Szkolenie: Microsoft

MS-55039 Windows PowerShell Scripting and Toolmaking

Gold Microsoft Partner

DOSTĘPNE TERMINY

2025-05-12 | 5 dni | Kraków / Wirtualna sala
2025-06-09 | 5 dni | Warszawa / Wirtualna sala

Cel szkolenia:

This three- to five-day instructor-led is intended for IT professionals who are interested in furthering their skills in Windows PowerShell and administrative automation. The course assumes a basic working knowledge of PowerShell as an interactive command-line shell, and teaches students the correct patterns and practices for building reusable, tightly scoped units of automation.

After completing the course, students will be able to:

- Describe the correct patterns for building modularized tools in Windows PowerShell
- Build highly modularized functions that comply with native PowerShell patterns
- Build controller scripts that expose user interfaces and automate business processes

Audience profile:

This course is intended for administrators in a Microsoft-centric environment who want to build reusable units of automation, automate business processes, and enable less-technical colleagues to accomplish administrative tasks.

Plan szkolenia:

- Tool Design
  - Tools do one thing
  - Tools are flexible
  - Tools look native
- Start with a Command
  - Why start with a command?
  - Discovery and experimentation
- Build a Basic Function and Module
  - Start with a basic function
  - Create a script module

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- Check prerequisites
- Run the new command

- Adding CmdletBinding and Parameterizing
  - About CmdletBinding and common parameters
  - Accepting pipeline input
  - Mandatory-ness
  - Parameter validation
  - Parameter aliases
- Emitting Objects as Output
  - Assembling information
  - Constructing and emitting output
  - Quick tests
- Changing Your Approach
  - Examining a script
  - Critiquing a script
  - Revising the script
- Using Verbose, Warning, and Informational Output
  - Knowing the six channels
  - Adding verbose and warning output
  - Doing more with verbose output
  - Informational output
- Comment-Based Help
  - Where to put your help
  - Getting started
  - Going further with comment-based help
  - Broken help
- Handling Errors
  - Understanding errors and exceptions
  - Bad handling
  - Two reasons for exception handling
  - Handling exceptions in our tool
  - Capturing the actual exception
  - Handling exceptions for non-commands
  - Going further with exception handling
  - Deprecated exception handling
- Basic Debugging

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- Two kinds of bugs
- The ultimate goal of debugging
- Developing assumptions
- Write-Debug
- Set-PSBreakpoint
- The PowerShell ISE

- Going Deeper with Parameters
  - Parameter positions
  - Validation
  - Multiple parameter sets
  - Value from remaining arguments
  - Help messages
  - Aliases
  - More CmdletBinding
- Writing Full Help
  - External help
  - Using PlatyPs
  - Supporting online help
  - “About” topics
  - Making your help updatable
- Unit Testing Your Code
  - Sketching out the test
  - Making something to test
  - Expanding the test
  - Going further with Pester
- Extending Output Types
  - Understanding types
  - The Extensible Type System
  - Extending an object
  - Using Update-TypeData
- Analyzing Your Script
  - Performing a basic analysis
  - Analyzing the analysis
- Publishing Your Tools
  - Begin with a manifest
  - Publishing to PowerShell Gallery

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- Publishing to private repositories
- Basic Controllers: Automation Scripts and Menus
  - Building a menu
  - Using UIChoice
  - Writing a process controller
- Proxy Functions
  - A proxy example
  - Creating the proxy base
  - Modifying the proxy
  - Adding or removing parameters
- Working with XML Data
  - Simple: CliXML
  - Importing native XML
  - ConvertTo-XML
  - Creating native XML from scratch
- Working with JSON Data
  - Converting to JSON
  - Converting from JSON
- Working with SQL Server Data
  - SQL Server terminology and facts
  - Connecting to the server and database
  - Writing a query
  - Running a query
  - Invoke-SqlCmd
  - Thinking about tool design patterns
- Final Exam
  - Lab problem
  - Break down the problem
  - Do the design
  - Test the commands
  - Code the tool

Wymagania:

Before attending this course, students must have:

- Experience at basic Windows administration

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- Experience using Windows PowerShell to query and modify system information
- Experience using Windows PowerShell to discover commands and their usage
- Experience using WMI and/or CIM to query system information

Poziom trudności

Certyfikaty:

Certyfikat ukończenia **autoryzowanego kursu Microsoft**.

Prowadzący:

Microsoft Certified Trainer.

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