

20761 Querying Data with Transact SQL

Overview

Are you ready to learn how to navigate relational databases like a pro? Transact SQL training from New Horizons will prepare you to take the next step in your data career.

In this course, you will gain a comprehensive understanding of the Transact SQL language, which is used by all SQL Server-related disciplines including database administration, database development and business intelligence.

Prerequisite Comments

We want you to get the most value possible out of your SQL Server training. To maximize your time taking this course, you should have working knowledge of relational databases and 1-2 years of experience using SQL Server. Basic understanding of the Windows operating system and its core functionalities will also set you up for success.

Target Audience

If you're a database administrator, developer or BI professional responsible for processing data, this course was made for you. However, if you're simply interested in learning Transact-SQL to become more efficient at your job, you can also benefit from taking this course.

Course Objectives

After finishing this course, you'll have the confidence to use Transact-SQL commands to interact with relational databases. You will be able to:

- Describe the key capabilities and components of SQL Server
- Confidently speak about T-SQL, sets and predicate logic
- Write single- and multi-table SELECT statements
- Explain how SQL Server uses data types
- Manipulate set operators to combine query results
- Work with and implement views and table-valued functions
- Write DML statements and queries
- Transform data by implementing pivot, unpivot, rollup and cube
- Create and implement stored procedures
- Add programming constructs such as variables, conditions and loops to T-SQL code

Course Outline

1 - Introduction to Microsoft SQL Server 2016

Learn the Basics of SQL Server Architecture
Get Exposed to the Different SQL Server Editions and Versions
Become Familiar With SQL Server Management Studio
Lab: Working with SQL Server 2016 Tools

2 - Introduction to T-SQL Querying

Learn the Components of T-SQL
Understand Sets and Predicate Logic
Master the Logical Order of Operations in SELECT statements
Lab: Introduction to Transact-SQL Querying

3 - Writing SELECT Queries

Write Simple SELECT Statements and CASE Expressions
Eliminate Duplicates With DISTINCT
Practice Using Column and Table Aliases
Lab: Writing Basic SELECT Statements

4 - Querying Multiple Tables

Understand Joins
Query with Inner Joins, Outer Joins, Cross Joins and Self Joins
Lab: Querying Multiple Tables

5 - Sorting and Filtering Data

Learn How to Sort Data
Filter Data with Predicates
Work With Unknown Values
Lab: Sorting and Filtering Data

6 - Working with SQL Server 2016 Data Types

Learn About SQL Server 2016 Data Types
Work With Character Data and Date and Time Data
Lab: Working with SQL Server 2016 Data Types

7 - Using DML to Modify Data

Insert Data
Modify and Delete Data
Lab: Using DML to Modify Data

8 - Using Built-In Functions

Write Queries with Built-In Functions
Practice Conversion Functions and Logical Functions
Practice Using Functions to Work With NULL
Lab: Using Built-In Functions

9 - Grouping and Aggregating Data

Use Aggregate Functions and the GROUP BY Clause
Filter Groups With HAVING
Lab: Grouping and Aggregating Data

10 - Using Subqueries

Write Self-Contained and Correlated Subqueries
Execute the EXISTS Predicate with Subqueries
Lab: Using Subqueries

11 - Using Table Expressions

Navigate Views and Inline Table-Valued Functions
Manipulate Derived Tables and Common Table Expressions
Lab: Using Table Expressions

12 - Using Set Operators

Complete Queries with the UNION Operator
Use EXCEPT, INTERSECT and APPLY
Lab: Using Set Operators

13 - Using Windows Ranking, Offset, and Aggregate Functions

Create Windows with OVER
Explore Window Functions
Lab: Using Windows Ranking, Offset, and Aggregate Functions

14 - Pivoting and Grouping Sets

Write Queries with PIVOT and UNPIVOT
Work with Grouping Sets
Lab: Pivoting and Grouping Sets

15 - Executing Stored Procedures

Query Data with Stored Procedures
Pass Parameters to Stored procedures
Create Simple Stored Procedures
Navigate Dynamic SQL
Lab: Executing Stored Procedures

16 - Programming with T-SQL

Master T-SQL Programming Elements
Control Program Flow
Lab: Programming with T-SQL

17 - Implementing Error Handling

Execute T-SQL Error Handling
Implement Structured Exception Handling
Lab: Implementing Error Handling

18 - Implementing Transactions

Learn About Transactions and Database Engines
Control Transactions
Lab: Implementing Transactions