Automating Administration with PowerShell (AZ-040)

Description

Discover PowerShell and Unleash Its Full Potential

This official Microsoft course provides participants with the fundamental knowledge and skills to use Windows PowerShell (AZ-040) for managing and automating Windows server administration. It also helps identify and create the specific commands required for specific tasks. Additionally, participants will learn to create scripts for handling advanced tasks, such as automating repetitive tasks, generating reports, and much more.

Gain Autonomy in Automated Administration

This 5-day training enables you to master Windows PowerShell for automating Windows server administration, with numerous hands-on exercises for practice.

Course Content
Module 1: Reviewing Windows PowerShell

- Discover Windows PowerShell and its host applications
- Configure the PowerShell console and scripting environment
- Use Visual Studio Code with PowerShell

Module 2: Understanding Command Syntax in Windows PowerShell

- Explore the structure and parameters of cmdlets
- Utilize auto-complete functionality and help files

Module 3: Finding Commands and Using Get-Help in Windows PowerShell

- Define modules in PowerShell
- Search for cmdlets in PowerShell
- Use command aliases in PowerShell
- Leverage Show-Command and Get-Help commands
- Interpret help file content and update local help content in PowerShell

Module 4: Managing Active Directory Domain Services with PowerShell

- Manage user accounts
- Manage groups and group memberships
- Handle computer accounts
- Administer organizational units and Active Directory objects

Module 5: Managing Network Service Settings for Windows Devices

- Manage IP addresses
- Configure IP routing
- Administer DNS clients
- Set up Windows Firewall settings

Module 6: Managing Windows Server Settings

- Automate management tasks with Group Policy management cmdlets
- Manage server roles and services with cmdlets
- Handle Hyper-V virtual machines with cmdlets
- Administer Internet Information Services with cmdlets

Module 7: Managing Local Windows Machine Settings

- Administer Windows 10 using PowerShell
- Manage permissions with PowerShell

Module 8: Introducing the Windows PowerShell Pipeline

- Review the Windows PowerShell pipeline and its output
- Explore object members in PowerShell
- Control output formatting in the pipeline

Module 9: Selecting, Sorting, and Measuring Objects with the Pipeline

- Sort and group objects by property in the pipeline
- Measure objects in the pipeline
- Select a subset of objects in the pipeline
- Select object properties in the pipeline
- Create and format calculated properties in the pipeline

Module 10: Filtering Objects Out of the Pipeline

- Explore comparison operators in PowerShell
- Review basic filter syntax in the pipeline
- Learn advanced filter syntax in the pipeline
- Optimize pipeline filter performance

Module 11: Enumerating Objects in the Pipeline

- Discover enumerations in the pipeline
- Examine basic syntax for object enumeration
- Learn advanced syntax for object enumeration

Module 12: Sending and Passing Data as Pipeline Output

- Write pipeline data to a file
- Convert pipeline objects to other data representations
- Control additional output options in PowerShell

Module 13: Passing Pipeline Objects

- Understand pipeline parameter binding

- Identify ByValue parameters
- Pass data with ByValue
- Pass data with ByPropertyName
- Use manual parameters to override the pipeline
- Expand property values

Module 14: Connecting to Data Stores Using PowerShell Providers

- Define Windows PowerShell providers
- Explore built-in PowerShell providers
- Access provider help in PowerShell

Module 15: Using PowerShell Drives

- Explain PowerShell drives
- Manage the file system in PowerShell
- Handle the Registry in PowerShell
- Use certificates in PowerShell
- Utilize other PowerShell drives

Module 16: Reviewing CIM and WMI

- Understand CIM and WMI architecture
- Explore CIM and WMI repositories
- Search for online class documentation using CIM and WMI cmdlets

Module 17: Querying Configuration Information with CIM and WMI

- List namespaces and classes in a local repository
- Query instances using commands and WMI Query Language (WQL)
- Connect to remote computers using CIM and WMI cmdlets

Module 18: Querying and Manipulating Repository Objects with CIM and WMI Methods

- Discover repository object methods
- Invoke repository object methods

Lab / Exercises

- This course provides you with exclusive access to the official Microsoft lab, enabling you to practice your skills in a professional environment.

Documentation

- Access to Microsoft Learn, Microsoft's online learning platform, offering interactive resources and educational content to deepen your knowledge and develop your technical skills.

Participant profiles

- IT Professionals who are already experienced in general Windows Server, Windows client, Azure, and Microsoft 365 administration
- IT Professionals already experienced in server administration, including Microsoft Exchange Server, Microsoft SharePoint Server, and Microsoft SQL Server

Prerequisites

- Experience with Windows networking technologies and implementation
- Experience with Windows Server administration, maintenance, and troubleshooting

Objectives

- 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

Description
Automating Administration with PowerShell (AZ-040)
Niveau
Avancé
Classroom Registration Price (CHF)
3900
Virtual Classroom Registration Price (CHF)
3650
Duration (in Days)
5
Reference
AZ-040T00