

Course Syllabus

Designing and Implementing Cloud Data Platform Solutions

Course #: 55247A

Number of Days: 3

Format: Instructor-Led

Certification Exams:

This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs.

Course content, prices, and availability are subject to change without notice.

Elements of this syllabus are subject to change.

This three-day instructor-led course is intended for data professionals who want to design and implement Microsoft Azure, on premises and hybrid database solutions. Security, Availability, Disaster Recovery, Scalability, Monitoring and Troubleshooting options will also be demonstrated.

Audience

This course is intended for experienced data professionals who design and implement Azure, on-premises and hybrid data solutions.

At Course Completion

After completing this course, students will be able to:

- Create SQL Server and Microsoft Azure data solutions
- Create Security solutions for on-premises and cloud databases
- Configure High-Availability, Disaster Recovery and Scalability options for databases
- Monitor, Manage and Automate database solutions

Prerequisites

Before attending this course, students must have:

- Experience using SQL Server
- Experience using T-SQL
- Experience using PowerShell

Additional Reading

To help you prepare for this class, review the following resources:

- Courses 552241A and 552242A

Module 1: Designing and Implementing Database Solutions for SQL Server and Microsoft Azure

This module explains how to design a database solution for SQL Server and Microsoft Azure databases.

Lessons
<ul style="list-style-type: none">• Design and Implement Hybrid SQL Server solutions• Design and Implement Azure SQL Database solutions• Design and Implement MySQL and PostgreSQL database solutions in Azure• Review
Lab 1: Designing and Implementing Database Solutions for SQL Server and Microsoft Azure
<ul style="list-style-type: none">▪ Implement a Hybrid SQL Server solution▪ Implement an Azure SQL Database solution▪ Implement a MySQL database solution▪ Implement a PostgreSQL database solution▪ Implement a Hybrid SQL Server and Azure SQL Database solution (Optional)

After completing this module, students will be able to use PowerShell to:

- Install and configure SQL Server on an Azure VM
- Install and configure Azure databases
- Install and configure MySQL and PostgreSQL databases

Module 2: Manage, Design and Implement Database Security

This module explains how to setup security for on-premises and Azure databases.

Lessons
<ul style="list-style-type: none">• Design and Implement SQL Server database security• Design and Implement Azure SQL Database security• Review
Lab 2: Manage, Design and Implement Database Security
<ul style="list-style-type: none">• Implement SQL Server database security• Implement Azure SQL Database security• Implement security for SQL Server & Azure SQL databases (Optional)

After completing this module, students will be able to use PowerShell to:

- Configure SQL Server database security
- Configure Azure SQL Database security

Module 3: Design for High-Availability, Disaster Recovery and Scalability

This module explains how to configure database solutions for High-Availability, Disaster Recovery and Scalability.

Lessons
<ul style="list-style-type: none">• Design and Implement High-Availability Solutions• Design and Implement Disaster Recovery Solutions• Design and Implement Scalability Solutions• Review
Lab 3: Design for High-Availability, Disaster Recovery and Scalability
<ul style="list-style-type: none">• Implement a High-Availability Solution• Implement a Disaster Recovery Solution• Implement a Scalability Solution• Implement a High-Availability Solution with Disaster Recovery options (Optional)

After completing this module, students will be able to use PowerShell to:

- Configure a High-Availability solution
- Configure a Disaster Recovery Solution
- Configure a Scalability Solution

Module 4: Monitor and Troubleshoot Database Implementations in Azure

This module explains how to monitor and troubleshoot database implementations.

Lessons
<ul style="list-style-type: none">• Monitor and Troubleshoot SQL Server VMs on Azure• Monitor and Troubleshoot Azure SQL Databases• Review
Lab 4: Monitor and Troubleshoot Database Implementations in Azure
<ul style="list-style-type: none">• Monitor and Troubleshoot SQL Server• Monitor and Troubleshoot Azure SQL Databases• Automate and Manage Database Implementations in Azure• Deploy, Monitor and Troubleshoot Azure Databases (Optional)

After completing this module, students will be able to use PowerShell to:

- Monitor and Troubleshoot SQL Servers
- Monitor and Troubleshoot Azure SQL Databases

Appendix B: PowerShell for Technology Professionals (Optional)

This module explains how to use PowerShell to administer computer, network, application and Azure resources.

Lessons
<ul style="list-style-type: none">▪ Introduction▪ Compared to Other Scripting Languages▪ Configuring and Using PowerShell▪ Creating and Running Scripts▪ Administering Local Resources▪ Administering Network Resources▪ Resolve PowerShell Scripting Problems.
Lab B: PowerShell for Technology Professionals
<ul style="list-style-type: none">▪ Exercise 1: Use PowerShell to get Computer Information▪ Exercise 2: Use PowerShell documentation to understand and use cmdlets▪ Exercise 3: Create and execute scripts▪ Exercise 4: Configure and test Remote Management▪ Exercise 5: Create an Azure VM with Azure PowerShell

After completing this module, students will be able to use PowerShell to:

- Use PowerShell to get Computer Information
- Use PowerShell documentation to understand and use cmdlets
- Create and execute scripts
- Configure and test Remote Management
- Create and Azure VM with Azure PowerShell

Appendix C: Python for Data Professionals (Optional)

This module explains how to use Python to create and administer resources on computers and in Azure.

Lessons
<ul style="list-style-type: none">▪ Running Commands▪ Creating Variables▪ Creating Functions▪ Flow Control Statements▪ Working with Dates and Times▪ Working with Data▪ Visualizing Data
Lab C: Python for Data Professionals
<ul style="list-style-type: none">▪ Exercise 1: Running Commands▪ Exercise 2: Creating Variables▪ Exercise 3: Creating Functions▪ Exercise 4: Flow Control Statements▪ Exercise 5: Working with Dates and Times▪ Exercise 6: Work with Data▪ Exercise 7: Visualizing Data▪ Exercise 8: Skills Project

After completing this module, students will be able to use PowerShell to:

- Use Python to work with data
- Use Python to visualize data
- Use Python to create Azure resources