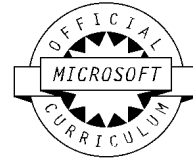


## Course Outline

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### 20765- Provisioning SQL Databases



**Duration:** 3 days (18 hours)

#### Target Audience:

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:

This course requires that you meet the following 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

These prerequisites can be achieved by attending course 20761A – Querying Data with Transact-SQL

#### Topics Covered:

- Module 1: SQL Server 2016 Components
  - 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
  - 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
  - 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
  - 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
  - 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
  - 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
  - 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