

## Oracle Database 10g: Data Guard Administration Release 2

**Duration:** 3 Days

### What you will learn

Minimize the downtime associated with any outage and prevent data loss by learning how to use Oracle Data Guard. The course details Data Guard architecture as well as the creation of physical and logical standby databases. In addition, it examines the performance implications of using various Data Guard features and offers some troubleshooting tips. Learn to use Enterprise Manager Grid Control to create and manage your Data Guard configuration. A workshop that gives students the opportunity to apply what they have learned to meet stated business requirements reinforces skills.

This course counts towards the Hands-on course requirement for the Oracle Database 10g Administrator Certification. Only instructor-led inclass or instructor-led online formats of this course will meet the Certification Hands-on Requirement. Self Study CD-Rom and Knowledge Center courses are excellent study and reference tools but DO NOT meet the Hands-on Requirement for certification.

Learn To:

- Use Data Guard to achieve a highly available Oracle Database
- Create physical and logical standby databases
- Use Enterprise Manager Grid Control to manage the Data Guard configuration

### Audience

- Database Administrators
- Support Engineer
- Technical Consultant

### Prerequisites

#### *Suggested Prerequisites*

- Oracle Enterprise Manager 10g Grid Control Release 2

### Course Objectives

- Use Data Guard to achieve a highly available Oracle Database
- Describe the Data Guard architecture
- Modify the Data Guard services
- Use the Data Guard broker
- Implement physical and logical standby databases
- Perform failover and switchover operations
- Enable fast-start failover

### Course Topics

#### **Oracle Data Guard: Overview**

- What Is Oracle Data Guard?

- Types of Standby Databases
- Data Guard Broker Framework
- Types of Services
- Benefits of Implementing Oracle Data Guard

### **Understanding the Oracle Data Guard Architecture**

- Oracle Data Guard Architecture
- Data Guard Redo Apply Architecture
- Data Guard SQL Apply Architecture
- Specifying Role-based Destinations
- Configuring Standby Redo Logs
- Standby Database Modes

### **Using Oracle Data Guard Broker and Enterprise Manager**

- Oracle Data Guard Broker Features
- Data Guard Broker Configurations
- Benefits of Using the Data Guard Broker
- Data Guard Broker Interfaces
- Using Enterprise Manager 10g Grid Control

### **Creating a Configuration and Physical Standby Database by Using Enterprise Manager**

- Using Enterprise Manager to Create a Broker Configuration
- Using the Add Standby Database Wizard
- Creating a Physical Standby Database
- Verifying a Configuration
- Creating Standby Redo Logs
- Viewing the Data Guard Configuration Status
- Viewing Data Guard Performance

### **Creating a Physical Standby Database by Using SQL**

- Preparing the Primary Database
- Setting Initialization Parameters on the Primary Database
- Backing Up the Primary Database Using RMAN
- Creating a Control File for the Standby Database
- Setting Initialization Parameters on the Standby Database
- Setting Up the Environment to Support the Standby Database
- Starting the Physical Standby Database
- Performing Additional Configuration Tasks

### **Configuring Data Protection Modes and Log Transport Services**

- Setting the Log Transport Mode
- Setting the Data Protection Mode
- Delaying the Application of Redo
- Using Flashback Database as an Alternative to Apply Delay
- Additional Attributes that Affect Log Transport Services

### **Creating a Logical Standby Database by Using Enterprise Manager**

- Benefits of Implementing a Logical Standby Database
- Preparing to Create a Logical Standby Database
- Checking for Unsupported Objects and Data Types
- Enabling Supplemental Logging
- Creating a Logical Standby Database by using Enterprise Manager

Using the Add Standby Database Wizard  
Enabling and Disabling the Auto-Delete Feature

### **Creating a Logical Standby Database by Using SQL**

Preparing to Create a Logical Standby Database  
Creating a Physical Standby Database  
Preparing the Primary Database  
Transitioning to a Logical Standby Database  
Opening the Logical Standby Database  
Verifying the Logical Standby Database  
Performing Additional Configuration Tasks

### **Performing Switchover and Failover**

Choosing the Best Role Transition Operation  
Performing a Switchover by Using Enterprise Manager  
Performing a Switchover by Using SQL  
Performing a Failover by Using Enterprise Manager  
Performing a Failover by Using SQL  
Restoring Databases After a Role Transition  
Flashback Through Standby Database Role Transitions

### **Enabling Fast-Start Failover**

When Will Fast-Start Failover Occur?  
Configuring Fast-Start Failover  
Prohibited Operations After Enabling Fast-Start Failover  
Managing the Observer  
Performing Role Changes  
Using Enterprise Manager to Enable Fast-Start Failover

### **Using Data Guard in a Real Application Clusters Configuration**

Real Application Clusters and Data Guard  
Configuration Considerations with RAC  
Configuring a Primary Database with RAC  
Configuring a Standby Database with RAC  
Apply Instance Failover  
Role Transitions with RAC

### **Other Considerations for Oracle Data Guard**

Using a Physical Standby Database for Read/Write Testing and Reporting  
Offloading Backups to a Physical Standby Database  
Using Flashback Database and Real-time Apply  
Using Flashback Database After RESETLOGS  
Enabling Redo Encryption  
Configuring Cascaded Redo Log Destinations

### **Workshop**

Workshop Premise  
Workshop Flow  
Workshop Scenarios