Lab 7 Group Policies Instructions

The objective of the lab is to familiarize you with one aspect of Microsoft Group Policies (GPO) and how they are used to manage network assets, the user experience, and security. In this lab, students will create new Group Policy Objects at the Organizational Unit (OU) level, and use that to distribute software.

This is a team assignment, but you must submit it as individuals, with all submitted work being your own.

Actions

Action 1: From your fellow classmates, form teams of no more than four members. Each team has been assigned a Windows Server 2019 instance.

Note: there are twelve (12) Windows Server 2019 instances available for this exercise: one for each four-member team.

For Deliverable #1, write your name, the number of your team, the name of your partners, and the date.

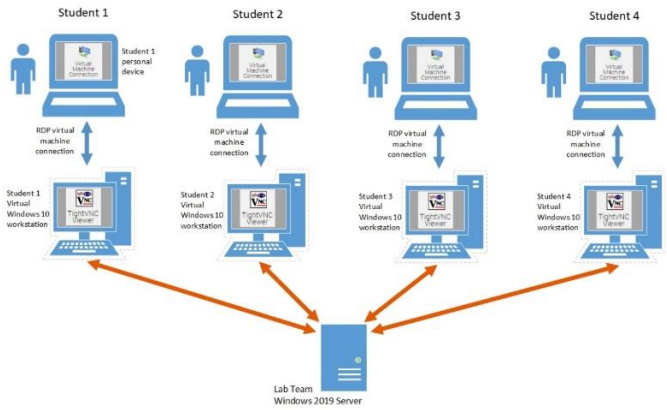
Connect to the CCI Virtual Environment

Action 2: You will find instructions for connecting to the CCI virtual environment in Actions 1 – 3 of Lab 1: *Access Virtual Lab Environment*.

As advised in *Lab 1: Access Virtual Lab Environment*, you may want to uncheck various local sharing checkboxes, for security reasons.

This week, you will be connecting to both your Microsoft Windows Server 2019 instance (as a team) and to your respective Windows 10 computer instances (as individuals).

You will use the TightVNC client on that workstation to connect to your team's Windows 2019 server, as diagrammed below:



Connect to the CCI Virtual Environment (continued)

Action 3: Have one team member sign in to your team's Microsoft Windows 2019 Server instance using the *AdminLite* account. The password was given to you in class

Since this is a Domain account, the full context of the username will be CCI-LAB-DOM\AdminLite

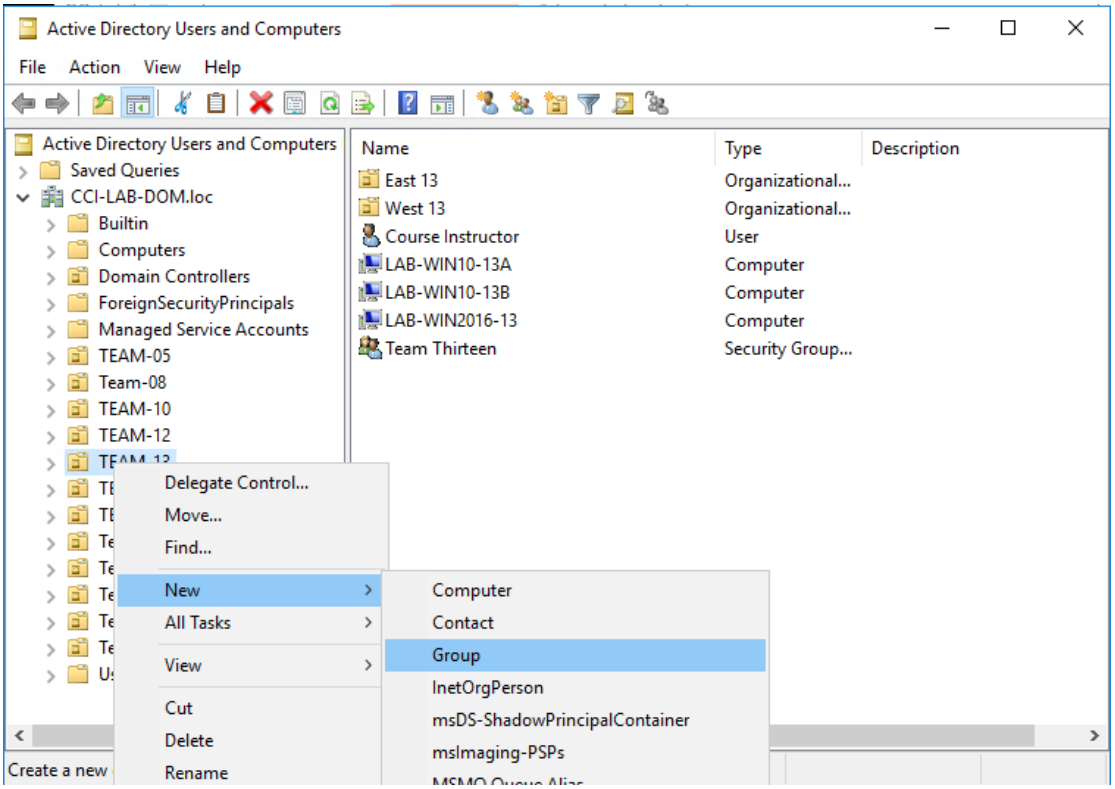
In this exercise, you will use Group Policy to distribute the PUTTY SSH client to all of Windows 10 computers in your team organizational unit. To do so you will:

1. Create an Active Directory group named *Putty_Users*
2. Create a folder C:\software\putty and share the *putty* folder to AD group *Putty_Users*, with read-only access
3. Have one team member map a Windows 10 computer drive to the share you created.
4. Use that Windows 10 computer to download the putty .msi to that mapped drive
5. Add all of your team's Windows 10 computers to AD group *Putty_Users*
6. Create a Group Policy software distribution object, to distribute putty to all members of AD group *Putty_Users*

Create an Active Directory Group for Software Distribution

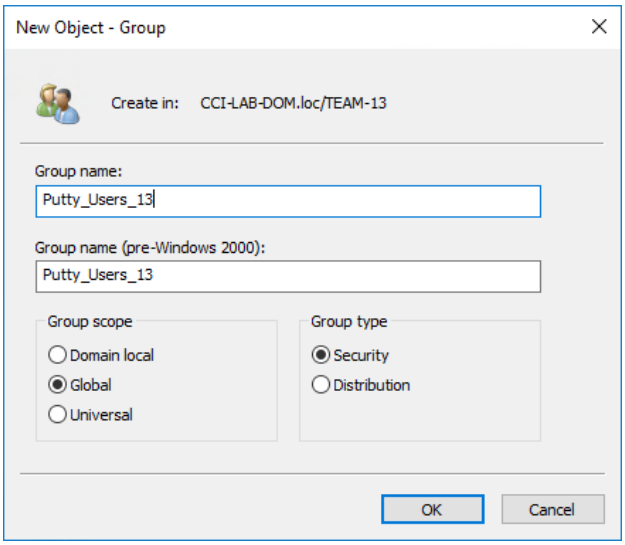
Action 4: From *Start Button* → *Windows Administrative Tools*, open *Active Directory Users and Computers*.

Right-click your team's Organizational Unit (OU) and create a *New* → *Group*.



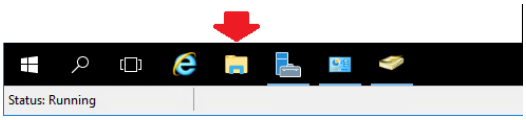
Create an Active Directory Group for Software Distribution (continued)

Name that Group *Putty_Users_X*, with X being the number of your team. For example, Team 13 would create group *Putty_Users_13*

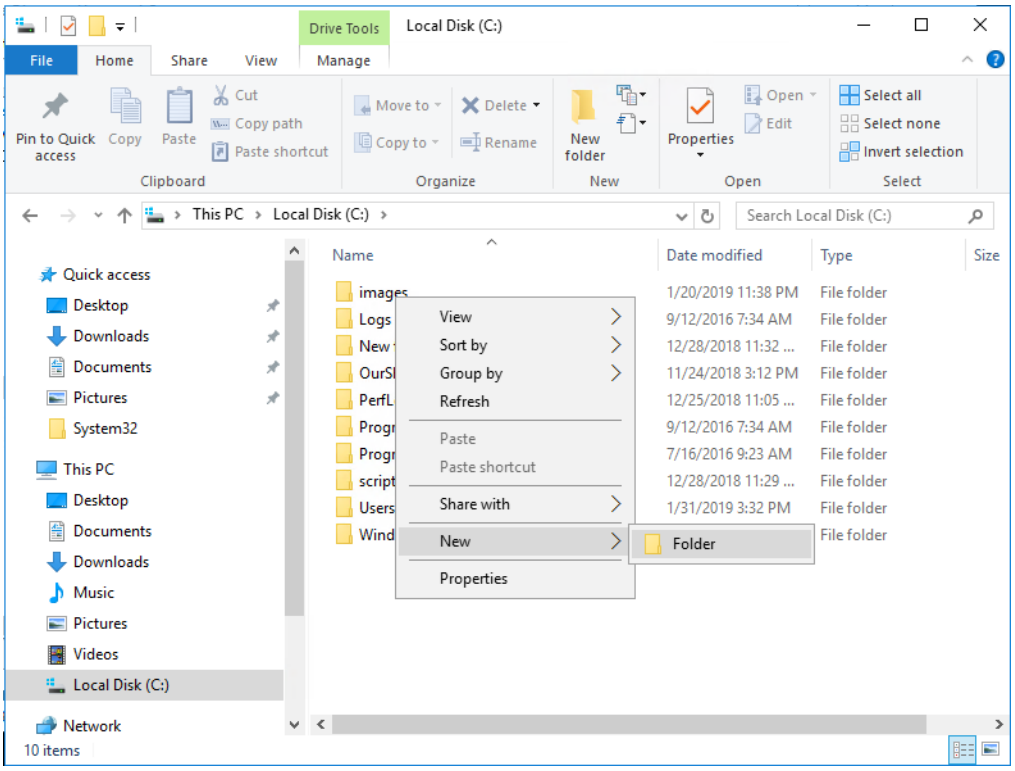


Create a Server-based Share for Software Distribution

Action 5: At the bottom of your server screen, in the Taskbar, you will find *File Explorer*.

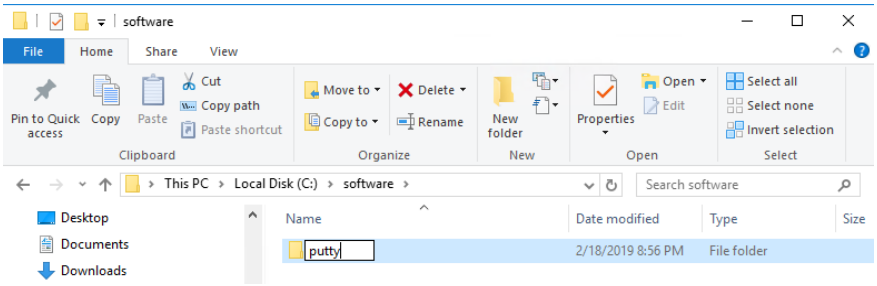


Use File Explorer to create on your team server's *This PC* → *Local Disk (C:)),* right-click, *New* → *Folder* named *software*

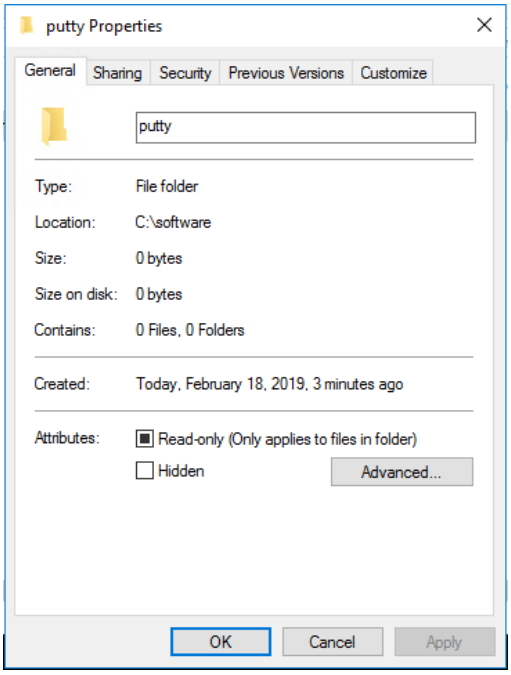


Create a Server-based Share for Software Distribution (continued)

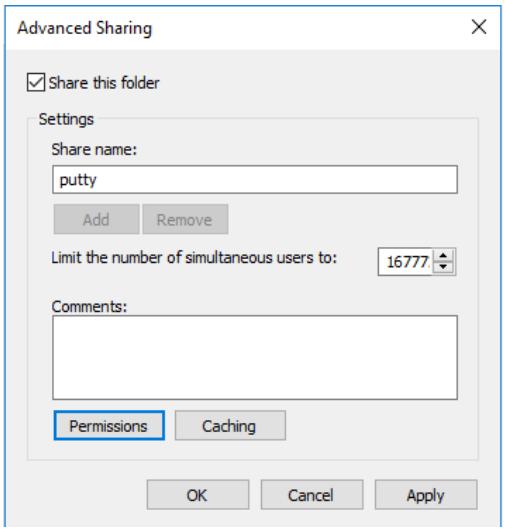
Inside the software folder, create a folder named *putty*



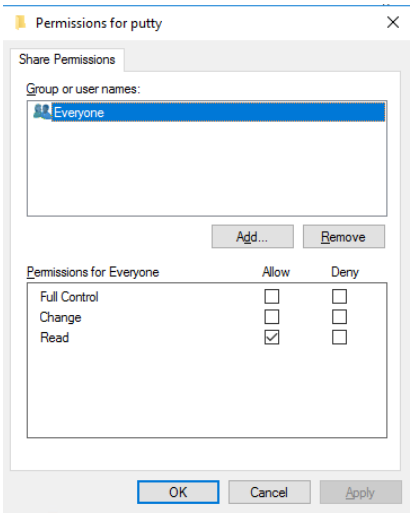
Right-click the putty folder, and select *this folder Properties*.



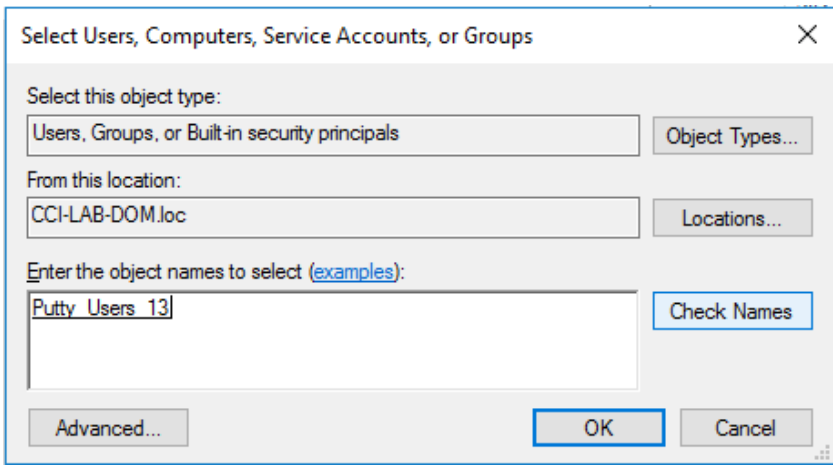
Select *Sharing* → *Advanced Sharing*, check the *Share* box, and click Permissions



Remove *Everyone* from *Permissions*…

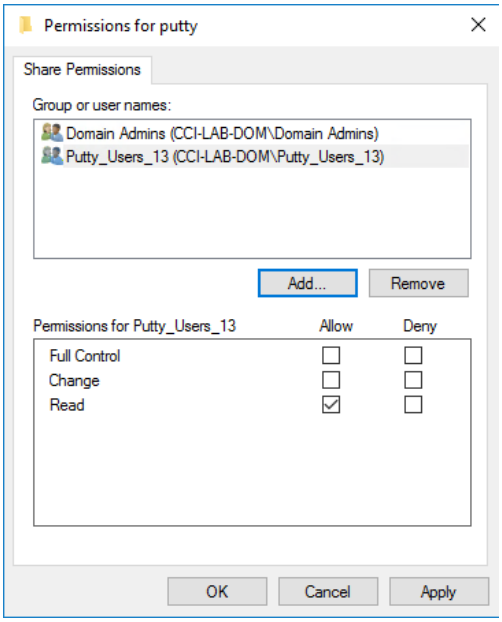


then *Add Putty_Users_X*. Remember that X will be your team number. Click the *Check Names* button to confirm that the AD group exists; *Putty_Users_X* will be underlined if this is the case.

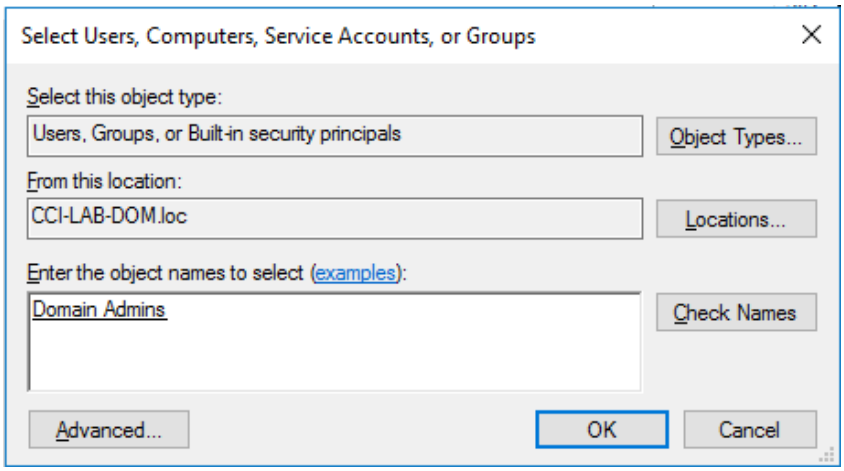


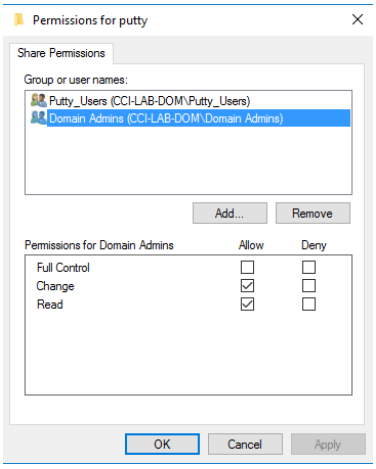
Create a Server-based Share for Software Distribution (continued)

Click OK, and then confirm that Putty_Users_X has Read access only:

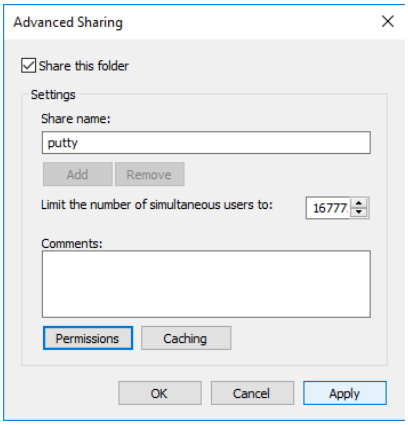


Next, add *Domain Admins* to the share's permissions, and ensure that *Domain Admins* have *Change* permission in addition to *Read* permission





Click Apply, then OK.

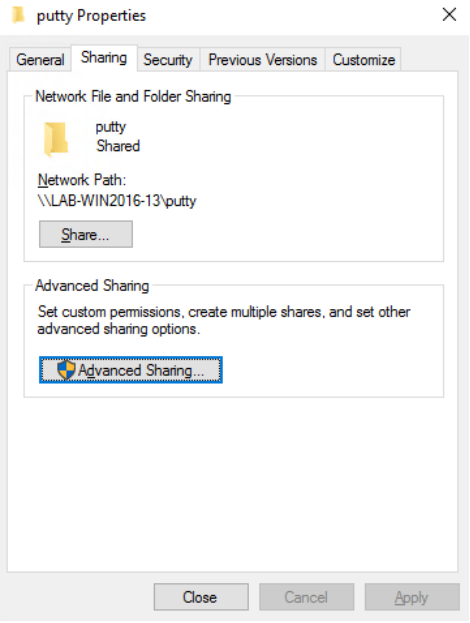


Click Apply, then OK, to create the share.

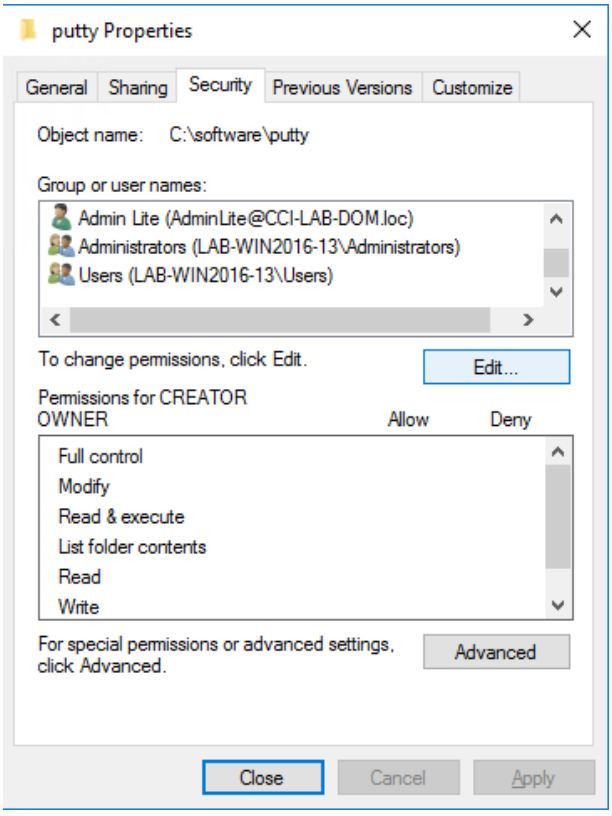
Create a Server-based Share for Software Distribution (continued)

Write down the UNC of the Share you just created.

For Deliverable #2, what is the UNC of the share you just created?

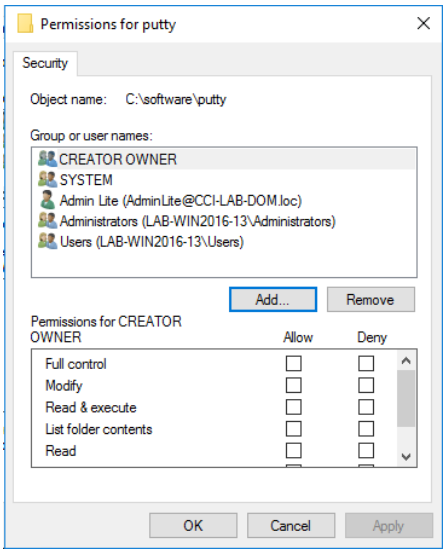


You will now need to set NTFS Permissions for the *putty* folder. Click the *Security* tab, and then the *Edit* button



Create a Server-based Share for Software Distribution (continued)

Click the Add button, and then add the *Putty_Users_X* group in the same manner as you did when setting Share permissions. Make sure it has *Read & execute*, *List folder contents*, and *Read* permissions.



Confirm that *Domain Admins* has at least *Modify*, *Read & execute*, *List folder contents*, *Read*, and *Write* permissions.

Click OK, then Apply and OK, and Close to complete the share.

Download the Desired Software Installer into the Software Distribution Share

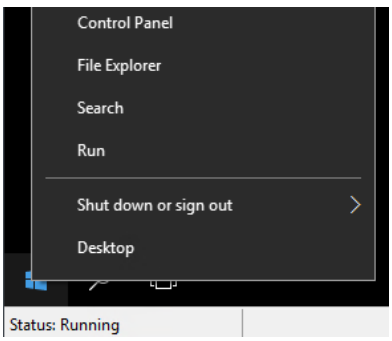
Action 6: You will now download the putty installer executable into the distribution share. While you could accomplish this via FTP or some other method, for this exercise you will download it via HTTP.

Note: attempting to use a server web browser to accomplish this is not advised: it is considered an non-secure practice, and the default settings in Windows Server 2019 Internet Explorer would almost certainly render this a frustrating processes.

Instead, you will map a drive from a Windows 10 computer, map a drive from that Windows 10 computer to the share you just create on the Windows Server 2019 computer, open Internet Explorer on that Windows 10 computer, and download the installer file directly to the share.

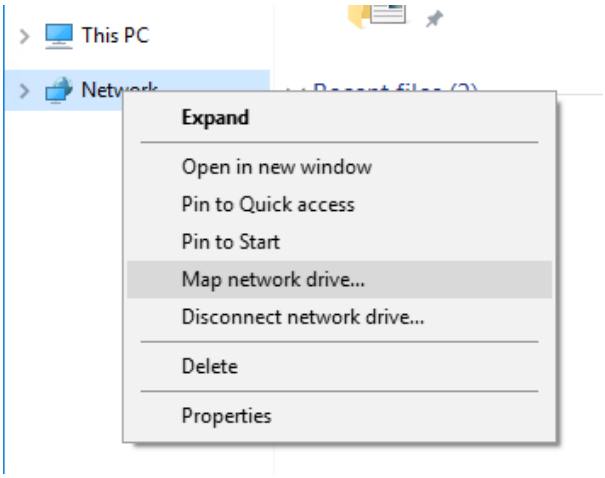
At this time, select one member of your team to log into a Windows 10 computer. Use the *AdminLite* account.

On one team member's Windows 10 computer, log into the AdminLite account. right-click *Start Button* and select *File Explorer:*

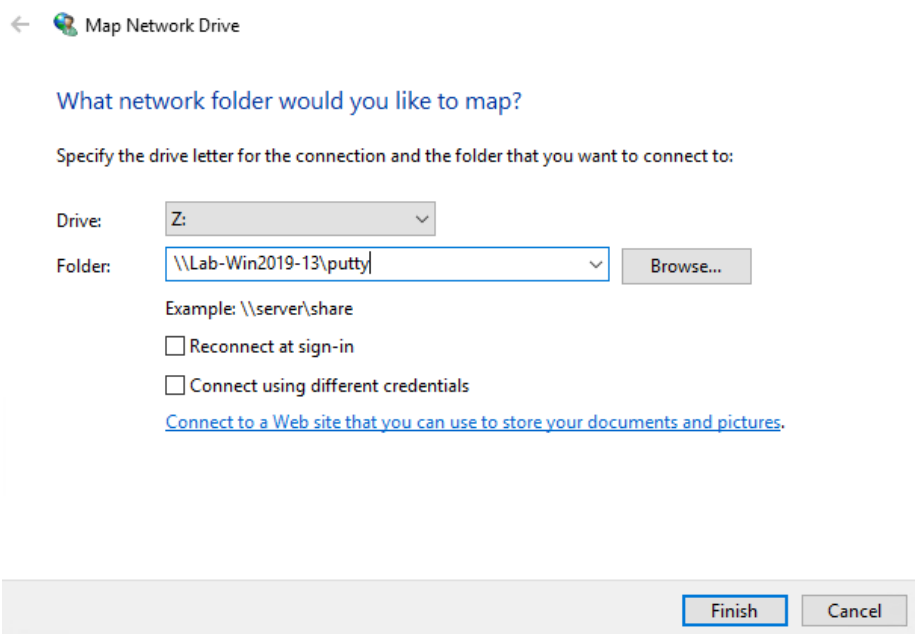


Download the Desired Software Installer into the Software Distribution Share (continued)

Right-click *Network* and select *Map network drive*



Select Drive Z: For Folder: enter the UNC that you wrote down for Deliverable 2.

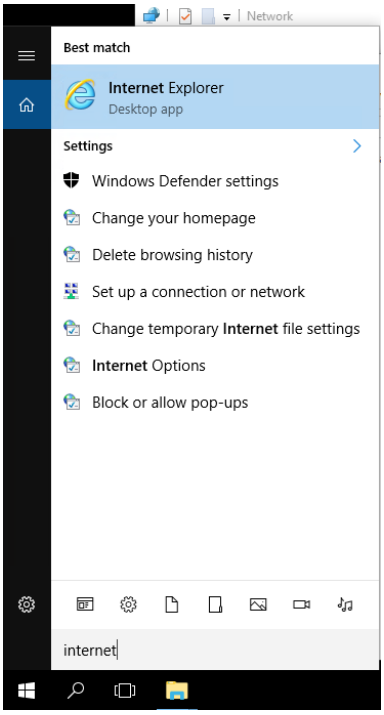


You have now mapped drive Z of your Windows 10 computer to the share you created on your Windows Server 2019 computer.

Action 7: You will now download the putty installer into the share you created on the Windows Server 2019 computer, via drive Z that you just mapped on the Windows 10 computer

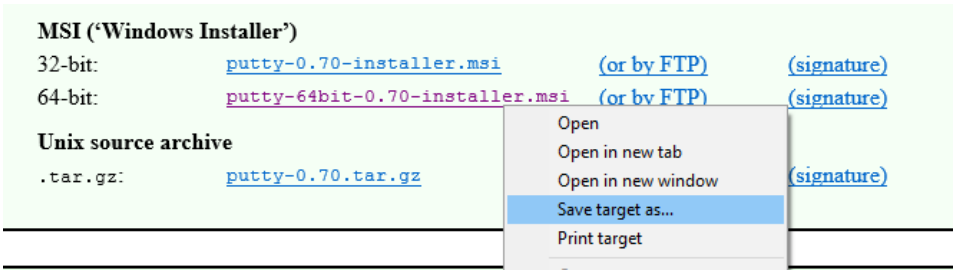
Download the Desired Software Installer into the Software Distribution Share (continued)

Open Internet Explorer. One simple way to do this is to user the Search icon in the Taskbar to search for “internet explorer:



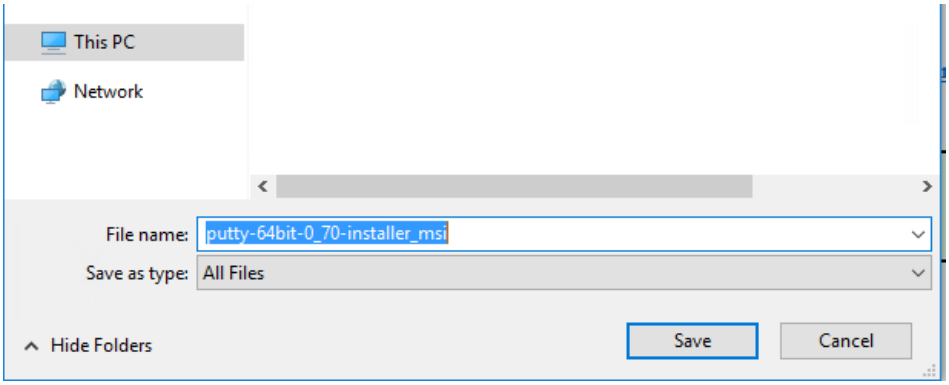
Browse to URL https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html

Right-click the 64-bit MSI (‘Windows Installer’). It is important that you select the .msi file rather than an .exe file, as you will be using Group Policy to distribute this application.



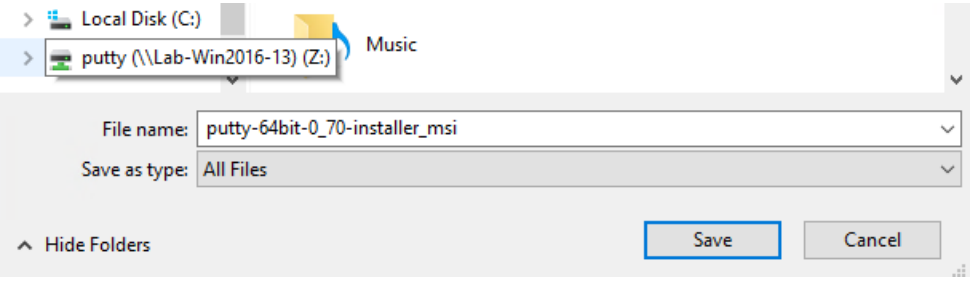
Select *Save target as*, and save the .msi file to the Z drive as such:

In the left pane, drill down through This PC…



Download the Desired Software Installer into the Software Distribution Share (continued)

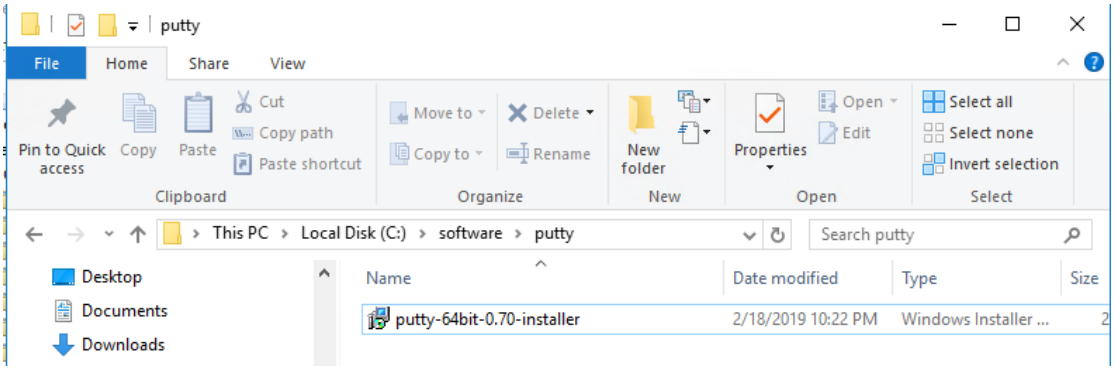
and then the Z drive, which will also include in its name the UNC of your share:



Click the Save button when you've selected the Z drive.

When you have confirmed download of the appropriate .msi file, return to your Windows 2019 Server console.

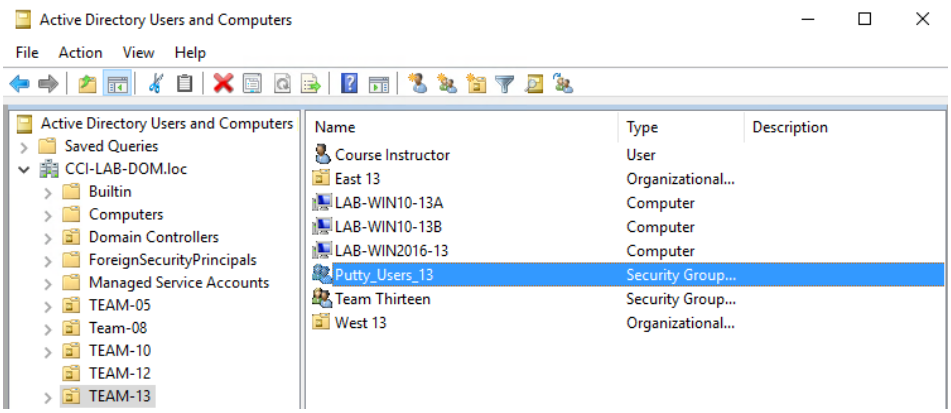
You should see the .msi installer now in your share folder.



Add Users to the Active Directory Group for Software Distribution

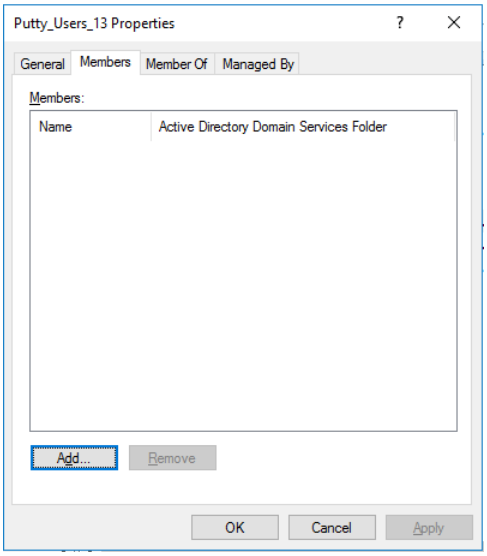
Action 8: You will now be working at your Windows 2019 Sever console. If you have closed Active Directory Users and Computers, reopen it at this time.

Find the Active Directory group that you created in Action 4…

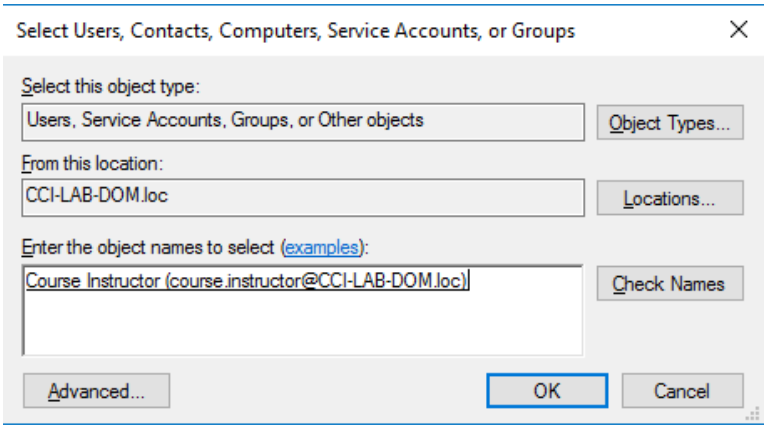


Add Users to the Active Directory Group for Software Distribution (continued)

Right-click that group, and select *Properties*. Select the Members tab.

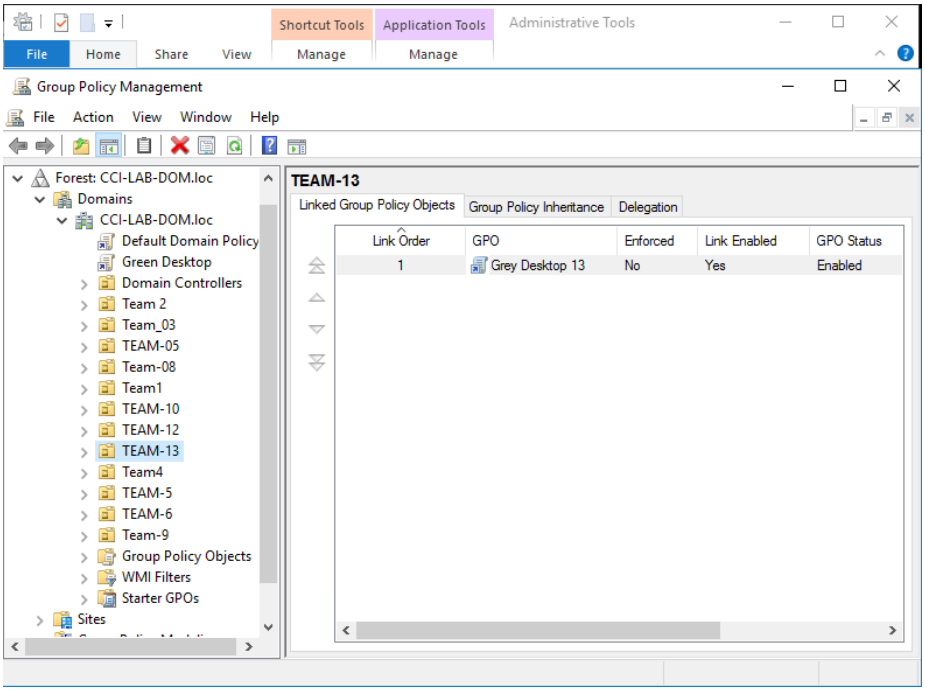


Use the *Add* button to add the members of your team to this group.



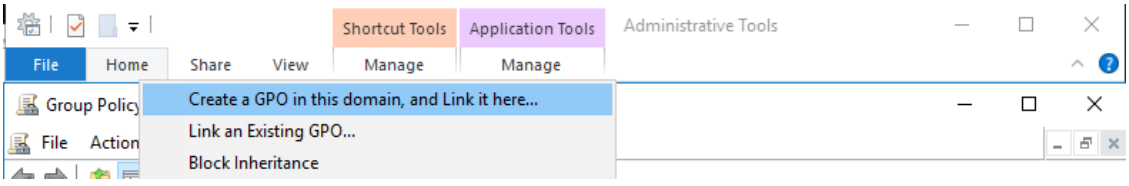
Create the Group Policy Software Distribution Object

Action 9: From *Start Button* → *Windows Administrative Tools*, open *Group Policy Management.*



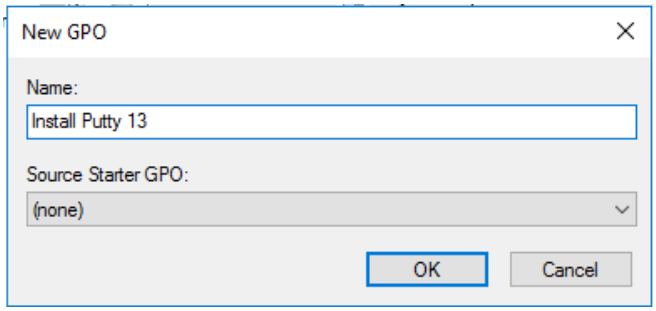
You will probably need to expand the Forest and CCI-LAB-DOM.loc Domain until you see the Organizational Unit (OU) that your team created in a previous lab.

Right-click your team Organizational Unit (OU), and select *Create a GPO in this Domain, and Link it here…*

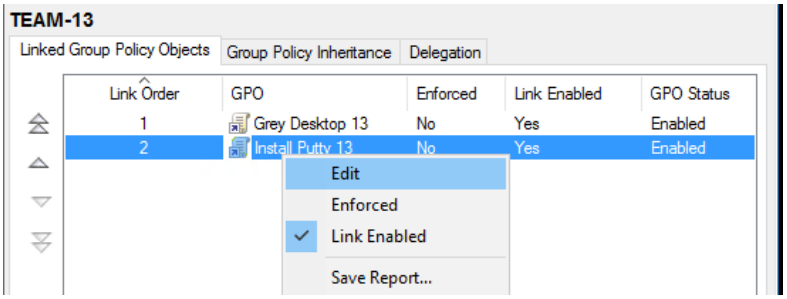


Create the Group Policy Software Distribution Object (continued)

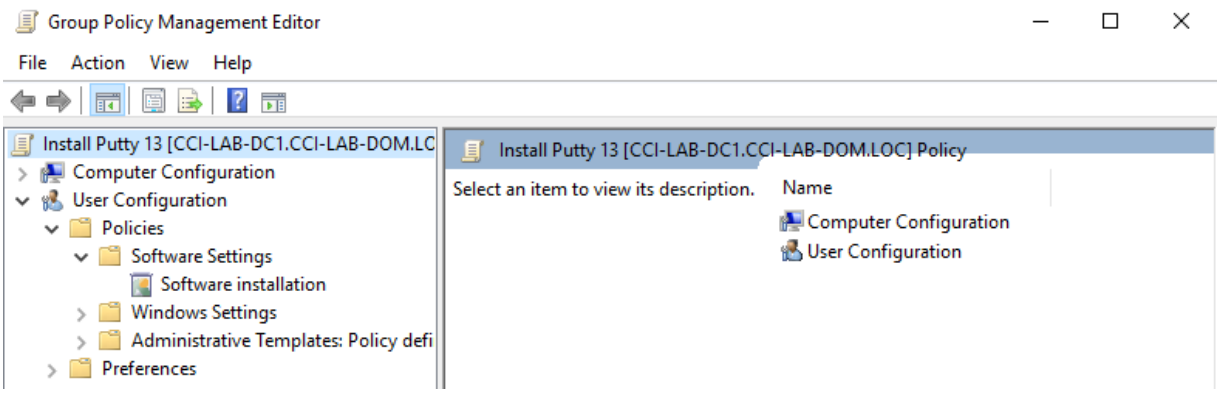
Create a new Group Policy Object (GPO), and name is Install Putty X, with the X being the number of your team.



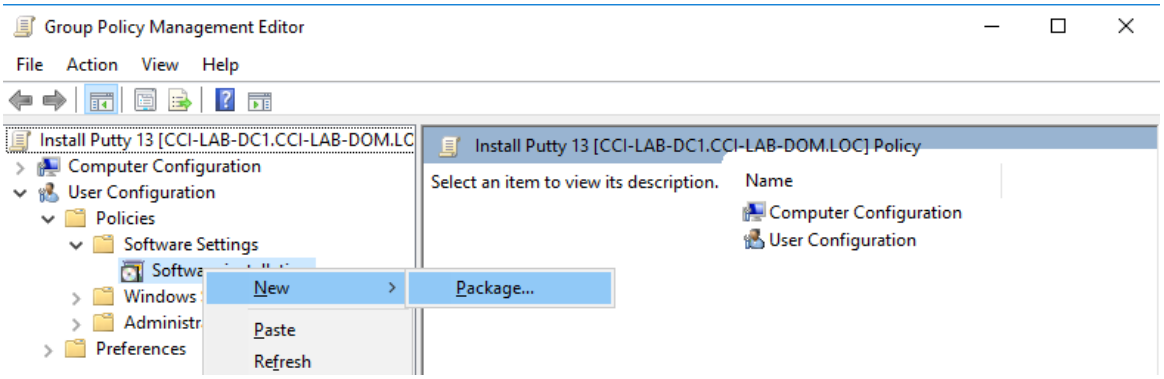
Right-click the GPO you just created, and select *Edit*.



Expand *User Configuration* → *Policies* → *Software Settings*



Right-click the *Software Installation* GPO you just created, and select *New* → *Package*

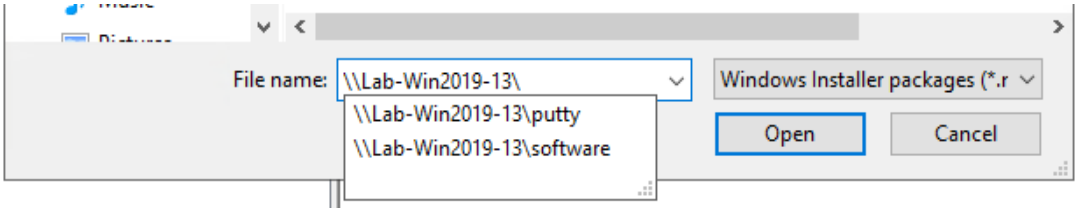


Create the Group Policy Software Distribution Object (continued)

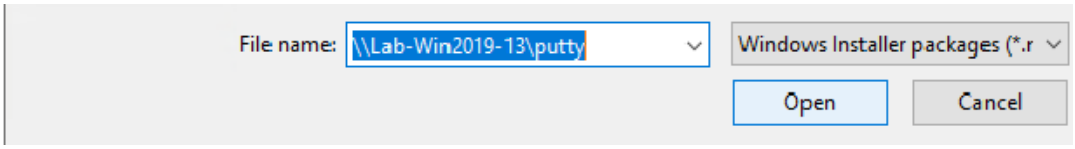
By default, the local file system browser will appear. Remember, though: when the Group Policy is enforced against the endpoint computer, if you set this group policy to find the .msi installer in the C:\software\putty directory, that endpoint computer will check *its own* C: drive, and the folders and file won't be there.

Instead, you need to browse to the UNC of the share: a UNC is Universal, which means that that UNC will be the same, no matter from which endpoint computer it is referenced.

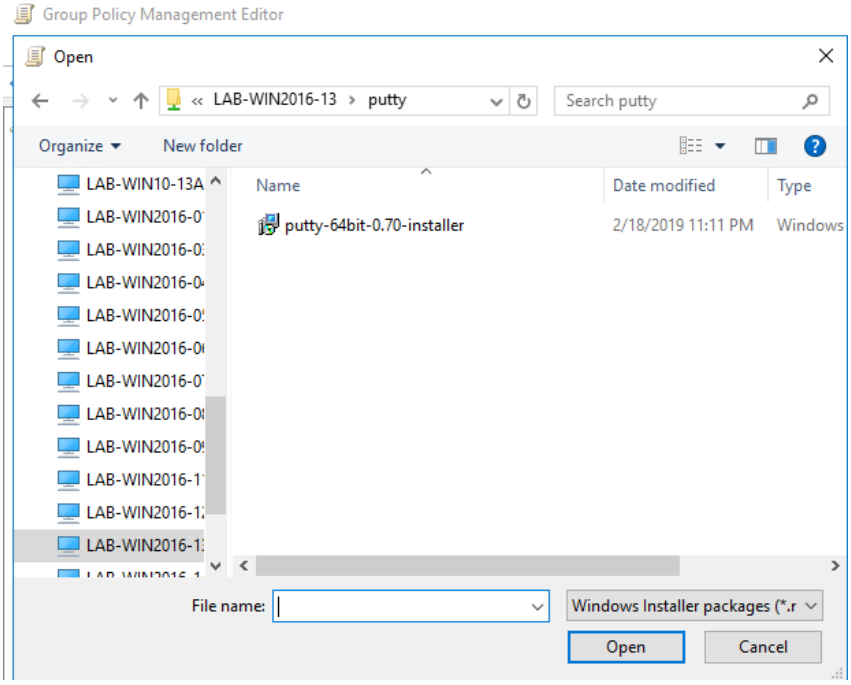
One simple way of finding it is to enter the UNC for your share (this was recorded in Deliverable 2), and let the browser auto-populate the field for you:



In the example above, Team 13's UNC appears:

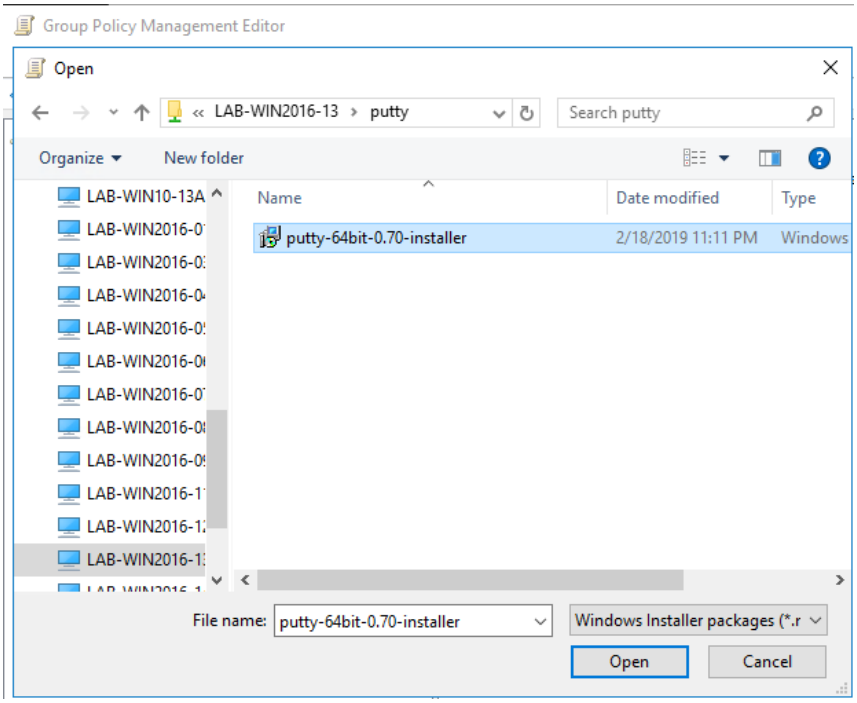


Clicking *Open* will produce a similar screen:



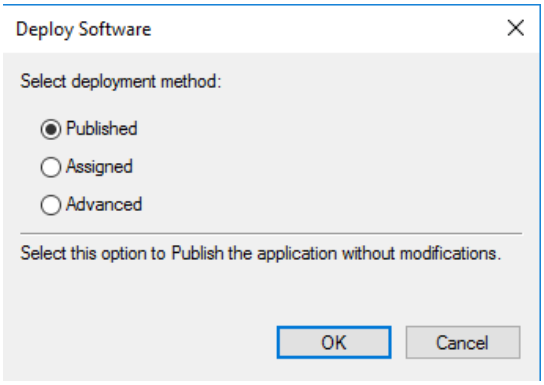
Create the Group Policy Software Distribution Object (continued)

Select the installer file…



… and then *Open*.

You will now see *Deploy Software*.



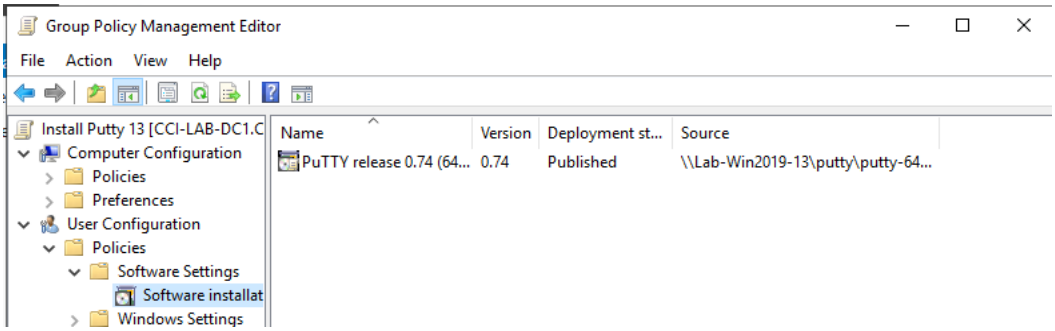
If you were to *Assign* the package, it would install automatically to the targeted devices. For this exercise, we're going to *Publish* it: the package will simply appear as an option in *Control Panel*.

The end-user will then have the option of installing Putty from a list of published applications.

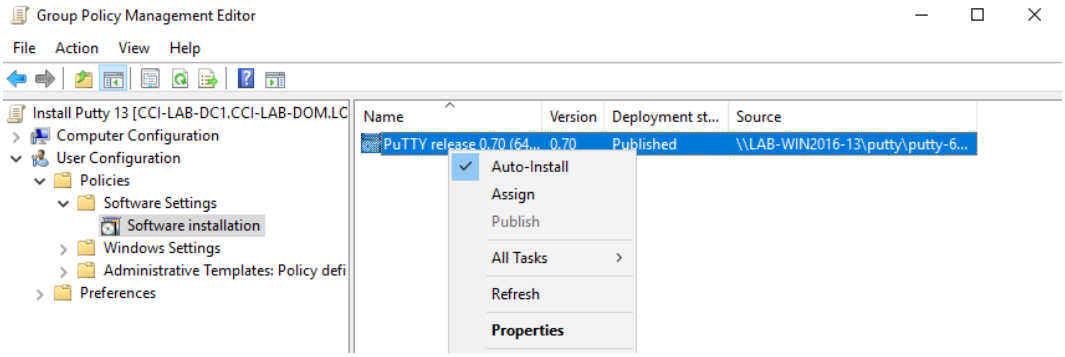
Select *Publish*, then click *OK*.

Create the Group Policy Software Distribution Object (continued)

After a few seconds, you see the package created:

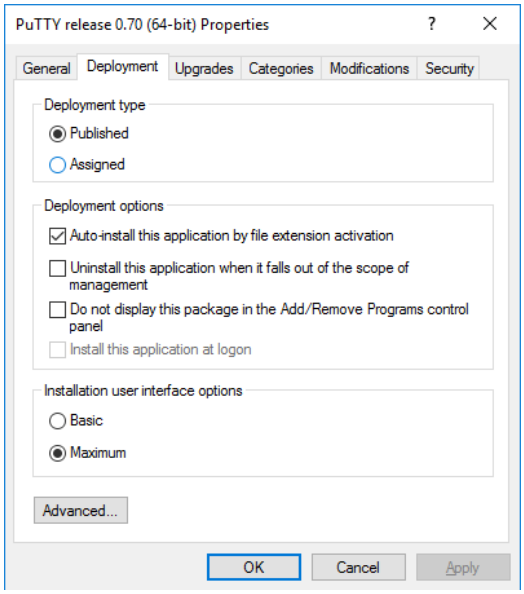


If you right-click the package, you will see it set to Auto-install.



Select *Properties*, and then the *Deployment* tab.

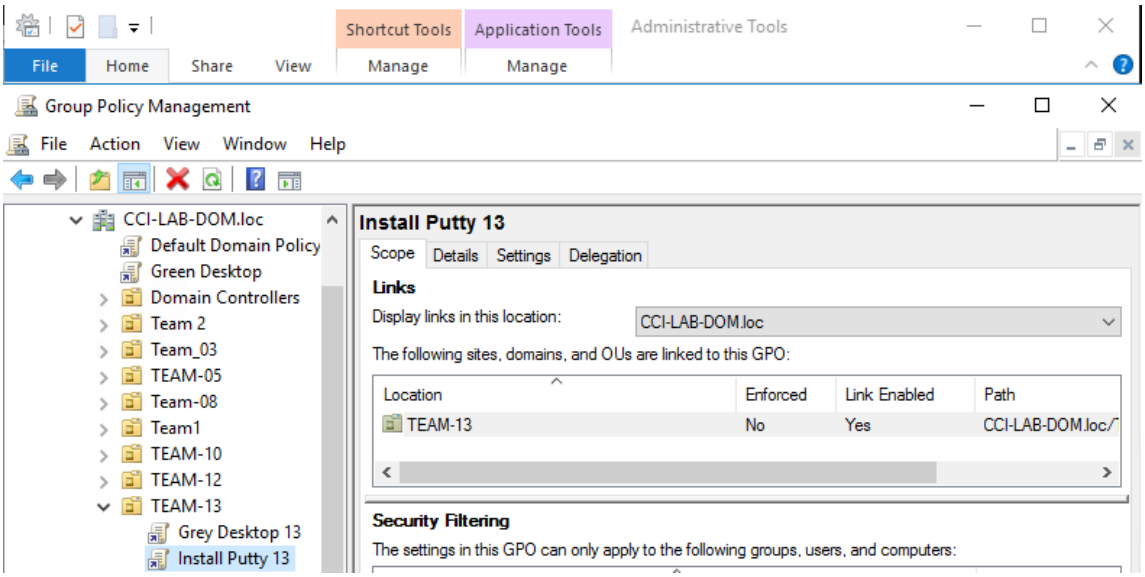
You will see a number of options. Make sure that the *Published* and *Maximum* options are selected.



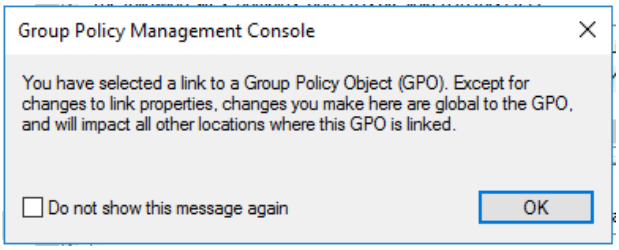
Click *OK*, and *Close* the *Group Policy Management Editor*.

Create the Group Policy Software Distribution Object (continued)

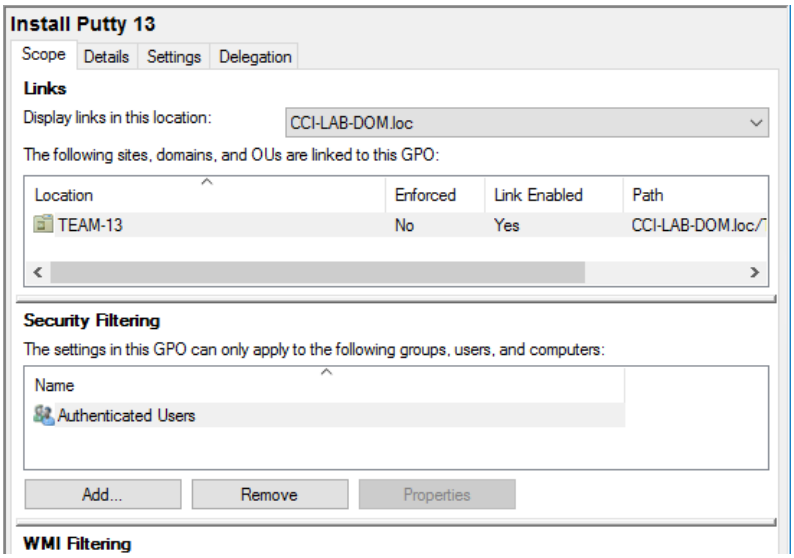
In the Group Policy Management console, select the GPO you just created:



When you select it, you will get a warning: simply acknowledge it with *OK*:

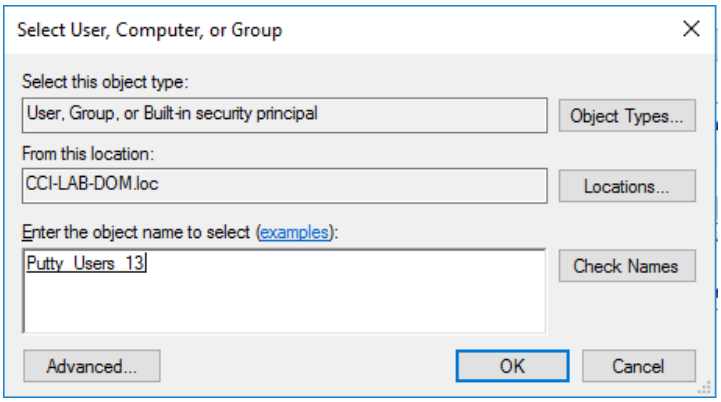


Note that the scope of this GPO is *Authenticated Users*, which means that the GPO will apply, if enforced, to every user authenticated within the scope against which this GPO is Linked.

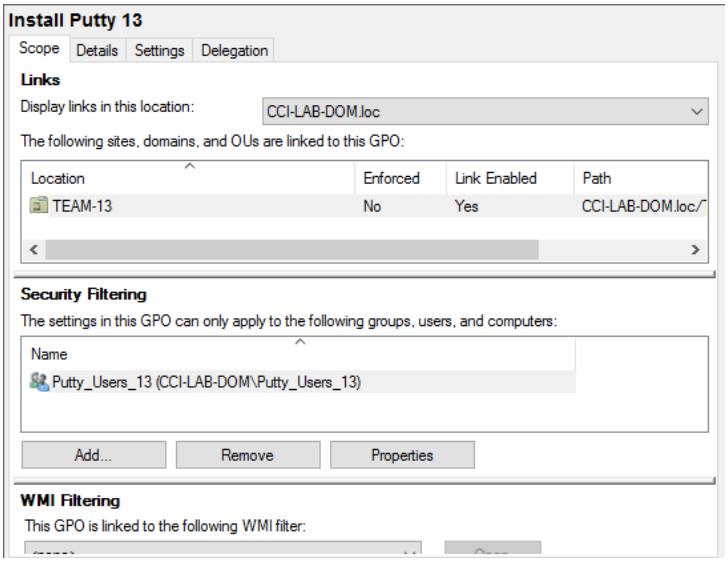


Create the Group Policy Software Distribution Object (continued)

Add *Putty_Users_X*, with X being your team number:



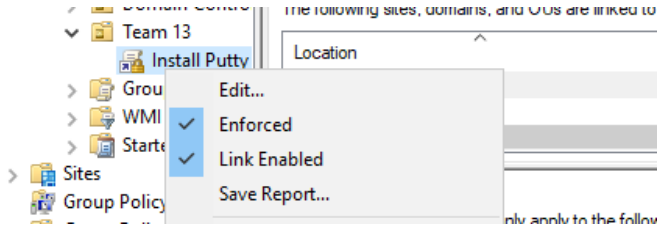
Your GPO will now apply to members of the *Putty_Users_X* Group:



It is important that you carefully plan Group Policies, and know their effects.

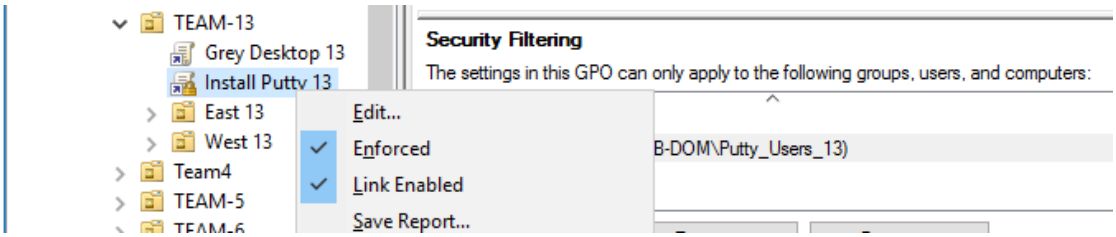
You are now ready to Enforce your new GPO.

Right-click the *Install Putty* GPO, and check *Enforced*:



Create the Group Policy Software Distribution Object (continued)

Your new GPO is now created, Linked, and Enforced.



For this Group Policy to take effect upon the targeted device(s), one of the following must occur:

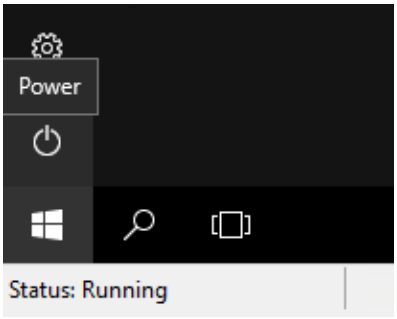
1. The targeted device could be rebooted, and the GPO would be applied to that device upon login.
2. If the device is already logged-in, the command gpupdate /force could force application of the GPO.
3. You could simply wait 90 minutes, plus a randomization period between 0 and 30 minutes

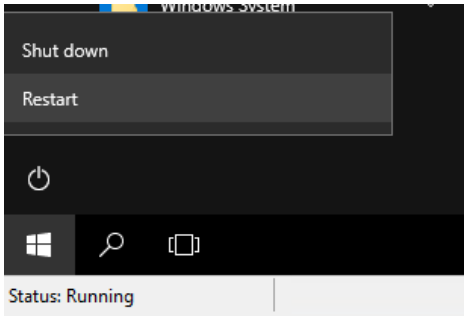
In the name of expediency and limited class time, have one of your team members reboot their Windows 10 computer, and then log in with an account that you put in the *Putty_Users_X AD* Group.

Test the Group Policy Software Distribution Object

Action 10: Have one team member return to their Windows 10 computer instance. You will first want to reboot it. Log in with any available and account at reboot the Windows 10 computer instance:

Use *Start Button* → *Power*, and then click *Power*, and then click Restart to restart the Windows 10 computer.

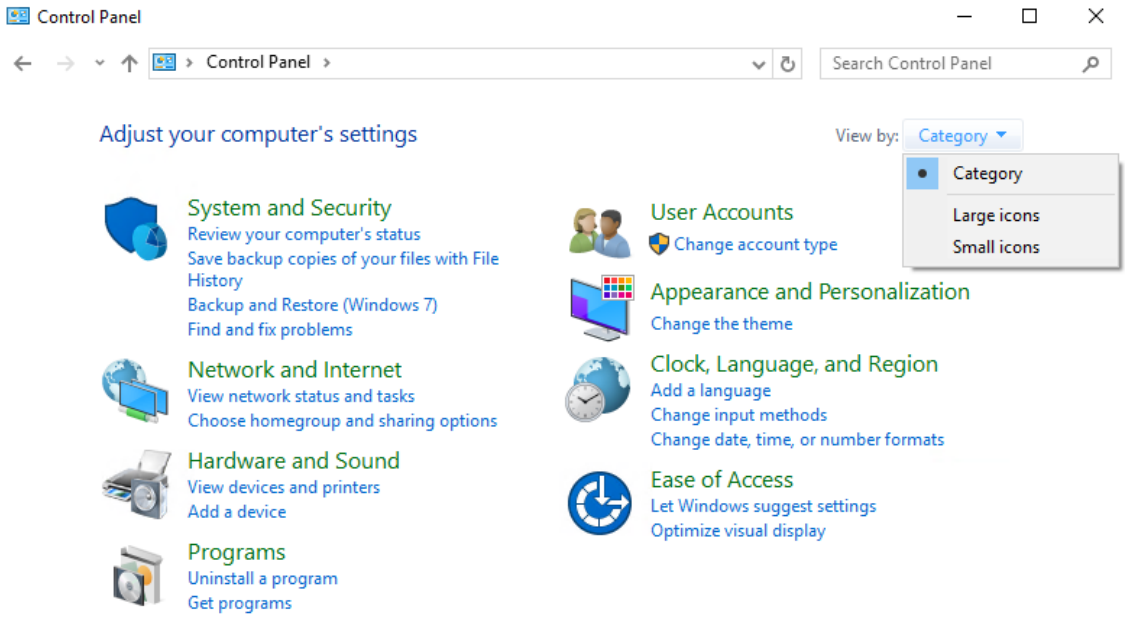




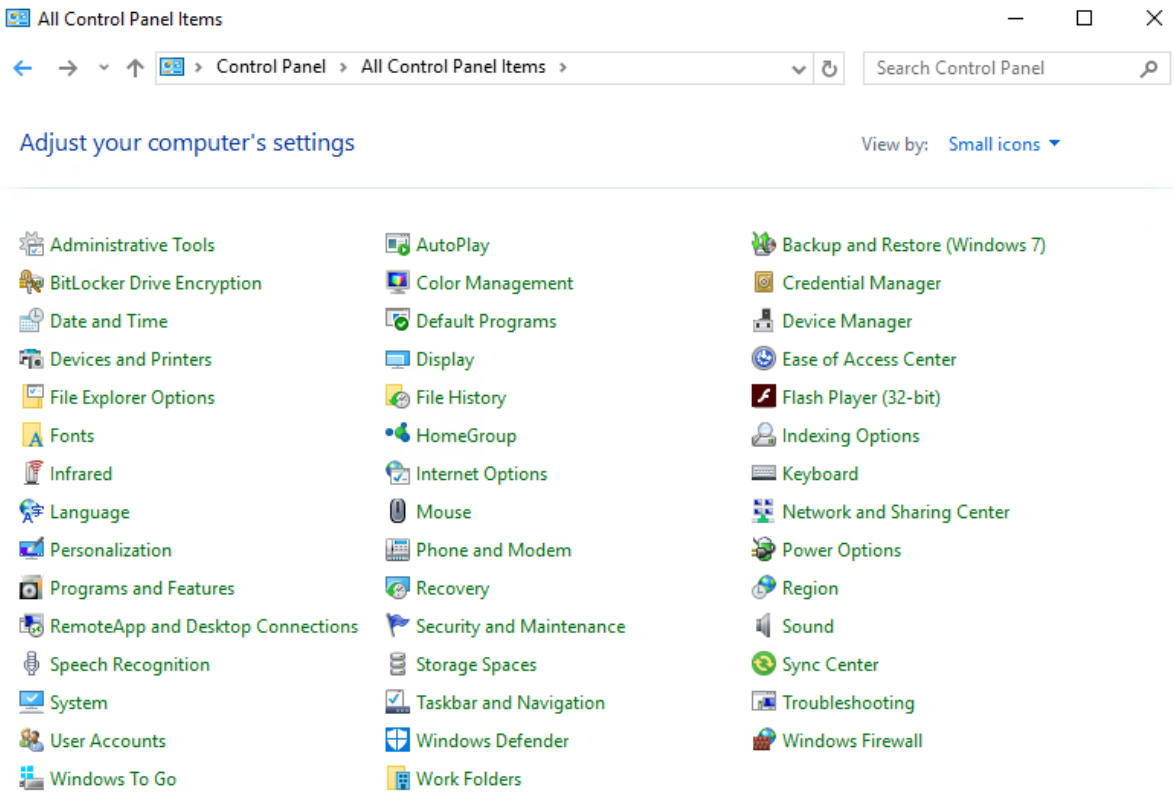
Once rebooted, log in using one of the accounts you added to the Putty Install X group.

Test the Group Policy Software Distribution Object (continued)

Click *Start Button* → *Control Panel*, and then change, in the upper right corner, from *Category* to *Small Icons*, such that the *Control Panel* display goes from this

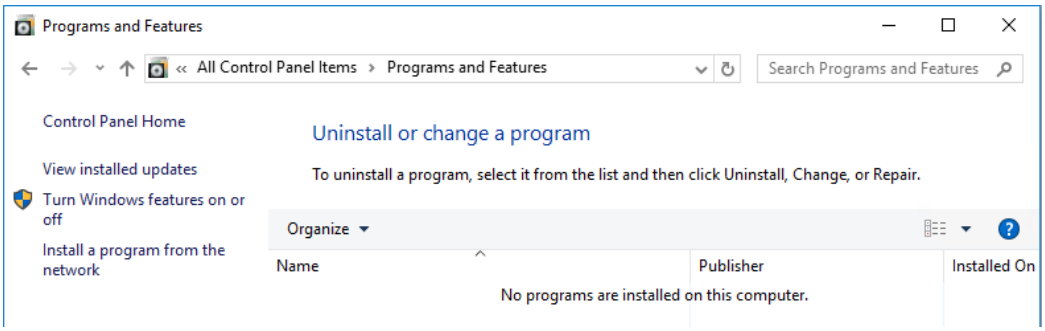


To this

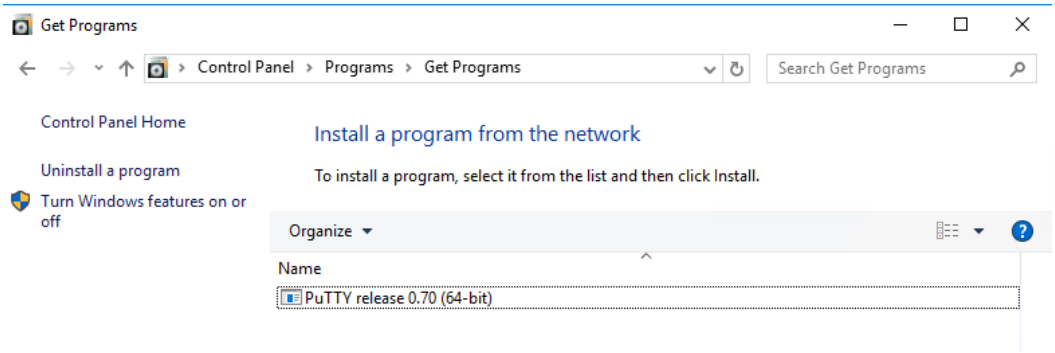


Test the Group Policy Software Distribution Object (continued)

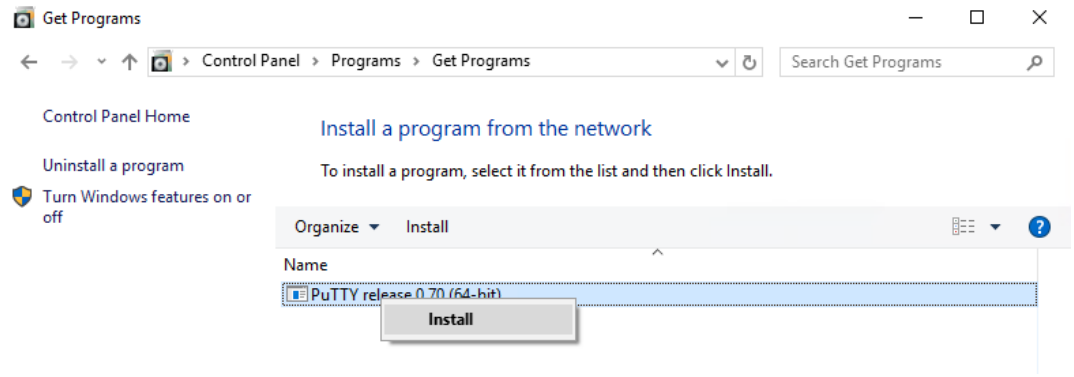
Select *Programs and Features*



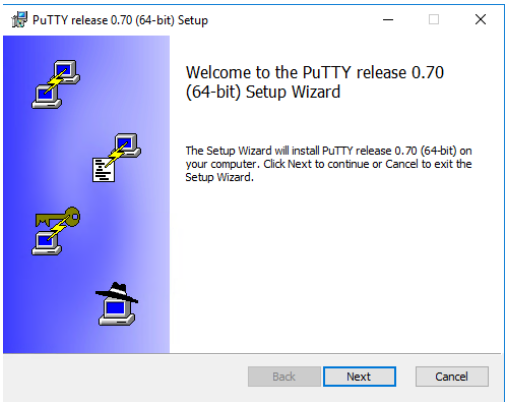
Select *Install a program from the network*



Right-click the Putty application, and select *Install*.



In many Group Policy distributions, you would want installation to be transparent to the user. For this exercise, however, manually click *Next* until the application installation completes, and then click *Finish*. Be sure the box remains checked to open the Readme file upon conclusion of installation.



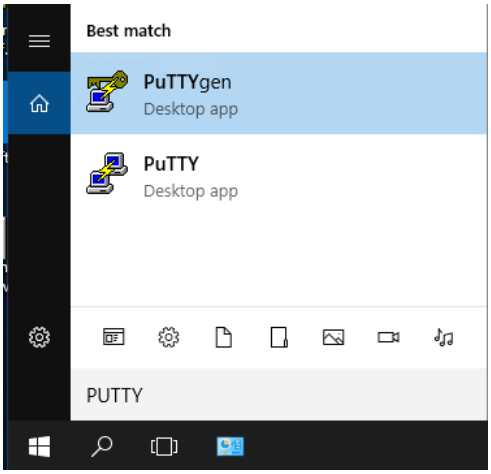
Test the Group Policy Software Distribution Object (continued)

When the application install is completed, you will see Notepad opened in your Taskbar:

Click that open Notepad file.

For Deliverable 3: what are the first two sentences in that Readme file?

To open Putty for future use, use the Search function (magnifying glass) to search for “putty”.



Deliverables

Deliverable 1: From Action 1, write your name, the number of your team, the name of your partners, and the date.

Deliverable 2: From Action 5, what is the UNC of the share that you just created?

Deliverable 3: From Action 10, what are the first two sentences in that Readme file?