
Automating Administration with Windows PowerShell v3.0

Duration: 5 Days **Course Code: M10961** **Version: A**

Overview:

This five day course provides students with the fundamental knowledge and skills to use Windows PowerShell 3.0 for administering and automating administration of Windows based servers. It focuses on primary Windows PowerShell command-line features and techniques, and will provide prerequisite skills supporting many different Microsoft products. This includes Windows Server, Windows Client, Exchange Server, SharePoint Server, 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) will serve as the example for the techniques being taught. In this five day course you will learn to execute and monitor scripts more efficiently through more robust session connectivity, workflow capabilities, improved job scheduling, and Windows PowerShell Web Access. Learn Windows PowerShell with greater ease through improved cmdlet discovery and simplified, consistent syntax across all cmdlets. Write Windows PowerShell scripts quicker and more intuitively through the new Integrated Scripting Environment (ISE) that enables script sharing, which connects IT pros to a larger Windows PowerShell user community.

Target Audience:

This course is intended for IT Professionals already experienced in general Windows Server and Windows Client administration or already experienced in administering and supporting Application servers and services including Exchange, SharePoint, SQL etc It is broadly intended for students who want to use Windows PowerShell to automate administrative tasks from the command line, using any Microsoft or independent software vendor (ISV) product that supports Windows PowerShell manageability. This course is not intended to be a scripting or programming course, and includes only basic coverage of scripting and programming topics. Students are not expected to have prior scripting or programming experience, and are not expected to have prior Windows PowerShell experience

Objectives:

- Understand the basic concepts behind Windows PowerShell
 - Work with the Pipeline
 - Understand How the Pipeline Works
 - Use PSProviders and PSDrives
 - Format Output
 - Use WMI and CIM
 - Prepare for Scripting
 - Moving From a Command to a Script to a Module
 - Administer Remote Computers
 - Put the various Windows PowerShell components together
 - Use Background Jobs and Scheduled Jobs
 - Use Advanced PowerShell Techniques and Profiles
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Prerequisites:

- Previous Windows Server and Windows Client management knowledge and hands on experience.
 - Experience Installing and Configuring Windows Server into existing enterprise environments, or as standalone installations.
 - Knowledge and experience of network adapter configuration, basic Active Directory user administration, and basic disk configuration.
 - Knowledge and hands on experience specifically with Windows Server 2012 and Windows 8 would be of benefit but is not essential.
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Content:

Module 1: Getting Started with Windows PowerShell

- Overview and Background
- Finding and Running Commands
- Configure the console application
- Configure the ISE Application
- Finding and Running Basic commands

Module 2: Working with the Pipeline

- Working with the Pipeline
- Exporting, Importing and Converting Data
- Filtering Objects Out of the Pipeline
- Enumerating Objects in the Pipeline
- Retrieve data, manipulate objects and customise the final display
- Import, Export and convert data within Windows PowerShell
- Filter Objects Out of the Pipeline
- Examine Several Commands and Predict Their Output
- Enumerate Objects in the Pipeline and perform specific tasks

Module 3: Understanding How the Pipeline Works

- Passing Data in the Pipeline ByValue
- Passing Data in the Pipeline ByPropertyName
- Examine Several Commands and Predict Whether or Not They Will Work as Written
- Construct new Commands that Utilize Pipeline Parameter Binding
- Understanding PSProviders and PSDrives
- Using PSDrives
- Using PSProviders and PSDrives

Module 5: Formatting Output

- Using Basic Formatting
- Using Advanced Formatting
- Redirecting Formatted Output
- Use Formatting cmdlets to customize those cmdlets output

Module 6: Using WMI and CIM

- Understanding WMI/CIM
- Querying Data with WMI/CIM
- Making Changes with WMI/CIM
- Locate and Query WMI Classes to retrieve Management Information

Module 7: Prepare for Scripting

- Using Variables
- Scripting Security
- Working with Alternate Credentials
- Configure Execution Policy
- Create and Use Alternate Credentials

Module 8: Moving From a Command to a Script to a Module

- Moving From Command to Script
- Moving From Script to Function to Module
- Implementing Basic Error Handling
- Using Basic Scripting Constructs
- Further Exploration in Scripting
- Convert a Functioning command into a parameterized Script
- Encapsulate a Script into a Function, Turn the script into a Module and add debugging
- Add Basic Error Handling capabilities to a Script

Module 9: Administering Remote Computers

- Using Basic Remoting
- Using Remote Sessions
- Using Remoting for Delegated Administration
- Enable Remoting
- Remotely Manage Machines
- Import a Module from a Remote Machines
- Establish and Use Connections with several computers
- Create and Register a Custom Session Configuration
- Test the Custom Session Configuration

Module 10: Putting it All Together

- Planning the Script
- Determine Server Cores IP Address
- Add Server Core Computers IP Address to local TrustedHosts list
- Add the Server Core Computer to a Domain and Configure a DHCP reservation
- Add Specified Roles and features to the Server Core Computer

Module 11: Using Background Jobs and Scheduled Jobs

- Using Background Jobs
- Using Scheduled Jobs
- Start Background Job
- Manage Existing Jobs
- Create, run and retrieve data using Scheduled Jobs

Module 12: Using Advanced PowerShell Techniques and Profiles

- Using Advanced PowerShell Techniques
- Creating Profile Scripts
- Practice Advanced Techniques
- Create a Profile Script that defines several parameter defaults

Further Information:

For More information, or to book your course, please call us on 353-1-814 8200

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