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Third Year B. Tech., Sem VI 2021-22

Advanced Database System Lab

Assignment submission

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Batch: T2

Assignment: 8

Title of assignment: Install & configure Oracle Advanced Replication server.

Install & configure Oracle Advanced Replication server. Use Oracle Enterprise Edition for multiple master sites.

Write Python desktop application to demonstrate the CRUD operations on replica server.

Use sample STUDENT Database from:

<http://www.oraclesqlbyexample.com/download-the-sample-database.html>

Ans:

Oracle GoldenGate Downloads

Products Industries Resources Customers Partners Developers Events

View Accounts Contact Sales

- Oracle GoldenGate 191.0.0.4 for Oracle on Solaris x86-64
- Oracle GoldenGate 191.0.0.4 Microservices for Oracle on Solaris x86-64
- Oracle GoldenGate 191.0.0.4 for Oracle on Windows (64-bit)
- Oracle GoldenGate 191.0.0.4 Microservices for Oracle on Windows (64-bit)
- Oracle GoldenGate 191.0.0.2 for DB2 LUW on AIX
- Oracle GoldenGate 191.0.0.2 for DB2 LUW on Windows (64-bit)
- Oracle GoldenGate 191.0.0.200204 for SQL Server on Windows (64-bit)
- Oracle GoldenGate 191.0.0.3 for MySQL on Windows (64-bit)
- Oracle GoldenGate 191.0.0.2 for Teradata on AIX
- Oracle GoldenGate 191.0.0.2 for Teradata on Linux x86-64
- Oracle GoldenGate 191.0.0.2 for Teradata on Solaris Sparc (64-bit)

Chat with sales Contact or call

Oracle Database 19c (19.3)

Oracle Database 19c (19.3) for Microsoft Windows x64 (64-bit)

Download	Description
WINDOWS.X64_193000_db_home.zip	(3,105,763,999 bytes) (sha256sum - 64c92018207829833bd4d00f1a7fb40c531c8a4a68ded9e430a5d6fbaedaca95)

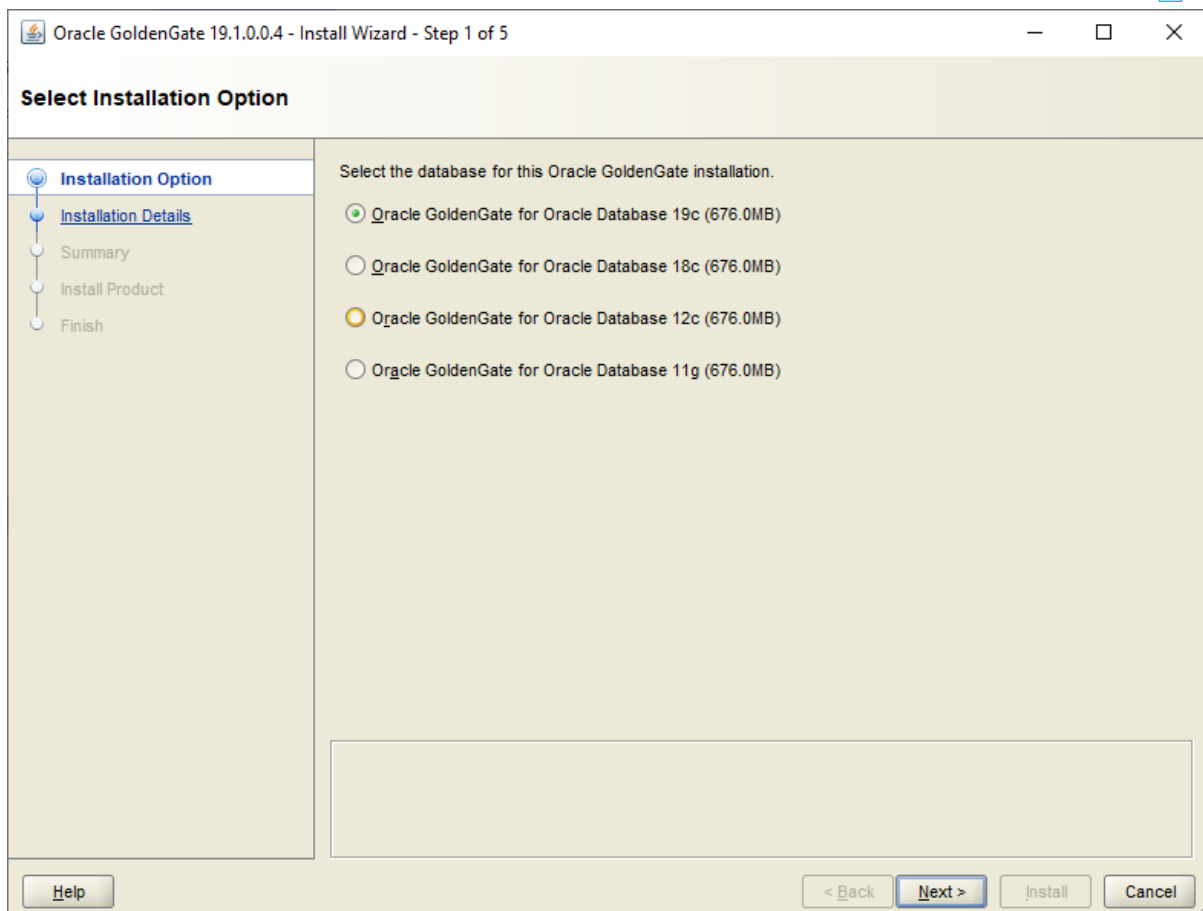
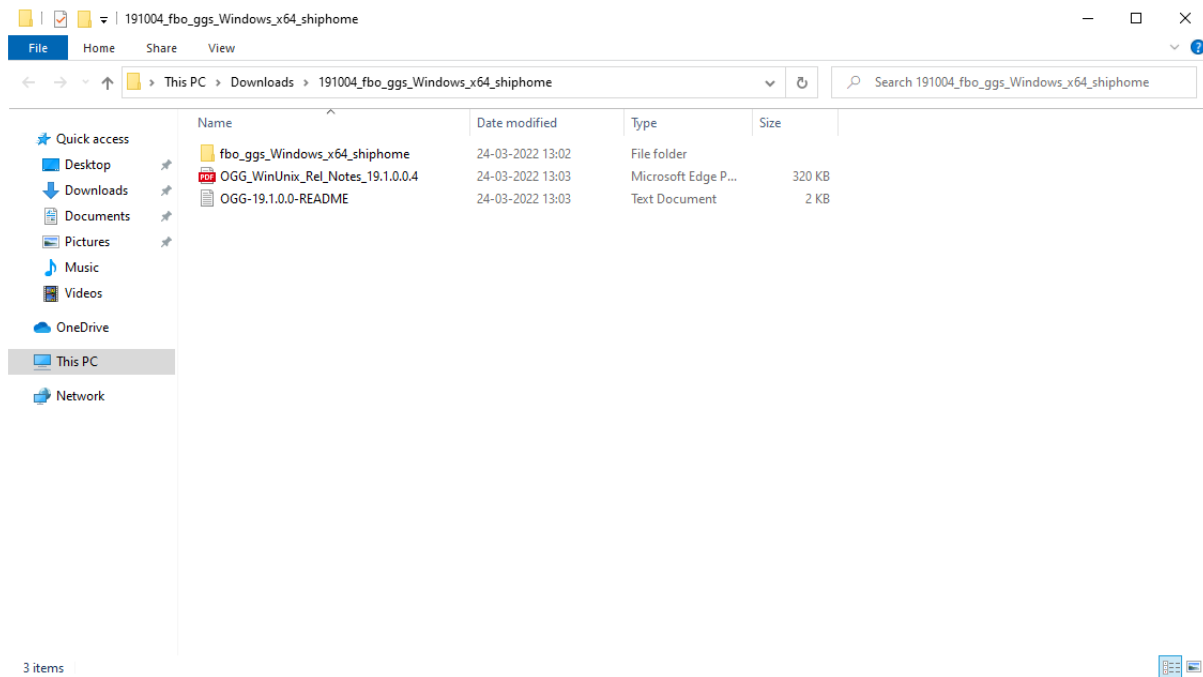
Directions
Installation guides and general Oracle Database 19c documentation are here.

Oracle Database 19c Grid Infrastructure (19.3) for Microsoft Windows x64 (64-bit)

Download	Description
WINDOWS.X64_193000_grid_home.zip	(2,181,665,470 bytes) (sha256sum - d363971d64c6a10e1663c28befd1fe37427f19e38c3c8e35224edb61f4d6d08fbc)

Contains the Grid Infrastructure Software including Oracle Clusterware, Automated Storage Management (ASM), and ASM Cluster File System. Download and install prior to installing Oracle Real Application Clusters, Oracle Real Application Clusters One Node, or other application software in a Grid Environment

Oracle Database 19c Global Service Manager (GSM/GDS) (19.3) for Microsoft Windows x64 (64-bit)



Oracle GoldenGate 19.1.0.0.4 - Install Wizard - Step 2 of 5

Specify Installation Details

[Installation Option](#)
[Installation Details](#)
[Summary](#)
Install Product
Finish

Specify a location to install Oracle GoldenGate. If installing on a cluster, it is recommended to install Oracle GoldenGate binaries on local storage on each node in the cluster. Optionally, specify the location of the Oracle Database and a free port to automatically start the Oracle GoldenGate Manager after installation.

Software Location :

☐ Start Manager

Database Location :

Manager Port :

Setting ORACLE_HOME and ORACLE_SID path in system environment variables:

New System Variable

Variable name:

Variable value:

New System Variable

Variable name:

Variable value:

Logging in to the Oracle 19c Database:

```
Oracle GoldenGate Command Interpreter for Oracle
GGSCI (DESKTOP-RF01A1A) 1> exiyt
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A) 2> exit
C:\oracle_19c\oracle_goldengate>.\ggsci

Oracle GoldenGate Command Interpreter for Oracle
Version 19.1.0.0.4 OGGCORE_19.1.0.0_PLATFORMS_191017.1054_FBO
Windows x64 (optimized), Oracle 19c on Oct 19 2019 22:34:39
Operating system character set identified as windows-1252.

Copyright (C) 1995, 2019, Oracle and/or its affiliates. All rights reserved.

GGSCI (DESKTOP-RF01A1A) 1> dblogin userid system, password Oracle123
2022-03-24 13:32:03 WARNING OGG-02551 ORACLE_HOME is not set to Oracle software directory.
Successfully logged into database CDB$ROOT.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 2> dblogin userid system, password Oracle19c;
ERROR: Unable to connect to database using user system. Ensure that the necessary privileges are granted to the user.
OCI Error ORA (status = 1017-ORA-01017: invalid username/password; logon denied
).

GGSCI (DESKTOP-RF01A1A) 3> dblogin userid system, password Oracle123;
Successfully logged into database CDB$ROOT.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 4>
```

Creating Student Schema:

```
SQL Plus

SQL*Plus: Release 18.0.0.0.0 - Production on Thu Mar 24 14:10:55 2022
Version 18.4.0.0.0

Copyright (c) 1982, 2018, Oracle. All rights reserved.

Enter user-name: system
Enter password:
Last Successful login time: Thu Mar 24 2022 14:10:28 +05:30

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> conn system/Oracle123;
Connected.
SQL> show user;
USER is "SYSTEM"
SQL> create table student(name varchar(20), prn varchar(20));

Table created.

SQL>
```

```
Command Prompt - sqlplus

C:\Users\DBE2742>sqlplus

SQL*Plus: Release 19.0.0.0.0 - Production on Thu Mar 24 15:14:55 2022
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Enter user-name: system
Enter password:
Last Successful login time: Thu Mar 24 2022 15:12:37 +05:30

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> select * from student;

NAME                PRN
-----
Dnyaneshwar         35

SQL> insert into student values('Ashish','14');

1 row created.

SQL> commit work;

Commit complete.

SQL>
```

Creating Student Schema on node 2:

```
Command Prompt - sqlplus / as sysdba;
Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.

C:\Users\91721>sqlplus / as sysdba;

SQL*Plus: Release 19.0.0.0.0 - Production on Thu Mar 24 14:20:02 2022
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved.

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> select sys_context('userenv','instance_name') from dual
2 ;

SYS_CONTEXT('USERENV','INSTANCE_NAME')
-----
orcl

SQL> create table student (name varchar(20), prn varchar(20));

Table created.

SQL>
```

```
load1.prm - Notepad
File Edit Format View Help
EXTRACT load1
USERID system, PASSWORD Wce@1234
RMTHOST 10.30.0.6, MGRPORT 7809
RMTTASK replicat, GROUP load2
TABLE system.student;
```

```
Oracle GoldenGate Command Interpreter for Oracle

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 4> ps -ef
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 5> clear
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 6> cls
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 7> mbr
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 8> dblogin userid system, password Oracle123;
Successfully logged into database CDB$ROOT.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 9> sqlplus
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 10> info all;
ERROR: Invalid command.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 11> edit param load1

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 12> ADD EXTRACT load1, SOURCEISTABLE;
EXTRACT added.

GGSCI (DESKTOP-RF01A1A as system@xe/CDB$ROOT) 13>
```

Creating an Replicate on client Node:

```
Oracle GoldenGate Command Interpreter for Oracle

Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.

C:\goldengate>.\ggsci

Oracle GoldenGate Command Interpreter for Oracle
Version 19.1.0.0.4 OGGCORE_19.1.0.0.PLATFORMS_191017.1054_FBO
Windows x64 (optimized), Oracle 19c on Oct 19 2019 22:34:39
Operating system character set identified as windows-1252.

Copyright (C) 1995, 2019, Oracle and/or its affiliates. All rights reserved.

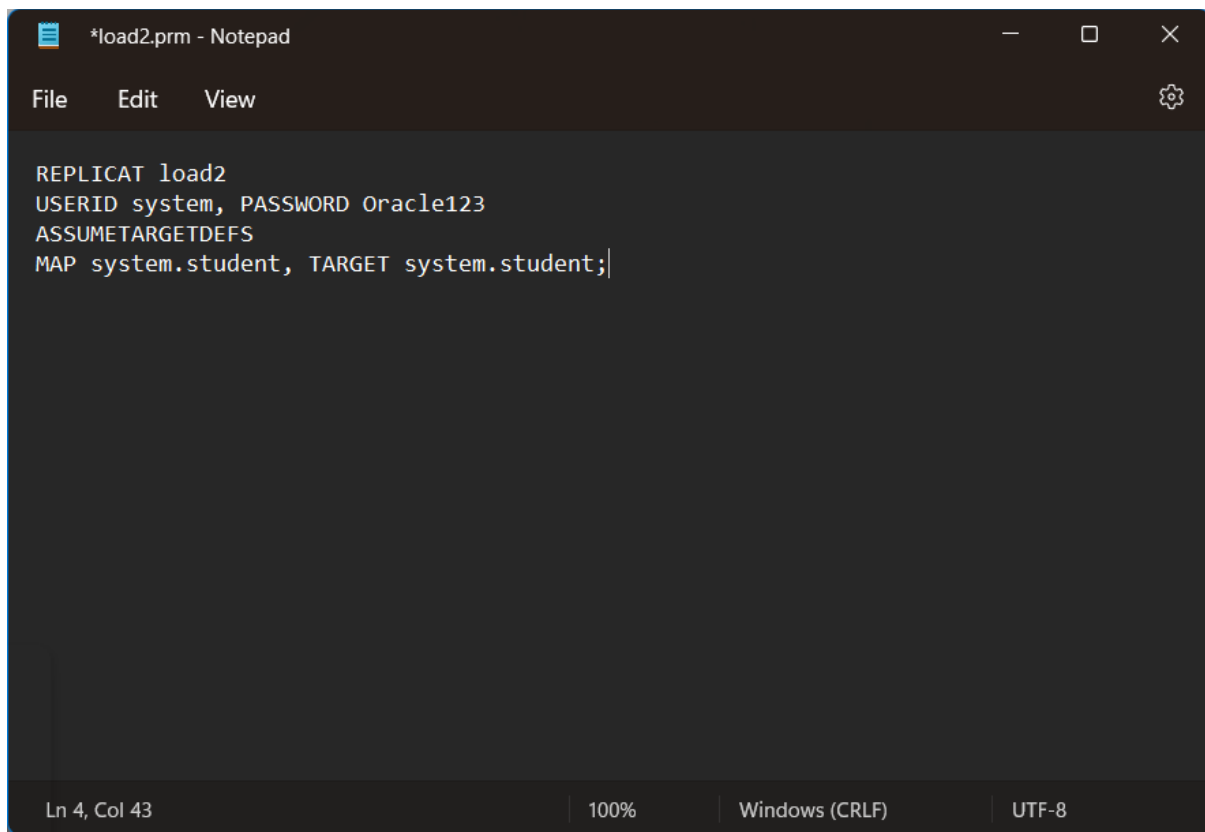
GGSCI (LAPTOP-LPGIU33C) 1> dblogin userid system, password Wce@1234

2022-03-24 14:22:52 WARNING OGG-02551 ORACLE_HOME is not set to Oracle software directory.
Successfully logged into database CDB$ROOT.

GGSCI (LAPTOP-LPGIU33C as system@orcl/CDB$ROOT) 2> edit params load2

GGSCI (LAPTOP-LPGIU33C as system@orcl/CDB$ROOT) 3>
```


Creating Replicate on Node 2:

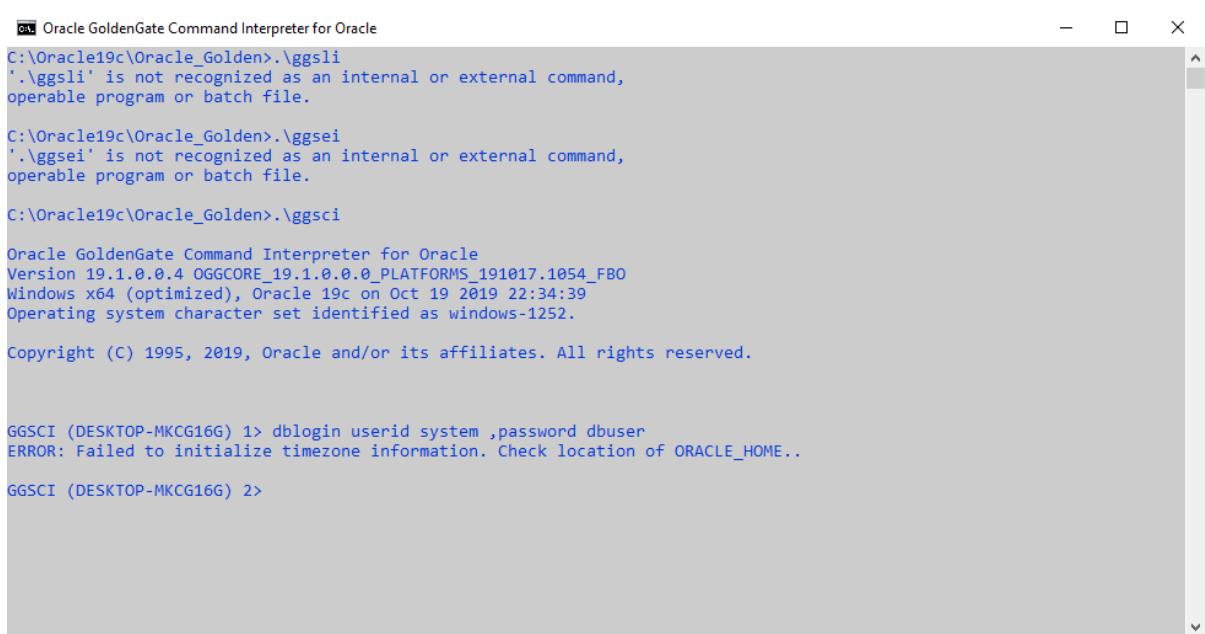


A screenshot of a Notepad window titled '*load2.prm - Notepad'. The window has a menu bar with 'File', 'Edit', and 'View'. The text inside the window is as follows:

```
REPLICAT load2
USERID system, PASSWORD Oracle123
ASSUMETARGETDEFS
MAP system.student, TARGET system.student;
```

The status bar at the bottom shows 'Ln 4, Col 43', '100%', 'Windows (CRLF)', and 'UTF-8'.

Time Zone Error on Node 2:



A screenshot of the Oracle GoldenGate Command Interpreter for Oracle window. The window title is 'Oracle GoldenGate Command Interpreter for Oracle'. The text inside the window is as follows:

```
C:\Oracle19c\Oracle_Golden>.\ggсли
'.'.ggсли' is not recognized as an internal or external command,
operable program or batch file.

C:\Oracle19c\Oracle_Golden>.\ggsei
'.'.ggsei' is not recognized as an internal or external command,
operable program or batch file.

C:\Oracle19c\Oracle_Golden>.\ggsci

Oracle GoldenGate Command Interpreter for Oracle
Version 19.1.0.0.4 OGGCORE_19.1.0.0.0_PLATFORMS_191017.1054_FBO
Windows x64 (optimized), Oracle 19c on Oct 19 2019 22:34:39
Operating system character set identified as windows-1252.

Copyright (C) 1995, 2019, Oracle and/or its affiliates. All rights reserved.

GGSCI (DESKTOP-MKCG16G) 1> dblogin userid system ,password dbuser
ERROR: Failed to initialize timezone information. Check location of ORACLE_HOME..

GGSCI (DESKTOP-MKCG16G) 2>
```