

# Oracle Database 11g - Data Guard Administration Release 2



4 jours - 28 heures

Code formation : log-

[www.adhara.fr](http://www.adhara.fr)

## Objectifs

Use Data Guard standby databases to support production functions such as reporting, querying, testing, and performing backups Create and manage physical and logical standby databases 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

## Participants

Database Administrators Support Engineer Technical Consultant

## Prérequis

Cours pré-requis conseillé(s) Oracle Enterprise Manager 10g Grid Control Oracle Database 11g: Administration Workshop II Release 2

## Pédagogie

La pédagogie est basée sur le principe de la dynamique de groupe avec alternance d'apports théoriques, de phases de réflexion collectives et individuelles, d'exercices, d'études de cas et de mises en situations observées. Formation / Action participative et interactive : les participants sont acteurs de leur formation notamment lors des mises en situation car ils s'appuient sur leurs connaissances, les expériences et mettront en oeuvre les nouveaux outils présentés au cours de la session.

## Profil de l'intervenant

Consultant-formateur expert sur cette thématique. Suivi des compétences techniques et pédagogiques assurée par nos services.

## Moyens techniques

Encadrement complet des stagiaires durant la formation. Espace d'accueil, configuration technique des salles et matériel pédagogique dédié pour les formations en centre. Remise d'une documentation pédagogique papier ou numérique à échéance de la formation.

## Méthodes d'évaluation des acquis

Exercices individuels et collectifs durant la formation. Evaluation des acquis et attestation de fin de stage adressés avec la facture.

## Programme

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**Cours pré-requis conseillé(s) Oracle Enterprise Manager 10g Grid Control Oracle Database 11g: Administration Workshop II Release 2**

## Pédagogie

In this course, students learn how to use Oracle Data Guard to help protect their Oracle database against planned and unplanned downtimes. They also learn how Data Guard standby databases can be used to support production functions such as reporting, querying, and testing, while in a standby role. The course includes Data Guard architecture, the configuration of physical and logical standby databases, and role transitions. Oracle Data Guard 11g features, including Oracle Active Data Guard and snapshot standby databases are outlined. In addition, management of a Data Guard configuration and troubleshooting are discussed. Learn to: Offload business processing needs to another system Offload backup needs to another system Build highly available systems

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## Programme

### 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

### 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 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**

## **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 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**

## **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**

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