

Oracle GoldenGate 19c => 21.3 Upgrade and Classic to Microservices Migration

Preparation :

1. Migrate to 21c by utility

```
target:/goldengate/target/dirprm> cd /tmp/migr
```

```
target:/tmp/migr> java -jar ogg-migration-package-21.1.0.0.jar -classicHome /goldengate/target
```

```
*****
```

```
**      Oracle GoldenGate Classic to Microservices Migration Utility      **
```

```
**      Version 21.1.0.0.0 Build 73 at Tue Feb 08 04:27:02 UTC 2022      **
```

```
**                                     **
```

```
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```

```
**                                     **
```

```
**      Operating system character set identified as UTF-8.              **
```

```
*****
```

```
Command Entered: -classicHome /goldengate/target
```

```
Log File for this session is /tmp/migr/./Migration031624173505.log.
```

Enter Service Manager Credentials:

User Id:--> oggadmin

Password:->

Scanning for Microservices Deployments...

Using Deployment Depl_BU_01 [76926a28-381d-4f7a-bbcb-54da163a295d]

The following processes will be migrated to deployment Depl_BU_01:

Extracts:

ECLMDBA1

Replicats:

RCLMDBA1

Pumps:

PCLMDBA1

Do you wish to continue? (yes/no):> yes

Migrating Credentials from /goldengate/target/dircred.

No credentials found in the specified wallet directory.

Copying Trail Files from /goldengate/target/dirdat to /ogg_dp/var/lib/data/.

36 trail files copied, total bytes copied 5,467,518,726. ←===== Time?

Migrating EXTRACT ECLMDBA1 to http://127.0.0.1:9001.

Checkpoint File(s) Copied and Converted Successfully.

Parameter File eclmdba1.prm Saved Successfully.

Migration of Extract ECLMDBA1 Completed Successfully.

Migrating REPLICAT RCLMDBA1 to http://127.0.0.1:9001.

Parameter File rclmdba1.prm Saved Successfully.

Checkpoint File(s) Copied and Converted Successfully.

Migration of Replicat RCLMDBA1 Completed Successfully.

Migrating PUMP PCLMDBA1 to http://127.0.0.1:9002.

Use Default Pump Target URI of ogg://localhost:9003/services/v2/targets?trail=../c2? Press Enter to Accept or type Alternate URI:>

Creating Distribution Path for Pump PCLMDBA1.

Distribution Path Created Successfully. Setting trail sequence to 13 with an RBA of 97602294.

Migration of Pump PCLMDBA1 Completed Successfully.

Migrating Manager tasks to http://127.0.0.1:9001.

Creating Task for Parameter PurgeTrail-18bcf172-1.

Task Created Successfully.

1 Tasks were migrated, 1 successfully, 0 with errors.

WARNING: Lag Report is missing one or more options and will not be migrated.

Migration of Manager Tasks Completed Successfully.

Do you wish to migrate your GLOBALS parameters? (yes/no):> no

GLOBALS will not be migrated

Migration Processing Complete, 4 process were migrated were successfully.

target:/tmp/migr>

Start page X orade@lnx001:/tmp/migr X orade@lnx001:/u01/app/orade/product/19c/dbhome_1/network/admin X orade@lnx001:~ X

```
target:/tmp/migr> java -jar ogg-migration-package-21.1.0.0.jar -classicHome /goldengate/target
```

```
*****  
**      Oracle GoldenGate Classic to Microservices Migration Utility      **  
**      Version 21.1.0.0.0 Build 73 at Tue Feb 08 04:27:02 UTC 2022      **  
**      **                                                                  **  
**      Copyright (C) 1995, 2021, Oracle and/or its affiliates. All rights reserved.  **  
**      **                                                                  **  
**      Operating system character set identified as UTF-8.                **  
*****
```

Command Entered: -classicHome /goldengate/target

Log File for this session is /tmp/migr/./Migration031624173505.log.

Enter Service Manager Credentials:

User Id:--> oggadmin

Password:-->

Scanning for Microservices Deployments...

Using Deployment Depl_BU_01 [76926a28-381d-4f7a-bbcb-54dal63a295d]

The following processes will be migrated to deployment Depl_BU_01:

Extracts:

ECLMDBAL

Replicats:

RCLMDBAL

Pumps:

PCLMDBAL

Do you wish to continue? (yes/no):> yes

Migrating Credentials from /goldengate/target/dircred.

No credentials found in the specified wallet directory.

```
Start page X orade@lnx001:/tmp/migr X orade@lnx001:/u01/app/oracle/product/19c/dbhome_1/network/admin X orade@lnx001:~ X
Migrating EXTRACT ECLMDBAL to http://127.0.0.1:9001.
Checkpoint File(s) Copied and Converted Successfully.
Parameter File eclmbal.prm Saved Successfully.

Migration of Extract ECLMDBAL Completed Successfully.

Migrating REPLICAT RCLMDBAL to http://127.0.0.1:9001.
Parameter File rclmbal.prm Saved Successfully.
Checkpoint File(s) Copied and Converted Successfully.

Migration of Replicat RCLMDBAL Completed Successfully.

Migrating PUMP PCLMDBAL to http://127.0.0.1:9002.

Use Default Pump Target URI of ogg://localhost:9003/services/v2/targets?trail=../c2? Press Enter to Accept or type Alternate URI:>
Creating Distribution Path for Pump PCLMDBAL.
Distribution Path Created Successfully. Setting trail sequence to 13 with an RBA of 97602294.

Migration of Pump PCLMDBAL Completed Successfully.

Migrating Manager tasks to http://127.0.0.1:9001.

Creating Task for Parameter PurgeTrail-18bcf172-1.
Task Created Successfully.
1 Tasks were migrated, 1 successfully, 0 with errors.
WARNING: Lag Report is missing one or more options and will not be migrated.

Migration of Manager Tasks Completed Successfully.

Do you wish to migrate your GLOBALS parameters? (yes/no):> no

GLOBALS will not be migrated

Migration Processing Complete, 4 process were migrated were successfully.
target:/tmp/migr>
```

+++++++ISSUE 1+++++++

Extracts, replicats cannot be started. They cannot connect to the same database from \$OGG_HOME.

ECLMDBA1 INTEGRATED Action ▾

Lag: 0 sec

Replicats

✔ 0
Running

✘ 0
Abended

⋮ 1
Other

All Replicat Actions ▾ +

RCLMDBA1 INTEGRATED Action ▾

Lag: 0 sec
High Watermark Lag: 0 sec
Low Watermark Lag: 0 sec

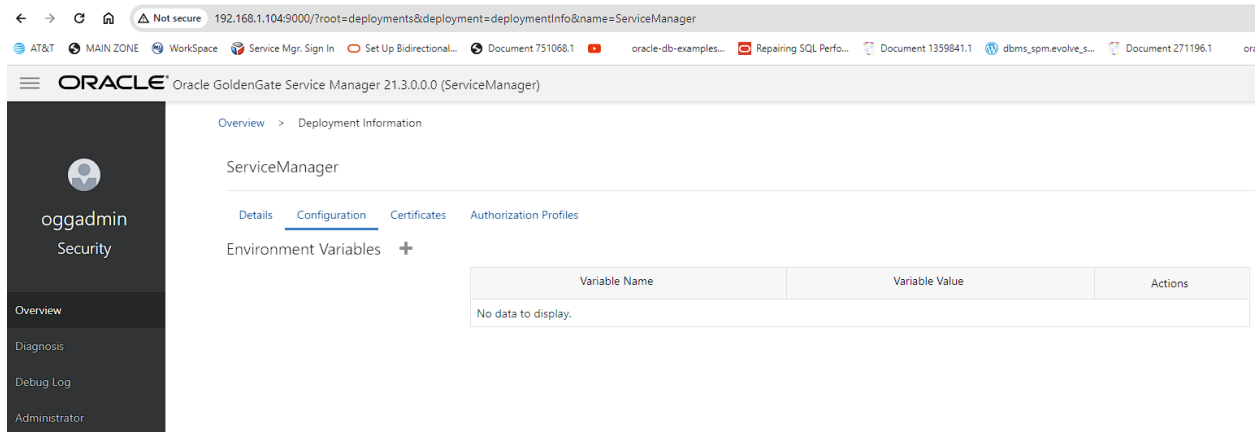
Critical Events

Refresh

Page Size: 20 ▾

Code	Date	Severity	Message
OGG-01668	Mar 17 2024 07:51:35	!	Oracle GoldenGate Delivery for Oracle, RCLMDBA1.prm: PROCESS ABENDING.
OGG-00664	Mar 17 2024 07:51:35	!	Oracle GoldenGate Delivery for Oracle, RCLMDBA1.prm: OCI Error ORA (status = 12162-ORA-12162: TNS:net service name is incorrectly specified

To configure it go to the same URL, but the base port 9000:



Overview > Deployment Information

ServiceManager

Details Configuration Certificates Authorization Profiles

Environment Variables +

Variable Name	Variable Value	Actions
No data to display.		

Add \$TNS_ADMIN

[Overview](#) > [Deployment Information](#)

ServiceManager

[Details](#) [Configuration](#) [Certificates](#) [Authorization Profiles](#)

Environment Variables +

Name:

Value:

Variable Name	Variable Value	Actions
No data to display.		

Add JAVA_HOME

Overview > Deployment Information

ServiceManager

Details Configuration Certificates Authorization Profiles

Environment Variables +

Name:

Value:

Variable Name	Variable Value	Actions
TNS_ADMIN	/ogg_dp/etc	 

Save changes:



[Overview](#) > [Deployment Information](#)

ServiceManager

[Details](#) [Configuration](#) [Certificates](#) [Authorization Profiles](#)

Deployment Detail

Status: running

GoldenGate Home: /ogg

GoldenGate Etc Home: /ogg_sm/etc

GoldenGate Config Home: /ogg_sm/etc/conf

GoldenGate SSL Home: /ogg_sm/etc/ssl

GoldenGate Var Home: /ogg_sm/var

GoldenGate Data Home: /ogg_sm/var/data

Managed by Service Manager: true

```
target:/ogg_dp/etc> cp $ORACLE_HOME/network/admin/tnsnames.ora .
```

```
target:/ogg_dp/etc> ls -l
```

```
total 0
```

```
drwxr-x---. 1 oracle oinstall 80 Mar 9 13:28 conf
```

```
drwxr-x---. 1 oracle oinstall 0 Mar 9 13:28 ssl
```

```
-rw-r-----. 1 oracle oinstall 527 Mar 17 11:01 tnsnames.ora
```

```
target:/ogg_dp/etc>
```

Change:

```
Start page X | orade@lnx001:/tmp/migr X | orade@lnx001:/u01/app/orade/product/19c/dbhome_1/network/admin X
#export ORACLE_BASE=/u01/app/oracle
export ORACLE_HOME=/ogg
#export ORA_INVENTORY=/u01/app/oraInventory
export TNS_ADMIN=/u01/app/oracle/product/19c/dbhome_1/network/admin
export ORACLE_SID=target
#export PDB_NAME=pdb1
#export DATA_DIR=/u02/data
export JAVA_HOME=/goldengate/target/jdk
export NLS_DATE_FORMAT="YYYY-MM-DD"
export NLS_TIME_FORMAT="HH24.MI.SSXFF"
export NLS_TIME_TZ_FORMAT="HH24:MI.SSXFF"
export NLS_TIMESTAMP_FORMAT="YYYY-MM-DD-HH24.MI.SSXFF"
export NLS_TIMESTAMP_TZ_FORMAT="YYYY-MM-DD-HH24.MI.SSXFF"
export LD_LIBRARY_PATH=/ogg/lib:/lib:/usr/lib:/u01/app/oracle/product/19c/dbhom
export GG=/ogg
#export DBNAME=cdb1
```

To

```
Start page X | orade@lnx001:/tmp/migr X | orade@lnx001:/u01/app/orade/product/19c/dbhome_1/network/admin X | orade@lnx001:~ X
export ORACLE_HOSTNAME=localhost.localdomain
export ORACLE_UNQNAME=target
#export ORACLE_BASE=/u01/app/oracle
l.104 export ORACLE_HOME=/ogg
l.71 export OGG_HOME=$ORACLE_HOME
197 #export ORA_INVENTORY=/u01/app/oraInventory
39.3 export TNS_ADMIN=/ogg_dp/etc
export ORACLE_SID=target
#export PDB_NAME=pdb1
#export DATA_DIR=/u02/data
export JAVA_HOME=$OGG_HOME/jdk
export NLS_DATE_FORMAT="YYYY-MM-DD"
export NLS_TIME_FORMAT="HH24.MI.SSXFF"
export NLS_TIME_TZ_FORMAT="HH24:MI.SSXFF"
```

```
target:/ogg_dp/etc> cp $ORACLE_HOME/network/admin/tnsnames.ora .
target:/ogg_dp/etc> ls -l
total 0
drwxr-x---. 1 oracle oinstall  80 Mar  9 13:28 conf
drwxr-x---. 1 oracle oinstall   0 Mar  9 13:28 ssl
-rw-r-----. 1 oracle oinstall 527 Mar 17 11:01 tnsnames.ora
target:/ogg_dp/etc> █
```

In the param file change connection "ggate," to "ggate@target,"

Overview > Process Information

RCLMDBA1 (INTEGRATED)

Process Information Checkpoint Statistics Parameters Report Heartbeat

```
-----  
-- Replicat for CLMDBA Schema --  
-- Last updated on Nov 18 2024 by Vladimir Grigorian --  
-----  
--Replicat group --  
replicat RCLMDBA1  
--export sid  
--setenv (ORACLE_SID='target')  
--setenv (ORACLE_HOME='/u01/app/oracle/product/19c/dbhome_1')  
--source and target definitions--  
AssumeTargetDefs  
--target database login --  
userid ggate@target, password oracle  
--PERFORMANCE PARAMETERS--  
--Double SQL transaction in 1 operation--  
GROUPTRANSOPS 2000  
--group similar transactions--  
--BATCHSQL--  
--error handling--  
DDLERROR DEFAULT IGNORE RETRYOP  
-----
```

Cancel

Apply

Not secure 192.168.1.104:9001/?root=account



IE Workspace Service Mgr. Sign In Set Up Bidirectional... Document 751068.1



Oracle GoldenGate Administration Service

Sign In

ORACLE

Connect to adminclient ggsci

```
target:/ogg/bin> ./adminclient
Oracle GoldenGate Administration Client for Oracle
Version 21.3.0.0.0 OGGCORE_21.3.0.0.0_PLATFORMS_210728.1047

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Oracle Linux 7, x64, 64bit (optimized) on Jul 28 2021 12:32:46
Operating system character set identified as UTF-8.

OGG (not connected) 1> connect http://127.0.0.1:9001 as oggadmin !
Password for 'oggadmin' at 'http://127.0.0.1:9001/Depl_BU_01':


OGG (http://127.0.0.1:9001 Depl_BU_01) 2> info all
Program      Status      Group      Type      Lag at Chkpt  Time Since Chkpt
EXTRACT      STOPPED    ECLMDBA1   INTEGRATED 00:00:00     18:37:27
REPLICAT     STOPPED    RCLMDBA1   INTEGRATED 00:00:00     18:37:22

OGG (http://127.0.0.1:9001 Depl_BU_01) 3> █
```

Extracts

Running 1 Abended 0 Other 0

All Extract Actions ▾ +



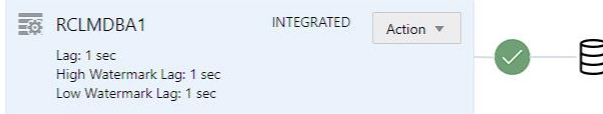
ECLMDBA1 INTEGRATED Action ▾

Lag: 0 sec

Replicats

Running 1 Abended 0 Other 0

All Replicat Actions ▾ +



RCLMDBA1 INTEGRATED Action ▾

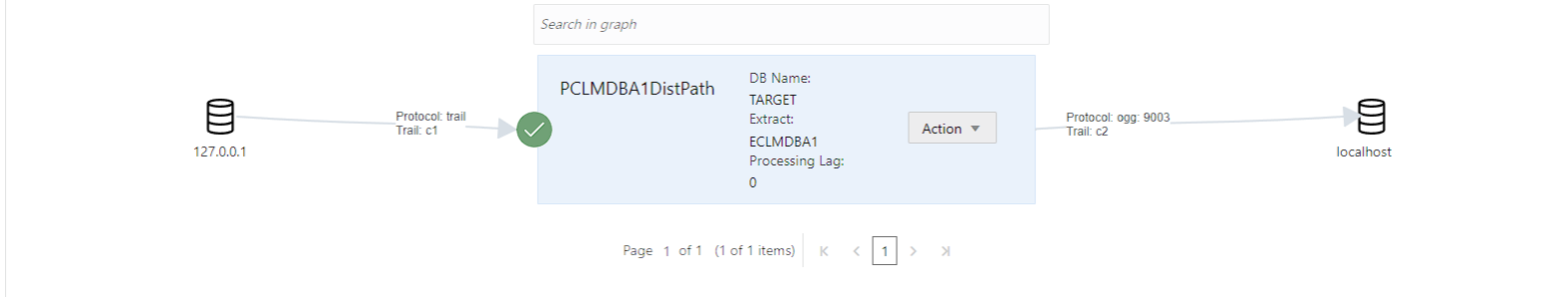
Lag: 1 sec
High Watermark Lag: 1 sec
Low Watermark Lag: 1 sec

Critical Events

Search In Critical Events Table Refresh Page Size: 20

Code	Date	Severity	Message
OGG-26027	Mar 17 2024 11:48:07	!	Oracle GoldenGate Delivery for Oracle, RCLMDBA1.prm: The DbUniqueName token is not available in the source trail header. DBUNIQUENAME will be treated as a synonym of DBNAME.
OGG-02760	Mar 17 2024 11:48:07	!	Oracle GoldenGate Delivery for Oracle, RCLMDBA1.prm: ASSUMETARGETDEFS is ignored because trail file /ogg_dp/var/lib/data/c2000000021 contains table definitions.
OGG-05673	Mar 17 2024 11:47:47	!	Oracle GoldenGate Delivery for Oracle, RCLMDBA1.prm: CSN-based duplicate suppression is disabled because there is no checkpoint table for this Replicat.

Paths Running 1 Abended 0 Other 0 All Path Actions



```

Elapsed: 00:00:00.25
1000000 rows created.
Elapsed: 00:00:53.85
Commit complete.
Elapsed: 00:00:00.17
SQL> spool off
SQL>

```

```

OGG (http://127.0.0.1:9001 Dep1_BU_01) 15> !
Program Status Group Type Lag at Chkpt Time Since Chkpt
EXTRACT RUNNING ECLMDBA1 INTEGRATED 00:00:04 00:00:03
REPLICAT RUNNING RCLMDBA1 INTEGRATED 00:00:11 00:00:01
OGG (http://127.0.0.1:9001 Dep1_BU_01) 16> !
Program Status Group Type Lag at Chkpt Time Since Chkpt
EXTRACT RUNNING ECLMDBA1 INTEGRATED 00:00:04 00:00:07
REPLICAT RUNNING RCLMDBA1 INTEGRATED 00:00:13 00:00:03
OGG (http://127.0.0.1:9001 Dep1_BU_01) 17> !

```

Oracle GoldenGate Services 21.3.0.0.0 for Oracle (Depl_BU_01)

Administration Service Distribution Service **Performance Metrics Service** Receiver Service

Search in processes

Sort By: Name Descending:

Admin Service
Running

ADMIN SERVICE

Dist. Service
Running

DIST SERVICE

Extract
Running

ECLMDBA1

PM Service
Running

PM SERVICE

Replicat
Running

RCLMDBA1

Recv. Service
Running

RECV SERVICE

Messages Overview Status Changes Overview Monitoring Commands

Search In Message Table Refresh Page Size 20

Code	Date	Process	Severity	Message
OGG-25222	Mar 17 2024 14:00:55	RCLMDBA1	✓	Large transaction completed. Total records: 1,000,000
OGG-02232	Mar 17 2024 14:00:45	RCLMDBA1	✓	Switching to next trail file /ogg_dp/var/lib/data/c2000000024 at 2024-03-17 14:00:45.097824 due to EOF, with current RBA 104.857.588.
OGG-01669	Mar 17 2024 14:00:00	RECVSRVR	✓	Opening /ogg_dp/var/lib/data/c2000000024 (byte -1, current EOF 0)
OGG-01670	Mar 17 2024 13:59:59	RECVSRVR	✓	Closing /ogg_dp/var/lib/data/c2000000023
OGG-01735	Mar 17 2024 13:59:59	RECVSRVR	✓	Synchronizing /ogg_dp/var/lib/data/c2000000023 to disk

Page 1 of 5 (1-20 of 100 items) < 1 2 3 4 5 > x

target:/ogg/bin> ./adminclint

Oracle GoldenGate Administration Client for Oracle

Version 21.3.0.0.0 OGGCORE_21.3.0.0.0_PLATFORMS_210728.1047

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Oracle Linux 7, x64, 64bit (optimized) on Jul 28 2021 12:32:46

Operating system character set identified as UTF-8.

OGG (not connected) 1> connect http://127.0.0.1:9001 as oggadmin !

Password for 'oggadmin' at 'http://127.0.0.1:9001/Depl_BU_01':

OGG (http://127.0.0.1:9001 Depl_BU_01) 2> info all

Program	Status	Group	Type	Lag at Chkpt	Time Since Chkpt
---------	--------	-------	------	--------------	------------------

EXTRACT	RUNNING	ECLMDBA1	INTEGRATED	00:00:00	00:00:05
---------	---------	----------	------------	----------	----------

REPLICAT	RUNNING	RCLMDBA1	INTEGRATED	00:00:00	00:00:02
----------	---------	----------	------------	----------	----------

OGG (http://127.0.0.1:9001 Depl_BU_01) 3>

```
target:/ogg/bin> ./adminclient
Oracle GoldenGate Administration Client for Oracle
Version 21.3.0.0.0 OGGCORE_21.3.0.0.0_PLATFORMS_210728.1047

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Oracle Linux 7, x64, 64bit (optimized) on Jul 28 2021 12:32:46
Operating system character set identified as UTF-8.

OGG (not connected) 1> connect http://127.0.0.1:9001 as oggadmin !
Password for 'oggadmin' at 'http://127.0.0.1:9001/Depl_BU_01':

OGG (http://127.0.0.1:9001 Depl_BU_01) 2> info all
Program      Status      Group      Type      Lag at Chkpt  Time Since Chkpt
EXTRACT      RUNNING     ECLMDBA1   INTEGRATED 00:00:00      00:00:05
REPLICAT     RUNNING     RCLMDBA1   INTEGRATED 00:00:00      00:00:02

OGG (http://127.0.0.1:9001 Depl_BU_01) 3> █
```