



This lab focuses on the implementation, management, and troubleshooting of Group Policy Objects (GPOs) in a domain environment.

Lab Assignment 2 (Part III) -
GPO
420-636-AB-Network Installation
and Administration II

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Lab Assignment 2 (Part III) – GPO

1 Lab Objective

This lab focuses on the **implementation, management, and troubleshooting of Group Policy Objects (GPOs)** in a domain environment.

The tasks will cover domain-based GPOs, **GPO storage and replication, common GPO management operations, policy modeling, and delegation of GPO administration**

2 Lab Environment Requirements

- **DC101:** Domain Controller with Active Directory, DNS, and Group Policy Management installed.
- **DC201:** Domain Controller Replica.
- **Client1:** Windows 11 client machine joined the domain.

3 Task 1: Understanding Domain-Based

3.1 Objectives

To locate and identify all existing domain-based GPOs and understand their linking structure within the Group Policy Management Console (GPMC).

3.2 Requirements

- Open **Group Policy Management Console (GPMC)**.
- Identify existing domain-based GPOs and their **link locations**.
- Delete both **Default Domain Policy** and **Default Domain Controllers Policy**.
- Restore both policies using **PowerShell**.
- Using **GPMC**, turn off Local GPO processing.

3.3 On DC101

Open Group Policy Management Console (GPMC).

1. Identify existing domain-based GPOs and their **link locations**.
 - a) In the left-hand pane of the GPMC, expand your Active Directory forest (vlabs1.com).
 - b) Further expand the Domains node, and then expand your specific domain (vlabs1.com).
2. Click on the Group Policy Objects folder. This folder lists all GPOs that have been created in your domain, regardless of where they are linked.

The screenshot shows the Group Policy Management console with the following details:

- Left pane (Navigation):** Shows the navigation tree under "Forest: vlabs1.com" with "Domains" expanded, showing various OUs like Accounting, Call Center, etc.
- Right pane (Content):** Titled "Group Policy Objects in vlabs1.com". It has tabs "Contents" and "Delegation". The "Contents" tab is selected, displaying a list of GPOs with columns: Name, GPO Status, WMI Filter, Modified, and Owner. A red box highlights the list of GPOs.
- List of GPOs:**

Name	GPO Status	WMI Filter	Modified	Owner
AllowRegistryAccess	Enabled	None	5/22/2025 2:26:34 PM	Domain Admins (VLABS1\Domain Admins)
DC301_Teams_installation	Enabled	None	5/26/2025 2:16:00 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Controllers Policy	Enabled	None	5/20/2025 3:30:26 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Policy	Enabled	None	5/24/2025 5:28:06 PM	Domain Admins (VLABS1\Domain Admins)
DisableControlPanel	Enabled	None	5/22/2025 1:02:20 AM	Domain Admins (VLABS1\Domain Admins)
NoRecycleBin	Enabled	Windows11	5/22/2025 12:19:12 PM	Domain Admins (VLABS1\Domain Admins)
OpenSSHAuth	Enabled	None	5/25/2025 12:45:44 AM	Domain Admins (VLABS1\Domain Admins)
Public_Share	Enabled	None	5/26/2025 4:55:06 AM	Domain Admins (VLABS1\Domain Admins)
RestrictRegistryAccess	Enabled	None	5/21/2025 9:14:48 PM	Domain Admins (VLABS1\Domain Admins)
RestrictTeamsStarting	Enabled	None	5/23/2025 10:52:16 AM	Domain Admins (VLABS1\Domain Admins)
SharedUserData	Enabled	None	5/25/2025 7:18:30 PM	Domain Admins (VLABS1\Domain Admins)

3. Identify GPO Link Locations:

To see where a specific GPO is linked:

- In the **Group Policy Objects** folder, click on a GPO (e.g., Default Domain Policy).
- In the right-hand pane, click on the **Links** tab. This tab will show you all the Active Directory containers (domains, OUs, or sites) where this GPO is currently linked.

The screenshot shows the Group Policy Management console with the following details:

- Left pane (Navigation):** Shows the navigation tree under "Forest: vlabs1.com" with "Domains" expanded, showing various OUs like Accounting, Call Center, etc.
- Right pane (Content):** Titled "Group Policy Objects in vlabs1.com". It has tabs "Contents" and "Delegation". The "Contents" tab is selected, displaying a list of GPOs with columns: Name, GPO Status, WMI Filter, Modified, and Owner.
- List of GPOs:**

Name	GPO Status	WMI Filter	Modified	Owner
AllowRegistryAccess	Enabled	None	5/22/2025 2:26:34 PM	Domain Admins (VLABS1\Domain Admins)
DC301_Teams_installation	Enabled	None	5/26/2025 2:16:00 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Controllers Policy	Enabled	None	5/20/2025 3:30:26 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Policy	Enabled	None	5/24/2025 5:28:06 PM	Domain Admins (VLABS1\Domain Admins)
DisableControlPanel	Enabled	None	5/22/2025 1:02:20 AM	Domain Admins (VLABS1\Domain Admins)
NoRecycleBin	Enabled	Windows11	5/22/2025 12:19:12 PM	Domain Admins (VLABS1\Domain Admins)
OpenSSHAuth	Enabled	None	5/25/2025 12:45:44 AM	Domain Admins (VLABS1\Domain Admins)
Public_Share	Enabled	None	5/26/2025 4:55:06 AM	Domain Admins (VLABS1\Domain Admins)
RestrictRegistryAccess	Enabled	None	5/21/2025 9:14:48 PM	Domain Admins (VLABS1\Domain Admins)
RestrictTeamsStarting	Enabled	None	5/23/2025 10:52:16 AM	Domain Admins (VLABS1\Domain Admins)
SharedUserData	Enabled	None	5/25/2025 7:18:30 PM	Domain Admins (VLABS1\Domain Admins)

To see which GPOs are linked to a specific container:

- In the left-hand pane, click on your domain (vlabs1.com) or the **Domain Controllers** Organizational Unit (OU).
- In the right-hand pane, click on the **Linked Group Policy Objects** tab. This tab will display a list of all GPOs that are directly linked to that specific container.

Group Policy Management

File Action View Window Help

Group Policy Management

Forest: vlabs1.com

Domains

- vlabs1.com
 - Default Domain Policy
 - Public_Share
 - Accounting
 - Call Center
 - Domain Controllers
 - Engineering

vlabs1.com

Status Linked Group Policy Objects Group Policy Inheritance Delegation

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	Default Domain Policy	No	Yes	Enabled	None	5/24/2025 5:28:06 PM	vlabs1.com
2	Public_Share	No	Yes	Enabled	None	5/26/2025 4:55:06 AM	vlabs1.com

Accounting does not have any GPO linked

Group Policy Management

File Action View Window Help

Group Policy Management

Forest: vlabs1.com

Domains

- vlabs1.com
 - Default Domain Policy
 - Public_Share
 - Accounting
 - Call Center

Accounting

Linked Group Policy Objects Group Policy Inheritance Delegation

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain

Call Centre

Group Policy Management

File Action View Window Help

Group Policy Management

Forest: vlabs1.com

Domains

- vlabs1.com
 - Default Domain Policy
 - Public_Share
 - Accounting
 - Call Center
 - Domain Controllers

Call Center

Linked Group Policy Objects Group Policy Inheritance Delegation

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	NoRecycleBin	No	Yes	Enabled	Windows11	5/22/2025 12:19:12 PM	vlabs1.com

Domain Controllers

Group Policy Management

File Action View Window Help

Group Policy Management

Forest: vlabs1.com

Domains

- vlabs1.com
 - Default Domain Policy
 - Public_Share
 - Accounting
 - Call Center
 - Domain Controllers
 - Default Domain Controllers Policy
 - OpenSSHAUTH
 - Engineering

Domain Controllers

Linked Group Policy Objects Group Policy Inheritance Delegation

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	Default Domain Controllers Policy	No	Yes	Enabled	None	5/20/2025 3:30:27 AM	vlabs1.com
2	OpenSSHAUTH	No	Yes	Enabled	None	5/25/2025 12:45:44 AM	vlabs1.com

Engineering

Group Policy Management

File Action View Window Help

Group Policy Management

Forest: vlabs1.com

Domains

- vlabs1.com
 - Default Domain Policy
 - Public_Share
 - Accounting
 - Call Center
 - Domain Controllers
 - Default Domain Controllers Policy
 - OpenSSHAUTH
 - Engineering
 - Finance

Engineering

Linked Group Policy Objects Group Policy Inheritance Delegation

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	RestrictTeamsStarting	No	Yes	Enabled	None	5/23/2025 10:52:16 AM	vlabs1.com
2	DC301_Teams_installation	No	Yes	Enabled	None	5/26/2025 2:16:01 AM	vlabs1.com

Finance

The screenshot shows the Group Policy Management console. The left navigation pane shows the forest and domain structure under 'vslabs1.com'. The right pane displays the 'Linked Group Policy Objects' for the 'Finance' domain. A single GPO named 'AllowRegistryAccess' is listed with a link order of 1.

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	AllowRegistryAccess	Yes	Yes	Enabled	None	5/22/2025 2:26:35 PM	vslabs1.com

HR

The screenshot shows the Group Policy Management console. The left navigation pane shows the forest and domain structure under 'vslabs1.com'. The right pane displays the 'Linked Group Policy Objects' for the 'HR' domain. Two GPOs are listed with link orders 1 and 2.

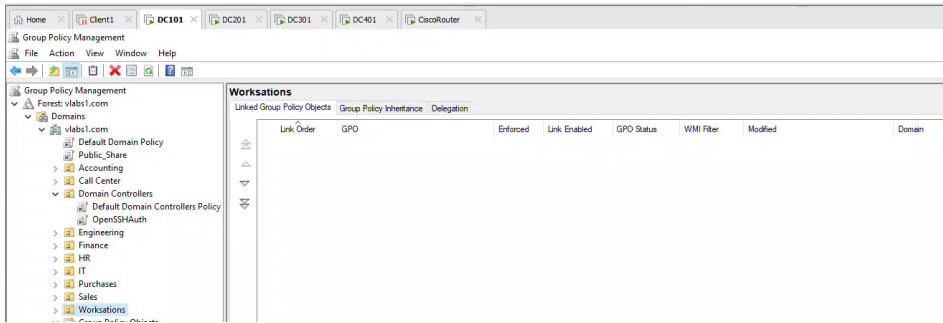
Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	DisableControlPanel	No	Yes	Enabled	None	5/22/2025 1:02:21 AM	vslabs1.com
2	SharedUserData	No	Yes	Enabled	None	5/25/2025 7:18:30 PM	vslabs1.com

IT, Purchases , Sales and Workstations do not have GPO related)

The screenshot shows the Group Policy Management console. The left navigation pane shows the forest and domain structure under 'vslabs1.com'. The right pane displays the 'Linked Group Policy Objects' for the 'IT' domain. No GPOs are listed.

The screenshot shows the Group Policy Management console. The left navigation pane shows the forest and domain structure under 'vslabs1.com'. The right pane displays the 'Linked Group Policy Objects' for the 'Purchases' domain. No GPOs are listed.

The screenshot shows the Group Policy Management console. The left navigation pane shows the forest and domain structure under 'vslabs1.com'. The right pane displays the 'Linked Group Policy Objects' for the 'Sales' domain. No GPOs are listed.



PowerShell to check GPO's

```
# Get GPO links for domain and all OUs with comprehensive output
function Get-GPOLinksReport {
    # Process Domain root first
    $domainDN = (Get-ADDomain).DistinguishedName
    Write-Host "`n== DOMAIN: $domainDN ===" -ForegroundColor Green -BackgroundColor Black

    $domainLinks = Get-GPIinheritance -Target $domainDN | Select-Object -ExpandProperty GpoLinks
    if ($domainLinks) {
        $domainLinks | Format-Table @{
            Label = "GPO Name"
            Expression = { $_.DisplayName }
        },
        @{
            Label = "Enabled"
            Expression = { $_.Enabled }
            Align = "Center"
        },
        @{
            Label = "Enforced"
            Expression = { $_.Enforced }
            Align = "Center"
        },
        @{
            Label = "Link Order"
            Expression = { $_.Order }
        } -AutoSize
    } else {
        Write-Host "No GPO links at domain level" -ForegroundColor Yellow
    }

    # Process all OUs
    Get-ADOrganizationalUnit -Filter * -Properties Name | ForEach-Object {
        Write-Host "`n== OU: $($_.Name) [$( $_.DistinguishedName )] ===" -ForegroundColor Cyan

        try {
            $ouLinks = Get-GPIinheritance -Target $_.DistinguishedName -ErrorAction Stop |
                Select-Object -ExpandProperty GpoLinks

            if ($ouLinks) {
                $ouLinks | Format-Table @{
                    Label = "GPO Name"
                    Expression = { $_.DisplayName }
                },
                @{
                    Label = "Enabled"
                    Expression = { $_.Enabled }
                    Align = "Center"
                },
                @{
                    Label = "Enforced"
                    Expression = { $_.Enforced }
                    Align = "Center"
                },
                @{
                    Label = "Link Order"
                    Expression = { $_.Order }
                } -AutoSize
            } else {
                Write-Host "No GPO links in this OU" -ForegroundColor DarkGray
            }
        }
    }
}
```

```

        catch {
            Write-Host "[ERROR] $($_.Exception.Message)" -ForegroundColor Red
        }
    }

# Execute the function
Get-GPOLinksReport

```

```

PS C:\> C:\readgpo.ps1
==== DOMAIN: DC=vlabs1,DC=com ====
GPO Name           Enabled Enforced Link Order
-----
Default Domain Policy  True   False      1
Public_Share       True   False      2

==== OU: Domain Controllers [OU=Domain Controllers,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
Default Domain Controllers Policy  True   False      1
OpenSSHAAuth       True   False      2

==== OU: Worksations [OU=Worksations,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Sales [OU=Sales,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Call Center [OU=Call Center,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
NoRecycleBin      True   False      1

==== OU: Accounting [OU=Accounting,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Finance [OU=Finance,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
AllowRegistryAccess  True   True       1

==== OU: IT [OU=IT,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Engineering [OU=Engineering,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
RestrictTeamsStarting  True   False      1
DC301_Teams_installation  True   False      2

==== OU: HR [OU=HR,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
DisableControlPanel  True   False      1
SharedUserData      True   False      2

==== OU: Purchases [OU=Purchases,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Finance-Admins [OU=Finance-Admins,OU=Finance,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
RestrictRegistryAccess False  False      1

```

```
PS C:\> .\readgpo.ps1

==== DOMAIN: DC=vlabs1,DC=com ===

GPO Name           Enabled Enforced Link Order
-----            -----  -----
Default Domain Policy  True    False      1
Public_Share        True    False      2


==== OU: Domain Controllers [OU=Domain Controllers,DC=vlabs1,DC=com] ===

GPO Name           Enabled Enforced Link Order
-----            -----  -----
Default Domain Controllers Policy  True    False      1
OpenSSHAUTH        True    False      2


==== OU: Worksations [OU=Worksations,DC=vlabs1,DC=com] ===
No GPO links in this OU

==== OU: Sales [OU=Sales,DC=vlabs1,DC=com] ===
No GPO links in this OU

==== OU: Call Center [OU=Call Center,DC=vlabs1,DC=com] ===

GPO Name           Enabled Enforced Link Order
-----            -----  -----
NoRecycleBin       True    False      1


==== OU: Accounting [OU=Accounting,DC=vlabs1,DC=com] ===
No GPO links in this OU

==== OU: Finance [OU=Finance,DC=vlabs1,DC=com] ===

GPO Name           Enabled Enforced Link Order
-----            -----  -----
AllowRegistryAccess  True    True       1
```

```
==== OU: Finance [OU=Finance,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
AllowRegistryAccess True      True          1

==== OU: IT [OU=IT,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Engineering [OU=Engineering,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
RestrictTeamsStarting True    False         1
DC301_Teams_installation True    False         2

==== OU: HR [OU=HR,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
DisableControlPanel True    False         1
SharedUserData     True    False         2

==== OU: Purchases [OU=Purchases,DC=vlabs1,DC=com] ====
No GPO links in this OU

==== OU: Finance-Admins [OU=Finance-Admins,OU=Finance,DC=vlabs1,DC=com] ====
GPO Name           Enabled Enforced Link Order
-----
RestrictRegistryAccess False   False         1

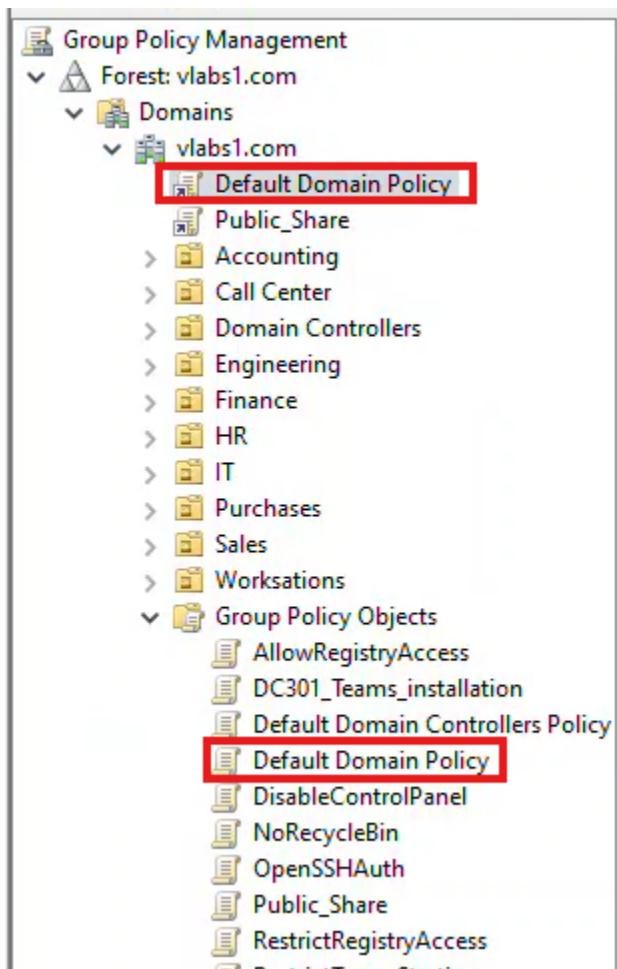
PS C:\>
PS C:\>
```

3.3.1 Expected Link Locations:

3.3.1.1 Default Domain Policy

Seen in two locations, they actually refer to the same underlying Group Policy Object (GPO), but they represent different views or aspects of that GPO

- Domains -> vlabs1.com -> Default Domain Policy (Linked GPO)
- Domains -> vlabs1.com -> Group Policy Objects -> Default Domain Policy (GPO Object)



Feature	Domains -> vlabs1.com -> Default Domain Policy (Linked GPO)	vlabs1.com -> Group Policy Objects -> Default Domain Policy (GPO Object)
Represents	A specific link of a GPO to an AD container.	The definition of the GPO object itself.

Primary Focus	Where and how the GPO is applied (link properties).	What the GPO contains (its settings) and its core properties.
Deletion Action	Deletes only the link from that container. The GPO object remains.	Deletes the entire GPO object from Active Directory, invalidating all its links.
Location	Appears directly under the domain or an OU where it's linked.	Appears in the central Group Policy Objects container.

3.3.1.1.1 Default Domain Policy - Linked GPO

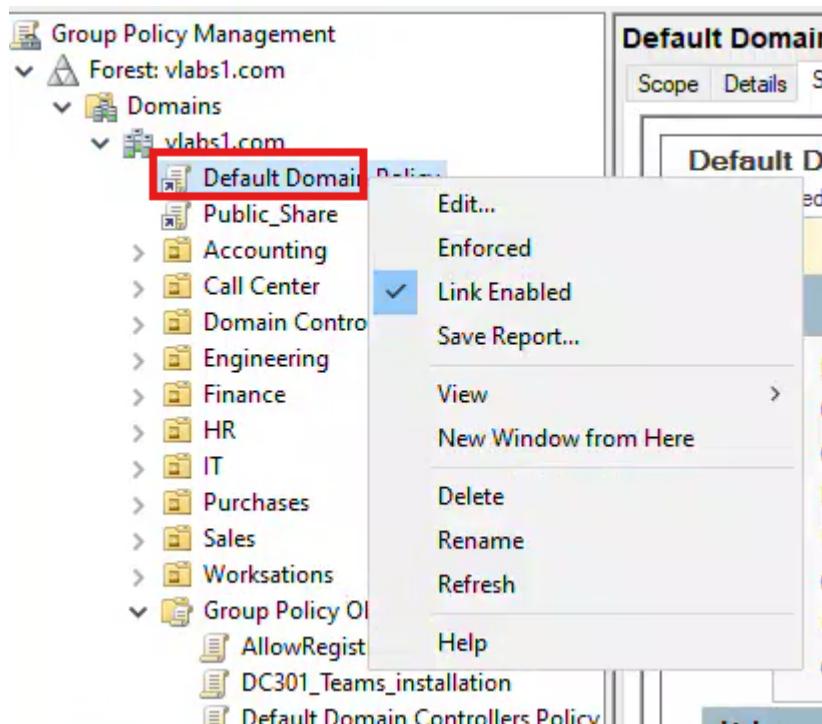
Should be linked directly to your domain (vlabs1.com). This policy applies to all user and computer accounts in the domain.

Domains -> vlabs1.com -> Default Domain Policy (

This view represents a GPO Link.

What it shows: This is the instance where the "Default Domain Policy" GPO is linked to the vlabs1.com domain.

See menu



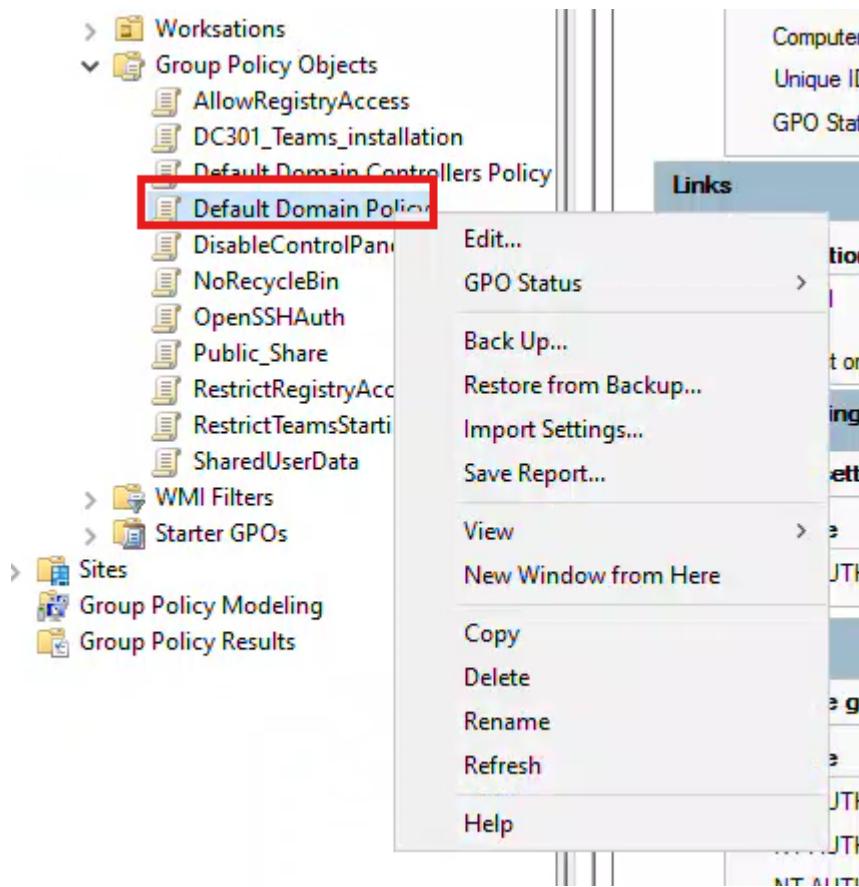
3.3.1.1.2 Default Domain Policy - GPO Object

- **Default Domain Policy:** Should be linked to Group Policy Objects.

vlabs1.com -> Group Policy Objects -> Default Domain Policy (in the left pane of GPMC, under the Group Policy Objects container)

This is where the actual "Default Domain Policy" GPO object resides in Active Directory. It's the central repository for the policy settings.

See menu



The following is the same for both.

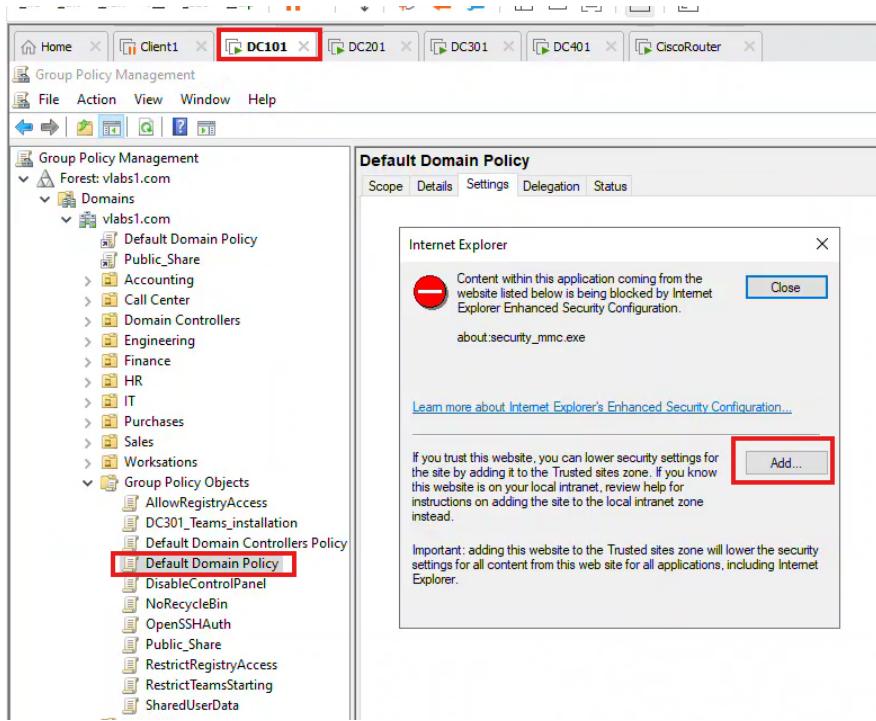
- a) Scope

The screenshot shows the Group Policy Management console interface. The left navigation pane shows a tree structure with 'Forest: vLabs1.com' expanded, revealing 'Domains' and 'Group Policy Objects'. Under 'Group Policy Objects', 'Default Domain Controllers Policy' is selected, and its sub-object 'Default Domain Policy' is also selected. The main pane displays the 'Default Domain Policy' settings for 'vLabs1.com'. The 'Scope' tab is active, showing a table of links to the GPO. One row in the table, 'vLabs1.com', is highlighted with a red box. The 'Links' section above the table states: 'Display links in this location: vLabs1.com' and 'The following sites, domains, and OUs are linked to this GPO:'. The table has columns: Location, Enforced, Link Enabled, and Path. The 'Link Enabled' column for 'vLabs1.com' shows 'Yes'. The 'Path' column shows 'vLabs1.com'. Below the table, the 'Security Filtering' section lists 'Authenticated Users'.

b) Details

The screenshot shows the 'Default Domain Policy' properties dialog. The 'Scope' tab is selected. The 'Domain:' field is set to 'vLabs1.com'. Other fields include 'Owner:' (Domain Admins (VLABS1\Domain Admins)), 'Created:' (5/2/2025 1:39:06 AM), 'Modified:' (5/24/2025 5:28:06 PM), 'User version:' (0 (AD), 0 (SYSVOL)), 'Computer version:' (20 (AD), 20 (SYSVOL)), 'Unique ID:' ({31B2F340-016D-11D2-945F-00C04FB984F9}), and 'GPO Status:' (Enabled). The 'Comment:' field is empty.

c) Settings



Internet Explorer Enhanced Security Configuration (IE ESC) is a security feature on Windows Server that restricts web Browse to protect the server from malicious content. While it's good for general Browse security, it can interfere with administrative tools.

Select close settings are displayed

Name	Allowed Permissions	Inherited
NT AUTHORITY\Authenticated Users	Read from Security Filtering	No
NT AUTHORITY\ENTERPRISE DOMAIN CONTROLLERS	Read	No
NT AUTHORITY\SYSTEM	Edit settings, delete, modify security	No

Default Domain Policy

Scope Details Settings Delegation Status

Computer Configuration (Enabled)

Policies

Windows Settings

Security Settings

Account Policies/Password Policy

Policy	Setting
Enforce password history	24 passwords remembered
Maximum password age	60 days
Minimum password age	1 days
Minimum password length	12 characters
Password must meet complexity requirements	Enabled
Store passwords using reversible encryption	Disabled

Account Policies/Account Lockout Policy

Policy	Setting
Account lockout duration	2 minutes
Account lockout threshold	2 invalid logon attempts
Allow administrator account lockout	Enabled
Reset account lockout counter after	2 minutes

Account Policies/Kerberos Policy

Policy	Setting
Enforce user logon restrictions	Enabled
Maximum lifetime for service ticket	600 minutes
Maximum lifetime for user ticket	10 hours
Maximum lifetime for user ticket renewal	7 days
Maximum tolerance for computer clock synchronization	5 minutes

Local Policies/Security Options

Network Access

Activate Windows
Go to Settings to activate Windows.

Default Domain Policy

Scope Details Settings Delegation Status

Account Policies/Kerberos Policy

Policy	Setting
Enforce user logon restrictions	Enabled
Maximum lifetime for service ticket	600 minutes
Maximum lifetime for user ticket	10 hours
Maximum lifetime for user ticket renewal	7 days
Maximum tolerance for computer clock synchronization	5 minutes

Local Policies/Security Options

Network Access

Policy	Setting
Network access: Allow anonymous SID/Name translation	Disabled

Network Security

Policy	Setting
Network security: Do not store LAN Manager hash value on next password change	Enabled
Network security: Force logoff when logon hours expire	Disabled

Public Key Policies/Encrypting File System

Certificates

Issued To	Issued By	Expiration Date	Intended Purposes
Administrator	Administrator	4/8/2125 1:44:34 AM	File Recovery

For additional information about individual settings, launch the Local Group Policy Object Editor.

Advanced Audit Configuration

Logon/Logoff

Policy	Setting
Audit Logon	Success, Failure

User Configuration (Enabled)

No settings defined.

Activate Windows
Go to Settings to activate Windows.

d) Delegation

Default Domain Policy

Scope Details Settings Delegation Status

These groups and users have the specified permission for this GPO

Groups and users:

Name	Allowed Permissions	Inherited
Authenticated Users	Read from Security Filtering	No
Domain Admins (VLABS1\Domain Admins)	Custom	No
Enterprise Admins (VLABS1\Enterprise Admins)	Custom	No
ENTERPRISE DOMAIN CONTROLLERS	Read	No
SYSTEM	Edit settings, delete, modify security	No

e) Status

This page shows the status of Active Directory and SYSVOL (DFSR) replication for this domain as it relates to Group Policy.

Status Details

- DC201.vlabs1.com is the baseline domain controller for this domain.

Site Name	Montreal
IP Address	192.168.1.2
GPOs	Data is uncollected

No Infrastructure Status information exists for this domain.

Click the Detect Now button below to gather infrastructure status from all of the domain controllers in this domain.

3.3.2 Default Domain Controllers Policy

The Default Domain Controllers Policy is vital for maintaining the security, integrity, and operational health of your Active Directory environment by providing a robust and specific policy baseline for your domain controllers.

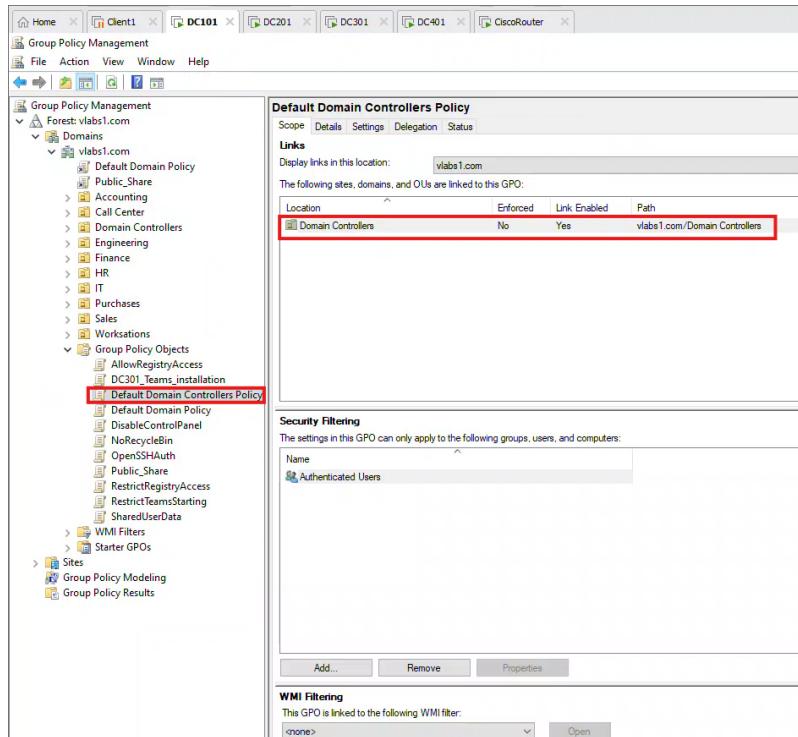
There are two places for Default Domain Controllers Policy

- Domains -> vlabs1.com -> Domain Controllers -> Default Domain Controllers Policy (GPO Link)
- Domains -> vlabs1.com -> Group Policy Objects -> Default Domain Controllers Policy (GPO Object Definition)

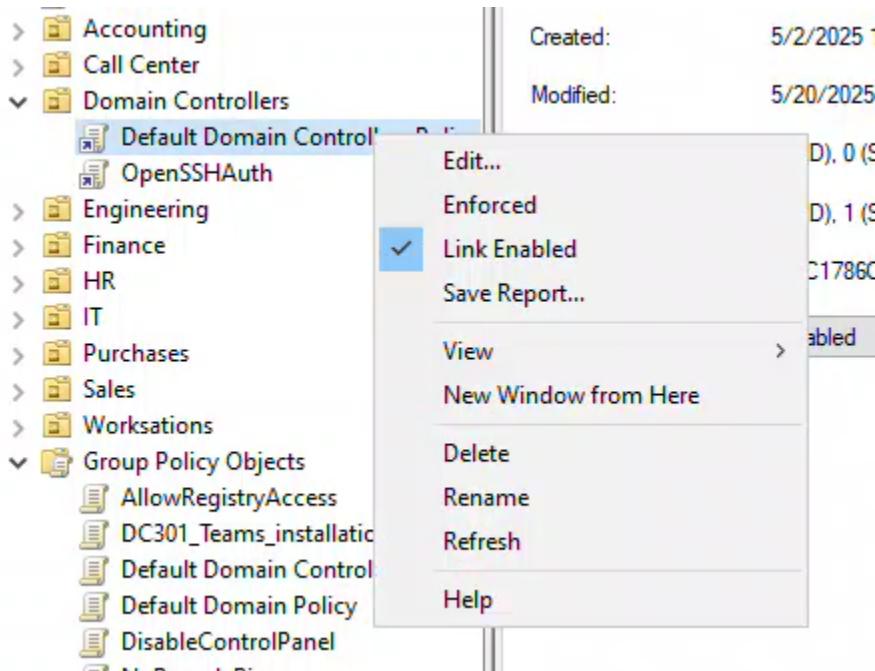
These are two different "views" or "representations" of the **same single Default Domain Controllers Policy GPO**,

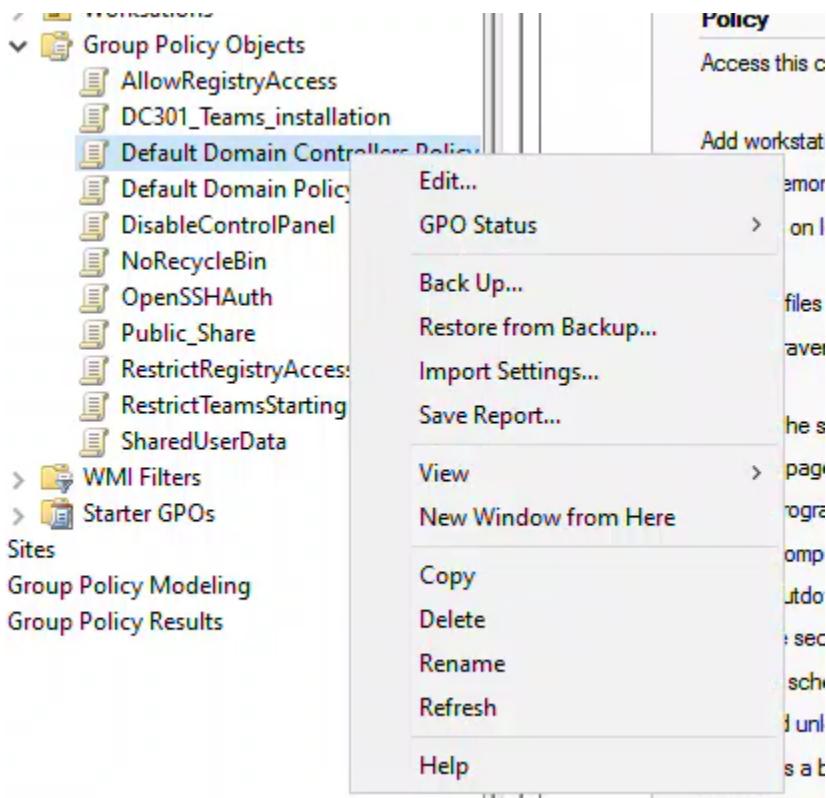
Feature	Domains -> vlabs1.com -> Domain Controllers -> Default Domain Controllers Policy (GPO Link)	Domains -> vlabs1.com -> Group Policy Objects -> Default Domain Controllers Policy (GPO Object Definition)
Represents	A specific link of the Default Domain Controllers Policy GPO to the "Domain Controllers" Organizational Unit (OU).	The actual definition of the Default Domain Controllers Policy GPO object stored in Active Directory.
Primary Focus	Where and how the GPO is applied to the computers within the "Domain Controllers" OU.	What the GPO contains (its settings) and its fundamental properties as an object.
Manages	<ul style="list-style-type: none"> - Whether the link is Enforced - Whether the Link Enabled. - Security Filtering (which specific computers/users in the OU get this policy). - WMI Filtering for this specific link. 	<ul style="list-style-type: none"> - The actual policy settings (e.g., security settings, audit policies). - The GPO's Unique ID (GUID). - Creation and modification dates. - The "Prevent accidental deletion" checkbox (located on the Details tab). - Delegation permissions for the GPO object itself. - Overall GPO Status (whether User/Computer settings are enabled/disabled).
Deletion Action	If you delete it from here, you are only deleting the link from the "Domain Controllers" OU. The GPO object itself (under Group Policy Objects) will remain. It will simply no longer apply to the domain controllers via this link.	If you delete it from here, you are deleting the entire GPO object from Active Directory. This means all its settings are gone, and any links to this GPO (like the one to the "Domain Controllers" OU) will become invalid.

Should be linked to the Domain Controllers Organizational Unit. This policy applies specifically to domain controllers within your domain.



Menus





Details

Default Domain Controllers Policy

Scope	Details	Settings	Delegation	Status
Domain:	vlabs1.com			
Owner:	Domain Admins (VLABS1\Domain Admins)			
Created:	5/2/2025 1:39:06 AM			
Modified:	5/20/2025 3:30:26 AM			
User version:	0 (AD), 0 (SYSVOL)			
Computer version:	1 (AD), 1 (SYSVOL)			
Unique ID:	{6AC1786C-016F-11D2-945F-00C04FB984F9}			
GPO Status:	Enabled			
Comment:				

Settings

Default Domain Controllers Policy

Scope Details Settings Delegation Status

Data collected on: 5/27/2025 1:17:17 AM

General

Details

Domain	vlab1.com
Owner	VLABS1\Domain Admins
Created	5/2/2025 1:39:06 AM
Modified	5/20/2025 3:30:26 AM
User Revisions	0 (AD), 0 (SYSVOL)
Computer Revisions	1 (AD), 1 (SYSVOL)
Unique ID	{6AC1786C-016F-11D2-945F-00C04FB984F9}
GPO Status	Enabled

Links

Location	Enforced	Link Status	Path
Domain Controllers	No	Enabled	vlab1.com/Domain Controllers

This list only includes links in the domain of the GPO.

Security Filtering

The settings in this GPO can only apply to the following groups, users, and computers:

Name
NT AUTHORITY\Authenticated Users

Delegation

These groups and users have the specified permission for this GPO

Name	Allowed Permissions	Inherited
NT AUTHORITY\Authenticated Users	Read (from Security Filtering)	No
NT AUTHORITY\ENTERPRISE DOMAIN CONTROLLERS	Read	No
NT AUTHORITY\SYSTEM	Edit settings, delete, modify security	No

Computer Configuration (Enabled)

Activate Windows
Go to Settings to activate Windows.

Computer Configuration (Enabled)

Policies

Windows Settings

Security Settings

Local Policies/User Rights Assignment

Policy	Setting
Access this computer from the network	BUILTIN\Pre-Windows 2000 Compatible Access, NT AUTHORITY\ENTERPRISE DOMAIN CONTROLLERS, NT AUTHORITY\Authenticated Users, BUILTIN\Administrators, Everyone
Add workstations to domain	NT AUTHORITY\Authenticated Users
Adjust memory quotas for a process	BUILTIN\Administrators, NT AUTHORITY\NETWORK SERVICE, NT AUTHORITY\LOCAL SERVICE
Allow log on locally	NT AUTHORITY\ENTERPRISE DOMAIN CONTROLLERS, BUILTIN\Print Operators, BUILTIN\Server Operators, BUILTIN\Account Operators, BUILTIN\Backup Operators, BUILTIN\Administrators
Back up files and directories	BUILTIN\Server Operators, BUILTIN\Backup Operators, BUILTIN\Administrators
Bypass traverse checking	BUILTIN\Pre-Windows 2000 Compatible Access, NT AUTHORITY\Authenticated Users, BUILTIN\Administrators, NT AUTHORITY\NETWORK SERVICE, NT AUTHORITY\LOCAL SERVICE, Everyone
Change the system time	BUILTIN\Server Operators, BUILTIN\Administrators, NT AUTHORITY\LOCAL SERVICE
Create a pagefile	BUILTIN\Administrators
Debug programs	BUILTIN\Administrators
Enable computer and user accounts to be trusted for delegation	BUILTIN\Administrators
Force shutdown from a remote system	BUILTIN\Server Operators, BUILTIN\Administrators
Generate security audits	NT AUTHORITY\NETWORK SERVICE, NT AUTHORITY\LOCAL SERVICE
Increase scheduling priority	Window Manager\Window Manager Group, BUILTIN\Administrators
Load and unload device drivers	BUILTIN\Print Operators, BUILTIN\Administrators
Log on as a batch job	BUILTIN\Performance Log Users, BUILTIN\Backup Operators, BUILTIN\Administrators
Manage auditing and security log	BUILTIN\Administrators
Modify firmware environment values	BUILTIN\Administrators
Profile single process	BUILTIN\Administrators
Profile system performance	NT SERVICE\WASServiceHost, BUILTIN\Administrators
Remove computer from docking station	BUILTIN\Administrators
Replace a process level token	NT AUTHORITY\NETWORK SERVICE, NT AUTHORITY\LOCAL SERVICE
Restore files and directories	BUILTIN\Server Operators, BUILTIN\Backup Operators, BUILTIN\Administrators
Shut down the system	RUNDOWN\Print Operators, RUNDOWN\Server Operators, RUNDOWN\Backup Operators, RUNDOWN\Administrators

Activate Windows
Go to Settings to activate Windows.

Local Policies/Security Options

Category	Setting
Domain Controller	
Policy	Setting
Domain controller: LDAP server signing requirements	None
Domain Member	
Policy	Setting
Domain member: Digitally encrypt or sign secure channel data (always)	Enabled
Microsoft Network Server	
Policy	Setting
Microsoft network server: Digitally sign communications (always)	Enabled
Microsoft network server: Digitally sign communications (if client agrees)	Enabled

User Configuration (Enabled)

Activate Windows

Delegations

Default Domain Controllers Policy

Name	Allowed Permissions	Inherited
Authenticated Users	Read (from Security Filtering)	No
Domain Admins (VLABS1\Domain Admins)	Custom	No
Enterprise Admins (VLABS1\Enterprise Admins)	Custom	No
ENTERPRISE DOMAIN CONTROLLERS	Read	No
SYSTEM	Edit settings, delete, modify security	No

3.3.3 Delete (Unlink) a policy linked in Default Domain Policy (i.e., from the Domain) using GUI

We will unlink the **Public_Share** GPO from your vlabs1.com domain.

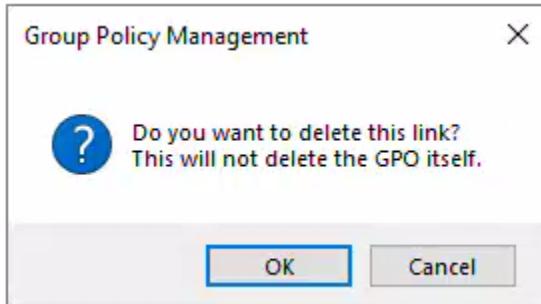
1. **Open Group Policy Management Console (GPMC):**
2. **Navigate to your Domain:**
 - o In the left-hand pane, expand your forest (Forest: vlabs1.com), then expand **Domains**, and then expand your domain (vlabs1.com).
3. **Select your Domain:**
 - o Click directly on your domain name (vlabs1.com) in the left-hand pane.
4. **Go to Linked Group Policy Objects:**
 - o In the right-hand details pane, click on the **Linked Group Policy Objects** tab.

vlabs1.com

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	Default Domain Policy	No	Yes	Enabled	None	5/24/2025 5:28:06 PM	vlabs1.com
2	Public_Share	No	Yes	Enabled	None	5/26/2025 4:55:06 AM	vlabs1.com

5. **Unlink Public_Share:**
 - o In the list of linked GPOs, right-click on **Public_Share**.
 - o Select **Delete Link**.
 - o A confirmation dialog will appear.

The confirmation message: "Do you want to delete this link? This will not delete the GPO itself..."



6. Verify the Unlink :

- o Public_Share should no longer appear in the "Linked Group Policy Objects" tab for your domain.

A screenshot of the Group Policy Management console. The left navigation pane shows 'Group Policy Management' under 'Home' and 'viabs1.com' under 'Domains'. The right pane shows the 'Status' tab for 'viabs1.com'. A table lists one GPO: 'Default Domain Policy' with Link Order 1, Enforced No, Link Enabled Yes, GPO Status Enabled, WMI Filter None, Modified 5/24/2025 5:35:06 PM, and Domain viabs1.com.

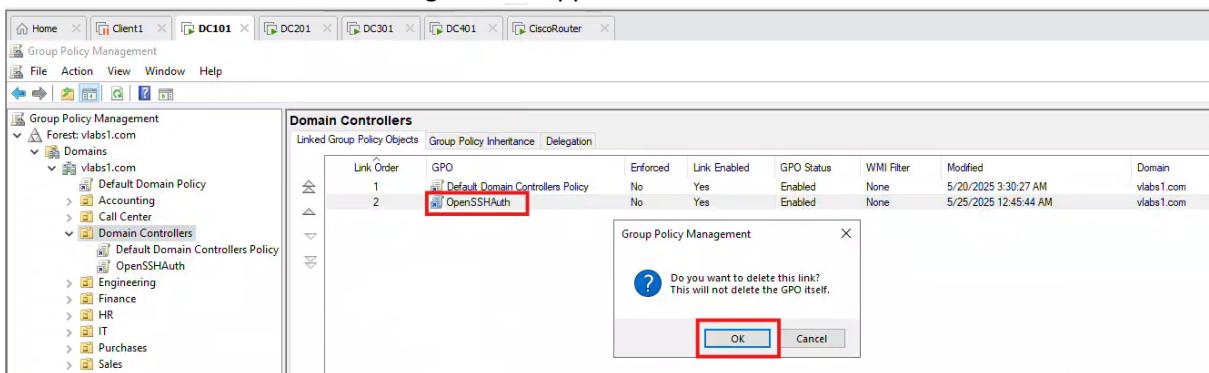
But the GPO still exists as per Group Policy Objects

A screenshot of the Group Policy Objects list. Under 'Group Policy Objects', there are several entries: AllowRegistryAccess, DC301_Teams_installation, Default Domain Controllers Policy, Default Domain Policy, DisableControlPanel, NoRecycleBin, OpenSSHAUTH, Public_Share (highlighted with a red arrow), RestrictRegistryAccess, RestrictTeamsStarting, SharedUserData, and WMI Filters.

3.3.4 Delete (Unlink) a policy linked in Default Domain Controllers Policy (i.e., from the Domain Controllers OU) using GUI

We will unlink the OpenSSHAUTH GPO from your Domain Controllers OU.

1. **Ensure GPMC is open:**
2. **Navigate to the Domain Controllers OU in the LEFT-HAND PANE:**
 - o In the left-hand console tree, expand your domain (e.g., vlabs1.com).
 - o Click on the **Domain Controllers** Organizational Unit.
3. **Go to the "Linked Group Policy Objects" Tab in the RIGHT-HAND PANE:**
 - o In the right-hand details pane, click on the "**Linked Group Policy Objects**" tab. This tab lists the GPOs that are currently linked to the Domain Controllers OU.
4. **Right-click on OpenSSHAUTH in *THIS* list:**
 - o In the list of GPOs displayed under the "Linked Group Policy Objects" tab, find and right-click on **OpenSSHAUTH**.
5. **Select Delete:**
 - o Click on **Delete**.
 - o A confirmation dialog box will appear asking: "Do you want to delete this link? This will not delete the GPO itself...". Click **OK**.
 - o Another confirmation dialog box will appear. Click **Yes**.



6. **Verify the Unlink :**
 - o OpenSSHAUTH should no longer appear in the "Linked Group Policy Objects" tab for the Domain Controllers OU.

3.3.5 Restore both policies using PowerShell.

This step will re-establish the links for the Public_Share GPO to your domain and the OpenSSHAUTH GPO to the Domain

Controllers OU.

1. **Open PowerShell as Administrator:**

- Click on the **Start** button.
- Type PowerShell.
- Right-click on **Windows PowerShell** and select **Run as administrator**.

2. **Re-link Public_Share GPO to the vlabs1.com domain:**

```
New-GPLink -Name "Public_Share" -Target "DC=vlabs1,DC=com" -LinkEnabled Yes
```

```
PS C:\> New-GPLink -Name "Public_Share" -Target "DC=vlabs1,DC=com" -LinkEnabled Yes

GpoId      : 153dc45f-c1ea-4f01-b288-0ca3d72f400f
DisplayName : Public_Share
Enabled     : True
Enforced    : False
Target      : DC=vlabs1,DC=com
Order       : 2
```

3. **Re-link OpenSSHAUTH GPO to the Domain Controllers OU:**

```
New-GPLink -Name "OpenSSHAUTH" -Target "OU=Domain Controllers,DC=vlabs1,DC=com" -LinkEnabled Yes
```

```
PS C:\> New-GPLink -Name "OpenSSHAUTH" -Target "OU=Domain Controllers,DC=vlabs1,DC=com" -LinkEnabled Yes

GpoId      : fd38aff3-f7e3-4707-a0ab-6d3b11828a93
DisplayName : OpenSSHAUTH
Enabled     : True
Enforced    : False
Target      : OU=Domain Controllers,DC=vlabs1,DC=com
Order       : 2

PS C:\> .
```

4. **Verify Re-linking (Recommended):** You can use your Get-GPOLinksReport PowerShell function or check in GPMC (refresh the views by pressing F5 or right-clicking on the domain/OU and selecting "Refresh") to confirm that both Public_Share and OpenSSHAUTH are now re-listed in their respective linked locations.

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	Default Domain Policy	No	Yes	Enabled	None	5/24/2025 5:28:06 PM	vlabs1.com
2	Public_Share	No	Yes	Enabled	None	5/26/2025 4:55:06 AM	vlabs1.com

Link Order	GPO	Enforced	Link Enabled	GPO Status	WMI Filter	Modified	Domain
1	Default Domain Controllers Policy	No	Yes	Enabled	None	5/20/2025 3:30:27 AM	vlabs1.com
2	OpenSSHAuth	No	Yes	Enabled	None	5/25/2025 12:45:44 AM	vlabs1.com

3.3.6 Using GPMC, turn off Local GPO processing

1 Open Group Policy Management Console (GPMC):

- Click on the **Start** button (bottom-left corner of the desktop).
- Select **Server Manager**.
- In Server Manager, click on **Tools** in the upper right corner, and then select **Group Policy Management**.

2 Navigate to the Default Domain Policy:

- In the left-hand pane, expand your forest (e.g., Forest: vlabs1.com) -> Domains -> vlabs1.com -> Group Policy Objects.
- Right-click on **Default Domain Policy** and select **Edit....** This will open the Group Policy Management Editor.

3 Locate the Local GPO Processing Setting:

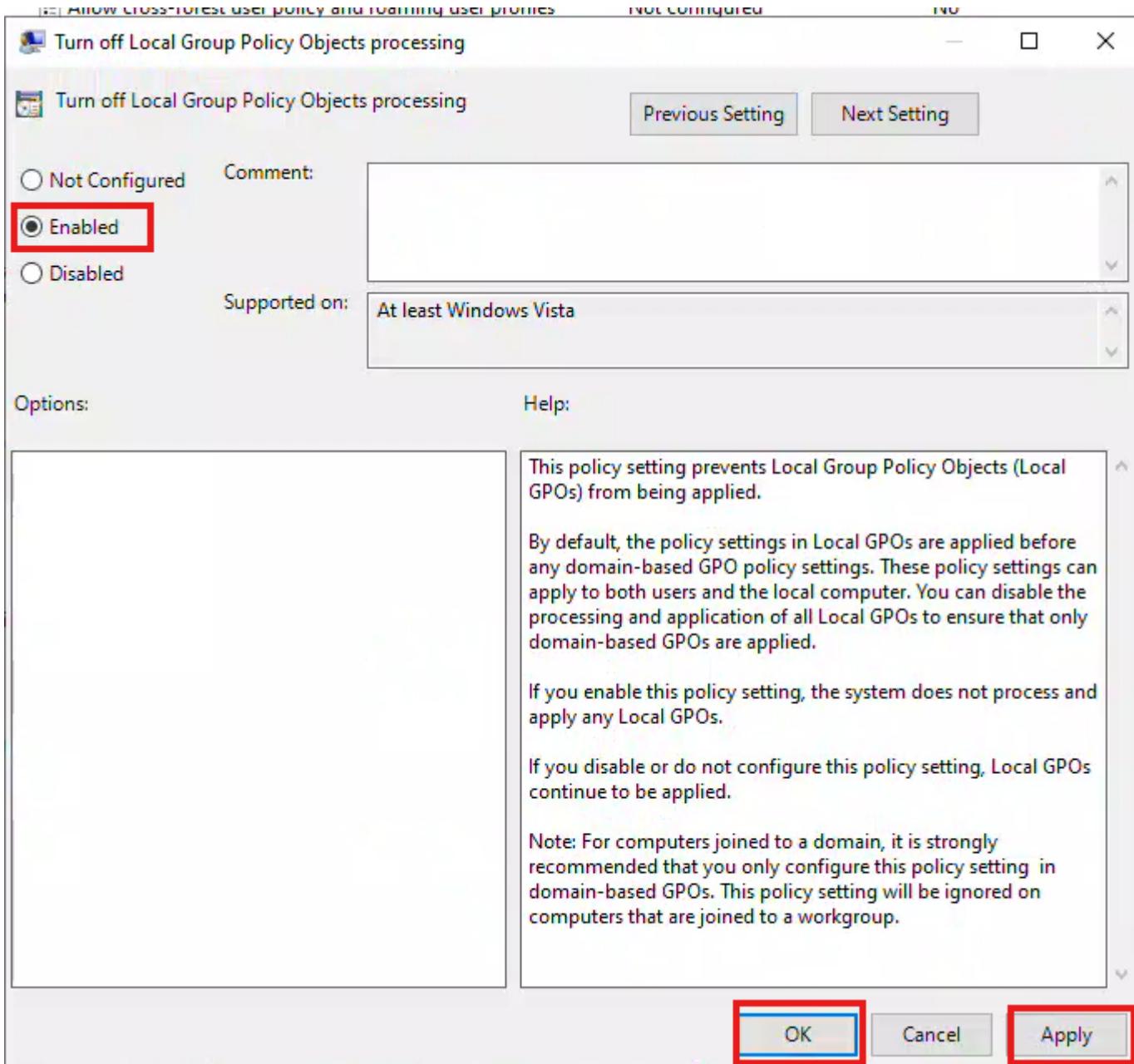
- In the Group Policy Management Editor, navigate through the following path in the left-hand pane: Computer Configuration -> Policies -> Administrative Templates -> System -> Group Policy.

The screenshot shows the Group Policy Management Editor interface. The left pane displays the navigation tree under 'Computer Configuration' with several collapsed and one expanded folder, 'System'. The right pane shows a list of Group Policy settings. A red arrow points to the 'System' folder in the tree view. Another red arrow points to the 'Group Policy' folder within the 'System' folder. A third red arrow points to the 'Group Policy' item in the list of settings.

Setting	State	Comment
Logging and tracing	Not configured	No
Allow cross-forest user policy and roaming user profiles	Not configured	No
Configure software installation policy processing	Not configured	No
Configure disk quota policy processing	Not configured	No
Configure EFS recovery policy processing	Not configured	No
Configure folder redirection policy processing	Not configured	No
Configure Internet Explorer Maintenance policy processing	Not configured	No
Configure IP security policy processing	Not configured	No
Configure registry policy processing	Not configured	No
Configure scripts policy processing	Not configured	No
Configure security policy processing	Not configured	No
Configure wired policy processing	Not configured	No
Configure wireless policy processing	Not configured	No
Specify workplace connectivity wait time for policy processing	Not configured	No
Determine if interactive users can generate Resultant Set of...	Not configured	No
Turn off Group Policy Client Service AOAC optimization	Not configured	No
Turn off background refresh of Group Policy	Not configured	No
Turn off Local Group Policy Objects processing	Not configured	No
Remove users' ability to invoke machine policy refresh	Not configured	No
Configure web-to-app linking with app URI handlers	Not configured	No
Continue experiences on this device	Not configured	No
Configure Group Policy Caching	Not configured	No
Enable Group Policy Caching for Servers	Not configured	No
Phone-PC linking on this device	Not configured	No
Configure Group Policy slow link detection	Not configured	No
Set Group Policy refresh interval for computers	Not configured	No
Set Group Policy refresh interval for domain controllers	Not configured	No
Configure Logon Script Delay	Not configured	No
Always use local ADM files for Group Policy Object Editor	Not configured	No
Turn off Resultant Set of Policy logging	Not configured	No
Enable AD/DFS domain controller synchronization during p...	Not configured	No
Configure Direct Access connections as a fast network conn...	Not configured	No
Change Group Policy processing to run asynchronously wh...	Not configured	No
Specify startup policy processing wait time	Not configured	No
Configure user Group Policy loopback processing mode	Not configured	No
Allow asynchronous user Group Policy processing when log...	Not configured	No
Configure Applications preference extension policy processi...	Not configured	No

4 Configure the Setting:

- In the right-hand pane, find the setting named **Turn off Local Group Policy objects processing**.
- Double-click on this setting.
- In the properties window, select the **Enabled** radio button. Enabling this setting means you are enabling the *action* of turning off Local GPO processing.
- Click **Apply**, then **OK**.



The screenshot shows the Group Policy Management Editor window. The left pane displays the navigation tree under 'Default Domain Policy [DC20]'. The right pane shows the 'Group Policy' settings for 'Turn off Local Group Policy Objects processing'. The 'Setting' column lists various policy items, and the 'State' column indicates their configuration status. The 'Enabled' state for this specific policy is highlighted with a red box and an arrow pointing to it.

Setting	State	Comment
Allow cross-forest user policy and roaming user profiles	Not configured	No
Configure software installation policy processing	Not configured	No
Configure disk quota policy processing	Not configured	No
Configure EFS recovery policy processing	Not configured	No
Configure folder redirection policy processing	Not configured	No
Configure Internet Explorer Maintenance policy processing	Not configured	No
Configure IP security policy processing	Not configured	No
Configure registry policy processing	Not configured	No
Configure scripts policy processing	Not configured	No
Configure security policy processing	Not configured	No
Configure wired policy processing	Not configured	No
Configure wireless policy processing	Not configured	No
Specify workplace connectivity wait time for policy process...	Not configured	No
Determine if interactive users can generate Resultant Set of ...	Not configured	No
Turn off Group Policy Client Service AOAC optimization	Not configured	No
Turn off background refresh of Group Policy	Not configured	No
Turn off Local Group Policy Objects processing	Enabled	No
Remove users' ability to invoke machine policy refresh	Not configured	No
Configure web-to-app linking with app URI handlers	Not configured	No
Continue experiences on this device	Not configured	No
Configure Group Policy Caching	Not configured	No
Enable Group Policy Caching for Servers	Not configured	No
Phone-PC linking on this device	Not configured	No
Configure Group Policy slow link detection	Not configured	No
Set Group Policy refresh interval for computers	Not configured	No
Set Group Policy refresh interval for domain controllers	Not configured	No
Configure Logon Script Delay	Not configured	No
Always use local ADM files for Group Policy Object Editor	Not configured	No
Turn off Resultant Set of Policy logging	Not configured	No
Enable AD/DFS domain controller synchronization during p...	Not configured	No

5 Close GPMC Editor:

- Close the Group Policy Management Editor window.

6 Enforce Policy (Optional but Recommended for immediate testing):

- To ensure this change applies quickly to client machines or the DC itself, you can force a Group Policy update.
- Open an elevated Command Prompt or PowerShell on a client machine or the Domain Controller and run:

`gpupdate /force`

```
PS C:\> gpupdate /force
Updating policy...

Computer Policy update has completed successfully.
User Policy update has completed successfully.

PS C:\>
```

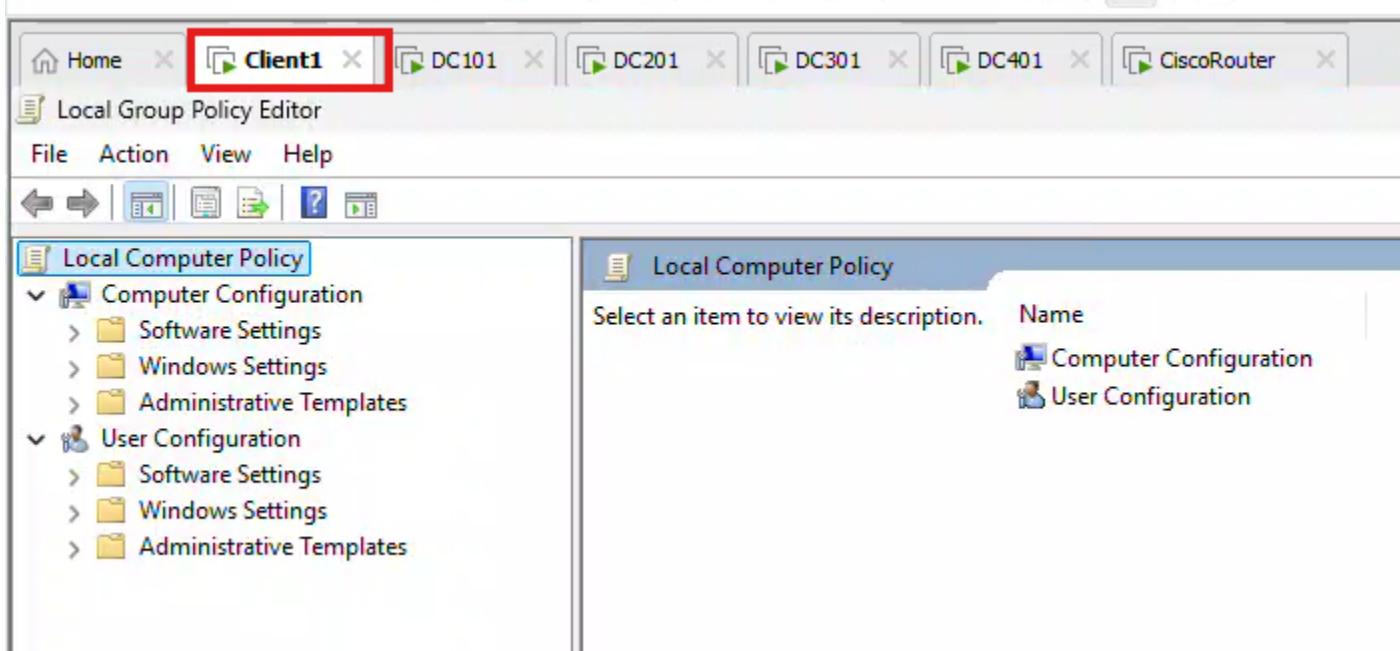
3.4 On Client1

- Open Local Group Policy Editor (gpedit.msc) using an Administrator account.
- Compare Local GPO settings with the restored domain-based GPOs.

3.4.1 Open Local Group Policy Editor (gpedit.msc) using an Administrator account.

1. Log in to Client1 as administrator:

- Log in to Client1
- 2. Open Run Dialog:
 - Press the Windows key + R on your keyboard to open the Run dialog box.
- 3. Type gpedit.msc and Press Enter:
 - In the Run dialog box, type gpedit.msc and press Enter, or click OK.
 - This will open the Local Group Policy Editor.



3.4.2 Compare Local GPO settings with the restored domain-based GPOs

Now that you have Local Group Policy Editor open on Client1, you need to compare its settings with the domain-based GPOs you've been working with (Default Domain Policy, Default Domain Controllers Policy, Public_Share, OpenSSHAUTH, etc.).

Understanding the Comparison:

- Local GPOs: These are policies applied directly to the individual Client1 machine. They are the lowest level of policy application.
- Domain-based GPOs: These are policies applied from your Active Directory domain (like Default Domain Policy). They apply to computers and users within the domain.

1. In the Local Group Policy Editor (on Client1):

- Navigate to the setting you just configured in the Default Domain Policy on your DC: Computer Configuration -> Administrative Templates -> System -> Group Policy.
 - Look for the setting: **Turn off Local Group Policy objects processing.**
 - Double-click on this setting to open its properties.

See is Not configured

Group Policy

Turn off Local Group Policy Objects processing

Description: This policy setting prevents Local Group Policy Objects (Local GPOs) from being applied.

By default, the policy settings in Local GPOs are applied before any domain-based GPO policy settings. These policy settings can apply to both users and the local computer. You can disable the processing and application of all Local GPOs to ensure that only domain-based GPOs are applied.

If you enable this policy setting, the system does not process and apply any Local GPOs.

If you disable or do not configure this policy setting, Local GPOs continue to be applied.

Note: For computers joined to a domain, it is strongly recommended that you only configure this policy setting in domain-based GPOs. This policy setting will be ignored on computers that are joined to a workgroup.

Setting	State	Comment
Allow cross-forest user policy and roaming user profiles	Not configured	No
Configure software installation policy processing	Not configured	No
Configure disk quota policy processing	Not configured	No
Configure EPS recovery policy processing	Not configured	No
Configure folder redirection policy processing	Not configured	No
Configure Internet Explorer Maintenance policy processing	Not configured	No
Configure IP security policy processing	Not configured	No
Configure registry policy processing	Not configured	No
Configure scripts policy processing	Not configured	No
Configure security policy processing	Not configured	No
Configure wired policy processing	Not configured	No
Configure wireless policy processing	Not configured	No
Specify workplace connectivity wait time for policy processing	Not configured	No
Determine if interactive users can generate Resultant Set of Policies	Not configured	No
Turn off Group Policy Client Service AOAC optimization	Not configured	No
Turn off background refresh of Group Policy	Not configured	No
Remove user's ability to invoke machine policy refresh	Not configured	No
Configure web-to-app linking with app URI handlers	Not configured	No
Continue experiences on this device	Not configured	No
Configure Group Policy Caching	Not configured	No
Enable Group Policy Caching for Servers	Not configured	No
Phone-Pc linking on this device	Not configured	No
Configure Group Policy slow link detection	Not configured	No
Set Group Policy refresh interval for computers	Not configured	No
Set Group Policy refresh interval for domain controllers	Not configured	No
Configure Logon Script Delay	Not configured	No
Always use local ADM files for Group Policy Object Editor	Not configured	No
Turn off Resultant Set of Policy logging	Not configured	No
Enable AD/DFS domain controller synchronization during policy refresh	Not configured	No
Configure Direct Access connections as a fast network connection	Not configured	No
Change Group Policy processing to run asynchronously whenever possible	Not configured	No
Specify startup policy processing wait time	Not configured	No

Comment: Turn off Local Group Policy Objects processing

Supported on: At least Windows Vista

Options:

Help:

This policy setting prevents Local Group Policy Objects (Local GPOs) from being applied.

By default, the policy settings in Local GPOs are applied before any domain-based GPO policy settings. These policy settings can apply to both users and the local computer. You can disable the processing and application of all Local GPOs to ensure that only domain-based GPOs are applied.

If you enable this policy setting, the system does not process and apply any Local GPOs.

If you disable or do not configure this policy setting, Local GPOs continue to be applied.

Note: For computers joined to a domain, it is strongly recommended that you only configure this policy setting in domain-based GPOs. This policy setting will be ignored on computers that are joined to a workgroup.

2. Observe the Status of "Turn off Local Group Policy objects processing":

- Based on your rsop.msc output and your observation in gpedit.msc, you will see that this setting is **Enabled** and **grayed out**.
- The grayed-out state is the key indicator: it confirms that the setting is being **managed by a domain-based Group Policy** (specifically, your **Default Domain Policy**) and cannot be changed locally.

Open rsop.msc

Resultant Set of Policy

File Action View Favorites Window Help

Administrator on CLIENT1 - RSoP

Computer Configuration

- Software Settings
- Windows Settings
- Administrative Templates
 - System
 - Group Policy

User Configuration

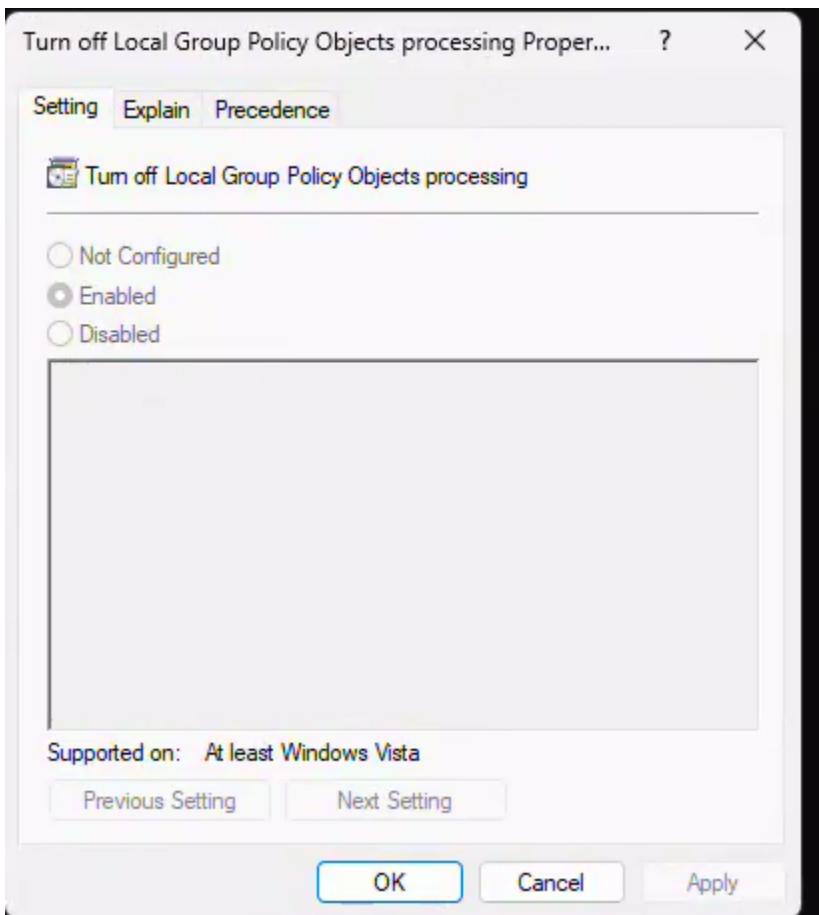
- Software Settings
- Windows Settings
- Administrative Templates

Group Policy

Select an item to view its description. Setting

Turn off Local Group Policy Objects processing

Extended Standard



```
PS C:\Users\administrator> gpreresult /r /scope computer

Microsoft (R) Windows (R) Operating System Group Policy Result tool v2.0
© Microsoft Corporation. All rights reserved.

Created on 2025-05-27 at 8:39:57 PM

RSOP data for on CLIENT1 : Logging Mode

OS Configuration: Member Workstation
OS Version: 10.0.26100
Site Name: Montreal
Roaming Profile:
Local Profile:
Connected over a slow link?: No

COMPUTER SETTINGS

CN=CLIENT1,OU=Workstations,DC=vlabs1,DC=com
Last time Group Policy was applied: 2025-05-27 at 8:25:00 PM
Group Policy was applied from: DC201.vlabs1.com
Group Policy slow link threshold: 500 kbps
Domain Name: VLABS1
Domain Type: Windows 2008 or later

Applied Group Policy Objects

Default Domain Policy

The computer is a part of the following security groups

BUILTIN\Administrators
Everyone
BUILTIN\Users
NT AUTHORITY\NETWORK
NT AUTHORITY\Authenticated Users
This Organization
CLIENT1$
Domain Computers
Authentication authority asserted identity
System Mandatory Level

PS C:\Users\administrator> |
```

Key Observation Point:

The primary comparison point here is the **Turn off Local Group Policy objects processing** setting. Since you enabled this in your **Default Domain Policy** (which applies to the domain, and thus to Client1 as a domain member), you observe that Local GPO processing is indeed turned off on Client1. This is definitively confirmed by `rsop.msc` showing "Enabled" for this setting with **Default Domain Policy** as the "Winning GPO," and visually reinforced by the setting being grayed out in `gpedit.msc`. This demonstrates the successful precedence of domain policies over local policies.

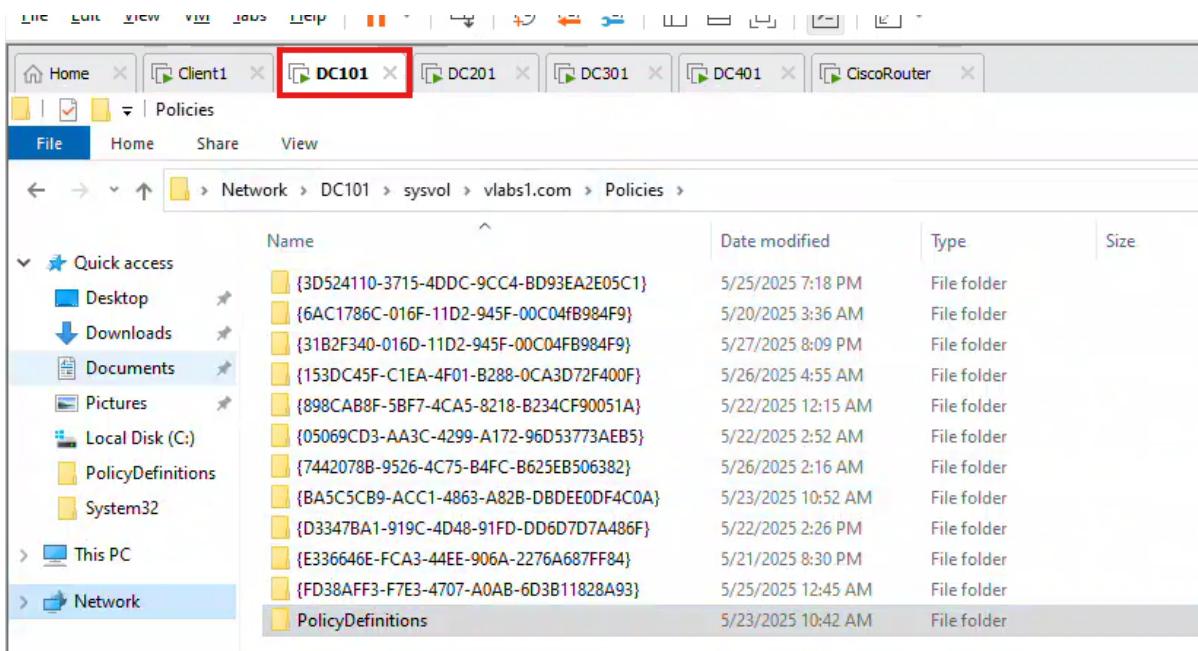
It has been successfully confirmed the impact of your domain-based GPOs on your client machine's local policies.

4 Task 2: GPO Storage and Replication Using GUI, on DC101:

- Navigate to \\DC101\SYSVOL\vlabs1.com\Policies and list stored GPOs.
- Use Active Directory Users and Computers (Enable Advanced Features) to view the Policies container.

4.1 Navigate to \\DC101\SYSVOL\vlabs1.com\Policies and list stored GPOs.

1. **Log in to DC101:** Ensure you are logged into DC101.vlabs1.com with an account that has Domain Administrator privileges (e.g., vlabs1\administrator).
2. **Open File Explorer:** Click on the **File Explorer** icon on your taskbar (it looks like a yellow folder), or press Windows key + E.
3. **Navigate to the SYSVOL Share:** In the address bar at the top of the File Explorer window, type the following path and press Enter: <\\DC101\SYSVOL\vlabs1.com\Policies>



4. **List Stored GPOs:** You will see a list of folders with GUIDs (Globally Unique Identifiers) as their names. Each of these folders represents a stored Group Policy Object. The folders contain the Machine (Computer Configuration) and User (User Configuration) subfolders, along with the GPT.INI file which holds metadata about the GPO.

- **Observe:** Note the number of folders and that their names are GUIDs. These GUIDs correspond to the GPOs listed in GPMC (you can find a GPO's unique ID/GUID in its "Details" tab in GPMC).

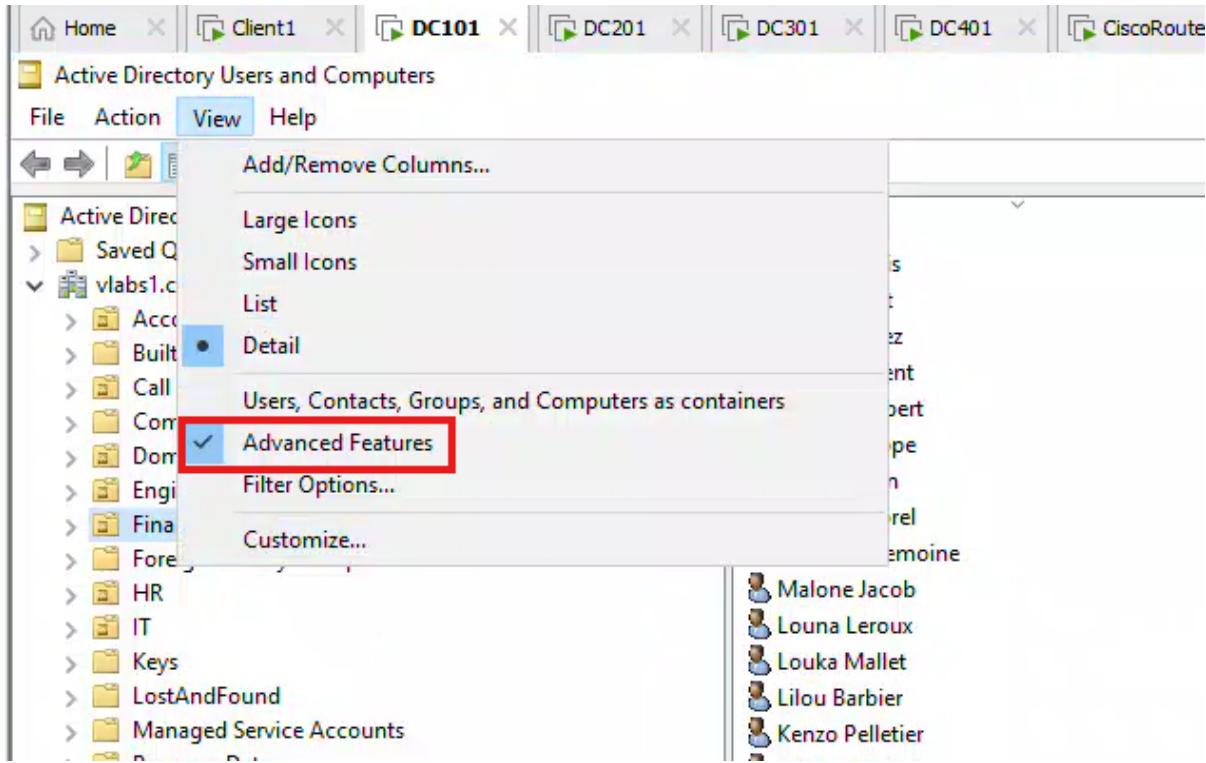
4.2 Use Active Directory Users and Computers (Enable Advanced Features) to view the Policies container.

1. **Open Active Directory Users and Computers (ADUC):**

- On DC101, click on the **Start** button, then select **Server Manager**.
- In Server Manager, click on **Tools** in the upper right corner, and then select **Active Directory Users and Computers**.

2. Enable Advanced Features:

- In the ADUC window, click on **View** in the top menu bar.
- Select **Advanced Features**. (A checkmark will appear next to it when enabled).



3. Navigate to the Policies Container:

- In the left-hand pane of ADUC, expand your domain (e.g., vlabs1.com).
- Expand the **System** container.
- Expand the **Policies** container.
- **Observe:** You will see a list of objects here. These objects represent the **Group Policy Containers (GPC)** for your GPOs. Each object's name is the GUID of a GPO. This is the Active Directory portion of a GPO, while the SYSVOL share holds the file system portion.

The screenshot shows the Active Directory Users and Computers (ADUC) interface. The left pane displays a tree view of the domain structure under 'Active Directory Users and Computers [DC101.vlabs1.com]'. The 'System' folder is expanded, and the 'Policies' folder is highlighted with a blue selection bar and has a red arrow pointing to it. The right pane lists group policy containers with their names and types. A red box highlights this list.

Name	Type
{FD38AFF3-F7E3-4707-A0AB-6D3B11828A93}	groupPolicyContainer
{E336646E-FCA3-44EE-906A-2276A687FF84}	groupPolicyContainer
{D3347BA1-919C-4D48-91FD-DD6D7D7A486F}	groupPolicyContainer
{BA5C5CB9-ACC1-4863-A82B-DBDEE0DF4C0A}	groupPolicyContainer
{898CAB8F-5BF7-4CA5-8218-B234CF90051A}	groupPolicyContainer
{7442078B-9526-4C75-B4FC-B625EB506382}	groupPolicyContainer
{6AC1786C-016F-11D2-945F-00C04fB984F9}	groupPolicyContainer
{3D524110-3715-4DDC-9CC4-BD93EA2E05C1}	groupPolicyContainer
{31B2F340-016D-11D2-945F-00C04fB984F9}	groupPolicyContainer
{153DC45F-C1EA-4F01-B288-0CA3D72F400F}	groupPolicyContainer
{05069CD3-AA3C-4299-A172-96D53773AEB5}	groupPolicyContainer

4.3 Using PowerShell, on DC201:

- Verify that **DFSR service** is running.
- Force manually the **DFS replication**.
- Check the replication status.

1. **Log in to DC201:** Ensure you are logged into DC201.vlabs1.com with an account that has Domain Administrator privileges.

2. **Open PowerShell as Administrator:**

3. **Verify that DFSR service is running.**

Get-Service -Name DFSR

4. **Force manually the DFS replication.**

Install-WindowsFeature FS-DFS-Replication

dfsrdiag pollad

```

PS C:\Users\Administrator.VLabs1> Get-Service -Name DFSR
Status     Name          DisplayName
----     --      DFS Replication

PS C:\Users\Administrator.VLabs1> Install-WindowsFeature FS-DFS-Replication
Success  Restart Needed  Exit Code  Feature Result
-----  -----   -----   -----
True    No           Success    {DFS Replication}

PS C:\Users\Administrator.VLabs1> dfsrdiag pollad
Operation Succeeded

```

5. Check the replication status using:

Get-DfsrBacklog -SourceComputerName DC1XX -DestinationComputerName DC201

```

PS C:\Users\Administrator.VLabs1> Get-DfsrBacklog -SourceComputerName DC101 -DestinationComputerName DC201

```

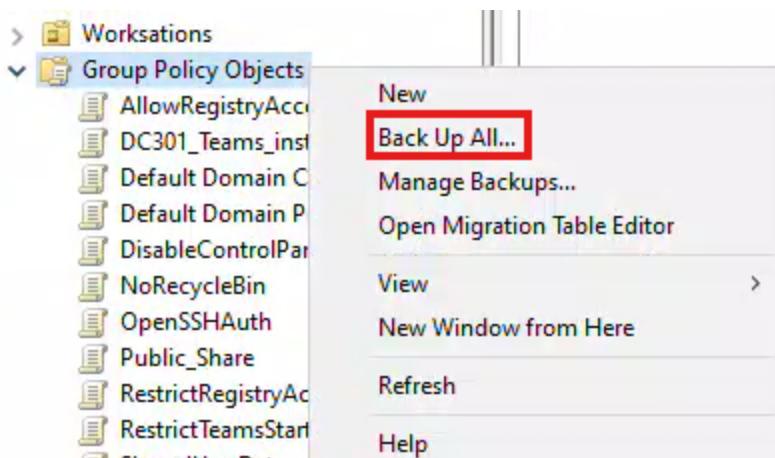
The command completed without any output, which indicates that there is **no backlog** of files waiting to be replicated between DC101 and DC201. This is a positive sign, suggesting that DFS Replication for SYSVOL is up-to-date and working correctly between these two domain controllers.

5 Task 3: Common GPO Management Tasks On DC101 using GUI:

- Backup all existing GPOs.
- Delete any GPO and attempt to restore it from the backup.
- Create new GPO **DC_Policy**.
- Import **Default Domian Controllers** GPO settings into **DC_Policy**.
- Verify **DC_Policy** new settings to confirm the importation.
- Copy any existing GPO to a new one in the same domain.
- Verify copied GPO settings.

5.1 Backup all existing GPOs.

1. **Open Group Policy Management Console (GPMC):**
 - Click on the **Start** button, then select **Server Manager**.
 - In Server Manager, click on **Tools** in the upper right corner, and then select **Group Policy Management**.
2. **Navigate to Group Policy Objects:**
 - In the left-hand pane, expand your forest -> Domains -> vlabs1.com.
 - Right-click on the **Group Policy Objects** container.
3. **Initiate Backup:**
 - Select **Back Up All....**



4. Specify Backup Location:

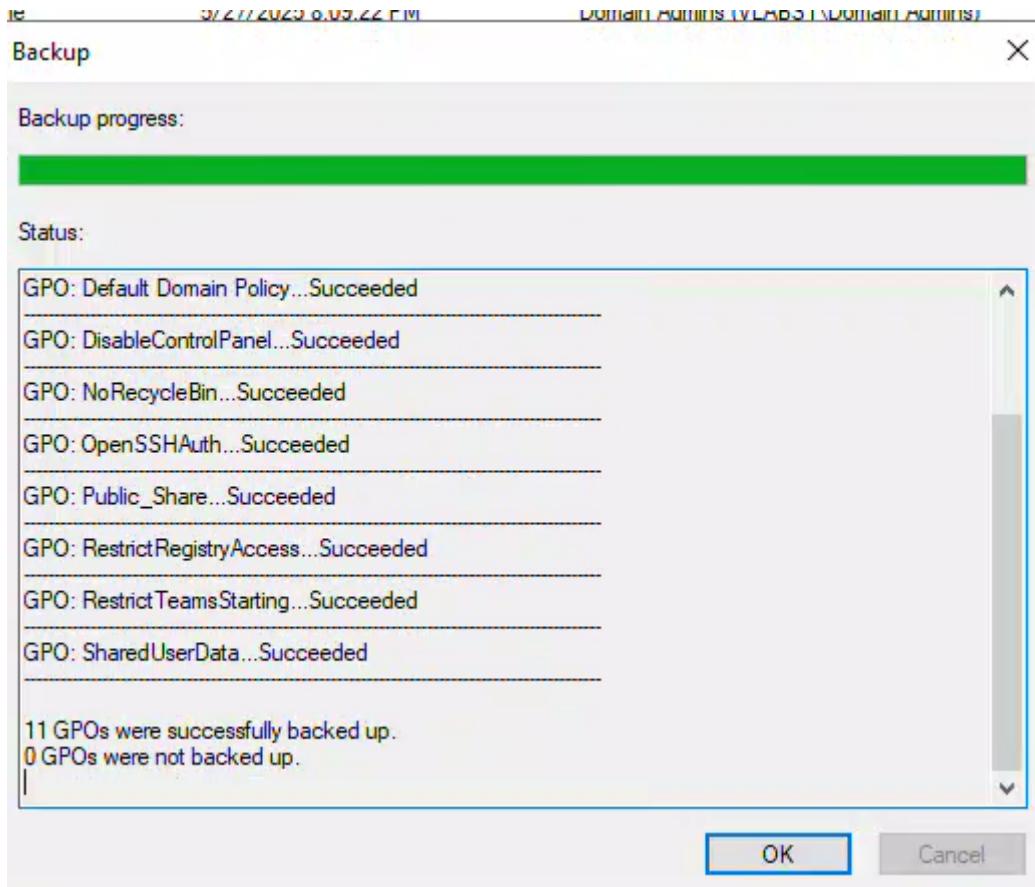
- In the "Backup Group Policy Objects" dialog box, click **Browse....**
- Choose a convenient location for your backups, for example, create a new folder like C:\GPO_Backups and select it.
- You can optionally add a "Description" for the backup set (e.g., "Initial GPO Backup May 27 2025").
- Click **Back Up.**



5. Confirm Backup:

- Once the backup process completes, you will see a "Progress" window. Verify that all GPOs were backed up successfully.

- o Click **OK**, then **Close**.

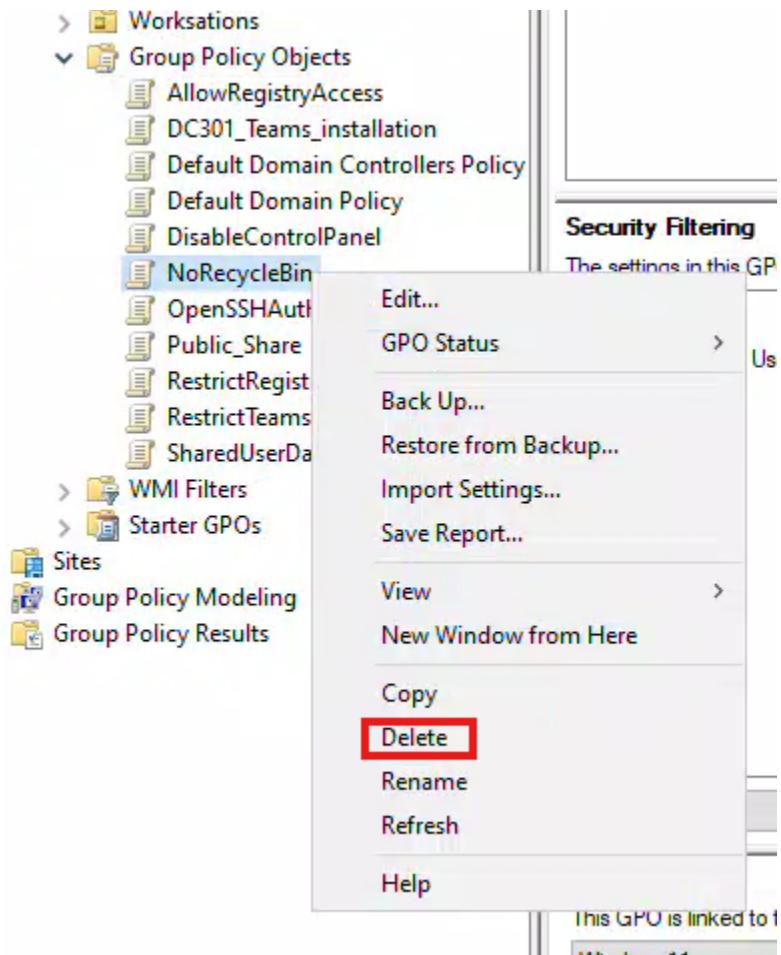


5.2 Delete any GPO and attempt to restore it from the backup.

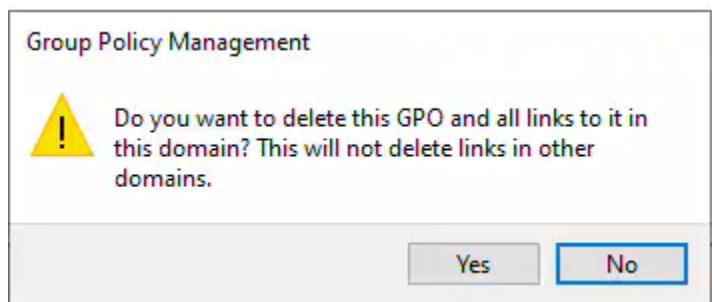
For this task, we will delete the NoRecycleBin GPO and then restore it.

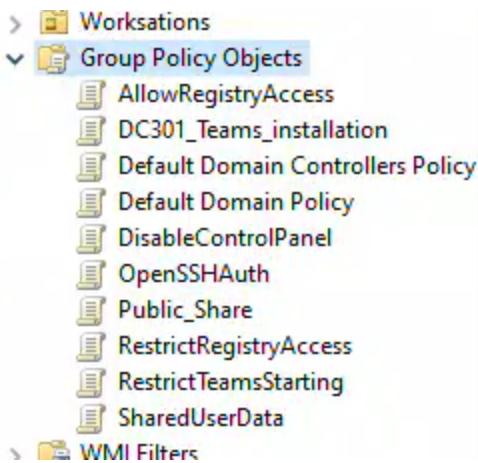
1. Delete the GPO (**NoRecycleBin**):

- o In GPMC, in the left-hand pane, expand Group Policy Objects.
- o In the list of GPOs, right-click on **NoRecycleBin**.
- o Select **Delete**.



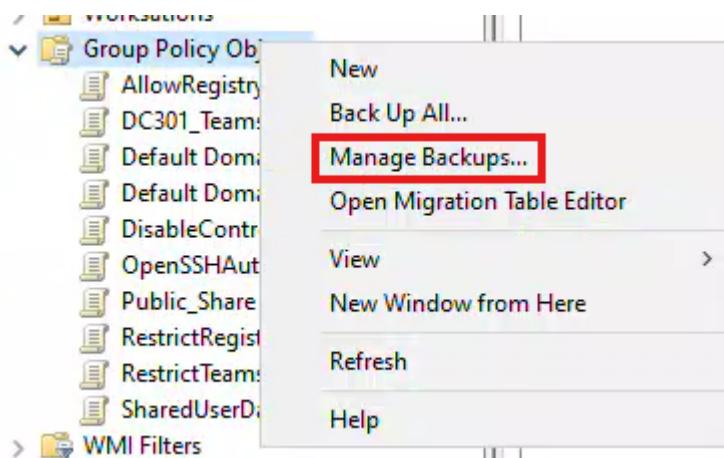
- A warning dialog will appear asking if you are sure you want to delete this GPO. Click **Yes**. (This action deletes the GPO object itself, unlike deleting a link).
- Click **OK** on the confirmation message.



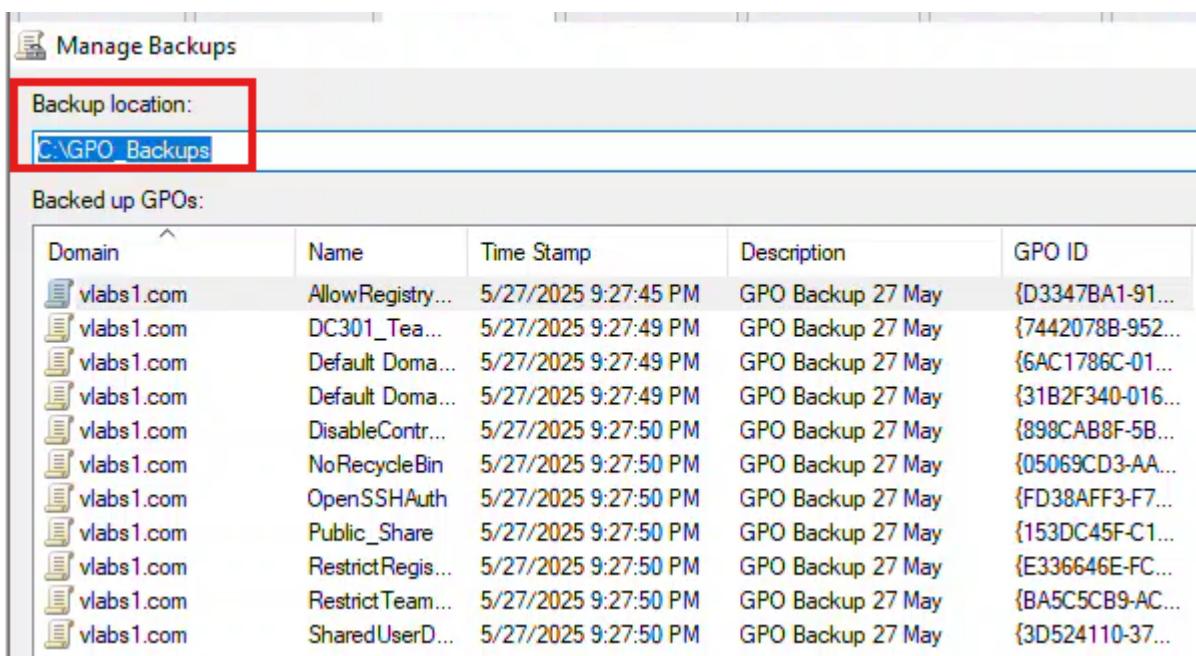


2. Restore the GPO (NoRecycleBin) from Backup:

- In the left-hand pane, right-click on the **Group Policy Objects** container again.
- Select **Manage Backups....**

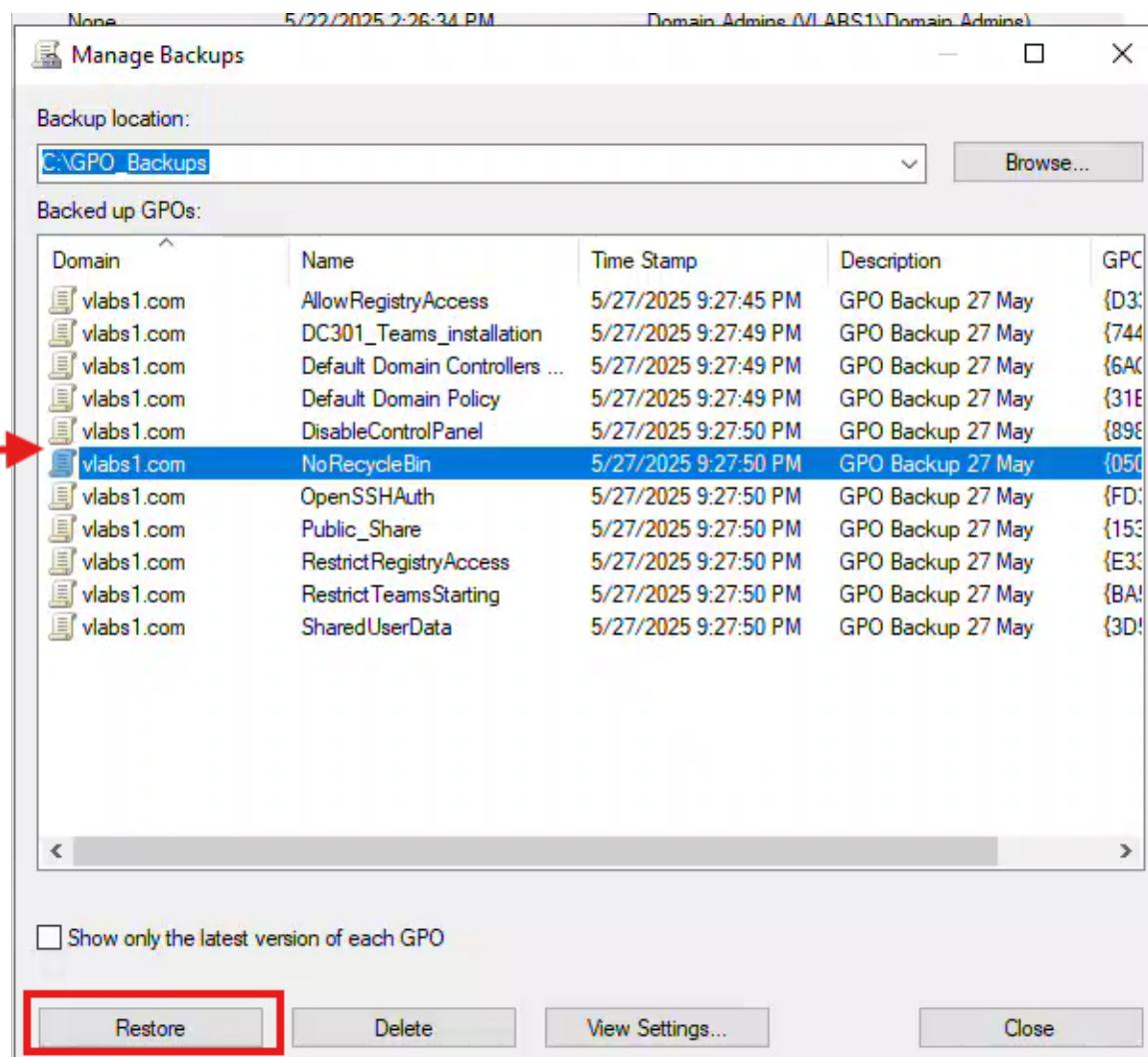


- In the "Manage GPO Backups" dialog box, ensure your "Backup location" is set to the folder you used in the previous step (e.g., C:\GPO_Backups).

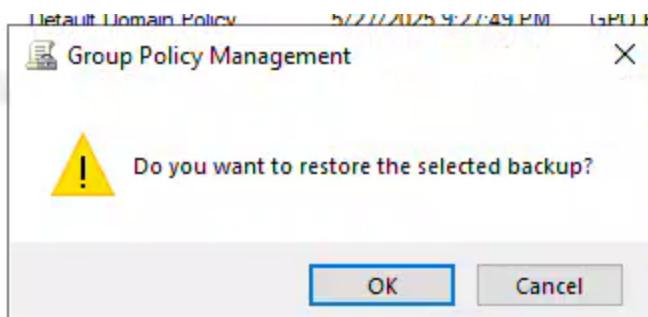


- In the list of backed-up GPOs, select **NoRecycleBin**.

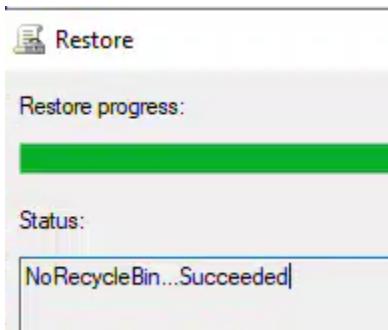
- Click **Restore**.



- A confirmation dialog will appear. Click **OK**.



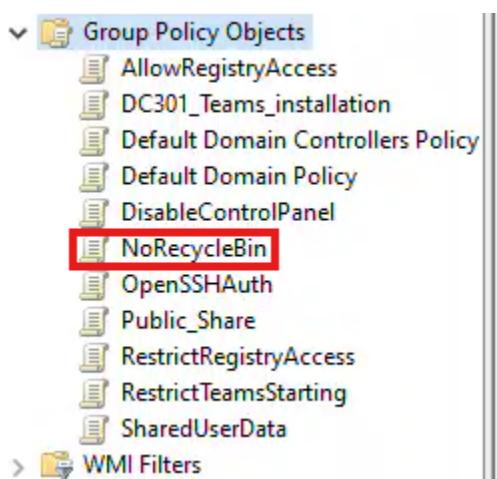
- Click **Restore** to confirm the restoration.



- Click **OK** on the completion message.
- Click **Close** to exit the "Manage GPO Backups" window.

3. Verify Restoration:

- In the left-hand pane of GPMC, click on the **Group Policy Objects** container.
- You should now see **NoRecycleBin** reappear in the list of GPOs, confirming its successful restoration.



5.3 Create new GPO DC_Policy.

1. Create New GPO:

- In the left-hand pane of GPMC, right-click on the **Group Policy Objects** container.
- Select **New**.
- In the "New GPO" dialog box, type DC_Policy as the GPO name.
- Click **OK**.

2. Verify Creation:

- DC_Policy should now appear in the list of Group Policy Objects.

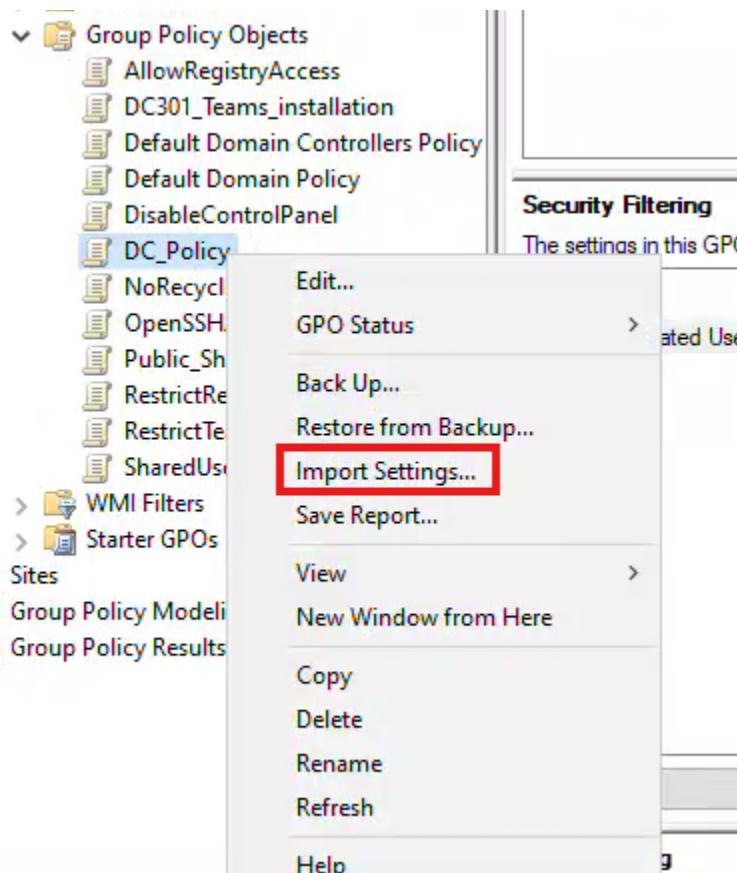
Name	GPO Status	WMI Filter	Modified	Owner
AllowRegistryAccess	Enabled	None	5/22/2025 2:26:34 PM	Domain Admins (VLABS1\Domain Admins)
DC_Policy	Enabled	None	5/27/2025 10:09:43 PM	Domain Admins (VLABS1\Domain Admins)
DC301_Teams_installation	Enabled	None	5/26/2025 2:16:00 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Controllers Policy	Enabled	None	5/20/2025 3:30:26 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Policy	Enabled	None	5/27/2025 8:09:22 PM	Domain Admins (VLABS1\Domain Admins)
DisableControlPanel	Enabled	None	5/22/2025 1:02:20 AM	Domain Admins (VLABS1\Domain Admins)
NoRecycleBin	Enabled	Windows11	5/27/2025 10:02:32 PM	Domain Admins (VLABS1\Domain Admins)
OpenSSHAuth	Enabled	None	5/25/2025 12:45:44 AM	Domain Admins (VLABS1\Domain Admins)
Public_Share	Enabled	None	5/26/2025 4:55:06 AM	Domain Admins (VLABS1\Domain Admins)
RestrictRegistryAccess	Enabled	None	5/21/2025 9:14:48 PM	Domain Admins (VLABS1\Domain Admins)
RestrictTeamsStarting	Enabled	None	5/23/2025 10:52:16 AM	Domain Admins (VLABS1\Domain Admins)
SharedUserData	Enabled	None	5/25/2025 7:18:30 PM	Domain Admins (VLABS1\Domain Admins)

5.4 Import Default Domain Controllers GPO settings into DC_Policy.

This process will copy the settings from the Default Domain Controllers Policy (from its backup) into your newly created DC_Policy.

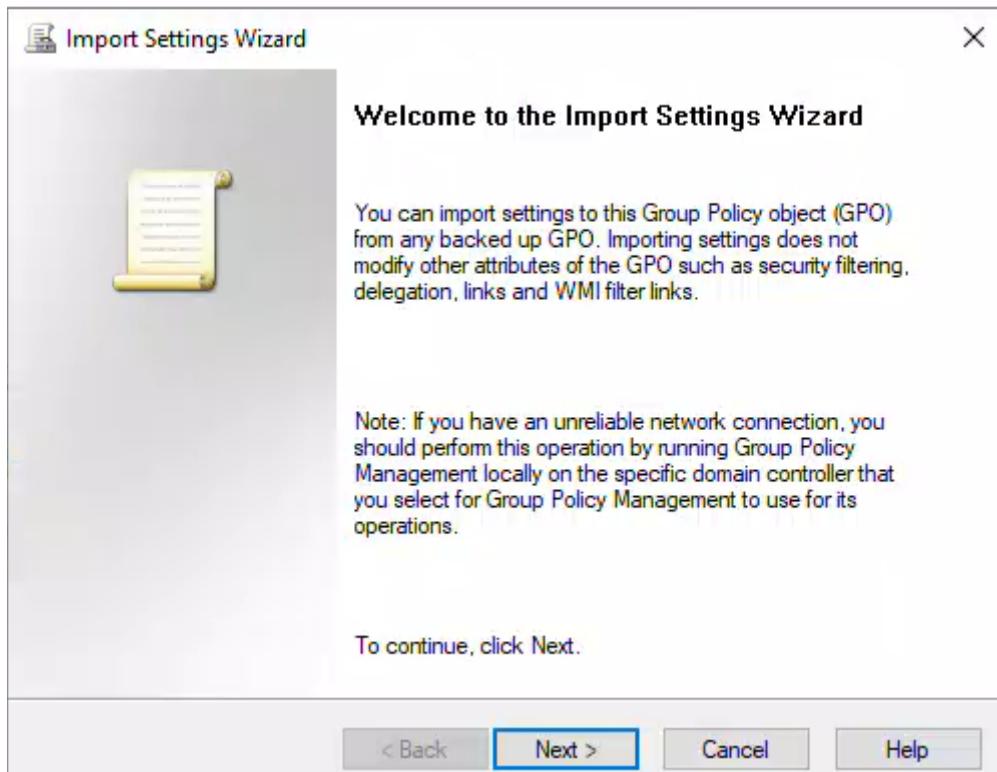
1. Select Target GPO:

- In the left-hand pane, right-click on **DC_Policy**.
- Select **Import Settings....**

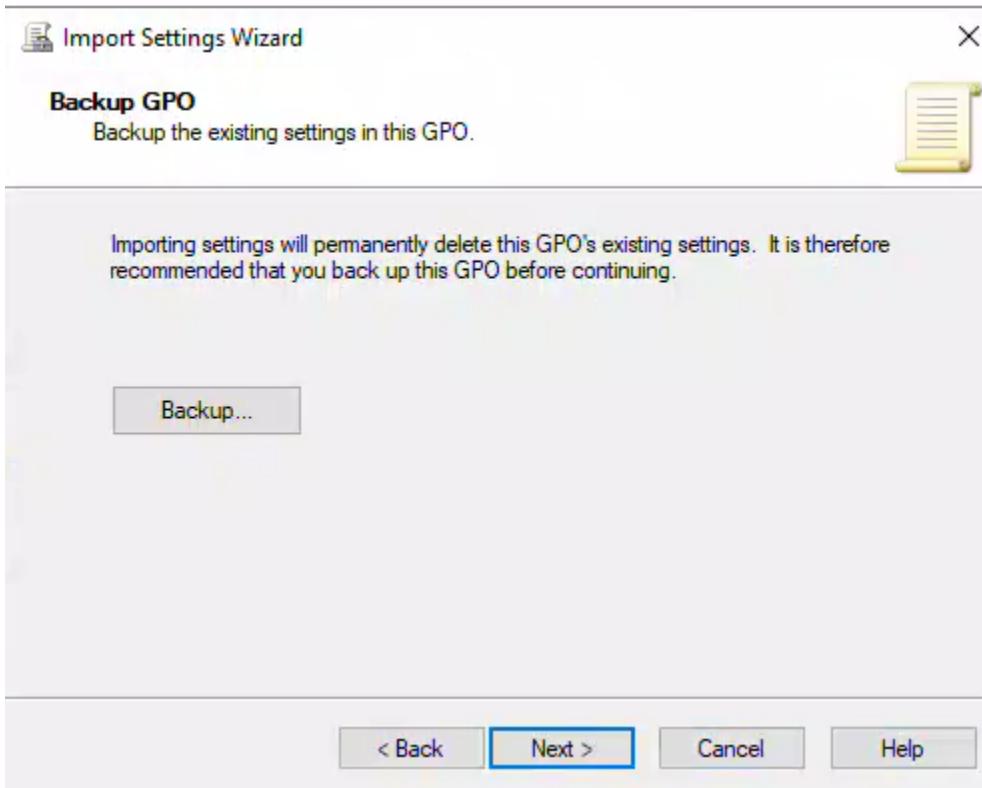


2. Follow the Import Settings Wizard:

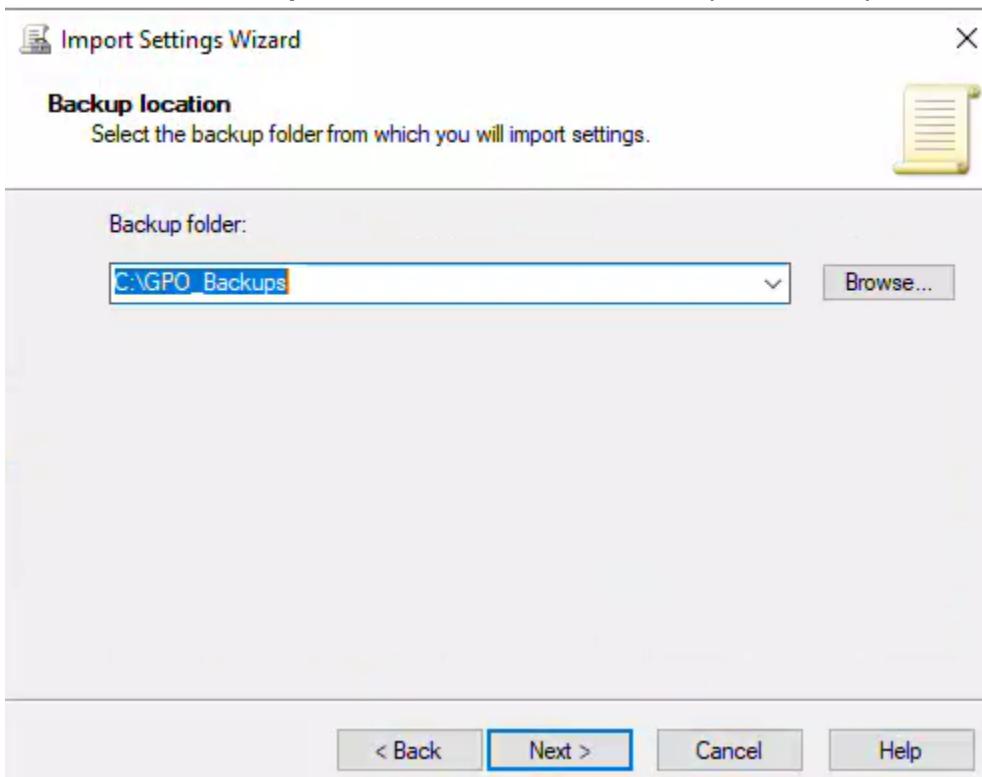
- **Welcome Page:** Click **Next**.



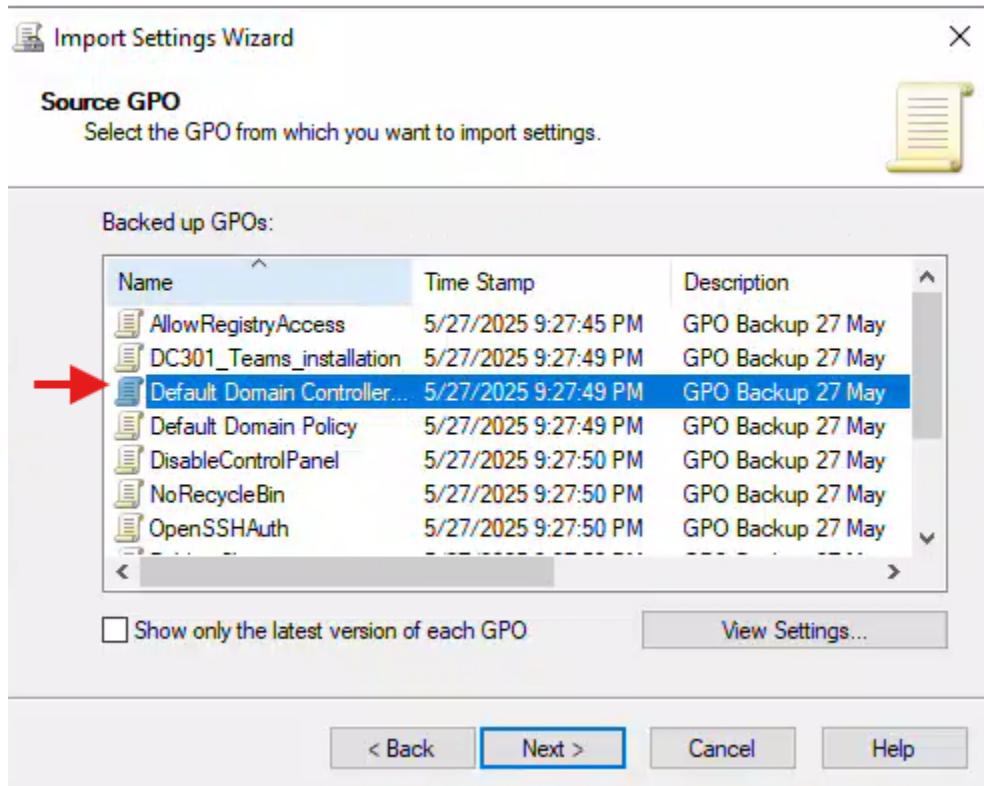
- **Backup GPO:** (Optional, but good practice). If you want to back up DC_Policy before importing, select **Back up this GPO**. Click **Next**.



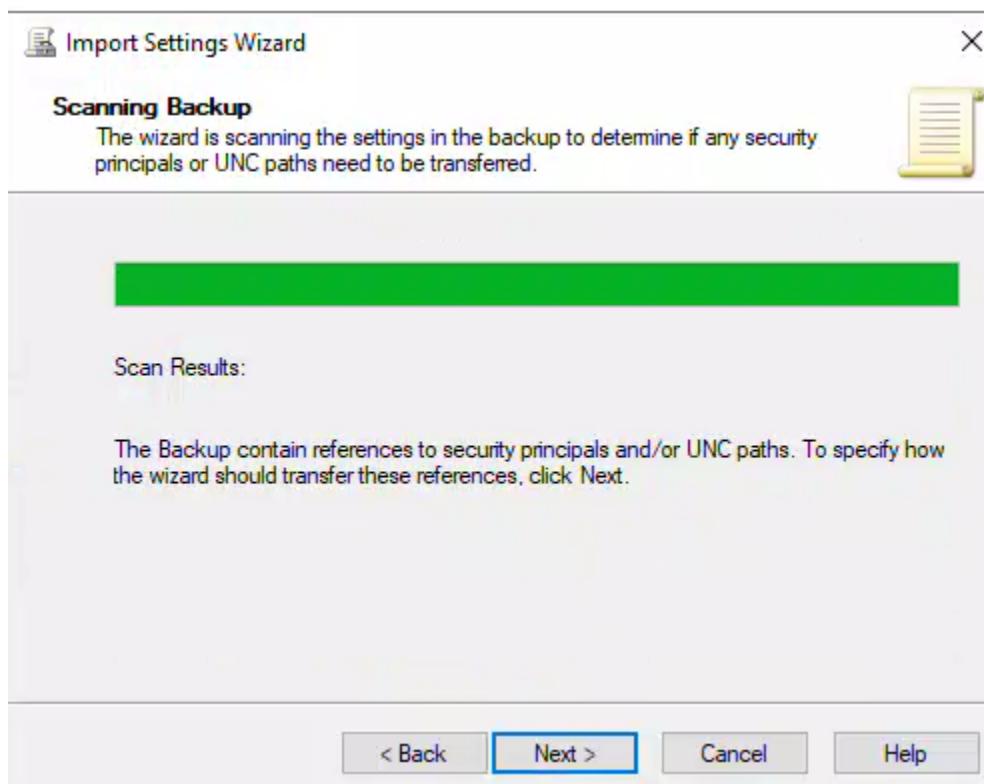
- **Backup Location:** Ensure the "Backup location" points to C:\GPO_Backups. Click **Next**.

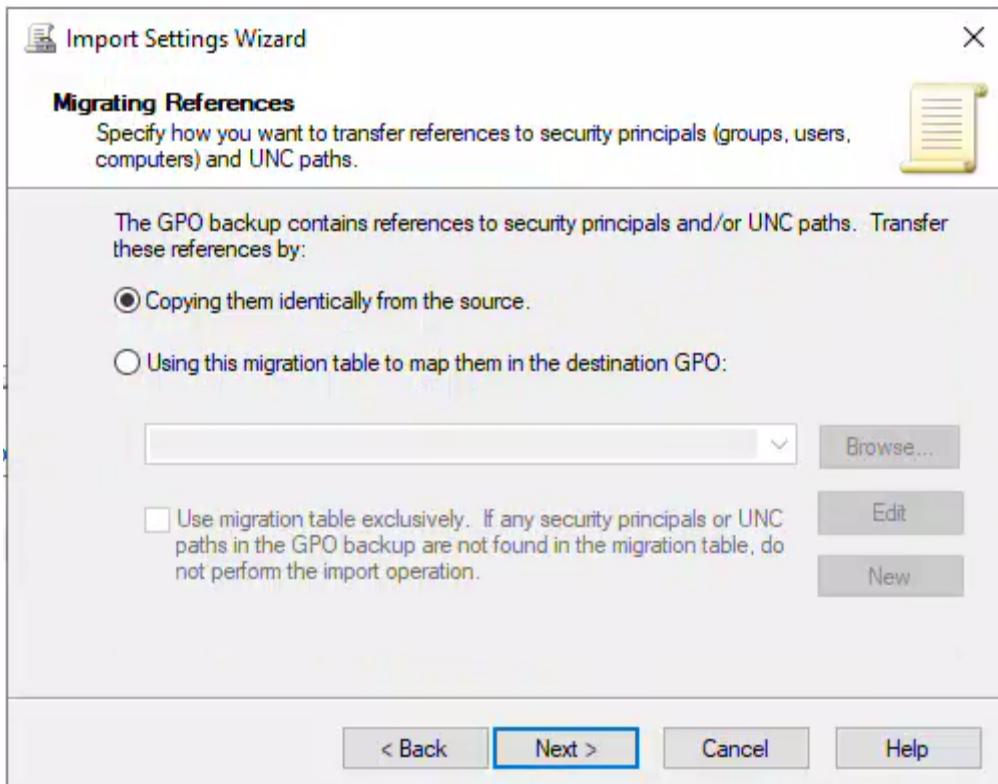


- **Source GPO:** Select the backup of **Default Domain Controllers Policy** from the list. Click **Next**.

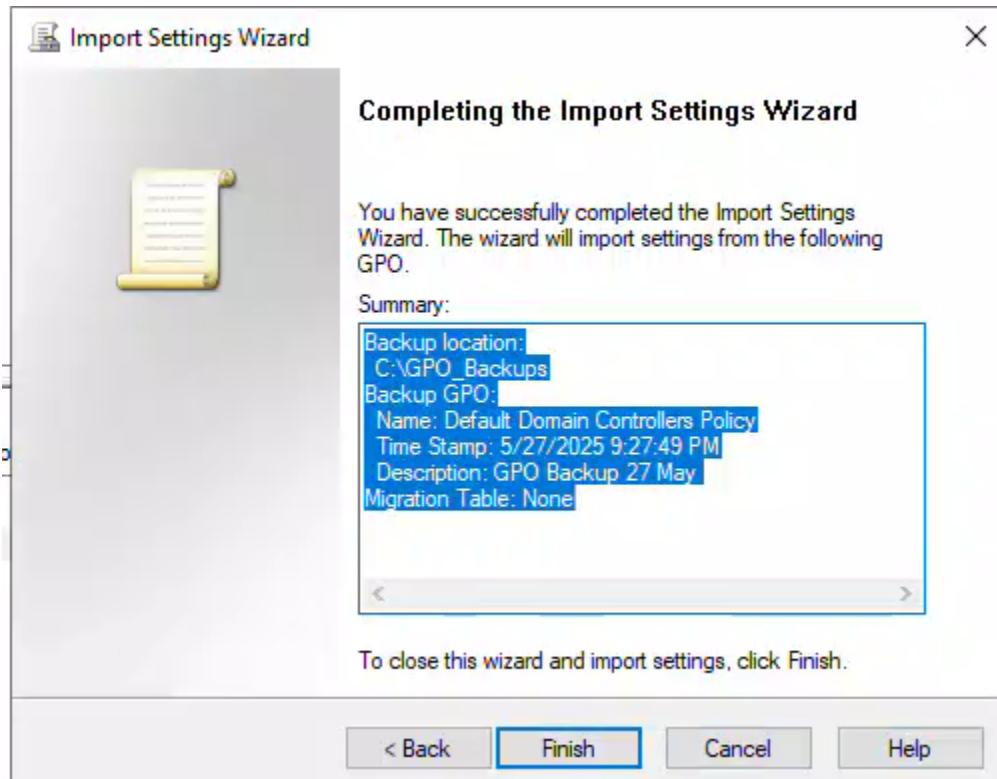


- **Scanning for Dependencies:** Let the wizard complete its scan. Click **Next**.

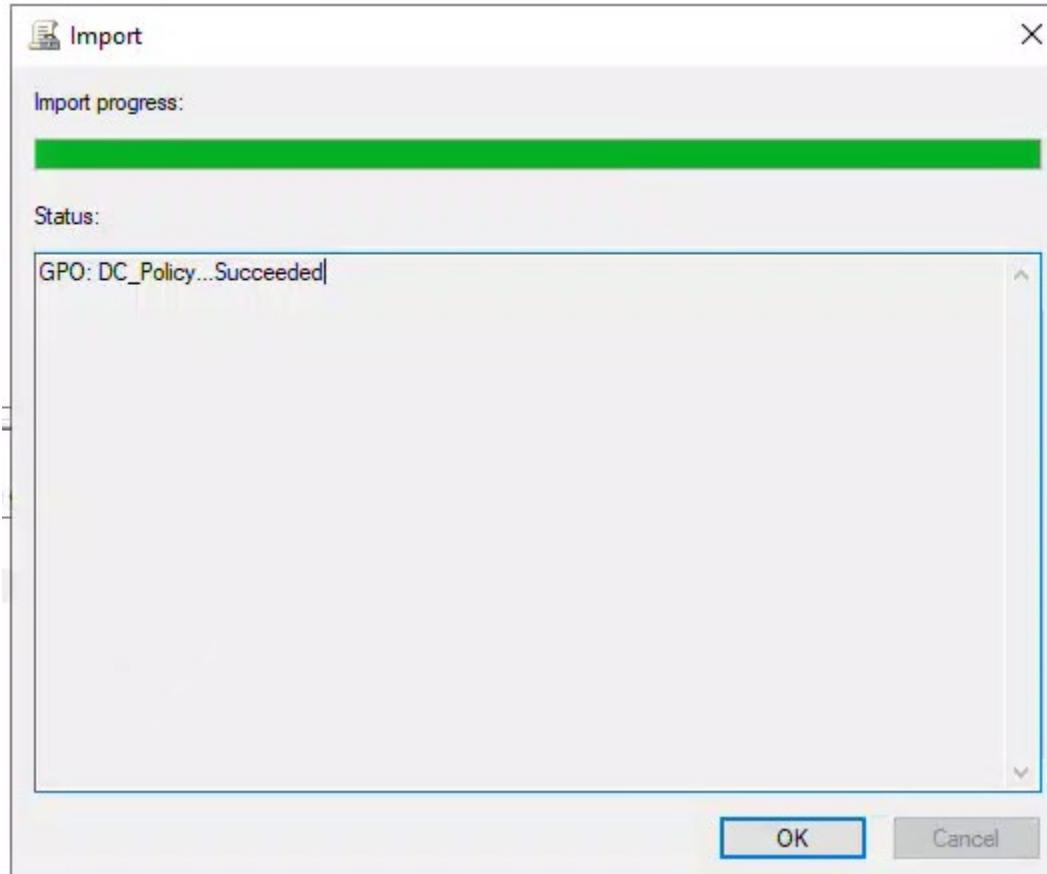




- **Summary:** Review the summary. Click **Finish**.



- **Confirmation:** Click **OK** on the "Importing GPO" completion message.



5.5 Verify DC_Policy new settings to confirm the importation.

1. Edit DC_Policy:

- In GPMC, right-click on **DC_Policy**.
- Select **Edit....** This will open the Group Policy Management Editor.

2. Check Settings:

- Navigate to a few settings that are typically found in the Default Domain Controllers Policy.
For example:
 - **Computer Configuration -> Policies -> Windows Settings -> Security Settings -> Local Policies -> User Rights Assignment**
 - Look for policies like "Access this computer from the network" or "Allow log on locally" and compare their configurations to what you know or remember from the Default Domain Controllers Policy.

3.

Policy	Policy Setting
Access Credential Manager as a trusted caller	Not Defined
Access this computer from the network	Pre-Windows 2000 Compatible ...
Act as part of the operating system	Not Defined
Add workstations to domain	Authenticated Users
Adjust memory quotas for a process	Administrators, NETWORK SERVI...
Allow log on locally	ENTERPRISE DOMAIN CONTRO...
Allow log on through Remote Desktop Services	Not Defined
Back up files and directories	Server Operators, Backup Operat...
Bypass traverse checking	Pre-Windows 2000 Compatible ...
Change the system time	Server Operators, Administrators...
Change the time zone	Not Defined
Create a pagefile	Administrators
Create a token object	Not Defined
Create global objects	Not Defined
Create permanent shared objects	Not Defined
Create symbolic links	Not Defined
Debug programs	Administrators
Deny access to this computer from the network	Not Defined
Deny log on as a batch job	Not Defined
Deny log on as a service	Not Defined
Deny log on locally	Not Defined
Deny log on through Remote Desktop Services	Not Defined
Enable computer and user accounts to be trusted for delega...	Administrators
Force shutdown from a remote system	Server Operators, Administrators
Generate security audits	NETWORK SERVICE, LOCAL SER...
Impersonate a client after authentication	Not Defined
Increase a process working set	Not Defined
Increase scheduling priority	Window Manager\Window Ma...
Load and unload device drivers	Print Operators, Administrators
Lock pages in memory	Not Defined
Log on as a batch job	Performance Log Users, Backup ...
Log on as a service	Not Defined
Manage auditing and security log	Administrators
Modify an object label	Not Defined
Modify firmware environment values	Administrators
Obtain an impersonation token for another user in the same...	Not Defined
Perform volume maintenance tasks	Not Defined
Profile single process	Administrators
Profile system performance	NT SERVICE\WdiServiceHost, Ad...

- You can also check Computer Configuration -> Administrative Templates to see if common administrative settings are populated.

Setting
Control Panel
Microsoft Office 2016 (Machine)
Microsoft PowerPoint 2016 (Machine)
Network
Printers
Server
Skype for Business 2016
Start Menu and Taskbar
System
Windows Components
All Settings

4. Close the Editor:

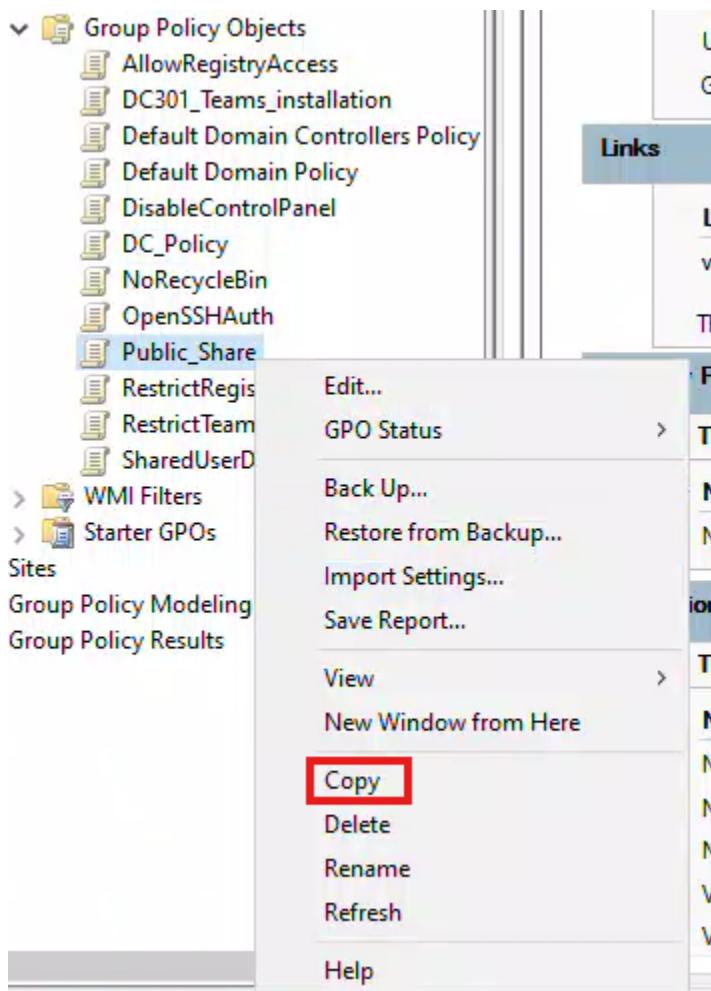
- Close the Group Policy Management Editor window.

5.6 Copy any existing GPO to a new one in the same domain.

We will copy Public_Share to a new GPO named Public_Share_Copy.

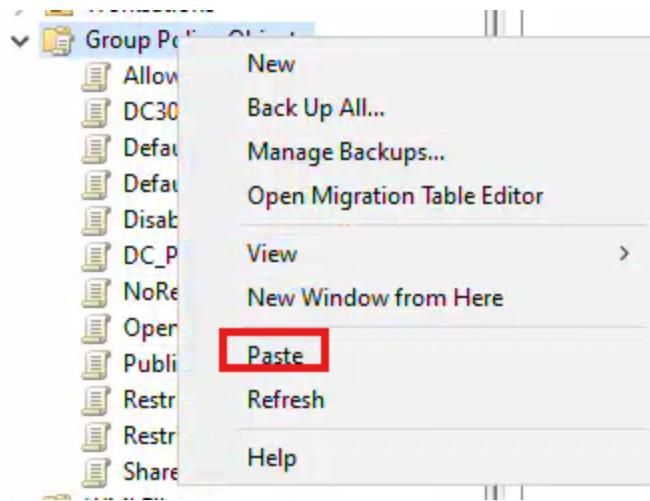
1. Copy Source GPO:

- In the left-hand pane, expand Group Policy Objects.
- Right-click on **Public_Share**.
- Select **Copy**.



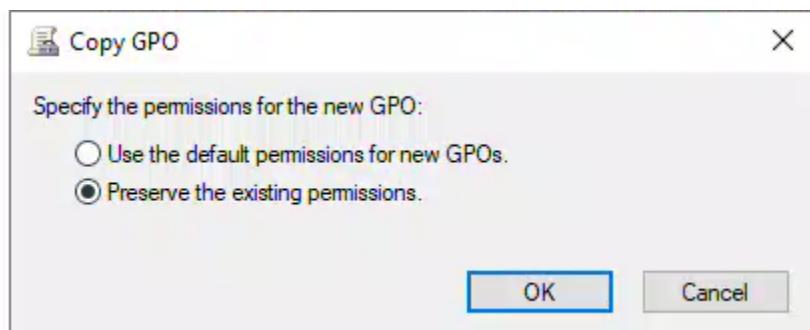
2. Paste as New GPO:

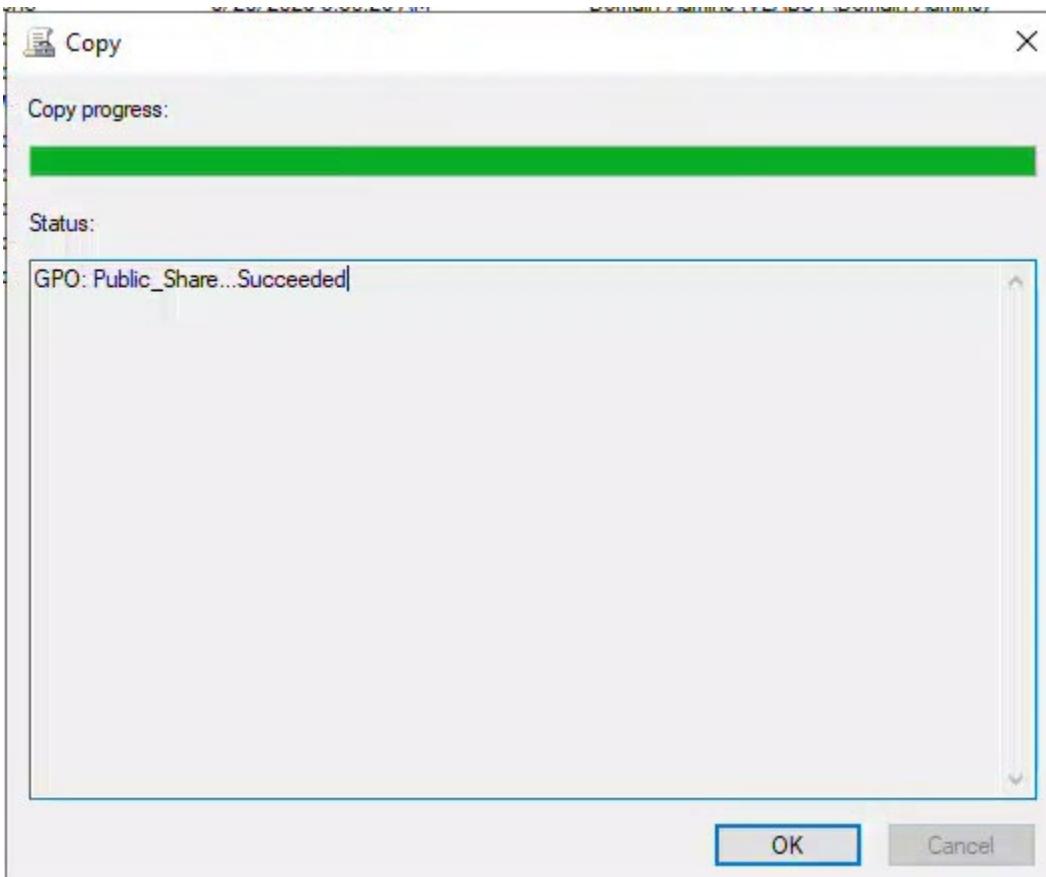
- Right-click on the **Group Policy Objects** container (in the left-hand pane).
- Select **Paste**.



3. Choose Copy Options:

- o In the "Copy GPO" dialog box:
 - Ensure "Copy GPO without links" is selected. (This creates a new GPO object but doesn't automatically link it anywhere).
 - You can choose "Delete current permissions on the new GPO" if you want default permissions, or keep "Preserve current permissions" if Public_Share had custom security settings you want to carry over. For simplicity, "Copy GPO without links" and "Preserve current permissions" is generally fine.
- o Click OK.





4. Rename the New GPO:

- A new GPO is created

Group Policy Objects in vlabs1.com				
Contents	Delegation			
Name	GPO Status	WMI Filter	Modified	Owner
AllowRegistryAccess	Enabled	None	5/22/2025 2:26:34 PM	Domain Admins (VLABS1\Domain Admins)
Copy of Public_Share	Enabled	None	5/27/2025 10:37:06 PM	Domain Admins (VLABS1\Domain Admins)
DC_Policy	Enabled	None	5/27/2025 10:21:07 PM	Domain Admins (VLABS1\Domain Admins)
DC301_Teams_installation	Enabled	None	5/26/2025 2:16:00 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Controllers Policy	Enabled	None	5/20/2025 3:30:26 AM	Domain Admins (VLABS1\Domain Admins)
Default Domain Policy	Enabled	None	5/27/2025 8:09:22 PM	Domain Admins (VLABS1\Domain Admins)
DisableControlPanel	Enabled	None	5/22/2025 1:02:20 AM	Domain Admins (VLABS1\Domain Admins)
NoRecycleBin	Enabled	Windows11	5/27/2025 10:02:32 PM	Domain Admins (VLABS1\Domain Admins)
OpenSSAuth	Enabled	None	5/25/2025 12:45:44 AM	Domain Admins (VLABS1\Domain Admins)
Public_Share	Enabled	None	5/26/2025 4:55:06 AM	Domain Admins (VLABS1\Domain Admins)
RestrictRegistryAccess	Enabled	None	5/21/2025 9:14:48 PM	Domain Admins (VLABS1\Domain Admins)
RestrictTeamsStarting	Enabled	None	5/23/2025 10:52:16 AM	Domain Admins (VLABS1\Domain Admins)
SharedUserData	Enabled	None	5/25/2025 7:18:30 PM	Domain Admins (VLABS1\Domain Admins)

5.7 Verify copied GPO settings.

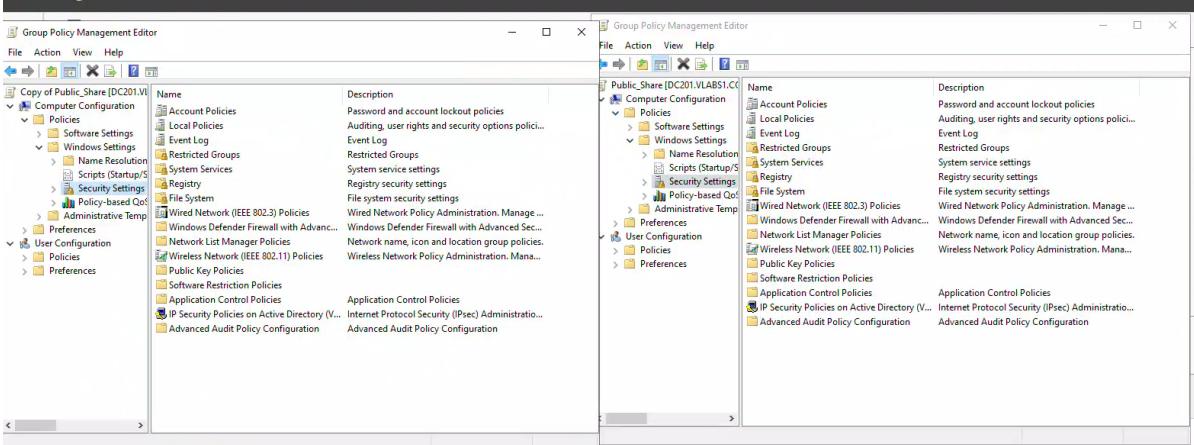
1. Edit Copy_of_Public_Share:

- In GPMC, right-click on **Copy_of_Public_Share**.
- Select **Edit....**

2. Compare Settings:

- Open Public_Share in another Group Policy Management Editor window (by right-clicking it and selecting "Edit...").
- Navigate to some settings in both Public_Share and Public_Share_Copy (e.g., if Public_Share had a mapped drive or a firewall rule).

- Confirm that the settings configured within Public_Share_Copy are identical to those in Public_Share.



3. Close Editors:

- Close both Group Policy Management Editor windows.

5.8 On DC101 using PowerShell:

- Perform the previous tasks using PowerShell.

Script

This script automates various Group Policy Object (GPO) management operations within an Active Directory domain, providing a structured way to perform tasks like backup, restore, modification, and copying of GPOs.

• Configuration:

- This section defines essential variables, such as your Active Directory domain name (\$DomainName) and the local path where GPO backups will be stored (\$GPOBackupPath). These variables make the script easy to adapt to different environments.

• Ensure GroupPolicy Module is Loaded:

- Before any GPO-related commands can run, the script ensures that the necessary GroupPolicy PowerShell module is loaded. It includes error handling to stop the script if the module cannot be found or loaded, preventing subsequent commands from failing.

• Cleaning Previous Runs and Ensuring Test GPOs Exist/Are Cleaned:

- This is a preparation phase. The script identifies a list of GPOs that will be used for testing. For each GPO in the list, it checks if it already exists in the domain. If found, it deletes them to ensure a clean starting state for the tests. It then recreates specific GPOs (NoRecycleBin, RollbackTestGPO) that are needed for later demonstration sections if they don't exist.

• 1. Backup all existing GPOs:

- This section performs a comprehensive backup of *all* GPOs in your domain to the specified \$GPOBackupPath. It creates the backup directory if it doesn't exist and stores references

to these backups for use in later restore and import operations.

- **2. Delete GPO (NoRecycleBin) and successfully restore it by recreating and importing settings:**

- This part demonstrates how to recover a GPO that might have been accidentally deleted. It first ensures the target GPO (NoRecycleBin) is removed. Then, it recreates a *new* GPO with the same name (which will have a different unique ID) and imports all the settings from its earlier backup into this newly created GPO, effectively restoring its configuration.

- **NEW SECTION: Create GPO, Modify, then Restore (Rollback) Settings:**

- This section illustrates how to revert changes made to an *existing* GPO. It takes a test GPO (RollbackTestGPO), modifies one of its settings (e.g., enabling "Disable CMD" via a registry value), and then uses an Import-GPO operation with its initial backup to roll back those changes, restoring the GPO to its state before the modification.

- **3. Create new GPO DC_Policy:**

- A simple command to create a brand-new, empty GPO named DC_Policy in the domain.

- **4. Import Default Domain Controllers Policy settings into DC_Policy:**

- This section shows how to standardize GPO configurations. It takes all the settings from an existing GPO (specifically, the "Default Domain Controllers Policy" via its backup) and imports them into the newly created DC_Policy GPO.

- **5. Verify DC_Policy new settings to confirm the importation:**

- After importing settings, this part generates an XML report of the DC_Policy GPO's current configuration. This report allows you to manually verify that the settings from the source GPO were successfully imported.

- **6. Copy any existing GPO to a new one in the same domain:**

- This demonstrates a straightforward way to duplicate an entire GPO. It copies an existing GPO (Public_Share) and all its settings and permissions to a new GPO named Public_Share_Copy.

- **7. Verify copied GPO settings:**

- Similar to the import verification, this section generates XML reports for both the source and destination GPOs of the copy operation, allowing you to manually confirm that the settings of the new GPO are identical to the original.

```
# PowerShell Script for Common GPO Management Tasks on DC101

# --- Configuration ---
$DomainName = "vlabs1.com"
$GPOBackupPath = "C:\GPO_Backups_PowerShell" # Ensure this path exists or can be created

# --- Ensure GroupPolicy module is loaded ---
Write-Host "--- Importing GroupPolicy Module ---" -ForegroundColor Yellow
try {
    Import-Module GroupPolicy -ErrorAction Stop
    Write-Host "GroupPolicy module loaded successfully." -ForegroundColor Green
    # Diagnostic: Check for specific cmdlets after module load
    $cmdlets = Get-Command -Module GroupPolicy | Select-Object -ExpandProperty Name
    if ($cmdlets -contains "Get-GPOBackup" -and $cmdlets -contains "Import-GPO" -and $cmdlets -contains "Restore-GPO") {
        Write-Host "Diagnostic: All critical GroupPolicy cmdlets are reported as available." -
        ForegroundColor Green
    }
}
```

```

    } else {
        Write-Error "Diagnostic: Some expected GroupPolicy cmdlets are NOT reported as available. This may
indicate an issue with the module installation."
        Write-Host "Available GroupPolicy cmdlets: $($cmdlets -join ', ')" -ForegroundColor Red
        # We will still try to proceed, but this warning is critical
    }
}
catch {
    Write-Error "Failed to load GroupPolicy module: $($_.Exception.Message)"
    exit 1
}
Write-Host ""

# --- Cleaning Previous Runs and Ensuring Test GPOs Exist/Are Cleaned ---
Write-Host "--- Starting Cleanup and Preparation of test GPOs ---" -ForegroundColor Magenta
# List of GPOs to ensure are cleaned or created for tests
$GPOsToCleanOrEnsureExist = @("DC_Policy", "Public_Share_Copy", "NoRecycleBin", "RollbackTestGPO")

foreach ($gpoName in $GPOsToCleanOrEnsureExist) {
    try {
        $gpo = Get-GPO -DisplayName $gpoName -ErrorAction SilentlyContinue
        if ($gpo) {
            # If GPO exists, delete it for a clean run
            Write-Host "Deleting existing GPO: '$gpoName'..." -ForegroundColor Yellow
            Remove-GPO -Guid $gpo.Id -Confirm:$false -ErrorAction Stop
            Write-Host "GPO '$gpoName' deleted successfully." -ForegroundColor Green
        }
        # Always recreate NoRecycleBin and RollbackTestGPO if they don't exist OR if they were just
        deleted
        if (-not (Get-GPO -DisplayName $gpoName -ErrorAction SilentlyContinue)) { # Re-check after
        potential deletion
            if ($gpoName -eq "NoRecycleBin" -or $gpoName -eq "RollbackTestGPO") {
                Write-Host "GPO '$gpoName' does not exist (or was just deleted). Creating it for test
purposes..." -ForegroundColor Yellow
                New-GPO -Name $gpoName -Domain $DomainName -ErrorAction Stop | Out-Null
                Write-Host "GPO '$gpoName' created successfully for test." -ForegroundColor Green
            } else {
                Write-Host "GPO '$gpoName' does not exist. Skipping creation (expected for a clean start
or will be created later)." -ForegroundColor DarkYellow
            }
        }
    }
    catch {
        Write-Error "Failed during cleanup/preparation for GPO '$gpoName': $($_.Exception.Message)"
    }
}
Write-Host "--- Cleanup and Preparation complete ---" -ForegroundColor Magenta
Write-Host ""

# --- 1. Backup all existing GPOs ---
Write-Host "--- Starting GPO Backup ---" -ForegroundColor Green
try {
    # Create backup directory if it doesn't exist
    if (-not (Test-Path $GPOBackupPath)) {
        New-Item -Path $GPOBackupPath -ItemType Directory -Force | Out-Null
        Write-Host "Created GPO backup directory: $GPOBackupPath" -ForegroundColor Yellow
    }

    # Store the backup objects for later use (especially for restore by GpoId)
    # This captures the state *before* any deletions/modifications in this script run
    $AllGPOBackups = Backup-GPO -All -Path $GPOBackupPath -Comment "Automated GPO Backup $(Get-Date -
Format 'yyyy-MM-dd HH-mm-ss')" -ErrorAction Stop
    Write-Host "All GPOs backed up successfully to: $GPOBackupPath" -ForegroundColor Green
}
catch {
    Write-Error "Failed to backup GPOs: $($_.Exception.Message)"
    exit 1
}
Write-Host ""

# --- 2. Delete GPO (NoRecycleBin) and successfully restore it by recreating and importing settings ---
# This section demonstrates deletion and then a successful restoration by recreating the GPO and importing
its settings.
$GPOToDeleteRestore = "NoRecycleBin"
Write-Host "--- Deleting and Successfully Restoring GPO: '$GPOToDeleteRestore' (Recreate & Import Method)
---" -ForegroundColor Green
try {
    # Ensure NoRecycleBin is deleted for a clean restore test

```

```

$TargetGPOForDelete = Get-GPO -DisplayName $GPOToDeleteRestore -ErrorAction SilentlyContinue
if ($TargetGPOForDelete) {
    Write-Host "Ensuring GPO '$GPOToDeleteRestore' is deleted before restore test..." -ForegroundColor Yellow
    Remove-GPO -Guid $TargetGPOForDelete.Id -Confirm:$false -ErrorAction Stop
    Write-Host "GPO '$GPOToDeleteRestore' deleted successfully for restore test." -ForegroundColor Green
} else {
    Write-Host "GPO '$GPOToDeleteRestore' is already deleted. Proceeding to recreate and import." -ForegroundColor Yellow
}

Write-Host "Attempting to recreate and restore GPO: '$GPOToDeleteRestore' from backup..." -ForegroundColor Yellow

# Find the backup object for NoRecycleBin from the current backup set
$NoRecycleBinBackup = $AllGPOBackups | Where-Object { $_.DisplayName -eq $GPOToDeleteRestore } | Select-Object -First 1

if ($NoRecycleBinBackup) {
    # Recreate the GPO with the same name
    $recreatedGPO = New-GPO -Name $GPOToDeleteRestore -Domain $DomainName -ErrorAction Stop
    Write-Host "GPO '$GPOToDeleteRestore' recreated successfully with new ID: $($recreatedGPO.Id)." -ForegroundColor Green

    # Import settings from the backup into the newly created GPO
    Import-GPO -TargetName $GPOToDeleteRestore -BackupId $NoRecycleBinBackup.Id -Path $GPOBackupPath -Confirm:$false -ErrorAction Stop
    Write-Host "Settings from backup successfully imported into recreated GPO '$GPOToDeleteRestore'." -ForegroundColor Green

    # Verification: Check if it exists and has settings
    $recreatedGPOAfterImport = Get-GPO -DisplayName $GPOToDeleteRestore -ErrorAction SilentlyContinue
    if ($recreatedGPOAfterImport) {
        Write-Host "Verification: '$GPOToDeleteRestore' GPO exists and settings are imported after recreation and import." -ForegroundColor Green
    } else {
        Write-Error "Verification: '$GPOToDeleteRestore' GPO does NOT exist after recreation and import attempt."
    }
} else {
    Write-Error "Backup for '$GPOToDeleteRestore' not found in the current backup set. Cannot recreate and import."
}
}

catch {
    Write-Error "Failed to delete, recreate, or import GPO '$GPOToDeleteRestore': $($_.Exception.Message)"
    # Continue script even if this fails, as other tasks are independent
}
Write-Host ""

# --- NEW SECTION: Create GPO, Modify, then Restore (Rollback) Settings ---
# This section demonstrates "Create then Restore" by rolling back changes to an existing GPO
$GPOToRollback = "RollbackTestGPO"
Write-Host "--- Starting 'Create, Modify, then Restore (Rollback) Settings' Test for '$GPOToRollback' ---" -ForegroundColor Green
try {
    # 1. Ensure GPO exists (it should have been created in cleanup if it didn't exist)
    $gpoRollback = Get-GPO -DisplayName $GPOToRollback -ErrorAction SilentlyContinue
    if (-not $gpoRollback) {
        Write-Error "Error: GPO '$GPOToRollback' was not found after cleanup. Cannot proceed with rollback test."
        throw "GPO missing for rollback test."
    }

    # 2. Get its backup ID from the initial script backup (captures initial 'clean' state)
    $RollbackGPOBackup = $AllGPOBackups | Where-Object { $_.DisplayName -eq $GPOToRollback } | Select-Object -First 1
    if (-not $RollbackGPOBackup) {
        Write-Error "Error: Initial backup for '$GPOToRollback' not found. Cannot perform rollback test."
        throw "Missing backup for rollback test."
    }

    # 3. Modify the GPO: Add a distinct registry setting
    # This simulates a change you want to roll back
    $RegKeyPath = "HKLM\Software\Policies\Microsoft\Windows\System"
    $RegValueName = "DisableCMD"
    $RegValueData = 1 # 1 = Disable CMD
}

```

```

Write-Host "Modifying '$GPOToRollback': Setting registry value '$RegValueName' to '$RegValueData'" -ForegroundColor Yellow
(Disabling CMD)... -ForegroundColor Yellow
Set-GPRegistryValue -Name $GPOToRollback -Key $RegKeyPath -ValueName $RegValueName -Value
$RegValueData -Type DWord -ErrorAction Stop

# Verify the change was applied within the GPO object (not necessarily applied to computers yet)
$currentRegValue = (Get-GPRegistryValue -Name $GPOToRollback -Key $RegKeyPath -ValueName $RegValueName -ErrorAction SilentlyContinue).Value
Write-Host "Current '$RegValueName' value in GPO: $currentRegValue (Expected: $RegValueData)" -ForegroundColor Cyan

# 4. "Restore" (Import from initial backup) the GPO settings
# This uses Import-GPO to overwrite current settings with those from the initial backup,
# effectively reverting the change made in step 3.
Write-Host "Attempting to 'restore' (import initial settings) for '$GPOToRollback' to roll back changes..." -ForegroundColor Yellow
Import-GPO -TargetName $GPOToRollback -BackupId $RollbackGPOBackup.Id -Path $GPOBackupPath -Confirm:$false -ErrorAction Stop
Write-Host "Settings from initial backup successfully 'restored' (imported) into '$GPOToRollback'." -ForegroundColor Green

# 5. Verify the rollback: Check if the registry setting is reverted (or removed if not in backup)
$revertedRegValue = (Get-GPRegistryValue -Name $GPOToRollback -Key $RegKeyPath -ValueName $RegValueName -ErrorAction SilentlyContinue)
if (-not $revertedRegValue) {
    Write-Host "Verification: Registry value '$RegValueName' was successfully removed/reverted from GPO '$GPOToRollback' (as expected)." -ForegroundColor Green
} elseif ($revertedRegValue.Value -ne $RegValueData) { # Check if it's now different from the value we set
    Write-Host "Verification: Registry value '$RegValueName' was successfully changed/reverted. Current value: $($revertedRegValue.Value)" -ForegroundColor Green
} else {
    Write-Error "Verification: Registry value '$RegValueName' was NOT successfully reverted for GPO '$GPOToRollback'. Current value: $($revertedRegValue.Value)"
}
}
catch {
    Write-Error "Failed to perform 'Create, Modify, then Restore (Rollback)' test for '$GPOToRollback': $($_.Exception.Message)"
}
Write-Host ""

# --- 3. Create new GPO DC_Policy ---
$NewGPOName = "DC_Policy"
Write-Host "--- Creating new GPO: '$NewGPOName' ---" -ForegroundColor Green
try {
    # It should have been deleted in cleanup, so we create it here
    New-GPO -Name $NewGPOName -Domain $DomainName -ErrorAction Stop
    Write-Host "GPO '$NewGPOName' created successfully." -ForegroundColor Green
}
catch {
    Write-Error "Failed to create GPO '$NewGPOName': $($_.Exception.Message)"
    exit 1
}
Write-Host ""

# --- 4. Import Default Domain Controllers Policy settings into DC_Policy ---
$SourceGPOToImport = "Default Domain Controllers Policy"
Write-Host "--- Importing settings from '$SourceGPOToImport' into '$NewGPOName' ---" -ForegroundColor Green
try {
    # Get the GUID of the source GPO from the previously captured backups
    $SourceGPOBackup = $AllGPOBackups | Where-Object { $_.DisplayName -eq $SourceGPOToImport } | Select-Object -First 1

    if ($SourceGPOBackup) {
        Import-GPO -TargetName $NewGPOName -BackupId $SourceGPOBackup.Id -Path $GPOBackupPath -Confirm:$false -ErrorAction Stop
        Write-Host "Settings from '$SourceGPOToImport' imported successfully into '$NewGPOName'." -ForegroundColor Green
    } else {
        Write-Error "Backup for '$SourceGPOToImport' not found in the current backup set. Cannot import settings."
    }
}

# --- 5. Verify DC_Policy new settings to confirm the importation ---
$NewGPOReportPath = Join-Path $GPOBackupPath "${NewGPOName}.Settings.xml"

```

```

Get-GPOReport -Name $NewGPOName -ReportType Xml -Path $NewGPOReportPath -ErrorAction Stop
Write-Host "Verification: Settings for '$NewGPOName' exported to '$NewGPOReportPath'. Review this file
to confirm imported settings." -ForegroundColor Cyan
Write-Host "You can manually compare this XML with a report of '$SourceGPOToImport'." -ForegroundColor Cyan
}
catch {
    Write-Error "Failed to import settings into GPO '$NewGPOName': $($_.Exception.Message)"
    # Continue script even if this fails
}
Write-Host ""

# --- 6. Copy any existing GPO to a new one in the same domain ---
$SourceGPOCopy = "Public_Share"
$DestinationGPOCopy = "Public_Share_Copy"
Write-Host "--- Copying GPO '$SourceGPOCopy' to '$DestinationGPOCopy' ---" -ForegroundColor Green
try {
    # It should have been deleted in cleanup, so we create it here via copy
    Copy-GPO -SourceName $SourceGPOCopy -TargetName $DestinationGPOCopy -Domain $DomainName -ErrorAction Stop
    Write-Host "GPO '$SourceGPOCopy' copied successfully to '$DestinationGPOCopy'." -ForegroundColor Green
}

# --- 7. Verify copied GPO settings ---
$SourceCopyReportPath = Join-Path $GPOBackupPath "${SourceGPOCopy}_Settings.xml"
$DestinationCopyReportPath = Join-Path $GPOBackupPath "${DestinationGPOCopy}_Settings.xml"

Get-GPOReport -Name $SourceGPOCopy -ReportType Xml -Path $SourceCopyReportPath -ErrorAction Stop
Get-GPOReport -Name $DestinationGPOCopy -ReportType Xml -Path $DestinationCopyReportPath -ErrorAction Stop
Write-Host "Verification: Settings for '$SourceGPOCopy' exported to '$SourceCopyReportPath'." -
ForegroundColor Cyan
Write-Host "Verification: Settings for '$DestinationGPOCopy' exported to
'$DestinationCopyReportPath'." -ForegroundColor Cyan
Write-Host "Manually compare these XML files to confirm settings are identical." -ForegroundColor Cyan
}
catch {
    Write-Error "Failed to copy GPO '$SourceGPOCopy': $($_.Exception.Message)"
}
Write-Host ""

Write-Host "--- All GPO Management Tasks Completed ---" -ForegroundColor Green

```

Result

```

PS C:\> C:\task3.ps1
--- Importing GroupPolicy Module ---
GroupPolicy module loaded successfully.
C:\task3.ps1 : Diagnostic: Some expected GroupPolicy cmdlets are NOT reported as
available. This may indicate an issue with the module installation.
+ CategoryInfo          : NotSpecified: (:) [Write-Error], WriteErrorException
+ FullyQualifiedErrorId :
Microsoft.PowerShell.Commands.WriteErrorException,task3.ps1

Available GroupPolicy cmdlets: Get-GPPermissions, Set-GPPermissions, Backup-GPO,
Copy-GPO, Get-GPIInheritance, Get-GPO, Get-GPOReport, Get-GPPermission, Get-
GPPrefRegistryValue, Get-GPRegistryValue, Get-GPResultantSetOfPolicy,
Get-GPStarterGPO, Import-GPO, Invoke-GPUpdate, New-GPLink, New-GPO, New-
GPStarterGPO, Remove-GPLink, Remove-GPO, Remove-GPPrefRegistryValue, Remove-
GPRegistryValue, Rename-GPO, Restore-GPO, Set-GPIInheritance, Set-GPLink, Set
-GPPermission, Set-GPPrefRegistryValue, Set-GPRegistryValue

--- Starting Cleanup and Preparation of test GPOs ---
Deleting existing GPO: 'DC_Policy'...
GPO 'DC_Policy' deleted successfully.
GPO 'DC_Policy' does not exist. Skipping creation (expected for a clean start or
will be created later).
Deleting existing GPO: 'Public_Share_Copy'...
GPO 'Public_Share_Copy' deleted successfully.
GPO 'Public_Share_Copy' does not exist. Skipping creation (expected for a clean
start or will be created later).

```

```
GPO 'NoRecycleBin' does not exist (or was just deleted). Creating it for test purposes...
GPO 'NoRecycleBin' created successfully for test.
GPO 'RollbackTestGPO' does not exist (or was just deleted). Creating it for test purposes...
GPO 'RollbackTestGPO' created successfully for test.
--- Cleanup and Preparation complete ---
```

```
--- Starting GPO Backup ---
```

```
All GPOs backed up successfully to: C:\GPO_Backups_PowerShell
```

```
--- Deleting and Successfully Restoring GPO: 'NoRecycleBin' (Recreate & Import Method) ---
Ensuring GPO 'NoRecycleBin' is deleted before restore test...
GPO 'NoRecycleBin' deleted successfully for restore test.
Attempting to recreate and restore GPO: 'NoRecycleBin' from backup...
GPO 'NoRecycleBin' recreated successfully with new ID: fd5d6f7a-1c1b-491e-966d-dddefc5e841c.
```

```
DisplayName      : NoRecycleBin
DomainName      : vlabs1.com
Owner           : VLABS1\Domain Admins
Id              : fd5d6f7a-1c1b-491e-966d-dddefc5e841c
GpoStatus        : AllSettingsEnabled
Description      :
CreationTime    : 5/27/2025 11:24:09 PM
ModificationTime: 5/27/2025 11:24:09 PM
UserVersion      : AD Version: 1, SysVol Version: 1
ComputerVersion  : AD Version: 1, SysVol Version: 1
WmiFilter        :
```

```
Settings from backup successfully imported into recreated GPO 'NoRecycleBin'.
Verification: 'NoRecycleBin' GPO exists and settings are imported after recreation and import.
```

```
--- Starting 'Create, Modify, then Restore (Rollback) Settings' Test for 'RollbackTestGPO' ---
```

```
Modifying 'RollbackTestGPO': Setting registry value 'DisableCMD' to '1' (Disabling CMD) ...
```

```
DisplayName      : RollbackTestGPO
DomainName      : vlabs1.com
Owner           : VLABS1\Domain Admins
Id              : 5095acea-b0b7-4811-ae1b-a727863953ed
GpoStatus        : AllSettingsEnabled
Description      :
CreationTime    : 5/27/2025 11:24:07 PM
ModificationTime: 5/27/2025 11:24:08 PM
UserVersion      : AD Version: 0, SysVol Version: 0
ComputerVersion  : AD Version: 1, SysVol Version: 1
WmiFilter        :
```

```
Current 'DisableCMD' value in GPO: 1 (Expected: 1)
Attempting to 'restore' (import initial settings) for 'RollbackTestGPO' to roll back changes...
```

```
DisplayName      : RollbackTestGPO
DomainName      : vlabs1.com
Owner           : VLABS1\Domain Admins
Id              : 5095acea-b0b7-4811-ae1b-a727863953ed
GpoStatus        : AllSettingsEnabled
Description      :
CreationTime    : 5/27/2025 11:24:07 PM
ModificationTime: 5/27/2025 11:24:10 PM
UserVersion      : AD Version: 1, SysVol Version: 1
ComputerVersion  : AD Version: 2, SysVol Version: 2
WmiFilter        :
```

```
Settings from initial backup successfully 'restored' (imported) into 'RollbackTestGPO'.
```

```
Verification: Registry value 'DisableCMD' was successfully removed/reverted from
```

```
GPO 'RollbackTestGPO' (as expected).
```

```
--- Creating new GPO: 'DC_Policy' ---
DisplayName      : DC_Policy
DomainName       : vlabsl.com
Owner            : VLABS1\Domain Admins
Id               : 66729572-eb6d-475a-a89f-88a11499804d
GpoStatus        : AllSettingsEnabled
Description       :
CreationTime     : 5/27/2025 11:24:10 PM
ModificationTime : 5/27/2025 11:24:10 PM
UserVersion      : AD Version: 0, SysVol Version: 0
ComputerVersion  : AD Version: 0, SysVol Version: 0
WmiFilter        :
```

GPO 'DC_Policy' created successfully.

```
--- Importing settings from 'Default Domain Controllers Policy' into 'DC_Policy' --
```

```
-
DisplayName      : DC_Policy
DomainName       : vlabsl.com
Owner            : VLABS1\Domain Admins
Id               : 66729572-eb6d-475a-a89f-88a11499804d
GpoStatus        : AllSettingsEnabled
Description       :
CreationTime     : 5/27/2025 11:24:10 PM
ModificationTime : 5/27/2025 11:24:10 PM
UserVersion      : AD Version: 1, SysVol Version: 1
ComputerVersion  : AD Version: 1, SysVol Version: 1
WmiFilter        :
```

Settings from 'Default Domain Controllers Policy' imported successfully into 'DC_Policy'.

Verification: Settings for 'DC_Policy' exported to 'C:\GPO_Backups_PowerShell\DC_Policy_Settings.xml'. Review this file to confirm imported settings.

You can manually compare this XML with a report of 'Default Domain Controllers Policy'.

```
--- Copying GPO 'Public_Share' to 'Public_Share_Copy' ---
```

```
DisplayName      : Public_Share_Copy
DomainName       : vlabsl.com
Owner            : VLABS1\Domain Admins
Id               : dd3325d5-118d-4709-a641-6c41274c1ed7
GpoStatus        : AllSettingsEnabled
Description       :
CreationTime     : 5/27/2025 11:24:10 PM
ModificationTime : 5/27/2025 11:24:11 PM
UserVersion      : AD Version: 1, SysVol Version: 1
ComputerVersion  : AD Version: 1, SysVol Version: 1
WmiFilter        :
```

GPO 'Public_Share' copied successfully to 'Public_Share_Copy'.

Verification: Settings for 'Public_Share' exported to 'C:\GPO_Backups_PowerShell\Public_Share_Settings.xml'.

Verification: Settings for 'Public_Share_Copy' exported to 'C:\GPO_Backups_PowerShell\Public_Share_Copy_Settings.xml'.

Manually compare these XML files to confirm settings are identical.

```
--- All GPO Management Tasks Completed ---
```

```
PS C:\>
```

```
Settings from backup successfully imported into recreated GPO 'NoRecycleBin'.
Verification: 'NoRecycleBin' GPO exists and settings are imported after recreation and import.

--- Starting 'Create, Modify, then Restore (Rollback) Settings' Test for 'RollbackTestGPO' ---
Modifying 'RollbackTestGPO': Setting registry value 'DisableCMD' to '1' (Disabling CMD)...
DisplayName : RollbackTestGPO
DomainName : vlabsl.com
Owner : VLABSL\Domain Admins
Id : 5095acea-b0b7-4811-aeb-a727863953ed
GpoStatus : AllSettingsEnabled
Description :
CreationTime : 5/27/2025 11:24:07 PM
ModificationTime : 5/27/2025 11:24:08 PM
UserVersion : AD Version: 0, SysVol Version: 0
ComputerVersion : AD Version: 1, SysVol Version: 1
WmiFilter :

Current 'DisableCMD' value in GPO: 1 (Expected: 1)
Attempting to 'restore' (import initial settings) for 'RollbackTestGPO' to roll back changes...
DisplayName : RollbackTestGPO
DomainName : vlabsl.com
Owner : VLABSL\Domain Admins
Id : 5095acea-b0b7-4811-aeb-a727863953ed
GpoStatus : AllSettingsEnabled
Description :
CreationTime : 5/27/2025 11:24:07 PM
ModificationTime : 5/27/2025 11:24:10 PM
UserVersion : AD Version: 1, SysVol Version: 1
ComputerVersion : AD Version: 2, SysVol Version: 2
WmiFilter :

Settings from initial backup successfully 'restored' (imported) into 'RollbackTestGPO'.
Verification: Registry value 'DisableCMD' was successfully removed/reverted from GPO 'RollbackTestGPO' (as expected).

--- Creating new GPO: 'DC_Policy' ---
DisplayName : DC_Policy
DomainName : vlabsl.com
Owner : VLABSL\Domain Admins
Id : 66729572-eb6d-475a-a89f-88a11499804d
GpoStatus : AllSettingsEnabled
Description :
CreationTime : 5/27/2025 11:24:10 PM
ModificationTime : 5/27/2025 11:24:10 PM
UserVersion : AD Version: 0, SysVol Version: 0
ComputerVersion : AD Version: 0, SysVol Version: 0
WmiFilter :

GPO 'DC_Policy' created successfully.
```

```

--- Importing settings from 'Default Domain Controllers Policy' into 'DC_Policy' ---
DisplayName : DC_Policy
DomainName : vlabsl.com
Owner : VLabs1\Domain Admins
Id : 66729572-e86d-475a-a89f-88a11499804d
GpoStatus : AllSettingsEnabled
Description :
CreationTime : 5/27/2025 11:24:10 PM
ModificationTime : 5/27/2025 11:24:10 PM
UserVersion : AD Version: 1, SysVol Version: 1
ComputerVersion : AD Version: 1, SysVol Version: 1
WmiFilter :

Settings from 'Default Domain Controllers Policy' imported successfully into 'DC_Policy'.
Verification: Settings for 'DC_Policy' exported to 'C:\GPO_Backups_PowerShell\DC_Policy_Settings.xml'. Review this file to confirm imported settings.
You can manually compare this XML with a report of 'Default Domain Controllers Policy'.

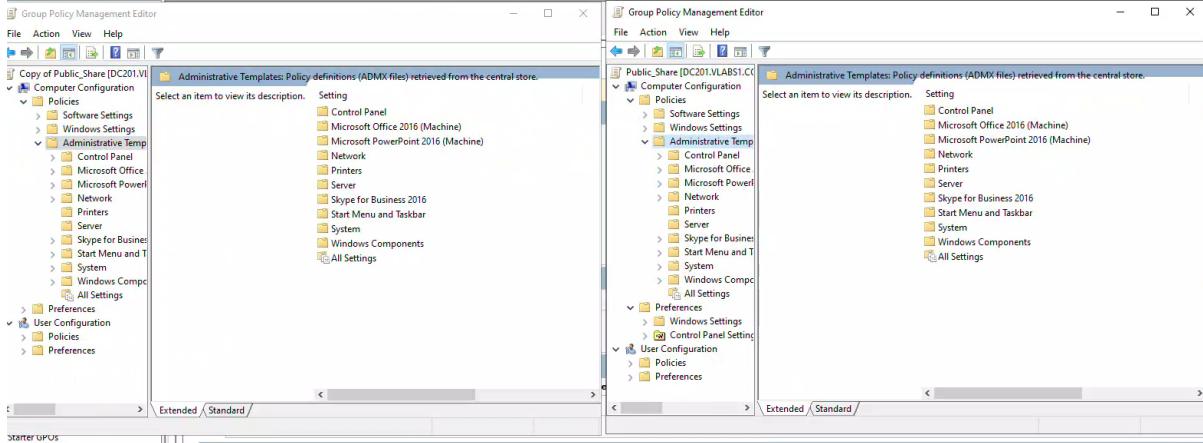
--- Copying GPO 'Public_Share' to 'Public_Share_Copy' ---
DisplayName : Public_Share_Copy
DomainName : vlabsl.com
Owner : VLabs1\Domain Admins
Id : dd3325d5-118d-4709-a641-6c41274c1ed7
GpoStatus : AllSettingsEnabled
Description :
CreationTime : 5/27/2025 11:24:10 PM
ModificationTime : 5/27/2025 11:24:11 PM
UserVersion : AD Version: 1, SysVol Version: 1
ComputerVersion : AD Version: 1, SysVol Version: 1
WmiFilter :

GPO 'Public_Share' copied successfully to 'Public_Share_Copy'.
Verification: Settings for 'Public_Share' exported to 'C:\GPO_Backups_PowerShell\Public_Share_Settings.xml'.
Verification: Settings for 'Public_Share_Copy' exported to 'C:\GPO_Backups_PowerShell\Public_Share_Copy_Settings.xml'.
Manually compare these XML files to confirm settings are identical.

--- All GPO Management Tasks Completed ---

PS C:\>

```



6 Task 4: Group Policy Modeling and Results On DC101:

- Open **Group Policy Management Console**.
- Use **Group Policy Modeling** to predict the effect of applied GPOs for a user in **HR OU**.
- Use **Group Policy Results** to test the GPOs results on **DC101**.

6.1 Part 1: Use Group Policy Modeling (Predictive Analysis)

6.1.1 Create for OU

Group Policy Modeling allows you to simulate the application of GPOs to a user or computer, or a combination, without actually applying them. This is great for planning and troubleshooting.

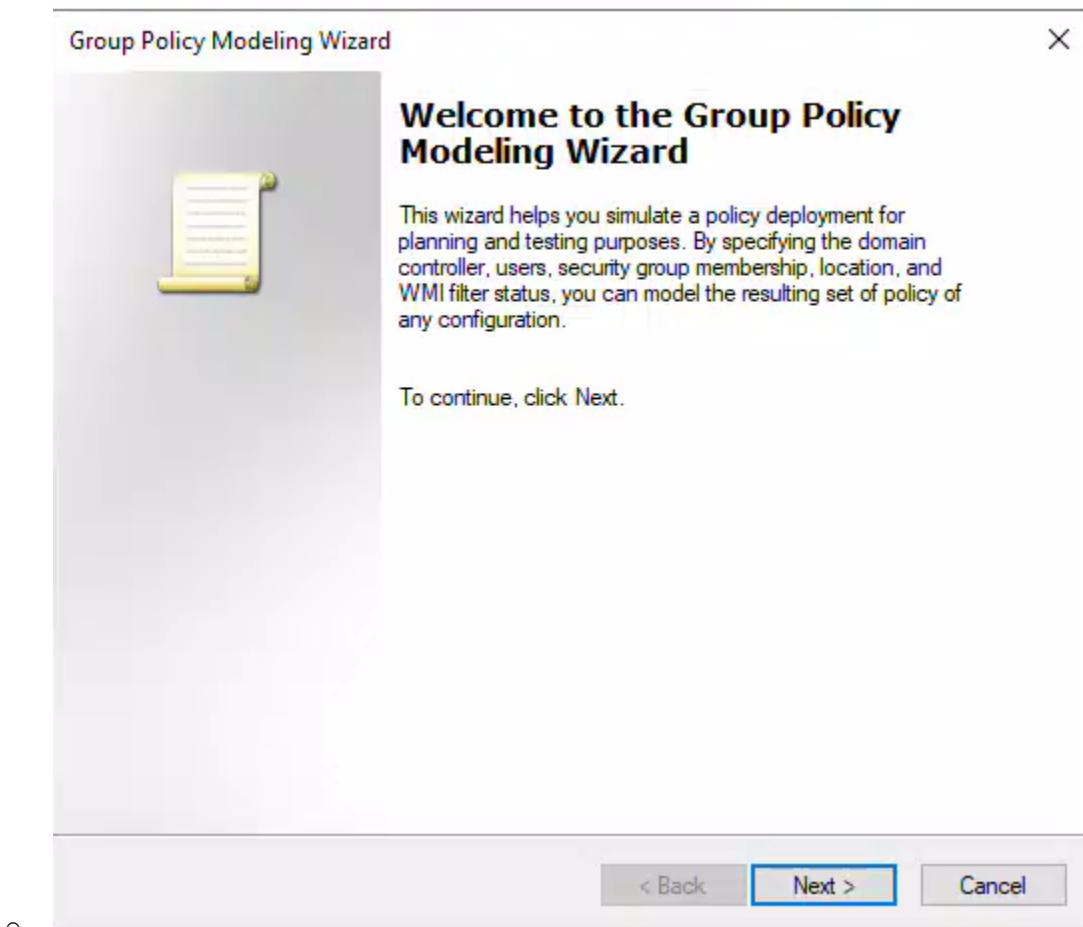
1. Open Group Policy Management Console (GPMC):

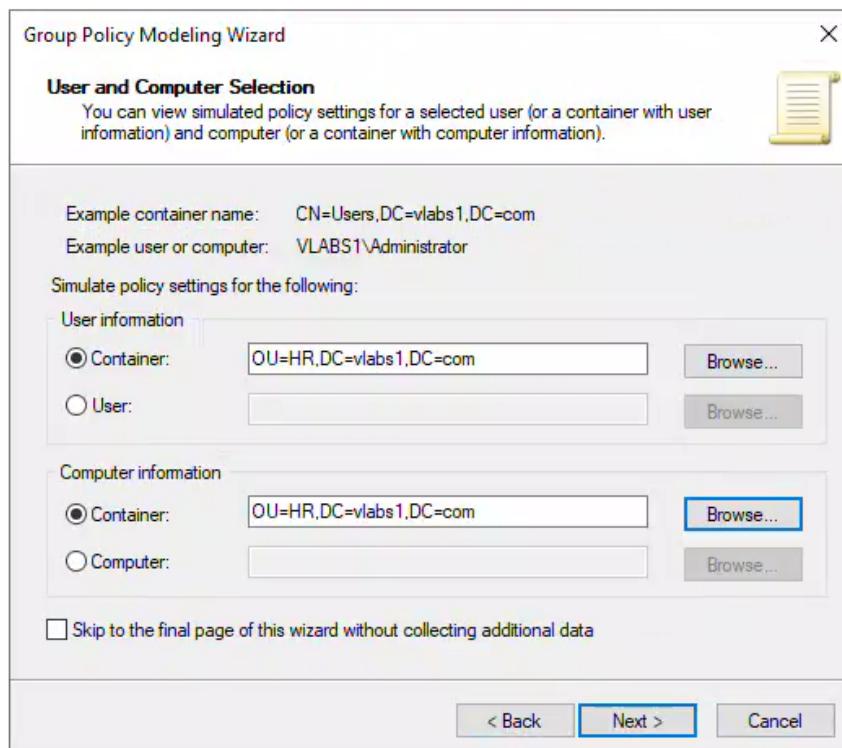
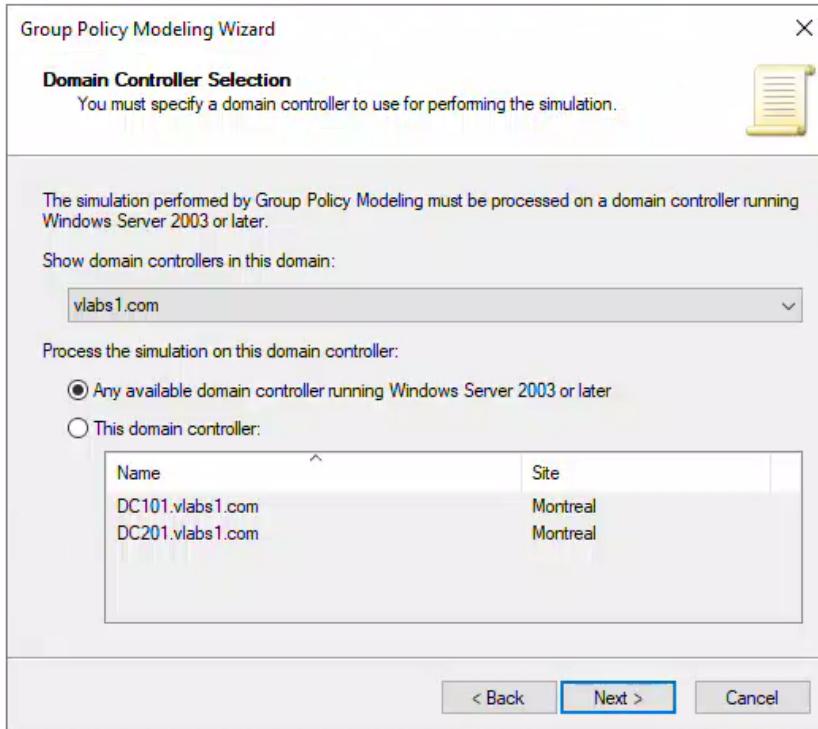
- On DC101, open **Server Manager**.
- Click **Tools** in the top right corner.
- Select **Group Policy Management**.

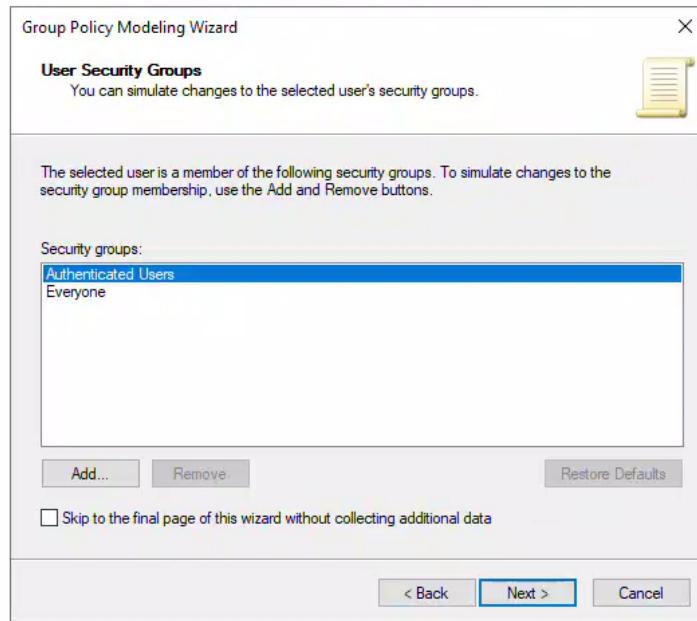
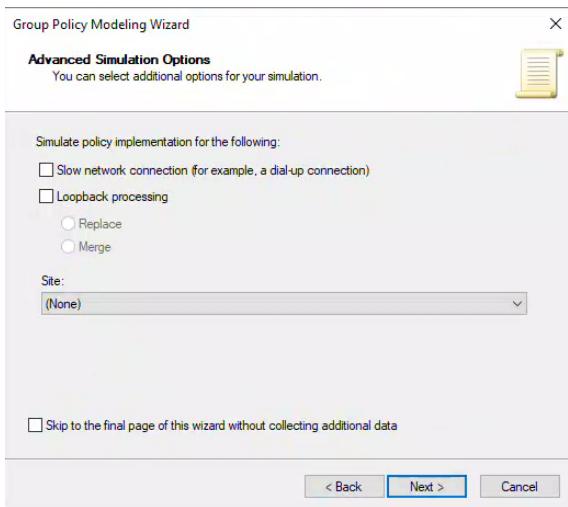
2. Navigate to Group Policy Modeling:

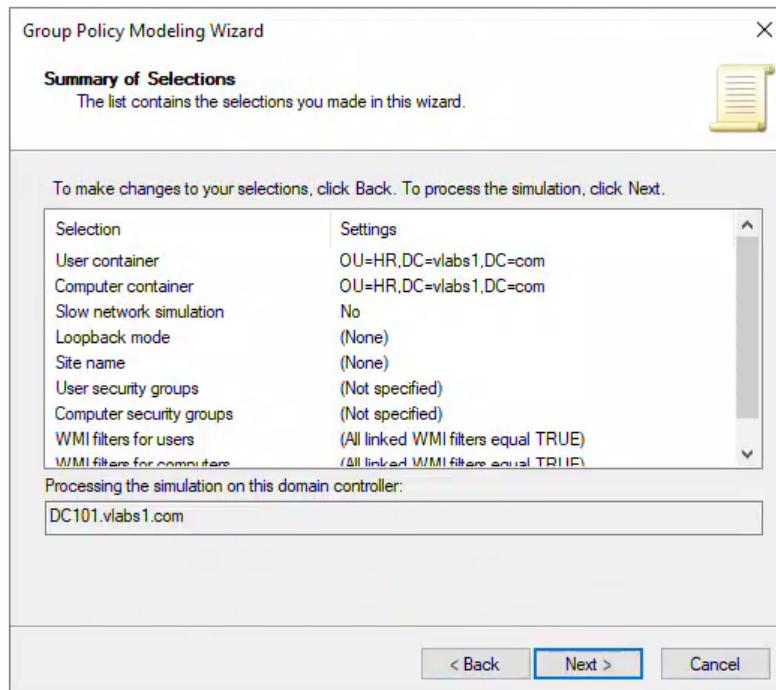
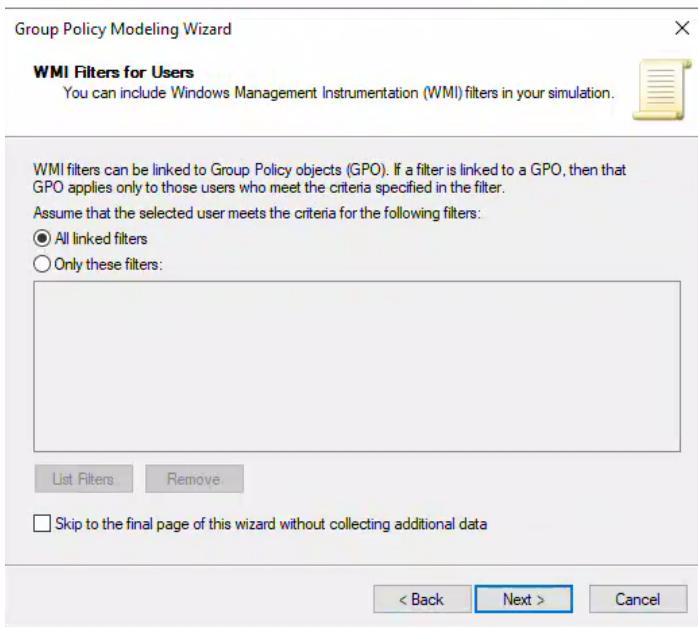
- In the GPMC tree, expand your forest (e.g., Forest: vlabsl.com).

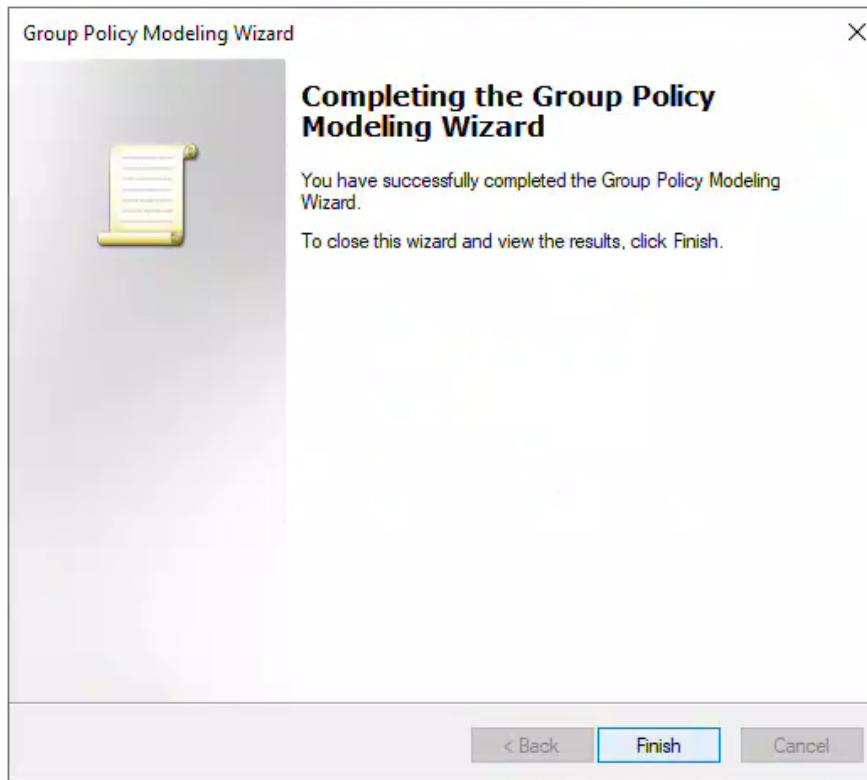
- Expand **Domains** (e.g., vlabs1.com).
 - Click on **Group Policy Modeling**.
3. **Launch the Group Policy Modeling Wizard:**
- In the right-hand pane, right-click on **Group Policy Modeling** and select **Group Policy Modeling Wizard...**
4. **Follow the Wizard Prompts:**
- **Welcome Page:** Click **Next**.
 - **Domain and Controller Selection:**
 - Ensure your domain (e.g., vlabs1.com) is selected.
 - Choose a Domain Controller (DC) for the simulation (e.g., DC101.vlabs1.com). Click **Next**.











Verify Group Policy Modelling result

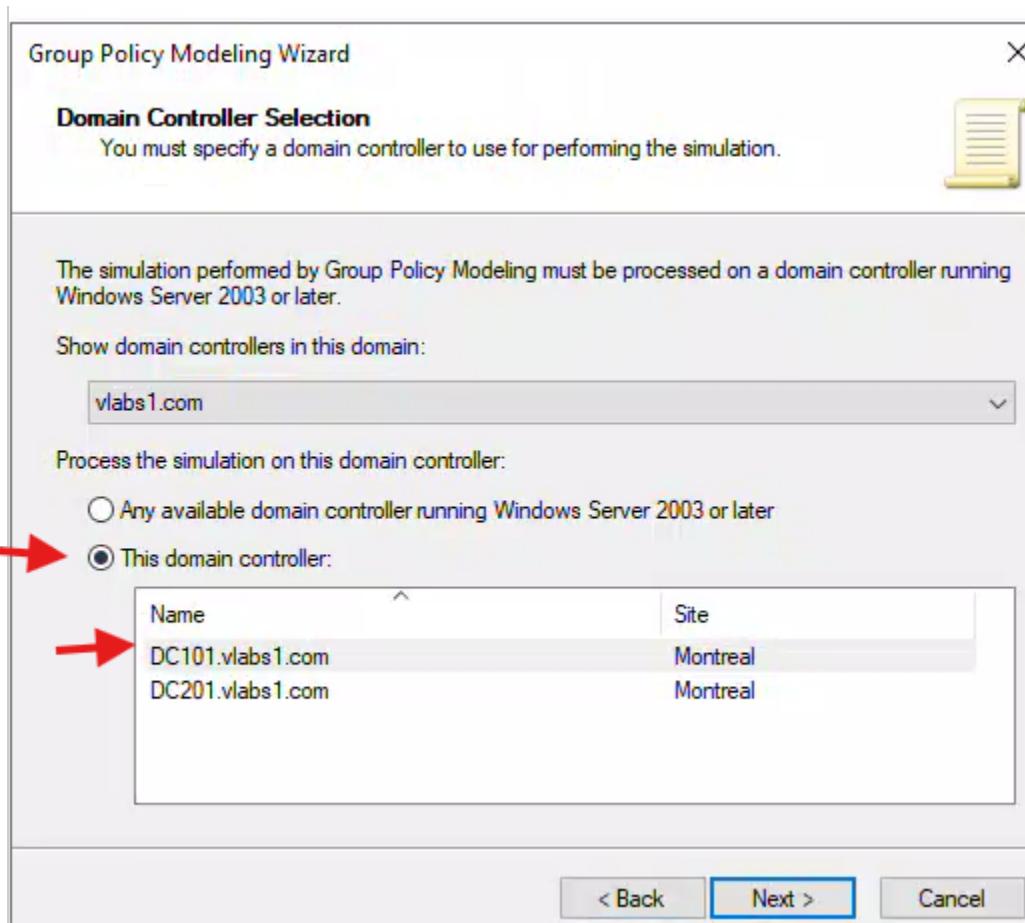
The screenshot shows the Group Policy Management console interface. The left navigation pane is expanded to show the forest 'Forest: vlabs1.com' and the domain 'vlabs1.com'. Under 'Group Policy Objects', 'Starter GPOs' is selected. In the center, the 'HR on HR' GPO is selected under 'Group Policy Modeling'. The main window displays the 'Summary' tab for 'HR on HR' on 'vlabs1.com/HR'. The summary shows two policy refresh logs: one for computer policy refresh and one for user policy refresh, both dated 5/27/2025 11:44:19 PM. Below the logs, the 'Computer Details' section shows the computer container as 'vlabs1.com/HR', domain as 'vlabs1.com', site as '(None)', and slave processing as 'No'. The 'Component Status' section lists four components with their status: Group Policy Infrastructure (Success), Audit Policy Configuration (Success), Registry (Success), and Security (Success). At the bottom, there are tabs for 'Settings' and 'Policy'.

6.1.2 Create for user

Group Policy Modeling allows you to simulate the application of GPOs to a user or computer (or both) without actually applying them. This is very useful for planning and troubleshooting.

1. Open Group Policy Management Console (GPMC):
 - o On DC101, open Server Manager.
 - o Click Tools in the top right corner.
 - o Select Group Policy Management.
2. Navigate to Group Policy Modeling:
 - o In the GPMC tree (left-hand pane), expand your forest (e.g., Forest: vlabs1.com).
 - o Expand Domains (e.g., vlabs1.com).
 - o Click on Group Policy Modeling.

3. Launch the Group Policy Modeling Wizard:
 - o In the right-hand pane, right-click on Group Policy Modeling and select Group Policy Modeling Wizard...
4. Follow the Wizard Prompts:
 - o Welcome Page: Click Next.
 - o Domain and Controller Selection:
 - Ensure your domain (e.g., vlabs1.com) is selected.
 - Choose a Domain Controller (DC) for the simulation (e.g., DC101.vlabs1.com). Click Next.



- o Users and Computers Selection:
 - For "User containers/OU's:", click Add....
 - Browse to and select your HR OU (e.g., vlabs1.com/MyBusiness/Users/HR or similar path in your domain). Click OK.
 - You can leave "Computers containers/OU's:" as default or specify if you have a particular computer in mind within the HR OU. For this task, selecting the HR OU for users is the primary goal.
 - Click Next.

Select HR user

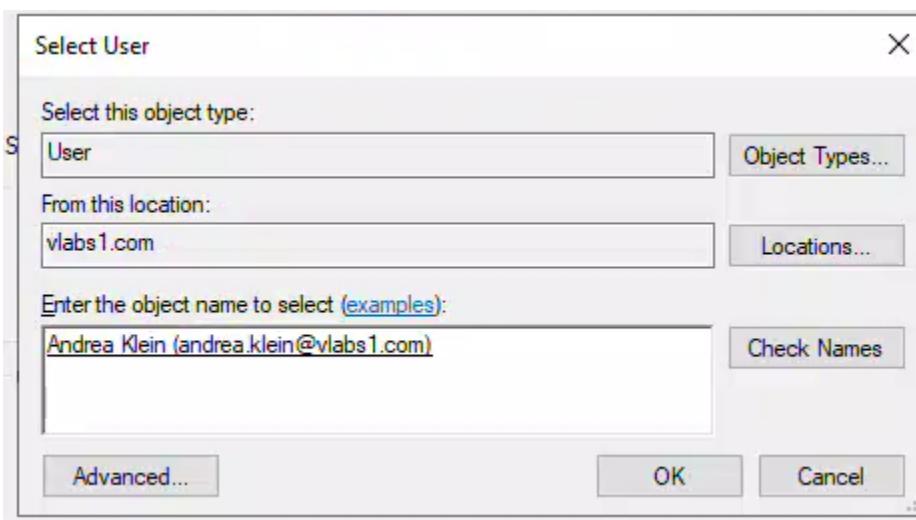
Active Directory Administrative Center • vLabs1 (local) • HR

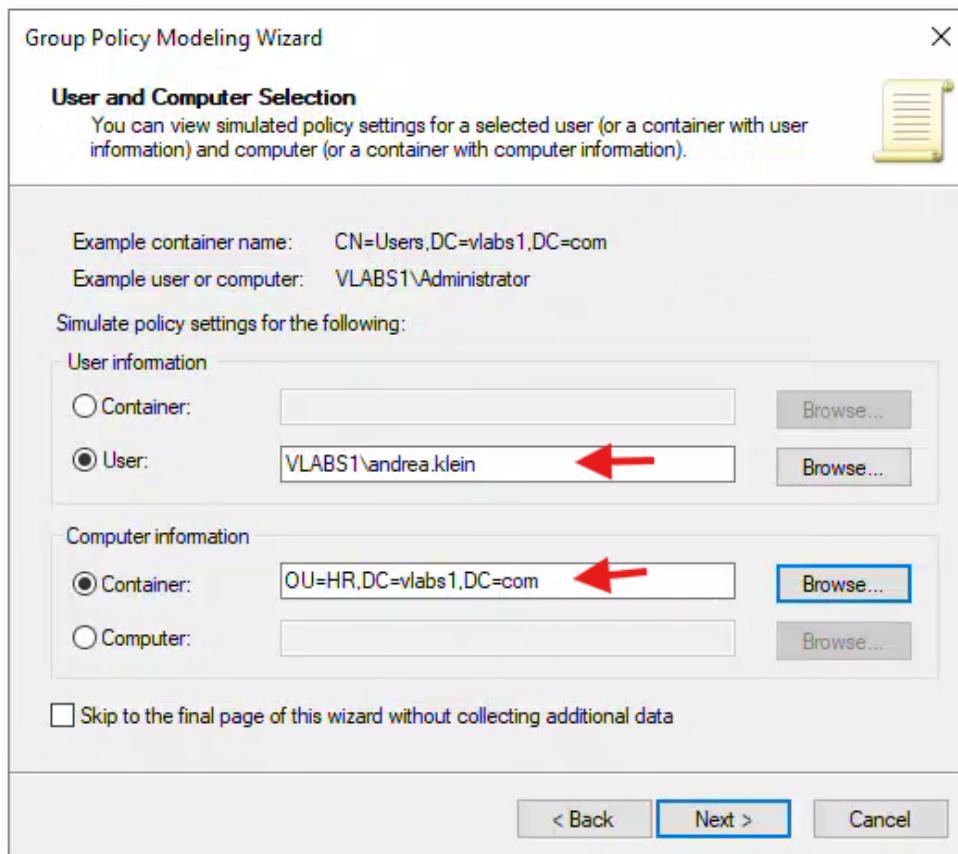
Active Directory... < HR (25)

Overview
vLabs1 (local)
Accounting
Builtin
Call Center
Computers
Domain Controllers
Engineering

Name	Type	Description
Adem Vasseur	User	
Ambre Rousseau	User	
Andrea Klein	User	
Benjamin Guyot	User	
Blanche Guerin	User	
Charlie Leonard	User	

A red arrow points to the row for "Andrea Klein".





- Security Groups, WMI Filters, Site, Slow Link processing:
 - For this task, you can generally leave these pages as default unless you have specific scenarios to simulate (e.g., a GPO linked to a specific security group that a user in HR is a member of). Click Next through these pages.

Group Policy Modeling Wizard

X



Advanced Simulation Options

You can select additional options for your simulation.

Simulate policy implementation for the following:

Slow network connection (for example, a dial-up connection)

Loopback processing

Replace

Merge

Site:

(None)

Skip to the final page of this wizard without collecting additional data

< Back

Next >

Cancel

Group Policy Modeling Wizard

X

Alternate Active Directory Paths

You can simulate changes to the network location of the selected user and computer.



Enter new network locations for which to simulate policy settings.

User location:

OU=HR,DC=vlabs1,DC=com

[Browse...](#)

Computer location:

OU=HR,DC=vlabs1,DC=com

[Browse...](#)

[Restore to Defaults](#)

Skip to the final page of this wizard without collecting additional data

[< Back](#)

[Next >](#)

[Cancel](#)

Group Policy Modeling Wizard

X

User Security Groups

You can simulate changes to the selected user's security groups.



The selected user is a member of the following security groups. To simulate changes to the security group membership, use the Add and Remove buttons.

Security groups:

Authenticated Users

Everyone

VLABS1\Domain Users

VLABS1\HR

Add...

Remove

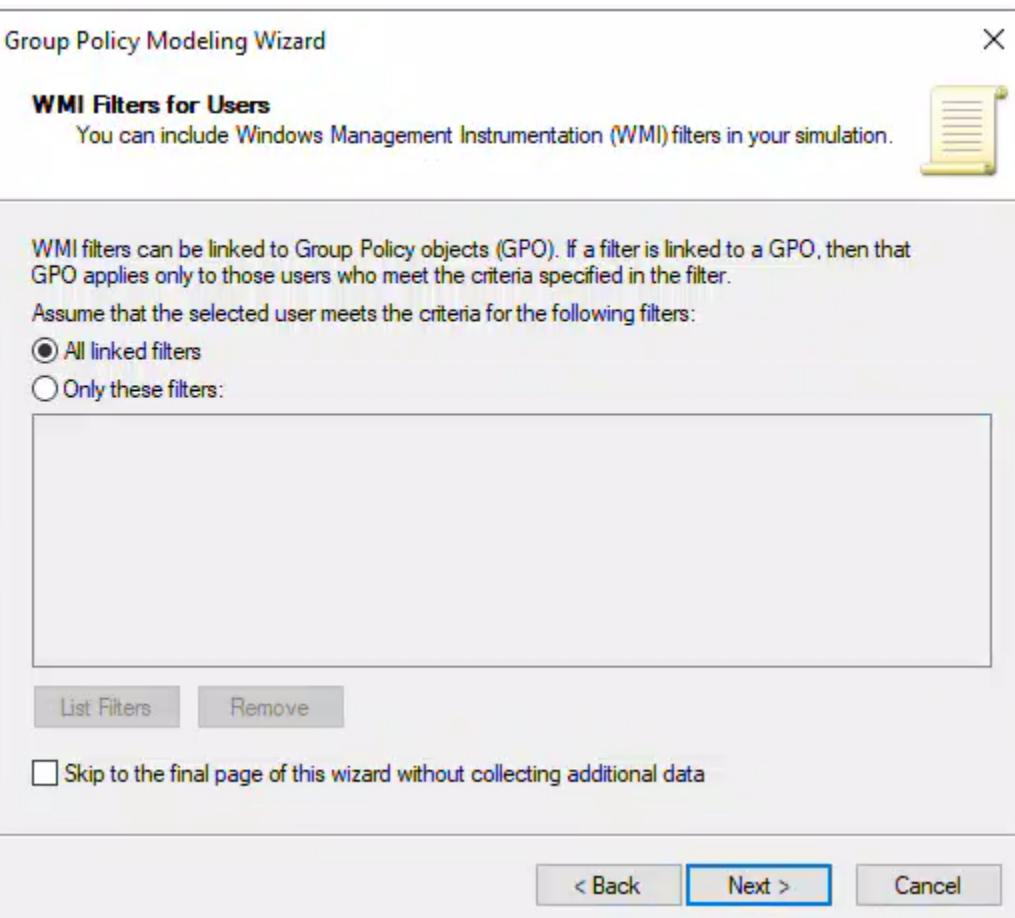
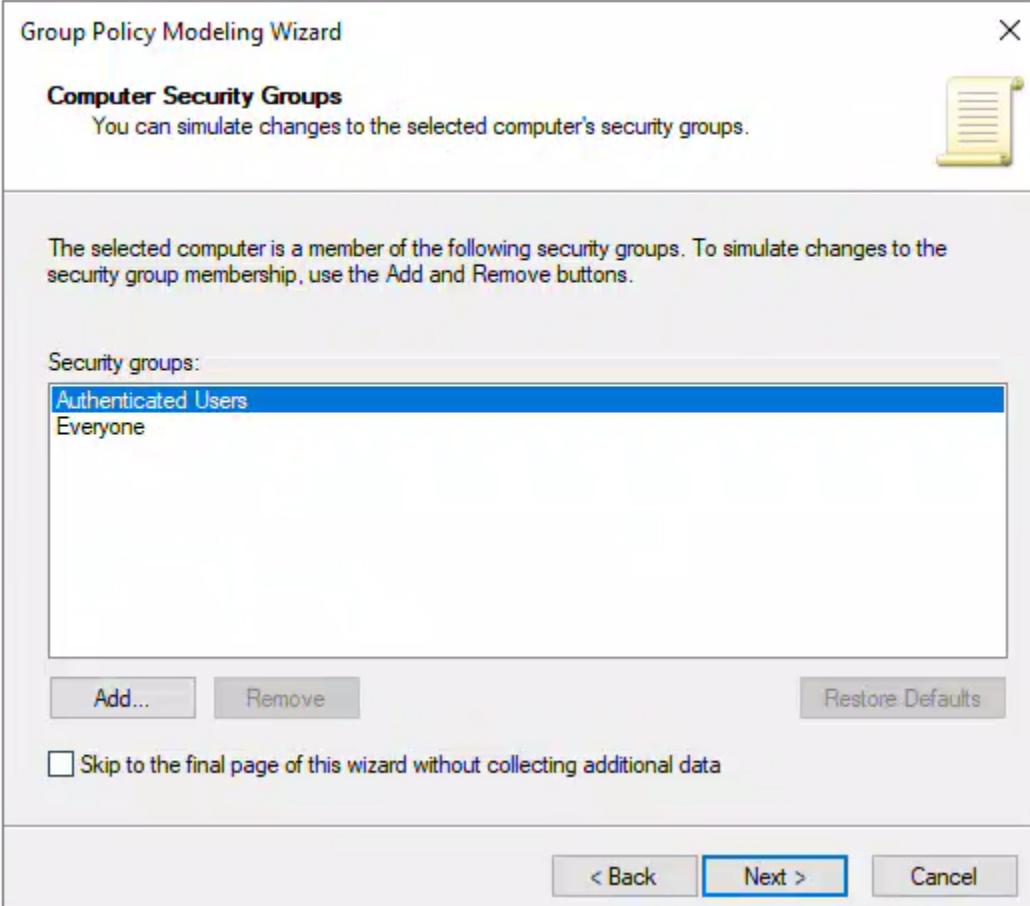
Restore Defaults

Skip to the final page of this wizard without collecting additional data

< Back

Next >

Cancel



Group Policy Modeling Wizard

X

WMI Filters for Computers

You can include Windows Management Instrumentation (WMI) filters in your simulation.



WMI filters can be linked to Group Policy objects (GPO). If a filter is linked to a GPO, then that GPO applies only to those computers that meet the criteria specified in the filter.

Assume that the selected computer meets the criteria for the following filters:

- All linked filters
 Only these filters:

List Filters

Remove

Skip to the final page of this wizard without collecting additional data

< Back

Next >

Cancel

- Summary of Selections: Review your choices. Click Next to generate the report.

Group Policy Modeling Wizard

X

Summary of Selections

The list contains the selections you made in this wizard.



To make changes to your selections, click Back. To process the simulation, click Next.

Selection	Settings
User name	\VLABS1\andrea.klein
Computer container	OU=HR,DC=vlabs1,DC=com
Slow network simulation	No
Loopback mode	(None)
Site name	(None)
User Location	(Not specified)
User security groups	(Not specified)
Computer security groups	(Not specified)
WMI filters for users	(All linked WMI filters apply to this GPO)

Processing the simulation on this domain controller:

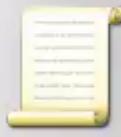
DC101.vlabs1.com

< Back

Next >

Cancel

Completing the Group Policy Modeling Wizard



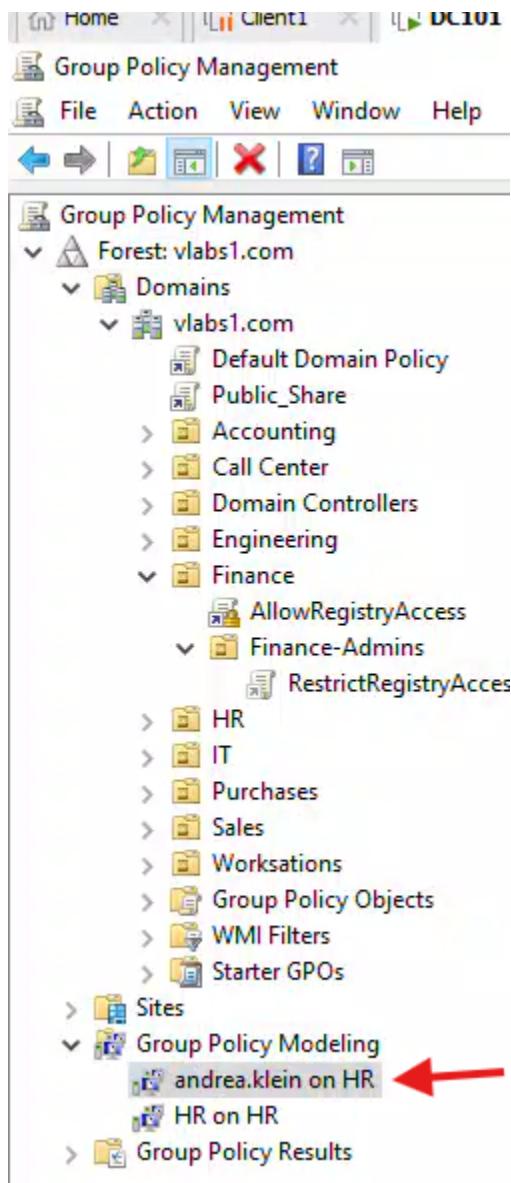
You have successfully completed the Group Policy Modeling Wizard.

To close this wizard and view the results, click Finish.

< Back

Finish

Cancel



5. Review the Group Policy Modeling Results:

- The wizard will generate a report showing the predicted GPOs that would apply, security filtering, WMI filtering, and detailed settings.
- Pay attention to the "Summary" and "Details" tabs. The "Details" tab will show which GPOs applied, which were denied (and why), and the specific settings predicted.
- Look for settings you expect to see from GPOs linked to the HR OU or that apply to authenticated users in general.

andrea.klein on HR

Summary Details Query

Group Policy Modeling

VLABS1\andrea.klein on vlabs1.com/HR
Data collected on: 5/28/2025 5:13:39 AM

Summary

- During last **computer policy** refresh on 5/28/2025 5:13:21 AM
A fast link was detected [More information...](#)
- During last **user policy** refresh on 5/28/2025 5:13:21 AM
A fast link was detected [More information...](#)

Computer Details

General

Computer container	vlabs1.com/HR
Domain	vlabs1.com
Site	(None)
Slowlink processing	No

Component Status

Component Name	Status
Group Policy Infrastructure	Success
Audit Policy Configuration	Success
Registry	Success
Security	Success

Settings

andrea.klein on HR

Summary Details Query

Group Policy Modeling

VLABS1\andrea.klein on vlabs1.com/HR
Data collected on: 5/28/2025 5:13:39 AM

Summary

- During last **computer policy** refresh on 5/28/2025 5:13:21 AM
A fast link was detected [More information...](#)
- During last **user policy** refresh on 5/28/2025 5:13:21 AM
A fast link was detected [More information...](#)

Computer Details

General

Computer container	vlabs1.com/HR
Domain	vlabs1.com
Site	(None)
Slowlink processing	No

Component Status

Component Name	Status
Group Policy Infrastructure	Success
Audit Policy Configuration	Success
Registry	Success
Security	Success

Settings

6.2 Part 2: Use Group Policy Results (Actual Applied GPOs)

Group Policy Results (also known as Resultant Set of Policy or RSOP) shows what GPOs *actually applied* to a specific user and computer. This is useful for verifying deployments and troubleshooting live issues.

1. Navigate to Group Policy Results:
 - o In the GPMC tree, expand your forest.
 - o Expand Domains.
 - o Click on Group Policy Results.
2. Launch the Group Policy Results Wizard:
 - o In the right-hand pane, right-click on Group Policy Results and select Group Policy Results Wizard...

Group Policy Results Wizard

user



Welcome to the Group Policy Results Wizard



This wizard helps you ascertain the policy settings for a specific user or computer. The wizard will query the user's computer and report the resulting set of policy currently deployed to it.

To continue, click Next.

< Back

Next >

Cancel

Group Policy Results Wizard



Computer Selection

You can view policy settings for this computer or for another computer on this network.

Select the computer for which you want to display policy settings.

This computer

Another computer:

Browse...

Do not display policy settings for the selected computer in the results (display user policy settings only)

< Back

Next >

Cancel

- Follow the Wizard Prompts:
 - Welcome Page: Click Next.
 - User and Computer Selection:
 - Select A specific user and A specific computer.



- Click Next.
- Summary of Selections: Review your choices. Click Next to generate the report.

Group Policy Results Wizard

X

Summary of Selections

The list contains the selections you made in this wizard.



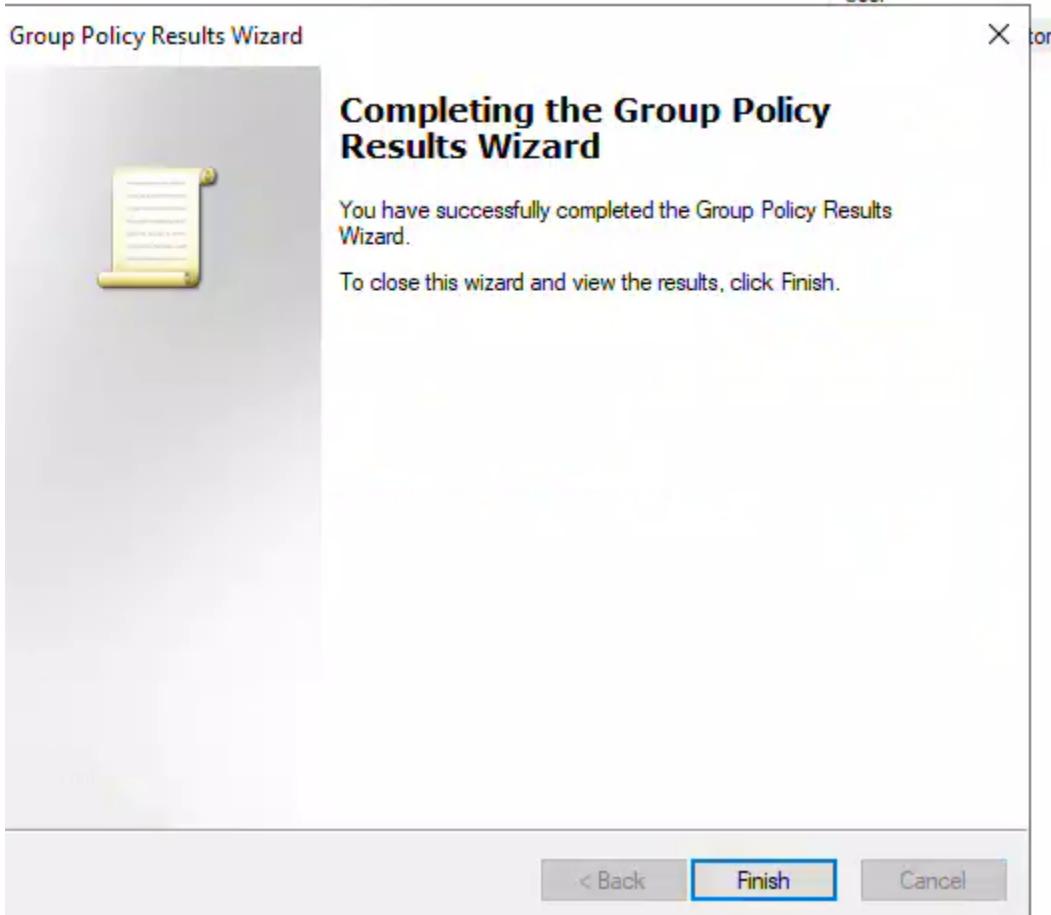
To make changes to your selections, click Back. To gather the policy settings, click Next.

Selection	Settings
User name	VLABS1\Administrator
Display user policy settings	Yes
Computer name	VLABS1\DC101
Display computer policy settings	Yes

< Back

Next >

Cancel



4. Review the Group Policy Results Report:
 - o The wizard will query the specified user and computer and generate a report of the GPOs and settings that *actually applied*.
 - o Just like with Group Policy Modeling, examine the "Summary" and "Details" tabs to understand the applied policies, security filtering, WMI filtering, and specific settings.
 - o This report is crucial for verifying that your GPOs are applying as intended on DC101 for the selected HR user.

Administrator on DC101

Summary Details Policy Events

Group Policy Results

VLABS1\Administrator on VLABS1DC101
Data collected on: 5/27/2025 11:49:47 PM

Summary

During last **computer policy** refresh on 5/27/2025 11:45:49 PM
No Errors Detected
A fast link was detected [More information...](#)

During last **user policy** refresh on 5/27/2025 11:47:44 PM
No Errors Detected
A fast link was detected [More information...](#)

Computer Details

General

Computer name	VLABS1DC101
Domain	vlab1.com
Site	Montreal
Organizational Unit	vlab1.com/Domain Controllers
Security Group Membership	show

Component Status

Component Name	Status	Time Taken	Last Process Time	Event Log
Group Policy Infrastructure	Success	148 Millisecond(s)	5/27/2025 11:45:49 PM	View Log
Audit Policy Configuration	Success	0 Millisecond(s)	5/27/2025 11:45:49 PM	View Log
Registry	Success	16 Millisecond(s)	5/27/2025 8:10:43 PM	View Log
Security	Success	359 Millisecond(s)	5/27/2025 8:10:43 PM	View Log

Settings

Policies

Windows Settings

[Computer Collections](#)

Administrator on DC101

Summary Details Policy Events

Group Policy Results

VLABS1\Administrator on VLABS1DC101
Data collected on: 5/27/2025 11:49:47 PM

Summary

During last **computer policy** refresh on 5/27/2025 11:45:49 PM
No Errors Detected
A fast link was detected [More information...](#)

During last **user policy** refresh on 5/27/2025 11:47:44 PM
No Errors Detected
A fast link was detected [More information...](#)

Computer Details

General

Computer name	VLABS1DC101
Domain	vlab1.com
Site	Montreal
Organizational Unit	vlab1.com/Domain Controllers
Security Group Membership	show

Component Status

Component Name	Status	Time Taken	Last Process Time	Event Log
Group Policy Infrastructure	Success	148 Millisecond(s)	5/27/2025 11:45:49 PM	View Log
Audit Policy Configuration	Success	0 Millisecond(s)	5/27/2025 11:45:49 PM	View Log
Registry	Success	16 Millisecond(s)	5/27/2025 8:10:43 PM	View Log
Security	Success	359 Millisecond(s)	5/27/2025 8:10:43 PM	View Log

Settings

Policies

Windows Settings

[Computer Collections](#)

7 Task 5: Delegating GPO Management On DC101:

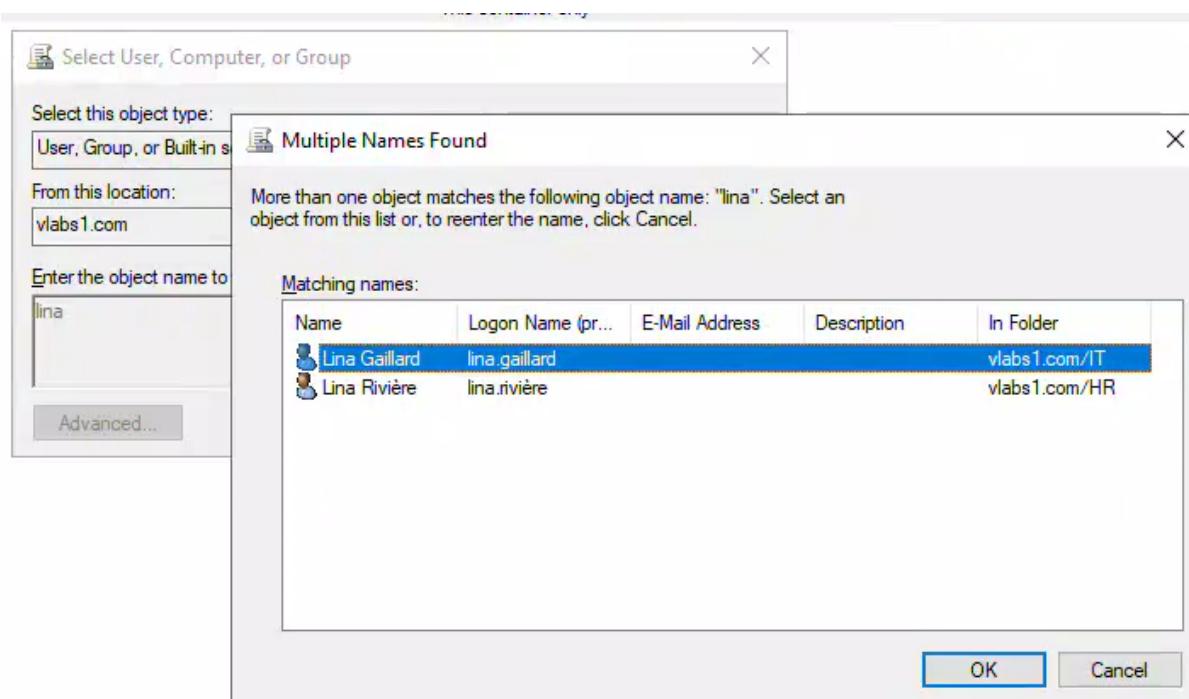
- Delegate **Lina Gaillard** on **Finance** OU to be able to **Edit** and **Link** any GPO to the **Finance** OU.
- No need to test it.

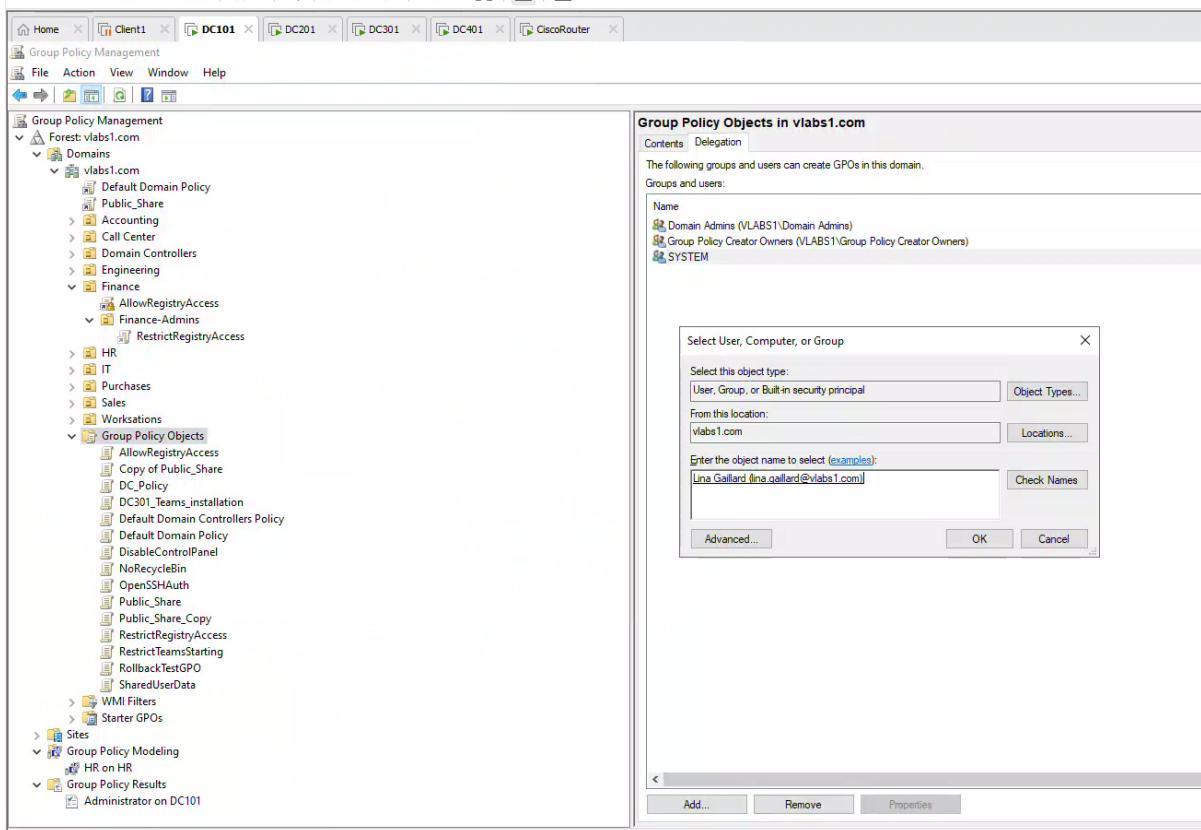
7.1 Delegate Lina Gaillard on Finance OU to be able to Edit and Link any GPO to the Finance OU.

7.1.1 Lina Gaillard on Finance OU to be able to Link any GPO to the Finance OU

Open Group Policy Management Console (GPMC):

- On DC101, open **Server Manager**.
 - Click **Tools** in the top right corner.
 - Select **Group Policy Management**.
- **Navigate to the Finance OU:**
- In the GPMC tree, expand your forest (e.g., Forest: vlabs1.com).
 - Expand **Domains** (e.g., vlabs1.com).
 - Expand vlabs1.com again to see your OUs.
 - Locate **Finance OU**
1. Click the **Delegation** tab (right pane).
 2. Click **Add**, enter lina.gaillard, click **OK**.
 3. Select the name

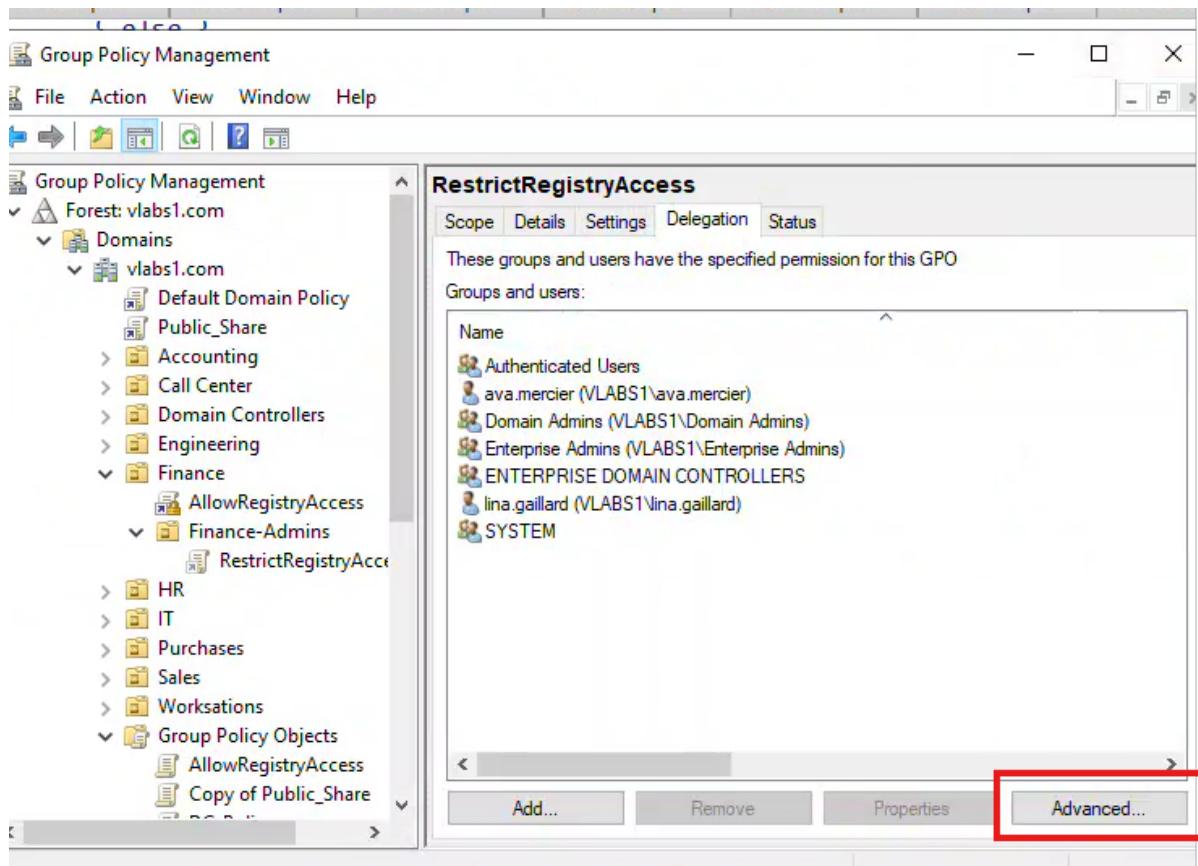




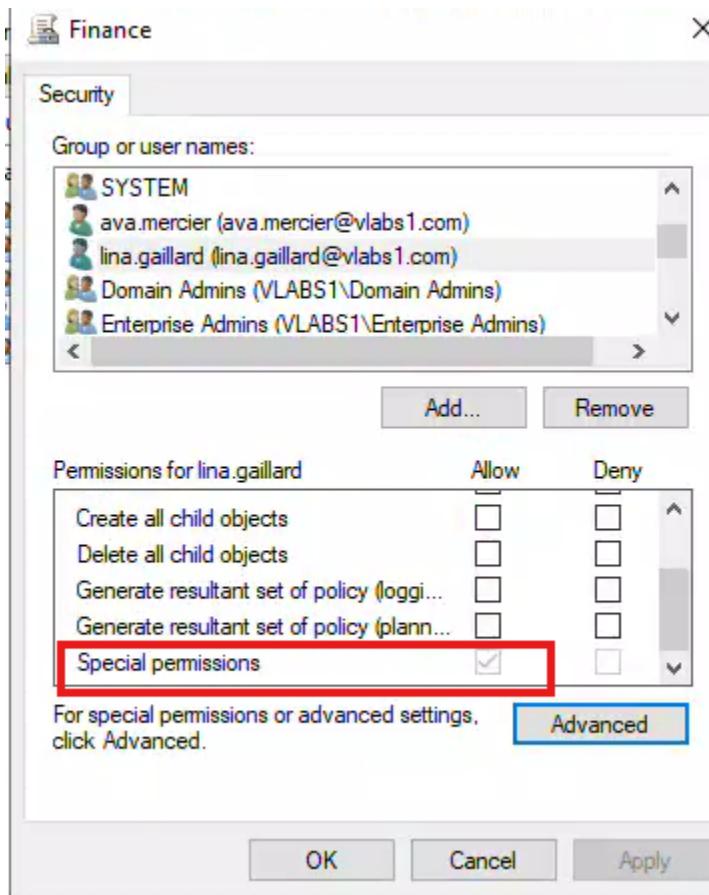
Confirmation for Chile OU will ask, click OK



Select advance at the right bottom



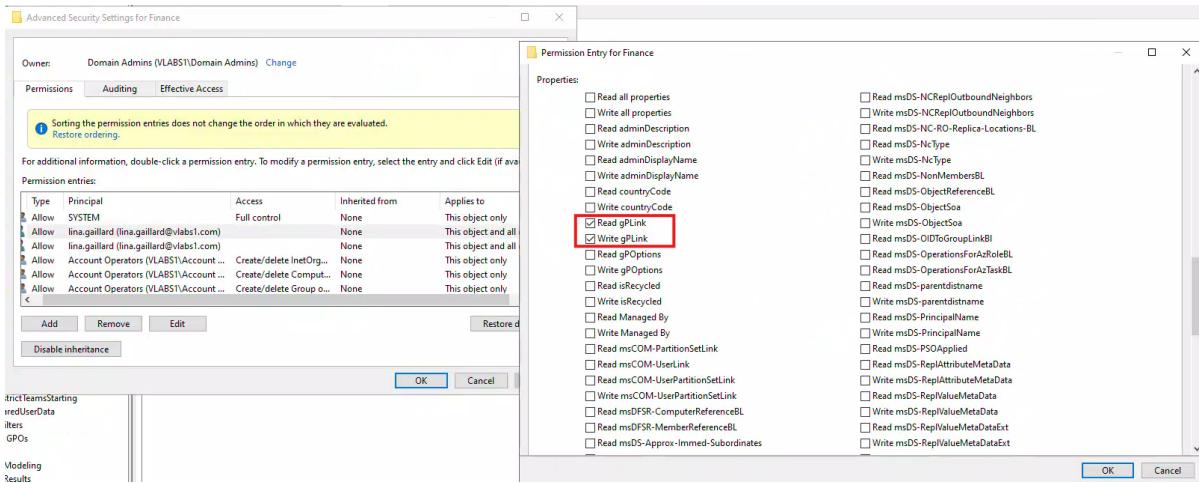
In next pop up select lina.gaillard, see the permissions, listed as Special permissions



Select Advanced another window appears, select lina.gaillard

The screenshot displays two windows. The left window is the 'Security' dialog for the 'Finance' container, showing the 'Permissions for lina.gaillard' section. The 'lina.gaillard' entry is selected and highlighted with a red box. The 'Advanced' button is also highlighted with a red box. The right window is the 'Advanced Security Settings for Finance' dialog, which lists various security principals and their permissions. The 'lina.gaillard' entry is visible in the list of principals. At the bottom of the right window, there is an 'Activate Windows' watermark and an 'Advanced...' button highlighted with a red box.

See what are the special permissions



Since no changes were done just check the permissions cancel and go back

- ◆ This lets Lina **link existing GPOs** to the Finance OU.

Name	Applies To
Administrators	This container and all child containers
Domain Admins (\LABS1\Domain Admins)	This container only
Enterprise Admins (\LABS1\Enterprise Admins)	This container and all child containers
lina.gaillard (\LABS1\lina.gaillard)	This container and all child containers
SYSTEM	This container only

7.1.2 Editing permissions to GPOs

- To edit a GPO, a user must have both Read and Write permissions on the GPO.
- These permissions can be assigned via GPMC selecting the GPO's related to Finance and Finance child.

To make this easier (since we can have several GPO's), a script will be used to assign editing permissions to GPO.

```

PS C:\> # ----- Configuration -----
$baseOU = "OU=Finance,DC=vlabs1,DC=com"
$targetSamAccountName = "lina.gaillard" # Use correct sAMAccountName
$permissionLevel = "GpoEditDeleteModifySecurity"
$dryRun = $false # Set to $true for dry-run (no changes)

# ----- Logging Setup -----
$logFile = "C:\Logs\GPO_Permission_Assignment_$(Get-Date -Format 'yyyyMMdd_HH:mm:ss').log"
New-Item -ItemType Directory -Path (Split-Path $LogFile) -Force | Out-Null

function Write-Log {
    param ([string]$message)
    $timestamp = Get-Date -Format "yyyy-MM-dd HH:mm:ss"
    $fullMessage = "$timestamp - $message"
    Write-Host $message
    Add-Content -Path $LogFile -Value $fullMessage
}

# ----- Get User Object -----
try {
    $user = Get-ADUser -Identity $targetSamAccountName -ErrorAction Stop
    $samAccountName = $user.SamAccountName
    Write-Log "✓ Found user: $($user.Name) (SAM: $samAccountName)"
} catch {
    Write-Log "✗ User '$targetSamAccountName' not found in AD. Aborting."
    return
}

# ----- Enumerate OUs -----
Write-Log "`n🔍 Enumerating OUs under: $baseOU"
$ouList = Get-ADOrganizationalUnit -SearchBase $baseOU -SearchScope Subtree -Filter * |
    Select-Object -ExpandProperty DistinguishedName
$ouList += $baseOU # Include the base OU itself

# ----- Track GPOs Already Handled -----
$processedGPOs = @{}

# ----- Process Each OU -----
foreach ($ou in $ouList) {
    Write-Log "`n📁 Checking GPO links for OU: $ou"

    try {
        $gpoLinks = Get-GPIInheritance -Target $ou
    } catch {
        Write-Log ("⚠ Failed to get GPO links for {0}: {1}" -f $ou, $_.Exception.Message)
        continue
    }

    foreach ($gpo in $gpoLinks.GpoLinks) {
        $gpoName = $gpo.DisplayName

        if (-not $processedGPOs.ContainsKey($gpoName)) {
            if ($dryRun) {
                Write-Log "🔗 [Dry-Run] Would grant '$permissionLevel' to '$samAccountName' on GPO '$gpoName'"
            } else {
                try {
                    Set-GPPermission -Name $gpoName -PermissionLevel $permissionLevel -
                        TargetName $samAccountName -TargetType User
                    Write-Log "✓ Granted '$permissionLevel' to '$samAccountName' on GPO '$gpoName'"
                } catch {
                    Write-Log "⚠ Failed to set permissions on GPO '$gpoName': $($_.Exception.Message)"
                }
                $processedGPOs[$gpoName] = $true
            }
        } else {
            Write-Log "ℹ️ GPO '$gpoName' already processed, skipping."
        }
    }
}

```

```

        }

# ----- Done -----
Write-Log "`n✓ Completed processing all GPOs."

✓ Found user: Lina Gaillard (SAM: lina.gaillard)

🔍 Enumerating OUs under: OU=Finance,DC=vlabs1,DC=com

📁 Checking GPO links for OU: OU=Finance,DC=vlabs1,DC=com

DisplayName      : AllowRegistryAccess
DomainName       : vlabs1.com
Owner            : VLABS1\Domain Admins
Id               : d3347bal-919c-4d48-91fd-dd6d7d7a486f
GpoStatus        : AllSettingsEnabled
Description       :
CreationTime     : 5/22/2025 1:22:02 PM
ModificationTime : 5/28/2025 12:41:22 AM
UserVersion      : AD Version: 1, SysVol Version: 1
ComputerVersion  : AD Version: 0, SysVol Version: 0
WmiFilter        :

✓ Granted 'GpoEditDeleteModifySecurity' to 'lina.gaillard' on GPO 'AllowRegistryAccess'

📁 Checking GPO links for OU: OU=Finance-Admins,OU=Finance,DC=vlabs1,DC=com
DisplayName      : RestrictRegistryAccess
DomainName       : vlabs1.com
Owner            : VLABS1\Domain Admins
Id               : e336646e-fca3-44ee-906a-2276a687ff84
GpoStatus        : AllSettingsEnabled
Description       :
CreationTime     : 5/21/2025 8:30:35 PM
ModificationTime : 5/28/2025 12:41:12 AM
UserVersion      : AD Version: 1, SysVol Version: 1
ComputerVersion  : AD Version: 0, SysVol Version: 0
WmiFilter        :

✓ Granted 'GpoEditDeleteModifySecurity' to 'lina.gaillard' on GPO 'RestrictRegistryAccess'

📁 Checking GPO links for OU: OU=Finance,DC=vlabs1,DC=com
ℹ️ GPO 'AllowRegistryAccess' already processed, skipping.

✓ Completed processing all GPOs.

PS C:\>
```

• Select Permissions for GPO Management:

Found the user lina.gaillard

Enumerated the OUs under OU=Finance,DC=vlabs1,DC=com

Select GPOs and list assigned the permissions

```

PS C:\> $baseOU = "OU=Finance,DC=vlabs1,DC=com"
$userSam = "lina.gaillard"

# Get all OUs under baseOU, including baseOU itself
$ouList = Get-ADOrganizationalUnit -SearchBase $baseOU -SearchScope Subtree -Filter * |
    Select-Object -ExpandProperty DistinguishedName
$ouList += $baseOU

# Keep track of processed GPOs to avoid duplicates
```

```

$processedGPOs = @{}

foreach ($ou in $ouList) {
    Write-Host "`nChecking GPO links for OU: $ou" -ForegroundColor Cyan

    try {
        $gpoLinks = (Get-GPIheritance -Target $ou).GpoLinks
    } catch {
        Write-Warning ("Failed to get GPO links for {0}: {1}" -f $ou, $_)
        continue
    }

    foreach ($gpo in $gpoLinks) {
        $gpoName = $gpo.DisplayName

        if (-not $processedGPOs.ContainsKey($gpoName)) {
            # Get permission for the user on the GPO
            $perm = Get-GPPermission -Name $gpoName -TargetName $userSam -TargetType User -ErrorAction SilentlyContinue

            if ($perm) {
                $permLevel = $perm.Permission
            } else {
                $permLevel = "No explicit permission"
            }

            # Output result
            Write-Host "GPO: $gpoName" -ForegroundColor Green
            Write-Host "User '$userSam' permission: $permLevel" -ForegroundColor Yellow

            # Mark as processed
            $processedGPOs[$gpoName] = $true
        }
    }
}

Checking GPO links for OU: OU=Finance,DC=vlabs1,DC=com
GPO: AllowRegistryAccess
User 'lina.gaillard' permission: GpoEditDeleteModifySecurity

Checking GPO links for OU: OU=Finance-Admins,OU=Finance,DC=vlabs1,DC=com
GPO: RestrictRegistryAccess
User 'lina.gaillard' permission: GpoEditDeleteModifySecurity

Checking GPO links for OU: OU=Finance,DC=vlabs1,DC=com

PS C:\>

```

7.1.3 Verify in GUI

GPO AllowRegistryAccess

Name	Allowed Permissions	Inherited
Authenticated Users	Read from Security Filtering	No
Domain Admins (VLABS1\Domain Admins)	Edit settings, delete, modify security	No
Enterprise Admins (VLABS1\Enterprise Admins)	Edit settings, delete, modify security	No
ENTERPRISE DOMAIN CONTROLLERS	Read	No
lina.gaillard (VLABS1\lina.gaillard)	Edit settings, delete, modify security	No
SYSTEM	Edit settings, delete, modify security	No

RestrictRegistryAccess

RestrictRegistryAccess		
Scope	Details	Settings
These groups and users have the specified permission for this GPO		
Groups and users:		
Name	Allowed Permissions	Inherited
Authenticated Users	Read (from Security Filtering)	No
ava.mercier (VLABS1\ava.mercier)	Custom	No
Domain Admins (VLABS1\Domain Admins)	Edit settings, delete, modify security	No
Enterprise Admins (VLABS1\Enterprise Admins)	Edit settings, delete, modify security	No
ENTERPRISE DOMAIN CONTROLLERS	Read	No
lina.gallard (VLABS1\lina.gallard)	Edit settings, delete, modify security	No
SYSTEM	Edit settings, delete, modify security	No