

Hands-On Oracle® Database 11g: Backup, Recovery and Server Tuning - 4 Days

Course 928 Overview

- You Will Learn How To**
- Implement backup and recovery strategies to safeguard Oracle 11g databases
 - Configure the database for fault tolerance
 - Perform backup and recovery with Recovery Manager and Oracle Enterprise Manager
 - Maintain high availability with hot standby databases using Oracle Data Guard
 - Alleviate bottlenecks by tuning the Oracle 11g server memory components
 - Automate server tuning with the workload repository and diagnostics information

Course Benefits Oracle Database 11g includes an increased range of tools that can be used to ensure full protection and recovery from failure. Those responsible for administering Oracle data need an in-depth knowledge of these tools to ensure optimal database availability. In this course, you gain extensive hands-on experience with backup strategies and recovery techniques on Oracle databases. You employ a set of automated tuning tools to mitigate poor resource allocation and enhance database performance.

Who Should Attend Those interested in safeguarding and tuning Oracle 11g databases. Knowledge of database administration at the level of Course 927, "Oracle Database 11g Administration", is assumed.

Hands-On Training Hands-on exercises provide you with practical experience with Oracle 11g. Exercises include:

- Building a fault-tolerant database
- Enabling fast recovery with flashback database
- Backing up and recovering databases with RMAN and OEM
- Creating an Oracle 11g Data Guard environment
- Activating the standby database
- Improving the performance of commonly used queries with the result cache
- Diagnosing and relieving lock contention with ADDM

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Course 928 Outline

Safeguarding the Database

Ensuring resilience

- Configuring and protecting redo logs and control files
- Achieving total recall with Flashback Data Archive

Performing backups

- Selecting appropriate backup strategies
- Implementing hot and cold backups
- Managing the Flash Recovery Area

Recovering the database

- Database, tablespace and datafile recoveries
- Flashing back the database to a recent point in time

Performing Backup and Recovery with Recovery Manager (RMAN)

Setting up Recovery Manager

- Creating and merging recovery catalogues
- Registering databases for recovery
- Modifying catalogue contents
- Implementing virtual private catalogues
- Configuring channels and redundancy

Backup operations with RMAN

- Working with full and incremental backups
- Scripting the backup activity
- Listing and reporting on RMAN operations
- Maintaining the redo stream with archival backups
- Protecting very large datafiles with multisection backups

Performing automated recovery

- Backup sets and image copies for restore and recovery
- Rolling forward image copies with incremental backups
- Tuning backup processing with block change tracking

Managing Backup and Recovery with Oracle Enterprise Manager (OEM)

Automating backup and recovery operations

- Configuring default settings
- Navigating the screens to perform backup and recovery

Repairing lost data with Data Recovery Advisor

- Obtaining advice for repairing data failures

- Executing repairs
- Classifying and closing failures

Disaster Recovery with Data Guard

Establishing the standby environment

- Building and synchronising the standby database
- Creating the standby with active database duplication
- Controlling log shipping and redo apply mechanisms
- Applying data protection policies
- Physical vs. logical standby databases

Managing the standby database

- Maintaining a read-only standby during managed recovery
- Synchronising the standby with incremental backups
- Preserving the performance of the primary database

Moving operations to the standby

- Failing over and switching to the standby facility
- Achieving No-Data-Loss and delayed recovery

Configuring and Tuning the Oracle Server

Tuning the SGA

- Maximising the use of the shared pool
- Tuning the buffer cache with the Buffer Cache Advisor
- Reducing I/O with multiple buffer pools
- Monitoring latch contention

Enhancing query performance with the result cache

- Controlling result cache usage with table annotations
- Monitoring the result cache with DBMS_RESULT_CACHE

Oracle 11g Server Automated Tuning Automatic Workload Repository (AWR)

- Performing root cause analysis with the Automatic Database Diagnostics Monitor (ADDM)
- Tracking session activity with Active Session History (ASH)
- Handling logging and tracing with Automated Diagnostics Repository (ADR)
- Gathering statistics with user-specified preferences
- Managing deferred and historical statistics

Automatic Memory Management (AMM)

- Tuning memory with the memory advisors
- Enabling total memory management with AMM

Generating workloads for predictive testing

- Capturing workloads with Database Replay
- Analysing and evaluating the results of the replay session