

Automating Administration with Windows PowerShell®



Durata: 4 giorni

A chi è rivolto: Sistemisti, Amministratori IT

Scopo del corso: Questo corso è rivolto a studenti che vogliono utilizzare Windows PowerShell per automatizzare le attività amministrative dalla riga di comando. Questo corso non è destinato ad essere un corso di programmazione o scripting, e include solo una copertura di base degli argomenti di scripting e programmazione per questo motivo gli studenti non sono tenuti ad avere una precedente esperienza di programmazione o scripting, e non sono tenuti ad avere una precedente esperienza di Windows PowerShell. Con questo corso gli studenti impareranno come con Windows PowerShell 3.0 sia possibile gestire in remoto uno o più server basati su Windows e automatizzare le attività di gestione e amministrazione, giorno per giorno.

Prerequisiti: precedente conoscenza ed esperienza con la gestione di Windows Server, Windows Client e Active Directory

Module 1: Getting Started with Windows PowerShell

This module introduces students to Windows PowerShell, its purpose and history. The module will also cover the basics of using the shell, including the help system, command syntax, command discovery explaining the use of the two built-in host applications.

- 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

This module covers the Windows PowerShell pipeline along with a number of additional techniques and commands, including customizing command output, exporting and converting data, sorting objects, filtering objects, and enumerating objects allowing for the overall retrieval, manipulation and displaying of data.

- 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 and Enumerating Objects

- Filtering Objects
- Enumerating Objects

Module 3: Understanding How the Pipeline Works

This module explains the underlying details of how Windows PowerShell passes objects from command to command within the pipeline. Having seen it in action in the previous module will now get to see some of the theory under the hood. The emphasis will be on two specific techniques used by the shell and students will learn to explain the pipeline operation, predict command behavior and allows them construct more useful, predictable commands.

- Passing Data in the Pipeline By Value
- Passing Data in the Pipeline By Property Name

Lab : Working with Pipeline Parameter Binding

- Predicting Pipeline Behavior

Module 4: Using PSProviders and PSDrives

This module explains the purpose and use of Windows PowerShell PSProviders and PSDrives, and shows students how to use these useful components for administrative tasks. Students will also learn to use the -item* commands to manipulate items within a PSDrive.

- 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

This module demonstrates how to format command output and how to create custom output elements.

- 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

This module explains Windows Management Instrumentation (WMI) and Common Information Model (CIM), and shows students how to retrieve and in some cases modify management information about local and remote computers.

- 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

This module prepares students for writing scripts with Windows PowerShell, covering the Windows PowerShell security model and the use of variables.

- Using Variables
- Scripting Security

Lab : Working with Security in Windows PowerShell

- Configure Security

Module 8: Moving From a Command to Script to Module

This module shows students how to take a command that runs well in the console and turn it into a parameterized, reusable script, and how to evolve that script into a standalone script module. Students will learn the foundations needed to create their own reusable tools.

- 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
- Parameterize 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 Parameterized Function
- Handle Multiple Targets
- Add Error Handling

Module 9: Administering Remote Computers

This module explains Windows PowerShell remoting, and shows students how to configure and use remoting to manage multiple remote computers.

- Using Basic Remoting
- Using Advanced Remoting Techniques



Scheda corso Automating Administration with Windows PowerShell®.
Per informazioni www.greensistemi.it info@greensistemi.it

- 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

This module offers students an opportunity to use everything they have learned so far. Students will discover, learn, and run commands that perform a complex, real-world administrative task.

- Provisioning a New Server Core Instance

Lab : Provisioning a New Server Core Installation

- Create a Parameterized 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

In this module students will learn to create and manage background jobs and scheduled jobs.

- Using Background Jobs
- Using Scheduled Jobs

Lab : Using Background Jobs and Scheduled Jobs

- Starting Jobs
- Managing Jobs
- Creating a Scheduled Job

Module 12: Using Profiles and Advanced PowerShell Techniques

This module covers a variety of additional advanced Windows PowerShell features and techniques including additional comparison operators, use of alternate credentials, creation of profile scripts, manipulation of strings and date objects.



Scheda corso Automating Administration with Windows PowerShell®.
Per informazioni www.greensistemi.it info@greensistemi.it

- 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