

Oracle® GoldenGate
Windows and UNIX Upgrade Instructions
11g Release 1 (11.1.1)
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ORACLE

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Who should perform the upgrade

Important: Upgrades to Oracle GoldenGate should be performed by an administrator who has thorough knowledge of the commands that are necessary to control processes and obtain status information.

Determine if you need to make parameter or environment changes

Before doing the upgrade procedure, please read the New Features section of the release notes to determine whether the new release affects the following in your configuration:

- parameters that changed or were deprecated
- parameters that were added to support a desired new feature
- new data type support that might require changes to TABLE or MAP statements
- interaction with native database components that might require some database changes

You should familiarize yourself with the new features before you start the upgrade, so that you are prepared to make any required changes in your environment. You can get more information about how to implement new features in the Oracle GoldenGate installation guides, Administrator's Guide, and Reference Guide.

You will be stopping the Oracle GoldenGate processes during the upgrade. To prevent startup delays that can cause lag, it is best to have all of your parameter changes made ahead of time, so that they are ready when you restart the processes. You should not make parameter changes while a process is running, but you can:

1. Make a copy of the parameter file.
2. Make edits to the copy.
3. After you shut down the processes during the upgrade procedure, copy the old parameter file to a new name (to save it as backup).
4. Copy the new parameter file to the old parameter file's name.

Upgrading to v11.1.1 from v10.4.x (source, target, or both)

1. Install v11.1.1 of Oracle GoldenGate into a new directory by following the directions for a new installation for your database and platform. You do not need to create the sub-directories. You only need to complete the steps to the point where the programs have been expanded. See the installation instructions for your supported database.
2. *Oracle source database if using DDL replication:* There are numerous changes to the DDL triggers and objects that need to be rebuilt. This procedure creates a new DDL environment, but removes DDL history. To preserve the continuity of source and target structures, stop DDL activity on the source database and allow

Replicat to apply the changes that are in the trail to the target. To determine when Replicat is finished, issue the following command until you see a message that there is no more data to process.

```
INFO REPLICAT <group>
```

3. Stop all of the Oracle GoldenGate processes, starting with Extract and Replicat processes, and then the Manager process.

```
GGSCI> STOP EXTRACT <group>  
GGSCI> STOP REPLICAT <GROUP>  
GGSCI> STOP MANAGER
```

4. Move the files and programs that you expanded from your new directory into your existing Oracle GoldenGate directory.
5. *Oracle source database if using DDL replication:* Follow the instructions on page 8 to rebuild the DDL environment to a clean state and then return to these steps.
6. *Oracle GoldenGate upgrades on DB2 z/OS:* You might need to re-set the "a" attribute for the Extract process and its DLLs to APF-authorize them to use the privileged API. For more information, see the installation instructions in the Oracle GoldenGate Installation and Setup Guide for DB2 z/OS.
7. Start all of the Oracle GoldenGate processes, starting with Manager, and then Extract and Replicat.

```
GGSCI> START MANAGER  
GGSCI> START EXTRACT <group>  
GGSCI> START REPLICAT <GROUP>
```

Upgrading to v11.1.1 from versions earlier than v10.4.x

These instructions apply only to upgrades from Oracle GoldenGate versions that are earlier than v10.4.x, including v10.0.x.

Upgrading in the correct order on z/OS

These instructions apply only to Oracle GoldenGate upgrades for **DB2 for z/OS**, and they only apply if upgrading from **v9.5 or earlier**. These steps provide guidelines to determine the correct order for applying the upgrade. **If you are upgrading from v10.0.x for DB2 on z/OS, skip this section.**

1. If upgrading Oracle GoldenGate on a z/OS source system that moves data to a non-z/OS target, upgrade the target system first, and then upgrade the source system. No parameter changes are required for any component. You can remove

any ASCIITOEBDIC or EBCDICTOASICC parameters after all of the old data (from before the upgrade) has been processed.

2. If upgrading Oracle GoldenGate on a z/OS source system that moves data to a NonStop target, upgrade the source system first. No parameter changes are required for Replicat, but the following changes are required for Extract, because the Replicat for a NonStop system does not perform automatic conversion:
 - If not using a data pump, or if using a data pump with the PASSTHRU parameter, add EBCDICTOASCII to the primary Extract parameter file before restarting Extract after the upgrade.
 - If using a data pump with NOPASSTHRU (the default), add EBCDICTOASCII to the data pump parameter file before restarting Extract after the upgrade. No changes are needed for primary Extract.
 - If upgrading Oracle GoldenGate on a NonStop source system that moves data to a z/OS target, upgrade them in any order. However, Replicat will continue to require the parameter ASCIITOEBDIC, because Extract on NonStop does not currently write the character format to the trail.

To upgrade only the Oracle GoldenGate target from v10.0.x and earlier

1. Install v11.1.1 of Oracle GoldenGate into a new directory by following the directions for a new installation for your database and platform. You do not need to create the sub-directories. You only need to complete the steps to the point where the programs have been expanded. See the installation instructions for your supported database.
2. Stop Replicat and then Manager.

```
GGSCI> STOP REPLICAT <GROUP>  
GGSCI> STOP MANAGER
```

3. Remove the CACHESTATEMENTS option of BATCHSQL if being used in the Replicat parameter file.
4. Move the files and programs that you expanded from your new directory into your existing Oracle GoldenGate directory.
5. Start Manager and then Replicat.

```
GGSCI> START MANAGER  
GGSCI> START REPLICAT <GROUP>
```

To upgrade only the Oracle GoldenGate source from v10.0.x and earlier, or both source and target from v10.0.x and earlier

There were major functionality changes in Oracle GoldenGate v10.4.x that affect Extract and the trail format, which are also present in v11.1.1. To upgrade directly from v10.0.x (the last version before 10.4) to v11.1.1, follow these steps.

1. Install v11.1.1 of Oracle GoldenGate into a new directory by following the directions for a new installation for your database and platform. You do not need to create the sub-directories. You only need to complete the steps to the point where the programs have been expanded. See the installation instructions for your supported database.
2. *Oracle source database if using DDL replication:* There are numerous changes to the DDL triggers and objects that need to be rebuilt. This procedure creates a new DDL environment, but removes DDL history. To preserve the continuity of source and target structures, stop DDL activity on the source database and allow Replicat to apply the changes that are in the trail to the target. To determine when Replicat is finished, issue the following command until you see a message that there is no more data to process.

```
INFO REPLICAT <group>
```

3. Stop all of the Oracle GoldenGate processes, starting with Extract and Replicat processes, and then the Manager process.

```
GGSCI> STOP EXTRACT <group>  
GGSCI> STOP REPLICAT <GROUP>  
GGSCI> STOP MANAGER
```

4. Move the files and programs that you expanded from your new directory into your existing Oracle GoldenGate directory.
5. *Oracle source database if using DDL replication:* Follow the instructions on page 8 to rebuild the DDL environment to a clean state and then return to these steps.
6. *Oracle GoldenGate upgrades on DB2 z/OS:* You might need to re-set the "a" attribute for the Extract process and its DLLs to APF-authorize them to use the privileged API. For more information, see the installation instructions in the Oracle GoldenGate Installation and Setup Guide for DB2 z/OS.
7. Remove the TRANSMEMORY parameter from any Extract parameter file. This applies to all platforms except NonStop, OSS, and z/OS.
8. Remove the CACHESTATEMENTS option of BATCHSQL if being used in the Replicat parameter file.

9. Start only the Manager process.

```
GGSCI> START MANAGER
```

10. *If not upgrading the target to v11.1.1:* Modify the Extract that is sending data to the target (usually a data pump but could be the primary Extract) to include the FORMAT RELEASE option in the RMTTRAIL parameter. This includes the online Extracts and initial-load Extracts. This ensures that the trails that the new version of Oracle GoldenGate writes are backwards compatible with the downstream Oracle GoldenGate environments and that the downstream Replicats can process the data.

```
RMTTRAIL <trail> FORMAT RELEASE {9.0 | 9.5 | 10.4}
```

11. A new Oracle GoldenGate trail header was added in v10. In order to switch to this new format successfully, you must roll over *each trail* with the following command to *all* of the appropriate Extract and data-pump groups:

```
ALTER EXTRACT <group>, ETROLLOVER
```

12. Start all of the Extract and data-pump groups:

```
GGSCI> START EXTRACT <group>
```

(Oracle) Rebuilding the DDL environment to a clean state

These steps completely remove, and then reinstall, the Oracle GoldenGate DDL objects in preparation for an upgrade to Oracle GoldenGate v11.1.1.

1. After stopping the source Oracle GoldenGate processes, change directories to the Oracle GoldenGate installation directory.
2. Run SQL*Plus and log in as a user that has SYSDBA privileges.
3. Disconnect all sessions that ever issued DDL. Otherwise the database might generate an ORA-04021 error.
4. Run the `ddl_disable` script to disable the DDL trigger.
5. Run the `ddl_remove` script to remove the Oracle GoldenGate DDL trigger, the DDL history and marker tables, and other associated objects. This script produces a `ddl_remove_spool.txt` file that logs the script output and a `ddl_remove_set.txt` file that logs current user environment settings in case they are needed for debugging.

6. Run the `marker_remove` script to remove the Oracle GoldenGate marker support system. This script produces a `marker_remove_spool.txt` file that logs the script output and a `marker_remove_set.txt` file in case they are needed for debugging.
7. Run the `marker_setup` script to reinstall the Oracle GoldenGate marker support system. You will be prompted for the name of the Oracle GoldenGate schema.
8. Run the `ddl_setup` script. You will be prompted for:
 - The name of the Oracle GoldenGate DDL schema.
 - The installation mode. Use the `INITIALSETUP` mode. This mode drops and recreates existing DDL objects before creating new objects.
9. Run the `role_setup` script to recreate the Oracle GoldenGate DDL role.
10. Grant the role you just created to all Oracle GoldenGate users under which the following Oracle GoldenGate processes run: Extract, Replicat, GGSCI, and Manager. You might need to make multiple grants if the processes have different user names.
11. Run the `ddl_enable.sql` script to enable the DDL trigger.
12. Return to the upgrade procedure that you are following.

Customer Support

Oracle GoldenGate is fully committed to providing timely, high-quality service to all of our customers. Our support analysts can be contacted via email, and live assistance is available over the phone or through interactive online support sessions. For support contact information please go to <http://support.oracle.com>.