Oracle® GoldenGate Director

Administrator's Guide

11g Release 2 (11.2.1)

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Oracle® GoldenGate Director Administrator's Guide, 11g Release 2 (11.2.1)

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Preface

This guide contains information about installing, configuring, and running Oracle GoldenGate on the Linux, UNIX, and Windows platforms.

Audience

This guide is intended for installers, database administrators, and system administrators who are installing, configuring and running Oracle GoldenGate.

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.

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Related Documents

The complete Oracle GoldenGate documentation set includes the following components:

HP NonStop Platform

- *Oracle GoldenGate for NonStop Reference Guide*

- *Oracle GoldenGate for NonStop Administrator's Guide*

Windows, UNIX and Linux Platforms

- *Oracle GoldenGate Installation and Setup Guides per supported database*

- *Oracle GoldenGate Windows and UNIX Administrator's Guide*

- *Oracle GoldenGate Windows and UNIX Reference Guide*

- *Oracle GoldenGate Windows and UNIX Troubleshooting and Tuning Guide*

- *Oracle GoldenGate Upgrade Guide*

Oracle GoldenGate Other Products

- *Oracle GoldenGate Adapter for Flat Files Administrator's Guide*

- *Oracle GoldenGate Adapter for Java Administrator's Guide*

- *Oracle GoldenGate Director Administrator's Guide*

- *Oracle GoldenGate Monitor Administrator's Guide*

- *Oracle GoldenGate Veridata Administrator's Guide*

Conventions

The following text conventions are used in this document:

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

1

Overview of Oracle GoldenGate Director

Oracle GoldenGate Director is a multi-tiered client-server application that enables the configuration and management of Oracle GoldenGate instances from a remote client. Oracle GoldenGate Director consists of the components shown in the following diagram.

Figure 1–1   Oracle GoldenGate Director Architecture Overview
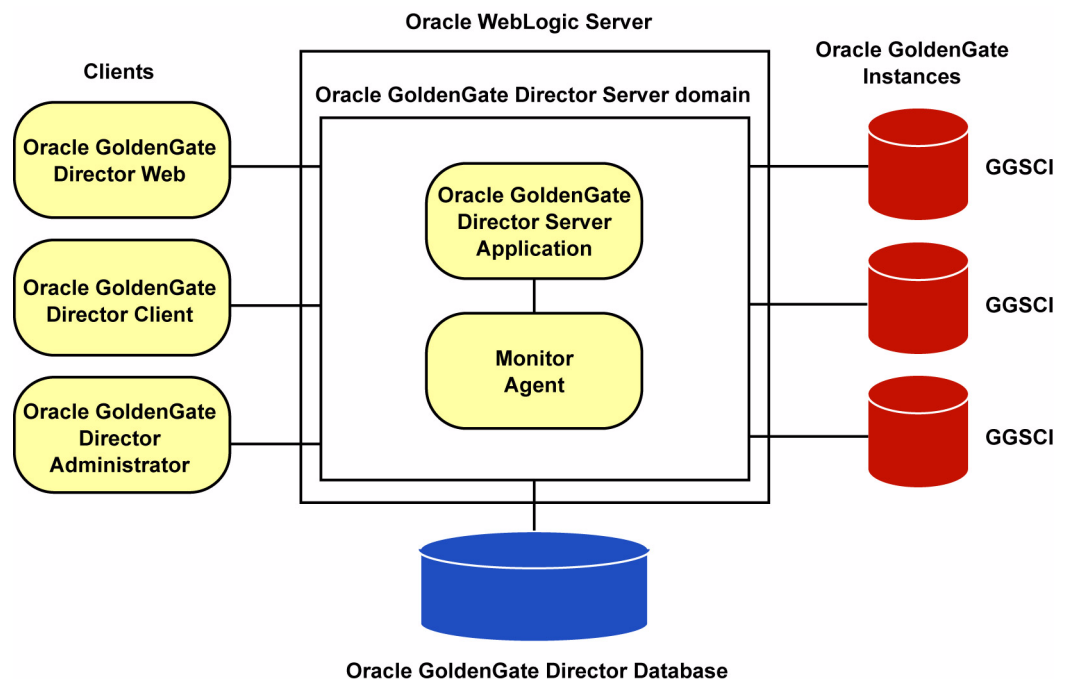
Oracle GoldenGate instances

Each instance of an Oracle GoldenGate Manger process is identified within Oracle GoldenGate Director by the fully qualified domain name of the host (or the IP address of the host), the port number on which Manager is listening, and a user-defined data source name. Because a Manager process is associated with a database, this combination is identified as a *data source* within the Oracle GoldenGate Director Client application.

Oracle GoldenGate Director Server

Oracle GoldenGate Director Server coordinates the management of Oracle GoldenGate instances. Oracle GoldenGate Director Server is installed as an Oracle WebLogic Server domain.

Oracle GoldenGate Director Server is composed of the following applications:

- The Oracle GoldenGate Director Server application, a collection of services that controls security, host information services, object modeling, diagramming, consolidated event logging, and alert services.

- The Monitor Agent, a client to the Oracle GoldenGate hosts that establishes a dedicated session of GGSCI (GoldenGate Software Command Interface). The connection is used to obtain process status and event information. Oracle GoldenGate Director Server connects to the agent through the Oracle GoldenGate Manager port of each Oracle GoldenGate instance that is to be monitored.

Oracle GoldenGate Director database

Oracle GoldenGate Director Server uses a database as a central repository to store information about users and groups, graphical diagrams created by users, consolidated events, and other information. A user can log into any Oracle GoldenGate Director Client on any system and retrieve his or her own stored view of the network.

Oracle GoldenGate Director Client

Oracle GoldenGate Director Client is a client application of Oracle GoldenGate Director Server that provides a graphical user interface (GUI) for managing Oracle GoldenGate instances. The client runs on any platform that supports Java and enables drag-and-drop manipulation, menus and toolbars, and other functionality expected of a desktop application.

Oracle GoldenGate Director Web

Oracle GoldenGate Director Web is a web application that is hosted within Oracle GoldenGate Director Server. It allows remote, browser-based monitoring and control of Oracle GoldenGate instances without the need to install software on the client system.

Oracle GoldenGate Director Administrator

Oracle GoldenGate Director Administrator is a client of Oracle GoldenGate Director Server and is used for configuring Oracle GoldenGate Director Server itself. You can use it to add or remove Oracle GoldenGate instances and users, and to manage the overall Oracle GoldenGate Director configuration.

2

System Requirements and Installation

This chapter contains the system requirements and installation instructions for Oracle GoldenGate Director.

System requirements

The following system and database resources are required to support Oracle GoldenGate Director.

Supported platforms

- Oracle GoldenGate Director is compatible with versions of the Oracle GoldenGate software that are covered under the current Oracle GoldenGate support policy.

- All systems hosting Oracle GoldenGate instances must be registered with a Domain Name Server (DNS).

Oracle GoldenGate Director Server

This section lists the resources that are required to support the Oracle GoldenGate Director Server component.

Hardware requirements

- The system must have 1 GB of RAM, and at least 1 GB to 1.5 GB (recommended) of free disk space.

- The http port that is selected during the installation process must be dedicated to Oracle GoldenGate Director Server. The default port is 7001. The default SSL port is 7002.

- The following operating systems are certified for Oracle GoldenGate Director Server:

    - Windows x86, x64

    - Redhat x86, x64

    - Solaris

    - HPUX

    - AIX

Security requirements

Oracle GoldenGate Director Server connects to remote Oracle GoldenGate instances through each of their Manager ports. If a firewall is present within the Oracle GoldenGate network, do the following:

1. Use the DYNAMICPORTLIST parameter in each Manager parameter file to specify a list of available ports. For usage and syntax, see the *Oracle GoldenGate Windows and UNIX Reference Guide* or the *Oracle GoldenGate HP NonStop Reference Guide*, as appropriate for the platform.

2. Open those ports, plus the Manager port and the Oracle GoldenGate Director Server http port, through the firewall.

Software requirements

- Oracle WebLogic Server 11g (10.3.1, 10.3.2, 10.3.3, 10.3.4, or 10.3.5) or 12c (12.1.1) Standard Edition must be installed before you install Oracle GoldenGate Director Server. Oracle WebLogic Server is Oracle's JavaEE application server. Follow the directions in the product documentation to install this software. Installing this version of Oracle WebLogic Server does not interfere with other versions of Oracle WebLogic Server on the system.

   > **Note:** You need not create a domain for Oracle GoldenGate Director Server. A domain is created in the Oracle GoldenGate Director installation directory by the installation program.

- The Java Runtime Environment (JRE) must be available on, and supported by, the operating system where you are installing Oracle GoldenGate Director Server. The JRE must be at least version 6 (1.6.x) if using WebLogic Server 11g, and must be at least version 1.6.0_20 if using WebLogic Server 12c. The JRE must be the 32-bit version even on a 64-bit machine. If this environment does not exist on the system, see "Downloading the Java Runtime Environment (JRE)" on page 23.

- Oracle GoldenGate Director Server requires the use of a database to maintain a small repository of tables that contain working data, such as user preferences and information about Oracle GoldenGate instances. The database must be installed, configured, and running before running the Oracle GoldenGate Director Server installer. This database can be one of the following:

   - MySQL 5.x Enterprise version. The installer provides a link to a free trial of this database. You can return to your place in the installer after installing and starting the trial database.

   - SQL Server 2005 and 2008

   - Oracle 9i or later

   To create and populate the repository, the installer makes a JDBC connection to the selected database, which is provided by the JDBC driver jar that is included with Oracle WebLogic Server.

- To use the Oracle GoldenGate Director Server installer on a UNIX or Linux system, a windowing system such as X Window must be available.

- Allow at least 200 MB of space in the database for Oracle GoldenGate Director Server objects and data. The installer creates the following tables and corresponding indexes.

   - ACCOUNTB

- **–** ACLB
- **–** ACLENTRYB
- **–** ACNTGROUPREL
- **–** ACNTPROPB
- **–** ACONPROCSB
- **–** ACONWATCHB
- **–** ALERTB
- **–** AUTOINCB
- **–** CONTCACHEB
- **–** GDSCVERS
- **–** GROUPB
- **–** HOSTINFOB
- **–** LOGENTRYB
- **–** MANAGERREFB
- **–** MONAGENTB
- **–** NODESTATEB
- – OBJECTSTATEB
- **–** STAGEB
- **–** STATSENTRYB
- **–** SUFFIXB
- **–** UISPROPB

Oracle GoldenGate Director Client

This section lists the resources that are required to support the Oracle GoldenGate Director Client component.

- The Oracle GoldenGate Director Client must be the same version as that of the Oracle GoldenGate Director Server. The client is packaged with the server software. See "Installing Oracle GoldenGate Director Client" on page 11. The use of different client and server versions returns an error.
- The client host must be a Windows or UNIX platform that:
  - Supports Java Runtime Environment (JRE) version 6.
  - Is on the same network as the Oracle GoldenGate Director Server host.
- Install Java Runtime Environment (JRE) version 6.0 on each client host. You can use the JRE that is installed with Oracle GoldenGate Director Server if installing the client on the same machine. If you need to install a JRE, see "Downloading the Java Runtime Environment (JRE)" on page 23.

  The monitor of the client host must have a display resolution (screen area) of at least 1024 x 768 pixels, preferably 1280 x 1024 or greater.
- Oracle GoldenGate Director displays the user interface and messages in English only.

Oracle GoldenGate Director Web

This section lists the resources that are required to support the Oracle GoldenGate Director Web component.

Oracle GoldenGate Director Web supports the following web browsers:

- Microsoft Internet Explorer version 6.0 or later
- Mozilla Firefox version 2.0 or later

No software is installed on the client system for the Oracle GoldenGate Director Web.

Installing Oracle GoldenGate Director Server

These instructions apply to new installations. For upgrades, see "Upgrading and updating Oracle GoldenGate Director" on page 12.

A new installation involves the following steps:

- Assigning database storage and login credentials
- Downloading the Oracle GoldenGate Director software
- Installing the Oracle GoldenGate Director Server software

Assigning database storage and login credentials

Before installing Oracle GoldenGate Director Server for the first time, you need to assign a storage location for the repository and assign database login credentials for Oracle GoldenGate Director to use. You can use existing objects or create new ones.

MySQL

1. Create a user and identically named database. The password must contain at least eight alphanumeric characters, with at least one alphabet character and one number.

2. Grant the user all DDL and DML privileges in that database when this user connects to the MySQL server from the host where Oracle GoldenGate Director is being installed.

Oracle

1. Create a user (schema) and password. The password must contain at least eight alphanumeric characters, with at least one alphabet character and one number.

2. Specify `QUOTA UNLIMITED` on the user's default tablespace.

SQL Server

1. Create a database or schema and a login that is a user of the database where you will be installing the repository. The password must contain at least eight alphanumeric characters, with at least one alphabet character and one number.

2. Grant this login sufficient privileges to perform the following operations:

   - `CONNECT` to the database
   - `CREATE, ALTER, DROP TABLE` in the database
   - `CREATE` and `DROP INDEX` in the database
   - `INSERT, UPDATE, DELETE` from tables in the database

- SELECT from tables in the database

- ALTER SCHEMA of the login's default schema

Downloading the Oracle GoldenGate Director software

Follow these steps to download the Oracle GoldenGate Director software to the system where you want to install the Oracle GoldenGate Server software.

1. Navigate to http://edelivery.oracle.com.

2. On the Welcome page:

   - Select your language.

   - Click **Continue**.

3. On the Export Validation page:

   - Enter your identification information.

   - 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 Management Pack for Oracle GoldenGate Media Pack.

   - Click **Continue**.

6. On the Download page:

   - Click Download for each component that you want. Follow the automatic download process to transfer the mediapack.zip file to your system.

   > **Note:** Before installing the software, review the release notes for any new features, new requirements, or bug fixes that affect your current configuration.

Installing the Oracle GoldenGate Director Server software

Follow these steps to install Oracle GoldenGate Director Server on any supported platform. On UNIX, you can install from the command line.

Installing Oracle GoldenGate Director Server from the command line

Installing Oracle GoldenGate Director Server with the wizard

Installing Oracle GoldenGate Director Server from the command line

This procedure is for UNIX only.

1. From the command line of the operating system, run the following command.

   ```
   ./gg-director-serversetup_unix_version.sh -c
   ```

2. Press **Enter** to continue with the installation process.

3. **Choose Installation Location**: Specify the directory where you want to install Oracle GoldenGate Director.

4. **Select your Weblogic Install Location**: Specify the directory that is directly *above* the directory where WebLogic Server is installed. In a default WebLogic Server directory structure, WebLogic is installed in a directory named `wlserver_version` under the `Middleware` directory in the `Oracle` directory; and therefore, you would select the `Middleware` directory. However, if you are installing Oracle GoldenGate Director into a WebLogic installation that does not have the default directory structure, whether new or renamed, do the following:

   ■ Update the `registry.xml` file in Weblogic home directory to point to the correct WebLogic Server home directory.

   ■ Update all of the scripts under `%WLS_SERVER_HOME%/server/bin` and `%WLS_SERVER%/common/bin` to point to the correct WebLogic Server home directory.

   ■ Update the `.product.properties` file under `%WLS_SERVER_HOME%` to point to the correct WebLogic Server home directory.

5. **HTTP port**: Confirm, or change, the HTTP port that Oracle GoldenGate Director Server will use to communicate with Oracle GoldenGate Director Web. In most cases, the default of 7001 should be sufficient.

6. **Select a Database**: Select the type of database to use as the Oracle GoldenGate Director Server repository. A database or schema (as applicable) and user account must exist, must be properly configured, and must be running before proceeding with the installation. You can use the repository from a previous version of Oracle GoldenGate Director to preserve existing data source configurations, user accounts, and environments.

7. **Database driver configuration**: Specify the following information for Oracle GoldenGate Director Server to connect to the repository database:

   ■ the name of the database host server.

   ■ the name of the database, or the Oracle SID if using an Oracle database.

   ■ the port number of the database. The default port number of the selected database is displayed by the installer.

8. **Database User**: Specify the name and password of an existing database user or account that can be used to log on to the database. To use an existing Oracle GoldenGate Director Server repository, use the credentials of the owner of that database or schema. These credentials are used to establish authentication within Oracle GoldenGate Director Server. The password is stored in encrypted form. Make certain the password was created with at least eight alphanumeric characters, with at least one alphabet character and one number.

9. Review the pre-installation summary and then press **Enter** to begin the installation of the software. You are notified when the installation is complete.

Installing Oracle GoldenGate Director Server with the wizard

1. Close other applications as permissible.

2. Run the `ggdirector-serversetup` program.

3. **Welcome screen**: Click **Next** on the first screen.

> **Note:** If you have not yet installed Oracle WebLogic Server, click **Cancel** to terminate this installation, and then see the "System requirements" on page 3 for more information. Oracle GoldenGate Director must be installed as an Oracle WebLogic Server domain.

4. **Choose Installation Location**: Enter, or browse to, the location where you want the Oracle GoldenGate Director installation directory to be created. Make certain there is enough free disk space to meet the requirements shown on the screen.

5. **Select your Weblogic Install Location**: Select the directory that is directly *above* the directory where WebLogic Server is installed. In a default WebLogic Server directory structure, WebLogic is installed in a directory named `wlserver_version` under the `Middleware` directory in the `Oracle` directory; and therefore, you would select the `Middleware` directory. However, if you are installing Oracle GoldenGate Director into a WebLogic installation that does not have the default directory structure, whether new or renamed, do the following:

    - Update the `registry.xml` file in Weblogic home directory to point to the correct WebLogic Server home directory.

    - Update all of the scripts under `%WLS_SERVER_HOME%/server/bin` and `%WLS_SERVER%/common/bin` to point to the correct WebLogic Server home directory.

    - Update the `.product.properties` file under `%WLS_SERVER_HOME%` to point to the correct WebLogic Server home directory.

6. **HTTP port**: Confirm, or change, the HTTP port that Oracle GoldenGate Director Server will use to communicate with Oracle GoldenGate Director Web. In most cases, the default of 7001 should be sufficient.

7. **Database**: Select the type of database to use as the Oracle GoldenGate Director Server repository. A database or schema (as applicable) and user account must exist, must be properly configured, and must be running before proceeding with the installation. You can use the repository from a previous version of Oracle GoldenGate Director to preserve existing data source configurations, user accounts, and environments.

8. (**Optional, MySQL only**) To use MySQL Enterprise Edition, click the link to download a free trial version for use as the Oracle GoldenGate Director repository. Leave the installer running while you install and start MySQL, and then return to it when you are finished.

9. **Database driver configuration**: Enter the following information for Oracle GoldenGate Director Server to connect to the repository database:

    - the name of the database host server.

    - the name of the database, or the Oracle SID if using an Oracle database.

    - the port number of the database. The default port number of the selected database is displayed by the installer.

10. **Database User**: Enter the name and password of an existing database user or account that can be used to log on to the database. To use an existing Oracle GoldenGate Director Server repository, use the credentials of the owner of that database or schema. These credentials are used to establish authentication within Oracle GoldenGate Director Server. The password is stored in encrypted form. Make certain the password was created with at least eight alphanumeric characters, with at least one alphabet character and one number.

11. (Windows) *Oracle GoldenGate Director* **Service**: Optionally, you can install Oracle GoldenGate Director Server as a Windows service. Select **Install as a service** (the default), and then supply a name and description for the service. If there are multiple installations of Oracle GoldenGate Director on the system, each service name must be unique.

> **Note:** The installer creates a WebLogic Domain service. If the WebLogic version is earlier than 12c, a prefix of **beasvc** is prepended to the service name, or if the WebLogic version is at least 12c, a prefix of **wlsvc** is prepended to the service name. The host name is appended to the service name. For example, if the default service name of **oggdirector** is used, the service name is **beasvc oggdirector_ localhost** or **wlsvc oggdirector_localhost**.

12. **Pre-installation summary**: Review your installation input, and then click **Back** to make changes or click **Next** to start the installation.

13. Click **Finish** to close the installer.

Controlling Oracle GoldenGate Director Server

This section contains instructions for starting and stopping Oracle GoldenGate Director Server in various ways.

> **Note:** The first time that you start Oracle GoldenGate Director Server after initial installation, it might appear frozen and take some time to start. This is normal.

Controlling Oracle GoldenGate Director Server from the command line

1. Go to the Oracle GoldenGate Director Server installation directory.

2. Use the following programs.

Table 2–1   Control commands for Oracle GoldenGate Director Server

Action	Windows command	UNIX and Linux command

Start in foreground	`domain\startWebLogic.cmd` [1]	`domain/startWebLogic.sh`
		 or
		 `directorControl.sh  start`

Start in background	(Not available)	`directorControl.sh -b start`

Stop	`domain\bin\stopWebLogic.cmd`	`domain/bin/stopWebLogic.sh`
		 or
		 `directorControl.sh  stop`

Start in background and redirect to a file	(Not available)	`directorControl.sh  -b start <out_file>`

[1] There may be more than one **startWebLogic** program. Make certain to use the one in the `<domain>` directory.

The command console must remain open. Oracle GoldenGate Director Server stops running when the command console is closed.

3. (Optional) Configure the host to start and stop Oracle GoldenGate Director Server automatically. Contact your system administrator if you need assistance.

Controlling Oracle GoldenGate Director Server from the Windows Program menu

From the Windows **Start** menu, go to **Programs>Oracle GoldenGate Director Server**, and then select either **Start Oracle GoldenGate Director** or **Stop Oracle GoldenGate Director**.

Controlling the Oracle GoldenGate Director Server Windows service

1. Open the **Services** Control Panel.

2. Do one of the following:

   - Select the service name, and then click **Start the service** or **Stop the service** in the upper left corner.

   - Right-click the service name, and then select **Start** or **Stop** from the context menu.

Installing Oracle GoldenGate Director Client

These instructions apply to new installations. For upgrades, see "Upgrading and updating Oracle GoldenGate Director" on page 12.

The client version must be the same as the server version. To install the client, follow these steps on all Windows, Linux, or UNIX workstations that will be used to connect to Oracle GoldenGate Director Server.

1. If you did not install Java Runtime Environment on the client machine, do so before proceeding. If installing on the same machine as Oracle GoldenGate Director Server, you can use its JRE.

2. Start Oracle GoldenGate Director Server.

3. Close all Windows applications.

4. Run an Internet browser and type the following address:

   ```
   http://<hostname>:<port>/
   ```

   Where: `<hostname>` is the fully qualified name or IP address of the machine that hosts Oracle GoldenGate Director Server and `<port>` is the Oracle GoldenGate Director Server port number (default is 7001).

   > **Note:** *Do not* use "localhost" as the host name. The correct name and IP address are shown on the Oracle WebLogic Server console at startup. An example is:
   >
   > ```
   > http://dirhost.mycompany.com:7001/acon
   > ```

5. Download the appropriate `ggdirector-clientsetup_<platform>` build for the client platform, and save it to the workstation.

6. Run the program from the workstation. The installer provides options for choosing:

   - an installation directory.

   - (Windows) a location for the Windows shortcut that starts the client.

Starting Oracle GoldenGate Director Client

This section contains instructions for starting Oracle GoldenGate Director Client.

1. Run the startup program as follows:

    ■   On UNIX, run the `run-director.sh` script from the `bin` sub-directory of the installation directory.

    ■   On Windows, run `GoldenGate-Director.exe` from the installation directory or from the shortcut that was specified during installation.

2. At the login prompts, enter:

    ■   the name and password of the Oracle GoldenGate Director admin user

    ■   the server name or IP address where Oracle GoldenGate Director Server is running, followed by a colon(`:`) and then the html port where the server component is running (the default is 7001), for example: `sysa:7001`.

Starting Oracle GoldenGate Director Web

This section contains instructions for starting Oracle GoldenGate Director Web.

> **Note:**   Before you can use this client, you must use Oracle GoldenGate Director Administrator to add user accounts and connection information to Oracle GoldenGate Director Server. See "Configuring Oracle GoldenGate Director Server" on page 15.

To start Oracle GoldenGate Director Web, run a supported web browser and enter the following in the address bar:

`http://<server_name>:<port>/acon/`

Where **<system name>** is the fully qualified name or IP address of the system where Oracle GoldenGate Director Server is installed, and **<port>** is the Oracle GoldenGate Director Server port (default is 7001).

> **Note:**   *Do not* use "localhost" as the host name. The correct name and IP address are shown on the Oracle WebLogic Server console at startup.
>
> `http://dirhost.abc.com:7001/acon`

Upgrading and updating Oracle GoldenGate Director

These instructions are for upgrading Oracle GoldenGate Director. To install it for the first time, follow the instructions in "Installing Oracle GoldenGate Director Server" on page 6.

The upgrade path depends on whether you are upgrading from version 1.4 or version 2.0 and later.

Upgrading from version 2.0 and 11.1.1.0

You can upgrade from version 2.0 or 11.1.1.0 to version 11.1.1.1 in a seamless manner. All installation files are upgraded, and you can keep the current database repository. To upgrade, run the installer and select the upgrade option.

> **WARNING:** Do not change the version of Weblogic Server that you are using for the current installation of Oracle GoldenGate Director. This may cause the loss of logins, user data, and other essential information after the upgrade.

Upgrading from version 1.4

Because Oracle GoldenGate Director Server versions 2.0 and later are installed within Oracle WebLogic Server, a direct upgrade path from version 1.4 does not exist, in the sense that the old installation files can be updated with the new ones. However, you can point the new installation environment to the current database repository, so that the user accounts, environments, and data sources are preserved and the upgrade appears seamless to the Oracle GoldenGate Director Clients.

To point to the current repository, follow the instructions in "Installing Oracle GoldenGate Director Server" on page 6, but do the following:

- Select the database type that contains the current repository.

  > **Note:** A MySQL repository must be the Enterprise edition of MySQL.

- Select the correct database driver information for the current repository database.
- Select the database or schema and user that owns the current repository.

  > **Note:** Oracle WebLogic Server requires a password to contain at least eight alphanumeric characters, with at least one alphabet character and one number. You might need to change the current password to satisfy this requirement.

For assistance with the upgrade, open a service request with Oracle Support at http://support.oracle.com.

Uninstalling Oracle GoldenGate Director

This section contains instructions for uninstalling Oracle GoldenGate Director. It uninstalls the server and client components.

Uninstalling Oracle GoldenGate Director Server

These instructions are for uninstalling the server component.

Uninstalling Oracle GoldenGate Director Server from a UNIX system

1. Stop Oracle GoldenGate Director Server (see "Controlling Oracle GoldenGate Director Server" on page 10).

2. Run the uninstall script from the Oracle GoldenGate Director Server installation directory. This script removes everything in the installation except log files, XML files, shortcuts, and the repository tables.

Uninstalling Oracle GoldenGate Director Server from a Windows system

1. Stop Oracle GoldenGate Director Server (see "Controlling Oracle GoldenGate Director Server" on page 10).

2. To remove just the Oracle GoldenGate Director Server Windows service, but leave the installation intact, run the uninstallDirSvc.cmd program from the Oracle GoldenGate Director Server installation directory.

3. To completely remove Oracle GoldenGate Director Server from the system, run **Oracle GoldenGate Director Server Uninstaller** from the Oracle GoldenGate Director Server shortcut in the **Programs** menu, if one exists; otherwise, run uninstall.exe from the Oracle GoldenGate Director Server installation directory. This process removes the Windows service (if applicable) and all of the installed files except those created after installation.

Uninstalling Oracle GoldenGate Director Client

These instructions are for uninstalling the client component.

Uninstalling Oracle GoldenGate Director Client from a UNIX system

1. Stop Oracle GoldenGate Director Client.

2. Run the uninstall script from the Oracle GoldenGate Director Client installation directory. This script removes all files in the installation. If files cannot be removed, you are notified in the results output.

3. Remove the installation directory.

Uninstalling Oracle GoldenGate Director Client from a Windows system

1. Stop Oracle GoldenGate Director Client and Oracle GoldenGate Director Administrator, if running.

2. If Oracle GoldenGate Director Client has a shortcut in the **Programs** menu, run **Oracle GoldenGate Director Client Uninstaller** from that shortcut; otherwise, run uninstall.exe from the Oracle GoldenGate Director Client installation directory. The uninstaller removes all files and folders from the installation directory.

3. Remove the installation directory.

3

Configuring Oracle GoldenGate Director

This chapter guides you through the setup of Oracle GoldenGate Director so that clients can connect securely to Oracle GoldenGate Director Server to view Oracle GoldenGate instances.

Configuring Oracle GoldenGate Director Server

To configure Oracle GoldenGate Director Server, use the Oracle GoldenGate Director Administrator program. You can:

- Change the administrator information and password

- Manage user accounts

- Manage data sources

- Configure the Monitor Agent

- Set default domain suffixes

To start Oracle GoldenGate Director Administrator

1. Do one of the following depending on the platform:

   - (UNIX/Linux) Run the `run-admin.sh` script from the `bin` sub-directory of the installation directory.

   - (Windows) From the Oracle GoldenGate Director Client directory, run `GDSC Admin Tool.exe` or use the **Programs** shortcut.

2. At the login prompts, enter:

   - the name and password of the admin user

   - the name or IP address of the host where Oracle GoldenGate Director Server is running, followed by a colon, and then the html port where the server component is running (the default is 7001), for example: `sysa:7001`.

The first time that you run Oracle GoldenGate Director Administrator, log in as **admin** with the password **admin**. You should change the **admin** password for security purposes. You also can enter or change other information about the **admin** user. See "To change a user account" on page 16.

Managing user accounts

All users of Oracle GoldenGate Director Client must have an account with Oracle GoldenGate Director Server. Use the **Accounts** tab to manage Oracle GoldenGate Director user accounts.

To add a user account

1. At the bottom of the **Accounts** tab, click **New/Clear**.

2. Under **Account Info**, type the name of the user. (Required)

3. Under **Contact**, type the phone number and email address of the user. (Optional)

4. Under **Name**, type the name of the user. (Optional)

5. Under **Password**, type and confirm an Oracle GoldenGate Director login password for the user. (Required)

6. Click **Save**. The user is added to the **UserID** list.

To change a user account

1. In the **UserID** list of the **Accounts** tab, select the user whose information you want to change.

2. Change the information in **Account Info**, **Contact**, **Name**, and **Password** as needed.

3. Click **Save**.

To delete a user account

1. In the **UserID** list of the **Accounts** tab, select the user that you want to delete. You are prompted to confirm this action.

2. Click **Delete** to delete the account.

3. Click **Save**.

Managing Oracle GoldenGate data sources

To view an Oracle GoldenGate instance from Oracle GoldenGate Director Client, its connection information must be stored in the Oracle GoldenGate Director Server repository. Users can add any or all defined instances to their personal views within their clients. Oracle GoldenGate instances appear as *data sources* within the client diagram.

Use the **Data Sources** tab to manage information about Oracle GoldenGate instances. Adding an Oracle GoldenGate instance as a data source adds information about its Manager process to the Oracle GoldenGate Director database repository.

To add an Oracle GoldenGate data source

1. Start the Manager process of the Oracle GoldenGate instance that you want to add as a data source.

2. At the bottom of the **Data Sources** tab, click **New/Clear**.

3. Under **Host Identity**, type the following:

   - **Fully Qualified Domain Name**: The fully qualified domain name can be the IP address or the full host name, such as `sys1.earth.company.com`. A host name must be registered with a Domain Name Server (DNS).

   - **Manager Port**: The port where Manager is running. Click **Check Connection** to make certain a connection can be made.

   - **Data Source Name**: A name for the Oracle GoldenGate instance (for example `GGS1`). This name is displayed as a data source in the Oracle GoldenGate Director Client interface.

> **Note:** Once an Oracle GoldenGate instance has been added as a data source, the fully qualified domain name and port number cannot be changed without deleting the data source and then adding it back again. If that instance is being used as a data source in client diagrams, those diagrams must be recreated, and the logging and reporting streams will be reset. Attributes other than the fully qualified domain name and port number can be changed without affecting user diagrams.

4. Under **GoldenGate Info**, type or select the following:

    ■   **Host Operating System**: The type of operating system of the host. Select **WU** for Windows or UNIX, **NSK** for NonStop Server, or **IBM** for IBM z/OS and OS/390 systems running UNIX System Services.

    ■   **Database**: The type of database against which the Oracle GoldenGate instance is running.

Database Code	Database
DB2	DB2
MSSQL	Microsoft SQL Server
MySQL	MySQL
ENSCRIBE SQL/MP	Enscibe or NonStop SQL
ODBC	ODBC data source (Open Database Connectivity compliant)
ORA	Oracle
SYB	Sybase
TERA	Teradata
SQLMX	NonStop SQL/MX
VAM-Generic	Any database (other than Teradata) for which a vendor-access module is used to interface with the Extract process.

    ■   **GoldenGate Version**: The *X.x.x.x* version of Oracle GoldenGate that is installed on the system, for example 11.1.1.1. It is important to specify an accurate version so that the correct parameters are displayed in the Oracle GoldenGate Director Client parameter editor.

5. Under **Default DB Credentials**, enter the following:

    ■   **DSN**: If Oracle GoldenGate connects to the database through ODBC, type the ODBC Data Source Name of the database; otherwise leave blank.

    ■   **Username**: The name of a default user for connecting to the database.

    ■   **Password**: The password for the user.

6. Under **Access Control**, select the following:

    ■   **Owner**: One of the users listed on the **Accounts** tab that always will have full control of this data source. If no owner is specified, all users can see and access the processes associated with this data source.

    ■   **Host is observable**: Select this option to allow other users to see this data source from their Oracle GoldenGate Director clients. They can see the host,

monitor the Manager and Oracle GoldenGate processes, and view the parameters. They can query for status and configuration information, but they cannot control processes or alter configurations.

7. Click **Save**. The new information appears in the **Manager Information** list.

To change an Oracle GoldenGate data source

Changing data source information in Oracle GoldenGate Director Server does not affect the underlying Manager process in any way.

1. In the **Manager Information** list of the **Data Sources** tab, select the Oracle GoldenGate data source that you want to change.

2. Change anything in the **Host Identity**, **GoldenGate Info**, **Default DB Credentials**, and **Access Control** groups except for the fully qualified domain name or port number.

3. Click **Save**.

To delete an Oracle GoldenGate data source

Deleting a data source removes its Manager information from the Oracle GoldenGate Director Server but does not delete or affect the Manager process itself. Client diagrams that use this data source no longer will have access to it.

1. In the **Manager Information** list of the **Data Sources** tab, select the Oracle GoldenGate data source that you want to delete.

2. Click **Delete**.

3. Click **Yes** to confirm that you want to delete the instance.

4. Click **Save**.

Configuring the Monitor Agent

Oracle GoldenGate Director Server creates threads that monitor the Manager processes of the Oracle GoldenGate instances that are registered with Oracle GoldenGate Director Server. Each thread is called a *monitor*.

Use the **Monitor Agent** tab to:

- View Manager processing and monitoring status
- Configure monitor settings
- Start and stop monitor threads

To view Manager processing and monitoring status

1. To view the monitoring status of an Oracle GoldenGate data source, view the **Monitor Active** column of the **Monitor and Manager Status** list.

2. To find out whether or not a Manager process is running, view the **Manager is Alive** column of the **Monitor and Manager Status** list.

3. To refresh the **Monitor and Manager Status** list, click **Refresh**. The status of the monitor agent and the associated Manager process is reset every time the **Monitor Agent** tab is made active. It can take up to the amount of time that is specified with **Host Wait Seconds** to update the statistics. **Refresh** starts that interval over again.

To configure monitor settings

1. In the **Go Back Hours** box, type the number of hours of recent event history to capture. Events are displayed in the Oracle GoldenGate Log in client diagrams. For example, you can capture the last five hours worth of events. To start monitoring from the present time, type **0**.

2. In the **Host Wait Seconds** box, type the amount of time that Manager should wait for an event before sending a status report. The lower the value, the more reports that are sent. The higher the value, the fewer the reports, but the longer it will take for non-event updates to appear on client diagrams. The monitor agent polls the hosts at the specified interval to make certain the Manager process is alive. If a problem at the level of the operating system were to occur so that Oracle GoldenGate could not write to the event log, the polling ensures that this status is reflected within the Oracle GoldenGate Director Web interface.

    > **Note:** There is another type of communication between Oracle GoldenGate Director Server and the hosts (besides Manager polling) that involves the immediate communication of changes made to Oracle GoldenGate processes. This communication process is not configurable.

3. In the **Log Purge Hours** box, type the number of hours to keep information in the Oracle GoldenGate Log before purging the data. The purge function helps you to maintain the logs at a reasonable size on disk.

4. Use **Ignore Alert Events Older Than (Minutes)** if using Oracle GoldenGate Director email alerts. It prevents duplicate alerts from being sent if Oracle GoldenGate Director Server is shut down and restarted. Specify the age, in minutes, of the oldest alert to keep.

5. To activate the values that you set, click **Save and Restart**. This action restarts the log purge thread and the active monitor threads.

To start or stop monitor threads

■   To start or stop monitoring of one or more Oracle GoldenGate data sources, use standard selection methods to select them in the **Monitor and Manager Status** list, and then click **Start Selected Monitor** or **Stop Selected Monitor**.

■   To start or stop monitoring of all data sources in the list, click **Start All** or **Stop All**.

Setting default suffixes

Oracle GoldenGate Director Server attempts to resolve host names or IP addresses into fully qualified domain names. Use the **Default Suffix** tab to add, change, or delete domain suffixes for Oracle GoldenGate Director Server to use when attempting to qualify a non-qualified host name that appears in an Oracle GoldenGate parameter file.

For example, if the domain is `anycompany.com` and the fully qualified domain name of a host is `sysa.anycompany.com`, you would put `anycompany.com` into the suffix table. For more complex domain setups, you could use something like `office.anycompany.com` and `offsite.anycompany.com`.

To add a domain suffix

1. Click **Add** to display a blank row in the suffixes list.

2. Type the new suffix in the row.

3. Click **Save**.

To change a domain suffix

1. In the suffixes list, select the one that you want to change.

2. Change the suffix as needed.

3. Click **Save**.

To delete a domain suffix

1. In the suffixes list, put the cursor in the row that you want to delete.

2. Click **Delete**.

3. Click **Yes** to confirm that you want to delete the suffix.

4. Click **Save**.

Configuring SSL support

SSL (Secure Socket Layer) is an industry-standard method of establishing an encrypted link between a browser and Oracle GoldenGate Director Server. The steps to configure Oracle GoldenGate Director for SSL are divided into phases:

- Obtaining and storing SSL keys and certificates
- Enabling SSL in the Oracle WebLogic Server domain
- Testing the SSL setup from Oracle GoldenGate Director Web
- Configuring Oracle GoldenGate Director Client for SSL
- Testing a client SSL connection

Obtaining and storing SSL keys and certificates

1. Work with your security team to obtain a private key, a digital certificate that contains the public key, and a trusted CA certificate (in PEM format) from a reputable authority.

2. Store the private key and trusted CA certificate in a JKS (Java KeyStore).

See the Oracle WebLogic Server documentation for help with these tasks.

Enabling SSL in the Oracle WebLogic Server domain

1. Start Oracle GoldenGate Director Server, and then view the **Start Oracle GoldenGate Director** command console to make sure the startup is complete before moving to the next steps.

2. In a web browser, go to the Oracle WebLogic Server console at the following URL, where hostname is the name of the server that hosts Oracle GoldenGate Director Server.

```
http://hostname:7001/console
```

3. Log into the Oracle WebLogic Server domain home page with your Oracle WebLogic Server credentials.

4. Under **Domain Structure**, expand to **Domain > Environments > Servers**.

5. Under **Summary of Servers**, make the **Configuration** tab active.

6. Click *machine_name***(admin)**, for example **localhost(admin)**.

7. Under **Settings for** *machine_name*, make the **Configuration** tab active.

8. Scroll down to **SSL Listen Port Enabled**, and then select the check box to enable the SSL support.

9. For **SSL Listen Port**, specify a SSL port number for this domain, or use the default of 7002.

10. At the bottom of the screen, click **Save**.

11. In the Oracle WebLogic Server command console, view the trailing entries to confirm that Oracle WebLogic Server is now listening on the specified SSL port.

12. On the Oracle WebLogic Server console, make the **SSL** tab active.

13. Scroll down to **Private Key Alias**, and then make sure the name of the keystore is the one that you created for use with Oracle GoldenGate Director. If not, make certain that the keystore is stored in a directory that can be accessed by Oracle WebLogic Server and Oracle GoldenGate Director Server.

Testing the SSL setup from Oracle GoldenGate Director Web

1. Point a web browser to the following URL (note the "s" in https), where hostname is the name of the server that hosts Oracle GoldenGate Director Server:

   ```
   https://hostname:7002/acon
   ```

2. If the browser returns a security message stating that the connection is untrusted, click **I Understand the Risks**, and then take these steps to proceed:

   ■ Click **Add Exception**.

   ■ In the **Add Security Exception** dialog, click **Get Certificate**.

   ■ Click **Confirm Security Exception**.

3. Log in to Oracle GoldenGate Director as the Oracle GoldenGate Director administrator. If you log in successfully, you configured SSL correctly. If the login fails, repeat the steps to enable SSL, and make certain that you specify a valid port (the default is recommended) and that you click **Save** after enabling SSL.

Configuring Oracle GoldenGate Director Client for SSL

These steps are the same for all platforms. The examples reflect the UNIX file system.

1. Copy the SSL keystore to any directory of the Oracle GoldenGate Director Client machine. This file has a suffix of `.jks`.

2. In the Oracle GoldenGate Director Client installation directory, open the etc/client-properties.conf file.

3. Update the following properties. Because this is a Java properties file, use only forward slashes even if the platform is Windows.

   ■ Specify the location of the keystore file:

   ```
   weblogic.security.SSL.trustedCAKeyStore=C:/Oracle/Middleware1034/wl
   server_10.3/server/lib/<certificate>
   ```

> **Note:** Replace this directory path with the actual path to your keystore.

- Instruct Oracle WebLogic Server not to verify the host name:

  `weblogic.security.SSL.ignoreHostnameVerification=true`

4. (Optional) In the properties file, you can initialize any other JVM parameters that are required while using SSL mode.

Testing a client SSL connection

1. Run Oracle GoldenGate Director Client.

2. Log in to localhost:7002 (using the SSL port) with the **SSL** check box checked.

3. From the **File** menu, select **Logout**.

4. From the **File** menu, select **Login**.

5. Log in to localhost:7001(this time using the default port) without selecting the **SSL** check box, and make sure that also works.

4

Downloading the Java Runtime Environment (JRE)

The Oracle GoldenGate Director software and installer both rely on components in the Java Runtime Environment (JRE) version 6 (internal version 1.6.x). In many cases, this environment already exists because it was installed when the system was configured or when another program was installed. If the system where you are installing the server or client components does not have this environment, you can download it free of charge from Oracle.

This chapter contains instructions for downloading the JRE and verifying the JRE environment on UNIX and Windows systems to support Oracle GoldenGate Director.

Downloading the Java Runtime Environment

1. Go to
   http://www.oracle.com/technetwork/java/javase/downloads/index.html.

2. Under Java Platform, Standard Edition, it shows the text "JDK 6 Update xx (JDK or JRE), where xx is the current update number." Click either one (the JDK includes the JRE). Do not use any other version or edition of the Java JRE or JDK.

   > **Note:** The internal version number for this update release is 1.6.x_ xx-bxx. The external version number is 6u21. These numbers may appear in your system displays.

3. Follow the navigation aids to download the JRE or JDK that is appropriate for your operating system.

4. Follow the installation instructions that are provided with the JRE.

5. Save the path to the JRE executable file. You will need it later.

6. Proceed to the next steps in "Verifying the JRE environment".

Verifying the JRE environment

This section contains instructions for verifying the JRE environment on UNIX and Windows platforms.

Verifying the JRE on UNIX

After installing the JRE, run the following test to verify the version of Java that is recognized by the system.

1. From the command shell of the operating system, issue the following command.

   `java -version`

2. Make certain the command output shows the version that you downloaded. It should be 1.6.0_*xx-bxx*.

Verifying the JRE on Windows

After installing the JRE, but before installing Oracle GoldenGate Director Server, verify the path to the JRE. In this procedure, you will:

- Verify the JRE version that is installed on the server machine.

- Verify that the `JAVA_HOME` system environment variable points to the JRE that you installed, or create the variable if absent.

- Verify that the `JAVA_HOME` path appears at the beginning of the Path system environment variable, and change it if needed. Programs such as the Oracle database software place the path to their own JRE installations in the location that is expected by Oracle GoldenGate Director Server.

To verify the JRE version

1. From the **Start** menu, select **Run**.

2. In the **Run** dialog box, type `cmd` to run the Windows command console.

3. Issue the following command.

   `java -version`

4. Do one of the following:

   - If the results show 1.6.0_*xx-bxx*, continue to the instructions in "Installing Oracle GoldenGate Director Server" on page 6.

   - If the results do not show that version, close the command console and continue with the following steps in "To set the JAVA_HOME system variable" on page 24.

To set the JAVA_HOME system variable

These steps verify, and then create or edit the `JAVA_HOME` system variable if needed, for the JRE that you installed.

1. On the desktop (Windows 2000) or in the **Start** menu (Windows XP), right-click **My Computer** and then click **Properties**.

2. Click the **Advanced** tab, and then click **Environment Variables**.

3. Under **System Variables**, look for the `JAVA_HOME` system variable.

   The `JAVA_HOME` path should point to the location that you recorded when you installed the JRE.

4. Do one of the following:

   - If you see the `JAVA_HOME` system variable and it points to the correct location, leave the Environment Variables dialog box open and follow the instructions in "To set the JAVA_HOME system path" on page 25.

- If a JAVA_HOME system variable does not exist, or if it points to the wrong location, continue to the next step.

5. Under **System Variables**, do one of the following:

   - Click **New** to create a JAVA_HOME variable

   - Select the existing JAVA_HOME variable and then click **Edit**. This opens a dialog box to edit this variable.

6. In the **Variable Name** box, type JAVA_HOME in capital letters.

7. In the **Variable Value** box, type the correct path to the JRE.

8. Click **OK** to set the path and close the dialog box.

9. Leave the **Environment Variables** dialog box open and follow the instructions in "To set the JAVA_HOME system path" on page 25.

To set the JAVA_HOME system path

These steps ensure that the JAVA_HOME path is in the expected location within the Path system variable.

1. In the **Environment Variables** dialog box, look for the Path variable under **System Variables**.

2. Confirm that the path to JAVA_HOME appears as the first path in the list of paths.

   %JAVA_HOME%\bin;

3. Do one of the following:

   - If this JAVA_HOME path is the first path in the string, close the **Environment Variables** and **System Properties** dialog boxes and follow the instructions in "Installing Oracle GoldenGate Director Server" on page 6.

   - If this JAVA_HOME path is not the first path in the string, continue to the next step.

4. Under **System Variables**, double click the Path variable to open it for editing.

5. In the path string, locate the JAVA_HOME path. If it is there, cut and paste it (including the terminating semi-colon) to the *front* of the list; otherwise, type it. The path must be entered as %JAVA_HOME%\bin.

6. Click **OK** to close the **Edit System Variable** dialog box.

7. Close the **Environment Variables** and **System Properties** dialog boxes.

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