

Provisioning SQL Databases

Type: Course
Audience(s): IT Professionals
Technology: Microsoft SQL Server
Level: 300
Delivery method: Classroom
Length: 3 days
Language(s): English

About this course

This three-day instructor-led course provides students with the knowledge and skills to provision a Microsoft SQL Server 2016 database. The course covers SQL Server 2016 provision both on premise and in Azure, and covers installing from new and migrating from an existing install.

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.

At course completion

After completing this course, students will be able to:

- Provision a Database Server
- Upgrade SQL Server
- Configure SQL Server
- Manage Databases and Files (shared)

Course Outline

Module 1: SQL Server 2016 Components

Describe the SQL Server platform, SQL Server services, and SQL Server configuration options.

Lessons

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

Lab : SQL Server Versions (Discussion session)

After completing this module, you will be able to:

- Describe the SQL Server platform and architecture
- Describe the SQL Server services and configuration.

Module 2: Installing SQL Server 2016

This module describes the process to install SQL Server 2016.

Lessons

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

Lab : Installing SQL Server

After completing this module, you will be able to:

- Describe the considerations when installing SQL Server 2016
- Be able to install SQL Server
- Be able to automate the installation

Module 3: Upgrading SQL Server to SQL Server 2016

This module describes how you go about upgrading your current SQL Server installation to SQL Server 2016.

Lessons

- Upgrade Requirements
- Upgrade SQL Server Services
- Migrating SQL Server Data and Applications

Lab : Upgrading SQL Server

After completing this module, you will be able to:

- Describe the requirements for upgrading to SQL Server 2016
- Describe how to upgrade SQL Server services
- Be able to migrate SQL Server Data and Applications

Module 4: Deploying SQL Server on Microsoft Azure

This module describes the options available to run SQL Server on Azure.

Lessons

- SQL Server Virtual Machines in Azure
- Deploying an Azure SQL Database
- Migrating an On-Premise Database to an Azure SQL Database

Lab : Migrating SQL Server with Azure

After completing this module, you will be able to:

- Describe how SQL Server Virtual Machines work in Azure
- Describe how to deploy and Azure SQL database
- Describe how to migrate and on premise database to Azure

Module 5: 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

- Overview of SQL Server Databases
- Creating Databases
- Database Files and Filegroups
- Moving Database Files
- Buffer Pool Extension

Lab : Managing Database Storage

After completing this module, you will be able to:

- Be able to create SQL Server databases
- Describe database files and filegroups
- Be able to move database files
- Describe the buffer pool extension

Module 6: Database Storage Options

At the end of this module you will be able to describe the database storage options.

Lessons

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

Lab : Implementing Stretch Database

After completing this module, you will be able to:

- Explain the elements impacting storage performance
- Describe SMB fileshare
- Describe SQL Server storage in Azure
- Describe Stretch Databases

Module 7: Performing Database Maintenance

This module covers database maintenance.

Lessons

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

Lab : Performing Ongoing Database Maintenance

After completing this module, you will be able to:

- Describe how to ensure database integrity
- Be able to maintain indexes
- Be able to automate routine database maintenance