Students will learn how to remotely manage single or multiple Windows-based servers and automate day-to-day management and administration tasks.

Who Should Attend

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.

Course Objectives

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

Other Prerequisites

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.

Course Outline

1 Getting Started with Windows PowerShell

Overview and Background
Finding and Running Commands
Lab: Configuring Windows PowerShell
Lab: Finding and Running Basic Commands
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
   Lab : Working with the Pipeline
   Lab : Exporting, Importing and Converting Data
   Lab : Filtering Objects Out of the Pipeline
   Lab : Enumerate Objects in the Pipeline

3 Understanding How the Pipeline Works
   Passing Data in the Pipeline ByVal
   Passing Data in the Pipeline ByPropertyName
   Lab : Working with Pipeline Parameter Binding

4 Using PSProviders and PSDrives
   Understanding PSProviders and PSDrives
   Using PSDrives
   Lab : PSProviders and PSDrives

5 Formatting Output
   Using Basic Formatting
   Using Advanced Formatting
   Redirecting Formatted Output
   Lab : Formatting Output

6 Using WMI and CIM
   Understanding WMI/CIM
   Querying Data with WMI/CIM
   Making Changes with WMI/CIM
   Lab : Working with WMI and CIM

7 Prepare for Scripting
   Using Variables
   Scripting Security
   Working with Alternate Credentials
   Lab : Working with Security in PowerShell

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
   Lab : Moving From Command to Script
   Lab : Moving From Script to Function to Module
   Lab : Implementing Basic Error Handling
   Lab : Adding Logic to a Script
9 Administering Remote Computers
Using Basic Remoting
Using Remote Sessions
Using Remoting for Delegated Administration
Lab : Working with Remoting
Lab : Working with PSSessions
Lab : Remoting for Delegated Administration

10 Putting it All Together
Planning the Script
Lab : Configuring a New Server Core Installation

11 Using Background Jobs and Scheduled Jobs
Using Background Jobs
Using Scheduled Jobs
Lab : Working with Background Jobs
Lab : Working with Scheduled Jobs

12 Using Advanced PowerShell Techniques and Profiles
Using Advanced PowerShell Techniques
Creating Profile Scripts
Lab : Practicing Advanced Techniques