

20761AC: Querying Data with Transact-SQL

Course length: 3 day(s)

Course Description

The main purpose of this 3 day instructor led course is to give students a good understanding of the Transact-SQL language which is used by all SQL Server-related disciplines; namely, Database Administration, Database Development and Business Intelligence. As such, the primary target audience for this course is: Database Administrators, Database Developers and BI professionals.

The course will very likely be well attended by SQL power users who aren't necessarily database-focused; namely, report writers, business analysts and client application developers.

Audience Profile

This course is intended for Database Administrators, Database Developers, and Business Intelligence professionals. The course will very likely be well attended by SQL power users who aren't necessarily database-focused; namely, report writers, business analysts and client application developers.

Prerequisites

Before attending this course, students must have:

- Working knowledge of relational databases.
- Basic knowledge of the Microsoft Windows operating system and its core functionality.

Course Content

Module 1: Introduction to Microsoft SQL Server 2016

- The Basic Architecture of SQL Server
- SQL Server Editions and Versions
- Getting Started with SQL Server Management Studio

Module 2: Introduction to T-SQL Querying

- Introducing T-SQL
- Understanding Sets
- Understanding Predicate Logic
- Understanding the Logical Order of Operations in SELECT statements

Module 3: Writing SELECT Queries

- Writing Simple SELECT Statements
- Eliminating Duplicates with DISTINCT
- Using Column and Table Aliases
- Writing Simple CASE Expressions



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Module 4: Querying Multiple Tables

- Understanding Joins
- Querying with Inner Joins
- Querying with Outer Joins
- Querying with Cross Joins and Self Joins

Module 5: Sorting and Filtering Data

- Sorting Data
- Filtering Data with Predicates
- Filtering with the TOP and OFFSET-FETCH Options
- Working with Unknown and Missing Values

Module 6: Working with SQL Server 2016 Data Types

- Introducing SQL Server 2016 Data Types
- Working with Character Data
- Working with Date and Time Data

Module 7: Using DML to Modify Data

- Inserting Data
- Modifying and Deleting Data

Module 8: Using Built-In Functions

- Writing Queries with Built-In Functions
- Using Conversion Functions
- Using Logical Functions
- Using Functions to Work with NULL

Module 9: Grouping and Aggregating Data

- Using Aggregate Functions
- Using the GROUP BY Clause
- Filtering Groups with HAVING

Module 10: Using Subqueries

- Writing Self-Contained Subqueries
- Writing Correlated Subqueries
- Using the EXISTS Predicate with Subqueries

Module 11: Using Set Operators

- Writing Queries with the UNION Operator
- Using EXCEPT and INTERSECT
- Using APPLY