Oracle GoldenGate 12c: Troubleshooting and Tuning Ed 1

Oracle Database

DURATION	MODULES	COURSE CODE
4 Days	**14 Lectures**	**—**

Course Overview

This Oracle GoldenGate 12c Troubleshooting and Tuning course teaches you the skills to be self-sufficient in gathering and examining 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.

What You Will Learn

Introduction

- Course Goals
- Agenda: Day 1
- Agenda: Day 2
- Agenda: Day 3
- Agenda: Day 4
- Summary

Gathering Evidence

- Objectives
- Roadmap
- GGSCI Commands
- Viewing Checkpoint Details
- Viewing Status and Events
- Roadmap
- Process Report
- Process Report: Sample
- Process Report Not Created
- Event (Error) Log
- Event Log: Sample
- Discard File
- Discard File: Sample

- System Logs
- Windows Event Viewer: Sample
- Practice 2 Overview: Gathering Evidence
- Quiz
- Summary

Tools

- Objectives
- Tools: Overview
- Roadmap
- Knowledge Documents
- Roadmap
- Oracle GoldenGate Documentation
- Roadmap
- ShowSyntax Parameter: Overview
- ShowSyntax Parameter: Usage
- ShowSyntax Parameter: Output
- Roadmap
- logdump Utility: Overview
- logdump Utility: Record Components
- logdump Utility: Header Fields
- Using logdump: Open
- Using logdump
- Using logdump: ScanFor
- Using logdump: Filter
- Using logdump: Hex
- Using logdump: Position
- Using logdump: Count
- Using logdump: Save
- Using logdump: Environment
- Using logdump: Logging
- Getting logdump Help and Exiting
- Other Useful logdump Commands
- logdump Filtering
- Quiz
- Practice 3 Overview: Examining the Evidence
- Summary

Basic Problems and Process Startup Problems

- Objectives
- Roadmap
- Basic Troubleshooting: Example 1 (Slide 1 of 2)
- Basic Troubleshooting: Example 1 (Slide 2 of 2)
- Basic Troubleshooting: Example 2 (Slide 1 of 2)
- Basic Troubleshooting: Example 2 (Slide 2 of 2)

- Roadmap
- Startup Problems: Overview
- Startup Problems: Oracle GoldenGate Configuration (Slide 1 of 5)
- Startup Problems: Oracle GoldenGate Configuration (Slide 2 of 5)
- Startup Problems: Oracle GoldenGate Configuration (Slide 3 of 5)
- Startup Problems: Oracle GoldenGate Configuration (Slide 4 of 5)
- Startup Problems: Oracle GoldenGate Configuration (Slide 5 of 5)
- Startup Problems: Operating System
- Startup Problems: Permissions
- Startup Problems: Database Login
- Startup Problems: Slow Startup
- Quiz
- Practice 4 Overview: The Stubborn Startup
- Summary

Extraction Problems

- Objectives
- Extract Is Slow (Slide 1 of 3)
- Extract Is Slow (Slide 2 of 3)
- Extract Is Slow (Slide 3 of 3)
- Extract Abends (Slide 1 of 3)
- Extract Abends (Slide 2 of 3)
- Extract Abends (Slide 3 of 3)
- Data Pump Abends (Slide 1 of 4)
- Data Pump Abends (Slide 2 of 4)
- Data Pump Abends (Slide 3 of 4)
- Data Pump Abends (Slide 4 of 4)
- Quiz
- Practice 5 Overview: The Troublesome Extract
- Summary

Replication Problems

- Objectives
- Replicat Is Not Moving
- Replicat Abends: Example 1
- Replicat Abends: Example 2
- Replicat Abends with Error 509 (Slide 1 of 7)
- Replicat Abends with Error 509 (Slide 2 of 7)
- Replicat Abends with Error 509 (Slide 3 of 7)
- Replicat Abends with Error 509 (Slide 4 of 7)
- Replicat Abends with Error 509 (Slide 5 of 7)
- Replicat Abends with Error 509 (Slide 6 of 7)
- Replicat Abends with Error 509 (Slide 7 of 7)
- Replicat Abends: Diagnosis
- Replicat Abends: Example 3

- Preventing Replicat from Exiting
- Quiz
- Practice 6 Overview: The Rebellious Replicat
- Summary

Missed Transactions

- Objectives
- Transactions Not Being Processed (Slide 1 of 5)
- Transactions Not Being Processed (Slide 2 of 5)
- Transactions Not Being Processed (Slide 3 of 5)
- Transactions Not Being Processed (Slide 4 of 5)
- Transactions Not Being Processed (Slide 5 of 5)
- Including Missed Transactions
- Quiz
- Practice Overview 7: The Dissimilar Data
- Summary

Mapping and Synchronization Problems

- Objectives
- Roadmap
- Mapping Problems: Overview
- Mapping Problems: Source Fetch Fails
- Mapping Problems: Table and Column Names
- Mapping Problems: Definitions
- Mapping Problems: Column-Missing Error
- Roadmap
- Synchronization Problems: Testing for Out-of-Sync Rows
- Synchronization Problems: Oracle GoldenGate Veridata Web GUI
- Synchronization Problems: Causes of Out-of-Sync Data
- Synchronization Problems: DML on Target Tables
- Synchronization Problems: Tables Without Keys
- Synchronization Problems: Character Sets in Oracle Databases
- Synchronization Problems: Different Structures or Keys
- Synchronization Problems: Resynchronizing
- Quiz
- Practice 8 Overview: The Mangled Mapping
- Summary

SQLEXEC, File-Maintenance, and Other Problems

- Objectives
- Roadmap
- SQLEXEC Problems: SQL Does Not Execute
- SQLEXEC Problems: Tracing SQLEXEC Problems
- Roadmap

- File-Maintenance Problems: Discard File Is Not Created
- File-Maintenance Problems: Discard File Is Too Big
- File-Maintenance Problems: Trail File Delays
- File-Maintenance Problems: Trail Files Are Not Being Purged
- File-Maintenance Problems: Trail Files Are Purged Too Soon
- File-Maintenance Problems: Report File Is Too Big
- Roadmap
- Other Problems: Time Differences
- Other Problems: Indexes Are Unusable
- Too Many Open Cursors
- Other Problems: INFO Command Shows Incorrect Status
- Quiz
- Practice 9 Overview: The Filled Files
- Summary

Classic Performance Tuning

- Objectives
- Roadmap
- Startup Speed: Building the Object Record
- Startup Speed: Resolving Wildcards
- Roadmap
- Monitoring: Overview
- Monitoring: What Is Lag?
- Monitoring: Lag Time Differences
- Monitoring: Checking Lag Statistics
- Monitoring: Controlling How Lag Is Reported
- Monitoring: Checking Volume Statistics
- Monitoring: Using the Report parameter
- Monitoring: Using ReportCount
- Monitoring: Using the Stats Command
- Roadmap
- Identifying Bottlenecks
- Identifying Bottlenecks: Replicat Lag
- Identifying Bottlenecks: Pump Lag
- Identifying Bottlenecks: Extract Lag
- Bottlenecks: Determining Lag (Latency)
- Bottlenecks: Determining Lag by Looking at Checkpoints
- Bottlenecks: Monitoring Lag (Latency)
- Bottlenecks: Measuring Throughput
- Bottlenecks: Finding the Cause
- Bottlenecks: Uncovering a Network Bottleneck
- Bottlenecks: Network Bottleneck Solution
- Bottlenecks: Disk Reads
- Bottlenecks: Disk Reads Solutions
- Bottlenecks: Disk Writes

- Roadmap
- Tuning Manager
- Roadmap
- Tuning Extract: Filtering and Conversion
- Tuning Extract: Database Fetching
- Tuning Extract: Log Reads
- Tuning Extract: Databases
- Tuning Extract: Data Pump
- Roadmap
- Tuning Classic Replicat: Dividing the Load
- Tuning Classic Replicat: Full Table Scans
- Tuning Classic Replicat: Transaction Type
- Tuning Classic Replicat: Checkpoint Frequency
- Tuning Classic Replicat: Database
- Quiz
- Practice 10 Overview: Performance Tuning
- Summary

Integrated Performance Tuning

- Objectives
- Roadmap
- Integrated Capture: Architecture
- Integrated Capture: Architecture
- Integrated Capture: Deployment Options
- Integrated Capture: Syntax
- Roadmap
- Integrated Replicat: Architecture
- Integrated Delivery
- Integrated Delivery in Detail
- Streaming Protocol: Asynchronous Processing
- Parallel Apply: Reasons to Use Dependency Computation and Scheduling
- Parallel Apply Processing
- Dependency-Aware Apply: Source Database Logging
- Dependency-Aware Apply: Trail File Logging
- Workload-Based Autotuning
- Autotune Parallelism
- Direct Replicat (OCI) Processing
- Direct Replicat Processing
- BATCHSQL Support
- SQLEXEC in Integrated Delivery
- Bidirectional Replication
- Integrated Replicat: Syntax
- Changes to Replicat Parameters
- Quiz
- Roadmap

- Oracle GoldenGate Database Views
- Practice 11 Overview: Integrated Performance Tuning
- Summary

Integrated Capture and Delivery Troubleshooting

- Objectives
- Roadmap
- Troubleshooting Aids
- Troubleshooting Aids: Where to Find Them
- Roadmap
- Streams Performance Advisor UTL_SPADV Package
- UTL_SPADV Report
- UTL_SPADV Performance Metrics
- UTL_SPADV Replication Paths
- UTL_SPADV Replication Component Analysis
- UTL_SPADV Component Statistics Details
- Roadmap
- Oracle GoldenGate Healthcheck Script
- Replication Statistics
- Configuration Information
- Roadmap
- Oracle Database Enhanced AWR Report
- Oracle GoldenGate Replication Statistics
- Replication Performance at a Glance
- Analyzing Data Capture
- Oracle GoldenGate Apply Reader Statistics
- Apply Server and Apply Coordinator Statistics
- DML Operations
- Quiz
- Practice 12 Overview: Integrated Capture and Delivery Troubleshooting
- Summary

Oracle Cloud

- Agenda
- What is Cloud?
- What is Cloud Computing?
- History – Cloud Evolution
- Components of Cloud Computing
- Characteristics of Cloud
- Cloud Deployment Models
- Cloud Service Models
- Industry Shifting from On-Premises to the Cloud
- Oracle IaaS Overview
- Oracle PaaS Overview
- Oracle SaaS Overview

- Summary

Oracle GoldenGate Cloud Service Overview

- Objectives
- Oracle GoldenGate: Modular Building Blocks
- Oracle GoldenGate Cloud Service
- GGCS Architecture
- GoldenGate Cloud Service Use Cases
- GGCS Use Case – New Cloud Application Development
- GGCS Use Case – Dev/Testing in Cloud
- GGCS Use Case – Migration
- GGCS Use Case – Transactional Query Offloading in Cloud
- GGCS Use Case – Live Reporting
- GGCS Use Case – Real-Time Data Warehouse/Analytics
- GoldenGate Cloud Service Value
- GoldenGate Cloud Service Feature Summary