

# 20765C: Provisioning SQL Databases

## Course Outline

### **Module 1: SQL Server Components**

This module describes the various SQL Server components and versions.

#### **Lessons**

- Introduction to the SQL Server Platform
- Overview of SQL Server Architecture
- SQL Server Services and Configuration Options

### **Module 2: Installing SQL Server**

This module describes the process to install SQL Server 2016.

#### **Lessons**

- Considerations for SQL Installing Server
- TempDB Files
- Installing SQL Server
- Automating Installation

#### **Lab : Installing SQL Server**

- Preparing to install SQL Server
- Install an instance of SQL Server
- Perform post installation checks
- Automating Installation

### **Module 3: Upgrading SQL Server to SQL Server 2017**

This module describes the process for upgrading to SQL Server 2017.

#### **Lessons**

- Upgrade Requirements
- Upgrade SQL Server Services
- Side by Side Upgrade: Migrating SQL Server Data and Applications

#### **Lab : Upgrading SQL Server**

- Create the Application Logins
- Restore the backups of the TSQL Database
- Orphaned Users and Database Compatibility Level

### **Module 4: Working with Databases**

This module describes the preinstalled system databases, the physical structure of databases and the most common configuration options related to them.

### **Lessons**

- Introduction to Data Storage with SQL Server
- Managing Storage for System Databases
- Managing Storage for User Databases
- Moving and Copying Database Files
- Buffer Pool Extension

### **Lab : Managing Database Storage**

- Configuring tempdb Storage
- Creating Databases
- Attaching a Database
- Enable Buffer Pool Extension

## **Module 5: Performing Database Maintenance**

This module covers database maintenance plans.

### **Lessons**

- Ensuring Database Integrity
- Maintaining Indexes
- Automating Routine Database Maintenance

### **Lab : Performing Database Maintenance**

- Use DBCC CHECKDB to Verify Database Integrity
- Rebuild Indexes
- Create a Database Maintenance Plan

## **Module 6: Database Storage Options**

Describe SQL Server storage options.

### **Lessons**

- SQL Server storage Performance
- SMB Fileshare
- SQL Server Storage in Microsoft Azure
- Stretch Databases

### **Lab : Implementing Stretch Database**

- Run Stretch Database Advisor
- Implement Stretch Database

## **Module 7: Planning to Deploy SQL Server on Microsoft Azure**

This module describes how to plan to deploy SQL Server on Azure.

### **Lessons**

- SQL Server Virtual Machines in Azure
- Azure Storage
- Azure SQL Authentication
- Deploying an Azure SQL Database

### **Lab : Plan and Deploy an Azure SQL Database**

- Plan an Azure SQL Database, Networking, performance tiers, security
- Provision an Azure SQL Database
- Connect to an Azure SQL Database

## **Module 8: Migrating Databases to Azure SQL Database**

This module describes how to migrate databases to Azure SQL Database.

### **Lessons**

- Database Migration Testing Tools
- Database Migration Compatibility Issues
- Migrating a SQL Server Database to Azure SQL Database

### **Lab : Migrating SQL Server Databases to Azure**

- Perform Migration Testing
- Migrate a SQL Server Database to Azure SQL Database
- Test a Migrated Database

## **Module 9: Deploying SQL Server on a Microsoft Azure Virtual Machine**

This module describes how to deploy SQL Server on Microsoft Azure VMs.

### **Lessons**

- Deploying SQL Server on an Azure VM
- The Deploy Database to a Microsoft Azure VM Wizard

### **Lab : Deploying SQL Server on an Azure Virtual Machine**

- Provision an Azure VM
- Use the Deploy Database to Azure VM Wizard

## **Module 10: Managing databases in the Cloud**

This module describes how to manage SQL Server on Azure.

### **Lessons**

- Managing Azure SQL Database Security
- Configure Azure storage
- Azure Automation

### **Lab : Managing Databases in the Cloud**

- Add data masking
- Use Azure automation to stop Virtual Machines