

Introduction to Oracle SQL

Duration: 5 Days · **Training format:** Virtual Classroom / Online

Description

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.

Delegates will learn

- 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.

Outline

Introduction

- Overview
- Aims and Objectives
- Sample Data
- Schedule
- Introductions
- Pre-requisites
- Responsibilities

Relational Databases

- The Database
- The Relational Database
- Tables

- Rows and Columns
- Sample Database
- Selecting Rows
- Supplier Table
- Saleord Table
- Primary Key Index
- Secondary Indexes
- Relationships
- Analogy
- Foreign Key
- Foreign Key
- Joining Tables
- Referential Integrity
- Types of Relationship
- Many to Many Relationship
- Resolving a Many-to-Many Relationship
- One to One Relationship
- Completing the Design
- Resolving Relationships
- Microsoft Access - Relationships
- Entity Relationship Diagram
- Data Modelling
- CASE Tools
- Sample Diagram
- The RDBMS
- Advantages of an RDBMS
- Structured Query Language
- DDL - Data Definition Language
- DML - Data Manipulation Language
- DCL - Data Control Language
- Why Use SQL?
- Course Tables Handout

Data Retrieval

- SQL Developer
- SQL Developer - Connection
- Viewing Table Information
- Using SQL, Where Clause

- Using Comments
- Character Data
- Users and Schemas
- AND and OR Clause
- Using Brackets
- Date Fields
- Using Dates
- Formatting Dates
- Date Formats
- TO_DATE
- TRUNC
- Date Display
- Order By Clause
- DUAL Table
- Concatenation
- Selecting Text
- IN Operator
- BETWEEN Operator
- LIKE Operator
- Common Errors
- UPPER Function
- Single Quotes
- Finding Metacharacters
- Regular Expressions
- REGEXP_LIKE Operator
- Null Values
- IS NULL Operator
- NVL
- Accepting User Input

Using Functions

- TO_CHAR
- TO_NUMBER
- LPAD
- RPAD
- NVL
- NVL2 Function
- DISTINCT Option

- SUBSTR
- INSTR
- Date Functions
- Aggregate Functions
- COUNT
- Group By Clause
- Rollup and Cube Modifiers
- Having Clause
- Grouping By Functions
- DECODE
- CASE
- Workshop

Sub-Query & Union

- Single Row Sub-queries
- Union
- Union - All
- Intersect and Minus
- Multiple Row Sub-queries
- Union – Checking Data
- Outer Join
- More On Joins
- Joins
- Cross Join or Cartesian Product
- Inner Join
- Implicit Join Notation
- Explicit Join Notation
- Natural Join
- Equi-Join
- Cross Join
- Outer Joins
- Left Outer Join
- Right Outer Join
- Full Outer Join
- Using UNION
- Join Algorithms
- Nested Loop
- Merge Join

- Hash Join
- Reflexive or Self Join
- Single Table Join
- Workshop

Advanced Queries

- ROWNUM and ROWID
- Top N Analysis
- Inline View
- Exists and Not Exists
- Correlated Sub-queries
- Correlated Sub-queries with Functions
- Correlated Update
- Snapshot Recovery
- Flashback Recovery
- All
- Any and Some Operators
- Insert ALL
- Merge

Sample Data

- ORDER Tables
- FILM Tables
- EMPLOYEE Tables
- The ORDER Tables
- The FILM Tables

Utilities

- What is a Utility?
- Export Utility
- Using Parameters
- Using a Parameter file
- Import Utility
- Using Parameters
- Using a Parameter file
- Unloading Data
- Batch Runs
- SQL*Loader Utility
- Running the Utility

- Appending Data

Control user access

- User Management
- System permissions and object
- Granting
- Receiving permission
- Roles
- Using the links

Managing schema objects

- ALTER TABLE command
- Adding, modifying, and deleting columns
- Add, remove, turn off constraintów
- Create indexes
- Flashback operations
- External tables

Operations on large data sets

- MERGE command
- DML operations of podzapytaniemi
- DML operations with RETURNING clause
- INSERT command multi tables

Conditional expressions

- CASE expression
- DECODE expression
- Generate reports by grouping related data
- The GROUP BY clause
- The HAVING clause
- Aggregating data - ROLLUP and CUBE operators
- Identification summaries - GROUPING function
- Aggregating data - GROUPING SETS operator

Managing data in different time zones

- Time zones
- Variations TIMESTAMP
- Differences between DATE and TIMESTAMP
- Conversion operations

Advanced subqueries

- Subqueries
- Multi-column subqueries
- The subquery in the FROM clause
- Correlated subqueries
- WITH clause - re-use query blocks

Join tables

- Inequality in the WHERE clause and the FROM clause
- Semijoin
- Antijoin

The processing of hierarchical data

- The tree structure
- hierarchical Queries
- Pseudo column
- Sort data in a hierarchical query
- Useful functions

Regular expressions

- Simple and complex patterns

Prerequisites

There are no prerequisites