

Oracle DBA, Oracle Developer, Java, Android, SQL Server, Linux, C, C++, MySQL PHP, HTML, CSS, Java Script, MySQL DBA, Postgresql DBA, ASP.Net

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## Oracle Data Guard

**Duration: 32 Hours**

- **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.

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## Oracle Data Guard

- **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 (DGMRGL) 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

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## Oracle Data Guard

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

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## Oracle Data Guard

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 Log File Details

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

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## Oracle Data Guard

- **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

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## Oracle Data Guard

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

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## Oracle Data Guard

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 Control  
Verifying the Configuration  
Viewing Log File Details

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 ReopenSecs and NetTimeout database properties

Compressing Redo Data

Delaying the Application of Redo Data

Optimizing SQL Apply

Adjusting the Number of APPLIER and PREPARER processes