

Beijing, 2017





About me

- > 17 Years working with Oracle Technology
- Oracle Technology Network Expert "OTN" Expert 2003 Award
- Oracle ACE 2004 Award
- Oracle ACE Director 2012 Award
- Consulting Tasks, Conferences and activities related to, in over 50 countries around the globe
- OCM (Oracle Certified Master)





One of the first:
 OCM Maximum Availability
 OCM Cloud
 and OCM 12c in the world



Certified Master

Oracle Database 12c Maximum Availability Architecture



Certified Master

Database Cloud Administrator

ORACLE'

Certified Master

Oracle Database 11g Administrator

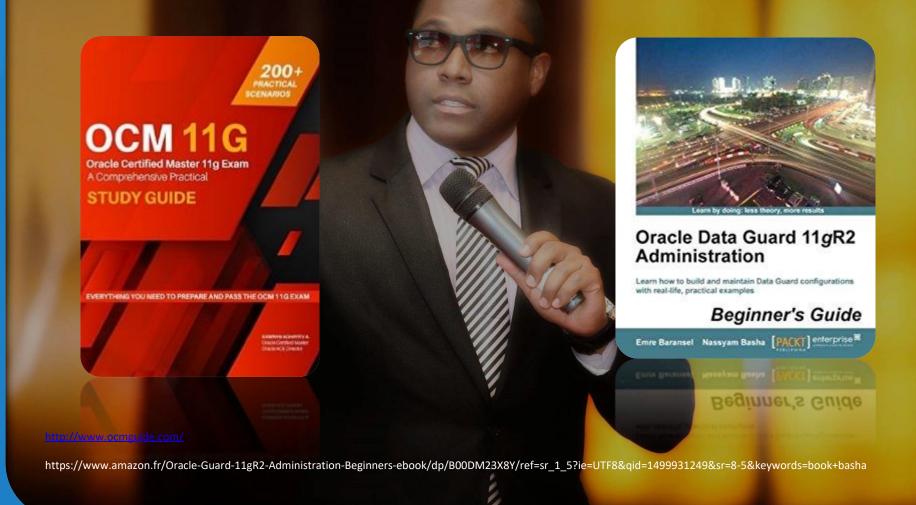
ORACLE'

Certified Master

Oracle Database 12c Administrator



➤ Official reviewer of Books: "OCM11g Study Guide" & "Oracle Data Guard 11gR2 Administration"





➤ Co-author Book: Oracle Performance Optimization and Diagnostics Case Selection (Oracle 性能优化与诊断案例精选)







- ➤ Technical Articles Written for OTN Spanish,
 Portuguese & English with +150 Published Articles
- Oracle Speaker at many Global Oracle events like:
 OTN LAD, OTN EMEA, OTN APAC, DTCC,
 Oracle Code and more..
- Actually, Senior Cloud Solution Architect in the Oracle Consulting company in China "www.Enmotech.com"
- I'm from Venezuela, living in Beijing, China and now ready to start this session..



ENMOTECH

数据驱动成就未来

Make Your Data Dance







ENMOTECH - Top Integrated Data Service Provider

- 6 Oracle ACE Director, 2 Oracle ACE, SQL Champion, and dozens of OCM experts, both with MySQL and DB2 experts;
- Provide services and solutions for more than 500 customers including Finance,
 Telecommunications, Insurance, Electricity, Energy and other industries.







Focus: Provide Professional Data / Database Operation and Maintenance Services For more than 300 Customers





Expert: Top Talents with Best Service

More than 200 experts, including 6 Oracle ACED and 2 Oracle ACE, 30+ OCM, 40+ OCP, Middleware / MySQL / DB2 and other open source experts.





Smart: Provide Emergency Services for more than 200 Customers

Provide Optimal Architecture Solutions and Services, including Emergency Rescue and Speedy Optimization





Play the role:

- With the spirit of artisan, create the best data service;
- As a service provider, provide operation & maintenance and expert support;
- As a product provider, operate alone or integrated as component;
- As a provider of wisdom, think and innovate together with users.

Fully Provide Integrate Solutions









ENMOTECH: TO the Future of Cloud and Intelligence







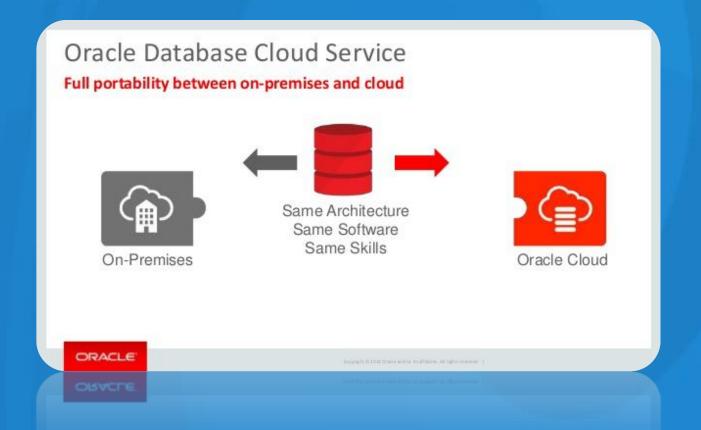
Let's start...







1.- Be expert in "On-Premises" databases



- Architecture
- General Administration
- Backup
- Tuning
- High Availability Solutions (RAC, DG and others)
- etc





2.- Familiarization with:



DBCS (Database Cloud Service Offerings)

Database Cloud Services: Oracle Cloud provides several Oracle Cloud Service deployment choices. These choices allow you to start at the cost and capability level suitable to your use case and then gives you the flexibility to adapt as your requirements change over time. Choices include: single schemas, dedicated pluggable databases, virtualized databases, bare metal databases and databases running on world class engineered infrastructure.

Oracle Database Cloud Service
Oracle Database Cloud Service – Bare Metal
Oracle Database Exadata Cloud Service
Oracle Database Exadata Express Cloud Service – Managed
Oracle Database Schema Cloud Service - Managed

https://cloud.oracle.com/en_US/database



2.- Familiarization with:

Joel Pérez



Cloud Layers, Cloud Deployments

Cloud Layers:

SaaS, PaaS, IaaS

Software as a Service

Applications delivered as a service to end-users over the Internet

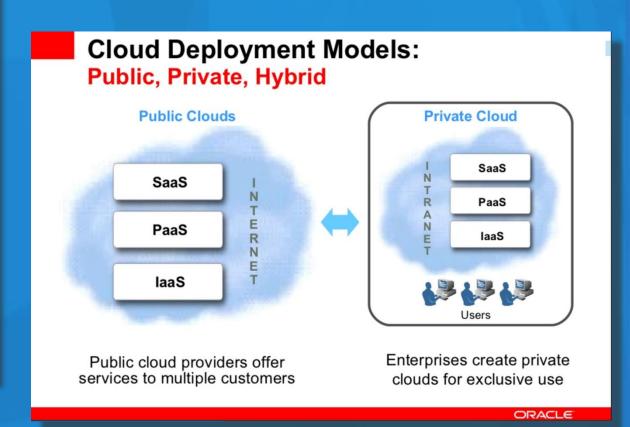
Platform as a Service

App development & deployment platform delivered as a service

Infrastructure as a Service

Server, storage and network hardware and associated software delivered as a service

ORACLE



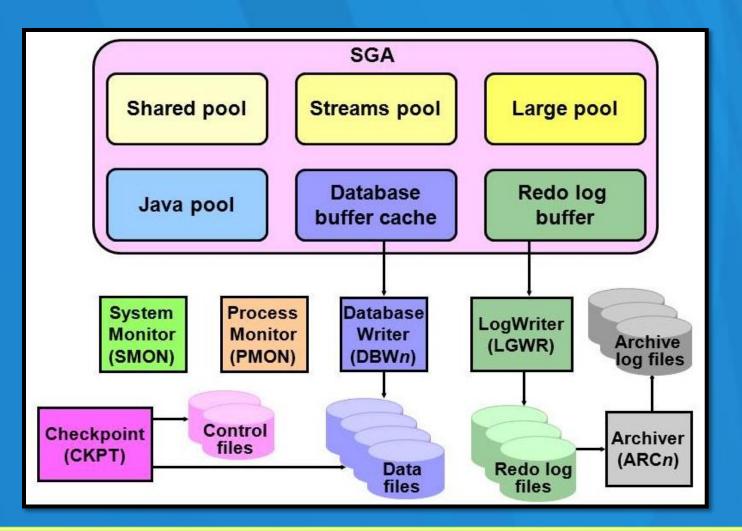






Topic: Database Deployment vs. On-Premises Database

Database Instance: is a set of memory structures that manage database files









Topic: Database Deployment vs. On-Premises Database

Database Instance: is a set of memory structures that manage database files

Creating Databases using the DBCA (Database Configuration Assistant)









Topic: Database Deployment vs. On-Premises Database

Database Instance: is a set of memory structures that manage database files

Creating Databases using the DBCA (Database Configuration Assistant) in silent mode

```
dbca -silent -createDatabase -templateName General_Purpose.dbc
-gdbname oradb.example.com -sid oradb -responseFile NO_VALUE
-characterSet AL32UTF8 -memoryPercentage 30 -emConfiguration LOCAL

Enter SYSTEM user password:

password
Enter SYS user password:

password
Copying database files
1% complete
3% complete
...
```







Topic: Database
Deployment vs. OnPremises Database

Database Instance: is a set of memory structures that manage database files

Creating Databases using "Create Database" Command

CREATE DATABASE mynewdb

USER SYS IDENTIFIED BY sys_password

USER SYSTEM IDENTIFIED BY system_password

EXTENT MANAGEMENT LOCAL

DEFAULT TEMPORARY TABLESPACE temp

UNDO TABLESPACE undotbs1

DEFAULT TABLESPACE users;

DEFAULT TABLESPACE users;

UNDU IABLESPACE UNGOLDST







Topic: Database Deployment vs. On-Premises Database

<u>Database Deployment</u>: is a compute environment that provides:

- A Linux Virtual Machine
- Oracle Software
- A pre-created database
- Additional Cloud Tools
- •A database deployment is formally called: DBaaS Instance



Oracle Database Cloud Service

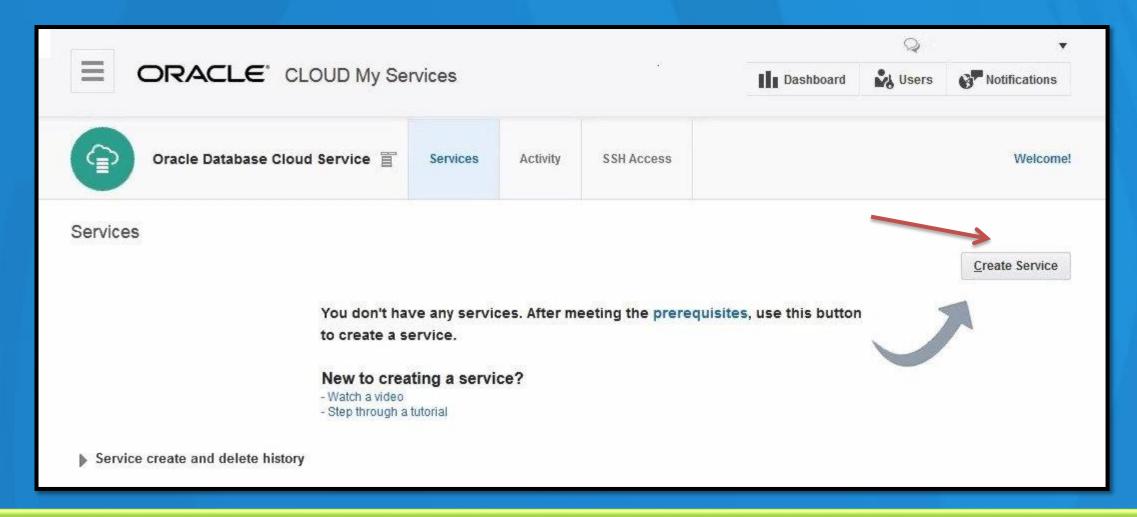




Topic: Database Deployment vs. On-Premises Database



Database Deployment or DBCS (Database Cloud Service)



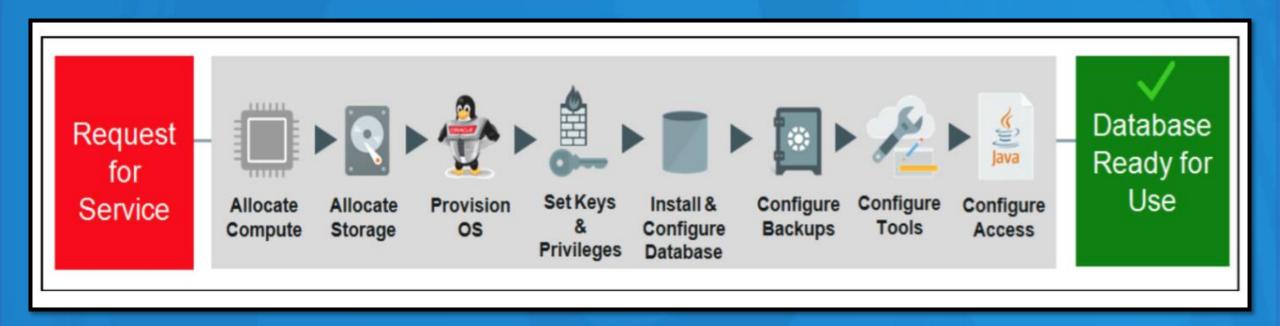




<u>Topic</u>: Database Deployment vs. On-Premises Database



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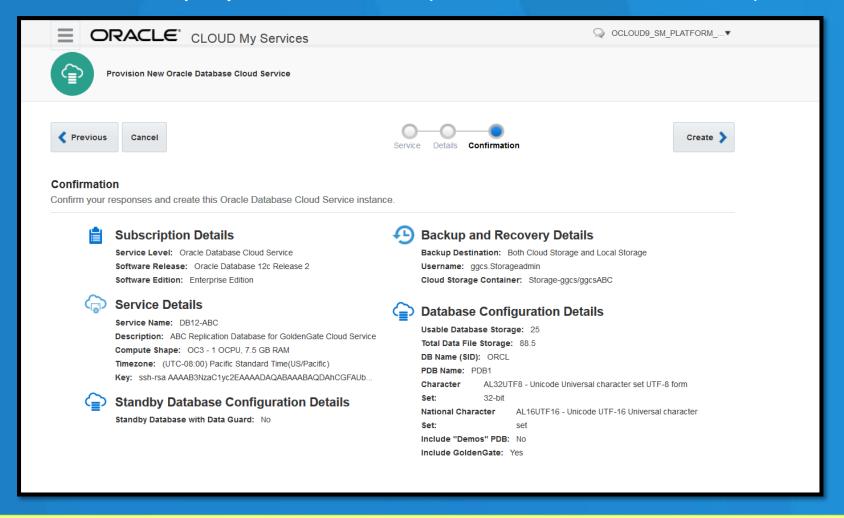


Topic: Database Deployment vs. On-Premises Database





<u>Database Deployment or DBCS (Database Cloud Service)</u>



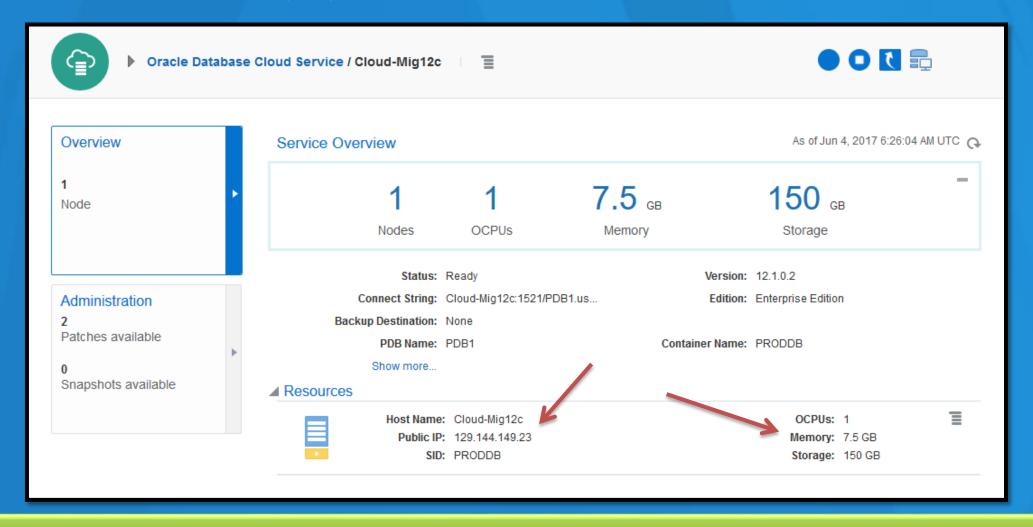




Topic: Database Deployment vs. On-Premises Database



Database Deployment or DBCS (Database Cloud Service)



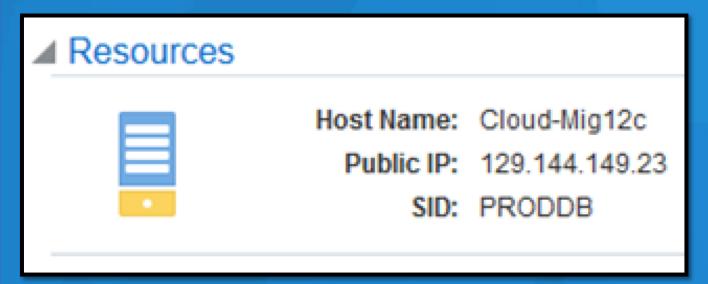


<u>Topic</u>: Database Deployment vs. On-Premises Database





<u>Database Deployment or DBCS (Database Cloud Service)</u>



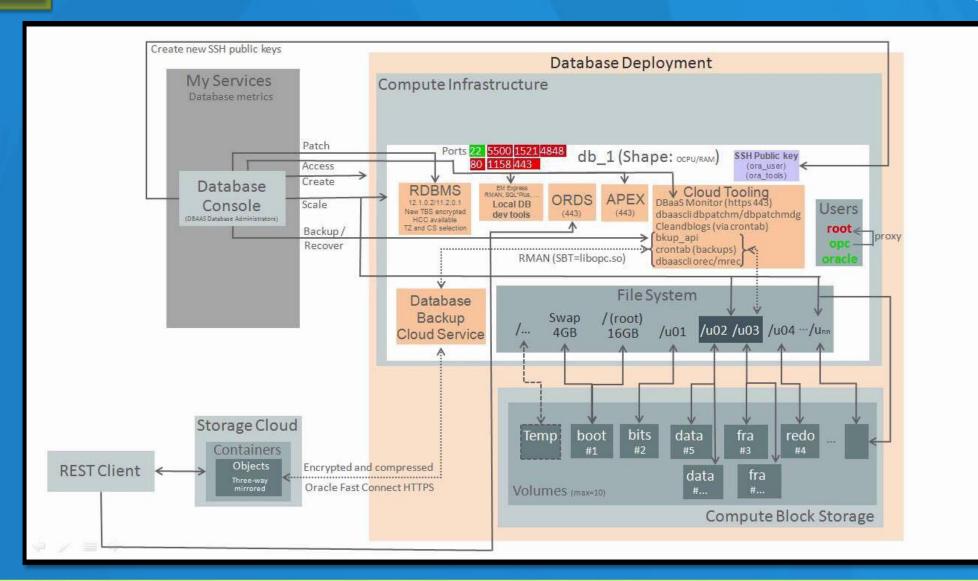
OCPUs: 1
Memory: 7.5 GB
Storage: 150 GB





Architecture Diagram (Oracle Database Cloud single-instance service components)











"On-Prem"

Software Edition:
Standard,
Enterprise,
Express..

Oracle Solutions (Options): RAC, Data Guard, Golden Gate..

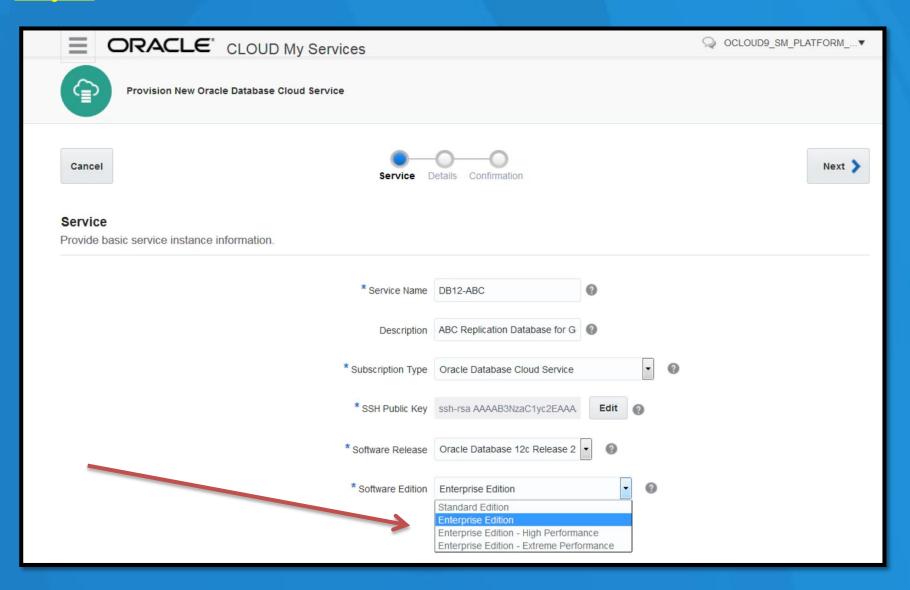
Packs:
Partitioning,
Data Masking,
Diagnostics..







"Cloud"

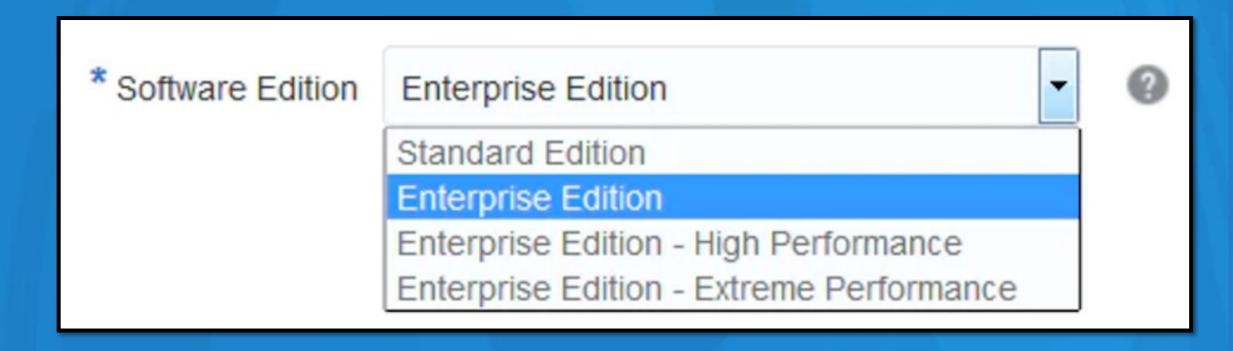








"Cloud"







Edition	Included Options	Included Packs
Standard	None	None
Enterprise	None	None
Enterprise – High Performance	Advanced Analytics, Advanced Compression, Advanced Security, Database Vault, Label Security, Multitenant, OLAP, Partitioning, Real Application Testing, Spatial and Graph	Cloud Management for Oracle Database, Database Lifecycle Management, Data Masking and Subsetting, Diagnostics, Tuning
Enterprise – Extreme Performance	Active Data guard, Advanced Analytics, Advanced Compression, Advanced Security, Database In- memory, Database Vault, Label Security, Multitenant, OLAP, Partitioning, Real Application Clusters, Real Application Testing, Spatial and Graph	Cloud Management for Oracle Database, Database Lifecycle Management, Data Masking and Subsetting, Diagnostics, Tuning



Topic: Pricing On-Premises vs. Cloud





"Pricing On-Prem"



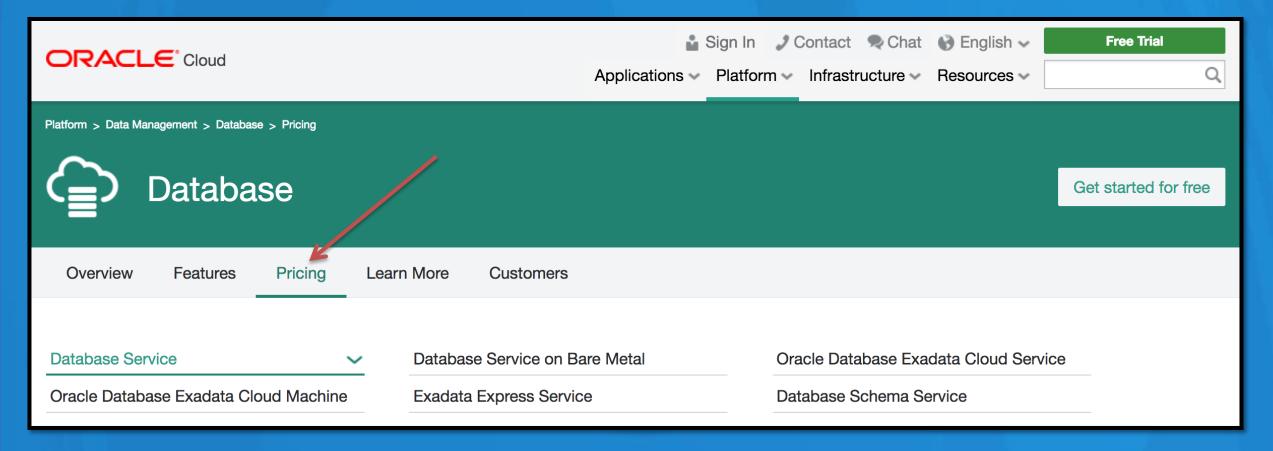


Topic: Pricing On-Premises vs. Cloud





"Pricing On Cloud": https://cloud.oracle.com/en_US/database/pricing





Topic: Summary of Major Differences





The major differences between on-premises databases and database deployment database:

Installation

Type of Operation	On-Premises Database	Database Deployment Database
Installation	Manual	Automatic
	Oracle Database 11g or 12cDatabase Creation	Oracle Database 11g or 12cPre-created Database



Topic: Summary of Major Differences





The major differences between on-premises databases and database deployment database:

Oracle Database 12c

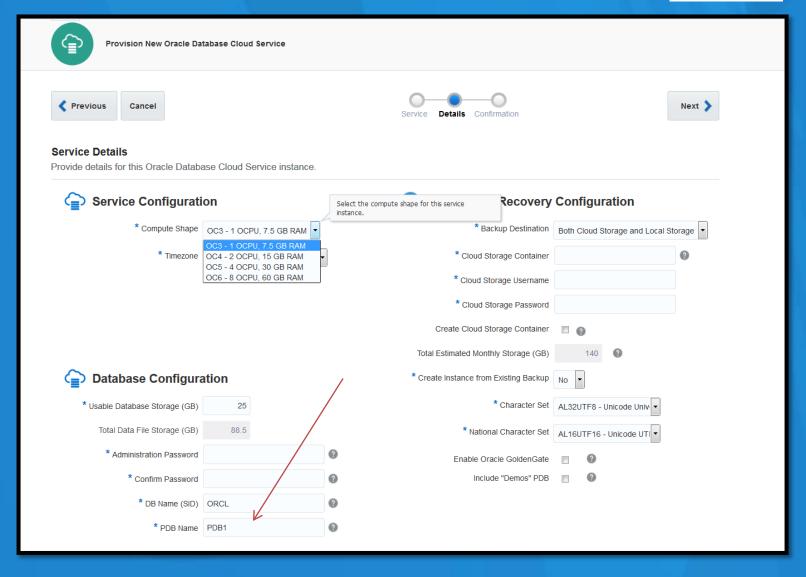
Type of Operation	On-Premises Database	Database Deployment Database
Oracle Database 12c	Non-CDBs and CDBs	Only CDBs







Oracle Database 12c

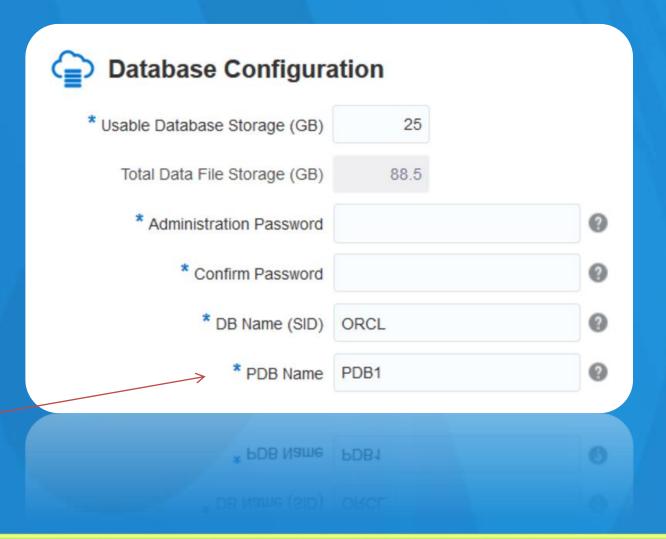








Oracle Database 12c









The major differences between on-premises databases and database deployment database:

Location for Database Files and Backups

Type of Operation	On-Premises Database	Database Deployment Database
Location for database files and Backups	Manual	Automatic



Location for Database Files and Backups of a





<u>Database Deployment:</u> storage volumes and file system layout of a newly created database deployment on Oracle Database Cloud - Database as a Service (File System Mount Description).

Storage Volume	Description
bits	30 GB volume completely allocated to /u01 on the virtual machine. 21 GB volume allocated to the following file system mounts on the virtual machine:
boot	/ (root)/bootswap space
data	GB size equal to the value provided in the Usable Data Storage field during the database deployment creation process, with a minimum of 11 GB. This volume is completely allocated to /u02 on the virtual machine. If backups are being configured, GB size equal to 1.7 times the size of the data volume
fra	If backups are not being configured, GB size equal to 0.1 times the size of the data volume, with a minimum of 7 GB. Allocated to /u03
redo	10GB Volume completely allocated to /u04 on the virtual machine.





Location for Database Files and Backups of a



Database Deployment: storage volumes and file system layout of

a newly created database deployment on Oracle Database Cloud - Database as a Service (File System Mount Description).

File System	Mount Description
swap	Swap space; 4 GB allocated from the boot Compute Cloud storage volume.
/ (root)	Operating system files; 15.8 GB allocated from the boot Compute Cloud storage volume.
/boot	Operating system kernel; 200 MB allocated from the boot Compute Cloud storage volume.
/u01	Oracle product software; the entire bits Compute Cloud storage volume.
/u02	Oracle Database data storage; the entire data Compute Cloud storage volume.
/u03	Database backup storage; the entire FRA Compute Cloud storage volume.
/u04	Database redo logs; the entire redo Compute Cloud storage volume.







The major differences between on-premises databases and database deployment database:

OS user and group

Type of Operation	On-Premises Database	Database Deployment Database
OS user and group	<pre>oracle user oinstall group</pre>	<pre>oracle & opc users oinstall group</pre>







The major differences between on-premises databases and database deployment database:

Types of server connection

Type of Operation	On-Premises Database	Database Deployment Database
Types of server connection	All types (password, SSH)	SSH







The major differences between on-premises databases and database deployment database:

Storage allocation

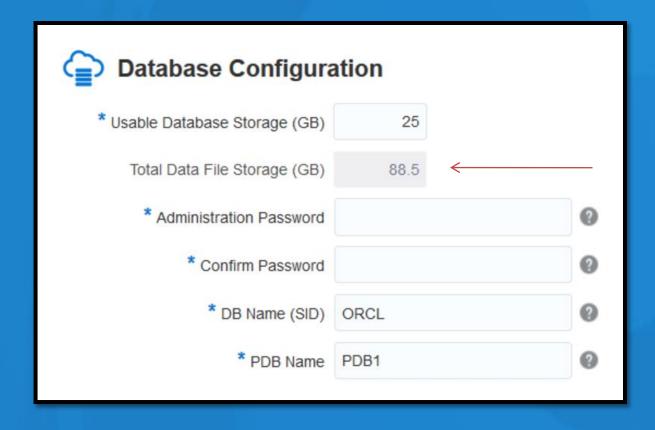
Type of Operation	On-Premises Database	Database Deployment Database
Storage allocation	Manual Unix Commands	GUI tool: Oracle Database Cloud Service Console

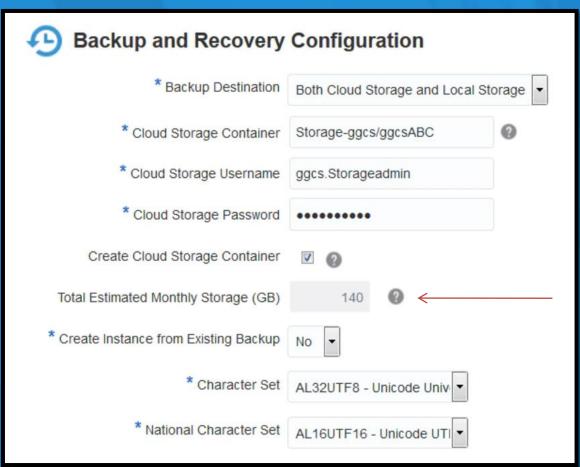






Cloud Storage allocation











The major differences between on-premises databases and database deployment database:

Tablespace encryption

Type of Operation	On-Premises Database	Database Deployment Database
Tablespace encryption	None by default	Default encryption (TDE) for user-defined tablespaces: initialization parameter: encrypt_new_tablespac es = cloud_only







The major differences between on-premises databases and database deployment database:

Backups

Type of Operation	On-Premises Database	Database Deployment Database
Backups	Manual or manual scheduling:	API : bkup_api
	* OS commands * RMAN> backup	GUI tool: Oracle Database Cloud Service Console







API: bkup_api

Home / Cloud / Platform as a Service (PaaS) / Database Cloud Service (DBaaS)

Using Oracle Database Cloud Service



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Preface



 1 Getting Started with Database Cloud Service



2 Managing the Database Cloud Service Life Cycle



3 Managing Network Access to Database Cloud Service

Creating an On-Demand Backup by Using the bkup_api Utility



You can use the bkup_api utility to create an on-demand backup of a database deployment hosting a single-instance database or an Oracle Data Guard configuration.

1. Connect as the **opc** user to the compute node. In a Data Guard configuration, connect to the compute node hosting the primary database.

For detailed instructions, see Connecting to a Compute Node Through Secure Shell (SSH).

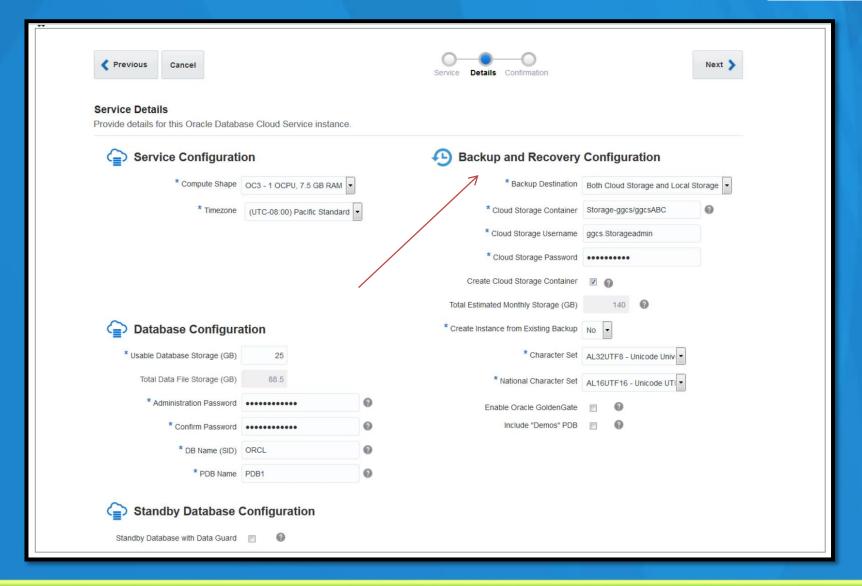
https://docs.oracle.com/en/cloud/paas/database-dbaas-cloud/csdbi/create-demand-backup-using-bkup_api.html







Backup
Configuration
using GUI tool:
Oracle Database
Cloud Service
Console

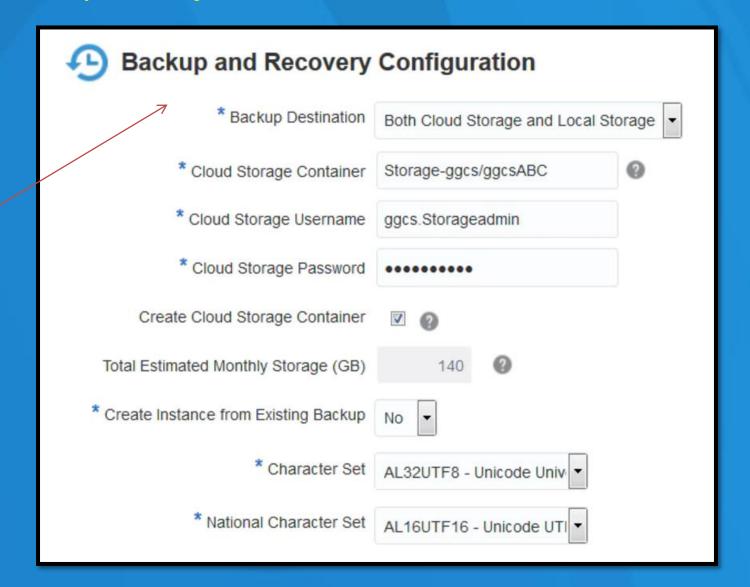








Backup
Configuration
using GUI tool:
Oracle Database
Cloud Service
Console









The major differences between on-premises databases and database deployment database:

Backed up Files

Type of Operation	On-Premises Database	Database Deployment Database
Backed up Files	Database files + controlfiles + SPFILE	All database files + SPFILE + password file and others from /home/oracle/bkup/dbcfg.spec file OS files from /home/oracle/bkup/oscfg.spec file







The major differences between on-premises databases and database deployment database:

Recovery

Type of Operation	On-Premises Database	Database Deployment Database
Recovery	RMAN> recover	dbaascli orec







The dbaascli Utility

Home / Cloud / Platform as a Service (PaaS) / Database Cloud Service (DBaaS)

Using Oracle Database Cloud Service



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Title and Copyright Information



Preface



1 Getting Started with Database Cloud Service



 2 Managing the Database Cloud Service Life Cycle



3 Managing Network Access to Database Cloud Service D The dbaascli Utility

The dbaascli utility is provided on Oracle Database Cloud Service deployments to perform a variety of life-cycle and administration operations.

Using the dbaascli utility, you can perform operations like:

- · Changing the password of the SYS user
- Checking the status of the Oracle Data Guard configuration
- Switchover and failover in an Oracle Data Guard configuration

https://docs.oracle.com/en/cloud/paas/database-dbaas-cloud/csdbi/dbaascli.html







The major differences between on-premises databases and database deployment database:

Backup destination

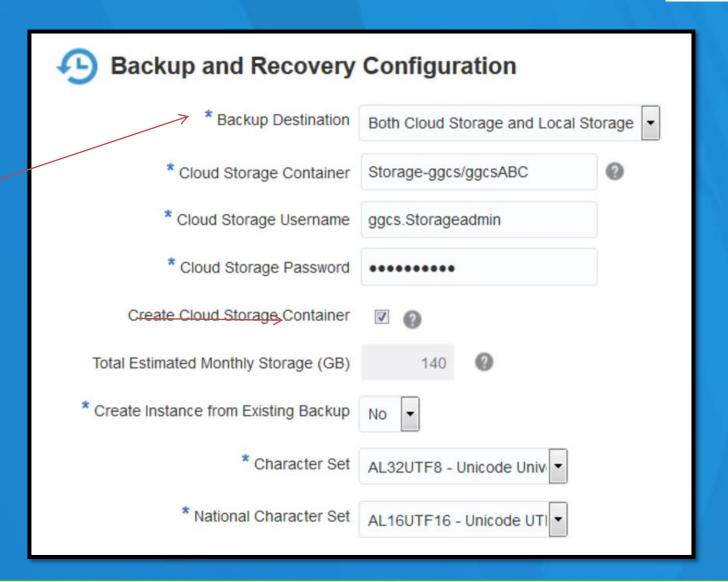
Type of Operation	On-Premises Database	Database Deployment Database
Backup destination	Single or Cloud	Dual:Local compute node storageOracle Storage Cloud Service container







Backup destination, Cloud Dual









The major differences between on-premises databases and database deployment database:

Patch Discovery

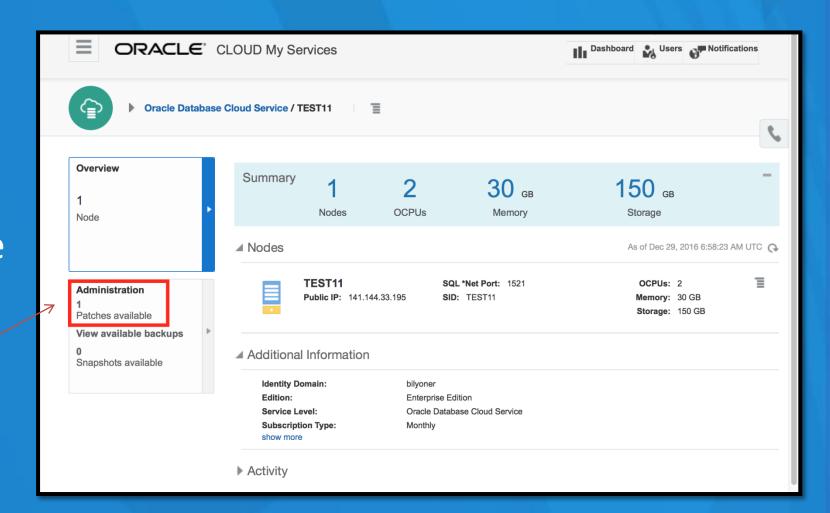
Type of Operation	On-Premises Database	Database Deployment Database
Patch Discovery	NoneOracle SupportEM Cloud Control	GUI tool: Oracle Database Cloud Service console







Patch Discovery using
GUI tool: Oracle
Database Cloud Service
console

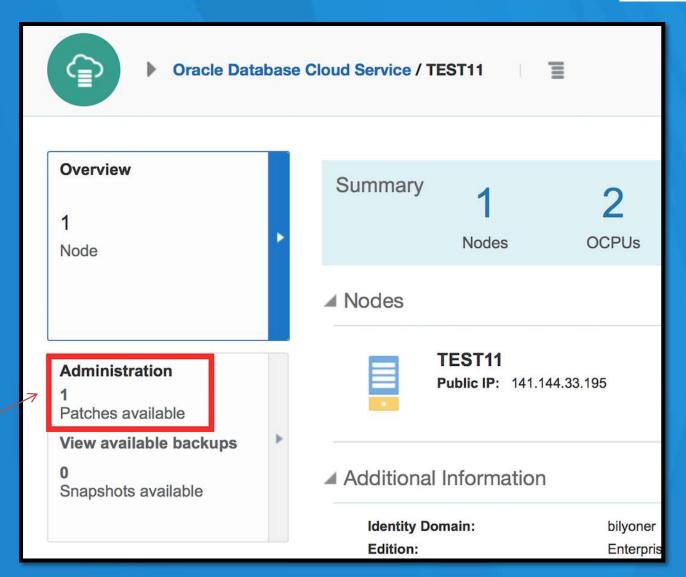








Patch Discovery using
GUI tool: Oracle
Database Cloud Service
console









The major differences between on-premises databases and database deployment database:

<u>Upgrade</u>

Type of Operation	On-Premises Database	Database Deployment Database
Upgrade	GUI tool: dbua (Database Upgrade Assistant)Manually (SQL*Plus)	Node







The major differences between on-premises databases and database deployment database:

Port access

Type of Operation	On-Premises Database	Database Deployment Database
Port access	Automatic configuration via dbca	Automatic configuration via pre-defined security rules to enable when required
	EM ExpressEM Cloud ControlListener registration	







Port access On Cloud
Automatic
configuration via predefined security rules
to enable when
required

Access Rules You can use access rules to control network access to service components. On this page, you can manage your access rules.						ate Rule			
Results pe	Results per page: 10 9 result(s) as of May 21, 2017 8:31:45 AM UTC Q								
Status	Rule Name	Source	Destination	Ports	Protocol	Description	Rule Type	Α	ctions
*	ora_p2_ssh	PUBLIC-INTERNET	DB	22	TCP		DEFAULT		≣
-6	ora_p2_http	PUBLIC-INTERNET	DB	80	TCP		DEFAULT		≣
√ 8	ora_p2_httpssI	PUBLIC-INTERNET	DB	443	TCP		DEFAULT		≣
√ 8	ora_p2_httpadmin	PUBLIC-INTERNET	DB	4848	TCP		DEFAULT		≣
√ 8	ora_p2_dbconsole	PUBLIC-INTERNET	DB	1158	TCP		DEFAULT		≣
₹	ora_p2_dbexpress	PUBLIC-INTERNET	DB	5500	TCP		DEFAULT		≣
₹	ora_p2_dblistener	PUBLIC-INTERNET	DB	1521	TCP		DEFAULT	Enable	≡
*	sys_infra2db_ssh	PAAS-INFRA	DB	22	TCP	DO NOT MODIFY: Permit P	SYSTEM	Disable	≡
*	ora_trusted_hosts_db	127.0.0.1/32	DB	1521	TCP	DO NOT MODIFY: A secrule	SYSTEM	Delete	≣







The major differences between on-premises databases and database deployment database:

Monitoring tools

Type of Operation	On-Premises Database	Database Deployment Database
Monitoring tools	EM ExpressEM Cloud ControlSQL Developer	DBaaS MonitorEM ExpressEM Cloud ControlSQL Developer



For More Information





About Oracle Database Cloud Service https://cloud.oracle.com/database

Oracle Database Cloud 30-Day Free Trial https://cloud.oracle.com/database

Join the Conversation



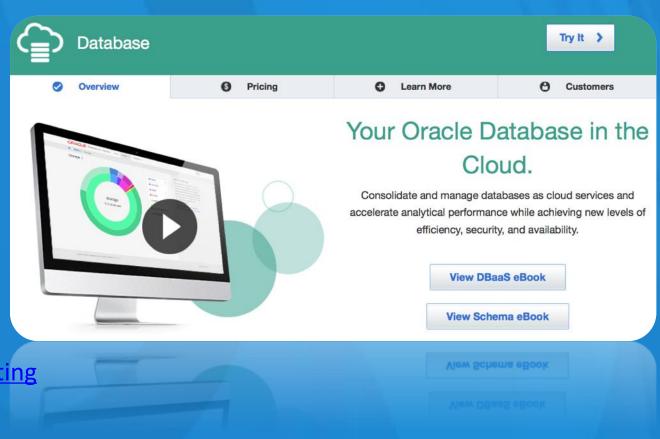
https://blogs.oracle.com/dbaas



www.facebook.com/OracleCloudComputing



@OracleCloudZone #OracleCloud















Joel Pérez's Direct Contact:

> ACE Director Profile:

https://apex.oracle.com/pls/otn/f?p=19297:4:17113909871

97101::NO:4:P4 ID:157

> OCM Profile:

http://education.oracle.com/education/otn/JoelPerez.htm

> Linked in:

https://apex.oracle.com/pls/otn/f?p=19297:4:17113909871

97101::NO:4:P4_ID:157

> www.Enmotech.com



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