

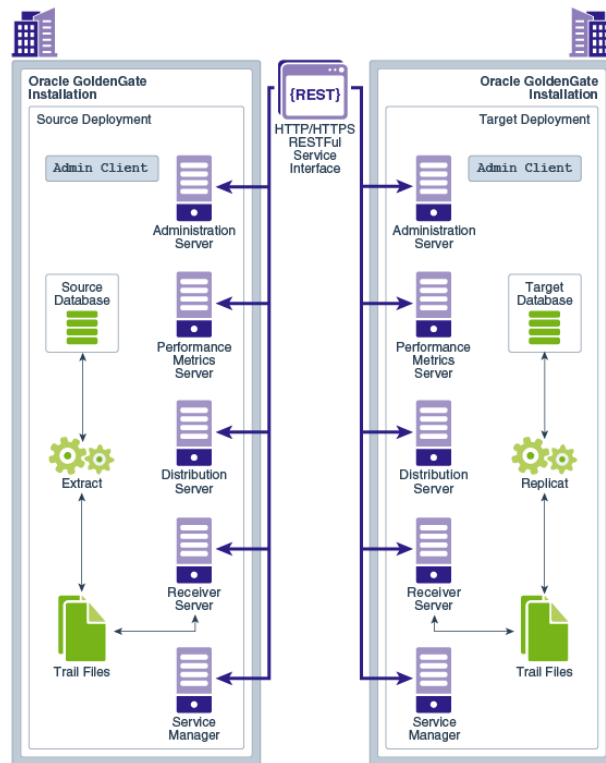
Install and Configure Oracle GoldenGate 12.3 Microservices Architecture

The objective of this document is to demonstrate how to install and configure the new Oracle 12.3 GoldenGate Microservices Architecture.

For the purpose of demonstration and training I have created one VM database (oradb1) and will create a unidirectional replication from 2 existing schemas: HR_SOURCE to HR_TARGET

The Oracle GoldenGate Microservices Architecture have 6 main components:

- **Service manager**
 - A Service Manager acts as a watchdog for other services available with Microservices Architecture.
- **Administration Server**
 - An Administration Server supervises, administers, manages, and monitors processes operating within an Oracle GoldenGate deployment for both active and inactive processes.
- **Distribution Server**
 - A Distribution Server is an application that functions as a networked data distribution agent in support of conveying and processing data and commands in a distributed networked deployment. It is a high performance application that is able to handle multiple commands and data streams from multiple source trail files, concurrently.
- **Receiver Server**
 - A Receiver Server is the central control service that handles all incoming trail files. It interoperates with the Distribution Server and provides compatibility with the classic architecture pump for remote classic deployments.
- **Performance Metrics Server**
 - The Performance Metrics Server uses the metrics service to collect and store instance deployment performance results. This metrics collection and repository is separate from the administration layer information collection.
- **Admin Client**
 - The Admin Client is a command line utility (similar to the classic GGSCI utility). It uses the REST API published by the Microservices Architecture(MA) Servers to accomplish control and configuration tasks in an Oracle GoldenGate deployment.



Install Oracle GoldenGate 12.3 Microservices (MS)

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Oracle GoldenGate Downloads

This page contains links to the most popular, current release of Oracle GoldenGate software on various platforms. More recent updates may be available from [My Oracle Support](#), on the Patches and Updates tab.

The complete set of Oracle GoldenGate (for Oracle), Oracle GoldenGate for Non Oracle Database, and other GoldenGate software, is available on the [Oracle Software Delivery Cloud](#).

The [certification matrices](#) contain the complete list of supported platforms.

Note: If you are not able to find a specific database and platform combination, contact Oracle Support. Your service request must include the following details:

- Operating System—including version and chipset (x86, x86-64bit, IA64, etc.)
- Database—including version and bit information (32bit or 64bit)

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Oracle GoldenGate for Big Data 12.3.1.1.0

↓ [Oracle GoldenGate for Big Data 12.3.1.1.0 on Linux x86-64](#) (78 MB)

Oracle GoldenGate 12.3.0.1

↓ [Oracle GoldenGate 12.3.0.1.0 for Oracle on Linux x86-64](#) (518 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 Microservices for Oracle on Linux x86-64](#) (421 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 for Oracle on Solaris Sparc \(64 bit\)](#) (327 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 Microservices for Oracle on Solaris Sparc \(64 bit\)](#) (465 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 for DB2 \(i-Series/IBM DB2/400\) for IBM AS400](#) (112 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 for DB2 9.7 on AIX](#) (119 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 for DB2 10.1, 10.5, 11.1 on AIX](#) (119 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 for DB2 9.7 on Linux x86-64](#) (57 MB)
↓ [Oracle GoldenGate 12.3.0.1.0 for DB2 10.1, 10.5, 11.1 on Linux x86-64](#) (57 MB)

```
[oracle@oradb1 Disk1]$ pwd
/home/oracle/Downloads/fbo_ggs_Linux_x64_services_shiphome/Disk1
[oracle@oradb1 Disk1]$ ls
install response runInstaller stage
[oracle@oradb1 Disk1]$ ./runInstaller
```

Oracle GoldenGate 12.3.0.1.0 - Install Wizard - Step 1 of 5

Select Installation Option

Installation Option

[Installation Details](#)

Summary

Install Product

Finish

Select the database for this Oracle GoldenGate installation.

☒ Oracle GoldenGate for Oracle Database 12c (733.0MB)

☐ Oracle GoldenGate for Oracle Database 11g (749.0MB)

[Help](#) [< Back](#) [Next >](#) [Install](#) [Cancel](#)

Oracle GoldenGate 12.3.O.1.0 - Install Wizard - Step 2 of 5

Specify Installation Details

[Installation Option](#)

[Installation Details](#)

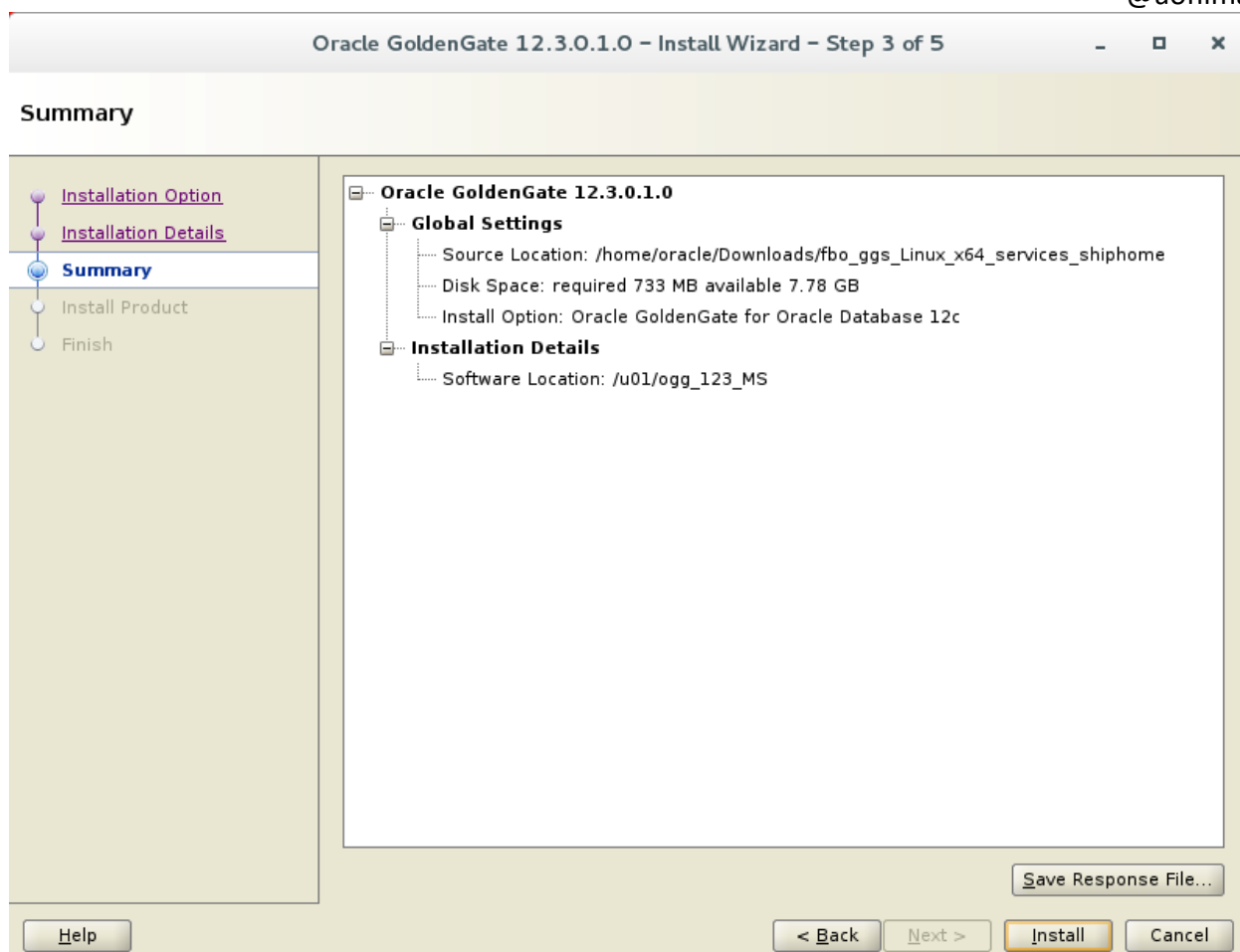
[Summary](#)

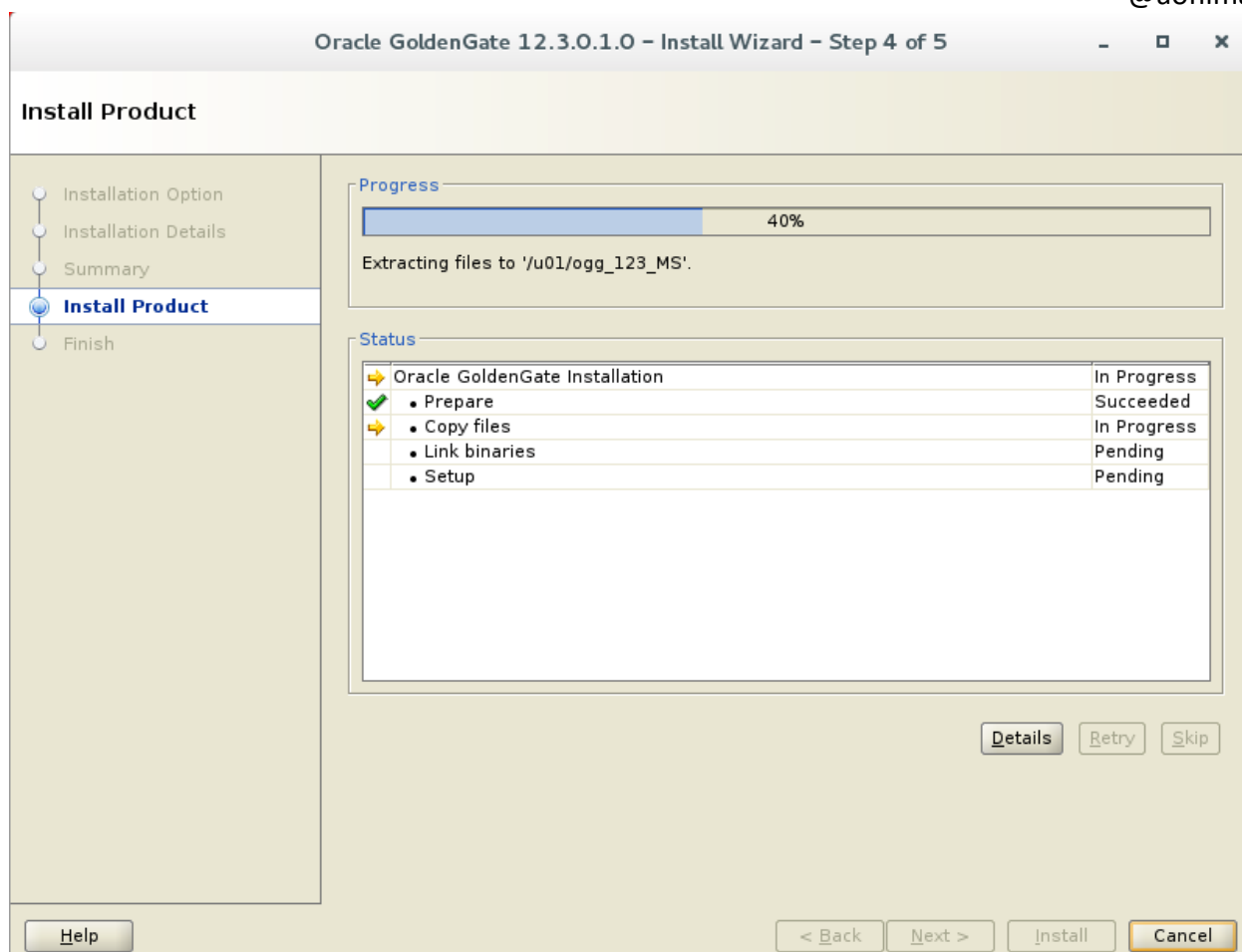
Install Product

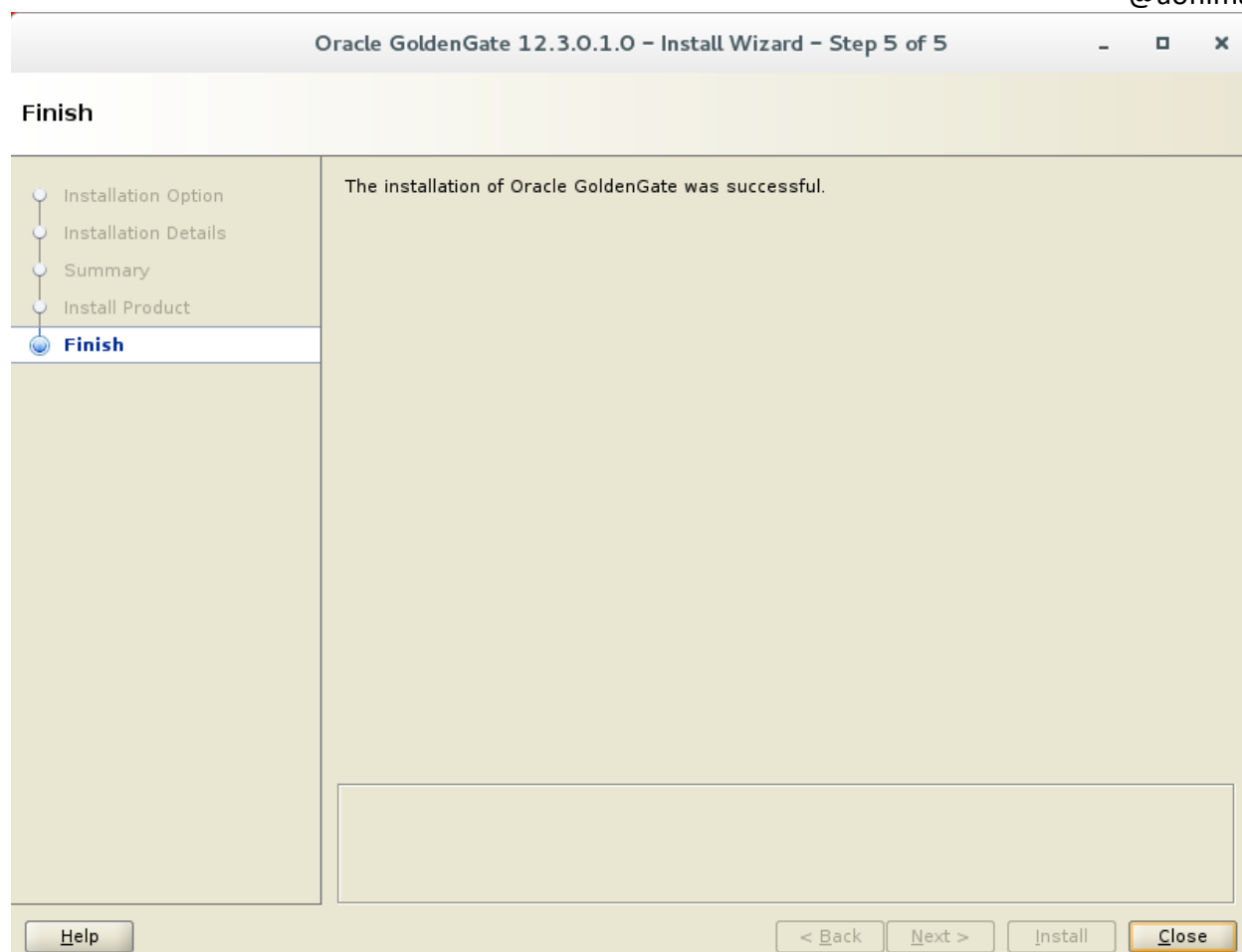
Finish

Specify a location to install Oracle GoldenGate. If installing on a cluster, it is recommended to specify the software location on a shared storage.

Software Location :







Create OGG Admin User and enable database for GoldenGate

```
[oracle@oradb1 Disk1]$ sqlplus '/as sysdba'
SQL> select name from v$database;
```

```
NAME
-----
```

```
ORATEST1
```

```
alter database add supplemental log data;
alter database force logging;
alter system set enable_goldengate_replication=true;
create user oggadm identified by oggadm;
grant dba to oggadm;
exec dbms_goldengate_auth.grant_admin_privilege('OGGADM');
```



```
select username from dba_users where username like 'HR_%'  
HR_SOURCE  
HR_TARGET
```

Deploy OGG home with OGG Configuration Assistant.

```
export TNS_ADMIN=/u01/app/oracle/product/12.2.0/db_1/network/admin  
export OGG_HOME=/u01/ogg_123_MS
```

```
[oracle@oradb1 bin]$ ls  
adminclnt  checkprm  defgen  extract  logdump  orapki  replicat  XAGTask  
adminsrvr  convchk  distsrvr  ggcmd  oggca.sh  pmsrvr  retrace  
cachefiledump  convprm  emsclnt  keygen  oggerr  recvsrvr  ServiceManager  
[oracle@oradb1 bin]$ ./oggca.sh
```

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 1 of 12

Select Service Manager Options

Service Manager Options

- Service Manager Options**
- Configuration Options
- Deployment Details
- Deployment Directories
- Environment Variables
- Administrator Account
- Security Options
- Port Settings
- Replication Settings
- Summary
- Configure Deployment
- Finish

Service Manager Details

☐ Existing Service Manager

☒ Create New Service Manager

Service Manager Deployment Home

/u01/ogg_sm1 Browse...

Service Manager Connection Details

Listening hostname/address: oradb1.localdomain

Listening port: 7800

☒ Register Service Manager as a system service/daemon

☐ Integrate with XAG

Help < Back Next > Finish Cancel

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 2 of 12

Select Configuration Options

Service Manager Options

Configuration Options

Deployment Details

Deployment Directories

Environment Variables

Administrator Account

Security Options

Port Settings

Replication Settings

Summary

Configure Deployment

Finish

Deployment Configuration Option

☒ Add new GoldenGate deployment

☐ Remove existing GoldenGate deployment

Help

< Back

Next >

Finish

Cancel

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 3 of 12

Specify Deployment Details

- [Service Manager Options](#)
- [Configuration Options](#)
- Deployment Details**
- [Deployment Directories](#)
- [Environment Variables](#)
- [Administrator Account](#)
- [Security Options](#)
- [Port Settings](#)
- [Replication Settings](#)
- [Summary](#)
- [Configure Deployment](#)
- [Finish](#)

Deployment Details

Deployment Name

☐ Enable Sharding

Software Home [Browse...](#)

[Help](#)

[< Back](#) [Next >](#) [Finish](#) [Cancel](#)

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 4 of 12

Specify Deployment Directories

- [Service Manager Options](#)
- [Configuration Options](#)
- [Deployment Details](#)
- [Deployment Directories](#)**
- [Environment Variables](#)
- [Administrator Account](#)
- [Security Options](#)
- [Port Settings](#)
- [Replication Settings](#)
- [Summary](#)
- [Configure Deployment](#)
- [Finish](#)

Deployment home:

☐ Customize directories

Configuration files.

Configuration bootstrap files, process parameter files.

Security configuration files.

Runtime and support files.

Trail files

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 5 of 12

Specify Environment Variables

- [Service Manager Options](#)
- [Configuration Options](#)
- [Deployment Details](#)
- [Deployment Directories](#)
- Environment Variables**
- [Administrator Account](#)
- [Security Options](#)
- [Port Settings](#)
- [Replication Settings](#)
- [Summary](#)
- [Configure Deployment](#)
- [Finish](#)

Environment Variables

Name	Value
ORACLE_HOME	/u01/app/oracle/product/12.2.0/db_1
LD_LIBRARY_PATH	/u01/ogg_123_MS/lib:/u01/ogg_123_MS/install/lib:/u01/ogg_123_MS/o...
TNS_ADMIN	/u01/app/oracle/product/12.2.0/db_1/network/admin
ORACLE_SID	oratest1

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 6 of 12

Specify Administrator Account

- [Service Manager Options](#)
- [Configuration Options](#)
- [Deployment Details](#)
- [Deployment Directories](#)
- [Environment Variables](#)
- Administrator Account**
- [Security Options](#)
- Port Settings
- Replication Settings
- Summary
- Configure Deployment
- Finish

Administrator account

Username

Password

Confirm Password

Password: oggma
This user will be use to login to
the web interface

No Wallets or Certificate at this point.

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 7 of 12

Specify Security Options

- Service Manager Options
- Configuration Options
- Deployment Details
- Deployment Directories
- Environment Variables
- Administrator Account
- Security Options**
- Port Settings
- Replication Settings
- Summary
- Configure Deployment
- Finish

☐ **SSL / TLS security**

☐ This non-secure deployment will be used to send trail data to a secure deployment

Server

☒ Use existing Wallet

☐ Select GoldenGate certificate

Private key file

Pass Phrase

Client

☒ Use existing Wallet

☐ Select GoldenGate certificate

Private key file

Pass Phrase

Enable ports for each service:

Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 8 of 12

Specify Port Settings

- [Service Manager Options](#)
- [Configuration Options](#)
- [Deployment Details](#)
- [Deployment Directories](#)
- [Environment Variables](#)
- [Administrator Account](#)
- [Security Options](#)
- [Port Settings](#)**
- [Replication Settings](#)
- [Summary](#)
- [Configure Deployment](#)
- [Finish](#)

Service Manager listening hostname/address	<input type="text" value="oradb1.localdomain"/>
Service Manager port	<input type="text" value="7800"/>
Administration Server port	<input type="text" value="7801"/>
Distribution Server port	<input type="text" value="7802"/>
Receiver Server port	<input type="text" value="7803"/>
<input checked="" type="checkbox"/> Enable Monitoring	
Metrics Server port	<input type="text" value="7804"/>
Metrics Server UDP port (data)	<input type="text" value="7805"/>
Metrics Server DataStore type	<input type="text" value="BDB"/>

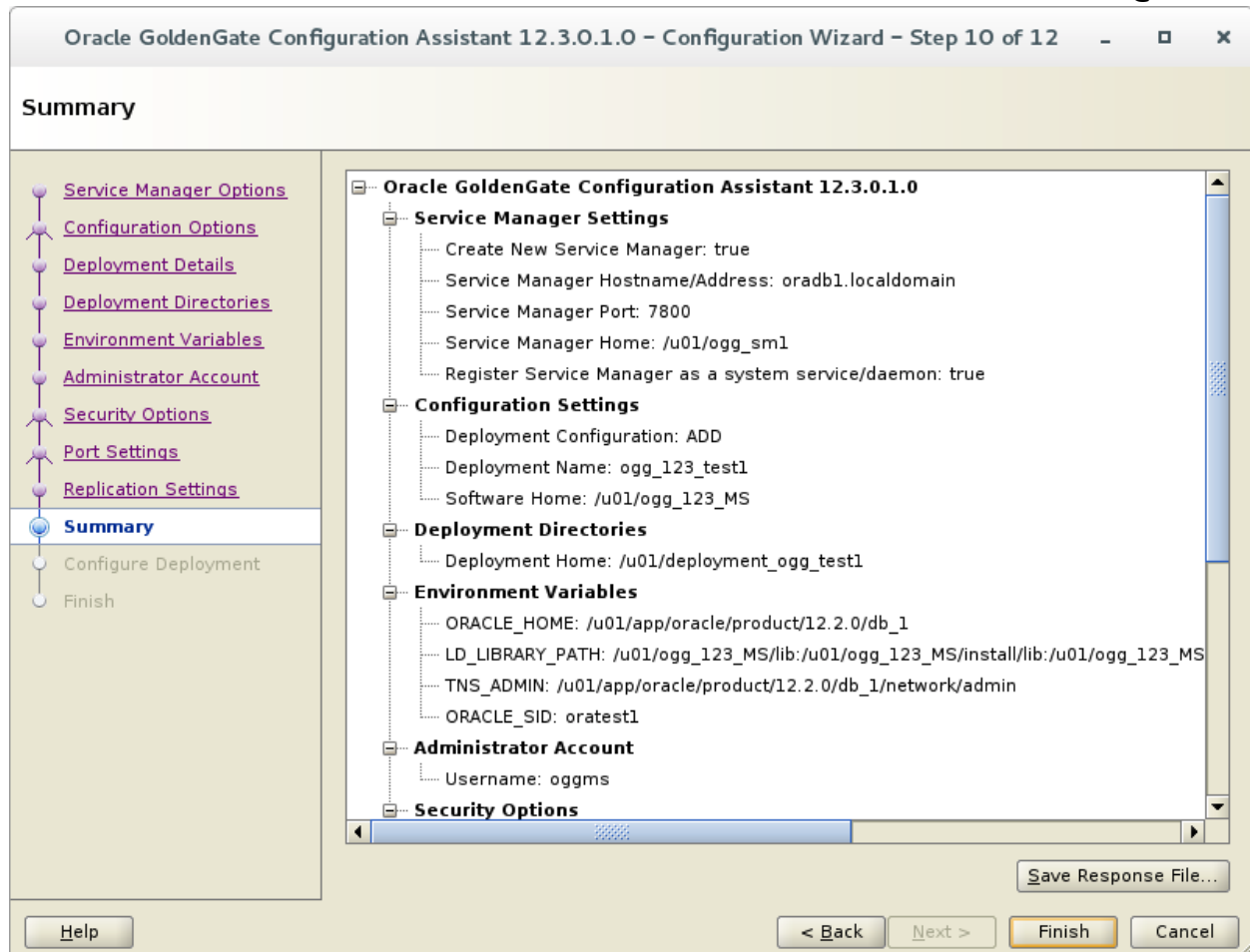
Oracle GoldenGate Configuration Assistant 12.3.0.1.0 - Configuration Wizard - Step 9 of 12

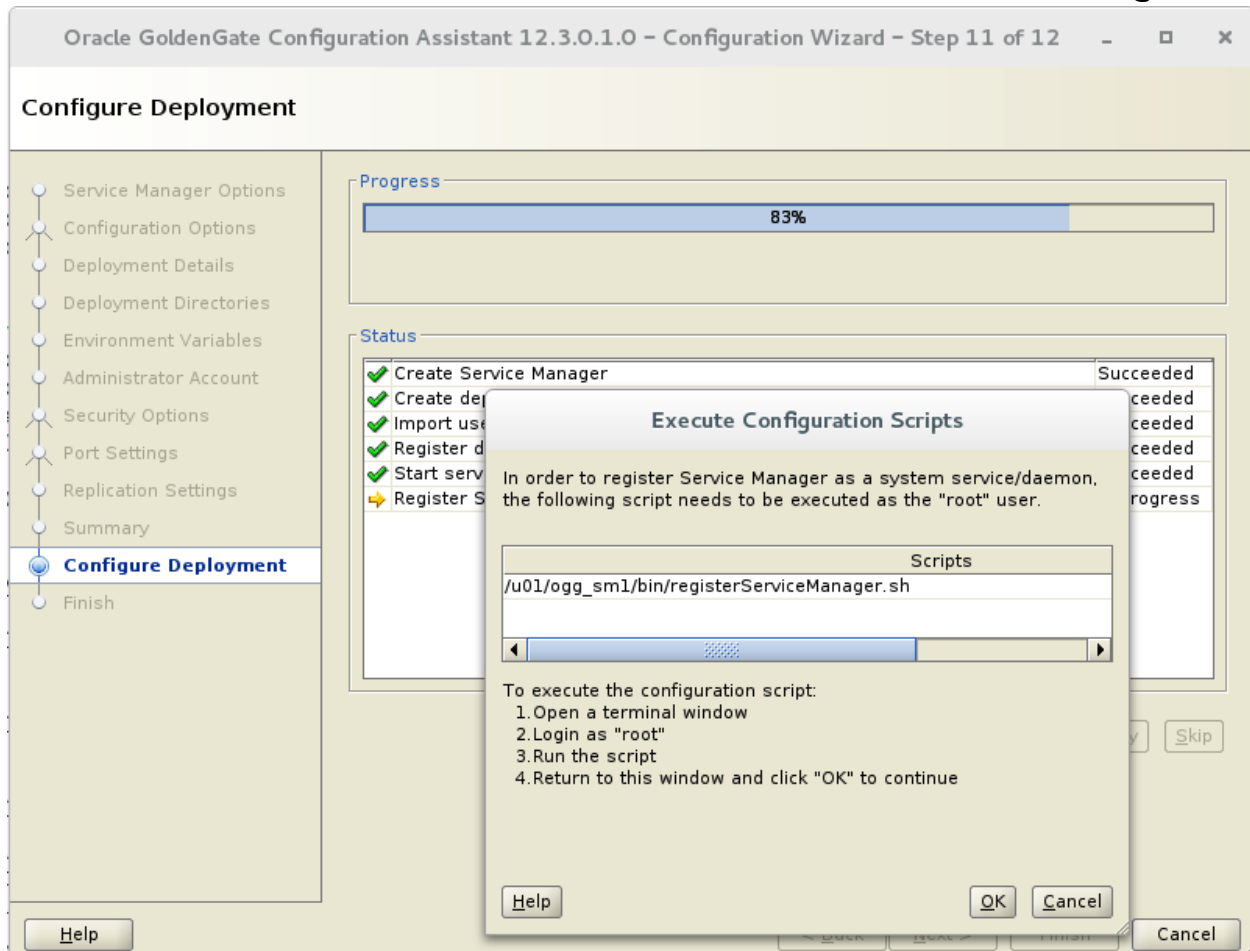
Specify OGG Replication Settings

- [Service Manager Options](#)
- [Configuration Options](#)
- [Deployment Details](#)
- [Deployment Directories](#)
- [Environment Variables](#)
- [Administrator Account](#)
- [Security Options](#)
- [Port Settings](#)
- Replication Settings**
- [Summary](#)
- [Configure Deployment](#)
- [Finish](#)

Replication Options

Default Schema





```
[root@oradb1 bin]# pwd
/u01/ogg_sm1/bin
[root@oradb1 bin]# ls
registerServiceManager.sh
[root@oradb1 bin]# ./registerServiceManager.sh
```

Oracle GoldenGate Install As Service Script

```
OGG_HOME=/u01/ogg_123_MS
OGG_CONF_HOME=/u01/ogg_sm1/etc/conf
OGG_USER=oracle
Running OracleGoldenGateInstall.sh...
Created symlink from /etc/systemd/system/multi-user.target.wants/OracleGoldenGate.service
to /etc/systemd/system/OracleGoldenGate.service.
[root@oradb1 bin]#
```

Finish

- Service Manager Options
- Configuration Options
- Deployment Details
- Deployment Directories
- Environment Variables
- Administrator Account
- Security Options
- Port Settings
- Replication Settings
- Summary
- Configure Deployment

Finish

The configuration of the Oracle GoldenGate Deployment was successful.

Help

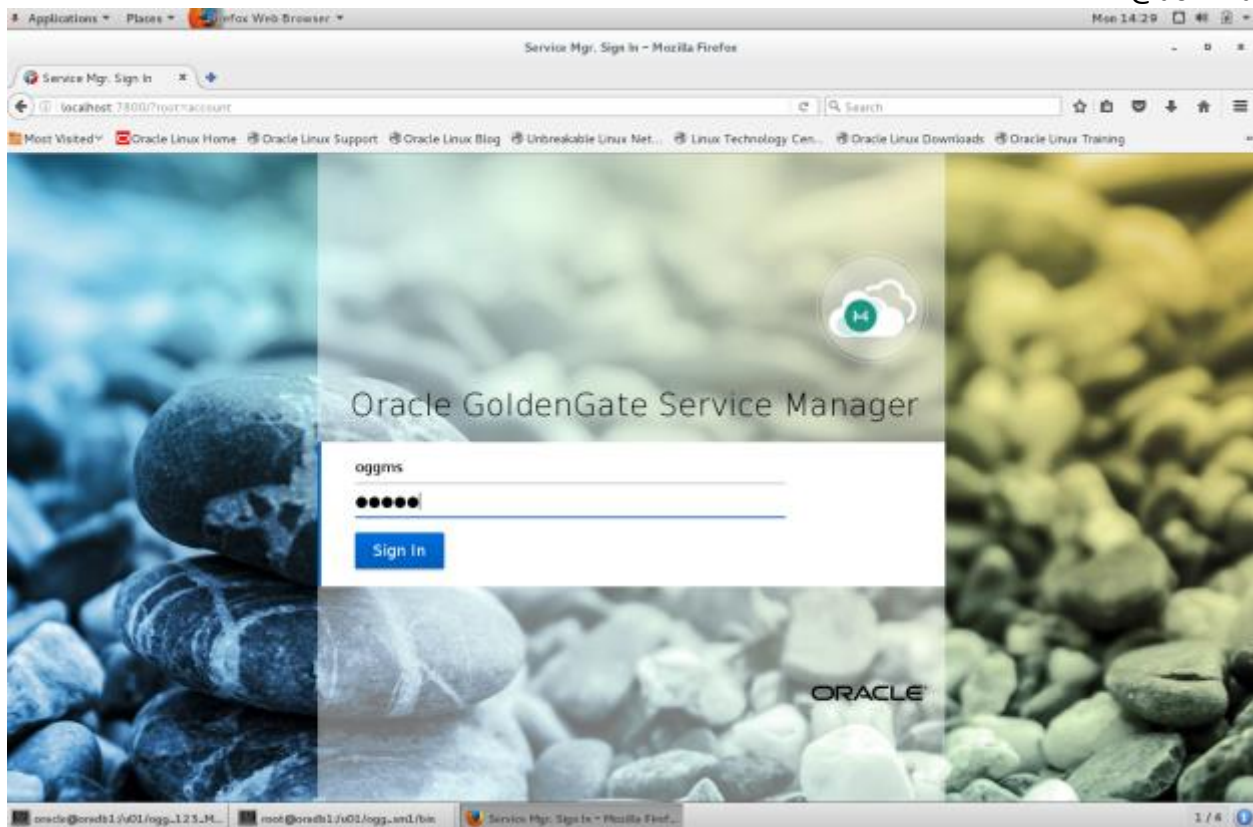
< Back

Next >

Finish

Close

Alex Lima
oraclespin.com
@aoflima



Service Manager Main Page

Service Mgr. Overview - Mozilla Firefox

Service Mgr. Overview

localhost:7800

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ORACLE Oracle GoldenGate Service Manager 12.3.0.1.0

Services Running 4 Failed 0 Other 0

Deployment: All

Deployment:	Service	Port	Status:	Action	Details
ogg_123_test1	Administration Server	7801	Running	Stop	⚙
ogg_123_test1	Distribution Server	7802	Running	Stop	⚙
ogg_123_test1	Performance Metrics Server	7804	Running	Stop	⚙
ogg_123_test1	Receiver Server	7803	Running	Stop	⚙

Deployments

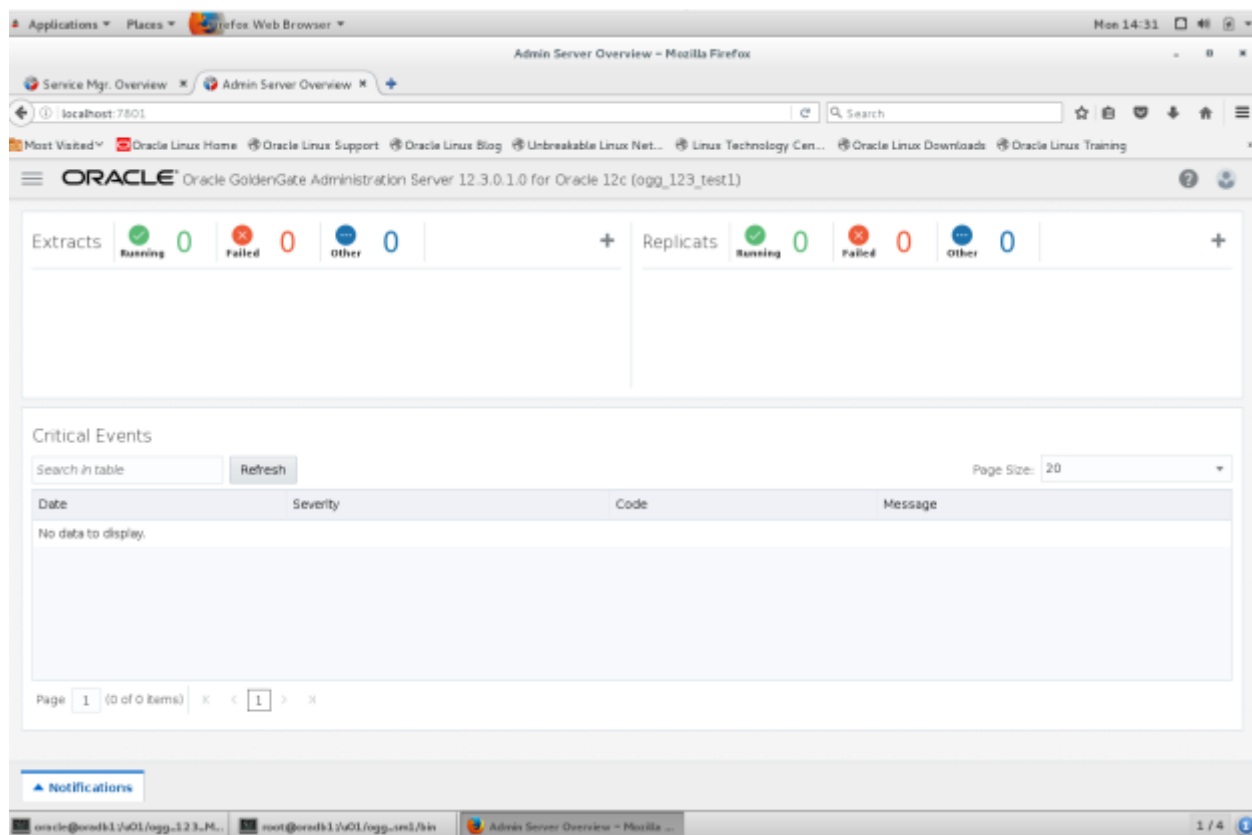
Deployment:	GoldenGate Home:	Status:	Running Services	Not Running Services	Action
ogg_123_test1	/u01/ogg_123_MS	Running	4	0	Action ▾
ServiceManager	/u01/ogg_123_MS	Running	0	0	Action ▾

Notifications

oracle@oradb1:/u01/ogg_123_M... root@oradb1:/u01/ogg_sml/bin Service Mgr. Overview - Mozilla F... 1 / 4

Admin Server Main Page

- Note that from Admin server you create Extract and Replicats
- Pumps are created in the Distribution Server



Create a database connection expand the pane

Applications Places Firefox Web Browser Admin Server Configuration - Mozilla Firefox

Service Mgr: Overview Admin Server Configu... localhost:7801/prost=configuration

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ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Database Maintenance Parameter Files

Credentials +

Search in table

Domain	Alias	User ID	Action
No data to display.			

To manage Checkpoint, Trandata and Heartbeat, please click  to log in to database

Credential Domain:

* Credential Alias:

* User ID:

* Password:

* Verify Password:

Cancel Submit

Notifications

oracle@oradb1 /u01/ogg_123_M... root@oradb1 /u01/ogg_123_M... Admin Server Configuration - Moz...

1 / 4

Service Mgr: Overview Admin Server Configu... localhost:7801/prost=configuration




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ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

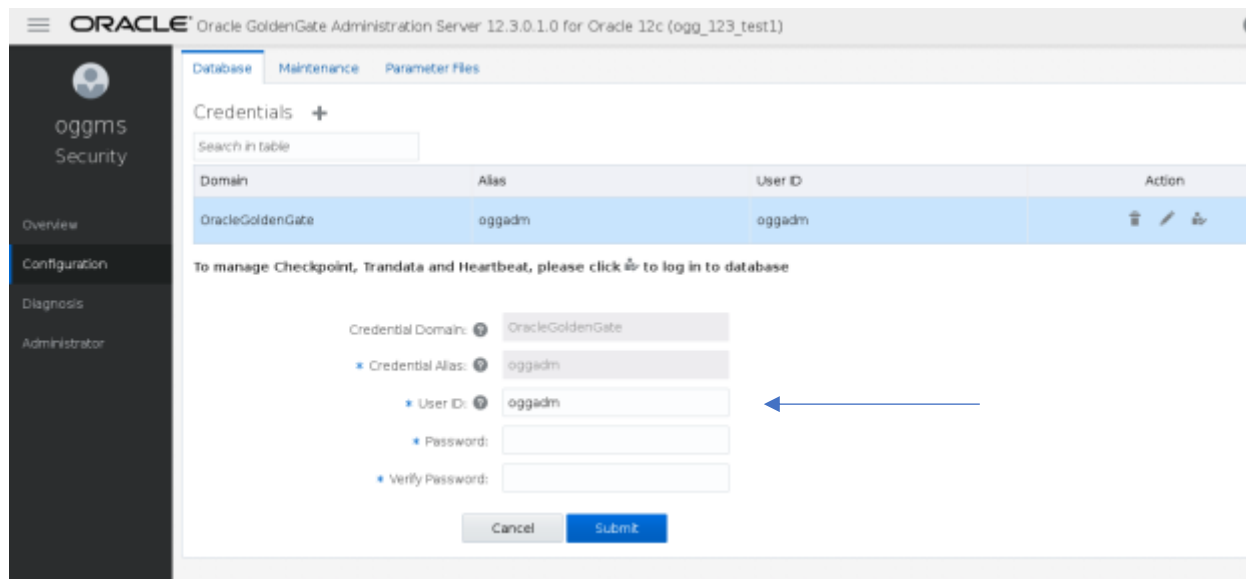
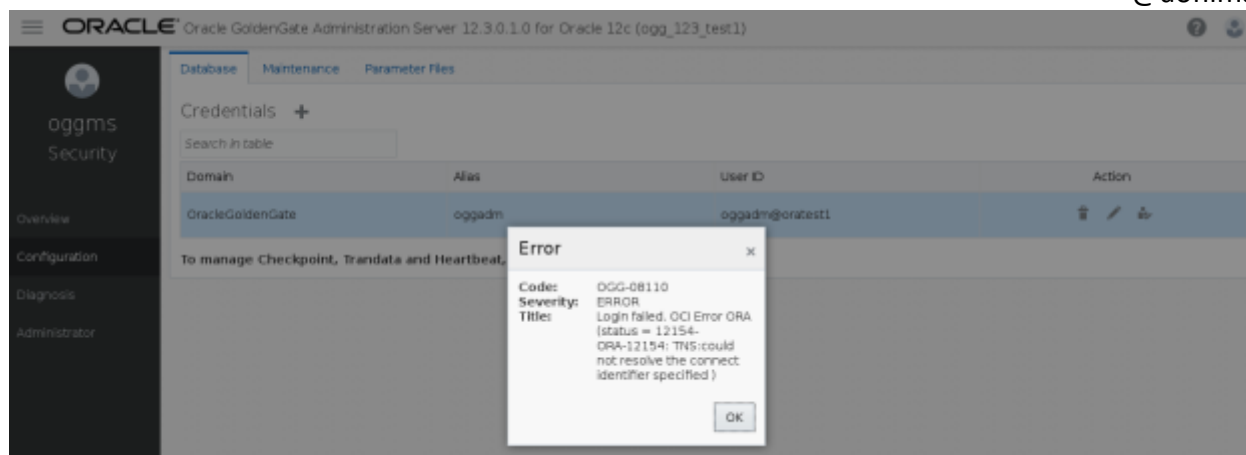
Database Maintenance Parameter Files

Credentials +

Search in table

Domain	Alias	User ID	Action
OracleGoldenGate	oggadm	oggadm@oratest1	  

To manage Checkpoint, Trandata and Heartbeat, please click  to log in to database



The screenshot shows the Oracle GoldenGate Administration Server interface. The left sidebar contains the following menu items: Overview, Configuration, Diagnosis, and Administrator. The main content area is divided into two sections: Checkpoint and Trandata. The Checkpoint section has a search bar labeled "Search in table" and a table with the following data:

Checkpoint Table	Action
OGGADM.CHECKPOINT	

The Trandata section has a search bar labeled "Search in table" and a list of tables under the "HR_SOURCE" schema:

- HR_SOURCE
- Table Name: COUNTRIES
- Table Name: DEPARTMENTS
- Table Name: EMPLOYEES
- Table Name: JOBS
- Table Name: JOB_HISTORY
- Table Name: LOCATIONS
- Table Name: REGIONS

Blue arrows point to the "+" icons in the Checkpoint and Trandata sections.

Add Extract

The screenshot shows the Oracle GoldenGate Administration Server interface. The left sidebar contains the following menu items: Overview, Configuration, Diagnosis, and Administrator. The main content area is divided into two sections: Extracts and Replicats. The Extracts section has a search bar labeled "Search in table" and a table with the following data:

Extracts	Running	Failed	Other
	0	0	0

The Replicats section has a search bar labeled "Search in table" and a table with the following data:

Replicats	Running	Failed	Other
	0	0	0

Blue arrows point to the "+" icons in the Extracts and Replicats sections.

Below the Extracts and Replicats sections is the Critical Events section. It has a search bar labeled "Search in table" and a table with the following data:

Date	Severity	Code	Message
No data to display			

The page size is set to 20. The page number is 1 of 0 items.

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Add Extract

Add Extract

Extract Type Extract Options Parameter File

Basic Information

4 Process Name:

Description:

10000:

Log Retention: ☐

9 Create new credential

Credential Name:

Credential Alias:

4 Begin:

4 Trail Name:

Trail SubDirectory:

Trail Size (MB):

Trail Sequence:

Trail Offset:

Thread Number:

Remote: ☐

< Back Next >

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Add Extract

Add Extract

Extract Type Extract Options Parameter File

Parameter File

```
extract ext1
userid oggadm domain OracleGoldenGate
logdir /u01/app/oracle/ggs/oggadm
table hr_source.*;
```

Register Extract in the background? ☐

< Back Create Create and ...

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview
Configuration
Diagnosis
Administrator

Extracts Running: 1 Failed: 0 Other: 0 +

Replicats Running: 0 Failed: 0 Other: 0 +

EXT1
Log 8 sec
CLASSIC
Action

Critical Events

Search in table Refresh Page Size: 20

Date	Severity	Code	Message
8/18/17 2:51:26 PM	Warning	OGG-41972	Oracle GoldenGate Capture for Oracle, EXT1.prc: Extract will fetch all LONG columns because archiving mode is disabled.
8/18/17 2:51:26 PM	Warning	OGG-41970	Oracle GoldenGate Capture for Oracle, EXT1.prc: Database is not in archiving mode. Extract may be forced to fetch LONG columns and may miss transaction data if the online logs are recycled.

Page 1 of 1 (1-2 of 2 items) < 1 >

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview
Configuration
Diagnosis
Administrator

Extracts Running: 1 Failed: 0 Other: 0 +

Replicats Running: 0 Failed: 0 Other: 0 +

EXT1
Log 8 sec
CLASSIC
Action

Details
Stop
Stop in the background
Force Stop

Critical Events

Search in table Refresh Page Size: 20

Date	Severity	Code	Message
8/18/17 2:55:38 PM	Warning	OGG-41438	Oracle GoldenGate Capture for Oracle, EXT1.prc: Checkpoint marked as from graceful shutdown, but records found after checkpoint in trail v1. Expected EOF Segments: 6, RBA: 6. Found Segments: 8, RBA: 1435.
8/18/17 2:55:37 PM	Warning	OGG-41972	Oracle GoldenGate Capture for Oracle, EXT1.prc: Extract will fetch all LONG columns because archiving mode is disabled.
8/18/17 2:55:37 PM	Warning	OGG-41978	Oracle GoldenGate Capture for Oracle, EXT1.prc: Database is not in archiving mode. Extract may be forced to fetch LONG columns and may miss transaction data if the online logs are recycled.
8/18/17 2:51:26 PM	Warning	OGG-41972	Oracle GoldenGate Capture for Oracle, EXT1.prc: Extract will fetch all LONG columns because archiving mode is disabled.

Page 1 of 1 (1-5 of 5 items) < 1 >

ORACLE® Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Process Information

EXT1 (CLASSIC)

Process Information Checkpoint Statistics Parameters Report

Status: running

Last Started:

Description:

Intent: Unidirectional

Credential Domain: OracleGoldenGate

Credential Alias: oggadm

Trail Name: e1

Trail SubDirectory:

Trail Sequence: 0

Trail Size (MB): 100

ORACLE® Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Process Information

EXT1 (CLASSIC)

Process Information **Checkpoint** Statistics Parameters Report

Checkpoint Basic Information Refresh

Checkpoint Log Name: e1

Timestamp: 2017-09-18 14:57:44

Sequence: 1


Offset: 1489


Input Checkpoints

Checkpoint	CSN	Name	Offset	Sequence	Thread	Timestamp
current	2728815	A:\3\app\oracle\oradata\ORATEST1\onlinelog1_mf_2_0mth18c_log	27056495	17	1	2017-09-18 14:57:41
recovery	2728757	A:\3\app\oracle\oradata\ORATEST1\onlinelog1_mf_2_0mth18c_log	27036689	17	1	2017-09-18 14:57:35
starting	Not Available	Not Available	26979856	17	1	2017-09-18 14:55:29

Output Checkpoints

Checkpoint	Name	Offset	Sequence	Sequence Length	Sequence Length Flip	Timestamp
current	e1	1489	1	9	false	2017-09-18 14:57:44

 Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)



oggms
Security

Overview
Configuration
Diagnosis
Administrator


Overview > Process Information


EXT1 (CLASSIC)

Process InformationCheckpointStatisticsParametersReport



```
extract ext1
useridalias oggadm domain OracleGoldenGate
extrail e1
table hr_source.*;
```

 Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)


oggms
Security

Overview
Configuration
Diagnosis
Administrator

Overview > Process Information

EXT1 (CLASSIC)

Process InformationCheckpointStatisticsParametersReport

```
*****
Oracle GoldenGate Capture for Oracle
Version 12.3.0.1.0 OGGCORE_12.3.0.1.0_PLATFORMS_170721.0154_FBO
Linux, x64, 64bit (optimized), Oracle 12c on Jul 21 2017 23:33:48

Copyright (C) 1995, 2017, Oracle and/or its affiliates. All rights reserved.

Starting at 2017-09-18 14:55:37
*****

Operating System Version:
Linux
Version #2 SMP Thu Feb 23 18:25:45 PST 2017, Release 3.8.13-118.16.4.el7uek.x86_64
Node: oradb1.localdomain
Machine: x86_64
      soft limit  hard limit
Address Space Size : unlimited unlimited
Heap Size         : unlimited unlimited
File Size         : unlimited unlimited
CPU Time          : unlimited unlimited

Process id: 24266

Description:
```

To add a pump go to Distribution Server, note the port

The screenshot shows the 'Dist. Server Overview' page in Mozilla Firefox. The browser tabs include 'Service Mgr. Overview', 'Dist. Server Overview', and 'Admin Server Overview'. The address bar shows 'localhost:7802'. The page header indicates 'ORACLE® Oracle GoldenGate Distribution Server 12.3.0.1.0 (ogg_123_test1)'. A sidebar on the left contains 'oggms Security', 'Overview', and 'Diagnosis & Reports'. The main content area shows a 'Paths' summary with three categories: 'Running' (0), 'Failed' (0), and 'Other' (0). A blue arrow points from the 'Other' count towards the right side of the page.

The screenshot shows the 'Add Path' configuration form. The sidebar on the left is the same as the previous screenshot. The form fields are as follows:

- * Path Name:
- Description:
- * Source: (dropdown menu)
- * Source: (dropdown menu)
- * Source: (dropdown menu)
- * Target: (dropdown menu)
- * Target: (dropdown menu) - A blue arrow points to this field.
- * Target: (dropdown menu)
- Configure Trail Format: ☐
- Target Type: ☐ Manager ☐ Collector ☒ Receiver Server
- Begin: (dropdown menu)
- Source Sequence Number:
- Source RBA Offset:
- Critical: ☐
- Auto Restart: ☐
- Rule-set Configuration
- Filtering: ☐
- More Options
- Buttons: Cancel, Create Path, Create and Run

ORACLE® Oracle GoldenGate Distribution Server 12.3.0.1.0 (ogg_123_test1)

Configure Trail Format: ☐

* Domain:

* Alias:

Begin:

Source Sequence Number:

Source RBA Offset:

Critical: ☐

Auto Restart: ☐

Rule-set Configuration

Filtering ☐

More Options

App Options

Eof Delay (cent sec):

TCP Flush Bytes:

TCP Flush Seconds:

TCP Options

DSCP:

TOS:

Nodelay: ☐

Quick ack: ☐

Cork: ☐

System Send Buffer Size:

System Receive Buffer Size:




ORACLE® Oracle GoldenGate Distribution Server 12.3.0.1.0 (ogg_123_test1)

Overview > Path Information

pump1

Path Information Statistics

Status: running

Description: 

Source: trail://localhost:7802/services/v2/sources?trail=e1

Target: ogg://oradb1.localdomain:7803/services/v2/targets?trail=p1

DB Name: ORATEST1

Extract: EXT1

Trail Name: e1

Source Trail File: e1000000001

Configure Trail Format: ☐

Processing Lag: 0

Since Lag Reported: 2

Critical: ☐

Auto Restart: ☐

► Advanced Options

ORACLE® Oracle GoldenGate Distribution Server 12.3.0.1.0 (ogg_123_test1)

Overview > Path Information

pump1

Path Information Statistics

Type	Current Value
LCR Read from Trails	1
LCR Sent	1
LCR Filtered	0
DDL	0
Procedure	0

Type	Inserts	Updates	Deletes
DMLs	0	0	0

Search in table

Table Name	Inserts	Deletes	Updates	LCR Read	LCR Sent
No data to display.					

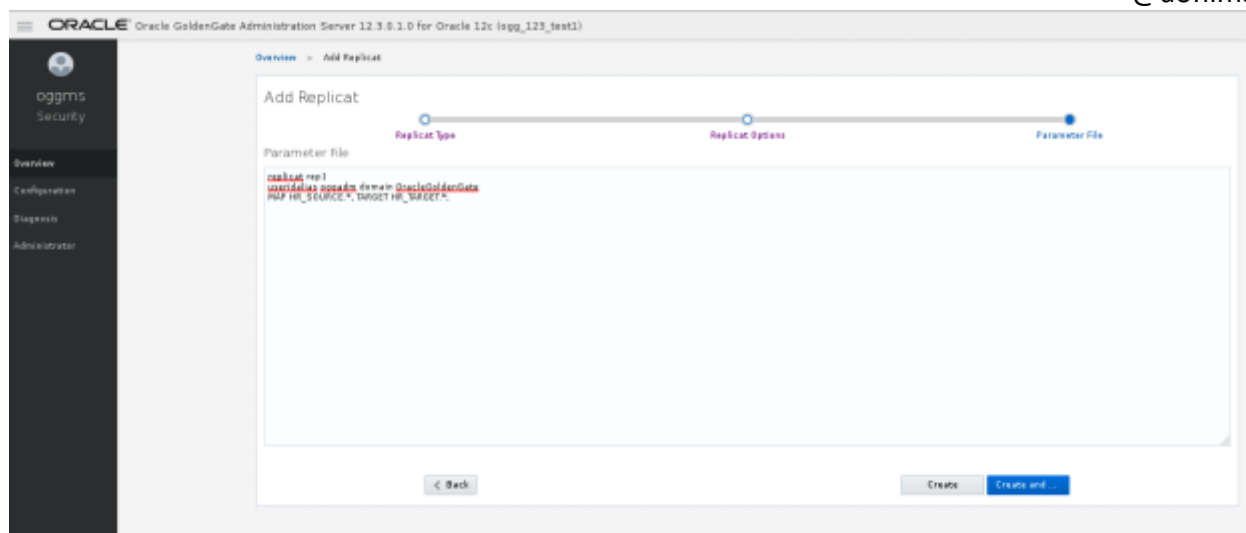
Create Replicat, go to admin server

The screenshot shows the 'Add Replicat' wizard in the Oracle GoldenGate Administration Server. The browser address bar indicates the URL is `localhost:7801/?root=status&process=addReplicat`. The page title is 'Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)'. The left sidebar contains navigation links: 'oggs Security', 'Overview', 'Configuration', 'Diagnosis', and 'Administrator'. The main content area shows the 'Add Replicat' wizard with a progress bar indicating three steps: 'Replicat Type', 'Replicat Options', and 'Parameter File'. Under 'Replicat Type', there are four radio button options: 'Integrated Replicat', 'Nonintegrated Replicat' (which is selected), 'Coordinated Replicat', and 'Parallel Replicat'. A 'Next >' button is located at the bottom right of the wizard.

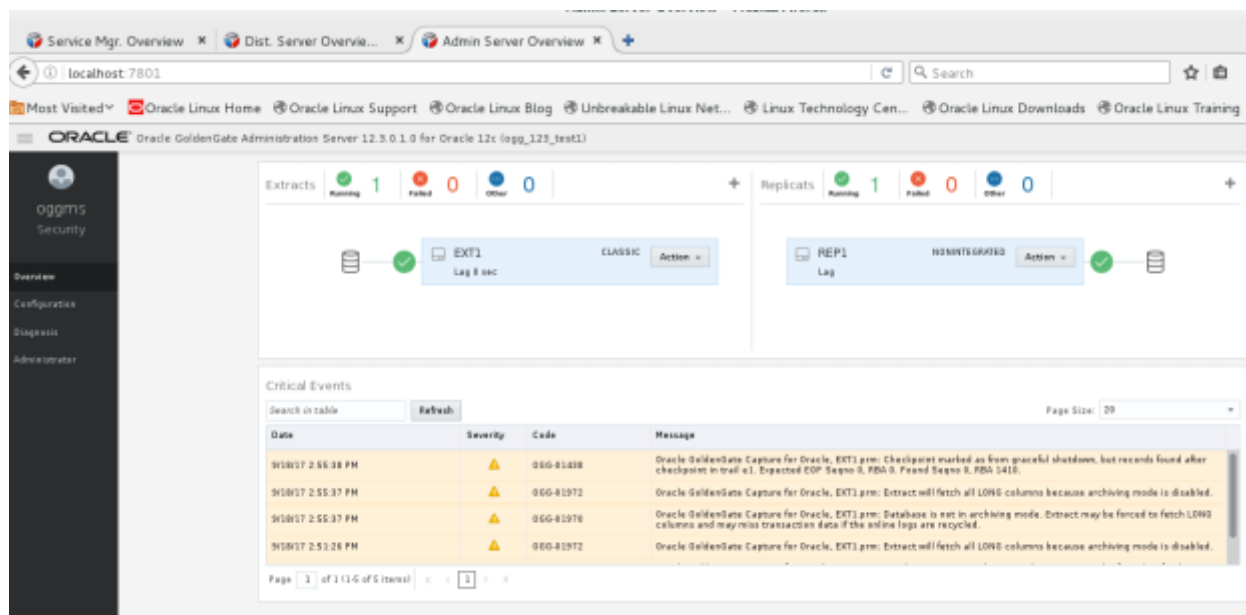
The screenshot shows the 'Add Replicat' wizard in the Oracle GoldenGate Administration Server, specifically the 'Replicat Options' step. The progress bar shows 'Replicat Type' as completed and 'Replicat Options' as the current step. The 'Parameter File' step is also visible. The form contains the following fields and options:

- Process Name:** `repl`
- Description:** (empty field)
- Intent:** `Unidirectional` (dropdown menu)
- Create new credential:** (checkbox, checked)
- Credential Domain:** `OracleGoldenGate` (dropdown menu)
- Credential Alias:** `oggsadm` (dropdown menu)
- Begin:** `Position in Log` (dropdown menu)
- Transaction Log Sequence Number:** `0` (text input)
- Transaction Log RBA Offset:** `0` (text input)
- Source:** `Trail` (dropdown menu)
- Trail Name:** `p1` (text input)
- Trail SubDirectory:** (empty field)
- Checkpoint Table:** `DGGADM.CHEPOINT` (dropdown menu)

At the bottom of the form, there are two buttons: '< Back' and 'Next >'.



Replication from HR_SOURCE to HR_TARGET is configured



Execute a test by changing first_name in the employee table for ID 198

The screenshot shows the SQL Developer interface with a query script in the 'Query Builder' tab. The script is as follows:

```
select * from hr_source.EMPLOYEES where EMPLOYEE_ID=198;
select * from hr_target.EMPLOYEES where EMPLOYEE_ID=198;
update hr_source.EMPLOYEES set first_name='Donald2' where EMPLOYEE_ID=198;
COMMIT;
pause
select * from hr_source.EMPLOYEES where EMPLOYEE_ID=198;
select * from hr_target.EMPLOYEES where EMPLOYEE_ID=198;
```

The 'Query Result' tab shows the results of the query. It displays two tables side-by-side, comparing the data from the source and target databases. The first table (hr_source.EMPLOYEES) shows the employee with first_name 'Donald'. The second table (hr_target.EMPLOYEES) shows the employee with first_name 'Donald2'. The status '1 row updated.' and 'Commit complete.' are also visible.

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION
198	Donald	OConnell	DOCONNEL	650.507.9833	21-JUN-07	SH_CLERK	2600	

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION
198	Donald2	OConnell	DOCONNEL	650.507.9833	21-JUN-07	SH_CLERK	2600	

The screenshot shows the Oracle GoldenGate Administration Server (OGG) interface. The top navigation bar includes 'Overview', 'Configuration', 'Diagnosis', and 'Administrator'. The main area displays the status of Extracts and Replicates. The 'Extracts' section shows one Extract (EXT1) in a 'Running' state. The 'Replicates' section shows one Replicate (REPL) in a 'Running' state. Below this, the 'Critical Events' section displays a list of events, including messages about checkpoint marking and archiving mode.

Date	Severity	Code	Message
9/18/17 2:55:38 PM	Warning	OGG-01438	Oracle GoldenGate Captains for Oracle, EXTL.prm: Checkpoint marked as from graceful shutdown, but records found after checkpoint in trail e1. Expected EOF Segno 6, RBA 8. Found Segno 9, RBA 1438.
9/18/17 2:55:37 PM	Warning	OGG-01372	Oracle GoldenGate Captains for Oracle, EXTL.prm: Extract will fetch all LONG columns because archiving mode is disabled.
9/18/17 2:55:37 PM	Warning	OGG-01370	Oracle GoldenGate Captains for Oracle, EXTL.prm: Database is not in archiving mode. Extract may be forced to fetch LONG columns and may miss transaction data if the online logs are recycled.
9/18/17 2:51:28 PM	Warning	OGG-01372	Oracle GoldenGate Captains for Oracle, EXTL.prm: Extract will fetch all LONG columns because archiving mode is disabled.

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Process Information

REP1 (NONINTEGRATED)

Process Information Checkpoint Statistics Parameters Report

Checkpoint Basic Information Refresh

Checkpoint Log Name: p1
Path: /u01deployment_ogg_test1/ver/16data
Timestamp: 2017-09-18 15:38:39
Sequence: 0
Offset: 2794

Input Checkpoints

Checkpoint	Name	Offset	Path	Sequence	Sequence Length	Sequence Length Flip	Timestamp
current	p1	2794	/u01deployment_ogg_test1/ver/16data	0	9	false	2017-09-18 15:38:39
starting	p1	0	/u01deployment_ogg_test1/ver/16data	0	9	false	Not Available

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Process Information

REP1 (NONINTEGRATED)

Process Information Checkpoint Statistics Parameters Report

☒ Total ☐ Daily ☐ Hourly Refresh

Table

Search in table

Inserts	Updates	Deletes	Discards	Source	Target
6	1	0	0	HR_SOURCE.EMPLOYEES	HR_TARGET.EMPLOYEES

ORACLE Oracle GoldenGate Administration Server 12.3.0.1.0 for Oracle 12c (ogg_123_test1)

Overview > Process Information

REP1 (NONINTEGRATED)

Process Information Checkpoint Statistics Parameters Report

2017-09-18 15:33:59 INFO OGG-01243: Opened trail file (/u01deployment_ogg_test1/ver/16data/p180008000) at 2017-09-18 15:33:59.442476.
2017-09-18 15:33:59 INFO OGG-01522: Setting session time zone to source database time zone 'GMT'.
2017-09-18 15:33:59 INFO OGG-01586: The source database character set, as determined from the trail file, is UTF-8.
2017-09-18 15:33:59 INFO OGG-01820: Processed extract process RFT001.ABEND record at seq 0, rba 3428 (skipped 0 records).
2017-09-18 15:37:43 INFO OGG-01821: Command received from REST API: STATS TOTAL.
2017-09-18 15:38:33 INFO OGG-01971: The previous message, INFO OGG-01821, repeated 1 times.
2017-09-18 15:38:44 INFO OGG-04596: Wildcard MAP resolved (copy HR_SOURCE.* MAP 'HR_SOURCE' TO 'HR_TARGET' EMPLOYEES).
2017-09-18 15:38:47 INFO OGG-01756: The definition for table HR_SOURCE.EMPLOYEES is obtained from the trail file.
2017-09-18 15:38:47 INFO OGG-04631: Using following columns in default map by name: EMPLOYEE_ID, FIRST_NAME, LAST_NAME, EMAIL, PHONE_NUMBER, HIRE_DATE, JOB_ID, SALARY, COMMISSION_PCT, MANAGER_ID, DEPARTMENT_ID.
2017-09-18 15:38:47 INFO OGG-04632: Using the following key columns for target table HR_TARGET.EMPLOYEES: EMPLOYEE_ID.
2017-09-18 15:39:37 INFO OGG-01821: Command received from REST API: STATS TOTAL.
2017-09-18 15:40:07 INFO OGG-01971: The previous message, INFO OGG-01821, repeated 1 times.

View performance metrics server

ORACLE Oracle GoldenGate Performance Metrics Server 12.3.0.1.0 (ogg_123_test1)

GoldenGate Processes

Admin Server Running, Dist. Server Running, Extract Running, Replicat Running, Rep. Server Running, Replicat Running, Replicat Running

Messages Overview | Status Changes Overview

Search in table: Refresh Page Size: 20

Date	Process	Severity	Code	Message
9/18/17 3:43:38 PM	REP1	✓	OGG-81821	Command received from REST API: GETLSE
9/18/17 3:43:38 PM	REP1	✓	OGG-81871	The previous message, INFO OGG-81821, repeated 3 times.
9/18/17 3:43:37 PM	EXT1	✓	OGG-81821	Command received from REST API: GETLSE
9/18/17 3:48:07 PM	REP1	✓	OGG-81871	The previous message, INFO OGG-81821, repeated 3 times.
9/18/17 3:39:37 PM	REP1	✓	OGG-81821	Command received from REST API: STATS TOTAL
9/18/17 3:38:47 PM	REP1	✓	OGG-86539	Using the following key columns for target table HR_TARGET.EMPLOYEES: EMPLOYEE_ID
9/18/17 3:38:47 PM	REP1	✓	OGG-86511	Using following columns in default map by name: EMPLOYEE_ID, FIRST_NAME, LAST_NAME, EMAIL, PHONE_NUMBER, HIRE_DATE, JOB_ID, SALARY, COMMISSION_PCT, MANAGER_ID, DEPARTMENT_ID
9/18/17 3:38:47 PM	REP1	✓	OGG-82756	The definition for table HR_SOURCE.EMPLOYEES is obtained from the trail file
9/18/17 3:38:44 PM	REP1	✓	OGG-86508	Wildcard MAP resolved (entry hr_source.*): MAP "HR_SOURCE"."EMPLOYEES", "TARGET HR_TARGET"."EMPLOYEES"
9/18/17 3:38:43 PM	DISTSRVR	✓	OGG-82756	The definition for table HR_SOURCE.EMPLOYEES is obtained from the trail file
9/18/17 3:38:43 PM	EXT1	✓	OGG-86508	Using the following key columns for source table HR_SOURCE.EMPLOYEES: EMPLOYEE_ID
9/18/17 3:38:42 PM	EXT1	✓	OGG-86508	Wildcard MAP (TABLE) resolved (entry hr_source.*): table "HR_SOURCE"."EMPLOYEES"
9/18/17 3:37:13 PM	REP1	✓	OGG-81871	The previous message, INFO OGG-81821, repeated 3 times.
9/18/17 3:37:43 PM	REP1	✓	OGG-81821	Command received from REST API: STATS TOTAL
9/18/17 3:33:59 PM	REP1	✓	OGG-83928	Processed extract process RESTART_ADEND record at seq 8, file 1428 (aborted 8 records)

Page 1 of 6 (1-25 of 165 items) 1 2 3 4 5 6 7 8

ORACLE Oracle GoldenGate Performance Metrics Server 12.3.0.1.0 (ogg_123_test1)

Overview > REP1
REP1 PID: 27351

Process Performance | Thread Performance | Status and Configuration | Trail Files | Database Statistics | Procedure Statistics

Process ID: 27351 Threads: 6 Handles: 0 Kernel Time (ms): 1,358 User Time (ms): 1,799 CPU Time (ms): 3,888
IO Reads: 61,768 IO Writes: 610 IO Other: 0 Read Bytes: 654.9 MB Write Bytes: 1.2 MB Other Bytes: 0 Bytes
Reads Delta: 21 Writes Delta: 2 Other Delta: 0 Read Bytes Delta: 27.8 KB Write Bytes Delta: 6.1 KB Other Bytes Delta: 0
Page Faults: 19,481 Page Faults Delta: 0 Working Set Size: 54.7 MB WSS Delta: 0 Bytes Peak WSS: 54.7 MB Private Size: 648.8 MB

CPU: Kernel, User, Total
IO Bytes Delta: Read, Write, Other
Page Faults Delta: Page Faults
Working Set Delta: Working Set Delta