

How to Setup Active Directory Domain With VirtualBox and Join Computers

1. Install VirtualBox and add Virtual Machines

Step 1 – Download and install VirtualBox VM.

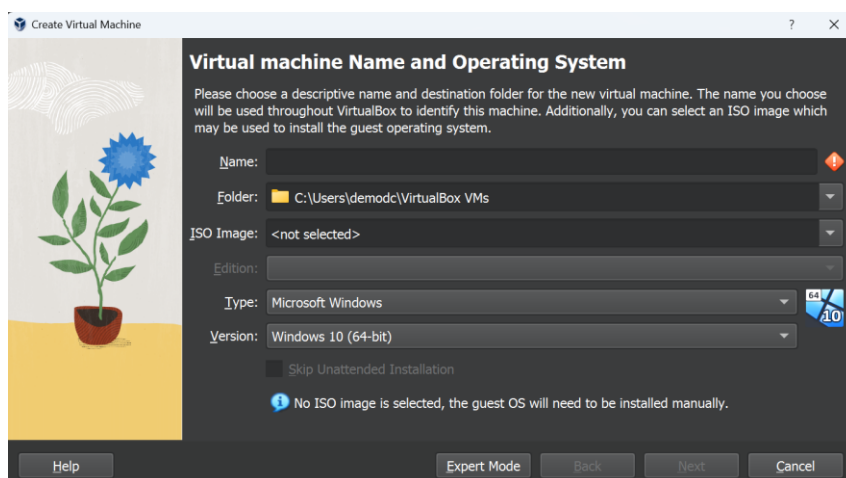
Step 2 – Download Windows Server 2019 and Windows 10 Enterprise. I'm using the 90 days trial version. I think this is enough time to get used to it.

- [Get Windows Server here](#)
- [Get Windows 10 here](#)

Make sure the download the ISO files. Save them in a folder

Step 3 – Open the VirtualBox and click on the New button

Step 4 – Enter the name. Then choose the type and version as shown below.



Creating New Virtual Machine in VirtualBox

Step 5 – Set the Memory Size to 2048 MB

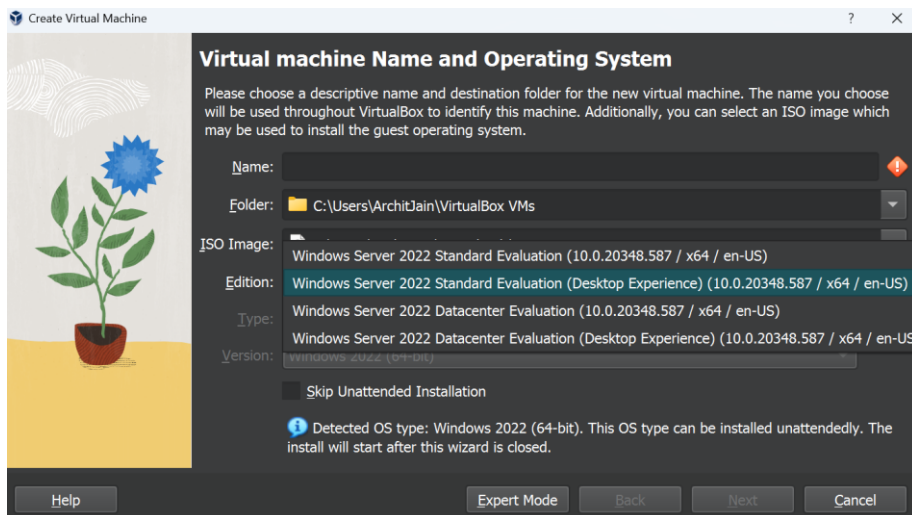
Step 6 – Ensure the '*Create a virtual hard disk now*' is selected under disk. Click **Create**.

Step 7 – Choose VDI(VirtualBox Disk Image) in the 'Hard disk file type' and also select 'Dynamically allocated'

Step 8 – Set the Hard disk size to 30GB

2. Install Windows Server 2019 on the new Virtual Machine

Now we would use the ISO file we downloaded to install Windows Server 2019 in the new virtual machine we created. Follow the steps



Step 1 – Start the new Virtual Machine (Right-click > Start)

Step 2 – Select the ISO file you downloaded and click **Start**

(Important – remember to choose the desktop experience edition)

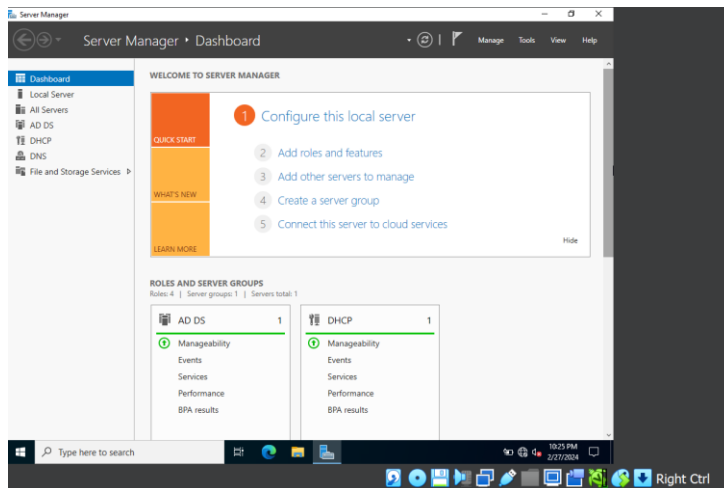
Selecting the disk image

Step 3 – Choose an Admin password in the Customize setting window as shown. Click next to complete the installation. Also ensure to choose Custom Install from the next screen. Then wait for the installation to complete



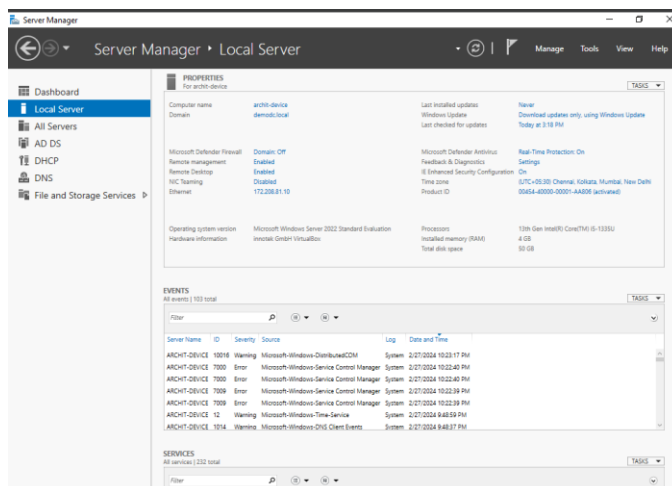
Step 5 – Now you can log on to Windows. The Server Manager Dashboard opens up as shown below.

Step 6 – First install ‘Virtual Box Guest Additions’. This would allow you to set the VM screen to full screen. See the video.



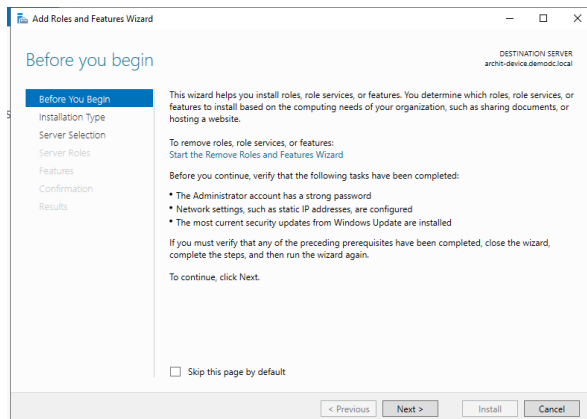
Server Manager Dashboard

3. Configure the Active Directory Directory Services(AD DS)



Now we would set up this computer as a domain controller. We do this by installing the AD DS role to the server.

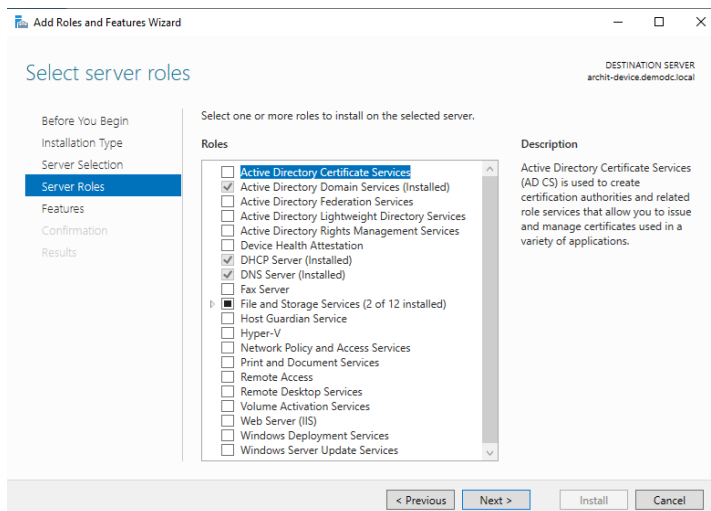
Step 1 – Click on Add Role and Features in the Dashboard. This opens the Add Roles and Features Wizard.



Add Roles and Features Wizard

Step 2 – Click on Next > Next until you have a list of Features

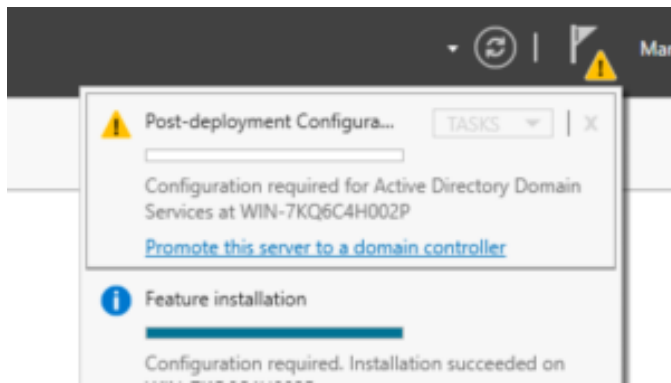
Step 3 – In the list, check Active Directory Directory Services as shown below



Step 4 – Then complete the installation by clicking on Next > Next until the installation completes.

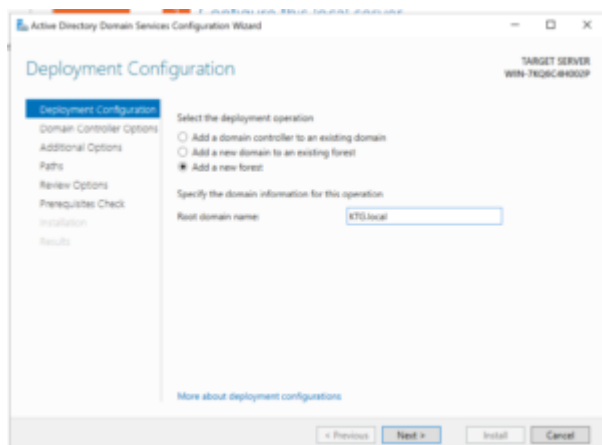
4. Create a Domain and Configure the Domain Controller

To complete the process of creating a domain, we need to promote the sever to a domain controller. Follow the steps below to do that.



Step 1 – Click on the yellow triangle at the upper right and click ‘Promote this server to domain controller’. The ‘Active Directory Domain Services Configuration Wizard’ opens up as shown below

Step 2 – Click on ‘Add a new forest’ and enter a name for the domain and add *.local* suffix. For this example, I’m using *Demodc.local*



Creating a new Forest

Step 3 – Click on next and then enter a password. Click Next

Don’t worry about DNS because it would choose it’s own

Step 4 – Allow the default Netbios domain name which is the same same but without *.local suffix*.

Click on Next to complete the installation. Allow the system to restart.

Step 5 – You can now login with demodc\Administrator. Enter the password you set.

At this point, you have created a domain as well as a domain controller. Congrats!

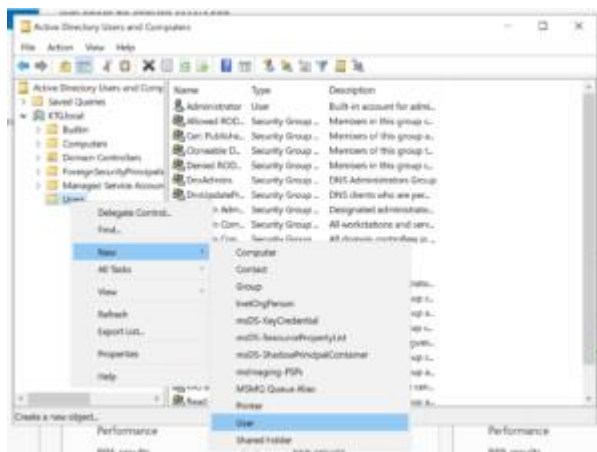
But we are not done yet. We'll proceed to next phase where we would then create user, set up the network and join computers to the domain.

Create an Admin user account

We would now create an admin user account. This account is what we would use to join computers to this domain. Again, follow the steps:

Step 1 – Click on Tools at the upper right and choose 'Active Directory Users and Computers'. The User and Computers management window opens up

Step 2 – Expand the Domain, right-click on Users and select New > User



Active Directory Users and Computers Management

Step 3 – Enter all the user details as shown below and click on Next. Choose a password and complete the process

Step 4 – Right-click on the user you just created and choose properties.

Step 5 – Click on 'Member Of' tab. Click on Add. Enter Domain admin. Click on Check Names. It underlines it. Then click on OK.

Now, this user is a domain admin

2. Setup Windows 10 Virtual Machine

Now, we would set up Window 10 so we can join it to the domain. If you have not downloaded it, then download it from [here](#).

Step 1 – Follow the same procedure as above to setup the Windows 10 Virtual Machine

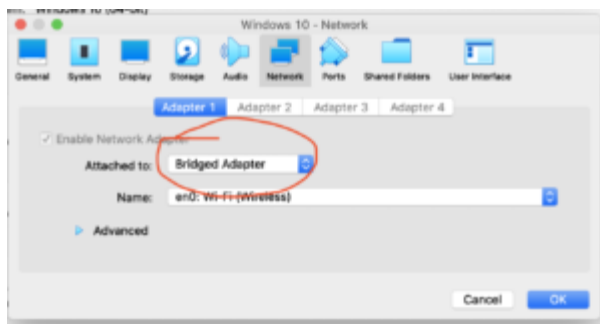
Remember to choose custom install

3. Configure the Network Connections

This part is really very important. This is because if you don't get it right, then you would not be able to join the machine to the domain. Here you can do any of the below settings.

1st way → Follow the steps for

Step 1 – Open the Virtual Machine setting for the Windows 10. Click on Network and Select “Bridged Adapter” under Attached to. See below

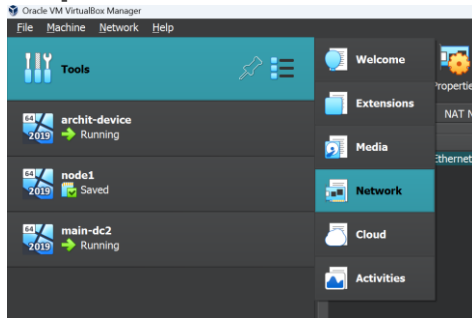


Network Bridged adapter settings

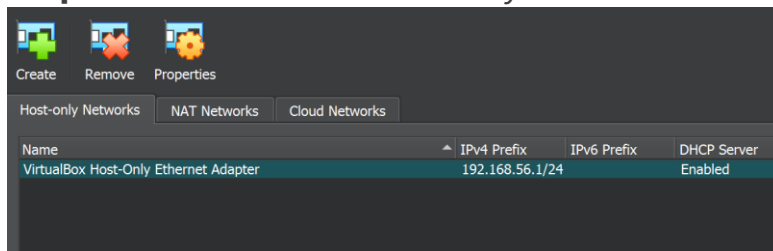
Step 2 – Repeat the same process for the Server machine as well

2nd way →

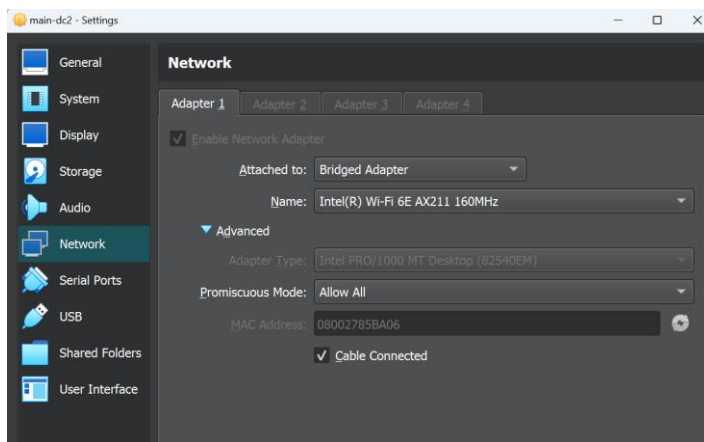
Step 1 → Go to virtual box TOOLS setting then



Step 2 → Now check the host-only networks



Step 3 → No go to your server as well as computers settings



Go to network blade and select **Host-only Adapter** in “Attached to:” section
Check that after selecting the name of the network automatically comes.
as mentioned above **NAME: VirtualBox Host-only Ethernet Adapter**.
And then go to advanced setting and **Promiscuous Mode** select there **ALLOW ALL**. (By default there is deny).

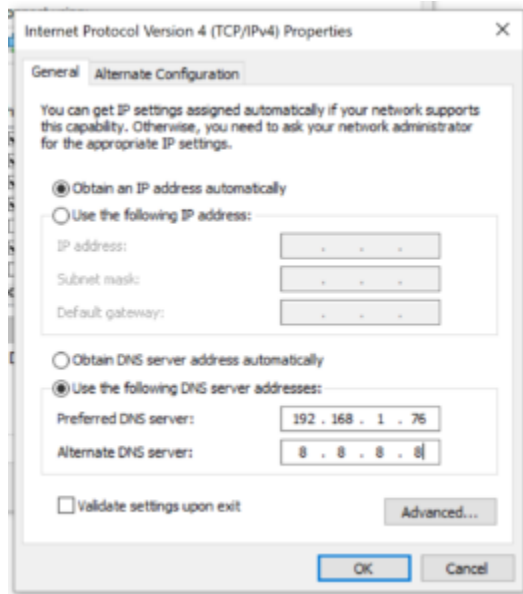
Step 3 – Open the Firewall Settings and turn off the firewalls.

Step 4 – Do the same for the Server as well.

Step 5 – Open the Network Adapter configuration. Disable IPv6 for both Server and Windows 10.

Step 6 – Next, open the IP Address properties and set the preferred DNS server Ip address to the IP Address of the domain controller (this is important)

The address *192.168.56.1/24* is the Ip address of the domain controller



Internet Protocol properties setting

Step 7 – Open ‘My Computer’ properties and set ‘*Allow Remote Connections...*’

4. Join Computer to Domain

At this point, we are ready to join the computer to the domain, *Demodc.local*

Step 1 – First change the name of the computer to ‘Windows10Client’ or any other name. To do this, use the ‘*This Computer*’ properties. This would prompt a restart

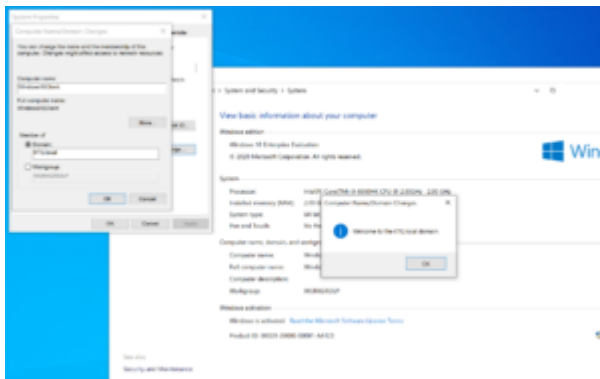
Step 2 – Again, open the ‘This Computer’ properties. Click on Change.

Step 3 – Under Domain, enter the name of the domain: *Demodc.local*. Click OK.

Step 4 – Enter the username and password of the admin user we created in the server.

Step 5 – Click OK. You will be prompted to restart. Restart.

At this point, you get a welcome message to the Domain as shown below:



Successfully joining to domain

5. View Active Directory Computers

Now, we would go to the server and check that the computer we joined, shows up in the domain controller

Step 1 – Log into the domain controller

Step 2 – Click on Tools at the upper right corner and select Active Directory Users and Computers

Step 3 – Expand the domain Demodc.local. Click on Computer. You can then see the Windows10Client.

If you got up to this point, then congrats!