



Hewlett Packard Enterprise

Course Datasheet

Automating Administration with Windows PowerShell® (10961)

Education Services course product number – H6C17S

Course length – 5 days

Delivery mode – Instructor Led Training (ILT)

Virtual Instructor Led Training (vILT)

Register – [Click here to go to HPE Learning Portal](#)

This five day course provides students with the fundamental knowledge and skills to use Windows PowerShell 4.0 for administering and automating administration of Windows based 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.

In this five day course you will learn to execute and monitor scripts more efficiently through more robust session connectivity, workflow capabilities, enhanced 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 4.0.

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 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.

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

Prerequisites

An ideal candidate for this course must have at least one year experience with deploying and administering multiple SharePoint Server 2013 farms across a large enterprise. The candidate should have completed Course 20339-1A: Planning and Administering Microsoft SharePoint 2016, or should demonstrate equivalent skills

Before attending this course, students must demonstrate the following skills:

- At least a one-year experience of mapping business requirements to both logical and physical technical designs.
- Working knowledge of network design, including network security.
- Software management experience in a Windows Server 2012 R2 enterprise server or Windows Server 2016 environment.
- Deploying and managing applications natively, virtually, and in the cloud.

Administering IIS.

- Configuring AD DS for use in authentication and authorization, and as a user store.
- Managing an application remotely by using Windows PowerShell 2.0 or later.
- Connecting applications to SQL Server.
- Implementing claims-based security.

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

Course Modules

- **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.
- **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.
- **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.
- **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.
- **Module 5: Formatting Output**
This module demonstrates how to format command output and how to create custom output elements.
- **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.
- **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.
- **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.
- **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.
- **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.
- **Module 11: Using Background Jobs and Scheduled Jobs**
In this module students will learn to create and manage background jobs and scheduled jobs.
- **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.