

SYLLABUS

OCA II LEVEL: ORACLE DATABASE 10G - ADMINISTRATOR I

(1Z0-042)

Architecture

- [] Outline the Oracle Architecture and its main Components
- [] Explain the Oracle instance architecture

Installing the Oracle Database Software

- [] Identify common database administrative tools available to a DBA
- [] Use optimal flexible architecture
- [] Install software with Oracle Universal Installer
- [] Identify and configure commonly used environment variables
- [] Use Installer Log

Creating an Oracle Database

- [] Use DBCA to Create a database
- [] Use DBCA to Delete a database
- [] Use DBCA to manage templates

Managing the Oracle Instance

- [] Use Enterprise Manager

Managing Schema Objects

- [] Create and modify tables
- [] Define constraints and states of constraints
- [] Dropping and truncating tables
- [] Create and use B-Tree and Bitmap indexes
- [] Create Views
- [] Create sequences
- [] Use data dictionary

Managing Data and Concurrency

- [] Manipulate data through the use of SQL
- [] Identify and administer PL/SQL objects
- [] Describe triggers and triggering events
- [] Define levels of locking
- [] List possible causes of lock conflict
- [] Monitor and resolve lock conflicts

Managing Undo Data

- [] Monitor and administer undo
- [] Configure undo retention
- [] Describe the relationship between undo and transactions

Performance Management

- [] Use enterprise manager to view performance
- [] Tune SQL by using SQL tuning advisor
- [] Tune SQL by using SQL access advisor
- [] Use automatic shared memory management
- [] Use the memory advisor to size memory buffer

Backup and Recovery Concepts

- [] Describe the types of failure that may occur in an Oracle Database
- [] Identify the importance of checkpoints, redo log files, and archived log files
- [] Tuning instance recovery
- [] Configure a database for recoverability
- [] Configure ARCHIVELOG mode

Performing Database Backup

- [] Create consistent database backups

[] Use SQL*Plus and iSQL*Plus to access the Oracle Database

[] Modify database initialization parameters

[] Describe the stages of database startup

[] Describe the database shutdown options

[] View the database alert log

[] Use dynamic performance views

Managing Database Storage Structures

[] Describe how table row data is stored in blocks

[] Define the purpose of tablespaces and data files

[] Explain space management in tablespaces

[] Create tablespaces

[] Manage tablespaces: alter, drop, take offline, put online, add data files, make read-only or read-write, generate DDL

[] Obtain tablespace information

[] Explain key features and benefits of ASM

Administering User Security

[] Create and manage database user accounts

[] Create and manage roles

[] Size the undo tablespace

Implementing Oracle Database Security

[] Apply the principle of least privilege

[] Audit database activity

[] Implement Fine-Grained Auditing

Configuring the Oracle Network Environment

[] Use Database Control to Create additional listeners

[] Use Database Control to Create Oracle Net service aliases

[] Control Oracle Net Listeners

[] Identify when to use shared servers versus dedicated servers

Proactive Maintenance

[] Gather optimizer statistics

[] Manage the Automatic Workload Repository

[] Use the Automatic Database Diagnostic Monitor (ADDM)

[] Set warning and critical alert thresholds

[] React to performance issues

[] Back up your database without shutting it down

[] Create incremental backups

[] Automate database backups

[] Backup a control file to trace

[] Monitor flash recovery area

Performing Database Recovery

[] Recover from loss of a Control file

[] Recover from loss of a Redo log file

[] Recover from loss of a system-critical data file

[] Recover from loss of a non system-critical data file

Performing Flashback

[] Describe flashback database

[] Resotre the table contents to a specific point in time

[] Recover from a dropped table

[] Use Flashback Query to view the contents of the database as of any single point of time

[] View transaction history or row with flashback transaction query

Moving Data

- [] Grant and revoke privileges
- [] Create and manage profiles

- [] Describe the general architecture of Data Pump
- [] Use Data Pump export and import to move data between Oracle databases
- [] Load data with SQL Loader
- [] Use external tables to move data