Oracle Database 12c R2: Introduction to SQL Ed 2

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.

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

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

**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