



Oracle Database 10g: Administration Workshop II Release 2

Lo que aprenderá

This course advances your success as an Oracle professional in the area of database administration. In this class, you'll learn how to configure an Oracle database for multilingual applications. You will practice various methods of recovering the database using RMAN and Flashback technology. Database performance monitoring tools will be covered, in addition to the steps to take to resolve common problems and improve performance. You will also learn how to administer a database efficiently by using database technologies such as the Resource Manager, the Scheduler, Automatic Storage Management (ASM), and VLDB features. You will set up a secure database using Virtual Private Database, and learn how to efficiently move data from database to database. The lesson topics are reinforced with structured hands-on practices and a workshop. This course is designed to prepare you for the corresponding Oracle Certified Professional exam.

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.

Audiencia

Database Administrators
Sales Consultants
Support Engineer
Technical Consultant

Prerequisitos

Knowledge of basic database administration
Oracle Database 10g: Administration Workshop I Release 2

Objetivos Del Curso

Use RMAN to create and manage backup sets and image copies
Recover the database to a previous point in time
Use Oracle Secure Backup to backup and recover a database
Use Oracle's Flashback technology to recover your database
Detect block corruptions and take appropriate measures to correct them
Use the various Database advisors and views to monitor and improve database performance
Control database resource usage with the Resource Manager
Simplify management tasks by using the Scheduler
Review database log files for diagnostic purposes
Customize language-dependent behavior for the database and individual sessions
Administer a VLDB
Implement a secure database
Transport data across platforms

Temas Del Curso

Introduction
Grid Computing
Oracle Enterprise Manager 10g Product Controls
Database Architecture Review

Configuring Recovery Manager
Recovery Manager Features and Components
Using a Flash Recovery Area with RMAN
Configuring RMAN
Control File Autobackups
Retention Policies and Channel Allocation
Using Recovery Manager to connect to a target database in default NOCATALOG mode
Displaying the current RMAN configuration settings
Altering the backup retention policy for a database

Using Recovery Manager
RMAN Command Overview
Parallelization of Backup Sets
Compressed Backups
Image Copy
Whole Database and Incremental Backups
LIST and REPORT commands
Enable ARCHIVELOG mode for the database
Use Recovery Manager

Oracle Secure Backup
Installation and Configuration
Implement the Oracle suggested strategy
RMAN and Oracle Secure Backup
Database and File-system files backup/restore to tape
Using obtool and web interface to configure Oracle Secure Backup devices (CLI/GUI)
Configuring EM for Oracle Secure Backup and test backup to tape (EM)
Using RMAN to backup your database to tape (CLI)
Using the OB Web tool to backup file system files

Recovering from Non-critical Losses
Recovery of Non-Critical Files
Creating New Temporary Tablespace
Recreating Redo Log Files, Index Tablespaces, and Indexes
Read-Only Tablespace Recovery
Authentication Methods for Database Administrators
Loss of Password Authentication File
Creating a new temporary tablespace
Altering the default temporary tablespace for a database

Incomplete Recovery
Recovery Steps
Server and User Managed Recovery commands
Recovering a Control File Autobackup
Creating a New Control File
Incomplete Recovery Overview
Incomplete Recovery Best Practices
Simplified Recovery Through RESETLOGS

Point-in-time recovery using RMAN

Flashback

Flashback Database Architecture

Configuring and Monitoring Flashback Database

Backing Up the Flash Recovery Area

Using V\$FLASH_RECOVERY_AREA_USAGE

Flashback Database Considerations

Using the Flashback Database RMAN interface

Using Flashback Database EM Interface

Managing and monitoring Flashback Database operations

Dealing with Database Corruption

Block Corruption Symptoms: ORA-1578

DBVERIFY Utility and the ANALYZE command

Initialization parameter DB_BLOCK_CHECKING

Segment Metadata Dump and Verification

Using Flashback for Logical Corruption and using DBMS_REPAIR

Block Media Recovery

RMAN BMR Interface

Dumping and Verifying Segment Metadata

Monitoring and Managing Memory

Oracle Memory Structures

Automatic Shared Memory Management

SGA Tuning Principles

Database Control and Automatic Shared Memory Management

Behavior of Auto-Tuned and Manual SGA Parameters

Resizing SGA_TARGET

PGA Management Resources

Using the Memory Advisor

Automatic Performance Management

Identifying Tunable Components

Oracle Wait Events and System Statistics

Troubleshooting and Tuning Views

Direct Attach to SGA for Statistic Collection

Workload Repository

Advisory Framework

ADDM Scenarios and Usage Tips

Using the SQL Tuning and SQL Access Advisor

Monitoring and Managing Storage I

Database Storage Structures

Space Management Overview

Oracle-Managed Files (OMF)

Row Chaining and Migrating

Proactive Tablespace Monitoring

Managing Resumable Space Allocation

SYSAUX Tablespace

Monitoring table and index space usage

Monitoring and Managing Storage II

Automatic Undo Management

Redo Log Files

Table Types

Partitioned Tables

Index-Organized Tables (IOT)
Managing index space with SQL
Configure optimal redo log file size
View "Automatic Tuning of Undo Retention"

Automatic Storage Management
ASM General Architecture and Functionalities
Dynamic Performance View Additions
Managing an ASM Instance
ASM Disk Groups
Using asmcmd Command Line
Migrating Your Database to ASM Storage
Creating an ASM instance in a separate Oracle Home
Migrating a tablespace to use ASM storage

VLDB Support
Creating Bigfile Tablespaces
Packages and data dictionary changes to support VLDB
Creating and maintaining temporary tablespace groups (TTG)
Partitioning and Partitioned Indexes
Skipping unusable indexes
Creating and using hash-partitioned global indexes
DML Error Logging
Interpreting Bigfile ROWIDs

Managing Resources
Database Resource Manager Concepts and Configuration
Creating a New Resource Plan
Active Session Pool Mechanism
Maximum Estimated Execution Time
Creating a Complex Plan
Administering and Monitoring Resource Manager
Resource Plan Directives
Creating Resource Consumer Groups

Automating Tasks with the Scheduler
Scheduler Concepts
Creating a Job Class and a Window
Managing Jobs, Programs, Chains, Events, Schedules, priority
Viewing and Purging Job Logs
Creating a program and a schedule
Creating a job that uses a program and a schedule
Altering the program and schedule for the job and observing the behavior change of the job
Monitoring job runs

Database Security
Virtual Private Database: Overview
Creating a Column-Level Policy
Writing a Policy Function
Policy Types
Column level VPD with column masking
Transparent Data Encryption
Setting the listener password
Implement VPD

Data Movement

External Tables Concepts
Creating a Directory object and External Table
Data Pump
Transport Database
RMAN CONVERT DATABASE Command
Transport Tablespace
Create a Directory Object
Create a Temporary Table

Using Globalization Support
Globalization Support Features
Encoding Schemes
Database Character Sets and National Character Sets
Specifying Language-Dependent Behavior
Locale Variants
Using Linguistic Comparison and Sorting
Data Conversion Between Client and Server Character Sets
Determining the Default NLS Settings

Workshop
Workshop Methodology, requirements, and setup
Scenario 1: Database performance
Scenario 2: Finding and Tuning Inefficient SQL
Scenario 3: SGA Management - REDO
Scenario 4: Running out of Undo Space
Scenario 5: Missing datafile
Scenario 6: Managing space in a tablespace - REDO
Scenario 7: Missing TEMP data file