MICROSOFT OFFICIAL CURRICULUM

Automate Administration with PowerShell

Official Microsoft Learn-aligned instructor-led program for Automate Administration with PowerShell.

Microsoft | AZ-040T00

DURATION	LEVEL	FORMAT	CERTIFICATION
5 days	Advanced	Virtual, On-site, or Hybrid	AZ-040T00

AUDIENCE PROFILE

Built for these roles

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.

OVERVIEW

Executive overview

This course provides students with the fundamental knowledge and skills to use PowerShell for administering and automating administration of Windows servers. This course provides students the skills to identify and build the command they require to perform a specific task. In addition, students learn how to build scripts to accomplish advanced tasks such as automating repetitive tasks and generating reports. This course provides prerequisite skills supporting a broad range of Microsoft products, including Windows Server, Windows Client, Microsoft Azure, and Microsoft 365. In keeping with that goal, this course will not focus on any one of those products, although Windows Server, which is the common platform for all of those products, will serve as the example for the techniques this course teaches.

View official source

READINESS

Prerequisites

- Relevant foundational experience in the target technology area.
- Comfort with hands-on labs in a cloud or GPU-accelerated environment.

PROGRAM OUTCOMES

Capabilities your teams will gain

- Strengthen capability in administrator scenarios
- Strengthen capability in windows server scenarios

ENTERPRISE CUSTOMIZATION

Enterprise customization

Tailor this program to your organization's priorities: Builds current Microsoft credential readiness for Automate Administration with PowerShell using the official Microsoft Learn outline.

- Align labs to your production environment and platform priorities
- Add readiness reviews and instructor-led practice sessions
- Extend into project-specific architecture or delivery coaching

CURRICULUM

Curriculum roadmap

1 MODULE 1

Get started with Windows PowerShell

This learning path introduces you to Windows PowerShell and provides an overview of the product's functionality. It explains how to open and configure Windows PowerShell, run commands, and use its built-in Help system.

- Review Windows PowerShell
- Understand the command syntax in Windows PowerShell
- Find commands and Get-Help in Windows PowerShell

2 MODULE 2

Maintain system administration tasks in Windows PowerShell

This learning path covers cmdlets that are commonly used for system administration tasks related to Active Directory, network configuration, server administration, and Windows 10 device administration.

- Manage Active Directory Domain Services using PowerShell cmdlets
- Manage network service settings for Windows devices using PowerShell cmdlets
- Manage Windows Server settings using PowerShell cmdlets
- Manage settings for a local Windows machine using PowerShell cmdlets

3 MODULE 3

Work with the Windows PowerShell pipeline

This learning path explains the purpose and use of the PowerShell pipeline and use the pipeline to sort, filter, enumerate and display output data for PowerShell cmdlets.

- Understand the Windows PowerShell pipeline
- Select, sort, and measure objects using the pipeline
- Filter objects out of the pipeline
- Enumerate objects in the pipeline
- Send and pass data as output from the pipeline
- Pass pipeline objects

4 MODULE 4

Work with PowerShell providers and PowerShell drives in Windows PowerShell

This learning path explains two technologies: PowerShell providers and PowerShell drives, which let you work with many forms of storage by using the commands and techniques that you use to manage the file system.

- Connect with data stores using PowerShell providers
- Use PowerShell drives in PowerShell

5 MODULE 5

Query management information by using Common Information Model and Windows Management Instrumentation

This learning path covers Windows Management Instrumentation (WMI) and Common Information Model (CIM). These technologies help to access information about a computer. Additionally, both technologies provide local and remote access to management information from the operating system, computer hardware, and installed software.

- Review CIM and WMI
- Query configuration information by using CIM and WMI
- Query and manipulate repository objects by using CIM and WMI methods

6 MODULE 6

Use variables, arrays, and hash tables in Windows PowerShell scripts

This learning path explains how to work with variables, arrays, and hash tables in Windows PowerShell scripts.

- Manage variables in Windows PowerShell scripts
- Work with arrays and hash tables in Windows PowerShell scripts

7 MODULE 7

Create and modify scripts by using Windows PowerShell

This learning path explains how to create and modify scripts. It covers useful scripting techniques that include importing data from a file, accepting user input, and error handling.

- Create and run scripts by using Windows PowerShell
- Work with scripting constructs in Windows PowerShell
- Import data in different formats for use in scripts by using Windows PowerShell cmdlets
- Use methods to accept user inputs in Windows PowerShell scripts
- Troubleshoot scripts and handle errors in Windows PowerShell
- Use functions and modules in Windows PowerShell scripts

8 MODULE 8

Administer remote computers by using Windows PowerShell

Administer remote computers by using Windows PowerShell

- Manage single and multiple computers by using Windows PowerShell remoting
- Use advanced Windows PowerShell remoting techniques
- Manage persistent connections to remote computers by using Windows PowerShell sessions

9 MODULE 9

Manage cloud resources by using Windows PowerShell

This learning path explains how to install the necessary modules for cloud services management and use PowerShell commands to perform simple administrative tasks on cloud resources such as Azure virtual machines, Azure storage accounts, and Azure subscriptions. The learning path also covers how to use the Azure Cloud Shell environment to perform PowerShell-based or Bash-based administration directly from the Azure portal.

- Review Azure PowerShell module
- Review the features and tools for Azure Cloud Shell
- Manage Azure resources with Windows PowerShell

10 MODULE 10

Manage Microsoft 365 services by using Windows PowerShell

This learning path explains how to efficiently manage the most commonly used services in Microsoft 365, such as Microsoft Entra ID, Microsoft Exchange Online, Microsoft SharePoint Online, and Microsoft Teams.

- Manage users, groups, and licenses in Microsoft Entra ID by using Windows PowerShell
- Manage Exchange Online by using Windows PowerShell
- Manage SharePoint Online by using Windows PowerShell
- Manage Microsoft Teams by using Windows PowerShell

11 MODULE 11

Create and manage background jobs and scheduled jobs in Windows PowerShell

Create and manage background jobs and scheduled jobs in Windows PowerShell

- Create and manage background jobs using Windows PowerShell

- Create and manage scheduled jobs using Windows PowerShell

PRIVATE DELIVERY

Plan a private cohort for your team

Scope delivery format, role mix, and rollout timeline with our solutions team.

Plan Private Delivery

Book advisory call