



# Exadata Cloud at Customer

## Backup & Restore

**Alexandre Fagundes**

OCI Database & Apps LAD

**Marcel Lamarca**

Licences & Systems Oracle LAD

August, 2022





# Marcel Lamarca

- Father, Caipira , husband, Cooker and Corinthiano!
- Graduated in Business Administration (FMU-SP)
- **Oracle DBA**
  - 18 year dedicated to study and support Oracle Databases.
  - 7 years working with Exadata (On-prem, C@C and Cloud Services) .
  - About to complete 3 years at Oracle helping Customers and partners on the journey to Cloud.
- **Oracle Certified Professional (OCP)**
  - 10g, 11g and 12c.
- **Oracle Certified Specialist (OCE)**
  - 11g Grid/RAC Database Administrator.
  - OCI Foundation 2020 / 2022.
  - Oracle Autonomous Database 2019 Administrator.
  - Oracle Cloud Database Migration and integration 2021.





# Alexandre Fagundes

- Father, Son, Husband, **Apps DBA**
- Graduated in Information Systems
- Applications & Database Administrator
- Certified OCI Architect Professional
- Certified Microsoft Azure Administrator
- **Oracle Apps DBA**
- Oracle E-Business Suite & Database Consultancy Services since 2002
- Oracle Latinoamérica Alliances & Channels since 2021



# Safe harbor statement

*The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.*



# Agenda

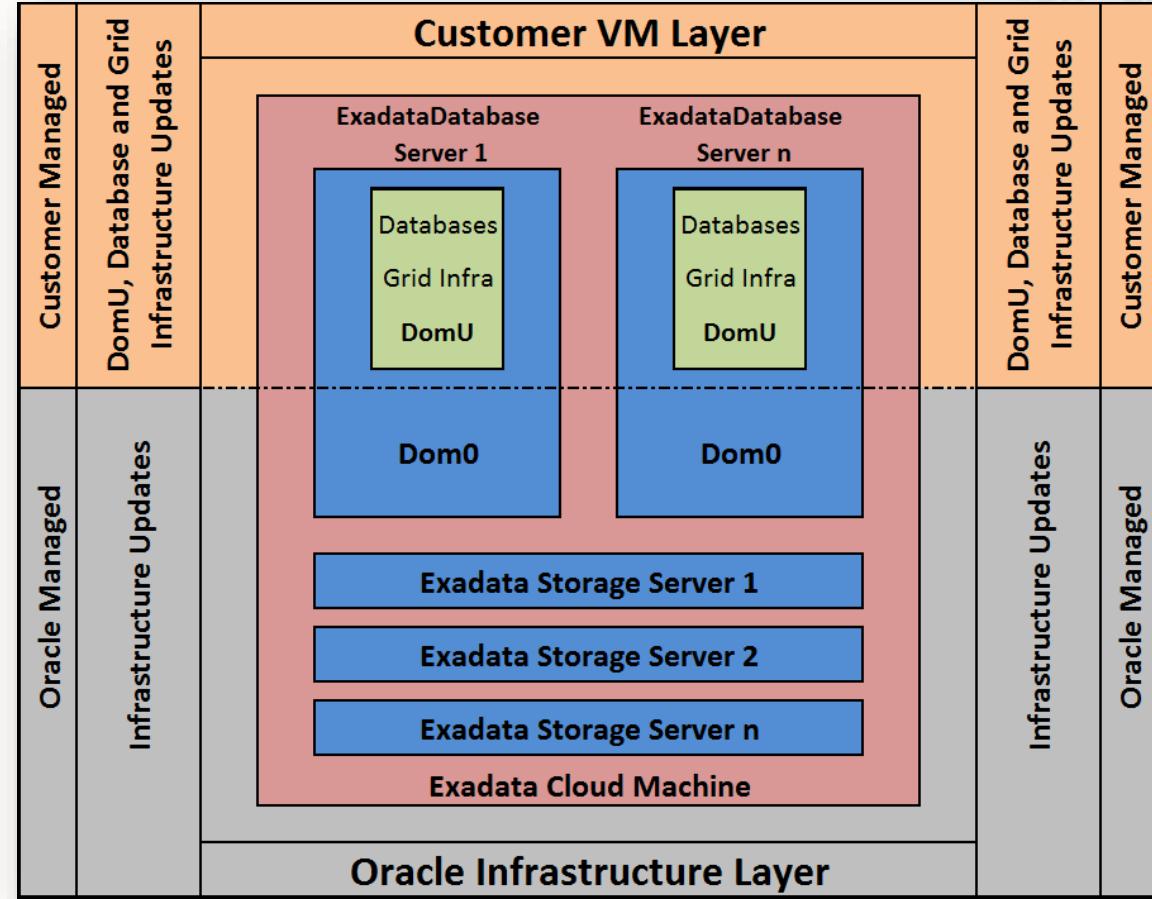
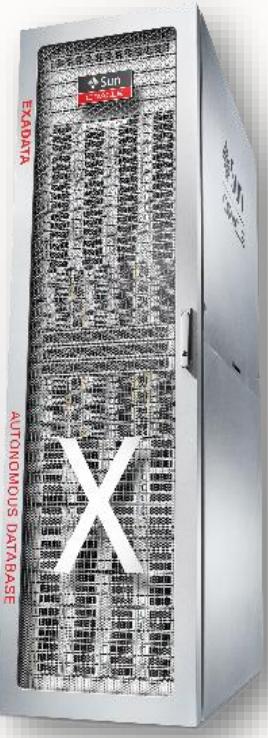


## Today

- C@C Backup Restore Capabilities
- C@C Pre- Requisites for Backup on ExaCC
- C@C Available Backup Options on ExaCC
- C@C Tools / Assistants
- C@C Managing Backup-Create Backup Configuration
- C@C Installing Backup Configuration for Database
- C@C On demand Backup
- C@C Checking Current backup Configuration
- C@C Customizing Backup configuration
- C@C How to take backup list backups

# Exadata Cloud at Customer - Dom0 and DomU

Always good to remember roles even when talking about backup and restore...



# Exadata Cloud at Customer - Have you ever tested the restore process?

Understanding how to use Exachk and proactive SR



- Never forget to back up your database, Oracle Home, Grid home, and wherever you think it's necessary to recover if you get in trouble for any reason.
  
- Always remember that there is no time scheduled when someone report's a problem and requests any data back to the original point from a restore process as soon as possible.
  
- ✓ As a human, when we are under pressure, sometimes it's hard to be focused on the steps required to get back some data lost for any reason. That is why we must be prepared to work on any scenario, no matter how complex it can be.

# Exadata Cloud at Customer

Backup using OCI console option for Gen 1



# Exadata Cloud at Customer - Gen 1 Backup

## ExaCC Gen1 Creating an On-Demand Backup of a Database Deployment

You can create an on-demand backup of a Oracle Database Cloud - Database as a Service database deployment by using the Oracle Database Cloud Service console:

- Log in to the Oracle Database Cloud Service (DBaaS) console using the credentials provided by your Oracle Cloud account administrator.
- Click the database deployment for which you want to create a backup

The screenshot shows the Oracle Cloud My Services interface. At the top, there's a navigation bar with 'ORACLE CLOUD My Services', 'Dashboard', 'Users', 'Notifications', and a 'Welcome' message. Below the navigation is a summary table with columns: Services, OCPUs, Memory, Storage, and Public IPs. The values are 2, 2, 22.5 GB, 296 GB, and 2 respectively. Under the 'Services' tab, there's a search bar and a 'Create Service' button. Two database deployments are listed:

- db12-ee-ep-160718**: Version 12.1.0.2, Edition Enterprise Edition - Extreme Performance. Created on Jul 10, 2016 5:16:00 PM UTC. OCPUs: 1, Memory: 7.5 GB, Storage: 169 GB.
- db12-ee-ep-160620**: Version 12.1.0.2, Edition Enterprise Edition - Extreme Performance. Created on Jun 20, 2016 5:53:40 PM UTC. OCPUs: 1, Memory: 15 GB, Storage: 127 GB.

A link 'Instance create and delete history' is visible at the bottom of the service list.

# Exadata Cloud at Customer - Gen 1

## ExaCC Gen1 backup Options

- The Oracle Database Cloud Service Overview page is displayed. Click the Administration tile.

The screenshot shows the Oracle Database Cloud Service Overview page. At the top, it displays system statistics: 1 Node, 1 OCPUs, 7.5 GB Memory, and 169 GB Storage. Below this, the 'Nodes' section lists a single node named db12-ee-ep-160718 with details: Public IP, SID: ORCL, PDB Name: PDB1, OCPUs: 1, Memory: 7.5 GB, and Storage: 169 GB. On the left, a sidebar titled 'Administration' shows 0 patches available and a link to 'View available backups'. At the bottom, 'Additional Information' includes Identity Domain: dbpm22, Edition: Enterprise Edition - Extreme Performance, Service Level: Oracle Database Cloud Service, and Subscription Type: Monthly.

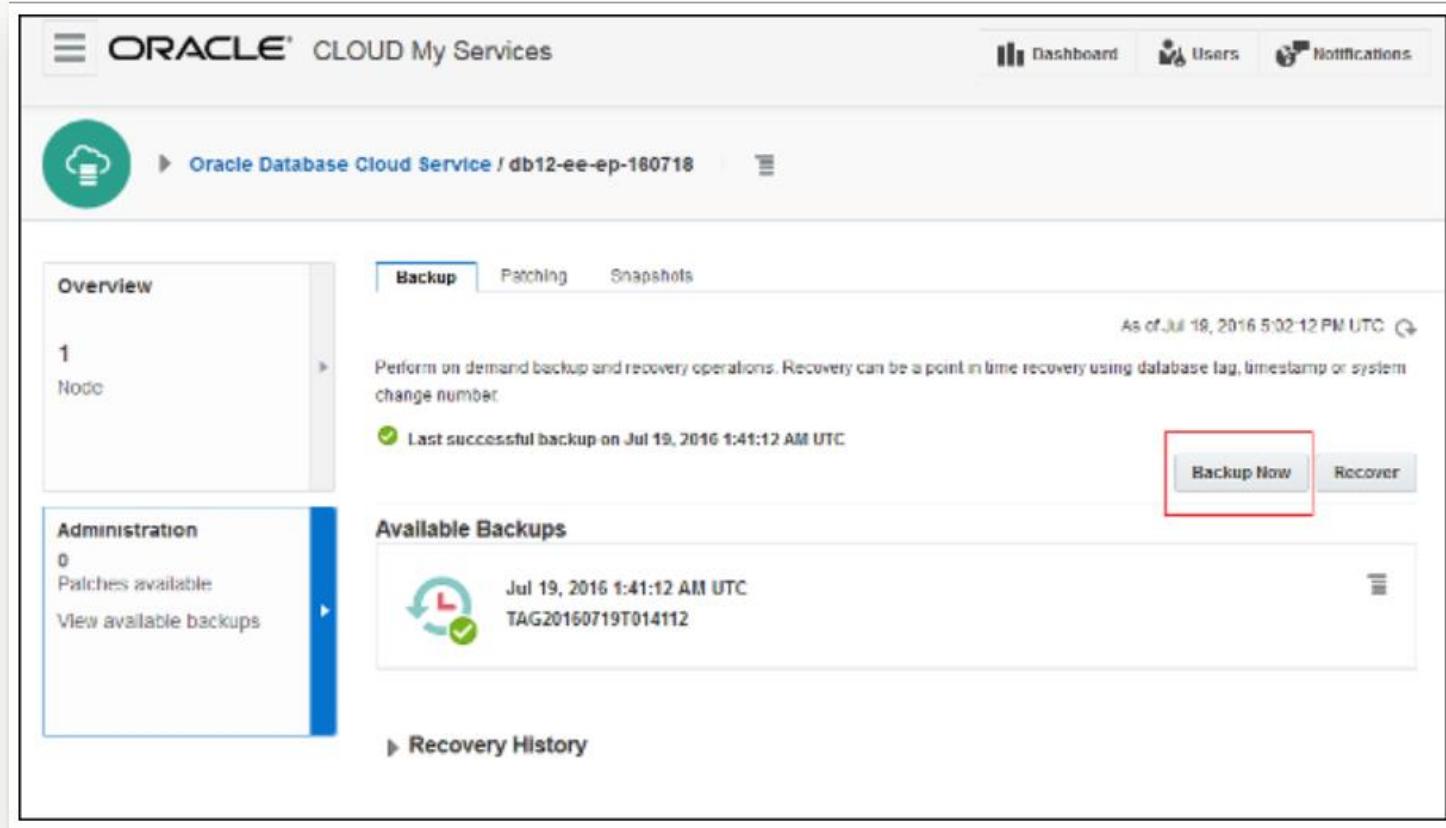
Nodes	OCPUs	Memory	Storage
1	1	7.5 GB	169 GB

db12-ee-ep-160718	SQL *Net Port: 1521	OCPUs: 1
Public IP:	SID: ORCL	Memory: 7.5 GB
	PDB Name: PDB1	Storage: 169 GB

# Exadata Cloud at Customer - Gen 1

## ExaCC Gen1 backup Options

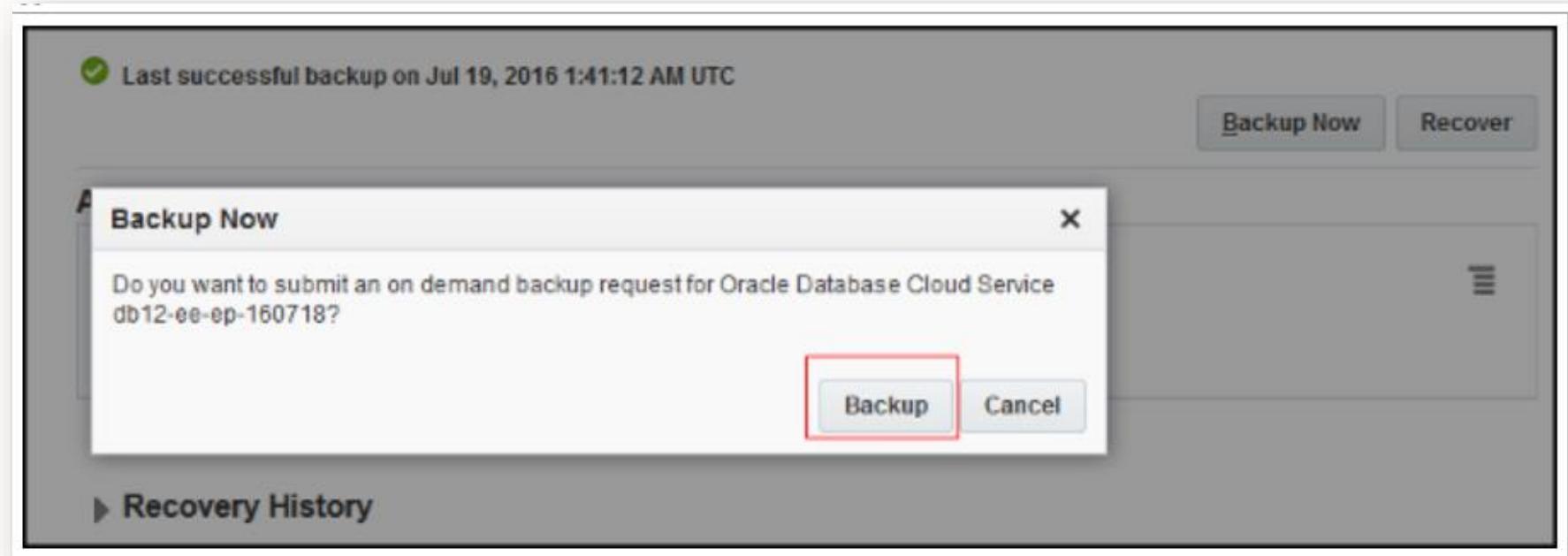
- The Oracle Database Cloud Service Backup page is displayed. Click Backup Now.



# Exadata Cloud at Customer - Gen 1

## ExaCC Gen1 backup Options

- Click Backup to confirm that you want to create an on-demand backup now



# Exadata Cloud at Customer - Gen 1

## ExaCC Gen1 backup Options

- You can refresh the page until you see that the backup has completed. Note that there is now a tag listed with the backup.

The screenshot shows the 'Backup' tab of the Exadata Cloud at Customer - Gen 1 interface. On the left, a sidebar displays 'Overview' (1 Node) and 'Administration' (0 Patches available). The main area shows a message: 'Perform on demand backup and recovery operations. Recovery can be a point in time recovery using database tag, timestamp or system change number.' Below this, a green checkmark indicates 'Last successful backup on Jul 19, 2016 1:10:28 PM UTC'. Two backup entries are listed under 'Available Backups':

- Jul 19, 2016 1:10:28 PM UTC TAG20160719T131028 (highlighted with a red box)
- Jul 19, 2016 1:41:12 AM UTC TAG20160719T014112

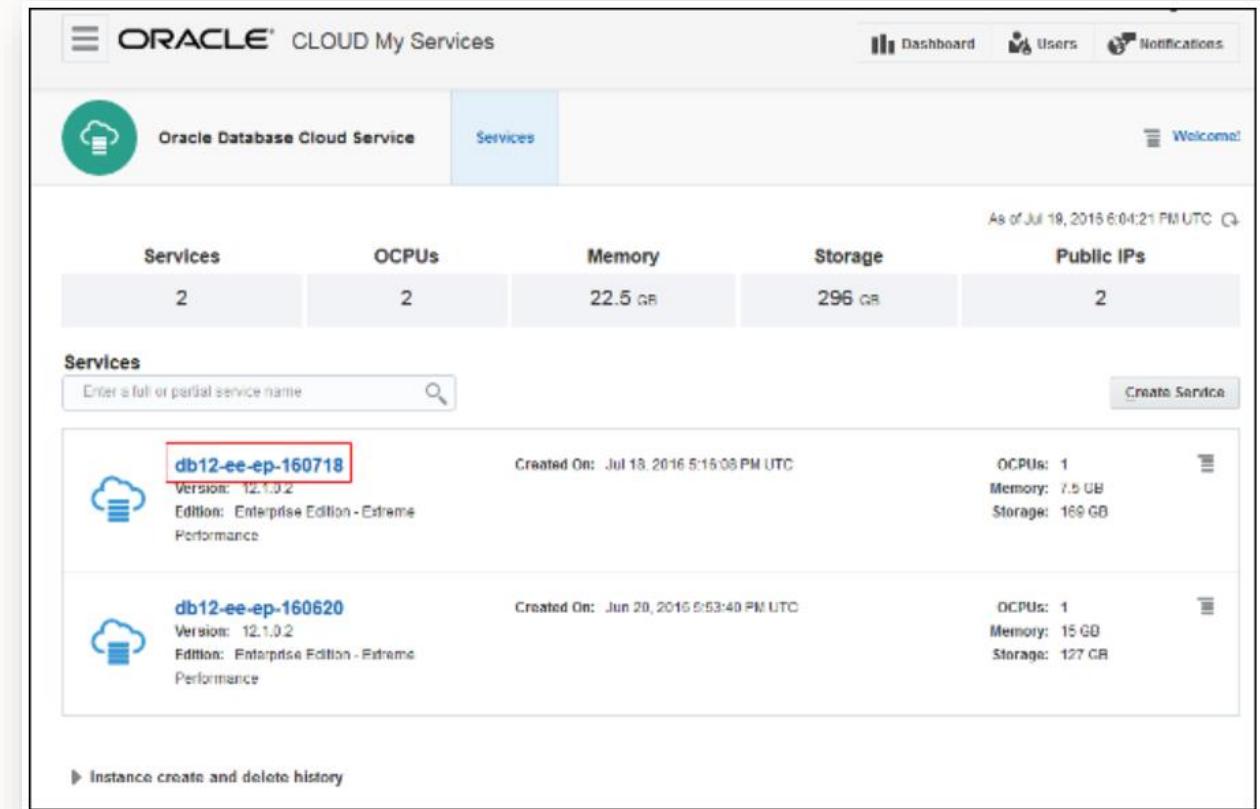
A 'Recovery History' link is located at the bottom of the main content area.

# Exadata Cloud at Customer - Gen 1

## ExaCC Gen1 Restore Option

You can use the Oracle Database Cloud Service console to restore from the most recent backup and perform complete recovery:

- Log in to the Oracle Database Cloud Service (DBaaS) console using the credentials provided by your Oracle Cloud account administrator.
- Click the database deployment for which you want to restore a backup.



The screenshot shows the Oracle Cloud My Services interface. At the top, there's a navigation bar with 'Dashboard', 'Users', 'Notifications', and a 'Welcome' message. Below it, a summary table provides quick stats: 2 Services, 2 OCPUs, 22.5 GB Memory, 296 GB Storage, and 2 Public IPs. A 'Create Service' button is also visible. The main area is titled 'Services' and contains a search bar. Two database instances are listed:

Service	Created On	OCPUs	Memory	Storage
db12-ee-ep-160718	Jul 18, 2016 5:15:08 PM UTC	1	7.5 GB	160 GB
db12-ee-ep-160620	Jun 28, 2016 5:53:40 PM UTC	1	15 GB	127 GB

A link 'Instance create and delete history' is located at the bottom of the service list.

- The Oracle Database Cloud Service Overview page is displayed. Click the Administration tile.

The screenshot shows the Oracle Database Cloud Service Overview page. At the top left is a green circular icon with a white cloud and gear symbol. To its right is the service name: **Oracle Database Cloud Service / db12-ee-sp-160718**. On the far right is a three-line menu icon.

The main content area has a light gray header bar with the text "As of Jul 19, 2016 6:07:56 PM UTC" and a refresh icon. Below this is a horizontal summary table with four columns: **Nodes**, **OCPUs**, **Memory**, and **Storage**. The values are: Nodes 1, OCPUs 1, Memory 7.5 GB, and Storage 169 GB.

On the left, there are two vertical navigation panels:

- Overview**: Shows 1 Node.
- Administration**: Shows 0 Patches available and a link to View available backups.

The main content area includes sections for **Nodes** (listing the node details) and **Activity**. Below these is a section titled **Additional Information** with a "show more" link. The information listed is:

Identity Domain:	dbpm22
Edition:	Enterprise Edition - Extreme Performance
Service Level:	Oracle Database Cloud Service
Subscription Type:	Monthly

# Exadata Cloud at Customer

Another backup options

# Exadata Cloud at Customer - How to Apply an One-off patch

## Understanding how to backup a DB or Grid home before patching

- Backup Grid and Oracle Home and inventory using MOS ([Doc ID 565017.1](#))

**1. (Suggested but not mandatory) Shutdown databases, listeners, or any other processes related to the ORACLE\_HOME which you are taking backup.**

**2. cd to the directory where ORACLE\_HOME is located for example:**

```
cd /u01/app/oracle/product/11.2
```

**3. backup the ORACLE\_HOME for example:**

```
tar -pcvf /u01/app/oracle/backup/oracle_home_bkup.tar db1
```

In the above example, ORACLE\_HOME is /u01/app/oracle/product/11.2/db1 and backup the directory is /u01/app/oracle/backup/

Below is an example of restoring the ORACLE\_HOME:

**1. (This step would be mandatory in the case of restore) Shutdown databases, listeners, or any other related to the ORACLE\_HOME which you are restoring.**

**2. Go to the directory where ORACLE\_HOME is located for example:**

```
cd /u01/app/oracle/product/11.2
```

**3. Rename or move the current ORACLE\_HOME for example:**

```
mv db1 db1_bkup
```

**4. Restore the ORACLE\_HOME for example:**

```
tar -pxvf /u01/app/oracle/backup/oracle_home_bkup.tar
```

Make sure that is enough free disk space before doing the backup.

# Exadata Cloud at Customer

Backup using OCI console option for GEN 2



# Exadata Cloud at Customer - Gen 2

Create an backup option and destination using OCI console

You can use the Oracle Database Cloud Service console to create a backup destination:

- Log in to the Oracle Database Cloud Service (DBaaS) console using a backup destination (Object Storage, NFS or a ZFS Appliance)
- You have up tp 60 days of retetion when using console option;

## Create Database

Help

### Basic information for the database

Provide the database name

test

Provide a unique name for the database *Optional*

teste

The database unique name distinguishes between the primary and standby databases in a Data Guard association. You cannot use the same unique name used by another database in the primary or standby VM clusters. Enter up to 30 characters. If you do not specify a unique name, the system automatically generates one. [Learn more](#)

Select a database version

19c

### Configure Backups *i*

Backup destination type

Object Storage

Select Backup Destination Type

None

Object Storage

Network File System (NFS)

Recovery Appliance

# Exadata Cloud at Customer - Configure a backup destination

Follow the process during database creation

Resources

## Work requests

Operation	State	% complete	Accepted	Started	Finished	More
Create Exacc database backup resource	Succeeded	100%	Tue, Aug 30, 2022, 04:58:42 UTC	Tue, Aug 30, 2022, 04:59:01 UTC	Tue, Aug 30, 2022, 04:59:24 UTC	⋮
Update Exadata Database backup configuration	In progress	70%	Tue, Aug 30, 2022, 04:57:48 UTC	Tue, Aug 30, 2022, 04:58:10 UTC	—	⋮
Create Database	In progress	80%	Tue, Aug 30, 2022, 04:29:18 UTC	Tue, Aug 30, 2022, 04:29:51 UTC	—	⋮

Showing 3 Items < 1 of 1 >

Resources

## Log messages

Message	Timestamp (UTC)	More
Configuring Exadata Database Backup configuration.	Tue, Aug 30, 2022, 05:05:32 UTC	⋮
Generating SWIFT password.	Tue, Aug 30, 2022, 04:59:51 UTC	⋮
Checking agent database backup configuration.	Tue, Aug 30, 2022, 04:59:37 UTC	⋮
Checking Database resource.	Tue, Aug 30, 2022, 04:58:18 UTC	⋮
Checking tenant resource.	Tue, Aug 30, 2022, 04:58:15 UTC	⋮
Setting Exa Db Backup Config.	Tue, Aug 30, 2022, 04:58:10 UTC	⋮

Showing 6 Items < 1 of 1 >



# Exadata Cloud at Customer - Configure a backup destination

## Loading details

Resources

Log messages

Error messages

Associated resources

### Log messages

Message	Timestamp (UTC)
Configuring Exadata Database Backup configuration.	Tue, Aug 30, 2022, 05:05:32 UTC
Generating SWIFT password.	Tue, Aug 30, 2022, 04:59:51 UTC
Checking agent database backup configuration.	Tue, Aug 30, 2022, 04:59:37 UTC
Checking Database resource.	Tue, Aug 30, 2022, 04:58:18 UTC
Checking tenant resource.	Tue, Aug 30, 2022, 04:58:15 UTC
Setting Exa Db Backup Config.	Tue, Aug 30, 2022, 04:58:10 UTC

Showing 6 Items < 1 of 1 >

# Exadata Cloud at Customer - Configure a backup destination

## Progress details



**WR**

IN PROGRESS

### Update Exadata Database backup configuration

Work request information

Update Exadata Database backup configuration

80% complete

In progress

**Operation:** Update Exadata Database backup configuration      **Accepted:** Tue, Aug 30, 2022, 04:57:48 UTC

**OCID:** ...ut5vdq [Show](#) [Copy](#)      **Started:** Tue, Aug 30, 2022, 04:58:10 UTC

**Compartment:** oscnas001 (root)/ExaCC/ExaCC6/Exacc6vm2      **Finished:** —

# Exadata Cloud at Customer

Resetting backup API after tooling upgrade for ExaCC

# Exadata Cloud at Customer - Patching Tooling

Never forget to reset bkup config always when you update dbaascli

- All dbaascli commands must be executed by root user;
- To check current tooling installed and version available follow commands below :

**# rpm -qa | grep -i dbaastools**

- In case you need to keep dbaascli update automatically, run this command below :

**# dbaascli patch tools list**

- To update to the latest available cloud tooling release, run the following command :

**# dbaascli admin updateStack --version LATEST**

- Dont forget to reset backup configuration after any dbaascli update. You can use this command bellow :

**# /var/opt/oracle/ocdeassistants/bkup/bkup**

- If your current version is to old you need to upgrade it manually using official oracle Doc :

<https://docs.oracle.com/en/cloud/paas/database-dbaas-cloud/csdbi/problems-administering-deployments.html#GUID-14724B31-FE0B-4D8C-BE36-CEE81FC84A5B>

**Reference:** How to upgrade DBAAS Cloud Tooling using dbaascli (**Doc ID 2350471.1**)

# Exadata Backup/Restore Capabilities

ExaCS supports backing up databases on an Exadata DB system to an existing bucket in the Oracle Cloud Infrastructure Object Storage service and to the local disk Fast Recovery Area.

- You need to Create a backup configuration file that indicates the backup destination, when the backup should run, and how long backups are retained. If the backup destination is Object Storage, the file also contains the credentials to access the service.
- As a next step you associate the backup configuration file with a database. The database will be backed up as scheduled, or you can create an on-demand backup.

**Note:** You must update the cloud-specific tooling on all the compute nodes in your Exadata DB system before performing the Backup-restore procedures. For more information, see [Updating an Exadata DB System](#).

# Exadata Backup/Restore -Prerequisites

The Exadata DB system requires access to the Oracle Cloud Infrastructure Object Storage service. Oracle recommends using a service gateway with the VCN to enable this access.

An existing Object Storage bucket to use as the backup destination. You can use the Console or the Object Storage API to create the bucket.

- An auth token generated by Oracle Cloud Infrastructure. You can use the Console or the IAM API to generate the password.
- The user name specified in the backup configuration file must have tenancy-level access to Object Storage. Administrator should create a policy like the following that limits access to only the required resources in Object Storage for backing up and restoring the database:

```
Allow group <group_name> to manage objects in compartment <compartment_name> where  
target.bucket.name = '<bucket_name>'
```

```
Allow group <group_name> to read buckets in compartment <compartment_name>
```

# Exadata Cloud at Customer - Before creating a Bucket

Prerequisites : Required Networking configuration for Backup

- Before you configure backup make sure subnet for backup should be associated with route through Service Gateway - facilitates access to Object Storage (OSS)
- Backup Subset : ExaCS Uses a separate backup subnet which could be on private subnet as below

The screenshot displays three main components of the Oracle Cloud Infrastructure Networking interface:

- Service Gateways in balsharma Compartment:** Shows a list of service gateways, including one named "sg\_bal" which is available.
- Subnet Details:** Shows a detailed view of a subnet named "sub\_priv\_bkp\_bal". Key details include:
  - CIDR Block:** 10.0.32.0/20
  - OCID:** ...jgji6a
  - Virtual Router MAC:** Address: 00:00:17:1F:C5:06
  - Availability Domain:** GrCh:US-ASHBURN-AD-1
  - DNS Domain Name:** subprivb... (with Show and Copy links)
  - Route Table:** [priv](#)
  - Security Lists:** [fsaccess](#) [Default](#) (with Show and Copy links)
  - DHCP Options:** [Default](#) ([DHCP Options for vcn\\_bal](#))
- Route Table Details:** Shows a detailed view of a route table named "priv". Key details include:
  - Route Table Information:** OCID: ...jgj... (with Show and Copy links), Created: Mon, 14 Jan 2019 23:14:51 GMT, Compartment: oclobenelment (root)/balsharma
  - Route Rules:** Displays 2 route rules, including one for destination CIDR Block 0.0.0.0/0 targeting a NAT Gateway.

# Exadata Cloud at Customer - Configure a token to access bucket

Create a token to allow you using bucket destinations

The screenshot shows the Oracle Identity Cloud Service interface. At the top, it displays the navigation path: Identity > Users > User Details > Auth Tokens. The user profile for 'bal.sharma@oracle.com' is shown, with a green circular icon containing a white 'B' labeled 'ACTIVE'. Below the profile, there are tabs for 'User Information' (selected) and 'Tags'. Under 'User Information', details like OCID, Status (Active), and Creation date (Mon, 29 Jan 2018 18:23:57 GMT) are listed. The 'Capabilities' section indicates Local password, API keys, and Auth tokens are enabled. On the left sidebar, under 'Resources', 'Auth Tokens' is selected, showing a list with a 'Generate Token' button. A modal window titled 'Generate Token' is open, prompting for a 'DESCRIPTION' (entered as 'For XD Backup Password-bkup\_oss\_passwd') and a 'Generate Token' button. Another modal window titled 'Generate Token' shows the generated token '30DK+eMHNFF6l0nrs' and a 'Copy' button.

# Exadata Cloud at Customer - Configuration File Sample

## Create a destination and retention policy

```
# cd /var/opt/oracle/ocde/assistants/bkup
# vi bkup.cfg ==> This file may be empty by default. Enter the below values into the file and can be customized as well. Change the permission of the file

[root@xdprod-n53zg1 bkup]# cat bkup.cfg
# The bkup.cfg file will hold all the config info for BKUP
bkup_cfg_files=yes
bkup_disk=yes
bkup_disk_recovery_window=7
bkup_oss=yes
bkup_oss_url=https://swiftobjectstorage.us-ashburn-1.oraclecloud.com/v1/ociobenablement/balxdbucket
bkup_oss_user=bal.sharma@oracle.com
bkup_oss_passwd=3DDKr+aEMHhF61jDnrs
bkup_oss_recovery_window=30
bkup_daily_time=17:00 ➔ Make it the time window you want
bkup_cron_entry=yes

#chmod 600 bkup.cfg
#chown root bkup.cfg
```

# Exadata Cloud at Customer - cheking conf file

Check any configuration file before do a backup

```
[root@xdprod-n53zg1 ~]# /var/opt/oracle/bkup_api/bkup_api bkup_chkcfg --dbname=bmsprod
DBaaS Backup API V1.5 @2016 Multi-Oracle home
-> Action : bkup_chkcfg
-> logfile: /var/opt/oracle/bkup_api/log/bkup_api.log
** OBKUP:: Wallet is in open state
** OBKUP:: Oracle database state is up and running
** catalog mode no
** OBKUP:: ##### CONFIGURATION #####
** OBKUP:: -> Backup:
** OBKUP:: Config files:yes
** OBKUP:: Edition: enterprise
** OBKUP:: Type: diskoss
[root@xdprod-n53zg1 ~]#
```

# Exadata Cloud at Customer - checking current log

## Check current log during backup execution

DBaaS Backup API V1.5 @2016 Multi-Oracle home

```
-> Action : set_config  
-> logfile: /var/opt/oracle/bkup_api/log/bkup_api.log  
cfgfile : /var/opt/oracle/ocde/assistants/bkup/bkup.cfg  
Using configuration file: /var/opt/oracle/ocde/assistants/bkup/bkup.cfg  
API::Parameters validated.  
** process started with PID: 204524  
** see log file for monitor progress
```

## Backup Activity Log

```
root@xdprod-n53zg1 bkup]# tail -10f /var/opt/oracle/bkup_api/log/bkup_api.log  
Wed, 30 Jan 2019 17:04:26 DBaaS Backup API V1.5 @2016 Multi-Oracle home  
Wed, 30 Jan 2019 17:04:26 running on node: xdprod-n53zg1  
Wed, 30 Jan 2019 17:05:13 7b73a19624b011e9a2dc00101a092c50@ backups after execution 10  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170258  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170340  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170348  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170409  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170432  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170435  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170445  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 rman tag TAG20190130T170448  
Wed, 30 Jan 2019 17:05:14 7b73a19624b011e9a2dc00101a092c50 Backup succeeded TAG20190130T170448  
Wed, 30 Jan 2019 17:05:14 API::218211::: Running the following command: /var/opt/oracle/ocde/assistants/bkup/obkup -dbname=bmsprod -archivelog -uuid=7b73a19624b0  
Wed, 30 Jan 2019 17:05:14 obkup completed.
```

```
[root@xdprod-n53zg1 ~]  
DBaaS Backup API V1.5  
-> Action : bkup_chk  
-> logfile: /var/opt/  
** OBKUP:: Wallet is  
** OBKUP:: Oracle da  
** catalog mode no  
** OBKUP:: #####  
** OBKUP:: -> Backup  
** OBKUP:: Config  
** OBKUP:: Editio  
** OBKUP:: Type:  
[root@xdprod-n53zg1 ~]
```

# Exadata Cloud at Customer - Backup API Restore and Recover Options

## How to restore a database using Rest API

```
[root@xdprod-n53zg1 ~]# /var/opt/oracle/bkup_api/bkup_api recover_start --dbname=bmsprod
DBaaS Backup API V1.5 @2016 Multi-Oracle home
-> Action : recover_start
-> logfile: /var/opt/oracle/bkup_api/log/bkup_api.log
API::ERROR Please choose one recovery action to perform
Available options:
-> recover_start --latest [Recovers from the latest backup]
-> recover_start --scn 50100 [Recovers from the specified SCN]
-> recover_start -b TAG2014 [Performs point in time recovery using the incremental tag]
-> recover_start -b JAAS2014 --keep [Performs a full backup recovery]
-> recover_start -t '31-JAN-2014 14:50:07' [Performs a recovery to the specified (UTC)timestamp]
-> recover_start -t '31-JAN-2014 14:50:07' --nonutc [Performs a recovery to the specified timestamp]
-> recover_start --rargs='-latest' [by pass the command you want to orec tool (to be deprecated)]
[root@xdprod-n53zg1 ~]#
```

# Exadata Cloud at Customer - Backup API Restore and Recover Options

## How to restore a database using Rest API

```
[root@xdprod-n53zg1 ~]# /var/opt/oracle/bkup_api/bkup_api list --dbname=bmsprod
DBaaS Backup API V1.5 @2016 Multi-Oracle home
-> Action : list
-> logfile: /var/opt/oracle/bkup_api/log/bkup_api.log
-> Listing all backups
  Backup Tag          Completion Date (UTC)      Type
keep
-----
 TAG20190311T171523  03/11/2019 17:15:23  incremental
False
 TAG20190312T171043  03/12/2019 17:10:43  incremental
False
.....More lines.....
TAG20190409T171141  04/09/2019 17:11:41  incremental
False
 TAG20190410T151500  04/10/2019 15:15:00  incremental
False
```

```
[root@xdprod-n53zg1 ~]# /var/opt/oracle/bkup_api/bkup_api recover_list --keep --dbname bmsprod
DBaaS Backup API V1.5 @2016 Multi-Oracle home
-> Action: recover_list
-> logfile: /var/opt/oracle/bkup_api/log/bkup_api.log
Utility output:
OREC version: 16.0.0.0
Starting OREC
Logfile is /var/opt/oracle/log/bmsprod/orec/orec_2019-04-10_15:42:53.log
.....Lines truncated.....
Tag parameter not required
OREC:##### LONG-TERM RETENTION
BACKUPS #####
* MONTHLY20190410T152138
```

# Exadata Cloud at Customer - Backup API when updating passwd

How to change passwd in case it must to be done

## Updating the Password by bkup\_api Utility

OSS authentication check/Update password

```
curl -v -X GET <oss url> -u <userid of oss>:<passwd of oss>
```

Next step is to verify if the password is stored correctly in the wallet. Wallet is located at  
`/u01/app/oracle/admin/<SID>/db_wallet`

```
$ORACLE_HOME/bin/mkstore -wrl /u01/app/oracle/admin/<SID>/db_wallet -list  
$ORACLE_HOME/bin/mkstore -wrl /u01/app/oracle/admin/orcl/db_wallet -viewEntry <entryname>
```

Login as root user on first node of ExaCS after logging as “opc” user

To change oss password in db\_wallet Create a file that contains the updated password such as /tmp/bal.cfg which looks like  
password=Welcome1

chmod 0600 /tmp/bal.cfg

Run the command to set the new password.

```
/var/opt/oracle/bkup_api/bkup_api update_wallet --cfg=password-file  
.opt/oracle/bkup_api/bkup_api update_wallet --cfg=/tmp/bal.cfg
```



# Exadata Cloud at Customer - Backup Restore Options

How to restore a Database using bkp\_api option

## Restoring the Backup-Example

```
[root@xdprod-n53zg1 ~]# /var/opt/oracle/bkup_api/bkup_api recover_start --latest --dbname=bmsprod
DBaaS Backup API V1.5 @2016 Multi-Oracle home
-> Action : recover_start
-> logfile: /var/opt/oracle/bkup_api/log/bkup_api.log
** process started with PID: 118663
** see log file for monitor progress
-----
[root@xdprod-n53zg1 ~]#
```

Other recovery scenarios is as below

- > recover\_start --latest [Recovers from the latest backup]
- > recover\_start --scn 50100 [Recovers from the specified SCN]
- > recover\_start -b TAG2014 [Performs point in time recovery using the incremental tag]
- > recover\_start -b JAAS2014 --keep [Performs a full backup recovery]
- > recover\_start -t '31-JAN-2014 14:50:07' [Performs a recovery to the specified (UTC)timestamp]
- > recover\_start -t '31-JAN-2014 14:50:07' --nonutc [Performs a recovery to the specified timestamp]
- > recover\_start --rargs='-latest' [by pass the command you want to orec tool (to be deprecated)]

```
[root@xdprod-n53zg1 ~]# ps -ef | grep 118663
root    118663      1  0 15:58 ?        00:00:00 python /var/opt/oracle/bkup_api/bkup_api recover_start --latest --dbname=bmsprod
root    118665  118663  0 15:58 ?        00:00:00 /usr/bin/perl /var/opt/oracle/orec/orec -latest -dbname=bmsprod
root    121890  87221  0 16:00 pts/1    00:00:00 grep 118663
[root@xdprod-n53zg1 ~]#
```

# Exadata Cloud at Customer - Backup API checking current configuration

## How to check current configuration files

### Know Your Current Backup Configuration using bkup\_api

You can use the get\_config\_info command of the bkup\_api utility to view backup configuration settings for database deployments

- Connect to the compute node as the opc user.
- Start a root-user command shell by sudo –s
- List the value of a backup configuration setting

```
# /var/opt/oracle/bkup_api/bkup_api get_config_info -e configuration --dbname dbname [--json json_destination]
```

**Configuration** is one of these backup configuration settings:

```
bkup_cfg_db_spec, bkup_cfg_files, bkup_cfg_os_spec, bkup_cfg_recovery_window, bkup_daily_time,  
bkup_disk, bkup_disk_recovery_window, bkup_nfs_mount_dir, bkup_oss, bkup_oss_recovery_window,  
bkup_oss_url, bkup_oss_user, bkup_rman_retention, bkup_script_loc, bkup_type, fra_loc, opc_oss_url,  
oss_auth_url, oss_base, oss_sname, oss_tid, oss_url, oss_user.
```

**dbname** is the database name.



- Exadata Backup & Restore Best Practices using Cloud Object Storage (Doc ID 2709419.1)
- Exadata Cloud Compute Node Backup and Restore Operations (Doc ID 2809393.1)
- <https://docs.oracle.com/en/cloud/cloud-at-customer/exadata-cloud-at-customer/exacc/back-and-recover.html>
- <https://docs.oracle.com/en/engineered-systems/exadata-cloud-at-customer/ecccm/ecc-manage-db-backup-and-recovery.html#GUID-07D1B1D6-4A06-4859-B7DF-4C3A681A6B40>
- <https://docs.oracle.com/en/engineered-systems/exadata-cloud-at-customer/ecccm/ecc-manage-db-backup-and-recovery.html#GUID-C9538B0B-8565-438C-8102-A8BC0AAA677C>



# Thank You 😊

**Questions / Feedback / Training Suggestions**

[alexandre.af.fagundes@oracle.com](mailto:alexandre.af.fagundes@oracle.com)

[marcel.lamarca@oracle.com](mailto:marcel.lamarca@oracle.com)

**Ask for help 😊**

ORACLE

