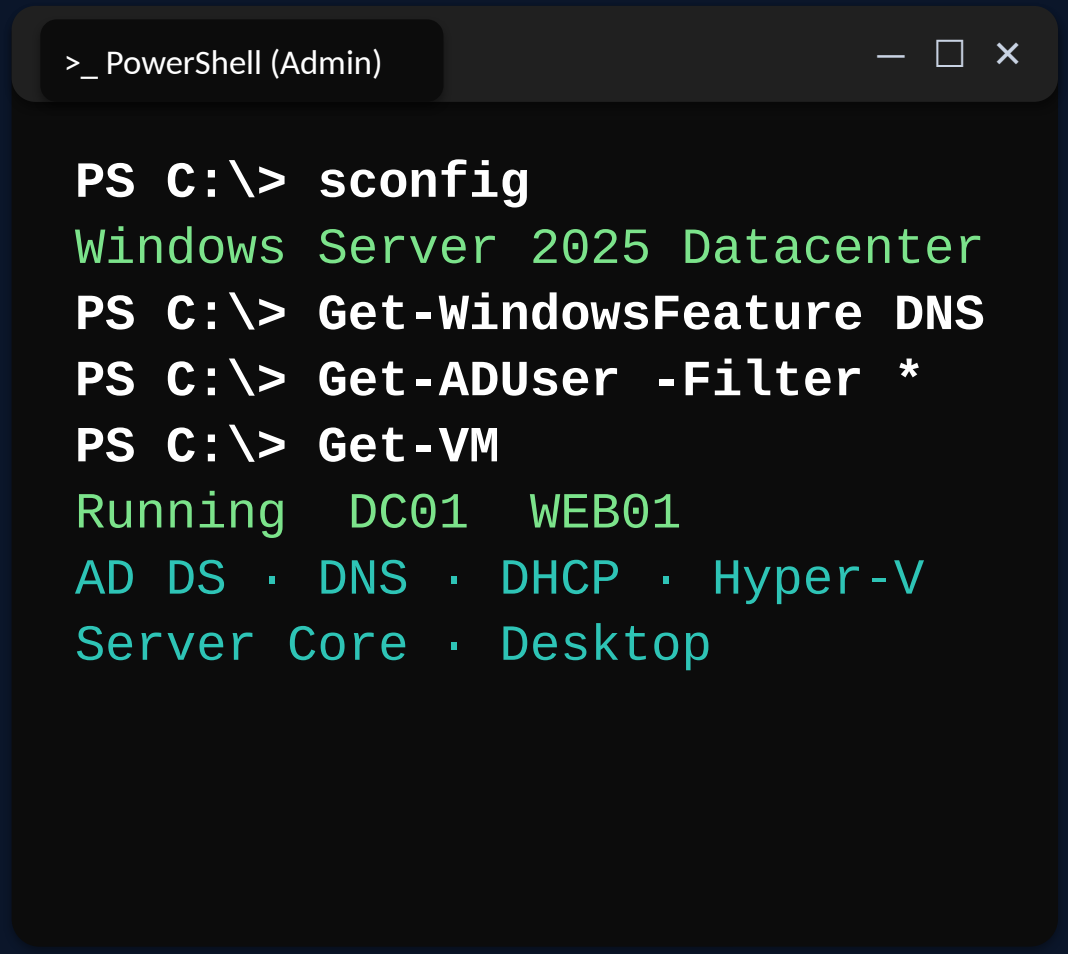


LESSON 6 OF 12

Windows Server 2025

Install · AD · Hyper-V · Admin

Group Policy in the Domain

Full Course · Windows Server 2025 (build 26100)

What You Will Learn in Lesson 6

- Group Policy Objects: computer vs user settings, policies vs preferences
- Where GPOs apply: sites, domain, OUs — and the LSDOU order
- Inheritance, Block Inheritance, Enforced and security filtering
- Creating and linking GPOs in GPMC and PowerShell
- Useful GPOs: security, drive maps, updates, USB, LAPS
- Troubleshooting with gpresult and RSoP
- Backups, the central store and best practices

Group Policy Concepts

Concept	Meaning
GPO	A Group Policy Object: a named set of settings
Computer Configuration	Applies to computers, at startup and every refresh
User Configuration	Applies to users, at sign-in and every refresh
Policies	Enforced settings; users cannot change them
Preferences	Default settings users may change: drives, printers, shortcuts
Administrative Templates	ADMX files describing registry-based settings
Link	Connects a GPO to a site, the domain, or an OU

Order of Processing: LSDOU

Order	Level	Example
1	Local	The computer's own local policy
2	Site	Rarely used; location-based settings
3	Domain	Default Domain Policy: passwords, lockout
4	OU (parent → child)	LAB → Computers → Workstations
Rule	Last applied wins	A child OU setting overrides the domain setting
Exceptions	Enforced; Block Inheritance	Enforced beats Block Inheritance

Filtering and Refresh

Topic	What to know
Security filtering	Apply a GPO only to members of a group (Authenticated Users by default)
WMI filtering	Apply only if a query is true, e.g., only laptops or only Windows 11
Item-level targeting	Preferences only: target a group, OS, IP range, and more
Refresh interval	Every 90 minutes ± 30 for members; every 5 minutes on DCs
Some settings	Software install, folder redirection: only at restart or sign-in
Force now	gpupdate /force, or Invoke-GPUpdate from the server

Create and Link GPOs with PowerShell

```
PS C:\> Import-Module GroupPolicy                    # gpmc.msc is the GUI
PS C:\> $ws = 'OU=Workstations,OU=Computers,OU=LAB,DC=lab,DC=mywebuniversity,DC=local'
PS C:\> New-GPO -Name 'WS - Windows Update' -Comment 'Update settings for workstations'
PS C:\> Set-GPRegistryValue -Name 'WS - Windows Update' `
           -Key 'HKLM\SOFTWARE\Policies\Microsoft\Windows\WindowsUpdate\AU' `
           -ValueName NoAutoRebootWithLoggedOnUsers -Type DWord -Value 1
PS C:\> New-GPLink -Name 'WS - Windows Update' -Target $ws

PS C:\> Get-GPInheritance -Target $ws        # which GPOs apply, in what order
PS C:\> Get-GPO -All | Select-Object DisplayName, GpoStatus, ModificationTime
```

Useful GPOs for a School or Office

GPO	Where in the editor
Password and lockout	Default Domain Policy > Computer > Policies > Windows Settings > Security
Map drive S:	User > Preferences > Windows Settings > Drive Maps (target a group)
Block USB storage	Computer > Admin Templates > System > Removable Storage Access
Windows Update	Computer > Admin Templates > Windows Components > Windows Update
Windows LAPS	Computer > Admin Templates > System > LAPS
Defender, firewall, BitLocker	Computer > Admin Templates > Windows Components / Windows Settings > Security

Lab: Central Store, LAPS Policy and a Drive Map

```
# 1. Central store: one shared copy of the ADMX templates in SYSVOL
PS C:\> Copy-Item C:\Windows\PolicyDefinitions `
          \\lab.mywebuniversity.local\SYSVOL\lab.mywebuniversity.local\Policies\ -Recurse

# 2. New GPO 'WS - LAPS' linked to Workstations, then in gpmc.msc edit:
#    Computer > Policies > Admin Templates > System > LAPS >
#    'Configure password backup directory' = Enabled: Active Directory

# 3. New GPO 'USR - Teachers Drive' linked to Staff OU:
#    User > Preferences > Windows Settings > Drive Maps > New > S: \\SRV01\Teachers
#    Common tab > Item-level targeting > Security Group = LAB\GG_Teachers
PS C:\> Invoke-GPUpdate -Computer CL01 -Force
```

Troubleshooting Group Policy

```
C:\> gpresult /r                                        # summary: applied and filtered GPOs
C:\> gpresult /h C:\Reports\gp-CL01.html /f              # full HTML report (admin)
C:\> gpupdate /force

PS C:\> Get-GPResultantSetOfPolicy -Computer CL01 -User LAB\mahmadi `
           -ReportType Html -Path C:\Reports\rsop.html
PS C:\> Get-WinEvent -LogName 'Microsoft-Windows-GroupPolicy/Operational' -MaxEvents 20

# Checklist: Is the GPO linked? Enabled? Right OU? Security filter? WMI filter?
#            Computer vs User half? Replicated to all DCs? Needs a restart?
```

Back Up, Report and Restore GPOs

```
PS C:\> New-Item C:\GPOBackups -ItemType Directory
PS C:\> Backup-GPO -All -Path C:\GPOBackups
PS C:\> Get-GPOReport -All -ReportType Html -Path C:\Reports\all-gpos.html

PS C:\> Restore-GPO -Name 'WS - Windows Update' -Path C:\GPOBackups
PS C:\> Copy-GPO -SourceName 'WS - Windows Update' -TargetName 'TEST - Windows Update'

PS C:\> Get-GPO -All | Where-Object {                    # GPOs with no links
            -not ([xml](Get-GPOReport -Guid $_.Id -ReportType Xml)).GPO.LinksTo } |
            Select-Object DisplayName
```

Group Policy Best Practices

- Leave the Default Domain Policy for passwords and lockout only
- One purpose per GPO, with clear names: 'WS - …', 'USR - …', 'SRV - …'
- Link to OUs, not the domain, whenever possible
- Test on a TEST OU first, then link to production
- Avoid Block Inheritance and Enforced unless you must
- Back up weekly; start from Microsoft security baselines

Summary & Homework

- GPO = computer half + user half; policies enforce, preferences suggest
- LSDOU: last applied wins; Enforced and Block Inheritance are exceptions
- New-GPO, Set-GPRegistryValue, New-GPLink, Get-GPInheritance
- Troubleshoot with gpresult /r, /h and the GroupPolicy log
- Homework: create the central store, LAPS GPO and S: drive map
- Homework: back up all GPOs and create an HTML report

Thank You! 🙏

Free videos & PDFs: www.MyWebUniversity.com

Slides for this lesson: MyWebUniversity.com/presentations

YouTube: @MyWebUniversity · @MyWebUniversity-Dari

Wahidullah Lutfy — Founder and Director of IT of MyWebUniversity, and CS teacher

Book: The Direct Path to Linux Ubuntu (Amazon · Barnes & Noble)

Learn it, then pass it on.