Oracle Database 12c: Introduction to SQL Ed 1.1

Duration: 5 Days

What you will learn

This Oracle Database: Introduction to SQL training helps you write subqueries, combine multiple queries into a single query using SET operators and report aggregated data using group functions. Learn this and more through hands-on exercises.

Learn To:

Understand the basic concepts of relational databases ensure refined code by developers.
Create reports of sorted and restricted data.
Run data manipulation statements (DML).
Control database access to specific objects.
Manage schema objects.
Manage objects with data dictionary views.
Retrieve row and column data from tables.
Control privileges at the object and system level.
Create indexes and constraints; alter existing schema objects.
Create and query external tables.

Benefits to You

Ensure fast, reliable, secure and easy to manage performance. Optimize database workloads, lower IT costs and deliver a higher quality of service by enabling consolidation onto database clouds.

Learn Advanced Features of SQL

This course will help you understand the advanced features of SQL. Learning these features will help you query and manipulate data within the database, use the dictionary views to retrieve metadata and create reports about their schema objects. Some of the date-time functions available in the Oracle Database are also covered. This course also discusses how to use the regular expression support in SQL through expert instruction.

Use Development Tools

The main development tool used in this training is Oracle SQL Developer. SQL*Plus is available as an optional development tool. This is appropriate for a 10g, 11g and 12c audience.

Course Bundle

Note: This course is a combination of Oracle Database: SQL Workshop I and Oracle Database: SQL Workshop II courses.

Audience
Application Developers
Business Analysts
Data Warehouse Administrator
Developer
Forms Developer
PL/SQL Developer
System Analysts

Related Training

**Required Prerequisites**
Familiarity with data processing concepts and techniques

Data processing

**Course Objectives**
Identify the major structural components of the Oracle Database 12c

Create reports of aggregated data

Write SELECT statements that include queries

Retrieve row and column data from tables

Run data manipulation statements (DML) in Oracle Database 12c

Create tables to store data

Utilize views to display data

Control database access to specific objects

Manage schema objects

Display data from multiple tables using the ANSI SQL 99 JOIN syntax

Manage objects with data dictionary views

Write multiple-column sub-queries

Employ SQL functions to retrieve customized data

Use scalar and correlated sub-queries

Create reports of sorted and restricted data

**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
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
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
Nest multiple functions
Apply the NVL, NULLIF, and COALESCE functions to data
Use conditional IF THEN ELSE logic in a SELECT statement

Reporting Aggregated Data Using the Group Functions
Group Functions
Creating Groups of Data
Restricting Group Results

Displaying Data from Multiple Tables Using Joins
Introduction to JOINS
Types of Joins
Natural join
Self-join
Non equijoins
OUTER join

Using Subqueries to Solve Queries
Introduction to Subqueries
Single Row Subqueries
Multiple Row Subqueries

**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

**Introduction to Data Definition Language**
Data Definition Language

**Introduction to Data Dictionary Views**
Introduction to Data Dictionary
Describe the Data Dictionary Structure
Using the Data Dictionary views
Querying the Data Dictionary Views

**Creating Sequences, Synonyms, Indexes**
Overview of sequences
Overview of synonyms
Overview of indexes

**Creating Views**
Overview of views

**Managing Schema Objects**
Managing constraints
Creating and using temporary tables
Creating and using external tables

**Retrieving Data by Using Subqueries**
Retrieving Data by Using a Subquery as Source
Working with Multiple-Column subqueries
Using Scalar subqueries in SQL
Correlated Subqueries
Working with the WITH clause

**Manipulating Data by Using Subqueries**
Using Subqueries to Manipulate Data
Inserting by Using a Subquery as a Target
Using the WITH CHECK OPTION Keyword on DML Statements
Using Correlated Subqueries to Update and Delete rows

**Controlling User Access**
System privileges
Creating a role
Object privileges
Revoking object privileges

**Manipulating Data**
Overview of the Explicit Default Feature
Using multitable INSERTs
Using the MERGE statement
Performing flashback operations
Tracking Changes in Data

**Managing Data in Different Time Zones**
Working with CURRENT_DATE, CURRENT_TIMESTAMP, and LOCALTIMESTAMP
Working with INTERVAL data types