

## SQL: Querying Fundamentals

**Length:** 1 day

### Description

This course presents the basics of SQL in which the student learns to:

- connect to the SQL Server database and execute a simple query
- include a search condition in a simple query
- use various functions to perform calculations on data
- organize data obtained from a query before it is displayed on-screen
- retrieve data from tables
- format an output, save a result, and generate a report

### Audience

This is intended for individuals with basic computer skills, familiar with concepts related to database structure and terminology, and who want to use SQL to query databases.

### Prerequisites

Basic end-user computer skills and some familiarity with database terminology and structure are required.

### Topics

#### LESSON 1: EXECUTING A SIMPLE QUERY

- Topic 1A: Connect to the SQL Database
- Topic 1B: Query a Database
- Topic 1C: Save a Query
- Topic 1D: Modify a Query
- Topic 1E: Execute a Saved Query

#### LESSON 2: PERFORMING A CONDITIONAL SEARCH

- Topic 2A: Search Using a Simple Condition
- Topic 2B: Compare Column Values
- Topic 2C: Search Using Multiple Conditions
- Topic 2D: Search for a Range of Values and Null Values
- Topic 2E: Retrieve Data Based on Patterns

#### LESSON 3: WORKING WITH FUNCTIONS

- Topic 3A: Perform Date Calculations
- Topic 3B: Calculate Data Using Aggregate Functions
- Topic 3C: Manipulate String Values

#### LESSON 4: ORGANIZING DATA

- Topic 4A: Sort Data
- Topic 4B: Rank Data
- Topic 4C: Group Data
- Topic 4D: Filter Grouped Data
- Topic 4E: Summarize Grouped Data
- Topic 4F: Use PIVOT and UNPIVOT Operators



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### LESSON 5: RETRIEVING DATA FROM TABLES

- Topic 5A: Combine Results of Two Queries
- Topic 5B: Compare the Results of Two Queries
- Topic 5C: Retrieve Data by Joining Tables
- Topic 5D: Check for Unmatched Records
- Topic 5E: Retrieve Information from a Single Table Using Joins

### LESSON 6: PRESENTING QUERY RESULTS

- Topic 6A: Save the Query Result
- Topic 6B: Generate an XML Report

### APPENDIX A: THE OGCBOOKS DATABASE