

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