

Oracle® Fusion Middleware

Installing Oracle GoldenGate for Big Data

Release 12c (12.2.0.1.0)

E67224-01

December 2015

This document provides information on how to install a new instance of the Oracle GoldenGate for Big Data.

The document contains the following sections:

- [Section 1, "Preparing for Installation"](#)
- [Section 2, "Installing Oracle GoldenGate for Big Data"](#)
- [Section 3, "Related Documents"](#)
- [Section 4, "Documentation Accessibility"](#)

1 Preparing for Installation

Prepare your Java environment by ensuring that you have the correct version of Java installed, and that the environmental variables have been set up and configured correctly.

1.1 Installing Java

The Oracle GoldenGate for Big Data are certified for Java 1.7. Before installing and running Oracle GoldenGate for Java, you must install Java (JDK or JRE) version 1.7 or later. Either the Java Runtime Environment (JRE) or the full Java Development Kit (which includes the JRE) may be used.

1.2 Setting up Environmental Variables

To configure your Java environment for Oracle GoldenGate for Java:

- The `PATH` environmental variable should be configured to find your Java Runtime
- The shared (dynamically linked) Java virtual machine (JVM) library must also be found.

On Windows, these environmental variables should be set as system variables; on Linux/UNIX, they should be set globally or for the user running the Oracle GoldenGate processes. Examples of setting these environmental variables for Windows, UNIX, and Linux are in the following sections.

1.2.1 Java on Windows

After Java is installed, configure the `PATH` to find the JRE and JVM DLL (`jvm.dll`):

Example 1 *Configuring Path for Java on Windows*

```
set JAVA_HOME=C:\Program Files\Java\jdk1.7.0
set PATH=%JAVA_HOME%\bin;%PATH%
set PATH=%JAVA_HOME%\jre\bin\server;%PATH%
```

In the example above, the directory `%JAVA_HOME%\jre\bin\server` should contain the file `jvm.dll`.

Verify the environment settings by opening a command prompt and checking the java version as in this example:

```
C:\> java -version
java version "1.7.0_29" Java(TM) SE Runtime Environment (build 1.7.0_29-b13)
```

1.2.2 Java on Linux/UNIX

Configure the environment to find the JRE in the `PATH`, and the JVM shared library, using the appropriate environmental variable for your system. For example, on Linux (and Solaris, etc.), set `LD_LIBRARY_PATH` to include the directory containing the JVM shared library as follows (for `sh/ksh/bash`):

Note: On AIX platforms, you set `LIBPATH=`. On HP-UX IA64, you set `SHLIB_PATH=`.

Example 2 *Configuring path for Java on Linux*

```
export JAVA_HOME=/opt/jdk1.7
export PATH=$JAVA_HOME/bin:$PATH
export LD_LIBRARY_PATH=$JAVA_HOME/jre/lib/i386/server:$LD_LIBRARY_PATH
```

In the examples above, the directory `$JAVA_HOME/jre/lib/i386/server` should contain the `libjvm.so` and `libjsig.so` files. The actual directory containing the JVM library depends on the operating system and if the 64-bit JVM is being used.

Verify the environment settings by opening a command prompt and checking the java version as in this example:

```
$ java -version
java version "1.7.0_29"
Java(TM) SE Runtime Environment (build 1.7.0_29-b02)
```

2 Installing Oracle GoldenGate for Big Data

To install the Oracle GoldenGate for Big Data, download a ZIP file of the build for your operating system and platform; then follow the installation steps.

2.1 Installation Overview

This section provides an overview of the installation contents and the Oracle GoldenGate instances used with the Oracle GoldenGate Adapter

2.1.1 Contents of the Installation Zip File

The Oracle GoldenGate for Big Data installation ZIP file contains:

- Oracle GoldenGate Java Adapter
- A version of Oracle GoldenGate designed to stream data to Big Data targets. This version is labeled *generic* because it is not specific to any database, but it is platform dependent.

2.1.2 Using the Generic Build of Oracle GoldenGate

For JMS capture, the Java Adapter must run in the generic build of Oracle GoldenGate. However, the generic build is not required when using the adapter for delivery of trail data to a target; in this case, the Java Adapter can be used with any database version of Oracle GoldenGate.

2.1.3 Considerations for Using a Custom Build for a Big Data Instance of Oracle GoldenGate

There are both advantages and disadvantages to installing a custom build for a Big Data Oracle GoldenGate instance. Also, there are limitations in the releases of Oracle GoldenGate that are compatible with releases of the Big Data.

Advantages

- The non-generic instance allows you to configure Extract to login to the database for metadata. This removes the need to use a source definitions file that must be synchronized your the source database DDL.
- There is no need to manage two separate versions of Oracle GoldenGate when doing database capture and JMS delivery on the same server.

Disadvantages

- If you need to patch Oracle GoldenGate core instance, you must also copy the Big Data into the new patched installation of Oracle GoldenGate.
- The Oracle GoldenGate for Big Data are only tested and certified with the generic version of Oracle GoldenGate core. New patches of the core can trigger incompatibilities.

Limitations

- The Replicat module to write to Big Data targets is only available in the Generic Oracle GoldenGate distribution.
- The Oracle GoldenGate for Big Data can be installed with the same major release as your Oracle GoldenGate instance. Therefore, 11.1.x releases of the Big Data can only be installed to 11.1.x releases of Oracle GoldenGate; 11.2.x with 11.2.x, and 12.1.2.x with 12.1.2.x.
- The generic build must be used with JMS capture, as this is the only version of Extract that is capable of loading the VAM.

- A DEFGEN utility is not included with the Big Data. To generate source definitions, you will need a version of Oracle GoldenGate that is built specifically for your database type.

2.1.4 Installing to a Non-Generic Instance of Oracle GoldenGate

If you decide to install the Java user exit to a non-generic instance of Oracle GoldenGate, unzip to a temporary location first and then copy the adapter files to your Oracle GoldenGate installation location

To do this, follow these steps:

1. Extract the Oracle GoldenGate installation ZIP file to a temporary directory.
2. Extract the Oracle GoldenGate installation ZIP file into your Oracle GoldenGate installation directory.
3. Copy or move the files from the temporary directory ggjava subdirectory into the Oracle GoldenGate installation directory.
4. Copy or move the shared libraries from the temporary location into the Oracle GoldenGate installation directory.
5. Optionally you can also copy Gendef. (There is no need to copy the shared library ggjava_vam because it only works with the generic build.)
6. Delete the temporary directory.

2.2 Downloading Oracle GoldenGate for Big Data

Oracle GoldenGate for Big Data are available for Windows, Linux, and UNIX. To download, first visit the Oracle support site to see if there is a patch available for your operating system and architecture.

Note: If you are not planning to use the generic build included in the installation, ensure that the major release of the Oracle GoldenGate for Big Data build you download matches (or is known to be compatible with) the major release of the Oracle GoldenGate instance that will be used with it.

1. Navigate to <http://support.oracle.com>.
2. Sign in with your Oracle ID and password.
3. Select the Patches and Upgrades tab.
4. On the Search tab, click Product or Family.
5. In the Product Field, type **Oracle GoldenGate for Big Data**.
6. From the Release drop-down list, select the release version that you want to download.
7. Make sure Platform is displayed as the default in the next field, and then select the platform from the drop-down list.
8. Leave the last field blank.
9. Click **Search**.

10. In the Advanced Patch Search Results list, select the available builds that satisfy the criteria that you supplied.

11. In the file Download dialog box, click the ZIP file to begin the download.

If patches are not available on the support site, go to the Oracle delivery site for the release download.

1. Navigate to <http://edelivery.oracle.com>.
2. Sign in with your Oracle ID and password.
3. On the Terms and Restrictions page:
 - Accept the **Trial License Agreement** (even if you have a permanent license).
 - Accept the **Export Restrictions**.
 - Click **Continue**.
4. On the Media Pack Search page:
 - Select the Oracle Fusion Middleware Product Pack.
 - Select the platform on which you will be installing the software.
 - Click **Go**.
5. In the Results list:
 - Select the Oracle GoldenGate Applications Big Data Media Pack that you want.
 - Click **Continue**.
6. On the Download page:
 - View the Readme file.
 - Click **Download** for each component that you want. Follow the automatic download process to transfer the zip file to your system.

2.3 Directory Structure

The following table is a sample that includes the subdirectories and files that result from unzipping the installation file and creating the subdirectories. The following conventions have been used:

- Subdirectories are enclosed in square brackets []
- Levels are indicated by a pipe and hyphen |-
- The Internal notation indicates a read-only directory that should not be modified
- Text files (*.txt) are not included in the list
- Oracle GoldenGate utilities, such as Defgen, Logdump, and Keygen, are not included in the list

Table 1 Sample installation directory structure

Directory	Explanation
[gg_install_dir]	Oracle GoldenGate installation directory, such as C:/ggs on Windows or /home/user/ggs on UNIX.
-ggsci	Command line interface used to start, stop, and manage processes.

Table 1 (Cont.) Sample installation directory structure

Directory	Explanation
-mgr	Manager process.
-extract	Extract process that will start the Java application.
-replicat	Replicat process that will start the Java application.
-[UserExitExamples]	Sample C programming language user exit code examples.
-[dirprm]	Subdirectory that holds all the parameter and property files created by the user, for example: javaue.prm javaue.properties jmsvam.prm jmsvam.properties ffwriter.prm
-[dirdef]	Subdirectory that holds source definitions files (*.def) defining the metadata of the trail: <ul style="list-style-type: none"> ■ Created by the Defgen core utility for the user exit trail data. ■ Created by the Gendef adapter utility for VAM message capture.
-[dirdat]	Subdirectory that holds the trail files produced by the VAM Extract or read by the user exit Extract.
-[dirrpt]	Subdirectory that holds log and report files.
-[dirchk]	Internal Subdirectory that holds checkpoint files.
-[dirpcs]	Internal Subdirectory that holds process status files.
-[dirjar]	Internal Subdirectory that holds Oracle GoldenGate Monitor jar files.
-[ggjava]	Internal Installation directory for Java jars. Read-only; do not modify.
- -ggjava.jar	The main Java application jar that defines the class path and dependencies.
- -[resources]	Subdirectory that contains all ggjava.jar dependencies. Includes subdirectories for: <ul style="list-style-type: none"> ■ [class] - properties and resources ■ [lib] - application jars required by ggjava.jar
-ggjava_ue.dll	The user exit shared library. This is libggjava_ue.so on UNIX.
-ggjava_vam.dll	The VAM shared library. This is libggjava_vam.so on UNIX.
-ggjava.dll	Used by the Replicat based delivery process. This is libggjava.so on UNIX.
-gendef	Utility to generate the adapter source definitions files containing metadata of the JMS message input (useful only for trail files created by Oracle GoldenGate releases 12.1 or older. Note that this is different from the Oracle GoldenGate Defgen utility that creates source definitions containing the input metadata for the trail.
- . . .	Other subdirectories and files included in the installation or created later.

2.4 Installation Steps

Perform the following steps to install the Oracle GoldenGate for Big Data:

1. Create an installation directory that has no spaces in its name. Then extract the ZIP file into this new installation directory. For example:

```
Shell> mkdir installation_directory
Shell> cp path/to/installation_zip installation_directory
Shell> cd installation_directory
Shell> unzip installation_zip
```

If you are on Linux or UNIX, run:

```
Shell> tar -xf installation_tar
```

This downloadS the files into several of the subdirectories [Section 2.3, "Directory Structure."](#)

2. Stay on the installation directory and bring up GGSCI to create the remaining subdirectories in the installation location.

```
Shell> ggsci
GGSCI> CREATE SUBDIRS
```

3. Create a Manager parameter file:

```
GGSCI> EDIT PARAM MGR
```

4. Specify a port for the Manager to listen on by using the editor to add a line to the Manager parameter file. For example:

```
PORT 7801
```

5. If you are on Windows and running Manager as a service, set the system variable `PATH` to include `jvm.dll`, then delete the Manager service and re-add it.
6. Go to GGSCI, start the Manager, and check to see that it is running:

```
GGSCI>START MGR
GGSCI>INFO MGR
```

Note: To check for environmental variable problems locating the JVM at runtime:

- Add the parameter `GETENV(PATH)` for Windows or `GETENV(LD_LIBRARY_PATH)` for UNIX to the Extract parameter file.
 - Start the Extract process
 - Check the output for the report using the GGSCI command: `SEND EXTRACT group_name REPORT`
-
-

3 Related Documents

The Oracle GoldenGate for Big Data documentation set includes the following components:

- *Release Notes for Oracle GoldenGate for Big Data*
- *Integrating Oracle GoldenGate for Big Data*
- *Installing Oracle GoldenGate Big Data*
- *Administering Oracle GoldenGate for Big Data*

The complete Oracle GoldenGate documentation set includes the following components:

Windows, UNIX and Linux Platforms

- *Installing and Configuring Oracle GoldenGate for DB2 for i*
- *Installing and Configuring Oracle GoldenGate for DB2 LUW*
- *Installing and Configuring Oracle GoldenGate for DB2 z/OS*
- *Installing and Configuring Oracle GoldenGate for Informix*
- *Installing and Configuring Oracle GoldenGate for MySQL*
- *Installing and Configuring Oracle GoldenGate for NonStop SQL/MX*
- *Installing and Configuring Oracle GoldenGate for Oracle Database*
- *Installing and Configuring Oracle GoldenGate for Oracle TimesTen*
- *Installing and Configuring Oracle GoldenGate for SQL Server*
- *Installing and Configuring Oracle GoldenGate for Sybase*
- *Installing and Configuring Oracle GoldenGate for Teradata*
- *Administering Oracle GoldenGate for Windows and UNIX*
- *Oracle GoldenGate for Windows and UNIX Reference Guide*
- *Logdump Reference for Oracle GoldenGate*
- *Upgrading Oracle GoldenGate for Windows and UNIX*
- *Error Messages Reference for Oracle GoldenGate for Windows and UNIX*

HP NonStop Platform

- *Reference for Oracle GoldenGate for HP NonStop Guardian*
- *Administering Oracle GoldenGate for HP NonStop (Guardian)*
- *Oracle GoldenGate Application Adapters BASE24 Administrator's Guide*
- *Oracle GoldenGate Application Adapters for BASE24 D24 Dual Site Supplemental Guide for HP NonStop (Guardian)*
- *Oracle GoldenGate Application Adapters for BASE24 N24 Notification Supplemental Guide for HP NonStop (Guardian)*
- *Oracle GoldenGate Application Adapters for BASE24 T24 Tokenized Data Supplemental Guide for HP NonStop (Guardian)*

4 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing
impaired.

Installing Oracle GoldenGate for Big Data, Release 12c (12.2.0.1.0)
E67224-01

Copyright © 2015, Oracle and/or its affiliates. All rights reserved.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, delivered to U.S. Government end users are "commercial computer software" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, use, duplication, disclosure, modification, and adaptation of the programs, including any operating system, integrated software, any programs installed on the hardware, and/or documentation, shall be subject to license terms and license restrictions applicable to the programs. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Xeon are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Opteron, the AMD logo, and the AMD Opteron logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

