

Oracle Database 12c: Backup and Recovery Workshop Ed 2

Duration: 5 Days

What you will learn

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. In this course, you will be introduced to Oracle Database Cloud Service.

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.
- Gain an understanding of the Oracle Database Cloud Service.

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.

Related Training

Required Prerequisites

Knowledge of SQL and PL/SQL

Knowledge of Oracle Database 12c

Suggested Prerequisites

Using Oracle Enterprise Manager Cloud Control 12c

Using Oracle Enterprise Manager Cloud Control 12c Ed 2

Course Objectives

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.

Gain an understanding of the Oracle Database Cloud Service

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.

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

Oracle Database Cloud Service: Overview

Database as a Service Architecture & Features and Tooling

Automated Database Provisioning

Managing the Compute Node Associated With a Database Deployment

Backing Up and Recovering Databases on Database as a Service

Backup Configuration & Creating an On-Demand Backup

Customizing the Backup Configuration: Single-Instance Databases

Performing Recovery by Using the Service Console

Restoring and Recovering: Single-Instance Databases