Oracle Database: Introduction to SQL Ed 2

Duration: 5 Days

What you will learn

This Oracle Database 12c: 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 12c: SQL Workshop I and Oracle Database12c: SQL Workshop II courses.

Audience

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

Related Training

Required Prerequisites

Data processing

Familiarity with data processing concepts and techniques

Course Objectives

Identify the major structural components of the Oracle Database 12c

Manage objects with data dictionary views

Manage schema objects

Retrieve row and column data from tables

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

Use scalar and correlated sub-queries

Utilize views to display data

Write SELECT statements that include queries

Write multiple-column sub-queries

Control database access to specific objects

Create reports of aggregated data

Create reports of sorted and restricted data

Create tables to store data

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

Employ SQL functions to retrieve customized 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

Working with Oracle Cloud Exadata Express Cloud Service
Introduction to Oracle Database Exadata Express Cloud Service
Accessing Cloud Database using SQL Workshop
Connecting to Exadata Express Database using Database Clients

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