

CR431E Introduction to PowerShell:

Documents to submit:

- A **PDF report** with all the answers in the form of a description of the answer **AND** screen captures. The PDF document must be submitted in Teams Assignment only. I am expecting a description of progression path (how you got there). Submission containing only screen capture will get a grade of zero.
- **Your PowerShell module « .psm1 » file and the « psd1 » manifest if you created**
- A short video description is optional but helpful if the code does not work.
- You can use a zip file to submit your psm1 and psd1 file if Teams refuses it but do not include the PDF report in the zip file. **Description:**

A PowerShell module is, in simple terms, a package of functions associated to a specific subject (i.e.: Active Directory management). The PowerShell commands are added via modules most of the time.

The user of a module can add the module's commands in their own PowerShell sessions or use them in their own script as regular native commands. To associate these functions about the same subject, a few rules must be respected, as the module name indicating its usage (ex: Active Directory Modules functions must interact with Active Directory). The names of the functions must also **respect PowerShell naming convention** by respecting the allowed PowerShell verbs and subjects (i.e. the Active Directory functions have a subject beginning with AD: get-ADUser). This facilitates searching of commands and helps to better organize commands inside PowerShell.

The objective of this homework is to build your own module about a daily use case of your own to install, modify, manage, create infrastructures (i.e.: virtual machines, disk space in an organisation, remote activation of services, network drive capacity, inactive accounts, same password usage, etc.). These tasks must be accomplished by the functions built into your PowerShell Module. You can include other modules if they help or augment your functions.

WARNING: Using menus inside the module is prohibited unless inside of a function. The importation of a module MUST NOT trigger user interactions.

Homework and report:

1. Describe your use cases, ex:
 - a. Creation and destruction of a VM in Azure or Hyper-V with all required parameters
 - b. Monitoring of server memory in your environment.
2. Description of the module installation when I'll download it.
3. Description of the dependencies of your module (what must be present for its operations)
4. Write your report for an IT junior to understand.
5. Describe the commands I can use and how I must use them for each of your functions, making sure to include all arguments in the report. For each function:

- a. How to use it,
- b. List of arguments,
- c. What is the use of each argument,
- d. Format of each argument,
- e. Describe the expected result,
- f. 1 or 2 example per function of how to use it.