Wells Fargo
Internet Services Group

How to Duplicate an ASM database using RMAN

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# This is a quick document to show step-by-step the commands to
# execute to "clone" a database.
#
# The task is to refresh qp3sims data with qp5sims data.
# The work is to duplicate qp5sims into qp3sims using RMAN
#
# STEP-by-STEP OUTLINED/IN GENERAL INSTRUCTIONS
#


# REMOVE ALL EXISTING DATAFILES

# LOG INTO isg-russel SHUTDOWN THE DATABASE THAT WILL BE REFRESHED

# Set the environment to the database to be refreshed
. oraenv
ORACLE_SID = [oracle] ? qp3sims

sqlplus / as sysdba
shutdown immediate
exit

# Set the environment to ASM to access datafiles
. oraenv
ORACLE_SID = [oracle] ? +ASM

# Go to the ASM command line

isg-russel$ asmcmd -p
[Note: use optional -p show the directory you are in i.e. ASMCMD [+QP3SIMSI] >]

ASMCMD> ls

DATA1/
FLASH1/
QP2SIMSD/
QP2SIMSI/
QP3SIMSD/
QP3SIMSI/
QP4SIMSD/
QP4SIMSI/
QP5SIMSD/
QP5SIMSI/

# Remove all the files associated with the database to be refreshed
ASMCMD> cd QP3SIMSD
ASMCMD> rm *.dbf
ASMCMD> rm *.ctl
ASMCMD> rm *.redo

ASMCMD> cd ../QP3SIMSI
ASMCMD> rm *.dbf
ASMCMD> rm *.ctl
ASMCMD> rm *.redo

ASMCMD> exit
```

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# Modify the init*.ora file of the database to be refreshed
sg-russel$ vi /opt/oracle/product/11.1/db/dbs/initqp3sims.ora

Add:

DB_NAME=qp3sims
CONTROL_FILES=+QP5SIMS,+QP3SIMS
DB_FILE_NAME_CONVERT=+QP5SIMS,+QP3SIMS
LOG_FILE_NAME_CONVERT=+QP5SIMS,+QP3SIMS

# Remove the old spfile*.ora file of the database to be refreshed
/usr/bin/rm /opt/oracle/product/11.1/db/dbs/spfileqp3sims.ora

# Set the environment to the database to be refreshed
. oraenv
ORACLE_SID = [oracle] ? qp3sims

# Log into the database to be refreshed
isg-russel$ sqlplus / as sysdba

SQL*Plus: Release 11.1.0.7.0 - Production on Wed May 12 14:37:02 2010 Copyright
(c) 1982, 2008, Oracle.  All rights reserved.
Connected to an idle instance.


# Create a new spfile*.ora file for the database to be refreshed
SYS on qp3sims>CREATE SPFILE FROM
PFILE='/opt/oracle/product/11.1/db/dbs/initqp3sims.ora';
File created.

# Start the database to be refreshed but do not mount
SYS on qp3sims>STARTUP NOMOUNT;
ORACLE instance started.

Total System Global Area 1570471936 bytes
Fixed Size                   2102848 bytes
Variable Size              956303808 bytes
Database Buffers           603979776 bytes
Redo Buffers                 8085504 bytes

SYS on qp3sims>exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.1.0.7.0 -
64bit Production With the Partitioning, OLAP, Data Mining and Real Application
Testing options


# Set the environment to the database that will be duplicated (in this case
qp5sims)
isg-russel$ . oraenv
ORACLE_SID = [qp3sims] ? qp5sims

# Start rman
isg-russel$ rman
Recovery Manager: Release 11.1.0.7.0 - Production on Wed May 12 14:39:41 2010
Copyright (c) 1982, 2007, Oracle.  All rights reserved.
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# Connect to the qp5sims database (Target in RMAN is the Source - kinda reversed
idea)
RMAN> CONNECT TARGET / ;
connected to target database: QP5SIMS (DBID=2936260450)

# Connect to the rman catalog
RMAN> CONNECT CATALOG rman/rcvcat@rcvcat.world ;
connected to recovery catalog database

# Connect to the "auxiliary" database  (Auxiliary database is the Target to be
refreshed)
RMAN> CONNECT AUXILIARY SYS/syssims@qp3sims ;
connected to auxiliary database: QP3SIMS (not mounted)

# Issue the RMAN command to Clone, Duplicate, or Refresh the qp3sims database
RMAN> DUPLICATE TARGET DATABASE TO qp3sims ;
Starting Duplicate Db at 12-MAY-10
..
database opened
Finished Duplicate Db at 12-MAY-10

# Exit RMAN
RMAN> exit


# Test the duplicated database

# Set the environment to qp3sims
isg-russel$ . oraenv
ORACLE_SID = [qp5sims] ? qp3sims

# Log in and shutdown the new cloned database
sqlplus / as sysdba

SYS on qp3sims>shutdown immediate
Database dismounted.
ORACLE instance shut down.

# Startup the database
SYS on qp3sims>startup open

ORACLE instance started.
Total System Global Area 1570471936 bytes
Fixed Size                   2102848 bytes
Variable Size              956303808 bytes
Database Buffers           603979776 bytes
Redo Buffers                 8085504 bytes
Database mounted.
Database opened.

# Exit the Refreshed database
SYS on qp3sims> exit
```