

## Course Details

# Course 10776A

## Developing Microsoft SQL Server 2012 Databases

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

In addition to their professional experience, students who attend this training should already have the following technical knowledge:

- Knowledge of writing T-SQL queries.
- Knowledge of basic relational database concepts.

Students who attend this training can meet the prerequisites by attending the following courses, or obtaining equivalent knowledge and skills:

- 10774A: Writing T-SQL Queries for Microsoft SQL Server 2012

## Course Outline

### Module 1: Introduction to SQL Server 2012 and its Toolset

- Introduction to the SQL Server Platform
- Working with SQL Server Tools
- Configuring SQL Server Services

### Module 3: Designing and Implementing Tables

- Designing Tables
- Working with Schemas
- Creating and Altering Tables

### Module 2: Working with Data Types

- Using Data Types
- Working with Character Data
- Converting Data Types
- Specialized Data Types

### Module 4: Ensuring Data Integrity through Constraints

- Enforcing Data Integrity
- Implementing Domain Integrity
- Implementing Entity and Referential Integrity

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## Module 5: Planning for SQL Server 2012 Indexing

- Core Indexing Concepts
- Data Types and Indexes
- Single Column and Composite Indexes

## Module 6: Implementing Table Structures in SQL Server 2012

- SQL Server Table Structures
- Working with Clustered Indexes
- Designing Effective Clustered Indexes

## Module 7: Reading SQL Server 2012 Execution Plans

- Execution Plan Core Concepts
- Common Execution Plan Elements
- Working with Execution Plans

## Module 8: Improving Performance through Nonclustered Indexes

- Designing Effective Nonclustered Indexes
- Implementing Nonclustered Indexes
- Using the Database Engine Tuning Advisor

## Module 9: Designing and Implementing Views

- Introduction to Views
- Creating and Managing Views
- Performance Considerations for Views

## Module 10: Designing and Implementing Stored Procedures

- Introduction to Stored Procedures
- Working With Stored Procedures
- Implementing Parameterized Stored Procedures
- Controlling Execution Context

## Module 11: Merging Data and Passing Tables

- Using the MERGE Statement
- Implementing Table Types
- Using TABLE Types As Parameters

## Module 12: Designing and Implementing User-Defined Functions

- Overview of Functions
- Designing and Implementing Scalar Functions
- Designing and Implementing Table-Valued Functions
- Implementation Considerations for Functions
- Alternatives to Functions

### Module 13: Creating Highly Concurrent SQL Server 2012 Applications

- Introduction to Transactions
- Introduction to Locks
- Management of Locking
- Transaction Isolation Levels

### Module 14: Handling Errors in T-SQL Code

- Understanding T-SQL Error Handling
- Implementing T-SQL Error Handling
- Implementing Structured Exception Handling

### Module 15: Responding to Data Manipulation via Triggers

- Designing DML Triggers
- Implementing DML Triggers
- Advanced Trigger Concepts

### Module 16: Implementing Managed Code in SQL Server 2012

- Introduction to SQL CLR Integration
- Importing and Configuring Assemblies
- Implementing SQL CLR Integration

### Module 17: Storing XML Data in SQL Server 2012

- Introduction to XML and XML Schemas
- Storing XML Data and Schemas in SQL Server
- Implementing the XML Data Type

### Module 18: Querying XML Data in SQL Server

- Using the T-SQL FOR XML Statement
- Getting Started with XQuery
- Shredding XML

### Module 19: Working with SQL Server 2012 Spatial Data

- Introduction to Spatial Data
- Working with SQL Server Spatial Data Types
- Using Spatial Data in Applications

### Module 20: Working with Full-Text Indexes and Queries

- Introduction to Full-Text Indexing
- Implementing Full-Text Indexes in SQL Server
- Working with Full-Text Queries