



# QUERYING DATA WITH T-SQL

Course ID : SQL-PG-Query



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**Duration: 3 Days**

(18 Hours) 09:00 AM – 04:00 PM



**Price: 11,900 THB**

\* (excluding VAT 7%)

\* Eligible for 200% tax deduction



**Training Schedule**

[www.9experttraining.com](http://www.9experttraining.com)

## Category: Data

This course focuses on using T-SQL to query and manipulate data. It emphasizes working with relational databases through ANSI-standard SQL (Structured Query Language) and developing data manipulation skills essential for professionals who work with data, prepare datasets, perform analysis, or develop database systems. The course uses Microsoft SQL Server for demonstrations and includes step-by-step workshops and practical techniques to ensure efficient querying across a variety of scenarios.

## Objectives

1. Participants will be able to write queries proficiently using the SELECT, FROM, WHERE, GROUP BY, HAVING, and ORDER BY clauses.
2. Participants will be able to use additional query options such as TOP, DISTINCT, OFFSET-FETCH, and GROUPING SETS.
3. Participants will be able to create and apply various types of subqueries.
4. Participants will be able to create and use different types of table expressions.
5. Participants will be able to create and use window functions effectively.

## Target Audience

1. Beginners
2. Super Users
3. Data analytics professionals
4. Business intelligence professionals
5. Analysts who need to create SQL Server data sources for use in Power BI

## Prerequisites

A basic understanding of relational databases and some experience in database design

## System Requirements

1. Operating System : Windows 10 or Windows 11
2. CPU : 1.6 GHz or faster processor (minimum)
3. RAM : 8 GB or higher
4. Microsoft SQL Server installed
5. SQL Server Management Studio (SSMS) installed
6. Stable Internet connection

## TRAINING TOPICS

### DAY 1 Morning Session 9:00 AM – 12:00 PM

#### 1. Essentials Before Using Microsoft SQL Server

- Overview of Microsoft SQL Server architecture
- Introduction to SQL Server Management Studio (SSMS)

#### 2. Querying Data with T-SQL

- Key components of T-SQL
- Understanding the logical execution order of SELECT queries

### DAY 1 Afternoon Session 1:00 PM – 4:00 PM

#### 3. Writing SELECT Statements for Data Retrieval

- Writing basic SELECT statements
- Removing duplicate rows using DISTINCT
- Assigning aliases to columns and tables
- Using the CASE expression

#### 4. Querying Data from Multiple Tables

- Understanding table joins
- Querying data using INNER JOIN
- Querying data using OUTER JOIN
- Querying data using CROSS JOIN and SELF JOIN

### DAY 2 Morning Session 9:00 AM – 12:00 PM

#### 5. Sorting and Filtering Data

- Sorting data using ORDER BY
- Filtering sorted data using TOP or OFFSET-FETCH
- Understanding how SQL Server evaluates logical conditions
- Filtering data using the WHERE clause

## 6. Commonly Used Functions

- Overview of built-in functions in Microsoft SQL Server
  - Including both ANSI-standard and SQL Server-specific functions
- Data types and data type conversions
  - Implicit conversions
  - Explicit conversions
- Working with character data and related functions
- Working with date and time data and related functions
- Using additional built-in functions

## DAY 2 Afternoon Session

1:00 PM – 4:00 PM

## 7. Grouping and Aggregating Data and Understanding GROUPING SETS

- Using aggregate functions for data summarization
- Using the GROUP BY clause
- Filtering grouped results with HAVING
- Using GROUPING SETS

## 8. Writing Subqueries

- Writing standalone subqueries
- Writing correlated subqueries
- Using the EXISTS predicate

## DAY 3 Morning Session

9:00 AM – 12:00 PM

## 9. Table Expressions

- Using Views
- Using inline table-valued functions (TVFs)
- Using derived tables
- Using common table expressions (CTEs)

## 10. Set Operators

- Using UNION and UNION ALL in queries
- Using EXCEPT and INTERSECT in queries
- Using the APPLY operator

## DAY 3 Afternoon Session

1:00 PM – 4:00 PM

## 11. Understanding and Using Window Functions

- Creating window definitions using the OVER clause
- Using different groups of window functions

## 12. Data Manipulation

- Using INSERT statements to add data
- Using UPDATE statements to modify data
- Using DELETE statements to remove data
- Understanding and using the MERGE statement



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