



## **Oracle Database 11g: Administration Workshop:**

### **Required Prerequisites:**

- Taken Oracle Introduction to SQL course or equivalent experience
- Oracle Database: Introduction to SQL
- Taken Oracle PL/SQL course or equivalent experience

### **1. Exploring the Oracle Database Architecture**

- 1.1 Oracle Database Architecture Overview
- 1.2 Oracle ASM Architecture Overview
- 1.3 Process Architecture
- 1.4 Memory structures
- 1.5 Logical and physical storage structures
- 1.6 ASM storage components

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

- 2.1 Tasks of an Oracle Database Administrator
- 2.2 Tools Used to Administer an Oracle Database
- 2.3 Installation: System Requirements
- 2.4 Oracle Universal Installer (OUI)
- 2.5 Installing Oracle Grid Infrastructure
- 2.6 Installing Oracle Database Software
- 2.7 Silent Install

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

- 3.1 Planning the Database
- 3.2 Using the DBCA to Create a Database
- 3.3 Password Management
- 3.4 Creating a Database Design Template
- 3.5 Using the DBCA to Delete a Database

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

- 4.1 Start and stop the Oracle database and components
- 4.2 Use Oracle Enterprise Manager
- 4.3 Access a database with SQLPlus
- 4.4 Modify database installation parameters
- 4.5 Describe the stages of database startup
- 4.6 Describe database shutdown options
- 4.7 View the alert log
- 4.8 Access dynamic performance views

### **5. Manage the ASM Instance**

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

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

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



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

- 7.1 Storage Structures
- 7.2 How Table Data Is Stored
- 7.3 Anatomy of a Database Block
- 7.4 Space Management in Tablespaces
- 7.5 Tablespaces in the Preconfigured Database
- 7.6 Actions with Tablespaces
- 7.7 Oracle Managed Files (OMF)

## **8. Administering User Security**

- 8.1 Database User Accounts
- 8.2 Predefined Administrative Accounts
- 8.3 Benefits of Roles
- 8.4 Predefined Roles
- 8.5 Implementing Profiles

## **9. Managing Data Concurrency**

- 9.1 Data Concurrency
- 9.2 Enqueue Mechanism
- 9.3 Resolving Lock Conflicts
- 9.4 Deadlocks

## **10. Managing Undo Data**

- 10.1 Data Manipulation
- 10.2 Transactions and Undo Data
- 10.3 Undo Data Versus Redo Data
- 10.4 Configuring Undo Retention

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

- 11.1 Describe DBA responsibilities for security
- 11.2 Enable standard database auditing
- 11.3 Specify audit options
- 11.4 Review audit information
- 11.5 Maintain the audit trail

## **12. Database Maintenance**

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

## **13. Performance Management**

- 13.1 Performance Monitoring
- 13.2 Managing Memory Components
- 13.3 Enabling Automatic Memory Management (AMM)
- 13.4 Automatic Shared Memory Advisor
- 13.5 Using Memory Advisors
- 13.6 Dynamic Performance Statistics
- 13.7 Troubleshooting and Tuning Views
- 13.8 Invalid and Unusable Objects



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

- 14.1 Part of Your Job
- 14.2 Statement Failure
- 14.3 User Error
- 14.4 Understanding Instance Recovery
- 14.5 Phases of Instance Recovery
- 14.6 Using the MTTR Advisor
- 14.7 Media Failure
- 14.8 Archive Log Files

#### **15. Performing Database Backups**

- 15.1 Backup Solutions: Overview
- 15.2 Oracle Secure Backup
- 15.3 User-Managed Backup
- 15.4 Terminology
- 15.5 Recovery Manager (RMAN)
- 15.6 Configuring Backup Settings
- 15.7 Backing Up the Control File to a Trace File
- 15.8 Monitoring the Flash Recovery Area

#### **16. Performing Database Recovery**

- 16.1 Opening a Database
- 16.2 Data Recovery Advisor
- 16.3 Loss of a Control File
- 16.4 Loss of a Redo Log File
- 16.5 Data Recovery Advisor
- 16.6 Data Failures
- 16.7 Listing Data Failures
- 16.8 Data Recovery Advisor Views

#### **17. Moving Data**

- 17.1 Describe ways to move data
- 17.2 Create and use directory objects
- 17.3 Use SQL\*Loader to move data
- 17.4 Use external tables to move data
- 17.5 General architecture of Oracle Data Pump
- 17.6 Use Data Pump export and import to move data

#### **18. Working with Support**

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

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