

AZ-040T00: Automating Administration with PowerShell

Summary

Length: 40 hours Level: Experienced

This course provides students with the fundamental knowledge and skills to use PowerShell for administering and automating administration of Windows servers. This course may earn a Credly Badge.

Learning Objectives

After completing this course, students will be able to:

Describe the functionality of Windows PowerShell and use it to run and find basic commands.

Identify and run cmdlets for local system administration.

Work with the Windows PowerShell pipeline.

Use PSProviders and PSDrives to work with other forms of storage.

Query system information by using WMI and CIM.

Work with variables, arrays, and hash tables.

Create basic scripts in Windows PowerShell.

Administer remote computers with Windows PowerShell.

Manage Azure resources with PowerShell.

Manage Microsoft 365 services with PowerShell.

Use background jobs and scheduled jobs.

Course Outline

1. Getting started with Windows PowerShell

Windows PowerShell overview

Understand Windows PowerShell command syntax

Find commands and get help in Windows PowerShell

2. Windows PowerShell for local systems administration

Active Directory Domain Services administration cmdlets

Network configuration cmdlets

Server administration cmdlets

Windows PowerShell in Windows 10

3. Working with the Windows PowerShell pipeline

Understand the pipeline

Select, sort, and measure objects

Filter objects out of the pipeline

Enumerate objects in the pipeline

Send and pass pipeline data as output

4. Using PSProviders and PSDrives

Using PSProviders

Using PSDrives

5. Querying management information by using CIM and WMI

Understand CIM and WMI

Make changes by using CIM and WMI

6. **Working with variables, arrays, and hash tables**

Use variables

Manipulate variables

Manipulate arrays and hash tables

7. **Windows PowerShell scripting**

Introduction to scripting with Windows PowerShell

Script constructs

Import data from files

Accept user input

Troubleshooting and error handling

Functions and modules

8. **Administering remote computers with Windows PowerShell**

Use basic Windows PowerShell remoting

Use advanced Windows PowerShell remoting techniques

Use PSSessions

9. **Managing Azure resources with PowerShell**

Azure PowerShell

Introduce Azure Cloud Shell

Manage Azure VMs with PowerShell

Manage storage and subscriptions

10. **Managing Microsoft 365 services with PowerShell**

Manage Microsoft 365 user accounts, licenses, and groups with PowerShell

Manage Exchange Online with PowerShell

Manage SharePoint Online with PowerShell

Manage Microsoft Teams with PowerShell

11. **Using background jobs and scheduled jobs**

Use background jobs

Use scheduled jobs

Audience

This course is intended for IT Professionals who are already experienced in general Windows Server, Windows client, Azure, and Microsoft 365 administration, and who want to learn more about using Windows PowerShell for administration. No prior experience with any version of PowerShell or any scripting language is assumed. This course is also suitable for IT Professionals already experienced in server administration, including Microsoft Exchange Server, Microsoft SharePoint Server, and Microsoft SQL Server.

Prerequisites

Before attending this course, students must have: Experience with Windows networking technologies and implementation. Experience with Windows Server administration, maintenance, and troubleshooting.