

Automating Administration with PowerShell



Purpose of the training

The training is intended for:

- **Administrator,**
- **HelpDesk,**
- **IT specialist**

The training is intended for IT specialists who have general experience with Windows Server and Windows Client administration, and who would like to know more about using Windows PowerShell and how to acquire skills necessary to support several Microsoft products, such as: Windows Server, Windows Client, Active Directory, Azure, Microsoft 365.

The training does not elaborate on any of the products mentioned above, in turn it takes a closer look at the issues related to Windows Server, which is a proper platform for the content discussed and is used to demonstrate techniques learned. The training does not require from participants a previous experience with any Windows PowerShell version – while the experience with any script language helps to understand the material. For those who do not have the experience with any script language we recommend „PowerShell Fundamentals”



Benefits of completing the training

- gaining practical skills of writing easy scripts and functions in PowerShell

The course equips participants with basic knowledge and skills of using Windows PowerShell, as well as focuses on base command line features and techniques.

The knowledge gained at the training can be used to:

administer
automate

administer Windows servers.

It also provides an ability to recognize and build commands required to perform a particular task. Moreover, the participants learn how to develop scripts to do more advanced tasks, such as automating repetitive tasks and generate reports.

The knowledge gained at the training can be used to administer and automate administration of Microsoft products (Windows Servers, ActiveDirectory, Microsoft 365, Azure, ...)



Expected Listener Preparation

- Basic experienced in administering Windows Server and Windows Client, Active Directory.
- It is required to have knowledge of any script language (it will simplify acquiring the knowledge).
- An ability to use English materials.
- To increase the comfort of work and training's effectiveness we suggest using an additional monitor. The lack of additional monitor does not exclude participation in the training, however, it significantly influences the comfort of work during classes



Training Language

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



Training Includes

- manual in electronic form available on the platform: <https://learn.microsoft.com/pl-pl/training/>
- access to Altkom Akademia's student portal



Duration

5 days / 35 hours

Training agenda

1. Introduction to Windows PowerShell
 - Discussing Windows PowerShell application
 - Syntax of Windows PowerShell commands
 - Searching for commands and obtaining support in Windows PowerShell application
2. Windows PowerShell to administer local systems
 - cmdlet command for Administering domain services in Active Directory
 - cmdlet commands to configure network
 - cmdlet commands for server administration
 - Windows PowerShell in Windows 10
3. Working with Windows PowerShell stream
 - Stream comprehension (Pipeline)
 - Choosing, sorting and measuring objects
 - Filtering objects
 - Calculating objects
 - Sending and transferring stream data as entry data
4. Using PSProviders and PSDrives
 - Using PSProviders
 - Using PSDrive
5. Performing queries related to management information with the use of CIM and WMI functions
 - Description of CIM and WMI models
 - Data query with the use of WMI and CIM
 - Introducing changes with the use of CIM and WMI
6. Working with variables, dashboards and shortcut dashboards
 - Using variables
 - Manipulating variables
 - Manipulating dashboards and shortcut dashboards
7. Windows PowerShell scripts
 - Introduction to writing scripts with the use of Windows PowerShell
 - Script constructions
 - Importing data from files
 - Accepting data entered by the user
 - Solving issues and handling errors
 - Functions and modules
8. Administering remote computers with the use of Windows PowerShell

- Using basic remote management
 - The use of advanced techniques of remote management
 - The use of PSSessions
9. Azure platform resources management with the use of PowerShell
- Azure PowerShell
 - Introduction to Azure Cloud Shell
 - Managing Azure platform virtual machines with the use of PowerShell
 - Managing disk space and subscriptions
10. Microsoft 365 platform services management with PowerShell
- Managing user accounts, licenses and Microsoft 365 platform groups using PowerShell
 - Exchange Online management with the use of PowerShell
 - SharePoint Online management with the use of PowerShell
 - Microsoft Teams management with the use of PowerShell
11. The use of background tasks and scheduled tasks
- The use of tasks performed in the background
 - The use of scheduled tasks