

<b>REFERENCE</b>	COB
<b>INTENDED PARTICIPANTS</b>	This course is essential for anyone interested in the backup and recovery of Oracle database 11g/12c. Knowledge of database administration must be acquired (knowledge of the use of SQL and PL/SQL packages).
<b>LEARNING OBJECTIVES</b>	<p>Detail on the essential tasks of backup and recovery.</p> <p>How to define and test backup and recovery scenarios.</p> <p>Deploy appropriate strategies for backup and recovery to ensure availability of the database.</p> <p>Leverage automated RMAN backup techniques.</p> <p>Monitor and manage key components of the database, performance and resources.</p> <p>Implement Flashback procedures to identify and repair data failures.</p> <p>Plan work inside and outside the database.</p>
<b>DURATION</b>	5 days
<b>DELIVERY PRICE</b>	Contact Us

## COURSE CONTENT

### BASIC CONCEPTS

- Overview of Oracle Database architecture
- ASM Storage Concepts
- Connecting to the database and ASM instance

### SETTING UP THE DATABASE TO OPTIMIZE POSSIBLE RECOVERY

- Backup and Recovery: objectives, standard tasks and terminology
- Using RMAN (Recovery Manager)
- Configuring the database for backup and recovery
- Configuring ARCHIVELOG mode
- Configuring the backup retention period
- Configuring and using a fast recovery area

### USING RMAN RESTORE CATALOGUE

- Monitoring and storing backup information
- Configuring a recovery catalogue
- Saving backups
- Using RMAN stored scripts
- Managing the recovery catalogue (backup, export, import, upgrade, delete, virtual private catalogue)

### CONFIGURING BACKUP PARAMETERS

- Configuring and managing persistent settings for RMAN
- Setting up automatic backup of the control file
- Optimizing backup
- Advanced configuration settings: compress backups
- Configuring backup and recovery for very large files (multisection)

### CREATION OF BACKUPS USING RMAN

- RMAN Backup Types
- Creation and use procedures
- Backup sets and image copies
- Full database backup
- Quick incremental backup
- Backup destination

Multiplexed backup sets  
Backup archiving

#### RESTORATION AND RECOVERY OPERATIONS

Restore and recover  
Causes of file loss  
Automatic recovery of a TEMPFILE  
Recovery following the loss of a member of the log file group  
Recovery following the loss of an index tablespace  
Recreating an authentication password file  
Complete recovery and incomplete recovery  
Other recovery operations

#### USING RMAN TO RECOVER A DATABASE

Complete recovery following the loss of a critical or non-critical data file  
Getting image copies and swapping files  
Restoration and recovery of a database in NOARCHIVELOG mode  
Incomplete recovery  
Performing recovery with a backup control file  
Restoring the server parameter file from the control file automatic backup  
Restoring and recovering the database on a new host

#### SETTING AND MONITORING RMAN

Monitoring RMAN work  
Finding a balance between backup speed and recovery speed  
Multiplexing RMAN  
I/O - synchronous and asynchronous  
Performance impact of MAXPIECESIZE, FILESPERSET, MaxOpenFiles and BACKUP DURATION

#### DATABASE DIAGNOSIS

Data Recovery Advisor (DRA)  
Block Corruption  
ADR repository (Automatic Diagnostic Repository)  
Health Monitor  
ADRCI: the ADR repository command-line tool

#### USING FLASHBACK TECHNOLOGY

Presentation and configuration of Flashback technology  
Using Flashback technology to query data  
Flashback Table  
Flashback Transaction Query  
Performing a cancellation with Flashback Transaction  
Oracle Total Recall  
Flashback Drop and the Recycle Bin

#### FLASHBACK DATABASE

Configuring Flashback Database  
Performing a database Flashback  
Monitoring Flashback Database

#### DATABASE PERFORMANCE MANAGEMENT

Setting activities  
Using preferences for statistics  
Collecting statistics for the optimizer  
Monitoring the performance of sessions and services

AWR (Automatic Workload Repository)  
Describing the benefits of the Database Replay feature

## RESOURCE MANAGEMENT

- Database Resource Manager overview and concepts
- Creating and accessing resource plans
- Creating resource consumer groups
- Defining the guidelines of the resource allocation plan
- Limiting the use of CPU in the database
- Enabling a resource allocation plan
- Monitoring Resource Manager

## TASK AUTOMATION VIA THE SCHEDULER

- Simplifying task management
- Creating a job, programme and schedule
- Using a schedule based on date/time or events, or a complex schedule
- Describing the use of windows, window groups, work classes and consumer groups
- Work with multiple destinations

## SPACE MANAGEMENT IN BLOCKS

- Managing free space
- Monitoring the use of space
- Compressing data

## SPACE MANAGEMENT IN SEGMENTS

- Creating segments on demand
- Automatic space-saving features
- Retrieving segment space
- Automatic Segment Advisor
- Managing recovery following a space allocation problem

## DATABASE SPACE MANAGEMENT

- Using disks with 4K sectors
- Tablespace transport
- Database transport

## DATABASE DUPLICATION

- Objectives and methods
- Using RMAN to create a duplicate database
- Cloning a database from a backup
- Duplicating a database from a running instance
- Duplicating a "no target" database

## PRACTICAL WORK