
                                              DB Name DB Type DB Version
ID
       Class Shape Storage Status
CDB
                                                            DbHomeID
                 _____
_____

      324a42ea-bba2-477d-8bca-5a26af159f1c
      db3
      SI
      19.14.0.0.220118

      false
      OLTP
      odb1
      ASM
      CONFIGURED
      ecfa440e-2482-40c1-8ccd-673

16cd48ba2
```

Using the CLI, create a new database db4.

Task Name	C: Me	reated: A essage:	April 26, 202	22 1:51:50 AM Start Time	I UTC E End
Time			Status		
# odacli l	ist-data	abases			
ID CDB	Class	Shape	Storage	DB Name Status	DB Type DB Version DbHomeID
ID CDB	Class	Shape	Storage	DB Name Status	DB Type DB Version DbHomeID
324a42ea-b false	oba2-4770 OLTP	d-8bca-5a2 odb1	26af159f1c ASM	db3 CONFIGURED	SI 19.14.0.0.220118 ecfa440e-2482-40c1-8ccd-673
deac01db-e false 551b67468	eaa8-4f4 OLTP	e-a511-aea odb1	a042be3a18 ASM	db4 CONFIGURED	SI 19.14.0.0.220118 c3c63738-703e-4c1d-98de-95b

Step 6 - Create a CPU Pool for a Database

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

Click **CPU Pool** on the left, then click **Create a CPU Pool**.

ORACLE	Database Appliance		System: edia Current User: ediadelmin kessurus v Acceset v
Appliance			0 m/s
Overview			
Compute Instances			
DB Systems			
Network			
CPU Poul			
Charle ASR			
Parch Manager		There are no CPU Pools.	
		Click Create CPU Pool to create a new CPU Pool.	
		Create CPU Pool	
		Learn More	

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



ORACLE'	Database Appliance	System: edu Current User: eduadmin 🐌 Resources + Acourt + 🔍 Sent COL Disconsectors for Appliance: Database ObjectStars Monitoring Security Multi-Dat-Acourt Acourt Disposition
Appliance	Create CPU Pool	Q hay
Compute Instances DB Systems	CPU Pool Name * spapod?	Number of CPU Cores *
Network	CPU Pool Type Bare Metal +	Societ to Une Af Society *
Crucke ASR Patch Manager		Cancel Create >

You can see that CPU Pool cpupool1 has been created:

ORACLE	base Appliance	System: oda Current Unic: odiadenim B Resurces + Acceser + P, Earch DOI Documentation for Applianz: Database Digits Store Monitoring Security Multi-Dar Access Activity Diagnotics	
Applance Querces Compute Instances (20 Systems Autourk CPU Paul Querch Adat Pauch Manager	march Q. Pape of 1 (5 of 1 hand) X < (1) >x raypool1 Bit OfficeS50-bit Adds 5585-52864895635 Copy Type: EM Configured exc scaladab008 Constant: fri Fab 25 2022 558:05 FM	Serting Created New to Old + Retrieb Remap OfU Real Create OfU Real Corres 2 Accions + Accions + State: CONFIGURED	

Step 7 - Delete a Database Home

You can delete a database home using the BUI or the command line. We will use 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 on **Delete DB Home** (for home1).

DRACLE	Dutabase Appliance	System: oda Current User: odaadmin Applance Ostabase Object Store 1	Resources + Account + Q, Search CO4 Decumentation / Monitoring Security Multi-User Access Activity Diagnost
etabore Durabare	assects Q. Page of 1 (1-4 of 4 items) × (1) > ×	Sort by Created New to Oil + Refresh Create Database Home Rutch	Precheck Precheck Missing Pathes
Dursbase Home Storage Dursbase Home Reckup Policy	O. Grad/0810000_home4 Bit: Crist/138: 7001=-&11-6 -8866-9705531657468. Copy Version: 13.13.0.2211319 Packs Version:	Location: //01/hpp10disorahomebase/indaxdmin/product/78.0.0.0/dbhome_4 Edition: EE Created: En Feb 25 2022 55:50 PM	Actions +
	 C Grad/B19000,home3 Bite exclusion-Align AdvReccil 473116cd48ba2 Copy Version: 113.130.211310 Patch Version: Select Area Datase 	Lecation: ///U/l/pp/olicion/homebase/todaxdmin/product/18.0.0/dbhome_3 Edition: EE Created: En Feb 25 2022 5:4550 PM	Actions +
	© Grad/819000_home2 Bit: x13156x132dH-111F32Ch-61646489502b Copy Version: 11118.02.211919 Petch Version: #	Lecation: ///01/spp/odisorshomebase/odiadmin/product/15/3/0/0/bhome,2 Edition: (II Created: Fil Feb 25 2022 5:18:49 PM	Actions +
	Orea0819000, home1 BP: 32ce681a: 5645-8676-8556-468177eb1c4a Copy Vension: 18.13.8.0.211019 * Petch Vension: * *	Locations: ///OUppi/oduorahomebase/onacle/product/19.0.0/dbhome_5 Edition: EE Created: Fin Feb 25 2022 4:56/27 FM	Actions * View Database Delete Dil Home View The quick reports

You can see that home1 database home has been deleted.



ORACLE	Cutabase Appliance	System: oda Current User: ediaadmin 🔒 Resures × Account × 🔍 Snorth COA Documentation Appliance <u>Database</u> Object Stars Monitoring Security Multi-User Access Activity Diagnee
Database Database Database Home Storage	search % Page of 3 (1) of 3 damag i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i i <th>Sort by Created New to Did + Referent Create Database None Pack Pack Products</th>	Sort by Created New to Did + Referent Create Database None Pack Pack Products
Database Home Backup Policy	Bit: Colstate: Field: Field:	Lecation: /v0/lapp/odacrahomebase/odaadmin/product/19.0.0.0/dbhome_4 Addew = Edition: III Created: Fri Feb 25 2522 5:55:50 PM
	© Grad#19600,home3 Bit ectu4480-3482-49C1-8ccd-473156548ba2 Copy Werkler 113.13.02.131919 Public Version: Select Anni Version: •	Leverlion: /v0/lapp/indexrshomebase/odaadmin/product/19.0.00(rbhome_3 Advance = Edition: EE Crusted: Ini Feb 25 2022:54550 PM
	Orad/0119000_horme2 Bb a1158b-6-308/a1116-b2CF-6584448962bi Copy Vension: 13:138-0.211019 Petch Vension: *	Lecation: AdVapp/tolaorshomebase/tolaadmin/product/19.0.0.0/dbhome_2 Antons = Editions: 18 Created: Fri Feb 25 2022 5:1849 PM

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 is very simple. There are two simple steps involved to create a database backup locally or on Oracle Cloud. These can be done using the web GUI:

- 1. Create a backup policy
- 2. Attach a 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.

There is a default backup policy associated with the database. To create a new backup policy, click on the **Backup Policy** tab and then click **Create Backup Policy**.

ORACLE	Database Appliance	System odla Current Uner odladmin 🔒 Resource + Acaum + 🔍 Sand OCI Decumentation Applance Database Objectione Municoreg Security Multi-ban Acama. Activity Diagrae
Database Database Database Home Storage	$\label{eq:product} \begin{array}{c} q_{i} \\ \\ Pape & aft (foftherm) \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	Sort by Created New to Old + Refeasil Create Rackup Patry
Database Home Backup Policy	Destinations Internal IRA Compression Algorithms IAAC Compression Enabled to System Name: Odi Created: Fri Feb 25 2022 4:56/27 PM	Roomer Window (dog): 7 Actions * Crosscheck Enabled: true

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**.



		Appliance Database Object Store	Monitoring Security Multi-User Access Activity Diagnostics
Create Backup Policy			O Help
Backup Policy Name *	Object Store Credential Name	External FRA Mount Point	
dokbachup			
Backup Destination	Container Name	TDE Wallet Backup Location	
Internal IBA +			
Compression Algorithm	Recovery Window (days) *		
8ASC *	8 × A		
Enable Compression			
Enable Crosscheck C Select Stable Crosscheck To determine if Ties on shis o management catalog correspond to data to the ISBAN	v is the media repeating		
		< ca	nosi Create >
	Crease Backup Policy Backup Policy Kame * datascup Backup Deninverina Backup Denin	Sackup Pulky Sackup Pulky Nume * Makkap Pulky Nume * Sackup Desirvation Sackup Desirvation Sackup Desirvation Sackup Orgeneeins Algorithm Makka Compression Algorithm Duble Compression Buble Compression Algorithm Sackup Orgeneeins Black On the Make Member Million State Million	Create Backup Policy Backup Policy Sume * datadapa Backup Desirution Backup Des

You can see the **DiskBackup** policy has been created.

ORACLE	Database Appliance	System: edia Current User: ediaedin Applance: Database Object Scor	nin 🗎 Resources = A e Monitoring Security	coount + 9, Search-ODA Documentation for. Multi-User Access Activity Diagnostics
Database Database	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Sort by Created New to Old + Refeet	Create Backup Policy	a Huly
Database Home Database Home Bactug Policy	Name: disblockup Destination: Internal FFA Compension Application: EASC Compension Enabled: True System Name: Ora Created: Fn Feb 25 2022 6:02:18 PM	ID1 83624965-4530-4666-6420-475425607138 Copy Receivery Window (days): 1 Creascheck Enabled: true	Actions *	
	Mamar: default Destinational Internal FRA Compression Adjunctions (AASC Compression Enabled): true System Name: cola Created: Fin Feb 25 2022 456 (27 PM	ID: Infc05ece-6584-6a29-56c4-ed079565c5a2_Copy Receivery Window (dopt) 7 Creascheck Enabled (run	Actions *	

Next you select the database, for example, db4, that you want to backup. The db4 database has the default backup policy, so modify the database first by clicking **Modify** under **Actions**. Assign a CPU pool to db4 at the same time.

ORACLE	Dutabase Appliance		System: oda Current User: odaadmi Appliance Detabase Object Store	n B Resources * Monitoring Secu	Account = 9, Search COI Documentation for
Database Database Database Home Storage	march Q_c Page of1 (1-2 of2 term) x < 1		Son by Created New to Old * Refresh	Create Database	O Hulp
Database Home Backup Policy	db4 80. dexe01db exail-d8e.e3011.eea042be3a18. Copy Stetue: CD41FGU82D Created: Fri Feb 25 2022 5:51:50 FM	CDB: faise DB Version: 13.13.00.211015 System Name: oda	Shaper odl/1 Shorege: ASM	Actions * View	
	(h) 10: 1344:Qas-bio2-4776-80ca-5a564159ftc Copy States: CONINGUED Created: In Feb 25 2022 5:45:50 PM	CDB: false DB Versiee: 19.13.00.211019 System Name: cda	Shape: odb1 Storage: ASM	Move Upgrade Delete	

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

ORACLE Database A	ppliance			System:	Current User	oda-	admin 9	Search ODA D	locumentation loc.	Re Re	sources +	Account .
					Аррі	ance	Database	Object Store	Monitoring	Security	Activity	Diagnostics
Jatabase	Modify Database									O Help		
Database												
Database Home Storage	Used to modify the database ci Database Name: db4	lass, shape,	redundancy, backup policy,	and attach	detach network	G.						
Database Home	Database Class		Attach Networks		Bac	kup Poli	cy					
Backup Policy	OLTP	*			dis	kbackup	•	×				
	Database Shape		Detach Networks		Bac	kup Enc	ryption Pass	word				
	odb1(1 Core, 8GB Memory)											
	Database Redundancy		CPU Pool Name		Con	firm Ba	skup Encrypt	ion Password				
	Mirror		cpupool1									
								< Cancel	Modify >			
								1				



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.

ORACLE (subset legislant	Sprine ada Carret Dari adandede 🖡 Servera e - Annee e -	A, see its burners
	Austream Database Diget Size Meaning Security Multi Database	these bally Deput
	Name Anna Anna	
Product Barrantee		
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Description: 0x1		
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Character for a 100/01		
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might descriptions. Readout 10.00		
Target Node Name work 1		
0-027		
Page 111		
Burrage AllA		
6474		
territor - CrCuster		
Uter Space 10/10		
Pres Space 1.0 TO		
NEDO		
Laughter (NUC) (Int		
West Space 10010		
Annu Speciel Vol.5-10		
800		
Landian - RECOM		
View Space VID-VID		
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Burnup Falling Falling States		
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Control to the D date Share by the		
the Design Market and Annual Control of the		
Between terms companies		

You can see the backup reports under the **Backups** heading below.

Backups			
Delete Backups	Manual Backup	Update Database Backup Schedule	Update Archive Log Backup Schedule
Database Backup	Reports Archive	Log Backup Reports	
Page (0 of 0	items) K X	1 > N	
No items to disp	play.		

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

	Applance Databas	ar Object Store Monitoring S	lecarity Multi-User Access Activity Diagnostics
			O 144p
Backup Policy Name: diskbackup	Backup Destination: Internal FRA		
Component			
Ostabase v			
Keep Cays *			
		< Cancel Start >	
	Backup Pulicy Name: disblackup Component Ontoise * Keep Days *	Backup Pulicy Name: diskbackup Component Component Ontoises • Keep Days *	Backup Pulicy Name: disblockup Component Decisions * Keep Days * Keep Days *

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



ORACLE Database Applance	System: ada Current User: adaadmin 🔒 Resources + Account + 🔍 Sourt-ODE Deservation
	Appliance Database Object Store Manhoring Security Multi-cherin-Activity Diagnost
	Save Backup Report Rohmh Back
Lackup Report	
ID: 3x011x79-14x2-4753-x020-164821680344	
Name: Beckup Jinport, db4	
DB Researce ID: deach1db-east-4Ne-a511-aea042be3a18	
Tag auto	
94 ID: 0X	
DB Name: db4	
DB Unique Name: (0.4	
Backup Type: Regular-L0	
Keep Days	
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CF Backup Handle:	
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PUTH Time Stamp: Ini Pub 23-2022 6/06/37 PM	
Storage: ASM	
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Reset Logs SCN: 1534302	
Oracle Home Version: 19.13.0.0.211019	
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104 Wallet Location:	
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Status: CONFIGURED	
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D8 Deta Siae: 1751M	
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Database Class: 0(3)	
Dutabase Type: St	
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In addition to backing up to local disk, you can back up to Oracle Cloud. 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 Object Store Credential**.



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

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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 web BUI to patch a database home from release 19.14 to 19.15, and upgrade a database from release 12.2 to 19.15.

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 highavailability 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 ODA Repository with Latest Patches
- Step 2 Update the DCS Agent (If not done already)
- Step 3 Update the Server
- Step 4 Patch a Database: Update a Database to point to a New Database Home
- Step 5 Upgrade a Database

Step 1 - Update the ODA Repository with Latest Patches

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

You must download the server patch file for Oracle Database appliance release 19.15. 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 19.15.0.0.0 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 19.14 to 19.15, you must update the repository with the 19.15 Oracle Grid Infrastructure and database clone files first.

Before you start patching the server, you can check the current installed components from the web console. Go to the **Appliance** tab, click on **Patch Manager** on the left, and then click the **Update Server/Storage** tab. Note all the installed 19.14.0.0.0 components. Since you have not updated the repository to 19.15.0.0.0, all components are displayed as up to date.

Next, update the server repository. The server patch file is oda-sm-19.15.0.0.0-220507-server.zip.



```
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/oda-sm-19.15.0.0.0-2205
07-server.zip
{
    "jobId" : "b3794603-4fbb-42a4-89ee-791d420e68a6",
    "status" : "Running",
    "message" : "/opt/oracle/dcs/patchfiles/oda-sm-19.15.0.0.0-220507-server.zip",
    "reports" : [],
    "createTimestamp" : "April 26, 2022 06:29:42 AM UTC",
    "resourceList" : [],
    "description" : "Repository Update",
    "updatedTime" : "April 26, 2022 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 19.14 Oracle Grid Infrastructure and database clone files if you want to create a 19.14 database or patch a database to 19.14. 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-19.15.0.0.0-
220425-GI-19.15.0.0.zip
{
  "jobId" : "529141f1-c5fb-42a6-ad1e-0b5540781a71",
  "status" : "Waiting",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.15.0.0.0-220425-GI-19.15
.0.0.zip",
 "reports" : [],
  "createTimestamp" : "April 26, 2022 06:32:43 AM UTC",
  "resourceList" : [ ],
  "description" : "Repository Update",
  "updatedTime" : "April 26, 2022 06:32:43 AM UTC"
}
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-dcs-19.15.0.0.0-
220425-GI-19.15.0.0.zip
{
  "jobId" : "6478c708-bef8-4d5a-83a6-b411fe9b3e7d",
  "status" : "Running",
 "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.15.0.0.0-220425-DB-19.15
.0.0.zip",
  "reports" : [],
  "createTimestamp" : "April 26, 2022 06:33:13 AM UTC",
  "resourceList" : [],
```

```
"description" : "Repository Update",
  "updatedTime" : "April 26, 2022 06:33:13 AM UTC"
}
$ odacli update-repository -f /opt/oracle/dcs/patchfiles/odacli-dcs-19.15.0.0.0-
220425-DB-19.15.0.0.zip
{
  "jobId" : "76e5156b-160f-41fc-b9aa-580992902d9f",
  "status" : "Running",
  "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.15.0.0.0-220425-DB-12.2.
0.1.zip",
 "reports" : [],
  "createTimestamp" : "April 26, 2022 07:06:26 AM UTC",
  "resourceList" : [],
  "description" : "Repository Update",
  "updatedTime" : "April 26, 2022 07:06:27 AM UTC"
}
```

After you update the repository, you can use the web console to see the 19.15.0.0.0 available component versions.

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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 web console, before actually updating the server. The DCS agent is the Oracle Database Appliance software that provides the intelligence and automation. In the patching screens, select **Update Server**, then click **Apply Patch**, then click **Submit**, and then click **OK** in the Updating DCS Agent window.



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From the BUI, go to the **Appliance** tab, click **Patch Manager**, and click **Refresh** to verify that the DCS Agent is up-to-date.

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It is recommended that you run the prechecks for the operating system, Oracle ILOM, and Oracle Grid Infrastructure before patching by clicking **Precheck**. Note that the simulator output maybe different.



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Step 3 - Update the Server

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

To update the server, select **Update Server**, then click **Apply Patch**.

After the job is completed, you can refresh the browser to see that Node0 has all 19.15.0.0.0 components installed, and everything is up-to-date.

Database Appliance			Applance Database Object Store Monitoring	Security Multi-Over-Access Activity Diagnostic
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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 we may not want to patch all databases at once, we must first identify which database home corresponds to which database.

To use the BUI to identify the database homes, go to the **Database** tab.



Click on the database name, for example, db4 to identify the database home ID for patching.



Note the Database home ID, or the Database home location. You will need this to patch the database by pointing it to a home.

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.

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
                                                 DB Type DB Version
TD
                                       DB Name
CDB
          Class
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                                                   DbHomeID
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324a42ea-bba2-477d-8bca-5a26af159f1c
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false
      OLTP odb1 ASM
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deac01db-eaa8-4f4e-a511-aea042be3a18
                                                          19.14.0.0.220118
                                     db4
                                                 ST
false
          OLTP
                 odb1
                           ASM
                                    CONFIGURED c3c63738-703e-4c1d-98de-95b
551b67468
$ odacli list-dbhomes
ΤD
                                                           DB Version
                                       Name
Home Location
                                           Status
a1314be1-2c6f-411f-b2c7-61444449f02b
                                       OraDB19000 home2
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/u01/app/odaorahomebase/odaadmin/product/19.0.0.0/dbhome 2 CONFIGURED
ecfa440e-2482-40c1-8ccd-67316cd48ba2 OraDB19000 home3
                                                           19.14.0.0.220118
/u01/app/odaorahomebase/odaadmin/product/19.0.0.0/dbhome 3 CONFIGURED
c3c63738-703e-4c1d-98de-95b551b67468 OraDB19000 home4
                                                           19.14.0.0.220118
/u01/app/odaorahomebase/odaadmin/product/19.0.0.0/dbhome 4 CONFIGURED
```

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

```
$ odacli update-dbhome -i c3c63738-703e-4c1d-98de-95b551b67468 -v 19.15.0.0.0
{
    "jobId" : "af879f3e-9c50-4dfd-86db-5d380a42f8d2",
    "status" : "Created",
    "message" : null,
    "reports" : [],
    "createTimestamp" : "April 26, 2022 06:59:59 AM UTC",
    "resourceList" : [],
    "description" : "DB Home Patching: Home Id is c3c63738-703e-4c1d-98de-95b551b6
7468",
    "updatedTime" : "April 26, 2022 06:59:59 AM UTC"
```

}			
\$ odacli de	scribe-job -i	af879f3e-9c50-4	dfd-86db-5d380a42f8d2
Job details			
 5b551b67468	ID: Description:	af879f3e-9c50- DB Home Patchi	-4dfd-86db-5d380a42f8d2 .ng: Home Id is c3c63738-703e-4c1d-98de-9
	Status: Created: Message:	Success April 26, 2022	2 6:59:59 AM UTC
Task Name Time 		Status	Start Time End
Adding USER 26, 2022 7: Adding USER 26, 2022 7:	SSH_EQUIVALEN 00:02 AM UTC SSH_EQUIVALEN 00:02 AM UTC	ICE Success ICE Success	April 26, 2022 7:00:02 AM UTC April April 26, 2022 7:00:02 AM UTC April

Verify that database home db4 is updated to the release 19.15. You can use either the BUI or CLI for verification.

# odacli list-dbhomes		
ID Home Location	Name Status	DB Version
a1314be1-2c6f-411f-b2c7-6144449f02b /u01/app/odaorahomebase/odaadmin/product ecfa440e-2482-40c1-8ccd-67316cd48ba2 /u01/app/odaorahomebase/odaadmin/product c3c63738-703e-4c1d-98de-95b551b67468 /u01/app/odaorahomebase/odaadmin/product	OraDB19000_home2 2/19.0.0.0/dbhome_2 (OraDB19000_home3 2/19.0.0.0/dbhome_3 (OraDB19000_home4 2/19.0.0.0/dbhome_4 (19.14.0.0.220118 CONFIGURED 19.14.0.0.220118 CONFIGURED 19.15.0.0.220419 CONFIGURED

You can also use the GUI web console to update the database homes by clicking **Patch** on the left panel, and then select **Apply** in the Patch drop-down. We have already updated the db4 database by pointing to a new home using the command line already.



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Step 5 - Upgrade a Database

To upgrade a database from release 12.2 to 19.15, we must first create an Oracle Database release 12.2 database.

Create an Oracle 12.2 database db5. Select Create a Database, then click Next.

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Fill in the information and click **Create**.

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You can see Oracle Database release 12.2 database db5 is created.

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Now we will upgrade database db5 from release 12.2 to 19.15 by clicking **Actions** and then select **Upgrade**.



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Then, select a new database home, for example, OraDB19000_home4. Database upgrade is also an out-of-place operation, which means the existing home of the database is not modified.

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You can see db5 is upgraded from Oracle Database release 12.2 to 19.15.

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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)
- Step 2 Create a Database KVM (Database System)

Step 1 - Create an Application KVM (Compute Instance)

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 CPU Pool**. Enter the following information, then click **Create**.

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

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

Enter the following information for vmstorage1, and then click **Create**. VM Storage can be used by different application KVMs.

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You can see vmstorage1 is created.

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

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Select Create Virtual Disk, then click Next.

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Create a virtual network for the KVM. Select the **Virtual Networks** tab, and then click **Create Virtual Network**.

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Specify the Virtual Network information, then click **Create**.

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You can see the virtual network <code>vmnet1</code> is created.

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Create an application KVM (Compute Instance). Select the **VM Instances** tab, and then click **Create VM Instance**.



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Select Create VM Instance, then click Next.

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Specify the information for AppKVM1, 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.

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You can see AppKVM1 instance is created.

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You can see the detailed information for AppKVM1 by clicking on AppKVM1.



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If you want to modify the VM instance, then click the **VM Instance** tab. For AppKVM1, click the **Actions** dropdown and then click **Modify**.

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This is where you can modify AppKVM1.

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



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Step 2 - Create a Database KVM (Database System)

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-19.15.0.0.0
-220507-ODAVM-19.15.0.0.zip
{
    "jobId" : "2d45004d-923b-45d9-b27c-cfbda391edb6",
    "status" : "Running",
    "message" : "/opt/oracle/dcs/patchfiles/odacli-dcs-19.15.0.0.0-220507-ODAVM-19
.15.0.0.zip",
    "reports" : [],
    "createTimestamp" : "April 26, 2022 07:45:04 AM UTC",
    "resourceList" : [],
    "description" : "Repository Update",
    "updatedTime" : "April 26, 2022 07:45:05 AM UTC"
}
```

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

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



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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.

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You can see that a database KVM <code>dbsystem1</code> is created.

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You can find the details for <code>dbsystem1</code> by clicking on it.



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

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	VMs VM hast name odd overvin.com	Garmant status United Visite	Mush	
			Inere	

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

ORACLE Database Applance			Springer and Conservations advandaries Brownen + Annual + G, Service Discharger	(11 fr.,
Anderer Ornern Grages Hanges Billigens Weinin Oft hat Grane B	Black Mark Hondels Markly 20 Space det or moly more thomas det or more thomas det	We have been a	NAME (PLAN ANALY SUBJECT ANALY SUBIECT ANALY SUBIECT ANALY SUBIECT ANALY SUBIEC	
	Cite is an accent evening. Attachment Terr Terr Accent than 4 Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent Accent	P Alleys Garage Josef Marcell L. We B Rd		
			C Canat Multy 3	

Click the **DB Systems** tab on the left to verify that <code>dbsystem1</code> has 4 cores now.

ORACLE (states typices			ly deserved in the second s	ada Carrettitar adaaded	in Bhenrie + Annet + 5, Sect-10 decreases to
				farm Database Diget lives	Meeting Secret Work Car Sons Advery Deposits
opfiance	Million Victoria Nationalia				0
Desiver					
Computer Instances			Series Crafed Rev & OV +	Refrect Create 28 System	
DR Springers	Auge with distance is a filler of				
Automation in the second se	daysent				
(Pro Real)	the subclicit disci-artia articl regimentation Comp.	Come i		Actors +	
Drain All	Warmary 13 00-08 Grantel Fil Feb (5 - 05 - 05 - 05 - 05 - 05 - 05 - 05 -	Biology COMPOSITION Updated Set Feb (9-362) 1054407 een			
Feldt Manager	VM				
	VM heat warear odd ananyth com	Content state UNIONCIAN			

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
- Step 2 Grant a Resource to a User
- Step 3 Create a Resource by a User

Step 1 - 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.

ORACLE	Database Appliance	System: oda Current User: odaadmin	Resources * Accou	nt * 🔍 Search ODA Documentation for
		Appliance Database Object Store	Monitoring Security	fulti-User Access Activity Diagnostics
Multi-User Access	Create User			O Help
Users	Use the options below to create a new user. If multi-	user access is enabled, the same credentials are used for the I	BUI and for system login	
Roles	to run CLI commands.			
Entitlements	User ID *	Roles *		
Resources	user1	ODA-DB ×		
	Generate mTIS certificate	ODA Password *		
	C determine the determinent			
		Confirm ODA password *		
			< Cancel Create >	

Go to the Users tab on the left to verify that the new user, user1, is created.



ORACLE'	Database Appliance	System: oda Current User: odaadmin 💧 Resources 👻 Account Applance Database Object Store Monitoring Security Mult	 Q Search ODA Documentation for 6-User Access Activity Diagnostics
Multi-User Access Users Roles	search Q. Page of 1 (1-5 of 5 items) X < 1 >	Sort by: User ID + Refresh Create User	Help
Entitlements Resources	grid ID: ee8625df-8bff-49fe-9962-f600ff/97966e Account Status: Active	Roles: ODA-GRID User Type: System	
	oakdroot ID: b196ba2f-1f30-49c6-81d6-624752febf15 Account Status: Active	Roles: CDA-OAKDROOT User Type: System	
	odaadmin ID: 63c082db-de04-45dd-baed-66b569f0e808 Account Statua: Active	Roles: ODA-ADMINISTRATOR User Type: System	
	oracle ID: e95a29bd-9d16-4c35-90ff-60258b/63664 Account Status: Active	Roles: CDA-DB User Type: System	
	user1 ID: 41074189-6a90-4b0b-8a8d-d57d81342906 Account Status: Inactive	Roles: ODA-D8 Actions * User Type: Custom	

Create a second user, user2 using the same process.

ORACLE	Database Apoliance	System: oda Current User: odaadmin 💧 Resources * Account * 🤗 Search ODA Documentation fo
		Appliance Database Object Store Monitoring Security Multi-User Access Activity Diagnosti
Multi-User Access	Create User	Help
Users		
Roles	Use the options below to create a new user. If mult to run CU commands.	i-user access is enabled, the same credentials are used for the BUI and for system login
Entitlements	User ID *	Roles *
Resources	user2	ODA-DB ×
	Generate mTIS certificate	ODA Password *
	C) designation in the designation	
		Confirm ODA password *
		••••••
		< Cancel Create >

Go to the $\ensuremath{\textbf{Users}}$ tab on the left to verify that $\ensuremath{\texttt{user2}}$ is created.

	Database Appliance	System: oda Current User: odaademin 🐞 Resources * Account Appliance Database Object Store Monitoring Security Mu	Q Search ODA Documentation fo ti-User Access Activity Diagnostic
Aulti-User Access Users	search Q. Page of 1 (1-6 of 6 items) K < 1	Sort by: User ID + Refresh Create User	O Help
Entitiaments	grid		
Resources	ID: ee6525d1-80f1-89f6-9962-1600f69796re Account Status: Active	Roles: ODA-GND User Type: System	
	cakdroot ID: b196ba2f-1f30-49c5-81d6-624752febf15 Account Status: Active	Roles: ODA-OAXDROOT User Type: System	
	odaadmin ID: 63:082db-de04-45dd-baed-66b569f0e808 Account Status: Active	Roles: ODA-ADMINISTRATOR User Type: System	
	oracle ID: e95a29bd-9d16-4c35-90ff-60258bf63664 Account Status: Active	Roles: ODA-D8 User Type: System	
	user1 ID: 41074189-6490-4b0b-8a8d-d57d81342906 Account Status: Inactive	Roles: ODA-D8 Actions v User Type: Custom	
	user2 ID: b7d3e24d-c7c1-4b09-8cec-31e0cc136c0c	Roles: ODA-DB Actions *	



Step 2 - 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**.

ORACLE	Database Appliance		System: oda Appliance	Current U Database	Ser: odaadmin Object Store	Resour	ses * Security	Account * 9 Si Multi-User Acce	narch ODA Doc Activity	Diagnostic
Multi-User Access	saunt Q.	Show Advanced Search			Sut her Name		- 8	efeeth O Hel		
Users	Search resources using the below filters	If no filters are specified, all	resources are shown.		south man					
Roles		Resource Type		Res	ource Name					
Entitiements	Show All Resources	ODA_D8	*							
Resources	Search Reset Search Filters									
	Page of 1 (1-3 of 3 items) K	< 1 > ×								
	db3									
	Primary Owner: odaadmin	Gat159f1c Copy	Type: ODA_DS Shared Access:				Action	ns *		
	Active: true Location: ecfa440e-2482-40c1-8co	d-67316cd48ba2	Created: Fri Feb 25 2	022 5:45:50	PM					
	db4									
	ID: deac01db-eaa8-4f4e-a511-aea0 Primary Owner: odaactinin	M2be3a18 Copy	Type: ODA_D8 Shared Access				Actio	ns =		
	Active: true Location: c3c63738-703e-4c1d-98c	de-95b551b67468	Created: Fri Feb 25 2	022 5:51:50	PM					
	db5									
	ID: 19245968-7775-4e9c-9448-3ad	44c41c5e1 Copy	Type: ODA_D8				Actio	ns 💌		
	Primary Owner: odaadmin		Shared Access:				Gr	ant Resource Access		
	Location: /u01/app/odaorahomeba	ase/odaadmin/product/19.0	Created: Fri Feb 25 2 10.0/dbhome_4	022 11:14:20	J PM		Re	voke Resource Acces	5	

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

ORACLE	Database Appliance	System: oda Current User: odaadmin Resources * Account * Q. Search ODA Documentation for Appliance Database Object Store Monitoring Security Multi-User Access Activity Diagnostics
Multi-User Access Users Roles	Grant Resource Access Grant user shared access to DCS resource db5. Select the	User name to whom access is to be granted.
Entitlements Resources	User1 v	< Cancel Grant >

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.



	Database Appliance		Appliance D	atabase Object Store Monitorin	g Security Multi-L	User Access Activity Diagnostics
Multi-User Access	search Q	Show Advanced Search		Sort by: Name	* Refresh	@ Help
Users	Search resources using the below filters	If no filters are specified, all re	sources are shown.			
Roles		Resource Type		Resource Name		
Entitlements	Show All Resources	ODA_D8	*			
Resources	Search Reset Search Filters					
	Page of 1 (1-3 of 3 items) \times	< 1 > ×				
	db3					
	ID: 324a42ea-bba2-477d-8bca-5a2	6af159f1c Copy	Type: ODA_D8		Actions *	
	Active: true		Created: Fri Feb 25 2022	5-85-50 PM		
	Location: ecfa440e-2482-40c1-8cc	d-67316cd48ba2				
	db4					
	ID: deac01db-eaa8-4f4e-a511-aea	M2be3a18 Copy	Type: ODA_DB		Actions *	
	Active: true		Created: Eri Feb 25 2022	5-51-50 PM		
	Location: c3c63738-703e-4c1d-98	de-95b551b67468		2.21.22.1		
	db5					
	ID: 19245968-7775-4e9c-9448-3ad	44c41c5e1 Copy	Type: ODA_DB		Actions +	
	Primary Owner: odaadmin		Shared Access: user1 Created: Ed Eab 25 2022	11:14:00 DM		
	Location: /u01/app/odaorahomeh	ise/odaadmin/product/1900	0/dbhome 4	LITERS FIN		

Log in as user1 to verify access to db5.

Oracle Database Appliance
User Name * user1 COA Password Cogin Forgot password?

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.



Oracle Database Appliance
Your ODA account is inactive as temporary password has not been changed on first login. Configure the user1 user password to comply with your system security requirements. After configuring the password, login using the new password. ODA Password *
Confirm ODA Password *
Submit

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.

DRACLE	Database Applian	ce		System: oda	Current User: user1	Resources *	Account *	9. Search O	CA Documer	ntation
						Appliance	Database	Object Store	Security	Act
pliance Overview	Basic Informati	on Advanced Info	ormation					O Help		
letwork	System Inform	ation								
CPU Pool		ID: Se4ccd02-b380-420b-9ed6-7a28156238a7 Platform: X8-25								
tch Manager		Data Disk Count: 2 CPU Core Count: 8 DCS Accept 1	014000							
		GI: 1 Created: Fi	9.14.0.0.0 ri Feb 25 2022 4:56:27 PM							
		Host Name: oda Domain Name: example com								
		Time Zone: G DNS Servers: 1 NTP Servers:	MT 1.1.1							
	Disk Group Information									
							Refresh			
	Name	Redundancy	Physical Total Space	Physical Free	Space Lo	gical Free Space				
	► DATA	FLEX	11.0 TB	10.0 TB	3.	33 TB - 5.0 TB				

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

ORACLE	Database Appliance System: oda Current User: user1 🐌 Resources * Account * 🔍 Search OCA Documentation for
	Appliance Database Object Store Security Activity
Database Database Database Home Backup Policy	search Q, Sort by: Created: New to Old w Refresh Create Database Show All Databases Page of 1 (1 of 1/litems) K (1)> X
	db5 DD: 19245968-7775-4e9c-9448-3ad44c41c5e1 Copy CDB: false Shape: odb1 Actions * Status: CONFIGURED DB Version: 19.14.0.0.220118 Storage: ASM Storage: ASM Created: Fri Feb 25 2022 11:14:18 PM System Name: oda Storage: ASM Storage: ASM


Step 3 - Create a Resource by a User

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.

Oracle Database Appliance
User Name * user2
ODA Password D
Login Forgot password?

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

Oracle Database Appliance
Your ODA account is inactive as temporary password has not been changed on first login. Configure the user2 user password to comply with your system security requirements. After configuring the password, login using the new password. ODA Password *
Confirm ODA Password *
Submit

Log in as user2 with the new password.



	Database Appli	ance		System: oda Cu	irrent User: user2	Resources *	Account *	Search O	OA Documer	ntation for.
						Appliance	Database	Object Store	Security	Activity
pliance	Basic Informa	ation Advanced Info	ormation					O Help		
letwork	System Infor	mation								
PU Pool		ID: 5	e4ccd02-b380-420b-9ed6-7a28156	238a7						
		Platform: X	8-25							
atch Manager		Data Disk Count: 2								
		CPU Core Count: 8								
		DCS Agent: 1	9.14.0.0							
		GEI	9.14.0.0.0							
		Created: r	11 PED 25 2022 4.5627 PM							
		Next Nexus	4							
		Post Name: 0	da							
		Time Zone: (art							
		DNS Servers: 1	111							
		NTP Servers:								
	Disk Group In	nformation								
							Refresh			
	Name	Redundancy	Physical Total Space	Physical Free Spa	ace Log	ical Free Space				
	► DATA	FLEX	11.0 TB	10.0 TB	3.3	3 TB - 5.0 TB				

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

ORACLE	Database Appliance		System: oda	Current User: user2	Resources *	Account *	9, Search 0	CA Documen	station for	
					Appliance	Database	Object Store	Security	Activity	
Database							O Help			
Database										
Database Home										
Backup Policy										
		There is a	a database							
		Click Create Database	o database. Io create a new datab	508						
			o create a new dataco							
		Create Database	Show All Databases							
		Learn	More							

Create a new database, user2db1.



ORACLE	Database Appliance		System: oda	Current User: user2	Resources *	Account *	Search O	DA Documen	ntation for.
					Appliance	Database	Object Store	Security	Activity
Database	Create Database						O Help		
Database									
Database Home	D8 Name *	Database Edition		SYS and PDB Admin U	ser Password *				
	user2db1	Enterprise Edition	*						
Backup Policy	D8 Unique Name	Database Class		Confirm Password					
	user2db1u	OLTP	*						
	Use Existing DB Home	Shape		Character Set					
	O Yes @ No	odb1(1 Core, 8G8 Memory)	*	AL32UTF8	*				
	DB Version	Storage		National Character Set					
	19.14.0.0.220118 *	ASM		AL16UTF16	*				
	CDB O Yes · No	Database Redundancy		Language					
		Mirror	*	AMERICAN	*				
		Networks *		Territory					
		Public-network ×		AMERICA.	Ŧ				
		CPU Pool Name		Enable TDE 🔘 Yes	No				
		Select CPU Pool		TDE Wallet Password					
		Configure EM Express O Yes	• No						
				Confirm TDE Wallet Pa	ssword				
				<	Back Cancel	Create >			

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

ORACLE	Database Appliance	System:	oda Current User: user2	Resources * Account *	• 9. Search ODA Documentation for
				Appliance Database	Object Store Security Activity
Database Database	Page of 1 (1 of 1 items) K < 1	Sort by: Created: New to Old	 Refresh Create Datab 	base Show All Databases	€ Help
Database Home Backup Policy	user2db1 ID: 9686d057-89a8-4308-aa3f-ed7cc720 Status: CREATING Created: Sat Feb 26 2022 3:27:17 PM	e7533 Copy CD8: false D8 Version: 19.14.0.0.220118 System Name: oda	Shape: odb1 Storage: ASM	Actions +	

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

Oracle Database Appliance
User Name * user1 COA Password @ Log/n Forgot password?

You can verify that user1 only has access to db5.



ORACLE	Database Appliance System: oda	Current User: user1 B Resources * Account * 0, Search DOA Documentation for
		Appliance Database Object Store Security Activity
Database	search Q, Sort by: Created: New to Old + R	Refresh Create Database Show All Databases
Database	Page of 1 (1 of 1 items) K < 1 > X	
Backup Policy	db5 ID: 19245968-7775-4e9c-9448-3ad44c41c5e1 Copy CD8: false Statute: CONFIGURED DB Version: 19.14.0.0.220118	Shape: odb1 Actions + Storages: ASM
	Created: Fri Feb 25 2022 11:14:18 PM System Name: oda	ator eye. Aum

Log in as odaadmin to review resources and user access.

Oracle Database Appliance
User Name * odaadmin
ODA Password D
Login Forgot password?

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

ORACLE	Database Appliance	System: oda Appliance	Current User: odaadmin Database Object Store Mor	Resources * Account * nitoring Security Multi-	Search ODA Documentation for User Access Activity Diagnostics
Database Database	pearch Q, Page of 1 (1-4 of 4 item) K < 1 > ×	Sort by:	Created: New to Old + Refre	esh Create Database	O Help
Database Home Storage Database Home Backup Policy	user2db1 ID: 9686d067-89a8-4308-aa3f-ed7cc72e7533 Copy Status: CONFIGURED Created: Sat Feb 26 2022 3:27:17 PM	Shape: odb1 Storage: ASM	Actions *		
	db5 ID: 19245968-7775-4e%-9448-3ad44c41c5e1 Copy Status: CONFIGURED Created: Fri Feb 25 2022 11:14:18 PM	CDB: false DB Version: 19.14.0.0.220118 System Name: oda	Shape: odb1 Storage: ASM	Actions *	
	db4 ID: deac01db-eaa8-414e-a511-aea042be3a18 Copy Status: CONFIGURED Created: Fri Feb 25 2022 5:51:50 PM	CDB: false DB Version: 19.14.0.0.220118 System Name: oda	Shape: odb1 Storage: ASM	Actions +	
	db3 ID: 324a42ea-bba2-477d-8bca-5a26af159ftc. Copy Status: CONFIGURED Created: Fri Feb 25 2022 5:45:50 PM	CDB: false DB Version: 19.13.0.0.211019 System Name: oda	Shape: odb1 Storage: ASM	Actions *	

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 web 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
- Step 2 Hardware Monitoring and Feature Tracking
- Step 3 Review Appliance Configuration
- Step 4 Review Storage Configuration
- Step 5 Review Network Status

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

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

ORACLE	Database Appliance		System: oda Appliance	Current User: odaade Database Object Sto	min 🗎 Resources 👻 Account re Monitoring Security Mu	n v 9, Search ODA Documentar ulti-User Access Activity Diag	tion for gnostic
Appliance Overview Compute Instances DB Systems	Basic Information Advanced I Node Name: scaoda7142.us.oracle.e Time) & Grid Infrastructure	nformation	e Oct 19 2021 11:29:20	GMT-0700 (Pacific Day	Refresh Download	€ Help	
Network CPU Pool	GI Version Home	Active Version Information	Active Version Information	Active Version Information	Software Version Information		
Oracle ASR Patch Manager	19.13.0.0.211019 /u01/app /19.13.0.0/grid	Oracle Clusterware active version on the cluster is [19.0.0.0.0]	The cluster upgrade state is [NORMAL]	The cluster active patch level is [573139142].	Oracle Clustenware version on node [scaoda7142] is [19.0.0.0]		
	 Database Homes Firmware Controller 						
	Firmware Disk						
	ILOM						
	BIOS						
	List of Operating System RP	Ms					

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



ORACLE	Database Appliance	System: oda Current User: odaadmin browner Account Applance Database Object Store Monitoring Security Mult	 Q₄ Search ODA Documentation for i-User Access Activity Diagnostics
Multi-User Access Users Roles	search Q, Page of 1 (1-5 of 5 items) × < 1 > ×	Sort by: User ID + Refresh Create User	O Help
Entitlements Resources	gnd ID: ee8625df-8bdf-49fe-9962-f600f69796fe Account Status: Active	Roles: ODA-GRID User Type: System	
	oakdroot ID: b196ba2f-1f30-49c6-81d6-624752febf15 Account Status: Active	Roles: ODA-OAKDROOT User Type: System	
	odaadmin ID: 63c082rb-de04-45dd-baed-66b569f0e808 Account Status: Active	Roles: ODA-ADMINISTRATOR User Type: System	
	oracle ID: e95a29bd-9d16-4c35-90ff-60258bh63664 Account Status: Active	Roles: ODA-D8 User Type: System	
	user1 ID: 41074189-6a90-4b0b-8a8d-d57d81342906 Account Status: Inactive	Roles: COA-DS Actions = User Type: Custom	

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**.



ORACLE	Database Applia	ince		System: oda Current User: o Appliance Database Obje	daadmin 🔋 Resource	s v Account v Q Search OCM Documentation for Security Multi-User Access Activity Diagnostics
Appliance Overview Compute Instances DB Systems Network CPU Pool Oracle ASR Patch Manager	Bask informa System Informa Disk Group In	tion Advanced Info mation ID: 5 Platform: X Data Disk Count: 2 CPU Core Count: 8 DCS Agent: 1 Gt: 1 Created: fr Host Name: 0 Domain Name: 0 Domain Name: 0 DNS Servers: 1 NTP Servers:	rmation e4ccd02-b380-4205-9ed6-7a2815 8-25 8.14.0.0.0 8.14.0.0.0 i Feb 25 2022 4:56:27 PM da ample.com MT 3.1.1	6238#7		Appliance × FAQs
	Name	Redundancy	Physical Total Space	Physical Free Space	Logical Free S	to deploy a single node appliance with the command odacii create-appliance.
	► DATA	FLEX	11.0 TB	10.0 TB	3.33 TB - 5.0 TE	Example JSON File to Create a Multi-Node Appliance
	▶ RECO	FLEX	490.0 G8	325.0 GB	108.33 GB - 16	with the CU Follow the JSON file example to create a JSON file to deploy a multi-node appliance with the command odacti create-appliance.

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

ORACLE	Database Applia	ince		System: oda Current User: o Appliance Database Obj	odaadmin 🔒 Resources 👻 ect Store Monitoring Sec	Account *	Q Search ODA Documentation for
Appliance Overview Compute Instances	Basic Informa System Inform	tion Advanced Info	rmation				Backup Config Backup Policy Database DB Sustem
DB Systems Network CPU Rool Oracle ASR Patch Manager		ID: 5 Platform: 20 Data Disk Count: 2 CPU Core Count: 8 DCS Agent: 19 Git 19 Created: Fr Host Name: or Domain Name: or Time Zone: G	e4ccd02-b380-420b-9ed6-7a2815 8-25 8.14.0.0.0 8.14.0.0.0 1 Feb 25 2022 4:56:27 PM da cample.com MT	6238#7			KVM
	Disk Group In Name DATA	DNS Servers: 1. NTP Servers: Iformation Redundancy FLEX	Physical Total Space 11.0 TB	Physical Free Space 10.0 TB	Logical Free Space 333 TB - 5.0 TB	Refresh	
	RECO	FLEX	490.0 GB	325.0 G8	108.33 GB - 162.5 G	8	

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.

ORACLE	Database Appliance	System: oda Current User: odaadmin Resources * Account	 Q Search ODA Documentation for Inter Arrest Articley Discovering
Monitoring Summary System Components Hardware View	Last Collection time: Sat Feb 26 2022 2:20:56 PM Status Login to the ILOM console of odasim-1 for more details.	Refresh	O Help
Storage	Subsystem	Status	
Node Components	► Storage	O ONLINE	
Hardware View	Memory	Øck	
Memory	Power	Øck	
Power	Cooling	Øck	
Cooling	Networking	Øck	
Networking			
Feature Tracking			
ORAchk Report			

Hardware Status





Storage

DRACLE	Database Appl	lance			System: oda	Current User: odaadmi	n 🗎 Resources 🔻	Account	* 9. Search	h ODA Documer	ntation fo
					Appliance	Database Object Store	Monitoring Sec	urity Mul	ti-User Access	Activity 0	Diagnostic
onitoring	1.000								O Help		
Summary	Storage										
System Components											
Hardware View											
Storage				2 ON	LINE (100%)						
Node Components											
Hardware View											
Hardware View											
Hardware View Memory Power				ONLINE C	OFFUNE CUNONOWIN						
Hardware View Memory Power Cooling	Name	State	Disk Type	Concore Concore	Disk Size(GB)	Multipath List	Total Sectors	5			
Hardware View Memory Power Cooling Networking	Name pd_00	State	Disk Type NVD	ONLINE ONLINE ASM Disk List data_00;reco_00	Disk Size(GB) 5961.63	Multipath List /dev/nvme0n1	Total Sectors 12502446768	5			
Hardware View Memory Power Cooling Networking Feature Tracking	Name pd_00 pd_04	State ONLINE ONLINE	Disk Type NVD NVD	ASM Disk List data_00/reco_00 data_04/reco_04	Disk Size(GB) 5961.63 5961.63	Multipath List /dev/nvme0n1 /dev/nvme1n1	Total Sectors 12502446768 12502446768	5 5'			

Hardware View



ORACLE	Database Appliance	System: oda Current User: odaadmin Resources * Account * Q, Search ODA Documentation for Applance Database Object Store Monitoring Security Multi-User Access Activity Diagnostics
Monitoring Summary	Node Hardware Components Click the hardware image to view the state and details.	O Help
System Components Hardware View	Top View	Rear View
Storage	FCIn Blacks (0711) PCIN 40400 5-11 PCIN 40400 5-6 215, 35, 45, 35, 46 PCIN 4040 5-6	Skr38. Prival spherianti Skr38. Prival spherianti Skr38. Strand Strand Strand Strand Strand Strand Skr38. Strand S
Node Components Hardware View Memory		Audio Ville - Vager -
Power		To an and the filler of the fi
Networking	Uncome.	Without San 20 Dimension
Feature Tracking		
ORAchk Report	For Machine (4)	
	Balk Doles (PTB	

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:

ORACLE	Database Appliance			Applance Datab	Current User: oda-ad	imin Account v 🔘 Help v
Monitoring	Feature Usage High Water Marks				-	
System Components	Last Collection time: Wed Jun 23 202	1 1:00:01 PM				Help
Storage	Feature Name	Category	Currently Used	Detected Usage	Total Samples	Last Detected Usage Tin
Node Components	Object Store	Object Store	false	0	1	
Hardware View	Automatic Service Request (ASR)	Server	false	0	1	
Memory						
Power						
Cooling						
Networking						
Feature Tracking						
ORAchk Report						

High Water Marks

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



ORACLE	Database Appliance	Appliance D	Current User: oda-admin A atabase Object Store Monitoring	ccount = 🕲 Hel
Monitoring Summary	Feature Usage High Water Marks search Q,			Help Downlos
System Components Hardware View	Last Collection time: Wed Jun 23 2021 1:00:01 PM			
Storage	Measured Feature Name	High Water Mark	Last Changed Time	Category
Node Components	Maximum usage of CPU	0.00 %	Wed Jun 23 2021 1:00:01 PM	DCS Agent
Hardware View	Maximum usage of Memory	331.29 MB	Wed Jun 23 2021 1:00:01 PM	DCS Agent
Memory	Maximum number of threads	91	Wed Jun 23 2021 1:00:01 PM	DCS Agent
Power	Maximum number of open file descriptors	48	Wed Jun 23 2021 1:00:01 PM	DCS Agent
Cooling	Maximum number of Object Store tenants	0	Wed Jun 23 2021 1:00:01 PM	Object Store
Networking	Maximum number of enabled CPU cores	2	Wed Jun 23 2021 1:00:01 PM	Server
Feature Tracking	Maximum number of disks	2	Wed Jun 23 2021 1:00:01 PM	Storage
ORAchk Report	Maximum number of ASM Disks Groups	0	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum size of ASM Disk Groups	0.00 bytes	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum usage of ASM Disk Groups	0.00 %	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum number of ASM Disks Groups with redundancy 'NORMAL'	0	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum number of ASM Disks Groups with redundancy 'HIGH'	0	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum number of ASM Disks Groups with redundancy 'EXTERN'	0	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum number of ASM Disks Groups with redundancy 'FLEX'	0	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum ASM Disk Groups compatibility		Wed Jun 23 2021 1:00:01 PM	Storage
	Minimum ASM Disk Groups compatibility		Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum number of non-ACFS file systems	3	Wed Jun 23 2021 1:00:01 PM	Storage
	Maximum size of non-ACFS file systems	465.72 GB	Wed Jun 23 2021 1:00:01 PM	Storage

Step 3 - Review Appliance Configuration

Oracle Database Appliance Command Line Interface

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. ODACLI assists in the fast deployment, patching, and easy management 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.

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
         Open Problems
Model
                                    : On
                                  : 0
                                    : ODA X7-2-HA
          Type
                                    : Rack Mount
          Part Number
                                    : ODA X7-2-HA
         Fait Number. ODA X/-2-IIASerial Number: 1750XD0003Primary OS: Not AvailableILOM Address: 10.145.203.81ILOM MAC Address: 00:10:E0:DA:CD:66
          Description
                                    : Oracle Database Appliance X7-2 High Availabi
lity 1750XD0003
                            : Off
          Locator Light
          Actual Power Consumption : 302 watts
          Ambient Temperature : 20.250 degree C
          Open Problems Report : System is healthy
```

Command: odacli describe-system

Description: Displays Oracle Database Appliance deployment status.

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

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 PO (CPU 0) Intel(R) Xeon(R) Gold 6140
                 _
                          NA
CP 2.300 GHz
                 18
     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 00CE02174337340008 P0/D0 Samsung 32 GB 2666 MHz 0
DIMM_11 OK - 3A4K40BB2-CTD 00CE0217433734000D P1/D0 Samsung 32 GB 2666 MHz 0
DIMM_12 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_19 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 00CE02174237318365 P1/D1 Samsung 32 GB 2666 MHz 0
DIMM_4 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_4 OK - 3A4K40BB2-CTD 00CE0217433734007B P0/D4 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 OU TPUT_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 32 % 6300 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 % 6800 RPM
Fan_6 OK - FM1 32 % 6300 RPM
Fan_6 OK - FM1 32 % 6300 RPM
Fan_7 OK - FM1 29 % 5100 RPM
Fan_8 OK - FM2 32 % 6300 RPM
Fan_9 OK - FM2 31 % 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 oda	admcli show disk			
	NAME	PATH	TYPE	
STATE	STATE D	ETAILS		
	e0_pd_00	/dev/sdbv	HDD	
ONLINE	Good			
	e0_pd_01	/dev/sdbw	HDD	
ONLINE	Good			
	e0_pd_02	/dev/sdbx	HDD	
ONLINE	Good			
	e0_pd_03	/dev/sdby	HDD	
ONLINE	GOOD		ממנו	
ONT THE	eu_pa_u4	/dev/sdbz	плл	
	el nd 15	/dev/sdca	асин	
ONLINE	Good	, acv, saca		
ONLINE	e0 pd 06	/dev/sdcb	HDD	
ONLINE	Good	, ,		
	e0 pd 07	/dev/sdcc	HDD	
ONLINE	Good			
	e0_pd_08	/dev/sdcd	HDD	
ONLINE	Good			



	e0_pd_09	/dev/sdce	HDD	
ONLINE	e0_pd_10	/dev/sdcf	HDD	
ONLINE	Good e0_pd_11	/dev/sdcg	HDD	
ONLINE	Good e0 pd 12	/dev/sdch	HDD	
ONLINE	Good e0 pd 13	/dev/sdci	HDD	
ONLINE	Good	/dev/sdci	НОП	
ONLINE	Good	/dev/adala		
ONLINE	eu_pd_15 Good	/dev/sack	550	
ONLINE	eU_pd_16 Good	/dev/sdcl	SSD	
ONLINE	e0_pd_17 Good	/dev/sdcm	SSD	
ONLINE	e0_pd_18 Good	/dev/sdcn	SSD	
ONT.TNF	e0_pd_19 Good	/dev/sdco	SSD	
ONI TNE	e0_pd_20	/dev/sdcp	SSD	
	e0_pd_21	/dev/sdcq	SSD	
ONLINE	e0_pd_22	/dev/sdcr	SSD	
ONLINE	Good e0_pd_23	/dev/sdcs	SSD	
ONLINE	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 o	daadmcli show fs				
Туре	Total Space	Free Space	Total DG Space	Free DG Space	Diskgroup
Mount Po	int				
ext3	30109M	25254M	-	-	
/					
ext3	476M	405M	-	-	
/boot					
ext3	60347M	22117M	-	-	
/opt					
ext3	100665M	72839M	_	-	
/u01					
acfs	5120M	4625M	112116480M	111977204M	DATA
/opt/ora	cle/dcs/commonsto	re			

Command: odaadmcli show raidsyncstatus

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

\$ sudo od	aadmcli show 1	raidsyncstatus		
Raid Type ercentage	Raid Device	Partitions	RaidStatus Recovery	RecoveryP
S/W Raid N/A	md0	sdb2 sda2	UU No	
S/W Raid N/A	mdl	sdb3 sda3	UU No	

Command: odaadmcli show storage



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

```
$ sudo odaadmcli show storage
==== BEGIN STORAGE DUMP ======
Host Description: Oracle Corporation: ORACLE SERVER X7-2
Total number of controllers: 2
             Тd
                       = 0
             Serial Num = 500605b00d3e88c0
             Vendor = LSI Logic
                      = ORCL-EXT-SAS3
             Model
             FwVers
                      = 13.00.00.00
             strId = mpt3sas:3b:00.0
                       = 1
             Id
             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
             Model
                      = DE3-24C
             FwVers = 0306
strId = Secondary
             WWN
                       = 50800200022e41be
             Τd
                       = 1
             Serial Num = 50800200022f163f
             Vendor = ORACLE
                     = DE3-24C
             Model
             FwVers
                       = 0306
             strId
                       = Primary
                       = 50800200022e447e
             WWN
Total number of PDs: 24
             /dev/sdaa
                            HGST
                                             HDD 9796gb slot: 0 exp: 0
                                                                            Η
7210A520SUN010T
             /dev/sdab
                            HGST
                                             HDD 9796qb slot: 1
                                                                  exp: 0
                                                                            Η
7210A520SUN010T
             /dev/sdac
                            HGST
                                             HDD 9796qb slot: 2
                                                                  exp: 0
                                                                            Η
7210A520SUN010T
             /dev/sdad
                            HGST
                                             HDD 9796qb slot: 3
                                                                  exp: 0
                                                                            Η
7210A520SUN010T
             /dev/sdae
                                             HDD 9796qb slot: 4
                            HGST
                                                                  exp:
                                                                        0
                                                                            Η
7210A520SUN010T
             /dev/sdaf
                            HGST
                                              HDD 9796qb slot: 5 exp: 0
                                                                            Н
```



7210A520SUN010T		
/dev/sdag	HGST	HDD 9796gb slot: 6 exp: 0 H
7210A520SUN010T		
/dev/sdah	HGST	HDD 9796gb slot: 7 exp: 0 H
/210A520SUN010T	UCCU	UDD 0706ab alet. 9 orm. 0 U
721025205UN010T	ПGЭТ	HUD 9790gb SIOL: 6 exp: 0 H
/dev/sdaj	HGST	HDD 9796qb slot: 9 exp: 0 H
7210A520SUN010T		5 1
/dev/sdak	HGST	HDD 9796gb slot: 10 exp: 0 H
7210A520SUN010T		
/dev/sdal	HGST	HDD 9796gb slot: 11 exp: 0 H
7210A520SUN010T	UCCIII	1000070 (which all at the 10 percent of 11
/ UEV / SUAIII 72107520500100	HGSI	HUD 9796gb SIOL: 12 exp: 0 H
/210A32030N0101 /dev/sdan	HGST	HDD 9796ab slot: 13 exp: 0 H
7210A520SUN010T	11001	
/dev/sdao	HGST	HDD 9796gb slot: 14 exp: 0 H
7210A520SUN010T		
/dev/sdap	HGST	SSD 3200gb slot: 15 exp: 0 H
BCAC2DH2SUN3.2T	ност	
	HGST	55D 3200gb Slot: 16 exp: 0 H
/dev/sdar	HGST	SSD 3200ab slot: 17 exp: 0 H
BCAC2DH2SUN3.2T	11001	000 0200go 0100. 17 exp. 0 11
/dev/sdas	HGST	SSD 3200gb slot: 18 exp: 0 H
BCAC2DH2SUN3.2T		
/dev/sdat	HGST	SSD 3200gb slot: 19 exp: 0 H
BCAC2DH2SUN3.2T	HOOT	
/dev/sdau	HGST	SSD 800gb slot: 20 exp: 0 H
bCAC2DH4SUN0UUG /dev/sdav	HGST	SSD 800ab slot · 21 exp· 0 H
BCAC2DH4SUN800G	11001	55D 000gb 510C. 21 CAP. 0 11
/dev/sdaw	HGST	SSD 800qb slot: 22 exp: 0 H
BCAC2DH4SUN800G		
/dev/sdax	HGST	SSD 800gb slot: 23 exp: 0 H
BCAC2DH4SUN800G		
==== END STORAGE DUMP ====		

Step 5 - Review Network Status

Review the following ${\tt odaadmcli}$ command 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 odaadm	cli show netwo	rk				
NAME	HEAL	TH HEALTH_DETAILS	LOCATION	PART_NO	MANUFACTURER	MAC_A
DDRESS	LINK_DETECTED	DIE_TEMP				
Ether	net_NIC_0 OK	_	NET0	i210	INTEL	00:10
:E0:DA:CD:62	no (eml)	N/A				
Ether	net_NIC_1 OK	-	NET1	BCM5741	7Broadcom	00:10
:E0:DA:CD:63	yes (em2)	N/A				
Ether	net_NIC_2 OK	-	NET2	BCM5741	7Broadcom	00:10
:E0:DA:CD:64	yes (em3)	N/A				
Ether	net_NIC_3 -	-	NET3	X540	INTEL	00:0A
:F7:CF:36:38	yes (p1p2)	-				
Ether	net_NIC_4 -	-	NET4	X540	INTEL	00:0A
:F7:CF:36:30	yes (plpl)	-				

This concludes Lab 6.

