

## Oracle® Database 10g Administration: Hands-On - 5 Days

### *Course 594 Overview*

- You Will Learn How To**
- Create, configure and maintain Oracle 10g databases
  - Optimise space and performance for effective storage management
  - Maximise database efficiency using the Oracle Enterprise Manager
  - Ensure database security by managing user privileges and roles
  - Implement Oracle partitions to manage large tables and indexes
  - Deploy appropriate backup, recovery and flashback procedures

**Course Benefits** Databases represent the core of an organisation's informational infrastructure. To effectively maintain those databases, it is imperative for administrators to be well trained. In this hands-on course, you gain the knowledge and skills to create and configure Oracle 10g databases, manage memory and storage effectively, and deploy essential procedures to maintain your organisation's database and ensure its availability.

**Who Should Attend** Administrators and others involved in the management of Oracle 10g databases. Course 593, "Oracle Database 10g Comprehensive Introduction", or equivalent experience is assumed.

**Hands-On Training** Exercises provide the practical skills to administer Oracle databases, including:

- Building, starting up and shutting down the database
- Creating and maintaining tablespaces
- Configuring UNDO tablespaces and retention periods
- Administering partitioned objects
- Safeguarding using backup and restore techniques
- Retrieving lost data from hardware and software failure
- Managing user resources and privileges
- Redefining, reorganising and shrinking tables online
- Recovering from user error with flashback operations

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## Course 594 Outline

### Overview of Oracle 10g Administration

#### Your responsibilities as an Oracle DBA

- Configuring Oracle 10g databases
- Controlling user access and operations
- Monitoring system usage
- Ensuring database availability

#### The Oracle 10g architecture

- Instances vs. databases
- Oracle processes and memory usage
- Determining database file structure
- Processing transactions with Oracle 10g

### Constructing an Oracle 10g Database

#### Creating and dropping the database

- Setting the initialisation parameters
- Dynamic and static parameters
- Creating control files and log files
- Reducing administration with Oracle managed files

#### Defining tablespace structure

- Supporting applications that require multiple block sizes
- Creating UNDO and SYSAUX tablespaces

#### Starting and stopping the database

- Mounting and opening the database
- Text-based and server parameter files
- Connecting with SYSDBA privilege

### Performing Space Management

#### Logical and physical storage structures

- Improving sort performance
- Bigfile and locally managed tablespaces

#### Controlling storage for database objects

- Managing space with PCTFREE/PCTUSED
- Moving and redefining tables online
- Shrinking tables online to regain space
- Resuming operations after failures
- Managing LOB storage with chunks

### Automating Database Management with Oracle Enterprise Manager (OEM) 10g Database Control

#### The OEM architecture

- Strengths and weaknesses of OEM
- Navigating the graphical interface

#### Administering with Database Control

- Setting thresholds and generating alerts
- Verifying changes in the data dictionary

### Managing Users and Resources

#### Creating user accounts

- Implementing password controls
- Allocating space quotas on tablespaces
- Limiting resource usage with profiles

#### Maintaining security

- System and object privileges
- Setting up and working with roles
- Transparently encrypting data

### Enhancing Availability and Administration with Partitions

#### Building table partitions and subpartitions

- Partitioning types: range, hash and list
- Tailoring storage for individual partitions
- Splitting and merging partitions

#### Configuring index partitions

- Deploying local, global, prefixed and nonprefixed indexes
- Rebuilding unusable indexes

### Backing Up and Recovering the Database

#### Safeguarding the database

- Role of the redo log and control file
- Ensuring recovery using archiving
- Protecting and tracing the control file

#### Selecting a backup strategy

- Implementing hot and cold backups
- Partial online and offline backups
- Restoring tables with Data Pump

#### Performing recovery of the database

- Recovering corrupted tablespaces
- Tracking row history with flashback
- Restoring dropped tables from the recycle bin

### Fundamental Tuning Concepts

- Sizing the buffer cache and shared pool
- Balancing disc I/O and memory allocation
- Index storage considerations