

[MS10986]: Updating Your Skills to SQL Server 2016

Length	: 3 Days
Audience(s)	: IT Professionals
Level	: 300
Technology	: Microsoft SQL Server
Delivery Method	: Instructor-led (Classroom)

Course Overview

This three-day instructor-led course provides students moving from earlier releases of SQL Server with an introduction to the new features in SQL Server 2016.

Audience Profile

The primary audience for this course are existing database professionals with experience of SQL Server 2014 who want to update their skills to SQL Server 2016. Additional this course is for existing SQL Server 2014 MCSAs who want to prepare for the Upgrade exam for SQL Server 2016 certification.

At Course Completion

After completing this course, students will be able to:

- Describe key capabilities and components of SQL Server 2016
- Describe new and enhanced features in SQL Server performance
- Describes new and enhanced features in SQL Server security
- Describe what's new in SQL Server Availability and Scalability
- Describe new and enhanced features in reporting and PowerBI in SQL Server 2016
- Describe new and enhanced data access features
- Describe new and enhanced features in SQL Server OLAP
- Describe new SQL Server cloud functionality

Pre-Requisites

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

- Experience of building and managing database, data warehouse, and business intelligence (BI) solutions with SQL Server 2014
- Familiarity with the Windows Server 2012 R2 operating system and networking
- Familiarity with Microsoft Excel and Microsoft SharePoint Server 2013

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Course Outline

Module 1: Introduction to SQL Server 2016

Describe key capabilities and components of SQL Server 2016.

Lessons

- Overview of SQL Server 2016
- SQL Server 2016 Editions and Components
- Installing SQL Server 2016
- SQL Server Management Studio Enhancements

Lab: Exploring SQL Server 2016

After completing this module, you will be able to:

- Describe the key elements of SQL Server 2016
- Describe the components and editions of SQL Server 2016
- Install SQL Server 2016
- Describe the enhancement to SQL Server Management Studio

Module 2: What's New in SQL Server Performance

This module describes new and enhanced features in SQL Server performance.

Lessons

- Operational Analytics
- In-memory OLTP Enhancements
- Query Store
- Live Query Statistics
- Native JSON
- Temporal Tables

Lab: Implementing SQL Server 2016 Performance Improvements

After completing this module, you will be able to:

- Describe the use of Columnstore indexes for operational analytics
- Describe the enhancements to in-memory OLTP
- Use the query data store
- Use Native JSON
- Describe and use temporal tables

Module 3: What's New in SQL Server Security?

This module describes new and enhanced features in SQL Server security.

Lessons

- Using Always Encrypted
- Row-level Security

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- Dynamic Data Masking

Lab: Implementing SQL Server 2016 Security Improvements

After completing this module, you will be able to:

- Implement a logical design for a data warehouse
- Implement a physical design for a data warehouse

Module 4: What's New in SQL Server Availability and Scalability?

This module introduces what's new in SQL Server Availability and Scalability.

Lessons

- Enhanced AlwaysOn Availability Groups
- What's New with tempdb?
- Use Windows Server 2016 with SQL Server 2016
- PowerShell 5.0

Lab: Monitoring tempdb

After completing this module, you will be able to:

- Describe the enhancements to AlwaysOn availability groups
- Describe what's new in database caching
- Use Windows Server 2016 with SQL Server 2016

Module 5: What's New in SQL Server Reporting and BI

This module introduces reporting and BI enhancements and new features in SQL Server 2016.

Lessons

- Reporting Services Enhancements
- PowerBI Enhancements
- Mobile Report Publisher

Lab: Implementing PowerBI

After completing this module, you will be able to:

- Describe the enhancements to reporting services
- Describe the enhancements to PowerBI

Module 6: What's New in SQL Server Data Access?

At the end of this module you will be able to describe data access enhancements in SQL Server 2016.

Lessons

- PolyBase
- What's new in Integration Services

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- Working with SSIS and Azure

Lab: Exploring the new features of SQL Server Integrated services (SSIS)

After completing this module, you will be able to:

- Describe and install PolyBase
- Describe enhancements to SSIS

Module 7: New and Enhanced Features in SQL Server OLAP

This module describes enhancements in SQL Server OLAP.

Lessons

- New and Enhanced Features in SQL Server OLAP
- What's New in SQL Server Analysis Services

Lab: OLAP with SQL Server

After completing this module, you will be able to:

- Describe new and enhanced features in SQL Server OLAP
- Describe new and enhanced features in SQL Server analysis services

Module 8: What's New for SQL Server in the Cloud?

This module describes new SQL Server cloud functionality.

Lessons

- Stretch Database
- Enhanced Backups to Azure
- Introduction to SQL Server 2016 Hybrid Cloud
- What's New in SQL Server Azure Database

Lab: Using Stretch Database

After completing this module, you will be able to:

- Describe stretch databases and why you would use them
- Understand the enhanced backup options
- Be aware of SQL Server hybrid cloud
- Describe what's new in SQL Server Azure database

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