

# Oracle GoldenGate 12c: Fundamentals for Oracle

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<b>Code:</b>	GG-12c-FUND
<b>Length:</b>	4 days
<b>URL:</b>	<a href="#">View Online</a>

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This Oracle GoldenGate 12c: Fundamentals for Oracle training focuses on Oracle-to-Oracle database replication. Expert Oracle University instructors will deep dive into the Oracle GoldenGate product suite, walking you through various product features. Oracle GoldenGate 12.3 for Oracle introduces the Microservices architecture, which allows for browser-based, REST interaction with Oracle GoldenGate. Both Classic and Microservices architectures are covered by the course, which starts by explaining replication concepts using the familiar, Classic architecture. After solid replication foundations and concepts are explained and explored, the course delves into Microservices, and students are made quickly familiar with the new architecture. Hands-on practices help solidify the theoretical knowledge acquired during the lessons. Students will implement end-to-end replication environments using both architectures, testing the established replication channels with real data, to verify that replication is taking place.

## Learn How To:

- Install Oracle GoldenGate on Linux and Windows platforms
- Issue GGSCI commands
- Configure, start, stop and monitor Change Capture and Delivery processes
- Manage Extract trails and files using Data Pump and logdump
- Create parameter files to transform data
- Manage multiple Oracle GoldenGate instances
- Create, configure, manage and monitor replication environments using the Microservices Architecture

## Benefits to You

- Integrate your organization's disparate data across heterogeneous databases to facilitate sophisticated analysis and faster decision-making
- Become more efficient at configuring and implementing Oracle GoldenGate. You'll learn to install both Classic and Microservices Oracle GoldenGate architectures and prepare the source and target environments.
- Enrolling in this course teaches you how to use the Oracle GoldenGate command line interface (GGSCI) efficiently, as well as the new browser-based interface.
- You'll learn GoldenGate configuration processes.
- You'll also develop the knowledge and skills to configure Change Capture (Extract), Change Delivery (Replicat) and Initial Load. You'll learn how to extract trails and files using Extract Pump, create parameter files and manage Oracle GoldenGate instances.
- Advantages and limitations of the newly introduced Microservices architecture will be analyzed in detail.
- Special consideration will be given to unidirectional replication and capture/apply of both DML and DDL statements.

## Explore New Features in 12.3

Features new to 12c, such as Parallel Replicat, and support for Database Sharding are highlighted along the way. This

course is based on Oracle GoldenGate version 12.3.0.1. Please note that the labs are done in Linux.

## Skills Gained

- Design replication solutions using Oracle GoldenGate products and environments
- Install Oracle GoldenGate and prepare the source and target database (assumes Oracle-to-Oracle replication)
- Issue GGSCI commands (batch Obey scripts and command-line interactive)
- Configure
  - start
  - stop
  - and monitor Change Capture (Extract)
  - Change Delivery (Replicat)
  - and Initial Load
- Manage Extract trails and files using Data Pump and utilities such as logdump
- Control network transmission using compression and encryption
- Transform data

## Prerequisites

- Familiarity with Oracle Database and basic SQL using SQL\*Plus
- Familiarity with basic encryption techniques
- Familiarity with editing Linux text files using gedit or vi

## Course Details

### Introduction

- Uses of Oracle GoldenGate
- Reviewing Oracle GoldenGate Use Cases
- Oracle GoldenGate Use-Cases for Oracle Database
- Technology Overview
- Topologies
- Supported Platforms
- Supported Databases
- Oracle GoldenGate Technology Suite

### Oracle GoldenGate Architecture

- The Two Oracle GoldenGate Architectures
- Classic Architecture
- Extracts
- Initial Loads
- Checkpoints

- The Interaction Between Oracle GoldenGate and Oracle RDBMS

## **Installing Oracle GoldenGate**

- Listing System Requirements
- Performing Installation
- Configuring Environment Variables
- Using Oracle GoldenGate Software Command Interface (GGSCI)
- Running Oracle GoldenGate from the OS shell.
- Use Obey files to automate tasks

## **Preparing the Environment and Configuring Integrated Extract**

- Configuration Overview
- Preparing the Environment
- Enabling Oracle GoldenGate in the Database
- Enabling Supplemental Logging
- Defining Roles and Permissions
- Starting the Manager
- Configuring Data Capture

## **Configuring Initial Load**

- Initial Load Overview
- Configuring Initial Load
- Setting Up the Initial Load by Using the “File to Replicat” Method
- Setting Up the Initial Data Load by Using the “Direct Load” Method

## **Configuring Change Delivery (Replicat)**

- Replicat Overview
- Configuring Replicat Tasks
- Adding Checkpoints
- Using Checkpoints
- Initial Load: Avoiding Collisions with Initial Load
- Initial Load: Handling Collisions with Initial Load
- Troubleshooting: GGSCI Process Information
- Troubleshooting: Report Files and Log Files

## **Managing Extract Trails and Files**

- Trail Format: Local and Remote
- Trail Format: Cleanup
- Trail Format: Record Header Area
- Trail Format: Record Data Area
- Alternative Trail Formats: Logical Change Records (LCRs)
- Alternative Trail Formats: Text, SQL, and XML

- logdump: Opening, Viewing, and Filtering

## **Oracle GoldenGate Parameters**

- GLOBALS
- Manager
- Source Manager Parameters
- Target Manager Parameters
- Extract
- Extract Parameters on the Source Database
- Replicat
- Options Common to Both Replicat and Extract

## **Data Selection and Filtering**

- Mapping and Manipulation
- Definition Files
- Data Selection
- Where
- Filter
- Mapping
- SQLEXEC

## **Additional Transformation and Configuration Options**

- Create and Invoke Macros
- Set and Retrieve User Tokens
- Run User Exits in GoldenGate Processes
- Compress Data Across the Network
- Encrypt Messages, Trails, and Passwords
- Automatically Trigger Actions Based on Event Records

## **Installing Oracle GoldenGate Microservices Architecture**

- Identify and Describe the Various Components of the Oracle GoldenGate Microservices Architecture
- List the Operating System Pre-Requisites Needed for a Microservices Architecture installation
- Perform an Oracle GoldenGate Microservice Architecture Installation and Verify its Successful Completion

## **Oracle GoldenGate Microservices Architecture - Administration Server**

- Using the Administration Server Embedded Web Application to Create Extract and Replicat Groups
- Accessing Extract/Replicat Process Parameters, Statistics, Checkpoints and Reports Using the Administration Server Embedded Web Application

## **Oracle GoldenGate Microservices Architecture - Distribution Server**

- Using the Distribution Server Embedded Web Application to Create, Start and Stop Paths
- Accessing the Data Path Parameters, Statistics, SCN / RBA Positions in Trail Files, and Data Filters Using the

## Oracle GoldenGate Microservices Architecture - Receiver Server and Performance Metrics Server

- The Role and Functionality of an MA Receiver Server
- The Role and Functionality of an MA Performance Metrics Server

## MA Admin Client

- Using the Admin Client to Connect to an MA Deployment
- Performing Common Administrative Tasks by Using the Admin Client

## Database Sharding Support, Metadata Encapsulation, Replication Lag Management, Invisible Column Support

- Database Sharding Concepts and GoldenGate MA Support for It
- Metadata Encapsulation Features and Advantages
- Implementing a Lag Management Policy
- Handling Replication of Invisible Columns

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## Schedule (as of 3 )

Date	Location
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