

10961 - Automating Administration with Windows PowerShell

Duration: 5 days

Overview:

This five day Microsoft 10961 training 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. Learn all this and more in this five-day Microsoft Official Course in Windows PowerShell v3.0. This is a Microsoft Official Course (MOC).

Module 1: Getting Started with Windows PowerShell

Lessons

- Overview and Background
- Finding and Learning Commands
- Running Commands

Lab : Configuring Windows PowerShell

- Configure the Windows PowerShell Console Application
- Configure the Windows PowerShell ISE Application

Lab : Finding and Running Basic Commands

- Finding Commands
- Finding and Running Commands
- Using "About" Files

Module 2: Working with the Pipeline

Lessons

- Understanding the Pipeline
- Selecting, Sorting, and Measuring Objects
- Converting, Exporting, and Importing Objects
- Filtering Objects Out of the Pipeline
- Enumerating Objects in the Pipeline

Lab : Using the Pipeline

- Selecting and Sorting Data

Lab : Converting, Exporting, and Importing Objects

- Converting Objects
- Importing and Exporting Objects

Lab : Filtering Objects

- Filter Objects

Lab : Enumerating Objects

- Enumerating Objects

Module 3: Understanding How the Pipeline Works

Lessons

- Passing Data in the Pipeline ByValue
- Passing Data in the Pipeline ByPropertyName

Lab : Working with Pipeline Parameter Binding

- Predicting Pipeline Behaviour

Module 4: Using PSProviders and PSDrives

Lessons

- Using PSProviders
- Using PSDrives

Lab : Using PSProviders and PSDrives

- Create a New Folder
- Create a New PSDrive
- Create a New Registry Key
- Create a New Registry Setting
- Modify a WS-Management Setting

Module 5: Formatting Output

Lessons

- Using Basic Formatting
- Using Advanced Formatting
- Redirecting Formatted Output

Lab : Formatting Output

- Formatting Command Output
- Reproducing Specified Output

Module 6: Querying Management Information by Using WMI and CIM

Lessons

- Understanding WMI and CIM
- Querying Data with WMI and CIM
- Making Changes by Using WMI and CIM

Lab : Working with WMI and CIM

- Querying Information by Using WMI
- Querying Information by Using CIM
- Invoking Methods

Module 7: Preparing for Scripting

Lessons

- Using Variables
- Scripting Security

Lab : Working with Security in PowerShell

- Configure Security

Target Audience:

This Microsoft 10961 training 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 applications like Exchange, SharePoint, and SQL. 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.
[Read on...](#)

Pre-requisites:

Before attending this course, students must have:

- 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

At Course Completion:

After completing this course, students will be able to:

- 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

Module 8: Moving From a Command to Script to Module

Lessons

- Moving From Command to Script
- Moving From Script to Function to Module
- Implementing Basic Error Handling
- Using Basic Scripting Constructs
- Exploring Other Scripting Features

Lab : Moving From Command to Script

- Test the Command
- Parameterise Changing Values
- Add Verbose Output
- Add Comment-Based Help

Lab : Moving From Script to Function to Module

- Convert the Script to a Function
- Save the Script as a Script Module
- Add Debugging Breakpoints

Lab : Implementing Basic Error Handling

- Add Error Handling to a Function
- Add Error Handling to a New Function

Lab : Creating an Advanced Function

- Test an Existing Command
- Create a Parameterised Function
- Handle Multiple Targets
- Add Error Handling

Module 9: Administering Remote Computers

Lessons

- Using Basic Remoting
- Using Advanced Remoting Techniques
- Using Remoting Sessions

Lab : Using Basic Remoting

- Enable Remoting on the Local Computer
- Performing One-to-One Remoting
- Performing One-to-Many Remoting

Lab : Using Remoting Sessions

- Using Implicit Remoting
- Multicomputer Management

Module 10: Putting it All Together

Lessons

- Provisioning a New Server Core Instance

Lab : Provisioning a New Server Core Installation

- Create a Parameterised Script
- Get the Dynamic IP Address of the New Server Core Computer
- Create a DHCP Reservation for the Server Core Instance
- Modify the Local TrustedHosts List
- Add a Role to the Server Core Instance
- Add the Server Core Instance to the Domain
- Test the Completed Script

Module 11: Using Background Jobs and Scheduled Jobs

Lessons

- Using Background Jobs
- Using Scheduled Jobs

Lab : Working with Background Jobs

- Starting Jobs
- Managing Jobs

Lab : Using Scheduled Jobs

- Creating a Scheduled Job

Module 12: Using Profiles and Advanced PowerShell Techniques

Lessons

- Using Advanced PowerShell Techniques
- Creating Profile Scripts
- Working With Alternative Credentials

Lab : Practicing Advanced Techniques

- Using Advanced Techniques
- Using Alternative Credentials
- Create a Profile Script