

COURSE OVERVIEW:

This 5-day 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, System Center, and more. 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.

PREREQUISITES:

The knowledge and skills that a learner should have before attending this course are as follows:

- Experience with Windows networking technologies and implementation.
- Experience with Windows Server administration, maintenance, and troubleshooting.
- Experience with Windows Client administration, maintenance, and troubleshooting
- Students who attend this training can meet the prerequisites by obtaining equivalent knowledge and skills through practical experience as a Windows system administrator. No prerequisite courses are required.

COURSE OBJECTIVES:

Upon completing this course, the learner will be able to meet these overall objectives:

- Describe the functionality of Windows PowerShell and use it to run and find basic commands.
- Identify and run cmdlets for server administration.
- Work with Windows PowerShell pipeline.
- Describe the techniques Windows PowerShell pipeline uses.
- 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.



Automating Administration with Windows PowerShell (M10961)

- Write basic scripts in Windows PowerShell.
- Write advanced scripts in Windows PowerShell.
- Administer remote computers.
- Use background jobs and scheduled jobs.
- Use advanced Windows PowerShell techniques

WHO SHOULD ATTEND:

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, System Center, and others.

COURSE OUTLINE:

Module 1: Getting started with Windows PowerShell

- Overview and background of Windows PowerShell
- Understanding command syntax
- Finding commands

Module 2: Cmdlets for administration

- Active Directory administration cmdlets
- Network configuration cmdlets
- Other server administration cmdlets

Module 3: Working with the Windows PowerShell pipeline

- Understanding the pipeline
- Selecting, sorting, and measuring objects
- Filtering objects out of the pipeline
- Enumerating objects in the pipeline
- Sending pipeline data as output

Module 4: Understanding how the pipeline works

- Passing the pipeline data
- Advanced considerations for pipeline data

Module 5: Using PSProviders and PSDrives

- Using PSProviders
- Using PSDrives

Module 6: Querying system information by using WMI and CIM

- Understanding WMI and CIM
- Querying data by using WMI and CIM
- Making changes with WMI/CIM

Module 7: Working with variables, arrays, and hash tables

- Using variables.
- Manipulating variables.
- Manipulating arrays and hash tables.

Module 8: Basic scripting

- Introduction to scripting
- Scripting constructs
- Importing data from files

Module 9: Advanced scripting

- Accepting user input
- Overview of script documentation
- Troubleshooting and error handling
- Functions and modules

Module 10: Administering Remote Computers

- Using basic Windows PowerShell remoting
- Using advanced Windows PowerShell remoting techniques
- Using PSSessions

Module 11: Using background jobs and scheduled jobs

- Using background jobs
- Using scheduled jobs

Module 12: Using advanced Windows PowerShell techniques

- Creating profile scripts
- Using advanced techniques

LAB OUTLINE:

- Configuring Windows PowerShell
- Finding and running basic commands
- Windows Administration
- Using the pipeline
- Filtering objects
- Enumerating objects
- Sending output to a file
- Working with pipeline parameter binding
- Using PSProviders and PSDrives
- Working with WMI and CIM
- Working with variables
- Basic scripting
- Accepting data from users
- Implementing functions and modules
- Using basic remoting
- Using PSSessions
- Using background jobs and scheduled jobs
- Practicing advanced techniques
- Practicing script development (optional)