



How to Upgrade Oracle from Version 10.2.0.3/10.2.0.4 to 11.2.0.1 for AIX/Linux/ Solaris Operating Systems

Version 8.1.1

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1

Pre-Upgrade Procedures

As part of the Voyager 8.x upgrade process, an upgrade to Oracle 11g is required. This section details the steps necessary to prepare for a successful upgrade from Oracle 10g to Oracle 11g.

This section includes:

- **Prerequisites** on page 5
- **Downloading the Package** on page 5
- **Pre-Installation Checks** on page 7
- **Stopping Voyager and Oracle and Disabling SMF Services** on page 8
- **Disabling Enterprise Manager** on page 9
- **Disabling Oracle Archive Logging** on page 10
- **Checking Oracle OLAP Components (Linux x86-64)** on page 11
- **Configuring Kernel Parameters** on page 12

Prerequisites

- Current version of Oracle – 10.2.0.3 or 10.2.0.4.
- `$INSTALL` is defined as `/m1/incoming/oracle` or another directory to be used for download and installation.
- The `INSTALL` variable is defined as `INSTALL=/m1/incoming/oracle`

Downloading the Package

Before you can upgrade Oracle you must download the upgrade package:

To download the package:

- 1 Switch to the `voyager` user:

```
su - voyager
```

- 2 Move to the `incoming` directory:

```
cd /ml/incoming
```

- 3 Create the `oracle` directory if it does not already exist:

```
mkdir $INSTALL
```

- 4 Set file permission 1777 for this directory:

```
chmod 1777 $INSTALL
```

- 5 Move to the `oracle` directory:

```
cd $INSTALL
```

- 6 Log on as the `oracle` user to the Ex Libris FTP server and download the `o112010.server.<OS>.tar.bz2` package for the Oracle database server:

```
ftp downloads.exlibrisgroup.com
User: oracle
Password: <contact support>
cd <OS>/11g
bin
hash
get o112010.server.<OS>.tar.bz2
```

NOTE:

To download the Oracle packages for Linux, change to `Linux_x86_64/11g` on the FTP server.

- 7 If you have a separate Voyager application server, download the `o112010.appsvr.<OS>.tar.bz2` package:

```
ftp downloads.exlibrisgroup.com
User: oracle
Password: <contact support>
cd <OS>/11g
bin
hash
mget o112010.appsvr.<OS>.tar.bz2
```

- 8 Log on as the `voyager` user to the Ex Libris FTP server and move to the `2008.1.0` directory to download the `2008.1.0.script.tar.bz2` package and the `systemcheck` script:

```
ftp downloads.exlibrisgroup.com
User: voyager
Password: <contact support>
cd 2008.1.0
bin
hash
get 2008.1.0.script.tar.bz2
get systemcheck
```

NOTE:

If `/m1/shared/perl/5.8.8_Oracle11` exists in the `/m1/shared/` directory, skip the next step.

- 9 Log on as `voyager` to the Ex Libris FTP server and move to the `<OS>/2008.1.0` directory to download the `2008.1.0.SHARED.tar.bz2` package:

```
ftp downloads.exlibrisgroup.com
User: voyager
Password: <contact support>
cd <OS>/2008.0.0
bin
hash
get 2008.0.0.SHARED.tar.bz2
```

This package has the updated `DBI:DBD` file required for Voyager to work correctly after the upgrade.

NOTE:

If `/m1/shared/perl/5.8.8_Oracle11` already exists, skip this step.

Pre-Installation Checks

Perform the following pre-installation checks before installing the new version of Oracle.

- 1 Switch to the `root` user:

```
su - root
```

- 2 Move to the `$INSTALL` directory and unpackage the script tar file:

```
cd /m1/incoming/oracle
bzip2 -dc 2008.1.0.script.tar.bz2 | tar xvf -
```

- 3 Make the `systemcheck` script executable and run it to check the overall system environment required for the Oracle11g installation:

```
chmod 755 systemcheck
./systemcheck
```

- 4 Review the output of the script and fix all conditions that are marked FAILED. After fixing, you can re-run the `systemcheck` script.

IMPORTANT:

You or your System Administrator are responsible for any system side upgrades and patches, such as an OS upgrade, the physical RAM, and installing all the required system packages and patches.

See [Appendix A: Sample Output of systemcheck](#) on page 45 for a sample output of the script.

NOTE:

The rest of the instructions are only relevant for the Oracle database server. For Voyager application servers, skip to [Installing the Oracle Client](#) on page 35.

Stopping Voyager and Oracle and Disabling SMF Services

Before you can upgrade Oracle, you must stop Voyager and Oracle and disable SMF services:

To stop Voyager and Oracle and disable SMF services:

- 1 Switch to the `root` user:

```
su -
```

- 2 Stop Voyager:

```
/etc/init.d/voyager stop
```

- 3 Stop Oracle:

```
/etc/init.d/dbora stop
```


NOTE:

For Solaris 10 only: `/etc/init.d/dbora` may not exist for some voyager sites.

- 4 For Solaris 10 only: Run the SMF uninstaller script to remove Oracle SMF services:

```
cd $INSTALL/script/OS/SMF/  
./uninstaller_oracle
```

- 5 Switch to the `oracle` user:

```
su - oracle
```

- 6 Connect to the Oracle database:

```
sqlplus '/as sysdba'
```

- 7 Start the database:

```
startup;
```

- 8 Exit Oracle:

```
exit;
```

Disabling Enterprise Manager

Before you can upgrade Oracle, you must disable Enterprise Manager (EM).

To disable EM:

- 1 Switch to the `oracle` user:

```
su - oracle
```

- 2 Log on as the `sysdba` user and check if the `dbsnmp` and `sysman` users exist. If the users exist but are locked, unlock the users with the `alter user` command. This step is necessary for the upgrade of EM:

```
select username, account_status, expiry_date from dba_users  
where username in ('DBSNMP', 'SYSMAN');
```

```
alter user dbsnmp account unlock identified by elgreadonly;  
alter user sysman account unlock identified by forelguse;
```

- 3 Move to the `$ORACLE_HOME` directory and verify that the `<hostname>_VGER` directory exists:

```
cd $ORACLE_HOME
ls | grep _VGER
```

- 4 View the `$ORACLE_HOME/install/portlist.ini` file and make note of the EM console HTTP port (VGER) number. (The default is 1158.):

```
cat $ORACLE_HOME/install/portlist.ini
```

If the file is empty, you do not have EM configured and do not need to do anything for EM for the Oracle upgrade.

- 5 Verify that EM is running. If the output says that `dbconsole` is not found, you do not need to do anything for EM for the Oracle upgrade:

```
cd $ORACLE_HOME/bin
./emctl status dbconsole
```

- 6 If `dbconsole` is found, stop it:

```
./emctl stop dbconsole
```

Disabling Oracle Archive Logging

Before you can upgrade Oracle, you must disable Oracle archive logging.

To disable Oracle archive logging:

- 1 Switch to the `oracle` user:

```
su - oracle
```

- 2 Log on as the `sysdba` user:

```
sqlplus / as sysdba
```

- 3 Confirm that archive logging is enabled:

```
archive log list;
```

- 4 An output similar to the following is displayed:

```
Database log mode           Archive Mode
Automatic archival         Enabled
Archive destination        /oracle/arch
Oldest online log sequence 49578
Next log sequence to archive 49579
Current log sequence        49579
```

If Database log mode is in Archive Mode, then archive logging is enabled. If it is in No Archive mode than archive logging is not enabled. Skip to [Checking Oracle OLAP Components \(Linux x86-64\)](#) on page 11.

- 5 Shut down the Oracle VGER instance:

```
shutdown immediate
```

- 6 Startup oracle in a mount state:

```
startup mount
```

- 7 Disable archive logging:

```
alter database noarchivelog;
```

- 8 Open the database:

```
alter database open;
```

Checking Oracle OLAP Components (Linux x86-64)

If your database is running on a Linux x86-64 server, check if the Oracle OLAP components are valid in the existing 10 database:

```
sqlplus / as sysdba

select value from v$option where parameter='OLAP';

select comp_name, status from dba_registry
where comp_name like '%OLAP%';

quit
```

If the value for OLAP is `False`, install the OLAP patch before continuing with the next step. For instructions on how to install the OLAP patch, see [Appendix D: OLAP Patch for the Linux x86-64 10g Database](#) on page 57. If it is `True`, continue with the next step.

Configuring Kernel Parameters

Before you can upgrade Oracle, you must configure the kernel parameters.

- For Solaris 10:
 - a Switch to the `root` user:

```
su - root
```

- b Verify the resource control is set for Oracle `group.dba`:

```
id -p oracle  
cat /etc/project | grep dba
```

The following is the output with the minimum recommended values:

```
# id -p oracle  
uid=100(oracle) gid=100(dba) projid=100(group.dba)  
  
# cat /etc/project | grep dba  
group.dba:100:Oracle Resources::project.max-sem-  
ids=(priv,256,deny);project.max-sem-  
nsems=(priv,256,deny);project.max-shm-  
ids=(priv,256,deny);project.max-shm-  
memory=(priv,4294967296,deny)
```

NOTE:

Most Solaris customer sites already have these parameter settings set from the Oracle 10g upgrade and do not need to make further changes.

- c Create `group.dba` if it does not exist in `/etc/project`:

```
projadd -c 'Oracle Resources' -G dba group.dba
```

- d If kernel parameters are not set in `/etc/project` for `group.dba`, set the required kernel parameters to values greater or equal to the minimum values for the Oracle `group.dba`.

NOTE:

You may need to set even higher values based on the size of your databases and system resources.

```
projmod -sK "project.project.max-shm-memory=(priv,4G,deny) "  
group.dba  
projmod -sK "project.max-sem-ids=(priv,256,deny) " group.dba  
projmod -sK "project.max-shm-ids=(priv,256,deny) " group.dba  
projmod -sK "project.max-sem-nsems=(priv,256,deny) " group.dba
```

- e If kernel parameters are set, but some changes are needed, modify the values:

```
prctl -n project.max-shm-memory -v 4G -r -i project group.dba
prctl -n project.max-sem-ids -v 256 -r -i project group.dba
prctl -n project.max-shm-ids -v 256 -r -i project group.dba
prctl -n project.max-sem-nsems -v 256 -r -i project group.dba
```

- For Linux:

- a Verify the required parameter settings in `/etc/sysctl.conf`:

```
more /etc/sysctl.conf
```

The following is displayed:

```
fs.suid_dumpable = 1
fs.aio-max-nr = 1048576
fs.file-max = 6815744
kernel.shmall = 2097152
kernel.shmmax = 536870912
kernel.shmmni = 4096
kernel.sem = 250 32000 100 128
net.ipv4.ip_local_port_range = 9000 65500
net.core.rmem_default = 262144
net.core.rmem_max = 4194304
net.core.wmem_default = 262144
net.core.wmem_max = 1048576
```

- b Edit the `/etc/sysctl.conf` file manually to set the parameters to be greater or equal to the recommended minimum values displayed in the previous step, and make the changed parameters permanent:

```
vi /etc/sysctl.conf
/sbin/sysctl -p
```

- c Add the following to the end of the `/etc/security/limits.conf` file if it is not present:

```
oracle soft nproc 2047
oracle hard nproc 16384
oracle soft nofile 1024
oracle hard nofile 65536
```

To edit the file, enter the following command:

```
vi /etc/security/limits.conf
```

- d** Add the following code to the `/etc/profile`, if it is not already present, before the `HOSTNAME=`/bin/hostname`` line:

```
if [ $USER = "oracle" ]; then
    if [ $SHELL = "/bin/ksh" ]; then
        ulimit -u 16384
        ulimit -n 65536
    else
        ulimit -u 16384 -n 65536
    fi
    umask 022
fi
```

To edit the file, enter the following command:

```
vi /etc/profile
```

- For AIX:
 - a** Set the shell limits and user environment settings for the `oracle` and `voyager` users and any other users that use Oracle services:

```
smit user
```

The following are the recommended values:

```
Soft CPU time          [-1]
Soft FILE size         [-1]
Soft DATA segment     [-1]
Soft STACK size        [-1]
Soft CORE file size    [-1]
Soft RSS size          [65536]
Soft NOFILE descriptors [2000]
```

- b** Set the kernel parameters to be greater than or equal to the recommended values:

```
smit chgsys
```

The following are the recommended values:

```
Maximum number of PROCESSES allowed per user    [16384]
ARG/ENV list size in 4K byte blocks              [256]
```

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Upgrading Oracle

This section describes the steps for upgrading to the new version of Oracle.

This section includes:

- **Prerequisites** on page 15
- **Installing the Oracle 11g Files** on page 15
- **Preparing the Database** on page 17
- **Configuring Oracle 11g with Oracle 10g VGER** on page 19
- **Upgrading the VGER Database to 11g** on page 20
- **Upgrading the Oracle Time Zone Definitions** on page 24

Prerequisites

- Current version of Oracle – 10.2.0.3 or 10.2.0.4.
- `$INSTALL` is defined as `/m1/incoming/oracle` or another installation directory.
- The `INSTALL` variable is defined as `INSTALL=/m1/incoming/oracle`

Installing the Oracle 11g Files

After you complete the pre-installation procedures you can install Oracle 11.

To install Oracle 11:

- 1 Switch to the root user:

```
su -
```

2 Move to the `/oracle` directory:

```
cd /oracle
```

3 Set `umask` to 0022:

```
umask 0022
```

4 Delete `/oracle/rootpre` if it exists:

```
ls rootpre
rm -rf rootpre
```

5 Install Oracle 11:

```
bzip2 -dc $INSTALL/o112010.server.*.tar.bz2 |
tar xvf - ./rootpre \
./app/oracle/diag \
./app/oracle/checkpoints \
./app/oracle/product/11.2.0/db_1
```

IMPORTANT:

Do not use the `tar xvf` command without including the text at the end of the command `./app/oracle/product/11.2.0/db_1` or you will corrupt the Oracle inventory.

The following error may be displayed for Sun and Linux operating systems. It can be ignored.

```
tar: ./oracle/rootpre: Not found in archive
tar: Error exit delayed from previous errors
```

6 For AIX only: Run `/oracle/rootpre/rootpre.sh` exists, if it exists:

```
/oracle/rootpre/rootpre.sh
```

7 Set the ownership on the Oracle 11g directory:

```
chown oracle:dba /oracle/app/oracle/product/11.2.0
chown oracle:dba /oracle/app/oracle/checkpoints
chown oracle:dba /oracle/app/oracle/diag
```

8 Switch to the `oracle` user:

```
su - oracle
```

9 Move to the `bin` directory:

```
cd /oracle/app/oracle/product/11.2.0/db_1/bin
```


- 10 Make a symbolic link from `dbshut` to `dbshuti` only if the symlink is not present:

```
ls dbshuti
ln -s dbshut dbshuti
```

- 11 Change directories:

```
cd /oracle/app/oracle/product/11.2.0/db_1/clone/bin
```

- 12 Install the new Oracle Home. Enter the following as one command:

```
/m1/shared/bin/perl ./clone.pl \  
ORACLE_HOME=/oracle/app/oracle/product/11.2.0/db_1\  
ORACLE_HOME_NAME=Ora11db1 \  
ORACLE_BASE=/oracle/app/oracle
```

- 13 Switch back to the root user:

```
su - root
```

- 14 Run the `root.sh` script to complete the Oracle setup:

```
/oracle/app/oracle/product/11.2.0/db_1/root.sh
```

Preparing the Database

After installing Oracle 11, you must prepare the database.

To prepare the database:

- 1 Switch to the `oracle` user:

```
su - oracle
```

- 2 Run the Oracle auto-tuner. It calculates approximate values for your upgrade automatically and then open a `vi` session to allow you to manually adjust the values. Then the `spfile` is reloaded:

```
$_INSTALL/script/TOOLS/tune_oracle.ksh -m UPGRADE -c  
${ORACLE_HOME}/dbs/initVGER.ora
```

IMPORTANT:

If the Oracle database cannot start up properly after the above tuning, contact Ex Libris Voyager Support for assistance.

- 3 Connect to Oracle. (Note that you are still connected to the Oracle 10g database.)

```
sqlplus / as sysdba
```

- 4 Recompile invalid Oracle objects:

```
@?/rdbms/admin/utlrp.sql
```

- 5 Gather statistics on the Oracle fixed-objects:

```
exec dbms_stats.gather_dictionary_stats;
```

- 6 Export the current VGER pfile:

```
create pfile from spfile;
```

- 7 Save the output of the next step to a log file:

```
spool $HOME/pre11g_inventory.log
```

- 8 Run the Oracle 11g upgrade inventory script. See [Appendix B: Sample Output of utlu112i.sql](#) on page 49 for a sample output:

```
@/oracle/app/oracle/product/11.2.0/db_1/rdbms/admin/  
utlu112i.sql
```

- 9 Turn off logging:

```
spool off;
```

- 10 Empty Oracle recycle bin:

```
purge dba_recyclebin;
```

- 11 Shut down Oracle:

```
shutdown immediate;
```

- 12 Exit Sqlplus:

```
exit
```

- 13 Ensure that no oracle service processes are running. If any are, stop them, including Listener services:

```
ps -fu oracle
```

The following two steps are for AIX only:

- 14 Switch to the `root` user:

```
su - root
```

- 15 Unload AIX loadable modules:

```
/usr/sbin/slibclean
```

Configuring Oracle 11g with Oracle 10g VGER

Before you can configure Oracle 11g with Oracle 10g VGER, the following conditions must be met:

- VGER instance is stopped.
- Voyager is stopped.
- Solaris 10 specific actions are performed in a different session.

To configure Oracle 11g with Oracle 10g VGER:

- 1 Switch to the Oracle user:

```
su - oracle
```

- 2 Back up the old `oracle` user `.profile` file:

```
cp .profile profile_pre_11g
```

- 3 Update the `oracle` user `.profile` file:

```
cp $INSTALL/script/OS/oracle11_dot_profile .profile
```

- 4 Move to the Oracle 11g `db`s directory:

```
cd /oracle/app/oracle/product/11.2.0/db_1/dbs
```

- 5 Copy the VGER database password file from the 10g `db`s directory to the 11g `db`s directory:

```
cp $ORACLE_HOME/dbs/orapwVGER .
```

- 6 Run the `spfileprep_11.awk` script to adjust Oracle parameters for 11g:

```
awk -f $INSTALL/script/TOOLS/spfileprep_11.awk \  
  $ORACLE_HOME/dbs/initVGER.ora | sort | \  
  uniq> initVGER.ora
```

- 7 Review the output from the inventory script and address any parameter concerns flagged in the new `initVGER.ora` file:

```
view $HOME/pre11g_inventory.log
```

- 8 Copy the `tnsnames.ora` and `listener.ora` files to the Oracle 11g home:

```
cp $ORACLE_HOME/network/admin/listener.ora \  
  $ORACLE_HOME/network/admin/tnsnames.ora \  
  /oracle/app/oracle/product/11.2.0/db_1/network/admin/.
```

- 9 Change the VGER entry in `oratab` and change its path from 10.2.0 to 11.2.0 so that it is the following:

```
VGER:/oracle/app/oracle/product/11.2.0/db_1:Y
```

- For Sun:

```
vi /var/opt/oracle/oratab
```

- For AIX/ Linux:

```
vi /etc/oratab
```

Upgrading the VGER Database to 11g

Before you can upgrade the VGER database to 11g, the following conditions must be met:

- You downloaded the package. (See [Downloading the Package](#) on page 5.)
- You performed the pre-installation checks. (See [Pre-Installation Checks](#) on page 7.)
- Oracle 10g VGER is not running.

To upgrade the VGER database to 11g:

- 1 Switch to the `oracle` user, if necessary:

```
su - oracle
```

- 2 Reload the `.profile` file to pick up changes in `oratab`:

```
. $HOME/.profile VGER
```

3 Verify \$ORACLE_HOME points to ORACLE_HOME for Oracle 11g:

```
echo $ORACLE_HOME
```

The following should be displayed:

```
/oracle/app/oracle/product/11.2.0/db_1
```

4 If the \$ORA_NLS10 parameter exists, unset it:

```
echo $ORA_NLS10  
unset ORA_NLS10
```

5 For AIX only:

- a** Check for AIXTHREAD_SCOPE in the oracle user's .profile file. If it does not exist, update the file and add export AIXTHREAD_SCOPE=S to the Oracle .profile file:

```
grep AIXTHREAD_SCOPE $HOME/.profile
```

- b** Make sure that LIB_PATH is not set:

```
unset LIB_PATH
```

6 Go to ORACLE_HOME (11g) and connect to Oracle:

```
cd $ORACLE_HOME  
sqlplus / as sysdba
```

7 Create a new server parameter file to run this instance:

```
create spfile from pfile;
```

8 Start the instance in Upgrade mode:

```
startup upgrade
```

9 Create a log file for the upgrade:

```
spool ?/rdbms/log/upgrade.log
```

10 Run the 11g upgrade script. (This runs for about 1.5 to 2 hours.)

```
@?/rdbms/admin/catupgrd.sql
```

11 Exit sqlplus. (The catupgrd.sql script stops the database.)

```
exit
```

- 12 Review the upgrade log for errors. ORA-29558 and accompanying ORA-06512 may be safely ignored.

```
vi $ORACLE_HOME/rdbms/log/upgrade.log
```

- 13 Connect to Oracle:

```
sqlplus / as sysdba
```

- 14 Restart the database:

```
startup;
```

- 15 Run the upgrade status script. The status of all components should be VALID. This script can be run at any time after the upgrade to recheck this information. Oracle Ultra Search errors can be ignored:

```
@?/rdbms/admin/utlu112s.sql
```

The following is an example of the output:

```
Oracle Database 11.2 Post-Upgrade Status Tool          10-22-2010
15:41:18
Component                               Status      Version  HH:MM:SS
Oracle Server                             VALID      11.2.0.1.0 00:17:14
.
JServer JAVA Virtual Machine             VALID      11.2.0.1.0 00:18:13
.
Oracle Workspace Manager                 VALID      11.2.0.1.0 00:01:12
.
OLAP Analytic Workspace                  VALID      11.2.0.1.0 00:01:12
.
OLAP Catalog                             VALID      11.2.0.1.0 00:01:20
.
Oracle OLAP API                           VALID      11.2.0.1.0 00:01:17
.
Oracle Enterprise Manager                 VALID      11.2.0.1.0 00:16:17
.
Oracle XDK                               VALID      11.2.0.1.0 00:03:11
.
Oracle Text                              VALID      11.2.0.1.0 00:01:15
.
Oracle XML Database                       VALID      11.2.0.1.0 00:09:05
.
Oracle Database Java Packages            VALID      11.2.0.1.0 00:02:00
.
Oracle Multimedia                         VALID      11.2.0.1.0 00:11:22
.
Spatial                                  VALID      11.2.0.1.0 00:13:31
.
Oracle Expression Filter                  VALID      11.2.0.1.0 00:01:04
.
Oracle Rules Manager                       VALID      11.2.0.1.0 00:00:26
.
Gathering Statistics                      .
.
Total Upgrade Time: 01:50:46
.
PL/SQL procedure successfully completed.
```

16 Run `catuppst.sql` to perform oracle post-upgrade actions:

```
@?/rdbms/admin/catuppst.sql
```

17 Recompile all procedures:

```
@?/rdbms/admin/utlrp.sql
```

18 Check for invalid objects:

```
select owner, object_name from dba_objects
where status <> 'VALID';
```

19 Create an updated pfile from spfile:

```
create pfile from spfile;
```

20 Exit sqlplus:

```
exit
```

Upgrading the Oracle Time Zone Definitions

To upgrade the Oracle time zone definitions:

1 Connect to Oracle:

```
sqlplus / as sysdba
```

2 Shut down Oracle:

```
shutdown immediate;
```

3 Start Oracle in Upgrade mode:

```
startup upgrade;
```

4 Execute the time zone upgrade script:

```
set serveroutput on;  
exec dbms_dst.begin_upgrade(11);
```

5 Restart Oracle:

```
shutdown immediate;  
startup;
```

6 Upgrade all pending tables:

```
set serveroutput on;  
declare  
  num_of_failures number;  
begin  
  dbms_dst.upgrade_database(num_of_failures);  
  dbms_output.put_line(num_of_failures);  
  dbms_output.put_line(num_of_failures);  
end  
;  
/
```


7 Complete the time zone upgrade:

```
DECLARE
    num_of_failures number;
BEGIN
    DBMS_DST.END_UPGRADE(num_of_failures);
    dbms_output.put_line(num_of_failures);

END;
/
```

8 Confirm that the time zone version in the database (DST_PRIMARY_IT_VERSION) is 11.

```
select property_name,
substr(property_value, 1, 30) value
from database_properties
where property_name like 'DST_%';
```

9 Exit from sqlplus:

```
exit;
```


3

Post-Upgrade Procedures

This section describes the post-upgrade procedures.

This section includes:

- **Configuring Account and Password Information** on page 27
- **Retuning the Oracle Parameter Values** on page 28
- **Installing the Current Oracle 11g Critical Patch Update (CPU)** on page 28
- **Restoring Oracle Archive Logging (If Applicable)** on page 29
- **Testing Oracle Startup** on page 30
- **Installing the Oracle Enterprise Manager** on page 31
- **Migration Clean-Up** on page 33

Configuring Account and Password Information

To configure account and password information:

- 1 Connect to Oracle:

```
sqlplus / as sysdba
```

- 2 Expire password for the anonymous account:

```
alter user anonymous password expire;
```

- 3 Set the password for dbsnmp account. This password is used later.

```
alter user dbsnmp identified by elgreadonly account unlock;
```

- 4 Unlock the ctxsys account and set the password:

```
alter user ctxsys identified by ctxsys account unlock;
```

- 5 Unlock the `mgmt_view` account and set the password:

```
alter user mgmt_view identified by emuseonly account unlock;
```

- 6 Revoke excess permissions on supplied PL/SQL packages:

```
revoke execute on utl_file from public;  
revoke execute on dbms_random from public;  
revoke execute on utl_http from public;  
revoke execute on utl_smtp from public;  
revoke execute on utl_tcp from public;  
grant execute on utl_file to olapsys, xdb;  
grant execute on ctxsys.ctx_ddl to public;
```

- 7 Exit sqlplus:

```
exit;
```

Retuning the Oracle Parameter Values

To retune the Oracle parameter values:

- 1 Backup the current `initVGER.ora` file:

```
cd $ORACLE_HOME/dbs  
cp -p initVGER.ora initVGER.bak
```

- 2 Re-tune the Oracle parameter values for typical conditions. This step recalculates the key tuning values and offers you the opportunity to manually adjust the tuning in `vi`. The `spfile` is then reloaded.

```
$INSTALL/script/TOOLS/tune_oracle.ksh -c ${ORACLE_HOME}/dbs/  
initVGER.ora
```

Installing the Current Oracle 11g Critical Patch Update (CPU)

Refer to the Ex Libris Documentation Center for the latest version of the CPU Installation Documentation.

Restoring Oracle Archive Logging (If Applicable)

NOTE:

If you are upgrading to Voyager 8.0, perform that upgrade first and then return to this step.

IMPORTANT:

This section is **ONLY** for servers that have archive logging enabled. If you try to setup archive logging without having archive logging enabled, you will cause harm to your Oracle database and possibly cause problems with your Voyager data. If you have any questions about Oracle archive logging, contact your Ex Libris Upgrade Engineer before proceeding.

To restore Oracle archive logging:

- 1 Switch to the `oracle` user:

```
su - oracle
```

- 2 Log on as the `sysdba` user:

```
sqlplus / as sysdba
```

- 3 Shutdown the Oracle VGER instance:

```
shutdown immediate
```

- 4 Start up oracle in a mount state:

```
startup mount
```

- 5 Alter the database in noarchivelog mode:

```
alter database archivelog;
```

- 6 Open the database:

```
alter database open;
```

- 7 Verify that Oracle archive logging is enabled and that the archive log destination is properly defined:

```
archive log list

Database log mode           Archive Mode
Automatic archival         Enabled
Archive destination        /oracle/oradata/VGER/arch
Oldest online log sequence 49578
Next log sequence to archive 49579
Current log sequence       49579
```

Testing Oracle Startup

To test oracle startup:

- 1 Switch to the oracle user:

```
su - oracle
```

- 2 Stop the Oracle listener:

```
lsnrctl stop
```

- 3 Log on as the sysdba user:

```
sqlplus / as sysdba
```

- 4 Shut down Oracle:

```
shutdown immediate
```

- 5 Exit sqlplus:

```
exit
```

- 6 Switch to the root user:

```
su -
```

- 7 Upgrade the /etc/init.d/dbora script:

```
cp $INSTALL/script/OS/dbora /etc/init.d/dbora
chmod 0754 /etc/init.d/dbora
```

- 8 For Solaris 10: Run the Oracle SMF installer to reinstall the Oracle SMF services:

```
cd $INSTALL/script/OS/SMF/  
./installer_oracle
```

- 9 Start Oracle:

```
/etc/init.d/dbora start
```

- 10 Confirm that Oracle is running:

```
ps -fu oracle | grep ora_
```

- 11 Confirm that the listener is running:

```
ps -fu oracle | grep lsnr
```

Installing the Oracle Enterprise Manager

If your site has already used the Oracle Enterprise Manager (EM) in 10g or intends to configure EM to manage its database via a Web interface, perform the following steps on the database server to upgrade or configure the Enterprise Manager Database Control.

Prerequisites

- \$INSTALL is /ml/incoming/oracle or another installation directory.
- The current version of Oracle is 11.2.0.1
- This is the database server and the Oracle 11gR2 VGER database is running.
- The Oracle Listener is running.

To install the Oracle Enterprise Manager:

- 1 Switch to the oracle user:

```
su - oracle
```

- 2 Verify that the database and listener are running:

```
ps -fu oracle | grep ora_  
ps -fu oracle | grep lsnr
```

- 3 If the Oracle database and listener are not running, start them:

```
cd $ORACLE_HOME/bin
./dbstart
./lsnrctl start
```

- 4 Move to the new 11g Oracle home bin directory:

```
cd $ORACLE_HOME/bin
```

- 5 If you have already used the Oracle Enterprise Manager in 10g, run `emca -upgrade` in silent mode to upgrade the EM Database Control from 10g to 11g. Run the following command as one command. For `<LOCAL_HOST_NAME>` insert your local database hostname:

```
./emca -upgrade db -silent \
-HOST <LOCAL_HOST_NAME> \
-SID VGER \
-PORT 1521 \
-ORACLE_HOME /oracle/app/oracle/product/11.2.0/db_1 \
-LISTENER_OH /oracle/app/oracle/product/11.2.0/db_1 \
-SRC_OH /oracle/app/oracle/product/10.2.0/db_1 \
-DBSNMP_PWD elgreadonly \
-SYSMAN_PWD forelguse \
-SYS_PWD andstayout \
-DBCONTROL_HTTP_PORT 1158
```

NOTE:

`SRC_OH` (source `ORACLE_HOME`) is `/oracle/app/oracle/product/10.2.0/db_1` after you upgrade Enterprise Manager from 10g to 11g.

- 6 If you have not used the Oracle EM before and want to use it for 11g, run `emca -config` to configure the EM Database Control in the Oracle home directory. Run the following command as one command. For `<LOCAL_HOST_NAME>` insert your local database hostname:

```
emca -config dbcontrol db -repos recreate -silent \
-HOST <LOCAL_HOST_NAME> \
-SID VGER \
-PORT 1521 \
-ORACLE_HOME /oracle/app/oracle/product/11.2.0/db_1 \
-LISTENER_OH /oracle/app/oracle/product/11.2.0/db_1 \
-DBSNMP_PWD elgreadonly \
-SYSMAN_PWD forelguse \
-SYS_PWD andstayout \
-DBCONTROL_HTTP_PORT 1158
```


- 7 After the emca upgrade or configuration process is complete, note the URL for the EM Database Control and the warning displayed. Move to the database control configuration directory:

```
cd $ORACLE_HOME/*_VGER/sysman/config
```

- 8 Backup a copy of the encryption key for sysman:

```
cp -p emkey.ora emkey.ora.BACKUP
```

- 9 Verify that the EM database control is running:

```
emctl status dbconsole
ps -fu oracle
```

The following three dbcontrol-related processes should be running:

```
oracle 4404 1 0 15:45 pts/1 00:00:00 /oracle/app/
oracle/product/11.2.0/db_1/perl/bin/perl /oracle/app/oracle/p
oracle 4420 4404 1 15:45 pts/1 00:00:40 /oracle/app/
oracle/product/11.2.0/db_1/jdk/bin/java -server -Xmx384M -XX:
oracle 4434 4404 0 15:45 pts/1 00:00:02 /oracle/app/
oracle/product/11.2.0/db_1/bin/emagent
```

- 10 Find the file where the Enterprise Manager Console HTTP Port (VGER) is stored and use the port for Web access:

```
more $ORACLE_HOME/install/portlist.ini
```

- 11 Test the EM Database Control Web interface with the URL:

```
https://your_hostname:1158/em/
```

Migration Clean-Up

Prerequisites

- **Upgrading the Oracle Time Zone Definitions** on page 24 and **Configuring Account and Password Information** on page 27 have been implemented.
- A backup of current environment has been performed.
- VGER is the only Oracle 10g database on the server – the following databases are not on the server:
 - EJS
 - MRDN
 - ENC

IMPORTANT:

If any other database instance is sharing the 10g ORACLE_HOME, do not run this cleanup until the other instances are also upgraded to 11g.

To clean up the migration:

- 1 Switch to the `oracle` user:

```
su - oracle
```

- 2 Change directories:

```
cd $ORACLE_HOME/oui/bin
```

- 3 Run the Oracle Universal Installer to uninstall Oracle 10g and update the Oracle Inventory:

```
./runInstaller -deinstall -silent \  
-removeallfiles -removeAllPatches \  
"ORACLE_HOME=/oracle/app/oracle/product/11.2.0/db_1" \  
"REMOVE_HOMES={/oracle/app/oracle/product/10.2.0/db_1}"
```

NOTES:

- Programs that require Oracle 10g stop working after this step.
 - Removing all files and directories under `/oracle/app/oracle/product/10.2.0/db_1`. without performing this step does not update the Oracle Inventory.
-

- 4 Remove the remaining directories:

```
rmdir /oracle/app/oracle/product/10.2.0
```

4

Installing the Oracle Client

This section describes how to install the Oracle client.

This section includes:

- **Installing the Oracle 11g Client Files** on page 35
- **Testing the Oracle Connection via the Oracle Clients** on page 37

Installing the Oracle 11g Client Files

To install the Oracle 11g client files:

- 1 Switch to the `root` user:

```
su -
```

- 2 Move to the `oracle` directory:

```
cd /oracle
```

- 3 Set `umask` to 0022:

```
umask 0022
```

- 4 Extract the Oracle 11g client files from the package:

```
bzip2 -dc $INSTALL/o112010.appsvr.*.tar.bz2 |  
tar xvf - ./app/oracle/product/11.2.0/client_1
```

IMPORTANT:

Do not use `tar xvf -` without the listed text at end of the command `./app/oracle/product/11.2.0/client_1` or you will corrupt the Oracle inventory.

5 Switch to the `oracle` user:

```
su - oracle
```

6 Copy `qlnet.ora` and `tnsnames.ora` from 11gR2 `$ORACLE_HOME` to the `client_1` directory on the database server, or transfer `tnsnames.ora` from the database server to the application server:

```
<On the database server>

cp $ORACLE_HOME/network/admin/tnsnames.ora \
/oracle/app/oracle/product/11.2.0/client_1/network/admin

cp $ORACLE_HOME/network/admin/sqlnet.ora \
/oracle/app/oracle/product/11.2.0/client_1/network/admin/.

<On the application server>

scp \
oracle@DB_SERVER_IP:/oracle/app/oracle/product/11.2.0/db_1/
network/admin/tnsnames.ora \
/oracle/app/oracle/product/11.2.0/client_1/network/admin/.

scp \
oracle@DB_SERVER_IP:/oracle/app/oracle/product/11.2.0/db_1/
network/admin/sqlnet.ora \
/oracle/app/oracle/product/11.2.0/client_1/network/admin/.
```

7 Change directories:

```
cd /oracle/app/oracle/product/11.2.0/client_1/clone/bin
```

8 Install new Oracle Home. (Enter the following as one command.)

```
/m1/shared/bin/perl ./clone.pl \
ORACLE_HOME=/oracle/app/oracle/product/11.2.0/client_1\
ORACLE_HOME_NAME=Oralldb1_client \
ORACLE_BASE=/oracle/app/oracle
```

9 Switch to the `root` user:

```
su - root
```

10 Run the `root.sh` script on the `client_1` directory to complete the Oracle client setup:

```
/oracle/app/oracle/product/11.2.0/client_1/root.sh
```

11 Update the `oratab` file and add the client entry – for Solaris: `/var/opt/oracle/oratab`, for AIX/Linux: `/etc/oratab`. Verify that `oratab` contains the entry for the Oracle client that points to the 11g `client_1` directory. On

the database server `oratab` contains both `db_1` and `client_1`. On the application server, `oratab` contains the `client_1` directory only:

```
vi /var/opt/oracle/oratab

<On the database server>
VGER:/oracle/app/oracle/product/11.2.0/db_1:Y

<On the application server>
VGER:/oracle/app/oracle/product/11.2.0/client_1:N
```

Testing the Oracle Connection via the Oracle Clients

To test the oracle connection:

- 1 Switch to the oracle user:

```
su - oracle
```

- 2 Source the `.profile` with `ORACLE_SID=VGER`:

```
. ./profile VGER
```

- 3 Connect to the database with `TNS_NAME=VGER`:

```
sqlplus system/<password>@VGER
```

- 4 Exit sqlplus:

```
exit
```


5

Upgrading the Voyager Application

This section describes how to upgrade the Voyager application.

This section includes:

- [Prerequisites](#) on page 39

Prerequisites

- The Oracle upgrade has been completed successfully.
- The Voyager application has not yet been upgraded to release 2008.0.0 or later.

NOTE:

This is required on Voyager application servers and for all Voyager databases.

To upgrade the Voyager application:

- 1 Switch to the `voyager` user:

```
su - voyager
```

- 2 Backup the current `voyager` user `.profile` file:

```
mv ~/.profile ~/.profile.pre.oracle11
```

- 3 Copy the new Voyager `.profile` file into the `voyager` home directory:

```
cp /m1/incoming/oracle/script/OS/voyager_dot_profile |  
~/.profile
```

- 4 Review the newly installed `dot.profile` and verify that the `LD_LIBRARY_PATH` or `LIBPATH` match what is installed in `$ORACLE_HOME`. If they do not match, change it to match:

```
vi .profile
```

- 5 Move to the `TOOLS` directory:

```
cd /m1/incoming/oracle/script/TOOLS
```

- 6 Run the `configENV.pl` tool to update the voyager databases and image databases to oracle 11g:

```
./configENV.pl
```

- 7 Change the directory to package dir:

```
cd $INSTALL
```

- 8 Unpackage perl:

```
bzip2 -dc 2008.0.0.*SHARED.tar.bz2 |  
tar xvf - ./SHARED/perl/5.12.2_Oracle11
```

- 9 Move to the `/m1/shared/perl` directory:

```
cd /m1/shared/perl
```

- 10 Clean up the old perl installations:

```
rm -rf <old perl directories>
```

- 11 Move the perl directory into place:

```
mv $INSTALL/SHARED/perl/5.12.2_Oracle11 /m1/shared/perl/.
```

- 12 Move to the `/m1/shared/bin` directory:

```
cd /m1/shared/bin/
```

- 13 Remove the existing perl file:

```
rm perl
```

- 14 Create a new symbolic link to the new perl directory:

```
ln -s /m1/shared/perl/5.12.2_Oracle11/bin/perl perl
```


- 15** Test the application to ensure that the Oracle environment is set correctly for the Voyager application. For more information, see the Voyager upgrade documentation.

Appendixes

This guide contains the following appendixes:

- **Appendix A: Sample Output of systemcheck** on page 45
- **Appendix B: Sample Output of utlu112i.sql** on page 49
- **Appendix C: Warning Messages When Running utlu112i.sql** on page 53
- **Appendix D: OLAP Patch for the Linux x86-64 10g Database** on page 57

A

Sample Output of systemcheck

```
./systemcheck

Voyager systemcheck utility

Ex Libris Group Inc.
Searching for required files.....OK
tar: Read 3072 bytes from -
#####
###
##          Upgrade Requirements for 8.1.0          ##
#####
###
Checking:
OS.....Linux
Checking: OS
Level.....5.7
Checking: OS Release Level is
5.x.....OK
Checking: Server
Type.....x86_64
Checking: Hardware Model =
x86_64.....OK
Checking: Speed of Processors (MHZ) >=
500.....OK
Checking: OS Ram (mb) >=
3500.....FAILED
Current System RAM: 2010
Checking: OS Swap Required
.....OK
Checking: Package and Work Space >= 10000 (MB) on /
m1.....OK
Checking : /m1 filesystem
type.....nfs
Checking : /oracle filesystem
type.....nfs
Checking:
xinetd.....OK
Checking: Checking if selinux is
disabled.....OK
Checking: Checking Oracle is on
10.2.0.3.....WARNING
```

```
Checking: Checking Oracle is on
10.2.0.4.....OK
#####
## Checking oracle requirements      ##
#####
Checking: OS Ram (mb) >=
2000.....OK
Checking: binutils-2.17.50 or
higher.....OK
Checking: compat-db-4.1 or
higher.....OK
Checking: compat-libstdc++-33-3 or
higher.....OK
Checking: compat-libstdc++-33-3 (i386) or
higher.....OK
Checking: compat-libstdc++-296 (i386) or
higher.....OK
Checking: elfutils-libelf-0.125 or
higher.....OK
Checking: elfutils-libelf-devel-0.125 or
higher.....OK
Checking: control-center-2.16 or
higher.....OK
Checking: gcc-4.1.2 or
higher.....OK
Checking: gcc-c++-4.1.2 or
higher.....OK
Checking: glibc-2.5-24 or
higher.....OK
Checking: glibc-2.5-24 (i386) or
higher.....OK
Checking: glibc-common-2.5 or
higher.....OK
Checking: glibc-devel-2.5 or
higher.....OK
Checking: glibc-devel-2.5 (i386) or
higher.....OK
Checking: glibc-headers-2.5 or
higher.....OK
Checking: ksh-20060214 or
higher.....OK
Checking: libaio-0.3.106 or
higher.....OK
Checking: libaio-0.3.106 (i386) or
higher.....OK
Checking: libaio-devel-0.3.106 or
higher.....OK
Checking: libaio-devel-0.3.106 (i386) or
higher.....OK
Checking: libgcc-4.1.2 or
higher.....OK
Checking: libgcc-4.1.2 (i386) or
higher.....OK
```

```
Checking: libstdc++-4.1.2 or
higher.....OK
Checking: libstdc++-4.1.2 (i386) or
higher.....OK
Checking: libstdc++-devel-4.1.2 or
higher.....OK
Checking: libgomp-4 or
higher.....OK
Checking: make-3.81 or
higher.....OK
Checking: sysstat-7.0.2 or
higher.....OK
Checking: unixODBC-2.2.11 or
higher.....OK
Checking: unixODBC-2.2.11 (i386) or
higher.....OK
Checking: unixODBC-devel-2.2.11 or
higher.....OK
Checking: unixODBC-devel-2.2.11 (i386) or
higher.....OK
#####

#####Report#####
Oracle Upgrade Days : 1
Analyzer Upgrade Days: 0
Voyager Upgrade Days : /ml/voyager not installed on this
server
#####
Total Upgrade Days: 1

FAILED to meet requirements
#####
Running post/xml_inv.pl:
Detected OS: Linux
What is the system IP/DNS name used to connect to this system?
What is the Piv Company Code?
Processing Oracle.....OK
Processing Apache.....OK

<System>
  <IP></IP>
  <Cust></Cust>
  <Attrib name="Hostname" >us-
voydevlnxdb01.corp.exlibrisgroup.com</Attrib>
  <Attrib name="Platform" >i386</Attrib>
  <Attrib name="Model" >x86_64</Attrib>
  <Attrib name="Memory (in MB)" >2010</Attrib>
  <Attrib name="Number of Processors" >2</Attrib>
  <Attrib name="Processor Type" >GenuineIntel</Attrib>
  <Attrib name="Processor Speed (MHz)" >2666</Attrib>
  <Prod name="Linux" >
```

```
<Attrib name="Version" >5.7</Attrib>
<Attrib name="Kernel Version" >2.6.18-274.7.1.el5</
Attrib>
  <Attrib name="Volume / Total Space (MB)" key="/dev/shm"
>1005</Attrib>
  <Attrib name="Volume / Total Space (MB)" key="/boot"
>98</Attrib>
  <Attrib name="Volume / Total Space (MB)" key="/"
>11871</Attrib>
</Prod>
<Prod name="Oracle" >
  <Attrib name="Instance" >VGER</Attrib>
  <Attrib name="Version" >10.2.0.4</Attrib>
  <Attrib name="Schema Name / Password" key="system"
>XXXX</Attrib>
  <Attrib name="Allocated Space" >7040</Attrib>
  <Attrib name="Free Space" >1279</Attrib>
  <Attrib name="Used Space" >5762</Attrib>
</Prod>
</System>
```


B

Sample Output of utlu112i.sql

```
Oracle Database 11.2 Pre-Upgrade Information Tool      10-22-
2010 12:39:36
.
*****
Database:
*****
--> name:          VGER
--> version:       10.2.0.4.0
--> compatible:    10.2.0.3.0
--> blocksize:     8192
--> platform:      Linux x86 64-bit
--> timezone file: V4
.
*****
Tablespaces: [make adjustments in the current environment]
*****
--> SYSTEM tablespace is adequate for the upgrade.
.... minimum required size: 730 MB
.... AUTOEXTEND additional space required: 250 MB
--> UNDOTBS1 tablespace is adequate for the upgrade.
.... minimum required size: 424 MB
.... AUTOEXTEND additional space required: 319 MB
--> SYSAUX tablespace is adequate for the upgrade.
.... minimum required size: 451 MB
.... AUTOEXTEND additional space required: 211 MB
--> TEMP tablespace is adequate for the upgrade.
.... minimum required size: 61 MB
.
*****
Flashback: OFF
*****
Update Parameters: [Update Oracle Database 11.2 init.ora or
spfile]
*****
WARNING: --> "sga_target" needs to be increased to at least
672 MB
WARNING: --> "java_pool_size" needs to be increased to at
least 128 MB
.
```

```
*****
Renamed Parameters: [Update Oracle Database 11.2 init.ora or
spfile]
*****
-- No renamed parameters found. No changes are required.
.
*****
Obsolete/Deprecated Parameters: [Update Oracle Database 11.2
init.ora or spfile]
*****
--> background_dump_dest          11.1          DEPRECATED
replaced by
"diagnostic_dest"
--> user_dump_dest                11.1          DEPRECATED
replaced by
"diagnostic_dest"
--> core_dump_dest                11.1          DEPRECATED
replaced by
"diagnostic_dest"
.
*****
Components: [The following database components will be
upgraded or installed]
*****
--> Oracle Catalog Views          [upgrade]  VALID
--> Oracle Packages and Types    [upgrade]  VALID
--> JServer JAVA Virtual Machine [upgrade]  VALID
--> Oracle XDK for Java           [upgrade]  VALID
--> Oracle Workspace Manager     [upgrade]  VALID
--> OLAP Analytic Workspace       [upgrade]  VALID
--> OLAP Catalog                 [upgrade]  VALID
--> EM Repository                 [upgrade]  VALID
--> Oracle Text                   [upgrade]  VALID
--> Oracle XML Database           [upgrade]  VALID
--> Oracle Java Packages         [upgrade]  VALID
--> Oracle interMedia            [upgrade]  VALID
--> Spatial                       [upgrade]  VALID
--> Data Mining                   [upgrade]  VALID
--> Expression Filter             [upgrade]  VALID
--> Rule Manager                  [upgrade]  VALID
--> Oracle OLAP API              [upgrade]  VALID
.
*****
Miscellaneous Warnings
*****
WARNING: --> Database is using a timezone file older than
version 11.
.... After the release migration, it is recommended that
DBMS_DST package
.... be used to upgrade the 10.2.0.4.0 database timezone
version
```

```
.... to the latest version which comes with the new release.
WARNING: --> Database contains schemas with stale optimizer
statistics.
.... Refer to the Upgrade Guide for instructions to update
.... schema statistics prior to upgrading the database.
.... Component Schemas with stale statistics:
....   SYS
WARNING: --> Database contains INVALID objects prior to
upgrade.
.... The list of invalid SYS/SYSTEM objects was written to
.... registry$sys_inv_objs.
.... The list of non-SYS/SYSTEM objects was written to
.... registry$nonsys_inv_objs.
.... Use utluobj.sql after the upgrade to identify any new
invalid
.... objects due to the upgrade.
.... USER PUBLIC has 1 INVALID objects.
.... USER SYS has 2 INVALID objects.
WARNING: --> Database contains schemas with objects dependent
on network
packages.
.... Refer to the Upgrade Guide for instructions to configure
Network ACLs.
WARNING: --> EM Database Control Repository exists in the
database.
.... Direct downgrade of EM Database Control is not supported.
Refer to the
.... Upgrade Guide for instructions to save the EM data prior
to upgrade.
WARNING:--> recycle bin in use.
.... Your recycle bin turned on.
.... It is REQUIRED
.... that the recycle bin is empty prior to upgrading
.... your database.
.... The command:  PURGE DBA_RECYCLEBIN
.... must be executed immediately prior to executing your
upgrade.
.
```


C

Warning Messages When Running utlu112i.sql

Review all the warning and error messages before moving to the database upgrade. Most warning messages are addressed by the installation procedure and require no extra intervention. Contact the ExLibris Voyager Installation Team for help, if needed.

Table 1. Warning Messages

Warning Type	Sample Message	Action
Update Parameters	<pre>WARNING: --> "sga_target" needs to be increased to at least 672 MB WARNING: --> "java_pool_size" needs to be increased to at least 128 MB</pre>	<p>Increase the parameter size. Connect to the database as sysdba and set the parameter to the needed minimum size and then recycle the database. For example:</p> <pre>sqlplus / as sysdba alter system set sga_target=700M scope=both; alter system set java_pool_size 150M scope=both; shutdown immediate; startup;</pre>

Table 1. Warning Messages

Warning Type	Sample Message	Action
Obsolete/Deprecated Parameters	<pre>-->background_dump_dest 11.1 DEPRECATED replaced by "diagnostic_dest" --> user_dump_dest 11.1 DEPRECATED replaced by "diagnostic_dest" --> core_dump_dest 11.1 DEPRECATED replaced by "diagnostic_dest"</pre>	Adjust Oracle parameters for 11g when running the spfileprep_11.awk script in Step 6 of Configuring Oracle 11g with Oracle 10g VGER on page 19.
Database contains schemas with stale optimizer statistics.		Solve this problem with Step 5 of Preparing the Database on page 18.

Table 1. Warning Messages

Warning Type	Sample Message	Action
Database contains INVALID objects prior to upgrade		<p>1 Identify the invalid objects by viewing the following tables:</p> <ul style="list-style-type: none"> ■ <code>select * from registry\$sys_inv_objs ;</code> ■ <code>select * from registry\$nonsys_inv_objs ;</code> <p>2 Do one of the following:</p> <ul style="list-style-type: none"> ■ Re-run utltp.sql to recompile the invalid objects: <code>sqlplus / as sysdba @?/rdbms/admin/utltp.sql</code> ■ Compile the identified invalid objects manually using a command like this: <code>alter object_type owner.object_name compile;</code> <p>For example:</p> <pre>alter package sys.DBMS_REGISTRY compile body;</pre> <pre>alter view sys.DBA_REGISTRY_DATASENSE compile;</pre> <p>For assistance, contact the Ex Libris Voyager Installation Team.</p>
Database contains schemas with objects dependent on network packages.	View registry\$sys_inv_objs and registry\$nonsys_inv_objs tables for details. Recompile the invalid objects.	This issue is handled by the installation process.

Table 1. Warning Messages

Warning Type	Sample Message	Action
EM Database Control Repository exists in the database.		This issue is handled by the installation process.
Recycle bin in use	Purge dba_recyclebin before the database shutdown	Perform Step 10 of Preparing the Database on page 18.

D

OLAP Patch for the Linux x86-64 10g Database

For the Linux x86_64 server, if the OLAP components are invalid in the Oracle 10g database, perform the following to apply the OLAP patch before continuing with the 11gR2 database upgrade.

To apply the OLAP patch:

- 1 Switch to the oracle user:

```
su - oracle
```

- 2 Download the OLAP package for 10.2.0.4 to the local \$INSTALL directory:

```
ftp downloads.exlibrisgroup.com
User: oracle
Password: <contact support>
cd <OS>/11g
bin
hash
mget OLAP_o10204_Linux.tar.bz2
quit
```

- 3 Shutdown Oracle services:

```
sqlplus / as sysdba
Shutdown immediate
exit
```

- 4 Move to the Oracle 10g home directory;

```
cd $ORACLE_HOME
```

- 5 Backup the existing olap directory and remove it from \$ORACLE_HOME:

```
tar -cf - olap | bzip2 -c \
> $INSTALL/oracle_old_olap.tar.bz2
rm -rf olap
```

- 6** Re-install the OLAP directory from the `OLAP_o10204_Linux.tar.bz2` package:

```
bzip2 -dc $INSTALL/OLAP_o10204_Linux.tar.bz2  
| tar xvf -
```

- 7** Change file permission to 0755 on the `olap` directory:

```
chmod 0755 ./olap
```

- 8** Turn on OLAP:

```
make -f $ORACLE_HOME/rdbms/lib/ins_rdbms.mk olap_on  
make -f $ORACLE_HOME/rdbms/lib/ins_rdbms.mk ioracle
```

- 9** Connect to the database as `sysdba`:

```
sqlplus / as sysdba
```

- 10** Start up the database in normal mode:

```
startup
```

- 11** Run the `olap.sql` script with `SYSAUX TEMP` argument:

```
@?/olap/admin/olap.sql SYSAUX TEMP;
```

- 12** Recompile objects using `utlrbp.sql`:

```
@?/rdbms/admin/utlrbp.sql
```

- 13** Check the OLAP components again in the `dba_registry` table and verify that they are valid:

```
select comp_name, status from dba_registry where comp_name  
like '%OLAP%';  
  
quit
```

The following is displayed:

```
SQL> select comp_name, status from dba_registry where  
comp_name like '%OLAP%'  
SQL> /
```

COMP_NAME	STATUS
OLAP Analytic Workspace	VALID
Oracle OLAP API	VALID
OLAP Catalog	VALID

