



COURSE: Querying SQL Server Fundamentals

This is an introductory course in the SQL Server relational databases and T-SQL Language. As such it is a good starting point for gaining proficiency and experience in T-SQL (Transact SQL) and a first step in the SQL Server learning path. The main goal

of the training is to introduce the use of the SELECT statement for creating simple to complex queries in a SQL Server Database. The training is developed with focus on gathering of hands-on experience..

Summary

<i>Duration:</i>	<i>3 days/ 24 hours</i>
<i>Level:</i>	<i>100*</i>
<i>Delivery method:</i>	<i>In class/Virtual Instructor-led class</i>
<i>Language:</i>	<i>English/Bulgarian</i>

* The difficulty level is consistent with the widely accepted scale of technical difficulty of training on Microsoft Corp

AUDIENCE:

The primary audience of this class are professionals in a role of Data Analyst, Data Scientists as well as all those who need to explore data in a SQL Server relational database. The main purpose of the course is to give students a good start in Transact-SQL language which is used by all SQL Server-related roles; namely, Database Administration, Database Development and Business Intelligence Development. As such, the secondary target audience for this course are novice Database Administrators, Database Developers and BI professionals who have no or very limited experience with T-SQL.

AFTER THE TRAINING ATTENDEES WILL BE ABLE TO:

- Describe the main components of SQL Server client server architecture.
- Understand and articulate the basics of the Relational Database Models
- Write a single table SELECT statement.
- Understand the JOIN clause to query multiple tables and produce meaningful and rich reports
- Write SELECT statements containing filtering and sorting.
- Understand the basic concepts for writing effective and well performing queries in terms of proper usage of the WHERE clause
- Produce aggregated reports using T-SQL aggregation functions and the GROUP BY clause
- Use CASE structure, SUBQUERIES and other approaches to create more complex queries
- Articulate and use WINDOWING clauses and functions

TOPICS:

Module 1: SQL Server Overview (Overview and Components; Database structure; Overview of Relational Databases; Overview and syntax elements of T-SQL; SQL Server Management Tool)

Module 2: The SELECT Statement (SELECT statement overview, Retrieving Columns, Retrieving Rows, Working with NULL, Sorting Data in resultset, Using expressions)

Module 3: Grouping and summarizing data in the SELECT result set (GROUP BY clause; Aggregate functions; Filtering grouping with HAVING clause, GROUPING SETS)

Module 4: Querying Multiple Tables (Understanding the concept of Joins, Querying with Inner&Outer Joins, with Cross Joins and Self Joins, Combining and Limiting Result Sets)

Module 5: Advanced techniques for querying data with SELECT statement (Working with subqueries, Ranking and windowing, Windowing functions)