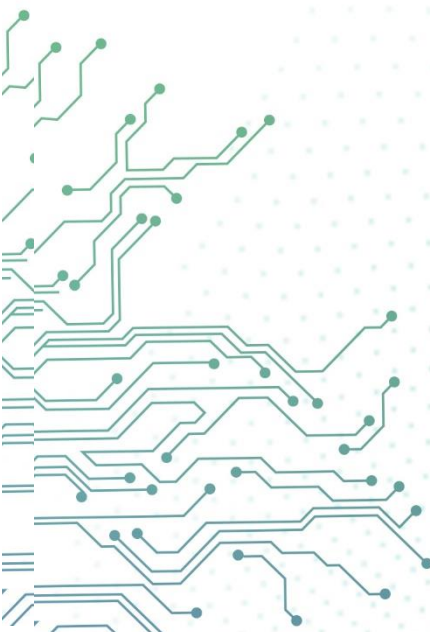




aCloud

Oracle Database Migration guidelines

Version 5.8.8R1



Change Log

Date	Change Description
Oct 3, 2019	Version 5.8.8R1 document release.

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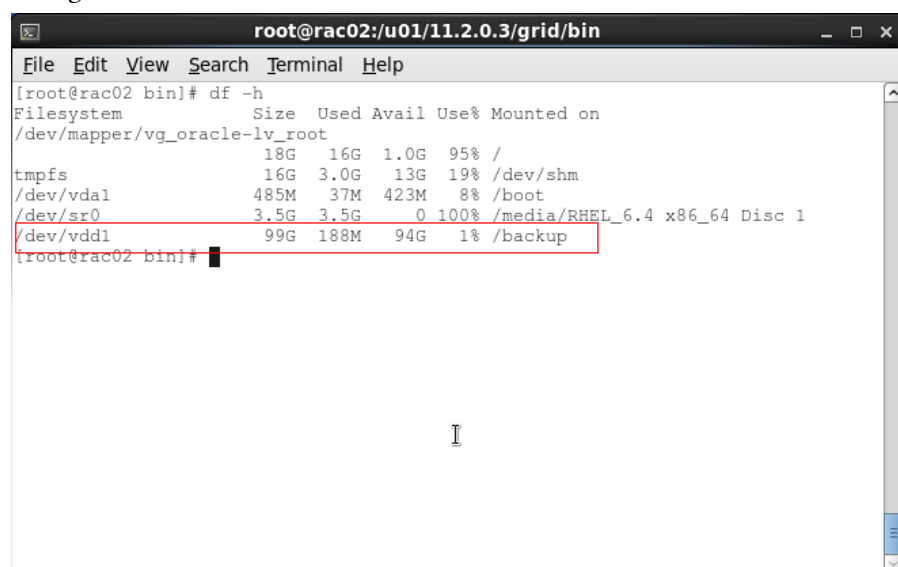
Chapter 1 Oracle database's data migration solution

Principle of the solution:

1. Access to customer current production database, and export the database as dmp file.
2. Complete the installation of Oracle VM in aCloud, together with Oracle software and database. Kindly refer to the Oracle installation guide for HCI.
3. Copy the production database dmp file to the new Oracle VM in aCloud.
4. Import the dmp file to the new Oracle VM's database.

1.1 Export current database data.

Kindly ensure the customer server has sufficient disk storage. Below image shows the current available storage is 94G.



```
root@rac02:/u01/11.2.0.3/grid/bin
File Edit View Search Terminal Help
[root@rac02 bin]# df -h
Filesystem                Size      Used Avail Use% Mounted on
/dev/mapper/vg_oracle-lv_root 18G       16G    1.0G  95% /
tmpfs                      16G       3.0G    13G   19% /dev/shm
/dev/vda1                  485M       37M   423M    8% /boot
/dev/sr0                    3.5G       3.5G    0 100% /media/RHEL_6.4 x86_64 Disc 1
/dev/vddl                   99G       188M    94G    1% /backup
[root@rac02 bin]#
```

1. Access to Oracle account and create the export directory

Command:

su - oracle

sqlplus / as sysdba

```

oracle@rac02:~
File Edit View Search Terminal Help
[root@rac02 bin]# df -h
Filesystem                Size      Used Avail Use% Mounted on
/dev/mapper/vg_oracle-lv_root 18G       16G   1.0G  95% /
tmpfs                      16G       3.0G   13G  19% /dev/shm
/dev/vda1                  485M      37M   423M   8% /boot
/dev/sr0                    3.5G     3.5G    0 100% /media/RHEL_6.4 x86_64 Disc 1
/dev/vdd1                   99G      188M   94G   1% /backup
[root@rac02 bin]# su - oracle
[oracle@rac02 ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Wed Jun 29 11:30:48 2016

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Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, Real Application Clusters, Automatic Storage Management,
OLAP,
Data Mining and Real Application Testing options

SQL>

```

Command:

Create directory dump_dir as '/backup';

```

oracle@rac02:~
File Edit View Search Terminal Help
With the Partitioning, Real Application Clusters, Automatic Storage Management,
OLAP,
Data Mining and Real Application Testing options
[oracle@rac02 ~]$
[oracle@rac02 ~]$
[oracle@rac02 ~]$
[oracle@rac02 ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Wed Jun 29 11:32:36 2016

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OLAP,
Data Mining and Real Application Testing options

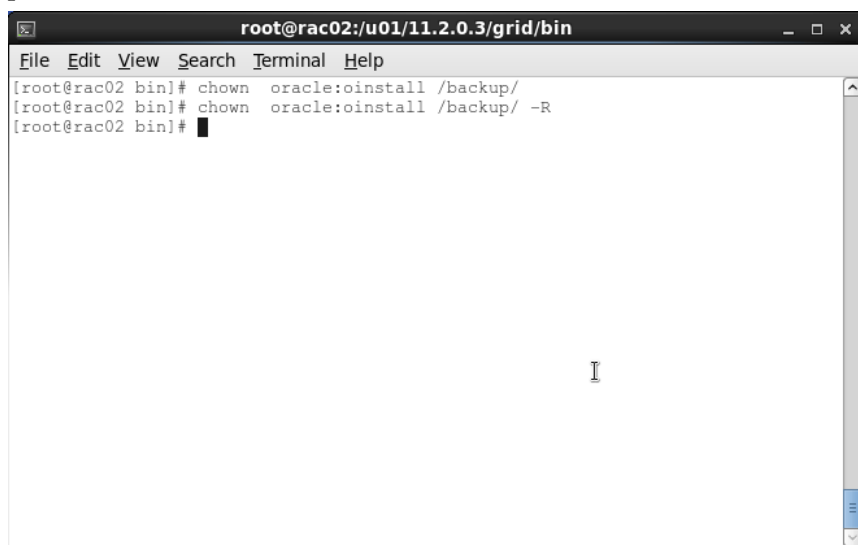
SQL> create directory dump_dir as '/backup';

Directory created.

SQL>

```

2. Modify the permission of backup directory to let the Oracle user have read and write permission.



```

root@rac02:/u01/11.2.0.3/grid/bin
File Edit View Search Terminal Help
[root@rac02 bin]# chown oracle:oinstall /backup/
[root@rac02 bin]# chown oracle:oinstall /backup/ -R
[root@rac02 bin]#

```

3. Execute the export command.

**Expdp system/oracle directory=dump_dir dumpfile=oracle.soe logfile=dump.log
schemas=soe;**

Note: “System/oracle” is the database username& password, it required to modify the command according to the customer.

1.2 How to check customer current database’s schemas

Sqlplus / as sysdba

Select name from v\$tablespace;

```

SQL> select name from v$tablespace;

NAME
-----
SYSTEM
SYSAUX
UNDOTBS1
TEMP
USERS
SH
SOE

7 rows selected.

```

1. According to the above screenshot, currently, the customer has 2 custom schemas which are SH and SOE.

- The parameter of schemas is the customer own schemas, it required to modify according to customer current actual database.

```

oracle@rac02:/backup
File Edit View Search Terminal Help
[oracle@rac02 backup]$ clear

[oracle@rac02 backup]$ expdp system/oracle directory=dump_dir dumpfile=oracle.soe
e logfile=dump.log schemas=soe;

Export: Release 11.2.0.4.0 - Production on Wed Jun 29 11:47:33 2016

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Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit
Production
With the Partitioning, Real Application Clusters, Automatic Storage Management,
OLAP,
Data Mining and Real Application Testing options
Starting "SYSTEM"."SYS_EXPORT_SCHEMA_01": system/***** directory=dump_dir du
mpfile=oracle.soe logfile=dump.log schemas=soe
Estimate in progress using BLOCKS method...
Processing object type SCHEMA_EXPORT/TABLE/TABLE_DATA
Total estimation using BLOCKS method: 101.0 GB
Processing object type SCHEMA_EXPORT/USER
Processing object type SCHEMA_EXPORT/SYSTEM_GRANT
Processing object type SCHEMA_EXPORT/ROLE_GRANT
Processing object type SCHEMA_EXPORT/DEFAULT_ROLE
Processing object type SCHEMA_EXPORT/TABLESPACE_QUOTA

```

- Exportation completed

```

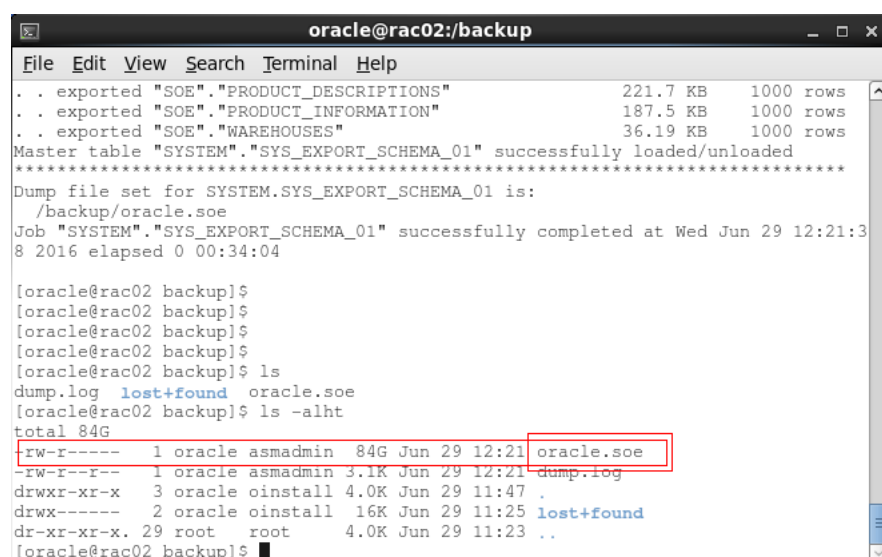
oracle@rac02:/backup
File Edit View Search Terminal Help

. . exported "SOE"."ORDER_ITEMS"                26.23 GB 514649879 rows
. . exported "SOE"."ORDERS"                      15.65 GB 185950214 rows
. . exported "SOE"."ADDRESSES"                   13.17 GB 177922222 rows
. . exported "SOE"."CUSTOMERS"                   12.68 GB 116911132 rows
. . exported "SOE"."LOGON"                       8.348 GB 362359391 rows
. . exported "SOE"."CARD_DETAILS"                 7.335 GB 166911132 rows
. . exported "SOE"."INVENTORIES"                  15.23 MB  899470 rows
. . exported "SOE"."ORDERENTRY_METADATA"          5.546 KB    4 rows
. . exported "SOE"."PRODUCT_DESCRIPTIONS"         221.7 KB   1000 rows
. . exported "SOE"."PRODUCT_INFORMATION"          187.5 KB   1000 rows
. . exported "SOE"."WAREHOUSES"                   36.19 KB   1000 rows
Master table "SYSTEM"."SYS_EXPORT_SCHEMA_01" successfully loaded/unloaded
*****
Dump file set for SYSTEM.SYS_EXPORT_SCHEMA_01 is:
/backup/oracle.soe
Job "SYSTEM"."SYS_EXPORT_SCHEMA_01" successfully completed at Wed Jun 29 12:21:3
8 2016 elapsed 0 00:34:04

[oracle@rac02 backup]$
[oracle@rac02 backup]$
[oracle@rac02 backup]$
[oracle@rac02 backup]$

```

4. Check the exported file, it shows export success.



```

oracle@rac02:/backup
File Edit View Search Terminal Help
. . exported "SOE"."PRODUCT_DESCRIPTIONS"          221.7 KB    1000 rows
. . exported "SOE"."PRODUCT_INFORMATION"          187.5 KB    1000 rows
. . exported "SOE"."WAREHOUSES"                   36.19 KB    1000 rows
Master table "SYSTEM"."SYS_EXPORT_SCHEMA_01" successfully loaded/unloaded
*****
Dump file set for SYSTEM.SYS_EXPORT_SCHEMA_01 is:
/backup/oracle.soe
Job "SYSTEM"."SYS_EXPORT_SCHEMA_01" successfully completed at Wed Jun 29 12:21:3
8 2016 elapsed 0 00:34:04

[oracle@rac02 backup]$
[oracle@rac02 backup]$
[oracle@rac02 backup]$
[oracle@rac02 backup]$
[oracle@rac02 backup]$ ls
dump.log  lost+found  oracle.soe
[oracle@rac02 backup]$ ls -alht
total 84G
-rw-r----- 1 oracle asmadmin 84G Jun 29 12:21 oracle.soe
-rw-r----- 1 oracle asmadmin 3.1K Jun 29 12:21 dump.log
drwxr-xr-x 3 oracle oinstall 4.0K Jun 29 11:47 .
drwx----- 2 oracle oinstall 16K Jun 29 11:25 lost+found
dr-xr-xr-x. 29 root root 4.0K Jun 29 11:23 ..
[oracle@rac02 backup]$

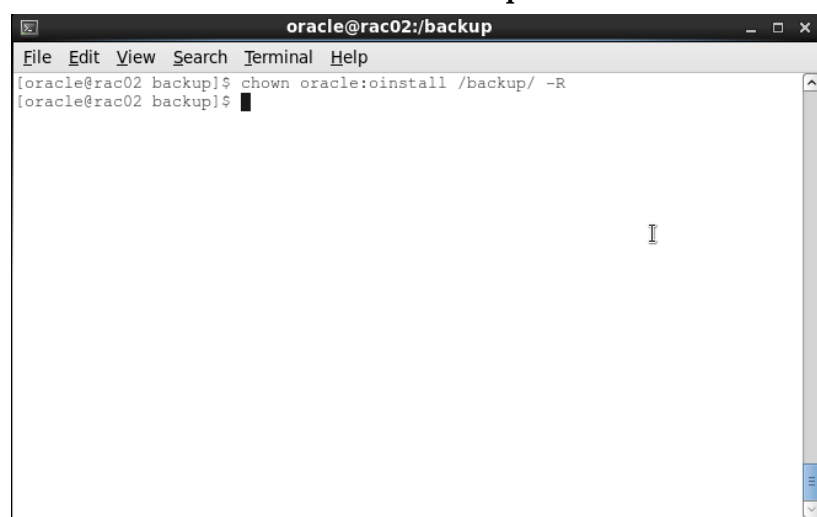
```

2 Create new VM and install oracle database. (Kindly refer to Oracle installation guide.)

3 Import the customer database (oracle.soe) to the new VM

1. Create a backup directory on new Oracle VM. After that, copy the exported file (Oracle.soe) into the new Oracle VM backup directory. Next, modify the file permission: **chmod 775 oracle.soe**
2. Use Oracle user account to execute the backup directory permission.

Command: **chown oracle:oinstall /backup -R**



```

oracle@rac02:/backup
File Edit View Search Terminal Help
[oracle@rac02 backup]$ chown oracle:oinstall /backup/ -R
[oracle@rac02 backup]$

```

3. Check the current database status, is it in "Open" status.

Su - oracle

Sqlplus / as sysdba

Select status from v\$instance


```

oracle@rac02:/backup
File Edit View Search Terminal Help
[oracle@rac02 backup]$ chown oracle:oinstall /backup/ -R
[oracle@rac02 backup]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Wed Jun 29 17:27:43 2016

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Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, Real Application Clusters, Automatic Storage Management,
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SQL> select status from v$instance;

STATUS
-----
OPEN

SQL>

```

4. If the database is in “open” status, you can import the data via impdp.

```

oracle@oracle:~
File Edit View Search Terminal Help
-rw-r-----. 1 root root 41G Jun 29 18:37 oracle.soe
drwxr-xr-x. 3 root root 4.0K Jun 29 18:21 .
dr-xr-xr-x. 29 root root 4.0K Jun 29 17:43 ..
drwx-----. 2 root root 16K Jun 29 17:33 lost+found
[root@oracle backup]# ls
lost+found oracle.soe
[root@oracle backup]# su - oracle
[oracle@oracle ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Wed Jun 29 21:17:46 2016

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With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options

SQL> create tablespace soe;

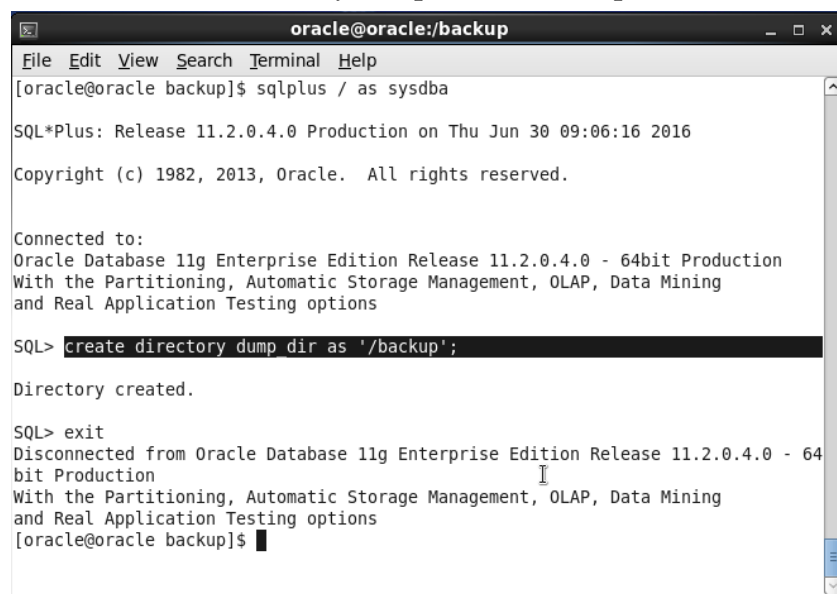
Tablespace created.

SQL>

```

5. Create dump_dir

Command: **Create directory dump_dir as '/backup';**



```

oracle@oracle:/backup
File Edit View Search Terminal Help
[oracle@oracle backup]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.4.0 Production on Thu Jun 30 09:06:16 2016

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options

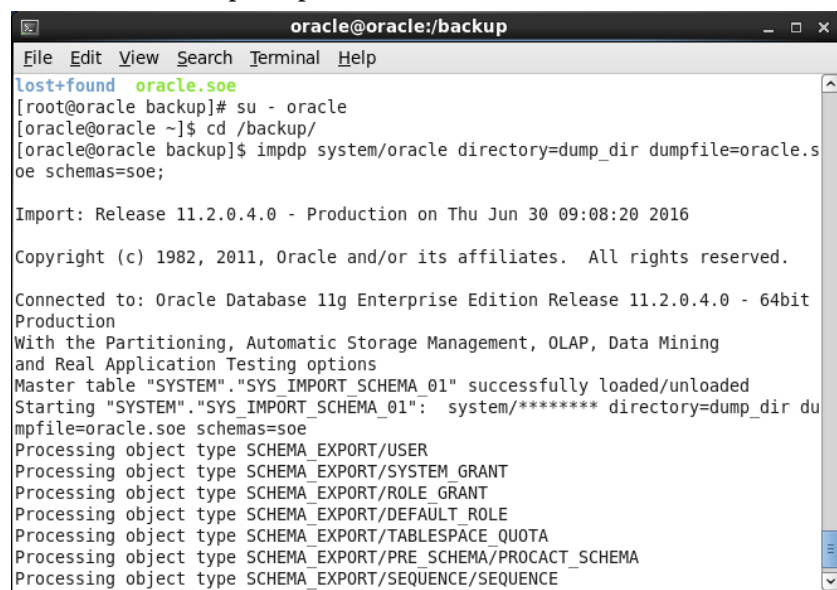
SQL> create directory dump_dir as '/backup';

Directory created.

SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64
bit Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options
[oracle@oracle backup]$

```

6. Execute the import operation.



```

oracle@oracle:/backup
File Edit View Search Terminal Help
lost+found oracle.soe
[root@oracle backup]# su - oracle
[oracle@oracle ~]$ cd /backup/
[oracle@oracle backup]$ impdp system/oracle directory=dump_dir dumpfile=oracle.s
oe schemas=soe;

Import: Release 11.2.0.4.0 - Production on Thu Jun 30 09:08:20 2016

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Connected to: Oracle Database 11g Enterprise Edition Release 11.2.0.4.0 - 64bit
Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options
Master table "SYSTEM"."SYS_IMPORT_SCHEMA_01" successfully loaded/unloaded
Starting "SYSTEM"."SYS_IMPORT_SCHEMA_01": system/***** directory=dump_dir du
mpfile=oracle.soe schemas=soe
Processing object type SCHEMA_EXPORT/USER
Processing object type SCHEMA_EXPORT/SYSTEM_GRANT
Processing object type SCHEMA_EXPORT/ROLE_GRANT
Processing object type SCHEMA_EXPORT/DEFAULT_ROLE
Processing object type SCHEMA_EXPORT/TABLESPACE_QUOTA
Processing object type SCHEMA_EXPORT/PRE_SCHEMA/PROCACT_SCHEMA
Processing object type SCHEMA_EXPORT/SEQUENCE/SEQUENCE

```



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