Oracle Database 11g: Data Guard Administration Release 2

Duration: 4 Days

What you will learn

This Oracle Database 11g: Data Guard Administration Release 2 training helps you develop the skills to use Oracle Data Guard to help protect your Oracle database against planned and unplanned downtimes. Explore how Data Guard standby databases can be used to support production functions such as reporting, querying and testing, while in a standby role.

Learn To:

Offload business processing needs to another system
Offload backup needs to another system
Build highly available systems
Offload business processing needs to another system

Benefits to You
Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling smooth and rapid consolidation within your Datacenter.

Data Guard Architecture
This course explores Data Guard architecture, the configuration of physical and logical standby databases and role transitions. Expert instructors will also help you explore Oracle Data Guard 11g features, including Oracle Active Data Guard and snapshot standby databases.

Audience

Database Administrators
Support Engineer
Technical Consultant

Related Training

Required Prerequisites
Oracle Database 11g: Administration Workshop II Release 2
Oracle Database 11g: Administration Workshop I Release 2

Suggested Prerequisites

Oracle Enterprise Manager 10g Grid Control

Course Objectives

Create and manage physical and logical standby databases

Use Data Guard standby databases to support production functions such as reporting, querying, testing, and performing backups
Use Enterprise Manager Grid Control and the Data Guard command-line interface (DGMGRL) to maintain a Data Guard configuration
Use Data Guard to achieve a highly available Oracle database

Course Topics

Introduction to Oracle Data Guard
Causes of Data Loss
Oracle Data Guard Architecture
Types of Standby Databases (benefits of each type)
Using the Data Guard Broker
Differentiating Between Standby Databases and Data Guard Broker Configuration
Data Protection Modes
Performing Role Transitions

Creating a Physical Standby Database by Using SQL and RMAN Commands
Preparing the Primary Database
Creating the Physical Standby Database

Oracle Data Guard Broker: Overview
Oracle Data Guard Broker Features
Oracle Data Guard Broker Configurations
Data Guard Monitor Process
Data Guard Monitor Configuration Files
Benefits of Using the Data Guard Broker
Comparing Configuration Management With and Without the Broker
Using DGMGRL

Creating a Data Guard Broker Configuration
Defining a Data Guard Configuration (overview)
Setting up the Broker Configuration Files
Setting the DG_BROKER_START Initialization Parameter to TRUE to start the Data Guard Broker
Creating the Broker Configuration
Adding the Standby Database to the Configuration

Creating a Physical Standby Database by Using Enterprise Manager Grid Control
Using Enterprise Manager Grid Control to Create a Physical Standby Database
Using the Add Standby Database Wizard
Verifying a Configuration
Editing Standby database properties
Viewing the Data Guard Configuration Status

Creating a Logical Standby Database
Monitoring the Data Guard Configuration by Using Enterprise Manager Grid Control Verifying the Configuration Viewing Lo Using Enterprise Manager Data Guard Metrics
Using the DGMGRL SHOW CONFIGURATION Command to Monitor the Configuration

Viewing Standby Redo Log Information
Monitoring Redo Apply

Creating and Managing a Snapshot Standby Database
Snapshot Standby Database: Architecture
Converting a Physical Standby Database to a Snapshot Standby Database
Activating a Snapshot Standby Database: Issues and Cautions
Viewing Snapshot Standby Database Information
Converting a Snapshot Standby Database to a Physical Standby Database

Using Oracle Active Data Guard
Using Real-Time Query
Enabling and Disabling Real-Time Query
Enabling Block Change Tracking on a Physical Standby Database
Creating Fast Incremental Backups
Monitoring Block Change Tracking

Configuring Data Protection Modes
Preparing to Create a Logical Standby Database
Checking for Unsupported Objects, Data Types, and Tables
Ensuring Unique Row Identifiers
Creating the Logical Standby Using SQL Commands and Grid Control
Securing your Logical Standby Database

Performing Role Transitions
Contrast switchover vs. failover
Preparing for a Switchover
Performing a Switchover using DGMGRL and Enterprise Manager
Types of Failovers
Re-enabling Disabled Databases

Using Flashback Database in a Data Guard Configuration
Overview of Flashback Database
Configuring Flashback Database
Using Flashback Database Instead of Apply Delay
Using Flashback Database and Real Time Apply
Flashback through Standby Database Role Transitions
Using Flashback Database after Failover

Enabling Fast-Start Failover
Installing the Observer Software
Configuring Fast-Start Failover
Configuring Automatic Reinstatement of the Primary Database
Initiating Fast-Start Failover from an Application
Disabling Fast-Start Failover
Starting and Stopping the Observer
Moving the Observer to a new Host

Managing Client Connectivity

Understanding Client Connectivity in a Data Guard Configuration
Preventing Clients from Connecting to the Wrong Database
Creating Services for the Data Guard Configuration Databases
Automating Client Failover in a Data Guard Configuration
Automating Failover for OCI Clients
Automating Failover for OLE DB Clients
Configuring JDBC Clients for Failover

Performing Backup and Recovery Considerations in an Oracle Data Guard Configuration

Backup and Recovery of a Logical Standby Database
Using the RMAN Recovery Catalog in a Data Guard Configuration
Creating the Recovery Catalog
Registering a Database in the Recovery Catalog
Configuring Daily Incremental Backups
Using a Backup to Recover a Data File on the Primary Database
Recovering a Data File on the Standby Database

Patching and Upgrading Databases in a Data Guard Configuration

Upgrading an Oracle Data Guard Broker Configuration
Using SQL Apply to Upgrade the Oracle Database
Performing a Rolling Upgrade by Using SQL Apply
Performing a Rolling Upgrade by Using an Existing Logical Standby Database
Performing a Rolling Upgrade by Creating a New Logical Standby Database
Performing a Rolling Upgrade by Using a Physical Standby Database

Monitoring a Data Guard Configuration

Monitoring the Data Guard Configuration by Using Enterprise Manager Grid ControlVerifying the Configuration Viewing Lo Using Enterprise Manager Data Guard Metrics
Using the DGMGRL SHOW CONFIGURATION Command to Monitor the Configuration
Viewing Standby Redo Log Information
Monitoring Redo Apply

Optimizing a Data Guard Configuration

Using Enterprise Manager Grid Control to monitor configuration performance
Setting the Reopen Secs and Net Timeout database properties
Compressing Redo Data
Delaying the Application of Redo Data
Optimizing SQL Apply
Adjusting the Number of APPLIER and PREPARER processes