

## Course duration

- 2 days

## Course Benefits

- Manage and manipulate your data using SQL.
- Understand the basics of relational databases.
- Gather data using SELECT queries and then use the WHERE clause to shape the results.
- Handle complex data retrieval tasks with ease using subqueries, joins, outer joins, and unions.
- Leverage CASE Statements to retrieve the most relevant data.
- Use INSERT, UPDATE, and DELETE to maintain your records.
- Create insightful, data-driven reports.

### Available Delivery Methods

#### Public Class

Public expert-led online training from the convenience of your home, office or anywhere with an internet connection. Guaranteed to run .

#### Private Class

Private classes are delivered for groups at your offices or a location of your choice.

#### Self-Paced

Learn at your own pace with 24/7 access to an On-Demand course.

## Course Outline

1. Relational Database Basics
  1. Brief History of SQL
  2. Relational Databases
  3. Tables
    1. Rows
    2. Columns
    3. Relationships
    4. Datatypes
    5. Primary Keys

6. Foreign Keys
7. Relational Database Management System
4. Popular Databases
  1. Commercial Databases
  2. Popular Open Source Databases
5. SQL Statements
  1. Database Manipulation Language (DML)
  2. Database Definition Language (DDL)
  3. Database Control Language (DCL)
2. Simple SELECTs
  1. Introduction to the Northwind Database
  2. Some Basics
    1. Comments
    2. Whitespace and Semi-colons
    3. Case Sensitivity
  3. SELECTing All Columns in All Rows
  4. Exercise: Exploring the Tables
  5. SELECTing Specific Columns
  6. Exercise: SELECTing Specific Columns
  7. Sorting Records
    1. Sorting by a Single Column
    2. Sorting By Multiple Columns
  8. Ascending and Descending Sorts
  9. Exercise: Sorting Results
  10. The WHERE Clause and Logical Operator Symbols
    1. Checking for Equality
    2. Checking for Inequality
  11. Exercise: Using the WHERE Clause to Check for Equality or Inequality
  12. Checking for Greater or Less Than
  13. Exercise: Using the WHERE Clause to Check for Greater or Less Than
  14. Checking for NULL
  15. Exercise: Checking for NULL
  16. WHERE and ORDER BY
  17. Exercise: Using WHERE and ORDER BY Together
  18. Checking Multiple Conditions with Boolean Operators
    1. AND
    2. OR
    3. Order of Evaluation
  19. Exercise: Writing SELECTs with Multiple Conditions
  20. The WHERE Clause and Logical Operator Keywords
    1. The BETWEEN Operator
    2. The IN Operator
    3. The LIKE Operator
    4. The NOT Operator
  21. Exercise: More SELECTs with WHERE
3. Advanced SELECTs
  1. Calculated Fields

1. Concatenation
  2. Mathematical Calculations
  3. Aliases
2. Exercise: Calculating Fields
3. Aggregate Functions and Grouping
  1. Aggregate Functions
  2. Grouping Data
4. Exercise: Working with Aggregate Functions
5. Selecting Distinct Records
6. Built-in Data Manipulation Functions
  1. Common Math Functions
  2. Common String Functions
  3. Common Date Functions
7. Exercise: Data Manipulation Functions
4. Subqueries, Joins and Unions
  1. Subqueries
  2. Exercise: Subqueries
  3. Joins
    1. Table Aliases
    2. Multi-table Joins
  4. Exercise: Using Joins
  5. Outer Joins
  6. Unions
    1. UNION ALL
    2. UNION Rules
  7. Exercise: Working with Unions
5. Conditional Processing with CASE
  1. Using CASE
  2. Exercise: Working with CASE
6. Inserting, Updating and Deleting Records (if time allows)
  1. Inserting Records
  2. Updating and Deleting Records

## Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

### Follow-on Courses

- [Advanced Oracle SQL Queries](#)

- [Advanced MySQL Queries](#)