Training: Microsoft
AZ-040T00 Automating Administration with PowerShell

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TRAINING GOALS:

This course provides students with the fundamental knowledge and skills to use Windows 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 Exchange Server, Microsoft SharePoint Server, Microsoft SQL Server, and Microsoft System Center. 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.

Skills gained:

- 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.
- Write 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.

Audience profile:

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

CONSPECT:

- Getting started with Windows PowerShell
    - Windows PowerShell overview
    - Understanding Windows PowerShell command syntax
    - Find commands and getting help in Windows PowerShell
    - Lab : Configuring the Windows PowerShell console application
    - Lab : Configuring the Windows PowerShell ISE application
    - Lab : Finding and running Windows PowerShell commands
    - Lab : Using Help and About files

- Windows PowerShell for local systems administration
    - Active Directory Domain Services administration cmdlets
    - Network configuration cmdlets
    - Server administration cmdlets
    - Windows PowerShell in Windows 10
    - Lab : Creating a website
    - Lab : Configuring network settings on Windows Server
    - Lab : Creating and managing Active Directory objects

- 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
    - Lab : Selecting, sorting, and displaying data
    - Lab : Filtering objects
    - Lab : Enumerating objects
    - Lab : Converting objects

- Using PSProviders and PSDrives
    - Using PSProviders
    - Using PSDrives
    - Lab : Create a new Active Directory group
    - Lab : Creating a registry key for your future scripts
    - Lab : Creating files and folders on a remote computer

- Querying management information by using CIM and WMI
    - Understand CIM and WMI

- Query data by using CIM and WMI
- Make changes by using CIM and WMI
- Lab : Querying information by using WMI
- Lab : Querying information by using CIM
- Lab : Invoking methods

- Working with variables, arrays, and hash tables
  - Use variables
  - Manipulate variables
  - Manipulate arrays and hash tables
  - Lab : Using hash tables
  - Lab : Using arrays
  - Lab : Working with variable types

- 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
  - Lab : Signing a script
  - Lab : Processing an array with a ForEach loop
  - Lab : Processing items by using If statements
  - Lab : Creating users based on a CSV file
  - Lab : Querying disk information from remote computers
  - Lab : Updating the script to use alternate credentials

- Administering remote computers with Windows PowerShell
  - Use basic Windows PowerShell remoting
  - Use advanced Windows PowerShell remoting techniques
  - Use PSSessions
  - Lab : Managing multiple computers
  - Lab : Using implicit remoting
  - Lab : Performing one-to-many remoting
  - Lab : Performing one-to-one remoting
  - Lab : Enabling remoting on the local computer

- Managing Azure resources with PowerShell
  - Azure PowerShell

- ○ Introduce Azure Cloud Shell
- ○ Manage Azure VMs with PowerShell
- ○ Manage storage and subscriptions
- ○ Lab : Installing Azure PowerShell module
- ○ Lab : Installing Cloud Shell
- ○ Lab : Managing Azure resources with Azure PowerShell
- ○ After completing this module, students will be able to:
- ○ 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
  - ○ Lab : Managing Exchange Online resources with Windows PowerShell
  - ○ Lab : Managing SharePoint Online with Windows PowerShell
  - ○ Lab : Managing Microsoft 365 user and group objects with Windows PowerShell
  - ○ Lab : Connecting to Microsoft 365 with Windows PowerShell
- ○ Using background jobs and scheduled jobs
  - ○ Use background jobs
  - ○ Use scheduled jobs
  - ○ Lab : Starting and managing jobs
  - ○ Lab : Creating a scheduled job

Difficulty level

CERTIFICATE:

Certificate of completing an authorized Microsoft training.

TRAINER:

Microsoft Certified Trainer.