# **Duration: 4 weeks**

**Oracle DBA Training Overview**

Oracle is object-relational Database Management System created by Oracle. This Oracle DBA Training helps to provide you an in-depth understanding of the Oracle Database Server Administration. It includes various concepts like Oracle DBA Architecture, database structures, memory and process architecture, security, schema objects, data backup and recovery. DBA’s are responsible for the design, implementation, support and maintenance of computerized databases in today’s organizations. They are also responsible for security, performance and availability of data to users and customers. Here we can learn how to operate the stored data and return meaningful results to analyse the data stored. You can also opt these courses to achieve Database administration certification.

**Objectives of the Course**

* Proficient in the end-to-end working of the Oracle
* Database Administration domain
* Understanding the principles of database security
* Working with schema objects, and deploying data backup and recovery
* Managing Oracle Database and Software
* The Oracle Instance
* Storage Parameters

Pre-requisites of the Course

* Basic knowledge of installing Oracle Database Software
* Functional knowledge of Database Systems and Computer Networks is an added advantage

Who can attend this course

* Software developers
* IT professionals
* Database analysts and administrators
* SQL programmers
* Project Managers
* Aspiring a career in Oracle DBA

**Oracle DBA Course Content**

Exploring the Oracle Database Architecture

* Oracle Database Architecture Overview
* Oracle ASM Architecture Overview
* Process Architecture
* Memory structures
* Logical and physical storage structures
* ASM storage components

Installing your Oracle Software

* Tasks of an Oracle Database Administrator
* Tools Used to Administer an Oracle Database
* Installation: System Requirements
* Oracle Universal Installer (OUI)
* Installing Oracle Grid Infrastructure
* Installing Oracle Database Software
* Silent Install

Creating an Oracle Database

* Planning the Database
* Using the DBCA to Create a Database
* Password Management
* Creating a Database Design Template
* Using the DBCA to Delete a Database

Managing the Oracle Instance

* Start and stop the Oracle database and components
* Use Oracle Enterprise Manager
* Access a database with SQLPlus
* Modify database installation parameters
* Describe the stages of database startup
* Describe database shutdown options
* View the alert log
* Access dynamic performance views

Manage the ASM Instance

* Set up initialization parameter files for ASM instance
* Start up and shut down ASM instances
* Administer ASM disk groups

Configuring the Oracle Network Environment

* Use Enterprise Manager to create and configure the Listener
* Enable Oracle Restart to monitor the listener
* Use tnsping to test Oracle Net connectivity
* Identify when to use shared servers and when to use dedicated servers

Managing Database Storage Structures

* Storage Structures
* How Table Data Is Stored
* Anatomy of a Database Block
* Space Management in Tablespaces
* Tablespaces in the Preconfigured Database
* Actions with Tablespaces
* Oracle Managed Files (OMF)

Administering User Security

* Database User Accounts
* Predefined Administrative Accounts
* Benefits of Roles
* Predefined Roles
* Implementing Profiles

Managing Data Concurrency

* Data Concurrency
* Enqueue Mechanism
* Resolving Lock Conflicts
* Deadlocks

Managing Undo Data

* Data Manipulation
* Transactions and Undo Data
* Undo Data Versus Redo Data
* Configuring Undo Retention

Implementing Oracle Database Auditing

* Describe DBA responsibilities for security
* Enable standard database auditing
* Specify audit options
* Review audit information
* Maintain the audit trail
* Manage optimizer statistics
* Manage the Automatic Workload Repository (AWR)
* Use the Automatic Database Diagnostic Monitor (ADDM)
* Describe and use the advisory framework
* Set alert thresholds
* Use server-generated alerts
* Use automated tasks

Performance Management

* Performance Monitoring
* Managing Memory Components
* Enabling Automatic Memory Management (AMM)
* Automatic Shared Memory Advisor
* Using Memory Advisors
* Dynamic Performance Statistics
* Troubleshooting and Tuning Views
* Invalid and Unusable Objects

Backup and Recovery Concepts

* Part of Your Job
* PStatement Failure
* PUser Error
* PUnderstanding Instance Recovery
* PPhases of Instance Recovery
* PUsing the MTTR Advisor
* PMedia Failure
* P Archive Log Files

Performing Database Backups using RMAN

* Backup Solutions: Overview
* Oracle Secure Backup
* User-Managed Backup
* Terminology
* Recovery Manager (RMAN)
* Configuring Backup Settings
* Backing Up the Control File to a Trace File
* Monitoring the Flash Recovery Area
* Opening a Database
* Data Recovery Advisor
* Loss of a Control File
* Loss of a Redo Log File
* Data Recovery Advisor
* Data Failures
* Listing Data Failures
* Data Recovery Advisor Views

Data Replication

* Describe ways to move data
* Create and use directory objects
* Use SQL\*Loader to move data
* Use external tables to move data
* General architecture of Oracle Data Pump
* Use Data Pump export and import to move data

Working with Support

* Use the Enterprise Manager Support Workbench
* Work with Oracle Support
* Log service requests (SR)
* Manage patches

Using the RMAN Recovery Catalog

* Identify situations that require RMAN recovery catalog
* Create and configure a recovery catalog
* Synchronize the recovery catalog
* Create and Use RMAN stored scripts
* Back up the recovery catalog
* Create and use a virtual private catalog

Configuring Backup Specifications

* Configure backup settings
* Allocate channels to use in backing up
* Configure backup optimization

Using RMAN to Create Backups

* Create image file backups
* Create a whole database backup
* Enable fast incremental backup
* Create duplex backup and back up backup sets
* Create an archival backup for long-term retention
* Create a multisection, compressed and encrypted backup
* Report on and maintain backups

Performing User-Managed Backup and Recovery

* Recover from a lost TEMP file and redo log group
* Recover from the loss of password file
* Perform user-managed complete and incomplete  database recovery
* Perform user-managed and server managed backups
* Identify the need of backup mode
* Back up and recover a control file

Using RMAN to Perform Recovery

* Perform complete recovery from a critical or noncritical data file loss using RMAN
* Perform incomplete recovery using RMAN
* Recover using incrementally updated backups
* Switch to image copies for fast recovery
* Restore a database onto a new host
* Recover using a backup control file
* Using RMAN to Duplicate a Database
* Creating a duplicate database
* Using a duplicate database

Monitoring and Tuning RMAN

* Monitoring RMAN sessions and jobs
* Tuning RMAN
* Configure RMAN for Asynchronous I/O

ASM TOPICS

* Database Architecture and ASM
* Describe Automatic Storage Management (ASM)
* Set up initialization parameter files for ASM and database instances
* Start up and shut down ASM instances
* Administer ASM disk groups
* Storage Fundamentals
* ASM Concepts
* Preparing ASM Storage
* ASM Instance setup
* ASM diskgroupsFailure groups (Redundancy)
* Managing Diskgroups
* Backing up Diskgroups
* Monitoring Diskgroups
* Creating Database on ASM
* Managing Database on ASM
* Basic architecture
* Storage concepts

RMAN Topics

* Backup Strategies
* FLASH recovery area
* RMAN Architecture
* RMAN backup components
* RMAN catalog and configuration
* RMAN Commands
* Monitoring RMAN backups
* Tuning RMAN jobs
* Restoring and recovering using RMAN
* Database cloning using RMAN
* Troubleshooting RMAN issues
* Best practices