Installing Network Policy Server and Remote Access Service (VPN) on Windows Server.

This document provides step by step procedure to configure Network Policy server and Remote Access service(VPN) on the Windows Server.

This configuration requires 3 computers. If you are using virtual machines please keep network cards on host only mode. Out of these 3 computers one computer will be Domain Controller and will run the Network Policy server. The IP address assigned to this DC is 192.168.10.1

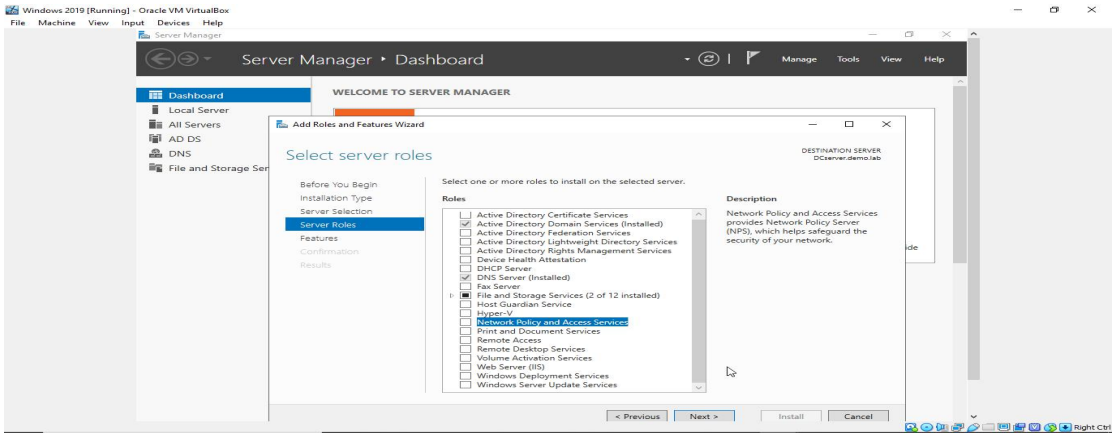
The second computer is a member server running Windows server OS. This server is a member server of the domain. This server will have 2 network cards. One card is configured with IP address in the same subnet as Domain Controller i.e 192.168.10.10. The second network card is configured with a different subnet which simulates internet. The address configured is 192.168.200.1. This server will be configured with Remote access Server i.e. VPN server.

The third computer will be a VPN client. It will run Windows Server. It will have IP address as 192.168.200.5. This computer will work in standalone workgroup mode.

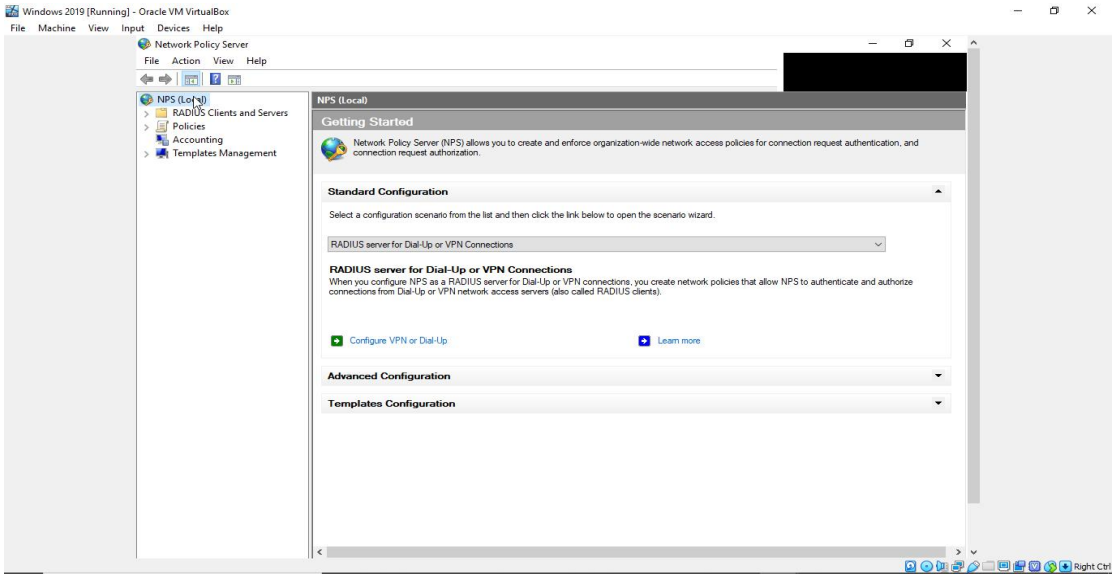
A. Install and configure Network Policy Server on the Domain controller.
Login as domain administrator on the domain controller.
First go to the domain controller. Login as domain administrator user.

Open Server manager ---> Tools ----> Click Active Directory Users and Computers.
Once the console starts. Below domain name right click on Users. Click New and select group. Give name to the group as remote-users. Create group. Then again right click users and select new and click user.Give a name to the user as vpnuser. Specify password for the user.

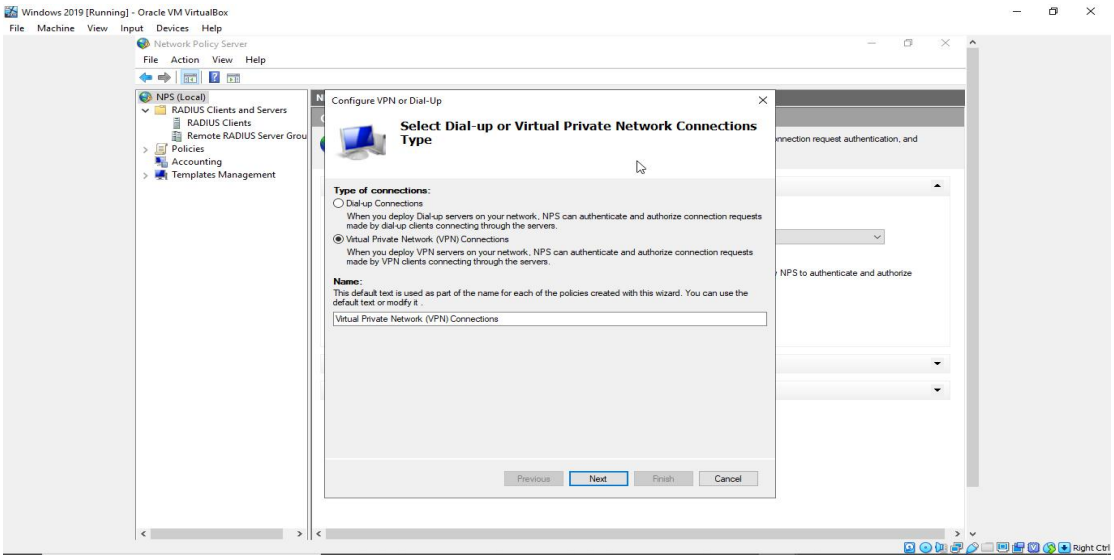
1. Open Server Manager ----> Manage ---> Click Add Roles and Features
2. Click Next on the screen that opens.
3. Click Next on the Select Install type page.
4. Click Next
5. On the roles selection page select **Network Policy and Access Server**.



6. Click Add features and Click Next
7. Click Next on the Select features page.
8. Click Next On the Network policy server introduction page.
9. Click Install
10. Click Close.
11. To configure the Network policy server, open Server manager ---> tools ---> Click Network policy Server.
12. In the window that opens right click NPS(Local) and click **Register server in Active Directory**.



13. Click Ok on the screen to confirm registration of NPS.
14. Click Ok again.
15. Now make sure the NPS(Local) is selected.
16. In the middle pane click option Configure VPN or DialUP.
17. In the Window that opens Select VPN connection.

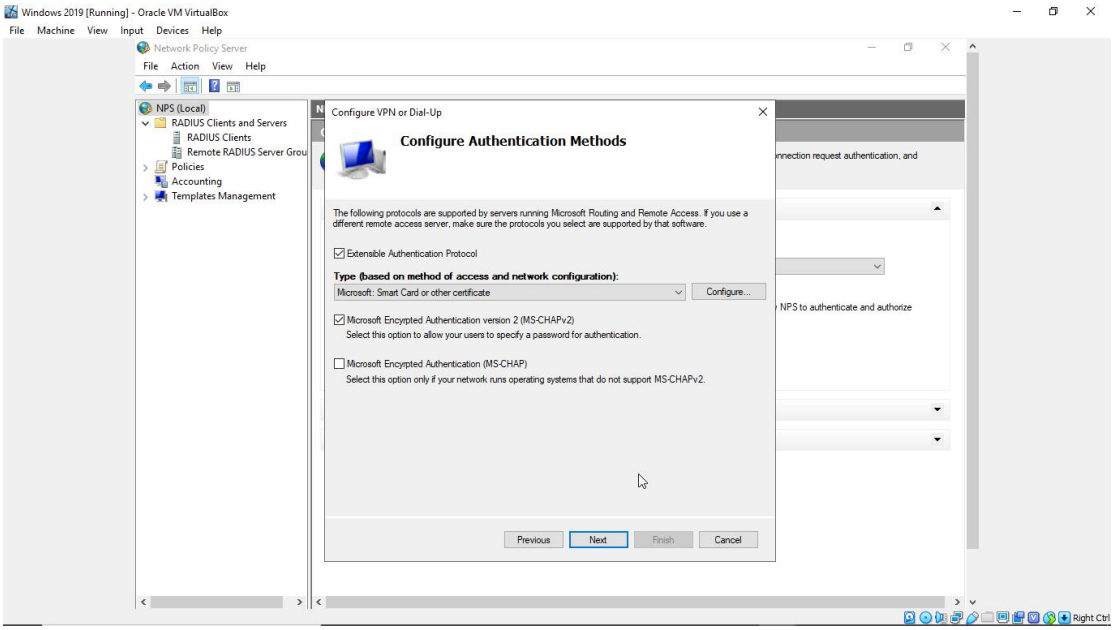


Click Next.

18. In the next window click Add to add a Radius client. Here add the member server that will work as a VPN server.

19. In the window that opens Specify a friendly name. Then provide the name or IP address of the member server. Click verify. Then Click resolve. In the shared secret type a good secret password. Click Ok. Click Next.

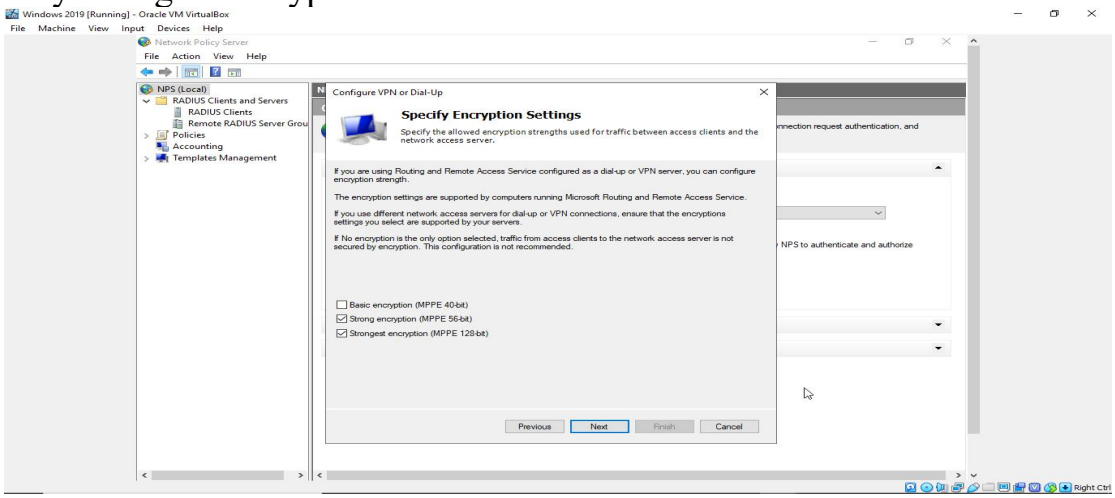
20. On the next page click the check box to enable Extensible Authentication protocol. Select Microsoft MSCHAP V2 Encrypted option. Click Next.



21. On the next page click Next. Here you can select a group to allow only specific users to connect from outside using VPN server. Add the **remote-users group** created.

22. On the next page also click Next. Here you can define rules to filter traffic.

23. On the next page remove basic encryption. If you want you can keep only strongest encryption.



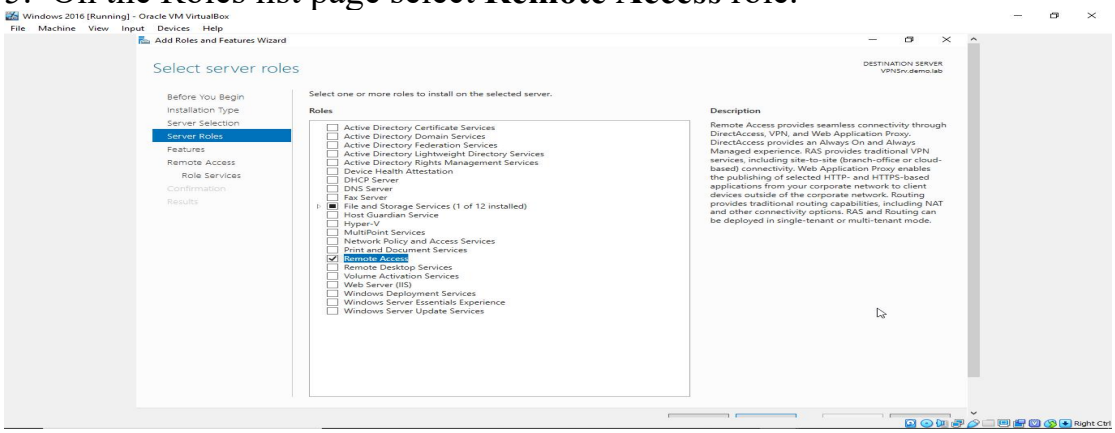
24. On the realm page simply click Next.
25. Finally click Finish.
26. In the firewall open ports UDP 1812, 1813, 1645 and 1646.

Thus the Network policy server is installed and configured to support VPN connection.

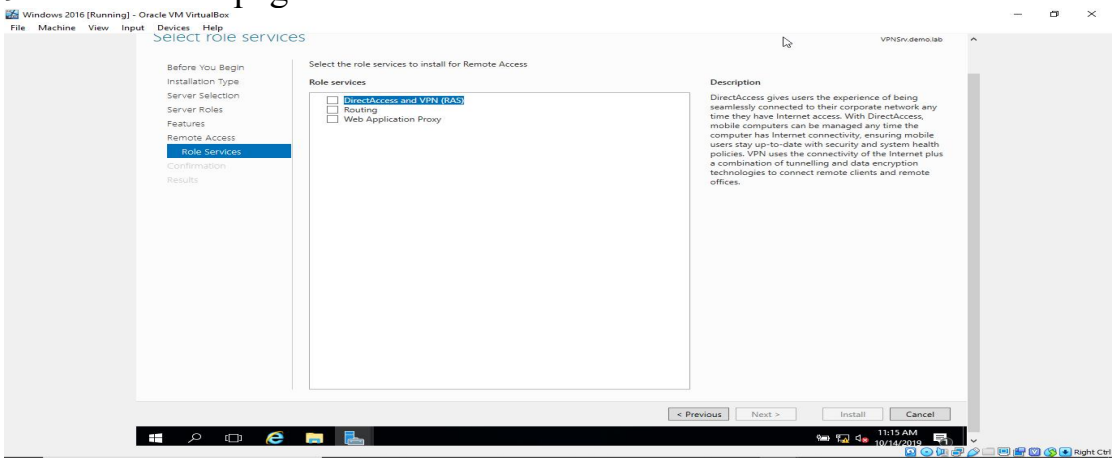
Configure VPN server on member server

In the following section we will install and configure Remote Access Service for VPN. These steps will be performed on the member server. Thus login as domain administrator on the member server.

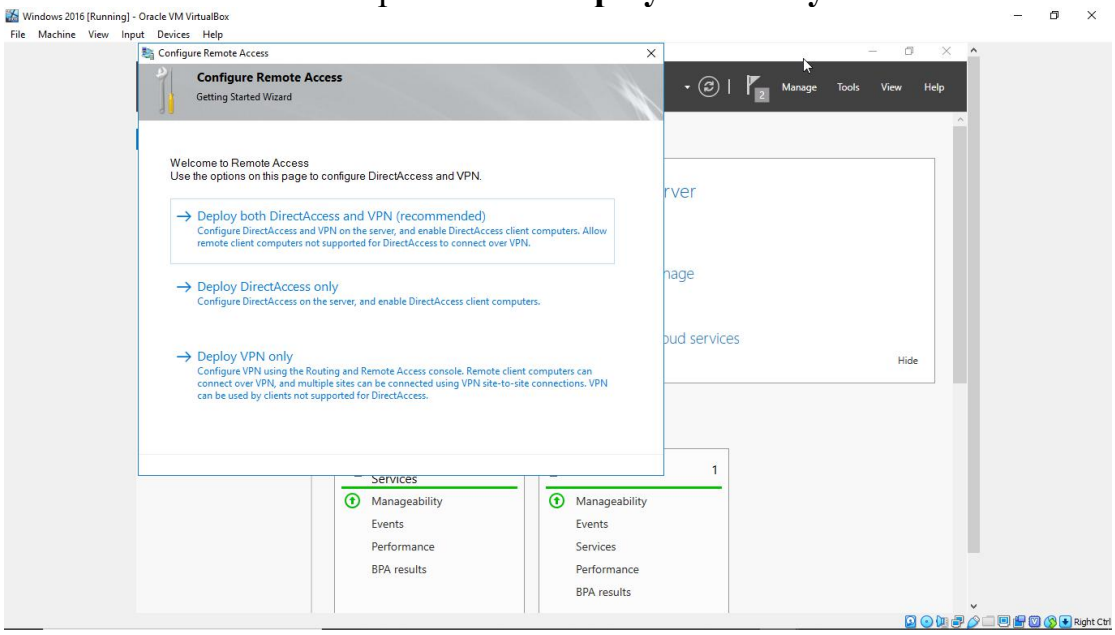
1. Open Server manager ---> Manage ---> Click Add Roles and features
2. Click Next
3. Click Next
4. Click next with the default server selected.
5. On the Roles list page select **Remote Access** role.



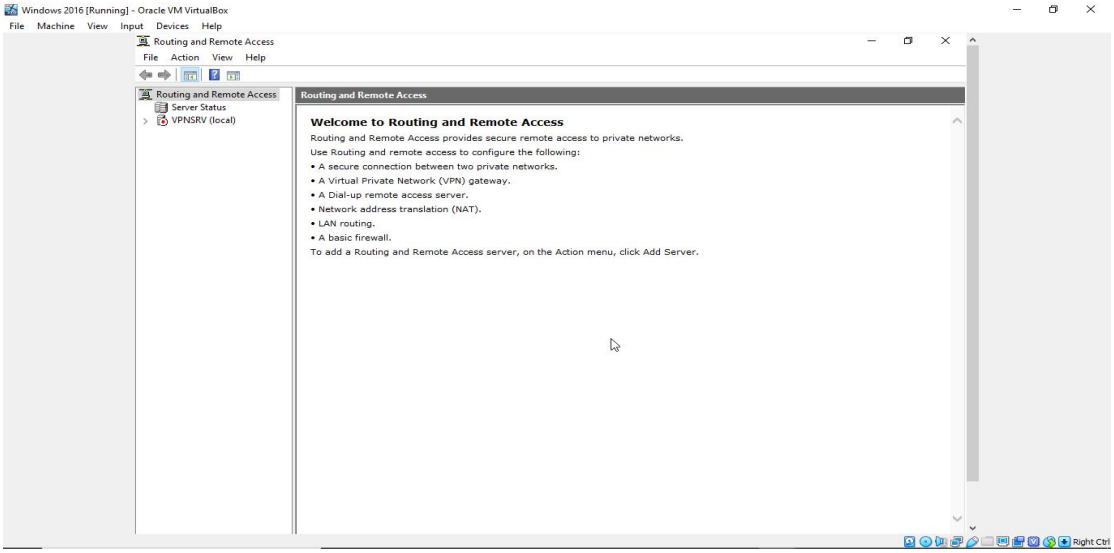
6. Click Next
7. Click Next on the Features page.
8. Click Next on the introduction page also.
9. On the next page select DirectAccess or VPN



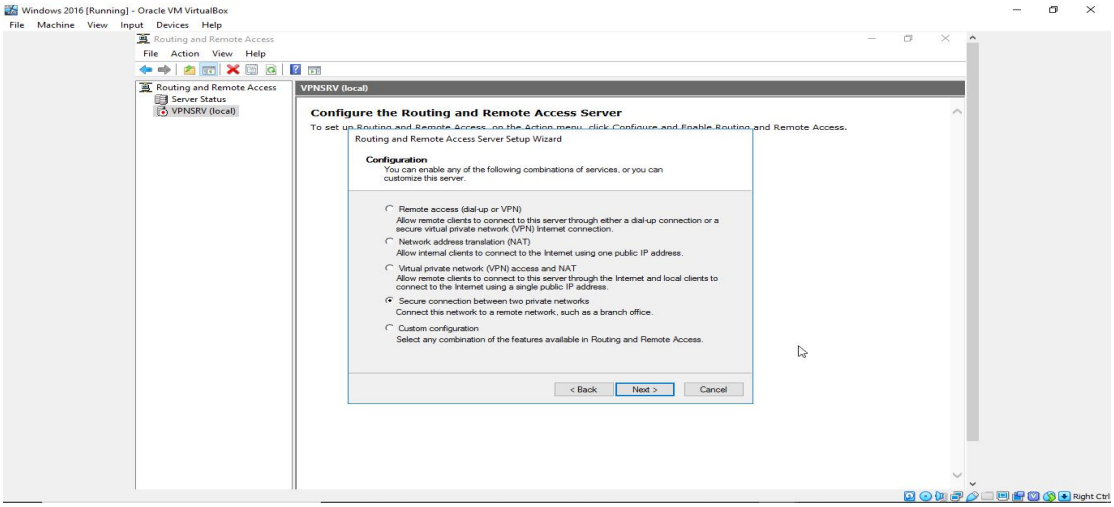
10. Click Add Features on the new page that opens.
11. Click Next
12. Click Next on the introduction page.
13. Click next on the Web server Role services page.
14. Finally Click Install.
15. Once Installation is complete, click close.
16. To configure the service click the yellow flag shown in the Server manager.
17. Click Open getting started wizard option.
18. In the window that opens select **Deploy VPN only**.



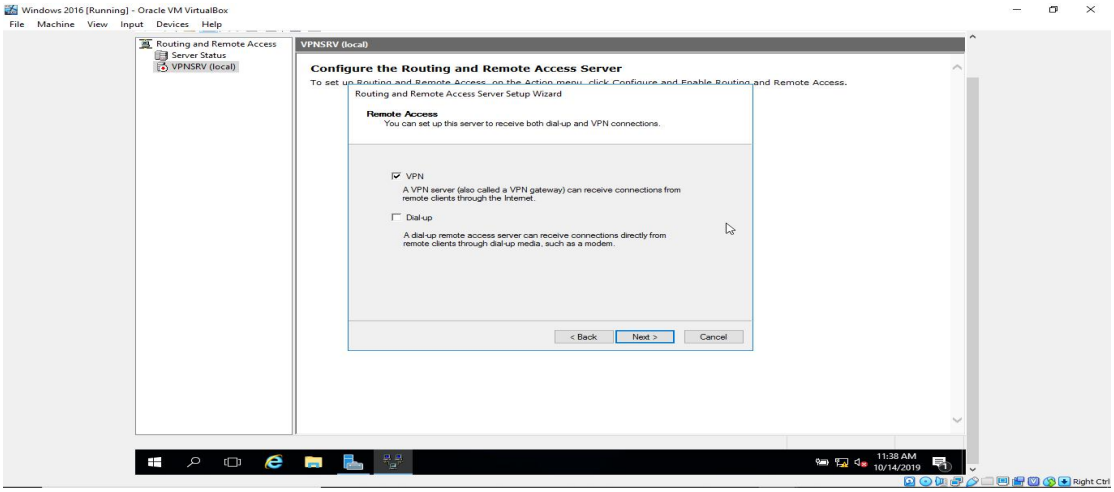
19. It will open the Remote and Routing access console. If it does not open check on the task bar it is sometimes minimized.



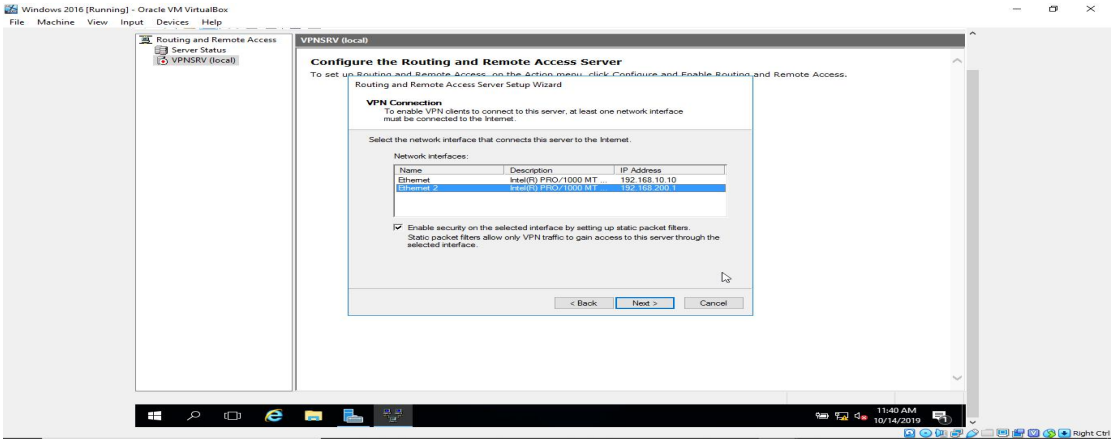
20. By default it shows the red mark on the server.
21. Right click the server name and click **configure and enable routing and remote access**.
22. Click Next on the new window that opens.
23. On the next window keep Remote access (Dial-UP or VPN) option and click Next.



24. Click VPN check box to select. Click Next.

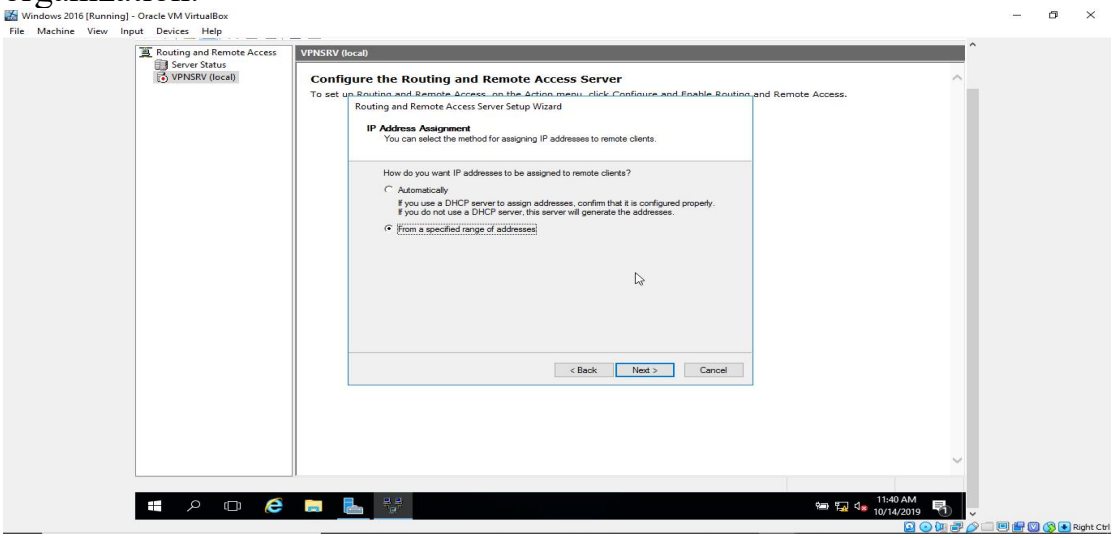


25. On the next window select the Ethernet adapter that connects this server to Internet. In this case the adapter with IP address 192.168.200.1 will be selected. Click Next.



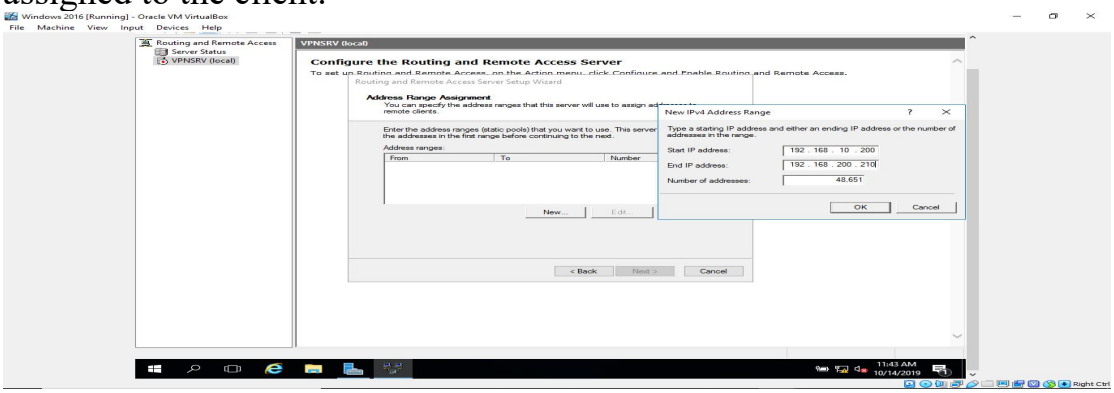
26. Click Next

27. On the next window select from a specified range of addresses. These are the IP addresses which will be assigned to the client who connect using VPN connection. These IP addresses will be from 192.168.10.0 network which is the internal LAN network address of the organization.

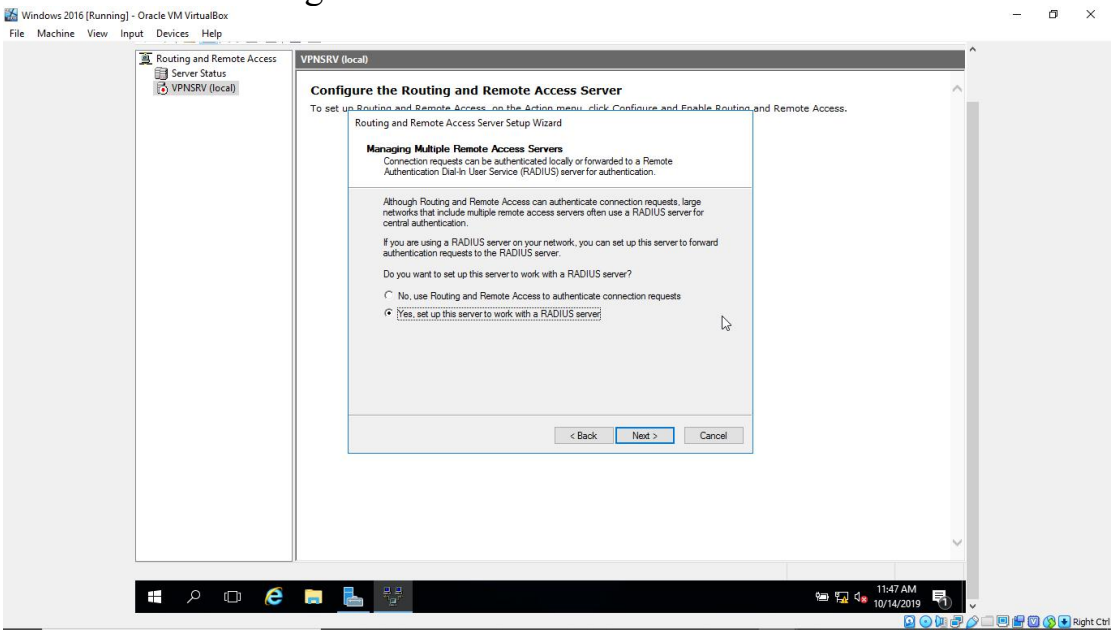


28. Click Next.

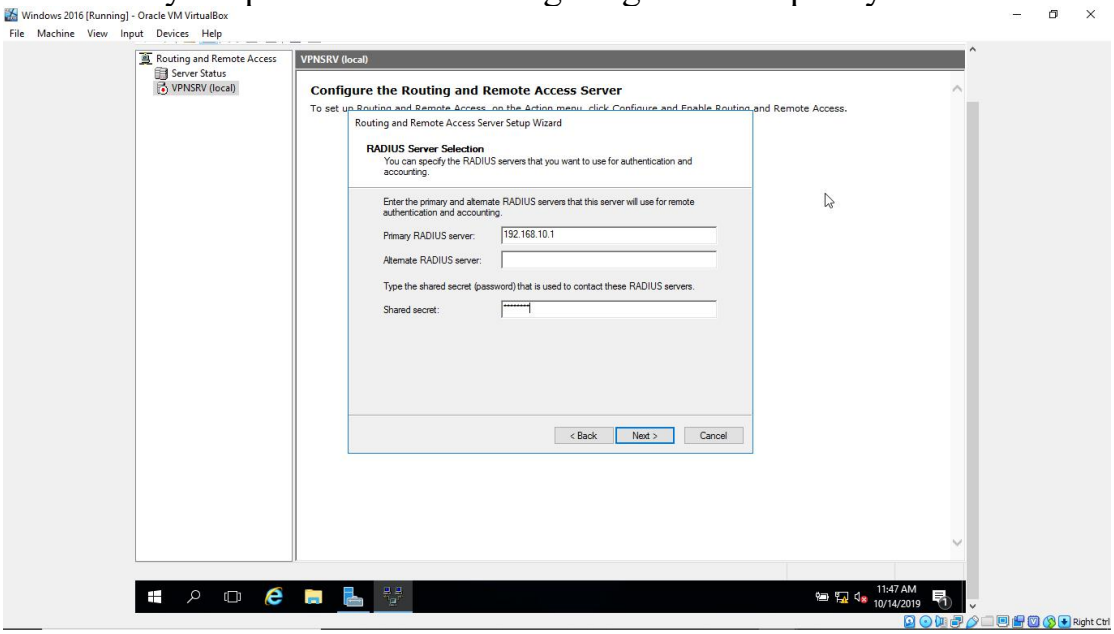
29. On the next Window click new and add IP address range to be assigned to the client.



30. Click Ok. Click Next.
31. On the Next Window select Yes setup the server to work with a RADIUS server. This RADIUS server is nothing but the Network Policy Server that we configured on the domain controller.



32. On the next screen provide IP address of the domain controller (Network Policy Server) in the primary field. Also enter the same shared secret that you specified while configuring Network policy server.

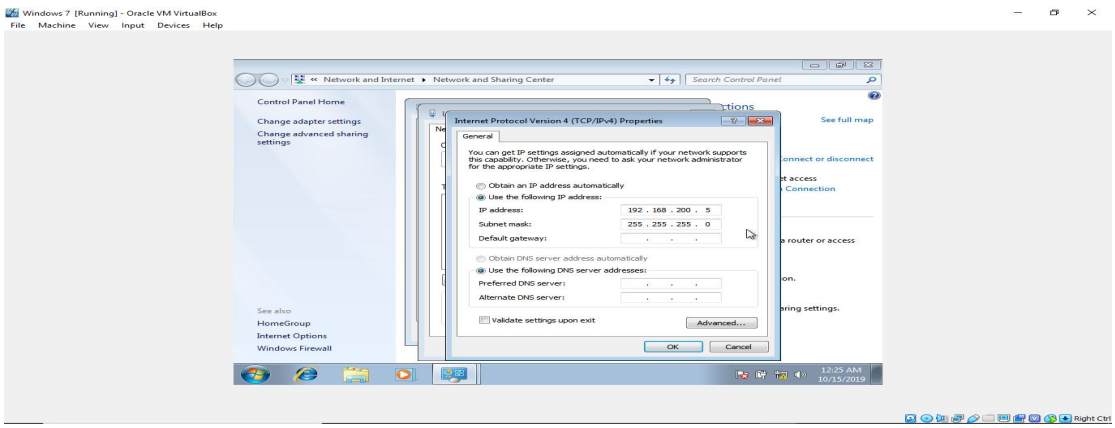


Click Next.
33. Click Finish
34. Click Ok for the DHCP message.
35. Once the service starts make sure a green mark is shown on the server name. It means the VPN server has started successfully.

Thus the VPN server is up and running.

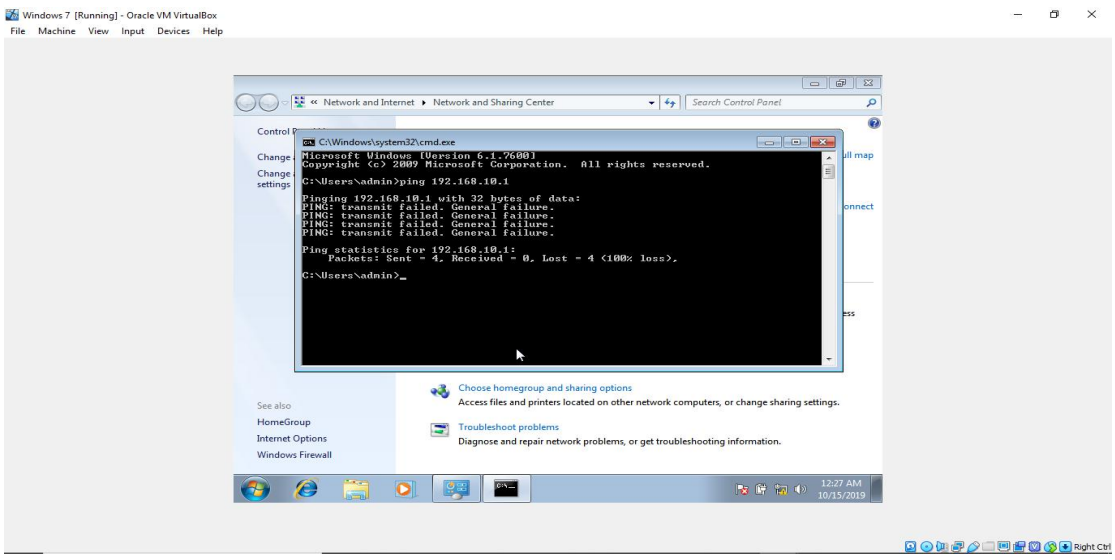
Test VPN connection from Windows Server.

1. logon to the Windows Server computer. Make sure it is assigned IP addressin the range 192.168.200.0 so that it will communicate with VPN server.
2. The IP address configuration of the machine is as below.



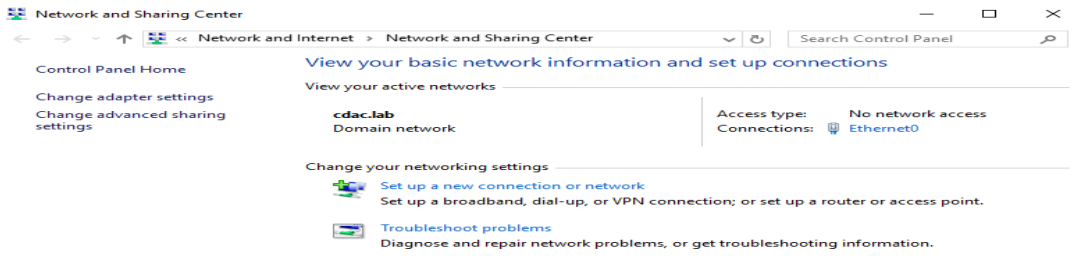
No gateway and DNS are specified.

3. Open a command prompt and try to ping to 192.168.10.1 which is a domain controller IP address.

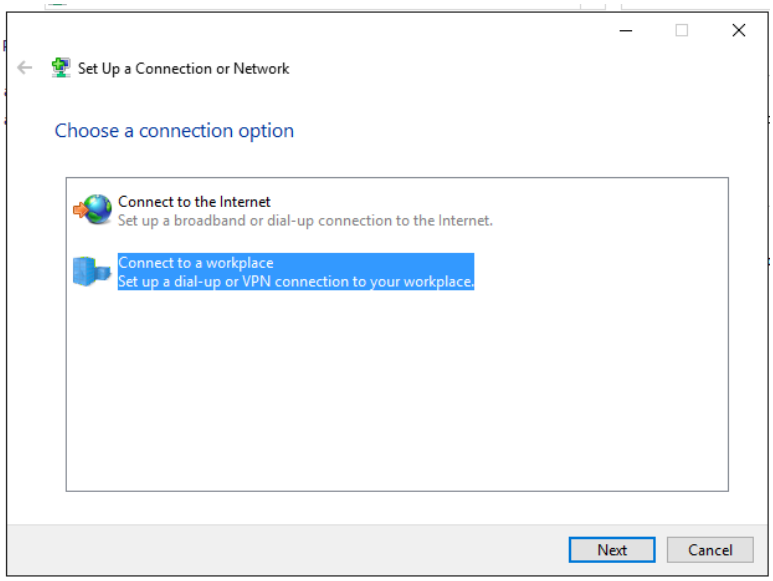


Currently it is giving transmit failed error message.

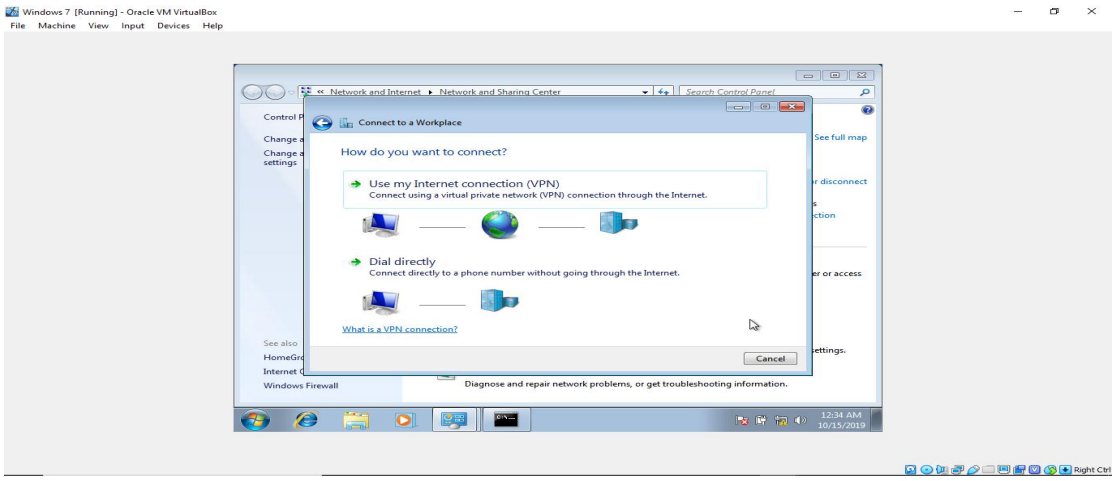
4. Now open Network and Sharing center. Select **Setup a new Connection or Network** option.



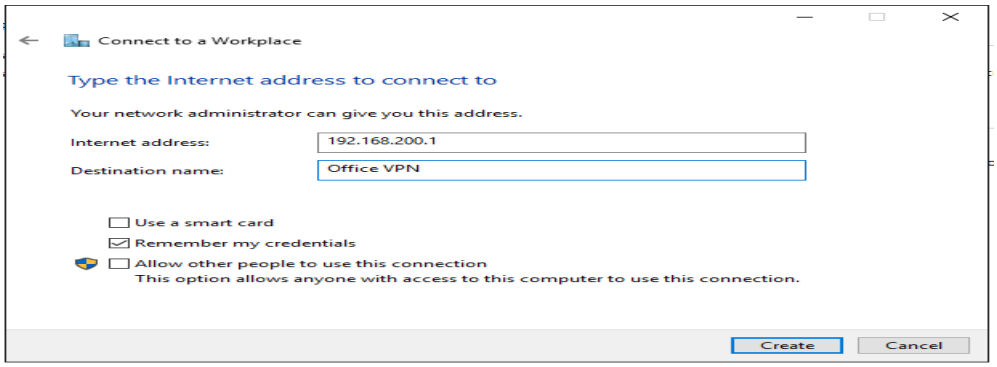
5. On the next Screen select **connect to a workplace**.



6. On the next window select option **Use My internet connection(VPN)** option.

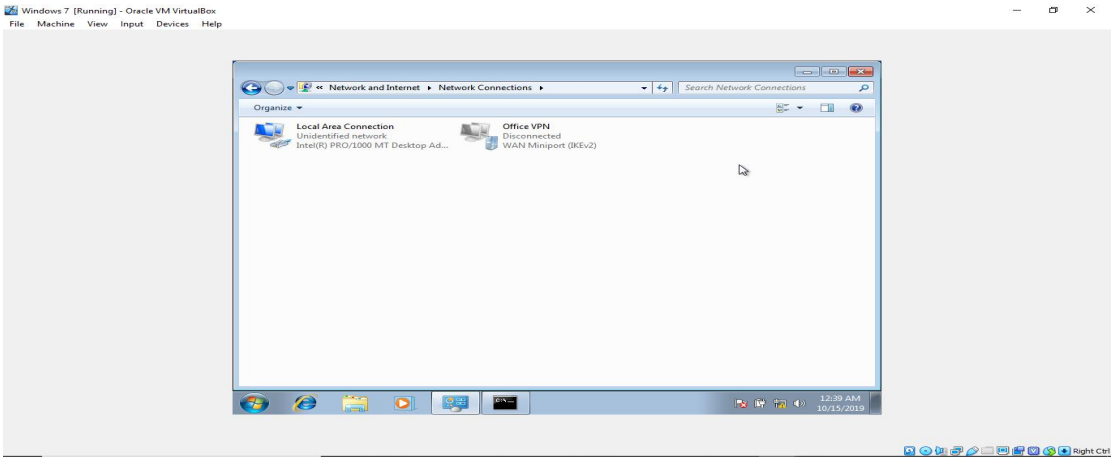


7. On the next screen select I will setup the internet later.
8. On the next screen provide the IP address of the VPN server. This will be the public IP address of the VPN server. Also provide a name for this connection.

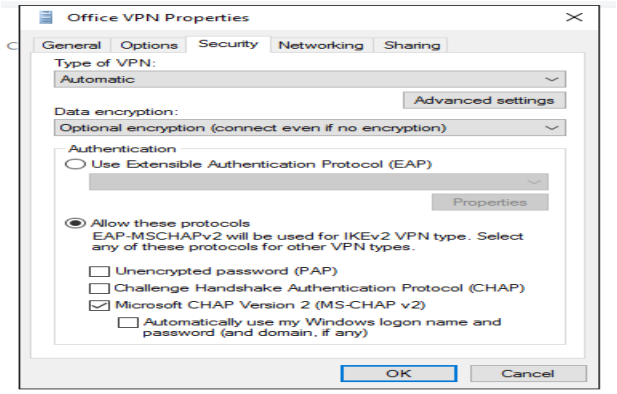


Click Create.

9. Now in Network and Sharing center go to change adapter settings. There you will find the new VPN dial up connection created.



Now right click on the office VPN dial up connection. Go to the security tab as shown below. Select the Allow these protocols radio button. Click OK.

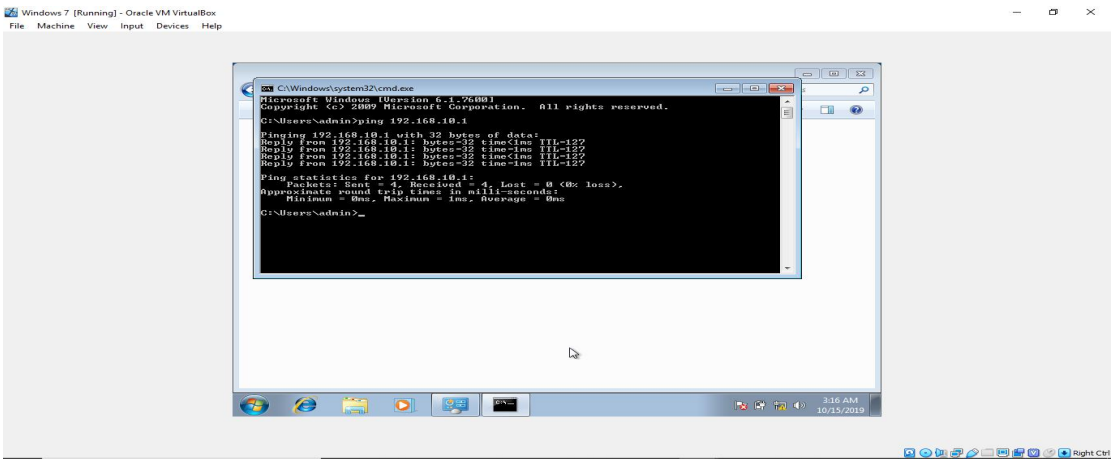


10. Double click on the VPN connection to connect.

11. In the window that opens type username and password. The username will be vpnuser and the password that you assigned to this user when you created this user on Domain controller.

12. Click Connect. The VPN should show the status as connected.

13. Now go to command prompt and try ping to domain controller IP .This time it should be successful.



Also check by accessing the file shares on the DC server. For this open RUN and type \\192.168.10.1.

Now disconnect the VPN connection. Try to ping to DC or try to access the file shares. It will not work.