



**Passerelles
numériques**
A Gateway for Life

Basic Microsoft System Administration

Lesson04: Basic Script in Domain Controller

What is Script in Domain Controller?



Objective

At the end of this lesson students will be able to:

- Introduction to Windows PowerShell
- Express PowerShell
- Define the PowerShell Syntax
- Install AD using PowerShell
- Apply script to Create Users, Groups, OUs



What is Windows PowerShell?

- **PowerShell** is a task based command-line shell and scripting language that Microsoft developed to help IT professionals configure systems and automate administrative tasks.
- Microsoft designed PowerShell to automate system tasks, such as batch processing, and to create systems management tools for commonly implemented processes.
- PowerShell, built on the .NET framework, offers several ways to automate tasks:
 - with [cmdlets](#), which are very small .NET classes that appear as system commands;



Name	ModuleName
Set-BCAuthentication	BranchCache
Set-BCCache	BranchCache
Set-BCDataCacheEntryMaxAge	BranchCache
Set-BCMinSMBLatency	BranchCache
Set-BCSecretKey	BranchCache
Set-ClusteredScheduledTask	ScheduledTasks
Set-DAClientExperienceConfiguration	DirectAccessClientComponents
Set-DAClientPointTableItem	DirectAccessClientComponents
Set-Disk	Storage
Set-DnsClient	DnsClient
Set-DnsClientGlobalSetting	DnsClient
Set-DnsClientNrptGlobal	DnsClient
Set-DnsClientNrptRule	DnsClient
Set-DnsClientServerAddress	DnsClient
Set-DtcAdvancedHostSetting	MsDtc
Set-DtcAdvancedSetting	MsDtc
Set-DtcClusterDefault	MsDtc
Set-DtcClusterTMMapping	MsDtc
Set-DtcDefault	MsDtc
Set-DtcLog	MsDtc
Set-DtcNetworkSetting	MsDtc
Set-DtcTransaction	MsDtc
Set-DtcTransactionsTraceSession	MsDtc
Set-DtcTransactionsTraceSetting	MsDtc
Set-InitiatorPort	Storage
Set-iSCSIChapSecret	iSCSI
Set-LogProperties	PSDiagnostics
Set-MMAgent	MMAgent
Set-NetPolicyConfiguration	NetworkConnectivityStatus
Set-Net6to4Configuration	NetworkTransition
Set-NetAdapter	NetAdapter
Set-NetAdapterAdvancedProperty	NetAdapter
Set-NetAdapterBinding	NetAdapter
Set-NetAdapterChecksumOffload	NetAdapter

History of Windows PowerShell

	2.0	3.0	4.0	5.1
Windows XP	Available	No	No	No
Windows Server 2003	Available	No	No	No
Windows Vista	Available	No	No	No
Windows Server 2008	Available	Available with SP2	No	No
Windows 7	Installed	Available with SP1	Available	Available
Windows Server 2008 R2	Installed	Available with SP2	Available	Available
Windows 8	No	Installed	Available	Available
Windows Server 2012	No	Installed	Available	Available
Windows 8.1 and Windows Server 2012 R2	No	No	Installed	Available
Windows 10 Anniversary Edition and Windows Server 2016	No	No	No	Installed

Why PowerShell?

- Microsoft Product will eventually use it.
- Many add-on products will base on Powershell.
- Many GUIs are PowerShell front end.
- Manage your domain



What can it do?

- Enable you to perform via script virtually any you can do it in the GUI for your local or remote Windows operating system and your computers.
- You can script and automate day-to-day administrative tasks.



Determine the PowerShell Syntax

Windows PowerShell **cmdlet** Syntax

- Get
- New
- Set
- Restart
- Resume
- Stop
- Suspend
- Clear
- Limit
- Remove
- Add
- Show
- Write

Windows PowerShell Cmdlet Syntax:

- Get-Help -Noun
NounName
- Get-Help -Verb
VerbName
- Help *CmdletName*
- Get-Command

Capability	Name
CIM	Set-BCAuthentication
CIM	Set-BCCache
CIM	Set-BCDataCacheEntryMaxAge
CIM	Set-BCMinSMBLatency
CIM	Set-BCSecretKey
CIM	Set-ClusteredScheduledTask
CIM	Set-DAClientExperienceConfiguration
CIM	Set-DAEntryPointTableItem
CIM	Set-Disk
CIM	Set-DnsClient
CIM	Set-DnsClientGlobalSetting
CIM	Set-DnsClientNrptGlobal
CIM	Set-DnsClientNrptRule
CIM	Set-DnsClientServerAddress
CIM	Set-DtcAdvancedHostSetting
CIM	Set-DtcAdvancedSetting
CIM	Set-DtcClusterDefault
CIM	Set-DtcClusterTMMapping
CIM	Set-DtcDefault
CIM	Set-DtcLog

Determine the PowerShell Syntax

Definition of each **Cmdlet**

- **Get-Service**. View the properties of a service.
- **New-Service**. Creates a new service.
- **Restart-Service**. Restarts an existing service.
- **Resume-Service**. Resumes a suspended service.
- **Set-Service**. Configures the properties of a service.
- **Start-Service**. Starts a stopped service.
- **Stop-Service**. Stops a running service.
- **Suspend-Service**. Suspends a service

Determine the PowerShell Syntax

We can using command below for help to know more syntax:

```
#Get-Help Set-ADUser -Detailed  
#Get-Help Set-ADUser -Examples  
#Get-Help Set-ADUser -full
```

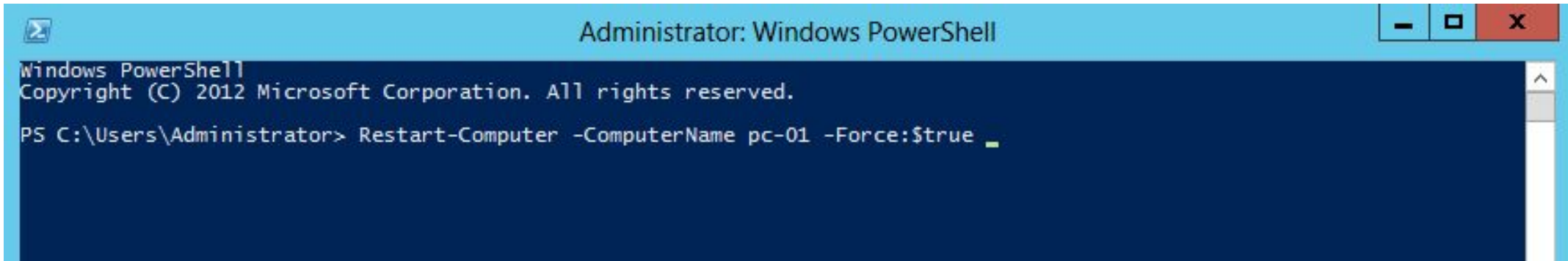
REMARKS

```
To see the examples, type: "get-help Set-ADUser -examples".  
For more information, type: "get-help Set-ADUser -detailed".  
For technical information, type: "get-help Set-ADUser -full".  
For online help, type: "get-help Set-ADUser -online"
```

Determine the PowerShell Syntax

- We can using script on PowerShell to remote control other computer in the Network, but all Server and Client that we control need to join domain or member of Domain Controller.

Restart-Computer -computerName "PC-01" -force:\$true



```
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) 2012 Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> Restart-Computer -ComputerName pc-01 -Force:$true
```

Implement Install AD by using Script

We can install Domain Controller (AD DS) by using Powershell script below is the script to install AD DS:

```
# Get-WindowsFeature  
# Install-WindowsFeature -Name AD-Domain-Services  
  -IncludeManagementTools  
# Install-ADDSForest -CreateDnsDelegation:$false  
  -DomainName "itcambodia.com"  
  -DatabasePath "C:\Windows\NTDS"  
  -DomainMode "Win2012" -InstallDns:$true  
  -LogPath "C:\Windows\NTDS"  
  -NoRebootOnCompletion:$false  
  -SysvolPath "C:\Windows\SYSVOL" -Force:$true
```

Using Windows PowerShell cmdlets to manage User Account

Cmdlet	Description
New-ADUser	Creates user accounts
Set-ADUser	Modifies properties of user accounts
Remove-ADUser	Deletes user accounts
Set-ADAccountPassword	Resets the password of a user account
Set-ADAccountExpiration	Modifies the expiration date of a user account
Unlock-ADAccount	Unlocks a user account after it has become locked after too many incorrect sign in attempts
Enable-ADAccount	Enables a user account
Disable-ADAccount	Disables a user account

```
New-ADUser "Sten Faerch" –AccountPassword (Read-Host  
–AsSecureString "Enter password") -Department IT
```

Using Windows PowerShell cmdlets to manage Group

Cmdlet	Description
New-ADGroup	Creates new groups
Set-ADGroup	Modifies properties of groups
Get-ADGroup	Displays properties of groups
Remove-ADGroup	Deletes groups
Add-ADGroupMember	Adds members to groups
Get-ADGroupMember	Displays membership of groups
Remove-ADGroupMember	Removes members from groups
Add-ADPrincipalGroupMembership	Adds group membership to objects
Get-ADPrincipalGroupMembership	Displays group membership of objects
Remove-ADPrincipalGroupMembership	Removes group membership from an object

```
New-ADGroup -Name "CustomerManagement" -Path "ou=managers,dc=adatum,dc=com"
-GroupScope Global
-GroupCategory Security
```

```
Add-ADGroupMember -Name "CustomerManagement"
-Members "Joe"
```

Using Windows PowerShell cmdlets to manage Computer Account

Cmdlet	Description
New-ADComputer	Creates new computer accounts
Set-ADComputer	Modifies properties of computer accounts
Get-ADComputer	Displays properties of computer accounts
Remove-ADComputer	Deletes computer accounts
Test-ComputerSecureChannel	Verifies or repairs the trust relationship between a computer and the domain
Reset-ComputerMachinePassword	Resets the password for a computer account

```
New-ADComputer -Name "LON-SVR8" -Path  
"ou=marketing,dc=adatum,dc=com" -Enabled $true
```

```
Test-ComputerSecureChannel -Repair
```

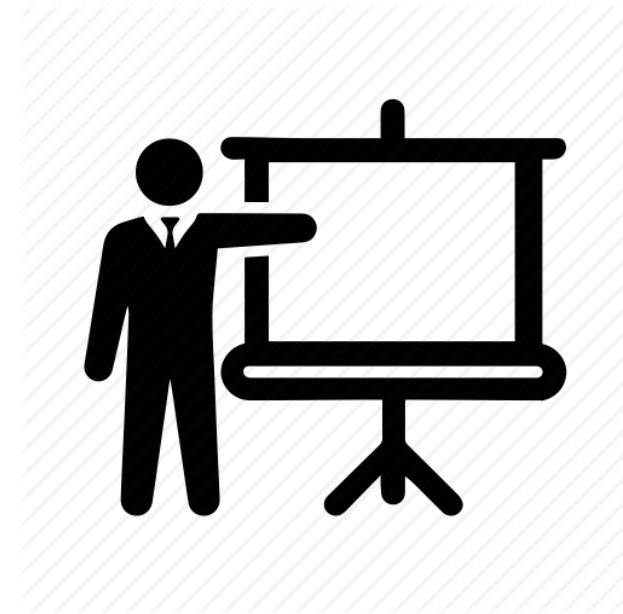
Using Windows PowerShell cmdlets to manage OUs

Cmdlet	Description
New-ADOrganizationalUnit	Creates OUs
Set-ADOrganizationalUnit	Modifies properties of OUs
Get-ADOrganizationalUnit	Views properties of OUs
Remove-ADOrganizationalUnit	Deletes OUs

```
New-ADOrganizationalUnit -Name "Sales"  
-Path "ou=marketing,dc=adatum,dc=com"  
-ProtectedFromAccidentalDeletion $true
```


Demonstration

- Instructor Will demonstrate how to install Domain Controller (AD DS) by using PowerShell Script
- Add Role/Feature name **AD-Domain-Services**
- Promote Server to AD DS by using PowerShell Script



Practice

In this practice students will be able to practice how to install and Promote Server to Domain Controller.

- Add Roles/Feature by using Windows PowerShell
- Promote Server by using PowerShell Script



Using DSADD Tool to Manage AD object

Dsadd is a command-line tool that is built into Windows Server 2008 or later version. It is available if you have the Active Directory Domain Services (AD DS) server role installed.

Related Command line:

- **DSADD** : Add object
- **DSMOD** : Modify object
- **DSGET** : Display object
- **DSQUERY** : Search for objects
- **DSMOVE** : Move object
- **DSRM** : Delete object



Using DSADD Tool to Manage AD object

What kind of object that DSADD can be added to DC?

- DSADD Computer
- DSADD Contact
- DSADD Group
- DSADD OU
- DSADD Quota
- DSADD User



More resource:

<https://docs.microsoft.com/en-us/previous-versions/windows/it-pro/windows-server-2012-r2-and-2012/cc731279%28v%3dws.11%29>

Using DSADD Tool to Manage AD object

Syntax to create **User account** by command line:

dsadd user < UserDN > < Options >

Options:

```
[-fn FirstName] [-mi Initial] [-ln LastName] [-display DisplayName]
[-empid EmployeeID] [-pwd {Password | *}] [-desc Description] [-memberof Group ...]
[-office Office]
[-tel PhoneNumber] [-email Email] [-hometel HomePhoneNumber]
[-pager PagerNumber] [-mobile CellPhoneNumber] [-fax FaxNumber]
[-iptel IPPhoneNumber] [-webpg WebPage] [-title Title] [-dept Department]
[-company Company] [-mgr ManagersDistinguishedName] [-hmdir HomeDirectory]
[-hmdrv DriveLetter:] [-profile ProfilePath] [-loscr ScriptPath]
[-mustchpwd {yes | no}] [-canchpwd {yes | no}] [-reversiblepwd {yes | no}]
[-pwdneverexpires {yes | no}] [-acctexpires NumberOfDays] [-disabled {yes | no}]
[{-s Server | -d Domain}] [-u UserName] [-p {Password | *}]
```

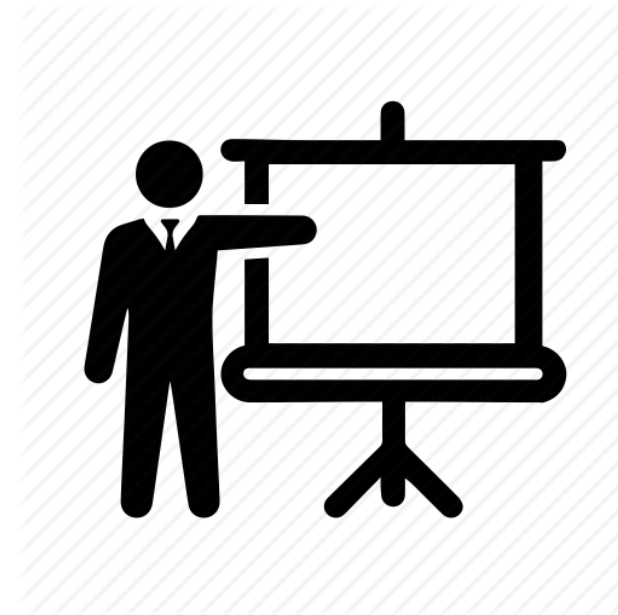
Using DSADD Tool to Manage AD object

Example of using command line to create users:

- dsadd user "cn=fred,ou=staff,dc=ss64,dc=com"
- dsadd user "cn=JohnS,cn=users,dc=ss64,dc=com" -fn "john" -ln "Smith" -disabled no
- dsadd user
cn=Sojita.En,ou=ClassA,ou=Promo2019,ou=Students,ou=Users,ou=PNC,
dc=pnc,dc=lan -samid Sojita.En -email
Sojita.En@student.passerellesnumeriques.org -fn Sojita -ln En -display
Sojita.En -pwd 1234567 -mustchpwd yes -office B13 -desc Students2019

Demonstration

- Instructor Will demonstrate how:
 - Create user account by using DSADD
 - Modify user account by user DSMOD
 - Create multiple user by run script on Windows server



Practice

In this practice students will be able to practice how to manage and modify Domain Controller.

- Create user account by using DSADD
- Modify user account by user DSMOD
- Create multiple user by run script on Windows server



Any Questions?

