Lab 5: Join Computers to Domains

The objective of the lab is to familiarize you with various Windows NT modes (Standalone Server, Member Server, and Domain Controller), what it means to be a member of a Domain, and the Windows Server 2019 management environment. This lab continues with the management basic Active Directory (AD) objects, as well as the management of Active Directory users and groups.

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. In the previous lab, though, you had already joined your team's Windows Server 2019 server to the CCI-LAB-DOM Domain.

In this lab, you will join your individual Windows 10 virtual instances to the same CCI-LAB-DOM Domain, using a nearly identical process. This time, though, you will be examining the effects of Domain membership in more detail.

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).

Rather than connecting to your individual Microsoft Windows 10 instances, however, one member of your team will connect to your team's Microsoft Windows Server 2019 instance, as you did in *Lab 3: Server Local User, Group, NTFS Permission, & Share Exercise*.

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

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

Observe Changes to Server Joined to Domain in Previous Lab

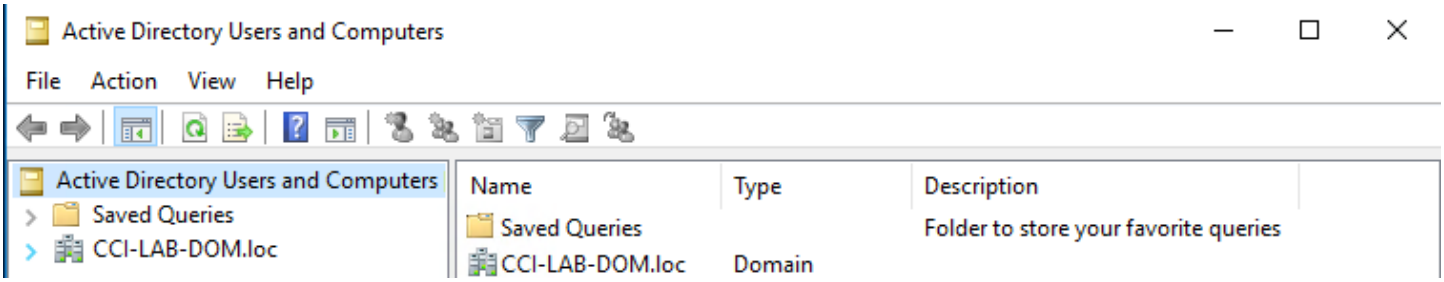
Action 4: Right-click the *Start* Button, and click *System*.

For Deliverable #3, what is the name of your computer? To which workgroup does it belong?

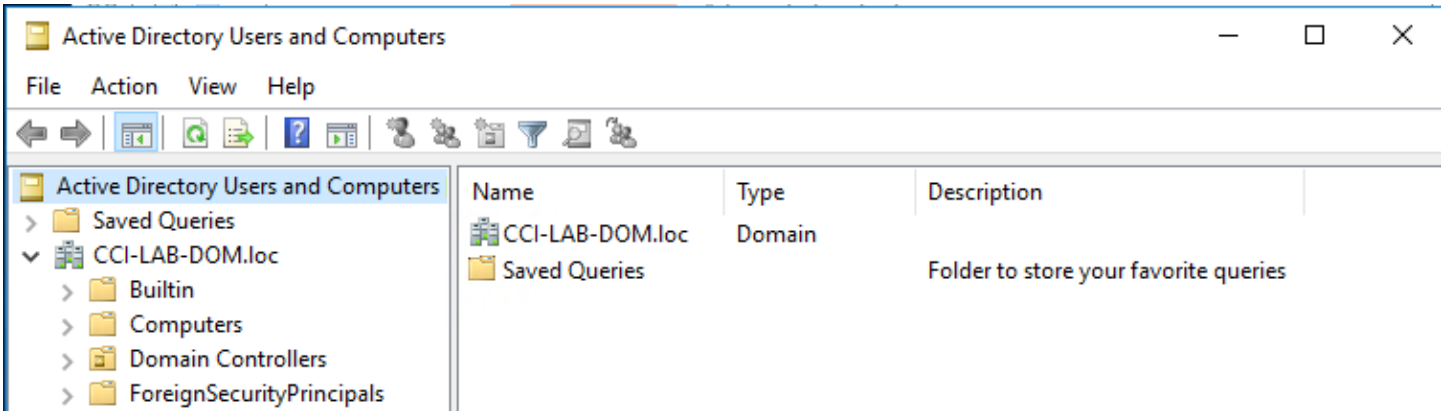
Close *System*.

Click *Start* Button*, click* Windows *Administrative Tools,* and click *Active Directory Users and Computers.*

Expand the root Domain by clicking the arrow to the left of the root Domain:



Look in the *Domain Controllers* folder.



For Deliverable #4, what do you see? What are the names of any Domain Controllers you see? What Operating System is it running (be specific) and what is its FQDN?

Look in the *Computers* folder.

For Deliverable #5, what do you see? How many computers do you see? What do you think the nature of these computers are, e.g. modes? Choose one: What Operating System is it running (be specific) and what is its FQDN?

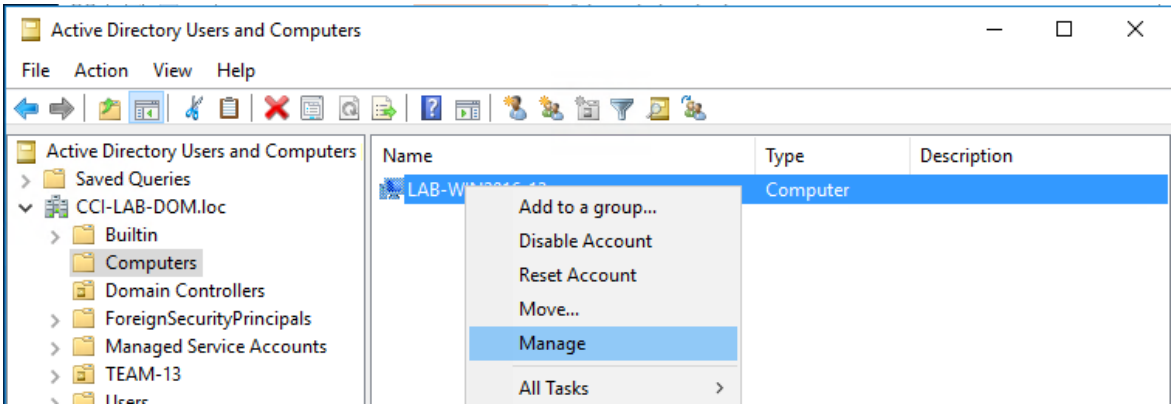
For Deliverable #6, what mode do you think that all servers in the *Domain Controllers* folder are in? What mode do you think that all servers in the *Computers* folder are in? What Standalone servers do you see in either?

Observe Changes to Server Joined to Domain in Previous Lab (continued)

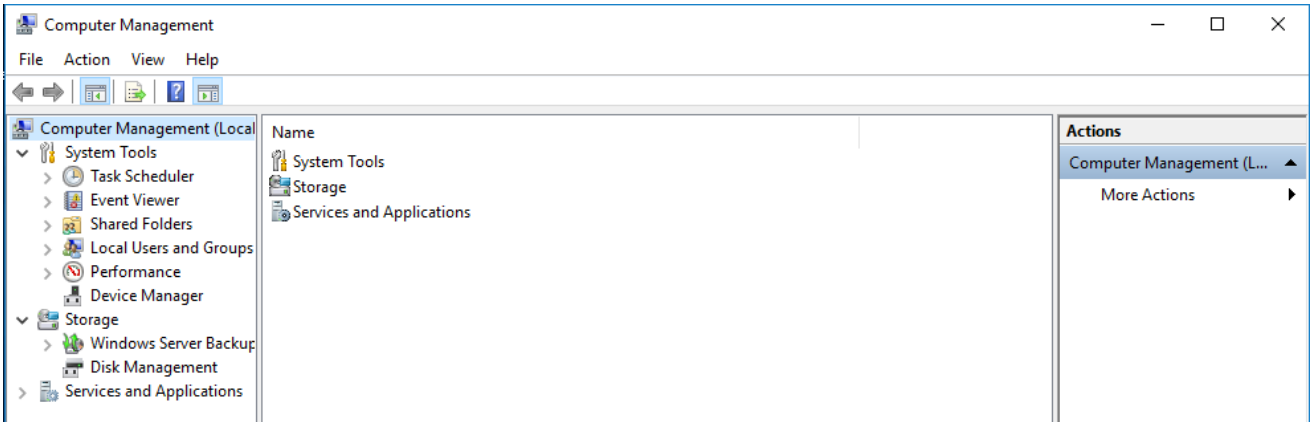
Action 5: In the *Computers* folder, locate your team server – the one you joined to the Domain in the previous lab. Right-click it, and select *Properties*.

For Deliverable #7, what is the FQDN of your team server and what is its DC type? What operating system does it presently run?

Right-click it, and select *Manage*.

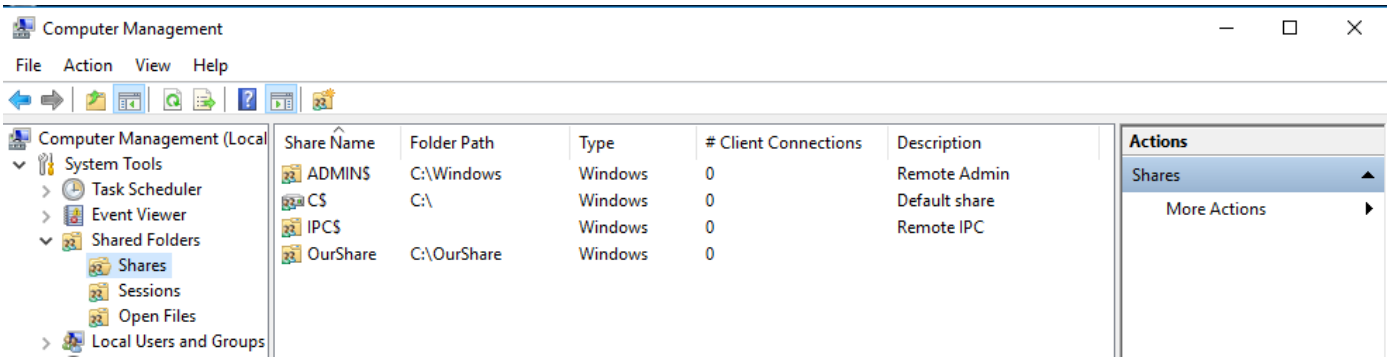


This opens the *Computer Management* tool that you used in previous labs:



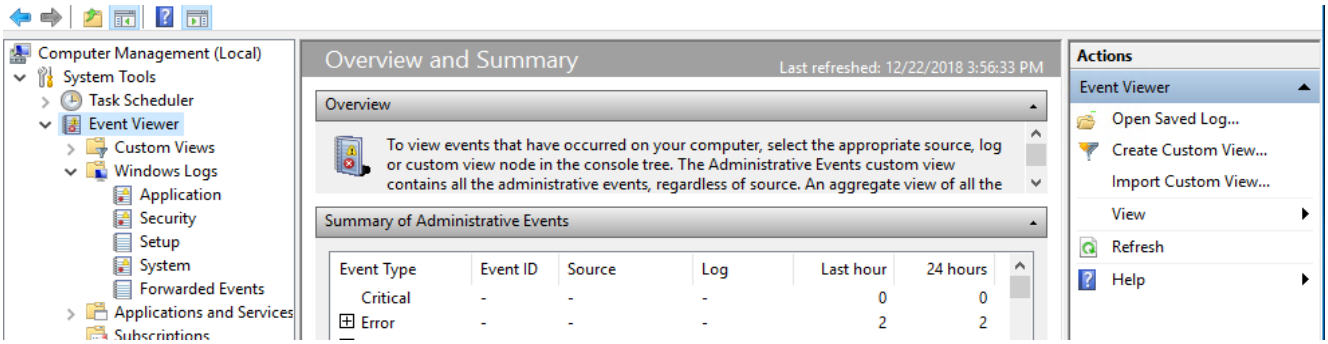
Look around in *Computer Management* tool for a few minutes. Under *Local Users and Groups*, you will find the same local users and local groups that you created in previous labs. Note that these have nothing to do with the Domain users and Domain groups that you created in the previous lab: local credentials reside solely in the SAM database for that server, and nothing has changed with them.

Under *Shared Folders* → *Shares*, you should see the local share that you created in a previous lab.

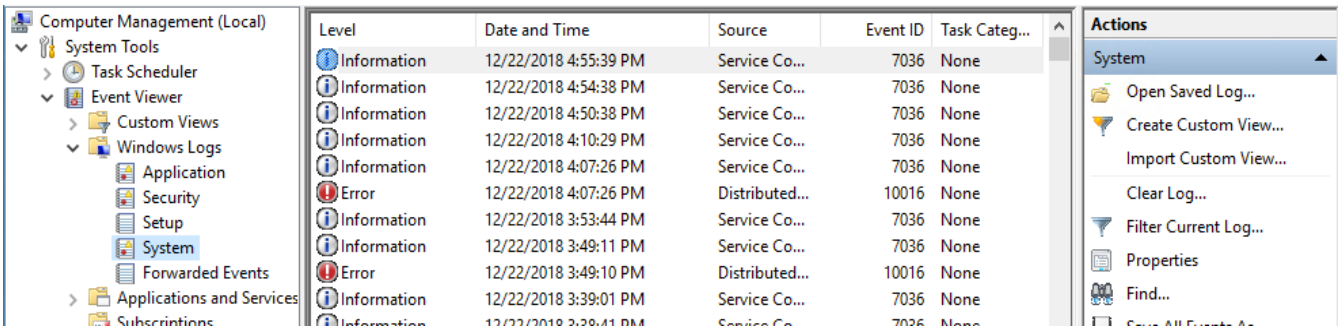


Observe Changes to Server Joined to Domain in Previous Lab (continued)

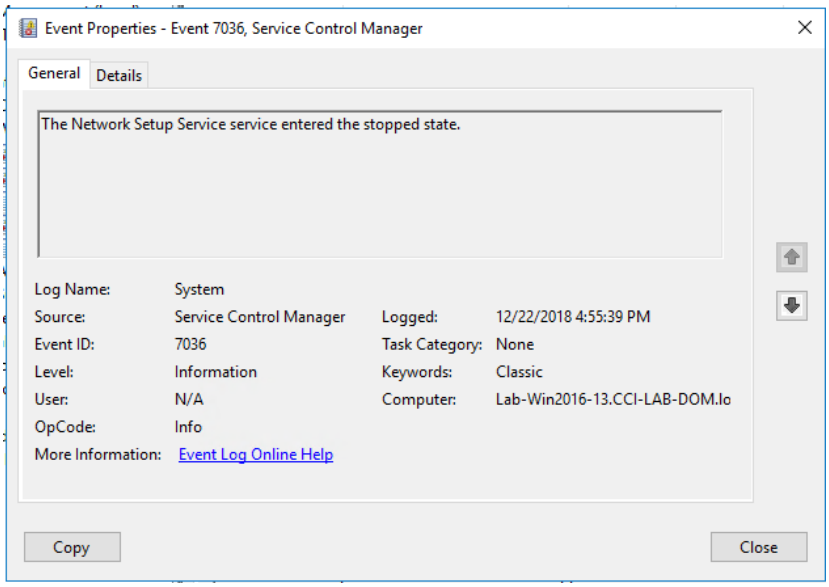
Double-click on *Event Viewer*, and then *Windows Logs*:



Click on *System* to open the System logs.



Double-click the first log entry in the right pane, and open that entry.



Using the down arrow on the right side of the event, browse through some events until you find one that seems to be Domain-related.

For Deliverable #8, what is the Event ID of the event that you chose, when was it logged, and what was the event?

Close the *Computer Management* tool.

Observe Changes to Server Joined to Domain in Previous Lab (continued)

Make note of the fact that a Domain-joined machine still retains a large number of local properties – local users and local groups, and any shares that the machine happens to have. Two of the primary things that joining a machine to a Domain get you is that it's able to participate in the benefits of having a centralized AAA source (i.e. a Domain and a Domain Controller) and also a bit easier to centrally manage.

By default, event logs still reside solely on individual machines, regardless of whether they are standalone servers, member servers, or Domain Controllers, and a "visit" to each machine is necessary to view them. We will address this in the weeks to come.

Join Workstation to Domain

Action 6: Team members should return to their individual stations at this time.

Using the procedures followed in previous labs, log into your individual Windows 10 workstation instance.

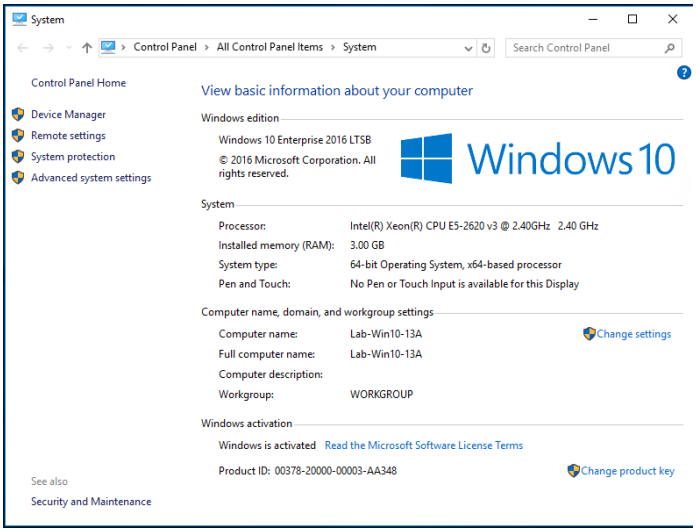
As always, you are advised to uncheck all Remote Desktop sharing options (e.g. printers, files, etc.,) when doing so.

Log into this instance using the local admin credentials that you used in the first two labs:

Username: admin PW: you were given this in class.

The joining procedure for your Windows 10 computer will be *very* similar to the procedure that you used to join your Windows Server 2019 team server to the Domain in the previous lab:

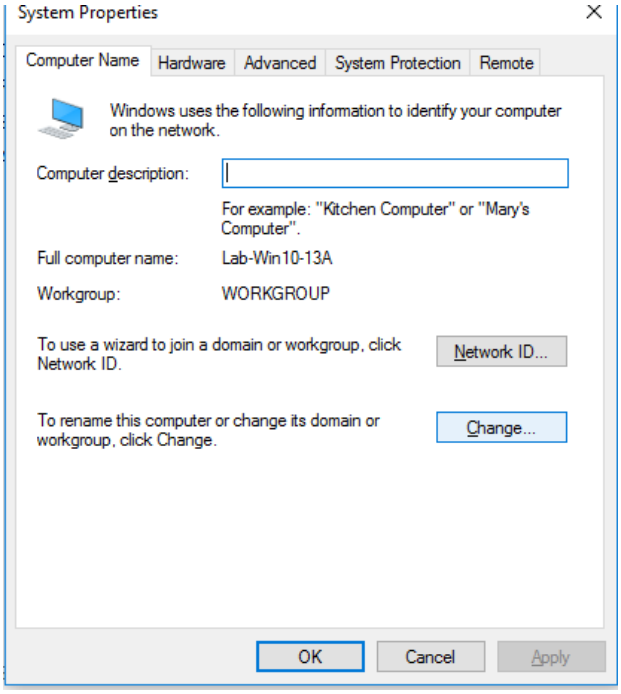
Right-click *Start Button* →*System* → *System info*.



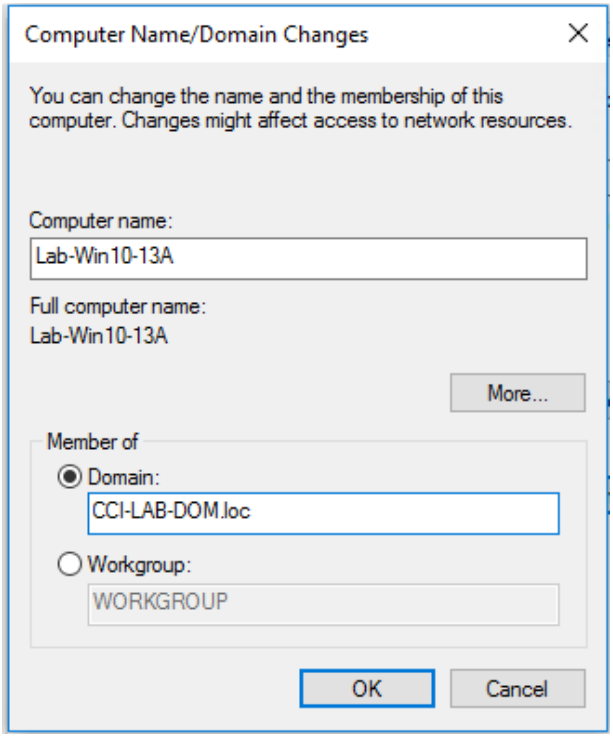
Double-click *Change Settings* to open the *System Properties* box.

Join Workstation to Domain (continued)

As with before, click *Change* to open the *Computer Name/Domain Changes* box:



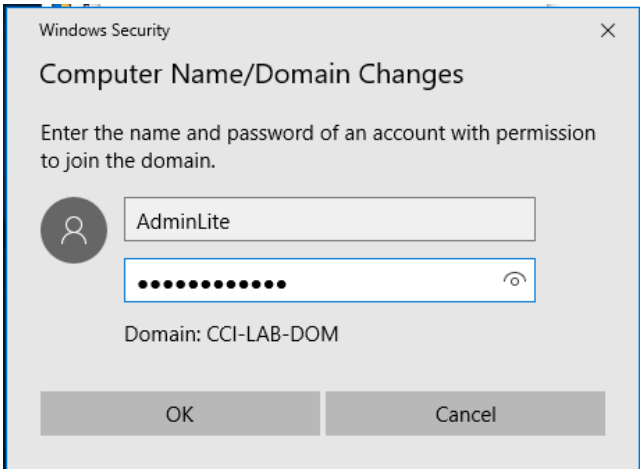
Enter the Domain to be joined into the *Member of* Domain box. For this course, it is CCI-LAB-DOM.loc



Clicking *OK* will initiate the joining process.

Join Workstation to Domain (continued)

Enter credentials with the sufficient privileges to join a server to a Domain:



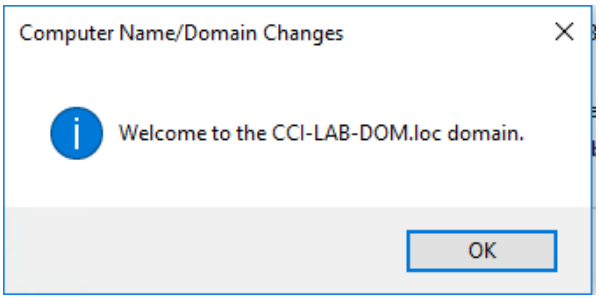
For this course, it is username *AdminLite*. You were given the password in class.

Remember: to join a computer to a Domain, you will need two things:

The name of the Domain that you wish to join
A Domain account with sufficient privileges to join computers to that Domain

If the computer cannot find the Domain, include in your index of suspicion DNS issues and/or other connectivity-related matters: the computer needs to be able to locate Domain services.

Upon successful Domain join, you will see something like this:

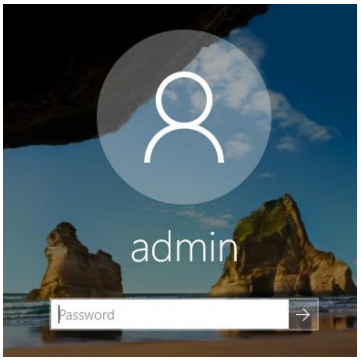


Click *OK*, and close the tool until you are prompted to restart the Windows 10 computer.

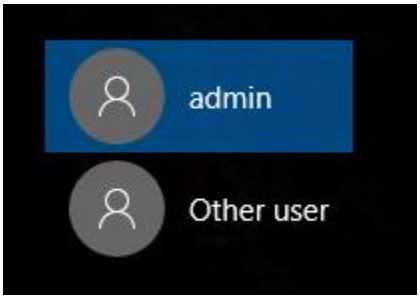
Click *Restart Now* to reboot your Windows 10 computer.

Log in to your Windows 10 Computer Using a Domain Account

Action 7: Upon reboot, log into your Windows 10 computer:



You will first need to switch user to a Domain user. Select *Other User*.



For Deliverable #9, what is the default context into which the workstation is attempting to log you in? Is it a Domain context, or a local one?

Log into your Windows 10 computer using the *DesktopAdmin* account. If your default context is anything other than the Domain into which you are attempting to log in, use the context in your username:

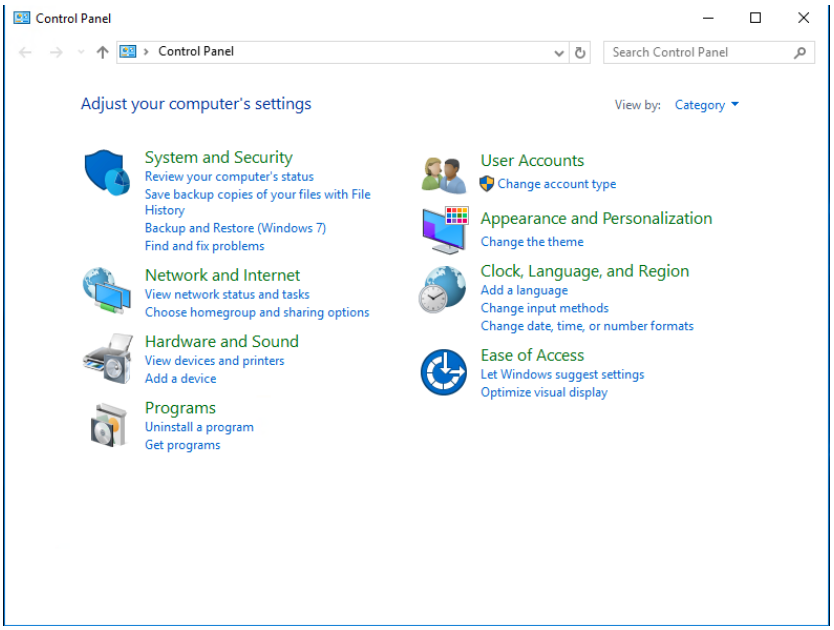
CCI-LAB-DOM\DesktopAdmin

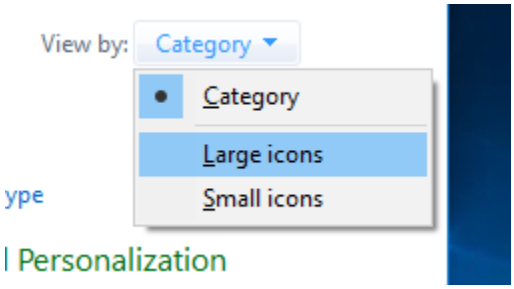
In future labs, you will likely need to log in to various contexts.

When logging in to your workstation for the first time with an account, note the delays, and the *Preparing Desktop…* messages. Each user may have a different desktop look and feel, depending.

Observe Changes to Workstation Joined to Domain

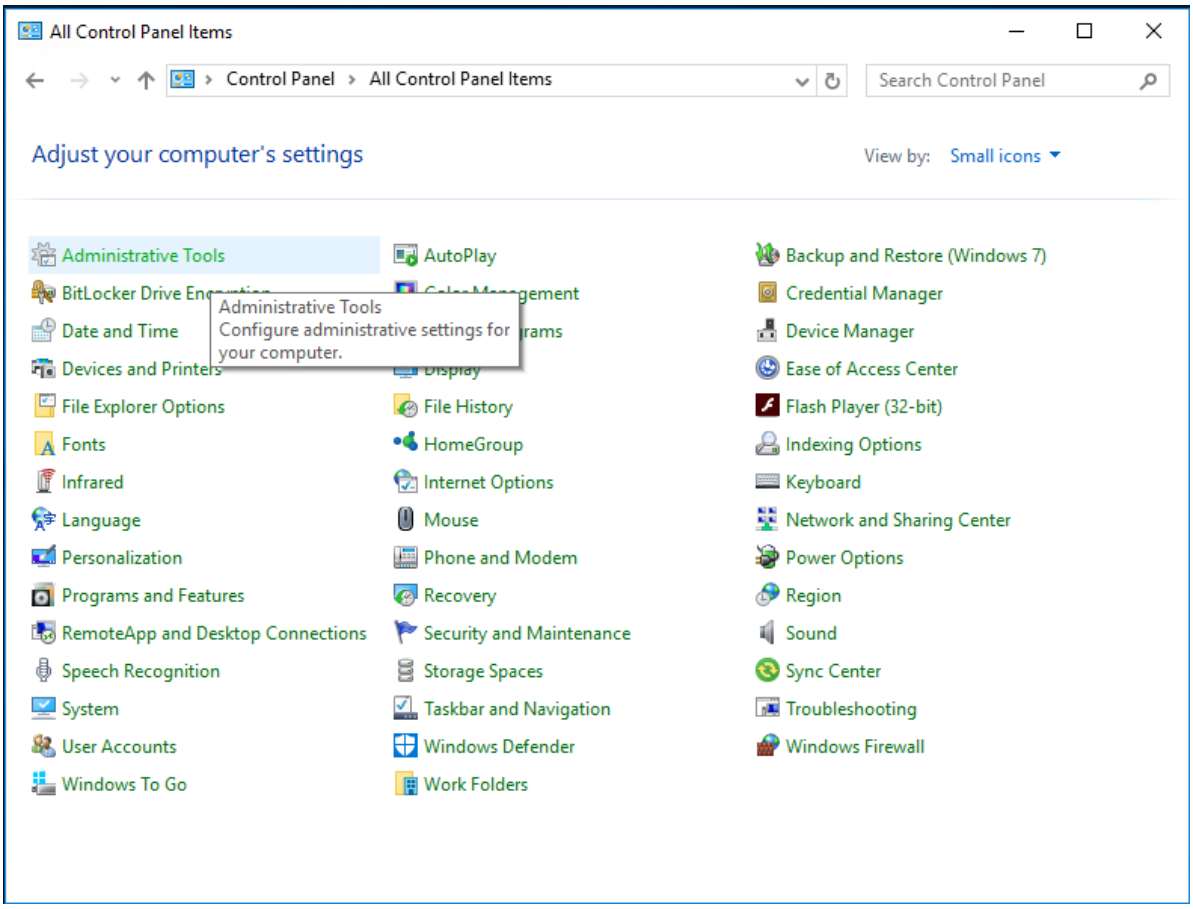
Action 8: Right-click *Start* button, and open the *Control Panel*. You may wish to change the View By, as the default below may require more activity to find the desired functions:



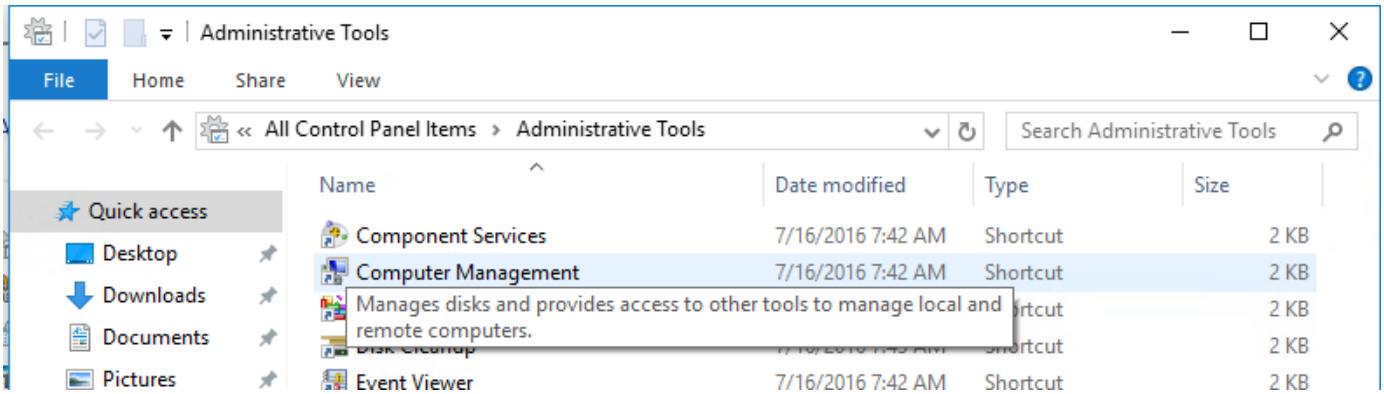


The panel below has more options directly visible:

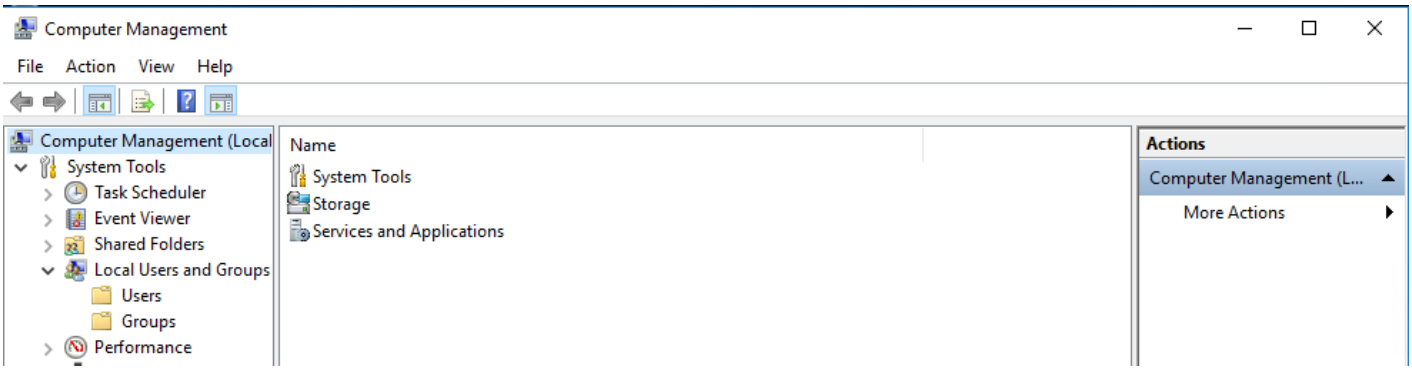
Small icons… will produce the view below



Select *Administrative Tools*, then *Computer Management*:



Using *Local Users and Groups*, take a look at the local Administrators group.



For Deliverable #10, who and what is a member of the local Administrators group? What would user CCI-LAB-DOM \Administrator be allowed to do to your Domain-joined Windows 10 workstation? By default, what is local user *yourWorkstationName*\admin" or *yourWorkstationName*\Administrator allowed to do on the Domain, and on your team server?

Using the *Event Viewer*, scroll quickly though *Windows Logs* → *System*.

For Deliverable #11, could you guess about what time this machine was joined to a Domain? If so, when was it joined?

Take a quick look at the *Event Viewer* → *Security* logs.

For Deliverable #12, what do the last ten log entries tell you?

Close *the Computer Management* tool.

Action 9: Team members should regroup at their team server console at this time.

Log back in to the team server using the previously-used methods, observing all noted security practices. Use the *AdminLite* account.

Return to Open *Active Directory Users and Computers* as you did in Action 4. Look in the *Computers* folder.

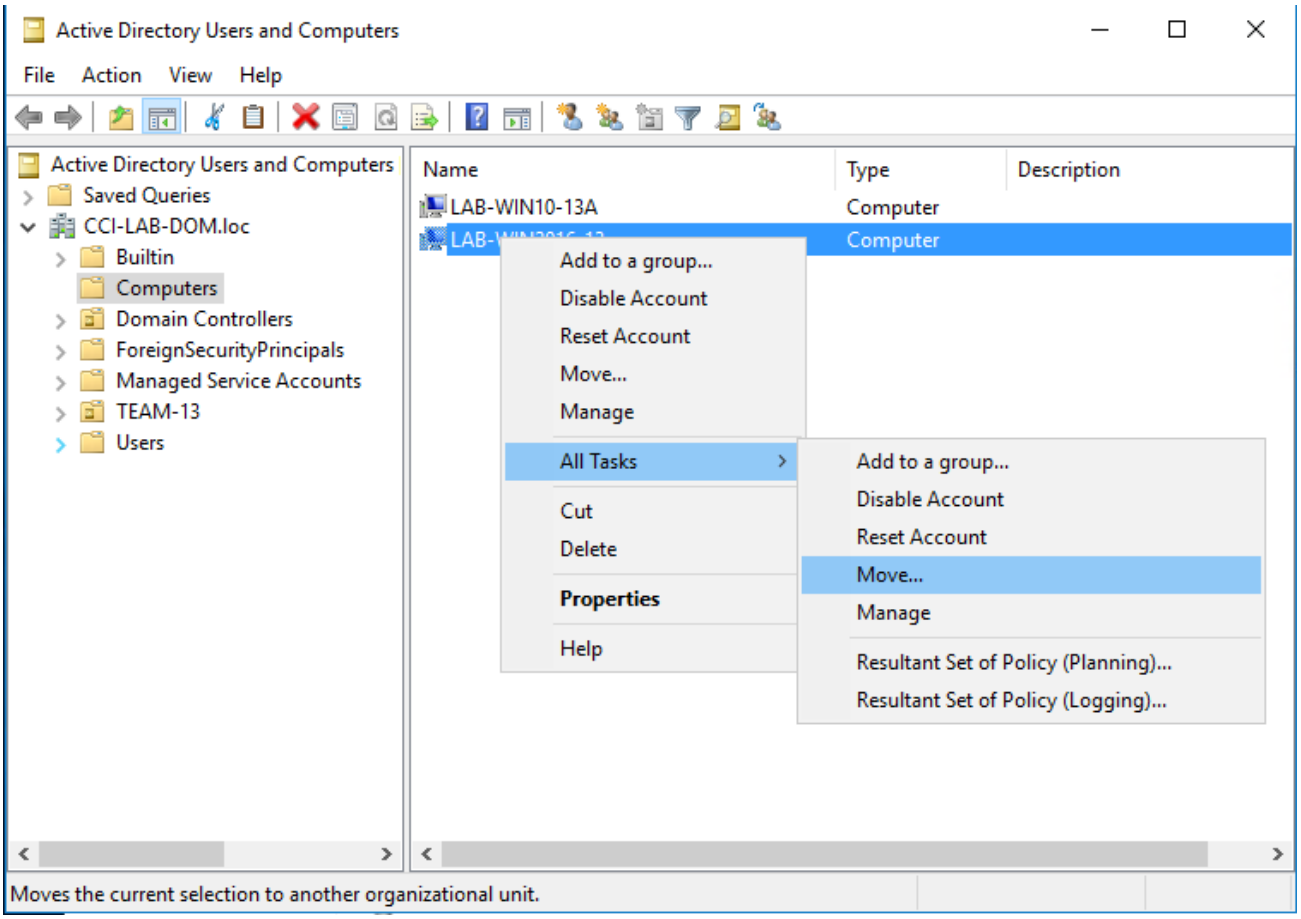
For Deliverable #13, what do you see? Do you see your team members' workstations? What are the names of these workstations?

Right-click a team member's Windows 10 workstation and select *Manage*.

For Deliverable #14, what do you see? What happens?

Move Domain-joined Workstation into Team Organizational Unit

Action 10: In the same tool as you are presently working - *Active Directory Users and Computers* – right-click your own workstation, and select *Move*.



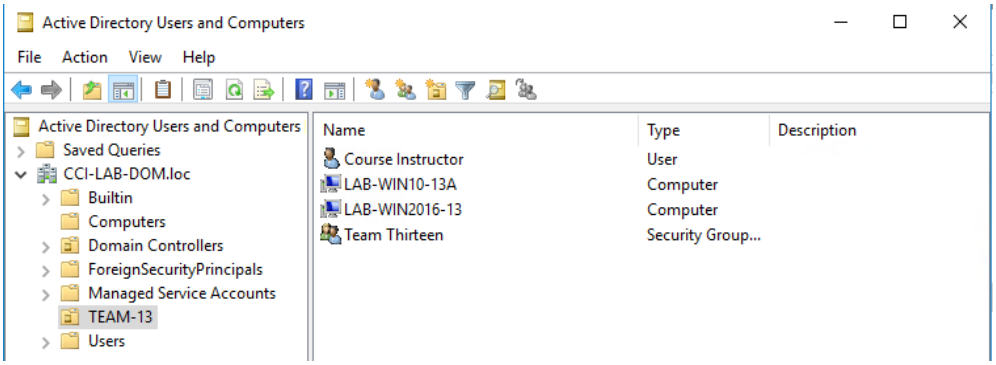
Select the Organizational Unit (OU) that your team created in the previous lab.

Repeat the computer move process for the workstations of every person on your lab team.

Don't forget to move your team Windows Server 2019 server.

When you have moved all of your computers, look in the Organizational Unit (OU) for your team.

For Deliverable #15, list all of the entities now in your team's OU.



Example

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 3, what user do you see as default? What is this user's context? Is this a local user or a Domain user?

Deliverable 3: From Action 4, what is the name of your computer? To which workgroup does it belong?

Deliverable 4: From Action 4, what do you see? What are the names of any Domain Controllers you see? What Operating System is it running (be specific) and what is its FQDN?

Deliverable 5: From Action 4, what do you see? How many computers do you see? What do you think the nature of these computers are, e.g. modes? Choose one: What Operating System is it running (be specific) and what is its FQDN?

Deliverable 6: From Action 4, what mode do you think that all servers in the *Domain Controllers* folder are in? What mode do you think that all servers in the *Computers* folder are in? What Standalone servers do you see in either?

Deliverable 7: From Action 5, what is the FQDN of your team server and what is its DC type? What operating system does it presently run?

Deliverable 8: From Action 5, what is the Event ID of the event that you chose, when was it logged, and what was the event?

Deliverable 9: From Action 7, what is the default context into which the workstation is attempting to log you in? Is it a Domain context, or a local one?

Deliverable 10: From Action 8, who and what is a member of the local Administrators group? What would user CCI-LAB-DOM\Administrator be allowed to do to your Domain-joined Windows 10 computer? By default, what is local user *yourWorkstationName*\admin" or *yourWorkstationName*\Administrator allowed to do on the Domain, and on your team server?

Deliverable 11: From Action 8, could you guess about what time this machine was joined to a Domain? If so, when was it joined?

Deliverable 12: From Action 8, what do the last ten log entries tell you?

Deliverable 13: From Action 9, what do you see? Do you see your team members' workstations? What are the names of these workstations?

Deliverable 14: From Action 9, what do you see? What happens?

Deliverable 15: From Action 10, list all of the entities now in your team's OU.