


PDB Hot Clone : Step by Step SQL


ENABLE ARCHIVELOG MODE IN CDB\$ROOT

```
CDB$ROOT-SQL> startup mount  
CDB$ROOT-SQL> alter database archivelog;  
CDB$ROOT-SQL> alter database open;
```




ENABLE LOCAL UNDO IN CDB\$ROOT

```
CDB$ROOT-SQL> startup mount  
CDB$ROOT-SQL> alter database open upgrade;  
CDB$ROOT-SQL> alter database local undo on;
```




CREATE COMMON USER IN CDB\$ROOT

```
CDB$ROOT-SQL> create user c##admin identified by <password> container=all;  
CDB$ROOT-SQL> grant sysoper to c##admin container=all;
```



CREATE PUBLIC DATABASE LINK IN CDB\$ROOT

```
CDB$ROOT-SQL> create public database link cdb1_link connect to c##admin  
identified by <password> using '<tns alias>';
```



```
CREATE PLUGGABLE DATABASE PDB_DEV FROM PDB@DBLINK;
```

PDB Refresh: Step by Step SQL

- Create Refreshable Clone Master and Manual Refresh

CONFIGURE PDB HOT CLONE

CREATE MASTER CLONE IMAGE AS REFRESHABLE PDB FROM SOURCE (MANUAL OR AUTOMATIC)

```
CDB$ROOT-SQL> create pluggable database oedev from oe@dblink refresh mode manual;
```

or

```
CDB$ROOT-SQL> create pluggable database oedev from oe@dblink refresh mode every N minutes;
```

```
CDB$ROOT-SQL> alter pluggable database oedev open read only;
```

MANUAL REFRESH CLONE MASTER FROM SOURCE

```
CDB$ROOT-SQL> alter pluggable database oedev close;
```

```
PDB$OEDEV-SQL> alter pluggable database oedev refresh;
```

```
PDB$OEDEV-SQL> alter pluggable database oedev open read only;
```

12.2 PDB Relocate: Features

- Enables continuous application availability while the database relocates
 - Minimizes impact on (read/write) client connections
 - Minimizes impact on source server and network
 - Very competitive solution compared to VM migration
- Enables server side workload balancing with minimal down time
- Reduces database operational costs
- 2 relocation modes
 - You control client connection forwarding
 - We control client connection forwarding

12.2 PDB Relocation Required Technologies

HOT CLONE

- local undo & redo apply

COMMON USER

- Public database links for remote relocate

INCREMENTAL REDO APPLICATION

QUIESCE SOURCE PDB

- client session drain/kill

LISTENER CONNECTION FORWARDING


- Extension of SCAN technology

PDB NZD Relocate: Step by Step SQL

CONFIGURE PDB HOT CLONE



DECIDE RELOCATION STRATEGY (*relocate* or *relocate online*)
BASED ON NETWORK TOPOLOGY
AND CLIENT CONNECTION FORWARDING



INITIATE RELOCATION
CDB\$ROOT-SQL> create pluggable database oe from oe@dblink relocate online;



COMPLETE RELOCATION
CDB\$ROOT-SQL> alter pluggable databse oe open;

**NOTE: FOR RELOCATE ONLINE, DO NOT REMOVE THE TOMBSTONE
UNTIL ALL CLIENT CONNECT STRINGS HAVE BEEN UPDATED**