

(20761B) – Querying Data with Transact-SQL

OBJECTIVE

This course is designed to introduce students to Transact-SQL. It is designed in such a way that the first three days can be taught as a course to students requiring the knowledge for other courses in the SQL Server curriculum. Days 4 & 5 teach the remaining skills required to take exam 70-761.

COURSE TOPICS

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

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
- Working with Unknown 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 Table Expressions

- Using Views
- Using Inline Table-Valued Functions
- Using Derived Tables
- Using Common Table Expressions

Module 12: Using Set Operators

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

Module 13: Using Windows Ranking, Offset, and Aggregate Functions

- Creating Windows with OVER
- Exploring Window Functions

Module 14: Pivoting and Grouping Sets

- Writing Queries with PIVOT and UNPIVOT
- Working with Grouping Sets

Module 15: Executing Stored Procedures

- Querying Data with Stored Procedures
- Passing Parameters to Stored procedures
- Creating Simple Stored Procedures
- Working with Dynamic SQL

Module 16: Programming with T-SQL

- T-SQL Programming Elements
- Controlling Program Flow

Module 17: Implementing Error Handling

- Implementing T-SQL error handling
- Implementing structured exception handling

Module 18: Implementing Transactions

- Transactions and the database engines
- Controlling transactions

PREREQUISITES

This course requires that you meet the following prerequisites:

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

TRAINING APPROACH

This course includes lectures, course notes, exercises and hands-on practice.

COURSE DURATION

24 Hours (in 3 days)

Time: 9:00am to 6:00pm

Lunch Time: 1:00pm to 2:00pm

CERTIFICATION COMPLETION

A certificate of completion is provided for all trainees attending the course