

## Course Details

# Course 10774A

## Querying Microsoft SQL Server 2012

Length: 5 Days

Published: January 14, 2013

Language(s): English

Audience(s): IT Professionals

Level: 200

Technology: Microsoft SQL Server 2012

Type: Course

Delivery Method: Instructor-led (classroom)

## Prerequisites

Before attending this course, students must have:

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

Before attending this course, students should have:

- Basic understanding of virtualization technology (Classroom labs utilize virtual machines)

To help you prepare for this class, review the following resources:

- Book: T-SQL Fundamentals for Microsoft SQL Server 2012 and SQL Azure
- MCTS Self Paced Training Kit 70-461

## Course Outline

### Module 1: Introduction to Microsoft SQL Server 2012

- Introducing Microsoft SQL Server 2012
- Getting Started with SQL Server Management Studio

### Module 2: Getting Started with SQL Azure

- Overview of SQL Azure
- Working with SQL Azure

### Module 3: Introduction to T-SQL Querying

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

### Module 4: Writing SELECT Queries

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

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## Module 5: Querying Multiple Tables

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

## Module 6: 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

## Module 7: Working with SQL Server 2012 Data Types

- Introducing SQL Server 2012 Data Types
- Working with Character Data
- Working with Date and Time 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 Derived Tables
- Using Common Table Expressions
- Using Views
- Using Inline Table-Valued Functions

## Module 12: Using Set Operators

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

### Module 13: Using Window 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: Querying SQL Server Metadata

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

### Module 16: Executing Stored Procedures

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

### Module 17: Programming with T-SQL

- T-SQL Programming Elements
- Controlling Program Flow

### Module 18: Implementing Error Handling

- Using TRY / CATCH Blocks
- Working with Error Information

### Module 19: Implementing Transactions

- Transactions and the Database Engine
- Controlling Transactions

### Module 20: Improving Query Performance

- Factors in Query Performance
- Displaying Query Performance Data