Oracle® GoldenGate Director

Administration Guide

Version 2.0

December 2009

ORACLE

Oracle® GoldenGate Director Administration Guide, Version 2.0

Contents

• • • • • • • • • • • • • •

• •

Oracle® GoldenGate Director *Administration Guide*   1

CHAPTER 1
Overview of GoldenGate Director

• • • • • • • • • • • • • •

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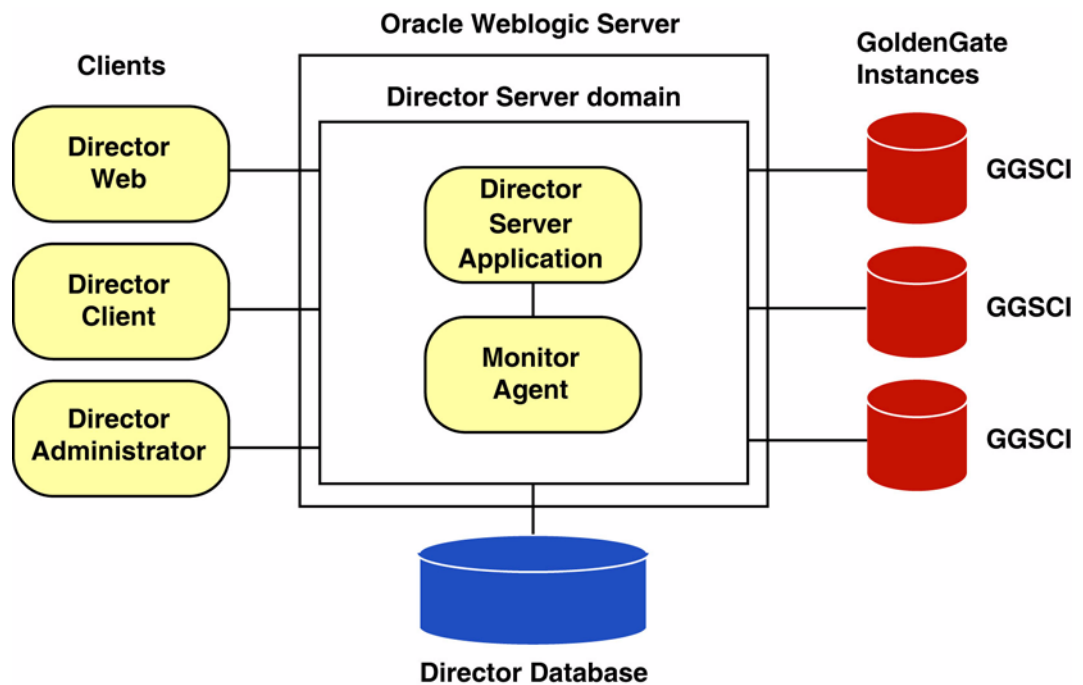
GoldenGate instances

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

GoldenGate Director Server

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

GoldenGate Director Server is composed of the following applications:

- The 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 GoldenGate hosts that establishes a dedicated session of GGSCI (GoldenGate Software Command Interface). The connection is used to obtain process status and event information.

GoldenGate Director database

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 GoldenGate Director Client on any system and retrieve his or her own stored view of the network.

GoldenGate Director Client

GoldenGate Director Client is a client application of GoldenGate Director Server that provides a graphical user interface (GUI) for managing 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.

GoldenGate Director Web

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

GoldenGate Director Administrator

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

. . . .

Oracle® GoldenGate Director *Administration Guide*   3

CHAPTER 2

System Requirements and Installation

● ● ● ● ● ● ● ● ● ● ● ● ● ●

System requirements

GoldenGate instances

- GoldenGate Director is compatible with versions of the GoldenGate software that are covered under the current GoldenGate support policy.
- All systems hosting GoldenGate instances must be registered with a Domain Name Server (DNS).

GoldenGate Director Server

Hardware

- Operating system that is one of the following:
  - ○ Windows NT/XP/2000/Vista
  - ○ Solaris
  - ○ AIX
  - ○ Redhat Linux

  Other Linux or UNIX variants may be supported, but have not been tested.
- 1 GB of RAM.
- 1 GB to 1.5 GB (recommended) disk space.
- The port that is selected during the installation process must be dedicated to GoldenGate Director Server. The default port is 7001.

Software

- The Java Runtime Environment (JRE) version 6 (1.6.*x)* must be available on the system where you are installing GoldenGate Director Server. If this environment does not exist on the system, see Appendix 1 on page 20.
- The operating system must be able to support the Java 1.6 (6.0) Runtime Environment, which is installed and used by the GoldenGate Director Server installer and software.
- Oracle Weblogic Server 11g (10.3.1) Standard Edition. This is Oracle's JavaEE application server. This software must be installed according to the product documentation prior to installing GoldenGate Director Server. Installing this version of Oracle Weblogic Server will not interfere with other, existing versions of Oracle Weblogic Server.

> **NOTE** You need not create a domain for GoldenGate Director Server. A domain will be created in the GoldenGate Director installation directory by the installation program.

- One of the following databases, in which GoldenGate Director Server will install and maintain a repository of some small tables that contain working data, such as user preferences and information about GoldenGate instances.
  - ❍ MySQL 5.x Enterprise version.
  - ❍ SQL Server 2000 and 2005
  - ❍ Oracle 9i or later.

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

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

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

ACCOUNTB	JMS_ROLES
ACLB	JMS_SUBSCRIPTIONS
ACLENTRYB	JMS_TRANSACTIONS
ACNTGROUPREL	JMS_USERS
ACNTPROPB	LOGENTRYB
ACONPROCSB	MANAGERREFB
ACONWATCHB	MONAGENTB
ALERTB	NODESTATEB
AUTOINCB	STAGEB
GDSCVERS	STATSENTRYB
GROUPB	SUFFIXB
HOSTINFOB	UISPROPB
JMS_MESSAGES	

GoldenGate Director Client

- Windows or UNIX platform that:
  - ❍ Supports Java Runtime Environment (JRE) version 6.
  - ❍ Is on the same network as the GoldenGate Director Server server.
- Install Java Runtime Environment (JRE) version 6.0 on each client system. You can use the JRE that is installed with the GoldenGate Director Server if installing the client on the same machine. If you need to install a JRE, see Appendix 1 on page 20.
- Monitor display resolution (screen area) of at least 1024 x 768 pixels, preferably 1280 x 1024 or greater.

GoldenGate Director Web

GoldenGate Director Web supports the following web browsers:

- Microsoft Internet Explorer version 5.0 or later
- Mozilla Firefox version 1.3 or later
- Apple Safari version 1.2 or later

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

Installing GoldenGate Director Server

These instructions apply to new installations. For upgrades,

A new installation involves the following steps:

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

Assigning database storage and login credentials

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

Table 1   Required database privileges for GoldenGate Director Server

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 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.

Table 1 **Required database privileges for GoldenGate Director Server (continued)**

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 GoldenGate Director 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:
   - ❍ View the Readme file.
   - ❍ Click **Download** for each component that you want. Follow the automatic download process to transfer the mediapack.zip file to your system.

Installing the GoldenGate Director Server software

1. Close other applications as permissible.

2. Run ggdirector-serversetup_<version>.

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 6 for more information. GoldenGate Director must be installed as a Oracle Weblogic Server domain.

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

5. **Weblogic Location**: Enter, or browse to, the directory within the Oracle Weblogic Server installation directory that is directly *above* the wlserver_10.3.1 directory. For example, in a default installation, you would select the **Middleware** directory under a directory named **Oracle**.

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

7. **Database**: Select the type of database to use as the 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 a repository that was used by a previous version of GoldenGate Director. This will preserve existing user accounts, data source configurations, and user environments.

8. **(MySQL only)** If you have not yet downloaded and installed MySQL Enterprise Edition, you can optionally install a free trial version for use as the GoldenGate Director repository. To use MySQL, you must use the Enterprise Edition. Click the link to the MySQL website. Install MySQL and then start it. You can leave the installer running while you do this.

9. **Database driver configuration**: Enter the following information for GoldenGate Director Server to connect to the selected 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 a database user that can be used to log on to the database. This user must already exist in the database; the installer cannot create one. To use an existing GoldenGate Director Server repository, use the credentials of the user that owns that database or schema. These credentials are used to establish authentication within 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. **Pre-installation summary**: Review your installation input, and then click **Back** to make changes or click **Next** to start the installation.

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

13. (Windows) To create a Windows service for GoldenGate Director Server, see the Oracle Weblogic Server documentation.

Controlling GoldenGate Director Server

To start or stop GoldenGate Director Server from the command line

1. Before starting GoldenGate Director Server, start Oracle Weblogic Server.

2. Go to the GoldenGate Director Server installation directory.

3. Use the following programs.

Table 2   Control commands for GoldenGate Director Server

Action	Windows	UNIX and Linux
Start Director Server	domain\startWebLogic.cmd	domain/startWebLogic.sh
Stop Director Server	domain\bin\stopWebLogic.cmd	domain/bin/stopWebLogic.sh

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

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

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

To start or stop GoldenGate Director Server from the Windows Program menu

1. Before starting GoldenGate Director Server, start Oracle Weblogic Server.

2. From the Windows **Start** menu, click **Programs**>**GoldenGate Director Server**, and then select either **Start Director** or **Stop Director**.

Installing GoldenGate Director Client

These instructions apply to new installations. For upgrades, see "Upgrading and updating GoldenGate Director" on page 11.

Follow these steps on all Windows, Linux, or UNIX workstations that will be used to connect to GoldenGate Director Server.

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

2. Start GoldenGate Director Server.

3. Close all Windows applications.

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

```
http://<servername>:<port>/download
```

Where: <servername> is the name or IP address of the machine hosting GoldenGate Director Server and <port> is the GoldenGate Director Server port number (default is 7001).

> **NOTE** *Do not* use "localhost" as the host name. You must use the machine's fully qualified name or its IP address. The correct name and IP address are shown on the Oracle Weblogic Server console at startup. An example is:
>
> ```
> http://dirhost.abc.com:7001/acon
> ```

5. Select **GoldenGate Director Client**.

6. Download either ggdirector-clientsetup.exe or ggdirector-clientsetup.sh, depending on the client platform, and save it to the workstation.

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

❍ an installation directory.
❍ a location for the Windows shortcut that starts the client.

Starting GoldenGate Director Client

● To start GoldenGate Director Client on a UNIX system, run the run-director.sh script from the bin sub-directory of the installation directory.
● To start GoldenGate Director Client on a Windows system, run GoldenGate-Director.exe from the installation directory or from the shortcut specified during installation.

Starting GoldenGate Director Web

> **NOTE** Before you can use the GoldenGate Director Web client, you must first use the GoldenGate Director Administrator to configure the server component with user accounts and connection information for GoldenGate instances. See Chapter 3.

To start GoldenGate Director Web, run an Internet browser and enter the following in the address bar:

```
http://<system name>:<port>/acon/
```

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

> **NOTE** *Do not* use "localhost" as the host name. You must use the machine's fully qualified name or its IP address. The correct name and IP address are shown on the Oracle Weblogic Server console at startup.
>
> ```
> http://dirhost.abc.com:7001/acon
> ```

. . . .

Oracle® GoldenGate Director *Administration Guide* 10

Upgrading and updating GoldenGate Director

Software upgrades

You can upgrade to version 2.0 from version 1.4 of GoldenGate Director. Because GoldenGate Director Server 2.0 must be installed within Oracle Weblogic Server, an upgrade path 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 database repository that was used by the previous version, so that the existing user accounts, environments, and data sources are preserved and the upgrade is seamless to the GoldenGate Director Clients.

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

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

● Select the database type that contains the old repository.

● Select the correct database driver information for the old repository database.

● Select the database or schema and user that owns the old 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 existing password to satisfy this requirement.

If you need assistance with the upgrade, open a support case with GoldenGate Technical Support at http://support.oracle.com.

Uninstalling GoldenGate Director

Uninstalling GoldenGate Director Server

1. Stop GoldenGate Director Server (see page 9).

2. (Optional) Remove the GoldenGate Director Server installation folder.

Uninstalling GoldenGate Director Client

● To uninstall GoldenGate Director Client from a UNIX system, stop the GoldenGate Director Client application and then remove the installation directory and files.

● To uninstall GoldenGate Director Client from a Windows system, stop the GoldenGate Director Client application and then use the **Add/Remove Programs** control panel, or run Uninstall GoldenGate Director.exe from the GoldenGate Director Client directory.

Configuring GoldenGate Director Server

• • • • • • • • • • • • •

Running GoldenGate Director Administrator

After installing the GoldenGate Director components, configure GoldenGate Director Server by using the GoldenGate Director Administrator program.

With GoldenGate Director Administrator, you can:

- Change the administrator user information and password
- Manage user accounts
- Manage data sources
- Configure the Monitor Agent
- Set default domain suffixes

To start GoldenGate Director Administrator

1. From the **bin** sub-directory of the GoldenGate Director Client installation location, run GDSC Admin Tool.exe. On Windows systems, you can run GoldenGate Director Administrator from the shortcut specified during the client installation.

2. In the login boxes, enter the admin user's name and password. The first time that you run GoldenGate Director Administrator, log in as admin with the password admin. GoldenGate recommends changing the admin user's password for security purposes. You also can enter or change other information about the admin user. See "To change a user account" on page 13.

Managing user accounts

Users must have an account with GoldenGate Director Server before they can log in from GoldenGate Director Client. Use the **Accounts** tab to manage GoldenGate Director user accounts.
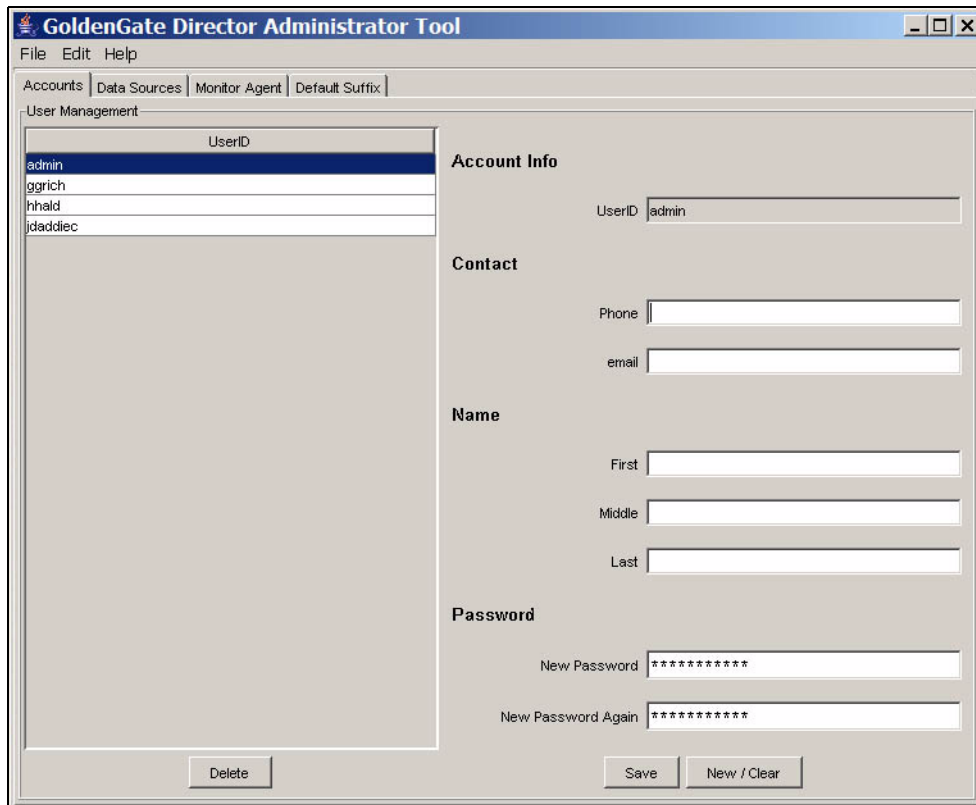
To add a user account

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 user's phone number and email address. (Optional)

4. Under **Name**, type the user's first, middle, and last names. (Optional)

5. Under **Password**, type and confirm a 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 the **Account Info**, **Contact**, **Name**, and **Password** boxes 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 GoldenGate data sources

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

Use the **Data Sources** tab to manage information about GoldenGate instances.
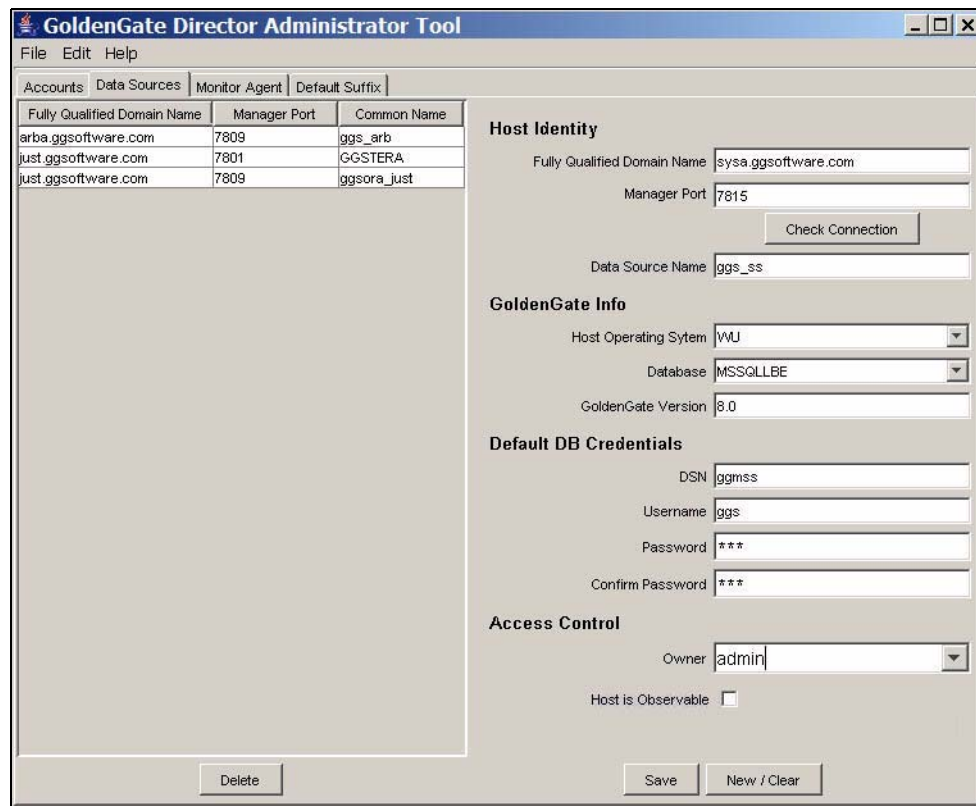
To add a GoldenGate data source

Adding a GoldenGate instance as a data source adds information about its Manager process to the GoldenGate Director database repository.

1. Start the Manager process of the 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 of the host system, for example 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 GoldenGate instance (for example GGS1). This name is displayed as a data source in the GoldenGate Director Client interface.

   > **NOTE** Once a GoldenGate instance has been added as a data source, the fully qualified domain name and port number cannot be changed without deleting it and then adding it back again. If that instance is being used as a data source in client diagrams, those diagrams will have to 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 GoldenGate instance is running.

Database Code	Database
DB2	DB2
MSSQL	Microsoft SQL Server
NSK	Enscribe 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 $X.x$ version of GoldenGate that is installed on the system, for example 10.4. It is important to specify an accurate version so that the correct parameters are displayed in the GoldenGate Director Client parameter editor.

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

   ❍ **DSN**: The data source name of the database. Only required for ODBC databases; 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, then 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 GoldenGate Director clients. They will be able to see the host, monitor the Manager and 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 a GoldenGate data source

Changing data source information in 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 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 a GoldenGate data source

Deleting a data source removes its Manager information from the GoldenGate Director Server but does not delete the Manager process itself or affect it in any way. 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 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

GoldenGate Director Server creates threads that monitor the Manager processes of the GoldenGate instances registered as data sources within 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
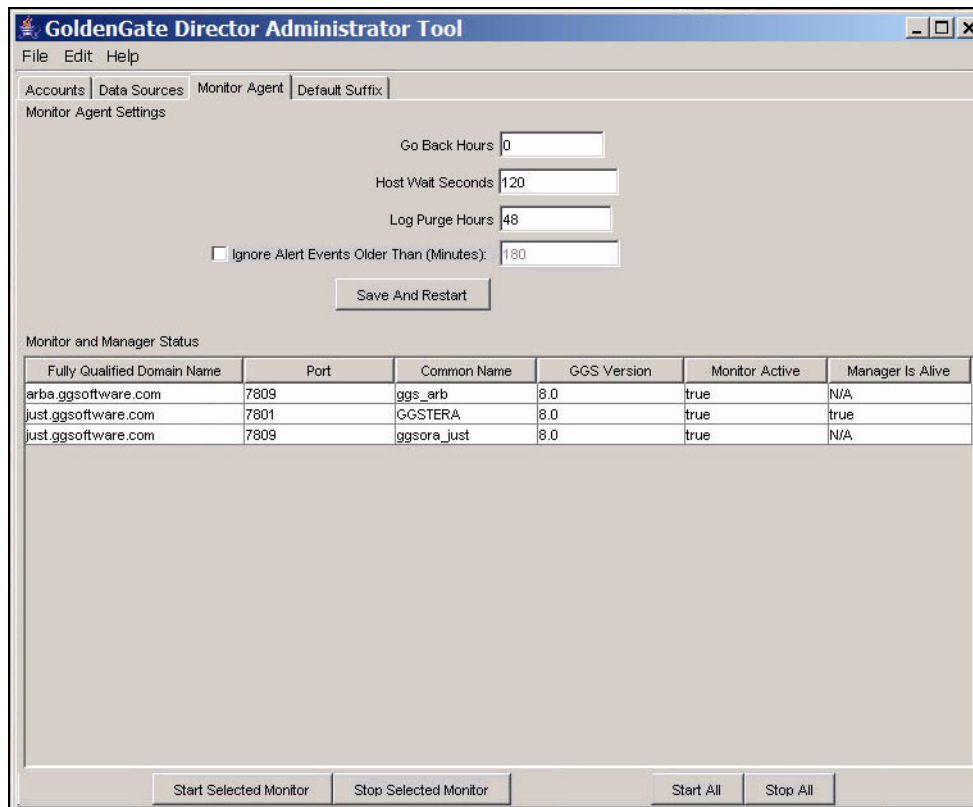
To view Manager processing and monitoring status

1. To view the monitoring status of a 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 List**. The status of the monitor agent and Manager process is reset every time the **Monitor Agent** tab is made active. It can take up to the amount of time specified with **Host Wait Seconds** to update the statistics. **Refresh List** 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 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 poles 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 GoldenGate could not write to the event log, the polling ensures that this status is reflected within the GoldenGate Director Web interface.

> **NOTE** There is another type of communication between GoldenGate Director Server and hosts (besides Manager polling) that involves the immediate communication of changes made to 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 GoldenGate Log before purging the data. Purging the data maintains the logs at a reasonable size on disk.

4. Use **Ignore Alert Events Older Than (Minutes)** if using GoldenGate Director email alerts. It prevents duplicate alerts from being sent if 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**, which 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 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

GoldenGate Director Server always 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 GoldenGate Director Server to use when attempting to qualify a non-qualified host name that appears in a GoldenGate parameter file.
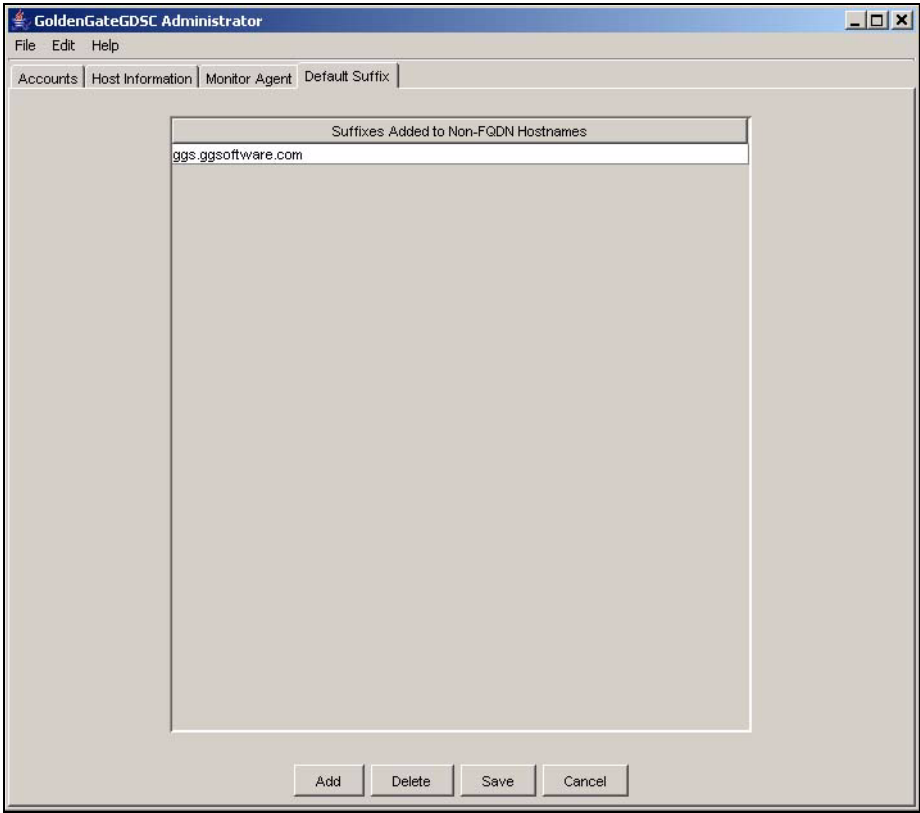
For example, if the domain is anycompany.com and the fully qualified domain name of a host is sysa.anycompany.com, you would put anycompany.com into the suffix table. For more complex domain setups, you could use something like office.anycompany.com and offsite.anycompany.com.

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**.

Downloading the Java Runtime Environment (JRE)

• • • • • • • • • • • • • •

The GoldenGate Director software and installer both rely on components in the Java Runtime Environment (JRE) version 6. 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 the Sun Developer Network website.

1. Go to http://java.sun.com.

2. Search for version 6 (1.6.x) of the JRE (or the JDK, which includes the JRE). Do not use any other version.

3. Download the JRE that is appropriate for your operating system.

4. Follow the installation instructions provided with the JRE.

5. Write down the path to the JRE executable file.

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

Verifying the JRE environment

UNIX

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

1. From the operating system's command line, issue the following command.

```
java -version
```

2. Make certain it is the version that you downloaded.

Windows

After installing the JRE, but before installing GoldenGate Director Server, the path to the JRE must be verified and created, if needed. 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 Oracle place the path to their own JRE installations in the location expected by 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 that the version is 1.6.x, continue to the instructions in "Installing GoldenGate Director Server" on page 6.

❍ If the results do *not* show that the version is 1.6.x, close the command interpreter and continue with the following steps in "To set the JAVA_HOME system variable".

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.
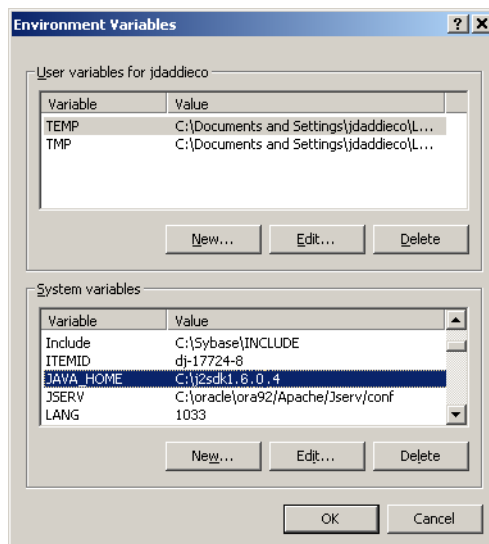
Figure 1   JAVA_HOME variable

The JAVA_HOME path should point to the location that you recorded when you installed the JRE. Typically it is a directory at the root of the C: drive that has a name similar to:

j2sdk<version>

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 23.

   ❍ 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**, either click **New** to create a JAVA_HOME variable, or select the existing JAVA_HOME variable and click **Edit**. This opens the **New System Variable** or **Edit System Variable** dialog box.
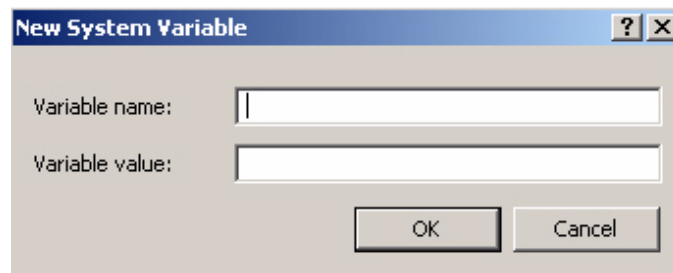
Figure 2 Creating the Java_Home variable

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 23.

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**.
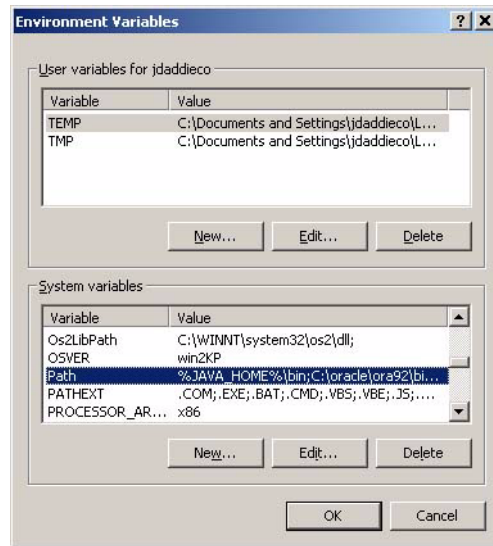
Figure 3   Path variable

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

%JAVA_HOME%\bin;

Refer to the example in Figure 3 if needed.

3. Do one of the following:

❍ If the 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 GoldenGate Director Server" on page 6.

❍ If the 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 the **Edit System Variable** dialog box.

5. In the path string, locate the JAVA_HOME path, then cut and paste it (including the terminating semi-colon) to the *front* of the list.
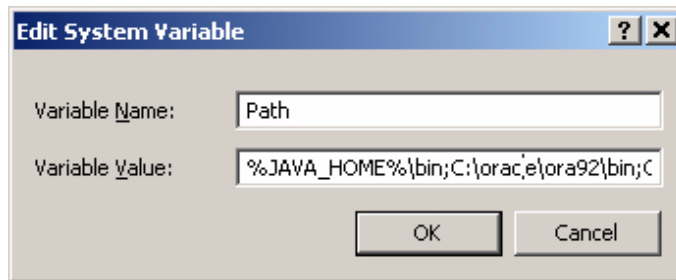
Figure 4   Changing the Path variable

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

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

Index

• • • • • • • • • • • • • • •