

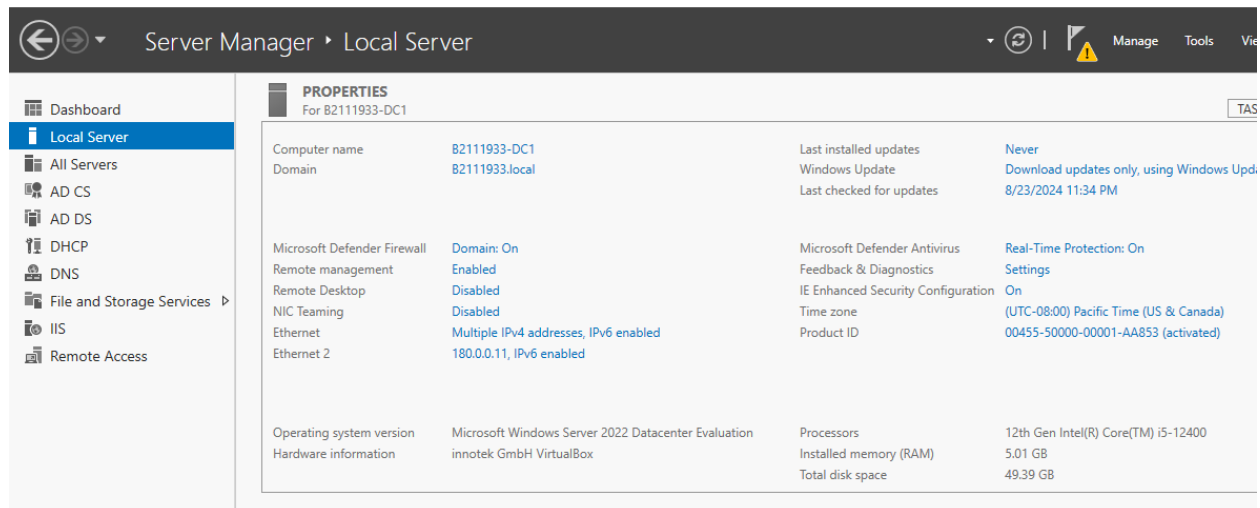
Name: Truong Dang Truc Lam

ID: B2111933

Class: CT209H-M04

LAB 7: VPN AND DIRECTACCESS

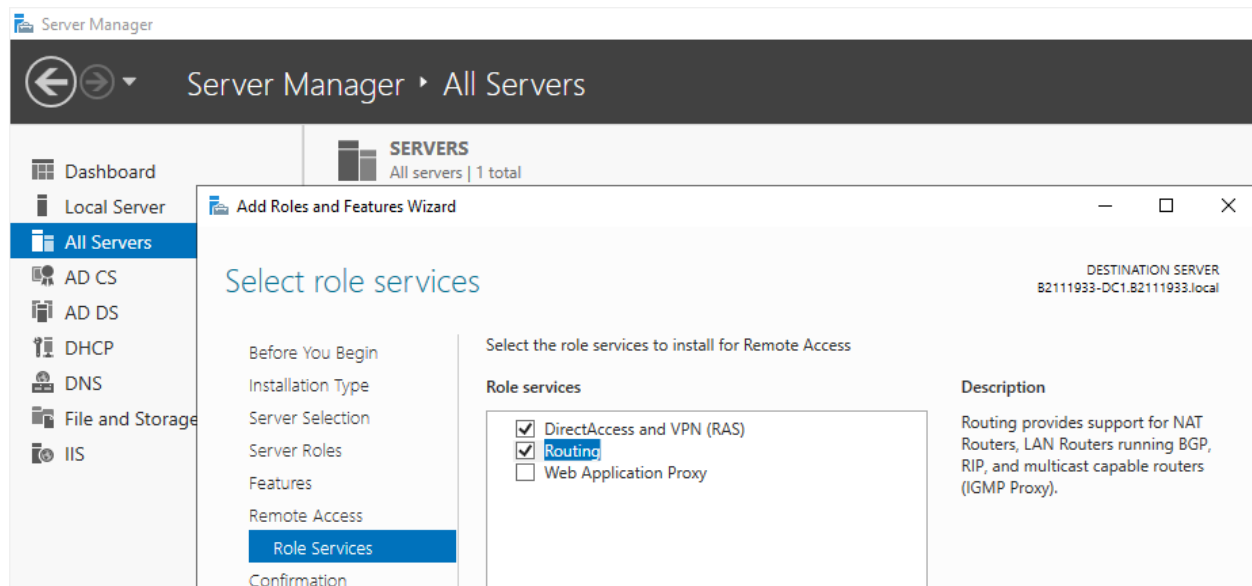
EXERCISE 1: BUILD THE NETWORK USING VMWARE WORKSTATION



I will use DC1 as the RA server because my PC can only run 2 VMs at a time

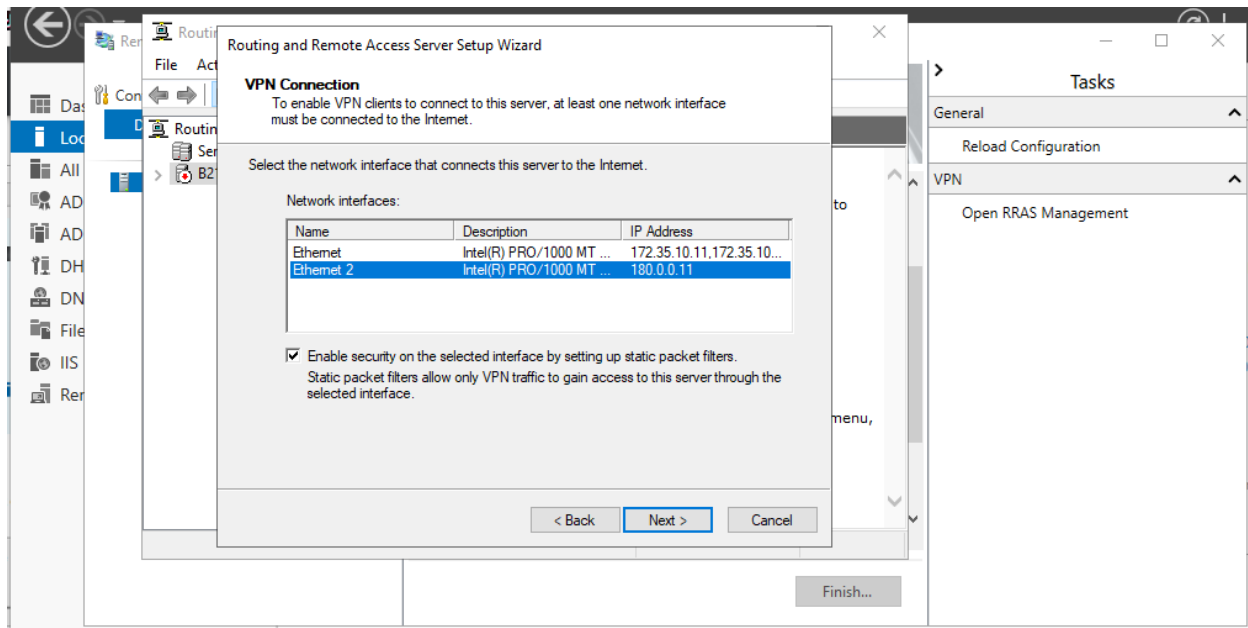
EXERCISE 2: INSTALL AND CONFIGURE VPN SERVER

Step 1: Installing Remote Access role

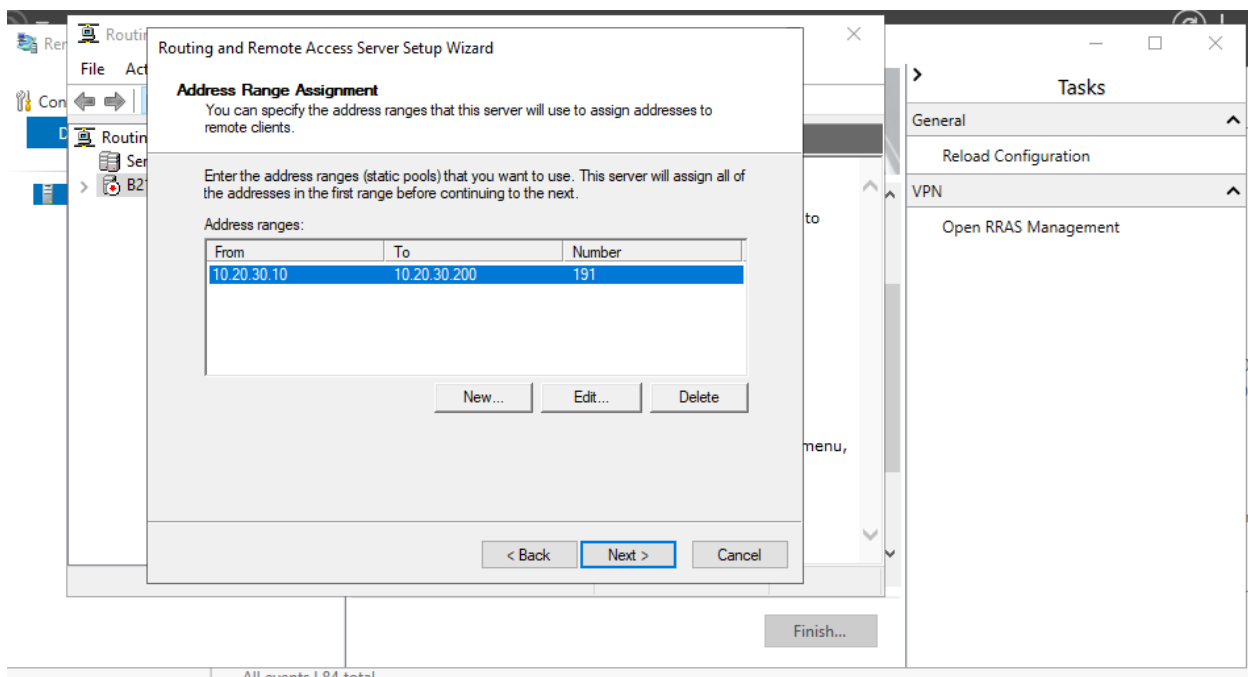


Install VPN with Routing

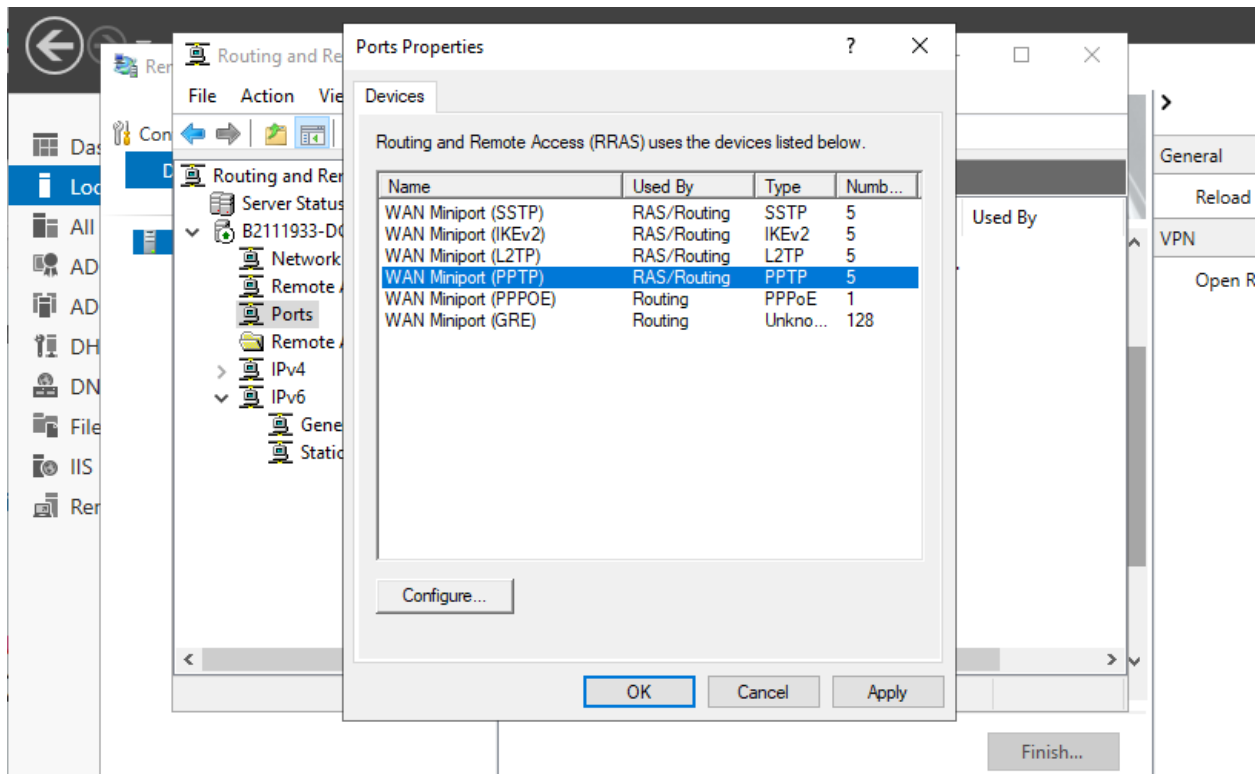
Step 2: Configure and Enable Routing and Remote Access on Server 2016



Select Ethernet 2 for VPN

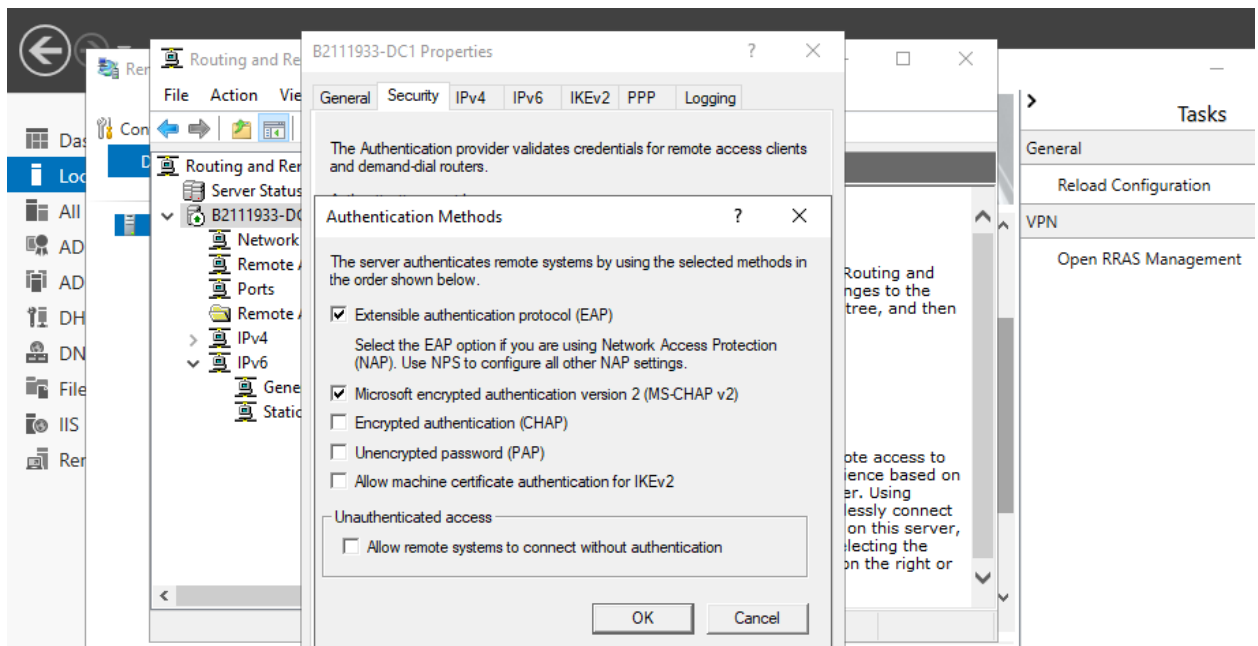


VPN IP range

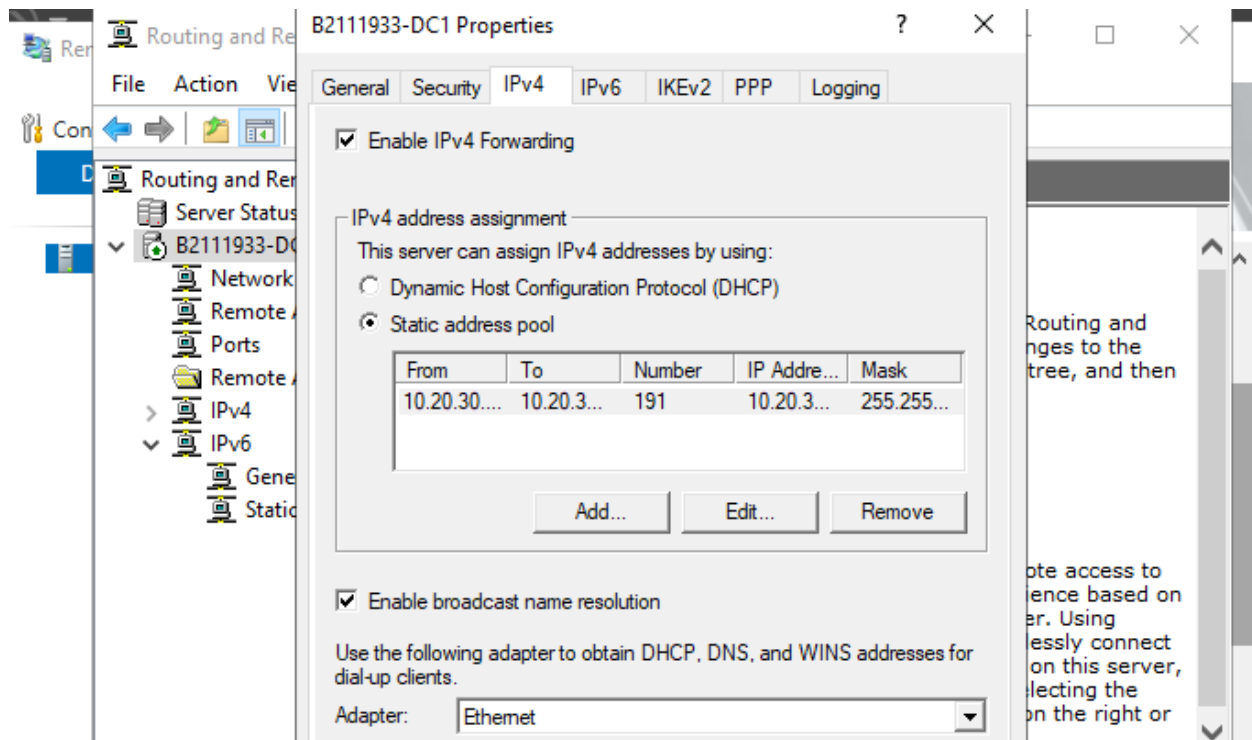


Verify that 128 ports exist for SSTP, IKEv2, PPTP, and L2TP

Step 3: Configure VPN Server Settings (Security, IP Range, etc.)

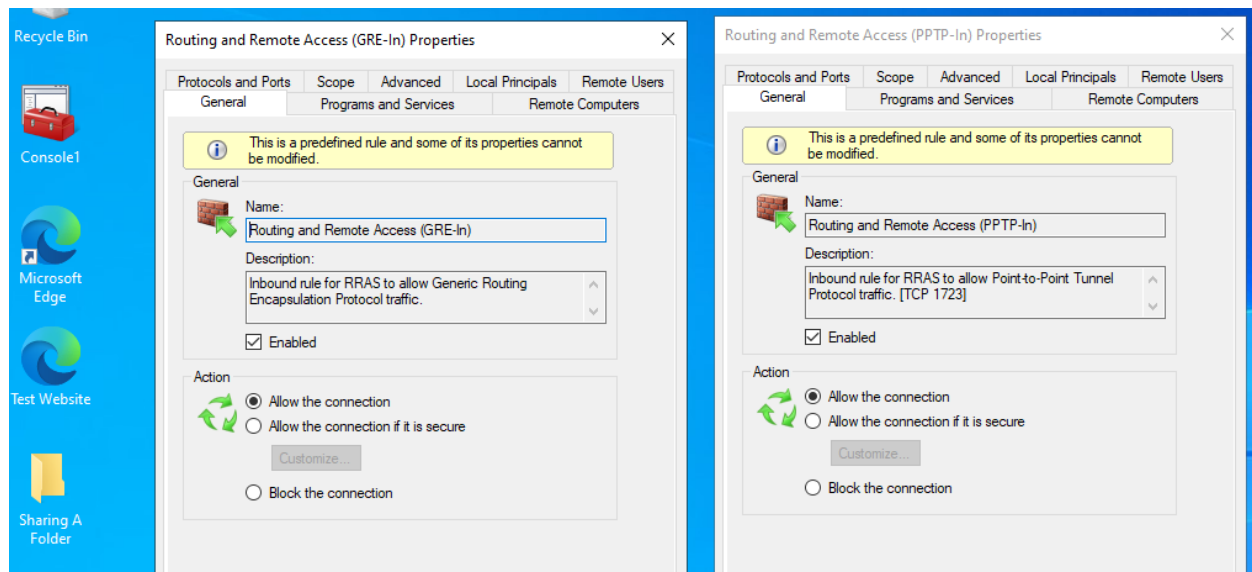


Select MS-CHAP v2 in Authentication Methods



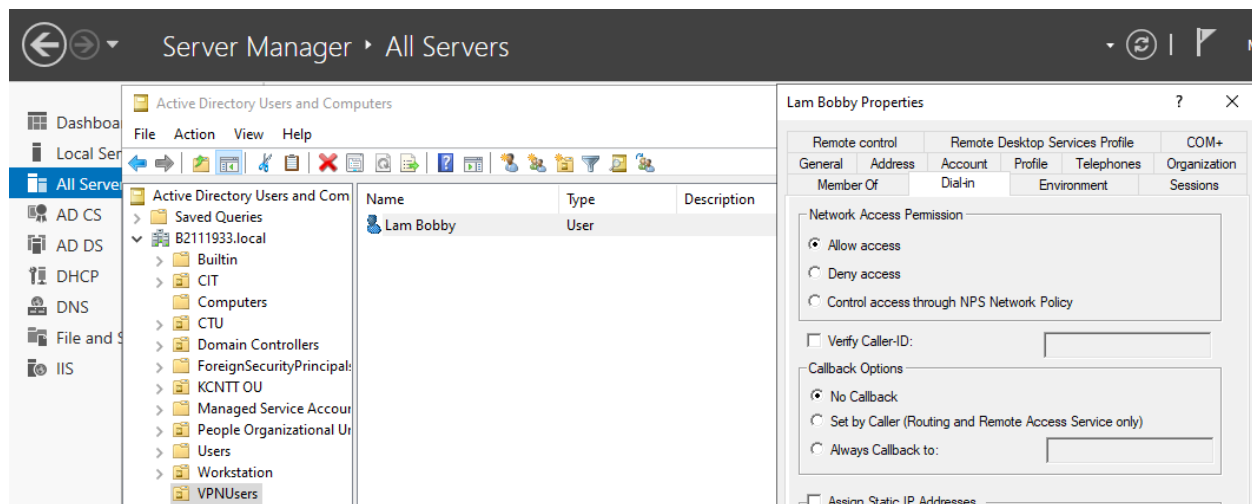
VPN Ipv4 range

Step 4: Allow Routing and Remote Access Inbound Traffic in Windows Firewall



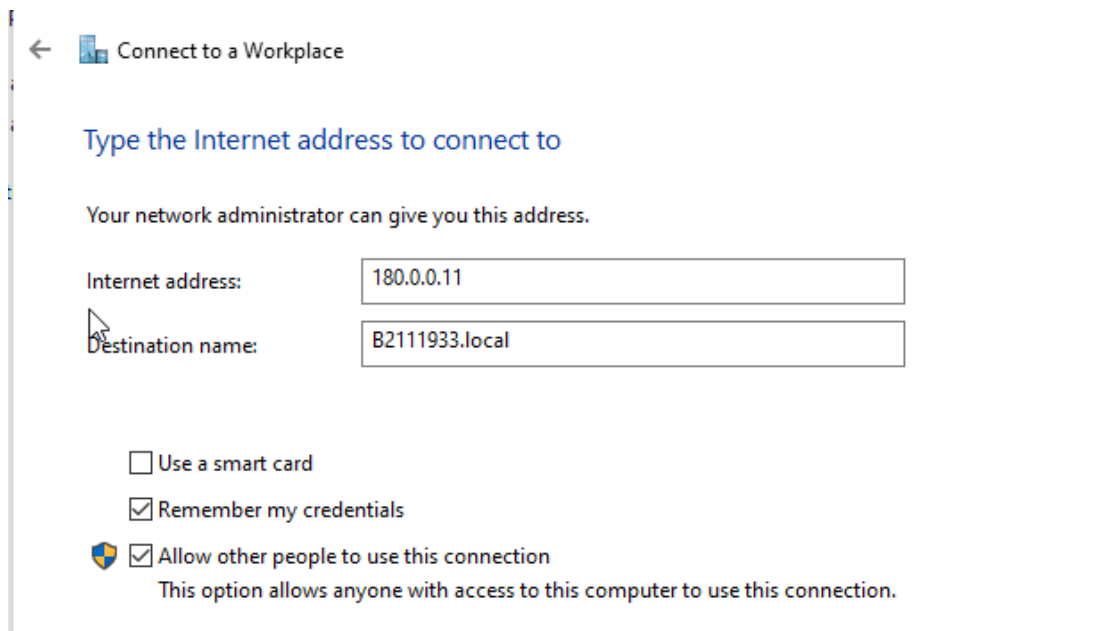
Config Inbound Traffic for Firewall to allow PPTP and GRE

Step 5: Select which users will have VPN Access

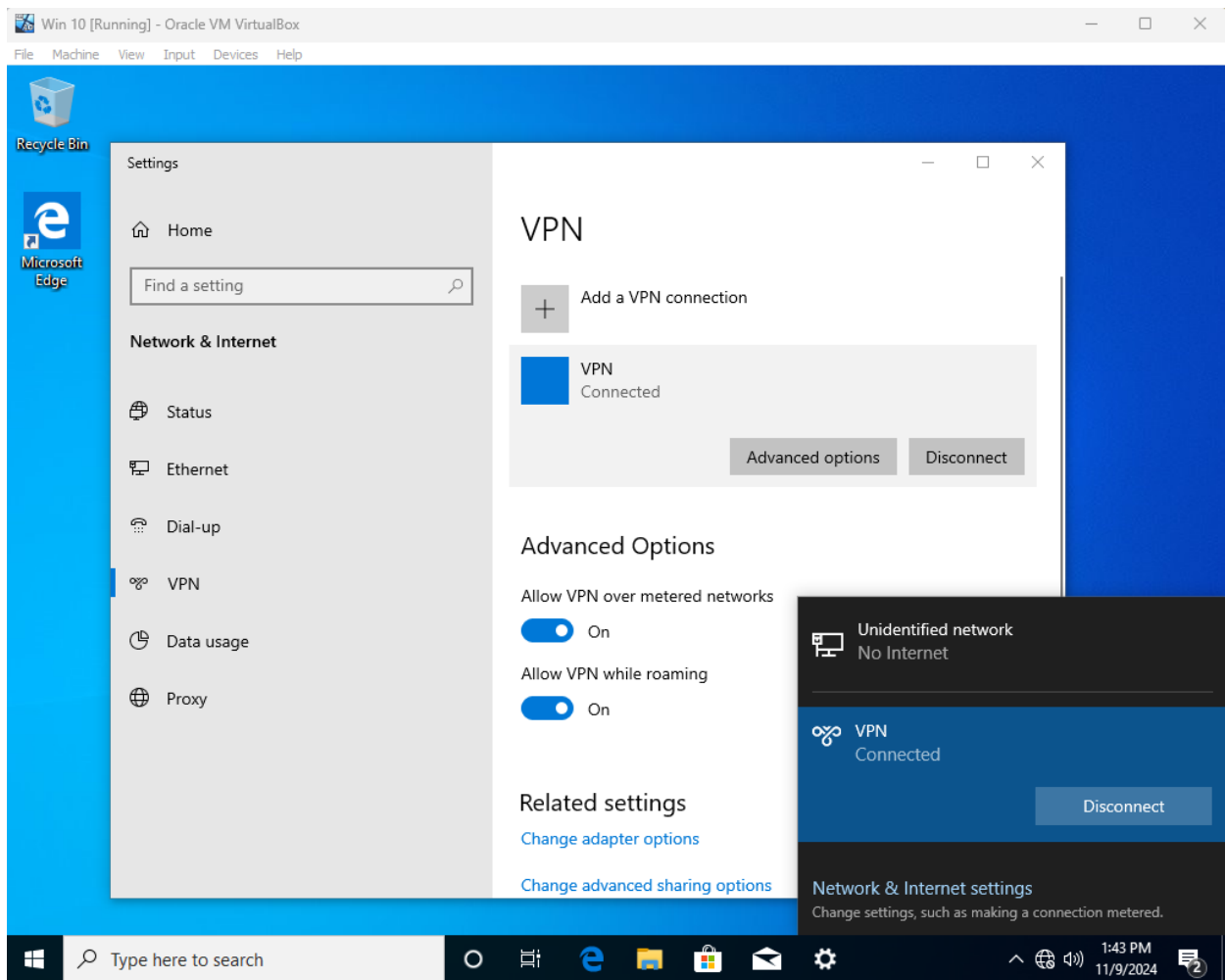


Creating OU & Users for VPN

EXERCISE 3: SETUP VPN CONNECTION FOR CLIENT



Setup VPN connection for client



Connected to VPN

```
Ethernet adapter Ethernet:

Connection-specific DNS Suffix  . : 
Link-local IPv6 Address . . . . . : fe80::ac86:e6e0:8558:ce6e%11
IPv4 Address. . . . . : 180.0.0.31
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 180.0.0.1

PPP adapter VPN:

Connection-specific DNS Suffix  . : 
IPv4 Address. . . . . : 10.20.30.11
Subnet Mask . . . . . : 255.255.255.255
Default Gateway . . . . . : 0.0.0.0

C:\Users\LS>
```

Check IP address of VPN

```
C:\> Command Prompt

C:\Users\LS>tracert 172.35.10.11

Tracing route to 172.35.10.11 over a maximum of 30 hops

  1    <1 ms    <1 ms    <1 ms    10.20.30.10
  2     1 ms    <1 ms    <1 ms    172.35.10.11

Trace complete.

C:\Users\LS>
```

Test connectivity

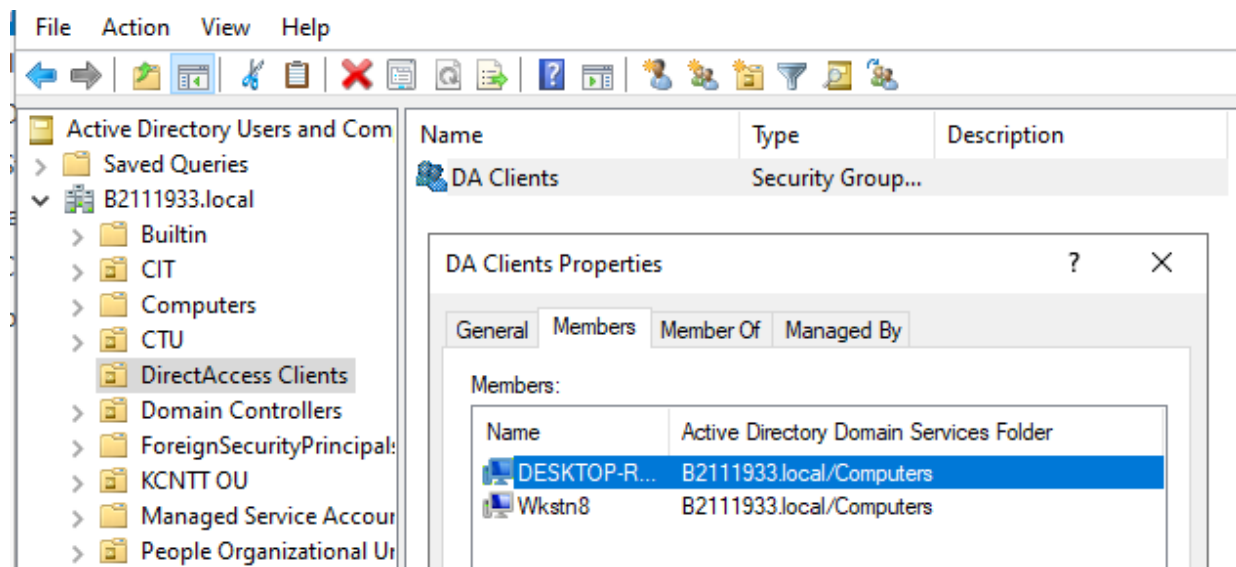
It takes 2 hops to reach the destination 172.35.10.11 (the external card of the server).

The first hop is to 10.20.30.10 (the VPN gateway).

The VPN gateway will act as a bridge between the two networks.

EXERCISE 4: INSTALL AND CONFIGURE DIRECTACCESS

A. Creating DirectAccess OU & Group in Active Directory

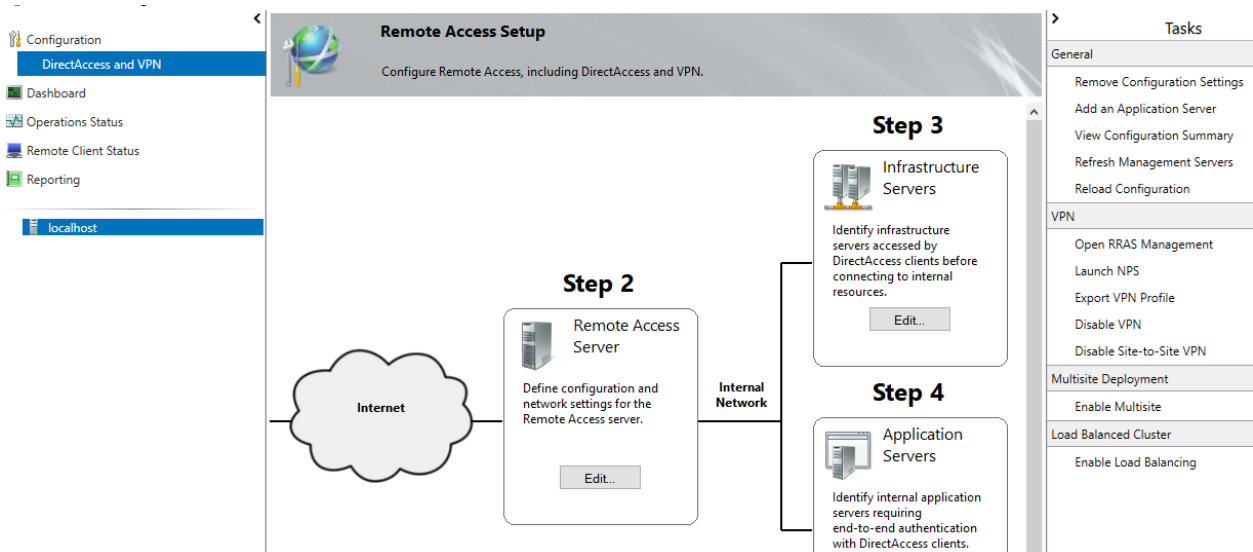


Allow those computers to use DirectAccess services

B. Installing the Remote Access server role

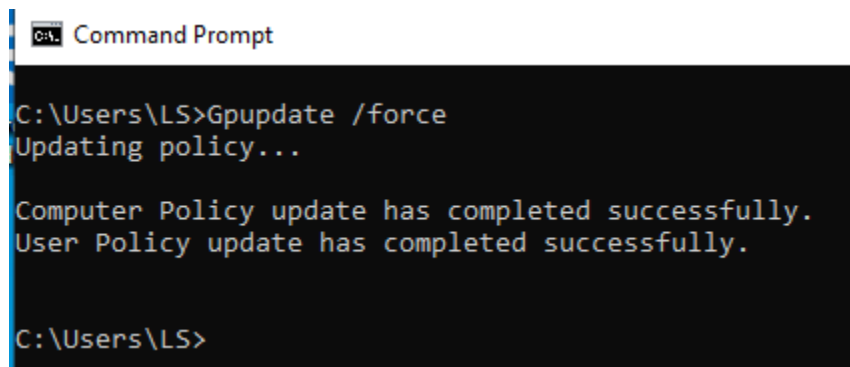
(Already done in Exercise 2)

C. Configure DirectAccess



Configure DirectAccess

D. Test Direct Access on the Windows Client



```
Command Prompt

C:\Users\LS>gpupdate /force
Updating policy...

Computer Policy update has completed successfully.
User Policy update has completed successfully.

C:\Users\LS>
```

Update Group Policy on Client

```
C:\Windows\system32>gpresult /R

Microsoft (R) Windows (R) Operating System Group Policy Result tool v2.0
© 2019 Microsoft Corporation. All rights reserved.

Created on 11/10/2024 at 12:48:39 AM

RSOP data for DESKTOP-RMR3FNG\LS on DESKTOP-RMR3FNG : Logging Mode
-----

OS Configuration:      Member Workstation
OS Version:            10.0.18362
Site Name:             Default-First-Site-Name
Roaming Profile:       N/A
Local Profile:         C:\Users\LS
Connected over a slow link?: No

COMPUTER SETTINGS
-----

Last time Group Policy was applied: 11/10/2024 at 12:48:14 AM
Group Policy was applied from:      B2111933-DC1.B2111933.local
Group Policy slow link threshold:   500 kbps
Domain Name:                       B2111933
Domain Type:                       Windows 2008 or later

Applied Group Policy Objects
-----
  DirectAccess Client Settings
  Default Domain Policy
  Audit Policies
```

Verify that DirectAccessClient GPO applied to the client

```
C:\Windows\system32>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::ac86:e6e0:8558:ce6e%11
    IPv4 Address. . . . . : 180.0.0.31
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 180.0.0.1

Tunnel adapter Microsoft IP-HTTPS Platform Interface:

    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 2002:b400:b:1000:9de7:b355:9044:7e66
    Temporary IPv6 Address. . . . . : 2002:b400:b:1000:cc9b:d497:7ee:7c48
    Link-local IPv6 Address . . . . . : fe80::9de7:b355:9044:7e66%5
    Default Gateway . . . . . : 

C:\Windows\system32>
```

Verify connectivity to the DirectAccess server.

The IPv6 address starts with **2002:** (IP-HTTPS address)