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DBUA automates the upgrade process by performing all of the tasks normally performed manually. There are some steps which can be performed when the database is running. If these steps can be done manually before upgrading using DBUA, the downtime can be minimized.  **Ask Questions, Get Help, And Share Your Experiences With This Article**  **Would you like to explore this topic further with other Oracle Customers, Oracle Employees, and Industry Experts?**  [Click here to join the discussion where you can ask questions, get help from others, and share your experiences with this specific article](https://community.oracle.com/message/11804690#11804690). Discover discussions about other articles and helpful subjects by clicking [here](https://community.oracle.com/community/support/oracle_database/database_install_upgrade_opatch) to access the main *My Oracle Support Community* page for Database Install/Upgrade.  **SCOPE**  Database Administrators, Support  **DETAILS**  **Database Upgrade Assistant (DBUA)**  - It Provides a graphical user interface (GUI) that guides you through the upgrade of a database. - It is the recommended method for performing a major release upgrade or patch release upgrade. - It automates the upgrade process by performing all of the tasks. - It makes appropriate recommendations for configuration options such as tablespaces, redo, optimizer statistics and time zone file, etc. You can then act on these recommendations. This method is very easy and user friendly. - Hidden parameters which are in the source database are not carried to the target database by DBUA, This is expected behavior. Oracle recommends removing all hidden parameters prior to upgrading.   To view existing hidden parameters execute the following command while connected AS SYSDBA:  SELECT name,description from SYS.V$PARAMETER WHERE name LIKE '\\_%' ESCAPE '\'  Changes will need to be made in the init.ora or spfile if you are manually upgrading the database.**If you are using the DBUA then it is taken care by DBUA.**  DBUA performs some of the checks before actually starting the database upgrade. So those steps and recommendations can be performed when the database is in normal startup mode. By performing these steps manually, the down time can be minimized.   **DBUA performs the following checks before the upgrade:**  => Invalid user accounts or roles => Invalid data types or invalid objects => De-supported character sets => Adequate resources, including rollback segments, tablespaces, and free disk space => Missing SQL scripts needed for the upgrade => Listener running (if Oracle Enterprise Manager Database Control upgrade or configuration is requested) => Oracle Database software linked with Database Vault option. If Database Vault is enabled, then DBUA will return an error asking you to disable Database Vault prior to upgrade. See "Disable Oracle Database Vault"  => Stale optimizer statistics  => Time zone file versions  => Enterprise Manager Database control Repository exists in the database or not  **Recommendations for Source database**  1) Ensure that all database components/objects**provided by Oracle**are VALIDin the source database  prior to starting the upgrade.  2) Ensure that you do not have duplicate objects in the SYS and SYSTEM schema.  The following objects are permissible duplicate objects:   OBJECT\_NAME OBJECT\_TYPE  ------------------------------ ------------------- AQ$\_SCHEDULES TABLE AQ$\_SCHEDULES\_PRIMARY INDEX DBMS\_REPCAT\_AUTH PACKAGE DBMS\_REPCAT\_AUTH PACKAGE BODY   Please refer to the following article for complete instructions to remove any other duplicates. [NOTE.1030426.6](https://support.us.oracle.com/oip/faces/secure/km/DocumentDisplay.jspx?id=1030426.6) HOW TO CLEAN UP DUPLICATE OBJECTS OWNED BY SYS AND SYSTEM  3) Disable the custom triggers that would fire before/after DDL and enable them after the upgrade is complete.  **Requirements and recommendations  for target database**   * Download and Install Oracle 11g Release 2 in a new Oracle Home and make sure there are no relinking errors. * Install the latest available Patchset from Metalink. (If available). * Install the latest available Critical Patch Update. (If available). * Either take a Cold or Hot backup of your source database (advisable to have cold backup). * Check the database server upgrade/downgrade compatibility before upgrading the database. * **Prior to** **Upgrading a database with XML Database(XDB) installed or  installing XDB**, be sure to run the code mentioned in [**Note 1573175.1**](https://support.oracle.com/DocumentDisplay?id=1573175.1)**"Upgrading or Installing XDB could result in data loss if XDB\_INSTALLATION\_TRIGGER exists "**  to determine if any objects need to be dropped. Please note, failure to follow the steps listed below could result in data loss of user objects like tables, indexes * **If you have XDB installed then  please install the PSE for 10368698 to the 11.2.0.2 Home before doing the upgrade**. If there is not an existing one-off patch for your platform please open an SR to request the one-off patch. This defect can cause certain databases that are XDB enabled to take a great deal of time to upgrade. The bug **10368698 is fixed in 11.2.0.3** . * If you have XDB installed then  the install the fix for [Bug 10419629](https://support.oracle.com/BugDisplay?id=10419629) in the 11.2.0.2.0 home prior to  upgrade . Please refer  [Note 1305561.1](https://support.oracle.com/DocumentDisplay?id=1305561.1) While Upgrading From 10.2.0.4.0 To 11.2.0.2.0 Catupgrd.sql=ORA-31061 ORA-19202 LSX-23   **Compatibility Matrix**  Minimum Version of the database that can be directly upgraded to Oracle 11g Release 2  Source Database                Target Database 9.2.0.8 or higher                    11.2.x 10.1.0.5 or higher                  11.2.x 10.2.0.2 or higher                  11.2.x 11.1.0.6 or higher                  11.2.x  The following database version will require an indirect upgrade path.   Source Database ---> Upgrade Path for Target Database--->Target Database 7.3.3 (or lower)----->   7.3.4 --->   9.2.0.8 ---->11.2.x 8.0.5 (or lower)---->    8.0.6 --->    9.2.0.8 ---->11.2.x 8.1.7 (or lower)---->    8.1.7.4---> 10.2.0.4---->11.2.x 9.0.1.3 (or lower)----> 9.0.1.4-- ->10.2.0.4---->11.2.x 9.2.0.7(or lower)---->9.2.0.8---->11.2.x  For example:  If source database is 8.1.7.0.0, the upgrade path to be followed is as below: 8.1.7.0.0 --> 8.1.7.4 --> 10.2.0.4--> 11.2.x.   **NOTE: DBUA throws the following error if not on minimum version: "The CEP File does not provide the version directive"**  **Run the Pre-Upgrade Information Tool for Collecting Pre-Upgrade Information**  To download and use the latest Pre-Upgrade Information Tool see the following:  [Note 884522.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=884522.1): How to Download and Run Oracle's Database Pre-Upgrade Utility   or  Step 1 -------   * Log in to the system as the owner of the Oracle Database 11g Release 2 (11.2) Oracle Home directory. * Copy the Pre-Upgrade Information Tool (utlu112i.sql) from the Oracle Database 11g Release 2 (11.2) ORACLE\_HOME/rdbms/admin directory to a directory outside of the Oracle Home, such as the temporary directory on your system.     $ORACLE\_HOME/rdbms/admin/utlu112i.sql  Step 2 -------   * Change to the directory where utlu112i.sql had been copied in the previous step. * Start SQL\*Plus and connect to the database instance as a user with SYSDBA privileges. Then run and spool the utlu112i.sql file. Please note that the database should be started using the Source Oracle Home.     $ sqlplus '/ as sysdba' SQL> spool upgrade\_info.log SQL> @utlu112i.sql SQL> spool off  Check the spool file and examine the output of the Upgrade Information Tool. The sections which follow describe the output of the Upgrade Information Tool. For sample output, Click [here](http://download.oracle.com/docs/cd/E11882_01/server.112/e17222/upgrade.htm#CHDJGEDB)  **Check for INVALID database components and objects in the Source database**  Ensure that there are NO INVALID database components/objects in the source database prior to starting the upgrade. You can execute the following query to check the invalid database components/objects in the source database:  set pagesize500        set linesize 100                select substr(comp\_name,1,40) comp\_name, status, substr(version,1,10) version from         dba\_registry order by comp\_name;                select substr(object\_name,1,40) object\_name,substr(owner,1,15) owner,object\_type from         dba\_objects where status='INVALID' order by owner,object\_type;                select owner,object\_type,count(\*) from dba\_objects where status='INVALID' group by        owner,object\_type order by owner,object\_type ;  If you find invalid objects and/or database components then try to VALIDATE the invalid objects and/or database components by executing the following steps:  Run $ORACLE\_HOME/rdbms/admin/utlrp.sql to validate the invalid objects in the database. You can execute the utlrp.sql scripts multiple times to validate the invalid objects.  $ cd $ORACLE\_HOME/rdbms/admin $ sqlplus "/ as sysdba" SQL> @utlrp.sql  You may get the following warning message if recommended checks are not done prior to upgrade:  Oracle Corporation strongly recommends that the following issues be resolved in the database "upgrade" before you start the database upgrade .  Database is using the old time zone file version.  After the upgrade ,patch the database timezone file version using the DBMS\_DST package to record the latest time zone file Version   Database contains stale optimizer statistic. Refer to the Upgrade Guide for instruction to update statistics prior to upgrade the database   Enterprise manager Database Control Repository exists  in the database . Direct downgrade of the Enterprise Manager Control is not supported .  Refer to the 11g  Upgrade Guide for the instruction to save the Enterprise manager data prior to upgrade   Do you want to continue with upgrade ?  **Check for TIMESTAMP WITH TIMEZONE Datatype**  The time zone files that are supplied with Oracle Database 11g Release 2 (11.2) have been updated to  version 11 (11.2.0.1) and 14 (11.2.0.2/11.2.0.3) to reflect changes in transition rules for some time-zone regions.  The changes might affect existing data of the TIMESTAMP WITH TIME ZONE data type.  **ATTENTION :**  From 11.2.0.2 DBUA is proposing in its menu the following feature :  "Upgrade Timezone Version and TIMESTAMP WITH TIME ZONE Data"  but if it is checked then DBUA may hit the problem described in :  [BUG 10209691](https://support.oracle.com/epmos/faces/BugDisplay?id=10209691) : SLOW PERFORMANCE ON ALL\_TSTZ\_TAB\_COLS [BUG 12658443](https://support.oracle.com/epmos/faces/BugDisplay?id=12658443) :  SLOW PERFORMANCE UPGRADING TIMEZONE FROM 11 TO 14  and so DBUA may hit this slowing down at "Upgrading Timezone" step,  so currently it is advised to **NOT CHECK THIS BOX**  but rather use after upgrade the manual method described in :  [Note 977512.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=977512.1) : Updating the RDBMS DST version in 11g Release 2 (11.2.0.1 and up) using DBMS\_DST  Two cases in source environment :   Case 1 --------  Output of pre-upgrade utility is showing a statement like :  WARNING: -->Database is using a timezone file older than .....  If the source database is using a timezone file lower or equal to :  - version 11 and target oracle home is 11.2.0.1 or - version 14 and target oracle home is 11.2.0.2/11.2.0.3  then nothing to do in source home , it is suggested to use DBMS\_DST package AFTER the upgrade :  [Note 977512.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=977512.1) : Updating the RDBMS DST version in 11gR2 (11.2.0.1 and up) using DBMS\_DST   Case 2 --------  Output of pre-upgrade utility is showing a statement like :  WARNING: --> Database is using a timezone file greater than ....  If the source database is using a timezone file greater than : - version 11 and target oracle home is 11.2.0.1 or - version 14 and target oracle home is 11.2.0.2/11.2.0.3  then BEFORE upgrading you MUST patch the 11gR2 $ORACLE\_HOME with a timezone data file of the SAME version as  the one used in the source release database.   For a detailed description of the time zone upgrade, please refer to the following :  [Note 815679.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=815679.1) : Actions For DST Updates When Upgrading To 11.2.0.1 Base Release [Note 1201253.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1201253.1) : Actions For DST Updates When Upgrading To Or Applying The 11.2.0.2 Patchset [Note 1358166.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1358166.1) : Actions For DST Updates When Upgrading To Or Applying The 11.2.0.3 Patchset  [Note 1579838.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1579838.1) : Actions For DST Updates When Upgrading To Or Applying The 11.2.0.4 Patchset  Once upgrade will be finished if you want to apply the last DST/TZ patch on target home then refer to :   [Note 412160.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=412160.1) :  Updated DST transitions and new Time Zones in Oracle Time Zone File patches  Note:  The TIMESTAMP WITH TIME ZONE data stored in the database can become corrupted during the upgrade if there is a time zone file version mismatch.  **Audit records** From 10gr2 DBUA/catupgrd script can spend an infinite time to process the records in FGA\_LOG$ and/or AUD$ if there are too many records.  See [Note 1062993.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1062993.1) : 11.2.0.1 Catupgrd.sql Hangs While Running Procedure POPULATE\_DBID\_AUDIT  For 10.2 and later source versions there is now a pre-process script available :  [Note 1329590.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1329590.1) : How to Pre-Process SYS.AUD$ Records Pre-Upgrade From 10.1 or later to 11gR1 or later.   If  do not want to keep the records collected before 11GR2  then you can just do in source environment : truncate table sys.aud$; truncate table sys.fga\_log$;   **Optimizer Statistics**  When upgrading to Oracle Database 11g Release 2 (11.2), optimizer statistics are collected for dictionary tables that lack statistics.  This statistics collection can be time consuming for databases with a large number of dictionary tables,  but statistics gathering only occurs for those tables that lack statistics or are significantly changed during the upgrade.  To determine the schema's which lack statistics, download and run the script from below MOS article:  [Note 560336.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=560336.1)  Script to Check Schemas with Stale Statistics  To decrease the amount of downtime incurred when collecting statistics, you can collect statistics prior to performing the actual database upgrade. As of Oracle Database 10g Release 1 (10.1), Oracle recommends that you use the DBMS\_STATS.GATHER\_DICTIONARY\_STATS procedure to gather these statistics. For example, you can enter the following:  $ sqlplus "/as sysdba" SQL> EXEC DBMS\_STATS.GATHER\_DICTIONARY\_STATS;  If you are using Oracle Database 9i Release 2 (9.2), then you should use the DBMS\_STATS.GATHER\_SCHEMA\_STATS procedure to gather statistics. To do this, you can run the scripts provided in Appendix D.  [Appendix D](http://download.oracle.com/docs/cd/B28359_01/server.111/b28300/statistics.htm#BEIDEAGD) has sample script, which creates the table, dictstattab, and exports the statistics for the RDBMS component schema into it. The statistics collection might give errors if a particular component schema does not exist in the database, or if a component is not installed or invalid.  Backup the existing statistics to revert / import back the statistics, once the upgrade is successful.  For example, the following PL/SQL subprograms import the statistics for the SYS schema after deleting the existing statistics:  SQL> EXEC DBMS\_STATS.DELETE\_SCHEMA\_STATS('SYS'); SQL> EXEC DBMS\_STATS.IMPORT\_SCHEMA\_STATS('SYS','dictstattab');  **Backing up Enterprise Manager Database Control Data**  After upgrading to Oracle Database 11g release 2(11.2), if you want to downgrade Oracle Enterprise Manager Database Control you must save your Database Control files and data before upgrading your database. The emdwgrd utility can be used to keep a copy of your database control files and data before upgrading your database. The emdwgrd utility resides in the ORACLE\_HOME/bin directory in the Oracle Database 11g release 2 (11.2) Home.  1. Set ORACLE\_HOME to your old Oracle Home. 2. Set ORACLE\_SID to the SID of the database being upgraded. 3. Set PATH, LD\_LIBRARY\_PATH and SHLIB\_PATH to point to the Oracle Home from which the database is being upgraded. 4. Change directory to Oracle Database 11g release 2 (11.2) Home. 5. Run the following command:  a. Run the following command for single instance database:  $ emdwgrd -save -sid old\_SID -path save\_directory  where old\_SID is the SID of the database being upgraded and save\_directory is the path to the storage place you have chosen for your Database Control files and data.  Please refer to the following article for complete information:  [Note 870877.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=870877.1)  How To Save Oracle Enterprise Manager Database Control Data Before Upgrading The Single Instance Database To Other Release ?  b. For a RAC database, remote copy is required across the cluster nodes. Define an environment variable to indicate which remote copy is configured. For example: setenv EM\_REMCP /usr/bin/scp  $ emdwgrd -save -cluster -sid old\_SID -path save\_directory  Note: If 10g Oracle Home is on a shared device, add -shared to the previous command line.  The above command(s) may core dump on HP-UX Itanium platform, which is a known issue. For more information, refer to following MOS article:  [Note 562980.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=562980.1)  - emdwgrd core dumps : emdwgrd[228]: 10366 Memory fault(coredump)  6. Enter the SYS password for the database to be upgraded. Note: On RAC databases you will be prompted to run '/tmp/racdwgrd\_dbctl.sh' on each of the nodes.   **Disable Oracle Database Vault**  When upgrading from Oracle Database Release 10.2, if you have enabled Oracle Database Vault option in your current Oracle Home, then you must disable Oracle Database Vault in the target Oracle home where the new release 11.2 software is installed before upgrading the database, and enable it again when the upgrade is finished. If Database Vault is enabled, then DBUA will return an error asking you to disable Database Vault prior to upgrade.  You must do this before upgrading the database. Enable Oracle Database Vault again once the upgrade is complete.  Please refer to the following Documentation/Articles for complete information to Disable/Enable Oracle Database Vault:  [**Disabling and Enabling Oracle Database Vault**](http://download.oracle.com/docs/cd/E11882_01/server.112/e16544/dvdisabl.htm#BJEDGGGA)  OR   You can also refer to the following MOS Documents for Disabling Oracle Database Vault before the upgrade and enabling it after the upgrade:  [Note 803948.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=803948.1) -  How To Uninstall Or Reinstall Database Vault in 11g (UNIX) [Note 453902.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=453902.1)  - Enabling and Disabling Oracle Database Vault in WINDOWS [Note 1085051.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1085051.1) - 11gR2 DBUA Errors - Database Vault Option Is Enabled  **Check Deprecated CONNECT Role**  After upgrading to Oracle Database 11g Release 1 (11.2) from Oracle Database9i Release 2 (9.2) or Oracle Database 10g Release 1 (10.1), the CONNECT role has only the CREATE SESSION privilege; the other privileges granted to the CONNECT role in earlier releases are revoked during the upgrade. To identify which users and roles in your database are granted the CONNECT role, use the following query:  SELECT grantee FROM dba\_role\_privs WHERE granted\_role = 'CONNECT' and grantee NOT IN ( 'SYS', 'OUTLN', 'SYSTEM', 'CTXSYS', 'DBSNMP', 'LOGSTDBY\_ADMINISTRATOR', 'ORDSYS', 'ORDPLUGINS', 'OEM\_MONITOR', 'WKSYS', 'WKPROXY', 'WK\_TEST', 'WKUSER', 'MDSYS', 'LBACSYS', 'DMSYS', 'WMSYS', 'EXFSYS', 'SYSMAN', 'MDDATA', 'SI\_INFORMTN\_SCHEMA', 'XDB', 'ODM');  If users or roles require privileges other than CREATE SESSION, then grant the specific required privileges prior to upgrade. The upgrade scripts adjust the privileges for the Oracle-supplied users.  In Oracle 9.2.x and 10.1.x CONNECT role includes the following privileges:  SELECT GRANTEE,PRIVILEGE FROM DBA\_SYS\_PRIVS WHERE GRANTEE ='CONNECT'  GRANTEE PRIVILEGE ------- ---------------------- CONNECT CREATE VIEW CONNECT CREATE TABLE CONNECT ALTER SESSION CONNECT CREATE CLUSTER CONNECT CREATE SESSION CONNECT CREATE SYNONYM CONNECT CREATE SEQUENCE CONNECT CREATE DATABASE LINK  From Oracle 10.2, 'CONNECT' role only includes 'CREATE SESSION' privilege.  **Using the Oracle Net Configuration Assistant**   a) Stop the listener for the database.  $ lsnrctl stop  Previous versions of the listener are not supported for use with an Oracle Database 11g Release 2 (11.2) database. However, it is possible to use the new version of the listener with previous versions of Oracle Databases. If you are upgrading from 9i  then run Oracle Net Configuration Assistant before upgrading the Oracle database.  This is a two-step option. You must first run Oracle Net Configuration Assistant from the old Oracle Home to remove the old listener. - Invoke the Netca - Choose the configuration you want to do ==> Choose Listener Configuration - Select what you want to do ==> Delete - Select the listener you want to delete .  Then you must run Oracle Net Configuration Assistant again from the new Oracle Database 11g Release 2 (11.2) Home to create a new listener.  - Invoke the Netca - Choose the configuration you want to do ==> Choose Listener Configuration - Select what you want to do ==> Add - Provide the detail that is required to configure the listener.  You must remove the old listener before creating a new one. If you attempt to create a new listener from the new Oracle Home first, and use the same name and port as the old listener, then Oracle Net Configuration Assistant returns an error.  Note: This is your only option if you want to upgrade your Oracle RAC database manually.    **ATTENTION :**  If DBUA is not able to "resolve" correctly a **LOCAL\_LISTENER** or **REMOTE\_LISTENER** setting in the pre-upgrade phase you will see the following errors in DBUA log :  ORA-00119: invalid specification for system parameter LOCAL\_LISTENER (or REMOTE\_LISTENER) ORA-00132: syntax error or unresolved network name 'xxxxxxx' ORA-01078: failure in processing system parameters  This will prevent DBUA to startup the database (ORA-01034) to process the list of users/accounts and in such case DBUA will consider that all the users (except SYS and SYSTEM) are "new" users and so will lock them with password expired .  This behavior is the expected one .  All the users are locked with expired password once DBUA has upgraded the database   A wrong setting for LOCAL\_LISTENER could be :   1) wrong value (tns alias)  or wrong (complete) description for LOCAL\_LISTENER initialization parameter or 2) the provided value (alias) from LOCAL\_LISTENER is unknown in tnsnames.ora  or 3) the tnsnames.ora file couldn't be found then the value from LOCAL\_LISTENER could not be resolved.    b) Stop other executable such as dbconsole, isqlplus, etc.  $ emctl stop dbconsole $ isqlplusctl stop  **Password protected roles** In version 11.2 password protected roles are no longer enabled by default, if any of your applications relies on such roles being enabled by default and you take no measures to allow the user to enter the password with the set role command, it is recommended to remove the password from those roles to allow for existing privileges to remain available, for more information see :  [Note 745407.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=745407.1) : What Roles Can Be Set as Default for a User? [Oracle Database Security Guide 10g Release 2 (10.2) Part Number B14266-07](http://docs.oracle.com/cd/B19306_01/network.102/b14266/admusers.htm#i1008785) [Oracle Database Security Guide 11g Release 1 (11.1) Part Number B28531-15](http://docs.oracle.com/cd/B28359_01/network.111/b28531/authorization.htm#BABCGBAA) [Oracle Database Security Guide 11g Release 2 (11.2) Part Number E16543-09](http://docs.oracle.com/cd/E11882_01/network.112/e16543/authorization.htm#BABCGBAA)  **Memory settings**  Ensure that the SHARED\_POOL\_SIZE , LARGE\_POOL\_SIZE as well as the JAVA\_POOL\_SIZE are greater than 150MB (At least 250MB if you are running XDB) else you may hit problems described in :   [Note 789779.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=789779.1) : DBUA Error ORA-04031 unable to allocate 4120 bytes of shared memory, ORA-01034: ORACLE not available, ORA-00600: internal error code, arguments: [504]  [Note 1127179.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1127179.1) ORA-07445 [qmkmgetConfig()+52] During Catupgrd.sql (11.2.0.1).  **Environment Variables** Make sure the following environment variables point to the Oracle 11g Release 2 (11.2) directories:  - ORACLE\_BASE - ORACLE\_HOME - PATH, LD\_LIBRARY\_PATH, SHLIB\_PATH and LIBPATH ( for AIX )    **SYSAUX tablespace :**DBUA Creates the SYSAUX tablespace which is required while upgrading from 9i to higher version**.   Starting Upgrade Using DBUA:**  On Linux or UNIX platforms, enter the following command at a system prompt in the Oracle Database 11g Release 2 (11.2.0.x) environment:  Make sure that you are invoking the DBUA utility from the target Oracle home only .  You can invoke it  directly from the $ORACLE\_HOME/bin of the target Oracle home  % cd $ORACLE\_HOME/bin % ./dbua  OR   Invoke it from any location by  setting ORACLE\_BASE ,ORACLE\_HOME and PATH environment variable pointing  to the target Oracle  % dbua  **Note:**The dbua executable is usually located in the $ORACLE\_HOME/bin directory.  On Windows operating systems, select:  Start > Programs > Oracle - HOME\_NAME > Configuration and Migration Tools > Database Upgrade Assistant.  The DBUA Welcome screen appears.  **REQUIRED POST UPGRADE STEPS**  Please complete the following tasks after you have upgraded your database:  1)  Verify that the following environment variables are set to point to 11.2.0.x Installation:  ORACLE\_BASE ORACLE\_HOME PATH  Note: DBUA automatically points oratab to the new Oracle Home. However, client scripts must be checked no matter which method you use to upgrade.  If you are upgrading a cluster database, then perform these checks on all nodes on which this cluster database has instances configured.  2) Upgrade the Recovery Catalog  For complete information about upgrading the recovery catalog and the UPGRADE CATALOG command, see Oracle Database Backup and Recovery User's Guide for the topic that describes the procedures.  3) Upgrade the Time Zone File Version  If the Pre-Upgrade Information Tool instructed you to upgrade the time zone files after completing the database upgrade, then use the DBMS\_DST PL/SQL package to upgrade the time zone file.    [Note 977512.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=977512.1) Updating the RDBMS DST version in 11gR2 (11.2.0.1 and up) using DBMS\_DST  4) Upgrade Statistics Tables Created by the DBMS\_STATS Package  If you created statistics tables using the DBMS\_STATS.CREATE\_STAT\_TABLE procedure, then upgrade these tables by running the following procedure:  EXECUTE DBMS\_STATS.UPGRADE\_STAT\_TABLE('scott', 'stat\_table');  In the example, SCOTT is the owner of the statistics table and STAT\_TABLE is the name of the statistics table. Perform this procedure for each statistics table.  5)  Upgrade Externally Authenticated SSL Users  If you are upgrading from Oracle9i Release 2 (9.2) or Oracle Database 10g Release 1 (10.1), and you are using externally authenticated SSL users, then you must run the SSL external users conversion (extusrupgrade) script to upgrade those users. The script has the following syntax:  ORACLE\_HOME/rdbms/bin/extusrupgrade --dbconnectstring <hostname:port\_no:sid> --dbuser <db admin> --dbuserpassword <password> -a    **Note**:  If you are upgrading from Oracle Database 10g Release 2 (10.2) or higher, then you are not required to run this command.  6) Enable Database Vault  Refer to the following MOS Documents for enabling Oracle Database Vault:  [Note 453903.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=453903.1) - Enabling and Disabling Oracle Database Vault in UNIX [Note 453902.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=453902.1) - Enabling and Disabling Oracle Database Vault in WINDOWS    7) Configure Fine-Grained Access to External Network Services  To avoid "ORA-24247: network access denied by access control list (ACL)" when executing UTL packages (Network related Packages), access has to be granted to user using these packages.  The following example first looks for any ACL currently assigned to host\_name. If one is found, then the example grants user\_name the CONNECT privilege in the ACL only if that user does not already have it. If no ACL exists for host\_name, then the example creates a new ACL called ACL\_name, grants the CONNECT privilege to user\_name, and assigns the ACL to host\_name.  DECLARE acl\_path VARCHAR2(4000); BEGIN SELECT acl INTO acl\_path FROM dba\_network\_acls WHERE host = 'host\_name' AND lower\_port IS NULL AND upper\_port IS NULL; IF DBMS\_NETWORK\_ACL\_ADMIN.CHECK\_PRIVILEGE(acl\_path,'principal','privilege') IS NULL THEN DBMS\_NETWORK\_ACL\_ADMIN.ADD\_PRIVILEGE(acl\_path,'principal', is\_grant, 'privilege'); END IF; EXCEPTION WHEN no\_data\_found THEN DBMS\_NETWORK\_ACL\_ADMIN.CREATE\_ACL('ACL\_name.xml','ACL description', 'principal', is\_grant, 'privilege'); DBMS\_NETWORK\_ACL\_ADMIN.ASSIGN\_ACL('ACL\_name.xml','host\_name'); END;  COMMIT;  acl\_name.xml => Enter a name for the access control list XML file. ACL description => 'file description', principal => 'user\_or\_role', is\_grant => TRUE|FALSE, privilege => 'connect|resolve', host\_name => host name  Refer to the below note on how to use DBMS\_NETWORK\_ACL\_ADMIN Package and also to avoid ORA-24247: network access denied by access control list (ACL):  [Note 453786.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=453786.1) ORA-24247 When Executing UTL\_HTTP UTL\_INADDR Packages    8) Change the compatible parameter to the new release after the upgrade.  After upgrading to Oracle Database 11g Release 2 (11.2), you can set the COMPATIBLE initialization parameter to match the release number of the new release. Doing so enables you to use all features of the new release, but prevents you from downgrading to your earlier release.  Oracle recommends increasing the COMPATIBLE parameter only after complete testing of the upgraded database has been performed.  After you increase the COMPATIBLE parameter, the database cannot subsequently be downgraded to earlier releases.  **Known Issues**  [Note 1066828.1](https://support.oracle.com/epmos/faces/DocumentDisplay?id=1066828.1) 11GR2 DBUA ORA-06550 PLS-00201 IDENTIFIER SYS.DBMS\_JAVA MUST BE DECLARED | | | | |