

Step-by-Step Instructions to Prepare for OCI Full Stack Disaster Recovery

Describes how to setup OCI Full Stack Disaster Recovery plan and execute it for Oracle Analytics Server on Oracle Cloud.

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Revision History

The following revisions have been made to this document since its initial publication.

DATE	REVISION
May 2024	Initial publication

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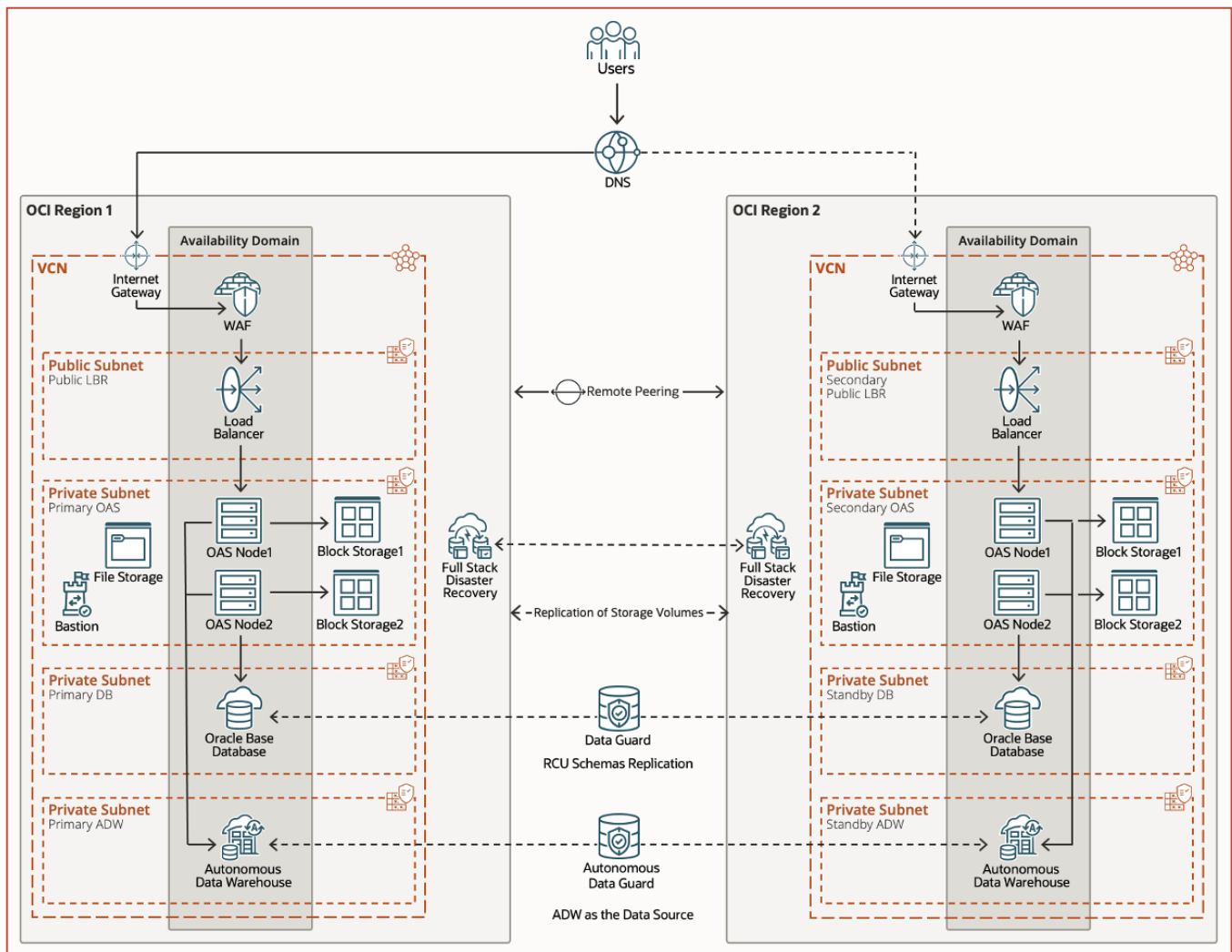
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Architecture



About Full Stack Disaster Recovery

Refer to the Full Stack DR documentation for more information, [Overview of Full Stack Disaster Recovery](#).

Also, refer to the documentation to understand the [Full Stack Disaster Recovery Terminology](#).

Refer to the OAC Full Stack DR Deployment documentation for more information on Full Stack DR, how it works, and Full Stack DR terminology [Oracle Analytics Cloud Disaster Recovery automation using the OCI Full Stack Disaster Recovery](#).

Using this OCI feature, you can manage Oracle Analytics Server Disaster Recovery (DR) from one OCI region to another on Oracle Cloud.

There are two DR models with OCI Full Stack DR for OAS DR.

1. **Cold Standby:** A DR model in which very few or none of the components of the secondary OAS environment need to be pre-deployed in the standby region in preparation for a future DR transition. The OAS secondary environment is deployed as part of the DR transition. This model involves lower operating costs but a higher RTO.
2. **Warm Standby:** A DR model in which all the components of the secondary OAS environment are pre-deployed in the standby region to prepare for a future DR transition. This model involves higher operating costs but a lower RTO.

For **Cold Standby**, you must create the Standby DBCS and ADW instances using Data Guard in the OCI secondary region before Full Stack DR DR plan execution. Also, some components like VCN with the Subnets, Security Rules, and Network Security Groups should be configured for the OCI secondary region in the existing compartment created for the primary region.

During the FDSR DR plan execution, Full Stack DR orchestrates the primary DBCS and ADW switchover to standby, creates new compute instances for OAS, and starts OAS by calling the respective start-up scripts on the OAS compute VMs. The rest of the components are created at the DR plan execution time, hence the higher RTO.

For **Warm Standby**, you must create all the components like DBCS, ADW, VCN, Subnets, Security Rules, Network Security Groups, OAS Compute Instances, and Block Volumes and attach them to the compute instances and Load Balancer (all components that OAS DR requires) before Full Stack DR DR plan execution.

During the FDSR DR plan execution, Full Stack DR orchestrates the primary DBCS and ADW switchover to standby and starts all required compute instances and OAS by calling the respective start-up scripts on the OAS compute VMs. It also maps the Load Balancer IP Address to the required DNS Name (in the future release of Full Stack DR). As the components are created before the DR plan execution, it results in a lower RTO.

Refer to the blogs to configure the DR environment,

1. [Disaster Recovery for Oracle Analytics Server on Oracle Cloud Using RCU Schemas and Block Volume Replication.](#)
2. [Disaster Recovery for Oracle Analytics Server on Oracle Cloud Using RCU Schemas Replication and File System Replication with Rsync.](#)

NOTE: If the DBCS doesn't have a common connection string between the primary and standby, you may need to create a script to change the connection strings in the backend OAS compute VM files.

Prerequisites for Full Stack DR

- Based on your environment's components and resources, create an IAM policy with all the required access and permissions to the OCI components and resources for Full Stack DR.
- ADW should be configured for Standby in the OCI DR (Secondary) region using the Autonomous Data Guard.
- Using the Data Guard, DBCS should be configured for Standby in the OCI DR (Secondary) region.

- Create a Secret in an OCI Vault as Full Stack DR reads the DBCS admin password from a Secret in both the OCI regions.
- Create a Bucket Storage to store Full Stack DR logs in both the OCI regions.
- Ensure the Block Volume and File System mount instructions are entered in each OAS compute node's/etc/fstab file.
- Volume Group should be created with all the required Block and Boot Volumes of the OAS Compute nodes.
- Replicate the Volume Group to the OCI DR (Secondary) region.
- Replicate the File System to the OCI DR (Secondary) region.
- Create the Mount Target for the File System in the OCI DR (Secondary) region.
- Create Ingress and Egress Security Rules to access File System in the Private Subnet used for OAS and File System in the primary OCI region.
- Load Balancer should be configured as the front end for the OAS Compute nodes in the OCI primary region.
- In the OCI DR (secondary) region, a Load Balancer with the same SSL Certificates, Listener, Hostname, Rule sets, etc., should be configured as the primary LB, except for the Backends.
- Update the /etc/fstab file in the compute VMs with the File Storage details.

/etc/fstab entries as below:

```
[root@oas4fsdr2 opc]# cat /etc/fstab
#
# /etc/fstab
# Created by anaconda on Tue Jun 13 18:17:27 2023
#
# Accessible filesystems, by reference, are maintained under '/dev/disk'
# See man pages fstab(5), findfs(8), mount(8) and/or blkid(8) for more info
#
UUID= / xfs defaults,_netdev,_netdev 0 0
UUID= /boot/efi vfat defaults,uid=0,gid=0,umask=0077,shortname=winnt,_netdev,_netdev,x-initrd.mount 0 0
UUID= swap defaults,_netdev,x-initrd.mount 0 0
#####
## ORACLE CLOUD INFRASTRUCTURE CUSTOMERS
##
## If you are adding a iSCSI remote block volume to this file you MUST
## include the '_netdev' mount option or your instance will become
## unavailable after the next reboot.
## SCSI device names are not stable across reboots; please use the device UUID instead of /dev path.
##
## Example:
## UUID=" " /data1 xfs defaults,noatime,_netdev 0 2
##
## More information:
## /connectingtoavolume.htm
/dev/vg_app/vg_app-lv_app /u02/app ext4 defaults,noatime,nodiratime,nodev,_netdev 0 2
/dev/vg_data/vg_data-lv_data /u02/data ext4 defaults,noatime,nodiratime,nodev,_netdev 0 2
/dev/sdb /u01 ext4 defaults,_netdev,nofail 0 2
10.0.3.225:/FileSystem-20240516-0737-27 /sdd nfs defaults,nofail,nosuid,resvport 0 0
[root@oas4fsdr2 opc]#
```

This document covers the **Cold Standby** or **Moving Resources** scenario.

OCI components involved in the Full Stack DR Cold Standby approach are as follows:

OCI Region 1 (Primary region)		OCI Region 2 (DR region)
ADW Instance (Primary)	Create a Standby in the DR region using the Autonomous Data Guard	ADW Instance (Standby)
DBCS Instance (Primary)	Create a Standby in the DR region using the Data Guard	DBCS Instance (Standby)
Boot Volume of the OAS Compute VMs	Full Stack DR manages during the plan execution	
Block Volume of the OAS Compute VMs	Full Stack DR manages during the plan execution	
File System attached to OAS Compute VMs	Full Stack DR manages during the plan execution	
OAS Compute VMs	Full Stack DR manages during the plan execution	
Bastion Server to access private OAS nodes	Should be created in both regions prior to Full Stack DR Plan	Bastion Server to access private OAS nodes
Load Balancer	Should be created in both regions prior to Full Stack DR Plan	Load Balancer
Web Application Firewall (If needed)	Should be created in both regions prior to Full Stack DR Plan	Web Application Firewall (If needed)

Upon failover, Full Stack DR moves the OAS compute VMs, Block Volumes, and File Systems from the primary region to the DR region.

Similarly, Full Stack DR switches the resource/components from the DR region to the primary region.

NOTE: In a non-moving scenario, i.e., Warm Standby, all resources/components should exist in both regions and be configured before the Full Stack DR execution. Full Stack DR only orchestrates the switchover of the ADW and DBCS and starts the OAS compute VMs and the OAS application to make the DR region resources available to the end users.

Key points to remember

Full Stack DR allows the creation of the DR plans only from the secondary/standby DR protection group.

When switching from primary to secondary, create the DR Plan and execute it from the secondary OCI region.

When falling back from the secondary to the initial primary, create the DR Plan and execute it from the initial primary OCI region.

Create an IAM Policy for Full Stack DR

Refer to the blog, [Configuring Identity and Access Management \(IAM\) policies to use Full Stack DR](#).

Create a Group in the IAM Domain where the OCI resources are associated

E.g., OracleIdentityCloudService (domain), Default (domain), etc.

Create a group called “FullStackDRGroup” in the OracleIdentityCloudService (IAM Domain) and add the required users to it.

Create a Dynamic Group

The screenshot shows the Oracle Cloud console interface. The breadcrumb navigation at the top indicates the path: Identity > Domains > OracleIdentityCloudService domain > Dynamic groups. The main heading is 'Dynamic groups in OracleIdentityCloudService Domain'. On the left sidebar, the 'Dynamic groups' link is highlighted with a red box. In the main content area, there is a 'Create dynamic group' button and a 'Delete' button, both highlighted with red boxes. Below these buttons is a table listing dynamic groups. The first row, 'fullstackdr-dg', is highlighted with a red box. The table has columns for Name, Description, and Created. The 'fullstackdr-dg' group has the description 'Full Stack DR Dynamic Group' and was created on 'Fri, May 17, 2024, 10:50:29 UTC'. The other three groups are 'language-service-dyn-grp-for-async-job', 'language-service-dyn-grp-for-custom-models', and 'ESSBASEMP'. At the bottom of the table, it says '0 selected' and 'Displaying 4 dynamic groups < Page 1 >'.

Name	Description	Created
fullstackdr-dg	Full Stack DR Dynamic Group	Fri, May 17, 2024, 10:50:29 UTC
language-service-dyn-grp-for-async-job	Dynamic Group for Language Service Async Job	Tue, Mar 26, 2024, 04:28:50 UTC
language-service-dyn-grp-for-custom-models	Dynamic Group for Language Service custom models	Tue, Mar 26, 2024, 04:25:51 UTC
ESSBASEMP		Thu, Feb 22, 2024, 06:44:16 UTC

Rule as

All {instance.compartment.id = '<compartment ocid value>'}

Policy Statements are as follows

Allow group OracleIdentityCloudService/FullStackDRGroup to manage disaster-recovery-family in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage buckets in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage objects in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage databases in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage autonomous-databases in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage instance-family in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage instance-agent-command-family in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage volume-family in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to read virtual-network-family in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to use subnets in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to use vnics in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to use network-security-groups in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to use private-ips in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to read fn-app in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to read fn-function in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to use fn-invocation in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup use tag-namespaces in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup read vaults in compartment oasmp

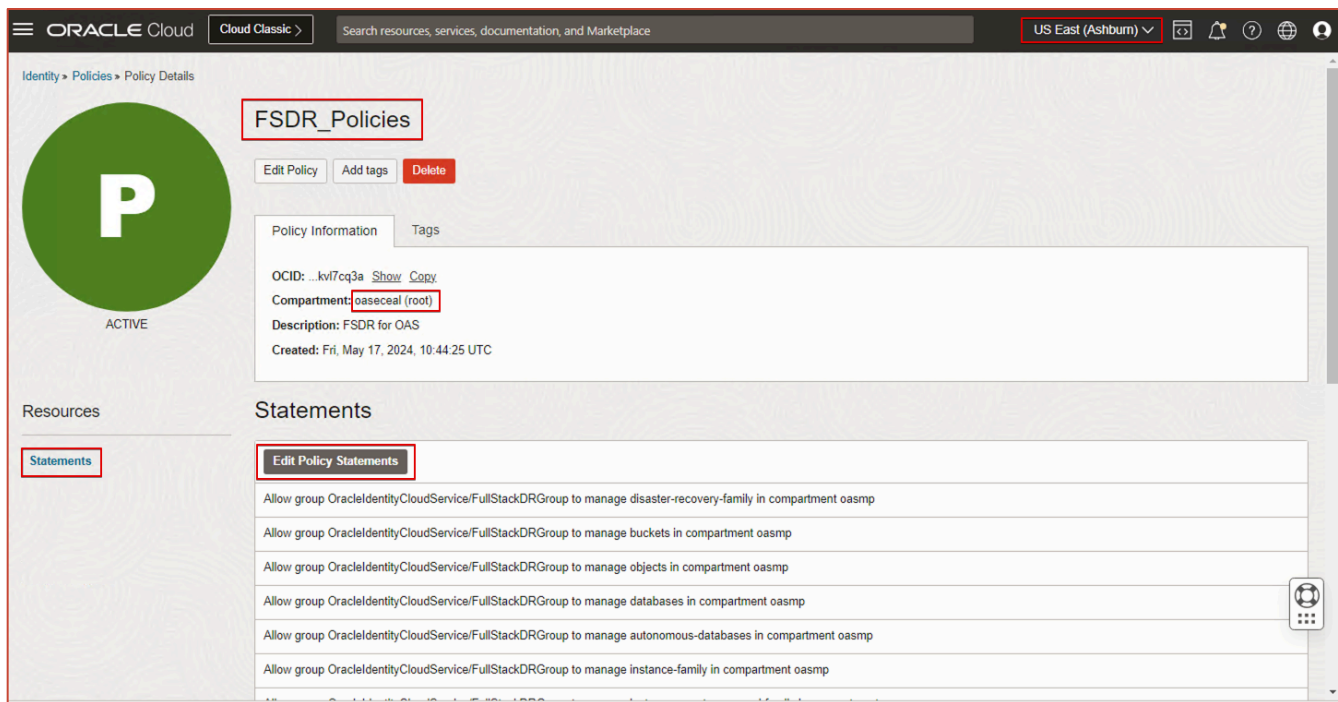
Allow group OracleIdentityCloudService/FullStackDRGroup read secret-family in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage load-balancers in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage network-load-balancers in compartment oasmp

Allow group OracleIdentityCloudService/FullStackDRGroup to manage file-family in compartment oasmp

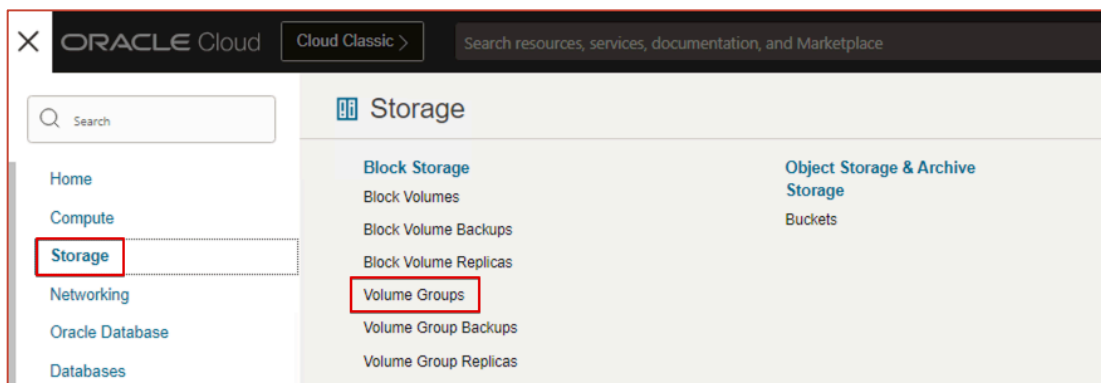
Allow dynamic-group OracleIdentityCloudService/fullstackdr-dg to use instance-agent-command-execution-family in compartment oasmp

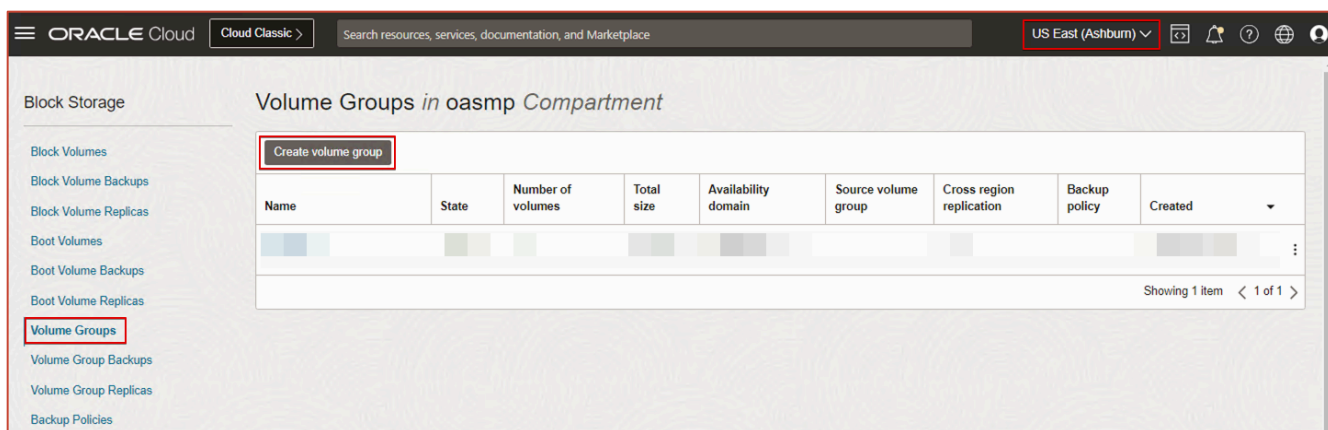


Create a Volume Group and Replicate it

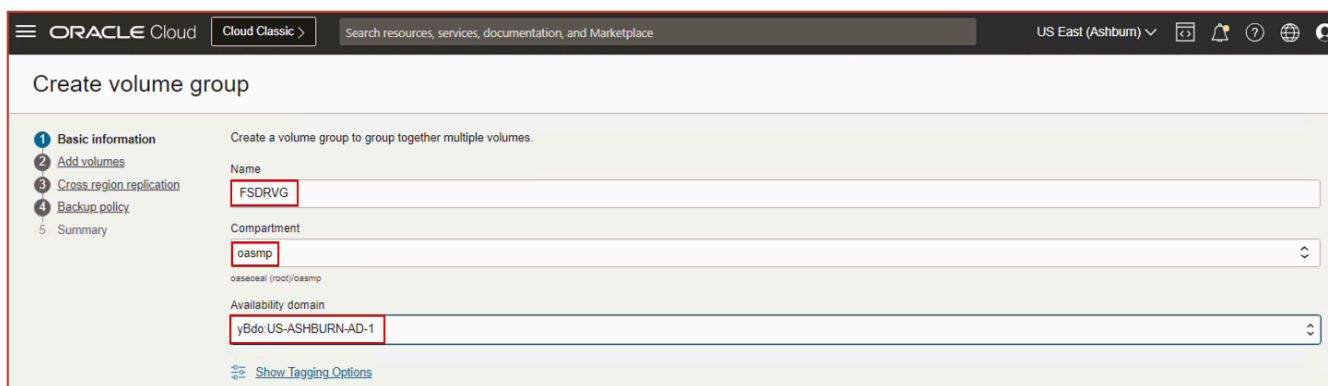
Sign in to the OCI Console

Navigate to Storage → Volume Groups → Create volume group.

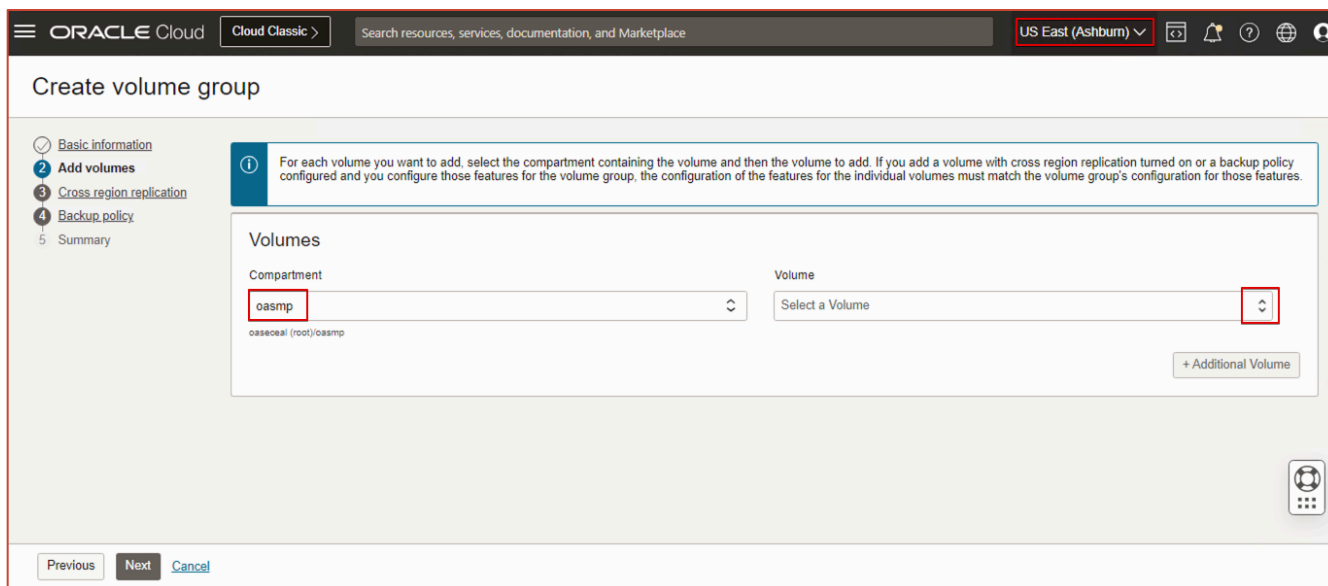




Create a Volume Group.



Click "Next".



Select the Volume needed to be added to the Volume Group.

1. Boot Volume of the OAS compute instance 1
2. Block Volume of the OAS compute instance 1
3. Boot Volume of the OAS compute instance 2
4. Block Volume of the OAS compute instance 2

Add the Boot and Block volumes of all the OAS nodes in the cluster.

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Edit volume group

- Basic information
- Add or remove volumes**
- Cross region replication
- Backup policy
- Summary

For each volume you want to add, select the compartment containing the volume and then the volume to add. If you add a volume with cross region replication turned on or a backup policy configured and you configure those features for the volume group, the configuration of the features for the individual volumes must match the volume group's configuration for those features.

Compartment	Volume
oasmp oassecal (root)/oasmp	oas4fsdr2 (Boot Volume)
oasmp oassecal (root)/oasmp	oas4fsdr1 (Boot Volume)
oasmp oassecal (root)/oasmp	OASFSDRBV2
oasmp oassecal (root)/oasmp	OASFSDRBV

+ Additional Volume

Previous **Next** Cancel

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Create volume group

- Basic information
- Add volumes
- Cross region replication**
- Backup policy
- Summary

Cross region replication

Enable asynchronous cross region volume replication. [Learn more](#)

☒ ON ☐ OFF

TARGET REGION: US West (Phoenix) AVAILABILITY DOMAIN: yBdo.PHX-AD-1 VOLUME GROUP REPLICIA NAME: FSDRVG_R

Once this feature is enabled, the volume group will be replicated in the selected region and availability domain and your bill will include applicable storage and networks costs for the volume group replica in the destination region. [Learn more](#)

☒ Confirm

Click "Next".

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Create volume group

- Basic information
- Add volumes
- Cross region replication
- Backup policy**
- Summary

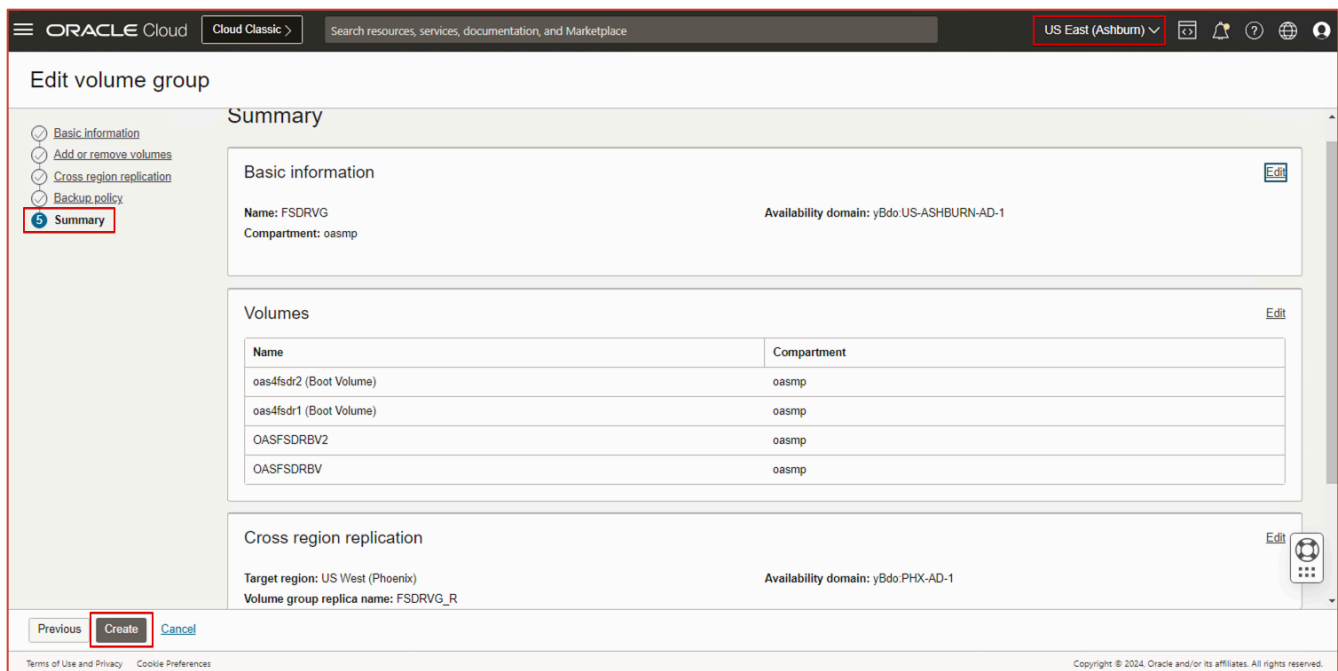
Backup policies

Select backup policy in oasmp ([Change compartment](#))

None Available

Next

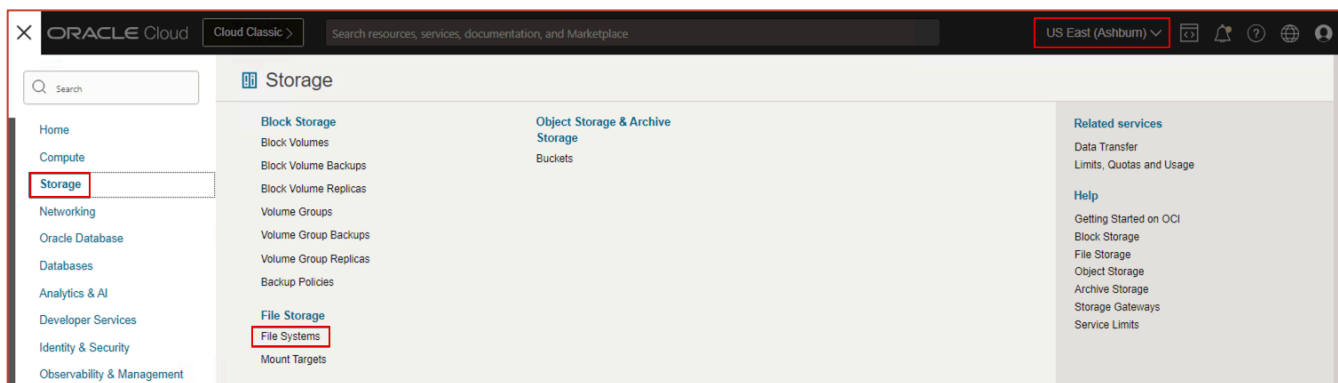
Click "Next".



Replicate the File System

Sign in to the OCI Console

Navigate to Storage → File Systems.



Select the existing File System mounted to the OAS compute instances.

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File Storage File Systems in oasmp Compartment

File Storage provides durable, scalable, secure, enterprise-grade network File Systems that you can connect to from any bare metal, virtual machine, or container instance in your Virtual Cloud Network (VCN). [Watch a video introduction.](#)

Create File System Delete

☐	Name	State	Availability Domain	Utilization ⓘ	Created	
☐	FileSystem-20240516-0737-27	Active	yBdo.US-ASHBURN-AD-1	57.572 MiB	Thu, May 16, 2024, 07:38:13 UTC	

0 selected Showing 1 item < 1 of 1 >

List scope

Compartment

oasmp

oasecel (root)/oasmp

Create a replication

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File Storage File Systems File System details

FileSystem-20240516-0737-27

Rename Move resource Add tags Delete

File System information Tags

General properties

OCID: ...zqaaa Show Copy

Created: Thu, May 16, 2024, 07:38:13 UTC

Utilization: 57.572 MiB ⓘ

Availability Domain: yBdo.US-ASHBURN-AD-1

Compartment: oasecel (root)/oasmp

Encryption

Encryption key: Oracle-managed key Edit

Replication

Targetable: False ⓘ

Replication Target: - ⓘ

Snapshot Policy

Snapshot Policy: - ⓘ

Clones

Hydration: Complete ⓘ

Source Snapshot: - ⓘ

Parent File System: - ⓘ

Clone root: False ⓘ

Descendants: False ⓘ

Exports

Create Export Delete

☐	Export path	State	Mount Target	Created
☐	/FileSystem-20240516-0737-27	Active	MountTarget-20240516-0737-27	Thu, May 16, 2024, 07:38:27 UTC

0 selected Showing 1 item < 1 of 1 >

Resources

Exports

Snapshots

Replications

Snapshot Policy

Metrics

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Resources

Exports

Snapshots

Replications

Snapshot Policy

Metrics

Filters

State

Replications

Estimate the time required to replicate this File System Replication estimator

Create Replication Delete

☐	Name	State	Replication interval in minutes	Recovery point time	Created
No items found.					

0 selected Showing 0 items < 1 of 1 >

Use the same File System name mounted to the OAS compute instances while creating the Replication. E.g., FileSystem-20240516-0737-27

Using the same File System name makes identifying the replicated File System easy. You can use any name.

Create Replication

Replication information

Name:

☐ Use existing target File System ☒ Create new target File System

1 Creates an unexported File System in the specified region and availability domain that is used as the target File System for replicated data.

Name: Enter the same File System name that is mounted to the OAS compute instances.

Target region:

Availability Domain:

Create in Compartment:

Encryption: ☒ Encrypt using Oracle-managed keys

Replication interval:

There will be a replication File System created in the OCI Secondary region i.e., Phoenix.

File Systems in oasmp Compartment

File Storage provides durable, scalable, secure, enterprise-grade network File Systems that you can connect to from any bare metal, virtual machine, or container instance in your Virtual Cloud Network (VCN). [Watch a video introduction.](#)

Name	State	Availability Domain	Utilization	Created
FileSystem-20240516-0737-27	Active	yBdo PHX-AD-1	0 B	Wed, May 22, 2024, 20:57:52 UTC

Create a Mount Target for the File System in the OCI Secondary Region

Get the Mount Target name from the primary region and create the Mount Target in the secondary region with the same name.

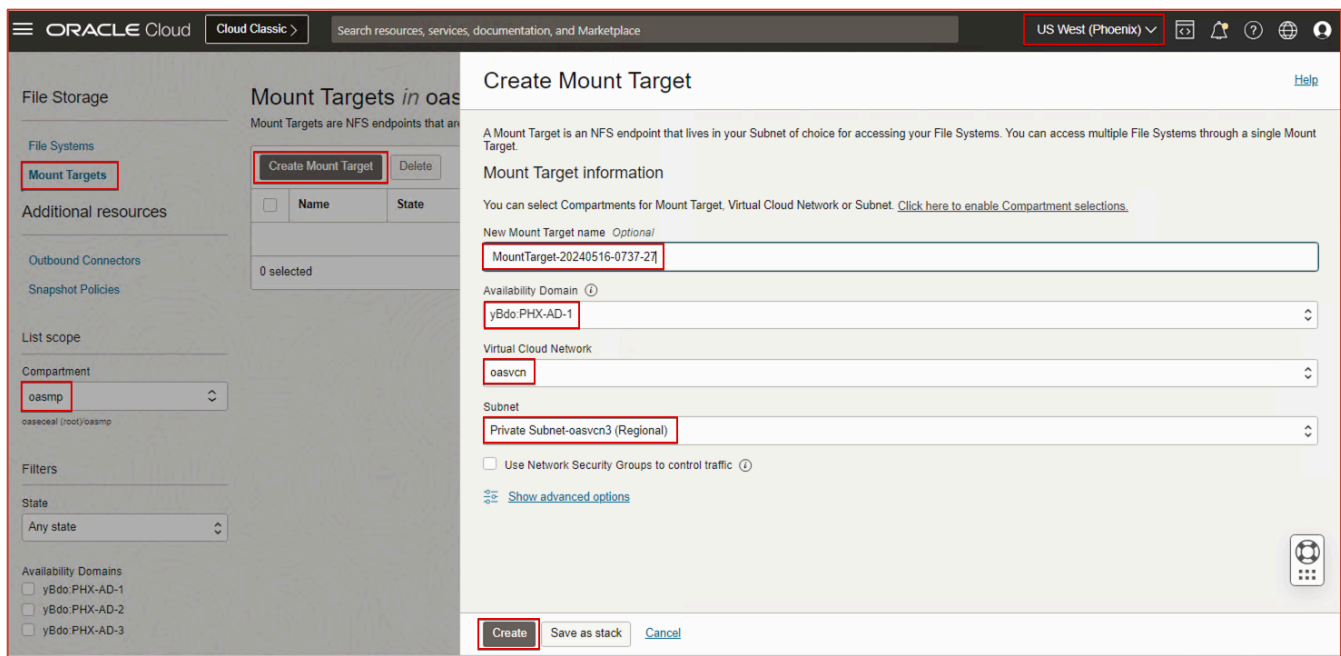
Mount Targets in oasmp Compartment

Mount Targets are NFS endpoints that are used to access File Systems.

Name	State	Availability Domain	Virtual Cloud Network	Subnet	IP address	Created
MountTarget-20240516-0737-27	Active	yBdo:US-ASHBURN-AD-1	oasvcn	Private Subnet-oasvcn3	10.0.3.225	Thu, May 16, 2024, 07:38:16 UTC

Create the Mount Target with the same name in the OCI Secondary (DR) region.

Using the same Mount Target name makes identifying the replicated File System's Mount Target easy. You can use any name.



Prepare OAS Compute Nodes to run Commands using the OCI Cloud Agent

After the OAS compute instances are created, OAS services should be started. To start the OAS services, `start.sh` script on the `DOMAIN_HOME` must be run on the primary OAS node, and the `startNodeManager.sh` script must be run on the secondary OAS instances.

To run such scripts or commands on the OAS compute instances using the Full Stack DR, you need the OCI Cloud Agent with run commands privileges. For more information, refer to the documentation, [Running Commands on an Instance](#).

Running Commands with Administrator Privileges

If a command requires administrator permissions, you must grant administrator permissions to the Compute Instance Run Command plugin to be able to run the command. The plugin runs as the **ocarun** user.

The OCI Cloud Agent connects to the OAS compute instances as an **ocarun** user, then changes to an **oracle** user and runs the required scripts and commands.

To perform such actions, the **ocarun** user needs `sudo` permissions on the Linux instances.

Grant `sudo` permissions on OAS compute instances

1. On the instance, create a `sudoers` configuration file for the Compute Instance Run Command plugin:

```
vi ./101-oracle-cloud-agent-run-command
```

2. Allow the **ocarun** user to run all commands as `sudo` by adding the following line to the configuration file:

```
ocarun ALL=(ALL) NOPASSWD:ALL
```

You can optionally list specific commands. See the Linux man page for `sudoers` for more information.

3. Validate that the syntax in the configuration file is correct:

```
visudo -cf ./101-oracle-cloud-agent-run-command
```

If the syntax is correct, the follow message is returned:

```
./101-oracle-cloud-agent-run-command: parsed OK
```

4. Add the configuration file to `/etc/sudoers.d`:

```
sudo cp ./101-oracle-cloud-agent-run-command /etc/sudoers.d/
```

Create Ingress and Egress Security Rules to access the File System on the OCI Secondary (DR) Region

Add the Ingress and Egress security rules for the private subnet (172.0.3.0/24) used for OAS compute VMs with the required ports and protocols TCP and UDP.

Ingress:

TCP: 111,2048,2049,2050.

UDP: 111,2048.

Egress:

TCP: 111,2048,2049,2050

UDP: 111.

Configure Load Balancer for the OAS Compute Instances

Load Balancer should be configured as the front end for the OAS Compute nodes in the OCI primary region.

Configure an OCI Load Balancer for the OAS cluster environment. For more information, refer to the blog [SSL Offloading at Oracle Cloud Infrastructure \(OCI\) Load Balancer for Oracle Analytics Server on Oracle Cloud Marketplace](#).

In the OCI DR (secondary) region, a Load Balancer with the same SSL Certificates, Listener, Hostname, Rule sets, etc., should be configured as the primary LB, except for the backends in a moving OAS compute instance type.

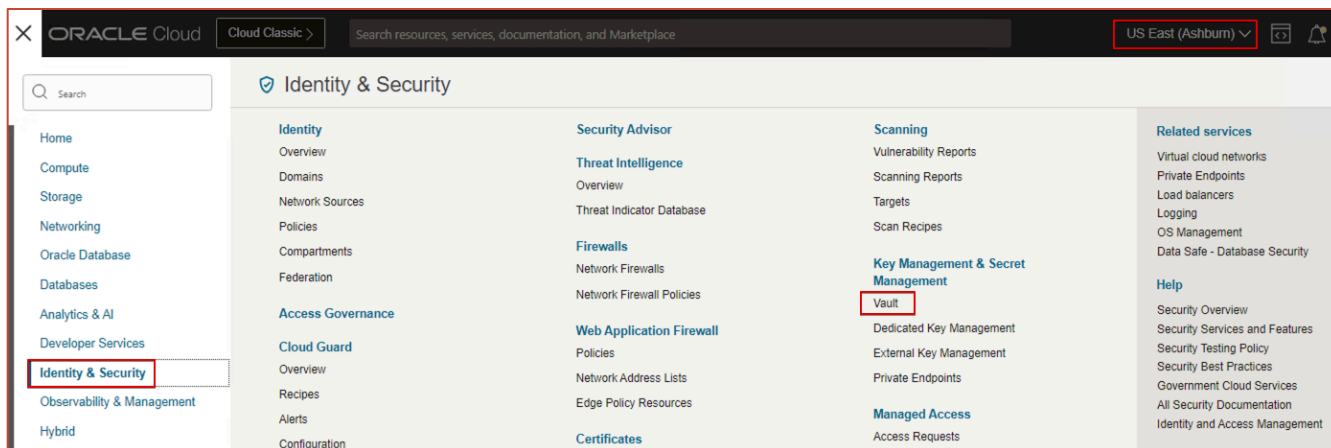
During the DR plan execution, the Load Balancer backends, i.e., the OAS compute instances, will be removed from the primary region LB. Once the OAS compute instances are created in the secondary region, they get added to the secondary region LB as backends.

Create a Secret Key in a Vault for the Admin Password of DBCS

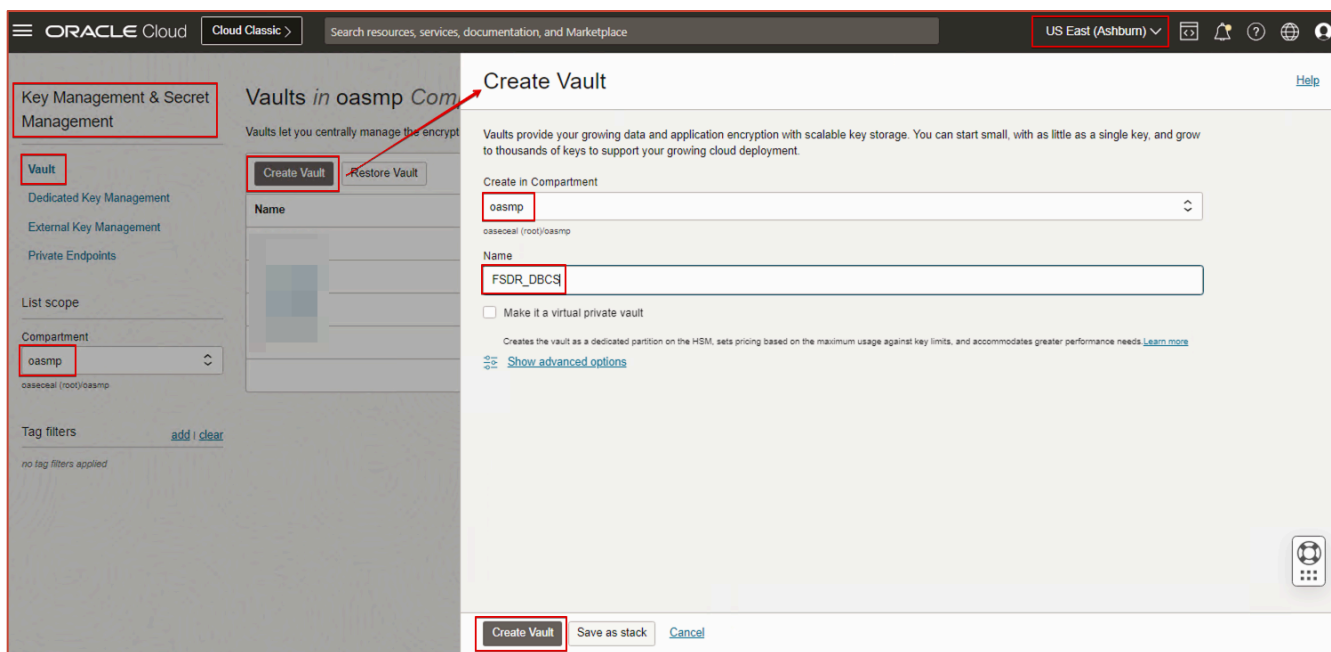
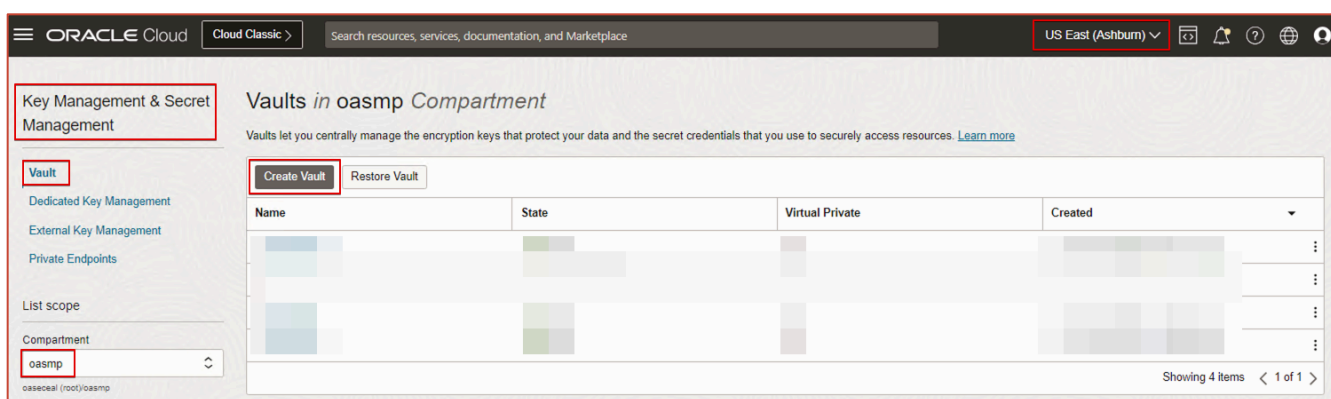
When you have an Oracle DBCS instance as a member of Full Stack DR, it needs the admin password to switch from the primary to the standby instance. The admin password cannot be entered as plain text; Full Stack DR reads it from a Secret in a Vault.

Sign in to the OCI Console

Navigate to Identity & Security → Key Management & Secret Management → Vault



Create a Vault



Create a Master Encryption Key

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Key Management & Secret Management Vault Vault Details

FSDR_DBCS

Edit Name Add tags Move Resource Delete Vault

Vault Information Tags

General information

Compartment: oaseceal (root)/oasmp
 OCID: ..micaea Show Copy
 Created: Fri, May 24, 2024, 08:46:16 UTC

Virtual Private: No
 Cryptographic Endpoint: <https://ejtfau6xaaaak-crypto.kms.us-ashburn-1.oraclecloud.com>
 Management Endpoint: <https://ejtfau6xaaaak-management.kms.us-ashburn-1.oraclecloud.com>

Resources

Master Encryption Keys

Create Key

Name	State	Protection Mode	Algorithm	Created
No items found.				

ORACLE Cloud Cloud Classic Search resources, services, documentation, and Marketplace US East (Ashburn)

Key Management & Secret Management Vault Vault Details

FSDR_DBCS

Edit Name Add tags Move Resource

Vault Information Tags

General information

Compartment: oaseceal (root)/oasmp
 OCID: ..micaea Show Copy
 Created: Fri, May 24, 2024, 08:46:16 UTC

Create Key

Create in Compartment: oasmp

Protection Mode: HSM

Name: ducs_encrypt_key

Key Shape: Algorithm: AES (Symmetric key used for Encrypt and Decrypt) Key Shape: Length: 256 bits

☐ Import External key You can also import a Key given and manged by your organization.

Create a new key by importing a wrapped file containing key data that matches the specified key shape. For more information, see [Importing Keys](#).

Show advanced options

Create Key Cancel

Create a Secret and encrypt it using the Master Encryption Key.

ORACLE Cloud

Cloud Classic >

Search resources, services, documentation, and Marketplace

US East (Ashburn)

Key Management & Secret Management > Vault > Vault Details

FSDR_DBCS

Edit Name

Add tags

Move Resource

Delete Vault

Vault Information

Tags

General information

Compartment: oaseceal (root)/oasmp

OCID: ...micaea Show Copy

Created: Fri, May 24, 2024, 08:46:16 UTC

HSM Key Version Usage: 1 ⓘ

Virtual Private: No

Cryptographic Endpoint: https://ejtfau6xaaaak-crypto.kms.us-ashburn-1.oraclecloud.com ⓘ

Management Endpoint: https://ejtfau6xaaaak-management.kms.us-ashburn-1.oraclecloud.com ⓘ

Resources

Master Encryption Keys

Secrets

List scope

Master Encryption Keys in oasmp Compartment

Create Key

Name	State	Protection Mode ⓘ	Algorithm	Created
<a>dbca_encrypt_key	Enabled	HSM	AES	Fri, May 24, 2024, 09:45:15 UTC

ORACLE Cloud

Cloud Classic >

Search resources, services, documentation, and Marketplace

US East (Ashburn)

Key Management & Secret Management > Vault > Vault Details

FSDR_DBCS

Edit Name

Add tags

Move Resource

Delete Vault

Vault Information

Tags

General information

Compartment: oaseceal (root)/oasmp

OCID: ...micaea Show Copy

Created: Fri, May 24, 2024, 08:46:16 UTC

HSM Key Version Usage: 1 ⓘ

Virtual Private: No

Cryptographic Endpoint: https://ejtfau6xaaaak-crypto.kms.us-ashburn-1.oraclecloud.com ⓘ

Management Endpoint: https://ejtfau6xaaaak-management.kms.us-ashburn-1.oraclecloud.com ⓘ

Resources

Master Encryption Keys

Secrets

List scope

Secrets in oasmp Compartment

Create Secret

Name	Status	Created	Auto generation	Auto rotation
No items found.				

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ORACLE

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Key Management & Secret Management > Vault > Vault Details

FSDR_DBCS

ACTIVE

General information

Compartment: oaseceal (root)/oasmp
 OCID: ...miceaa Show Copy
 Created: Fri, May 24, 2024, 08:46:16 UTC
 HSM Key Version Usage: 1

Resources

Master Encryption Keys

Secrets

Secrets in oasmp Compartment

Create Secret

Create in Compartment: oasmp

Name: DBCS_ADMIN_PWD

Description: DBCS Admin Password

Encryption Key in oasmp (Change compartment): dbcs_encrypt_key

Automatic secret generation: Use auto secret generation to automatically generate the secret content.

Manual secret generation: Use manual secret generation to manually provide the secret content. ✓

Secret Type Template: Plain-Text

Secret Contents: V2VsYzBRTFlw==

Show Base64 conversion: ☒

Create Secret Cancel

Similarly, create a Vault and Secret in the same Compartment (e.g., oasmp) in the OCI Secondary (DR) region.

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US West (Phoenix)

Key Management & Secret Management > Vault > Vault Details

FSDR_DBCS

ACTIVE

General information

Compartment: oaseceal (root)/oasmp

OCID: ...qjyboq Show Copy

Created: Fri, May 17, 2024, 07:14:00 UTC

HSM Key Version Usage: 1

Virtual Private: No

Cryptographic Endpoint: https://efteoa5vaaja-crypto.kms.us-phoenix-1.oraclecloud.com

Management Endpoint: https://efteoa5vaaja-management.kms.us-phoenix-1.oraclecloud.com

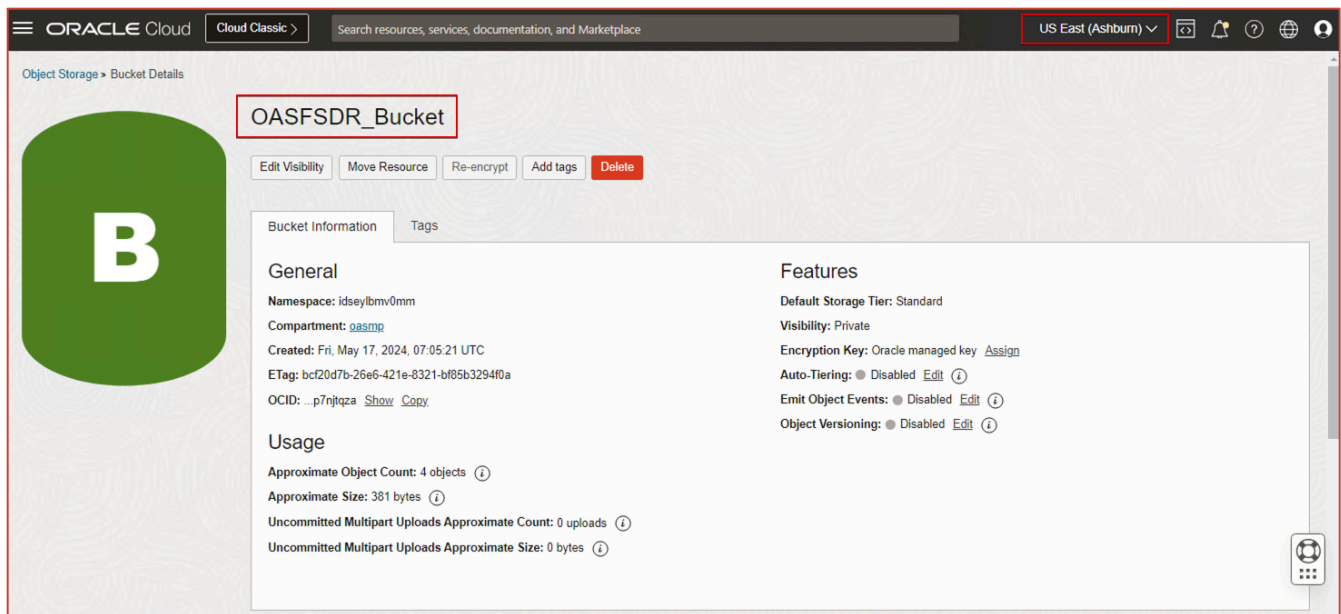
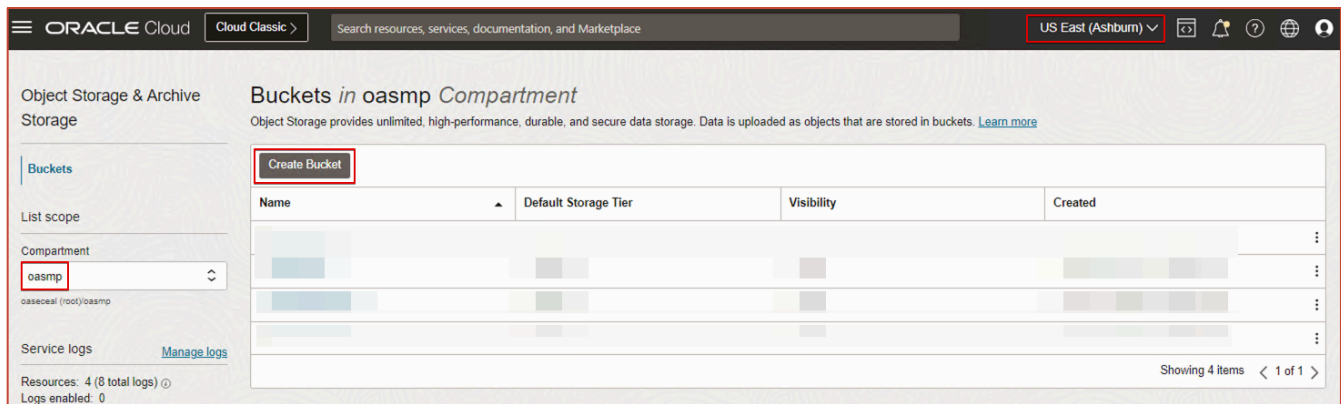
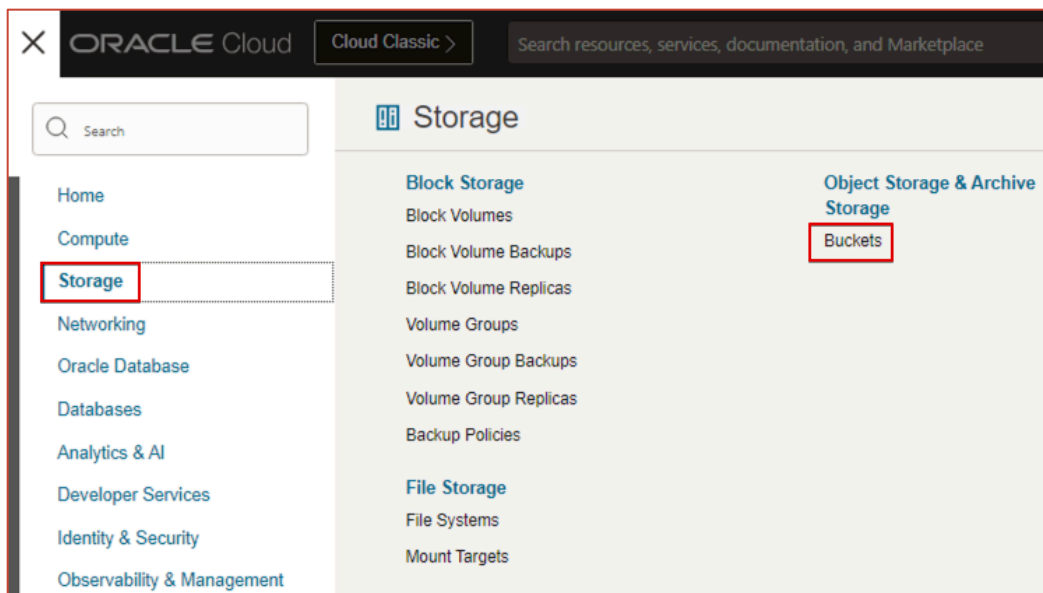
Secrets in oasmp Compartment

Name	Status	Created	Auto generation	Auto rotation
DBCS_PWD	Active	Fri, May 17, 2024, 07:19:04 UTC	Off	Off

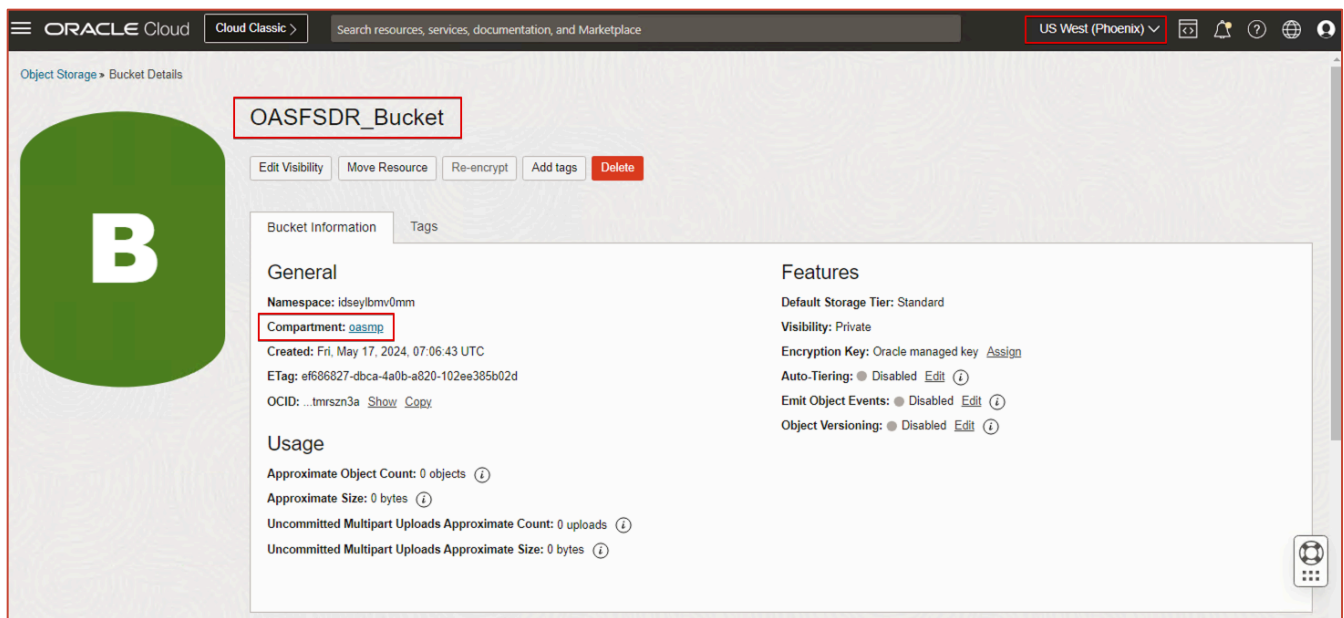
Create a Bucket to store DR Protection Group Logs

Sign in to the OCI console.

Navigate to Storage → Object Storage → Buckets.



Similarly, create a Bucket in the same Compartment (e.g., oasmp) in the OCI Secondary (DR) region.



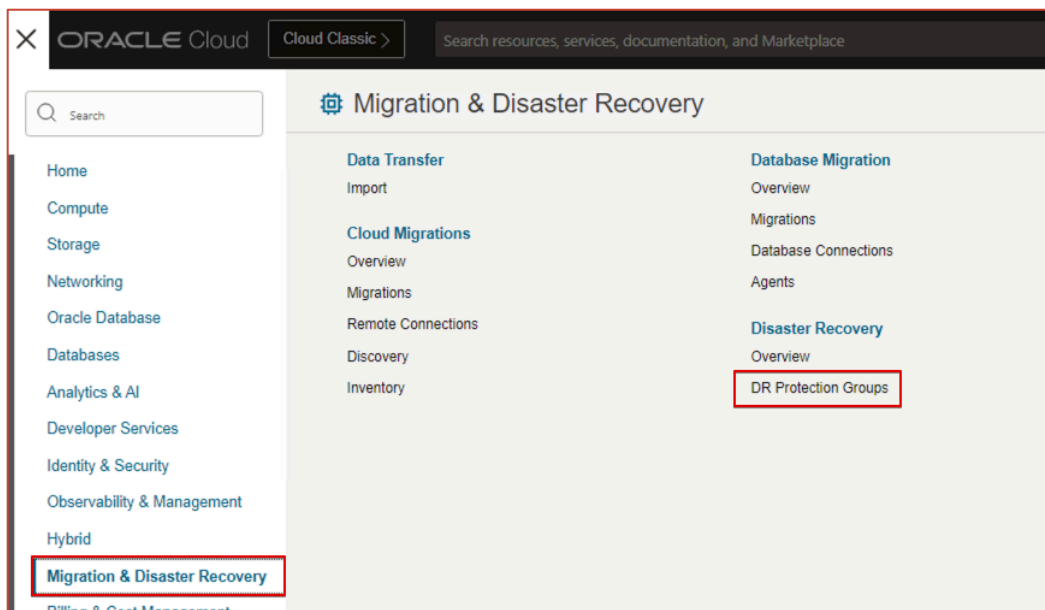
Since the prerequisites for the Full Stack DR have been met, let's proceed to create the Full Stack DR DR Protection Group.

Create a DR Protection Group

NOTE: Each task must be completed one after another; parallel tasks cannot be performed in both regions in the OCI Console. To perform parallel tasks, use the OCI CLI or SDK.

Sign in to the OCI Console

Navigate to Migration & Disaster Recovery → DR Protection Groups



Click on “Create DR Protection Group”.

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery

Overview

DR Protection Groups

List scope

Compartment

oasmp

Filters

State

Any state

Disaster recovery (DR) protection groups in oasmp compartment

Create a DR Protection Group to get started with Full Stack Disaster Recovery. A DR Protection Group groups together all the components of a full stack application so that all the components can be recovered together to restore the full stack application. [Learn more](#)

Table Region map

Create DR protection group

Name	State	Role	Peer DR protection group	Peer region	Created
No items found.					

Showing 0 items < 1 of 1 >

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery

Overview

DR Protection Groups

List scope

Compartment

oasmp

Filters

State

Any state

Tag filters

add | clear

no tag filters applied

Disaster recovery (DR) protection groups in oasmp compartment

Create a DR Protection Group to get started with Full Stack Disaster Recovery. A DR Protection Group groups together all the components of a full stack application so that all the components can be recovered together to restore the full stack application. [Learn more](#)

Table Region map

Create DR protection group

Create DR protection group

Name

OASFSDR_PG

Compartment

oasmp

oasmp (root)/oasmp

Object storage bucket in oasmp (Change compartment)

OASFSDR_Bucket

Object storage bucket will be used for DR plan execution logs.

Role

Not configured

Add member Remove members

Member	State	Service	Compartment
No items found.			

0 selected Showing 0 items

Show advanced options

Create Cancel

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Create the DR Protection Group without Role and members initially.

Create a similar DR Protection Group in the secondary (DR) OCI region. Don't assign any Role and Members initially.

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US West (Phoenix)

Disaster Recovery Overview **DR Protection Groups**

Disaster recovery (DR) Create a DR Protection Group to get started restore the full stack application. [Learn more](#)

Create DR protection group

Name: **OASFSDR_PG**

Compartment: **oasmp**

Object storage bucket in **oasmp** (Change compartment): **OASFSDR_Bucket**

Role: Not configured

Add member **Remove members**

Member	State	Service	Compartment
No items found.			

0 selected Showing 0 items

[Show advanced options](#)

Create [Cancel](#)

Associate the DR Protection Group to a Role

Associate the DR Protection Group to the primary role in the OCI primary region (e.g., Ashburn).

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery > **DR Protection Groups** > DR protection group details

OASFSDR_PG

PG ACTIVE

Run prechecks **Execute DR plan** **Rename** **Associate** **More actions**

DR protection group information **Tags**

OCID: ...2rcpa [Show](#) [Copy](#)

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 06:31:42 UTC

Updated: Sat, May 25, 2024, 06:32:12 UTC

Log location: [OASFSDR_Bucket](#) [Edit](#)

Role: Not configured

Peer DR protection group: None

Peer region:

Resources

Plans Lists the summary of all DR Plans for a DR Protection Group.

Create plan

Name	State	Plan type	Created
No items found.			

Showing 0 items < 1 of 1 >

Associate protection group

Select the role of the protection group OASFSDR_PG and the protection group that you want to associate with.

Role:

Peer region:

Peer DR protection group in oasmp:

[Associate](#) [Cancel](#)

The DR Protection Group in the secondary OCI region (i.e., Phoenix) role will automatically be associated with standby.

OASFSDR_PG Primary

Run prechecks Execute DR plan Rename Disassociate More actions

DR protection group information

OCID: ...2rcpa [Show](#) [Copy](#)
 Compartment: oaseceal (root)/oasmp
 Created: Sat, May 25, 2024, 06:31:42 UTC
 Updated: Sat, May 25, 2024, 07:51:42 UTC
 Log location: [OASFSDR_Bucket](#) [Edit](#)

Role: Primary [Edit](#)
 Peer DR protection group: [OASFSDR_PG](#)
 Peer compartment: ...k4ndcq [Show](#) [Copy](#)
 Peer region: US West (Phoenix)

Members

Lists the summary of all members for a DR Protection Group.

[Add member](#) [Remove members](#)

Member	State	Service	Compartment
No items found.			

0 selected Showing 0 items

Cloud Classic >

Search resources, services, documentation, and Marketplace

US West (Phoenix) ▾

Disaster Recovery > DR Protection Groups > DR protection group details

ACTIVE

OASFSDR_PG

● Standby

Run prechecks

Execute DR plan

Rename

Disassociate

More actions ▾

DR protection group information

Tags

OCID: ...lgbjda

Show

Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 06:32:30 UTC

Updated: Sat, May 25, 2024, 06:40:17 UTC

Log location: OASFSDR_Bucket

Edit

Role: Standby

Edit

Peer DR protection group: OASFSDR_PG

Peer compartment: ...k4ndcq

Show

Copy

Peer region: US East (Ashburn)

Resources

Plans

Plan executions

Members

Work requests

Filters

Members

Lists the summary of all members for a DR Protection Group.

Add member

Remove members

☐	Member	State	Service	Compartment
No items found.				

0 selected

Showing 0 items

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Add Members

Add ADW primary Instance to the primary DR Protection Group

The screenshot shows the Oracle Cloud console interface. On the left, the 'Members' tab is selected in the 'Resources' sidebar. The main panel displays the 'Add member' dialog for the 'OASFSDR_PG' (Primary) DR Protection Group. The dialog includes a warning box stating: 'Required: Member addition or removal will delete all existing plans in the protection group. I understand that all existing plans will be deleted.' Below this, the 'Resource type' is set to 'Autonomous database' and the 'Database in oasmp' is set to 'fsdradw'. At the bottom of the dialog, the 'Add' button is highlighted with a red box. The background shows the 'OASFSDR_PG' details, including its OCID, compartment, and creation/update timestamps.

Add ADW standby Instance to the standby DR Protection Group

The screenshot shows the Oracle Cloud console interface. On the left, the 'Members' tab is selected in the 'Resources' sidebar. The main panel displays the 'Add member' dialog for the 'OASFSDR_PG' (Standby) DR Protection Group. The dialog includes a warning box stating: 'Required: Member addition or removal will delete all existing plans in the protection group. I understand that all existing plans will be deleted.' Below this, the 'Resource type' is set to 'Autonomous database' and the 'Database in oasmp' is set to 'fsdradw_Remote'. At the bottom of the dialog, the 'Add' button is highlighted with a red box. The background shows the 'OASFSDR_PG' details, including its OCID, compartment, and creation/update timestamps.

Add DBCS primary Instance to the primary DR Protection Group

The screenshot shows the Oracle Cloud console interface. On the left, the 'Members' tab is selected under the 'Resources' section. The main area displays the 'Add member' form for the 'OASFSDR_PG' (Primary) DR Protection Group. The form includes a required checkbox for understanding plan deletion, followed by dropdown menus for 'Resource type' (Database), 'Database type' (Oracle Base Database), 'Database system in oasmp' (db19rac), 'Database home' (dbhome20221206173316), 'Database' (db19rac), and 'Database password secret in oasmp' (DBCS_ADMIN_PWD in FSDR_DBCS vault). The 'Add' button is highlighted at the bottom.

Select the DBCS admin password created in the Vault.

Add DBCS standby Instance to the standby DR Protection Group

The screenshot shows the Oracle Cloud console interface. On the left, the 'Members' tab is selected under the 'Resources' section. The main area displays the 'Add member' form for the 'OASFSDR_PG' (Standby) DR Protection Group. The form includes a required checkbox for understanding plan deletion, followed by dropdown menus for 'Resource type' (Database), 'Database type' (Oracle Base Database), 'Database system in oasmp' (db19rac-dr), 'Database home' (dbhome20221206173316), 'Database' (db19rac), and 'Database password secret in oasmp' (DBCS_PWD in FSDR_DBCS vault). The 'Add' button is highlighted at the bottom.

Add Volume Group to the primary DR Protection Group

The screenshot displays the Oracle Cloud console interface for managing Disaster Recovery (DR) Protection Groups. The main panel shows the details for the 'OASFSDR_PG' (Primary) group, including its OCID, compartment, creation and update timestamps, and log location. The 'Members' section lists existing members, and the 'Add member' button is highlighted. A modal dialog titled 'Add member' is open, showing a warning that member addition or removal will delete all existing plans. The 'Resource type' is set to 'Volume group', and the 'Volume group in oasmp' is set to 'FSDRVG'. The 'Add' button is highlighted at the bottom of the dialog.

For the moving instance scenario, a Volume Group is not needed in the Secondary (DR) OCI region. The Primary Volume Group replica will be used in the DR region during the switchover/failover.

Add File System to the primary DR Protection Group

The screenshot shows the Oracle Cloud console interface for adding a member to a DR Protection Group. The left sidebar shows the navigation menu with 'Members' selected. The main content area displays the 'Add member' dialog for the 'OASFSDR_PG' group. The dialog includes a 'Required' section with a warning about deleting existing plans. The 'Resource type' is set to 'File system'. The 'File system in oasmp' is set to 'FileSystem-20240516-0737-27'. The 'Destination availability domain' is set to 'yBdo-PHX-AD-1'. The 'Source export path' is set to '/FileSystem-20240516-0737-27'. The 'Destination mount target in oasmp' is set to 'MountTarget-20240516-0737-27'. The 'Add' button is highlighted.

Add OAS compute instances to the primary DR Protection Group

In a non-moving compute instance type, the OAS compute instances with the same hostnames are expected to be pre-created in the secondary (DR) OCI region before the DR plan execution like an active-passive DR architecture.

The OAS compute instances exist only in the primary OCI region in a moving compute instance type. When the switchover/failover happens due to DR plan execution, these compute instances are moved to the secondary (DR) OCI region.

In a moving compute instance type, you can select a private IP and hostname if required. However, for the OAS, you don't need to specify a private IP and hostname as we use non-overlapping CIDR ranges between the private subnets of the primary and secondary OCI regions.

Since the private subnet used for OAS compute instances has labels like "e.g., oase," you will have the same domain name between the primary and secondary compute instances, which results in the same hostnames across regions.

ORACLE Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Primary

Run prechecks Execute DR plan

DR protection group information

OCID: ...2rcrpa Show Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 06:31:42 UT

Updated: Sat, May 25, 2024, 20:27:57 UT

Log location: OASFSDR_Bucket Edit

Resources

Plans

Plan executions

Members

Work requests

Filters

Member type

Any type

Members

Lists the summary of all members for a DR Protection Group.

Add member Remove members

Member

FileSystem-20240516-0737-27

FSDRVG

db19rac (db19rac_caal_ash)

fsdradv

0 selected

Add member

Required

Member addition or removal will delete all existing plans in the protection group.

☒ I understand that all existing plans will be deleted

Resource type

Compute

Instance in oasmp (Change compartment)

oas4fsdr1

Compute instance type

Moving instance

This type of instance is moved from the primary DR Protection Group to the standby DR Protection Group, during DR operations. Learn more

The instance type cannot be changed after adding the member to the DR protection group.

Provide the mappings between the VNIC for each instance and a destination subnet in the standby region to which the VNIC attaches

Add VNIC mapping

VNIC VCN Subnet

oas4fsdr1 oasvcn Private Subnet-oasvcn3

Private Subnet-oasvcn3 (regional)

Destination VCN in oasmp (Change compartment)

oasvcn

Destination subnet in oasmp (Change compartment)

Destination primary private IP address Optional

Destination primary private IP hostname label Optional

Network security groups

If you have a NSG select it, otherwise skip it.

Specify the Network Security Groups you want to assign to this VNIC in the destination (standby) region.

Destination network security group in oasmp (Change compartment)

No data available

+ Another network security group

Add Cancel

ORACLE Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Primary

Run prechecks Execute DR plan

DR protection group information

OCID: ...2rcrpa Show Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 06:31:42 UT

Updated: Sat, May 25, 2024, 20:27:57 UT

Log location: OASFSDR_Bucket Edit

Resources

Plans

Plan executions

Members

Work requests

Filters

Member type

Any type

Members

Lists the summary of all members for a DR Protection Group.

Add member Remove members

Member

FileSystem-20240516-0737-27

FSDRVG

db19rac (db19rac_caal_ash)

fsdradv

0 selected

Add member

Required

Member addition or removal will delete all existing plans in the protection group.

☒ I understand that all existing plans will be deleted

Resource type

Compute

Instance in oasmp (Change compartment)

oas4fsdr1

Compute instance type

Moving instance

This type of instance is moved from the primary DR Protection Group to the standby DR Protection Group, during DR operations. Learn more

Non-moving instance

This type of instance is not moved from the primary DR Protection Group to the standby DR Protection Group, during DR operations. Learn more

The instance type cannot be changed after adding the member to the DR protection group.

Provide the mappings between the VNIC for each instance and a destination subnet in the standby region to which the VNIC attaches

Add VNIC mapping

VNIC	VCN	Subnet	Private IP address	Private IP hostname label	Network security groups
oas4fsdr1	oasvcn	Private Subnet-oasvcn3	-	-	-

Showing 1 item

Show advanced options

Add Cancel

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Primary

Run prechecks Execute DR plan

PG ACTIVE

DR protection group information

OCID: ...2rcpa Show Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 06:31:42 UT

Updated: Sat, May 25, 2024, 20:27:57 UT

Log location: OASFSDR_Bucket Edit

Resources

Plans

Plan executions

Members

Work requests

Filters

Member type

Any type

Add member

Remove members

Member

FileSystem-20240516-0737-27

FSDRVG

db19rac (db19rac_csal_ash)

fsdradv

0 selected

Add member

Provide the mappings between the VNIC for each instance and a destination subnet in the standby region to which the VNIC attaches

Add VNIC mapping

VNIC	VCN	Subnet	Private IP address	Private IP hostname label	Network security groups
oas4fsdr1	oasvcn	Private Subnet-oasvcn3	-	-	-

Showing 1 item

Settings **Destination** **File systems**

Export path (/) /FileSystem-20240516-0737-27

Mount point (/) /sdd

Unmount target in oasmp (Change compartment) MountTarget-20240516-0737-27

Mount target in oasmp (Change compartment) MountTarget-20240516-0737-27

+ Another export mapping

Add **Cancel**

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Similarly, add all the OAS nodes that are part of the Cluster.

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Primary

Run prechecks Execute DR plan

PG ACTIVE

DR protection group information

OCID: ...2rcpa Show Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 06:31:42 UT

Updated: Sat, May 25, 2024, 20:43:38 UT

Log location: OASFSDR_Bucket Edit

Resources

Plans

Plan executions

Members

Work requests

Filters

Member type

Any type

Add member

Remove members

Member

oas4fsdr1

FileSystem-20240516-0737-27

FSDRVG

db19rac (db19rac_csal_ash)

fsdradv

0 selected

Add member

Required

Member addition or removal will affect the protection group. I understand that all existing members will be removed.

Resource type

Compute

Instance in oasmp (Change compartment) oas4fsdr2

Compute instance type

Moving instance

This type of instance is moved from the standby DR Protection Group, currently.

The instance type cannot be changed after adding.

Add VNIC mapping

Provide the mappings between the VNIC for each instance and a destination subnet in the standby region to which the VNIC attaches

Add VNIC mapping

VNIC oas4fsdr2

Destination VCN in oasmp (Change compartment) oasvcn

Destination subnet in oasmp (Change compartment) Private Subnet-oasvcn3 (regional)

Destination primary private IP address Optional (/)

Destination primary private IP hostname label Optional (/)

Network security groups

If you have a NSG select it, otherwise skip it.

Specify the Network Security Groups you want to assign to this VNIC in the destination (standby) region.

Destination network security group in oasmp (Change compartment) No data available

+ Another network security group

Add **Cancel**

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Add the OCI primary region Load Balancer to the primary DR Protection Group

Oracle Cloud console interface showing the 'Add member' dialog for the primary DR Protection Group (OASFSDR_PG) in the US East (Ashburn) region. The dialog is for adding a 'Load balancer' resource. The 'Resource type' is set to 'Load balancer' and the 'Load balancer in oasmp' is set to 'oasfsdrLB'. The 'Destination load balancer in oasmp' is also set to 'oasfsdrLB'. The 'Source backend set' is 'bs_lb_2024-0517-0306' and the 'Destination backend set' is 'bs_lb_2024-0517-0806'. The 'Add' button is highlighted.

Add the OCI secondary (DR) region Load Balancer to the standby DR Protection Group

Oracle Cloud console interface showing the 'Add member' dialog for the standby DR Protection Group (OASFSDR_PG) in the US West (Phoenix) region. The dialog is for adding a 'Load balancer' resource. The 'Resource type' is set to 'Load balancer' and the 'Load balancer in oasmp' is set to 'oasfsdrLB'. The 'Destination load balancer in oasmp' is also set to 'oasfsdrLB'. The 'Source backend set' is 'bs_lb_2024-0517-0806' and the 'Destination backend set' is 'bs_lb_2024-0517-0306'. The 'Add' button is highlighted.

ORACLE Cloud Cloud Classic Search resources, services, documentation, and Marketplace US East (Ashburn)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Primary

Run prechecks Execute DR plan Rename Disassociate More actions

DR protection group information Tags

OCID: .2rcpa Show Copy
 Compartment: oaseceal (root)/oasmp
 Created: Sat, May 25, 2024, 06:31:42 UTC
 Updated: Sat, May 25, 2024, 22:22:25 UTC
 Log location: OASFSDR_Bucket Edit

Role: Primary Edit
 Peer DR protection group: OASFSDR_PG
 Peer compartment: .k4ndcq Show Copy
 Peer region: US West (Phoenix)

Resources

Plans
 Plan executions
Members
 Work requests

Filters
 Member type
 Any type

Members

Lists the summary of all members for a DR Protection Group.

Add member Remove members

Member	State	Service	Compartment
☐ oasfddlB	Active	Load balancer	oasmp
☐ oas4fdd2	Running	Compute instance (moving)	oasmp
☐ oas4fdd1	Running	Compute instance (moving)	oasmp
☐ FileSystem-20240516-0737-27	Active	File system	oasmp
☐ FSDRVG	Available	Volume group	oasmp
☐ db19rac (db19rac_oasf_ash)	Available	Database	oasmp
☐ fddradv	Available	Autonomous database	oasmp

0 selected Showing 7 items

ORACLE Cloud Cloud Classic Search resources, services, documentation, and Marketplace US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Standby

Run prechecks Execute DR plan Rename Disassociate More actions

DR protection group information Tags

OCID: .lgjda Show Copy
 Compartment: oaseceal (root)/oasmp
 Created: Sat, May 25, 2024, 06:32:30 UTC
 Updated: Sat, May 25, 2024, 22:22:28 UTC
 Log location: OASFSDR_Bucket Edit

Role: Standby Edit
 Peer DR protection group: OASFSDR_PG
 Peer compartment: .k4ndcq Show Copy
 Peer region: US East (Ashburn)

Resources

Plans
 Plan executions
Members
 Work requests

Filters
 Member type
 Any type

Members

Lists the summary of all members for a DR Protection Group.

Add member Remove members

Member	State	Service	Compartment
☐ oasfddlB	Active	Load balancer	oasmp
☐ db19rac (db19rac_ghx1hs)	Available	Database	oasmp
☐ fddradv_Remote	Standby	Autonomous database	oasmp

0 selected Showing 3 items

All the components involved in the OAS primary environment are added as members of the DR Protection Group.

Create a Switchover Plan

When switching from primary to secondary, always create the DR Plan and execute it from the secondary OCI region.
 When falling back from secondary to primary, always create the DR Plan and execute it from the primary OCI region.

Create a switchover plan

Oracle Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG ● Standby

Run prechecks Execute DR plan Rename Disassociate More actions

PG ACTIVE

DR protection group information

OCID: ...lgbjda [Show](#) [Copy](#)
 Compartment: oaseceal (root)/oasmp
 Created: Sat, May 25, 2024, 06:32:30 UTC
 Updated: Sat, May 25, 2024, 22:22:28 UTC
 Log location: [OASFSDR_Bucket](#) [Edit](#)

Role: Standby [Edit](#)
 Peer DR protection group: [OASFSDR_PG](#)
 Peer compartment: ...k4ndc [Show](#) [Copy](#)
 Peer region: US East (Ashburn)

Resources

Plans
 Plan executions
 Members
 Work requests

Filters

State
 Any state

Plan type
 Any type

Tag filters [add](#) [clear](#)

Plans

Lists the summary of all DR Plans for a DR Protection Group.

Create plan

Name	State	Plan type	Created
No items found.			

Showing 0 items < 1 of 1 >

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Can create multiple plans parallelly.

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Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG ● Standby

Run prechecks Execute DR plan R

PG ACTIVE

DR protection group information

OCID: ...lgbjda [Show](#) [Copy](#)
 Compartment: oaseceal (root)/oasmp
 Created: Sat, May 25, 2024, 06:32:30 UT
 Updated: Sat, May 25, 2024, 22:22:28 U
 Log location: [OASFSDR_Bucket](#) [Edit](#)

Resources

Plans
 Plan executions
 Members
 Work requests

Filters

State
 Any state

Plan type
 Any type

Tag filters [add](#) [clear](#)

Plans

Lists the summary of all DR Plans for a DR F

Create plan [Help](#)

Name
 OAS_DR_IAD_2_PHX

Plan type
 Switchover (planned)

[Show advanced options](#)

Create [Cancel](#)

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ORACLE Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG ● Standby

Run prechecks Execute DR plan Rename Disassociate More actions

PG ACTIVE

DR protection group information Tags

OCID: ...lgbjda [Show](#) [Copy](#) Role: Standby [Edit](#)
 Compartment: oaseceal (root)/oasmp Peer DR protection group: [OASFSDR_PG](#)
 Created: Sat, May 25, 2024, 06:32:30 UTC Peer compartment: ...k4ndcq [Show](#) [Copy](#)
 Updated: Sat, May 25, 2024, 22:22:28 UTC Peer region: US East (Ashburn)
 Log location: [OASFSDR_Bucket](#) [Edit](#)

Plans

Lists the summary of all DR Plans for a DR Protection Group.

Create plan

Name	State	Plan type	Created
OAS_DR_IAD_2_PHX	● Active	Switchover	Sat, May 25, 2024, 22:46:50 UTC

Showing 1 item < 1 of 1 >

Filters

State: Active

Plan type: Any type

Tag filters [add](#) [clear](#)

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Click on the Plan created.

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Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks Execute DR plan Rename Add tags Delete

DR plan information Tags

OCID: ...424pq [Show](#) [Copy](#) Plan type: Switchover
 Compartment: oaseceal (root)/oasmp DR protection group: [OASFSDR_PG](#)
 Created: Sat, May 25, 2024, 22:46:50 UTC Peer DR protection group: [OASFSDR_PG](#)
 Updated: Sat, May 25, 2024, 22:47:37 UTC Peer region: US East (Ashburn)

Plan groups

Add group Actions

Name	Type	Enabled / Disabled	Timeout	Error mode
> Built-In Prechecks	Built-in precheck	● Enabled	—	—
> Update Source Load Balancers' Backend Sets	Built-in	● Enabled	—	—
> Unmount File Systems from Compute Instances	Built-in	● Enabled	—	—
> Stop Compute Instances	Built-in	● Enabled	—	—
> Switchover Volume Groups	Built-in	● Enabled	—	—
> Switchover File Systems	Built-in	● Enabled	—	—
> Switchover Databases	Built-in	● Enabled	—	—
> Switchover Autonomous Databases	Built-in	● Enabled	—	—
> Launch Compute Instances	Built-in	● Enabled	—	—

Observe the Built-in groups created. The process starts by stopping the primary compute instances in the primary region and starting the secondary compute instances in the secondary region.

While doing such actions, it's always suggested to stop OAS services safely on the primary OAS compute instances and start OAS services on the secondary OAS compute instances.

Add User-Defined Groups to include calls to stop OAS Services, stop Node Manager, etc.

ORACLE Cloud Cloud Classic > Search resources, services, documentation, and Marketplace US West (Phoenix) [Icons]

Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks Execute DR plan

DR plan information Tags

OCID: ...424ypq Show Copy

Compartment: oaseceal (root)oaasmp

Created: Sat, May 25, 2024, 22:46:50 UT

Updated: Sat, May 25, 2024, 22:47:37 UT

Resources

Plan groups

Work requests

Add group Actions

Name

- > Built-In Prechecks
- > Update Source Load Balancers' Back
- > Unmount File Systems from Compute
- > Stop Compute Instances
- > Switchover Volume Groups
- > Switchover File Systems
- > Switchover Databases
- > Switchover Autonomous Databases
- > Launch Compute Instances

Add plan group

Group name

Stop_OAS

☒ Add after ☐ Add before

Group

Built-In Prechecks

Add Step

Name	Type	Enabled / Disabled	Timeout	Error mode
No items found.				

Showing 0 items

Add Cancel

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Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks Execute DR plan

DR plan information Tags

OCID: ...424ypq Show Copy

Compartment: oaseceal (root)oaasmp

Created: Sat, May 25, 2024, 22:46:50 UT

Updated: Sat, May 25, 2024, 22:47:37 UT

Resources

Plan groups

Work requests

Add group Actions

Name

- > Built-In Prechecks
- > Update Source Load Balancers' Back
- > Unmount File Systems from Compute
- > Stop Compute Instances
- > Switchover Volume Groups
- > Switchover File Systems
- > Switchover Databases
- > Switchover Autonomous Databases
- > Launch Compute Instances

Add plan group step

Step name

stopOAS

Region

US East (Ashburn)

☐ Run object storage script

☒ Run local script

☐ Invoke function

Target instance in oaasmp ⓘ (Change compartment)

oas4fsdr1

Script parameters

/u01/data/domains/bi/bitools/bin/stop.sh

Run as user Optional

oracle

Error mode

Stop on error

Timeout in seconds

3600

☒ Enable step

Add Step Cancel

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Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks Execute DR plan

DR plan information Tags

OCID: ...424ypq Show Copy

Compartment: oaseceal (root)oaasmp

Created: Sat, May 25, 2024, 22:46:50 UT

Updated: Sat, May 25, 2024, 22:47:37 UT

Resources

Plan groups

Work requests

Add group Actions

Name

- Built-In Prechecks
- Update Source Load Balancers' Back
- Unmount File Systems from Compute
- Stop Compute Instances
- Switchover Volume Groups
- Switchover File Systems
- Switchover Databases
- Switchover Autonomous Databases
- Launch Compute Instances

Add plan group

Group name

Stop_OAS

Add after Add before

Group

Built-In Prechecks

Add Step

Name	Type	Enabled / Disabled	Timeout	Error mode
stopOAS	Run local script	Enabled	1 h	Stop on error

Showing 1 item

Add Cancel

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ORACLE Cloud Cloud Classic Search resources, services, documentation, and Marketplace US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks Execute DR plan

DR plan information Tags

OCID: ...424ypq Show Copy

Compartment: oaseceal (root)oaasmp

Created: Sat, May 25, 2024, 22:46:50 UT

Updated: Sat, May 25, 2024, 23:11:19 UT

Resources

Plan groups

Work requests

Add group Actions

Name

- Built-In Prechecks
- Stop_OAS
- Update Source Load Balancers' Back
- Unmount File Systems from Compute
- Stop Compute Instances
- Switchover Volume Groups
- Switchover File Systems
- Switchover Databases
- Switchover Autonomous Databases

Add plan group

Group name

Stop_NodeManager

Add after Add before

Group

Stop_OAS

Add Step

Name	Type	Enabled / Disabled	Timeout	Error mode
No items found.				

Showing 0 items

Add Cancel

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Cloud Classic >

Search resources, services, documentation, and Marketplace

US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks

Execute DR plan

DR plan information

Tags

OCID: ...424ypq

Show

Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 22:46:50 UT

Updated: Sat, May 25, 2024, 23:11:19 UT

Resources

Plan groups

Work requests

Add group

Actions

Name

Built-In Prechecks

Stop_OAS

Update Source Load Balancers' Back

Unmount File Systems from Compute

Stop Compute Instances

Switchover Volume Groups

Switchover File Systems

Switchover Databases

Switchover Autonomous Databases

Add plan group step

Help

Step name

stopNodeManager

Region

US East (Ashburn)

Run object storage script

Run local script

Invoke function

Target instance in oasmp

(Change compartment)

oas4fsd2

Script parameters

/u01/data/domains/bi/bin/stopNodeManager.sh

Run as user: Optional

oracle

Error mode

Stop on error

Timeout in seconds

3600

Enable step

Add Step

Cancel

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Cloud Classic >

Search resources, services, documentation, and Marketplace

US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks

Execute DR plan

DR plan information

Tags

OCID: ...424ypq

Show

Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 22:46:50 UT

Updated: Sat, May 25, 2024, 23:11:19 UT

Resources

Plan groups

Work requests

Add group

Actions

Name

Built-In Prechecks

Stop_OAS

Update Source Load Balancers' Back

Unmount File Systems from Compute

Stop Compute Instances

Switchover Volume Groups

Switchover File Systems

Switchover Databases

Switchover Autonomous Databases

Add plan group

Help

Group name

Stop_NodeManager

Add after

Add before

Group

Stop_OAS

Add Step

Name	Type	Enabled / Disabled	Timeout	Error mode
stopNodeManager	Run local script	Enabled	1 h	Stop on error

Showing 1 item

Add

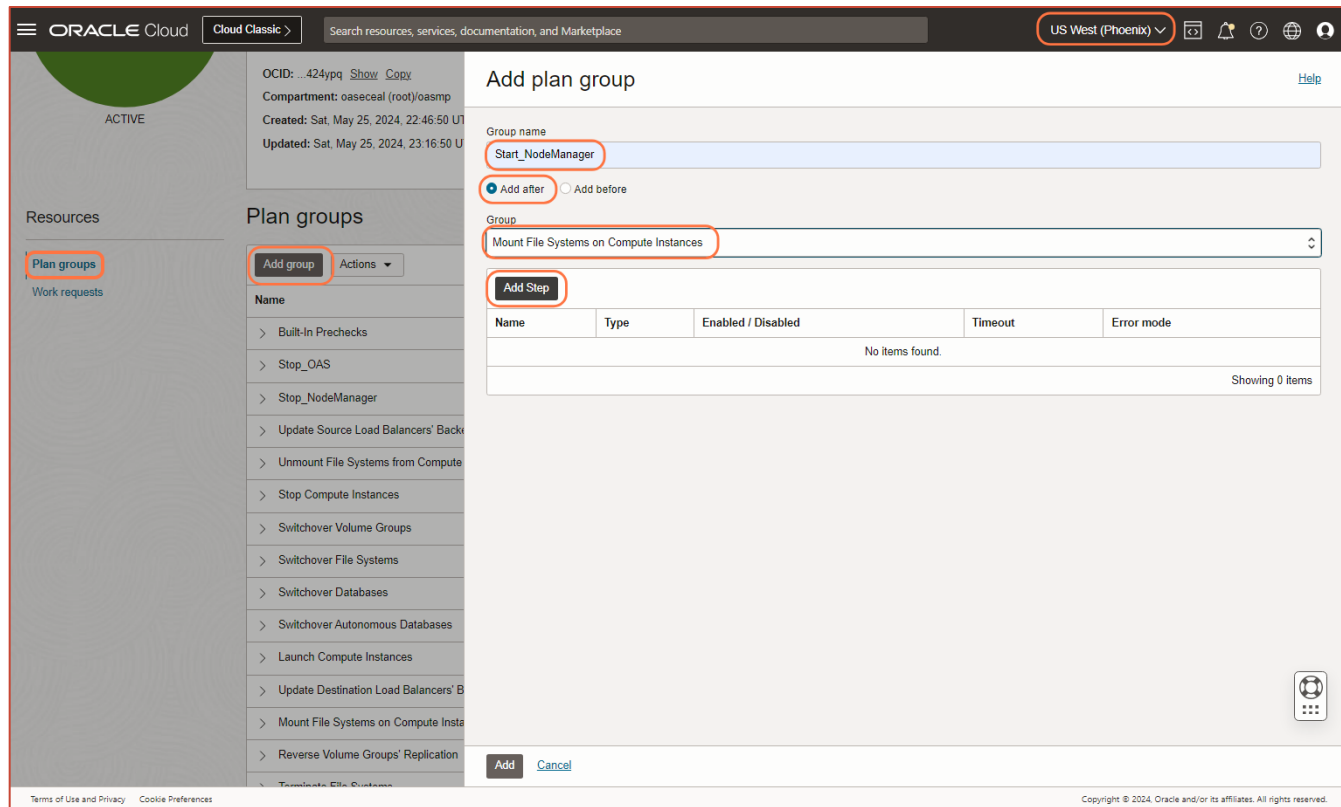
Cancel

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Similarly, add groups to start Node Manager and start OAS Services.



Start NodeManager task should be run on the secondary nodes of the OAS cluster, e.g., oas4fsdr2. Do not run on the AdminServer node.

Create a script startNM.sh (/u01/data/domains/bi/bin/startNM.sh) with the below commands in all the secondary nodes of the OAS cluster.

startNM.sh

```
-----  
#!/bin/bash  
  
cd /u01/data/domains/bi/bin  
  
./stopNodeManager.sh  
  
cd /u01/data/domains/bi/bin  
  
nohup ./startNodeManager.sh &  
  
-----
```

The Full Stack DR requires a script that can exit after execution for a user-defined group. The startNodemanager.sh script exits, but upon exit, the Node Manager will stop.

Either create the startNodeManager.sh as a service on the secondary nodes of the OAS cluster and call the `systemctl start node-manager.service` command in the user-defined group or create a different script startNM.sh as above and call it in the user-defined group.

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US West (Phoenix) v

OCID: ...424ypq Show Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 22:46:50 U

Updated: Sat, May 25, 2024, 23:16:50 U

ACTIVE

Resources

Plan groups

Work requests

Plan groups

Work requests

Add group

Actions v

Name

Built-In Prechecks

Stop_OAS

Stop_NodeManager

Update Source Load Balancers' Back

Unmount File Systems from Compute

Stop Compute Instances

Switchover Volume Groups

Switchover File Systems

Switchover Databases

Switchover Autonomous Databases

Launch Compute Instances

Update Destination Load Balancers' B

Mount File Systems on Compute Insta

Reverse Volume Groups' Replication

Add plan group step

Help

Step name

startNodeManager

Region

US East (Ashburn)

☐ Run object storage script
 ☒ Run local script
 ☐ Invoke function

Target instance in oasmp ⓘ (Change compartment)

oas4fsdr2

Script parameters

/u01/data/domains/bi/bin/startNM.sh

Run as user Optional

oracle

Error mode

Stop on error

Timeout in seconds

3600

☒ Enable step

Add Step

Cancel

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While adding the `startNM.sh` script as a user-defined group, the OAS computes in the secondary region have yet to be available, so we must select the region value as the primary OCI region. Full Stack DR manages it at runtime to execute on the OAS computes in the secondary OCI region.

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OCID: ...424ypq Show Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 22:46:50 U

Updated: Sat, May 25, 2024, 23:16:50 U

ACTIVE

Resources

Plan groups

Work requests

Plan groups

Work requests

Add group

Actions v

Name

Built-In Prechecks

Stop_OAS

Stop_NodeManager

Update Source Load Balancers' Back

Unmount File Systems from Compute

Stop Compute Instances

Switchover Volume Groups

Switchover File Systems

Switchover Databases

Switchover Autonomous Databases

Launch Compute Instances

Update Destination Load Balancers' B

Mount File Systems on Compute Insta

Reverse Volume Groups' Replication

Add plan group

Help

Group name

Start_NodeManager

☒ Add after
 ☐ Add before

Group

Mount File Systems on Compute Instances

Add Step

Name	Type	Enabled / Disabled	Timeout	Error mode
startNodeManager	Run local script	Enabled	1 h	Stop on error

Showing 1 item

Add

Cancel

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ACTIVE

OCID: ...424ypq [Show](#) [Copy](#)
Compartment: oaseceal (root)oaasmp
Created: Sat, May 25, 2024, 22:46:50 UTC
Updated: Sat, May 25, 2024, 23:28:49 UTC

Plan type: Switchover
DR protection group: [OASFSDR_PG](#)
Peer DR protection group: [OASFSDR_PG](#)
Peer region: US East (Ashburn)

Resources

Plan groups

Work requests

Plan groups

Actions >

Name	Type	Enabled / Disabled	Timeout	Error mode
> Built-In Prechecks	Built-in precheck	● Enabled	—	—
> Stop_OAS	User defined	● Enabled	—	—
> Stop_NodeManager	User defined	● Enabled	—	—
> Update Source Load Balancers' Backend Sets	Built-in	● Enabled	—	—
> Unmount File Systems from Compute Instances	Built-in	● Enabled	—	—
> Stop Compute Instances	Built-in	● Enabled	—	—
> Switchover Volume Groups	Built-in	● Enabled	—	—
> Switchover File Systems	Built-in	● Enabled	—	—
> Switchover Databases	Built-in	● Enabled	—	—
> Switchover Autonomous Databases	Built-in	● Enabled	—	—
> Launch Compute Instances	Built-in	● Enabled	—	—
> Update Destination Load Balancers' Backend Sets	Built-in	● Enabled	—	—
> Mount File Systems on Compute Instances	Built-in	● Enabled	—	—
> Start_NodeManager	User defined	● Enabled	—	—
> Deattach Volume Group's Destination	Built-in	● Enabled	—	—

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US West (Phoenix) >



ACTIVE

OCID: ...424ypq [Show](#) [Copy](#)
Compartment: oaseceal (root)oaasmp
Created: Sat, May 25, 2024, 22:46:50 UTC
Updated: Sat, May 25, 2024, 23:28:49 UTC

Plan type: Switchover
DR protection group: [OASFSDR_PG](#)
Peer DR protection group: [OASFSDR_PG](#)
Peer region: US East (Ashburn)

Resources

Plan groups

Work requests

Add plan group

Help

Group name

Start_OAS

☒ Add after ☐ Add before

Group

Start_NodeManager

Add Step

Name	Type	Enabled / Disabled	Timeout	Error mode
No items found.				

Showing 0 items

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OCID: ...424ypq Show Copy
Compartment: oaseceal (root)/oasmp
Created: Sat, May 25, 2024, 22:46:50 UT
Updated: Sat, May 25, 2024, 23:28:49 UT

Resources

Plan groups

Work requests

Add group Actions

Name

- Built-In Prechecks
- Stop_OAS
- Stop_NodeManager
- Update Source Load Balancers' Backend Sets
- Unmount File Systems from Compute Instances
- Stop Compute Instances
- Switchover Volume Groups
- Switchover File Systems
- Switchover Databases
- Switchover Autonomous Databases
- Launch Compute Instances
- Update Destination Load Balancers' Backend Sets
- Mount File Systems on Compute Instances
- Start_NodeManager
- Start_OAS
- Reverse Volume Groups' Replication
- Terminate File Systems
- Reverse File Systems' Replication
- Terminate Compute Instances
- Remove Compute Instances from DR Protection Group
- Terminate Volume Groups
- Remove Volume Groups from DR Protection Group

Add plan group step

Step name: startOAS

Region: US East (Ashburn)

☐ Run object storage script
☒ Run local script
☐ Invoke function

Target instance in oasmp (Change compartment): oas4fsdr1

Script parameters: /u01/data/domains/bi/bitools/bin/start.sh

Run as user: Optional oracle

Error mode: Stop on error

Timeout in seconds: 3600

☒ Enable step

Add Step Cancel

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While adding the `start.sh` script as a user-defined group, the OAS computes in the secondary region have yet to be available, so we need to select the region value as the primary OCI region. Full Stack DR manages it at runtime to execute on the OAS computes in the secondary OCI region.

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Name	Type	Enabled / Disabled	Timeout	Error mode
> Built-In Prechecks	Built-in precheck	● Enabled	—	—
> Stop_OAS	User defined	● Enabled	—	—
> Stop_NodeManager	User defined	● Enabled	—	—
> Update Source Load Balancers' Backend Sets	Built-in	● Enabled	—	—
> Unmount File Systems from Compute Instances	Built-in	● Enabled	—	—
> Stop Compute Instances	Built-in	● Enabled	—	—
> Switchover Volume Groups	Built-in	● Enabled	—	—
> Switchover File Systems	Built-in	● Enabled	—	—
> Switchover Databases	Built-in	● Enabled	—	—
> Switchover Autonomous Databases	Built-in	● Enabled	—	—
> Launch Compute Instances	Built-in	● Enabled	—	—
> Update Destination Load Balancers' Backend Sets	Built-in	● Enabled	—	—
> Mount File Systems on Compute Instances	Built-in	● Enabled	—	—
> Start_NodeManager	User defined	● Enabled	—	—
> Start_OAS	User defined	● Enabled	—	—
> Reverse Volume Groups' Replication	Built-in	● Enabled	—	—
> Terminate File Systems	Built-in	● Disabled	—	—
> Reverse File Systems' Replication	Built-in	● Enabled	—	—
> Terminate Compute Instances	Built-in	● Disabled	—	—
> Remove Compute Instances from DR Protection Group	Built-in	● Enabled	—	—
> Terminate Volume Groups	Built-in	● Disabled	—	—
> Remove Volume Groups from DR Protection Group	Built-in	● Enabled	—	—

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Enable the Disabled Groups. If you don't follow these steps, you may need to do housekeeping for the resource while falling back.

Run prechecks

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Search resources, services, documentation, and Marketplace

US West (Phoenix)

Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

PL

ACTIVE

OAS_DR_IAD_2_PHX

Run prechecks

Execute DR plan

Rename

Add tags

Delete

DR plan information

Tags

OCID: ...424ypq

Show

Copy

Compartment: oaseceal (root)/oasmp

Created: Sat, May 25, 2024, 22:46:50 UTC

Updated: Sat, May 25, 2024, 23:31:22 UTC

Plan type: Switchover

DR protection group: [OASFSDR_PG](#)

Peer DR protection group: [OASFSDR_PG](#)

Peer region: US East (Ashburn)

Resources

Plan groups

Work requests

Add group

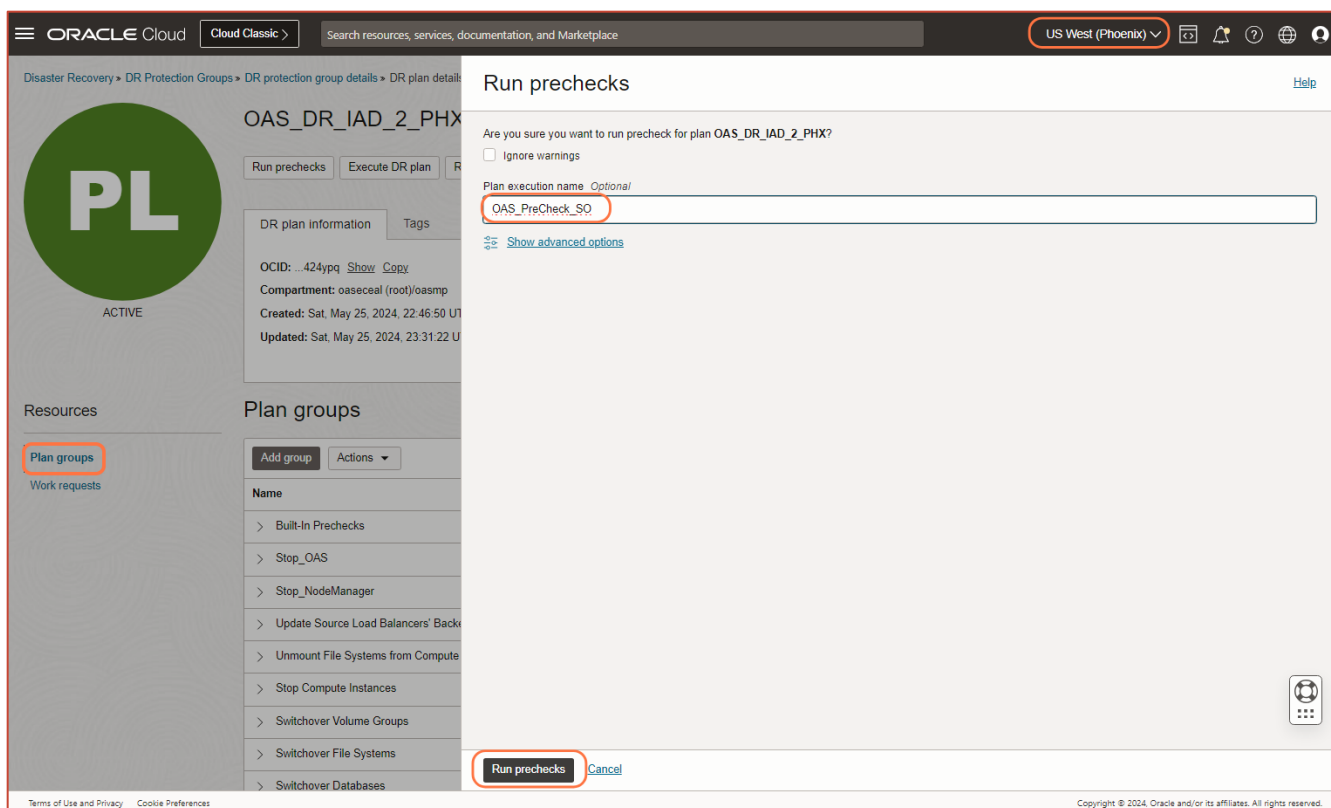
Actions

Name	Type	Enabled / Disabled	Timeout	Error mode
> Built-In Prechecks	Built-in precheck	● Enabled	—	—
> Stop_OAS	User defined	● Enabled	—	—
> Stop_NodeManager	User defined	● Enabled	—	—
> Update Source Load Balancers' Backend Sets	Built-in	● Enabled	—	—
> Unmount File Systems from Compute Instances	Built-in	● Enabled	—	—
> Stop Compute Instances	Built-in	● Enabled	—	—
> Switchover Volume Groups	Built-in	● Enabled	—	—
> Switchover File Systems	Built-in	● Enabled	—	—
> Switchover Databases	Built-in	● Enabled	—	—

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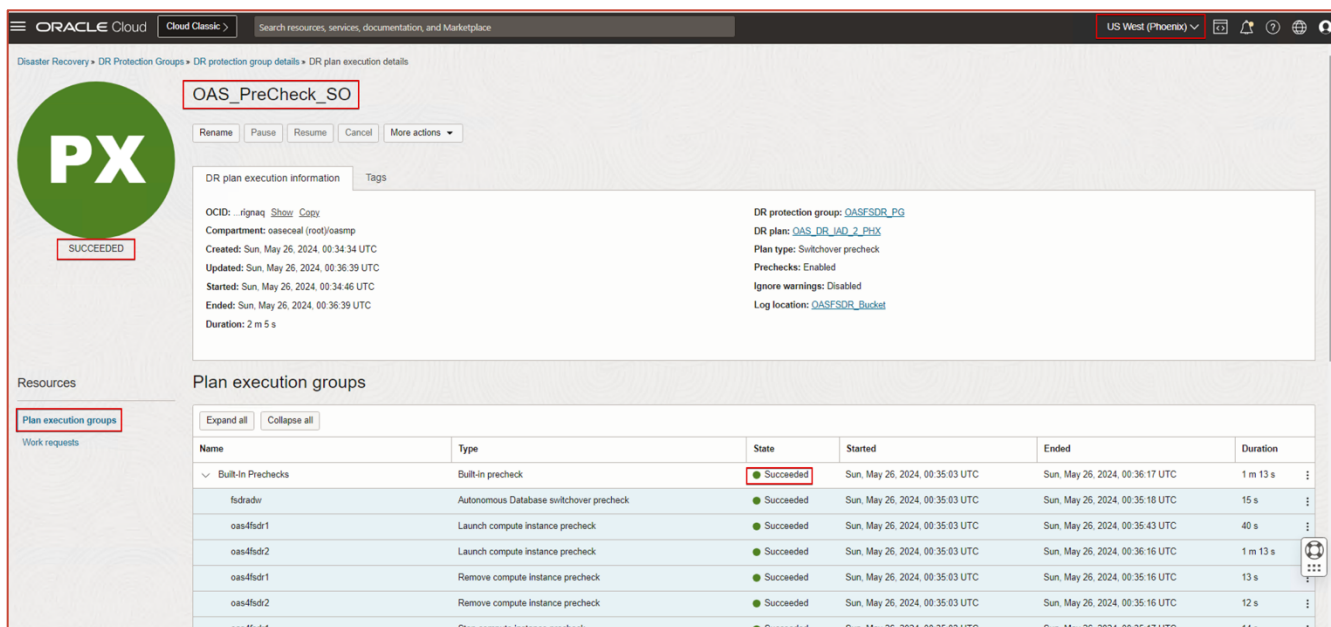
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The precheck should be successful. If it fails, troubleshoot and fix the issues based on the information displayed in the precheck execution or the logs stored in the object storage bucket.

Once the precheck is successful, create a switchover plan and execute it.



Note: You can create any Plan like (Failover, Switchover, DRDrill, etc).

Here, create a switchover plan and execute it.

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Disaster Recovery > DR Protection Groups > DR protection group details > DR plan details

OAS_DR_IAD_2_PHX

Run prechecks Execute DR plan Rename Add tags Delete

DR plan information Tags

OCID: ...424ypq [Show](#) [Copy](#)
 Compartment: oaseceal (root)/oasmp
 Created: Sat, May 25, 2024, 22:46:50 UTC
 Updated: Sat, May 25, 2024, 23:31:22 UTC

Plan type: Switchover
 DR protection group: [OASFSDR_PG](#)
 Peer DR protection group: [OASFSDR_PG](#)
 Peer region: US East (Ashburn)

Resources

Plan groups Work requests

Add group Actions

Name	Type	Enabled / Disabled	Timeout	Error mode
> Built-In Prechecks	Built-in precheck	Enabled	—	—
> Stop_OAS	User defined	Enabled	—	—
> Stop_NodeManager	User defined	Enabled	—	—
> Update Source Load Balancers' Backend Sets	Built-in	Enabled	—	—
> Unmount File Systems from Compute Instances	Built-in	Enabled	—	—
> Stop Compute Instances	Built-in	Enabled	—	—
> Switchover Volume Groups	Built-in	Enabled	—	—
> Switchover File Systems	Built-in	Enabled	—	—
> Switchover Databases	Built-in	Enabled	—	—

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Disaster Recovery > DR Protection Groups > DR protection group details

OASFSDR_PG Standby

Run prechecks Execute DR plan Rename Dissociate

DR protection group information Tags

OCID: ...xeiaxq [Show](#) [Copy](#)
 Compartment: oaseceal (root)/oasmp
 Created: Fri, May 17, 2024, 07:07:08 UTC
 Updated: Fri, May 17, 2024, 11:55:28 UTC
 Log location: [OASFSDR_Bucket](#) [Edit](#)

Resources

Plans Plan executions Members Work requests

Filters

State Any state

Plan type Any type

Execute DR plan

DR plan

OAS_DR_IAD_2_PHX

☐ Enable prechecks
☐ Ignore warnings

Plan execution name: Optional

Switch_DR

[Show advanced options](#)

Executing DR plan Cancel

The DR Plan should be successful.

Switch_DR

Rename Pause Resume Cancel More actions

DR plan execution information Tags

OCID: ...i35ueq [Show](#) [Copy](#)
 Compartment: oaseceal (root)/oasmp
 Created: Sun, May 26, 2024, 00:42:44 UTC
 Updated: Sun, May 26, 2024, 01:44:26 UTC
 Started: Sun, May 26, 2024, 00:42:59 UTC
 Ended: Sun, May 26, 2024, 01:44:26 UTC
 Duration: 1 h 1 m 42 s

DR protection group: [OASFSDR_PG](#)
 DR plan: [OAS_DR_IAD_2_PHX](#)
 Plan type: Switchover
 Prechecks: Enabled
 Ignore warnings: Disabled
 Log location: [OASFSDR_Bucket](#)

Resources

Plan execution groups

Expand all Collapse all

Name	Type	State	Started	Ended	Duration
> Built-In Prechecks	Built-in precheck	Succeeded	Sun, May 26, 2024, 00:43:16 UTC	Sun, May 26, 2024, 00:44:37 UTC	1 m 20 s
> Stop_OAS	User defined	Succeeded	Sun, May 26, 2024, 00:44:50 UTC	Sun, May 26, 2024, 00:46:34 UTC	1 m 44 s
> Stop_NodeManager	User defined	Succeeded	Sun, May 26, 2024, 00:46:51 UTC	Sun, May 26, 2024, 00:48:22 UTC	1 m 30 s
> Update Source Load Balancers' Backend Sets	Built-in	Succeeded	Sun, May 26, 2024, 00:48:22 UTC	Sun, May 26, 2024, 00:49:11 UTC	48 s
> Unmount File Systems from Compute Instances	Built-in	Succeeded	Sun, May 26, 2024, 00:49:23 UTC	Sun, May 26, 2024, 00:50:11 UTC	47 s
> Stop Compute Instances	Built-in	Succeeded	Sun, May 26, 2024, 00:50:24 UTC	Sun, May 26, 2024, 00:51:13 UTC	49 s

During the DR Plan Execution, the following are the tasks performed by the Full Stack DR

1. User-defined task: Runs the stop OAS services command on the OAS compute instance.
2. User-defined task: Stops the Node Manager on the managed servers of the OAS cluster compute instances.
3. Unmounts the volumes and file system from the primary OAS compute instances.
4. Stops the OAS compute instances in the primary region.
5. Switchover the ADW from primary to standby instance.
6. Switchover the DBCS from primary to standby instance.
7. Using the Volume Group replication, creates the volumes added to the Volume Group.
8. Using the File System replication creates a File System in the secondary region.
9. Enable the plan group to terminate a compute instance, Volume Group, and File System, Full Stack DR will delete them in the primary region as they are redundant. By default, Full Stack DR shows them as Disabled; you can enable them.
10. Creates the OAS compute instances in the secondary region.
11. Mounts the volumes and file system in the secondary OAS compute instances.
12. User-defined: Starts the Node Manager on the managed servers of the OAS cluster compute instances.
13. User-defined: Starts the OAS services on the admin server of the OAS cluster compute instances.
14. Removes the Backends from the Backendset of the primary Load Balancer.

15. Adds the OAS compute instances in the secondary region as backends of the Backendset in the secondary Load Balancer.

After executing the Full Stack DR DR plan, you need to map the secondary region Load Balancer IP Address to the required DNS Name in your DNS Domain Management portal, such as GoDaddy.

If you have delegated your DNS domain to the OCI Zone, you can use the scripts with OCI CLI or SDKs to manage the DNS Name mapping within the OCI Zone.

What happens to the Full Stack DR Protection Group and its DR Plans?

The DR Protection Group is still active, but the DR Plan state will be inactive.

All the members added to the primary region's DR Protection Group will now be visible in the secondary region's DR Protection Group as the members like Volume Group, File System, and Compute instances are moved to the secondary region.

Now, the secondary region's OAS environment has become the primary.

The DR Protection Group in the primary OCI region, Ashburn, will now include ADW, DBCS, and Load Balancer without the Backends as members.

Fallback OAS to the primary OCI region

Considering the moved OAS environment in the secondary OCI region, e.g., Phoenix, as the primary OAS environment, create the DR Switchover Plan in the primary OCI region, i.e., Ashburn, and execute it so that the OAS and its dependencies move to the primary OCI region.

If you need to fall back your OAS environment to the primary OCI region, you need to create the DR Plan in the DR Protection Group existing in the primary OCI region and execute it using the same approach that we used to move to the secondary region.

Summary

You have understood the Full Stack Disaster Recovery feature of OCI and how to use it to orchestrate the disaster recovery of the OAS compute instances and their dependency resources, such as ADW, DBCS, Load Balancer, Block Volumes, Boot Volumes, File System, etc. Create the DR Plan type that suits your requirements and perform the DR.

The DR Plan types available in Full Stack DR include Switchover, Failover, and DR drill. The DR Drill is a simulated test case that tests all the configurations in a DR Plan instead of executing the plan on the OCI resources.

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