

**Automating Administration with PowerShell (AZ-040)**

**Course Number:** MOC-AZ-040  
**Duration:** 5 days

**Overview**

This Automating Administration with PowerShell training course (Official Microsoft course AZ-040), teaches attendees how to use PowerShell for administering and automating the administration of Windows servers.

**Prerequisites**

All attendees must have experience with

* Windows networking technologies and implementation
* Windows Server administration, maintenance, and troubleshooting

**Materials**

All Microsoft training students receive Microsoft official courseware.

For all Microsoft Official Courses taught in their entirety that have a corresponding certification exam, an exam voucher is included for each participant.

**Software Needed on Each Student PC**

Attendees will not need to install any software on their computer for this class. The class will be conducted in a remote environment that Accelebrate will provide; students will only need a local computer with a web browser and a stable Internet connection. Any recent version of Microsoft Edge, Mozilla Firefox, or Google Chrome will be fine.

**Objectives**

* Use PowerShell for administering and automating administration of Windows servers
* Identify and build the commands required to perform a specific task
* Build scripts to accomplish advanced tasks, such as automating repetitive tasks and generating reports

**Outline**

* Review Windows PowerShell
* Understand the command syntax in Windows PowerShell
* Find commands and Get-Help in Windows PowerShell
* 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
* 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
* Connect with data stores using PowerShell providers
* Use PowerShell drives in PowerShell
* Review CIM and WMI
* Query configuration information by using CIM and WMI
* Query and manipulate repository objects by using CIM and WMI methods
* Manage variables in Windows PowerShell scripts
* Work with arrays and hash tables in Windows PowerShell scripts
* 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
* 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
* Review Azure PowerShell module
* Review the features and tools for Azure Cloud Shell
* Manage Azure resources with Windows PowerShell
* Manage users, groups, and licenses in Azure AD 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
* Create and manage background jobs using Windows PowerShell
* Create and manage scheduled jobs using Windows PowerShell