

Oracle Database 12c: Backup and Recovery Workshop

Duration: 5 Days

What you will learn

No hands-on lab environment for TOD format. This Oracle Database 12c: Backup and Recovery Workshop will teach you how to evaluate your own recovery requirements. You'll develop appropriate strategies for backup, restore and recovery procedures from provided scenarios.

Learn To:

- Develop appropriate backup and recovery procedures to address your business needs.
- Implement backup and recovery settings and perform backup operations to disk and tape.
- Employ Oracle Database recovery procedures to recover from media and other failures.
- Diagnose and repair data failures.
- Use Flashback Technologies and data duplication to complement backup and recovery procedures.
- Secure the availability of your database by appropriate backup and recovery strategies.

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 consolidation onto database clouds.

Perform Backup and Recovery

Expert instructors will begin by helping you gain a deeper understanding of possibly the most important job of a Database Administrator – backup and recovery. The concepts and architecture that support backup and recovery, along with the steps required to carry it out in various ways and situations, are covered in detail.

Recovery Manager Command Line and Graphical Interfaces

This course will teach you about Recovery Manager (RMAN) command line and graphical interfaces for various backup, failure, restore and recovery scenarios.

Participate in Hands-on Practices and Workshops

Participating in extensive hands-on practices and workshops will help you gain experience in a realistic technical environment. Interactive workshops give you the opportunity to diagnose and recover from numerous failure scenarios, based on backup and recovery case studies.

Key Takeaways

Upon completing this course, you will know how to evaluate your own recovery requirements. You'll have the skills to develop an appropriate strategy for backup and recovery procedures.

Audience

Data Warehouse Administrator
Database Administrators
Support Engineer
Technical Administrator
Technical Consultant

Related Training

Required Prerequisites

Knowledge of Oracle Database 12c

Knowledge of SQL and PL/SQL

Oracle Database 12c: Administration Workshop

Suggested Prerequisites

Using Oracle Enterprise Manager Cloud Control 12c

Using Oracle Enterprise Manager Cloud Control 12c Ed 2

Course Objectives

Describe Oracle Database backup methods and recovery operations that can be used to resolve database failure.

Describe the Oracle Database architecture components related to backup and recovery operations.

Plan effective backup and recovery procedures.

Configure the database for recoverability.

Use Recovery Manager (RMAN) to create backups and perform recovery operations.

Use the Data Recovery Advisor to diagnose and repair failures.

Use Oracle Flashback Technologies to recover from human error.

Perform an encrypted database backup and restore.

Perform tablespace point-in-time recovery.

Describe additional high availability features such as Oracle Data Guard.

Course Topics

Introduction

Curriculum Context

Assess your Recovery Requirements

Categories of failures

Oracle Backup and Recovery Solutions
Oracle Maximum Availability Architecture
Oracle Secure Backup
Benefits of using Oracle Data Guard
Basic Workshop Architecture

Getting Started

Core Concepts of the Oracle Database, Critical for Backup and Recovery
Oracle DBA Tools for Backup and Recovery
Connecting to Oracle Recovery Manager (RMAN)
Quick Start: A Problem-Solution Approach

Configuring for Recoverability

RMAN commands
Configuring and managing persistent settings
Using the Fast Recovery Area (FRA)
Control File
Redo Log File
Archiving Logs

Using the RMAN Recovery Catalog

Creating and Configuring the Recovery Catalog
Managing Target Database Records in the Recovery Catalog
Using RMAN Stored Scripts
Maintaining and Protecting the Recovery Catalog
Virtual Private Catalogs

Backup Strategies and Terminology

Backup Solutions Overview and Terminology
Balancing Backup and Restore Requirements
Backing Up Read-Only Tablespaces
Best Practices for Data Warehouse Backups
Additional Backup Terminology

Performing Backups

RMAN Backup Types
Incrementally Updated Backups
Fast Incremental Backup
Block Change Tracking
Oracle-Suggested Backup
Reporting on Backups
Managing Backups

Improving Your Backups

Compressing Backups
Using a Media Manager
Creating RMAN Multisection Backups, Proxy Copies, Duplexed Backup Sets and Backups of Backup Sets
Creating and Managing Archival Backups
Backing Up Recovery Files
Backing Up the Control File to a Trace File
Cataloging Additional Backup Files
Backing Up ASM Disk Group Metadata

Using RMAN-Encrypted Backups

- Creating RMAN-Encrypted Backups
- Using Transparent-Mode Encryption
- Using Password-Mode Encryption
- Using Dual-Mode Encryption

Diagnosing Database Failures

- Reducing Problem Diagnosis Time
- Automatic Diagnostic Repository
- Interpreting RMAN Message Output and Error Stacks
- Data Recovery Advisor
- Diagnosing Data File Loss (file system and ASM)
- Handling Block Corruption

Restore and Recovery Concepts

- Restoring and Recovering
- Instance Failure and Instance/Crash Recovery
- Media Failure
- Complete Recovery (Overview)
- Point-in-Time Recovery (Overview)
- Recovery Through RESETLOGS

Performing Recovery, Part 1

- RMAN Recovery in NOARCHIVELOG Mode
- Performing Complete Recovery (of critical and noncritical data files)
- Restoring ASM Disk Groups
- Recovery with Image Files
- Performing Point-in-Time (PITR) or Incomplete Recovery
- Table Recovery from Backups

Performing Recovery, Part 2

- Recovery of Server Parameter File, Control File
- Redo Log File Loss and Recovery
- Password Authentication File Re-creation
- Index, Read-Only Tablespace, and Tempfile Recovery
- Restoring the Database to a New Host
- Disaster Recovery
- Restoring RMAN Encrypted Backups

RMAN and Oracle Secure Backup

- Oracle Secure Backup Overview
- Oracle Database Disk and Tape Backup Solution
- Backing Up the Fast Recovery Area to Tape
- Defining Retention for RMAN Backups
- RMAN and Oracle Secure Backup Basic Process Flow
- Integration with Cloud Control
- RMAN Database Backup to Tape

Performing Tape Backups and Restores

- Scheduling Backups with EM
- Oracle-Suggested Backup
- RMAN and OSB Process Flow

- RMAN and Oracle Secure Backup Jobs
- Managing Database Tape Backups
- Performing Database Recovery
- RMAN Automatic Failover to Previous Backup

Using Flashback Technologies

- Flashback Technology: Overview and Setup
- Using Flashback Technology to Query Data
- Flashback Table
- Flashback Transaction (Query and Backout)
- Flashback Drop and the Recycle Bin
- Flashback Data Archive

Using Flashback Database

- Flashback Database Architecture
- Configuring Flashback Database
- Performing Flashback Database
- Best Practices for Flashback Database

Managing Backup Space or Transporting Data

- Transporting Tablespaces
- Transporting Databases

Duplicating a Database

- Using a Duplicate Database
- Choosing Database Duplication Techniques
- Creating a Backup-up Based Duplicate Database
- Understanding the RMAN Duplication Operation
- Using Cloud Control to Clone a Database

RMAN Performance and Tuning

- Tuning Principles
- RMAN Multiplexing
- Diagnosing Performance Bottlenecks
- Restore and Recovery Performance Best Practices

Backup and Recovery Workshop

- Workshop Structure
- Workshop Approach to Solving Failure Scenarios
- Business Requirements for Database Availability and Procedures