



QUERYING MICROSOFT SQL SERVER – EXAM 70-461

This hands-on course provides students with the technical skills required to write basic Transact-SQL queries for Microsoft SQL Server 2014. This course is the foundation for all SQL Server-related disciplines; namely, Database Administration, Database Development and Business Intelligence. Students will learn to describe the basic architecture and concepts of Microsoft SQL Server 2014, understand the similarities and differences between Transact-SQL and other computer languages, write SELECT queries, use subqueries and much more.

This course is part one of three towards your MCSA: SQL Server 2012 credential.

COURSE OUTLINE:

Introduction to Microsoft SQL Server 2014

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

Introduction to T-SQL Querying

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

Writing SELECT Queries

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

Querying Multiple Tables

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



Sorting and Filtering Data

- Sorting Data
- Filtering Data with a WHERE Clause
- Filtering with the TOP and OFFSET-FETCH Options
- Working with Unknown and Missing Values

Working with SQL Server 2014 Data Types

- Introducing SQL Server 2014 Data Types
- Working with Character Data
- Working with Date and Time Data

Using DML to Modify Data

- Inserting Data
- Modifying and Deleting Data

Using Built-In Functions

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

Grouping and Aggregating Data

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

Using Subqueries

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

Using Table Expressions

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

Using Set Operators

- Using Aggregate Functions
- Using the GROUP BY Clause



- Filtering Groups with HAVING

Using Window Ranking, Offset, and Aggregate Functions

- Creating Windows with OVER
- Exploring Window Functions

Pivoting and Grouping Sets

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

Executing Stored Procedures

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

Programming with T-SQL

- T-SQL Programming Elements
- Controlling Program Flow

Implementing Error Handling

- Using TRY / CATCH Blocks
- Working with Error Information

Implementing Transactions

- Transactions and the Database Engine
- Controlling Transactions
- Isolation Levels

Improving Query Performance

- Factors in Query Performance
- Displaying Query Performance Data

Querying SQL Server Metadata

- Querying System Catalog Views and Functions
- Executing System Stored Procedures
- Querying Dynamic Management Objects