Zero Downtime Upgrade to Oracle Database 11g using Oracle GoldenGate
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Environment:
We are using an Oracle Enterprise Linux 5.7 64Bit installation.

Passwords:
OS user: oracle pw: welcome1
OS user: root pw: welcome1
DB user: SYS pw: welcome1
DB user: SYSTEM pw: welcome1

Oracle Database Installations:
There are 2 Oracle Database Home directories:
10.2.0.5: /u01/app/oracle/product/10.2.0/db_1
11.2.0.2: /u01/app/oracle/product/11.2.0/db_1

Oracle GoldenGate Installations:
There are 2 Oracle GoldenGate Home directories:
11.1.1.1.0 for Oracle 10g: /u01/app/ogg/10g
11.1.1.1.0 for Oracle 11g: /u01/app/ogg/11g

Switch Oracle environments/homes:
Issue the following commands on the command line, when logged in as user oracle. This will allow you to switch easily between the three Oracle environments on your system.
Please note: there's a <SPACE> between the <dot> and environment alias:

For 10.2.0.5, Source Database type in a terminal: . . db10s
For **10.2.0.5**, **Target Database** type in a terminal: 
. . **db10**

For **11.2.0.2** type in a terminal: 
. . **db11**

**Database and listener:**

Information for pre-created **10.2.0.5** database:

  **SiD:** SRCDB  
  **Location:** /u01/app/oracle/product/10.2.0/db_1/network/admin

Information for pre-created **11.2.0.2** listener:

  **Listener:** LISTENER  
  **Location:** /u01/app/oracle/product/11.2.0/db_1/network/admin

**Preparation steps**

Set your environment to your **11.2** installation and start the listener:

. . **db11**

  lsnrctl start

Set your environment to point to the **10.2** installation and start the **SRCDB** database:

. . **db10s**

  sqlplus / as sysdba  
  SQL> startup
Because of bug:6770913 (see Note:579523.1) make sure you have no orphan rows in KOTTD$:

SQL> select sys_nc_oid$ from kottd$
   2    where sys_nc_oid$ not in
   3    (select oid$ from obj$ where type#=13);

If you encounter orphan rows in KOTTD$ then you should delete them:

SQL> delete from kottd$ where sys_nc_oid$ not in
   2    (select oid$ from obj$ where type#=13);
   3    commit;

Check for invalid objects – if there are invalid objects in SYS and/or SYSTEM user schema, please recompile with

SQL> @%/rdbms/admin/utlrp.sql

SQL> SELECT UNIQUE object_name, object_type, owner
   2    FROM dba_objects WHERE status='INVALID';

Don’t forget to purge the recyclebin:

SQL> purge DBA_RECYCLEBIN;

Create AWR snapshots before the upgrade:

SQL> EXEC dbms_workload_repository.create_snapshot();

You can check $ORACLE_HOME/dbms/admin/awrinfo.sql and $ORACLE_HOME/rdbms/admin/awrrpt.sql for existing snapshots and AWR contents.
Install OGG

**Install OGG in SRCDB**

**Unzip and Install in SRCDB**

```
[root@grid11g ~]# su - oracle
[oracle@grid11g :~]# . db10s
[oracle@grid11g SRCDB:/u01/app/ogg/10g]
```

```
[root@grid11g SRCDB:/u01/app/ogg/10g]
```

```
SRCDB:/u01/app/ogg/10g]# unzi
```

```
SRCDB:/u01/app/ogg/10g]# tar xvf fbo_ggs_Linux_x64_oral0g_64bit.zip
```

```bash
[root@grid11g ~]# su - oracle
[oracle@grid11g :~]# . db10s
[oracle@grid11g SRCDB:/u01/app/ogg/10g]
```

```
SRCDB:/u01/app/ogg/10g]# unzi
```

```
SRCDB:/u01/app/ogg/10g]# tar xvf fbo_ggs_Linux_x64_oral0g_64bit.zip
```

```bash
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# cd /u01/app/ogg/10g
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# cd /u01/app/ogg/10g
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# unzip fbo_ggs_Linux_x64_oral0g_64bit.zip
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# tar xvf fbo_ggs_Linux_x64_oral0g_64bit.tar
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# tar xvf fbo_ggs_Linux_x64_oral0g_64bit.tar
```

```bash
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# cd /u01/app/ogg/10g
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# cd /u01/app/ogg/10g
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# unzip fbo_ggs_Linux_x64_oral0g_64bit.zip
```

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# tar xvf fbo_ggs_Linux_x64_oral0g_64bit.tar
```
## Create subdirectories

```
[oracle@grid11g SRCDB:/u01/app/ogg/10g]# ./ggsci
GGSCI (grid11g.kr.oracle.com) 1>
create subdirs
GGSCI (grid11g.kr.oracle.com) 2>
exit
```

```
Parameter files   /u01/app/ogg/10g/dirprm: created
Report files     /u01/app/ogg/10g/dirrep: created
Checkpoint files /u01/app/ogg/10g/dircrk: created
Process status files /u01/app/ogg/10g/dirps: created
SQL script files /u01/app/ogg/10g/dirsq: created
Database definitions files /u01/app/ogg/10g/diredf: created
Extract data files /u01/app/ogg/10g/direx: created
Temporary files   /u01/app/ogg/10g/dirtmp: created
Veridata files    /u01/app/ogg/10g/dirver: created
Veridata Lock files /u01/app/ogg/10g/dirver/lock: created
Veridata Out-Of-Sync files /u01/app/ogg/10g/dirver/oss: created
Veridata Out-Of-Sync XML files /u01/app/ogg/10g/dirver/ossxml: created
Veridata Parameter Files /u01/app/ogg/10g/dirver/params: created
Veridata Report files /u01/app/ogg/10g/dirver/report: created
Veridata Status files /u01/app/ogg/10g/dirver/status: created
Veridata Trace files /u01/app/ogg/10g/dirver/trace: created
Stdout files      /u01/app/ogg/10g/dirout: created
```

```
GGSCI (grid11g.kr.oracle.com) 2>
exit
[oracle@grid11g SRCDB:/u01/app/ogg/10g]#
```
Create OGG Manager and grant role, privilege

[oracle@grid11g SRCDB:/u01/app/ogg/10g]# sqlplus / as sysdba
SQL*Plus: Release 10.2.0.5.0 - Production on Mon Aug 29 11:43:17 2011
Copyright (c) 1982, 2010, Oracle. All Rights Reserved.

Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.5.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> create user oggmgr identified by oracle default tablespace users;
User created.

SQL> @OGG_directory/role_setup

oggmgr

SQL> grant ggs_ggsuser_role, connect, resource, dba to oggmgr;

Role setup script complete
Check archive log mode and do supplemental logging

SQL> alter database force logging;

SQL> alter database add supplemental log data;

SQL> alter system switch logfile;

SQL> alter system archive log current;

<table>
<thead>
<tr>
<th>SQL&gt; archive log list</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Database log mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic archival</td>
<td></td>
<td>Enabled</td>
</tr>
<tr>
<td>Archive destination</td>
<td></td>
<td>/u01/app/oracle/orda/SCDB/arch</td>
</tr>
<tr>
<td>Oldest online log sequence</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Next log sequence to archive</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Current log sequence</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

SQL> alter database force logging;

Database altered.

SQL> alter database add supplemental log data;

Database altered.

SQL> alter system switch logfile;

System altered.

SQL> alter system archive log current;

System altered.

SQL>
Setup DDL enablement

| SQL> alter system set recyclebin=off scope=both; |
| SQL> @marker_setup |
| ➜ oggmgr |
| SQL> @ddl_setup |
| ➜ oggmgr |
| ➜ INITIALSETUP |
| ➜ yes |
| SQL> @ddl_enable |

<p>| SQL&gt; alter system set recyclebin=off scope=both; |
| System altered. |
| SQL&gt; @marker_setup |
| Marker setup script |
| You will be prompted for the name of a schema for the GoldenGate database objects. |
| NOTE: The schema must be created prior to running this script. |
| NOTE: Stop all DDL replication before starting this installation. |
| Enter GoldenGate schema name: oggmgr |
| Marker setup table script complete, running verification script... |
| Please enter the name of a schema for the GoldenGate database objects: |
| Setting schema name to OGGMGR |</p>
<table>
<thead>
<tr>
<th>MARKER TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OK</td>
</tr>
<tr>
<td>MARKER SEQUENCE</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>OK</td>
</tr>
<tr>
<td>Script complete.</td>
</tr>
<tr>
<td>SQL&gt; @ddl_setup</td>
</tr>
<tr>
<td>GoldenGate DDL Replication setup script</td>
</tr>
<tr>
<td>Verifying that current user has privileges to install DDL Replication...</td>
</tr>
<tr>
<td>You will be prompted for the name of a schema for the GoldenGate database objects.</td>
</tr>
</tbody>
</table>
SQL> @ddl_setup

GoldenGate DDL Replication setup script

Verifying that current user has privileges to install DDL Replication...

You will be prompted for the name of a schema for the GoldenGate database objects.
NOTE: For an Oracle 10g source, the system recycle bin must be disabled. For Oracle 11g and later, it can be enabled.
NOTE: The schema must be created prior to running this script.
NOTE: Stop all DDL replication before starting this installation.

Enter GoldenGate schema name: oggmg

You will be prompted for the mode of installation.
To install or reinstall DDL replication, enter INITIALSETUP
To upgrade DDL replication, enter NORMAL
Enter mode of installation: INITIALSETUP

Working, please wait ...
Spooling to file ddl_setup_spool.txt

Checking for sessions that are holding locks on Oracle Golden Gate metadata tables ...

Check complete.

Using OGGMG as a GoldenGate schema name. INITIALSETUP as a mode of installation.

Working, please wait ...
STAYMETADATA IN TRIGGER

OFF

DD T RIGGER SQL TRACING

OFF

DD T RIGGER TRACE LEVEL

OFF

LOCATION OF DDL TRACE FILE

/u01/app/oracle/admin/SRCDB/udump/3gs_ddl_trace.log

Analyzing installation status...

STATUS OF DDL REPPLICATION

SUCCESSFUL installation of DDL Replication software components

Script complete,
SQL> @ddl_enable

Trigger altered.
SQL> 
Install OGG in TGTDB

Unzip and Install in TGTDB

[oracle@grid11g ~]# su - oracle
[oracle@grid11g :~]# . db11
[oracle@grid11g TGTDB:~]# cd /u01/app/ogg/11g

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# unzip fbo_ggs_Linux_x64_orallg_64bit.zip

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# tar xvf fbo_ggs_Linux_x64_orallg_64bit.tar

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# cd /u01/app/ogg/11g

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# su - oracle
[oracle@grid11g TGTDB:~]# cd /u01/app/ogg/11g
[oracle@grid11g TGTDB:/u01/app/ogg/11g]# # 11
total 87692
-rw-r--r-- 1 oracle oinstall 36701524 Aug 22 10:16 fbo_ggs_Linux_x64_orallg_64bit.zip
Archiving: fbo_ggs_Linux_x64_orallg_64bit.zip
  inflating: fbo_ggs_Linux_x64_orallg_64bit.tar
  inflating: OGG_VinUnix_Re!.Notes_11.1.1.1.0.pdf
  inflating: README.txt

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# tar xvf fbo_ggs_Linux_x64_orallg_64bit.tar
Create subdirectories

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# ./ggsci

Oracle GoldenGate Command Interpreter for Oracle
Version 11.1.1.1.0GSCORE_11.1.1.PLATFORMS_110421.2040
Linux, x64, 64bit (optimized), Oracle 11g on Apr 21 2011 22:42:14

GGSCI (grid11g.kr.oracle.com) 1>
create subdirs

GGSCI (grid11g.kr.oracle.com) 2>
exit

GGSCI (grid11g.kr.oracle.com) 2> create subdirs

Creating subdirectories under current directory /u01/app/ogg/11g

Parameter files /u01/app/ogg/11g/dirprm: created
Report files /u01/app/ogg/11g/dirrep: created
Checkpoint files /u01/app/ogg/11g/dircbck: created
Process status files /u01/app/ogg/11g/dircps: created
SQL script files /u01/app/ogg/11g/dirsq: created
Database definitions files /u01/app/ogg/11g/dirdf: created
Extract data files /u01/app/ogg/11g/dirext: created
Temporary files /u01/app/ogg/11g/dirtmp: created
Veridata files /u01/app/ogg/11g/dirver: created
Veridata Lock files /u01/app/ogg/11g/dirver/lock: created
Veridata Out-Of-Sync files /u01/app/ogg/11g/dirver/oss: created
Veridata Out-Of-Sync XML files /u01/app/ogg/11g/dirver/ossxml: created
Veridata Parameter Files /u01/app/ogg/11g/dirver/params: created
Veridata Report files /u01/app/ogg/11g/dirver/report: created
Veridata Status files /u01/app/ogg/11g/dirver/status: created
Veridata Trace files /u01/app/ogg/11g/dirver/trace: created
Stdout files /u01/app/ogg/11g/dirout: created

GGSCI (grid11g.kr.oracle.com) 2> exit
[oracle@grid11g TGTDB:/u01/app/ogg/11g]#
Create Demo Schema

SQL> create user scott identified by tiger default tablespace users;

User created.

SQL> grant connect, resource to scott;

Grant succeeded.

SQL> exit
Disconnected from Oracle Database 10g Enterprise Edition Release 10.2.0.5.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options
[oracle@grid110 SRCDB:/u01/app/ora/10g102]$ sqlplus scott/tiger

SQL*Plus: Release 10.2.0.5.0 - Production on Mon Aug 22 11:44:37 2011
Copyright (c) 1982, 2010. Oracle. All Rights Reserved.

Connected to:
Oracle Database 10g Enterprise Edition Release 10.2.0.5.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> @demo_ora_create

SQL> @demo_ora_insert

SQL> CREATE SEQUENCE SCOTT.TQ
increment by 1 start with 1
nomaxvalue nocycle nocache;

SQL> CREATE TABLE SCOTT.T (ID NUMBER, TXDATE DATE) TABLESPACE USERS;

SQL> insert into T values
(TQ.NEXTVAL, sysdate);

SQL> @demo_ora_insert
1 row created.

1 row created.

1 row created.

1 row created.

Commit complete.

SQL> CREATE SEQUENCE SCOTT.TQ increment by 1 start with 1 nocache nocycle cache 20;
Sequence created.

SQL> CREATE TABLE SCOTT.T (ID NUMBER, TXDATE DATE) TABLESPACE USERS;
Table created.

SQL> insert into T values (TQ.NEXTVAL, sysdate);
1 row created.

SQL> commit;
Simulate pseudo Transactions

[oracle@grid11g SRCDB:~]# cd /home/oracle/zeroup_scripts
[oracle@grid11g SRCDB:~/zeroup_scripts]# nohup run_insert.sh &

[oracle@grid11g SRCDB:~/zeroup_scripts]# sqlplus scott/tiger

SQL> select id, to_char(txdate,'hh24:mi:ss') from t order by id;

SQL> exit
Configure OGG manager Parameter

Configure oggmgr parameter in SRCDB

[oracle@grid11g
SRCDB:~/zeroup_scripts]# cd /u01/app/ogg/10g

[oracle@grid11g
SRCDB:/u01/app/ogg/10g]# ./ggsci

GGSCI (grid11g.kr.oracle.com) 1>
edit params mgr

⇒ Port 5000

Copy from below file

[oracle@grid11g
SRCDB:~/zeroup_scripts]# cat oggmgr_params_SRCDB.txt

GGSCI (grid11g.kr.oracle.com) 2> start mgr

Manager started.

GGSCI (grid11g.kr.oracle.com) 3> info mgr

Manager is running (IP port grid11g.kr.oracle.com:5000).

GGSCI (grid11g.kr.oracle.com) 4> view params mgr

--GoldenGate Manager parameter file
PORT 5000
--FOR Source, ASIS
PURGEOLDEXTRACTS ./dirdat/TA*, USECHECKPOINTS, MINKEEPDAYS 3
--FOR Target, TOBE
PURGEOLDEXTRACTS ./dirdat/TB*, USECHECKPOINTS, MINKEEPDAYS 3

--FOR Source, TOBE
PURGEOLDEXTRACTS ./dirdat/TC*, USECHECKPOINTS, MINKEEPDAYS 3
--FOR Target, ASIS
PURGEOLDEXTRACTS ./dirdat/TD*, USECHECKPOINTS, MINKEEPDAYS 3
Configure oggmgr parameter in TGTDB

[oracle@grid11g TGTDB:~]# cd /u01/app/ogg/11g

[oracle@grid11g SRCDB:/u01/app/ogg/11g]# ./ggsci

GGSCI (grid11g.kr.oracle.com) 1>
edit params mgr

⇒ Port 5001

Copy from below file

[oracle@grid11g SRCDB:~/zeroup_scripts]# cat oggmgr_params_TGTDB.txt

GGSCI (grid11g.kr.oracle.com) 2>
start mgr

GGSCI (grid11g.kr.oracle.com) 3>
view params mgr

--GoldenGate Manager parameter file
PORT 5001
--FOR Source, ASIS
PURGEOLDEXTRACTS ./dirdat/TA*, USECHECKPOINTS, MINKEEPDAYS 3
--FOR Target, TOBE
PURGEOLDEXTRACTS ./dirdat/TA*, USECHECKPOINTS, MINKEEPDAYS 3
--FOR Source, TOBE
PURGEOLDEXTRACTS ./dirdat/TB*, USECHECKPOINTS, MINKEEPDAYS 3
--FOR Target, ASIS
PURGEOLDEXTRACTS ./dirdat/TB*, USECHECKPOINTS, MINKEEPDAYS 3

GGSCI (grid11g.kr.oracle.com) 4>
start mgr

Manager started.

GGSCI (grid11g.kr.oracle.com) 5>
info mgr

Manager is running (IP port grid11g.kr.oracle.com.5001).

GGSCI (grid11g.kr.oracle.com) 6>
exit
### Table level Supplemental Logging in SRCDB

<table>
<thead>
<tr>
<th>Command</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>dblogin userid oggmgr, password oracle</code></td>
<td>Successfully logged into database.</td>
</tr>
<tr>
<td><code>add trandata scott.*</code></td>
<td></td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>2011-03-29 19:01:06 WARNING 008-00669 No unique key is defined for table T. All viable columns will be used to represent the key, but may not guarantee uniqueness. KEYCOLS may be used to define the key.</td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>Logging of supplemental redo data enabled for table SCOTT.T.</td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>Logging of supplemental redo data enabled for table SCOTT.TCUSTMER.</td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>Logging of supplemental redo data enabled for table SCOTT.TCUSTORD.</td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>Logging of supplemental redo log data is enabled for table SCOTT.T</td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>Logging of supplemental redo log data is enabled for table SCOTT.TCUSTMER</td>
</tr>
<tr>
<td><code>info trandata scott.*</code></td>
<td>Logging of supplemental redo log data is enabled for table SCOTT.TCUSTORD</td>
</tr>
<tr>
<td><code>&gt;</code></td>
<td></td>
</tr>
</tbody>
</table>
Configure Extract, Data Pump in SRCDB

Add the Extract group extra

GGSCI (grid11g.kr.oracle.com) 7>
add extract extra, tranlog, begin now

GGSCI (grid11g.kr.oracle.com) 8>
info extract extra

Add the Data Pump pumpa

GGSCI (grid11g.kr.oracle.com) 9>
add extract pumpa,
extrailsource ./dirdat/TA

GGSCI (grid11g.kr.oracle.com) 10> info extract pumpa

---

GGSCI (grid11g.kr.oracle.com) 7> add extract extra, tranlog, begin now

2011-08-29 19:02:03 WARNING 066-01756 Cannot register EXTRACT EXTRA with database because of the following SQL error: OCI Error ORA-06550: line 1, column 3128:
PL/SQL: ORA-00942: table or view does not exist
ORA-06550: line 1, column 3117:
PL/SQL: SQL Statement ignored (status = 0). See Extract user privileges in the Oracle GoldenGate for Oracle Installation and Setup Guide. You can manually register this group with the REGISTER EXTRACT command.
EXTRACT added.

GGSCI (grid11g.kr.oracle.com) 8> info extract extra

EXTRACT EXTRA Initialized 2011-08-29 19:02 Status STOPPED
Checkpoint Leg 00:00:00 (updated 00:00:08 ago)
Log Read Checkpoint Oracle Redo Loss
2011-08-29 19:02:03 Seqno 0, RBA 0

---

GGSCI (grid11g.kr.oracle.com) 9> add extract pumpa, extrailsource ./dirdat/TA
EXTRACT added.

GGSCI (grid11g.kr.oracle.com) 10> info extract pumpa

EXTRACT PUMPA Initialized 2011-08-29 19:02 Status STOPPED
Checkpoint Leg 00:00:00 (updated 00:00:06 ago)
Log Read Checkpoint File ./dirdat/TA000000
First Record RBA 0

---
<table>
<thead>
<tr>
<th>Configure Extract parameter</th>
<th>GGSCI (grid11g.kr.oracle.com) 12&gt; view params extra</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-- Extract Parameter File</td>
</tr>
<tr>
<td></td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>EXTRACT EXTRA</td>
</tr>
<tr>
<td></td>
<td>USERID oggmgr, PASSWORD oracle</td>
</tr>
<tr>
<td></td>
<td>TRANLOGOPTIONS OPENARCHIVEIMMEDIATE</td>
</tr>
<tr>
<td></td>
<td>THREADOPTIONS MAXCOMMITPROPAGATIONDELAY 60000 IDLATENCY 60000</td>
</tr>
<tr>
<td></td>
<td>TRANLOGOPTIONS EXCLUDEUSER oggmgr, EXCLUDEUSERID 54</td>
</tr>
<tr>
<td></td>
<td>EXTRAIL ./dirdat/TA</td>
</tr>
<tr>
<td></td>
<td>REPORTCOUNT EVERY 5 MINUTES, RATE</td>
</tr>
<tr>
<td></td>
<td>-- Use DDL parameter to configure support for all mapped DDL operations</td>
</tr>
<tr>
<td></td>
<td>DDL INCLUDE NAPPED</td>
</tr>
<tr>
<td></td>
<td>DLOPTIONS ADDTRANDATA, REPORT</td>
</tr>
<tr>
<td></td>
<td>-- Table/Sequence List</td>
</tr>
<tr>
<td></td>
<td>TABLE SCOTT.*;</td>
</tr>
<tr>
<td></td>
<td>SEQUENCE SCOTT.*;</td>
</tr>
<tr>
<td></td>
<td>GGSCI (grid11g.kr.oracle.com) 13&gt;</td>
</tr>
</tbody>
</table>

**Copy from below file**

```bash
[oracle@grid11g SRCDB:~/zeroup_scripts]# cat extra_params.txt
```
Configure Data pump parameter

GGSCI (grid11g.kr.oracle.com)
16> edit params pumpa

Copy from below file
[oracle@grid11g
SRCDB:~/zeroup_scripts]# cat
pumpa_params.txt

Caution
RMHOST grid11g.kr.oracle.com,
MGRPORT 5001

GGSCI (grid11g.kr.oracle.com) 14> view params pumpa
-- Data Pump Parameter File
--
EXTRACT PUMPA
PASSTHRU
RMHOST grid11g.kr.oracle.com, MGRPORT 5001
RMTRAIL ./dirdat/T8
REPORTCOUNT EVERY 5 MINUTES, RATE

-- Table/Sequence List
TABLE SCOTT.*;
SEQUENCE SCOTT.*;

GGSCI (grid11g.kr.oracle.com) 15>
Create Trail file for extract

GGSCI (grid11g.kr.oracle.com) 18> add exttrail ./dirdat/TA, extract extra, megabytes 100

GGSCI (grid11g.kr.oracle.com) 19> info exttrail *

Create Trail file for Data Pump

GGSCI (grid11g.kr.oracle.com) 20> add rmttrail ./dirdat/TB, extract pumpa, megabytes 100

GGSCI (grid11g.kr.oracle.com) 21> info rmttrail *

GGSCI (grid11g.kr.oracle.com) 18> add exttrail ./dirdat/TA, extract extra, megabytes 100
EXTTRAIL added.

GGSCI (grid11g.kr.oracle.com) 19> info exttrail *

Extract Trail: ./dirdat/TA
  Extract: EXTRA
  Seqno: 0
  RBA: 0
  File Size: 100M

GGSCI (grid11g.kr.oracle.com) 20> add rmttrail ./dirdat/TB, extract pumpa, megabytes 100
RMTTRAIL added.

GGSCI (grid11g.kr.oracle.com) 21> info rmttrail *

Extract Trail: ./dirdat/TA
  Extract: EXTRA
  Seqno: 0
  RBA: 0
  File Size: 100M

Extract rmt: ./dirdat/TB
  Extract: PUMPA
  Seqno: 0
  RBA: 0
  File Size: 100M
Start the Extract, Data Pump Process in SRCDB

GGSCI (grid11g.kr.oracle.com)
22> start extract extra

GGSCI (grid11g.kr.oracle.com)
23> start extract pumpa

GGSCI (grid11g.kr.oracle.com)
24> info *

Sending START request to MANAGER ...
EXTRACT EXTRA starting

Sending START request to MANAGER ...
EXTRACT PUMPA starting

GGSCI (grid11g.kr.oracle.com)
24> info +

EXTRACT EXTRA Last Started 2011-08-22 19:38 Status RUNNING
Checkpoint Log 00:00:00 (updated 00:00:05 ago)
Log Read Checkpoint Oracle Redo Logs
2011-08-22 19:38:51 Seqno 11, REA 4063712

EXTRACT PUMPA Last Started 2011-08-22 19:38 Status RUNNING
Checkpoint Log 00:00:00 (updated 00:00:06 ago)
Log Read Checkpoint File ./dirdat/TA000000
First Record RBA 0

GGSCI (grid11g.kr.oracle.com) 25>
GGSCI (grid11g.kr.oracle.com) 26> info extract extra, detail

EXTRACT EXTRA Last Started 2011-08-22 19:38 Status RUNNING
Checkpoint Leg 00:00:00 (updated 00:00:07 ago)
Log Read Checkpoint Oracle Redo Log
2011-08-22 19:43:45 Seqno 11, REA 4115069

Target Extract Trails:

<table>
<thead>
<tr>
<th>Remote Trail Name</th>
<th>Seqno</th>
<th>RDA</th>
<th>Max MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>./dirdat/TA</td>
<td>0</td>
<td>1823</td>
<td>100</td>
</tr>
</tbody>
</table>

Extract Source Begin End
/u01/app/oracle/oradata/SRCDB/reco02.log 2011-08-22 19:25 2011-08-22 19:43
Not Available + Initialized + 2011-08-22 19:25

Current directory /u01/app/cgs/10g
Report file /u01/app/cgs/10g/dirprt/EXTRA.rpt
Parameter file /u01/app/cgs/10g/dirprm/extra.prm
Checkpoint file /u01/app/cgs/10g/dirchk/EXTRA.cae
Process file /u01/app/cgs/10g/dirprocs/EXTRA.pce
STDOUT file /u01/app/cgs/10g/dirout/EXTRA.out
Error log /u01/app/cgs/10g/ggser.out

GGSCI (grid11g.kr.oracle.com) 27>
### View detail information for Data Pump

**GGSCI (grid11g.kr.oracle.com)**

```
28> info extract pumpa, detail
```

**EXTRACT** PUMPA  Last Started 2011-08-22 19:38  Status RUNNING

**Checkpoint Log**  00:00:00 (updated 00:00:07 ago)

**Loc Read Checkpoint File** ./dirdat/TAA00000

```
2011-08-22 19:43:15.000000  RBA 1823
```

**Target Extract Trails:**

<table>
<thead>
<tr>
<th>Remote Trail Name</th>
<th>Seqno</th>
<th>RBA</th>
<th>Max MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>./dirdat/TE</td>
<td>0</td>
<td>1875</td>
<td>100</td>
</tr>
</tbody>
</table>

**Extract Source**

<table>
<thead>
<tr>
<th>Start Date</th>
<th>Begin</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>./dirdat/TAA00000</td>
<td>+ Initialized</td>
<td>2011-08-22</td>
</tr>
<tr>
<td>./dirdat/TAA00000</td>
<td>+ Initialized</td>
<td>First Record</td>
</tr>
</tbody>
</table>

**Current directory** /u01/app/cgs/10g

- Report file: /u01/app/cgs/10g/dirrpt/PUMPA.rpt
- Parameter file: /u01/app/cgs/10g/dirprm/pumpa.prm
- Checkpoint file: /u01/app/cgs/10g/dirchk/PUMPA.cpe
- Process file: /u01/app/cgs/10g/dirprocs/PUMPA.pce
- STDOUT file: /u01/app/cgs/10g/dirout/PUMPA.out
- Error log: /u01/app/cgs/10g/ggserr.log

**GGSCI (grid11g.kr.oracle.com)** 29>
View error log for Extract

GGSCI (grid11g.kr.oracle.com) 29> view report extra

********************************************************************************
Oracle GoldenGate Capture for Oracle
Version 11.1.1.1 GGSCORE.11.1.1.PLATFORMS.110421.2040
Linux, x64, 64bit (optimized), Oracle 10g on Apr 30 2011 18:21:22

Copyright (C) 1995, 2011, Oracle and/or its affiliates. All rights reserved.

Starting at 2011-08-22 19:38:43
********************************************************************************

Operating System Version:
Linux
Version #1 SNP Fri Aug 12 16:13:38 EDT 2011, Release 2.6.32-200.16.1.el5us
Node: grid11g.kr.oracle.com
Machine: x86_64

<table>
<thead>
<tr>
<th>soft limit</th>
<th>hard limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address Space Size</td>
<td>unlimited</td>
</tr>
<tr>
<td>Heap Size</td>
<td>unlimited</td>
</tr>
<tr>
<td>File Size</td>
<td>unlimited</td>
</tr>
<tr>
<td>CPU Time</td>
<td>unlimited</td>
</tr>
</tbody>
</table>

Process ID: 3916

Description:

********************************************************************************

Page 30 of 59
**View error log for Data Pump**

```
GGSCI (grid11g.kr.oracle.com) 30> view report pumpa

*****************************************************************************
Oracle GoldenGate Capture for Oracle
Version 11.1.1.1 GGSCORE.11.1.1.PLATFORMS.110421.2040
Linux, x86, 64bit (optimized), Oracle 10g on Apr 30 2011 18:21:22
Copyright (C) 1995, 2011, Oracle and/or its affiliates. All rights reserved.

Starting at 2011-08-22 19:33:51
*****************************************************************************
Operating System Version:
Linux
Version #1 SNP Fri Aug 12 16:13:38 EDT 2011, Release 2.6.32-200.16.1.el5bsek
Node: grid11g.kr.oracle.com
Machine: x86_64
Address Space Size : unlimited unlimited
Heap Size : unlimited unlimited
File Size : unlimited unlimited
CPU Time : unlimited unlimited

Process ID: 3923

Description:
*****************************************************************************
```

**Check Remote Trail in TGTDB**

```
[oracle@grid11g TGTDB:/u01/app/ogg/11g]# cd dirdat
[oracle@grid11g TGTDB:/u01/app/ogg/11g/dirdat]# ll
 total 4
-rw-rw-rw- 1 oracle grid 1595 Aug 29 19:08 TE000000
[oracle@grid11g TGTDB:/u01/app/ogg/11g/dirdat]# 
```

---

Page 31 of 59
# Initial Data Load

<table>
<thead>
<tr>
<th>Create directories for TGTDB</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://example.com" alt="Command Outputs" /></td>
</tr>
</tbody>
</table>

```
[oracle@grid11g SRCDB:~]# env | grep SID
ORACLE_SID=SRCDB

[oracle@grid11g SRCDB:~]# cd /home/oracle/zeroup_scripts

[oracle@grid11g SRCDB:~]# ./mkdir_TGTDB.sh
```

```
[oracle@grid11g SRCDB:~]# mkdir -p /u01/app/oracle/oradata/TGTDB
[oracle@grid11g SRCDB:~]# mkdir -p /u01/app/oracle/oradata/TGTDB/arch
[oracle@grid11g SRCDB:~]# mkdir -p /u01/app/oracle/admin/TGTDB/backup
[oracle@grid11g SRCDB:~]# mkdir -p /u01/app/oracle/admin/TGTDB/dump
[oracle@grid11g SRCDB:~]# mkdir -p /u01/app/oracle/admin/TGTDB/udump
[oracle@grid11g SRCDB:~]#
```
Create init parameter file for TGTDB

[oracle@grid11g SRCDB:~]# cd /u01/app/oracle/product/10.2.0/db_1/dbs

[oracle@grid11g SRCDB:/u01/app/oracle/product/10.2.0/db_1/dbs]# sqlplus / as sysdba

SQL> create pfile from spfile;

SQL> exit

[oracle@grid11g SRCDB:/u01/app/oracle/product/10.2.0/db_1/dbs]# cp initSRCDB.ora initTGTDB.ora

[oracle@grid11g SRCDB:/u01/app/oracle/product/10.2.0/db_1/dbs]# vi initTGTDB.ora

Change string from "SRCDB" to "TGTDB"
%s/SRCDB/TGTDB/g
:wq!
Online backup in SRCDB

[oracle@grid11g SRCDB:~]# cd /home/oracle/zeroup_scripts
[oracle@grid11g SRCDB:~/zeroup_scripts]# sqlplus / as sysdba

SQL> @do_begin_backup.sql
System altered.

Database altered.

SQL> !
[oracle@grid11g zeroup_scripts]$ cp_datafile.sh
[oracle@grid11g zeroup_scripts]$ exit

exit

SQL> @do_end_backup.sql
Database altered.

Remember current scn!!

SQL> !
[oracle@grid11g SRCDB:~/zeroup_scripts]# cp_archivelog.sh
[oracle@grid11g SRCDB:~/zeroup_scripts]# exit

System altered.

System altered.

SQL> !
[oracle@grid11g zeroup_scripts]$ cp_archivelog.sh
[oracle@grid11g zeroup_scripts]$ exit

exit
Create Control file for TGTDB

[root@grid11g ~]# su - oracle
[oracle@grid11g ~]# . db10t
[oracle@grid11g TGTDB:~]# cd /home/oracle/zeroup_scripts
[oracle@grid11g TGTDB:~/zeroup_scripts]# sqlplus / as sysdba

SQL> @cr_control.sql
Recovery in TGTDB

recover until obtained scn!!
SQL> recover database using backup controlfile until change 164413;
ORA-00279: change 164301 generated at 09/19/2011 12:37:48 needed for thread 1
ORA-00289: suggestion : /u01/app/oracle/oradata/TGTDB/arch/1_12_759613235.dbf
ORA-00280: change 164301 for thread 1 is in sequence #12

Specify log: {<RET>=suggested | filename | AUTO | CANCEL}

Log applied.
Media recovery complete.
SQL> alter database open resetlogs;
Database altered.
SQL> @cr_temp_tbs.sql
Tablespace altered.
SQL> exit
Drop oggmgr user in TGTDB

[oracle@grid11g TGTDB:~]# cd /u01/app/ogg/10g
[oracle@grid11g TGTDB:/u01/app/ogg/10g]# sqlplus / as sysdba

SQL> @ddl_disable
Trigger altered.

SQL> @ddl_remove
DML replication removal script.
WARNING: this script removes all DML replication objects and data.
You will be prompted for the name of a schema for the GoldenGate database objects.
NOTE: The schema must be created prior to running this script.
Enter GoldenGate schema name:oggmgr
Working, please wait ...
Saving to file ddl_remove_spool.txt
Script complete.

SQL> drop user oggmgr cascade;
User dropped.

SQL> shutdown immediate
Database closed.
Database dismounted.
Upgrade to 11.2.0.2

Edit oratab file for dbua

[oracle@grid11g TGTDB:~]# vi /etc/oratab

Comments out line for SRCDB and add following line at the end of the file.

TGTDB:/u01/app/oracle/product/10.2.0/db_1:N

Change ORACLE_HOME for Oracle 11g
Check ORACLE_HOME environment variable
Run dbua
The Database Upgrade Assistant (DBUA) interactively steps you through upgrading your
database to Oracle Database 11g Release 2 (11.2).

It can be used to perform major release upgrades from Oracle9i Release 9.2.0 and above
to 11g Release 2 (11.2) as well as apply new patches. Additionally, DBUA can be used to
upgrade databases created using any edition of the Oracle Database software, including
Express Edition (XE) databases.
Select the database that you want to upgrade.

Click Next
The database is running in archive log mode. Disabling archiving during upgrade reduces the time and disk space required for the upgrade. If you choose to disable archiving, Oracle recommends that you perform an off-line backup immediately after the upgrade.

☐ Turn off Archiving for the duration of upgrade

Oracle recommends upgrading time zone version and TIMESTAMP WITH TIME ZONE data of the database. Oracle will handle semantic errors automatically. If errors occur during the timezone upgrade, you may need to restore the database from the backup.

Oracle strongly recommends that you back up your database before starting the upgrade. If errors occur during the upgrade, you may need to restore the database from the backup.

☐ Backup database

Backup Directory: /u01/app/oracle/admin/TGTDB/backup

Browse...
Specify if you want to move the database files during the upgrade process.

- Do Not Move Database Files as Part of Upgrade
- Move Database Files during Upgrade

Select the storage mechanism you would like to use for the database.

- File system
  Use the file system for Database storage.

- Automatic Storage Management (ASM)
  Automatic Storage Management simplifies database storage administration and optimizes database layout for I/O performance. To use this option, ASM should exist with configured disk groups. If ASM does not exist, use Automatic Storage Management Configuration Assistant (ASMCA) from Oracle Grid Infrastructure home to create ASM and necessary disk groups then re-start the DBUA. If Oracle Grid Infrastructure home does not exist, it needs to be installed.
Specify Fast Recovery Area

Fast Recovery Area is an Oracle managed disk location used for storing backup and recovery related files. Oracle strongly recommends configuring a fast recovery area as it significantly enhances speed, reliability and manageability of the database recovery process.

- Specify Fast Recovery Area

  Oracle recommends that the database files and recovery files be located on physically different disks for data protection and performance.

- **Fast Recovery Area**: 
  - Value: `/u01/app/oracle/fast_recovery_area`
  - **Browse...**

- **Fast Recovery Area Size**: 3280 MBytes

Diagnostic destination is the default location to store Oracle trace and diagnostic files. It replaces the initialization parameter settings for background dump destination, user dump destination and core dump destination from earlier releases.

- **Diagnostic Destination**: 
  - Value: `/u01/app/oracle`
  - **Browse...**

Click Next
Check Configure the Database with the EM
Click Next
Review the Database Upgrade
Summary

Click Finish

Database Upgrade Assistant, Step 5 of 5: Summary

DBUA will shutdown the database during the upgrade process. The Database will not be available for general use during the upgrade process.

Database Upgrade Summary

<table>
<thead>
<tr>
<th>Database</th>
<th>Target Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: TGTDB</td>
<td>TGTDB</td>
</tr>
<tr>
<td>Version: 10.2.0.5.0</td>
<td>11.2.0.2.0</td>
</tr>
<tr>
<td>Oracle Home: /u01/app/oracle/product/10.2.0/db_1</td>
<td>/u01/app/oracle/product/11.2.0/db_1</td>
</tr>
</tbody>
</table>

Database Components to be upgraded

Oracle Server
Version: 10.2.0.5
Status: VALID

Oracle Workspace Manager
Version: 10.2.0.5.0
Status: VALID

Initialization Parameter changes

The following changes will be made in the initialization parameters:

Parameters to be added:

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>diagnostic_dest</td>
<td>/u01/app/oracle</td>
</tr>
</tbody>
</table>
Click OK to see the results of the upgrade.
Review the Upgrade Results

Database upgrade has been completed successfully, and the database is ready to use.

<table>
<thead>
<tr>
<th>Database</th>
<th>Target Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>TGTD8</td>
</tr>
<tr>
<td>Version:</td>
<td>10.2.0.5.0</td>
</tr>
<tr>
<td>Oracle Home:</td>
<td>/u01/app/oracle/product/10.2.0/cb_1</td>
</tr>
</tbody>
</table>

Upgrade Details

Password Management

All new users added to the database as part of the upgrade, have been locked and the passwords have expired. You can unlock and set user passwords from the Password Configuration dialog box.

Configure Database Passwords...

Restore Settings Only

If you are not satisfied with the upgrade results, click Restore Settings Only. This will revert only those changes made to any of the config files during the upgrade.

Note: This will not restore the database, because the backup was not performed with the Database Upgrade Assistant.

Restore Settings Only

Click Close
Create oggmgr in TGTDB

```
[root@grid11g ~]# su - oracle
[oracle@grid11g ~]# . db11
[oracle@grid11g TGTDB:~]# cd /u01/app/ogg/11g
[oracle@grid11g TGTDB:/u01/app/ogg/11g]# sqlplus / as sysdba

SQL> create user oggmgr
identified by oracle default
tablespace users;

SQL> @role_setup
  ⇒ oggmgr

SQL> grant ggs_ggsuser_role,
   connect, resource, dba to
   oggmgr;

SQL> exit
```
Create Checkpoint Table in TGTDB

[oracle@grid11g]
TGTDB:/u01/app/ogg/11g]# ./ggsci

GGSCI (grid11g.kr.oracle.com) 1> edit params ./GLOBALS

Copy from below file

[oracle@grid11g]
SRCDB:~/zeroup_scripts]# cat GLOBALS_params.txt

GGSCI (grid11g.kr.oracle.com) 3> exit

[oracle@grid11g]
TGTDB:/u01/app/ogg/11g]# ./ggsci

GGSCI (grid11g.kr.oracle.com) 1> dblogin userid oggmgr, password oracle

GGSCI (grid11g.kr.oracle.com) 2> add checkpointtable

No checkpoint table specified, using GLOBALS specification (oggmgr.gsschkpt)...
Successfully created checkpoint table OGGMR.GGSCHKPT.

GGSCI (grid11g.kr.oracle.com) 3> [oracle@grid11g TGTDB:/u01/app/ogg/11g]#
### Configure Replicat in TGTDB

<table>
<thead>
<tr>
<th>GGSCI (grid11g.kr.oracle.com) 1&gt;</th>
<th>(oracle@grid11g TGTDB:/u01/app/ogg/11g)# ./gscid</th>
</tr>
</thead>
<tbody>
<tr>
<td>add replicat repla, exttrail ./dirdat/TB</td>
<td>Oracle GoldenGate Command Interpreter for Oracle</td>
</tr>
<tr>
<td></td>
<td>Version 11.1.1.1 0GSCORE_11.1.1_PLATFORMS_10421.2040</td>
</tr>
<tr>
<td></td>
<td>Linux, x64, 64bit (optimized), Oracle 11g on Apr 21 2011 22:42:14</td>
</tr>
<tr>
<td></td>
<td>Copyright (C) 1995, 2011, Oracle and/or its affiliates. All rights reserved.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GGSCI (grid11g.kr.oracle.com) 1&gt;</th>
<th>add replicat repla, exttrail ./dirdat/TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>REPLICAT added.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GGSCI (grid11g.kr.oracle.com) 2&gt;</th>
<th>edit params repla</th>
</tr>
</thead>
</table>

**Copy from below file**

```bash
[oracle@grid11g SRCDB:~/.zeroup_scripts]$ cat repla_params.txt
```

<table>
<thead>
<tr>
<th>GGSCI (grid11g.kr.oracle.com) 4&gt;</th>
<th>exit</th>
</tr>
</thead>
</table>

```bash
GGSCI (grid11g.kr.oracle.com) 3> view params repla

-- Change Delivery parameter file to apply

-- REPLICAT REPLA
USERID oggmgr, PASSWORD oracle
ASSUMETARGETDEFS
DISCARDFILE ./dirrpt/REPLA.OFF, APPEND
REPORTCOUNT EVERY 5 MINUTES, RATE

-- Configure DDL replication
DDL INCLUDE MAPPED
DLOPTIONS REPORT

-- Table/Sequence List
MAP SCOTT.* , TARGET SCOTT.*;

```

<table>
<thead>
<tr>
<th>GGSCI (grid11g.kr.oracle.com) 4&gt;</th>
<th>1</th>
</tr>
</thead>
</table>
[oracle@grid11g TGTDB:/u01/app/ogg/11g]# sqlplus / as sysdba

SQL> @sequence
   ⇒ oggmgr

SQL> exit
<table>
<thead>
<tr>
<th>Command</th>
<th>Output</th>
</tr>
</thead>
</table>
| `start replicat repla aftercsn`  | GGSCI (grid11g.kr.oracle.com) 1>
|                                  | Sending START request to MANAGER ...
|                                  | REPLICAT REPLA starting                                                |
| `info replicat repla`            | GGSCI (grid11g.kr.oracle.com) 3>
|                                  | REPLICAT REPLA Last Started 2011-09-19 13:18 Status RUNNING           |
|                                  | Checkpoint Lag 00:39:39 (updated 00:00:07 ago)                         |
|                                  | Log Read Checkpoint File ./dirdat/TB000000                              |
|                                  | 2011-09-19 12:38:47.000152 RBA 71271                                  |
| `lag replicat repla`             | GGSCI (grid11g.kr.oracle.com) 3>
|                                  | Sending GETLAG request to REPLICAT REPLA ...
|                                  | Last record lag: 25 seconds. At EOF, no more records to process.      |
| `exit`                           | GGSCI (grid11g.kr.oracle.com) 4>                                     |
Check change synchronization

Query scott’s table in SRCDB

[oracle@grid11g SRCDB:/u01/app/ogg/10g]# env|grep SID

[oracle@grid11g SRCDB:/u01/app/ogg/10g]# sqlplus scott/tiger

SQL> select * from tcustmer;

CUST NAME          CITY        ST
-----------------  ----------    ---
WILL B3 SOFTWARE CO. SEATTLE    WA
JANE ROCKY FLYER INC. DENVER    CO

SQL> select * from tcustord;

CUST ORDER_DATE PRODUCT ORDER_ID PRODUCT_PRICE PRODUCT_AMOUNT
-----------  ------  ------  -----------  ---------------
WILL 30-SEP-04   CAR      144     17520         3
JANE 11-NOV-95   PLANE    256    133300         1

SQL>
Query scott’s table in TGTDB

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# env|grep SID

[oracle@grid11g TGTDB:/u01/app/ogg/11g]# sqlplus scott/tiger

SQL*Plus: Release 11.2.0.2.0 Production on Mon Aug 22 21:19:17 2011
Copyright (c) 1982, 2010, Oracle. All rights reserved.

Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.2.0 - 64bit Production
With the Partitioning, Oracle Label Security, OLAP, Data Mining
and Real Application Testing options

SQL> select * from tcustmer;

CUST NAME          CITY          ST
------- --------------- --------------------
WILL B3 SOFTWARE CO. SEATTLE       WA
JANE ROCKY FLYER INC. DENVER      CO

SQL> select * from tcustord;

CUST ORDER_DATE PRODUCT_ ORDER_ID PRODUCT_PRICE PRODUCT_AMOUNT
------- --------------- ---- ---------- ----------- --------------------------
WILL 30-SEP-94    CAR     144    17520      3
JANE 11-NOV-95   PLANE    256    132300     1

SQL>
Execute DML in SRCDB

SQL> @demo_ora_misc

SQL> select * from tcustmer;

SQL> select * from tcustord;

Commit complete.

3 rows deleted.

Rollback complete.

SQL> select + from tcustmer;

SQL> select * from tcustord;

CUST_NAME | CITY | ST
-----------|------|----
WILL DG SOFTWARE CO. | SEATTLE | WA
JANE ROCKY FLYER INC. | DENVER | CO
DAVE DAVE’S PLANES INC. | TALLAHASSEE | FL
BILL BILL’S USED CARS | DENVER | CO
ANN ANN’S BOATS | NEW YORK | NY

SQL> select + from tcustord;

CUST_ORDER_DATE | PRODUCT_ | ORDER_ID | PRODUCT_PRICE | PRODUCT_AMOUNT
-----------------|----------|----------|---------------|-----------------
100 30-SEP-94 | CAR | 144 | 16520 | 3
100 31-DEC-95 | CAR | 705 | 14000 | 3
100 01-JAN-96 | TRUCK | 333 | 25000 | 15

SQL>
Check change synchronization in TGTDB

SQL> select * from tcustmer;

CUST_NAME                      CITY               ST
----------------------------- ------- ------
WILL B3 SOFTWARE CO.           SEATTLE            WA
JANE ROCKY FLYER INC.          DENVER             CO
DAVE DAVE'S FLAMES INC.        TALLAHASSEE        FL
BILL BILL'S USED CARS          DENVER             CO
ANN ANN'S BOATS                NEW YORK           NY

SQL> select * from tcustord;

CUST ORDER_DATE  PRODUCT  ORDER_ID PRODUCT_PRICE PRODUCT_AMOUNT
--------------- -------- ------- -------------- ------------
WILL 30-SEP-94  100      CAR     144          16520        3
BILL 31-DEC-95  100      CAR     765          14000        3
BILL 01-JAN-95  100      TRUCK  333          25000        15

SQL>
Query T table in SRCDB

SQL> select id, to_char(txdate,'hh24:mi:ss') from t order by id;

<table>
<thead>
<tr>
<th>ID</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>20:31:31</td>
</tr>
<tr>
<td>52</td>
<td>20:34:32</td>
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<tr>
<td>53</td>
<td>20:37:33</td>
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<td>54</td>
<td>20:40:33</td>
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<tr>
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<td>20:43:34</td>
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<tr>
<td>56</td>
<td>20:46:35</td>
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<td>57</td>
<td>20:49:38</td>
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<td>58</td>
<td>20:52:39</td>
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<td>20:55:39</td>
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<td>20:58:39</td>
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<tr>
<td>61</td>
<td>21:01:39</td>
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<tr>
<td>62</td>
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<td>63</td>
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<tr>
<td>66</td>
<td>21:16:40</td>
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<tr>
<td>67</td>
<td>21:19:40</td>
</tr>
<tr>
<td>68</td>
<td>21:22:41</td>
</tr>
</tbody>
</table>

45 rows selected.

SQL>
Query T table in TGTDB

SQL> select id, to_char(txdate,'hh24:mi:ss') from t order by id;

<table>
<thead>
<tr>
<th>ID</th>
<th>TXDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>51</td>
<td>20:31:31</td>
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</tr>
</tbody>
</table>

45 rows selected.

SQL> 

FINISHED!!!

You're done!!!
Thanks a lot for participating in our Zero Downtime Upgrade to Oracle Database 11g using Oracle GoldenGate Hands-On Lab.
We hope you had a successful upgrade experience :-)