

## **Oracle Database 12c: Backup and Recovery Workshop Ed 2 NEW**

**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.

### **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.

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## 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 Ed 2 NEW

### *Suggested Prerequisites*

Using Oracle Enterprise Manager Cloud Control 12c  
Using Oracle Enterprise Manager Cloud Control 12c Ed 2 NEW

## 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 Back out)
- 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