Lab AD-DS / Group Policy

Objectives:

- Create an organizational unit (OU) in our domain.
- Create a group policy that enforces various options.
- Apply settings to the groups and computers in the newly created OU.

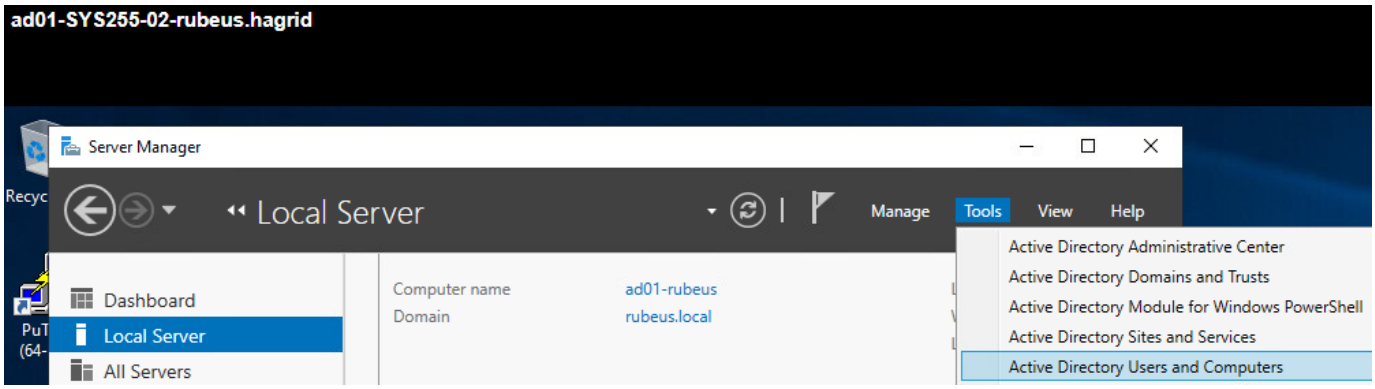
Pre-requisites:

Lab 4 is complete and is in a happy place.

> 💣 **Achtung**: Watch this lab's *firm Due Date*. As mentioned in class, the current VM infrastructure will be deleted, and be replaced with newer VMs just prior to the next class for the Assessment. Additionally, since this is a lighter lab, there are no extensions.

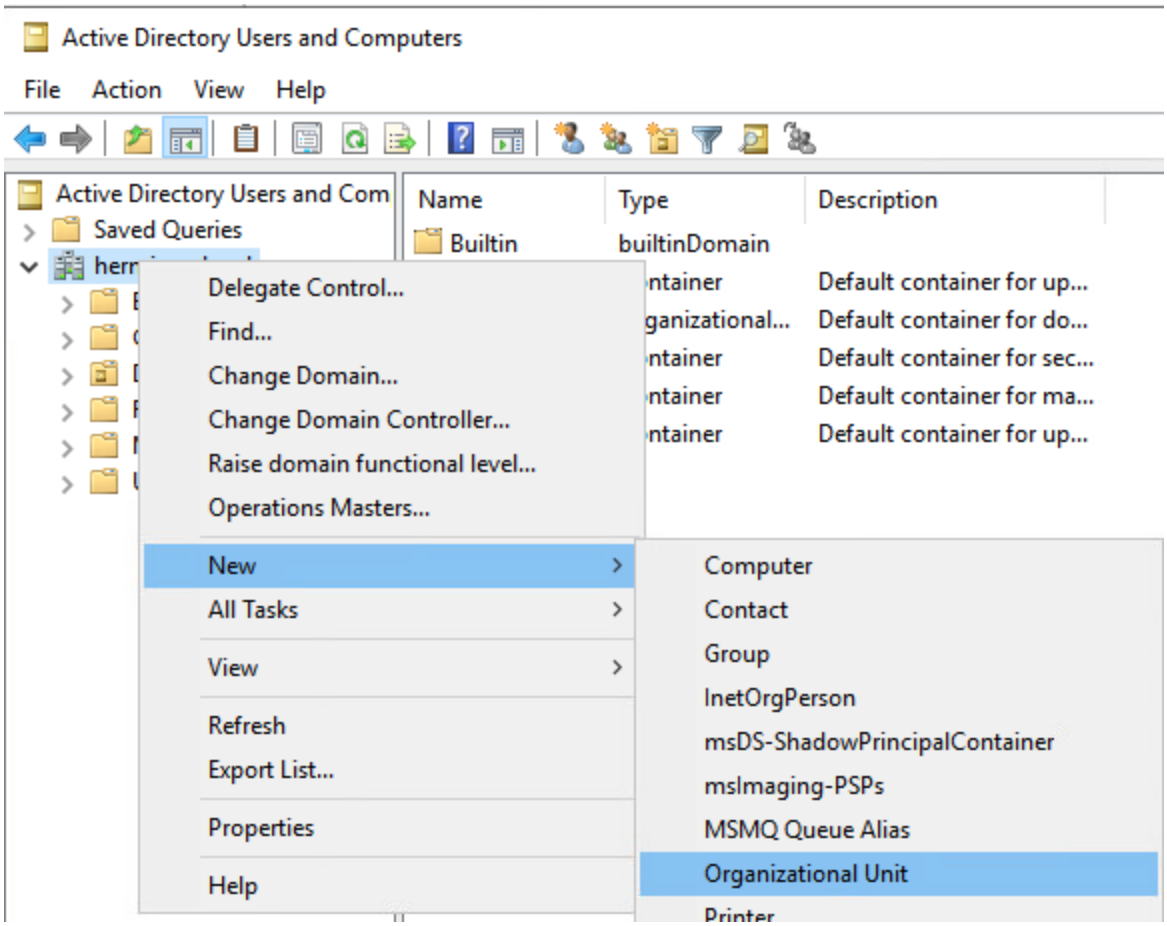
OU Structure Creation

Open up Active Directory Users and Computers

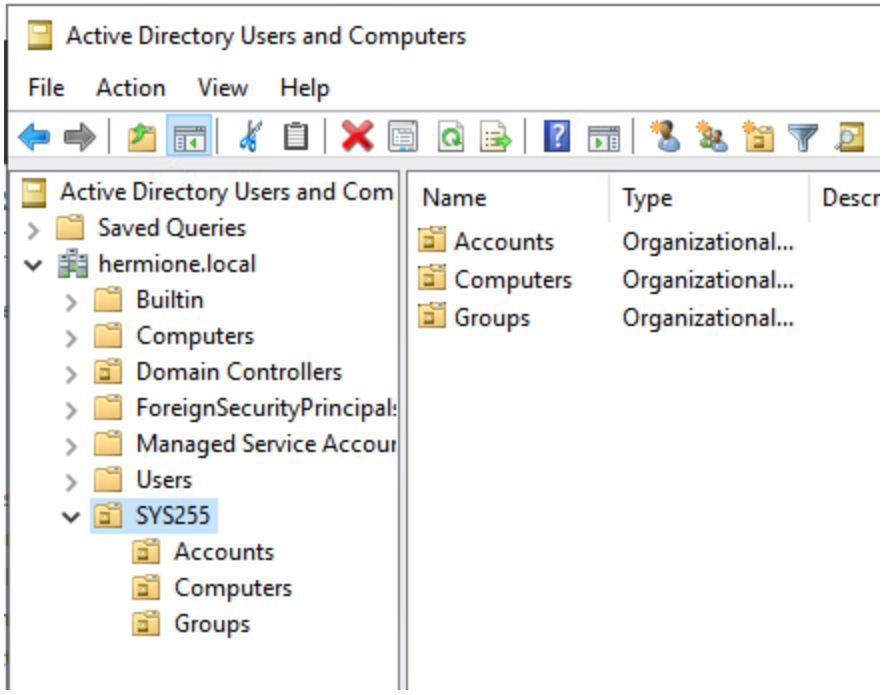


The first thing we want to do is create an organizational unit called "SYS255",& within this OU we will add child OU's for Accounts, Computers, and Groups.

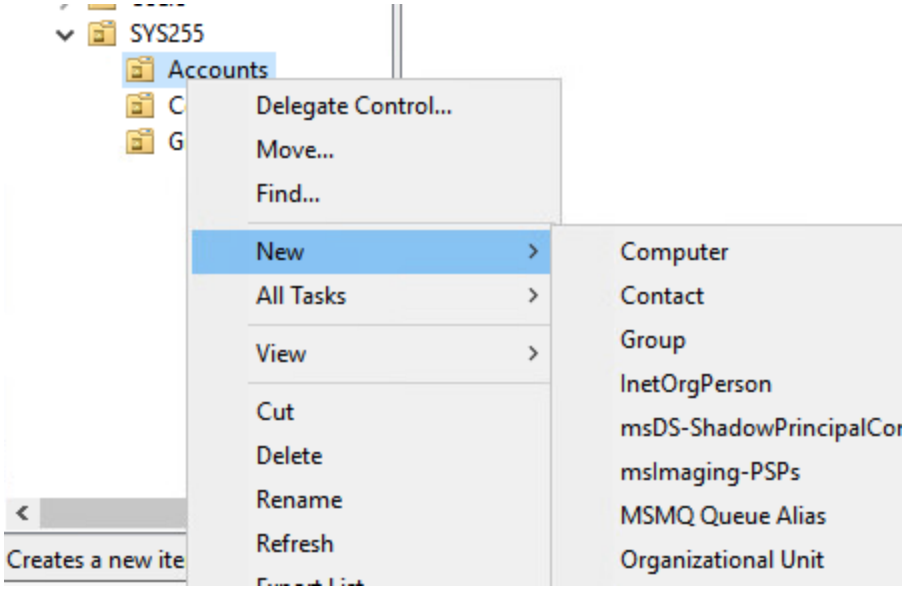
> 💡Although the default installation of ADDS provides a structure for Users and Computers, we are adding our own to distinguish the objects we add from those that are included by default.



Here's the completed structure shown below:



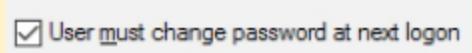
💡Notice that now this is created, we can right-click and create users, groups, and other domain objects in Active Directory. All of these objects are defined by what's known as the Schema, which can be thought of as an instruction sheet/map listing all available pieces in AD. In this case, the schema objects make up a distributed database.

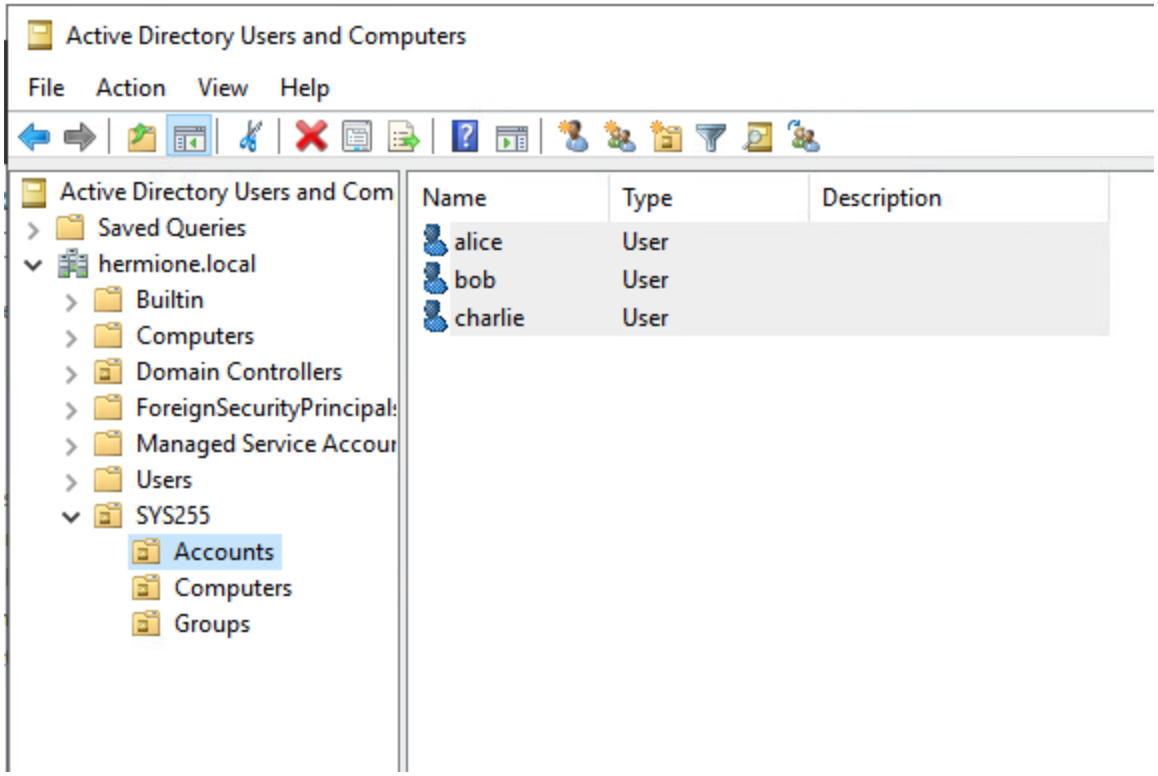


Create Users and Groups

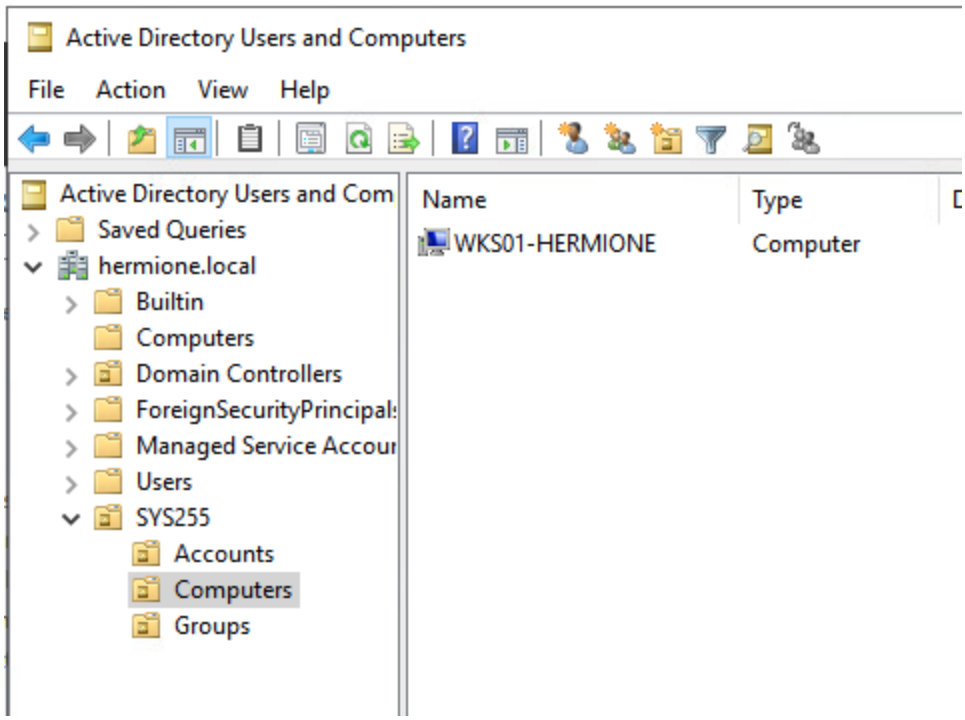
Within the SYS255\Accounts OU, create users Alice, Bob and Charlie

💡When creating accounts for other users, it is wise to allow them to create a new password at first login. For purposes of the lab, you can clear this check mark.

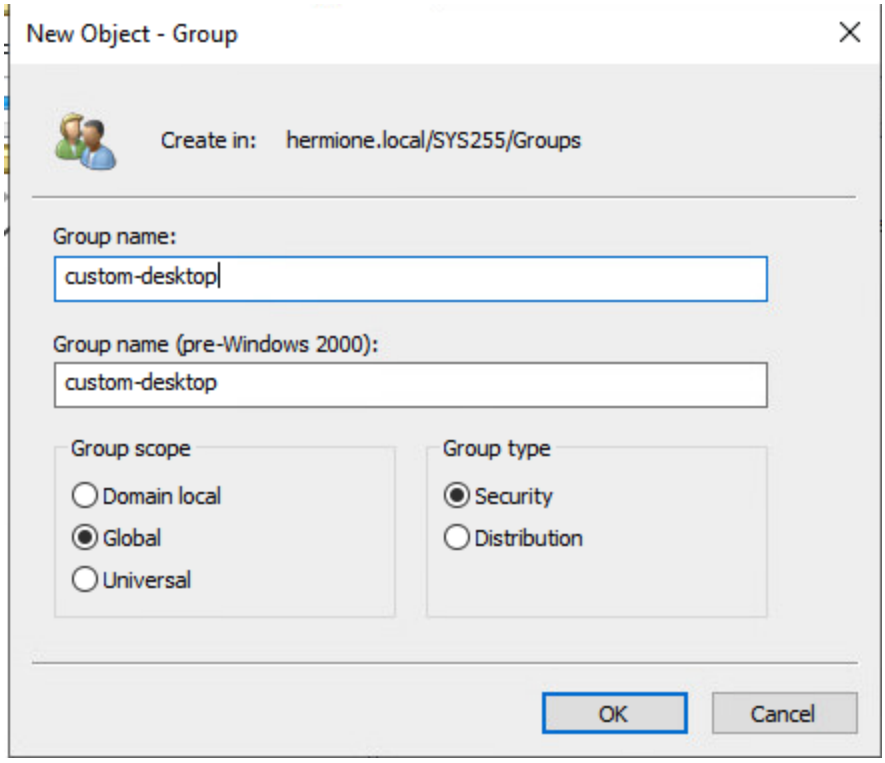


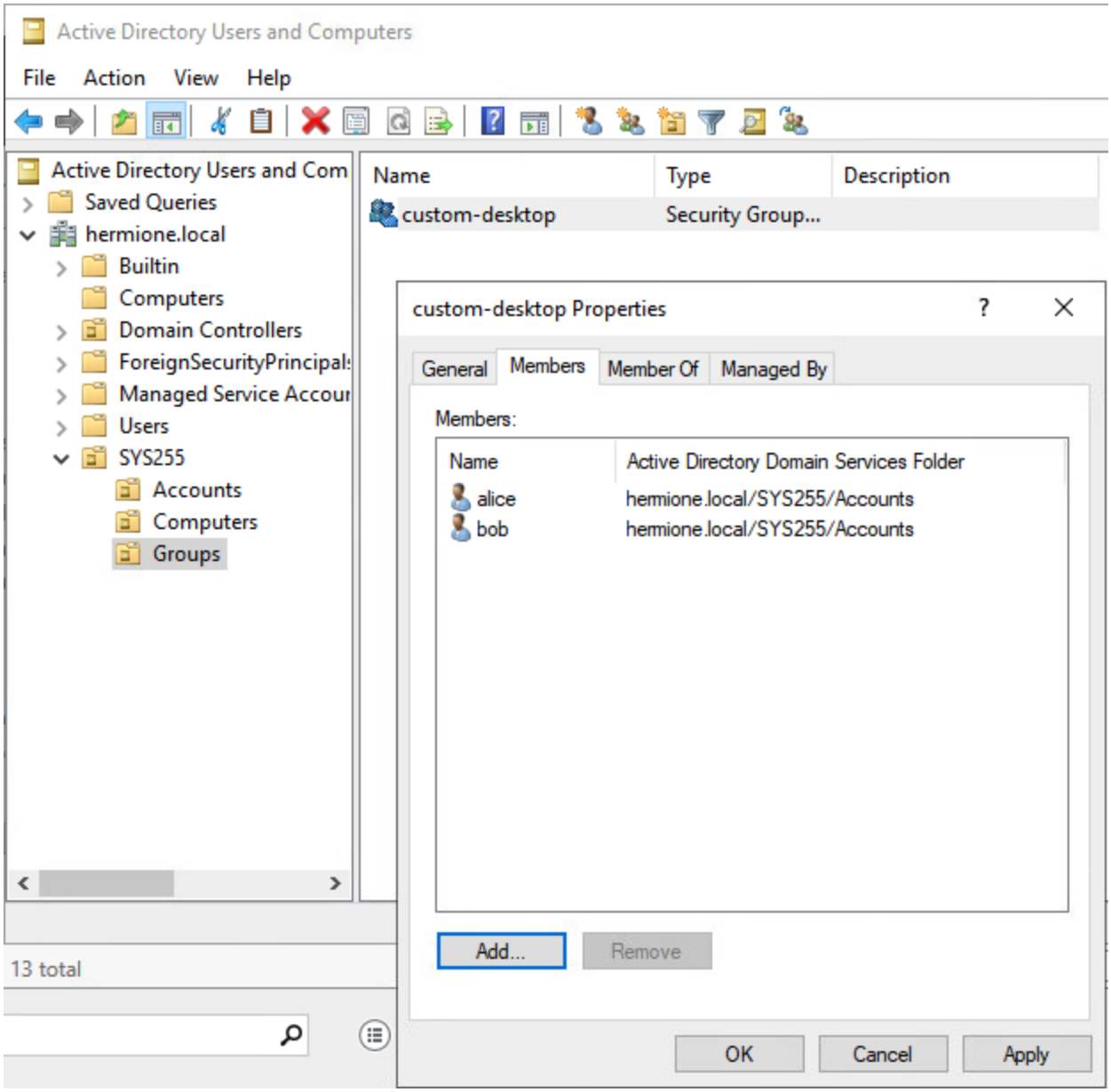


Drag WKS01 from the yourname.local\Computers Folder to the SYS255\Computers OU. This will allow us to treat SYS255 OU Computers differently than others.



Within the SYS255\Groups OU, add a global security group called *custom-desktop* with users Alice and Bob (not Charlie) as members.

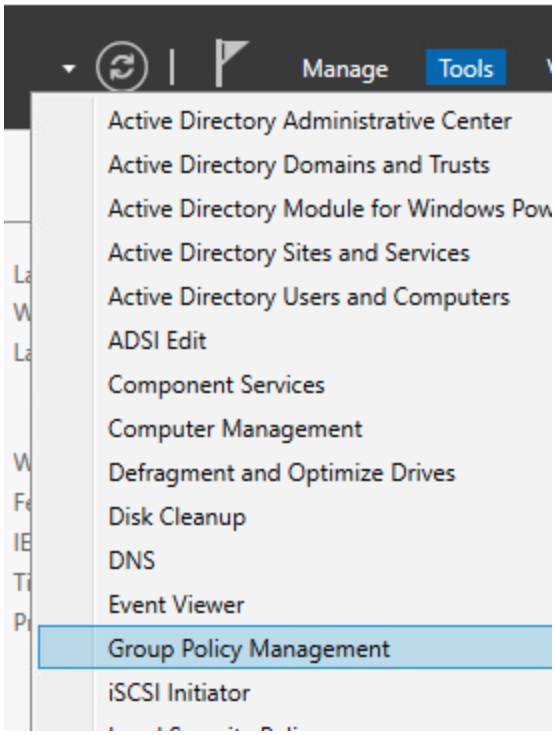




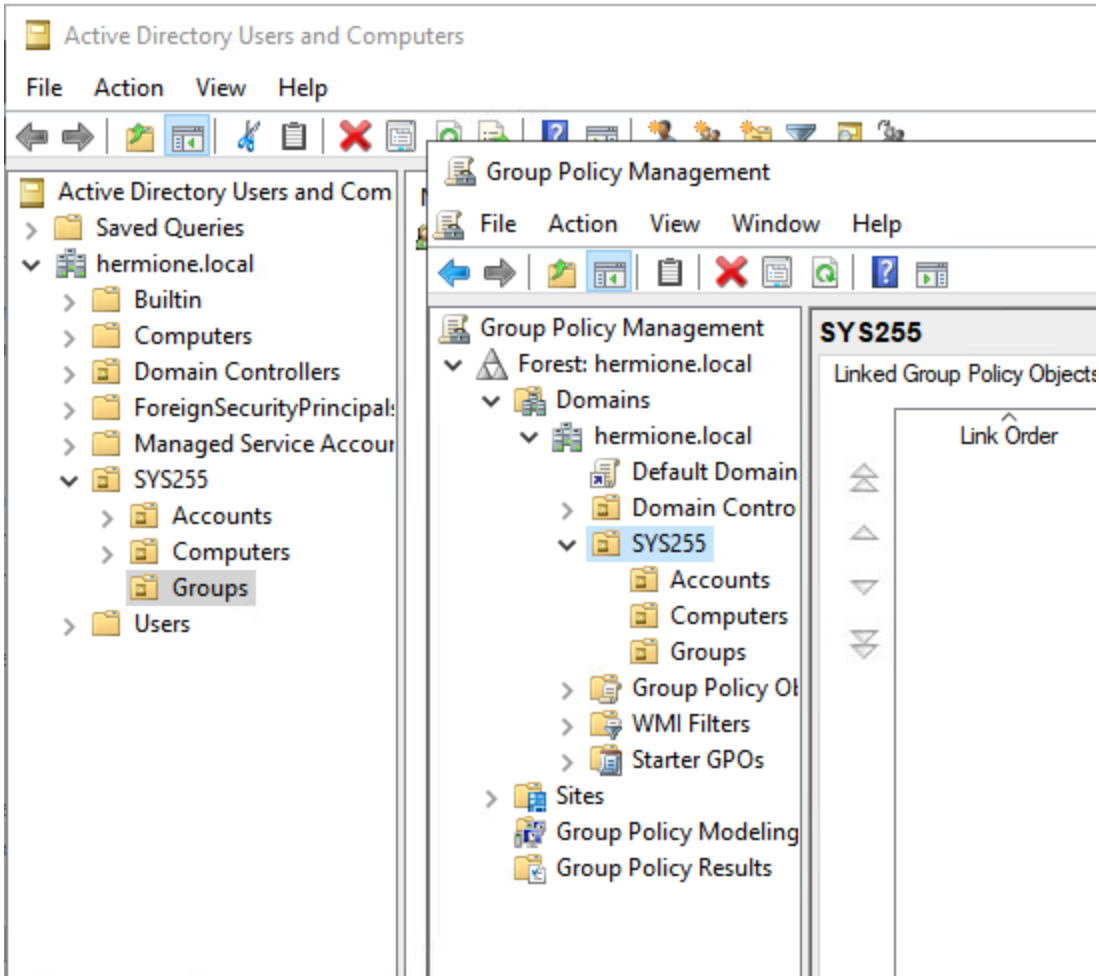
💡 BEST PRACTICE FOR GROUPS: Many times, organizations will have a number of groups defined in their AD domain. For this reason, it is a best practice to have a naming convention that purposefully describes what the groups do. A lot of times, groups allow or disallow users permission to folders and resources on the network. For this reason, a commonly found group membership is in the form of something like this: DepartmentName_RW_ACL or GP_WindowsIESettings_ACL.
This gives administrators an idea of what the group is for, and who may need to be a member.

Group Policy - User

Now, let's create a group policy that defines some User level settings:



The following screenshot illustrates the relationship between the OU's created in Active Directory and the Policy hierarchy shown in the Group Policy Management window. The big takeaway is that the group policy window does not show the contents of an OU like accounts and computers, but allows you to apply policy to them.

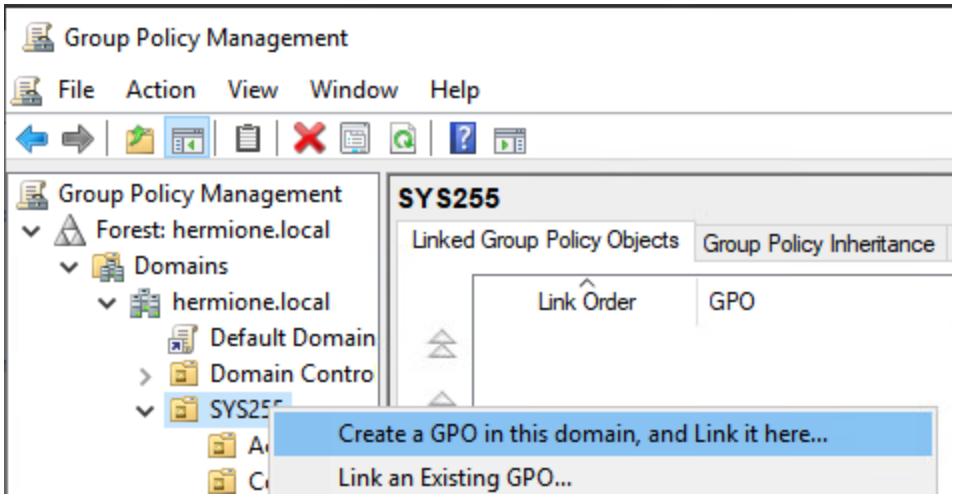


Notice how there is already a Default Domain Policy. This is what controls that pesky default password expiration and complexity requirements.

> 💣Weak Administrator credentials are the root cause for many security breaches! While the default password complexity rules are good, one should only increase security of credentials.

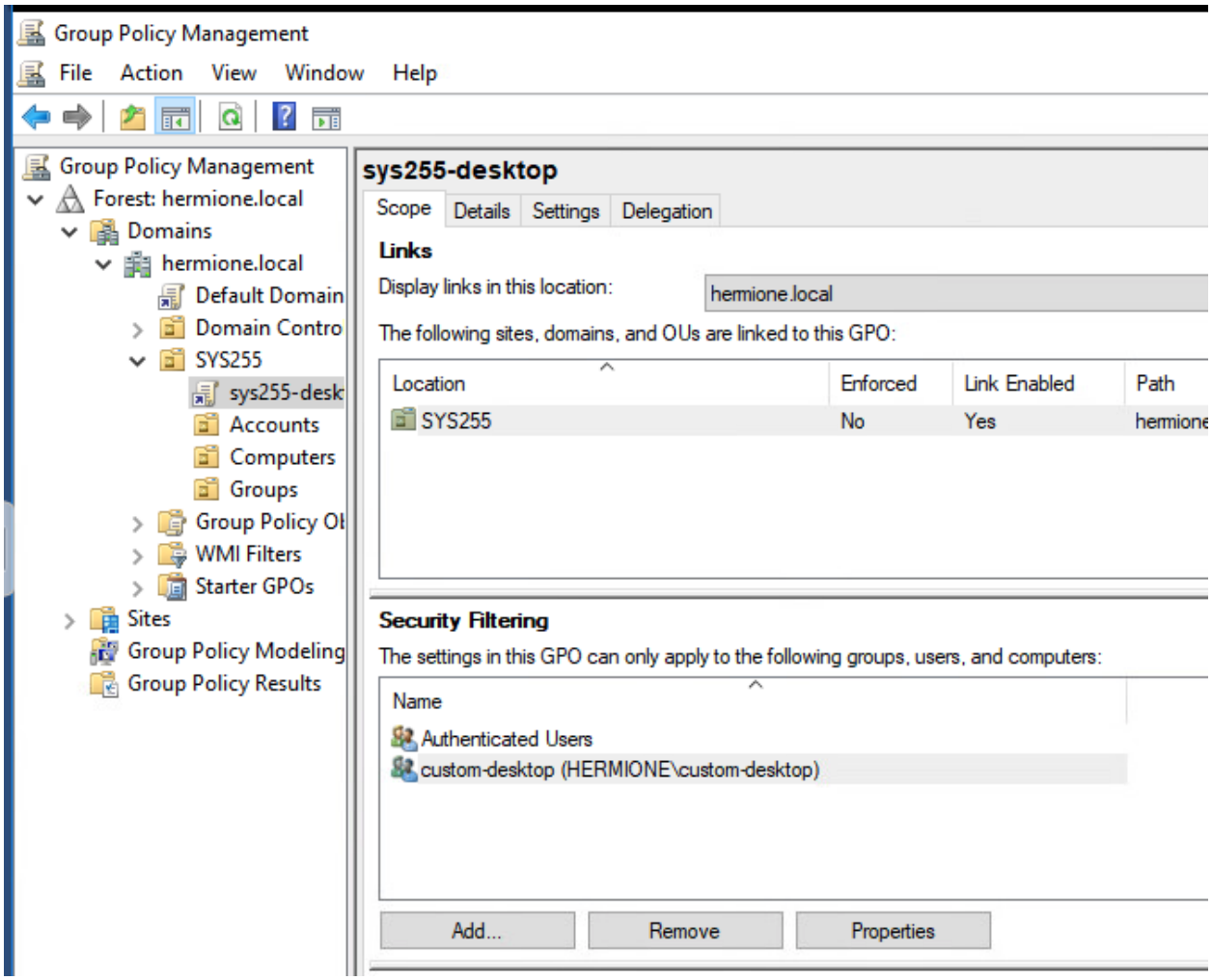
Creating a User Policy

Select the SYS255 OU and create a new group policy object (GPO) called sys255-desktop. Once created, right click on the object and select Edit.



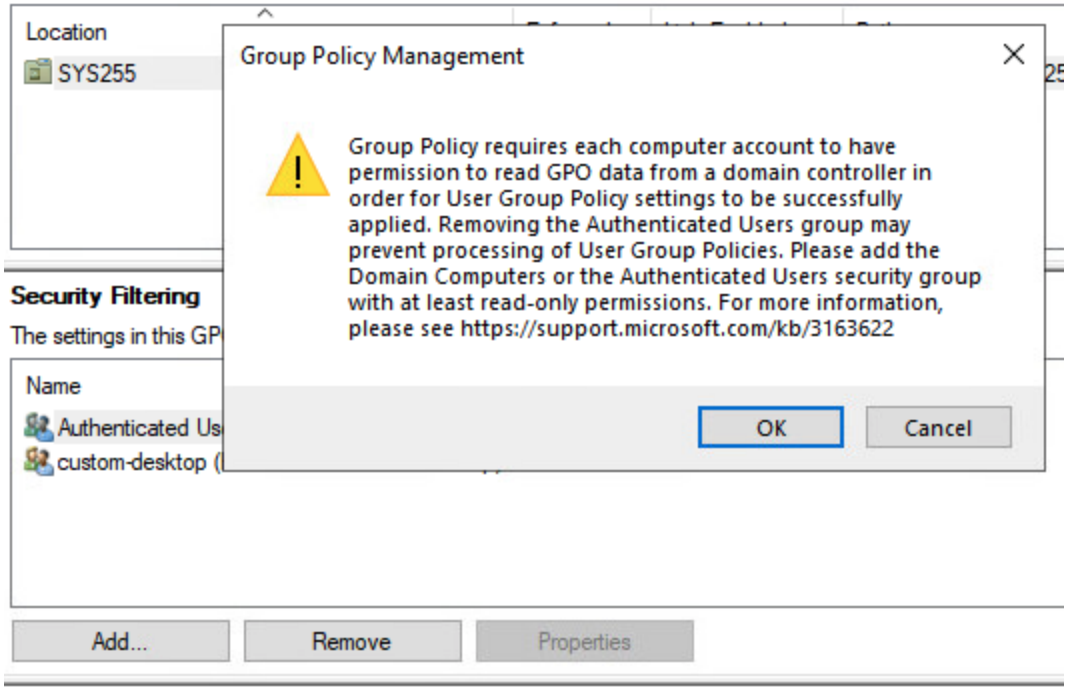
Now, this SYS255-desktop Group Policy should only apply to those users in this OU who are members of the custom-desktop security group. You set this using the security filters section of the group policy. By default, All Authenticated Users have access to apply and read group policy, we will restrict this through the following steps.

Step 1. Add the custom-desktop group created earlier to the Security Filter

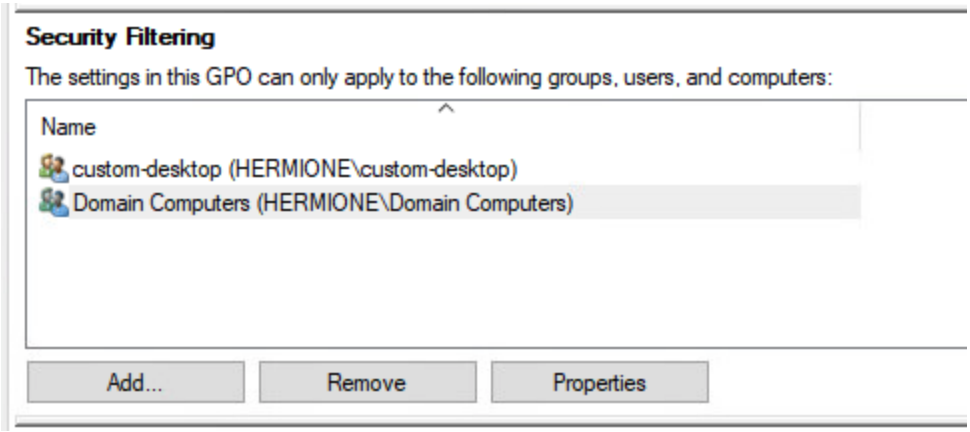


Step 2. Remove Authenticated Users from the Security Filter.

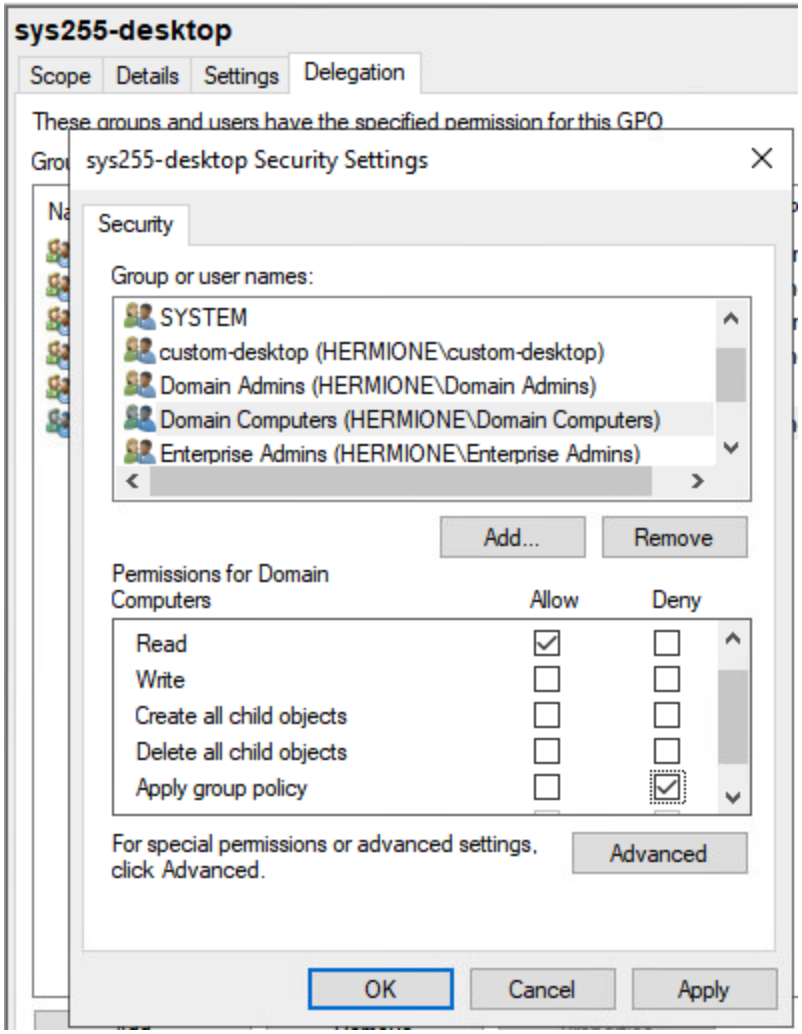
💡 For more information on this error message which was a source of consternation among Windows Admins back in 2016, see https://go.microsoft.com/fwlink?linkid=843010



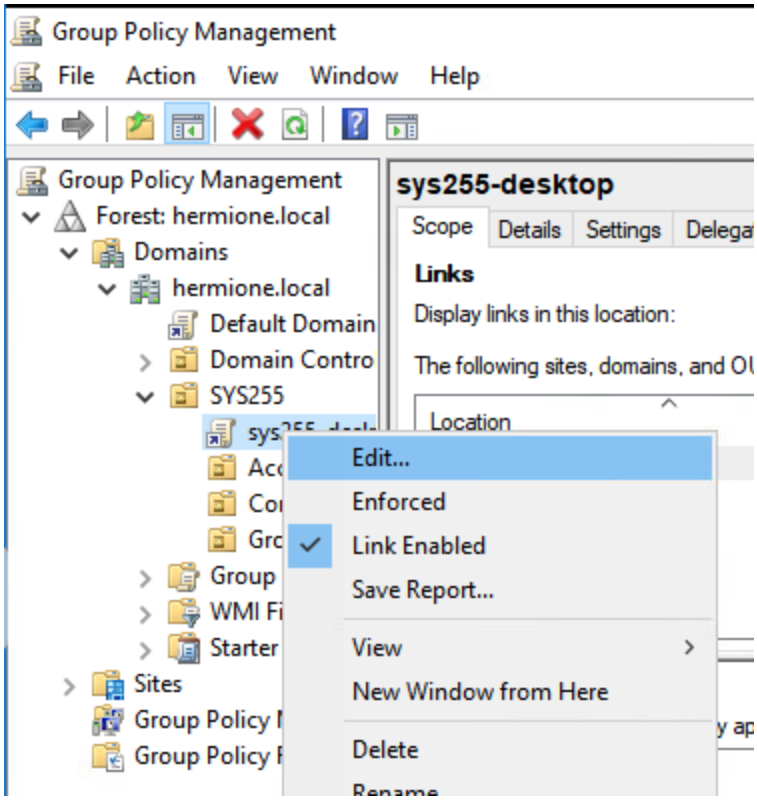
Step 3, Add Domain Computers



Step 4. Delegation tab -> Advanced (Uncheck Apply Group Policy, Select Deny)



Once we have defined who this policy applies to, we are now ready to author what the group policy does.

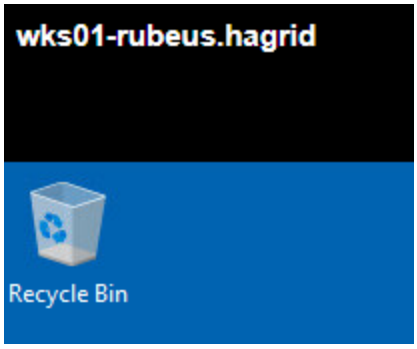


💡 This is the bulk of the group policy editor on a Windows server where we can define computer and user settings. Remember: COMPUTER settings are applied when workstations turn on, where USER settings apply after users login.

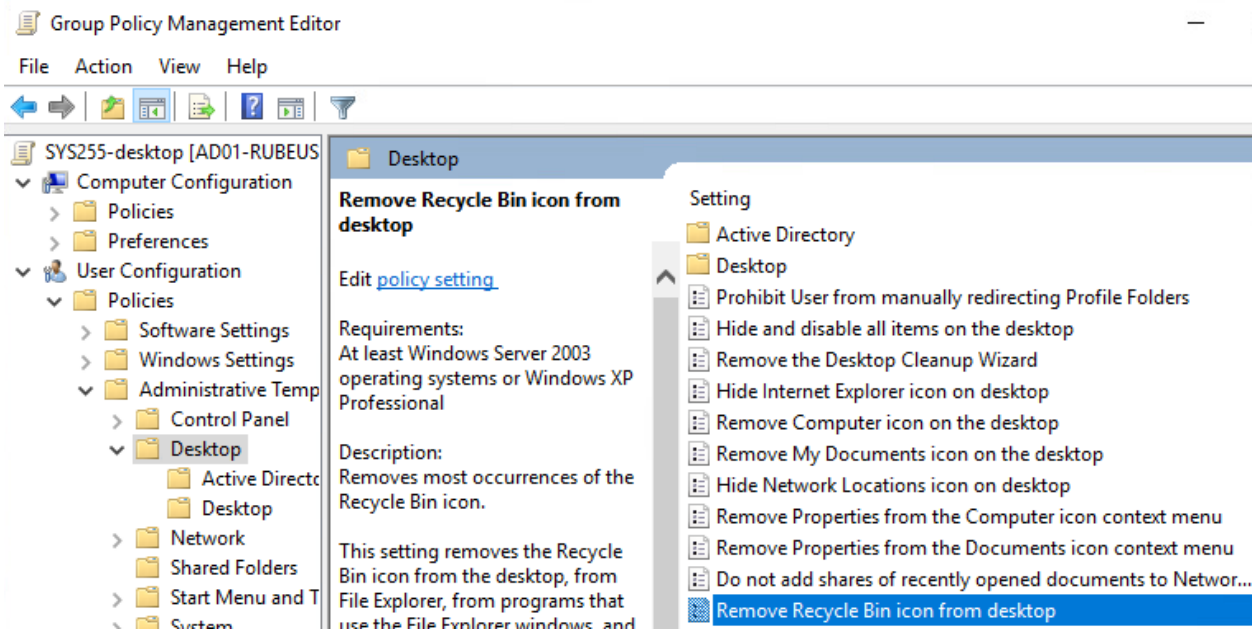
There are a handful of settings here that we can define and really control the experience of the workstation in this domain. This is commonly used to control things such as, but not limited to: desktop backgrounds, browser settings, password policies, network shares, printers, redirected folders, Microsoft Bitlocker, application allowed list policies, logon scripts, etc.

Nuking the Recycle Bin

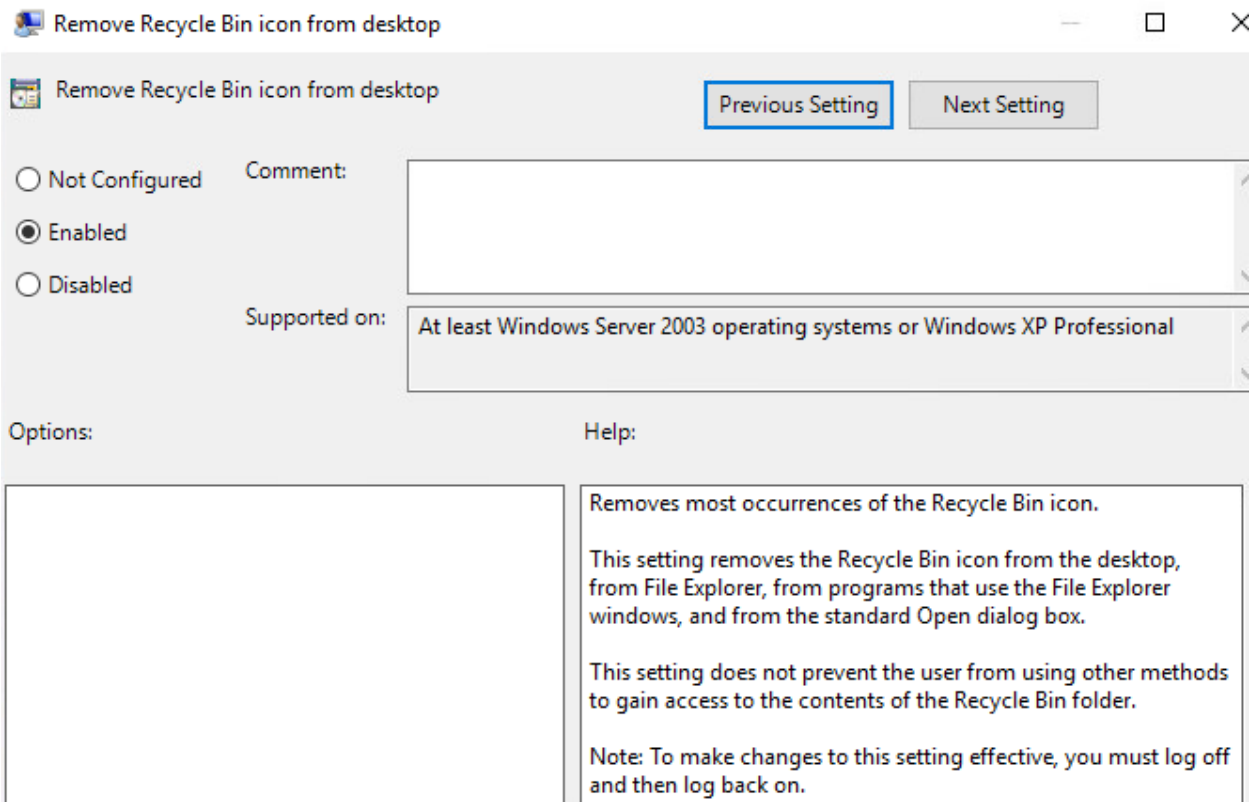
Your users are revolting against the Recycle Bin, so let's remove it.



Find the Remove Recycle Bin icon setting under User Configuration, and click Edit Policy Setting in the group policy editor.



Enable the Remove Recycle Bin Icon from Desktop setting. Note: Frequently in AD GPO settings, its wording can be tricky, where you enable/allow the removal of a feature/function.



Click Apply. Ok, and close the Group Policy editor.

Deliverable 1. Login to WKS01 as Alice, and your desktop should not include the Recycle Bin. Provide a screenshot showing both your VM name, the lack of Recycle Bin, and the results of gpresult /r (using Alice's account).

Select Windows PowerShell

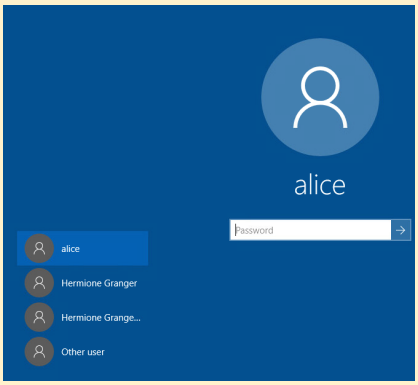
```
Created on 9/27/2020 at 4:17:09 PM


RSOP data for RUBEUS\alice on WKS01-RUBEUS : Logging Mode
---------------------------------------------------------

OS Configuration:            Member Workstation
OS Version:                  10.0.17763
Site Name:                   N/A
Roaming Profile:             N/A
Local Profile:               C:\Users\alice
Connected over a slow link?: No


USER SETTINGS
-------------
    CN=alice,OU=Accounts,OU=SYS255,DC=rubeus,DC=local
    Last time Group Policy was applied: 9/27/2020 at 4:16:34 PM
    Group Policy was applied from:      ad01-rubeus.rubeus.local
    Group Policy slow link threshold:   500 kbps
    Domain Name:                        RUBEUS
    Domain Type:                        Windows 2008 or later

    Applied Group Policy Objects
    ----------------------------
        SYS255-desktop

    The following GPOs were not applied because they were filtered out
    -------------------------------------------------------------------
        Local Group Policy
            Filtering:  Not Applied (Empty)

    The user is a part of the following security groups
```

Creating a Computer Policy

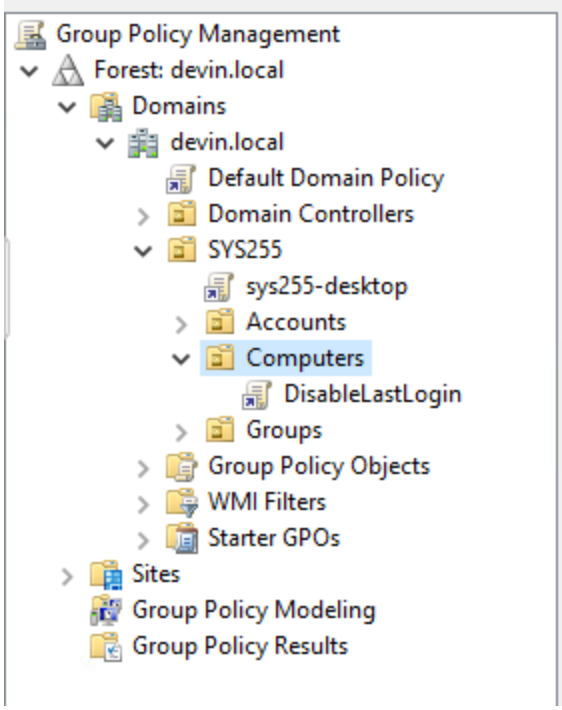
💡 Unlike User policies that are associated with the logged on user, Computer policies are applied before login and affect the entire system and thus any logged in users.

Disable Last Login

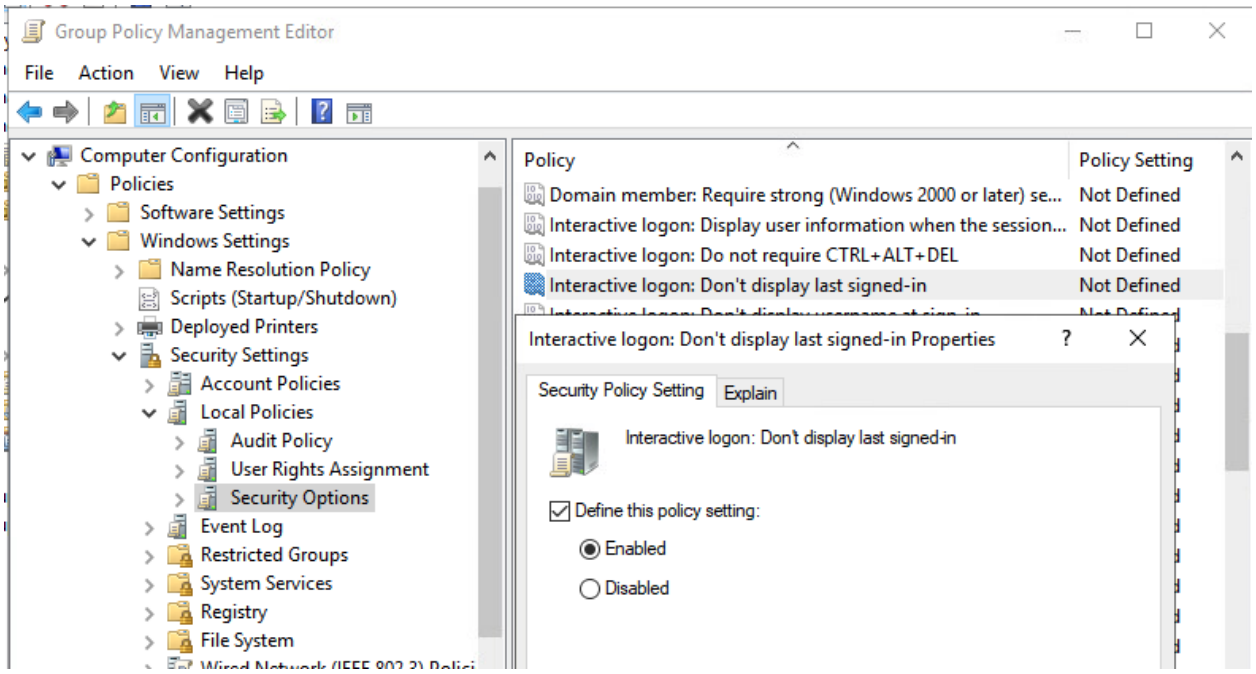
💡The default display of previously logged on users is widely considered a security vulnerability, particularly in shared systems. The next policy will turn off the default display of previously logged in users:



Create and Link a new GPO within the SYS255\Computers OU called *DisableLastLogin.*



The Security Filter on this policy should be applied to Domain Computers (not Authenticated Users) similar to earlier. Then edit the policy so that the "Do not display last user name" is enabled.

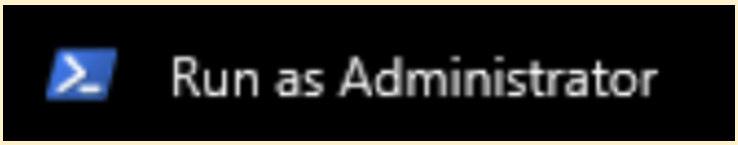


Deliverable 2: On WKS01, from an elevated domain administrative command prompt, issue the following commands:

- gpupdate /force
- gpresult /scope computer /r

Provide a screenshot showing the DisableLastLogin Policy was applied.

💡 Even though you may be logged into WKS01 as the -adm AD power account, you still need to elevate your command prompt or powershell session to “Run as Administrator”. Try right-clicking over the shortcut for command or powershell.

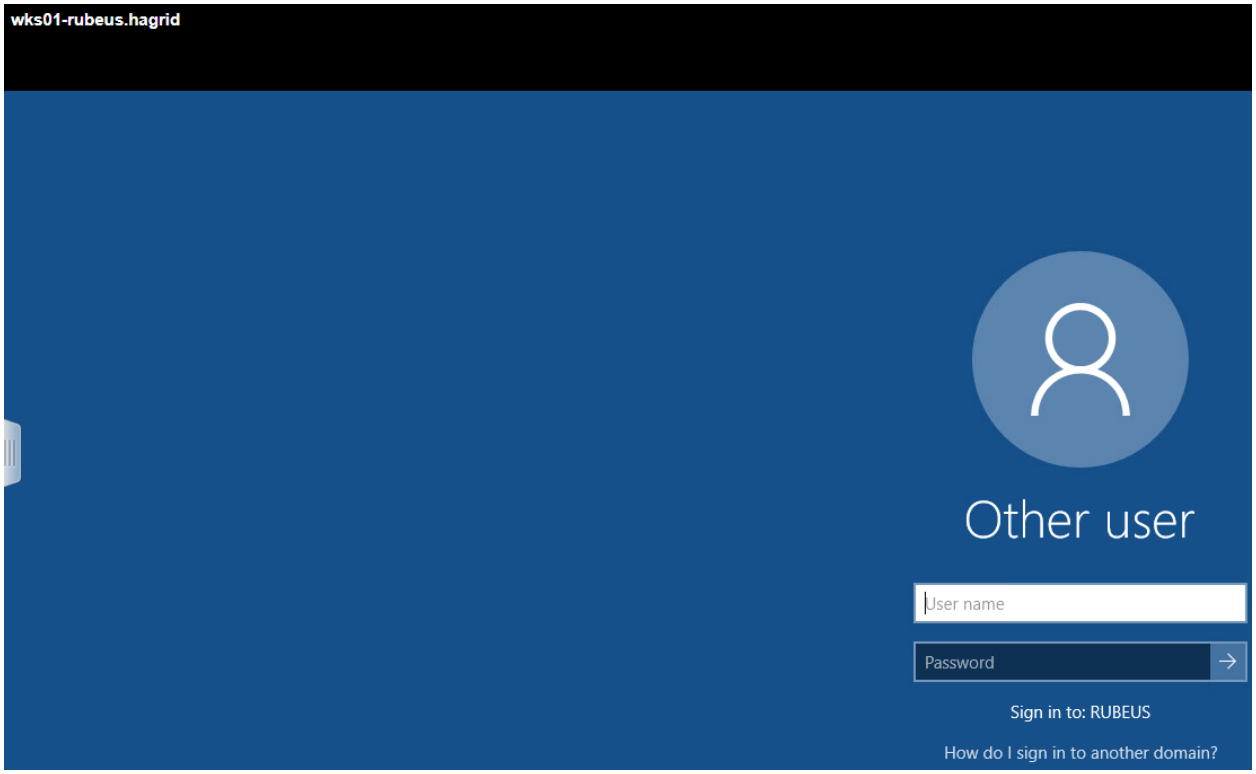


wks01-rubeus.hagrid

Select Administrator: Windows PowerShell

```
Created on ƒ 9/ƒ 6/ƒ 2020 at 9:04:05 PM


RSOP data for  on WKS01-RUBEUS : Logging Mode
----------------------------------------------

OS Configuration:            Member Workstation
OS Version:                  10.0.17763
Site Name:                   Default-First-Site-Name
Roaming Profile:
Local Profile:
Connected over a slow link?: No


COMPUTER SETTINGS
-----------------
    CN=WKS01-RUBEUS,OU=Computers,OU=SYS255,DC=rubeus,DC=local
    Last time Group Policy was applied: 9/6/2020 at 9:03:33 PM
    Group Policy was applied from:      ad01-rubeus.rubeus.local
    Group Policy slow link threshold:   500 kbps
    Domain Name:                        RUBEUS
    Domain Type:                        Windows 2008 or later

    Applied Group Policy Objects
    ----------------------------
        DisableLastLogin
        Default Domain Policy

    The following GPOs were not applied because they were filtered out
    -------------------------------------------------------------------
        Local Group Policy
            Filtering:  Not Applied (Empty)

    The computer is a part of the following security groups
    -------------------------------------------------------
        BUILTIN\Administrators
        Everyone
        BUILTIN\Users
        NT AUTHORITY\NETWORK
        NT AUTHORITY\Authenticated Users
        This Organization
        WKS01-RUBEUS$
        Domain Computers
        Authentication authority asserted identity
        System Mandatory Level

PS C:\Windows\system32>
```

Deliverable 3. Sign out of WKS01, and provide a screenshot showing the changes to the login screen. You should no longer see evidence of the last user who had logged in.



Deliverable 4: For your Tech Journal Entry - Create a detailed plan of how to prepare for next week's assessment. This plan should include a Current Network Diagram (example tool: https://app.diagrams.net) containing at least devices, hostnames, IPs, services, and "cabling".