

## 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](#)