

Course 10977A:

Updating Your SQL Server Skills to Microsoft SQL Server 2014

Course Details

Course Outline

Module 1: Introduction to SQL Server 2014

This module introduces key features of SQL Server 2014.

Lessons

- Overview of SQL Server 2014
- SQL Server 2014 Editions and Components
- Installing SQL Server 2014
- Enhancements to SQL Server Management Studio

Lab : Exploring SQL Server 2014

- Reviewing Installed Components
- Using SQL Server Management Studio

After completing this module, you will be able to:

- Describe the common workloads for SQL Server 2014.
- Describe the SQL Server 2014 Editions and Components.
- Install SQL Server 2014 Components.
- Use the new features in SQL Server Management Studio.

Module 2: What's New in SQL Server Database Development

This module describes enhancements to Transact-SQL and other database development features since SQL Server 2008.

Lessons

- Transact-SQL Enhancements
- New and Enhanced Transact-SQL Functions
- Enhancements to Spatial Data Support

- Storing and Querying Documents with SQL Server 2014

Lab : Developing SQL Server 2014 Databases

- Using Sequence Objects
- Using the THROW statement
- Implementing Paging
- Querying Documents

After completing this module, you will be able to:

- Describe the enhancements to Transact-SQL.
- Describe new and enhanced Transact-SQL functions.
- Describe the enhancements to Spatial Data Support.
- Explain how to store and query documents with SQL Server 2014.

Module 3: In-Memory Database Capabilities

This module describes how SQL server 2014 enables you to leverage in-memory technologies to enhance database performance.

Lessons

- The Buffer pool Extension
- Columnstore Indexes
- Memory-Optimized Tables

Lab : Using In-Memory Database Capabilities

- Enabling the Buffer Pool Extension
- Creating Columnstore Indexes
- Working with Memory-Optimized Tables

After completing this module, you will be able to:

- Use the Buffer Pool Extension to improve performance for read-heavy OLTP workloads.
- Use Columnstore Indexes to improve performance in data warehouse query workloads.
- Use memory-optimized tables to improve performance for latch-bound workloads.

Module 4: Scripting SQL Server 2014

This lesson describes how you can use dynamic management views and PowerShell to script administrative tasks in SQL server 2014.

Lessons

- New and Enhanced Dynamic Management Views
- Using PowerShell to Manage SQL Server

Lab : Managing SQL Server with Scripts

- Using Dynamic Management Views
- Using PowerShell

After completing this module, you will be able to:

- Describe new and enhanced dynamic management views.
- Describe how to use PowerShell to Manage SQL Server.

Module 5: Implementing Security in Microsoft SQL Server 2014

This module describes the enhancements to security features since SQL Server 2008.

Lessons

- Security Management Enhancements
- Contained Databases

Lab : Implementing Security

- Implementing User-Defined Server Roles
- Implementing Contained Databases

After completing this module, you will be able to:

- Describe the security enhancements in SQL Server 2014.
- Explain how to use contained databases.

Module 6: High Availability and Data Recovery Enhancements

This module describes enhancements to SQL Server availability and data recovery features since SQL Server 2008.

Lessons

- AlwaysOn High Availability
- Enhancements to Data Recovery

Lab : Using AlwaysOn Availability Groups

- Creating an AlwaysOn Availability Group
- Using an AlwaysOn Availability Group
- Observing Availability Group Failover Behavior

After completing this module, you will be able to:

- Describe high availability features in SQL Server 2014.
- Describe data recovery enhancements in SQL Server 2014.

Module 7: New and Enhanced Features in SQL Server Integration Services

This module describes enhancements to SQL Server Integration Services since SQL Server 2008.

Lessons

- Using the CDC Control Task for Incremental Data Loads
- Deploying and Operating SSIS Packages

Lab : Using SQL Server Integration Services

- Extracting Modified Data
- Deploying and Operating an SSIS Project

After completing this module, you will be able to:

- Use the CDC Control task to perform incremental data extractions in an ETL solution.
- Deploy and operate an SSIS project.

Module 8: Data Quality Services

This module explains how to use the SQL Server 2014 Data Quality Services (DQS) to provide a computer assisted process for cleansing data values and identifying and removing duplicate data entities.

Lessons

- Introduction to Data Quality
- Using Data Quality Services to Cleanse Data
- Using Data Quality Services to Match Data

Lab : Cleansing Data

- Creating a DQS Knowledge Base
- Using a DQS Project to Cleanse Data
- Using DQS in an SSIS Package

Lab : Deduplicating Data

- Creating a Matching Policy
- Using a DQS Project to Match Data

After completing this module, you will be able to:

- Describe how Data Quality Services can help you manage data quality.

- Use Data Quality Services to cleanse your data.
- Use Data Quality Services to match data.

Module 9: Master Data Services

This module introduces Master Data Services and describes its key configuration options and how to import and export data.

Lessons

- Introduction to Master Data Services
- Implementing a Master Data Services Model
- Using the Master Data Services Add-in for Excel

Lab : Implementing Master Data Services

- Creating a Basic Model
- Editing a model by Using the Master Data Services Add-in for Excel
- Loading Data into a Model
- Enforcing Business Rules
- Consuming Master Data Services Data

After completing this module, you will be able to:

- Describe key Master Data Services concepts.
- Implement a Master Data Services model.
- Use Master Data Services tools to manage master data.
- Use Master Data Services tools to create a master data hub.

Module 10: SQL Server 2014 Reporting Services

This module describes new and enhanced features in SQL Server Reporting Services.

Lessons

- Reporting Services Overview
- Reporting Services and Microsoft SharePoint Server
- Introduction to Data Alerts

Lab : Using SQL Server 2014 Reporting Services

- Viewing SharePoint Mode Configuration
- Authoring, Publishing, and Viewing a Report

- Creating and Managing Data Alerts

After completing this module, you will be able to:

- Describe the key capabilities of Reporting Services.
- Install and configure Reporting Services in SharePoint Mode.
- Use data alerts to notify users of changes to report data.

Module 11: Implementing an Analysis Services Tabular Data Model

This module describes Analysis Services tabular data models and explains how to develop a tabular data model by using the SQL Server Data Tools for BI add-in for Visual Studio.

Lessons

- Introduction to Analysis Services Tabular Data Model Projects
- Creating a Tabular Model
- Using an Analysis Services Tabular Data Model in the Enterprise

Lab : Working with an Analysis Services Tabular Data Model

- Creating an Analysis Services Tabular Data Model Project
- Configuring Columns and Relationships
- Using Custom DAX Expressions
- Deploying an Analysis Services Tabular Data Model

After completing this module, you will be able to:

- Describe Analysis Services tabular data model projects.
- Implement an Analysis Services tabular data model.
- Use an Analysis Services tabular data model.

Module 12: Self-Service BI with Microsoft Excel

This module introduces the self-service BI capabilities that can be delivered through Microsoft Excel 2013 and related technologies.

Lessons

- PowerPivot for Excel
- PowerPivot for SharePoint Server
- Power Query
- Power View
- Power Map

- Power BI for Office 365

Lab : Self-Service BI with Excel

- Creating a Data Model with PowerPivot
- Importing Data with Power Query
- Visualizing Data with Power View
- Visualizing Geographic Data with Power Map

After completing this module, you will be able to:

- Use PowerPivot to create tabular data models in Excel.
- Share a PowerPivot workbooks in SharePoint Server.
- Use Power Query to discover and import data from multiple data sources into Excel.
- Use Power View to create interactive data visualizations in Excel and SharePoint Server.
- Use Power Map to create visualizations of geographic data.
- Use Power BI for Office 365 to create a cloud-based collaborative solution for self-service BI.

Module 13: Introduction to Cloud Data Solutions

This module introduces some of the key Microsoft technologies that you can use to implement a cloud solution for data.

Lessons

- Overview of Cloud Computing
- Windows Azure Services for Data

Lab : Using Windows Azure

- Creating a Windows Azure Storage Account
- Backing Up a Database to Windows Azure

After completing this module, you will be able to:

- Describe key features and benefits of cloud computing.
- Describe Windows Azure service for data.

Module 14: Windows Azure SQL Database

This module introduces Windows Azure SQL Database, a Platform-as-a-Service (PaaS) solution for cloud-based relational database storage.

Lessons

- Introduction to Windows Azure SQL Database
- Windows Azure SQL Database Security
- Implementing and Managing Databases

Lab : Using Windows Azure SQL Database

- Provisioning Windows Azure SQL Database
- Configuring Windows Azure SQL Database Security
- Migrating a SQL Server Database to Windows Azure SQL Database

After completing this module, you will be able to:

- Describe key features and benefits of Windows Azure SQL Database.
- Implement security for Windows Azure SQL Database.
- Implement and manage databases in Windows Azure SQL Database.

Module 15: SQL Server in Windows Azure Virtual Machines

This module explores how you can use Windows Azure virtual machines in which SQL Server is installed to create a cloud-based solution for data.

Lessons

- Introduction to Windows Azure Virtual Machines
- Windows Azure Virtual Machine Connectivity and Security
- Creating Databases in a Windows Azure Virtual Machine

Lab : Using Windows Azure Virtual Machines

- Creating a Windows Azure Virtual Machine
- Configuring Virtual Machine Security and Connectivity
- Creating Databases on a Virtual Machine

After completing this module, you will be able to:

- Describe considerations for using Virtual Machines in Windows Azure.
- Create and configure Windows Azure virtual machines.
- Create databases in Windows Azure virtual machines.

Module 16: Implementing Big Data Solutions

This module describes the main features of big data, and the Microsoft technologies that you can use to build big data analytical solutions. In particular, the module focuses on Windows Azure HDInsight

and the Windows Azure Marketplace as core elements of the Microsoft solution for big data.

Lessons

- Introduction to Big Data
- Windows Azure HDInsight
- Consuming HDInsight Results in Excel
- Obtaining Data from the Windows Azure Marketplace

Lab : Creating a Big Data Solution

- Provisioning an HDInsight Cluster
- Processing Data with HDInsight
- Analyzing Big Data in Excel
- Obtaining Data from the Windows Azure Marketplace

After completing this module, you will be able to:

- Describe key features of big data.
 - Process big data with Windows Azure HDInsight.
 - Consume big data processing results from Windows Azure HDInsight in Microsoft Excel.
-