ORACLE DATABASE

Oracle Beginners: Level 1

Nature of the Course: Theory + Practical
Total Hours per Day: 2 Hours
Course Duration: 4 Weeks

Course Summary

Oracle Database System administrators can use Quality of Service Management to manage application service levels hosted on Oracle Real Application Cluster databases. QoS Management links precise run-time performance and resource metrics, analyzes this data with an expert system to detect bottlenecks, and recommends resource adjustments to meet and maintain performance objectives under dynamic load conditions, all while using a policy-based architecture. If sufficient resources are not available, QoS prioritizes the most important business objectives above the less important ones. With this course, you should be able to do these basic operations in the Oracle database.

Completion Criteria

After fulfilling all of the following criteria, the student will be deemed to have finished the Module:

- Has attended 90% of all classes held.
- Has received an average grade of 80% on all assignments
- Has received an average of 60% in assessments.
- The tutor believes the student has grasped all of the concepts and is ready to go on to the next module.

Required Textbooks

- Darl Kuhn, "Oracle RMAN for Absolute Beginners", Apress.
- Arun Kumar, "Oracle 11g DBA for Beginners", Arun Kumar.

- Ravinder Gupta, "Mastering Oracle GoldenGate", Apress.

Prerequisites

- Fundamental understanding of programming, bits/bytes, procedures, classes, and computer architecture. It's absolutely acceptable if you only have a theoretical understanding of programming, but you should be certain about what programming is and what you intend to gain from this session.
- If you are only interested in theory and have no interest/patience in spending at least 10 hours every week throughout the duration of the course, then this course might not be for you.
- If you have absolutely no idea about programming or do not see yourself doing programming in the next six -odd months, then this class may not be for you.

Course Details
Week I & II
Sql Fundamentals

- Introduction to Oracle Database 11g
- Retrieving Data using the SQL SELECT Statement
- Restricting and Sorting Data
- Using Single-Row Functions to Customize Output
- Using Conversion Functions and Conditional Expressions
- Reporting Aggregated Data using the Group Functions
- Displaying Data from Multiple Tables using Joins
- Using Subqueries to Solve Queries
- Managing Tables using DML Statements
- Data Definition Language

Week III & IV
Oracle Database

- Exploring the Oracle Database Architecture
- Oracle Database Management Tools
- Oracle Database Instance

- Configuring the Oracle Network Environment
- Administering User Security
- Managing Database Storage Structures
- Create and Manage Tablespaces
- Managing Undo Data
- Managing Data Concurrency
- Implementing Oracle Database Auditing

Labs

Lab assignments will focus on the practice and mastery of contents covered in the lectures; and introduce critical and fundamental problem-solving techniques to the students.

Oracle Intermediates: Level 2

Nature of the Course: Theory + Practical
Total Hours per Day: 2 Hours
Course Duration: 4 Weeks

Course Summary

Oracle Database System administrators can use Quality of Service Management to manage application service levels hosted on Oracle Real Application Cluster databases. QoS Management links precise run-time performance and resource metrics, analyzes this data with an expert system to detect bottlenecks, and recommends resource adjustments to meet and maintain performance objectives under dynamic load conditions, all while using a policy-based architecture. If sufficient resources are not available, QoS prioritizes the most important business objectives above the less important ones. With this course, you should be able to do these basic operations in the Oracle database.

Completion Criteria

After fulfilling all of the following criteria, the student will be deemed to have finished the Module:
- Has attended 90% of all classes held.
- Has received an average grade of 80% on all assignments
- Has received an average of 60% in assessments.
- The tutor believes the student has grasped all of the concepts and is ready to go on to the next module.

Required Textbooks
- Bob Bryla and Kevin Loney, "Oracle Database 12c The Complete Reference", Oracle Press.
- Ravinder Gupta, "Mastering Oracle GoldenGate", Apress.

Prerequisites

- Successfully complete the entrance test with a score of at least 40% (for trainees directly applying to this level).
- Successfully complete the DWIT Training - Oracle – Level 1 course (not applicable to trainees directly applying to this level).
- Successfully complete the interview.

Course Details

Week I

Backup And Recovery Concepts

- Backup and Recovery Configuration
- Performing Database Backups
- Performing Database Recovery
- Moving Data
- Performing Database Maintenance
- Managing Performance: SQL Tuning
- Automating Tasks using Oracle Scheduler
- Creating an Oracle Database using DBCA
- Upgrading Oracle Database Software
- Introduction to DBAAS

Week II

Oracle Pls/Sql

- PL/SQL Fundamentals
- Develop PL/SQL Program Units

Week III

Oracle Real Application Cluster (Rac)

Week IV

Oracle Data Integrator (Odi)

Small Project With Oracle

Labs

Lab assignments will focus on the practice and mastery of contents covered in the lectures; and introduce critical and fundamental problem-solving techniques to the students.

Learning Outcomes

- Improve overall database analysis and design expertise and understanding.
- Improve overall understanding of SQL and PL/SQL database development and administration processes.
- Using SQL and PL/SQL, improve programming and software engineering skills and approaches.
- Preparation of technical foundation materials and documents.