Oracle Database 10g Administration II

Course Duration: 5 days

Course Objectives:

One of the most challenging tasks ever presented to database administrators is that of recovery from failure, especially if the recovery must not result in a loss of any data. This course presents all the standard failure scenarios and the best recovery strategies for each. Backup strategies for cold backups, on-line backups, complete and partial backups are discussed. Extensive exercises allow students to simulate failures and perform actual recovery within the workshop.

The objective of this course is to equip database administrators with the skills necessary to backup a production Oracle database and to recover as much information as possible in the event of a major failure. Significant subjects to be considered are:

- Consider the various archive modes that the database may operate in and the effect on recovery capabilities of each mode.

- Consider advanced database configuration options that assist recovery of lost data.

- Build a backup and recovery strategy with user-managed techniques.

- Build a backup and recovery strategy with server-managed techniques and the RMAN tool.

- Configure standby databases as part of disaster recovery using Oracle Data Guard.

- Learn about advanced techniques that not only recover lost data but endeavour to do so efficiently and rapidly, allowing a quick return to normal operations

Prerequisites:

- Oracle Database 10g Introduction to SQL

- Oracle Database 10g: Program With PL/SQL

- Oracle Database 10g: Administration I

Course Content

DATABASE RECOVERY STRUCTURES

THE MECHANISMS FOR RECOVERY   SQL STATEMENT EXECUTION

EXAMINING THE RECOVERY COMPONENTS

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IDENTIFYING THE DATA STRUCTURES

DATA STRUCTURES WITHIN THE DATABASE

IDENTIFYING THE TABLESPACES

IDENTIFYING THE CONTROL FILES

IDENTIFYING THE ALERT & TRACE FILES

IDENTIFYING THE REDO LOG FILES

ARCHIVING

DEVELOPMENT OF BACKUP & RECOVERY STRATEGIES

MANAGING THE ARCHIVE OPTIONS

USER-MANAGED PHYSICAL BACKUPS

BACKUP CHARACTERISTICS

PERFORMING A FULL BACKUP

PERFORMING AN OFFLINE TABLESPACE BACKUP

PERFORMING AN ONLINE TABLESPACE BACKUP

PERFORMING SUSPEND MODE BACKUPS

PERFORMING A CONTROL FILE BACKUP

AN OVERVIEW TO DATABASE RECOVERY

THE RECOVERY

IDENTIFYING THE TYPE OF FAILURE

INSTANCE RECOVERY & FAST-START

USER-MANAGED COMPLETE MEDIA RECOVERY

MEDIA FAILURE CONCEPTS

COMPLETE CLOSED RECOVERY

COMPLETE OPEN RECOVERY

HANDLING SPECIAL SITUATIONS

USER-MANAGED INCOMPLETE MEDIA RECOVERY

ABOUT INCOMPLETE RECOVERY

POINT-IN-TIME BASED RECOVERY

HANDLING SPECIAL SITUATIONS

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USER-MANAGED INCOMPLETE MEDIA RECOVERY

ABOUT INCOMPLETE RECOVERY   POINT-IN-TIME BASED RECOVERY

HANDLING & ANTICIPATING STUCK RECOVERIES

ABOUT STUCK RECOVERIES   HANDLING CORRUPTION OF DATA

PERFORMING TRIAL RECOVERY

USER-MANAGED RECOVERY TROUBLESHOOTING

MOVE DATA FILE LOCATION   RECOVERY WITH NO DATA FILE BACKUP

HANDLING READ ONLY TABLESPACES   HANDLING THE LOSS OF CONTROL FILES

USING THE RECOVERY MANAGER (RMAN)

USING THE RECOVERY CATALOG   CONFIRMING REGISTRATION & OTHER OPERATIONS

USING RUN BLOCKS & SCRIPTS   ALLOCATING CHANNELS

ACCESSING RMAN VIA OEM

SERVER-MANAGED BACKUPS WITH RMAN

PERFORMING FULL BACKUPS   PERFORMING INCREMENTAL BACKUPS

EXPLORING ENHANCED RMAN CAPABILITIES

RESUME FAILED BACKUP OPERATIONS   ESTABLISHING A BACKUP RETENTION POLICY

SHOW ALL CONFIGURATION SETTINGS   GENERATE CATALOG REPORTS

REPORT SCHEMA   LIST INCARNATION

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SERVER-MANAGED RECOVERY WITH RMAN

RECOVERY MANAGER RECOVERY

PERFORMING RESTORATION & FILE MEDIA RECOVERY

PERFORMING BLOCK MEDIA RECOVERY

STANDBY DATABASES WITH ORACLE DATA GUARD

ABOUT THE DATA GUARD ARCHITECTURE

DATA GUARD INTERFACES

DATA GUARD CONFIGURATION & OPERATION

CONFIGURING LOG TRANSPORT

CONFIGURING LOG APPLY

DATABASE SWITCHOVER OPERATIONS

DATABASE FAILOVER OPERATION

MONITORING THE STANDBY DATABASE