

5 Days

## Oracle Database 11g: Administration Workshop I Release 2

This Oracle Database 11g: Administration Workshop I training and certification will help individuals explore the fundamentals of basic database administration.

This course will guide participants of the concepts through a refined combination of structured hands-on practices and cases that will prepare them for the corresponding Oracle Certified Professional exam.

Completion of this training course will enable candidates in:

- Installing Oracle Grid Infrastructure.
- Creating and managing users.
- Installing and configuring an Oracle Database.
- Creating and managing storage structures.
- Administering the Oracle Database.
- Understanding the Oracle database architecture and how its components work and interact with one another.
- Performing backup and recovery.

### Course Benefits:

Attaining certification of this course will ensure fast, reliable, secure and easy to manage performance. Also, this training will help individuals to optimize database workloads, at lower IT costs and deliver a better quality of service by enabling smooth and rapid consolidation within your Datacenter.

## Course Details

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### Course Outline

#### 1. Exploring the Oracle Database Architecture

- Overview of Oracle Database Architecture
- Overview of Oracle ASM Architecture
- Memory structures

- Process Architecture
- ASM storage components
- Logical and physical storage structures

## **2. Installing your Oracle Software**

- Tools Used to Administer an Oracle Database
- Oracle Universal Installer (OUI)
- Installation: System Requirements
- Install Oracle Database Software
- Install Oracle Grid Infrastructure
- Silent Install

## **3. Creating an Oracle Database**

- Plan the Database
- Use the DBCA to Create a Database
- Password Management
- Create a Database Design Template
- Use the DBCA to Delete a Database

## **4. Managing the Oracle Database Instance**

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

## **5. Managing the ASM Instance**

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

## **6. Configuring the Oracle Network Environment**

- Use tnsping to test Oracle Net connectivity
- Use Enterprise Manager to create and configure the Listener
- Enable Oracle Restart to monitor the listener

- Identify when to use shared servers or dedicated servers

## **7. Managing Database Storage Structures**

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

## **8. Administering User Security**

- Database User Accounts
- Predefined Administrative Accounts
- Benefits of Roles
- Predefined Roles
- Implement Profiles

## **9. Managing Data Concurrency**

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

## **10. Manage Undo Data**

- Data Manipulation
- Undo Data Versus Redo Data
- Transactions and Undo Data
- Configure Undo Retention

## **11. Implementing Oracle Database Auditing**

- Describe DBA responsibilities for security
- Enable standard database auditing
- Review audit information
- Specify audit options
- Maintain the audit trail

## **12. Database Maintenance**

- Manage optimizer statistics
- Use the Automatic Database Diagnostic Monitor (ADDM)
- Manage the Automatic Workload Repository (AWR)
- Describe and use the advisory framework
- Set alert thresholds
- Use automated tasks
- Use server-generated alerts

## **13. Performance Management**

- Performance Monitoring
- Manage Memory Components
- Enable Automatic Memory Management (AMM)
- Automatic Shared Memory Advisor
- Use Memory Advisors
- Dynamic Performance Statistics
- Troubleshoot and Tuning Views
- Invalid and Unusable Objects

## **14. Backup and Recovery Concepts**

- Part of Your Job
- User Error
- Statement Failure
- Understanding Instance Recovery
- Phases of Instance Recovery
- Media Failure
- Using the MTTR Advisor
- Archive Log Files

## **15. Performing Database Backups**

- Backup Solutions: Overview
- Oracle Secure Backup
- User-Managed Backup
- Terminology
- Recovery Manager (RMAN)
- Configure Backup Settings
- Back Up the Control File to a Trace File
- Monitor the Flash Recovery Area

## **16. Performing Database Recovery**

- Open a Database
- Data Recovery Advisor
- Loss of a Control File
- Loss of a Redo Log File
- Data Failures
- List Data Failures

## **17. Moving Data**

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

## **18. Working with Support**

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

## **Who Should Attend**

- Database Administrators
- Technical Administrator
- Java Developers
- Technical Consultant
- Support Engineer

## **Pre Requisite**

- Taken Oracle Introduction to SQL course or equivalent experience
- Should be certified with the course Oracle Database: 12C - SQL AND PL or SQL New Features ED 1

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