



**Oracle Database Administrator
Training Course Outline**

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**08/18/2009
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1 Introduction

- * The Oracle Database
- * Common Oracle DBA Tasks
- * Tools for Administering the Database

2 Installing Oracle and Building the Database

- * Overview of Installation
- *
 - o Checking Prerequisites
 - o Installation Choices
 - o
 - + Basic Installation
 - + Advanced Installation
- * Installing Oracle Software and Database
- * Using DBCA to Create and Configure a Database
- *
 - o Starting DBCA
 - o Creating a Database with DBCA
 - o
 - + Database Templates
 - + Database Identification
 - + Management Options
 - + Database Credentials
 - + Storage Options
 - + Database File Locations
 - + Recovery Configuration
 - + Database Content
 - + Initialization Parameters
 - + Database Storage
 - + Database Creation Options
 - o Configuring Database Options with DBCA
 - o Deleting a Database with DBCA
 - o Managing Templates with DBCA
 - o
 - + Advantages of Using Templates
 - + Types of Templates
 - + DBCA Templates Provided by Oracle
 - + Creating Templates Using DBCA
 - + Deleting DBCA Templates
 - o Configuring Automatic Storage Management with DBCA
- * Upgrading a Database
- *
 - o Overview of the Database Upgrade Assistant
 - o
 - + Pre-Upgrade Checks
 - + Automated Upgrade Tasks
 - + Support for Real Application Clusters
 - + Support for Automatic Storage Management
 - + Support for Silent Mode
 - o Oracle Database Version Restrictions
 - o Starting the Database Upgrade Assistant
 - o Upgrading the Database Using the Database Upgrade Assistant

- * Installation: Hands-On Lab Assignments

3 Getting Started with Oracle Enterprise Manager

- * Introduction to the Oracle Enterprise Manager Database Control

- *
 - o Database Management Features
 - o Online Help
 - o Navigational Features
- * Starting and Stopping the Oracle Enterprise Manager Console
- *
 - o Starting dbconsole in Windows
- * Accessing the Oracle Enterprise Manager Database Control
- * Granting Database Control Administrative Privileges
- * Setting Up Enterprise Manager Preferences
- *
 - o Defining Blackout Periods
 - o Setting Preferred Credentials
- * SQL Statements and Other Management Tools: SQL*Plus and iSQL*Plus
- *
 - o Starting SQL*Plus
 - o Starting iSQL*Plus
- * Managing Your Database: A Roadmap
- * Getting Started: Hands-On Lab Assignments

4 Configuring the Network Environment

- * Understanding Network Configuration
- *
 - o Oracle Net Listener Configuration
 - o Client Configuration
 - o Connection Requests
 - o Naming Methods
 - o
 - + Local Naming
 - + Directory Naming
 - + Easy Connect Naming
 - + External Naming
- * Tools for Network Configuration
- *
 - o Oracle Net Configuration Assistant
 - o Enterprise Manager
 - o Oracle Net Manager
- * Viewing Listener Configuration
- * Starting and Shutting Down the Listener
- * Configuring Oracle Networking on Client Machines
- * Networking: Hands-On Lab Assignments

5 Managing the Oracle Instance

- * Overview of an Instance and Instance Management
- *
 - o About Initialization Parameters
 - o Instance Memory Structure
 - o
 - + The System Global Area (SGA)

- + Program Global Area (PGA)
 - o Oracle Background Processes
 - o Accessing the Database
 - o
 - + About Database Administration Privileges
 - + Server and Client Processes
 - + Network Connections
- * Shutting Down and Restarting the Instance and Database with Enterprise Manager
- *
 - o Starting and Shutting Down the Database Instance on Windows
- * Viewing and Modifying Initialization Parameters
- * Managing Memory Parameters
- *
 - o Modifying Memory Parameters
- * Instances: Hands-On Lab Assignments

6 Managing Database Storage Structures

- * Exploring the Storage Structure of Your Database
- *
 - o Control Files
 - o
 - + Displaying Control File Information
 - o Online Redo Log Files
 - o
 - + Displaying Redo Log File Information
 - + Multiplexing the Redo Log
 - o Archive Log Files
 - o
 - + Displaying Archive Log File Information
 - o Rollback Segments
 - o
 - + Displaying Rollback Segment Information
 - o Datafiles
 - o
 - + Viewing Datafile Information
 - o Tablespaces
 - o
 - + Locally-Managed vs. Dictionary-Managed Tablespaces
 - + Tablespace Type
 - + Tablespace Status
 - + Auto-Extend Tablespace
 - + Some Tablespaces in the Database
 - o Other Storage Structures
 - o
 - + Initialization Parameter File
 - + Password File
 - + Backup Files
- * Performing Common Database Storage Tasks
- *
 - o Viewing Tablespaces in Your Database
 - o Creating a Tablespace
 - o Modifying a Tablespace
 - o Dropping a Tablespace
 - o Reclaiming Wasted Space

- - + Viewing Segment Advisor Recommendations
 - + Running the Segment Advisor Manually
- * Managing Undo for Your Database
- *

- About Undo Data
- Undo Tablespace Size and Retention Time
- Automatic Undo Management
- Managing Undo with Enterprise Manager
- Using the Undo Advisor
- - + Gaining Advice from Undo Advisor
 - + Extending the Undo Tablespace
 - + Setting Minimum Undo Retention Time
- * Making Changes to the Database Storage Structure
- * Storage: Hands-On Lab Assignments

7 Administering Users and Security

- * Overview of Users and Security
- *
- Sample Schemas
- * Administering Roles
- *
- About Privileges and Roles
- About Administrative Accounts
- - + SYS
 - + SYSTEM
 - + Administrative Privileges
- Viewing Roles
- Creating Roles
- Modifying Roles
- Dropping Roles
- * Administering Profiles
- * Administering Database Users
- *
- Creating Users
- Using a Shortcut to Create Users
- Editing Users
- - + Changing the Tablespace Quota for a User
 - + Unlocking Accounts and Resetting Passwords
 - + Granting Roles
 - + Revoking Roles
- Dropping Users
- * Users: Hands-On Lab Assignments

8 Managing Schema Objects

- * Overview of Schema Objects
- *
- Exploring Database Schema Objects
- Naming Schema Objects
- * Managing Tables
- *

- o About Tables
- o
 - + Types of Table
 - + Column Attributes
 - + Table-Level Constraints
 - + Storage Attributes
 - + Other Table Creation Considerations
- o Viewing Tables
- o Viewing Table Data
- o Creating Tables
 - o
 - + Estimating the Size of New Tables
 - + Creating a Table: Example
- o Modifying Table Attributes
 - o
 - + Adding a Column
 - + Dropping a Column
 - + Creating a New Table Constraint
 - + Modifying an Existing Constraint
 - + Dropping a Constraint
- o Loading Data Into Tables
- o Dropping a Table
- * Managing Indexes
 - o About Indexes
 - o
 - + Indexes and Performance
 - + Index Types
 - o Viewing Indexes
 - o Creating Indexes
 - o Dropping Indexes
- * Managing Views
 - o About Views
 - o Displaying Views
 - o Creating a View: Example
 - o Dropping Views
- * Managing Database-Resident Program Units
 - o Managing Packages
 - o
 - + Viewing Packages
 - + Creating Packages
 - + Editing Packages
 - + Dropping Packages
 - o Managing Package Bodies
 - o
 - + Viewing Package Bodies
 - o Managing Standalone Subprograms
 - o Managing Triggers
- * Working with Other Schema Objects
- * Schemas: Hands-On Lab Assignments

9 Performing Backup and Recovery

- * Overview of Database Backup and Recovery

- *
 - o Oracle Backup, Restore, and Recovery Concepts
 - o
 - + Consistent and Inconsistent Backups
 - + Media Recovery
 - + The Flash Recovery Area
 - + The RMAN Repository
- * Configuring Your Database for Basic Backup and Recovery
 - *
 - o Planning Space Usage and Location for the Flash Recovery Area
 - o
 - + Retention Policy and the Flash Recovery Area
 - + Sizing the Flash Recovery Area
 - o Credentials for Performing Oracle Enterprise Manager Backup and Recovery
 - o
 - + Preferred Credentials for Backup and Recovery
 - o Configuring the Flash Recovery Area
 - o Configuring ARCHIVELOG Mode For the Database
 - o Configuring Backup Settings
 - o
 - + Understanding Backup Device Settings for Disk
 - + Configuring Backup Policy Settings
 - * Backing Up Your Database
 - *
 - o Database Backup Concepts
 - o
 - + Full Backups of Datafiles
 - + Incremental Backups of Datafiles
 - + Incrementally Updated Backups: Rolling Forward Image Copies of Datafiles
 - + Using Tags to Identify Backups
 - o Performing and Scheduling Backups with Enterprise Manager
 - o
 - + Performing a Whole Database Backup with Oracle Enterprise Manager
 - + Using the Oracle-Suggested Backup Strategy
 - + Scheduling Other Backup Tasks
 - o Validating Backups and Testing Your Backup Strategy
 - * Performing Restore and Recovery Operations
 - *
 - o Recovering a Whole Database from Backup
 - o
 - + Recovering from a Lost SPFILE or Control File
 - o Validating the Restore of Datafiles from RMAN Backup
 - o Returning a Table to a Past State: Flashback Table
 - o
 - + Enabling Row Movement on a Table
 - + Performing Flashback Table
 - o Recovering Dropped Tables: Flashback Drop
- * Managing Your Backups
 - *
 - o Backup Management: Concepts
 - o Using the Manage Current Backups Page
 - o

- Page
 - + Searching for Backups on the Manage Current Backups
 - + Managing Current Backups: Backup Sets
 - + Managing Current Backups: Image Copies
 - + Validating the Contents of Backup Sets or Image

Copies

- o Crosschecking Backups
- o Deleting Expired Backups
- o Marking Backups as Available or Unavailable
- o Deleting Obsolete Backups
- * Displaying Backup Reports
- * Backup and Recovery: Hands-On Lab Assignments

10 Monitoring and Tuning the Database

- * Proactive Database Monitoring
 - *
 - o Alerts
 - o Performance Self-Diagnostics: Automatic Database
- Diagnosics Monitor
 - o Monitoring General Database State and Workload
 - o Managing Alerts
 - o
 - + Viewing Metrics and Thresholds
 - + Setting Metric Thresholds
 - + Responding to Alerts
 - + Clearing Alerts
 - + Setting up Direct Alert Notification
- * Diagnosing Performance Problems
 - *
 - o Viewing Performance Analysis
 - o Responding to Performance Findings
 - o Modifying Default ADDM Behavior
 - o Running ADDM Manually
- * Using Advisors to Optimize Database Performance
 - *
 - o About Performance Advisors
 - o Using the SQL Tuning Advisor
 - o Using the SQL Access Advisor
 - o Using the Memory Advisor
 - o
 - + Setting New SGA or PGA Targets
 - + Determining Performance Impact for Altering your SGA

or PGA

- * Monitoring and Tuning: Hands-On Lab Assignments

11 Managing Oracle Software

- * About Software Management and Patch Releases
- * Applying a Patch Release
 - *
 - o Determining your Oracle Software Environment
 - o
 - + Determining the Oracle Database Version
 - + Determining the Location of your Oracle Home
 - + Determining Your Hardware Configuration

- o Setting Your Oracle MetaLink Credentials
- o Staging the Patch Release
- o Installing the Patch Release
- * Managing Oracle Software: Hands-On Lab Assignments

Advance Topic A: Automatic Storage Management

- * What is Automatic Storage Management?
- * Overview of Disks, Disk Groups, and Failure Groups
- * Installing Automatic Storage Management
- * Accessing the Automatic Storage Management Home Page
- *
 - o Accessing the ASM Home Page on a Single Instance System
 - o Accessing the ASM Home Page On a Real Application Clusters Database
- * Starting Up and Shutting Down the ASM Instance
- * Monitoring Disk Group Space Usage
- * Creating a Disk Group
- * Dropping a Disk Group
- * Adding Disks to a Disk Group
- * Dropping Disks from a Disk Group
- * Backing Up ASM-Managed Files
- * Automatic Storage Management: Hands-On Lab Assignments

Advance Topic B: Overview of Real Application Clusters

- * What is Real Application Clusters?
- * Real Application Clusters Database Configuration Scenario
- * Differences in Administering Real Application Clusters and Single-Instance Oracle Databases
- * Monitoring Oracle Real Application Clusters with Enterprise Manager
- *
 - o Overview of the Cluster Database Home Page
 - o Viewing Real Application Clusters Database Targets
 - o Navigating to Oracle Enterprise Manager Cluster-Related Pages
 - o Viewing and Modifying Real Application Clusters Initialization Parameters
- * Starting and Stopping Real Application Clusters Databases and Database Instances
- *
 - o Starting and Stopping Real Application Clusters Databases
 - o Starting and Stopping Individual Instances in Real Application Clusters Databases
- * Managing Real Application Clusters Backup and Recovery
- *
 - o Redo Log Groups and Redo Threads in Real Application Clusters Databases
 - o Backing Up Real Application Clusters Databases
 - o Overview of Restore and Recovery Operations for a Real Application Clusters Database
 - o Using a Flash Recovery Area with a Real Application Clusters Database
- * Real Application Clusters: Hands-On Lab Assignments