

PowerShell Advanced scripting



Purpose of the training

The training is addressed to:

- Administrator,
- HelpDesk,
- IT specialist

The training is addressed to IT specialists, who have experience in developing simple scripts and functions in PowerShell and administering Windows systems. „PowerShell Advanced scripting” training introduces participant to advanced level in developing scripts. Knowledge from MS 10961 – Automating Administration with Windows PowerShell and/or AZ-040 Automating Administration with Windows PowerShell” trainings is crucial for successful attendance in the training.

The equivalent of expired authorized training MS 10962 – Advanced Automated Administration with Windows PowerShell



Benefits of completing the training

- acquiring practical skills from developing advanced scripts and functions in practical skills of developing advanced scripts and functions in PowerShell
- developing scripts with graphical interface.

The course teaches how to develop more scalable and appropriate for more frequent use of advanced scripts, it shows how to create advanced functions (namely the ones which are capable to absorb information through the pipeline), script modules, extended parameters (validating information), how to use Microsoft.NET Framework classes while developing scripts, how to develop controllers and process XML files. During the training the following topics are discussed: Desired State Configuration and Just Enough Administration (JEA). The knowledge acquired at the training can be used to administer and automate Microsoft (Windows Servers, ActiveDirectory, Microsoft 365, Azure, ...)



Expected Listener Preparation

- Basic experience in administering doświadczenie w administrowaniu systemami Windows Server and Client systems, Active Directory.
- It is obligatory to have a skill of developing simple functions in Powershell.
- An ability to use English materials.
- Knowledge from MS 10961 – Automating Administration with Windows PowerShell course and/or AZ-040 Automating Administration with Windows PowerShell”



Training Language

- **Training:** English
- **Materials:** English



Training Includes

Training method:

- theory
- demos
- shared projects
- individual labs

theory quantity versus practice

- 50% theory
- 50% practice



Duration

5 days / 35 hours

Training agenda

1. Installing and configuring environment
 - Network configuration using PowerShell
 - PowerShell 7
 - git
 - Visual Studio Code
 - Installing and configuring Active Directory Domain Service
2. Creating advanced functions
 - Converting commands to advanced functions
 - developing script modules
 - defining attributes of parameters and validating entered data
 - creating functions which use several objects
 - creating functions which approve stream data
 - the use of functions returning complicated results
 - documenting functions with the use of embedded support
 - handling -Whatif and -Confirm parameters.
3. The use of REST API and Microsoft .NET Framework in PowerShell
 - The use of REST API
 - The use of Microsoft .NET Framework classes in PowerShell.
4. The use of XML and JSON files in PowerShell
 - Deciphering, manipulating and recording data in XML format
 - Working with data in JSON format
 - deciphering and manipulating data in non-standard formats
5. Fundamentals of developing script from GUI
 - Windows Forms
 - Windows Presentation Foundation (WPF)
6. Programming script controllers
 - developing script controllers
 - developing scripts of report generating controller
7. Error handling in Powershell
 - understanding error handling
 - developing scripts with error handling
8. Managing server configuration via Desired State Configuration and Just Enough Administration
 - A concept of Desired State Configuration
 - Creating and implementing DSC configuration.
 - Configuring and implementing JEA
9. Analysing and debugging existing scripts
 - Debugging in PowerShell
 - Analysing and debugging existing scripts