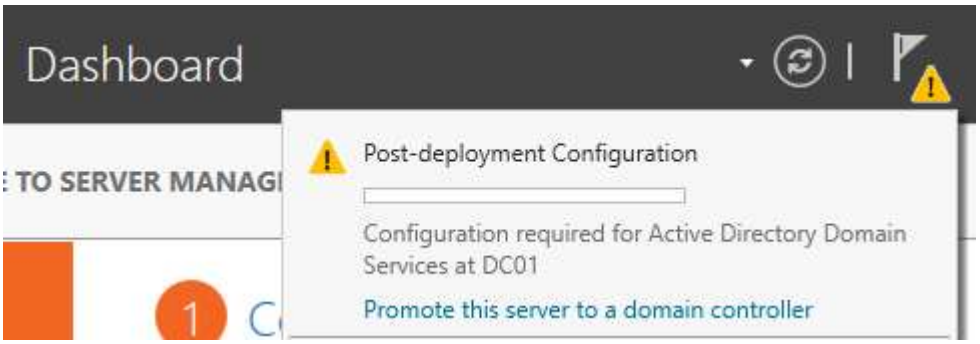
Summary: Through VMWare we installed two Windows 2016 servers and one Windows 10 machine. Both servers are domain controllers but only DC01 is the main controller and is the DNS Server for all server IPv4s. The windows 10 machine is the only computer on the domain. Currently, we have 2 snapshots for each VM, the original base install with no changes, and then when all adjustments have been made and we have all three successfully in the domain.

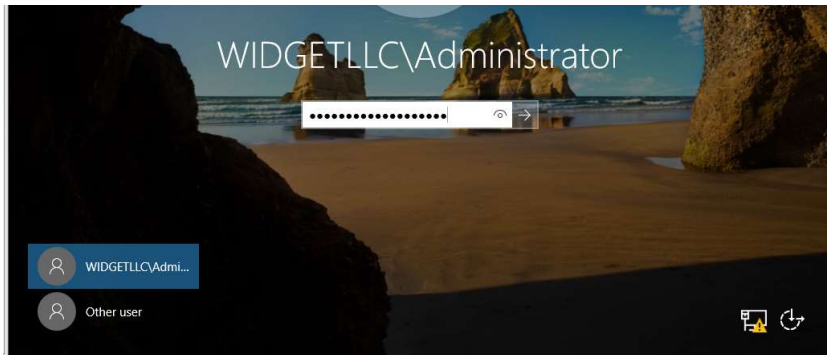
NO more changes to this document. You can copy and use the next version but the details and instructions were successful for this. Do not change this doc.

1. VMware
2. Install Windows Server 2016 – Name it DC01
3. Install Windows Server 2016 – Name it DC02
4. Install Windows 10-1909 Enterprise
5. Server2016 – DC01
    a. Right click on network icon in bottom right of screen
        i. Open Network and Sharing Center
            1. Click: Change Adapter Settings
            2. Right click on Ethernet0
            3. Properties
            4. Select: Internet Protocol Version 4 (TCP/IPv4)
            5. Properties
            6. Select: Use the following IP address
                a. IP Address 192.168.0.1
                b. Subnet Mask 255.255.255.0
                c. Default Gateway – this is a lab setup, we do not need to go out to the internet so this is left empty.
            7. Select Use the following DNS server addresses:
                a. Preferred DNS server 192.168.0.1
                b. Alternate DNS server
            8. OK
            9. Close
    b. Control Panel > System and Security > System
        i. Computer name, domain, and workgroup settings
            1. Click: Change Settings
            2. Click Change
                a. Change name to: DC01
            3. Don't just restart, actually shut down the machine. We have resources that have to be added to the server VM that can only be done when shut down.
    c. On your host machine:
        i. Task Manager → Performance → CPU
            1. Click 'Memory' tab.
            2. We have 8/32GB used on our host, so we can give a few to the VM
    d. While server is shut down, select the machine from VMware list
        i. Right click
        ii. Settings
        iii. Set Memory → 4GB=4096MB
        iv. If you have extra cores on your host, then bump up your processors on the VM
            1. Video (Create an Active Directory lab using VMWare and Windows Server 2016) had 12 cores on his host computer, so he bumped up his processors on the Server VM to 6
            2. We are not adding processors to this VM

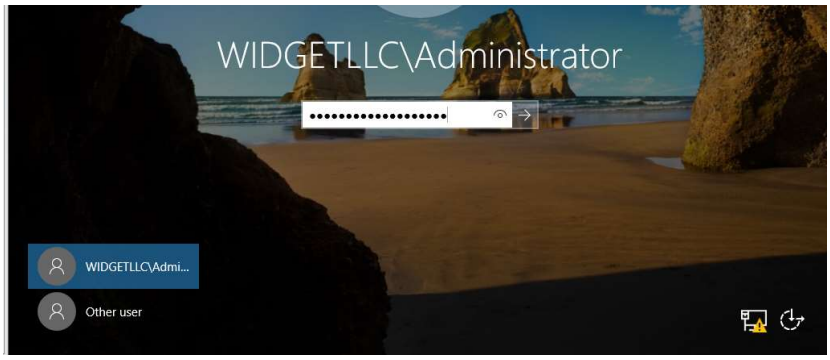
e. Power back on DC01server
f. Things should be running a bit faster since we added RAM
g. Dashboard → Add roles and Features
    i. Next
    ii. Select: Role-based or feature-based installation
    iii. Next
    iv. We should see DC01 192.168.0.1
    v. Next
    vi. Check Active Directory Domain Services → Add Features
        1. Next → Next → Next → Install
        2. Close
h. When we now go back to our dashboard, we will have a yellow-flag warning at the top of the dashboard.



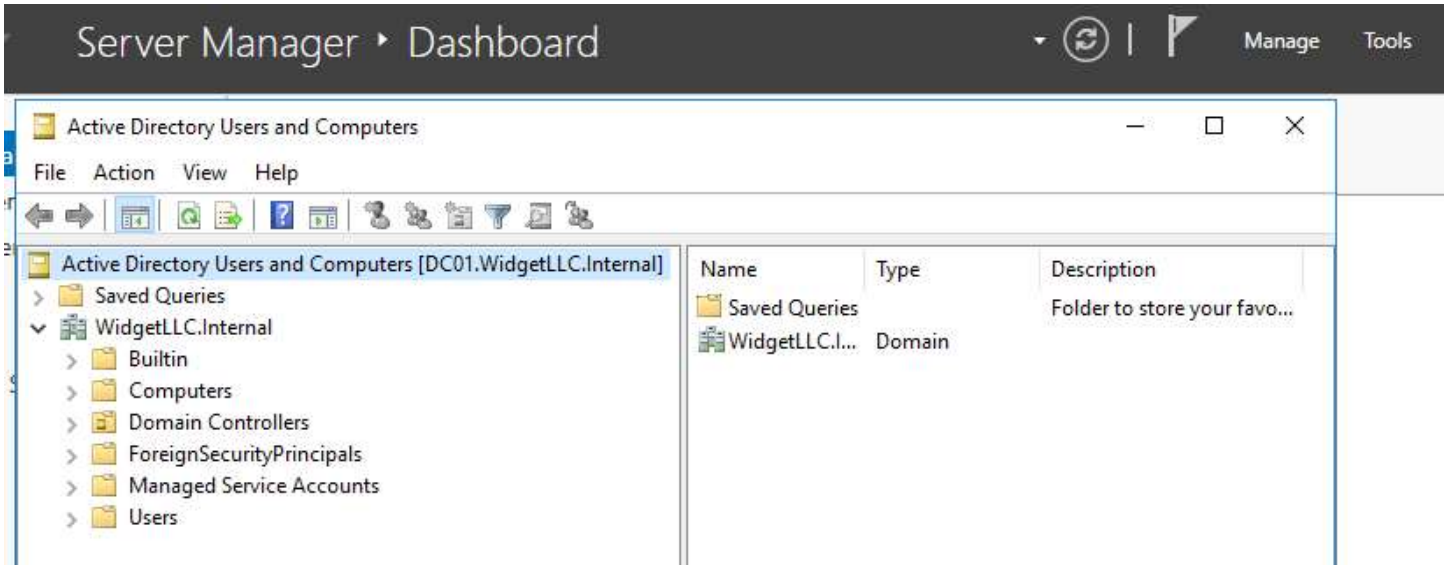
i. Click: Promote this server to a domain controller
j. New window will pop up.
k. Check Add a new forest
l. Domain: WidgetLLC.Internal
    i. This name is our own, but I am sure we will need the ‘.Internal‘ on anything.
m. Next
n. We left everything default, but did add in our password.
o. Next – a warning will pop up on this DNS Options page, ignore it.
p. Next
q. Additional Options – should auto populate with our domain name that we added earlier: WIDGETLLC
r. Paths – leave as defaults
s. Next
t. Review Options – Next
u. Prerequisites Check – error that Administrator is not protected.
    i. Search → RUN
    ii. On RUN, type in: netplwiz
        1. Select “Administrator”
        2. Click on “Reset Password”
        3. Change Password → OK
v. Back on Prerequisites Check → Rerun
w. All prerequisite checks passed successfully.
x. Install
y. This should auto restart.
z. Make sure that you do a full shutdown also. Not just a restart.
aa. Next time that you restart, you should be logging in as:
    i. WIDGETLLC\Administrator



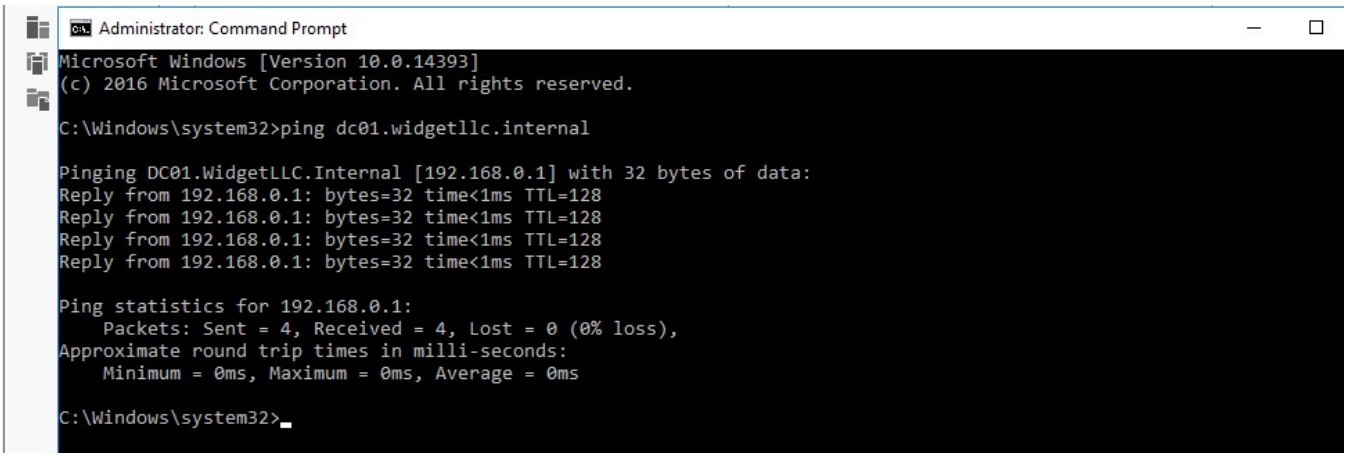
6. Server 2016 – DC02
    a. Right click on network icon in bottom right of screen
        i. Open Network and Sharing Center
            1. Click: Change Adapter Settings
            2. Right click on Ethernet0
            3. Properties
            4. Select: Internet Protocol Version 4 (TCP/IPv4)
            5. Properties
            6. Select: Use the following IP address
                a. IP Address 192.168.0.2
                b. Subnet Mask 255.255.255.0
                c. Default Gateway – this is a lab setup, we do not need to go out to the internet so this is left empty.
            7. Select Use the following DNS server addresses:
                a. Preferred DNS server 192.168.0.1
                b. Alternate DNS server
            8. OK
            9. Close
    b. Control Panel > System and Security > System
        i. Computer name, domain, and workgroup settings
            1. Click: Change Settings
            2. Click Change
                a. Change name to: DC02
            3. Don't just restart, actually shut down the machine. We have resources that have to be added to the server VM that can only be done when shut down.
    c. On your host machine:
        i. Task Manager → Performance → CPU
            1. Click 'Memory' tab.
            2. We have 8/32GB used on our host, so we can give a few to the VM
    d. While server is shut down, select the machine from VMware list
        i. Right click
        ii. Settings
        iii. Set Memory → 4GB=4096MB
        iv. If you have extra cores on your host, then bump up your processors on the VM
            1. Video (Create an Active Directory lab using VMWare and Windows Server 2016) had 12 cores on his host computer, so he bumped up his processors on the Server VM to 6
            2. We are not adding processors to this VM
7. Log back into DC01 as Administrator



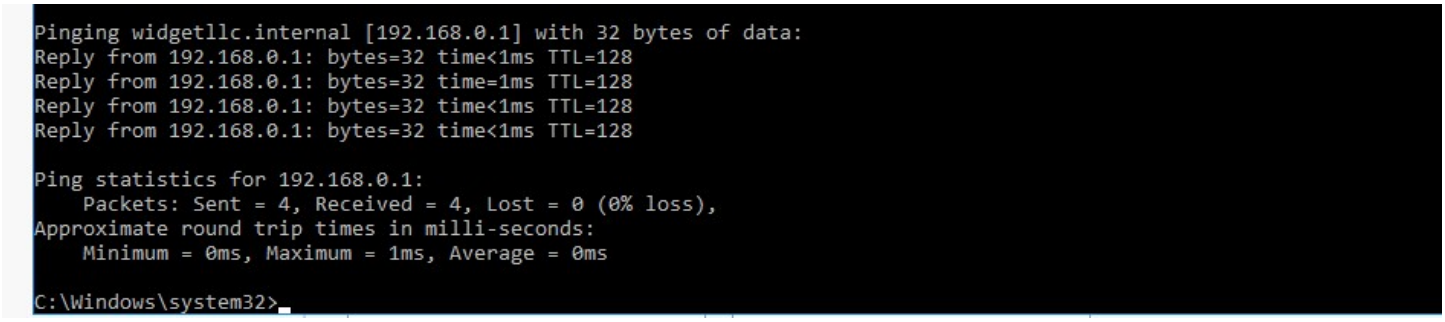
a. When the dashboard opens up, in the top right of the screen click on “Tools”
b. Select: Active Directory Users and Computers
c. This will let us see our default network conditions including that our Domain is active.



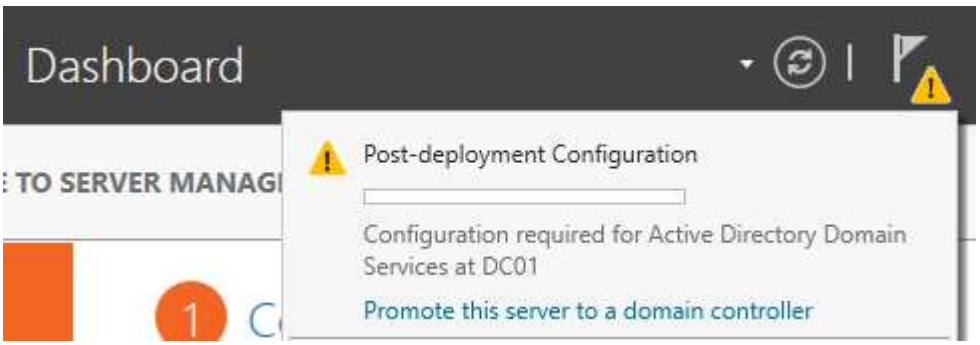
8. Log back into DC02 under your default user, not the Administrator.
   a. Search → RUN → enter: netplwiz
   b. Change the Administrator Password
   c. Now we want to add this as a 2nd Domain Controller
   d. Dashboard → Add roles and Features
      i. Next
      ii. Select: Role-based or feature-based installation
      iii. Next
      iv. We should see DC02 192.168.0.2
      v. Next
      vi. Check Active Directory Domain Services → Add Features
         1. Next → Next → Next → Install
         2. Close
   e. Try to ping DC01 by name:



Try to ping just to domain itself here from DC02. Should work.



f. When we now go back to our dashboard, we will have a yellow-flag warning at the top of the dashboard.



g. Click: Promote this server to a domain controller

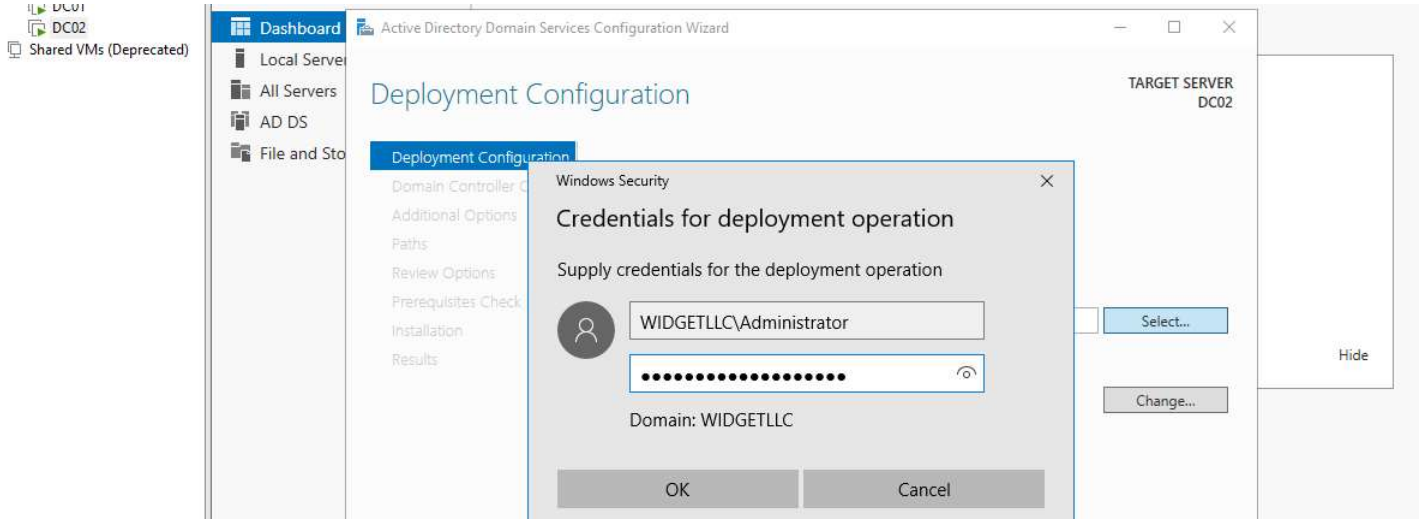
h. New window will pop up.

i. This is the same process as DC01, but now we have differences.

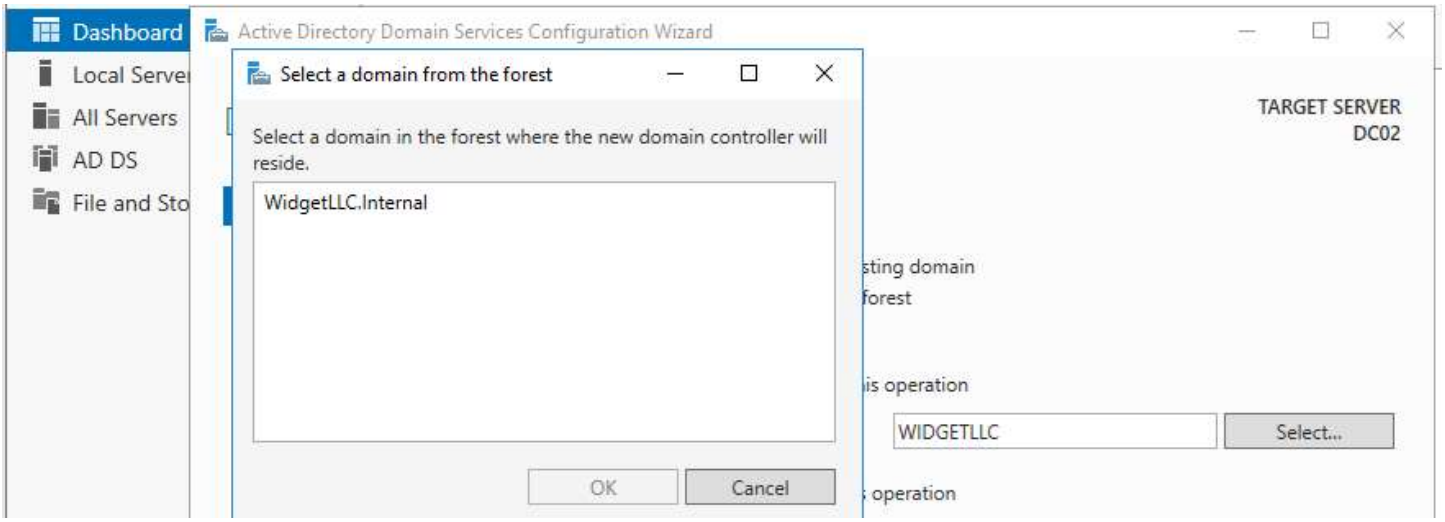
   i. Chose: Add a domain controller to an existing domain

   ii. Select

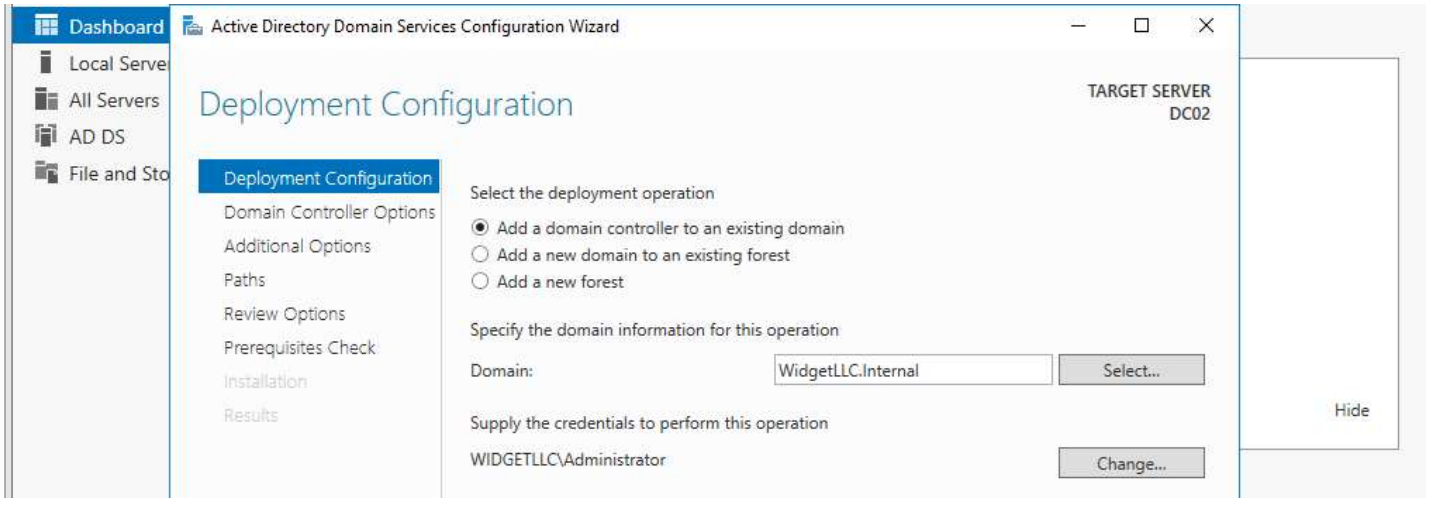
      1. Enter Administrator Credentials BUT with: WIDGETLLC\Administrator



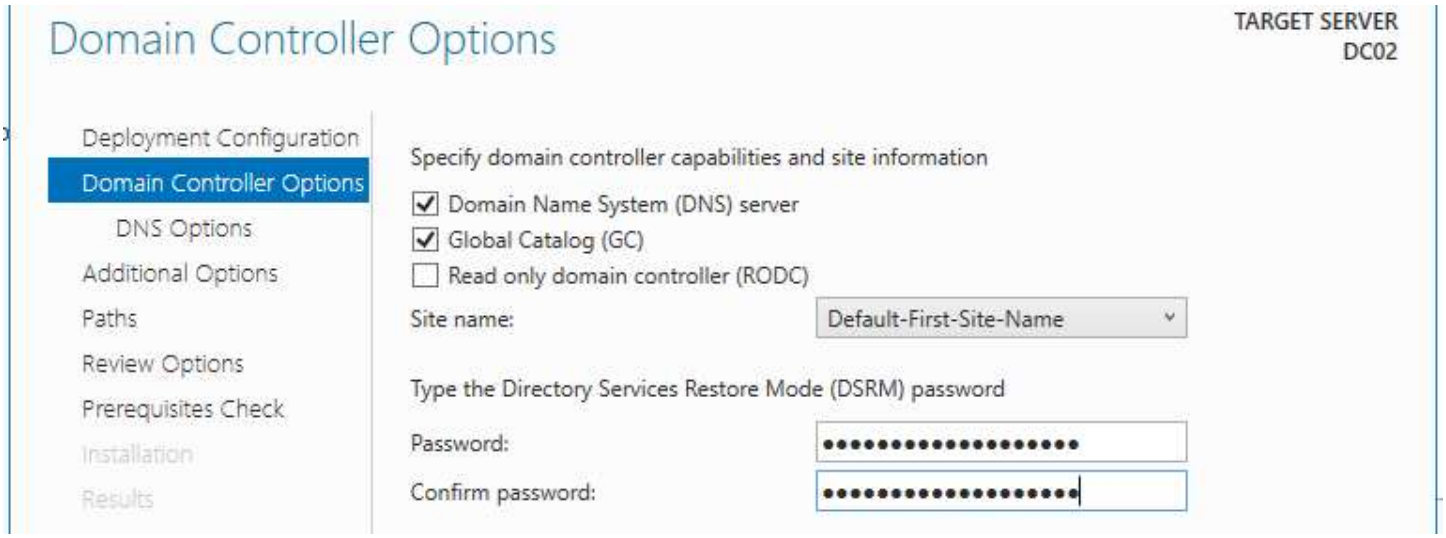
iii. Then this window should pop up



iv. Select → OK



j. Next



k. Next
l. There will be the same 'error' on DNS Options. Ignore
m. Next
n. Replicate from: Any Domain Controller
    i. Since we only have the one DC set up on DC01
o. Next
p. Paths Leave as default
q. Next
r. Review Options → Next
s. Prerequisites Check → Should be al passing → Install
t. It will restart, but make sure to do a secondary full shutdown, and turn back on.

9. Client01 - Log into our Windows 10 machine, which we now named, client01
    a. Our user here, should have admin credentials.
    b. Right click on network icon in bottom right of screen
        i. Open Network and Sharing Center
            1. Click: Change Adapter Options
            2. Right click on Ethernet0
            3. Properties
            4. Select: Internet Protocol Version 4 (TCP/IPv4)
            5. Properties
            6. Select: Use the following IP address
                a. IP Address 192.168.0.3
                b. Subnet Mask 255.255.255.0
                c. Default Gateway – this is a lab setup, we do not need to go out to the internet so this is left empty.
            7. Select Use the following DNS server addresses:
                a. Preferred DNS server 192.168.0.1
                b. Alternate DNS server
            8. OK
            9. Close
    c. Control Panel > System and Security > System
        i. Computer name, domain, and workgroup settings
            1. Click: Change Settings
            2. Click Change

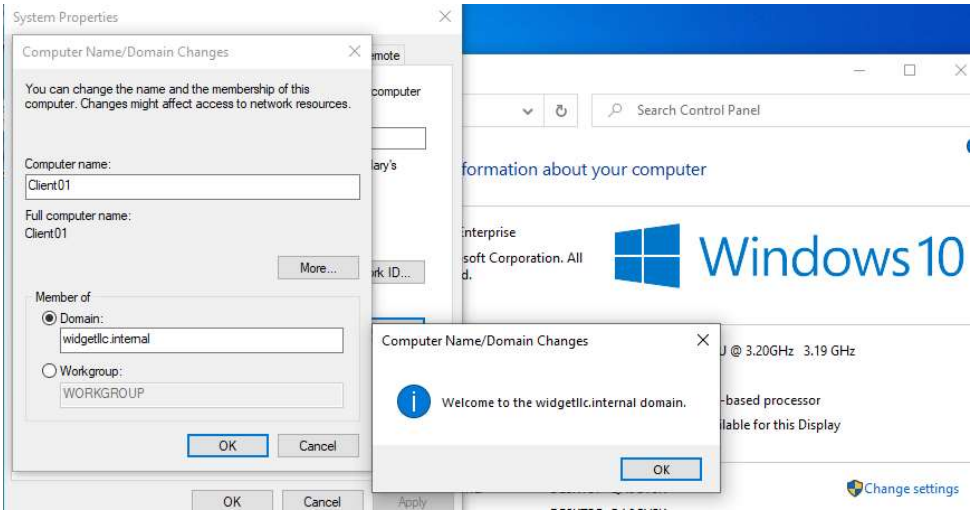
a. Change name to: Client01

3. We can change the domain here, at the same time.
4. Select: Member of: Domain widgetllc.internal
5. OK

ii. You will have a security window pop up asking for credentials

iii. You should just be able to use your normal user credential here.

1. ncterry + pw
2. OK



iv. Success we joined our windows 10 client computer to the domain.

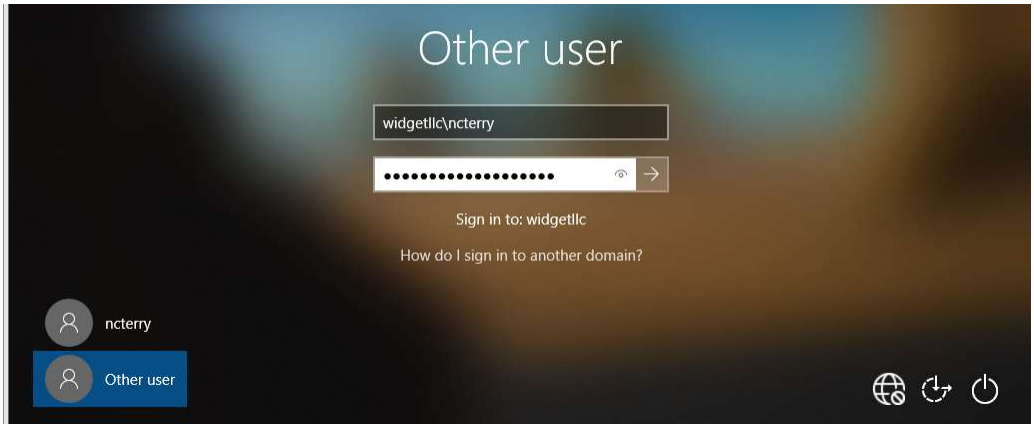
d. Note - you may still get an error right now:

i. "***Changing the primary Domain DNS name of this computer to "" failed. This name will remain WIDGETLLC.internal***."

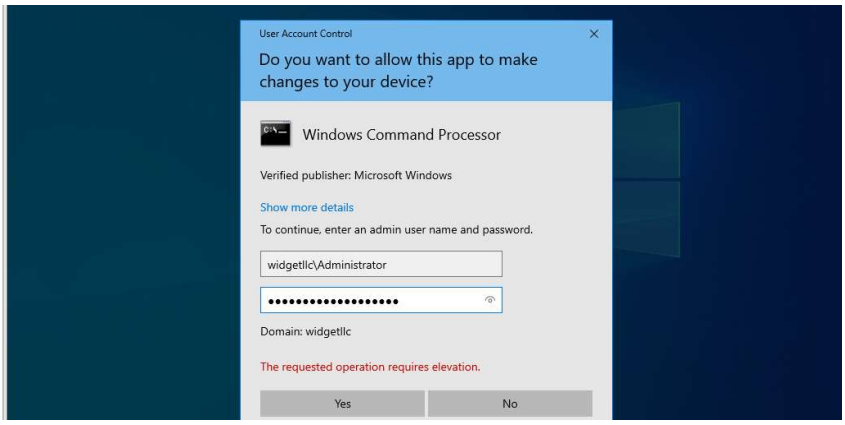
e. This is normal, it will change as it should when it restarts, just click ok and continue.

f. Restart

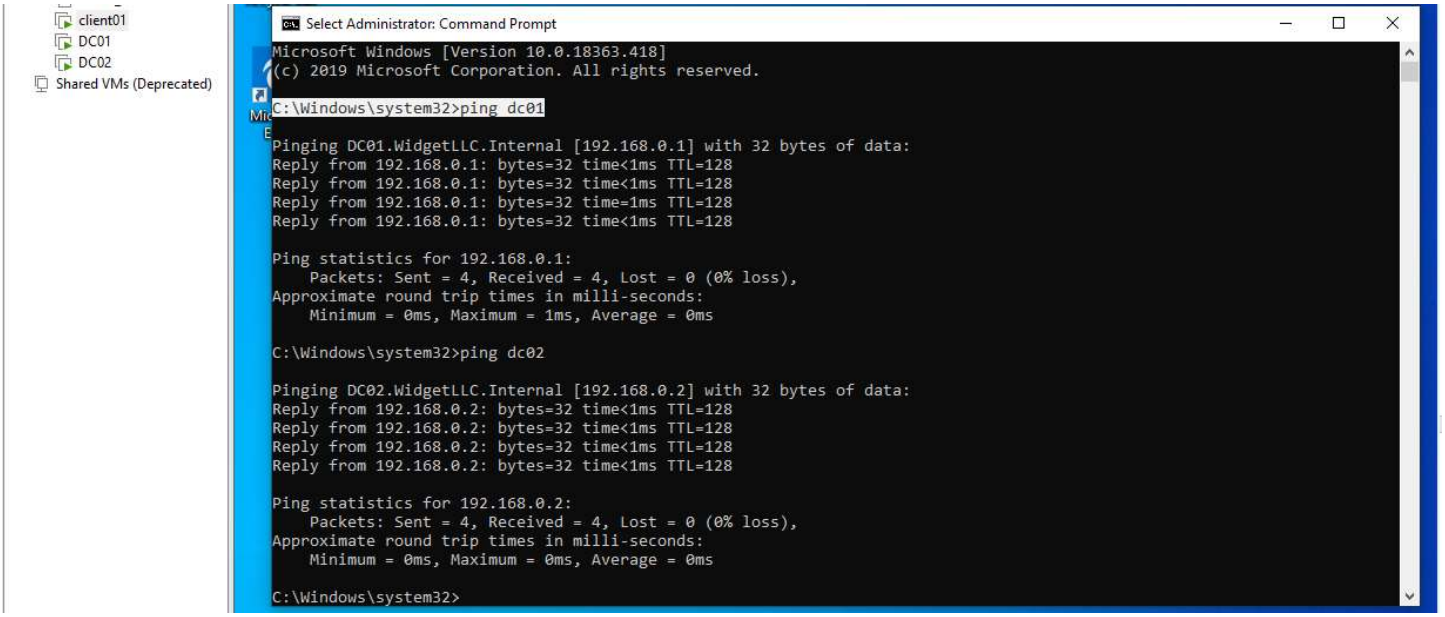
10. Now when we log back into our client, we want to log into the domain.
11. Make sure you select Other User



12. This will log you into the Client01 but as your user in the domain, which the first time will act like a new computer.
    a. Now in our client01 but on the domain, if you need admin privileges, even though you are admin on your local computer, you still need admin credentials from the domain itself.

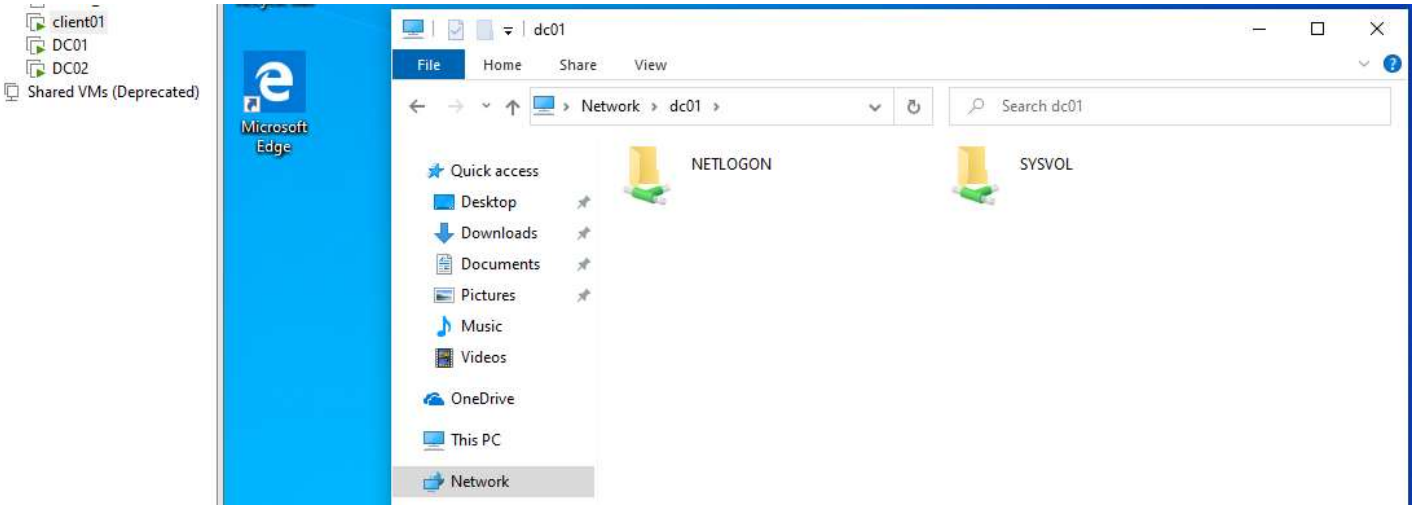


b. Since we are in the domain, we can ping the other machines by name:



c. Since we are on the domain network, there should be two shard control folders that are created as well.

d. File explorer, enter the address: \\dc01 + Enter, and you should see this:

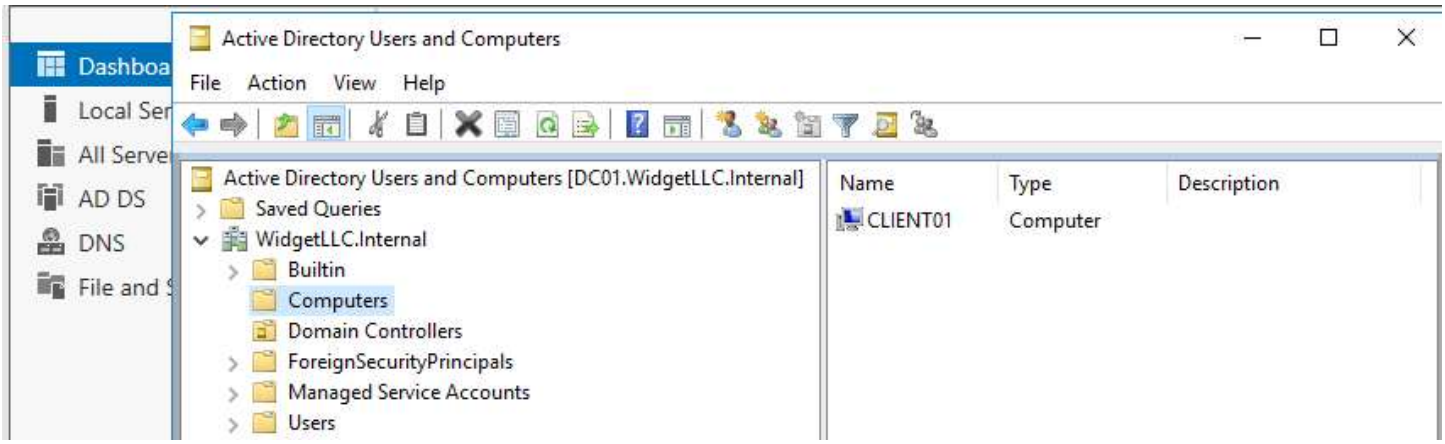


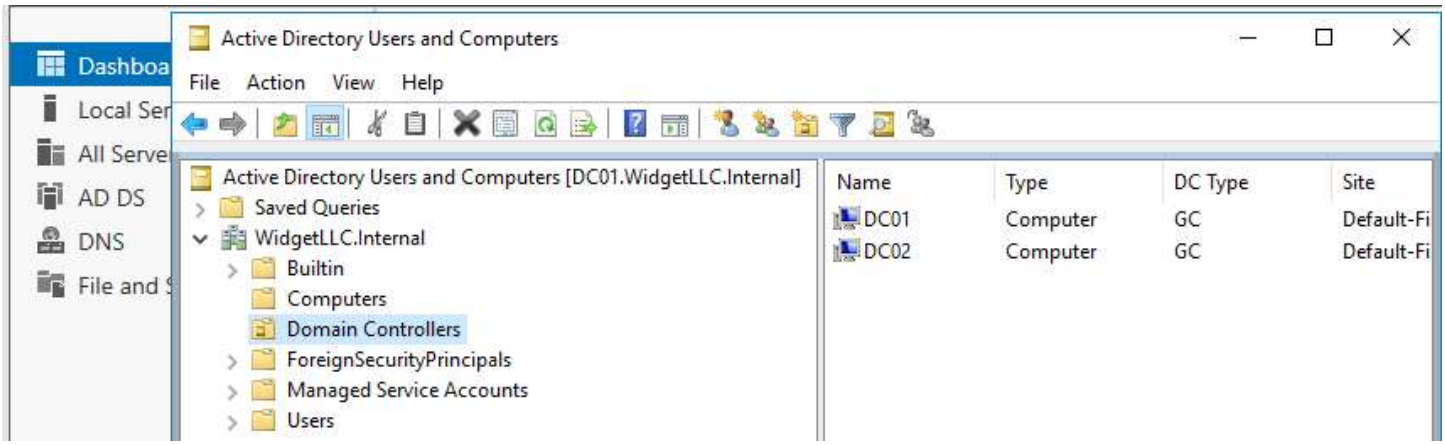
e. If you see this, then it means that DC01 is successfully a domain controller, and that you are connected as Client01 to the domain.

f. Open the DC01 machine

13. DC01

a. WIDGET\Administrator + PW
b. We want to see what is actually in our AD for uses and computers:
c. Dashboard → Tools → Active Directory Users and Computers
    i. Look under “Computers” and “Domain Controllers” to see what we have connected.



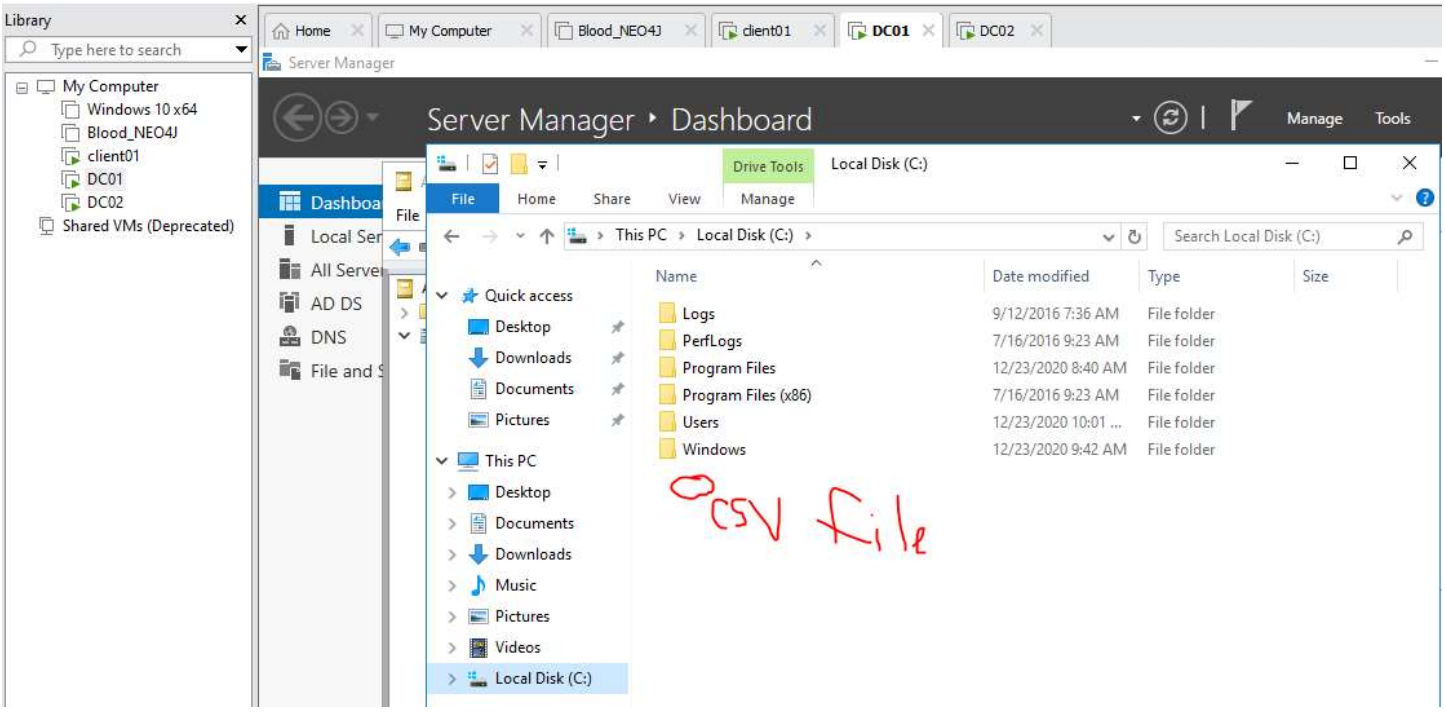


Note – the last detail from the video was for admin tools and adjustments that can be done from a CSV file.

Remember the csv file is really just a spreadsheet. You can create in Excel and export a csv. I have not done this yet or have seen what it looks like. But using that format from the cells, and how the command is run below, it actually can do many things in regards to importing users/groups, etc.

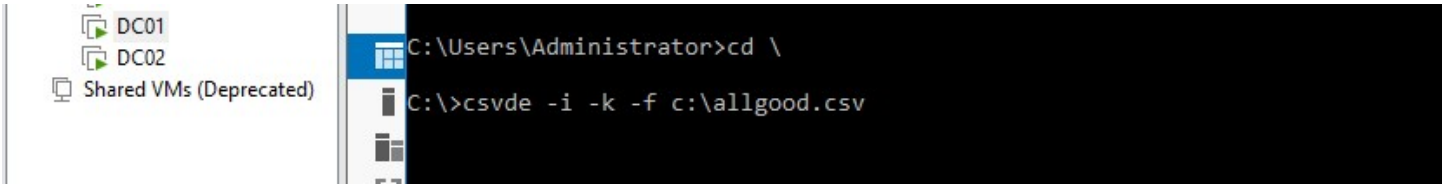
His csv file was named: allgood.csv

He imported that file into is c:\ drive. This screenshot just shows where he had it, but we don’t on our computer.

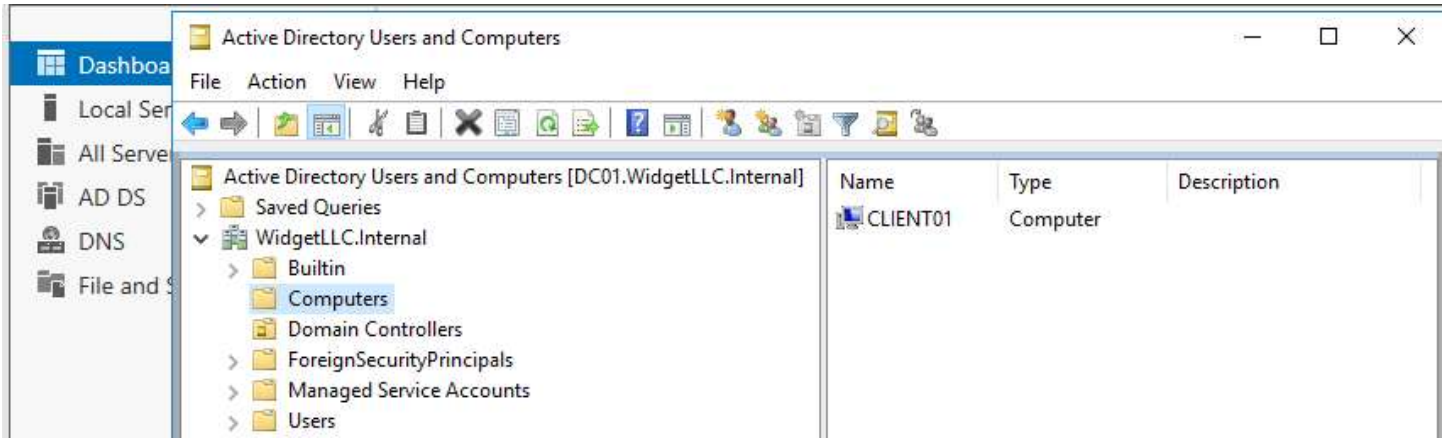


Then from the command line, he executed that csv file by:

- csvde -I -k -f c:\allgood.csv



This was just an admin helper for the domain controller it did tons of stuff. For example, in our machine now we see:



But in his, after the csv execution, there was another 10 folders for many things.

This is just to explain how to run admin actions using a csv file.