

Oracle Database 12c R2: SQL Workshop

Duration: 3 Days

What you will learn

The Oracle Database: SQL Workshop I Ed 2 course offers students an introduction to Oracle Database 12c database technology. The students are also introduced to Oracle Database Exadata Express Cloud Service. In this class students learn the concepts of relational databases and the powerful SQL programming language. This course provides the essential SQL skills that allow developers to write queries against single and multiple tables, manipulate data in tables, and create database objects.

Learn To:

- Identify what a SQL statement is.
- Understand the Oracle Relational Database.
- Use SQL Developer.
- Write reports using SQL Statements.
- Manipulate data in relational tables and save the data.

Benefits To You

Students use Oracle SQL Developer as the main environment tool for writing SQL. SQL*Plus is introduced as an optional tool. Demonstrations and hands-on practice reinforce the fundamental concepts.

Audience

- Application Developers
- Database Administrators
- Forms Developer
- Functional Implementer
- PL/SQL Developer
- System Analysts

Related Training

Required Prerequisites

- Familiarity with data processing concepts and techniques
- Familiarity with programming languages

Course Objectives

Identify the major components of Oracle Database

Retrieve row and column data from tables with the SELECT statement

Create reports of sorted and restricted data

Employ SQL functions to generate and retrieve customized data

Run complex queries to retrieve data from multiple tables

Run data manipulation language (DML) statements to update data in Oracle Database

Course Topics

Introduction

Course Objectives, Course Agenda and Appendixes Used in this Course

Overview of Oracle Database 12c and Related Products

Overview of relational database management concepts and terminologies

Introduction to SQL and its development environments

What is Oracle SQL Developer?

Starting SQL*Plus from Oracle SQL Developer

The Human Resource(HR) Schema

Tables used in the Course

Retrieving Data using the SQL SELECT Statement

Capabilities of the SELECT statement

Arithmetic expressions and NULL values in the SELECT statement

Column aliases

Use of concatenation operator, literal character strings, alternative quote operator, and the DISTINCT keyword

Use of the DESCRIBE command

Restricting and Sorting Data

Limiting the Rows

Rules of precedence for operators in an expression

Sorting rows using ORDER BY clause

SQL row limiting clause in a query

Substitution Variables

Using the DEFINE and VERIFY command

Using Single-Row Functions to Customize Output

Describe the differences between single row and multiple row functions

Manipulate strings with character function in the SELECT and WHERE clauses

Nesting Functions

Manipulate numbers with the ROUND, TRUNC and MOD functions

Perform arithmetic with date data

Manipulate dates with the date functions

Using Conversion Functions and Conditional Expressions

Describe implicit and explicit data type conversion

Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions

Apply the NVL, NULLIF, and COALESCE functions to data
Conditional Expressions

Reporting Aggregated Data Using the Group Functions

Group Functions
Grouping Rows (GROUP BY and HAVING clause)
Nesting Group Functions

Displaying Data From Multiple Tables Using Joins

Introduction to JOINS
Types of Joins
Natural join
Self-join
Nonequijoins
OUTER join
Cartesian product

Using Subqueries to Solve Queries

Introduction to Subqueries
Single Row Subqueries
Multiple Row Subqueries
Null values in a subquery

Using the SET Operators

Set Operators
UNION and UNION ALL operator
INTERSECT operator
MINUS operator
Matching the SELECT statements
Using ORDER BY clause in set operations

Managing Tables using DML statements

Data Manipulation Language
Database Transactions
Manual Data Locking

Introduction to Data Definition Language

Database Objects
CREATE TABLE statement
Data types
Overview of constraint
Creating a table using subquery
Use the ALTER TABLE statement to add, modify, and drop a column
DROP TABLE statement