Oracle® GoldenGate

Enterprise Manager Plug-In Online Help

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Oracle GoldenGate Plug-In Help

The Enterprise Manager Plug-in for Oracle GoldenGate extends Oracle Enterprise Manager Cloud Control to support for monitoring and managing Oracle GoldenGate processes. By deploying the plug-in your Cloud Control environment, you gain the following features:

- Visually monitor current Oracle GoldenGate metrics and historical trends
- Generate automatic alerts and incidents when thresholds are breached
- Start and stop individual processes
- Modify existing configuration files
- View error logs, report files, and discard files
- Audit user access of privileged Plug-in features
- Set instance-level security
- Set preferred credentials for a user

This online help documentation contains the following topics:

1.1 Oracle GoldenGate Plug-In Home Page

Oracle GoldenGate is an asynchronous, log-based data replication product that moves high volumes of transactional data in real-time across heterogeneous database, hardware, and operating system environments with minimal overhead.

Note: Some features in the Oracle GoldenGate Plug-in user interface are only supported by newer versions of Oracle GoldenGate replication and the Oracle GoldenGate Agent. If the feature is not supported then the interface will not present the feature to the user. For example, if the release of the Oracle GoldenGate Agent does not support process control, the user interface will not display START, STOP, and KILL buttons for Oracle GoldenGate processes being monitored by that Agent.

Using the Oracle GoldenGate Plug-In Home page, you can:

- Quickly view status, lag time, rates of change, new incident counts, and drill into more detail and history
- Access the customization page by which you can design the home page to meet your needs.
- Direct the page to auto-refresh.
- View a high level summary for each Oracle GoldenGate instance that reflects the highest lag and lowest status of any Oracle GoldenGate target within an Oracle GoldenGate instance.
- Start, Stop, View, and Kill Oracle GoldenGate processes.

  These buttons are disabled if you do not have permission to use them.

The Oracle GoldenGate Plug-In Home Page is divided into two sections:

- Target Controls
- Target Tables

Related Topics

Customization

Oracle GoldenGate Target

GoldenGate Target Page

Custom Promotion Page

1.1.1 Target Controls

Controls at the top of the page determine which information is listed in the table, how that information appears, and enable you to perform these operations on the managed targets. These controls are:

- Status
- Lag
- Customize
- Control Operations
- Auto Refresh

Status

The **Status** control allows you to specify which status you want to show on the target tables; for example, if you want to show all targets that are up and running, you would

select the status **Up**. If you wanted to view all the targets, select **All**. The available statuses for Oracle GoldenGate targets are listed in the following table.

Status	Description and Icon Description
Up	Target is available and the Oracle GoldenGate process is running; the icon is a green up arrow.
Down	Target process is not in a running state; the icon is a red down arrow.
Metric Collection Error	Errors associated with the metric collection process.; the icon is a red dot containing an x.
Agent Down	Agent is not available; the icon is a silver disk with a red dot containing an x.
Agent Unreachable	Agent is unreachable if there are network problems between the Oracle Management Service and the Agent, if the host on which the Agent is running is down, or the Agent is down; the icon is a silver disk with a red dot containing an x.
Under Blackout	Period of time where you cannot access a monitored target. Blackouts allow Enterprise Manager administrators to suspend any data collection activity on one or more monitored targets, thus allowing Enterprise Manager administrators to perform scheduled maintenance on targets; the icon is a black down arrow with a small clock. This allows you to perform scheduled maintenance on targets while excluding these special-case situations from the data analysis to obtain a more accurate, long-term picture of a target's performance.
Status Pending	Indicates the first time state of the target when the Agent is still calculating its availability; the icon is a yellow clock. "Status Pending" is a state that occurs for the host and target. It does not occur for the Agent.

Lag

Use this control to set the lag; that is, the time between the change being made on the source and replicated to the target. It tells you when you can expect the information to be in sync. A long lag typically indicates some sort of problem getting the information to the target.

Set the lag time based on your system (latency of the network, contention, and so on). If a transaction would typically reach the target within 10 seconds, then 60 seconds of Lag could indicate a problem.

Customize

Clicking this control opens the Customization screen, from which you can alter the Oracle GoldenGate page to meet your requirements. You can do the following:

- Either show or hide specific Oracle GoldenGate instances.
- Provide a name (or alias) for the instance. Choose a name that is obvious to the organization rather than using the IP address; for example, QA Testing.

> **Note:** Oracle GoldenGate instance names can be changed globally at time of promotion. If you make the change on this screen, it only applies to the current user.

- Description of the instance, for example: This instance is used for QA testing.
- Arrange the list of instances by moving the instances up or down in the list. You can also move an instance to either the top or bottom of the list. Typically, this is

how users group source and target systems together, with targets listed beneath their sources.

For more information, see Customization.

Control Operations

Clicking the Start, Stop, and Kill icons enables you to perform these functions on the managed targets. These actions are applicable to targets of type Extract and Replicat.

When you click an icon, a popup appears prompting you to confirm the operation. After you click **Yes**, a dialog box appears providing the progress of the Oracle GoldenGate process.

Note: Do **not** close the browser window until the process has completed. Doing so may cause the process to fail.

If you do not have the **Run any OGG command** privilege to use the Start, Stop, and Kill functions, these buttons are grayed out.

Auto Refresh

Auto Refresh automatically updates, at prescribed intervals, the Target Tables with the latest values in the Management Repository. Use this control to set that interval to meet your particular working habits. If you choose Auto Refresh - **Off**, you will need to use the refresh option of your browser to update the statistics. Auto Refresh does not result in the Agent updating the Management Repository on demand.

For more information about the Agent data collection intervals for a particular Agent, select **All Targets** from the **Targets** menu. On the resulting page, click the Agent in which you are interested.

1.1.2 Target Tables

Target tables contain configurable statistics about Oracle GoldenGate instances and process. The Oracle GoldenGate plug-in home page can show target tables for these targets:

- Oracle GoldenGate Target Statistics
- Extract, Replicat, and Manager Targets

The following table describes the columns used for the target tables.

Note: If any value is irrelevant to a process, the field is left blank.

Data	Table	Description
Target Name	Both	Instance alias name user has given using customize operation. Default name for the instance is hostname:port. It is suggested to give prefix host:port to instance alias during customize.
Target Type	Both	Name of the target that Agent returns to Enterprise Manager. The name is Oracle GoldenGate.
Status	Both	The Enterprise Manager target status. Possible values are: Up, Down, Metric Collection Error, Agent Down, Agent Unreachable, Under Blackout, or Status Pending

Data	Table	Description
Lag (Sec)	Both	Highest (maximum) lag of all the targets in this particular Oracle GoldenGate instance. Value is in seconds. Shows the time difference between the Last Operation Timestamp and the Last Processed Timestamp. This lag value should match the value that is returned from the GGSCI command `SEND group GETLAG`. If the reading process is reading at end of file (EOF) then lag will be reported as 0 (zero). This attribute represents the true lag between the Oracle GoldenGate process and its data source. **Note:** When the process input has reached end of file it will display lag as zero. **Valid values:** The lag time, in seconds
Lag Trend	Extract, Replicat, and Manager Targets	Lag based on the last 3 lag values. Y-axis is the lag value and X-axis is the time period lag collected.
Total Operations	Extract, Replicat, and Manager Targets	Shows the total number of INSERT, UPDATE (including primary key updates), DELETE, or TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. **Note:** if any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets. **Valid values:** A positive integer
Delta Operations	Extract, Replicat, and Manager Targets	Number of operations since the last sample. Operations include: inserts, updates, deletes, truncates, and DDLs.
Delta Operations Per Second	Extract, Replicat, and Manager Targets	Delta Operations divided by the number of seconds between the current and previous samples. This is effectively operations per second, sometimes referred to transactions per second (TPS).
Incidents	Both	Count of all errors and warnings for this instance.
Seconds Since Last OGG Checkpoint	Both	Time, in seconds, elapsed between last Oracle GoldenGate checkpoint and the time the metric was collected.
Last OGG Checkpoint	Both	Shows the time when the last Oracle GoldenGate checkpoint was written by the process. Valid values: Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM.

1.1.3 Manage Agents Tab

The Manage Agents tab enables you to set the status of your Oracle GoldenGate instances to be managed by the Oracle Management Agent. Each instance can have one Master target and one or more targets set to slaves. The initial status is automatically detected and set.

The following table describes the elements on the screen.

Element	Description
Target Name	Available instance alias names you have given using customize operation. Default name for the instance is *hostname:port*. It is suggested to give prefix *host:port* to instance aliases during customization.
Agent Name	Available Management Agent names for the Target Name.

Element	Description
Status	All process targets are automatically selected. Click the down arrow adjacent to the Target Name that you want to change the status for then select one of these statuses: ■ **Master** — Sets the selected target in the instance to be the master; only one master can be set in each instance. ■ **Slave** — Sets the selected target to be a slave to the master target in the instance. ■ **None** — Sets the selected target to be ignored by the agent and removed from monitoring. This status should be used when the target no longer exists. For example, with a 3 target RAC cluster when one of the targets are removed from the cluster you should set the target to None to discontinue monitoring.

Related Topics

Customization

Oracle GoldenGate Target

GoldenGate Target Page

1.2 Customization

The Customization screen enables you to alter the Oracle GoldenGate page to meet your requirements. You can do the following:

- Either show or hide the specific Oracle GoldenGate instance.
- Provide a name (or alias) for the instance. Choose a name that is obvious to the organization rather than using the IP address, for example, QA Testing.
- Description of the instance, for example: This instance is used for QA testing.
- Arrange the list of instances by moving the instances up or down in the list. You can also move an instance to either the top or bottom of the list.

Related Topics

Oracle GoldenGate Plug-In Home Page

Oracle GoldenGate Target

GoldenGate Target Page

Custom Promotion Page

1.3 Oracle GoldenGate Target

This is the Oracle GoldenGate instance page and provides information on the following:

- Extract

  An Extract process captures changes from transaction logs and writes them to a trail. That trail is read by a Replicat and the changes are written to the target database. If the Replicat is across the network, then the trail is across the network.

  Best practice is to always write the changes to a trail that is local to the Extract. Another Extract is set up as a "data pump". It resides in the same location and reads data from the local trail and passes it across the network. In this way, the changes will not be lost if the network is down. For additional information about the Oracle GoldenGate architecture, refer to the *Oracle® GoldenGate Windows and UNIX Administrator's Guide* available at:

http://www.oracle.com/technetwork/middleware/goldengate/documentation/index.html

- Replicat

  The Replicat process runs on the target system, reads the trail on that system, and applies the operations to the target database. **Note:** Data Manipulation Language (DML) operations (inserts, updates, deletes) are applied. Data Definition Language (DDL) operations are replicated only for the Oracle and Teradata databases.

- Manager

  The Manager process is the administrative process of an Oracle GoldenGate instance. It controls all of the other Oracle GoldenGate processes in the instance. Part of its role is to generate information about critical monitoring events, which it passes to the Agent.

Note: The Start, Stop, and Kill operations are available for Extract and Replicat but not for Manager.

Note: Some features in the Oracle GoldenGate Plug-in user interface are only supported by newer versions of Oracle GoldenGate replication and the Oracle GoldenGate Agent. If the feature is not supported then the interface will not present the feature to the user. For example, if the release of the Oracle GoldenGate Agent does not support process control, the user interface will not display START, STOP, and KILL buttons for Oracle GoldenGate processes being monitored by that Agent.

The following table lists and describes the metrics used for Extract and Replicat.

Metric	Description
Checkpoint Position	**Valid for Extract and Replicat** Shows a composite representation of the checkpoints that were persisted to disk most recently by Extract or Replicat. The value is captured by the monitoring Agent when the attribute is published, right after the checkpoint gets persisted. Extract creates read and write checkpoints, and Replicat creates only read checkpoints. Each individual checkpoint within the composite Checkpoint Position consists of the RBA (relative bye address) of a record in the transaction log or trail (depending on the Oracle GoldenGate process and whether it is a read or write checkpoint) and the sequence number of the log or trail file that contains the record. There can be a series of read checkpoints in multiple data source log files (such as Extract from Oracle Real Application Cluster), and/or multiple write checkpoints such as in Extract configurations with multiple trail files. **Valid values:** Different databases use different representations of the position of a record in the log. Therefore, instead of numeric values, Checkpoint Position is published as a string of text characters encoded in UTF-8. For each individual checkpoint within Checkpoint Position, the following are shown the way that they are returned by the GGSCI, `SEND group-name STATUS`, command: ■ The values of the RBA (relative byte address) ■ The file sequence number ■ The time stamp
Delta Deletes	**Valid for Extract and Replicat** Shows the number, since the metric was last reported, of DELETE operations that were processed by the selected Oracle GoldenGate process in its current run session. **Valid values:** A positive integer
Delta Discards	**Valid for Extract and Replicat** Shows the number, since the metric was last reported, of DISCARD operations that were processed by the selected Oracle GoldenGate process in its current run session. The records are written to the discard file that is associated with the Oracle GoldenGate process. **Valid values:** Positive integer.
Delta Executed DDLs	**Valid for Extract and Replicat** Shows the count of executed data definition language (DDL) operations that were processed by the selected Oracle GoldenGate process since the last sample time. **Valid values:** Positive integer
Delta Ignores	**Valid for Extract** Shows the number of data manipulation language (DML) operations that through an error were configured to be ignored since the last sample time. **Valid values:** Positive integer
Delta Inserts	**Valid for Extract and Replicat** Shows the number of data manipulation language (DML) INSERT operations that were processed by the selected Oracle GoldenGate process since the last sample. **Valid values:** A positive integer

Metric	Description
Delta Operation Per Second	**Valid for Extract and Replicat** Shows the number of operations (per second) that were processed by the selected Oracle GoldenGate process since the last sample. **Valid values:** A positive integer
Delta Operations	**Valid for Extract and Replicat** Shows the number of operations that were processed by the selected Oracle GoldenGate process since the last sample. **Valid values:** A positive integer
Delta Row Fetch Attempts	**Valid for Extract** Shows the number of row fetch attempts that were processed by the selected Oracle GoldenGate process since the last sample. A fetch must be done occasionally to obtain row values when the information is incomplete or absent in the transaction log. **Valid values:** Positive integer
Delta Row Fetch Failures	**Valid for Extract** Shows the number of row fetch failures that were processed by the selected Oracle GoldenGate process since the last sample. A fetch must be done occasionally to obtain row values when the information is incomplete or absent in the transaction log **Valid values:** Positive integer
Delta Truncates	**Valid for Extract and Replicat** Shows the number of TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session since the last sample. **Valid values:** A positive integer
Delta Updates	**Valid for Extract and Replicat** Shows the number of UPDATE (including primary key updates) operations that were processed by the selected Oracle GoldenGate process in its current run session since the last sample. **Valid values:** A positive integer
End of File	**Valid for Extract and Replicat** Shows whether or not the selected Oracle GoldenGate process has reached the end of the input from its data source (transaction log or trail file). **Valid values:** TRUE (at end of file) or FALSE
Lag (sec)	**Valid for Extract and Replicat** Shows the time difference between the Last Operation Timestamp and the Last Processed Timestamp. This attribute represents the true lag between the Oracle GoldenGate process and its data source. This lag value should match the value that is returned from the GGSCI command SEND <group> GETLAG. **Valid values:** The lag time, in seconds
Last Checkpoint Timestamp	**Valid for Extract and Replicat** Shows the time when the last checkpoint was written by the Oracle GoldenGate process. **Valid values:** Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM.

Metric	Description
Last Operation Timestamp	**Valid for Extract and Replicat** Shows the time when an operation was committed in the data source, as recorded in the transaction log. **Valid values:** Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example:01/14/2013 09:36:32 AM
Last Processed Timestamp	**Valid for Extract and Replicat** Shows the time when a valid record was returned to the selected Oracle GoldenGate process. For Extract, this time value is assigned when the record is processed after the container transaction commits (not the time when the record is read from the transaction log). For a Data Pump or Replicat, this time value is returned immediately, because all transactions in the trail are known to be committed. **Valid values:** Date time value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM
Message	**Valid for Extract and Replicat** The message includes the following information: ■ Message code number of an event message from the Oracle GoldenGate error log. **Valid values:** The numerical code of an Oracle GoldenGate event message in the event log, for example, OGG-00651. ■ Message Date: Timestamp of an event message from the Oracle GoldenGate log. **Valid values:** A datetime value in the form of YYYY-MM-DD HH:MM:SS (in 24-hour clock format) ■ Message Text: Text of an event message from the Oracle GoldenGate error log. **Valid values:** A text string from the message.
Name	**Valid for Extract and Replicat** Name of the selected object. **Valid values:** Name of the object as displayed in the Oracle GoldenGate Monitor interface.
Seconds Since Last OGG Checkpoint	**Valid for Extract and Replicat** Time (in seconds) since the last Oracle GoldenGate checkpoint.
Start Time	**Valid for Extract and Replicat** Shows the time that an Oracle GoldenGate component received its startup information after it has been created. **Valid values:** 64-bit Julian GMT time stamp in microseconds
Status	Status shows the run status of the selected Oracle GoldenGate process. It is valid for both Extract and Replicat.
Total Deletes	**Valid for Extract and Replicat** Shows the total number of DELETE operations that were processed by the selected Oracle GoldenGate process in its current run session. **Valid values:** A positive integer
Total Discards	**Valid for Extract and Replicat** Shows the total number of operations that were discarded by the selected Oracle GoldenGate process in its current run session. The records are written to the discard file that is associated with the process. **Valid values:** Positive integer.

Metric	Description
Total Executed DDLs	**Valid for Extract and Replicat** Shows the total number of Data Definition Language (DDL) operations that were processed by the selected Oracle GoldenGate process in its current run session. **Valid values:** Positive integer
Total Ignores	**Valid for Extract** Shows the total number of Data Manipulation Language (DML) operations that were ignored by the Oracle GoldenGate process in its current run session. Errors are included in the Total Ignores metric. **Valid values:** Positive integer
Total Inserts	**Valid for Extract and Replicat** Shows the total number of Data Manipulation Language (DML) INSERT operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. **Note:** If any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets. **Valid values:** A positive integer
Total Operations	**Valid for Extract and Replicat** Shows the total number of operations that were processed by the selected Oracle GoldenGate process since the last sample. **Valid values:** A positive integer
Total Row Fetch Attempts	**Valid for Extract** Shows the total number of row fetches that the selected Oracle GoldenGate process performed in its current run session. A fetch must be done sometimes to obtain row values when the information is incomplete or absent in the transaction log. **Valid values:** Positive integer
Total Row Fetch Failures	**Valid for Extract** Shows the total number of row fetches that the selected Oracle GoldenGate process was unable to perform in its current run session. **Valid values:** Positive integer
Total Truncates	**Valid for Extract and Replicat** Shows the total number of TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. Note: if any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets. **Valid values:** A positive integer
Total Updates	**Valid for Extract and Replicat** Shows the total number of UPDATE (including primary key updates) operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. **Note**: If any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets. **Valid values:** A positive integer

Manager

These are the metrics for Manager:

Metric	Description
Host Name	Shows the name of the host system. **Valid values**: The fully qualified DNS name of the host, or its IP address
Manager Port	Shows the port on which the Manager process of the Instance is running on its local system. The default port number is 7809, but a different port could be specified for this Manager and can be identified by viewing the Manager parameter file or by issuing the INFO MANAGER command in GGSCI (if Manager is running). **Valid values:** The port number for the Manager process, as specified in the Manager parameter file
Message	The message includes the following information: ▪ Message code number of an event message from the Oracle GoldenGate error log. **Valid values:** The numerical code of an Oracle GoldenGate event message in the event log, for example, OGG-00651. ▪ Message Date: Timestamp of an event message from the Oracle GoldenGate log. **Valid values:** A datetime value in the form of YYYY-MM-DD HH:MM:SS (in 24-hour clock format) ▪ Message Text: Text of an event message from the Oracle GoldenGate error log. **Valid values:** A text string from the message.
Start Time	Shows the time that an Oracle GoldenGate component received its startup information after it has been created. **Valid values:** 64-bit Julian GMT time stamp in microseconds
Version	Indicates the version of Oracle GoldenGate that the selected Oracle GoldenGate Instance represents. **Valid values:** X.x.x (major, minor, and maintenance version levels), for example 11.1.1
Working Directory	Shows the directory that contains the Manager executable file for the selected Oracle GoldenGate Instance. This is the home directory of the Oracle GoldenGate installation. **Valid values:** The full path name of the directory

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

GoldenGate Target Page

Custom Promotion Page

1.4 GoldenGate Target Page

This page provides statistics for the individual Oracle GoldenGate targets: Extract, Replicat, and Manager.

Information for the Extract and Replicat targets is available on the Metrics, Logs, and Configuration tabs. The Manager target information is available on the Metrics tab.

Note: Some features in the Oracle GoldenGate Plug-in user interface are only supported by newer versions of Oracle GoldenGate replication and the Oracle GoldenGate Agent. If the feature is not supported then the interface will not present the feature to the user. For example, if the release of the Oracle GoldenGate Agent does not support process control, the user interface will not display START, STOP, and KILL buttons for Oracle GoldenGate processes being monitored by that Agent.

Control Operations

The Start, Stop, and Kill operations enable you to perform these operations on the managed targets. These actions are applicable to targets of type Extract and Replicat.

When you click an operation, a popup appears prompting you to confirm the operation. After you click **Yes**, a dialog box appears providing the progress of the process.

Caution: DO NOT CLOSE the browser window until the process has completed. Doing so may cause the process to fail.

These buttons are grayed out if you do not have the **Run any OGG command** privilege to use them.

Extract

An Extract process captures changes from transaction logs and writes them to a trail. That trail is read by a Replicat and the changes are written to the target database. If the Replicat is across the network, then the trail is across the network. If the network is down the changes will be lost.

Best practice is to always write the changes to a trail that is local to the Extract. Another Extract is set up as a "data pump". It resides in the same location and reads data from the local trail and passes it across the network. In this way, the changes will not be lost if the network is down.

Replicat

The Replicat process runs on the target system, reads the trail on that system, and applies the operations to the target database. Note: Data Manipulation Language (DML) operations (inserts, updates, deletes) are applied. Data Definition Language (DDL) operations are replicated only for the Oracle and Teradata databases.

Manager

The Manager process is the administrative process of an Oracle GoldenGate instance. It controls all of the other Oracle GoldenGate processes in the instance. Part of its role is to generate information about critical monitoring events, which it passes to the Agent.

Metrics Tab

Metrics are dependent on the target process. The Manager has different metrics, as has Replicat and Extract. For example, only Extract has lag and attempted fetches.

Logs Tab

This tab shows the associated Oracle GoldenGate Report and Discard files. It also displays the Oracle GoldenGate Error Log file (ggserr.log).

The Oracle GoldenGate Error Log file includes:

- Timestamp when the message was written
- Severity of the error (INFO, WARNING, or ERROR)
- Oracle GoldenGate error code in the format "OGG-XXXXX"
- Error message

You have the option to download the entire file and you can cancel the download at any time.

Configuration Tab

This tab shows configuration (.prm) and include files. When you open this tab, it will be in the *view* mode. To enter the *edit* mode to update a file, click **Edit**. The entire parameter file is retrieved and displayed in a single page. You can modify the file contents using the text box. When you are done editing the file, save it by clicking **Save**; however, you can save just those file that are in the Oracle GoldenGate installation directory (also called the Manager working directory) or its sub directories. There is no validation performed on the modified parameter file and it is saved as is on the target. Further, the process is not automatically restarted after you save the file.

The character set that is used by the Enterprise Manager Plug-in for Oracle GoldenGate is set using the CHARSET parameter in the parameter file or the `GLOBALS` file. If it is not set in either of these files, the default operating system character set is used.

You can add include files which, when clicked in the view mode will spawn a new tab. Be aware that if two users edit the same file at the same time, one edit can overwrite the other.

Finally, you cannot create new processes with this page but only edit existing parameter files (note that you *can* create new include files here).

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target

Custom Promotion Page

1.5 Custom Promotion Page

Using the Custom Promotion page, you can promote multiple Oracle GoldenGate targets of the same or differing types. These targets are from the same Oracle GoldenGate instance host and port. The promotion directly promotes targets without configuring them.

The following table describes the elements on the screen.

Elements	Description
Target Type	■ For the Oracle GoldenGate instance, name of the target that Agent returns to Enterprise Manager. The name is Oracle GoldenGate. ■ Oracle GoldenGate target process type installed on the instance. Possible values are: Extract, Replicat, or Manager.
Target Name	■ Instance alias name user has given using customize operation. Default name for the instance is hostname:port. It is suggested to give prefix host:port to instance alias during customize. ■ Name of the target process that Agent returns to Enterprise Manager.
Host Name	Name of the host system. **Valid values:** The fully qualified DNS name of the host, or its IP address
Port Number	Port number is the same as the port number for the Oracle GoldenGate instance.
Select	All process targets are automatically selected. Click the check mark to deselect a target from promotion. **Note:** You cannot deselect the Oracle GoldenGate instance.

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target

GoldenGate Target Page

1.6 Metrics for Replicat Target

The following are the metrics for the Replicat target.

- Checkpoint Position
- Delta Deletes
- Delta Discards
- Delta Executed DDLs
- Delta Inserts
- Delta Operation Per Second
- Delta Operations
- Delta Truncates
- Delta Updates
- End of File
- Lag (Sec)
- Last OGG Checkpoint Timestamp
- Last Operation Timestamp
- Last Processed Timestamp
- Message
- Name
- Seconds Since Last OGG Checkpoint

- Start Time
- Status
- Total Deletes
- Total Discards
- Total Executed DDLs
- Total Inserts
- Total Operations
- Total Truncates
- Total Updates

1.6.1 Checkpoint Position

Shows a composite representation of the checkpoints that were persisted to disk most recently by Extract or Replicat. The value is captured by the monitoring Agent when the attribute is published, right after the checkpoint gets persisted.

Extract creates read and write checkpoints, and Replicat creates only read checkpoints. Each individual checkpoint within the composite Checkpoint Position consists of the RBA (relative bye address) of a record in the transaction log or trail (depending on the process and whether it is a read or write checkpoint) and the sequence number of the log or trail file that contains the record. There can be a series of read checkpoints in multiple data source log files (such as Extract from Oracle Real Application Cluster), and/or multiple write checkpoints such as in Extract configurations with multiple trail files.

Valid values: Different databases use different representations of the position of a record in the log. Therefore, instead of numeric values, Checkpoint Position is published as a string of text characters encoded in UTF-8. For each individual checkpoint within Checkpoint Position, the following are shown the way that they are returned by the GGSCI, `SEND` *`group-name`* `STATUS`, command:

- The values of the RBA (relative byte address)
- The file sequence number
- The time stamp

1.6.2 Delta Deletes

Shows the number, since the metric was last reported, of DELETE operations that were processed by the selected Oracle GoldenGate process in its current run session.

Valid values: A positive integer

1.6.3 Delta Discards

Shows the number, since the metric was last reported, of DISCARD operations that were processed by the selected Oracle GoldenGate process in its current run session. The records are written to the discard file that is associated with the process.

Valid values: Positive integer.

1.6.4 Delta Executed DDLs

Shows the count of executed data definition language (DDL) operations that were processed by the selected Oracle GoldenGate process since the last sample time.

Valid values: Positive integer

1.6.5 Delta Inserts

Shows the number of data manipulation language (DML) INSERT operations that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.6.6 Delta Operation Per Second

Shows the number of operations (per second) that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.6.7 Delta Operations

Shows the number of operations that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.6.8 Delta Truncates

Shows the number of TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session since the last sample.

Valid values: A positive integer

1.6.9 Delta Updates

Shows the number of UPDATE (including primary key updates) operations that were processed by the selected Oracle GoldenGate process in its current run session since the last sample.

Valid values: A positive integer

1.6.10 End of File

Shows whether or not the selected process has reached the end of the input from its data source (transaction log or trail file).

Valid values: TRUE (at end of file) or FALSE

1.6.11 Lag (Sec)

Shows the time difference between the Last Operation Timestamp and the Last Processed Timestamp. This attribute represents the true lag between the Oracle GoldenGate process and its data source. This lag value should match the value that is returned from the GGSCI command SEND <group> GETLAG.

Valid values: The lag time, in seconds

1.6.12 Last OGG Checkpoint Timestamp

Shows the time when the last checkpoint was written by the Oracle GoldenGate process.

Valid values: Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM.

1.6.13 Last Operation Timestamp

Shows the time when an operation was committed in the data source, as recorded in the transaction log.

Valid values: Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example:01/14/2013 09:36:32 AM

1.6.14 Last Processed Timestamp

Shows the time when a valid record was returned to the selected Oracle GoldenGate process. For Extract, this time value is assigned when the record is processed after the container transaction commits (not the time when the record is read from the transaction log). For a Data Pump or Replicat, this time value is returned immediately, because all transactions in the trail are known to be committed.

Valid values: Date time value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM

1.6.15 Message

The message includes the following information:

- Message code number of an event message from the Oracle GoldenGate error log.

  Valid values: The numerical code of an Oracle GoldenGate event message in the event log, for example, OGG-00651.

- Message Date: Timestamp of an event message from the Oracle GoldenGate log.

  Valid values: A datetime value in the form of YYYY-MM-DD HH:MM:SS (in 24-hour clock format)

- Message Text: Text of an event message from the Oracle GoldenGate error log.

  Valid values: A text string from the message.

1.6.16 Name

Name of the selected object.

Valid values: Name of the object as displayed in the Oracle GoldenGate Monitor interface.

1.6.17 Seconds Since Last OGG Checkpoint

Time (in seconds) since the last Oracle GoldenGate checkpoint.

1.6.18 Start Time

Shows the time that an Oracle GoldenGate component received its startup information after it has been created.

Valid values: 64-bit Julian GMT time stamp in microseconds

1.6.19 Status

Shows the run status of the selected Oracle GoldenGate process.

Valid values: Starting, Running, Stopped, Abended, or Aborted.

1.6.20 Total Deletes

Shows the total number of DELETE operations that were processed by the selected Oracle GoldenGate process in its current run session.

Valid values: A positive integer

1.6.21 Total Discards

Shows the total number of operations that were discarded by the selected Oracle GoldenGate process in its current run session. The records are written to the discard file that is associated with the process.

Valid values: Positive integer.

1.6.22 Total Executed DDLs

Shows the total number of Data Definition Language (DDL) operations that were processed by the selected Oracle GoldenGate process in its current run session.

Valid values: Positive integer

1.6.23 Total Inserts

Shows the total number of Data Manipulation Language (DML) INSERT operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. **Note:** If any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets.

Valid values: A positive integer

1.6.24 Total Operations

Shows the total number of operations that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.6.25 Total Truncates

Shows the total number of TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. Note: if any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets.

Valid values: A positive integer

1.6.26 Total Updates

Shows the total number of UPDATE (including primary key updates) operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. **Note**: If any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets.

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target

1.7 Metrics for Extract Target

The following metrics are for the Extract target.

- Checkpoint Position
- Delta Deletes
- Delta Discards
- Delta Executed DDLs
- Delta Ignores
- Delta Inserts
- Delta Operation Per Second
- Delta Operations
- Delta Row Fetch Attempts
- Delta Row Fetch Failures
- Delta Truncates
- Delta Updates
- End of File
- Lag (Sec)
- Last OGG Checkpoint Timestamp
- Last Operation Timestamp
- Last Processed Timestamp
- Message
- Name
- Seconds Since Last OGG Checkpoint
- Start Time
- Status
- Total Deletes
- Total Discards

- Total Executed DDLs
- Total Ignores
- Total Inserts
- Total Operations
- Total Row Fetch Attempts
- Total Row Fetch Failures
- Total Truncates
- Total Updates

1.7.1 Checkpoint Position

Shows a composite representation of the checkpoints that were persisted to disk most recently by Extract or Replicat. The value is captured by the monitoring Agent when the attribute is published, right after the checkpoint gets persisted.

Extract creates read and write checkpoints, and Replicat creates only read checkpoints. Each individual checkpoint within the composite Checkpoint Position consists of the RBA (relative bye address) of a record in the transaction log or trail (depending on the process and whether it is a read or write checkpoint) and the sequence number of the log or trail file that contains the record. There can be a series of read checkpoints in multiple data source log files (such as Extract from Oracle Real Application Cluster), and/or multiple write checkpoints such as in Extract configurations with multiple trail files.

Valid values: Different databases use different representations of the position of a record in the log. Therefore, instead of numeric values, Checkpoint Position is published as a string of text characters encoded in UTF-8. For each individual checkpoint within Checkpoint Position, the following are shown the way that they are returned by the GGSCI, `SEND` *`group-name`* `STATUS`, command:

- The values of the RBA (relative byte address)
- The file sequence number
- The time stamp

1.7.2 Delta Deletes

Shows the number, since the metric was last reported, of DELETE operations that were processed by the selected Oracle GoldenGate process in its current run session.

Valid values: A positive integer

1.7.3 Delta Discards

Shows the number, since the metric was last reported, of DISCARD operations that were processed by the selected Oracle GoldenGate process in its current run session. The records are written to the discard file that is associated with the process.

Valid values: Positive integer.

1.7.4 Delta Executed DDLs

Shows the count of executed data definition language (DDL) operations that were processed by the selected Oracle GoldenGate process since the last sample time.

Valid values: Positive integer

1.7.5 Delta Ignores

Shows the number of data manipulation language (DML) operations that were ignored since the last sample time.

Valid values: Positive integer

1.7.6 Delta Inserts

Shows the number of data manipulation language (DML) INSERT operations that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.7.7 Delta Operation Per Second

Shows the number of operations (per second) that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.7.8 Delta Operations

Shows the number of operations that were processed by the selected Oracle GoldenGate process since the last sample.

Valid values: A positive integer

1.7.9 Delta Row Fetch Attempts

Shows the number of row fetch attempts that were processed by the selected Oracle GoldenGate process since the last sample. A fetch must be done occasionally to obtain row values when the information is incomplete or absent in the transaction log.

Valid values: Positive integer

1.7.10 Delta Row Fetch Failures

Shows the number of row fetches that the selected Oracle GoldenGate process failed to complete since the last sample. A fetch must be done occasionally to obtain row values when the information is incomplete or absent in the transaction log

Valid values: Positive integer

1.7.11 Delta Truncates

Shows the number of TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session since the last sample.

Valid values: A positive integer

1.7.12 Delta Updates

Shows the number of UPDATE (including primary key updates) operations that were processed by the selected Oracle GoldenGate process in its current run session since the last sample.

Valid values: A positive integer

1.7.13 End of File

Shows whether or not the selected Oracle GoldenGate process has reached the end of the input from its data source (transaction log or trail file).

Valid values: TRUE (at end of file) or FALSE

1.7.14 Lag (Sec)

Shows the time difference between the Last Operation Timestamp and the Last Processed Timestamp. This attribute represents the true lag between the Oracle GoldenGate process and its data source. This lag value should match the value that is returned from the GGSCI command SEND <group> GETLAG.

Valid values: The lag time, in seconds

1.7.15 Last OGG Checkpoint Timestamp

Shows the time when the last checkpoint was written by the Oracle GoldenGate process.

Valid values: Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM.

1.7.16 Last Operation Timestamp

Shows the time when an operation was committed in the data source, as recorded in the transaction log.

Valid values: Datetime value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example:01/14/2013 09:36:32 AM

1.7.17 Last Processed Timestamp

Shows the time when a valid record was returned to the selected Oracle GoldenGate process. For Extract, this time value is assigned when the record is processed after the container transaction commits (not the time when the record is read from the transaction log). For a Data Pump or Replicat, this time value is returned immediately, because all transactions in the trail are known to be committed.

Valid values: Date time value in the format of MM/DD/YYYY HH:MM:SS {AM | PM}, for example: 01/14/2013 09:36:32 AM

1.7.18 Message

The message includes the following information:

- Message code number of an event message from the Oracle GoldenGate error log.

  Valid values: The numerical code of an Oracle GoldenGate event message in the event log, for example, OGG-00651.

- Message Date: Timestamp of an event message from the Oracle GoldenGate log.

  Valid values: A datetime value in the form of YYYY-MM-DD HH:MM:SS (in 24-hour clock format)

- Message Text: Text of an event message from the Oracle GoldenGate error log.

  Valid values: A text string from the message.

1.7.19 Name

Name of the selected object.

Valid values: Name of the object as displayed in the Oracle GoldenGate Monitor interface.

1.7.20 Seconds Since Last OGG Checkpoint

Time (in seconds) since the last Oracle GoldenGate checkpoint.

1.7.21 Start Time

Shows the time that an Oracle GoldenGate component received its startup information after it has been created.

Valid values: 64-bit Julian GMT time stamp in microseconds

1.7.22 Status

Shows the run status of the selected Oracle GoldenGate process.

Valid values: Starting, Running, Stopped, Abended, or Aborted.

1.7.23 Total Deletes

Shows the total number of DELETE operations that were processed by the selected Oracle GoldenGate process in its current run session.

Valid values: A positive integer

1.7.24 Total Discards

Shows the total number of operations that were discarded by the selected Oracle GoldenGate process in its current run session. The records are written to the discard file that is associated with the process.

Valid values: Positive integer.

1.7.25 Total Executed DDLs

Shows the total number of Data Definition Language (DDL) operations that were processed by the selected Oracle GoldenGate process in its current run session.

Valid values: Positive integer

1.7.26 Total Ignores

Shows the total number of Data Manipulation Language (DML) operations that were ignored by the Oracle GoldenGate process in its current run session. Errors are included in the Total Ignores metric.

Valid values: Positive integer

1.7.27 Total Inserts

Shows the total number of Data Manipulation Language (DML) INSERT operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are

specified in the parameter file for that process. **Note:** If any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets.

Valid values: A positive integer

1.7.28 Total Operations

Shows the total number of operations that were processed by the selected Oracle GoldenGate process since the last sample.

```
Total operations =
  total DML changes (insert, update, delete)
  +
  total DDL (table definition changes)
  +
  Truncate changes
```

Valid values: A positive integer

1.7.29 Total Row Fetch Attempts

Shows the total number of row fetches that the selected Oracle GoldenGate process performed in its current run session. A fetch must be done sometimes to obtain row values when the information is incomplete or absent in the transaction log.

Valid values: Positive integer

1.7.30 Total Row Fetch Failures

Shows the total number of row fetches that the selected Oracle GoldenGate process was unable to perform in its current run session.

Valid values: Positive integer

1.7.31 Total Truncates

Shows the total number of TRUNCATE operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. Note: if any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets.

Valid values: A positive integer

1.7.32 Total Updates

Shows the total number of UPDATE (including primary key updates) operations that were processed by the selected Oracle GoldenGate process in its current run session. The statistic reflects the total operations performed on all of the tables that are specified in the parameter file for that process. **Note**: If any tables are mapped to targets in the Extract configuration, the statistics will reflect the total operations for all of the targets.

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target

1.8 Metrics for Manager Target

The following metrics are for the Manager target.

- Host Name
- Manager Port
- Message
- Start Time
- Version
- Working Directory

1.8.1 Host Name

Shows the name of the host system.

Valid values: The fully qualified DNS name of the host, or its IP address

1.8.2 Manager Port

Shows the port on which the Manager process of the Instance is running on its local system. The default port number is 7809, but a different port could be specified for this Manager and can be identified by viewing the Manager parameter file or by issuing the INFO MANAGER command in GGSCI (if Manager is running).

Valid values: The port number for the Manager process, as specified in the Manager parameter file

1.8.3 Message

The message includes the following information:

- Message code number of an event message from the Oracle GoldenGate error log.

  Valid values: The numerical code of an Oracle GoldenGate event message in the event log, for example, OGG-00651.

- Message Date: Timestamp of an event message from the Oracle GoldenGate log.

  Valid values: A datetime value in the form of YYYY-MM-DD HH:MM:SS (in 24-hour clock format)

- Message Text: Text of an event message from the Oracle GoldenGate error log.

  Valid values: A text string from the message.

1.8.4 Start Time

Shows the time that an Oracle GoldenGate component received its startup information after it has been created.

Valid values: 64-bit Julian GMT time stamp in microseconds

1.8.5 Version

Indicates the version of Oracle GoldenGate that the selected Oracle GoldenGate Instance represents.

Valid values: X.x.x (major, minor, and maintenance version levels), for example 11.1.1

1.8.6 Working Directory

Shows the directory that contains the Manager executable file for the selected Oracle GoldenGate Instance. This is the home directory of the Oracle GoldenGate installation.

Valid values: The full path name of the directory.

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target

1.9 Configuring Instance Level Security

Oracle GoldenGate provides this flexibility to provide target level privileges to the administrative users. For example, if an Enterprise Manager Plug-in for Oracle GoldenGate plug-in is managing three Oracle GoldenGate instances (for example, OGG1, OGG2, and OGG3), a user can be granted privileges to any of these instances and their sub-targets (that is, their Oracle GoldenGate processes).

To set instance level security, use this procedure:

> **Note:** To set instance level security, you must be logged in as a super administrator.

1. From Oracle GoldenGate Plug-In Home Page, select **Setup**, **Security**, and then **Administrator**.

   The Security—Administrators page appears.

2. Do one of the following:

To...	Select...
Modify access to an existing user	A user and then **Edit**
Create and assign access to a new user	**Create Like**[1] or **Create**

[1] If you select **Create Like**, you might encounter an error. Note that you cannot alter or duplicate the repository owner. The repository owner has unique system privileges and is created during installation. A given Enterprise Manager installation can have only one repository owner.

   Depending on the button selected, one of these pages appears:

   - Create Administrators: Properties
   - Edit Administrator *AdminName*: Properties.

3. Do one of the following:

If you selected...	Do this...
Edit	Update any necessary information.
Create Like or **Create**	Fill in the required details on the appropriate screen. Do not select Super Administrators on the Create Administrators: Properties screen.

4. Click **Next**.

   The Create Administrator *userName*: Roles page appears. This screen allows you to assign roles to the named user by moving the role from the Available Roles column to the Selected Roles column.

5. From the Available Roles column, select the EM_BASIC_SUPPORT_REP role. This role will be used when creating preferred credentials which are required for the new plug-in features. You can select any additional roles you want to assign. Use the Shift and Ctrl keys to select, respectively, multiple contiguous or multiple non-contiguous roles.

   The role privileges are as follows:

RM Role Name	Edit/View Parameter	View Report	View Discard
EM_ALL_ADMINISTRATOR	Yes	No	No
EM_ALL_OPERATOR	Yes	No	No
EM_ALL_VIEWER	No	No	No
PUBLIC	No	No	No
EM_PLUGIN_USER	No	No	No

> **Note:** Do not select any ALL_ role here (for example, EM_ALL_ADMINISTRATOR, EM_ALL_OPERATOR). Otherwise the user will be entitled for all the Oracle GoldenGate instances.

   EM supports object level access control so administrators can be given roles for specific targets only, see the EMADM13566 chapter of the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

6. Click **Move** to move the roles to the Selected Roles column and then click **Next**.

   The Target Privileges page appears.

7. Select the Target Privileges tab, scroll down to the Target Privileges section, select these two privileges:

   - Execute Command Anywhere
   - Monitor Enterprise Manager

8. Scroll below the Privileges Applicable to All Targets table to the Target Privileges section. This section gives the Administrator the right to perform particular actions on targets.

9. Click **Add**.

   The Search and Add: Targets page appears in a new browser window.

10. Select the instances/processes for which you need to assign privileges to the user.

11. Click **Select** to save the changes.

The Search and Add: Targets page closes and the Target Privileges page reappears, with the instances you selected on the Search and Add: Targets page showing on the Target Privileges table:

12. Select the instances you want to grant target privileges.

    Select from the following privileges:

Privilege Name	Description
Full	Ability to do all operations on the target, including delete the target.
View contents of OGG report file	Ability to view content of the report files for OGG targets.
View contents of OGG discard file	Ability to view content of the discard files for OGG targets.
Run OGG command	Ability to run OGG commands (`Start`, `Stop`, `Kill`) for OGG targets.
Edit OGG parameter file	Ability to edit parameter files for OGG targets.
Connect Target	Ability to connect and manage target.

    You should *not* select both the Full and Connect Target privileges because Full includes Connect Target so it in effect disables Connect Target. Use Connect Target without the Full privilege.

13. For the first instance, click the Edit Individual Privileges icon to open the Create Administrator *userName*: Target Privileges page.

14. Select the required privileges for the target. For example, in the following example, only view privilege for report and discard files are assigned to the user for selected Oracle GoldenGate instance:

15. Click **Continue**.

    You are returned to Target Privileges page.

16. Scroll down to the Target Privileges table. You will note that the Manage Target Privilege Grants column displays the privileges you selected in step 14.

17. To complete the process, click **Review** to review your user's privileges and then click **Finish**. The user should now have access to the selected instance(s).

    The Create Administrator *userName*: Review page appears. You can review the privileges for the user here.

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target

1.10 Setting Preferred Credentials

Additional credentials are required if you want to perform process control and file operations. These credentials are in addition to existing monitoring and administration credentials. On Enterprise Manager, the Preferred Credential `OGGADMINCRED` is used

with the Oracle GoldenGate instance level target. All process or child targets associated with a Oracle GoldenGate instance share the same credential.

In addition, to use the Start, Stop, Kill, View, and Edit functions, you must set the host credentials of the EM Agent so that the Enterprise Manager Plug-in for Oracle GoldenGate can communicate with it. For example, if the EM Agent is on host slc0045 and this machine is accessible using credentials X1 and X2, you must use the EM Agent credentials you used during installation as the host credentials.

Oracle GoldenGate Preferred Credentials are the Oracle GoldenGate Agent username and password. This username is added in the `config.properties` file of Oracle GoldenGate Agent and the password is defined at the time of the Oracle Wallet creation.

To set preferred credentials in Enterprise Manager, do the following:

1. Select **Setup** then **Security** then **Preferred Credentials**.

   The Security—Preferred Credentials page appears.

2. Using the Target Type search tool, locate **Oracle GoldenGate** then select the target type for which the preferred credentials are required to be set.

   Note: These credentials are hierarchical in nature; for example, if credentials are provided for the Oracle GoldenGate target type, they will be applicable to its child target types as well by default (that is, for Oracle GoldenGate Extract/Manager/Replicat).

3. Click **Manage Preferred Credentials**.

   The Preferred Credentials page appears and is divided into two sections:

   Default Preferred Credentials:
   These credentials are set as default for the selected target type. When set, these credentials are applicable to all the targets of this type, for which credentials are not specifically provided.

   Target Preferred Credentials:
   These credentials are specific to the individual targets. They are provided if the selected target requires separate credential values than those set for its target type by default. Setting target credentials overrides the default credentials for that target.

4. In the Target Credentials section, for the host that is running the Management agent where the Enterprise Manager Plug-in for Oracle GoldenGate has to be deployed, select the host name and click **Set**

   The Select Named Credential dialog box appears.

5. Enter the values for host credential as follows:

   These values set host credentials of the EM agent so that the Enterprise Manager Plug-in for Oracle GoldenGate can communicate with it. For example, if the EM agent is on host slc0045 and this machine is accessible using credentials X1 and X2 and X1 was used to install the EM agent, then you must use the X1 as the host credentials.

   The Oracle GoldenGate Preferred Credentials are the Oracle GoldenGate agent username and password. This username is added in the `config.properties` file of

Oracle GoldenGate agent and the password is defined at the time of the Oracle Wallet creation.

6. Click **Save**.

   The credentials are saved as named credentials, making them available for use later. The Select Named Credential dialog box closes and a confirmation message appears on the Security page.

7. Click **Test** to ensure that there are no errors. If your test runs successfully, then your credentials are set correctly.

8. Run the OS Command job for the Management agent where the Enterprise Manager Plug-in for Oracle GoldenGate has to be deployed:

   a. Log in to Enterprise Manager Cloud Control.

   b. Click **Enterprise**, then **Job**, and finally **Activity**.

   c. In the Job Activity page, from the Create Job list, select **OS Command**, and click **Go**.

   d. Enter the details required in the following pages, and click **Submit** to run the job. If the job runs successfully, then your credentials are set correctly.

Related Topics

Oracle GoldenGate Plug-In Home Page

Customization

Oracle GoldenGate Target