



# Active Directory Scripting

*Summary: This project introduces you to PowerShell and ActiveDirectory scripting commands.*

*Version: 1.00*

# Contents

<b>I</b>	<b>Preamble</b>	<b>2</b>
<b>II</b>	<b>Introduction</b>	<b>3</b>
<b>III</b>	<b>Rules</b>	<b>4</b>
<b>IV</b>	<b>Mandatory part</b>	<b>5</b>
IV.1	AD installation scripts . . . . .	7
IV.2	Data base scripts . . . . .	7
IV.3	User scripts . . . . .	8
IV.4	Group scripts . . . . .	9
<b>V</b>	<b>Submission and peer-evaluation</b>	<b>11</b>

# Chapter I

## Preamble

This subject is the production of a partnership between 42 and [Microsoft Corporation](#).

Microsoft Corporation is an American multinational technology corporation headquartered in Redmond, Washington. Microsoft's best-known software products are the Windows line of operating systems, the Microsoft Office suite, and the Internet Explorer and Edge web browsers.

Through this partnership, we aim to provide you with a unique opportunity to simplify your journey towards obtaining certifications offered by Microsoft. These certifications hold significant value and recognition in the industry, enabling you to enhance your professional profile and unlock exciting career prospects in the field of security.

To access the Microsoft certification programs and explore the wide range of certificates available, you can visit the following link: [Microsoft Security Certification](#). This comprehensive platform offers extensive training resources and examinations covering various security-related topics.

By successfully completing the projects and earning Microsoft certifications, you will demonstrate your proficiency and expertise in security practices. These certifications serve as a testament to your skills and can open doors to exciting career opportunities.

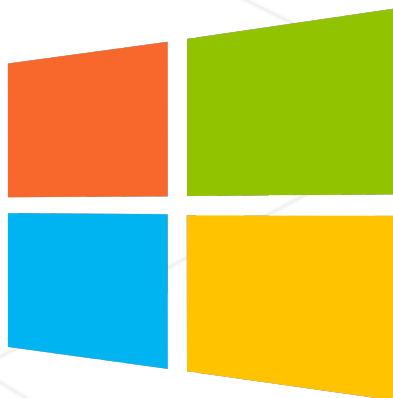


Figure I.1: <https://www.microsoft.com/>

# Chapter II

## Introduction



In partnership with Microsoft

Active Directory (AD) works not only through a graphical interface, as you may have experienced previously, but also efficiently through scripting using a powerful tool: PowerShell!

It's time to experiment with PowerShell to control your AD installation.

In this subject, you need to create scripts for various actions you perform by clicking buttons in the previous project. Why rely on graphical interfaces when you can achieve the same results by typing a few hundred characters and take pride in your well-crafted outcome?

You come to appreciate the power of scripting as well!



You're provided with a helper pdf, foundable inside the attachments of the subject.

It will show you how to access the VMs created for you to complete this subject, how to lock your VMs, etc.

# Chapter III

## Rules

- Every action in the subject/evaluation must be executed from a PowerShell terminal.
- Every script must be commented to explain what it is doing.
- You should find a way to open a pop-up and ask the user for any information they need to provide.

# Chapter IV

## Mandatory part

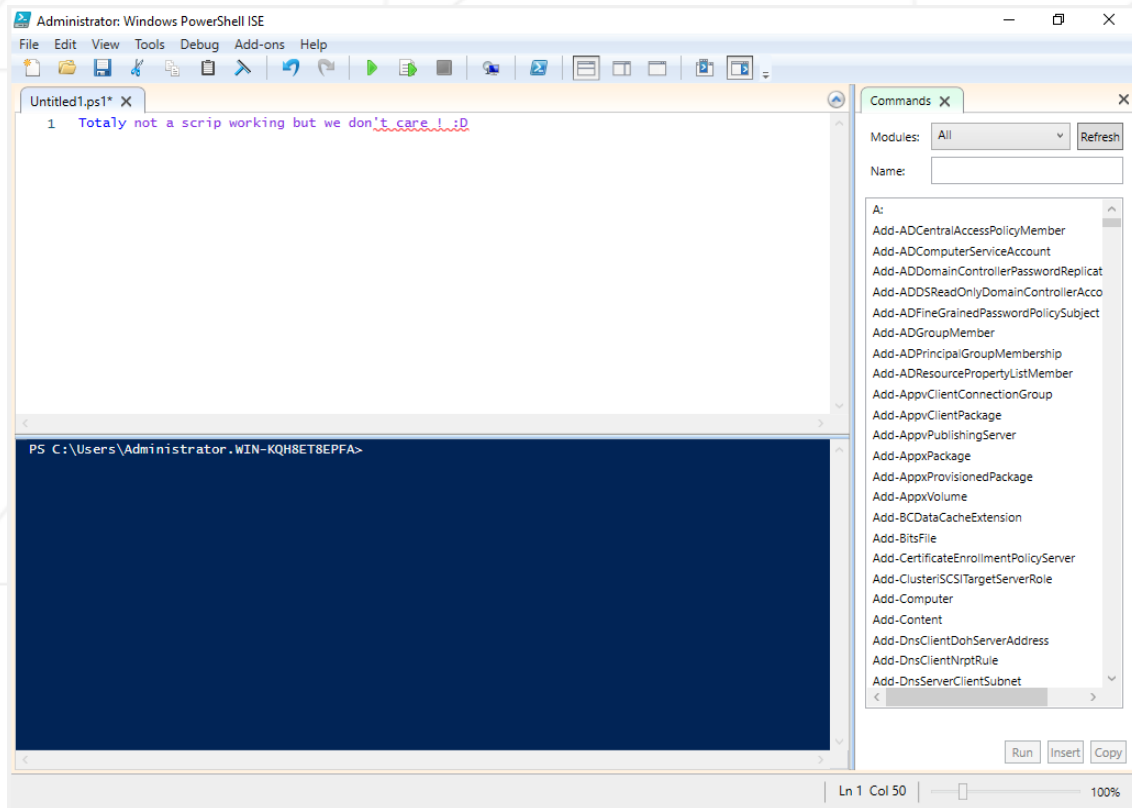
Domolia is very happy with the installation you have done of Active Directory but wants to have a "simpler" access to the features that the tool offers.

Domolia wants to have several scripts to perform operations on Active Directory.

Therefore, she provides you with the following list of actions to automate:

- AD installation and dependency.
- Server promotion via forest creation.
- Server promotion via existing domain connection.
- Database backup.
- Database loading.
- User creation.
- Reset password.
- Modification of an attribute off a user.
- Recovering information from a user.
- Retrieve information from all users.
- Creation of a group.
- Modification of an existing group.
- Creation of a distribution group.
- Add a user to the group.
- Remove a user from a group.
- Import members of group A into group B.
- Retrieve information from a group.

- List the members of a group.
- Retrieve information from all groups.



You should found the PowerShell ISE, a tool given by Microsoft.  
It's a powerfull editor devoted to PowerShell script.

## IV.1 AD installation scripts

Name	ADPackageInstaller.ps1
Description	Install ActiveDirectory and every dependencies needed for the domain controller role
Parameter	No parameter needed

Name	CreateNewForestDomainController.ps1
Description	Promote an AD server to Domain Controller by creating a new forest
Parameter	- DomainAddress - NetbiosName

Name	JoinExistingDomainController.ps1
Description	Promote an AD server to Domain Controller by joining an already existing domain controller
Parameter	- DomainAddress

## IV.2 Data base scripts

Name	SaveDataBase.ps1
Description	Create a data base to store every user and group from the Domain Controller
Parameter	- Path to save the result .CSV file - Desired delimiter - An undefined amount of parameter to compose the data base

Name	LoadDataBase.ps1
Description	Load a data base from a saving file
Parameter	- Path to .CSV file to load - File delimiter



## IV.3 User scripts

Name	UserCreation.ps1
Description	In hashtable or in specification  We assume that - mail address : name.surname@domaineName.com - Basic password : TotallyN0tSecure -> Change at the first co - UserPrincipalName : email address  The default password must not be written in clear text in the script
Parameter	- Account name - Organisation Unit to join - Desired group

Name	ResetUserPassword.ps1
Description	Reset the password of the desired user
Parameter	- Account name

Name	EditUserAttribute.ps1
Description	Modify an attribute of the user and set it to a new value
Parameter	- Account name - Attribute name - Desired value

Name	ReadUserInformation.ps1
Description	Retreive user information from the server
Parameter	- Account name - Filter the attribute to retrieve

Name	ReadDataBaseInformation.ps1
Description	Retreive every users informations from the server
Parameter	- Account name - Filter the attribute to retrieve

## IV.4 Group scripts

Name	CreateGroup.ps1
Description	Create a new group
Parameter	- Group name - Organisation unit - Group scope - Description

Name	ModifyGroup.ps1
Description	Edit a group by modifying one attribute to a desired value
Parameter	- Group name - Attribute to edit - New attribute value

Name	ListUserInGroup.ps1
Description	Retrieve an exhaustive list of user in the group
Parameter	- Group name

Name	CreateDistributionGroup.ps1
Description	Creation of a new distribution group to send emails to multiples users at once
Parameter	- Group name - Organisation unit - Group scope - Description

Name	AddUserToGroup.ps1
Description	Add a user to the desired group. The script should block if you want to add an unknown user.
Parameter	- User name - Group name

Name	RemoveUserToGroup.ps1
Description	Remove a user from the desired group. The script should block the deletion of an unknown user or a user who is not part of the group.
Parameter	- User name - Group name

Name	ImportGroup.ps1
Description	Import the content of a group inside another group
Parameter	- Origin group name - Destination group name

Name	ReadGroupInformation.ps1
Description	Retreive information(s) about a group. If no property name are given, the script must retrieve all properties
Parameter	- Group name - Optionnal : a property name

Name	ReadEveryGroupInformation.ps1
Description	Retreive information(s) from every group in the domain. If no property name are given, the script must retrieve all properties
Parameter	- Optionnal : a property name

# Chapter V

## Submission and peer-evaluation



You're provided with a helper pdf, foundable inside the attachments of the subject.

It will show you how to access the VMs created for you to complete this subject, how to lock your VMs, etc.

Once you've finish your assignment, you may lock your virtual machine, following the "Submission" section of the helper PDF. Note that, once locked, you will not be able to edit nor access your virtual machines anymore.

Note that, to ensure that your script work as intended, new freshly created VMs will be used during the evaluation.

So, be sure to have completly finished your work, as no modification non-requested by the scale will be acceptable during the evaluation !

In addition to locking the VMs, you're required to push onto your git repository every scripts you may have created, as they will be used during the correction.