

Oracle GoldenGate 12c: Troubleshooting and Tuning

Duration: 4 Days

What you will learn

This Oracle GoldenGate 12c Troubleshooting and Tuning training teaches you how to gather and examine evidence; you'll also learn to solve case problems, diagnose their cause and find methods of resolution. Each of these practices challenges you to diagnose and troubleshoot the issue using GoldenGate software.

Learn To:

Use GGSCI commands for gathering process evidence.

Use the Oracle GoldenGate troubleshooting tools like Knowledge Documents, Documentation, SHOWSYNTAX parameter and the Logdump utility.

Troubleshoot problems in areas such as extraction, replication, missed transactions, mapping, synchronization, SQLEXEC, file maintenance and more.

Identify what causes slow startups.

Monitor lag and statistics.

Identify network and disk bottlenecks.

Perform tuning of Manager, Extract and Replicate.

Diagnose and tune the latest Integrated Extract, available since release 11.2.0.4 of the Oracle RDBMS, and Integrated Replicat, available since release 12c of the Oracle RDBMS.

Benefits to You

By enrolling in this course, you'll develop deeper knowledge of Oracle GoldenGate 12c performance tuning methods. Expert instructors will teach you how to identify the causes of slow startups, evaluate lag statistics and solve network and disk bottlenecks. Utilize all of the existing GoldenGate tools, such as GGSCI and Logdump, the health check scripts and the Streams Performance Advisor (UTL_SPADV) to troubleshoot system issues occurring to both classic extract/replicat and integrated extract/replicate.

Explore Platforms

This training is on a Linux platform; however many of the troubleshooting techniques are equally applicable to a Windows or iSeries platform. The databases used for source and target are Oracle 12cR1. Many of the techniques are also applicable to DB2, SQL Server, MySQL, etc.

Audience

Data Warehouse Administrator

Database Administrators

Implementation Consultant

System Administrator

System Integrator

Related Training

Required Prerequisites

Familiarity with the Oracle Database

Oracle GoldenGate 12c: Fundamentals for Oracle

Course Objectives

Monitor and tune performance

Gather evidence to help troubleshoot problems

Use troubleshooting tools

Familiarize with the latest tools to troubleshoot Integrated Extract/Replicat

Describe solutions for the most common problems

Course Topics

Gathering Evidence

Acquiring confidence using the standard Oracle GoldenGate tools normally used to interact with the software:

GGSCI

Error Logs, Process Reports, Discard File, System Logs

Competently using the tools mentioned above to gather evidence about alleged issues occurring to an Oracle GoldenGate

Oracle GoldenGate Troubleshooting Tools

Accessing knowledge Documents - Mailing lists, Oracle GoldenGate forums, etc.

Consulting the Documentation

Getting familiar with the ShowSyntax parameter

Getting familiar with the logdump utility

Basic and Startup Problems

Getting familiar with basic problems

Developing the ability to deal with Extract and Replicat startup issues

Verifying file names, file permissions, consistency between Extract and Replicat group names and their supporting files

Verifying consistent naming convention when defining trail files and their reference in the Extract/Replicat parameter files

Verifying that the correct software version has been installed

Verifying that the Oracle GoldenGate manager is running, that the group name which fails to start exists and is not misspelled

Verifying that the parameter file exists, has the same name as the Extract/Replicat group, and is accessible by Oracle

Introducing the use of CHECKPARAMS to verify that the parameter syntax is correct

Data Extraction Problems

Developing the ability to deal with and troubleshoot data extraction issues: Extract is slow - Extract abends - Data pump errors

Analyzing various causes of a slow Extract startup

Tracing may be enabled, activity logging may be enabled, many columns listed in tables being replicated
Introducing the use of the CacheMgr parameter to control the virtual memory and temporary disk space that are available
In-depth analysis of abending Extracts: is Extract unable to open the transaction logs? - Checking to see if the disk is full
In-depth analysis of abending data pumps: Does the data pump abend with error number 509 ("Incompatible record")? Has
Was the primary Extract or the data pump stopped, re-added, or restarted without resetting the data pump's read position

Data Replication Problems

Developing the ability to deal with and troubleshoot data replication issues:

Analyzing the various causes of a "stuck" Replicat: Does "Stats Replicat" return no statistics? Do successive "Info Replicat"

Verifying that the Replicat is reading the trail to which Extract is writing

Analyzing the reasons why a Replicat abends: Is Replicat unable to locate a trail? Is Replicat unable to open a trail file? Is

Missed Transactions

Developing the ability to deal with and troubleshoot missed transactions involving issues such as: Tables that are not pro

Analyzing the reasons why transactions are not being processed: Were the tables included in Table and Map statements

'Single quotes' on object names imply case-sensitive names for some databases (including the Oracle database)

Are the transactions coming out of the source system properly?

Mapping and Synchronization Problems

Developing the ability to deal with and troubleshoot mapping problems, such as: Fetching from the source data fails - Tab

Analyzing the causes of various mapping problems: Is Extract returning fetch-related errors? Was the row containing the c

Has the undo retention expired?

Is "NoUseLatestVersion" for "FetchOptions" being used?

Do the source and target tables exist in the databases? Are they specified correctly in the Table or Map statement? Are t

Do table and column names contain only supported characters?

Are WHERE clauses comparing different data types?

Is KeyCols being used? Are both source and target KeyCols being used? Corresponding source and target columns mus

SQLEXEC, File-Maintenance, and Other Problems

Developing the ability to deal with and troubleshoot :

SQLEXEC problems - File-maintenance problems - Time differences - Too many open cursors

File-Maintenance Problems: Discard File Is Not Created - Discard File Is Too Big - Trail File Is Too Big

Miscellaneous Problems: Time Differences - INFO Command Shows Incorrect Status

"Classic" Performance Tuning

Identifying causes of slow startups

Monitoring lag and statistics

Tuning Manager

Identifying network and disk bottlenecks

Tuning "Classic" Extract

Tuning "Classic" Replicat

"Integrated" Performance Tuning

Describing architecture and advantages of the new Integrated capture

Describing architecture and advantages of the new Integrated delivery

Familiarizing with the new V\$ tables holding real time Oracle GoldenGate statistics

"Integrated" Capture and Delivery Troubleshooting

Familiarizing with Troubleshooting Aids and Tools for Integrated Replication

Describing Oracle GoldenGate Healthcheck for Integrated Replicat

Describing the Oracle Database 12c GoldenGate AWR report