

Oracle Database: Introduction to SQL Ed 2

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.

Introduction

- Overview of Oracle Database 12c and Related Products
- Introduction to SQL and its development environments
- Course Objectives, Course Agenda and Appendixes Used in this Course
- The Human Resource (HR) Schema
- Overview of relational database management concepts and terminologies
- What is Oracle SQL Developer?
- Tables used in the Course
- Starting SQL*Plus from Oracle SQL Developer

Working with Oracle Cloud Exadata Express Cloud Service

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

Retrieving Data using the SQL SELECT Statement

- Column aliases
- Use of the DESCRIBE command
- Capabilities of the SELECT statement
- Use of concatenation operator, literal character strings, alternative quote operator, and the DISTINCT keyword
- Arithmetic expressions and NULL values in the SELECT statement

Restricting and Sorting Data

- Rules of precedence for operators in an expression
- Limiting the Rows
- Substitution Variables
- Using the DEFINE and VERIFY command

Using Single-Row Functions to Customize Output

- Manipulate strings with character function in the SELECT and WHERE clauses
- Perform arithmetic with date data
- Manipulate numbers with the ROUND, TRUNC and MOD functions
- Describe the differences between single row and multiple row functions
- Manipulate dates with the date functions

Using Conversion Functions and Conditional Expressions

- Use conditional IF THEN ELSE logic in a SELECT statement
- Apply the NVL, NULLIF, and COALESCE functions to data
- Describe implicit and explicit data type conversion
- Use the TO_CHAR, TO_NUMBER, and TO_DATE conversion functions
- Nest multiple functions

Reporting Aggregated Data Using the Group Functions

- Restricting Group Results
- Creating Groups of Data
- Group Functions

Displaying Data from Multiple Tables Using Joins

- Self-join
- Types of Joins
- Introduction to JOINS
- Non equijoins
- OUTER join
- Natural join

Using Subqueries to Solve Queries

- Single Row Subqueries
- Multiple Row Subqueries
- Introduction to Subqueries

Using the SET Operators

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

Managing Tables using DML statements

- Database Transactions
- Data Manipulation Language

Introduction to Data Definition Language

- Data Definition Language

Introduction to Data Dictionary Views

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

Creating Sequences, Synonyms, Indexes

- Overview of indexes
- Overview of synonyms
- Overview of sequences

Creating Views

- Overview of views

Managing Schema Objects

- Creating and using external tables
- Creating and using temporary tables
- Managing constraints

Retrieving Data by Using Subqueries

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

Manipulating Data by Using Subqueries

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

Controlling User Access

- Revoking object privileges
- Creating a role
- Object privileges
- System privileges

Manipulating Data

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

Managing Data in Different Time Zones

- Working with CURRENT_DATE, CURRENT_TIMESTAMP, and LOCALTIMESTAMP
- Working with INTERVAL data types