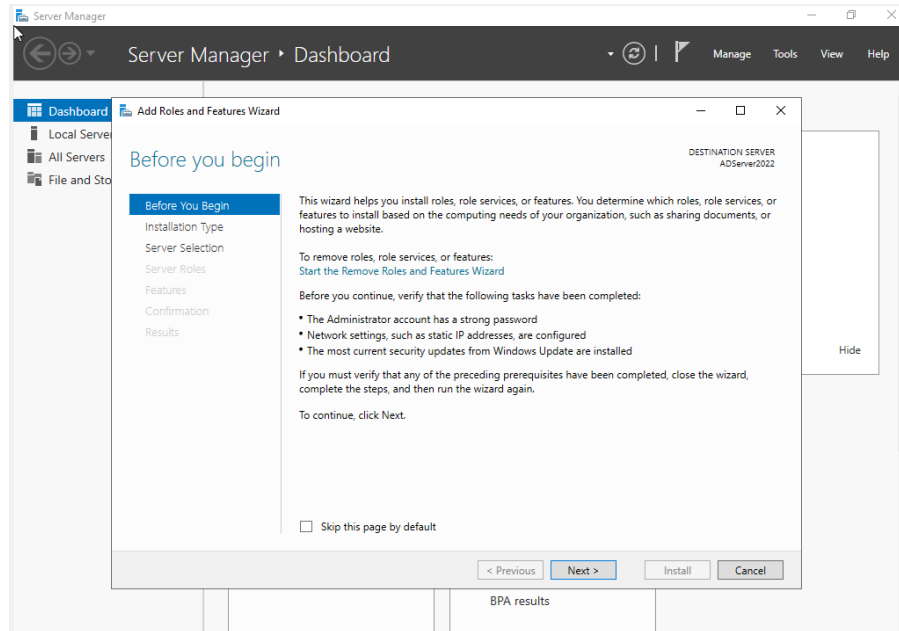


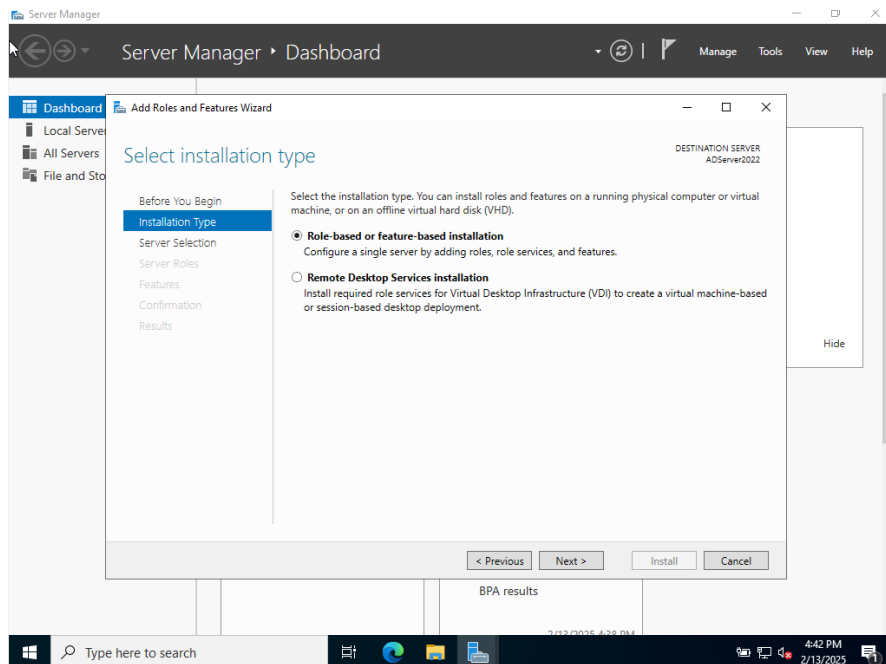
# Active Directory Installation

## Part1: Install and Configure Active Directory on Windows Server

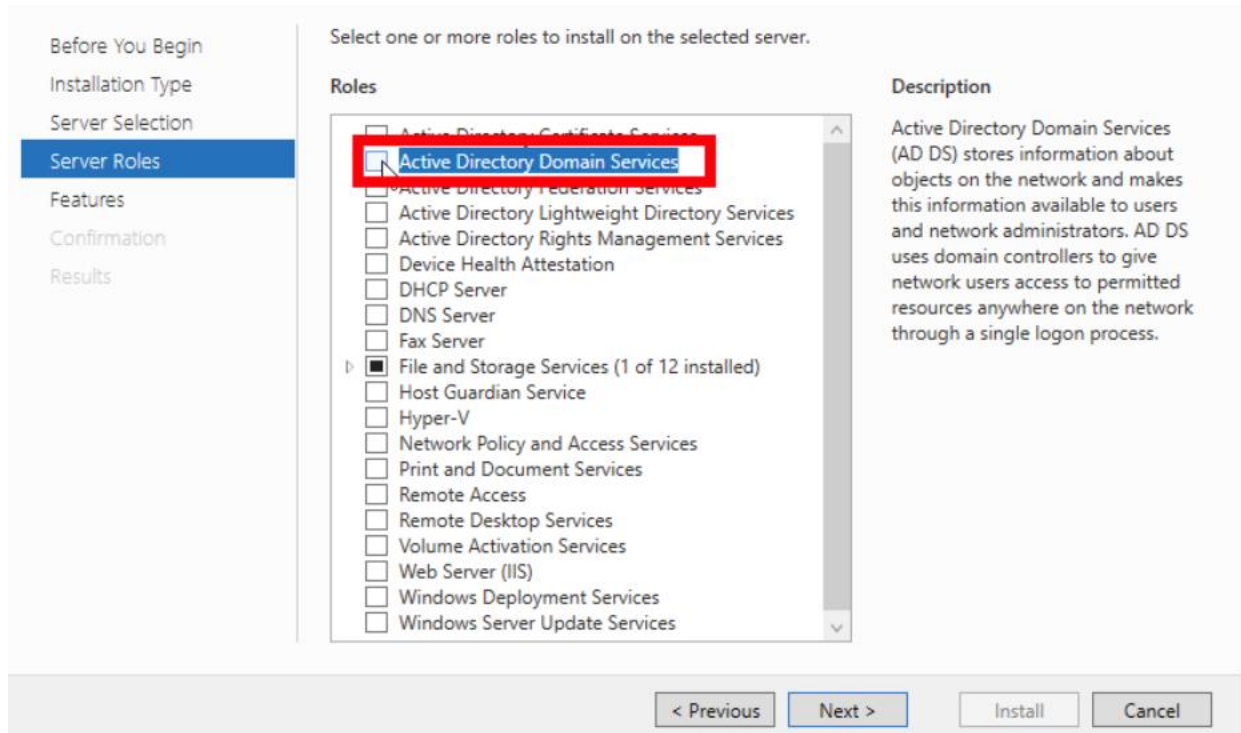
- Once you have installed **Windows Server 2022** → Login in the system → Open the Server Manager Dashboard.
- In the Server Manager dashboard, click on **Manage** and select **Add Roles and Features**.



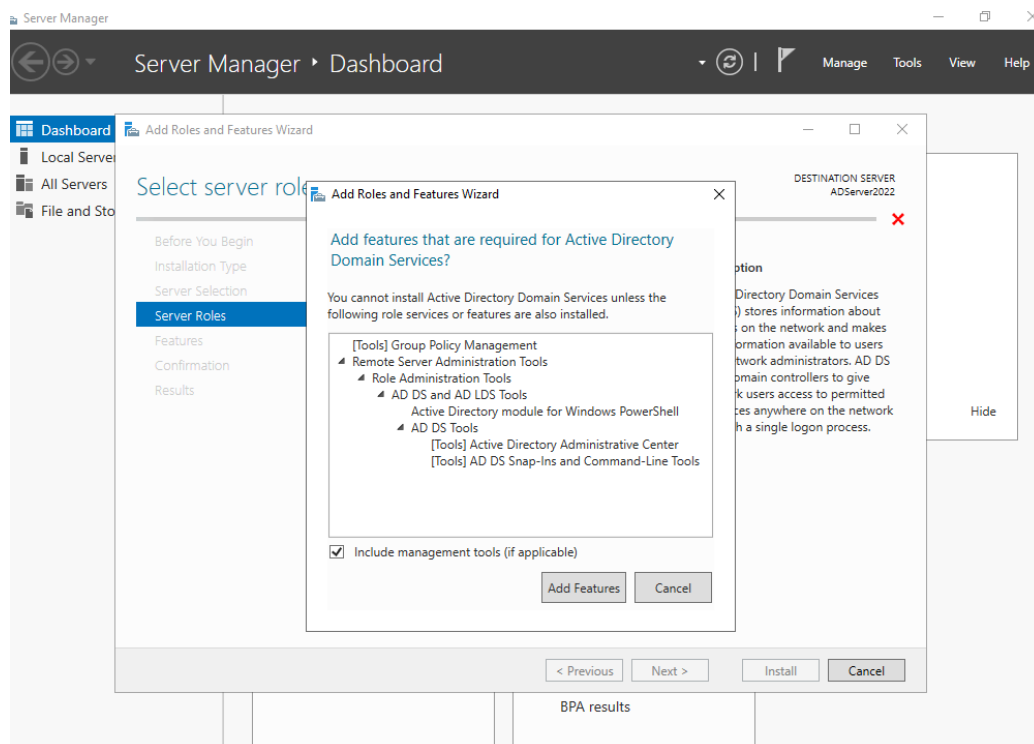
- **Add Roles and Features Wizard** will be shown click **Next** and **Select Role based on feature-based installation**.



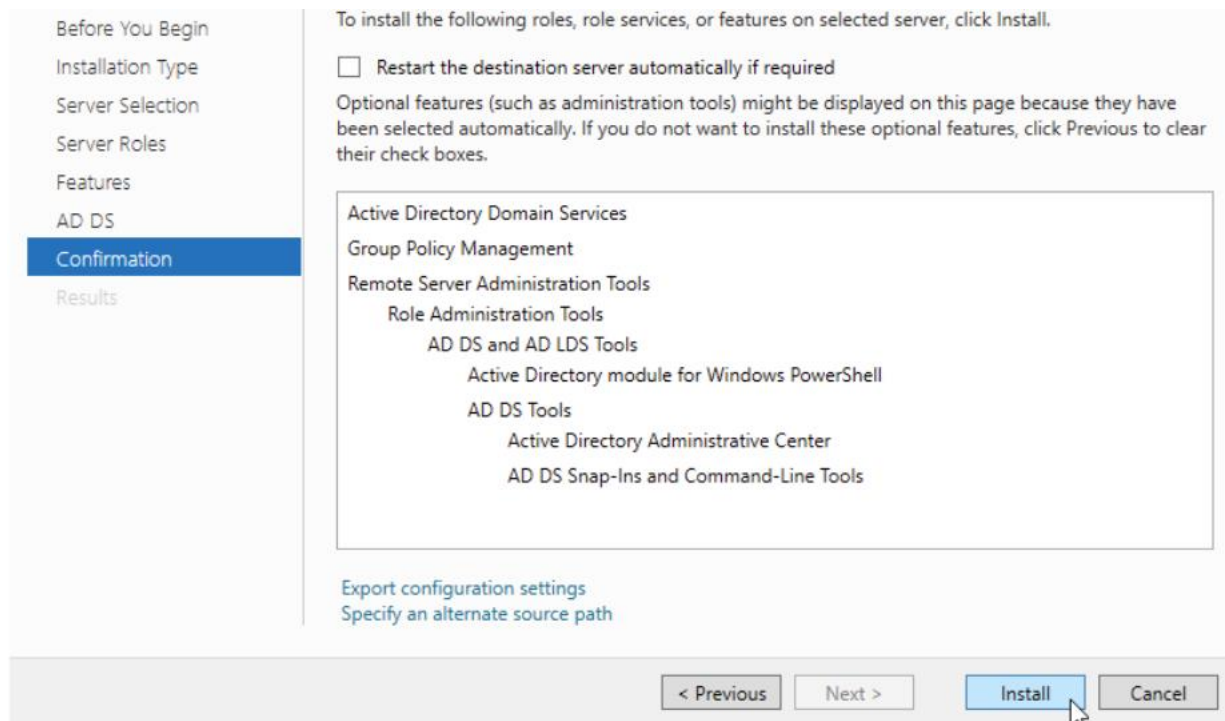
- The **Server Selection** window will list your available servers if you have multiple. Right now, the only server we have is the one we created. Select this and click Next.
- In **Server Roles** → Select on **Active Directory Domain Services**.



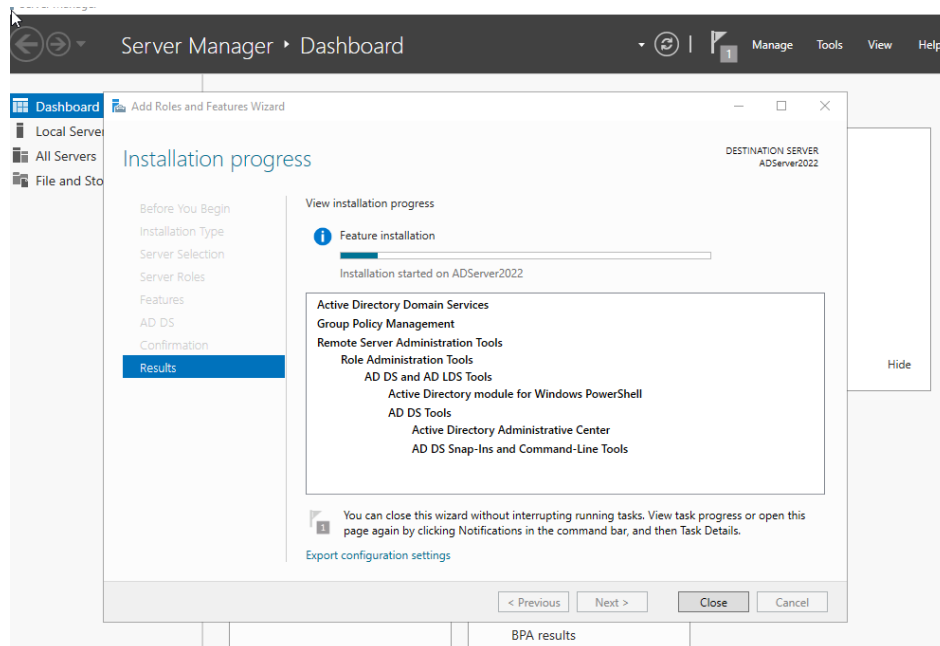
- Click on **Add Features**.



- In the **Confirmation** → click install.



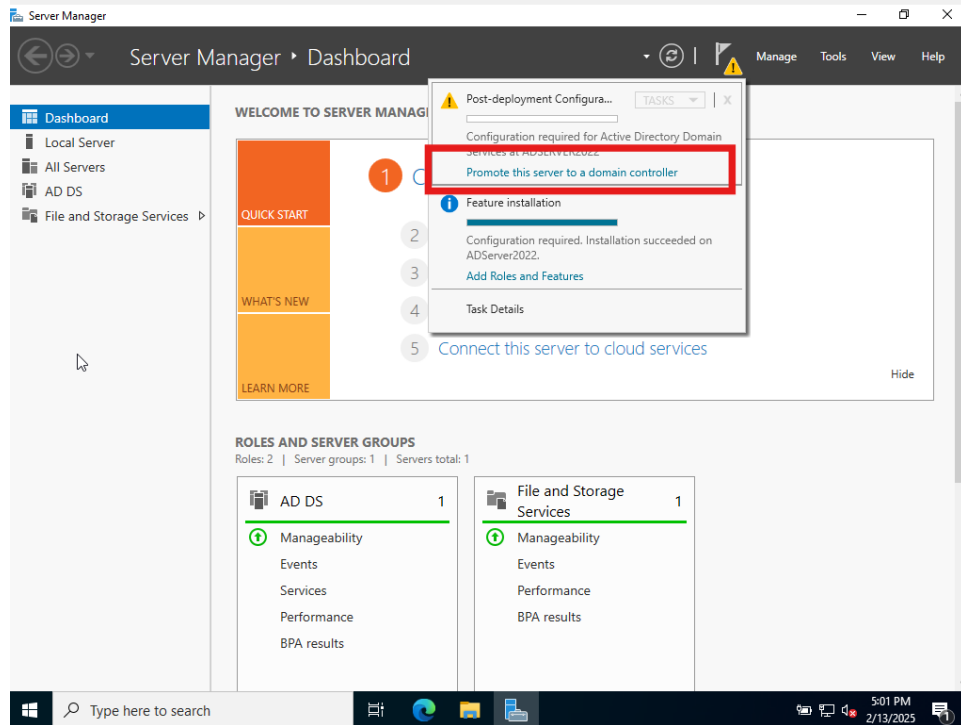
- Keep checking the progress bar in the installation progress screen as shown in below screenshot:



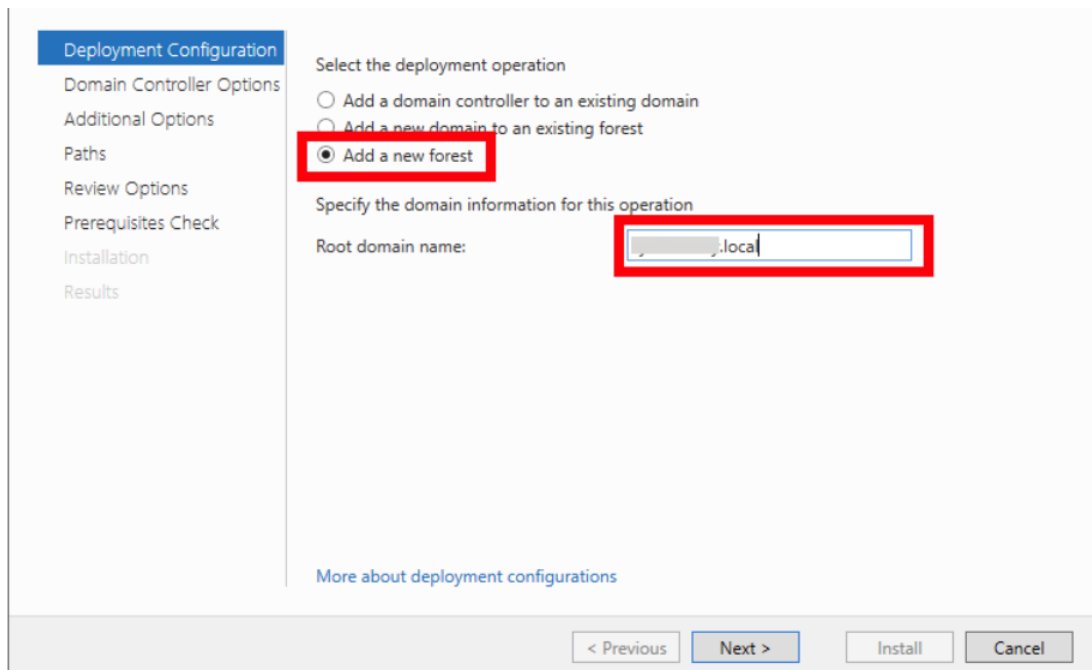
- The installation will have successfully installed when you see the **Installation succeeded** message.

## Part2: Promoting the server into a Domain Controller

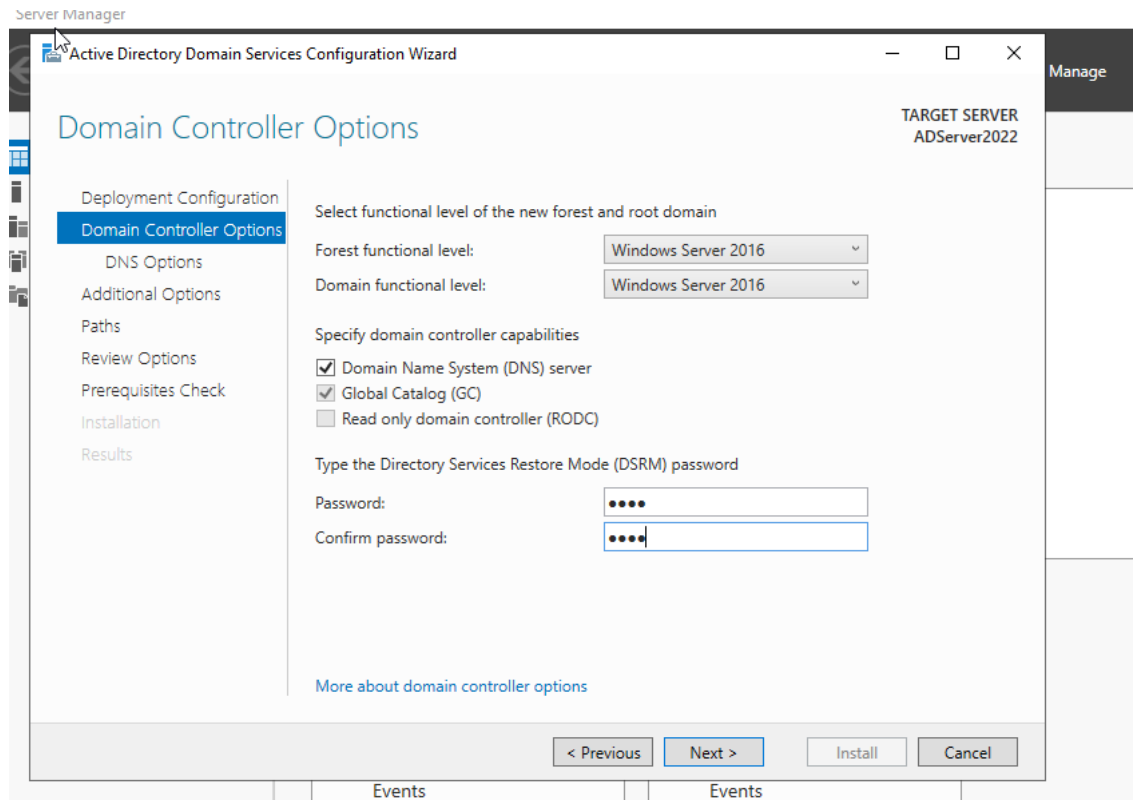
- In the server manager dashboard, click on the flag with the yellow notification, and click on **Promote this server to a domain controller**.



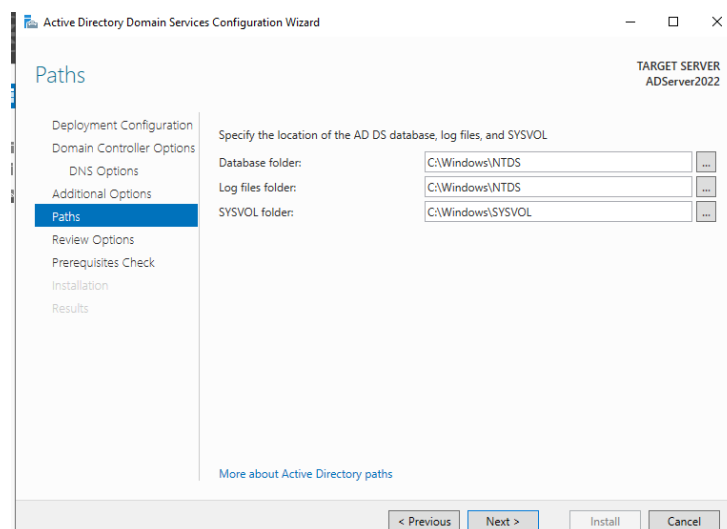
- In the Deployment Configuration → Click on Add new forest → then create a name for the root domain. Click Next after.



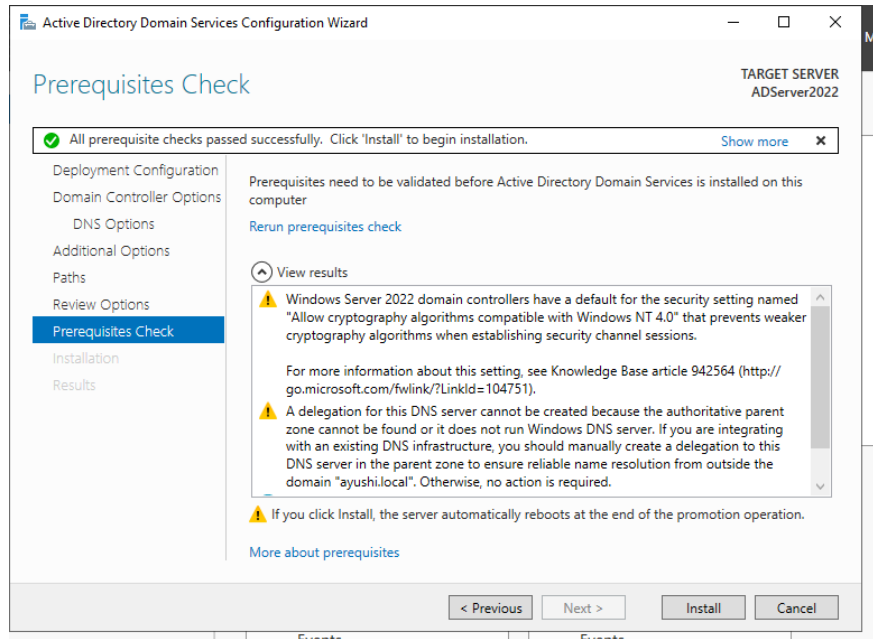
- In the **Domain Controller Options**, create a password and leave everything else on default. Click Next after.



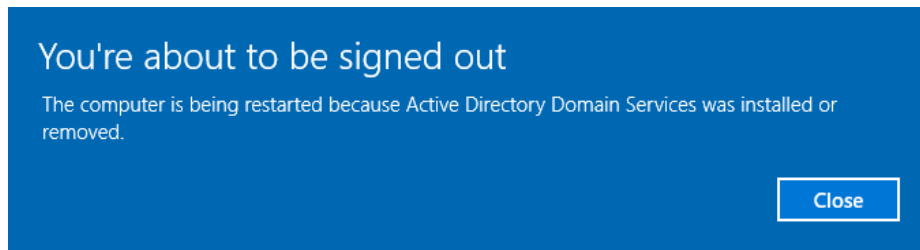
- Click Next until user comes on Paths screen → This specifies the location of database, log files, SYSVOL.



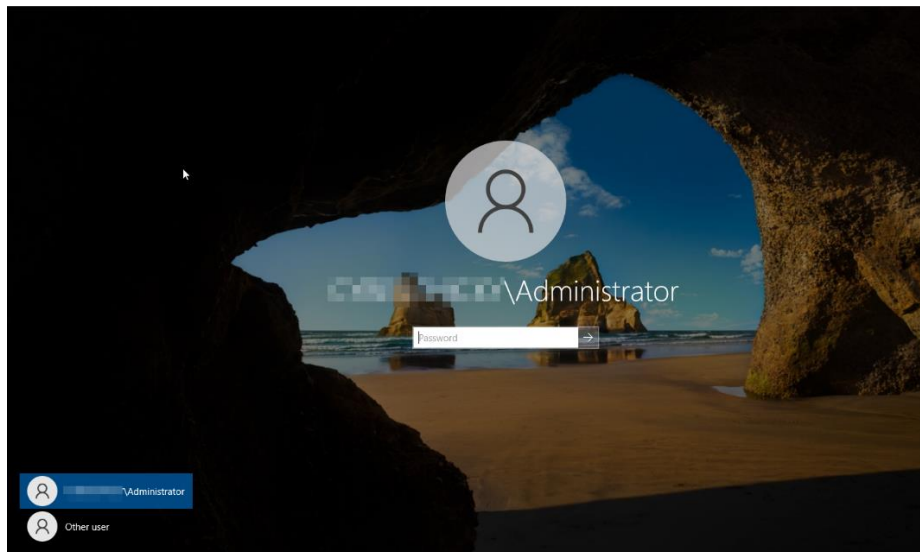
- Once the prerequisites have been validated, we can now click **Install**. The installation will begin and will reboot the system after installation.



- Click OK on his window for the system to restart and finish the installation.

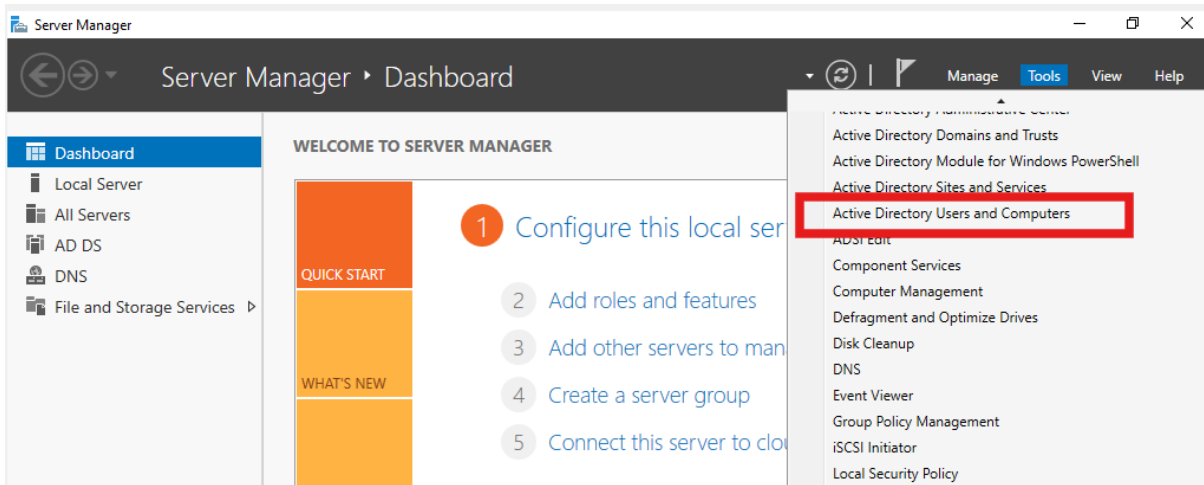


- After restarting, we can now see that our server has been promoted as a Domain Controller and the Active Directory has been installed.

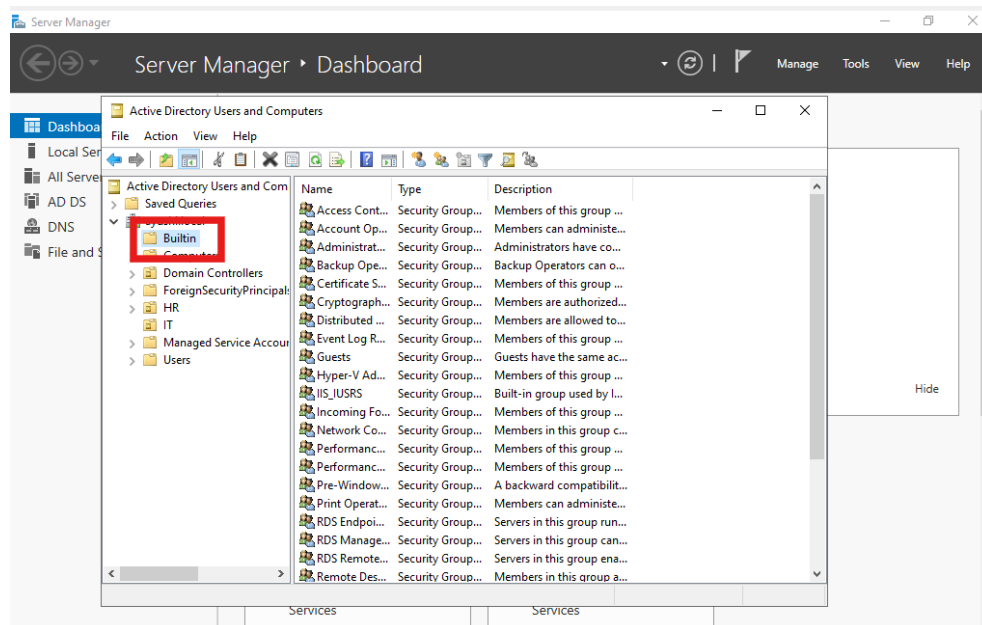


## Part3: Adding Users and Computers

- In the server manager dashboard, Click on **Tools** and select **Active Directory Users and Computers**.



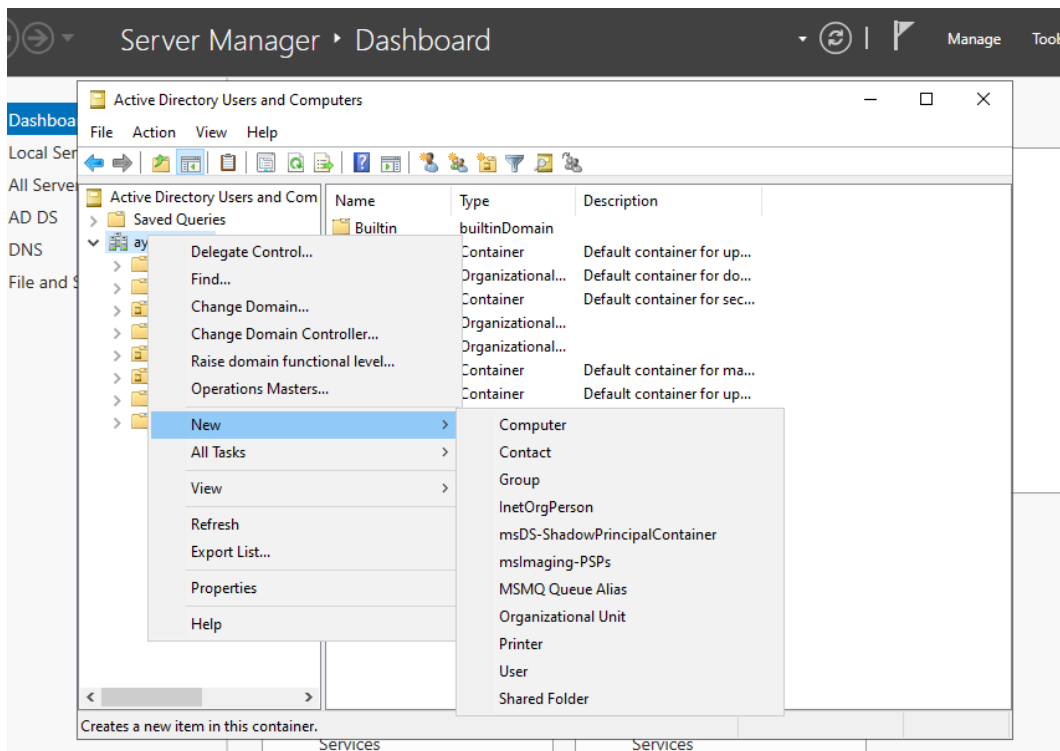
- Expanding down the domain, we see a directory called **Builtin**, and on the right side are the users that the server has automatically created.



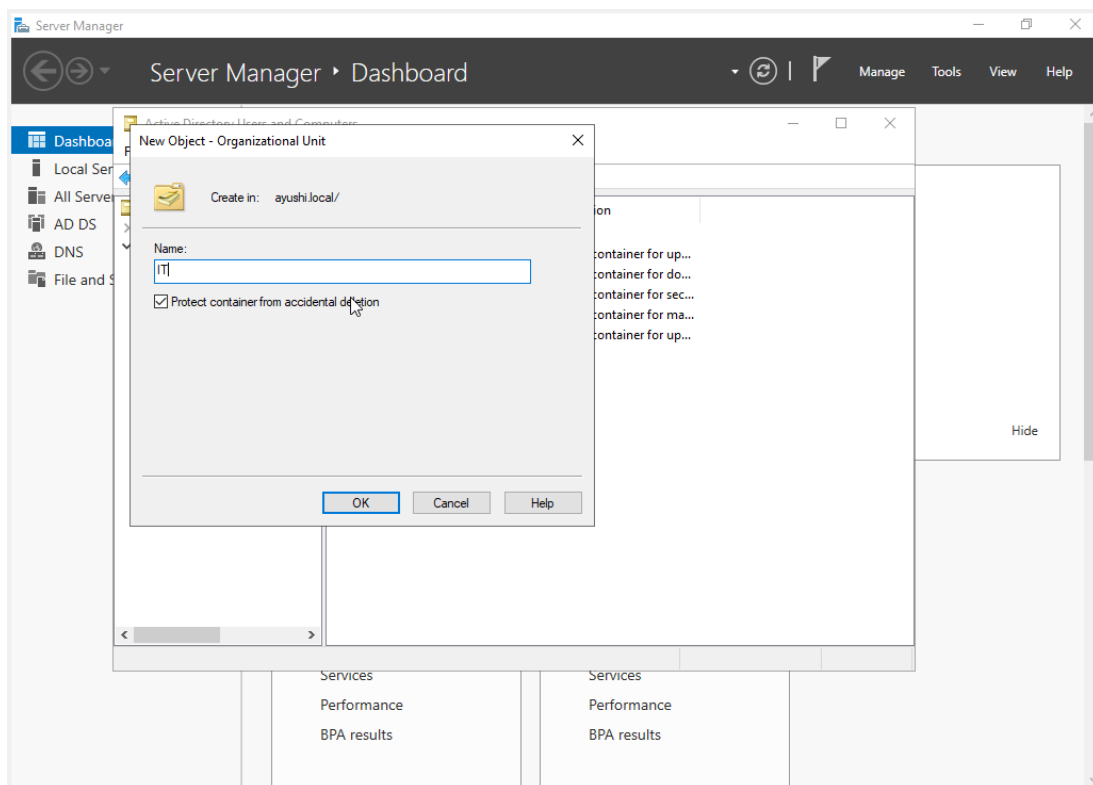
In a real-world environment, users are delegated into different departments (IT, finance, HR, etc.). In Active Directory, these departments can be referred to as **Organizational Units**.

We will be creating users and adding them to their respected organizational units.

- Right click on the domain, select **New**, and click **Organizational Unit**.

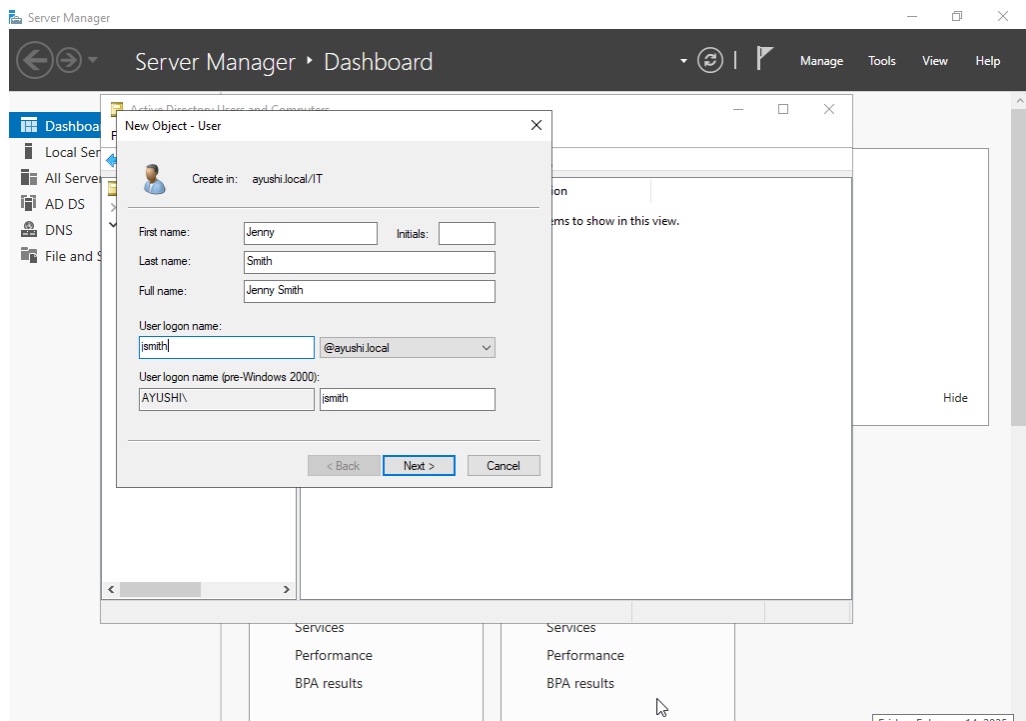


- Name the unit as **IT** as shown below and then click OK.

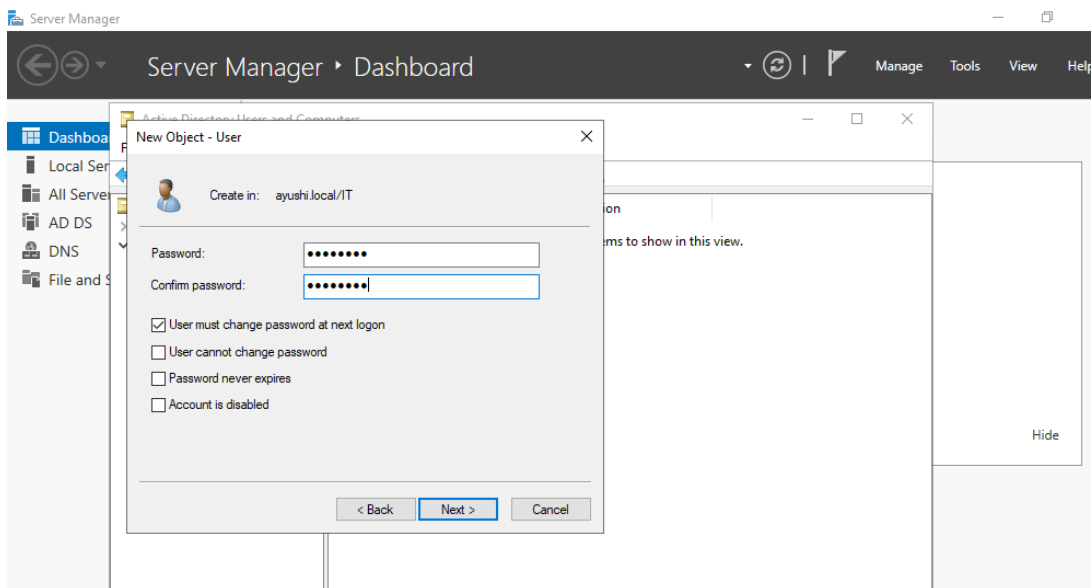


- Right click on the newly create OU **IT** click on New → click on User → Give the user first name, last name, user logon name → click next.



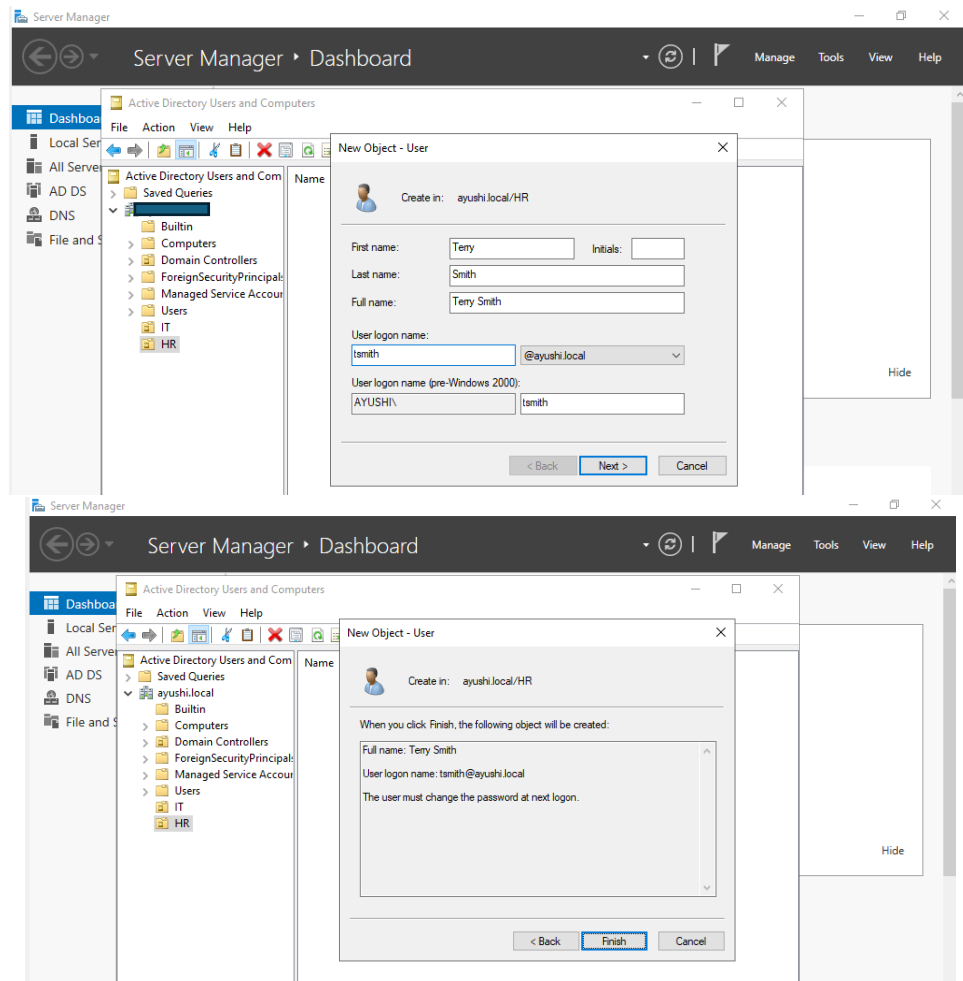


- Add Password → click user must change password at next logon → Click Next.

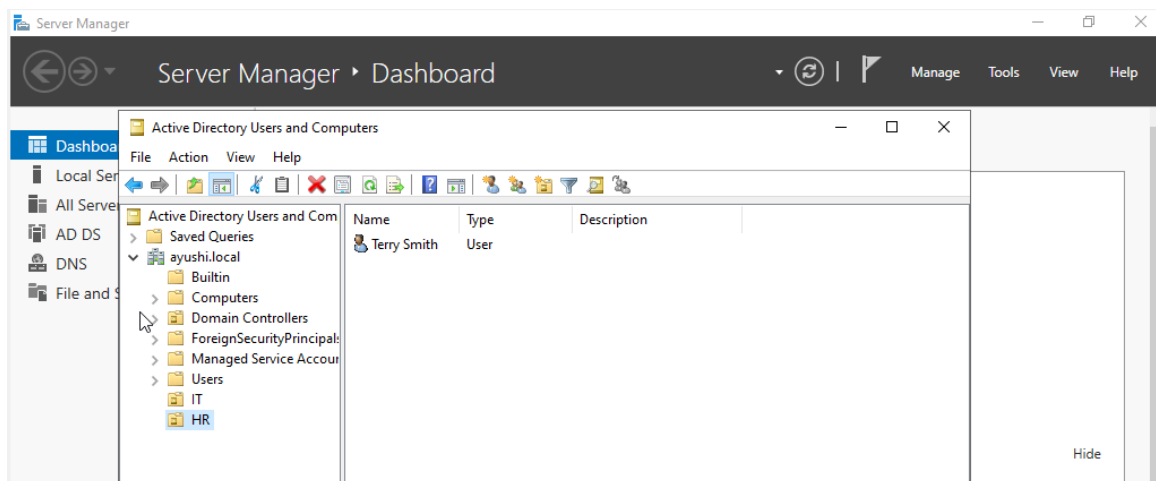


- User gets created named **Jenny Smith** under **IT OU**.

- Create a new **OU** as **HR** with same steps as above → add first name, last name, username as shown below in snapshot.

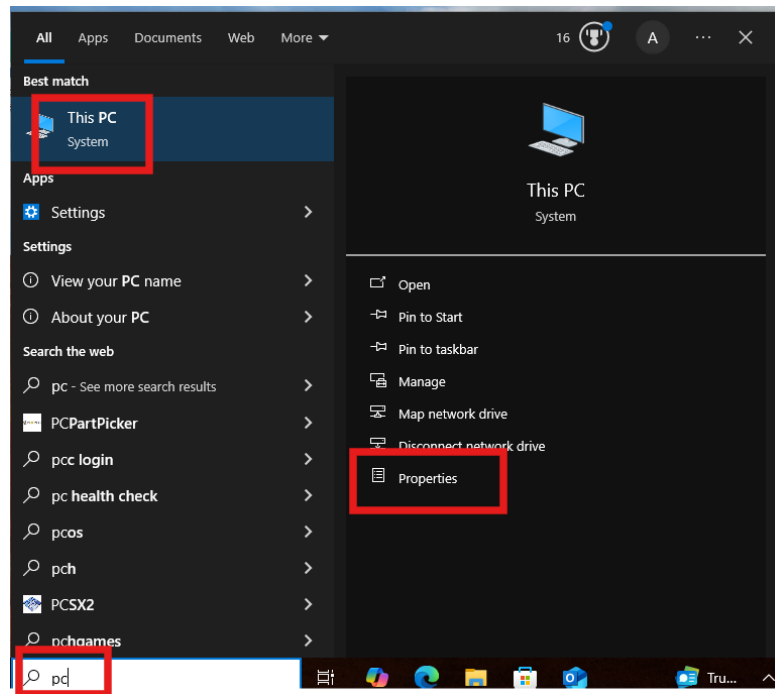


- Below snapshot shows that two OU has been created with the users in it.

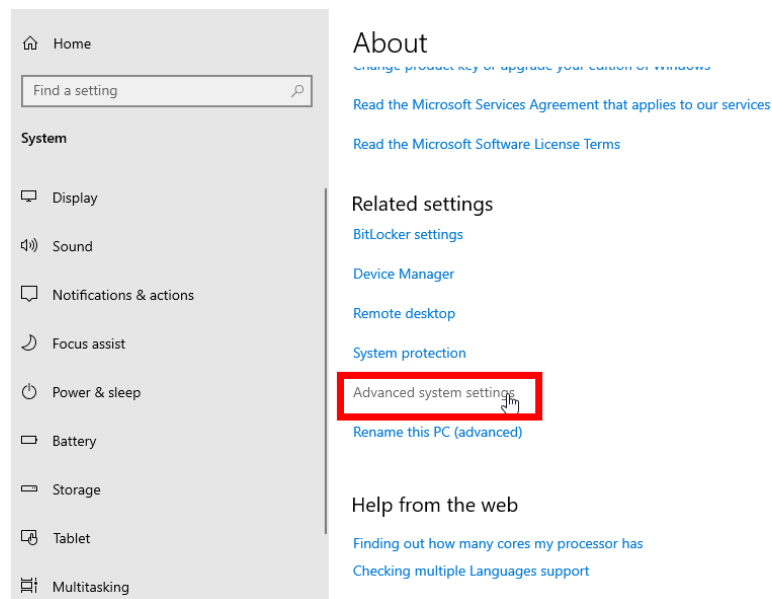


## Part4: Joining the Target PC into the domain

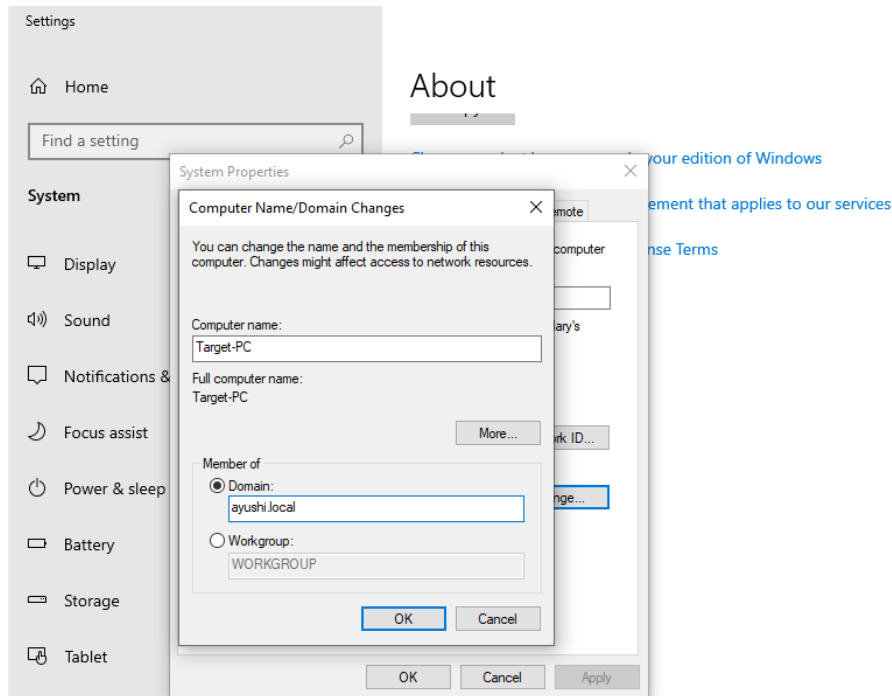
- In the target PC, search for **This PC** and click **Properties**.



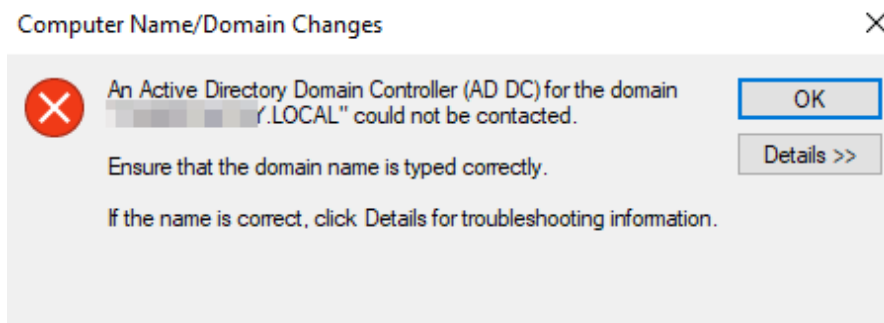
- Click **Advanced System Settings**.



- Navigate to the **Computer Name** tab and click **Change** to change our domain
- Select the **Domain** option and type the domain name. Click OK after.

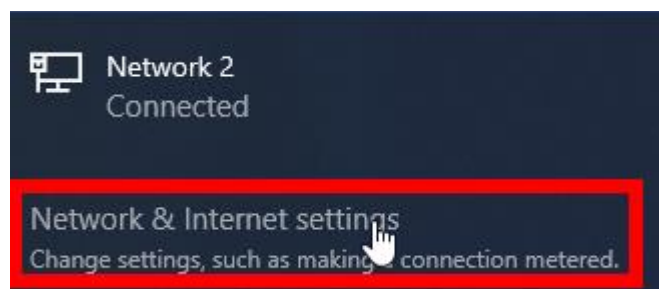


- We will get this error stating that our AD domain cannot be contacted. This is because the target machine does not know how to resolve the AD domain.

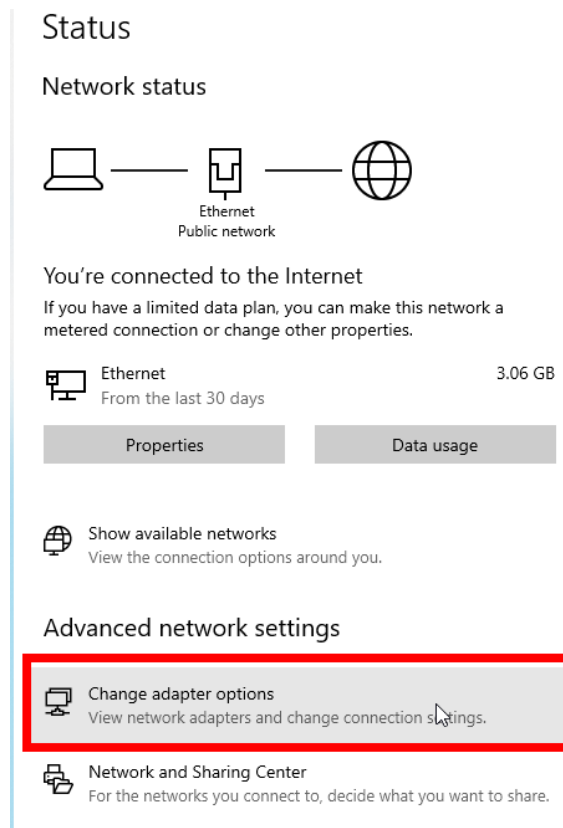


We will need to change the target PC's DNS server to point out to the AD server.

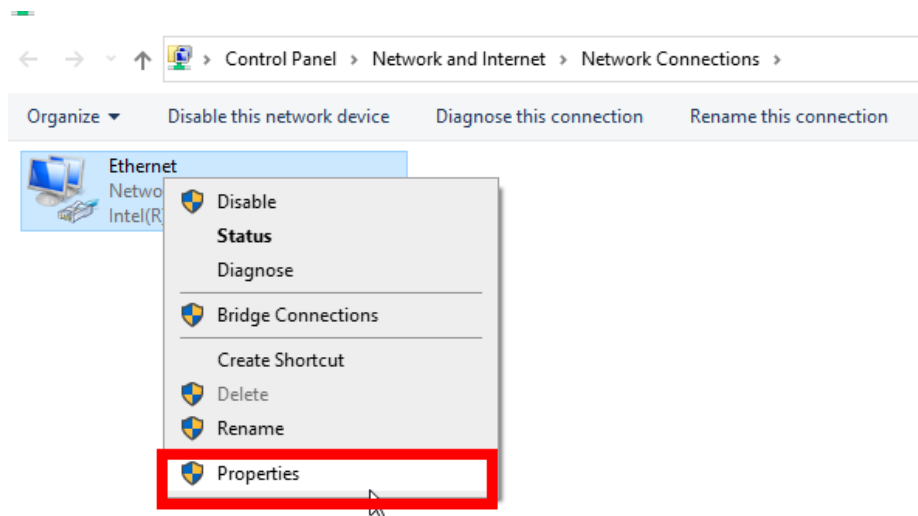
- In the taskbar, click on the **Network** icon and click **Network & Internet settings**.



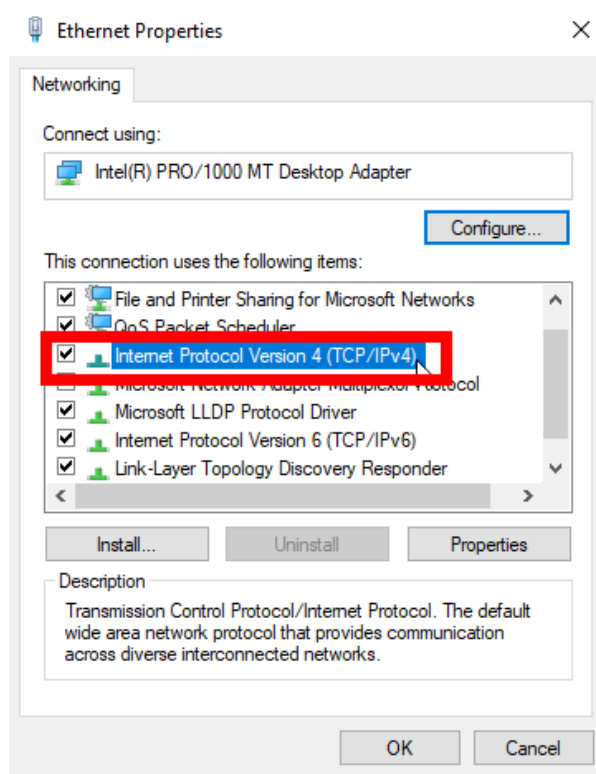
- Click on **Change adapter options**.



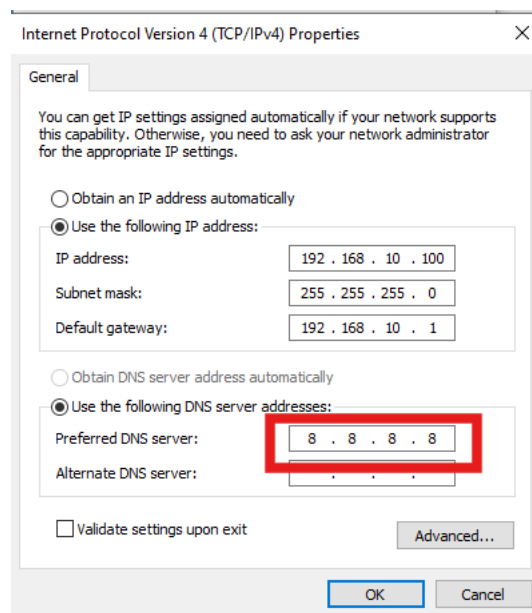
- Right click on the Ethernet and select **Properties**.



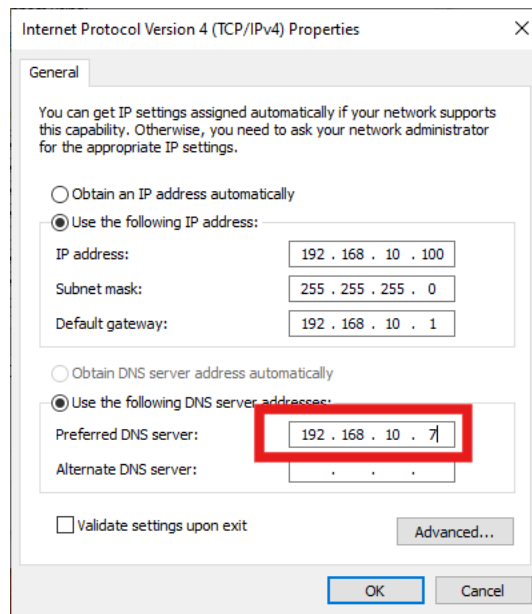
- Double click on **Internet Protocol Version 4 (TCP/IPv4)** to view the IP properties.



- On the DNS server address options, we see that it is currently pointing to Google's DNS server.



- We need to change the value to our Active Directory's IP address, which is **192.168.10.7**. Click OK after.



- To double check, open command prompt and type `ipconfig /all` to list all IP configurations. The DNS server should now be pointing to the Active Directory's IP address. In below snapshot we can see DNS Servers: 192.168.10.7.

```

C:\Users\ayush>ipconfig /all

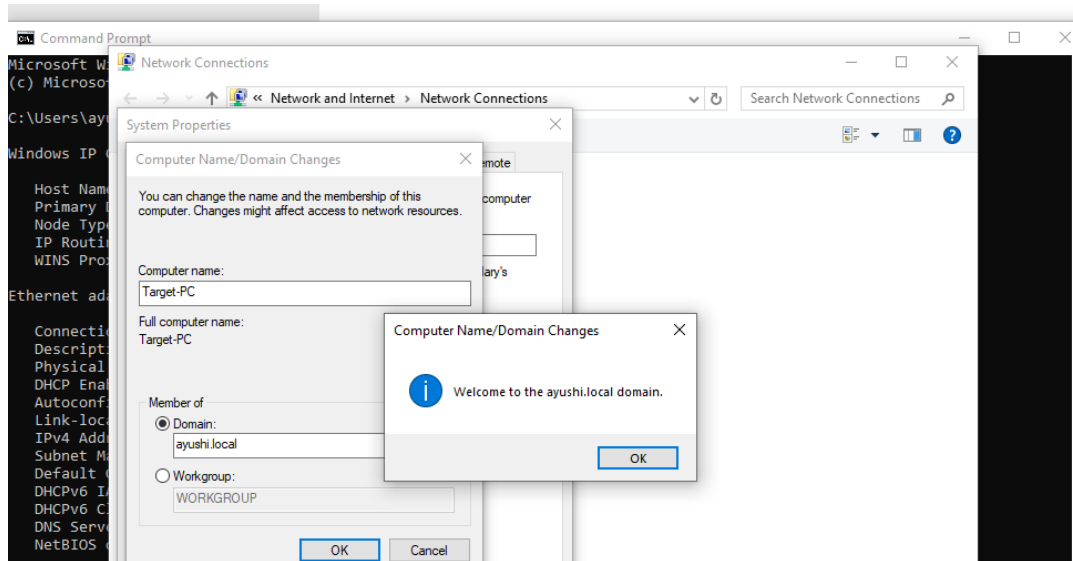
Windows IP Configuration

Host Name . . . . . : Target-PC
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled. . . . . : No
WINS Proxy Enabled. . . . . : No

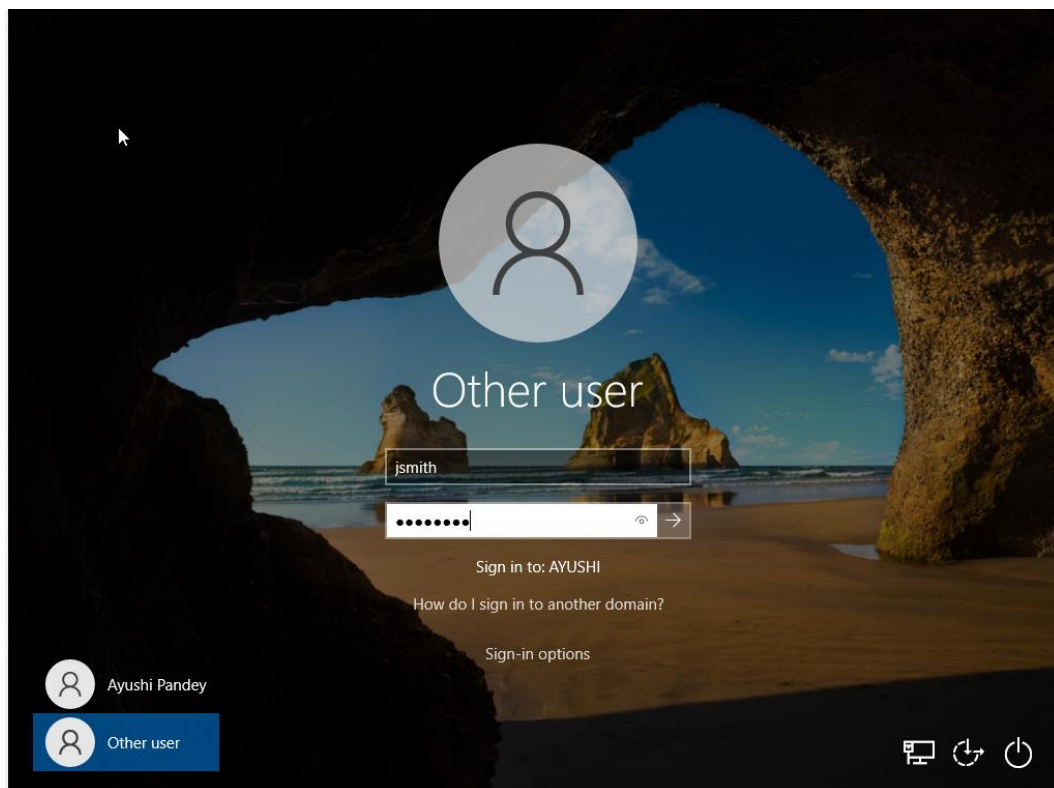
Ethernet adapter Ethernet:

Connection-specific DNS Suffix . :
Description . . . . . : Intel(R) PRO/1000 MT Desktop Adapter
Physical Address. . . . . : 08-00-27-3A-10-90
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::fa31:c844:626d:8bcb%7(Preferred)
IPv4 Address. . . . . : 192.168.10.100(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.10.1
DHCPv6 IAID . . . . . : 101187623
DHCPv6 Client DUID. . . . . : 00-01-00-01-2F-34-B5-45-08-00-27-3A-10-90
DNS Servers . . . . . : 192.168.10.7
NetBIOS over Tcpip. . . . . : Enabled
  
```

- Back in the **Computer Name** settings, Click OK again for the domain change. There should be no problem after this.



- We are now prompted to restart the computer to apply changes. Close any running applications and restart the system.
- In the login page, we can now sign in as our newly created user within the Active Directory Domain.



- We are able to login with the user Jenny Smith on Windows 10 machine which we created in our Active Directory in Windows Server 2022.





Jenny Smith

• Welcome