



SQL Server

Course 20765: Provisioning SQL Databases

About this course:

This course is designed to teach students how to provision SQL Server databases both on premise and in SQL Azure.

Audience Profile:

The primary audience for this course is individuals who administer and maintain SQL Server databases. These individuals perform database administration and maintenance as their primary area of responsibility, or work in environments where databases play a key role in their primary job.

The secondary audiences for this course are individuals who develop applications that deliver content from SQL Server databases.

Prerequisites:

- » Basic knowledge of the Microsoft Windows operating system and its core functionality
- » Working knowledge of Transact-SQL.
- » Working knowledge of relational databases.
- » Some experience with database design

After completing this course, students will be able to:

- » Provision a Database Server
- » Upgrade SQL Server
- » Configure SQL Server
- » Manage Databases and Files (shared)
- » Provision, migrate and manage databases in the cloud

Duration: 35 hours

Module 1: SQL Server 2016 Components

This module describes the various SQL Server 2016 components and versions

Lessons

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

Lab: Discussion: SQL Server versions

- » When we do use a separate installation of SQL Server and when would use a separate instance?
- » Which version of SQL Server is most suitable in your organization?

Module 2: Installing SQL Server 2016

This module describes the process to install SQL Server 2016.

Lessons

- » Considerations for SQL Installing Server
- » TempDB Files
- » Installing SQL Server 2016
- » Automating Installation

	<p>Lab: Installing SQL Server</p> <ul style="list-style-type: none"> » Assess the available resources » Install an instance of SQL Server » Perform post installation checks » Automating Installation
3	<p>Module 3: Upgrading SQL Server to SQL Server 2016 This module describes the process for upgrading to SQL Server 2016.</p> <p>Lessons</p> <ul style="list-style-type: none"> » Upgrade Requirements » Upgrade SQL Server Services » Migrating SQL Server Data and Applications <p>Lab: Upgrading SQL Server</p> <ul style="list-style-type: none"> » Create the Application Logins » Restore Database Backups » Orphaned Users and Database Compatibility Level
4	<p>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.</p> <p>Lessons</p> <ul style="list-style-type: none"> » Introduction to Data Storage with SQL Server » Managing Storage for System Databases » Managing Storage for User Databases » Moving and Copying Database Files » Side-by-Side Upgrade: Migrating SQL Server Data and Applications » Buffer Pool Extension <p>Lab: Managing Database Storage</p> <ul style="list-style-type: none"> » Configuring tempdb Storage » Creating Databases » Attaching a Database » Enable Buffer Pool Extension
5	<p>Module 5: Performing Database Maintenance This module covers database maintenance plans.</p> <p>Lessons</p> <ul style="list-style-type: none"> » Ensuring Database Integrity » Maintaining Indexes » Automating Routine Database Maintenance <p>Lab: Performing Database Maintenance</p> <ul style="list-style-type: none"> » Use DBCC CHECKDB to Verify Database Integrity » Rebuild Indexes » Create a Database Maintenance Plan
6	<p>Module 6: Database Storage Options Describe SQL Server storage options.</p>

6	<p>Lessons</p> <ul style="list-style-type: none"> » SQL Server storage Performance » SMB Fileshare » SQL Server Storage in Microsoft Azure » Stretch Databases <p>Lab: Implementing Stretch Database</p> <ul style="list-style-type: none"> » Run Stretch Database Advisor » Implement Stretch Database
7	<p>Module 7: Planning to Deploy SQL Server on Microsoft Azure This module describes how to plan to deploy SQL Server on Azure.</p> <p>Lessons</p> <ul style="list-style-type: none"> » SQL Server Virtual Machines in Azure » Azure Storage » Azure SQL Authentication » Deploying an Azure SQL Database <p>Lab: Plan and Deploy an Azure SQL Database</p> <ul style="list-style-type: none"> » Plan an Azure SQL Database, Networking, performance tiers, security » Provision an Azure SQL Database » Connect to an Azure SQL Database
8	<p>Module 8: Migrating Databases to Azure SQL Database This module describes how to migrate databases to Azure SQL Database.</p> <p>Lessons</p> <ul style="list-style-type: none"> » Database Migration Testing Tools » Database Migration Compatibility Issues » Migrating a SQL Server Database to Azure SQL Database <p>Lab: Migrating SQL Server Databases to Azure</p> <ul style="list-style-type: none"> » Perform Migration Testing » Migrate a SQL Server Database to Azure SQL Database » Test a Migrated Database
9	<p>Module 9: Deploying SQL Server on a Microsoft Azure Virtual Machine This module describes how to deploy SQL Server on Microsoft Azure VMs.</p> <p>Lessons</p> <ul style="list-style-type: none"> » Deploying SQL Server on an Azure VM » The Deploy Database to a Microsoft Azure VM Wizard <p>Lab: Deploying SQL Server on an Azure Virtual Machine</p> <ul style="list-style-type: none"> » Provision an Azure VM » Use the Deploy Database to Azure VM Wizard
10	<p>Module 10: Managing databases in the Cloud This module describes how to manage SQL Server on Azure.</p> <p>Lessons</p>

- » Managing Azure SQL Database Security
 - » Configure Azure storage
 - » Azure Automation
- Lab: Managing Databases in the Cloud
- » Configure Azure Security
 - » Automate Azure Deployment

