Course : PowerShell 5/4: Automating Windows administration

Practical course - 3d - 21h00 - Ref. ATU
Price : 2220 CHF E.T.

★★★★☆ 4,4 / 5

BEST

🎯 Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Write scripts in Windows with PowerShell 5.x
- ✓ Manage users with PowerShell scripts
- ✓ Automate administrative tasks in Windows with PowerShell
- ✓ Format output messages
- ✓ Use background processing and remote administration features

Certification

If registering for the AVIT® Automating Administration With Windows PowerShell certification option, you must do so at the same time as course registration. The exam is a multiple-choice test lasting one-and-a-half to two hours. The result indicates your skill level. Merely taking the course is not sufficient to achieve a maximum score. The exam must be both scheduled and then taken online within 4 weeks following the start of your session.

Practical details

Hands-on work
Discussions, experience-sharing, demonstrations, tutorials, and real cases.

Teaching methods
Active learning based on examples, demonstrations, experience-sharing, real cases, and an evaluation of what was learned from the training.

Course schedule

1 Basics of the language

- The connection between PowerShell and .NET.
- Principle, functionality, and usage of commands and cmdlets.
- Pipelines: Behavior of flows and configuring them. Code simplification, the pipelinevariable.
- Where-objects filters, foreach loops.
- Variables, types of operators.
- Windows ISE Version 5, a new scripting environment.

Hands-on work
Learn about and register for the AVIT® certification option. Using different cmdlets, using the pipe, the pipelinevariable. Using the first commands. Use of filters.

2 Types and operators

- Type system, conversion rules.
- Variables, definition, scope.
- Basic types.
- Regular expressions. Qualifier.
- Operators (arithmetical, assignment, logical, string, redirect. etc.).
- Comparators and collections.

Hands-on work
Using variables, operators, and regular expressions.

3 Control structures and functions

- Control structures using cmdlets.
- Conditional structures.
- for loop. while loop. foreach loop.
- Switch structure.
- Functions, scope modifiers.
- Execution phases of a function.
- Using functions in a pipeline.
- Passing arguments to a script.

Hands-on work
Implementing control structures. Using and configuring functions.

4 Using cmdlettes and modules

- Archive management (compress-archive, expand-archive).
- Web cmdlettes (invoke-webrequest, invoke-restmethod).
- Cmdlettes for managing your servers and workstations (add-computer, restart-computer).
- Network management cmdlettes (new-net*, get-net*, get-bgprouter, etc.).
- Administration cmdlettes (get-event, start-process, etc.).
- File management (get-content, tee-object, import-csv, convertto-html, and style sheets).

Hands-on work
Retrieving an RSS flow from the Internet. Creating a Web page with the use of a style sheet, a script for geolocating IP addresses connected to workstations. Modifying IP addresses remotely, incorporating a computer into a domain. Remote ZIP decompression.

5   Using CIM objects

- The CIM (Common Information Model) data model. CIM and WMI.
- New cmdlet for managing the WMi (get-cimstance, new-cimsession, etc.).
- Difference between get-wmiobject and get-ciminstance.
- Listing WMI classes, complete aid.
- Using WMI methods and properties (sharing a workstation, testing for the presence of machines on the network, etc.).

Hands-on work

Finding a workstation's shares. Remotely deleting applications, remotely editing a gateway. Retrieving information.

6   Using .NET and COM

- Using object libraries to manipulate the system's components.
- Using .NET classes (ping, udp, credential, etc.).
- System classes.
- PowerShell and the GUI: Introduction to XAML.

Hands-on work

Creating an XAML form. Creating a secure authentication script for connecting to servers, wake-on-LAN script.

7   Managing PowerShell V3 modules, packages

- How a module operates. Listing modules.
- The module DHCP, DNS, hyper-V.
- The Active Directory module.
- The commands: Find and install modules (find-module, install-module...).
- Package management.

Hands-on work

Creating a user in Active Directory, querying objects in Active Directory, installing a module loading on the Internet, settings.

8   Com objects

- Listing the available com objects.
- New performances of com objects.
- Creating and editing an Excel workbook.
- Opening a PowerPoint or Word file.

Hands-on work

Creating an Excel workbook, retrieving server data (disk space, IP, process, applications, etc.).

9   The best cmdlettes and PowerShell tips

- commands: get-random, get-process, get-service.
- Turning the text into an object (ConvertFrom-String).
- The Psedit command.
- Creating symbolic links (new-item).
- The basic commands get-filehash, get-disk, get-hotfix.
- Commands and variables: new-guid, new-smbshare, new-timespan.
- Online option: Schedule and take the AVIT® exam within 4 weeks.

Hands-on work

Creating a password generator. File integrity check, NTFS permission.
Generating a time counter, creating sharing.

Dates and locations

REMOTE CLASS

2026 : 4 Mar., 15 Apr., 20 May, 10 June, 10 June,
1 July, 5 Aug., 16 Sep., 16 Sep., 7 Oct., 4 Nov.,
2 Dec., 2 Dec.