ORACLE DATABASE: ADMINISTRATION WORKSHOP I
CORPORATE COLLEGE SEMINAR SERIES

For registration assistance, contact:
LaToya Crear
LaToya.D.McCarter@LoneStar.edu
281.290.2601

For more information, contact:
Michael Burns
Director, Corporate College
Professional Studies
Michael.Burns@LoneStar.edu
281.290.2925

Date: January 28 – February 28
Presented by: Lone Star Corporate College in partnership with Oracle Workforce Development Program
Format: Classroom Instruction Monday & Thursday 6:00 – 9:00 p.m.
Course: ITSEC 1109103
Location: Lone Star College-University Park
20515 State Highway 249 (@ Louetta Rd.)
Houston, TX 77070
Description: This course is your first step to success as an Oracle professional, designed to give you a firm foundation in basic database administration.

Who should attend: This program is designed for database administrators, Java developers, support engineers, technical administrators, and technical consultants to prepare for the corresponding Oracle Certified Associate exam.

Objective: In this workshop, you will learn how to: install and maintain an Oracle database; Gain a conceptual understanding of the Oracle database architecture; create an operational database and properly manage the various structures in an effective and efficient manner including performance monitoring, database security, user management, and backup/recovery techniques.

Course topics include:
- Exploring the Oracle Database Architecture
- Installing your Oracle Software
- Creating an Oracle Database
- Managing the Oracle Database Instance
- Manage the ASM Instance
- Configuring the Oracle Network Environment
- Managing Database Storage Structures
- Administering User Security
- Managing Data Concurrency
- Managing Undo Data
- Implementing Oracle Database Auditing
- Database Maintenance
- Backup and Recovery Concepts
- Performing Database Backups
- Performing Database Recovery
- Moving Data
- Working with Support

Hours: 40  Cost: $1522.00
Oracle Database: Administration Workshop I

What You Will Learn

This course is your first step towards success as an Oracle professional, designed to give you a firm foundation in basic database administration.

In this class, you'll learn how to install and maintain an Oracle database. You will gain a conceptual understanding of the Oracle database architecture and how its components work and interact with one another. You will also learn how to create an operational database and properly manage the various structures in an effective and efficient manner including performance monitoring, database security, user management, and backup/recovery techniques. The lesson topics are reinforced with structured hands-on practices.

This course is designed to prepare you for the corresponding Oracle Certified Associate exam. The course does not cover the following key Grid technologies: (1) Enterprise Manager Grid Control(2) Real Application Clusters(3) Streams(4) Data Guard.

These technologies are addressed by the following courses: (1) Oracle Enterprise Manager 11g Grid Control(2) Oracle Database 11g: RAC Administration(3) Oracle Database 11g: Implement Streams(4) Oracle Database 11g: Data Guard Administration

Learn to install Oracle grid infrastructure, create and manage users, install and configure Oracle database, create and manage storage structures, administer the Oracle database, backup and recovery.

Audience

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

Required Prerequisites

- Oracle Database: Introduction to SQL
- Oracle Database: PL/SQL Fundamentals Release 2

Suggested Prerequisites

- Oracle Introduction to SQL course or equivalent experience
- Oracle PL/SQL course or equivalent experience
Course Objectives

- Monitor performance
- Describe Oracle Database Architecture
- Install Oracle Grid Infrastructure
- Install and configure Oracle Database 11g
- Configure Oracle Net services
- Monitor and administer undo data
- Manage the database storage structures
- Create and administer user accounts
- Perform basic backup and recovery of a database
- Manage users and schemas
- Manage data concurrency

Course Topics

**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 Database 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
**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

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

**Performing Database Backups**
- 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

**Performing Database Recovery**
- 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
Moving Data
- 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

If you have questions, contact:

Michael Burns
Director, Corporate College
Professional Studies
Lone Star College System
Michael.Burns@LoneStar.edu
281.290.2925