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| **How to migrate an existing pre-12c database (non-CDB) to 12c CDB database? (Doc ID 1564657.1)** | [IMG_256](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246%26id=1564657.1%26_adf.ctrl-state=j60vpb8mw_354%20/o%20To%20Bottom)  [To Bottom](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\o To Bottom) | IMG_257 |

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| **In this Document**   |  |  | | --- | --- | |  | [Goal](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l GOAL) |  |  |  | | --- | --- | |  | [Solution](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l FIX) |  |  |  | | --- | --- | |  | [a).Provision empty PDBs per database that need to consolidated](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l aref_section21) |  |  |  | | --- | --- | |  | [b).Use datapump or golden gate replication to migrate a Database into a PDB](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l aref_section22) |  |  |  | | --- | --- | |  | [a)Upgrade an existing pre 12.1 database to 12.1(non-CDB)](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l aref_section23) |  |  |  | | --- | --- | |  | [b)Plug-in the database post upgrade into a CDB](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l aref_section24) |  |  |  | | --- | --- | |  | [References](https://support.oracle.com/epmos/faces/DocumentDisplay?_afrLoop=262610568178246&id=1564657.1&_adf.ctrl-state=j60vpb8mw_354 \\l REF) |   IMG_260  **APPLIES TO:**  Oracle Database - Enterprise Edition - Version 12.1.0.1 and later  Information in this document applies to any platform.  **GOAL**   This document help to migrate a nonCDB(12c or pre12c) database to 12c CDB.  **SOLUTION**    Migrate to 12c Pluggable database is very simple and easy. You can evaluate and adopt which one best suit for you.  **Plan A.**  ***a).Provision empty PDBs per database that need to consolidated***  ***b).Use datapump or golden gate replication to migrate a Database into a PDB***  **Plan B.**  ***a)Upgrade an existing pre 12.1 database to 12.1(non-CDB)***  You can use dbua or manual method to upgrade a pre 12.1 database to a 12.1 non-CDB database  Complete Checklist for Manual Upgrades to Oracle Database 12c Release 1 (12.1) [Note 1503653.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1564657.1&id=1503653.1)  Complete Checklist to Upgrade the Database to 12c Release 1 using DBUA [Note 1516557.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1564657.1&id=1516557.1)  You can run into ORA-1405 issues when running noncdb\_to\_pdb when Patch 20298413 was not installed in the noncdb at the time the manifest file was made. The remedy is to install the patch in the noncdb, and redo the xml manifest file and recopy the datafiles, which is a lot of work to fix an error that could have been prevented on the noncdb side. Then alter the user passwords per note ORA-01405 while running "noncdb\_to\_pdb.sql" (Doc ID 2000882.1).  If noncdb\_to\_pdb.sql hangs, review Bug 20172151.    ***b)Plug-in the database post upgrade into a CDB***  **\* This note explain the details how to plug-in the upgraded/created non12c database into CDB**  Set the ORACLE\_SID variable to noncdb.  Connect to the noncdb instance.  sqlplus / as sysdba  If the instance is up, shut it down first.  shutdown immediate   Start up the database in mount exclusive mode.  startup mount exclusive  Open the database in read-only mode.  alter database open read only;    **\* Generate a Pluggable Database Manifest File for the Non-Container Database**   Execute the dbms\_pdb.describe procedure to generate the manifest file.  exec dbms\_pdb.describe(pdb\_descr\_file=>'/opt/oracle/oradata/noncdb/noncdb.xml');    Shutdown the noncdb instance, in preparation for copying the data files in the next section.  shutdown immediate  **\* Create and Plug-In a Pluggable Database into cdb Using the noncdb Manifest File**  Create a 12.1.0.2 CDB database using the Doc ID 2001512.1 :Creating A Container Database (CDB) With A Subset Of Options  and keep it handy for the following steps  Connect to cdb. If it's down, start it up.  sqlplus / as sysdba   Create a new pluggable database(exnoncdb) using the noncdb manifest file. The file\_name\_convert parameter allows you to place the copied data files into a different location.  create pluggable database exnoncdb  as clone  using '/opt/oracle/oradata/noncdb/noncdb.xml'  file\_name\_convert=('/opt/oracle/oradata/noncdb','/stage/oradata/exnoncdb')  copy;    CAUTION: Our example uses the COPY clause.  If you choose to use the NO COPY clause, be aware that any problem with the plug-in that cannot be resolved in the target will require you to restore the original, non-cdb (source) database, so you can put the datafiles back in read only mode and redo the manifest file.   Note: A MOVE will do a copy/remove under the covers (unless it is a simple rename in the same filesystem), so if the MOVE is successful, there is still only one set of datafiles that will exist after the MOVE; in that respect it is like NOCOPY.  **\* Convert to Pluggable Database Data Dictionary**  Now that the database has been opened as a Pluggable Database (PDB) is has a status as NEW. However, it still has a lot of  redundant structures (esp. in the SYS and SYSAUX area) that need to be cleaned up by performing this last step:  Connect to the new pluggable database exnoncdb.  sqlplus sys/oracle@hol/exnoncdb as sysdba    Run $ORACLE\_HOME/rdbms/admin/noncdb\_to\_pdb.sql. This script can take quite a long time to run (more than 20 minutes).  @$ORACLE\_HOME/rdbms/admin/noncdb\_to\_pdb.sql   Some more details can be found [here](https://docs.oracle.com/database/121/ADMIN/cdb_plug.htm /l ADMIN13550 /o About Creating and Removing PDBs /t _blank) in the documentation.  Finalize the plug-in by opening the new pluggable database, closing it, and then re-opening it.  Please note that in this case the files have been copied so that there is still a copy of the original source files.  Should you choose to convert the existing files without a copy, it is still recommended to perform a complete backup of the database  before that so it is always possible to re-create the files.    alter pluggable database exnoncdb open;  alter pluggable database exnoncdb close;  alter pluggable database exnoncdb open;    **REFERENCES**  NOTE:1503653.1 - Complete Checklist for Manual Upgrades to Oracle Database 12c Release 1 (12.1)  [NOTE:1516557.1](https://support.oracle.com/epmos/faces/DocumentDisplay?parent=DOCUMENT&sourceId=1564657.1&id=1516557.1) - Complete Checklist for Upgrading to Oracle Database 12c Release 1 using DBUA |