Oracle® GoldenGate

Upgrading to Oracle GoldenGate Monitor 12.2.1.2

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Preface

This document describes how to upgrade Oracle GoldenGate Monitor Server 12*c* (12.2.1.2) release to the 12*c* (12.2.1.2) release. This information includes the upgrade process, details regarding the components involved in that process, pre-requisites for upgrading, and post-upgrade instructions.

Audience

This document is intended for administrators who are familiar with Oracle Fusion Middleware installation, upgrade, and administration tasks.

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Related Documents

For more information, see the following documents in the Oracle GoldenGate Monitor documentation set:

- *Administering Oracle GoldenGate Monitor*
- *Installing, Configuring, and Upgrading Oracle GoldenGate Monitor Agent*
- *Installing and Configuring Oracle GoldenGate Monitor*
- *Using Oracle GoldenGate Monitor*
- *Release Notes for Oracle GoldenGate Monitor*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Preparing to Upgrade Oracle GoldenGate Monitor Server

This chapter summarizes the main points you should understand before upgrading Oracle Oracle GoldenGate Monitor Server from the 12*c* (12.1.3) release to the 12*c* (12.2.1) release.
This chapter contains the following topics:

- Overview
- Upgrade Roadmap
- Upgrade Prerequisites
- Upgrade Tools

Overview

The upgrade process described in this document applies only for an upgrade from Oracle GoldenGate Monitor releases 11g (11.x) or 12*c* (12.1.3) to the Oracle GoldenGate Monitor Server release 12.2.1.

Upgrade Roadmap

Upgrading the Oracle GoldenGate Monitor 12*c* (12.2.1) schema requires the following steps:

> **Note:**
>
> This roadmap assumes that you have stopped your 11g (11.x) or 12*c* (12.1.3) Oracle GoldenGate Monitor Server and backed up the database and `ORACLE_HOME` directory.

1. Perform the upgrade readiness check.
2. Upgrade the Oracle GoldenGate Monitor schema to 12.2.1 by following the instructions for your specific database:
   - For Oracle, see Upgrading the Oracle Database.
   - For SQL Server, see Upgrading the Oracle Database.
3. Create a WebLogic domain for Oracle GoldenGate Monitor Server. For instructions, see "Configuring Oracle GoldenGate Monitor Server for Oracle Databases" in *Installing and Configuring Oracle GoldenGate Monitor*.
4. Run the post upgrade configuration scripts. For instructions, see Performing Post-Upgrade Tasks.

5. Create an Oracle GoldenGate Monitor Agent 12.2.1 instance. For instructions, see "Creating and Configuring an Oracle GoldenGate Monitor Agent Instance" in *Using Oracle GoldenGate Monitor*.
6. Start the Oracle GoldenGate Monitor Server 12.2.1. For instructions, see "Starting Oracle GoldenGate Monitor Server" in *Installing and Configuring Oracle GoldenGate Monitor*.

Upgrade Prerequisites

Before you can upgrade an existing 12.1.3 Oracle GoldenGate Monitor implementation to Oracle GoldenGate Monitor Server 12.2.1, ensure that the following prerequisites are met:

- JDK 1.8 is installed on the target machine.
- WebLogic Server with JRF is installed on the target machine in the same directory in which you installed Oracle GoldenGate Monitor. This creates an Oracle Middleware home (`ORACLE_HOME`). The `ORACLE_HOME` indicator is used throughout this book..
- Oracle GoldenGate Monitor 12*c* (12.2.1) is installed. For installation instructions see Installing Oracle GoldenGate Monitor.
- Your Oracle GoldenGate Monitor 12.1.3 server is stopped and supported databases are installed. For current platform support information for Oracle GoldenGate Monitor 12*c* (12.2.1), log in to Oracle Support and click the **Certifications** tab.
- The Oracle GoldenGate Monitor manager and the JAgent are stopped.

Upgrade Tools

You will use the following tools to upgrade Oracle GoldenGate Monitor Server.

- **Repository Creation Utility (RCU)**; Use this tool to create the other relevant schemas for Oracle GoldenGate Monitor.

  For more information on creating a repository with RCU, see About the Repository Creation Utility.
- **Upgrade Assistant (UA)**; Use this tool to upgrade Oracle GoldenGate Monitor Server schema/repository to 12.2.1.

  For more information on using UA, see About Using the Oracle Fusion Middleware Upgrade Assistant.
- **Reconfiguration Wizard**; Use this tool to upgrade an existing Oracle GoldenGate Monitor Server 12.1.3 domain to an Oracle WebLogic Server 12.2.1 domain.

2
Pre-Upgrade Checklist

The Pre-Upgrade Checklist identifies tasks that can be performed before you begin your upgrade to ensure you have a successful upgrade and limited downtime.

Upgrades are performed while the servers are down. This checklist is meant to identify important — and often time-consuming — pre-upgrade tasks that you can perform before the upgrade to limit your downtime. The more preparation you can do before you begin the upgrade process, the less time you will spend offline.

> **Note:**
>
> The pre-upgrade procedures you perform will depend on the configuration of your existing system, the components you are upgrading, and the environment you want to create at the end of the upgrade and configuration process. Complete only those tasks that apply to your configurations or use cases.

Table 2-1 Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 12*c*

Task	Description
Required Create a complete backup of your existing environment.	Back up all system-critical files and database(s) that contain any schemas that are to be upgraded. If the upgrade fails, you must restore your pre-upgrade environment and begin the upgrade again. See Creating a Complete Backup. • Make sure that your backup includes the schema version registry table. See Backing Up the Schema Version Registry Table. • If you modified any of the startup scripts in your existing domain, you will need to copy them to temporary directory location (outside of the existing domain) during the upgrade and redeploy them after the upgrade.
Optional Clone your production environment to use as an upgrade testing platform.	In addition to creating a complete backup of your system files, Oracle strongly recommends that you clone your production environment. This environment can be used to test the upgrade. See Cloning Your Production Environment.

Table 2-1 (Cont.) Tasks to Perform Before You Upgrade to Oracle Fusion Middleware 12*c*

Task	Description
Required Verify that you are installing and upgrading your product on a supported hardware and software configuration. Do not attempt an upgrade if you are unable to use the latest supported operating system. As with all supported configurations, failure to comply with these requirements may cause your upgrade to fail.	Verify that your hardware and software configurations (including operating systems) are supported by the latest certifications and requirements documents. Also make sure to use a supported JDK version before you install the 12*c* product distributions. Oracle recommends that you verify this information right before you start the upgrade as the certification requirements are frequently updated. Make sure that you have applied the latest patches to your components before you upgrade. See Verifying Certification and System Requirements.
Required for 32–bit Operating Systems Only Migrate to a 64-bit operating system before you can upgrade.	This is required only if you are currently running an unsupported 32–bit operating system.
Optional Update security policy files if you are using enhanced encryption (AES 256).	Some of the security algorithms used in Fusion Middleware 12*c* require additional policy files for the JDK. If you plan to use enhanced encryption, such as AES 256, Oracle recommends that you apply the latest required policy files to the JDK before you upgrade. See Updating Policy Files when Using Enhanced Encryption (AES 256).
Optional Purge any outdated or unused data before you upgrade.	To optimize performance, Oracle strongly recommends that you purge data and objects that will not be used in the upgraded environment. See Purging Unused Data.
Required for Oracle Database Users Only Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12*c* (12.2.1.3.0).	If you are using an Edition-Based Redefinition (EBR) database, you must create the edition before starting the upgrade. See Creating an Edition on the Server for Edition-Based Redefinition.
Optional Create a Non-SYSDBA user to run the Upgrade Assistant.	Oracle recommends that you create the FMW user to run Upgrade Assistant. User FMW can run the Upgrade Assistant without system administration privileges. See Creating a Non-SYSDBA User to Run the Upgrade Assistant
Optional Identify which schemas are currently in your domain before you begin.	It is important that you know which schemas are in your pre-upgrade domain before you start the upgrade. You should know the schema owner names and passwords, as well as the versions of each schema.

3
Creating a Complete Backup

Before you start an upgrade, back up all system-critical files, including the databases that host your Oracle Fusion Middleware schemas.

The backup must include the `SYSTEM.SCHEMA_VERSION_REGISTRY$` table so that you can restore the contents back to its pre-upgrade state if the upgrade fails.

The Upgrade Assistant Prerequisites screen prompts you to acknowledge that backups have been performed before you proceed with the actual upgrade. However, note that the Upgrade Assistant does not verify that a backup has been created.

See:

- Backing Up Your Environment in *Administering Oracle Fusion Middleware*
- Upgrading and Preparing Your Oracle Databases for 12*c* in *Planning an Upgrade of Oracle Fusion Middleware*

Backing Up the Schema Version Registry Table

Your system backup must include the `SYSTEM.SCHEMA_VERSION_REGISTRY$` table or the `FMWREGISTRY.SCHEMA_VERSION_REGISTRY$` table.

Each Fusion Middleware schema has a row in the `SYSTEM.SCHEMA_VERSION_REGISTRY$` table. If you run the Upgrade Assistant to update an existing schema and it does not succeed, you must restore the original schema before you can try again. Before you run the Upgrade Assistant, make sure you back up your existing database schemas and the schema version registry.

> **Note:**
>
> Before you upgrade a schema using the Upgrade Assistant, you must perform a complete database backup. During the upgrade, you are required to acknowledge that backups have been performed.

Maintaining Customized Domain and Environment Settings

If you have modified any domain-generated, server startup scripts, or configuration files in your pre-upgrade environment, it is important to note that these changes are overwritten during the installation, domain upgrade, and reconfiguration operations. Save your customized files to a shared library location so that you can continue to use them after the upgrade.

Every domain installation includes dynamically-generated domain and server startup scripts, such as `setDomainEnv`. These files are replaced by newer versions during the installation and upgrade process. To maintain your custom domain-level environment settings, Oracle recommends that you create a separate file to store the custom domain information before you upgrade, instead of modifying the scripts directly.

For example, if you want to customize server startup parameters that apply to all servers in a domain, you can create a file called `setUserOverrides.cmd` (Windows) or `setUserOverrides.sh` (UNIX) and configure it to add custom libraries to the WebLogic Server classpath, specify additional command-line options for running the servers, or specify additional environment variables. When using the `pack` and `unpack` commands, any custom settings that you add to this file are preserved during the domain upgrade operation and are carried over to the remote servers.

The following example illustrates startup customizations in a `setUserOverrides` file:

```
# add custom libraries to the WebLogic Server system claspath
  if [ "${POST_CLASSPATH}" != "" ] ; then
    POST_CLASSPATH="${POST_CLASSPATH}${CLASSPATHSEP}${HOME}/foo/fooBar.jar"
    export POST_CLASSPATH
  else
    POST_CLASSPATH="${HOME}/foo/fooBar.jar"
    export POST_CLASSPATH
  fi

# specify additional java command-line options for servers
JAVA_OPTIONS="${JAVA_OPTIONS}  -Dcustom.property.key=custom.value"
```

If the `setUserOverrides` file exists during a server startup, the file is included in the startup sequence and any overrides contained within this file take effect. You must store the `setUserOverrides` file in the *`EXISTING_DOMAIN_HOME/`*`bin` directory.

> **Note:**
>
> If you are unable to create the `setUserOverrides` script before an upgrade, you need to reapply your settings as described in Re-apply Customizations to Startup Scripts in *Upgrading Oracle WebLogic Server*.

4

Cloning Your Production Environment for Testing

Create a copy of your actual production environment, upgrade the cloned environment, verify that the upgraded components work as expected, and then (and only then) upgrade your production environment.

Cloning your production environment for testing is recommended, but not required.

Upgrades cannot be reversed. In most cases, if an error occurs, you must stop the upgrade and restore the entire environment from backup and begin the upgrade process from the beginning. Identifying potential upgrade issues in a development environment can eliminate unnecessary downtime.

> **Note:**
>
> It is beyond the scope of this document to describe the cloning procedures for all components and operating systems. Cloning procedures are component and operating system-specific. At a high level, you install the pre-upgrade version of your component domain on a test machine, create the required schemas using the Repository Creation Utility (RCU), and perform the upgrade.

Additional benefits of running an upgrade in a cloned production environment include the following:

- Uncover and correct any upgrade issues.
- Practice completing an end-to-end upgrade.
- Understand the upgrade performance and how purge scripts can help.
- Understand the time required to complete the upgrade.
- Understand the database resource usage (such as temporary tablespace; PGA, and so on).

> **Note:**
>
> You can run the pre-upgrade Readiness Check on the cloned production environment to help identify potential upgrade issues with your data, but you must perform a complete test upgrade on a cloned environment to ensure a successful upgrade.

Cloning an Oracle GoldenGate Monitor Production Environment for Testing

Cloning an Oracle GoldenGate Monitor production environment is a two-part process.

- Task 1: Clone (or copy) the existing production environment — referred to as **A** in the example below.
- Task 2: Run the full upgrade on the cloned environment — referred to as **B** in the example below.

Task 1: Clone existing production environment (A) for upgrade validation.

1. Install Oracle GoldenGate Monitor 11*g* or 12*c* version that matches the production Oracle GoldenGate Monitor instance version on the test machine.
   a. If your pre-upgrade environment is Oracle GoldenGate Monitor 11*g* Release 1, see the Installing Oracle Data Integrator in the *Fusion Middleware Installation Guide for Oracle Data Integrator Guide*.
2. Run the Repository Creation Utility (RCU) from the production version you just installed, and create new Oracle GoldenGate Monitor repository schemas (B). You will want to perform testing on non-production schemas.

> **Note:**
>
> If you are cloning an Oracle GoldenGate Monitor 11*g* production environment:
> When you create a new repository using the RCU, you are required to enter a repository ID for both Master and Work. The defaults are 0=Master and 1=Work. Make sure that the new IDs are different that those used in the existing production repository to avoid ID conflicts during repository import in Step 6.
>
> This is not required if you are cloning an Oracle GoldenGate Monitor 12*c* production environment.

3. If there are multiple work repositories, then you must create the other work repositories to match the production environment. See Creating a Work Repository in Oracle GoldenGate Monitor installation guide for your instance release.
4. Purge the execution logs to avoid exporting and importing excessive data as part of work repository export/import in the following step. See Purging the Logs.
5. Export Oracle GoldenGate Monitor master and work repository from the production system using Oracle GoldenGate Monitor export functionality. See Exporting and Importing the Master Repository in *Developing Integration Projects with Oracle Data Integrator*.
6. Import the Oracle GoldenGate Monitor master and work repository exports into the newly created Oracle GoldenGate Monitor schemas.

Your test environment should now be a clone of your production Oracle GoldenGate Monitor environment.

Task 2: Upgrade the cloned environment (B) to test the upgrade

1. Review the Pre-Upgrade Checklist to ensure that you have met all of the pre-upgrade requirements.
2. Install Oracle GoldenGate Monitor 12*c* (12.2.1.3.0) and any other product distributions into a new Oracle home on the test machine. See Installing the Oracle Data Integrator Software in *Installing and Configuring Oracle Data Integrator*.
3. Follow the standard upgrade procedures for your environment. Make sure that you select the appropriate upgrade procedures for your environment. See Introduction to Upgrading Oracle Data Integrator to 12c (12.2.1.3.0).
4. Complete all post-upgrade configuration tasks and verify that the upgraded components work as expected.

5

Verifying Certification and System Requirements

Review the certification matrix and system requirements documents to verify that your environment meets the necessary requirements for installation.

> **Note:**
>
> When checking the certification, system requirements, and interoperability information, be sure to check specifically for any 32-bit or 64-bit system requirements. It is important for you to download software specifically designed for the 32-bit or 64-bit environment, explicitly.

> **WARNING:**
>
> Make sure that your current environment has been patched to the latest patch set *before* you begin the upgrade. Certifications are based on fully patched environments, unless stated otherwise.

Verify Your Environment Meets Certification Requirements

Oracle has tested and verified the performance of your product on all certified systems and environments. Make sure that you are installing your product on a supported hardware or software configuration.

Whenever new certifications occur, they are added to the appropriate certification document right away. New certifications can occur at any time, and for this reason the certification documents are kept outside of the documentation libraries and are available on Oracle Technology Network. See the Certification Matrix for 12*c* (12.2.1.3.0).

Verify System Requirements and Specifications

It is important to verify that the system requirements such as disk space, available memory, specific platform packages and patches, and other operating system-specific items are met.

Use the *Oracle Fusion Middleware System Requirements and Specifications* document to verify that the requirements of the certification are met. For example, if the Certification Matrix for 12*c* (12.2.1.3.0) indicates that your product is certified for installation on 64-Bit Oracle Linux 7, the System Requirements and Specifications document should be used to verify that your Oracle Linux 7 system has met the required minimum specifications such as disk space, available memory, specific platform packages and patches, and other operating system-specific items. This

document is updated as needed and resides outside of the documentation libraries on the Oracle Technology Network (OTN).

> **Note:**
>
> When you install the Oracle Fusion Middleware Release 12*c* software in preparation for upgrade, you should use the same user account that you used to install and configure the existing, pre-upgrade Oracle Fusion Middleware software. On UNIX operating systems, this ensures that the proper owner and group is applied to new Oracle Fusion Middleware 12*c* files and directories.

If you are running a 32–bit environment, you will need to perform an additional set of steps:

Migrating from a 32-Bit to a 64-Bit Operating System

If you have a 32–bit operating system, then you must migrate your 32-bit environment to a 64-bit software environment before you upgrade.

Make sure to validate the migration to ensure all your Oracle Fusion Middleware 11*g* software is working properly on the 64-bit machine, and only then perform the upgrade to Oracle Fusion Middleware 12*c*.

In these tasks, *host* refers to the 32-bit source machine and *target* refers to the new 64-bit target machine.

> **Note:**
>
> These steps assume that your database is located on a separate host and will not be moved.

Upgrading an operating system typically involves the following:

> **Caution:**
>
> These steps are provided as an example of the operating system upgrade process and may or may not include all of the procedures you must perform to update your specific operating system. Consult your operating system's upgrade documentation for more information.

Procure the Hardware That Supports the Upgrade's 64-bit Software Requirement

Make sure that you have supported target hardware in place before you begin the upgrade process.

Stop All Processes

Before upgrading, you must stop all processes, including Managed Servers, the Administration Server, and Node Manager, if they are started on the host.

> **Note:**
>
> Ensure that the Database is up and running, during the upgrade.

Stop the Managed Servers

To stop a WebLogic Server Managed Server, use the `stopManagedWebLogic` script:

- (UNIX) *`EXISTING_DOMAIN_HOME`*`/bin/stopManagedWebLogic.sh` *`managed_server_name admin_url`*
- (Windows) *`EXISTING_DOMAIN_HOME`*`\bin\stopManagedWebLogic.cmd` *`managed_server_name admin_url`*

When prompted, enter your user name and password.

Stop SOA servers and processes in this order:

1. Business Activity Monitoring (BAM) Managed Server
2. Oracle Service Bus (OSB) Managed Server
3. Service-Oriented Architecture (SOA) Managed Server
4. Oracle Web Services Manager (OWSM) Managed Server

Stop Oracle Internet Directory Server

To stop the Oracle Internet Directory Server, use the `opmnctl` script:

- (UNIX) *`INSTANCE_HOME`*`/bin/opmnctl stop all`
- (Windows) *`INSTANCE_HOME`*`\bin\opmnctl stop all`

Stop the Administration Server

When you stop the Administration Server, you also stop the processes running in the Administration Server, including the WebLogic Server Administration Console and Fusion Middleware Control.

To stop the Administration Server, use the `stopWebLogic` script:

- (UNIX) *`EXISTING_DOMAIN_HOME`*`/bin/stopWebLogic.sh`
- (Windows) *`EXISTING_DOMAIN_HOME`*`\bin\stopWebLogic.cmd`

When prompted, enter your user name, password, and the URL of the Administration Server.

Stop Node Manager

To stop Node Manager, close the command shell in which it is running.

Alternatively, after having set the `nodemanager.properties` attribute `QuitEnabled` to `true` (the default is `false`), you can use WLST to connect to Node Manager and shut it down. See stopNodeManager in *WLST Command Reference for WebLogic Server*.

Back Up All Files from the 32-bit Host Machine

Make sure that you have created a complete backup of your entire 11*g* deployment before you begin the upgrade process. These files can be used if there is an issue during the migration and you have to restart the process.

> **Note:**
>
> If the upgrade from 32-bit to 64-bit takes place on the same machine, there is a risk of corrupting the source environment if the upgrade fails.

See Backing Up Your Environment in *Oracle Fusion Middleware Administrator's Guide*.

During the upgrade you must have access to the contents of the following:

- *11g_DOMAIN_HOME*
- *11g*/`nodemanager` directory located in *11g_ORACLE_HOME*/`wlserver/common/`

Some of the backup and recovery procedures described in Backing Up Your Environment in *Oracle Fusion Middleware Administrator's Guide* are product-specific. Do not proceed with the upgrade until you have a complete backup.

Set Up the Target 64-bit Machine with the 11*g* Host Name and IP Address

The host name and IP address of the target machine must be made identical to the host. This requires you to change the IP address and name of the source machine or decommission the source machine to avoid conflicts in the network.

The process of changing an IP address and host name vary by operating system. Consult your operating system's administration documentation for more information.

Restore the 11*g* Backup from 32-bit Host to 64-bit Host

Restore the files you backed from the 32-bit host using the same directory structure that was used in 11*g*. The directory structure on the target machine must be identical to the structure of the host machine.

See Recovering Your Environment in *Oracle Fusion Middleware Administrator's Guide*.

Install the 12*c* Product Distributions on the Target Machine

Oracle recommends an Out-of-Place approach for upgrade. Therefore, you must install the 12*c* product distributions in a new Oracle home on the target machine.

Refer to the component-specific installation guides for the component(s) you are installing.

Upgrade the Target 64-bit Environment Using the Standard Upgrade Procedure

After installing the product on the target machine, you must upgrade each product component individually using an Upgrade Utility specified in the component-specific upgrade guide and complete any post-upgrade tasks.

If you are upgrading additional components, see the component-specific upgrade guide.

> **Note:**
>
> The Node Manager upgrade procedure requires access to the original Node Manager files. Use the 11*g* Node Manger files that you backed up from the 32-bit source machine as part of Back Up All Files from the 32-bit Host Machine.

Verify That the Database Hosting Oracle Fusion Middleware is Supported

You must have a supported Oracle database configured with the required schemas before you run Oracle Fusion Middleware 12*c*.

Review the Fusion Middleware database requirements before starting the upgrade to ensure that the database hosting Oracle Fusion Middleware is supported and has sufficient space to perform an upgrade. See the Certification Matrix for 12*c* (12.2.1.3.0).

> **Note:**
>
> If your database version is no longer supported, you must upgrade to a supported version before starting an upgrade. See Upgrading and Preparing Your Oracle Databases for 12c in *Planning an Upgrade of Oracle Fusion Middleware*.

Verify That the JDK Is Certified for This Release of Oracle Fusion Middleware

At the time this document was published, the certified JDK for 12*c* (12.2.1.3.0) was 1.8.0_131.

Refer to the Oracle Fusion Middleware Supported System Configurations information on the Oracle Technology Network (OTN) to verify that the JDK you are using is supported.

If your JDK is not supported, or you do not have a JDK installed, you must download the required Java SE JDK, from the following website:

`http://www.oracle.com/technetwork/java/javase/downloads/index.html`

Make sure that the JDK is installed outside of the Oracle home. The Oracle Universal Installer validates that the designated Oracle home directory is empty, and the install does not progress until an empty directory is specified. If you install JDK under Oracle home, you may experience issues in future operations. Therefore, Oracle recommends that you use install the JDK in the following directory: `/home/oracle/products/jdk`.

For more information on the difference between generic and platform-specific installers, see Understanding the Difference Between Generic and Platform-Specific Distributions in the *Oracle Fusion Middleware Download, Installation, and Configuration Readme Files*.

6

Updating Policy Files when Using Enhanced Encryption (AES 256)

If you plan to use enhanced encryption, such as Advanced Encryption Standard (AES) 256, in your upgraded environment, Oracle recommends that you apply the latest required policy files to the JDK before you upgrade.

The Java platform defines a set of APIs spanning major security areas, including cryptography, public key infrastructure, authentication, secure communication, and access control. These APIs allow developers to easily integrate security mechanisms into their application code.

Some of the security algorithms used in Fusion Middleware 12*c* require additional policy files for the JDK. See Java Cryptography Architecture Oracle Providers Documentation.

> **Note:**
>
> If you attempt to use enhanced encryption without applying these policy files to the JDK before you begin the upgrade, the upgrade can fail and you must restore the entire pre-upgrade environment and start the upgrade from the beginning.

7
Purging Unused Data

Purging unused data and maintaining a purging methodology before an upgrade can optimize the upgrade process.

> **Note:**
>
> If a large amount of data needs to be purged, consider partitioning tables or employing other data optimization strategies. Using scripts to remove large amounts of data may impact performance. See the following information in *Administering Oracle SOA Suite and Oracle Business Process Management Suite*:
>
> - Developing a Purging and Partitioning Methodology
> - Developing a Database Growth Management Strategy

Some components have automated purge scripts. If you are using purge scripts, wait until the purge is complete before starting the upgrade process. The upgrade may fail if the purge scripts are running while using the Upgrade Assistant to upgrade your schemas.

Purge the execution logs to avoid exporting and importing excessive data as part of work repository export/import. See Purging the Logs in *Administering Oracle Data Integrator*.

If you are migrating closed 11*g* instance data, run the instance purge scripts before running the upgrade. See Using Purge Scripts Before You Upgrade.

8

Creating an Edition on the Server for Edition-Based Redefinition

Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12*c*.

Edition-based redefinition enables you to upgrade an application's database objects while the application is in use, thus minimizing or eliminating downtime. This is accomplished by changing (redefining) database objects in a private environment known as an edition. Only when all the changes have been made and tested, you make the new version of the application available to users.

> **Note:**
>
> This task must be completed by an Oracle Database User with DBA privileges.

Before upgrading an Edition-Based Redefinition (EBR) enabled schema, you must connect to the database server and create an edition on the database server for 12*c*. The new edition for 12*c* must be a child of your existing 11*g* or 12*c* edition.

To create an edition on the database server, sign in as an SYS user (or another Oracle user that has DBA privileges) and enter the following command:

```
create edition Oracle_FMW_12_2_1_1 as child of
Oracle_FMW_11_1_1_7_0;
```

where `Oracle_FMW_11_1_1_7_0` is an example of the edition name you specified in RCU 11.1.1.7 when the 11.1.1.7 schemas were created. Be sure to provide the actual name used when creating the edition.

The following message notifies you that the edition is created successfully:

```
Edition created.
```

During the upgrade, you are prompted to launch the Reconfiguration Wizard to reconfigure your existing domain. Before running the Reconfiguration Wizard, you must specify the database default edition. Use the following SQL command to manually set up the default edition name for the database, for example:

```
ALTER DATABASE DEFAULT EDITION = Oracle_FMW_12_2_1_1;
```

9

Creating a Non-SYSDBA User to Run the Upgrade Assistant

Oracle recommends that you create a non-SYSDBA user called `FMW` to run the Upgrade Assistant. This user has the privileges required to modify schemas, but does not have full administrator privileges.

SYSDBA is an administrative privilege that is required to perform high-level administrative operations such as creating, starting up, shutting down, backing up, or recovering the database. The SYSDBA system privilege is for a fully empowered database administrator. When you connect with the SYSDBA privilege, you connect with a default schema and not with the schema that is generally associated with your user name. For SYSDBA, this schema is SYS. Access to a default schema can be a very powerful privilege. For example, when you connect as user SYS, you have unlimited privileges on data dictionary tables. Therefore, Oracle recommends that you create a non-SYSDBA user to upgrade the schemas. The privileges listed below must be granted to user FMW before starting the Upgrade Assistant.

> **Notes:**
>
> If you created the non-SYSDBA user FMW in a previous release, you must drop and recreate this user before starting the upgrade. Running the Upgrade Assistant with an older FMW user may lead to a failed upgrade as new privileges may have been added. Oracle recommends that you drop and recreate the user instead of modifying the existing FMW user.
> By default, the `v$xatrans$` table does not exist. You must run the `XAVIEW.SQL` script to create this table before creating the user. Moreover, the `grant select` privilege on the`v$xatrans$` table is required only by Oracle Identity Manager. If you do not require Oracle Identity Manager for configuration, or if you do not have the `v$xatrans$` table, then remove the following line from the script:
>
> ```
> grant select on v$xatrans$ to FMW with grant option;
> ```

In the example below, `welcome1` is the password. When granting privileges, make sure that you specify your actual password.

```
create user FMW identified by welcome1;
grant dba to FMW;
grant execute on DBMS_LOB to FMW with grant option;
grant execute on DBMS_OUTPUT to FMW with grant option;
grant execute on DBMS_STATS to FMW with grant option;
grant execute on sys.dbms_aqadm to FMW with grant option;
grant execute on sys.dbms_aqin to FMW with grant option;
grant execute on sys.dbms_aqjms to FMW with grant option;
grant execute on sys.dbms_aq to FMW with grant option;
grant execute on utl_file to FMW with grant option;
grant execute on dbms_lock to FMW with grant option;
grant select on sys.V_$INSTANCE to FMW with grant option;
```

```
grant select on sys.GV_$INSTANCE to FMW with grant option;
grant select on sys.V_$SESSION to FMW with grant option;
grant select on sys.GV_$SESSION to FMW with grant option;
grant select on dba_scheduler_jobs to FMW with grant option;
grant select on dba_scheduler_job_run_details to FMW with grant option;
grant select on dba_scheduler_running_jobs to FMW with grant option;
grant select on dba_aq_agents to FMW with grant option;
grant execute on sys.DBMS_SHARED_POOL to FMW with grant option;
grant select on dba_2pc_pending to FMW with grant option;
grant select on dba_pending_transactions to FMW with grant option;
grant execute on DBMS_FLASHBACK to FMW with grant option;
grant execute on dbms_crypto to FMW with grant option;
grant execute on DBMS_REPUTIL to FMW with grant option;
grant execute on dbms_job to FMW with grant option;
grant select on pending_trans$ to FMW with grant option;
grant select on dba_scheduler_job_classes to fmw with grant option;
grant select on SYS.DBA_DATA_FILES to FMW with grant option;
grant select on SYS.V_$ASM_DISKGROUP to FMW with grant option;
grant select on v$xatrans$ to FMW with grant option;
grant execute on sys.dbms_system to FMW with grant option;
grant execute on DBMS_SCHEDULER to FMW with grant option;
grant select on dba_data_files to FMW with grant option;
grant execute on UTL_RAW to FMW with grant option;
grant execute on DBMS_XMLDOM to FMW with grant option;
grant execute on DBMS_APPLICATION_INFO to FMW with grant option;
grant execute on DBMS_UTILITY to FMW with grant option;
grant execute on DBMS_SESSION to FMW with grant option;
grant execute on DBMS_METADATA to FMW with grant option;
grant execute on DBMS_XMLGEN to FMW with grant option;
grant execute on DBMS_DATAPUMP to FMW with grant option;
grant execute on DBMS_MVIEW to FMW with grant option;
grant select on ALL_ENCRYPTED_COLUMNS to FMW with grant option;
grant select on dba_queue_subscribers to FMW with grant option;
grant execute on SYS.DBMS_ASSERT to FMW with grant option;
grant select on dba_subscr_registrations to FMW with grant option;
grant manage scheduler to FMW;
```

Note:

Oracle Database 11.2.0.3 Database Users ONLY: You must apply **Oracle Patch 13036331** before you begin the upgrade. Go to My Oracle Support to download the patch.

If you do not apply this patch, you must grant additional privileges for some schemas.

10
Upgrading the Oracle Database

This chapter describes the tasks you perform to upgrade Oracle GoldenGate Monitor with an Oracle Database.
This chapter includes the following sections:

- Creating the Required 12.2.1 Schema Using RCU for 11g Upgrades
- Upgrade Readiness Check
- Schema Upgrade Instructions
- Next Step: Perform Post-Upgrade Tasks

> **Note:**
>
> This upgrade supports only the latest version of Oracle 11g R3 and Oracle 12*c* R1 database software releases. For current database support information for Oracle GoldenGate Monitor 12*c* (12.2.1), see "Platform Support" in *Installing and Configuring Oracle GoldenGate Monitor*.

Creating the Required 12.2.1 Schema Using RCU for 11g Upgrades

This section is only applicable to 11g upgrades. It is *not* applicable to 12c upgrades because the required schema already exists.

> **Note:**
>
> Before running RCU for Oracle 12*c* databases, ensure the following:
>
> - The character set is AL32UTF8. You *must* do this because the default character set is not supported by RCU.
> - You are using a plug-able database. By default, a container database will enable in Oracle 12*c*, so RCU supports only plug-able database, not container database.

To create the 12.2.1 database schema, run the Repository Creation Utility, which is part of the product installation. To launch RCU, navigate to `ORACLE_HOME/oracle_common/bin` and enter:

For Linux or UNIX:

```
$ ./rcu
```

For Windows:

```
C:\ rcu.bat
```

RCU will open, displaying the Welcome screen.

Navigate the RCU screens as instructed in the following table to update the database.

> **Note:**
>
> Some of the RCU items that this procedure instructs you to select might already be selected by default. If an item on a screen is already selected and the instructions below tell you to select it, be careful not to *deselect* it.

Screen	Upgrade Action
Welcome	Click **Next**.
Create Repository	1. Select **System Load and Product Load**. 2. Click **Next**.
Database Connection Details	1. Enter the Oracle GoldenGate Monitor database details. 2. Click **Next**.
Select Components	1. Under the AS Common Services node, select the following schemata: • **Audit Services** • **Audit Services Append** • **Audit Services Viewer** • **Oracle Platform Security Services** **Note:** Do not select the **Monitor Server** schema in this step. 2. Click **Next**. A progress window appears, checking off each schema as its prerequisites are met. 3. Click **OK**.
Schema Passwords	1. Enter the necessary password, if it's not already there, and confirm it. 2. Click **Next**.
Map Tablespaces	Click **Next**. Schema creation for the selected services will commence.
Summary	Review the schema information and click **Create**.
Creation Summary	Click **Close**.

Upgrade Readiness Check

Before beginning an upgrade, you must use the UA to perform an upgrade readiness check. The UA runs a read-only check on various database contents including the schema version, required tables, and columns. If the schema version is already at the upgraded or latest version of Oracle GoldenGate Monitor or there are unexpected or

missing tables or columns found, the readiness test will fail. If a failure occurs, the UA provides the test details and any exceptions in the UA logs, and the readiness test results are provided in the *ORACLE_HOME*/oracle_common/upgrade/logs/postreadiness.txt file. Like RCU, UA is included in the product installation.

Use one of the following sections to perform your readiness check:

- Performing an 11g Readiness Check
- Performing a 12.1.3 Domain Readiness Check

Performing an 11g Readiness Check

On your existing 11g Oracle GoldenGate Monitor server, navigate to *ORACLE_HOME*/oracle_common/upgrade/bin and enter:

For Linux or UNIX:

```
$ ./ua -readiness
```

For Windows:

```
C:\ ua.bat -readiness
```

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure Schemas is selects and click **Next**.
Available Components	1. Select **Oracle GoldenGate Monitor.** 2. Click **Next**.
OGGMON Schema	1. Enter the Oracle GoldenGate Monitor schema name and password. 2. Click **Next**.
Readiness Summary	Click **Next**.
Readiness Check	Click **Continue**. You can use the View Readiness Report button to view your results.
Readiness Success	Click **Close**.

Performing a 12.1.3 Schema Readiness Check

On your existing Oracle GoldenGate Monitor server, navigate to *ORACLE_HOME*/oracle_common/upgrade/bin and enter:

For Linux or UNIX:

```
$ ./ua -readiness
```

For Windows:

```
C:\ ua.bat -readiness
```

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
WebLogic Components	Ensure **WebLogic Component Configurations - offline checks only** is selected and click **Next**.
Component List	Click **Next**.
Readiness Summary	Click **Next**.
Readiness Check	Click **Continue**. You can use the View Readiness Report button to view your results.
Readiness Success	Click **Close**.

Performing a 12.1.3 Domain Readiness Check

On your existing Oracle GoldenGate Monitor server, navigate to `WEBLOGIC_HOME/oracle_common/upgrade/bin` and enter:

> **Note:**
>
> Ensure that you go to your Oracle WebLogic home directory *not* your Oracle home directory.

For Linux or UNIX:

```
$ ./ua -readiness
```

For Windows:

```
C:\ ua.bat -readiness
```

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
WebLogic Components	Ensure **WebLogic Component Configurations - offline checks only** is selected and click **Next**.
Component List	Click **Next**.
Readiness Summary	Click **Next**.
Readiness Check	Click **Continue**. You can use the View Readiness Report button to view your results.
Readiness Success	Click **Close**.

Schema Upgrade Instructions

Upgrading Oracle GoldenGate Monitor Server for Oracle databases is a two-stage process:

1. Creating the Required 12.2.1 Schema Using RCU for 11g Upgrades

2. Upgrade the Server and Schema by Running UA

> **Note:**
>
> Ensure that the existing Monitor server is stopped before you proceeding with the following steps.

Upgrade the Server and Schema by Running UA

> **Note:**
>
> Ensure that the existing Oracle GoldenGate Monitor Server 11g pointed to the schema you are going to upgrade is stopped before commencing with this procedure.

With the repository created, you next run UA to upgrade the database to version 12*c* (12.2.1). Navigate to *ORACLE_HOME*/oracle_common/upgrade/bin and enter:

For Linux or UNIX:

```
$ ./ua
```

For Windows:

```
C:\ ua.bat
```

The UA Welcome screen appears.

Use one of the following sections to perform your schema upgrade:

- Upgrading an 11g Schema
- Upgrading 12.1.3

Upgrading an 11g Schema

Upgrading the Server

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
Available Components	1. Select **Oracle GoldenGate Monitor.** 2. Click **Next**.
Prerequisites	1. Select all three prerequisites. 2. Click **Next**.

Screen	Upgrade Action
OGGMON Schema	1. Enter the Oracle GoldenGate Monitor schema name and password. 2. Click **Next**.
OGGMON Schema Prefix	1. Enter the same schema prefix you used when creating the STB schema in RCU. 2. Click **Next**.
Examine	Click **Next**.
Upgrade Summary	Click **Upgrade**.
Upgrade Progress	Click **Next**.
Upgrade Success	Click **Close**.

The `/ua_timestamp.log,ua_timestamp.out` files are generated at `$oracle_common/upgrade/logs` under the 12g *`ORACLE_HOME`*.

Upgrading the Oracle GoldenGate Monitor Server Configuration

The UA updates the Monitor Server configuration files to the latest 12.2.1 configuration by maintaining your existing set property values. It creates a `oggmon.properties` file in the *`domain_name`*`/config/monitorserver/cfg/` directory, with an encrypted password entry that is used in JMX communication between Monitor Server and Agent.

Navigate to *`ORACLE_HOME`*`/oracle_common/upgrade/bin` and enter:

For Linux or UNIX:

```
$ ./ua
```

For Windows:

```
C:\ ua.bat
```

Navigate the UA screens as instructed in the following table to upgrade your server.

The UA Welcome screen appears.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
WebLogic Components	1. Select **WebLogic Component Configurations** and enter the domain directory to be upgraded. 2. Click **Next**.
Component List	Click **Next**.
Prerequisites	1. Select all three prerequisites. 2. Click **Next**.

Screen	Upgrade Action
OGGMON Schema	1. Enter or select the OGGMON schema connect string, and the DBA and schema user names and passwords. 2. Click **Next**.
OGG Monitor Installed Version	1. Select **OGG Monitor 11g**. 2. Enter the directory that contains your 11g configuration files. 3. Click **Next**.
Examine	Click **Next**.
Upgrade Summary	Click **Upgrade**.
Upgrade Progress	Click **Next**.
Upgrade Success	Click **Close**.

This completes the Oracle GoldenGate Monitor Server for Oracle database upgrade process.

Upgrading 12.1.3

Use this section to upgrade your 12.1.3 schema, WebLogic domain, and Oracle GoldenGate Monitor Server.

Upgrading the Server

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
Available Components	1. Select **Oracle GoldenGate Monitor** and Oracle Platform Security Services. Oracle Audit Services is automatically selected. 2. Click **Next**.
Domain Directory	Enter the directory for the domain you are upgrading or browse for it, then click **Next**.
Prerequisites	1. Select all three prerequisites. 2. Click **Next**.
IAU Schema	1. Enter or select the IAU schema connect string, and the DBA and schema user names and passwords. 2. Click **Next**.
OPSS Schema	1. Enter or select the OPSS schema connect string, and the DBA and schema user names and passwords. 2. Click **Next**.

Screen	Upgrade Action
OGGMON Schema	1. Enter or select the OGGMON schema connect string, and the DBA and schema user names and passwords. 2. Click **Next**.
Examine	Click **Next**.
Upgrade Summary	Click **Upgrade**.
Upgrade Progress	Click **Next**.
Upgrade Success	Click **Close**.

The `/ua_timestamp.log,ua_timestamp.out` files are generated at `$oracle_common/upgrade/logs` under the 12g *`ORACLE_HOME`*.

Upgrading the WebLogic Domain

Next, you must update the existing 12.1.3 WebLogic domain configuration to a 12.2.1 domain. Navigate to *`ORACLE_HOME`*`/wlserver/common/bin` and enter:

For Linux or UNIX:

```
$ ./reconfig.sh
```

For Windows:

```
C:\ reconfig.bat
```

The Fusion Middleware Reconfiguration Wizard opens, displaying the Select Domain screen.

Navigate the wizard screens as instructed in the following table to upgrade your domain.

Screen	Upgrade Action
Select Domain	Enter the directory for the domain you are upgrading or browse for it, then click **Next**.
Setup Progress	Click **Next**.
Domain Mode and JDK	Enter your JDK directory or browse for it, then click **Next**.
Database Configuration Type	1. Click **Get RCU Configuration** to retrieve your database configuration and ensure that it successfully connects. 2. Click **Next**.
Component Datasources	Click **Next**.
JDBC Test	1. Select all connections. 2. Click **Test Selected Connections**. 3. Click **Next**.
Advanced Configuration	Do not select anything. Click **Next**.
Configuration Summary	Click **Reconfig**.
Reconfiguration Progress	Click **Next**.

Screen	Upgrade Action
Reconfiguration Success	Click **Finish**.

Upgrading the Oracle GoldenGate Monitor Server Configuration

The UA updates the Monitor Server configuration files to the latest 12.2.1 configuration by maintaining your existing set property values. It creates a `oggmon.properties` file in the *`domain_name`*`/config/monitorserver/cfg/` directory, with an encrypted password entry that is used in JMX communication between Monitor Server and Agent.

Navigate to *`ORACLE_HOME`*`/oracle_common/upgrade/bin` and enter:

For Linux or UNIX:

```
$ ./ua
```

For Windows:

```
C:\ ua.bat
```

Navigate the UA screens as instructed in the following table to upgrade your server.

The UA Welcome screen appears.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
WebLogic Components	1. Select **WebLogic Component Configurations** and enter the domain directory to be upgraded. 2. Click **Next**.
Component List	Click **Next**.
Prerequisites	1. Select all three prerequisites. 2. Click **Next**.
OGG Monitor Installed Version	1. Select **OGG Monitor 12.1.3**. 2. Click **Next**.
OGGMON Schema	1. Enter or select the OGGMON schema connect string, and the DBA and schema user names and passwords. 2. Click **Next**.
Examine	Click **Next**.
Upgrade Summary	Click **Upgrade**.
Upgrade Progress	Click **Next**.
Upgrade Success	Click **Close**.

This completes the Oracle GoldenGate Monitor Server for Oracle database and domain upgrade process.

Next Step: Perform Post-Upgrade Tasks

With the upgrade process complete for your database type, you next need to perform certain post-upgrade tasks, which are described in Performing Post-Upgrade Tasks.

Applying the Oracle GoldenGate Monitor Patch

After applying the Oracle GoldenGate Monitor patch 12.2.1.2.171115 (PS2 BP3), optionally, you can execute a table re-partition script to optimize the history purging feature. After the script execution is completed, it reduces the time needed to purge historical data by using the Oracle GoldenGate Monitor server user interface. However, significant amount of time may be needed for script execution depending of amount of existing data.

To apply the patch:

1. Stop the Oracle GoldenGate Monitor Server.
2. Apply patch 12.2.1.2.171115 (PS2 BP3) if you have not yet applied it.
3. Run the following script as `SYSDBA` user and enter the Oracle GoldenGate Monitor Repository User Name when asked for parameter 1 – `<ORACLE_HOME>/oggmon/plugins/upgrade/scripts/grant_permission_oracle.sql`.
4. Run the following script as Monitor Repository User – `<ORACLE_HOME>/oggmon/plugins/upgrade/scripts/oracle_partitions.sql`.
5. Start the Oracle GoldenGate Monitor Server.

11
Upgrading for SQL Server

This chapter describes the tasks you perform to upgrade Oracle GoldenGate Monitor with a SQL Server database.
This chapter includes the following sections:

- Upgrade Readiness Check
- Schema Upgrade Instructions for SQL Server Database Users
- Upgrading the WebLogic Domain
- Upgrading the Oracle GoldenGate Monitor Server Configuration
- Next Step: Perform Post-Upgrade Tasks

Upgrade Readiness Check

Before beginning an upgrade, you must use the UA to perform an upgrade readiness check. The UA runs a read-only check on various database contents including the schema version, required tables, and columns. If the schema version is already at the upgraded or latest version of Oracle GoldenGate Monitor or there are unexpected or missing tables or columns found, the readiness test will fail. If a failure occurs, the UA provides the test details and any exceptions in the UA logs, and the readiness test results are provided in the `ORACLE_HOME/oracle_common/upgrade/logs/postreadiness.txt` file. Like RCU, UA is included in the product installation.

Use one of the following sections to perform your readiness check:

- Performing an 11g Readiness Check
- Performing a 12.1.3 Domain Readiness Check

Performing an 11g Readiness Check

On your existing 11g Oracle GoldenGate Monitor server, create a database user in the database with same default schema as dbo using the following:

```
use <monitor_11g_database_name>
CREATE LOGIN dbo WITH PASSWORD = <password_of_your_choice>';
create USER <username_of_your_choice> FOR LOGIN dbo  WITH DEFAULT_
SCHEMA = dbo;
grant select to <username_of_your_choice>
```

This user is used only in the readiness check wizard and *not* in the upgrade schema wizard. In the Monitor 11g upgrade schema wizard, use the DBA user *only*.

Navigate to `ORACLE_HOME/oracle_common/upgrade/bin` and enter:

For Linux or UNIX:

```
$ ./ua -readiness
```

For Windows:

```
C:\ ua.bat -readiness
```

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
Available Components	1. Select **Oracle GoldenGate Monitor.** 2. Click **Next**.
OGGMON Schema	1. Enter the Oracle GoldenGate Monitor schema name and password. 2. Click **Next**.
Readiness Summary	Click **Next**.
Readiness Check	Click **Continue**. You can use the View Readiness Report button to view your results.
Readiness Success	Click **Close**.

Performing a 12.1.3 Domain Readiness Check

On your existing Oracle GoldenGate Monitor server, navigate to *ORACLE_HOME*/`oracle_common/upgrade/bin` and enter:

For Linux or UNIX:

```
$ ./ua -readiness
```

For Windows:

```
C:\ ua.bat -readiness
```

Navigate the UA screens as instructed in the following table to upgrade your server.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
Available Components	1. Select **Oracle GoldenGate Monitor.** 2. Click **Next**.
OGGMON Schema (SQLSERVER)	1. Enter the Oracle GoldenGate Monitor schema name and password. 2. Click **Next**.
OGGMON Schema Prefix	1. Enter **SQLSERVER**. 2. Click **Next**.
Readiness Summary	Click **Next**.
Readiness Check	Click **Continue**. You can use the View Readiness Report button to view your results.

Screen	Upgrade Action
Readiness Success	Click **Close**.

Schema Upgrade Instructions for SQL Server Database Users

Upgrading Oracle GoldenGate Monitor Server for SQL Server databases is a two-stage process:

1. Update the SQL Server Database by Running RCU
2. Upgrade the Database by Running UA

Oracle GoldenGate Monitor 12*c* (12.2.1.3.0) supports SQL Server versions 2008 and 2012. See "Install the Database Software" in *Installing and Configuring Oracle GoldenGate Monitor*.

Update the SQL Server Database by Running RCU

Since Oracle GoldenGate Monitor Server is released with WebLogic Server 12*c* (12.2.1) with JRF and to comply with Fusion Middleware standards and requirements, you must upgrade the existing Oracle GoldenGate Monitor by adding STB schemas to the SQL Server database.

Before you begin, do the following:

- set:

  ```
  ISOLATION LEVEL, ALTER DATABASE $(DATABASE_NAME) SET READ_COMMITTED_SNAPSHOT ON
  ```

- Ensure the database is case-sensitive:

  ```
  DECLARE @collate sysname
     select @collate = convert(sysname, serverproperty('Collation'))
  IF ( charindex(N'_CI', @collate) > 0 )
  BEGIN
     select @collate = replace(@collate, N'_CI', N'_CS')
     exec ('ALTER database $(DATABASE_NAME) COLLATE ' + @collate)
  END
  ```

To add these dependent schemas, use RCU, which is included in the product installation. To launch RCU, navigate to `ORACLE_HOME/oracle_common/bin` and enter:

```
$ ./rcu
```

RCU opens, displaying the Welcome screen.

Navigate the RCU screens as instructed in the following table to update the database. If you want further information on any screen, click its name in the left-hand column.

Screen	Upgrade Action
Welcome	Click **Next**.

Screen	Upgrade Action
Create Repository	1. Select **System Load and Product Load**. 2. Click **Next**.
Database Connection Details	1. Enter the Oracle GoldenGate Monitor database details. 2. Click **Next**.
Select Components	1. Under the AS Common Services node, select the following schemata: • **Audit Services** • **Audit Services Append** • **Audit Services Viewer** • **Oracle Platform Security Services** **Note:** Do not select the Monitor Server schema in this step. 2. Click **Next**. A progress window appears, checking off each schema as its prerequisites are met. 3. Click **OK**.
Schema Passwords	1. Enter the necessary password, if it's not already there, and confirm it. 2. Click **Next**.
Summary	Review the schema information and click **Create**.
Creation Summary	Click **Close**.

Upgrade the Database by Running UA

With the repository created, next run the Upgrade Assistant to upgrade the database to version 12.2.1. Navigate to *ORACLE_HOME*/oracle_common/upgrade/bin and enter:

For Linux or UNIX:

```
$ ./ua
```

For Windows:

```
C:\ ua.bat
```

The UA Welcome screen appears.

Navigate the UA screens as instructed in the following table to upgrade your server. If you want further information on any screen, click its name in the left-hand column.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure Schemas is selects and click **Next**.
Available Components	1. Select **Oracle GoldenGate Monitor.** 2. Click **Next**.

Screen	Upgrade Action
Prerequisites	1. Select all three prerequisites. 2. Click **Next**.
OGGMON Schema	1. Ensure that the proper information is supplied. 2. Click **Next**.
OGGMON Schema Prefix	1. Enter the same schema prefix you used when creating the STB schema in RCU. 2. Click **Next**.
Examine	Click **Next**.
Upgrade Summary	Click **Upgrade**.
Upgrade Progress	Click **Next**.
Upgrade Success	Click **Close**.

This completes the Oracle GoldenGate Monitor Server for SQL Server databases upgrade process.

Upgrading the WebLogic Domain

Next, you must create a new domain with an 11g upgrade and with a 12c upgrade you update the existing 12.1.3 WebLogic domain configuration to a 12.2.1 domain. Navigate to `ORACLE_HOME/wlserver/common/bin` and enter:

For Linux or UNIX:

```
$ ./config.sh
```

For Windows:

```
C:\ config.bat
```

The Configuration Wizard starts and the Configuration Type screen appears.

To create the domain, navigate the Configuration Wizard screens providing the necessary information as described on the following table and providing the details from your previous domain (Tomcat for 11g and WebLogic domain for 12c):

Screen	Configuration Action
Create Domain	Ensure Create a new domain is selected then: • In Domain location, enter the absolute path outside of `ORACLE_HOME`.; for example: `/scratch/my_user/oggmon1221_domain` • Click **Next**.
Templates	1. Select **Oracle GoldenGate Monitor Server Domain-12.2.1 (oggmon)**. Additional packages are automatically selected. 2. Click **Next**.

Screen	Configuration Action
Administrative Account	1. Enter a Name and Password (and confirm the password). These are your WebLogic Server console log-in credentials. 2. Click **Next**.
Domain Mode and JDK	1. In Domain Mode, select **Production**. 2. In JDK, select your preferred JDK; for example: `Oracle HotSpot 1.8.0_40-ea /usr/java/jdk1.8.0_40` 3. Click **Next**.
Database Configuration Type	1. Ensure RCU data radio button is selected. 2. Enter the database connection information. 3. Enter the Schema owner, which is the prefix you specified when creating your repository appended with `_STB`; for example, `DEV_STB`. 4. Enter the Password. 5. Click **Get RCU Configuration**. 6. Click **Next**.
JDBC Component Schema	Verify the schema information and click **Next**.
JDBC Component Schema Test	Verify the schema information and click **Next**.
Credentials	1. For each Key Name, enter a Username and Password. 2. Click **Next**.
Advanced Configuration	1. Select **Administrative Server** and **Managed Serves, Cluster, and Coherence**. 2. Click **Next**.
Administration Server	By default, the server name is AdminServer and the port is 7001, although you can always change default values. For example, you can change the server name AdminServer to OGGMONAdminServer. If port 7001 is already in use, replace it with an unused port number. Make selections as necessary and click **Next**.
Managed Servers	The managed server name is already populated with the default, *MONITORSERVER_server1*, and the port number with 7003. You can change these values, if desired. Also, if port 7003 is already in use, replace it with an unused port number. Either accept the defaults of update the data and click **Next**.
Clusters	Click **Next**.
Coherence Cluster	Click **Next**.
Machines	Click **Next**.
Configuration Summary	Review the configuration details and click **Create**.
Configuration Progress	When configuration creation is complete, click **Next**.

Screen	Configuration Action
Configuration Success	1. Make note of the Administration Server URL for MonitorServer administration. 2. Click **Finish**.

Upgrading the Oracle GoldenGate Monitor Server Configuration

The UA updates the Monitor Server configuration files to the latest 12.2.1 configuration by maintaining your existing set property values. It creates a `oggmon.properties` file in the *`domain_name`*`/config/monitorserver/cfg/` directory, with an encrypted password entry that is used in JMX communication between Monitor Server and Agent.

Navigate to *`ORACLE_HOME`*`/oracle_common/upgrade/bin` and enter:

For Linux or UNIX:

```
$ ./ua
```

For Windows:

```
C:\ ua.bat
```

Navigate the UA screens as instructed in the following table to upgrade your server.

The UA Welcome screen appears.

Screen	Upgrade Action
Welcome	Click **Next**.
Schemas	Ensure **Schemas** is selects and click **Next**.
WebLogic Components	1. Select **WebLogic Component Configurations** and enter the domain directory to be upgraded. 2. Click **Next**.
Component List	Click **Next**.
Prerequisites	1. Select all three prerequisites. 2. Click **Next**.
OGG Monitor Installed Version	1. Select **OGG Monitor 11g** or **OGG Monitor 12.1.3**. 2. Click **Next**.
OGGMON Schema	1. Enter or select the OGGMON schema connect string, and the DBA and schema user names and passwords. 2. Click **Next**.
Examine	Click **Next**.
Upgrade Summary	Click **Upgrade**.
Upgrade Progress	Click **Next**.

Screen	Upgrade Action
Upgrade Success	Click **Close**.

This completes the Oracle GoldenGate Monitor Server for Oracle database and domain upgrade process.

Next Step: Perform Post-Upgrade Tasks

With the upgrade process complete for your database type, you next need to perform certain post-upgrade tasks, which are described in Performing Post-Upgrade Tasks.

12
Performing Post-Upgrade Tasks

This chapter describes the tasks required once you have updated Oracle GoldenGate Monitor to the 12*c* (12.2.1) release.
This chapter contains the following sections:

- Create WebLogic Domain for Monitor Server
- Create the Oracle GoldenGate Monitor Agent Instance 12*c* (12.2.1)
- Starting the Oracle GoldenGate Monitor Server

> **Note:**
>
> After upgrading to Oracle GoldenGate Monitor 12*c* (12.2.1), Oracle GoldenGate Monitor 11*g* users cannot immediately log in to it. You must create users and assign privileges by using the Oracle WebLogic Administration Console. For more information, see "Managing Users from the WebLogic Administration Console" in *Installing and Configuring Oracle GoldenGate Monitor*.

Create WebLogic Domain for Monitor Server

With the existing Oracle GoldenGate Monitor Server database successfully upgraded from 11g (11.x) to 12*c* (12.2.1), you need to create an expanded WebLogic domain for the server implementation that runs with the upgraded schema. *You must use the upgraded Monitor schema during this process*. Follow the "Creating the WebLogic Server Domain" procedure described in *Installing and Configuring Oracle GoldenGate Monitor*:

Create the Oracle GoldenGate Monitor Agent Instance 12*c* (12.2.1)

After running the upgrade configuration scripts described in the previous chapters, use the following procedure to create an Oracle GoldenGate Monitor Agent instance:

1. Stop the Oracle GoldenGate Monitor Agent instance that is pointing to the Oracle GoldenGate Monitor 11g or 12*c* (12.1.3) server.
2. Create a new Oracle GoldenGate Monitor Agent 12*c* (12.2.1) instance by following the instance set up instructions in Creating and Configuring an Oracle GoldenGate Monitor Agent Instance.

> **Note:**
>
> If you are upgrading from 11g, you must create both a 12*c* (12.2.1) Monitor Agent and Monitor Agent instance. If you are upgrading from 12*c*, you only need to create a 12*c* (12.2.1) Monitor Agent instance because the Agent already exists.

3. Manually copy the `oggmon.properties` file from the *`MONITOR_SERVER_DOMAIN`*`/config/monitorserver/cfg` directory into the *`MONITOR_AGENT_PRODUCT_HOME`*`/cfg_templates` directory.
4. Go to the *`MONITOR_AGENT_PRODUCT_HOME`* directory and run the `upgradeToMonitorAgent1221` utility.

   On Linux:

   ```
   $ ./upgradeToMonitorAgent1221.sh
   ```

   On Windows:

   ```
   $ upgradeToMonitorAgent1221.bat
   ```

   The system responds with:

   Please enter absolute path of Oracle GoldenGate home directory:
5. Enter the absolute path of your Oracle GoldenGate home directory.

   The system responds with:

   Please enter absolute path of Monitor Agent 12.1.3 Instance:
6. Enter the absolute path of your Monitor Agent 12.1.3 Instance.

   > **Note:**
   >
   > The Monitor Agent 12.1.3 Instance directory should be the directory path to where Monitor Agent 12.1.3 Instance is installed.

   The system responds with:

   Please enter unique name to replace timestamp in startMonitorAgent script:
7. The `startMonitorAgent` script suffix is the timestamp by default. Enter a unique name to override the timestamp suffix or press Enter to continue.

   The script will continue with the upgrade to completion.
8. Remove existing Oracle GoldenGate JAgent (JAGENT) software that was bundled with Oracle GoldenGate Software by doing the following:
   a. Delete *`OGG_HOME`*`/cfg folder`
   b. Delete *`OGG_HOME`*`/dirjar folder`
   c. Delete *`OGG_HOME`*`/pw_agent_util.*` files
   d. Delete *`OGG_HOME`*`/jagent.*` files

9. Start the Oracle GoldenGate Monitor Agent from Oracle GoldenGate Core GGSCI console by entering `start jagent`.

Starting the Oracle GoldenGate Monitor Server

Finally, start the Oracle GoldenGate Monitor Server.

Expanded domains are used for Oracle databases. To start Oracle GoldenGate Monitor Server running with this type of database, do the following:

1. Navigate to *`MONITORSERVER_GOLDENGATE_DOMAIN`* and run the following scripts to start the Weblogic Administration Server as described in "Start the WebLogic Administration Server" in *Installing and Configuring Oracle GoldenGate Monitor*.
2. Navigate to *`MONITORSERVER_GOLDENGATE_DOMAIN/bin`*, and start the Weblogic 12*c* (12.2.1) Managed Server, as described in "Start the WebLogic Managed Server" in *Installing and Configuring Oracle GoldenGate Monitor*.
3. Run this script with the arguments noted:

   ```
   $ ./startManagedWebLogic.sh MONITOR_server1 http://<hostname>:7001
   ```

4. Open the WebLogic Administration Console and, following the instructions in "Managing Monitor Server Users from the WebLogic Administration Console" in *Installing and Configuring Oracle GoldenGate Monitor*, create a Oracle GoldenGate Monitor user.
5. Once you have completed the preceding steps, log in to Oracle GoldenGate Monitor with the username and password created in the Weblogic Server and verify system functionality.