

Oracle® GoldenGate

Administering Oracle GoldenGate Monitor

12c (12.2.1)

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This guide explains how to install, configure, and run Oracle GoldenGate Monitor to monitor the status of Oracle GoldenGate processes. It includes information on setting up monitoring with the Oracle Enterprise Manager Oracle GoldenGate Plug-in.

Oracle GoldenGate Administering Oracle GoldenGate Monitor 12c (12.2.1)

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Preface

This preface contains information about and conventions for Oracle GoldenGate Monitor Administrator's Guide.

Audience

This document is intended for system administrators or application developers who are configuring, and running Oracle GoldenGate Monitor. It is assumed that readers are familiar with Web and Java technologies and have a general understanding of Linux, UNIX, and Windows platforms. It also provides information for monitoring Oracle GoldenGate instances using Oracle Enterprise Manager.

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Related Documents

For more information, see the following documents in the Oracle GoldenGate Monitor documentation set:

- *Using Oracle GoldenGate Monitor*
- *Installing and Configuring Oracle GoldenGate Monitor Server*
- *Upgrading to Oracle GoldenGate Monitor Server 12.1.3*
- *Installing and Configuring Oracle GoldenGate Monitor Agent*
- *Release Notes for Oracle GoldenGate Monitor*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, such as "From the File menu, select Save ." Boldface also is used for terms defined in text or in the glossary.
<i>italic, italic</i>	Italic type indicates placeholder variables for which you supply particular values, such as in the parameter statement: <code>TABLE <i>table_name</i></code> . Italic type also is used for book titles and emphasis.
MONOSPACE, monospace	Monospace type indicates code components such as user exits and scripts; the names of files and database objects; URL paths; and input and output text that appears on the screen. Uppercase monospace type is generally used to represent the names of Oracle GoldenGate parameters, commands, and user-configurable functions, as well as SQL commands and keywords.
UPPERCASE	Uppercase in the regular text font indicates the name of a utility unless the name is intended to be a specific case.
{ }	Braces within syntax enclose a set of options that are separated by pipe symbols, one of which must be selected, for example: <code>{<i>option1</i> <i>option2</i> <i>option3</i>}</code> .
[]	Brackets within syntax indicate an optional element. For example in this syntax, the <code>SAVE</code> clause is optional: <code>CLEANUP REPLICAT <i>group_name</i> [, <i>SAVE count</i>]</code> . Multiple options within an optional element are separated by a pipe symbol, for example: <code>[<i>option1</i> <i>option2</i>]</code> .

Introduction to Oracle GoldenGate Monitoring

This chapter identifies the components that make up Oracle GoldenGate Monitor and explains their roles. It provides an overview of the monitoring process and how it discovers the targets that it monitors.

This chapter includes the following sections:

- [Section 1.1, "Overview"](#)
- [Section 1.2, "Oracle GoldenGate Monitor Architecture"](#)
- [Section 1.3, "Understanding the Discovery Process"](#)

1.1 Overview

Oracle GoldenGate Monitor is a real-time, Web-based monitoring console that delivers an at-a-glance, graphical view of all of the Oracle GoldenGate instances and their associated databases within your enterprise. Instantly, you can view statistics, targeted views, and alerts that will help you to monitor the performance of all of the objects in the Oracle GoldenGate configuration and detect problems, such as lag or abended processes, the moment that they occur. Oracle GoldenGate Monitor can send alert messages to its own console workspaces, as well as to e-mail, SNMP, and CLI clients.

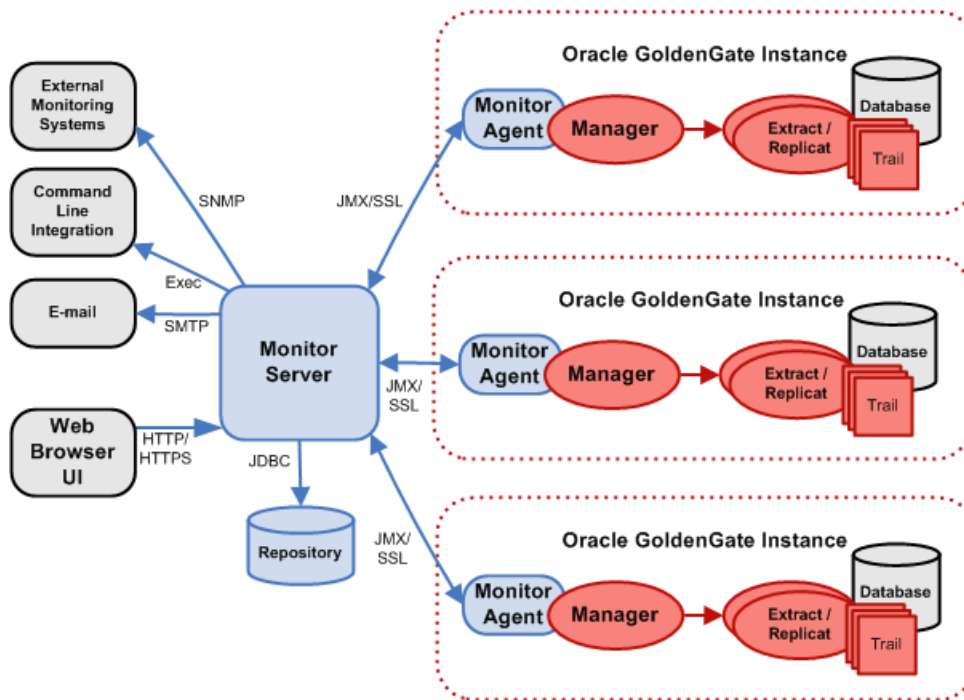
Oracle GoldenGate instances can be configured for monitoring by a remote client. When monitoring is enabled, Extract, Replicat, and Manager processes supply periodic updates of monitoring points such as status, lag, and checkpoints. The Manager sends these monitoring points to the Java agent that communicates with the client.

Note: This documentation supports Oracle GoldenGate Monitor 12c (12.2.1).

Oracle GoldenGate releases 11.2.1 and later also support monitoring with Oracle Enterprise Manager. Refer to the *Oracle Enterprise Manager System Monitoring Plug-in Installation Guide for Oracle GoldenGate* for information on this option.

1.2 Oracle GoldenGate Monitor Architecture

Oracle GoldenGate Monitor uses a browser-based graphical user interface to monitor Oracle GoldenGate instances remotely. It includes the components shown in the diagram.



1.2.1 Oracle GoldenGate

An Oracle GoldenGate Monitor Server communicates with one or more Oracle GoldenGate instances through either Java Management Extensions (JMX) or the Secure Sockets Layer (SSL), but not both. The Manager process for each Oracle GoldenGate instance is associated with an Oracle GoldenGate Monitor Java Agent that supplies information about the instance to the Oracle GoldenGate Monitor Server.

1.2.2 Oracle GoldenGate Monitor Java Agent

An Oracle GoldenGate Monitor Java Agent should be used with each Oracle GoldenGate instance. It collects information about the instance and sends it to the Oracle GoldenGate Monitor Server.

The agent is a separate download and requires a separate installation process (described in *Installing and Configuring Oracle GoldenGate Monitor Agent*). You must install Oracle GoldenGate Monitor Java Agent 12c (12.2.1) to ensure full functionality and take advantage of all command and control features (for example, edit, stop, and display logs).

1.2.3 Oracle GoldenGate Monitor Server

The Oracle GoldenGate Monitor Server coordinates the monitoring of multiple Oracle GoldenGate instances. The Oracle GoldenGate Monitor Server is a Java application that 1) processes information from Oracle GoldenGate Monitor Java Agents and communicates it to the web browser and 2) manages user access roles, history, the display of information, and notifications triggered by events.

1.2.4 Oracle GoldenGate Monitor Repository

The Oracle GoldenGate Monitor Server uses a database as a central repository to store information about users and groups, process status, events, and other information.

Oracle, MySQL and SQL Server repositories are supported. Details can be found online in the Certifications tab in My Oracle Support.

1.3 Understanding the Discovery Process

Oracle GoldenGate Monitor has preset definitions and rules that determine how it defines and automatically discovers solutions and databases.

1.3.1 Discovering Solutions

When you start your Oracle GoldenGate processes, the agent registers with the Oracle GoldenGate Monitor server. The server uses the information provided by the agent to look for solutions. Then when you log into the browser user interface, these solutions are available to display.

To be classified as a complete solution, there must be a continuous flow capturing and replicating changes from a source to a target database. The discovery process looks for complete solutions starting from a source database, creating a trail, and replicating the changes to a target database (a single end-to-end solution). Or it looks for processing that captures source database changes and delivers them to a target, and also captures changes from the target and delivers them to the source (a bi-directional solution).

1.3.2 Partial Solutions

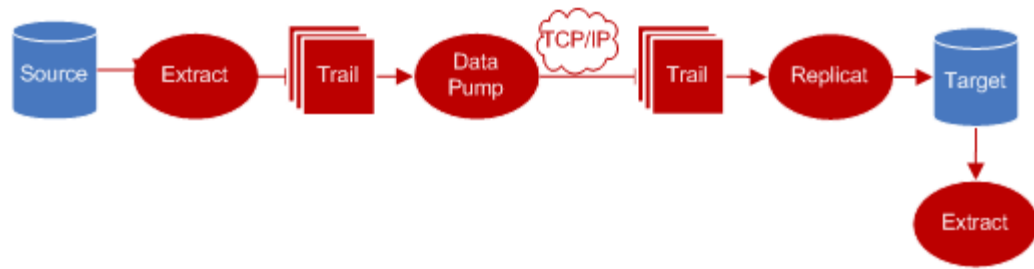
Partial solutions—that is, solutions that are not registered as continuously linked from the source to the target database—will appear in the Oracle GoldenGate Monitor console Diagram View. They will be in Solution node but have a default name starting with "Partial Solution" instead of "Solution".

This diagram represents a partial solution with the Replicat configured but not started. Since the Replicat has never registered, the server does not see a continuous link to the target. Some pieces will show up in the tree view, but the configuration will not be included in the solutions list.



Registration of the Manager includes the names of its processes, so the Extract and Replicat names will be listed with the instance in the tree view whether they have registered or not. Linked databases and remote trails do not show up until the process registers, so the remote trail and the target database in the example will not be listed until the user starts the Replicat and it registers. This example will become a solution once the Replicat registers.

In this second example there are continuous links from the source to the target databases, but there is no link from the Extract that is attached to the target. Thus, this will show up as a partial solution.



1.3.3 Discovering Databases

Recognition of your source or target database by Oracle GoldenGate Monitor processing depends on the database type, where it is installed, and the process that is registering it. The solution discovery process compares the database instance, the Manager's port, and the host name to decide whether databases are the same.

The same database instance on the same host will be categorized as a separate database if it is registered by two different Managers.

Using Oracle GoldenGate Monitor Server

This chapter describes tasks performed when using Oracle GoldenGate Monitor Server, such as starting and stopping the Oracle GoldenGate Monitor Server, starting the user interface, changing passwords, and changing settings for the memory allotment or the timeout interval.

This chapter includes the following sections:

- [Section 2.1, "Starting and Stopping Oracle GoldenGate Monitor Server"](#)
- [Section 2.2, "Starting Oracle GoldenGate Monitor Console"](#)
- [Section 2.3, "Changing Oracle GoldenGate Monitor Server and Repository Passwords"](#)
- [Section 2.4, "Changing the Memory Allotment"](#)

2.1 Starting and Stopping Oracle GoldenGate Monitor Server

This section describes how to start and stop the Oracle GoldenGate Monitor Server.

2.1.1 Starting Oracle GoldenGate Monitor Server

Starting Oracle GoldenGate Monitor Server is a two or three step process

1. Start the WebLogic Administration Server.
2. If necessary, update the Oracle GoldenGate Monitor server credentials.
3. Start the WebLogic Managed Server

For complete details, see "Starting Oracle GoldenGate Monitor Server" in *Installing and Configuring Oracle GoldenGate Monitor Server*.

2.1.2 Stopping the Oracle Golden Monitor Server

Follow these steps to stop the Oracle GoldenGate Monitor Server:

- You should close any running user interface sessions.
- Shut down the server by navigating to `OGGMON_DOMAIN/bin` (`OGGMON_DOMAIN\bin` on Windows) and enter the following command:

On Linux or UNIX:

```
$ ./stopManagedWebLogic.sh
```

On Windows:

```
C:\ stopManagedWebLogic.cmd
```

- In some instances, you might need to shut down an administration server; for example, if you are deinstalling Oracle GoldenGate Monitor. To stop an administration server, see "To stop the Administration Server".

2.2 Starting Oracle GoldenGate Monitor Console

With the WebLogic Server administration server and the managed Oracle GoldenGate Monitor Server both started, you can start the Oracle GoldenGate Monitor Console. To do so, follow the instructions in "Start the Oracle GoldenGate Monitor Console" in *Installing and Configuring Oracle GoldenGate Monitor Server*.

Once you are logged into the application, the solution discovery process will discover configured solutions.

2.2.1 Running Multiple Sessions

You can run multiple sessions of Oracle GoldenGate Monitor user interface from the same computer and browser if you are using Internet Explorer. You can also run one Internet Explorer and one Mozilla Firefox session at the same time, but multiple Mozilla Firefox sessions on the same computer are not supported.

2.3 Changing Oracle GoldenGate Monitor Server and Repository Passwords

Utilities are provided to allow you to change Monitor Server and repository passwords when necessary. You can also change the memory allotment to better tune Oracle GoldenGate Monitor to your needs.

2.3.1 Changing Passwords

Oracle GoldenGate Monitor Server passwords are initially set based on what you enter when you install the server. The Oracle Wallet is created by the install program to store the passwords on all supported platforms.

Change passwords by using the WebLogic Scripting Tool (WLST) command `updateCred()`. WLST is a command-line scripting environment by which create, manage, and monitor WebLogic domains.

1. Navigate to the bin subdirectory in `ORACLE_HOME/common` and launch WLST.

On Linux or UNIX

```
$ ORACLE_HOME/common/bin./wlst.sh
```

On Windows:

```
C:\ ORACLE_HOME\common\bin./wlst.cmd
```

2. Connect to the server:

```
wls:/offline> connect('username','password','host:port')
```

3. Use `updateCred()` to change the password, as shown here:

- To change the JMX password, enter this:

```
wls:/test_domain/serverConfig>updateCred(map="OGGMONITOR",key="WEB.JMX.PASSWORD",user="username",password="new_jmx_password",desc="JMX Password")
```

- To change the keystore password, enter this:

```
wls:/test_
domain/serverConfig>updateCred (map="OGGMONITOR",key="MONITOR.KEYSTORE.PASSW
ORD",user="username",password="new_keystore_password",desc="Keystore
Password")
```

- To change the truststore password, enter this:

```
wls:/test_
domain/serverConfig>updateCred (map="OGGMONITOR",key="MONITOR.TRUSTSTORE.PAS
SWORD",user="username",password="new_truststore_password",desc="Keystore
Password")
```

- To change the SMTP password, enter this:

```
wls:/test_
domain/serverConfig>updateCred (map="OGGMONITOR",key="MONITOR.SMTP.PASSWORD"
,user="username",password="new_smtp_password",desc="SMTP Password")
```

2.4 Changing the Memory Allotment

The amount of RAM allocated to the Oracle GoldenGate Monitor server affects the number of Oracle GoldenGate instances and processes that can be monitored.

Note: For more information on setting the memory requirements, see "Tuning Java Virtual Machines (JVMs)" in *Tuning Performance of Oracle WebLogic Server*.

Oracle recommends the following memory settings:

Setting	Size
Minimum Heap (-Xms)	512 MB
Maximum Heap (-Xmx)	1024 MB
Permgen Size (-XX:PermSize)	256 MB
Maximum Permgen Size (-XX:MaxPermSize)	512 MB

Use this command:

```
JAVA_OPTS=-Xms512m -Xmx1024m -XX:PermSize=256m -XX:MaxPermSize=512m
```

Note: For Oracle GoldenGate Monitor Server to run on a Windows 32 bit system, the maximum memory allotment must be reduced to 800 MB and the MaxPermSize must be reduced to 340 MB. Reducing the memory allotment reduces the number of target systems that can be supported for monitoring. These installations will therefore not be able to monitor the number of target systems supported for other operating systems.

Using the Oracle Oracle GoldenGate Monitor Java Agent

This chapter explains how to use the Oracle GoldenGate Monitor Java Agent. It includes information such as how to change passwords and how to change memory allotment settings.

This chapter includes the following sections:

- [Section 3.1, "Installing Oracle GoldenGate Monitor Java Agent"](#)
- [Section 3.2, "Starting the Oracle GoldenGate Monitor Java Agent"](#)
- [Section 3.3, "Updating Oracle GoldenGate Monitor Java Agent Passwords"](#)
- [Section 3.4, "Changing Oracle GoldenGate Monitor Java Agent Memory Allotment"](#)

3.1 Installing Oracle GoldenGate Monitor Java Agent

To install and configure Oracle GoldenGate Monitor Java Agent, use the procedures described in *Installing and Configuring Oracle GoldenGate Monitor Agent*. Oracle GoldenGate Monitor Java Agent *must* be installed on the *same* host as Oracle GoldenGate Monitor.

3.2 Starting the Oracle GoldenGate Monitor Java Agent

You need to start Oracle GoldenGate Monitor Java Agent whenever you start Oracle GoldenGate Monitor. To do so, go to Oracle GoldenGate GGSCI and execute the `start jagent` command:

```
GGSCI>START JAGENT
```

Notes: If processes were added or deleted, Oracle GoldenGate Monitor Java Agent will detect them without requiring restart.

3.3 Updating Oracle GoldenGate Monitor Java Agent Passwords

Oracle GoldenGate Monitor Java Agent passwords are stored in the Oracle Wallet for all supported platforms except IBM z/OS, where they are stored in the `password.properties` file (found in the `installation_location/cfg` directory).

Use the `pw_agent_util.bat` and `pw_agent_util.sh` utilities from the command line to change agent passwords on all supported platforms.

To change Oracle GoldenGate Monitor Java Agent passwords:

1. Navigate to the installation directory.

On Linux or UNIX:

```
$ cd ./installation_directory/
```

On Windows:

```
C:\ cd installation_directory
```

2. Using the appropriate runtime argument, run the appropriate `pw_agent_util` utility:

Note: The password utility can be run only by the user who installed the Oracle GoldenGate instance.

On Linux or UNIX:

```
$ ./pw_agent_util.sh -[updateAgentJMX | updateServerJMX | updateKeystore | updateTruststore]
```

On Windows:

```
C:\ pw_agent_util.bat -[updateAgentJMX | updateServerJMX | updateKeystore | updateTruststore]
```

Where the `pw_agent_util` options are:

- `-updateAgentJMX`, which changes the agent's JMX password.
- `-updateServerJMX`, which changes Oracle GoldenGate Monitor Server's JMX password.
- `-keystore`, which adds the Java keystore password.
- `-truststore`, which adds the Java truststore password.
- `-updateKeystore`, which changes the Java keystore password.
- `-updateTruststore`, which changes the Java truststore password.

If the wallet is needed and it exists, the utility will prompt with the password to be modified. If the Oracle Wallet is needed and does not exist, the utility will return a message indicating that you will need to first run with the `-create` option and then the utility will stop. To create the wallet, use this command (using the same options described in this step):

On Linux or UNIX:

```
$ ./pw_agent_util.sh -create | -jagentonly
```

On Windows:

```
C:\ pw_agent_util.bat -create | -jagentonly
```

3. Enter and confirm the new password to implement the change. Press **Enter** without entering any data to cancel the request.
4. To activate the changes, navigate to the Oracle GoldenGate installation location and start GGSCI. Then do one of the following depending on your Oracle GoldenGate release:
 - For Oracle GoldenGate release 11.1.1.1, stop and restart the Oracle GoldenGate Manager.

```
GGSCI> STOP MANAGER
GGSCI> START MANAGER
```

- For Oracle GoldenGate release 11.2.1 and later, stop and restart the Oracle GoldenGate Monitor Java Agent.

```
GGSCI> STOP JAGENT
GGSCI> START JAGENT
```

3.4 Changing Oracle GoldenGate Monitor Java Agent Memory Allotment

You can change the memory allotment for the standalone agent of Oracle GoldenGate release 11.2.1 and later by following these steps:

1. Navigate to the Oracle GoldenGate installation location.
2. Start GGSCI, and then edit the agent parameter file.

```
GGSCI> EDIT PARAMS JAGENT
```

3. The settings for the default memory allotment, `-Xms`, and the maximum memory allotment, `-Xmx`, are included in the start-up string for the agent. The following example sets the default to 64 MB and the maximum to 512 MB.

```
java -jar -Xms64m -Xmx512m dirjar/jagent.jar
```

4. Change the allotment numbers as needed, save the parameter file, and exit the editor.
5. Stop and restart the agent to implement the changes.

```
GGSCI> STOP JAGENT
GGSCI> START JAGENT
```

Understanding Instance Level Security

This chapter describes how to implement instance-level security in Oracle GoldenGate Monitor 12c (12.2.1). It contains the following sections:

- [Section 4.1, "Overview"](#)
- [Section 4.2, "Instance Access Rules"](#)
- [Section 4.3, "Instance Access Behavior"](#)
- [Section 4.4, "User Instance Matrix"](#)

4.1 Overview

In addition to the current functional level of security, instance level security is available in Oracle Golden Gate Monitor 12c (12.2.1) in order to restrict individual user access to different hosts/instances.

4.2 Instance Access Rules

The following instance access rules apply:

- A Super Administrator will always have access to all the Oracle GoldenGate Monitor Java Agent instances, and can always assign instances directly to users belongs to Operator/Power Operator and Administrator roles.
- Administrators are not authorized to make any changes on the instances mapped to Super Administrators & other Administrators. Administrators can map and un-map the instances (that is, instances that are accessible by the current logged in Administrator) only for Operator and Power Operators.
- Administrators and Operators/Power Operators can have shared instance access; that is, multiple users can have access to common/same instances from the instance pool; for example, Pool [1,2,3,4,5] Ad1 -->[1,2,3], Ad2-->[3,4,5]
- A Super Administrator will always have the full/combined set of instances accessible to Operator/Power Operators, which are granted from different Administrators. A Super Administrator can override the instances assigned to Operator/Power Operators by an Administrator; for example: A user logs in as a Super Administrator and clicks on the user Opr1. The Super Administrator should see that only instances 1, 2, 3, 4,5 are enabled because the user Admin2 has access to instances 3,4,5 and had previously assigned 3,4,5 instance access to user Opr1.
- Administrators can reassign the instances deleted by the Super Administrator to Operators/Power Operators, provided the Administrator has access to those instances.

- If the Administrator gets deleted, the instances assigned to any Operator or Power Operators will remain as is. In the absence of a deleted Administrator, the instances owned by Operators or Power Operators will be administrated by the Super Administrator.
- A user can be assigned multiple roles. Oracle GoldenGate Monitor will consider the highest role for that user; for example, Admin1 can be both a Super Administrator and an Administrator.

Role Assignment Example

The following scenario shows how the preceding rules are applied during role/instance assignment. The roles used in this example are:

- SA: Super Admin
- JI: Jagent Instance
- Ad1, Ad2: Administrators
- Opr1, Opr2: Operators
- PowerOpr1,PowerOpr2: Power Operators.

The available Oracle GoldenGate Monitor Java Agent Instances are: {1, 2, 3, 4, 5}

These steps illustrate how roles are assigned specific instances:

1. SA: Has access to JI 1,2,3,4,5
2. SA: Assigns JI 1,2,3 to Ad1
3. SA: Assigns JI 3,4,5 to Ad2
4. Ad1: Assigns JI 1,2,3 to Opr1
5. Ad2: Assigns JI 3,4,5 to Opr1
6. Ad1: Assigns JI 1,2,3 to PowerOpr1
7. Ad2: Assigns JI 3,4,5 to PowerOpr1

4.3 Instance Access Behavior

When the user tries to access the instance that are not assigned to that him or her, the user will see a message saying that he or she does not have access to the instance. The same behavior applies on the solutions/Views that are part of a specific instance.

4.4 User Instance Matrix

Logged In User	EDIT USER Instance Enabled/Disabled	ADMINISTRATOR Instance Enabled/Disabled	OPERATOR Instance Enabled/Disabled	POWER OPERATOR Instance Enabled/Disabled
Logged in as Super Administrator	Super Administrator Instance(s) Disabled	Administrator Instance(s) Enabled	Operator Instance(s) Enabled	Power Operator Instance(s) Enabled
Logged in as Administrator	Super Administrator Instance(s) Disabled	Administrator Instance(s) Disabled	Operator Instance(s) Enabled	Power Operator Instance(s) Enabled

Note: Users can create alerts for the instance objects that are not accessible by that user.

Commands and Parameters

This chapter describes the parameters set in the Oracle GoldenGate instance to enable monitoring, and the commands used to create and alter the Oracle GoldenGate Monitor data store and to start the Oracle GoldenGate Monitor Java Agent that handles monitoring data.

This chapter includes the following sections:

- [Section 5.1, "Parameters"](#)
- [Section 5.2, "GGSCI Commands"](#)

5.1 Parameters

Oracle GoldenGate parameters are used to configure, run, and manage Oracle GoldenGate processes. The parameters included here apply to monitoring by Oracle GoldenGate Monitor Server or Oracle Enterprise Manager.

5.1.1 ENABLEMONITORAGENT

Valid for

GLOBALS

Use the `ENABLEMONITORAGENT` parameter to enable the Oracle GoldenGate Monitor Java Agent for Oracle GoldenGate release 11.1.1.1. For more information on this parameter, consult the *Oracle GoldenGate Windows and UNIX Reference Guide* for the 11.1.1.1 release.

Note: `ENABLEMONITORAGENT` is deprecated for Oracle GoldenGate release 11.2.1 and later.

Syntax

`ENABLEMONITORAGENT`

5.1.2 ENABLEMONITORING

Valid for

GLOBALS

Use the `ENABLEMONITORING` parameter to enable monitoring for Oracle GoldenGate. Monitoring is enabled for Extract, Replicat, and Manager processes within the instance of Oracle GoldenGate to which it is applied.

ENABLEMONITORING activates collection of monitoring points providing status and other information on the Oracle GoldenGate processes to Oracle GoldenGate Monitor or Oracle Enterprise Manager.

Note: ENABLEMONITORING is a valid parameter for Oracle GoldenGate release 11.2.1 and later.

Syntax

ENABLEMONITORING

5.1.3 AUTOSTART JAGENT

Valid for

Manager

Use the JAGENT option of the AUTOSTART parameter to automatically start the Oracle GoldenGate Monitor Java Agent when Manager starts up.

You can use multiple AUTOSTART statements in the same parameter file.

Syntax

AUTOSTART {{EXTRACT | REPLICAT | ER} *group_name* | JAGENT}

Example

AUTOSTART JAGENT

5.2 GGSCI Commands

The Oracle GoldenGate Software Command Interface (GGSCI) is the command interface between users and Oracle GoldenGate functional components. For Oracle GoldenGate release 11.2.1 and later, commands are used to set up and control the interface between Oracle GoldenGate and monitoring by Oracle GoldenGate Monitor Server or Oracle Enterprise Manager.

Note: Some commands or options in this section are marked as valid only for Oracle GoldenGate 11.2.1.0.7 and later; the others are valid for 11.2.1 and later.

5.2.1 CREATE DATASTORE

Use CREATE DATASTORE to create an Oracle GoldenGate Monitor data store in the Oracle GoldenGate installation directory. The data store holds monitoring information supplied by the Oracle GoldenGate Extract, Replicat, and Manager processes. This is a required step to use monitoring.

Syntax

CREATE DATASTORE [MMAP | SHM [ID *number*]]

MMAP indicates that the data store should use memory mapped files for interprocess communications. This is the default for Windows platforms. The MMAP option is valid with Oracle GoldenGate release 11.2.1.0.7 and later.

Note: Do not use `MMAP` if you are running on a shared network file system such as Network File System (NFS), ASM Cluster File System (ACFS), or an Oracle Database File System (DBFS).

`SHM` indicates that the data store should use System V shared memory for interprocess communications. This is the default for non-Windows platforms. The optional `ID` specifies that *number* should be used as the System V shared memory key. If `ID number` is not entered, a default key will be assigned starting with 1000 and incrementing by 1 for each assignment. The `SHM` option is not available on Windows platforms and is valid only with Oracle GoldenGate release 11.2.1.0.7 and later.

Examples

```
CREATE DATASTORE
CREATE DATASTORE MMAP
CREATE DATASTORE SHM
CREATE DATASTORE SHM ID 1000
```

5.2.2 ALTER DATASTORE

Use `ALTER DATASTORE` to change the memory model used for interprocess communications by the Oracle GoldenGate Monitor data store. Before using this command, stop all Oracle GoldenGate processes, including Manager. This command is valid with Oracle GoldenGate release 11.2.1.0.7 and later.

Syntax

```
ALTER DATASTORE [ MMAP | SHM [ID number] ]
```

`MMAP` indicates that the data store should use memory mapped files for interprocess communications.

`SHM` indicates that the data store should use System V shared memory for interprocess communications. The optional `ID` specifies that *number* should be used as the System V shared memory key. If `ID number` is not entered, the key will be selected by GGSCI. This option is not available on Windows platforms.

Examples

```
ALTER DATASTORE MMAP
ALTER DATASTORE SHM
ALTER DATASTORE SHM ID 1000
```

5.2.3 DELETE DATASTORE

Use the `DELETE DATASTORE` command to remove the Oracle GoldenGate Monitor data store from the Oracle GoldenGate installation directory. Before using this command, stop all Oracle GoldenGate processes, including Manager. This command is valid with Oracle GoldenGate release 11.2.1.0.7 and later.

Syntax

```
DELETE DATASTORE [!]
```

`!` (exclamation point character) bypasses the prompt that confirms the intent to remove the data store.

Examples

```
DELETE DATASTORE  
DELETE DATASTORE !
```

5.2.4 INFO DATASTORE

Use the `INFO DATASTORE` command to display information about the memory model that is being used for interprocess communications by the Oracle GoldenGate Monitor data store. This command is valid with Oracle GoldenGate release 11.2.1.0.7 and later.

Syntax

```
INFO DATASTORE
```

5.2.5 REPAIR DATASTORE

Use the `REPAIR DATASTORE` command to repair the data store for the Oracle GoldenGate installation. It checks that all Extract and Replicat processes are registered and attempts to resolve any internal consistency errors. Use `REPAIR DATASTORE` to apply required updates when upgrading from a previous version of the data store.

Before using this command, stop all Oracle GoldenGate process, including Manager.

Syntax

```
REPAIR DATASTORE
```

5.2.6 INFO JAGENT

Use `INFO JAGENT` to display whether or not the Jagent is running.

Syntax

```
INFO JAGENT
```

Example

The `INFO` request will respond that the Oracle GoldenGate Monitor Java Agent is running or is down.

```
INFO JAGENT
```

```
JAgent is DOWN!
```

5.2.7 START JAGENT

Use `START JAGENT` to start the agent process. To confirm that it has started, use the `INFO JAGENT` or `STATUS JAGENT` command.

Note: You do not need to restart an agent process to detect added or deleted processes.

Syntax

```
START JAGENT
```

Example

```
START JAGENT
```

GGCMD JAGENT started.

5.2.8 INFO JAGENT

Use `STATUS JAGENT` to determine whether or not the agent is running.

Syntax

```
STATUS JAGENT
```

Example

```
STATUS JAGENT
```

```
JAgent is running.
```

5.2.9 STOP JAGENT

Use `STOP JAGENT` to stop the agent process. To confirm that it has stopped, use the `INFO JAGENT` or `STATUS JAGENT` command.

Syntax

```
STOP JAGENT [!]
```

Where:

!(exclamation point) bypasses the prompt to confirm the request to stop the agent.

This chapter describes the property files delivered to the `cfg` subdirectory when Oracle GoldenGate Monitor and Oracle GoldenGate core are installed. These files contain settings that control the monitoring process. Some property values are preset based on the release of the software and some are set by the installer based on user entries.

This chapter includes the following sections:

- [Section 6.1, "Monitor Server Properties"](#)
- [Section 6.2, "Agent Properties"](#)

6.1 Monitor Server Properties

The `monitor.properties` file describes the characteristics of Oracle GoldenGate Monitor processing. It includes properties to define the relationship with the JMX server, types of alert notifications to be used, and the timing for connection attempts. Many of these property values are initially set based on user entries during installation.

Note: After you change a property value, you must restart Monitor Server to activate it.

6.1.1 Restricted Properties

Certain Oracle GoldenGate Monitor properties can cause the system to malfunction if changed. These properties are designated as *restricted*. You should *not* change the preset values for restricted properties.

Restricted properties include:

```
monitor.jmx.internal.mbeans.enabled
monitor.supported.agent.metadata.version
monitor.jpa.connection.driver_class
monitor.jpa.connection.url
eclipselink.target-database
eclipselink.weaving
eclipselink.ddl-generation
```

6.1.2 SSO Web Parameters

The SSO web parameters specifies the SSO (Single Sign On) log out URL. If Oracle GoldenGate Monitor is accessed in SSO environment, then `monitor.ssoLogOutUrl` is used to set the log out URL for the application. If the log out URL format for

subsequent OAM (Oracle Access Manager) version changes, then this property has to be modified accordingly. However, server restart is not required in such an event.

The syntax is as follows:

```
monitor.ssoLogoutUrl=/oamssso/logout.html?end_url=/monitor
```

6.1.3 JMX Server Properties

These properties enable the JMX server, identify the user name, and register the name and port of the JMX server host.

6.1.3.1 **monitor.jmx.server.enabled**

Use `monitor.jmx.server.enabled` to enable or disable the JMX server. The JMX server must be enabled to allow the Jagent to register with the Oracle GoldenGate Monitor Server. The value is initially set to `true` to allow the agent to register.

Default

`true`

Syntax

```
monitor.jmx.server.enabled={true | false}
```

6.1.3.2 **monitor.jmx.server.host**

Use `monitor.jmx.server.host` to specify the computer name of the Oracle GoldenGate Monitor installation. Set this to the fully qualified host name of the server for the Oracle GoldenGate Monitor installation. This must match the entry for `monitor.server` in the agent's `Config.properties` file. The value is initially set by the installer based on user entries.

Syntax

```
monitor.jmx.server.host=host_name
```

6.1.3.3 **monitor.jmx.server.port**

Use `monitor.jmx.server.port` to specify the JMX server port number. The value is initially set by the installer based on user entries.

Syntax

```
monitor.jmx.server.port=port_number
```

6.1.3.4 **monitor.jmx.server.user**

Use `monitor.jmx.server.user` to specify the user name to use when communicating with the JMX server. The value is initially set by the installer based on user entries.

Syntax

```
monitor.jmx.server.user=user_name
```

6.1.4 Communication

You must select whether the communication will use SSL or not. If you use SSL, you need to identify the storage for the keys and certificates.

6.1.4.1 monitor.ssl

Use `monitor.ssl` to specify whether or not the communication from Oracle GoldenGate Monitor will use SSL.

Note: The `monitor.ssl` setting for Oracle GoldenGate Monitor Server must match the `agent.ssl` property settings in the `Configuration.properties` file of all agents that communicate with the server.

Default

false

Syntax

`monitor.ssl=[true | false]`

6.1.4.2 monitor.keystore.file

Use `monitor.keystore.file` to identify the file that stores the key pairs and certificates used for SSL authentication.

Default

`monitorKeyStore`

Syntax

`monitor.keystore.file=keystore_filename`

6.1.4.3 monitor.truststore.file

Use `monitor.truststore.file` to store trusted certification authority (CA) certificates that verify the identity of other clients or servers.

Default

`jagentKeyStore`

Syntax

`monitor.truststore.file=truststore_filename`

6.1.4.4 jagent.restful.ws.timeout

Use `jagent.restful.ws.timeout` to set the Jagent RESTful Web Service timeout in milliseconds.

Default

15000

Syntax

`jagent.restful.ws.timeout=number`

6.1.4.5 jagent.ggsci.timeout

Use `jagent.ggsci.timeout` to set the Jagent GGSCI timeout in seconds.

Default

30

Syntax`jagent.ggscli.timeout=number`

6.1.5 Connection Properties

These properties define characteristics of the connections. They can be changed, but it is recommended that you first consult with Oracle Support. For more information go to <http://support.oracle.com>.

6.1.5.1 `monitor.db.connection.initial_size`

Use `monitor.db.connection.initial_size` to set the Initial number of database connections in the database connection pool. The default is 5.

Syntax`monitor.db.connection.initial_size=5`

6.1.5.2 `monitor.db.connection.max_active`

Use `monitor.db.connection.max_active` to set the maximum number of database connection can be created. The default is 50.

Syntax`monitor.db.connection.max_active=50`

6.1.5.3 `monitor.db.connection.max_idle`

Use `monitor.db.connection.max_idle` to set the maximum number of database connection that can be idle. The default is 5.

Syntax`monitor.db.connection.max_idle=5`

6.1.5.4 `monitor.default_agent_connection.max_attempts`

Use `monitor.default_agent_connection.max_attempts` to specify the number of unsuccessful connections before the process will stop attempting to connect. An entry of 0 or a negative number specifies no limit on the number of times the connection should be tried. The value is initially set to 10.

Syntax`monitor.default_agent_connection.max_attempts=number`

6.1.5.5 `monitor.default_agent_connection.interval`

Use `monitor.default_agent_connection.interval` to specify the number of seconds to wait between each unsuccessful attempt to connect. The value is initially set to 30.

Syntax`monitor.default_agent_connection.interval=seconds`

6.1.5.6 `monitor.default_agent_connection.reconnect_interval`

Use `monitor.default_agent_connection.reconnect_interval` to specify the number of seconds to wait after an existing connection is broken before an attempt is made to reconnect. The value is initially set to 5.

Syntax

```
monitor.default_agent_connection.reconnect_interval=seconds
```

6.1.6 Repository properties

The repository database is selected during the installation of Oracle GoldenGate Monitor. Contact Oracle Support if you need to change the repository after installation. For more information on contacting support, go to <http://support.oracle.com>.

6.1.6.1 `monitor.jpa.connection.user`

Use `monitor.jpa.connection.user` to specify the repository database user name. The value is initially set by the installer based on user entries.

Syntax

```
monitor.jpa.connection.user=user_name
```

6.1.7 Configuration Management Properties

These properties set the timeout value and the threshold number of events to trigger processing.

6.1.7.1 `monitor.cm.event.timeout`

Use `monitor.cm.event.timeout` to specify the time in milliseconds for the solution discovery process to wait between inquiries for new agents registered with the Oracle GoldenGate Monitor Server. The solution discovery process starts if a new agent is found. The value is initially set to 2000 milliseconds.

Syntax

```
monitor.cm.event.timeout=milliseconds
```

6.1.7.2 `monitor.cm.event.max.size`

Use `monitor.cm.event.max.size` to specify the threshold number of events that triggers the solution discovery process not to wait `monitor.cm.event.timeout` seconds before processing the remaining events. The value is initially set to 1000 events.

Syntax

```
monitor.cm.event.max.size=number_events
```

6.1.7.3 `monitor.events.dispatcher.threads_size`

Use `monitor.events.dispatcher.threads_size` to specify the number of threads that will be used by the events dispatcher process. The value is initially set to 30.

Syntax

```
monitor.events.dispatcher.threads_size=number
```

6.2 Agent Properties

The `Config.properties` file configures an Oracle GoldenGate Monitor Java Agent for communication with the Oracle GoldenGate Monitor Server or Oracle Enterprise Manager (Oracle GoldenGate release 11.2.1 or later). It contains preset properties delivered with the Oracle GoldenGate core installation. Values such as host server names, ports, and users must be reset to valid values for your system.

Some of the properties have default values that are used when a value for the property is not defined in the property file. Default values are not substituted for invalid entries. A message is written to the `jagent.log` and the `ggserr.log` when a default value is used.

Note: After you change a property value, you must restart the agent to activate it.

6.2.1 Agent Definition

You must set the type of agent that will be used to monitor the Oracle GoldenGate instance.

6.2.1.1 `agent.type.enabled`

Use `agent.type.enabled` to specify whether monitoring will be done in Oracle GoldenGate Monitor or Oracle Enterprise Manager.

The Oracle GoldenGate Monitor Java Agent polls Manager at configurable intervals to collect monitoring points data.

- Setting `agent.type.enabled` to `OGGMON` causes the Oracle GoldenGate Monitor Java Agent to send the data to the Oracle GoldenGate Monitor Server.
- Setting `agent.type.enabled` to `OEM` causes the Oracle GoldenGate Monitor Java Agent to supply monitoring points data when polled by an Oracle Enterprise Manager agent or ODI.

This setting is also required when integrating with Oracle Data Integrator. If you are using both GoldenGate Monitor and Oracle Data Integrator at the same time, you will need to set up two agents, one with `agent.type.enabled` set to Oracle GoldenGate Monitor and one set to OEM.

When `agent.type.enabled` is set to `OEM`, the Oracle Enterprise Manager agent will connect to the Oracle GoldenGate Monitor Java Agent through the Remote Method Invocation (RMI) connector, so you must enter the `jagent.rmi.port`.

Note: This property is valid for the 11.2.1 release of Oracle GoldenGate and later.

Syntax

```
agent.type.enabled={OGGMON | OEM}
```

6.2.1.2 `jagent.rmi.port`

Use `jagent.rmi.port` to specify the port number for the RMI connector. This is the port that will be used by the Enterprise Manager agent when connecting to the Oracle GoldenGate Monitor Java Agent.

This property is required when `agent.type.enabled` is set to `OEM`.

Note: This property is valid for the 11.2.1 release of Oracle GoldenGate and later.

Default

5559

Syntax`agent.rmi.port=port_number`

6.2.2 Communication

You must select whether the communication will use Secure Sockets Layer (SSL) or not. If you use SSL, you need to identify the storage for the keys and certificates.

Note: Oracle GoldenGate Monitor Java Agents running on IBM z/OS can only use SSL. Additionally, all agents communicating with a GoldenGate Monitor Server must all use the same connection protocol.

6.2.2.1 `jagent.ssl`

Use `jagent.ssl` to specify whether or not the communication from the agent will use SSL.

Note: If the `jagent.backward.compatibility` property is set to `true`, Oracle GoldenGate Monitor assumes SSL is not enabled and ignores the setting for `jagent.ssl`.

Note: The `jagent.ssl` setting for all agents that communicate with Oracle GoldenGate Monitor Server must match the server's setting for the `monitor.ssl` property in the `monitor.properties` file.

Default

false

Syntax`jagent.ssl=[true | false]`

6.2.2.2 `jagent.keystore.file`

Use `jagent.keystore.file` to identify the file that stores the key pairs and certificates used for SSL authentication.

Default`jagentKeyStore`**Syntax**`jagent.keystore.file=keystore_filename`

6.2.2.3 `jagent.truststore.file`

Use `jagent.truststore.file` to store trusted certification authority (CA) certificates that verify the identity of other clients or servers.

Default

`jagentKeyStore`

Syntax

`jagent.truststore.file=truststore_filename`

6.2.3 Monitoring Targets

You need to identify the names and ports for the computers where the Oracle GoldenGate Manager and Agent reside. You also set backward compatibility and define the agent credentials.

6.2.3.1 `jagent.host`

Use `jagent.host` to specify the host name of the computer where the Oracle GoldenGate Monitor Java Agent is running. This is the host name of the Oracle GoldenGate instance being monitored and should be the same name used in the `RMTHOST` parameter by any remote GoldenGate Extract processes that connect to this Oracle GoldenGate Monitor instance. This will ensure that Solution Discovery works properly.

This property is required. If a valid value is not entered, Manager writes an error to `ggserr.log` during start up and the agent is not initialized successfully.

Syntax

`jagent.host=ogg_host_name`

Note: If a remote trail is specified in the Extract parameter file using `RMTTRAIL`, then the host name specified for the `RMTHOST` parameter must match the value set for the Java `jagent.host` entry. When you have a remote Extract connecting to the local Oracle GoldenGate Monitor instance running the Oracle GoldenGate Monitor Java Agent, the fully qualified host name specified in the parameter file must be the same as the fully qualified name used for `jagent.host`.

6.2.3.2 `jagent.jmx.port`

Use `jagent.jmx.port` to specify the JMX port of the agent.

Default

5555

Syntax

`jagent.jmx.port=port_number`

6.2.3.3 `mgr.host`

Use `mgr.host` to specify the name or IP address of the computer where the Oracle GoldenGate Manager is running. Together, `mgr.host` and `mgr.port` identify the Oracle GoldenGate instance to the Oracle GoldenGate Monitor Java Agent.

If this property is not entered, the system will assume that the agent is local to the Oracle GoldenGate instance and determine the value by default.

Note: This property is not used for 11.2.1 and earlier releases since the agent must be local to the Oracle GoldenGate instance.

Syntax

`mgr.host=ogg_host_name`

6.2.3.4 mgr.port

Use `mgr.port` to specify the port of the Oracle GoldenGate Manager. If this property is not entered, the system will assume that the agent is local to the Oracle GoldenGate instance and determine the value by default.

Whenever you change this property, you should change the `jagent.jmx.port` property as well to register it with the Monitor server so that the correct results will be displayed.

Note: This property is not used for 11.2.1 and earlier releases since the agent must be local to the Oracle GoldenGate instance.

Syntax

`mgr.port=manager_port`

6.2.3.5 monitor.host

Use `monitor.host` to specify the host computer name of the Oracle GoldenGate Monitor Server installation. Use the fully qualified host name. This must match the entry for `monitor.jmx.server.host` in the `monitor.properties` file.

This property is required. If a valid value is not entered, Manager writes an error to `ggserr.log` during start up and the agent is not initialized successfully.

Syntax

`monitor.host=monitor_host_name`

6.2.3.6 monitor.jmx.port

Use `monitor.jmx.port` to specify the JMX port of the Oracle GoldenGate Monitor Server installation. Initially set this to the value entered for the port on the JMX Server Configuration screen during the Oracle GoldenGate Monitor Server installation.

Default

5502

Syntax

`monitor.jmx.port=port_number`

6.2.3.7 monitor.jmx.username

Use `monitor.jmx.username` to specify the user name for the JMX connection to the Oracle GoldenGate Monitor Server. Initially set this to the value entered for the user name on the JMX Server Configuration screen during the Oracle GoldenGate Monitor installation.

This property is required. If a valid value is not entered, Manager writes an error to `ggserr.log` during start up and the agent is not initialized successfully.

Syntax

```
monitor.jmx.username=user_name
```

6.2.3.8 jagent.username

Use `jagent.username` to specify the agent user name for the JMX connection to the Oracle GoldenGate Monitor Java Agent. When the agent registers, it passes this name to the Oracle GoldenGate Monitor Server.

This property is required. If a valid value is not entered, Manager writes an error to `ggserr.log` during start up and the agent is not initialized successfully.

Syntax

```
jagent.username=user_name
```

6.2.3.9 jagent.backward.compatibility

Set `jagent.backward.compatibility` to `true` to activate backward compatibility that allows monitoring of Oracle GoldenGate 11.1.1.1 instances. The value is initially set to `false`.

Note: This property applies only when `agent.type.enabled=OGGMON`. It is ignored when `agent.type.enabled=OEM`.

`jagent.backward.compatibility` is valid for all supported platforms except IBM z/OS.

If `jagent.backward.compatibility` is set to `true`, Oracle GoldenGate Monitor assumes SSL is not enabled and `jagent.ssl` is ignored.

Syntax

```
jagent.backward.compatibility={true | false}
```

6.2.4 Polling Properties

You can set the polling intervals. These polling interval properties default to the indicated default number of seconds if nothing is entered. An error message is generated if the entered number of seconds is negative or greater than 2147483647.

6.2.4.1 interval.regular

Use `interval.regular` to specify the polling interval used for monitoring points in the Regular Default Polling Group. The value is in seconds.

Default

60 seconds

Syntax

```
interval.regular=seconds
```

6.2.4.2 **interval.quick**

Use `interval.quick` to specify the polling interval used for monitoring points in the Quick Default Polling Group. The value is in seconds.

Default

30 seconds

Syntax

`interval.quick=seconds`

6.2.4.3 **reg.retry.interval**

Use `reg.retry.interval` to specify the interval to wait before retrying an initial agent registration when an exception occurs.

Default

60 seconds

Syntax

`reg.retry.interval=seconds`

6.2.4.4 **instance.query.initial.interval**

Use `instance.query.initial.interval` to specify the interval that Jagent will wait to register if Manager is the only running process. If there are still no other processes after this interval, the agent will proceed with the registration.

Default

15 seconds

Syntax

`instance.query.initial.interval=seconds`

6.2.4.5 **incremental.registration.quiet.interval**

Use `incremental.registration.quiet.interval` to specify the interval that the agent will wait before registration of a new process.

Default

5 seconds

Syntax

`incremental.registration.quiet.interval=seconds`

6.2.4.6 **maximum.message.retrieval**

Use `maximum.message.retrieval` to specify the maximum number of messages to retrieve from the core Oracle GoldenGate instance when the Oracle GoldenGate Monitor Java Agent starts up.

Default

500 messages

Syntax

`maximum.message.retrieval=number`

6.2.4.7 message.polling.interval

Use `message.polling.interval` to set the interval for agent to poll `ggserr.log` for new messages.

Default

5 seconds

Syntax

`message.polling.interval=seconds`

6.2.4.8 status.polling.interval

Use `status.polling.interval` to set the interval for the agent to poll for the status of new and existing processes.

Default

5 seconds

Syntax

`status.polling.interval=seconds`

6.2.4.8.1 Monitor Server Properties The `monitor.properties` file describes the characteristics of Oracle GoldenGate Monitor processing. It includes properties to define the relationship with the JMX server, types of alert notifications to be used, and the timing for connection attempts. Many of these property values are initially set based on user entries during installation.