

## SQL: Querying Advanced

**Length:** 1 day

### Description

In this course the students will work with advanced queries to manipulate and index tables. They will learn to:

- use subqueries to generate query output
- manipulate table data by inserting and updating records in a table and deleting records from a table
- manipulate the table structure
- create views, manipulate data through views, modify the view structure, and drop views
- create indices on table columns and drop inefficient indices
- mark the beginning of a transaction, create a savepoint within a transaction, rollback a transaction, and commit a transaction

### 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

Students should have basic computer skills, SQL skills, and be familiar with concepts related to database structure and terminology and completed SQL: Fundamentals of Querying (Fourth Edition) or have equivalent experience.

### Topics

#### LESSON 1: USING SUBQUERIES TO PERFORM ADVANCED QUERYING

- Topic 1A: Search Based on Unknown Values
- Topic 1B: Compare a Value with Unknown Values
- Topic 1C: Search Based on the Existence of Records
- Topic 1D: Generate Output Using Correlated Subqueries
- Topic 1E: Filter Grouped Data Within Subqueries
- Topic 1F: Perform Multiple-Level Subqueries

#### LESSON 2: MANIPULATING TABLE DATA

- Topic 2A: Insert Data
- Topic 2B: Modify and Delete Data

#### LESSON 3: MANIPULATING THE TABLE STRUCTURE

- Topic 3A: Create a Table
- Topic 3B: Create a Table with Constraints
- Topic 3C: Add and Drop Table Columns
- Topic 3D: Add and Drop Constraints
- Topic 3E: Modify the Column Definition
- Topic 3F: Back Up Tables
- Topic 3G: Delete Tables

#### LESSON 4: WORKING WITH VIEWS

- Topic 4A: Create a View
- Topic 4B: Manipulate Data in Views
- Topic 4C: Create Aliases
- Topic 4D: Modify and Drop Views



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### LESSON 5: INDEXING DATA

- Topic 5A: Create Indices
- Topic 5B: Drop Indices

### LESSON 6: MANAGING TRANSACTIONS

- Topic 6A: Create Transactions
- Topic 6B: Commit Transactions

### APPENDIX A: STRUCTURE OF THE BOOKSTORE DATABASE