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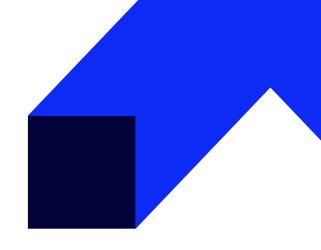
Automating Administration with Windows PowerShell

Training recipients

This course is intended for IT Professionals who are already experienced in general Windows Server and Windows Client administration, and who want to learn more about using Windows PowerShell for administration. No prior experience with any version of Windows PowerShell, or any scripting language, is assumed. This course is also suitable for IT Professionals already experienced in server administration, including Exchange Server, SharePoint Server, SQL Server, System Center, and others.

Benefits

After completing this course, students will be able to:

- Describe the functionality of Windows PowerShell and use it to run and find basic commands.
- Identify and run cmdlets for server administration.
- Describe the techniques Windows PowerShell pipeline uses.
- Use PSProviders and PSDrives to work with other forms of storage.
- Query system information by using WMI and CIM.
- Work with variables, arrays, and hash tables.
- Write basic scripts in Windows PowerShell.
- Write advanced scripts in Windows PowerShell.
- Administer remote computers.
- Use background jobs and scheduled jobs.
- Use advanced Windows PowerShell techniques.

Training program

1. Getting started with Windows PowerShell
   - Overview and background of Windows **PowerShell**

- Understanding command syntax
- Finding commands

2. Cmdlets for administration
   - Active Directory administration cmdlets
   - Network configuration cmdlets
   - Other server administration cmdlets

3. Working with the Windows PowerShell pipeline
   - Understanding the pipeline
   - Selecting, sorting, and measuring objects
   - Filtering objects out of the pipeline
   - Enumerating objects in the pipeline
   - Sending pipeline data as output

4. Understanding how the pipeline works
   - Passing the pipeline data
   - Advanced considerations for pipeline data

5. Using PSProviders and PSDrives
   - Using **PSProviders**
   - Using **PSDrives**

6. Querying system information by using WMI and CIM
   - Understanding WMI and CIM
   - Querying data by using **WMI** and **CIM**
   - Making changes with WMI/CIM

7. Working with variables, arrays, and hash tables
   - Using variables
   - Manipulating variables
   - Manipulating arrays and hash tables

8. Basic scripting
   - Introduction to scripting
   - Scripting constructs
   - Importing data from files

9. Advanced scripting
   - Accepting user input
   - Overview of script documentation
   - Troubleshooting and error handling
   - Functions and modules

10. Administering Remote Computers
    - Using basic Windows PowerShell remoting
    - Using advanced Windows PowerShell remoting technique
    - Using **PSSessions**

11. Using background jobs and scheduled jobs
    - Using background jobs

    - Using scheduled jobs
12. Using advanced Windows PowerShell techniques
    - Creating profile scripts
    - Using advanced techniques

Expected preparation of the participant

Prerequisites:
- Experience with Windows networking technologies and implementation.
- Experience with Windows Server administration, maintenance, and troubleshooting.
- Experience with Windows Client administration, maintenance, and troubleshooting

Students who attend this training can meet the prerequisites by obtaining equivalent knowledge and skills through practical experience as a Windows system administrator. No prerequisite courses are required.

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 Includes

- manual in electronic form available on the platform: https://www.altkomakademia.pl/
- access to Altkom Akademia's student portal

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Language

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