

# Oracle Database 11gR2 Administration Workshop I

## Course information

Days : 5

Total lessons : 18

Suggested Prerequisites :

- Oracle Database 11g: SQL Fundamentals I

Training includes :

- Experienced trainer(s)
- Pre-test and Post-test
- Practices and solutions

Public price :

- 17,000 baht(THB) : 1 person

In-house price :

- 51,000 baht(THB) : Economic Class : 1 – 5 people
- 69,000 baht(THB) : Small Class : 6 - 10 people
- 83,000 baht(THB) : Medium Class : 11 - 20 people
- 97,000 baht(THB) : Large Class : 21 - 30 people

*All prices exclude VAT 7 %*

## Course details

### Day 1

Introduction

Lesson 1 : Exploring the Oracle Database Architecture

Lesson 2 : Installing your Oracle Software

Lesson 3 : Creating an Oracle Database Using DBCA

Lesson 4 : Managing the Database Instance

### Day 2

Lesson 5 : Managing the ASM Instance

Lesson 6 : Configuring the Oracle Network Environment

Lesson 7 : Managing Database Storage Structures

Lesson 8 : Administering User Security

### Day 3

Lesson 9 : Managing Data Concurrency

Lesson 10 : Managing Undo Data

Lesson 11 : Implementing Oracle Database Auditing

### Day 4

Lesson 12 : Database Maintenance

Lesson 13 : Performance Management

Lesson 14 : Backup and Recovery Concepts

### Day 5

Lesson 15 : Performing Database Backups

Lesson 16 : Performing Database Recovery

Lesson 17 : Moving Data

Lesson 18 : Working with Support

## Lesson details

### Lesson 1 : Exploring the Oracle Database Architecture

- List the major architectural components of Oracle Database
- Explain the memory structures
- Describe the background processes
- Correlate the logical and physical storage structures
- Describe ASM storage components



## **Lesson 2 : Preparing the Database Environment**

- Describe your role as a database administrator (DBA) and explain typical tasks and tools
- Plan an Oracle software installation
- Install Oracle Grid Infrastructure for a standalone server
- Install the Oracle database software

## **Lesson 3 : Creating an Oracle Database**

- Create a database by using the Database Configuration Assistant (DBCA)
- Generate database creation scripts with the DBCA
- Manage database design templates with the DBCA
- Perform additional tasks with the DBCA

## **Lesson 4 : Managing the Oracle Instance**

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

## **Lesson 5 : Managing the ASM Instance**

- Describe the benefits of using ASM
- Manage the ASM instance
- Create and drop ASM disk groups
- Extend ASM disk groups
- Retrieve ASM metadata by using various utilities

## **Lesson 6 : Configuring the Oracle Network Environment**

- Use Enterprise Manager to:
  - Create additional listeners
  - Create Oracle Net Service aliases
  - Configure connect-time failover
  - Control the Oracle Net Listener
- Use tnsping to test Oracle Net connectivity
- Identify when to use shared servers and when to use dedicated servers

## **Lesson 7 : Managing Database Storage Structures**

- Describe the storage of table row data in blocks
- Create and manage tablespaces
- Obtain tablespace information

## **Lesson 8 : Administering User Security**

- Create and manage database user accounts:
  - Authenticate users
  - Assign default storage areas (tablespaces)
- Grant and revoke privileges
- Create and manage roles
- Create and manage profiles:
  - Implement standard password security features
  - Control resource usage by users

## **Lesson 9 : Managing Data and Concurrency**

- Describe the locking mechanism and how Oracle manages data concurrency
- Monitor and resolve locking conflicts



### **Lesson 10 : Managing Undo Data**

- Explain DML and undo data generation
- Monitor and administer undo data
- Describe the difference between undo data and redo data
- Configure undo retention
- Guarantee undo retention
- Use the Undo Advisor

### **Lesson 11 : Implementing Oracle Database Security**

- Describe DBA responsibilities for security
- Apply the principle of least privilege
- Enable standard database auditing
- Specify audit options
- Review audit information
- Maintain the audit trail

### **Lesson 12 : Database Maintenance**

- 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

### **Lesson 13 : Performance Management**

- Use Enterprise Manager to monitor performance
- Use Automatic Memory Management (AMM)
- Use the Memory Advisor to size memory buffers
- View performance-related dynamic views
- Troubleshoot invalid and unusable objects

### **Lesson 14 : Backup and Recovery Concepts**

- Identify the types of failure that can occur in an Oracle database
- Describe ways to tune instance recovery
- Identify the importance of checkpoints, redo log files, and archive log files
- Configure the flash recovery area
- Configure ARCHIVELOG mode

### **Lesson 15 : Performing Database Backups**

- Create consistent database backups
- Back up your database without shutting it down
- Create incremental backups
- Automate database backups
- Manage backups and view backup reports
- Monitor the flash recovery area

### **Lesson 16 : Performing Database Recovery**

- Determine the need for performing recovery
- Access different interfaces (such as Enterprise Manager and command line)
- Describe and use available options, such as Recovery Manager (RMAN) and the Data Recovery Advisor
- Perform recovery:
  - Control file
  - Redo log file
  - Data file



### **Lesson 17 : Moving Data**

- Describe ways to move data
- Create and use directory objects
- Use SQL\*Loader to load data from a non-Oracle database (or user files)
- Use external tables to move data via platform-independent files
- Explain the general architecture of Oracle Data Pump
- Use Data Pump Export and Import to move data between Oracle databases

### **Lesson 18 : Working with Support**

- After completing this lesson, you should be able to:
- Use the Enterprise Manager Support Workbench
- Work with My Oracle Support
- Search My Oracle Support
- Log service requests (SR)
- Manage patches
  - Apply a patch
  - Stage a patch

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