

How to duplicate 12c database on remote server

Using RMAN's Active Duplicate feature?

Task:

Task is to clone a database called MMDB from Chicago to TN using Backups.

Source and Destination is as follows:

Subject	Source	Destination
Hostname:	Linux-223	Linux-253
Host Alias	Chicago	TN
IP Address:	192.168.0.223	192.168.0.253
Database Name:	MMDB	MMDBDev
Database Status	OPEN	Not Available yet
Database Version:	12.2.0.1.0	12.2.0.1.0
ORACLE_BASE:	/u01/app/oracle	/u01/app/oracle
ORACLE_HOME:	\$ORACLE_BASE/product/12.2.0.1/db_1	\$ORACLE_BASE/product/12.2.0.1/db_1
TNS_ADMIN:	\$ORACLE_HOME/network/admin	\$ORACLE_HOME/network/admin
Temp Backup Location:	/u99/MMDB/Backup	/u99/MMDBDev/Backup
Listener Name:	LISTENER	LISTENER
Listener Port:	1521	1521
Listener Status	Up	Up

On Source Database Server:

No	Description	Command / Details / Screenshots
1	Login to Source Database Server and set oracle environment.	<code>. oraenv → MMDB</code>
2	Create passwordfile if not already created.	<code>orapwd file=\$ORACLE_HOME/dbs/orapw\$ORACLE_SID password="abc123" format=12 force=y</code> <code>ls -l \$ORACLE_HOME/dbs/orapw\$ORACLE_SID</code>
3	Send Passwordfile to destination server.	<code>scp -P25322 \$ORACLE_HOME/dbs/orapwMMDB tn:\$ORACLE_HOME/dbs/orapwMMDBDev</code>
4	Update tnsnames.ora file with both source and database connection string	<code>cd \$TNS_ADMIN</code> <code>cat >> tnsnames.ora << EOF</code> <code>MMDB=(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP) (HOST=Chicago) (PORT=1521))) (CONNECT_DATA=(SERVICE_NAME=MMDB)))</code> <code>MMDBDev=(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP) (HOST=TN) (PORT=1521))) (CONNECT_DATA=(SERVICE_NAME=MMDBClone)))</code> <code>EOF</code>
5	Verify connection string	<code>tail -4 tnsnames.ora</code> <code>tnsping mmdb</code> <code>tnsping mmdbdev</code>

On Destination Server:

6	Putty to Destination server	<code>ssh -p25322 oracle@TN</code>
7	Add MMDBDev database entry in oratab	<code>cat >> /etc/oratab << EOF</code> <code>MMDBDev:/u01/app/oracle/product/12.2.0.1/db_1:N</code> <code>EOF</code>

		<pre># Verify ORACLE_SID is available in /etc/oratab file grep \$ORACLE_SID /etc/oratab</pre>
8	Add Static server in listener.ora file	<pre>cd \$TNS_ADMIN vi listener.ora SID_LIST_LISTENER = (SID_LIST = (SID_DESC= (GLOBAL_DBNAME = MMDBDev) (ORACLE_HOME = /u01/app/oracle/product/12.2.0.1/db_1) (SID_NAME = MMDBDev)))</pre>
9	Reload listener	<pre>lsnrctl reload listener # Verify Service is registered lsnrctl status listener grep \$ORACLE_SID</pre>
10	Set oracle environment to destination database.	<pre>. oraenv → MMDBDev</pre>
11	Update tnsnames.ora file with both source and database connection string	<pre>cd \$TNS_ADMIN cat >> tnsnames.ora << EOF MMDB=(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP) (HOST=Chicago) (PORT=1521))) (CONNECT_DATA=(SERVICE_NAME=MMDB))) MMDBDev=(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP) (HOST=TN) (PORT=1521))) (CONNECT_DATA=(SERVICE_NAME=MMDBDev))) EOF</pre>
12	Verify connection string	<pre>tail -4 tnsnames.ora tnsping mmdb tnsping mmdbdev</pre>
13	Make changes in init.ora to reflect	<pre>cd \$ORACLE_HOME/dbs</pre>

	new database name.Replace MMDB to MMDBDev	<pre>vi init\$ORACLE_SID.ora DB_NAME=MMDBDev ESC :wq!</pre>
14	Create all database directories for MMDBDev.	<pre>mkdir -p /u14/oradata/MMDBDev mkdir -p /u15/oradata/MMDBDev mkdir -p /u16/oradata/MMDBDev mkdir -p /u17/oradata/MMDBDev mkdir -p /u02/oradata/MMDBDev mkdir -p /u03/oradata/MMDBDev mkdir -p /u04/oradata/MMDBDev mkdir -p /u05/flash_recovery_area/MMDBDev mkdir -p /u05/fast_recovery_area/MMDBDev/ mkdir -p /u01/app/oracle/admin/MMDBDev/adump mkdir -p /u01/app/oracle/admin/MMDBDev/bdump mkdir -p /u01/app/oracle/admin/MMDBDev/cdump mkdir -p /u01/app/oracle/admin/MMDBDev/udump mkdir -p /u99/MMDBDev/Backup mkdir -p /u99/MMDBDev/Archive</pre>
15	Startup database in nomount mode	<pre>sqlplus / as sysdba startup nomount; exit;</pre>
16	Connect to auxiliary instance with rman and start duplicating database	<pre>rman target sys/abc123@mmdb auxiliary sys/abc123@mmdbdev duplicate target database to MMDBDev from active database SPFILE parameter_value_convert ('MMDB','MMDBDev') set DB_FILE_NAME_CONVERT='/u14/oradata/MMDB/', '/u14/oradata/MMDBDev/' set LOG_FILE_NAME_CONVERT= '/u15/oradata/MMDB/', '/u15/oradata/MMDBDev/', '/u16/oradata/MMDB/', '/u16/oradata/MMDBDev/', '/u17/oradata/MMDB/', '/u17/oradata/MMDBDev/' NOFILENAMECHECK;</pre>

	<pre>exit;</pre> (OR) <pre>duplicate target database to MMDBDev from active database SPFILE parameter_value_convert ('MMDB','MMDBDev') NOFILENAMECHECK; exit;</pre>
17	Verify database is up and running <pre>. oraenv → MMDBDev sqlplus / as sysdba col db_unique_name format a14 col created format a20 Select name, dbid, db_unique_name, to_char(created,'DD-MON-YY HH24:MI:SS') as created from v\$database; Select instance_name, status from v\$instance; exit;</pre>
118	Take a full backup <pre>rman target / run { CONFIGURE CONTROLFILE AUTOBACKUP FORMAT FOR DEVICE TYPE DISK TO '/u99/MMDBDev/Backup/control_n_spfile_%F'; CONFIGURE DEVICE TYPE DISK BACKUP TYPE TO COMPRESSED BACKUPSET PARALLELISM 4; CONFIGURE CHANNEL DEVICE TYPE DISK FORMAT '/u99/MMDBDev/Backup/full_%d_%T_%t_%U.bak' MAXPIECESIZE 1024 M; BACKUP DATABASE PLUS ARCHIVELOG; } exit;</pre>

Hope this helps.

Moid Muhammad