



Complete Computing, Inc.

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10961M: *Jump Start* - Automating Administration with Windows PowerShell®

Course length: 3 day(s)

Course Description

This three-day course provides students with the fundamental knowledge and skills to use Windows PowerShell for administering and automating administration of Windows-based desktops and servers. It focuses on primary Windows PowerShell command-line features and techniques, and will provide pre-requisite skills supporting a broad range of Microsoft products, including 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.

Jump Start

Complete Computing's "Jump Start" classes are special versions of our regular course counterpart. Jump Start classes are shorter in duration and are priced accordingly. In a Jump Start class, students will receive the full curriculum and for months after class, will have access to virtual machines to work through other parts of the material on their own time as needed.

Audience Profile

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, or 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, or Linux (a version of PowerShell is available via open-source) that supports Windows PowerShell manageability.

Students are not expected to have prior scripting or programming experience, and are not expected to have prior Windows PowerShell experience.

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 or 2017 and Windows 10 would be of benefit but is not essential.



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Performance-Based Objectives

Upon successful completion of 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

Course Content

Module 1: Getting Started with Windows PowerShell

- Understanding PowerShell's place within the Windows Management Framework
- Using both the ISE and Visual Studio Code Editor
- Understanding the "discoverable" nature of PowerShell
- Learning proper PowerShell syntax and style
- Using PowerShellGet and GitHub

Module 2: Working with the Pipeline

- What is the pipeline and why do I care?
- Taking advantage of PowerShell's object-oriented nature
- Selecting subsets of objects
- Using enumeration without having to write classical loops

Module 3: Formatting Output

- Getting Outted by PowerShell (Out noun options and PowerShell redirection)
- Using various PowerShell format options (Format noun syntax)

Module 4: Querying Management Information by Using WMI and CIM

- What is Windows Management Instrumentation and why do I care?
- Understanding the difference between WMI and CIM
- Discovering the hidden wealth of WMI classes
- Invoking methods using WMI or CIM



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Course Content – *Continued...*

Module 5: Moving from Command to Script to Module

- Understanding the art of PowerShell toolmaking
- Unlock the power of [CmdletBinding()]
- Adding syntactical sugar to your script modules
- Dealing with script scope
- Implementing basic error handling

Module 6: Administering Remote Computers

- Understanding the difference between remoting and remote connectivity
- Revealing your new favorite weapon – Invoke-Command
- Creating sessions and getting your work done faster

Module 7: Using Background Jobs and Scheduled Jobs

- Doing what the government can't – create jobs
- Using job syntax with PowerShell cmdlets or scripts
- Using PowerShell to schedule and manage jobs