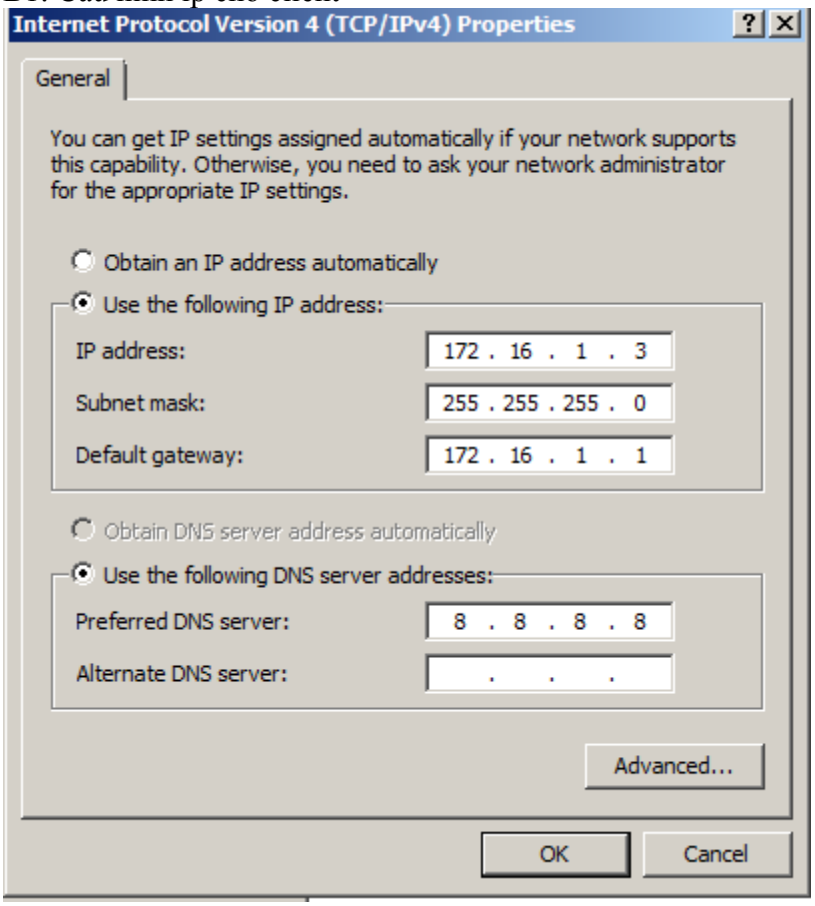
BÀI LAB GỒM 2 PHẦN:

PHẦN 1: NAT
PHẦN 2: VPN - CLIENT TO GATEWAY

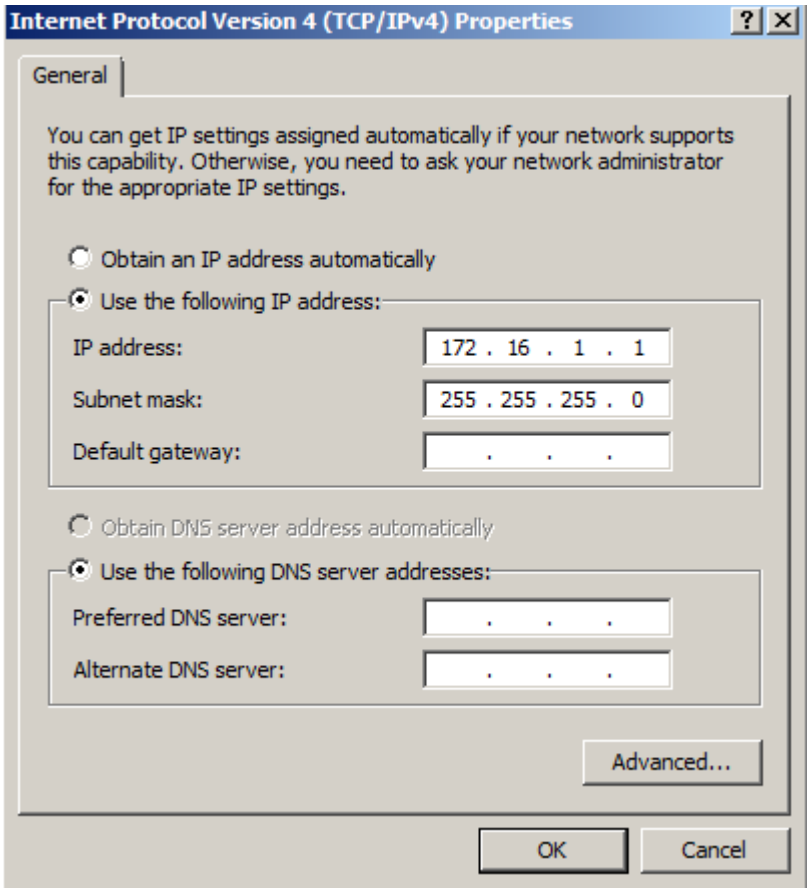
MÔ HÌNH NAT:

CÁC BƯỚC THỰC HIỆN:

B1: Cấu hình ip cho client

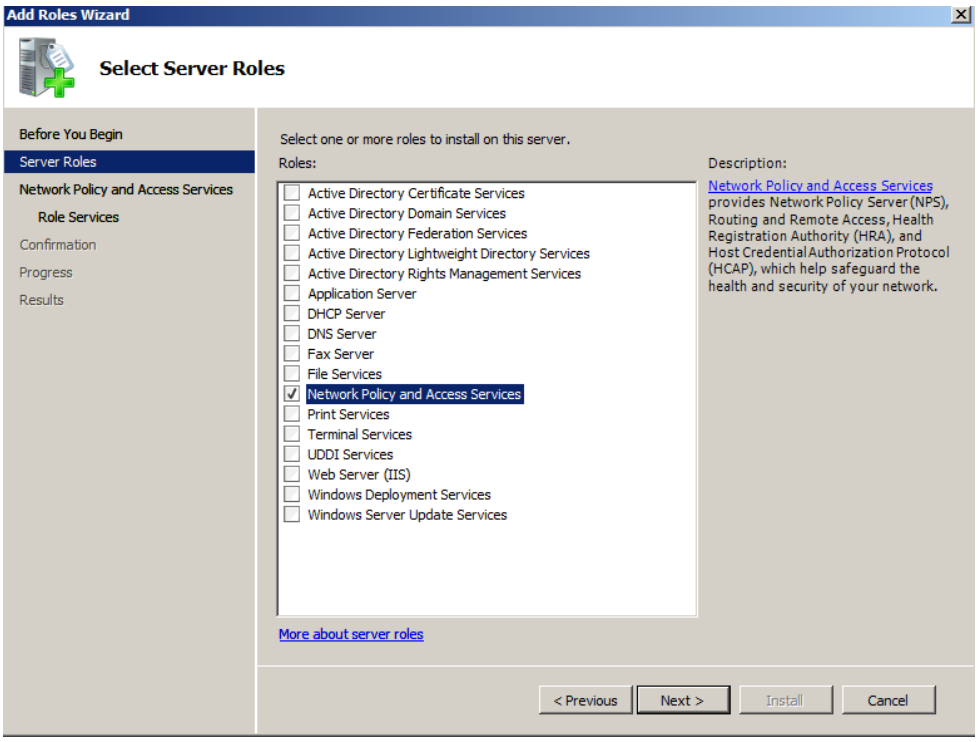


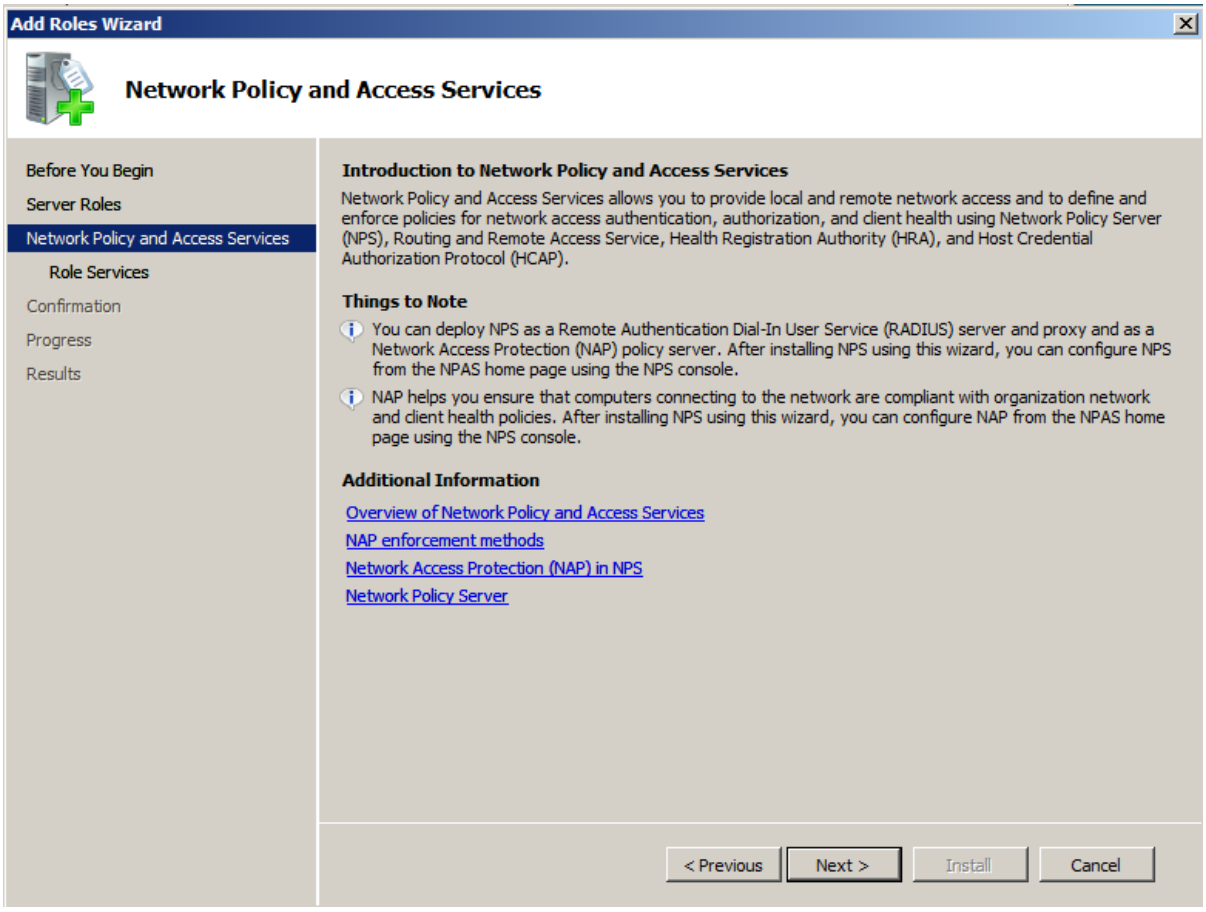
B2: Cấu hình ip cho Server nối với Client

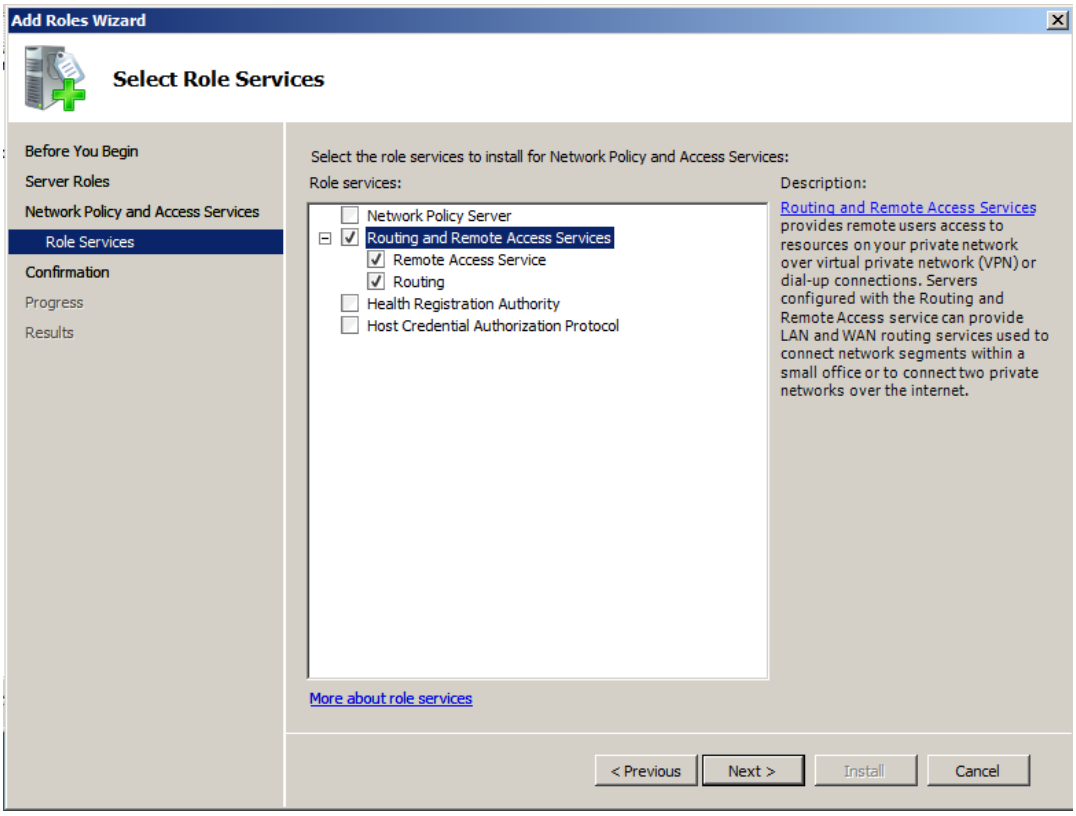


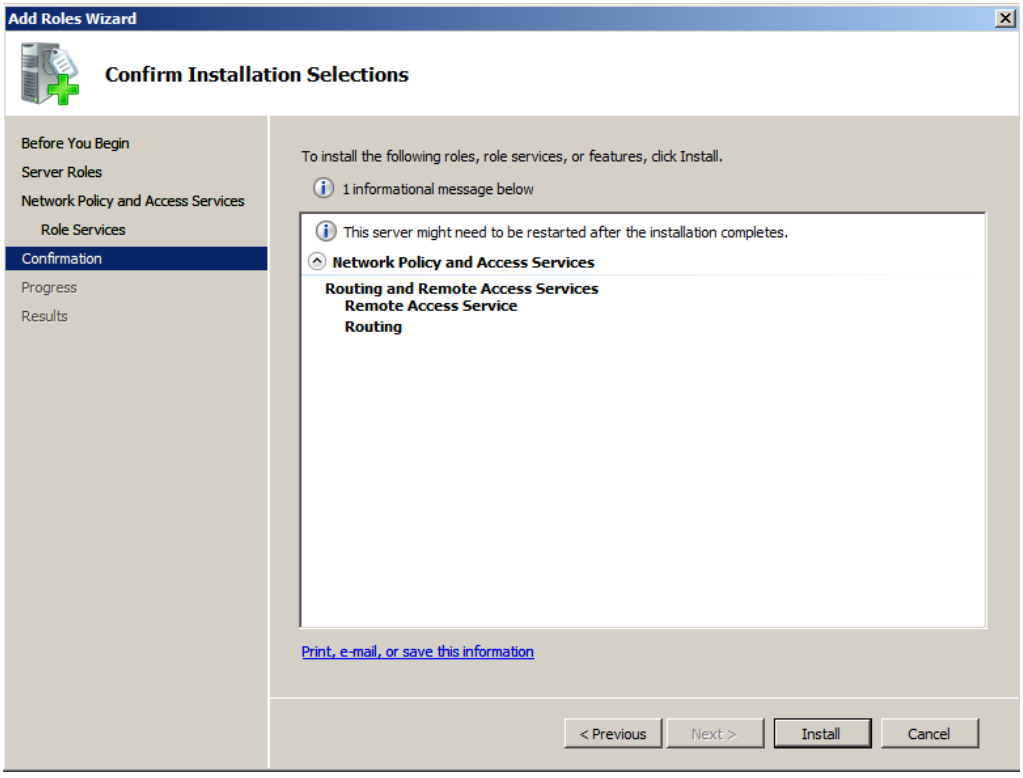
B3: Tắt firewall cho các máy, đảm bảo các máy ping được nhau

B4: Trên Server, cài đặt dịch vụ Routing and Remote Access


Add Roles Wizard
Select Server Roles
Before You Begin
Server Roles
Network Policy and Access Services
Role Services
Confirmation
Progress
Results
Select one or more roles to install on this server.
Roles:
Active Directory Certificate Services
Active Directory Domain Services
Active Directory Federation Services
Active Directory Lightweight Directory Services
Active Directory Rights Management Services
Application Server
DHCP Server
DNS Server
Fax Server
File Services
Network Policy and Access Services
Print Services
Terminal Services
UDDI Services
Web Server (IIS)
Windows Deployment Services
Windows Server Update Services
Description:
Network Policy and Access Services provides Network Policy Server (NPS), Routing and Remote Access, Health Registration Authority (HRA), and Host Credential Authorization Protocol (HCAP), which help safeguard the health and security of your network.
More about server roles
< Previous
Next >
Install
Cancel

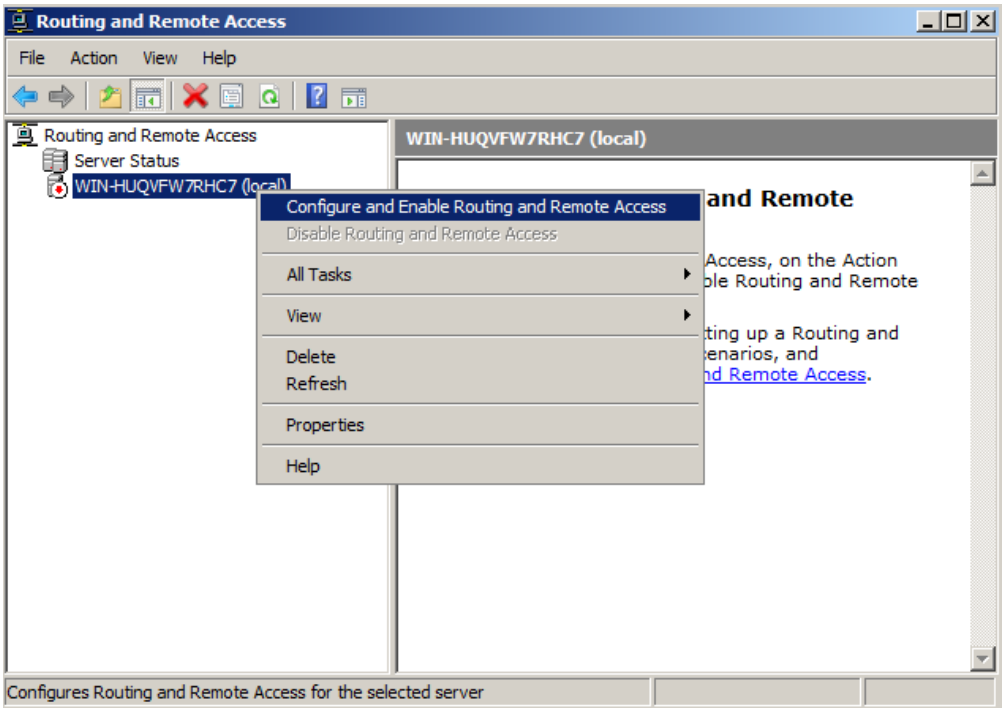

Add Roles Wizard
Network Policy and Access Services
Before You Begin
Server Roles
Network Policy and Access Services
Role Services
Confirmation
Progress
Results
Introduction to Network Policy and Access Services
Network Policy and Access Services allows you to provide local and remote network access and to define and enforce policies for network access authentication, authorization, and client health using Network Policy Server (NPS), Routing and Remote Access Service, Health Registration Authority (HRA), and Host Credential Authorization Protocol (HCAP).
Things to Note
You can deploy NPS as a Remote Authentication Dial-In User Service (RADIUS) server and proxy and as a Network Access Protection (NAP) policy server. After installing NPS using this wizard, you can configure NPS from the NPAS home page using the NPS console.
NAP helps you ensure that computers connecting to the network are compliant with organization network and client health policies. After installing NPS using this wizard, you can configure NAP from the NPAS home page using the NPS console.
Additional Information
Overview of Network Policy and Access Services
NAP enforcement methods
Network Access Protection (NAP) in NPS
Network Policy Server
< Previous
Next >
Install
Cancel

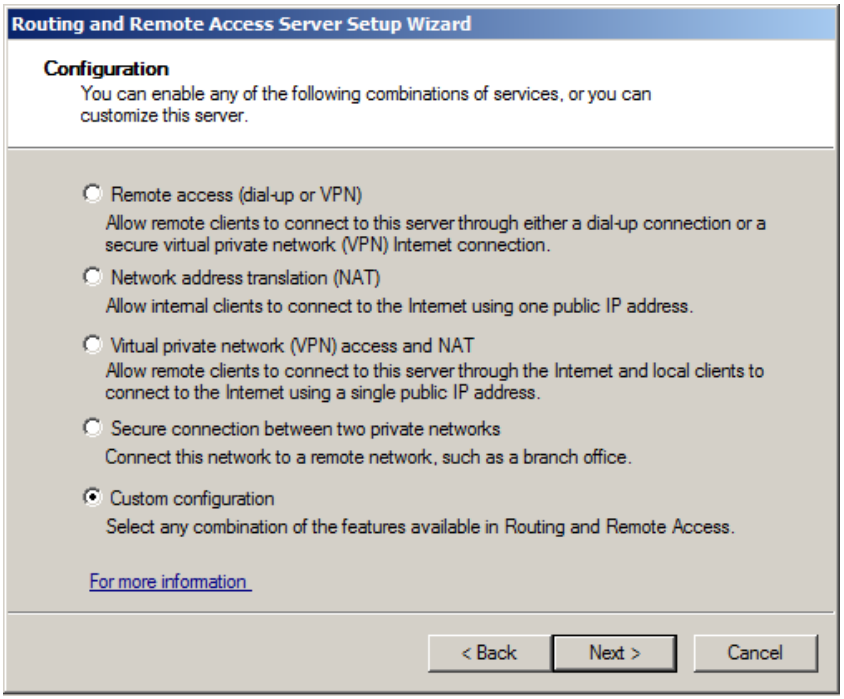

Add Roles Wizard
Select Role Services
Before You Begin
Server Roles
Network Policy and Access Services
Role Services
Confirmation
Progress
Results
Select the role services to install for Network Policy and Access Services:
Role services:
Network Policy Server
Routing and Remote Access Services
Remote Access Service
Routing
Health Registration Authority
Host Credential Authorization Protocol
Description:
Routing and Remote Access Services provides remote users access to resources on your private network over virtual private network (VPN) or dial-up connections. Servers configured with the Routing and Remote Access service can provide LAN and WAN routing services used to connect network segments within a small office or to connect two private networks over the internet.
More about role services
< Previous
Next >
Install
Cancel

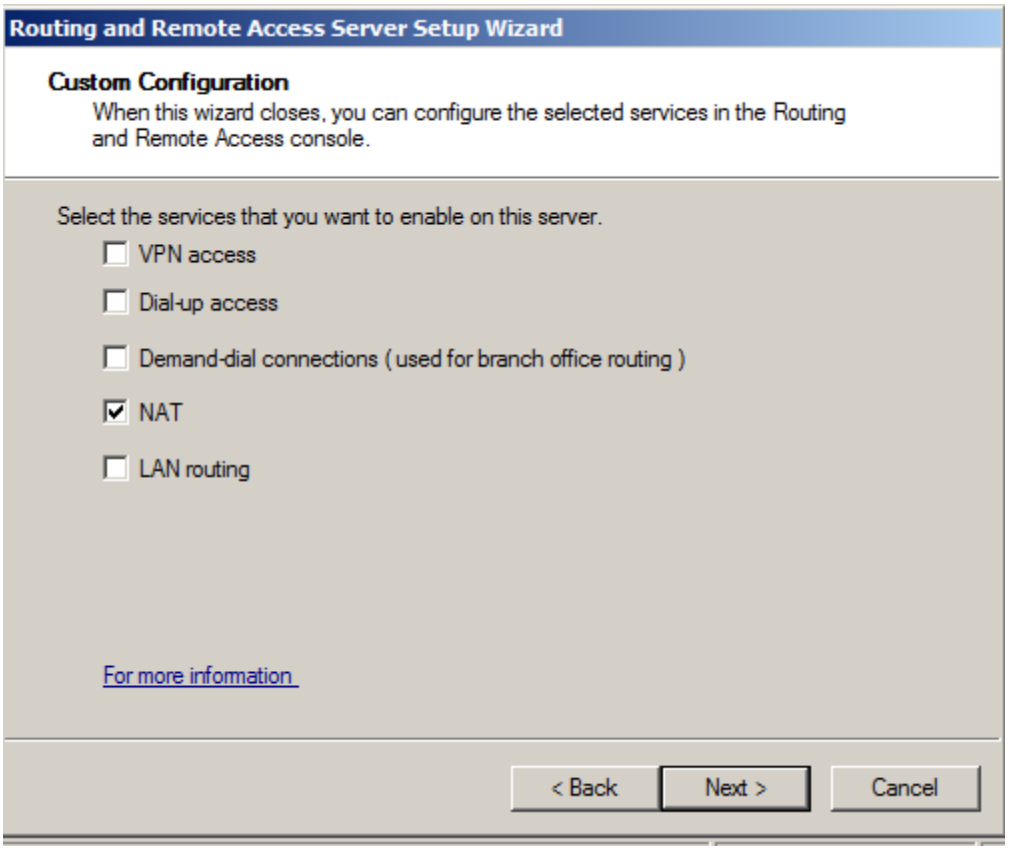

Add Roles Wizard
Confirm Installation Selections
Before You Begin
Server Roles
Network Policy and Access Services
Role Services
Confirmation
Progress
Results
To install the following roles, role services, or features, click Install.
1 informational message below
This server might need to be restarted after the installation completes.
Network Policy and Access Services
Routing and Remote Access Services
Remote Access Service
Routing
Print, e-mail, or save this information
< Previous
Next >
Install
Cancel

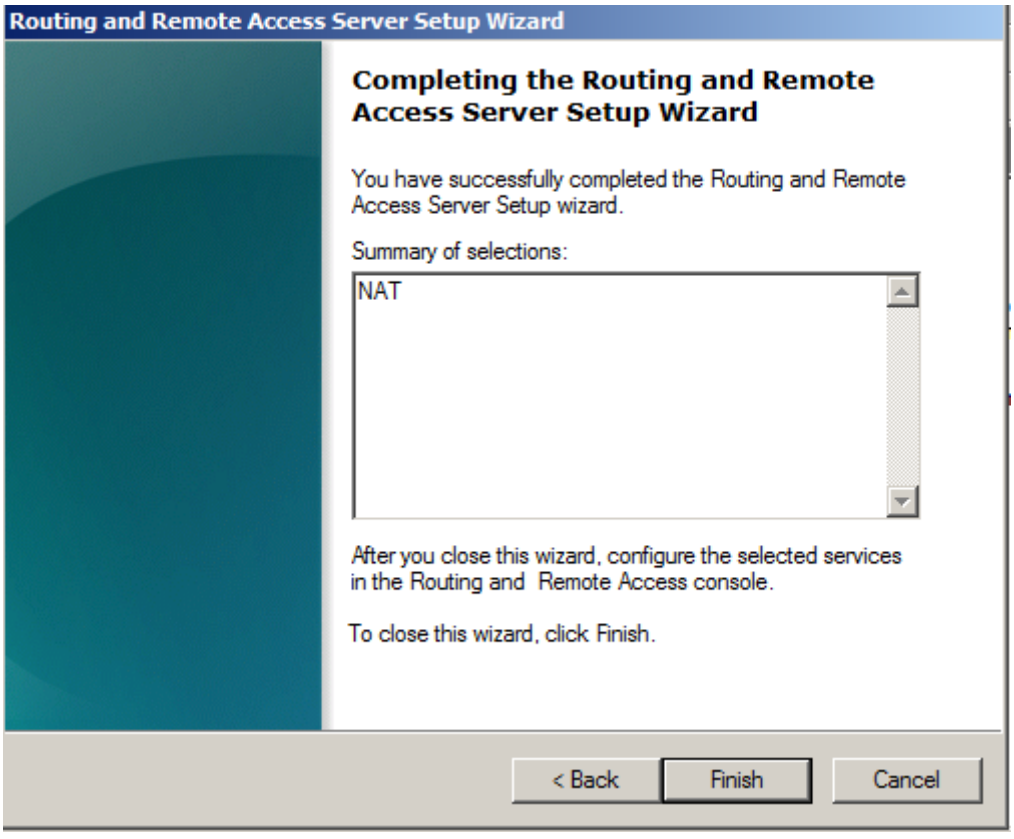
B5: Kiểm tra Server ra được internet, client không ra được net

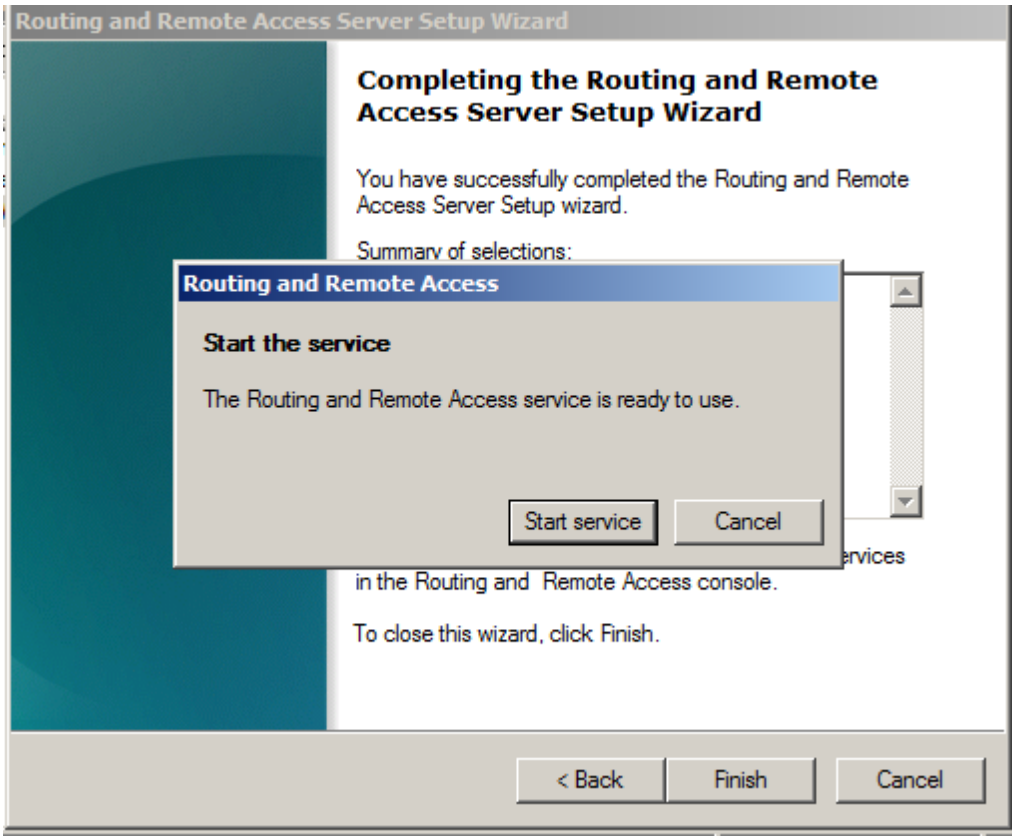
B6: Trên Server, trong routing anh remote access, cấu hình Nat cho client ra internet

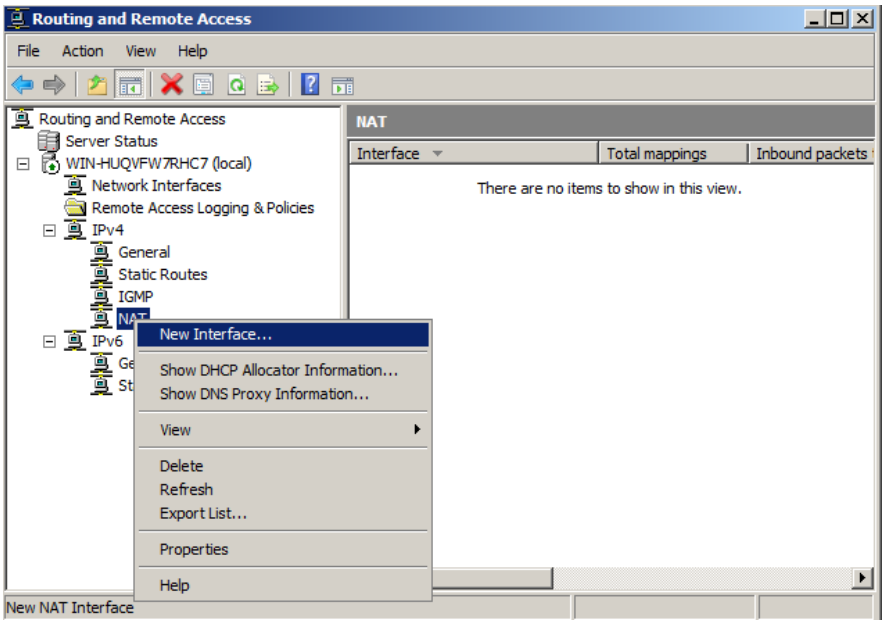


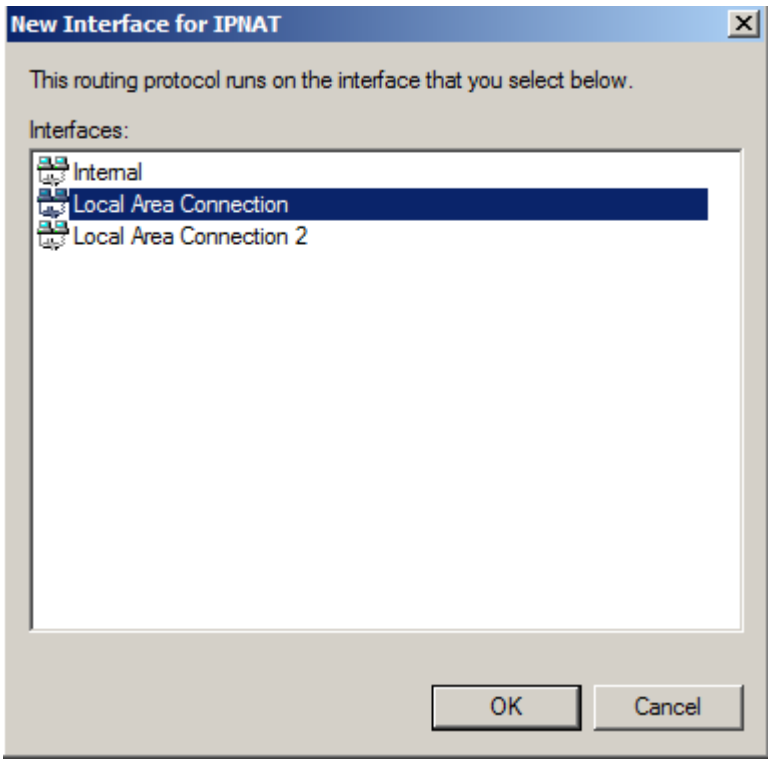


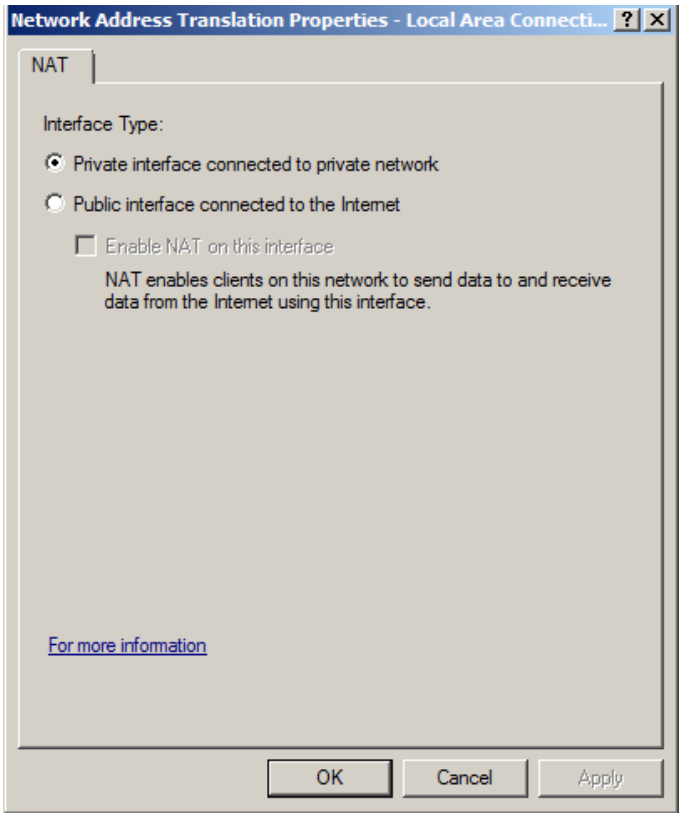

Routing and Remote Access Server Setup Wizard
Custom Configuration
When this wizard closes, you can configure the selected services in the Routing and Remote Access console.
Select the services that you want to enable on this server.
VPN access
Dial-up access
Demand-dial connections (used for branch office routing)
NAT
LAN routing
For more information
< Back
Next >
Cancel

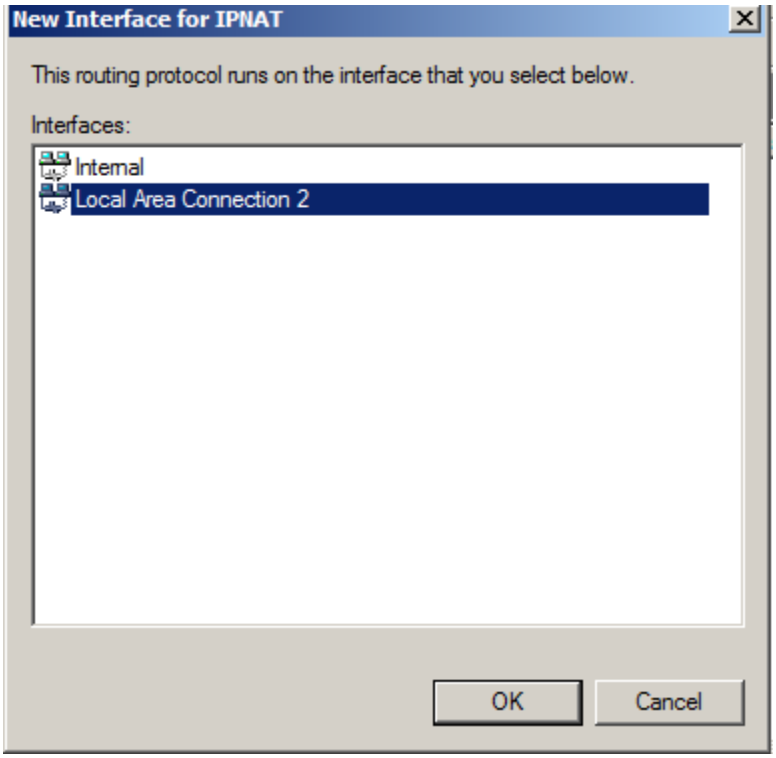

Routing and Remote Access Server Setup Wizard
Completing the Routing and Remote Access Server Setup Wizard
You have successfully completed the Routing and Remote Access Server Setup wizard.
Summary of selections:
NAT
After you close this wizard, configure the selected services in the Routing and Remote Access console.
To close this wizard, click Finish.
< Back
Finish
Cancel

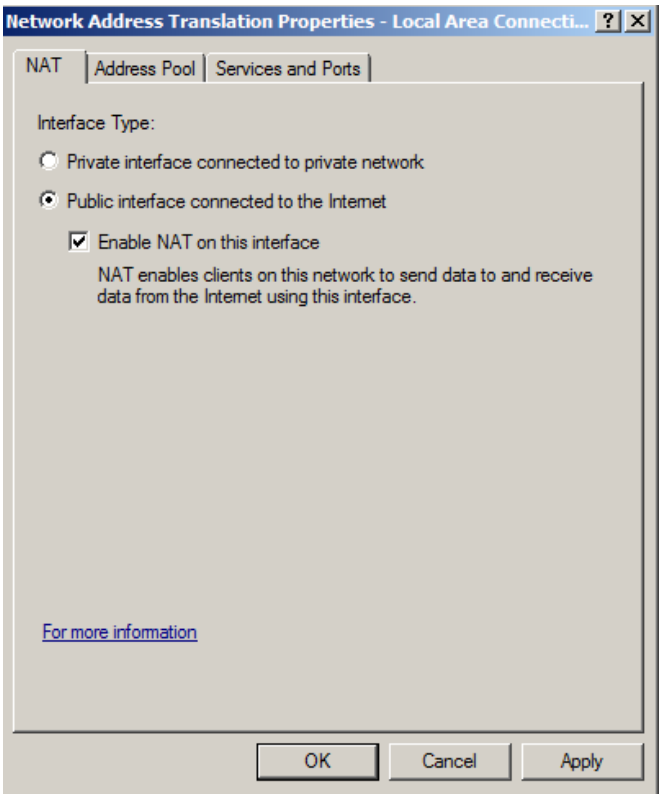

Routing and Remote Access Server Setup Wizard
Completing the Routing and Remote Access Server Setup Wizard
You have successfully completed the Routing and Remote Access Server Setup wizard.
Summary of selections:
Routing and Remote Access
Start the service
The Routing and Remote Access service is ready to use.
Start service
Cancel
in the Routing and Remote Access console.
To close this wizard, click Finish.
< Back
Finish
Cancel


Routing and Remote Access
File
Action
View
Help
Routing and Remote Access
Server Status
WIN-HUQVFW7RHC7 (local)
Network Interfaces
Remote Access Logging & Policies
IPv4
General
Static Routes
IGMP
NAT
IPv6
NAT
Interface
Total mappings
Inbound packets
There are no items to show in this view.
New Interface...
Show DHCP Allocator Information...
Show DNS Proxy Information...
View
Delete
Refresh
Export List...
Properties
Help
New NAT Interface


New Interface for IPNAT
This routing protocol runs on the interface that you select below.
Interfaces:
Internal
Local Area Connection
Local Area Connection 2
OK
Cancel


Network Address Translation Properties - Local Area Connecti...
NAT
Interface Type:
Private interface connected to private network
Public interface connected to the Internet
Enable NAT on this interface
NAT enables clients on this network to send data to and receive data from the Internet using this interface.
For more information
OK
Cancel
Apply

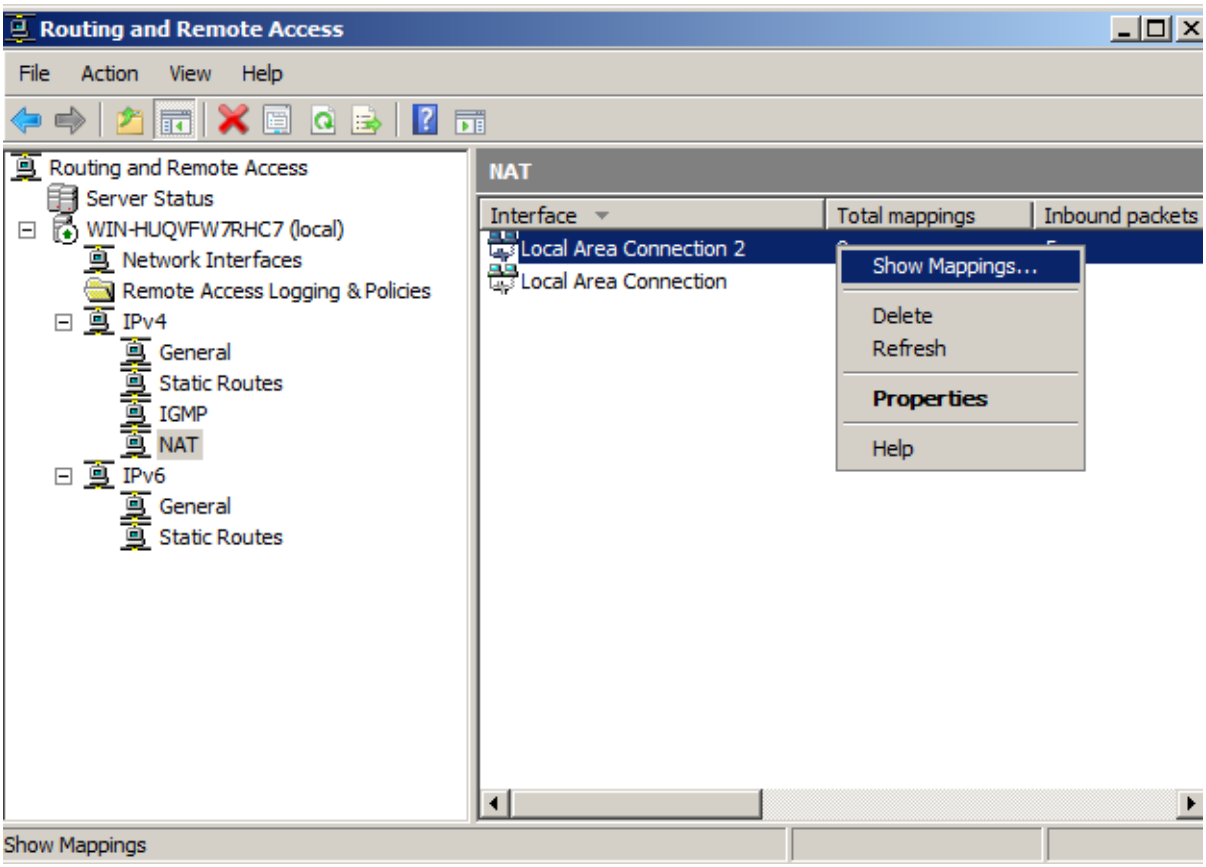


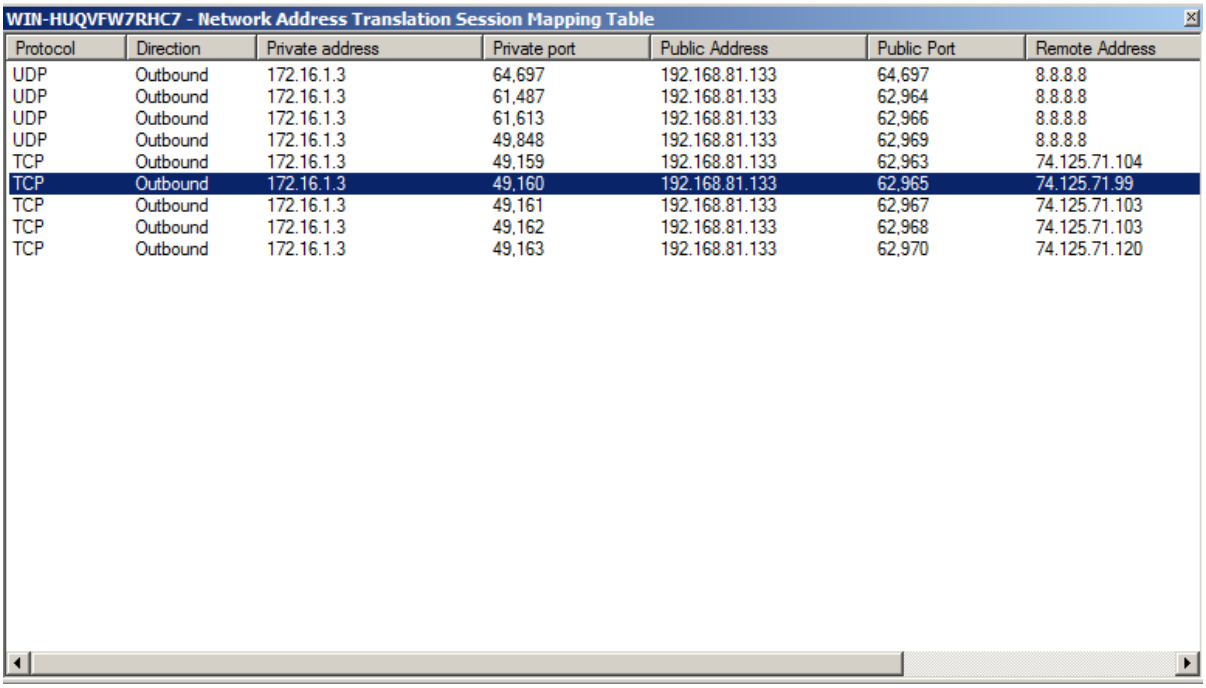


B7: Truy cập internet trên client --> OK

B8: Trên Server, chuột phải vào card mạng nối với internet chọn show mapping... để thấy được

quá trình Nat



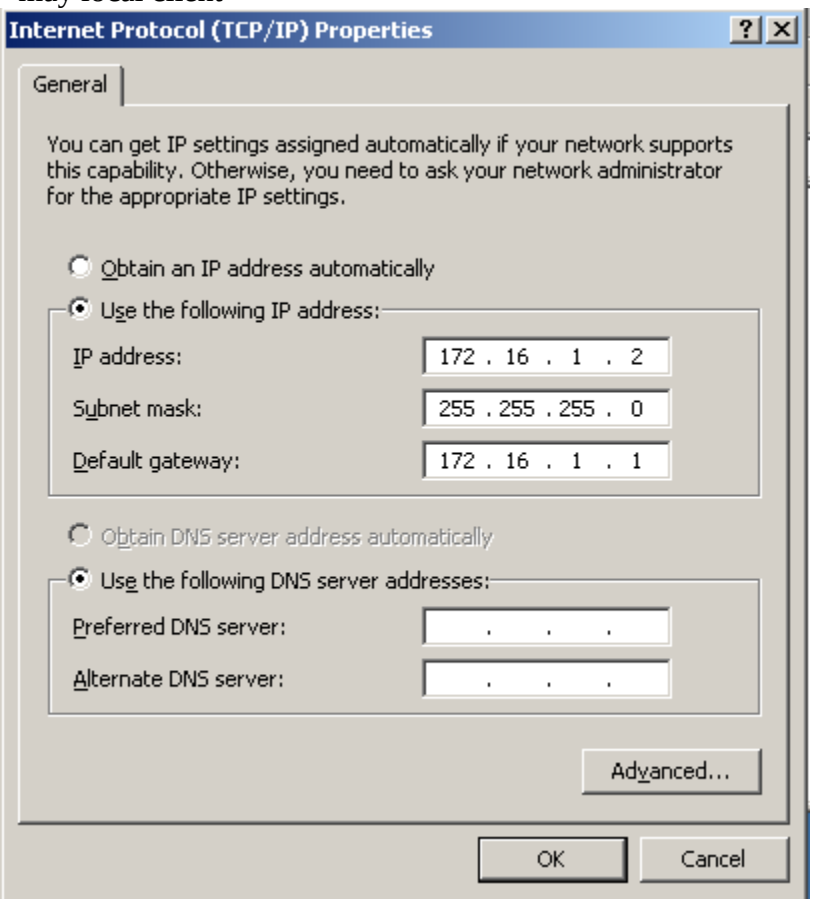


Protocol	Direction	Private address	Private port	Public Address	Public Port	Remote Address
UDP	Outbound	172.16.1.3	64,697	192.168.81.133	64,697	8.8.8.8
UDP	Outbound	172.16.1.3	61,487	192.168.81.133	62,964	8.8.8.8
UDP	Outbound	172.16.1.3	61,613	192.168.81.133	62,966	8.8.8.8
UDP	Outbound	172.16.1.3	49,848	192.168.81.133	62,969	8.8.8.8
TCP	Outbound	172.16.1.3	49,159	192.168.81.133	62,963	74.125.71.104
TCP	Outbound	172.16.1.3	49,160	192.168.81.133	62,965	74.125.71.99
TCP	Outbound	172.16.1.3	49,161	192.168.81.133	62,967	74.125.71.103
TCP	Outbound	172.16.1.3	49,162	192.168.81.133	62,968	74.125.71.103
TCP	Outbound	172.16.1.3	49,163	192.168.81.133	62,970	74.125.71.120

MÔ HÌNH VPN - CLIENT TO GATEWAY:

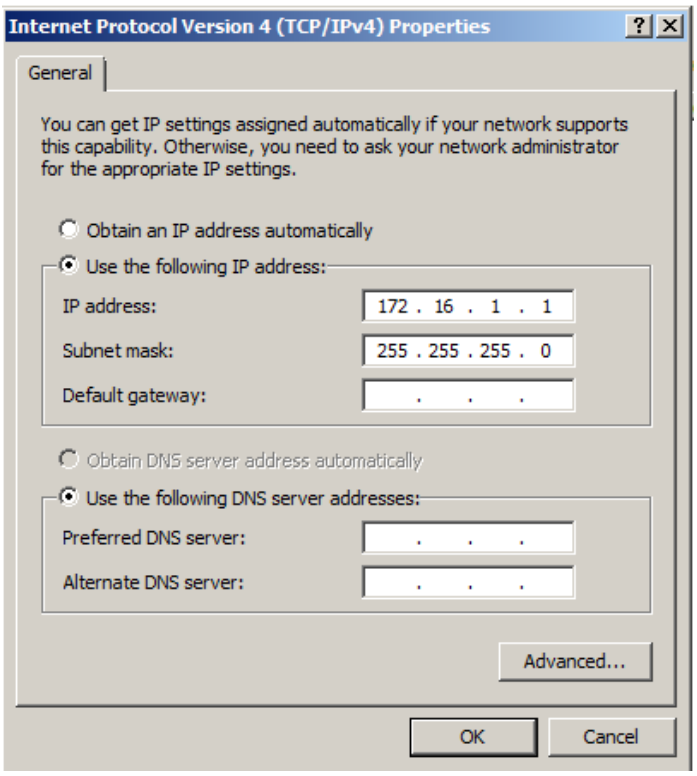
CÁC BƯỚC THỰC HIỆN:

B1: Cấu hình ip cho các card mạng trên các máy
- máy local client

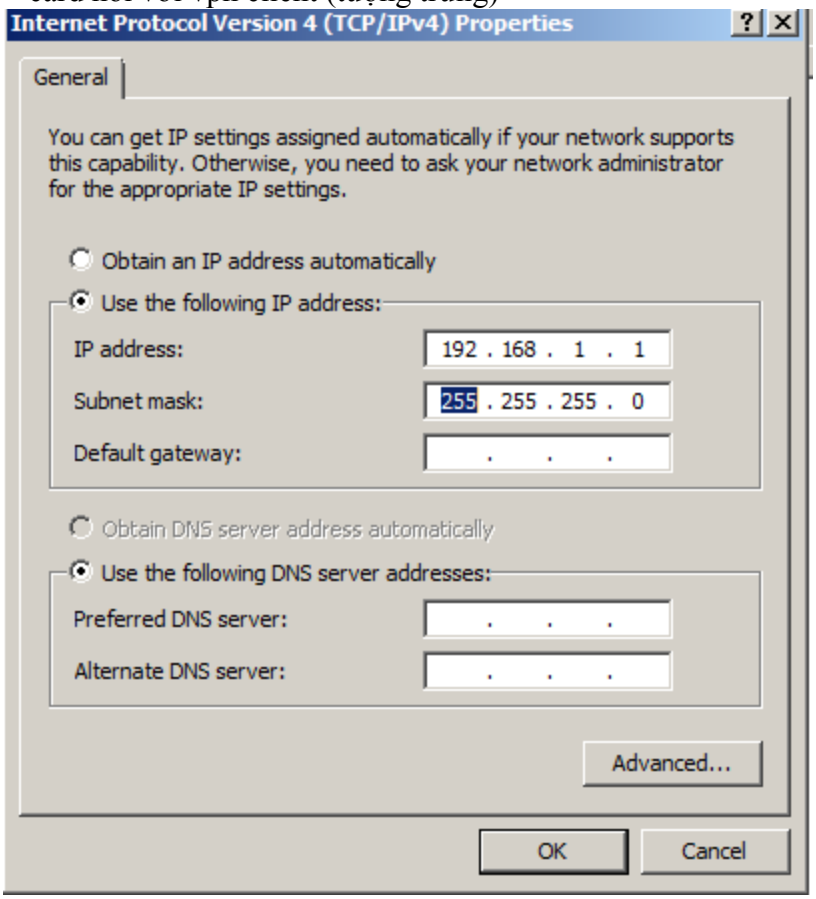


- máy vpn client

-máy vpn server
+ card nối với máy local client



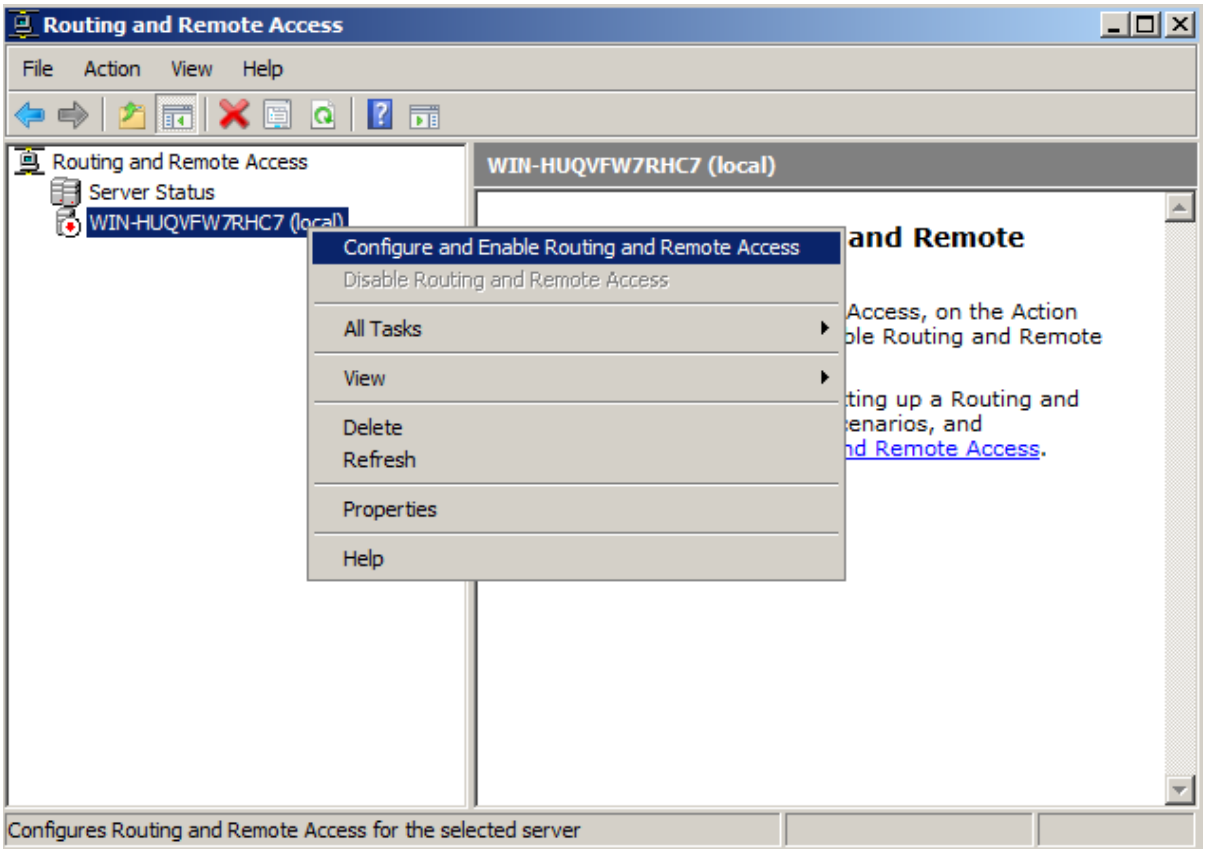
+ card nối với vpn client (tượng trưng)

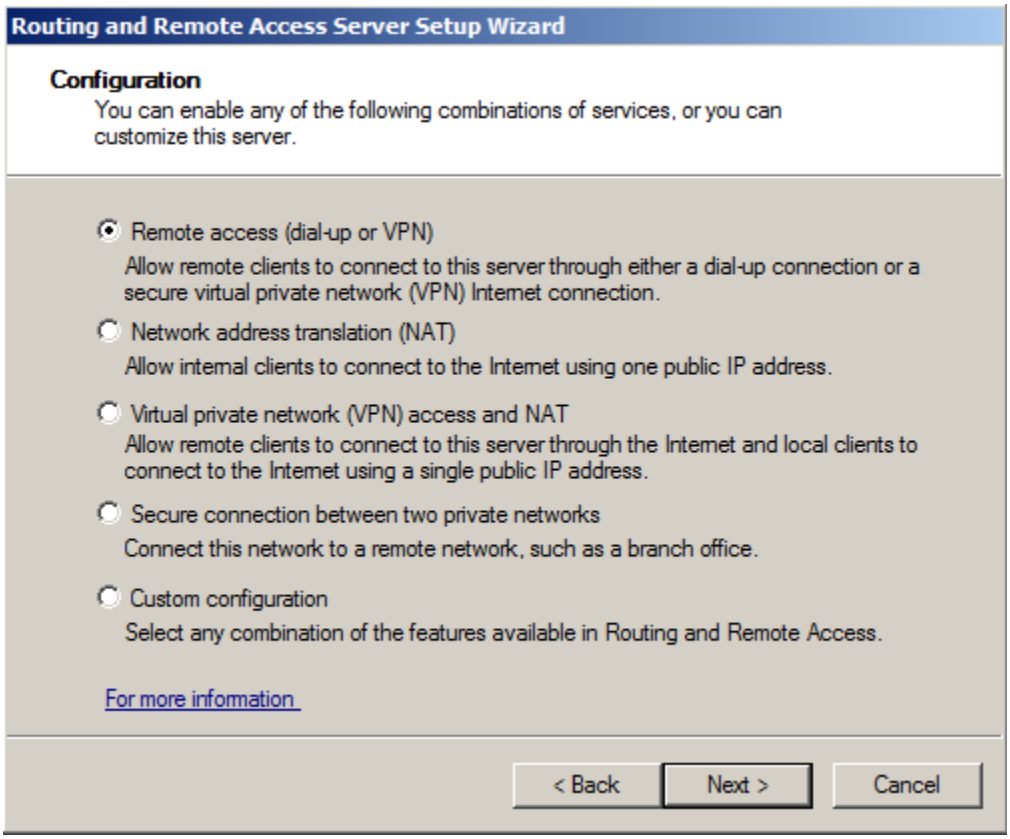


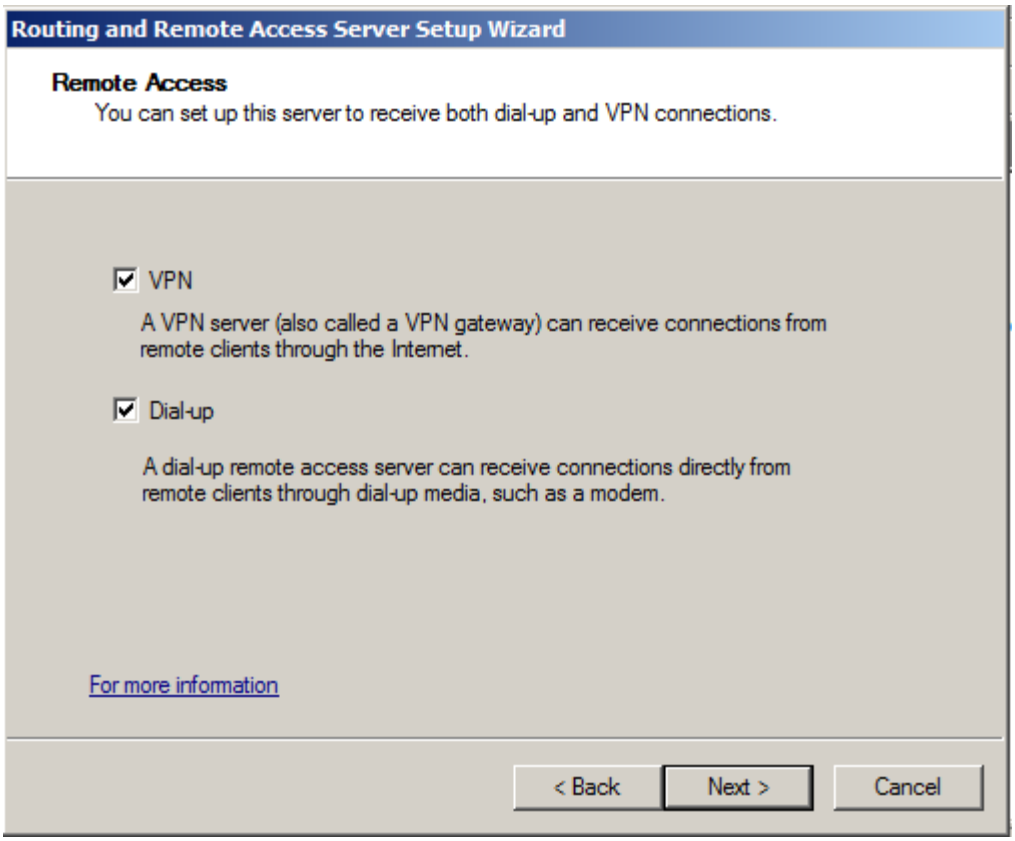
B2: Tắt firewall, đảm bảo Server ping thấy các client và ngược lại

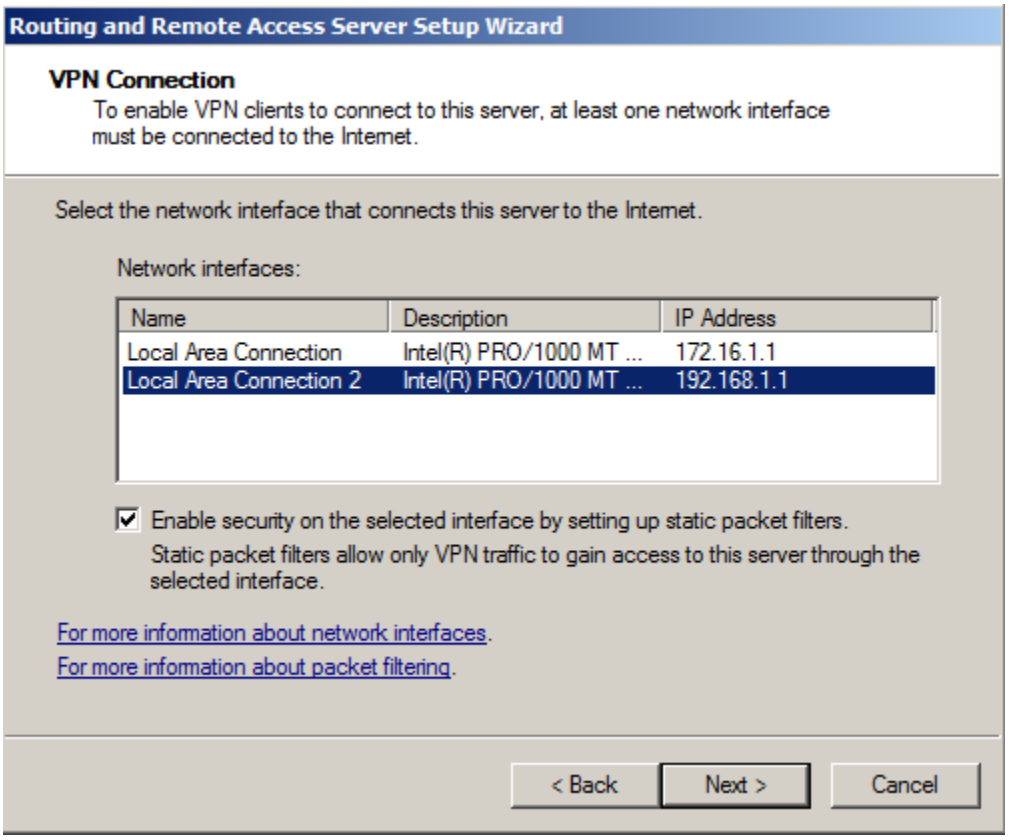
B3: Cải đặt dịch vụ routing and remote access trên Server, xem mục Nat

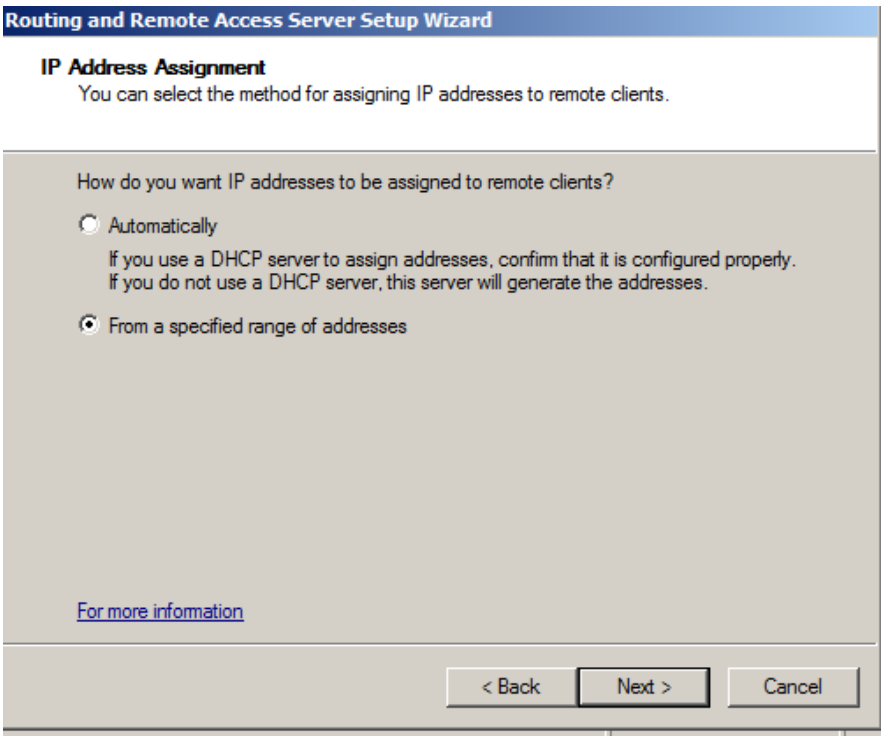
B4: Cấu hình VPN trong routing anh remote access

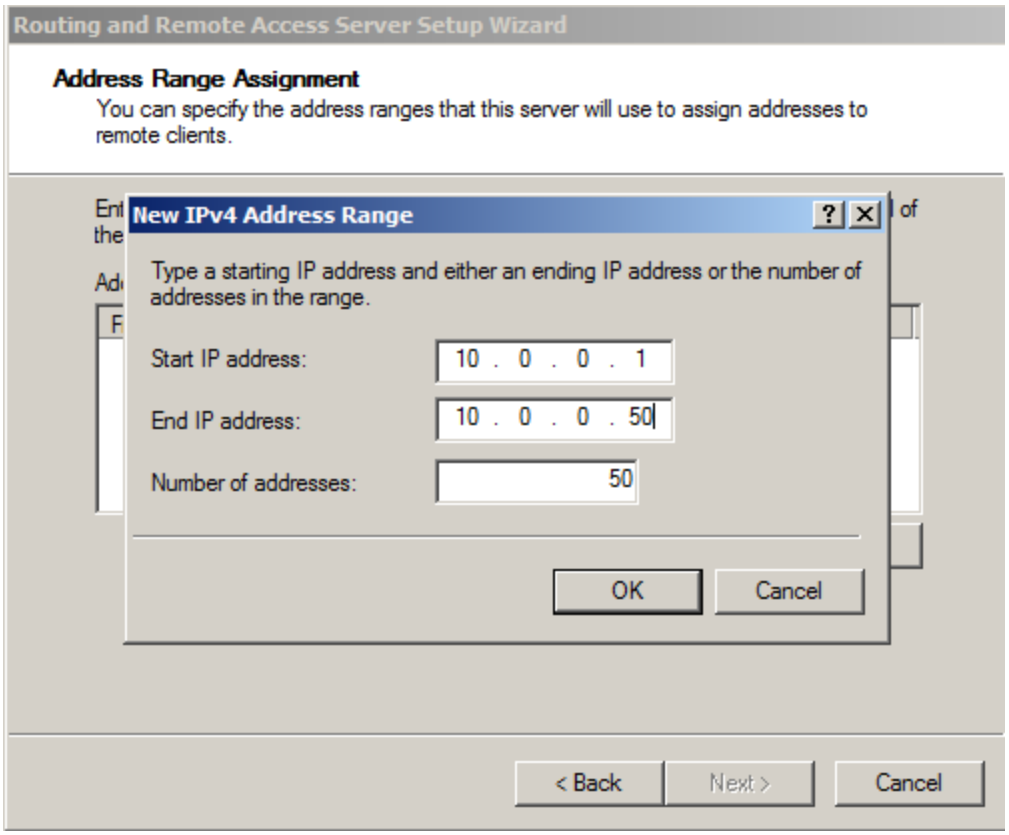


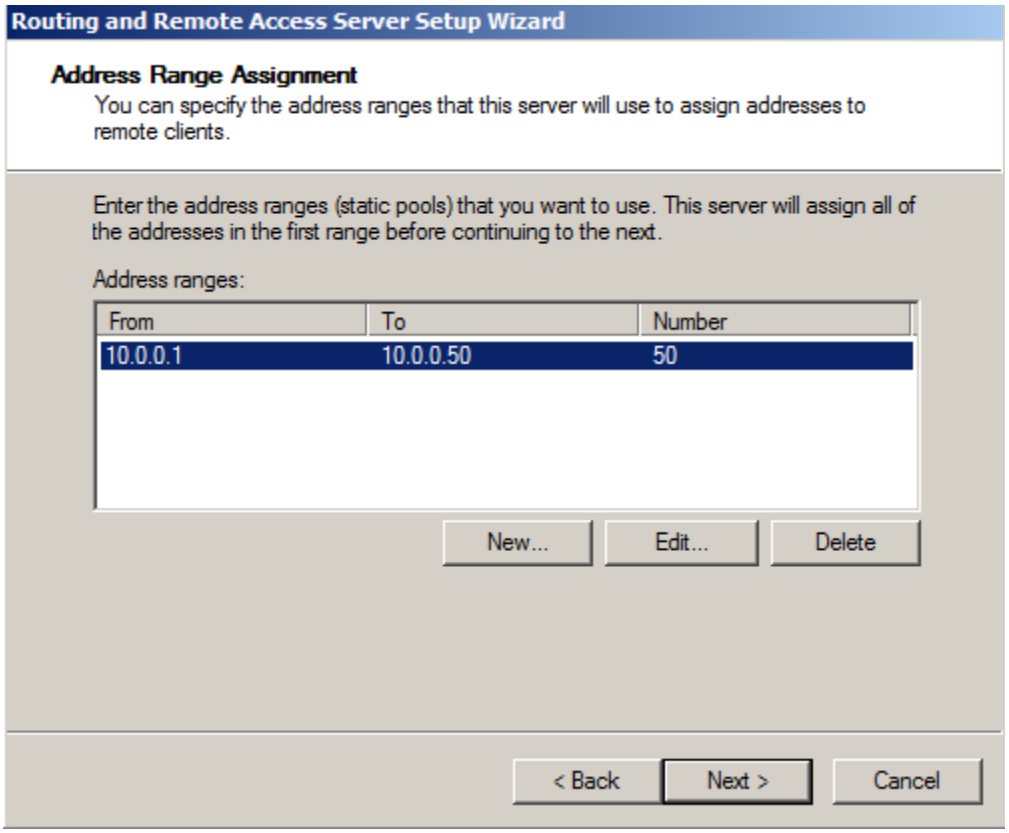

Routing and Remote Access Server Setup Wizard
Configuration
You can enable any of the following combinations of services, or you can customize this server.
Remote access (dial-up or VPN)
Allow remote clients to connect to this server through either a dial-up connection or a secure virtual private network (VPN) Internet connection.
Network address translation (NAT)
Allow internal clients to connect to the Internet using one public IP address.
Virtual private network (VPN) access and NAT
Allow remote clients to connect to this server through the Internet and local clients to connect to the Internet using a single public IP address.
Secure connection between two private networks
Connect this network to a remote network, such as a branch office.
Custom configuration
Select any combination of the features available in Routing and Remote Access.
For more information
< Back
Next >
Cancel

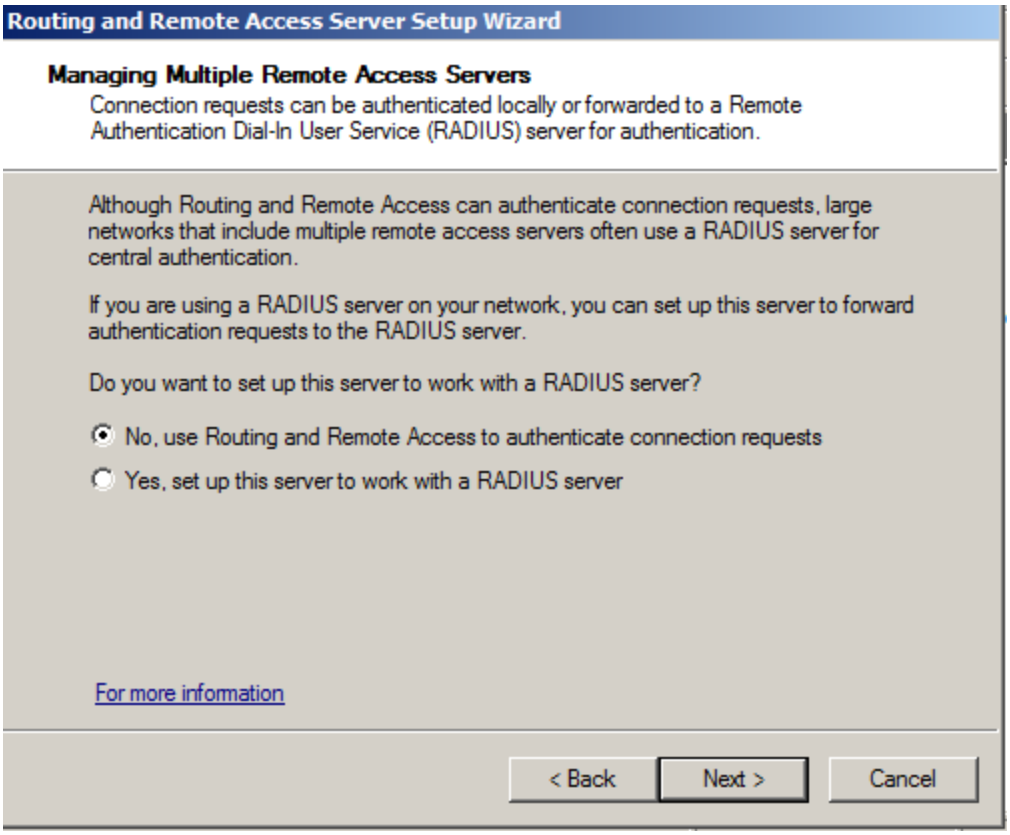

Routing and Remote Access Server Setup Wizard
Remote Access
You can set up this server to receive both dial-up and VPN connections.
VPN
A VPN server (also called a VPN gateway) can receive connections from remote clients through the Internet.
Dial-up
A dial-up remote access server can receive connections directly from remote clients through dial-up media, such as a modem.
For more information
< Back
Next >
Cancel

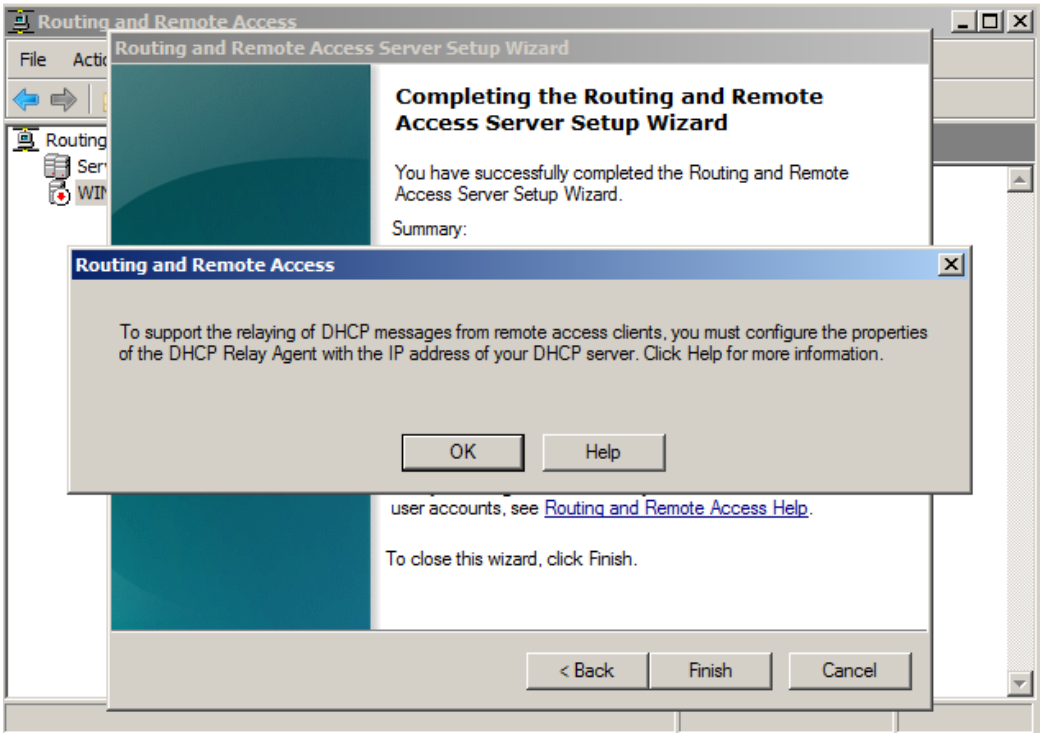

Routing and Remote Access Server Setup Wizard
VPN Connection
To enable VPN clients to connect to this server, at least one network interface must be connected to the Internet.
Select the network interface that connects this server to the Internet.
Network interfaces:
Name
Description
IP Address
Local Area Connection
Intel(R) PRO/1000 MT ...
172.16.1.1
Local Area Connection 2
Intel(R) PRO/1000 MT ...
192.168.1.1
Enable security on the selected interface by setting up static packet filters.
Static packet filters allow only VPN traffic to gain access to this server through the selected interface.
For more information about network interfaces.
For more information about packet filtering.
< Back
Next >
Cancel

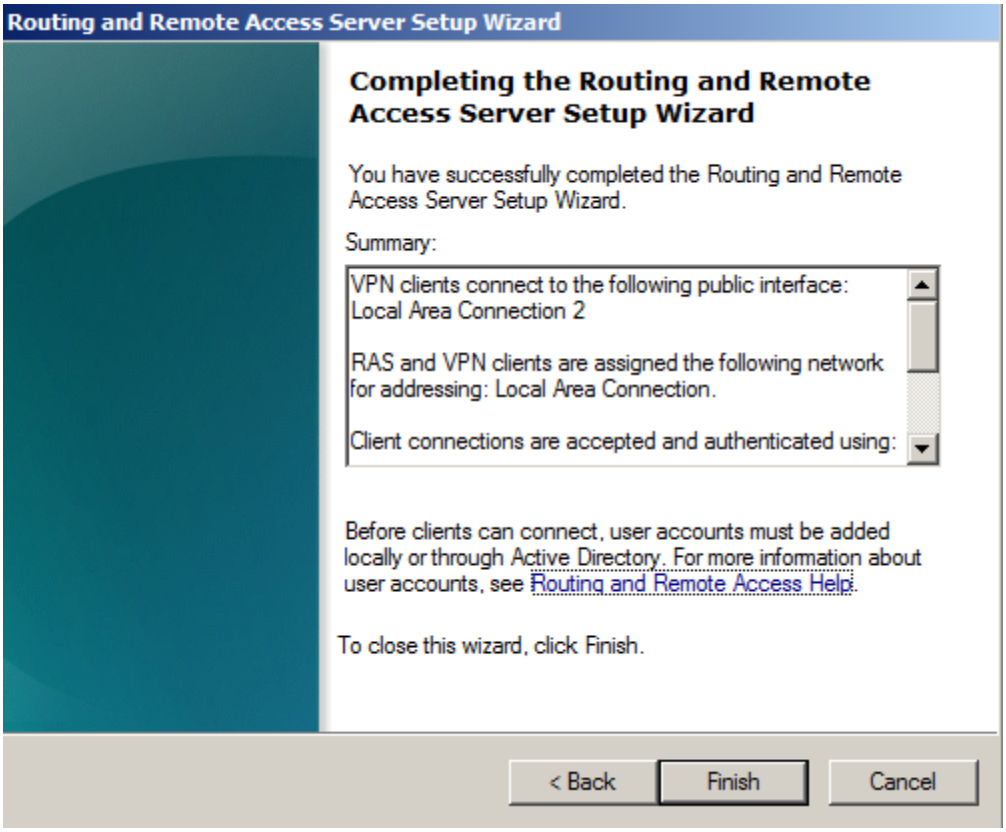

Routing and Remote Access Server Setup Wizard
IP Address Assignment
You can select the method for assigning IP addresses to remote clients.
How do you want IP addresses to be assigned to remote clients?
Automatically
If you use a DHCP server to assign addresses, confirm that it is configured properly.
If you do not use a DHCP server, this server will generate the addresses.
From a specified range of addresses
For more information
< Back
Next >
Cancel


Routing and Remote Access Server Setup Wizard
Address Range Assignment
You can specify the address ranges that this server will use to assign addresses to remote clients.
New IPv4 Address Range
Type a starting IP address and either an ending IP address or the number of addresses in the range.
Start IP address:
10 . 0 . 0 . 1
End IP address:
10 . 0 . 0 . 50
Number of addresses:
50
OK
Cancel
< Back
Next >
Cancel

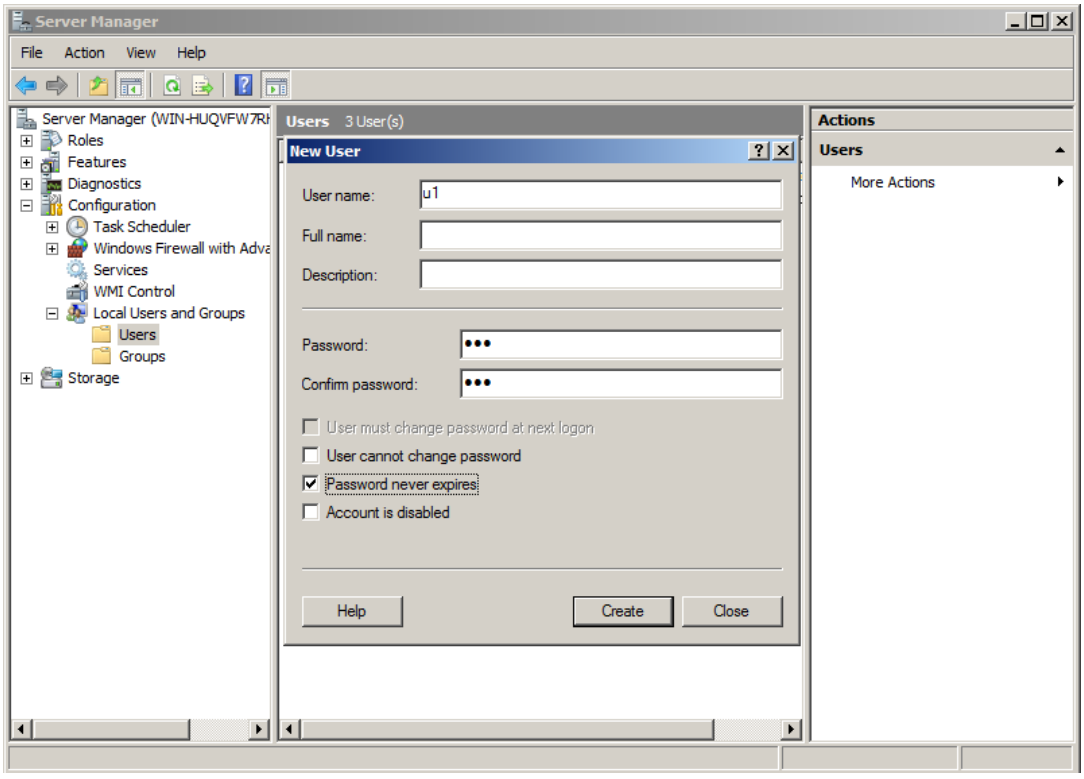

Routing and Remote Access Server Setup Wizard
Address Range Assignment
You can specify the address ranges that this server will use to assign addresses to remote clients.
Enter the address ranges (static pools) that you want to use. This server will assign all of the addresses in the first range before continuing to the next.
Address ranges:
From
To
Number
10.0.0.1
10.0.0.50
50
New...
Edit...
Delete
< Back
Next >
Cancel

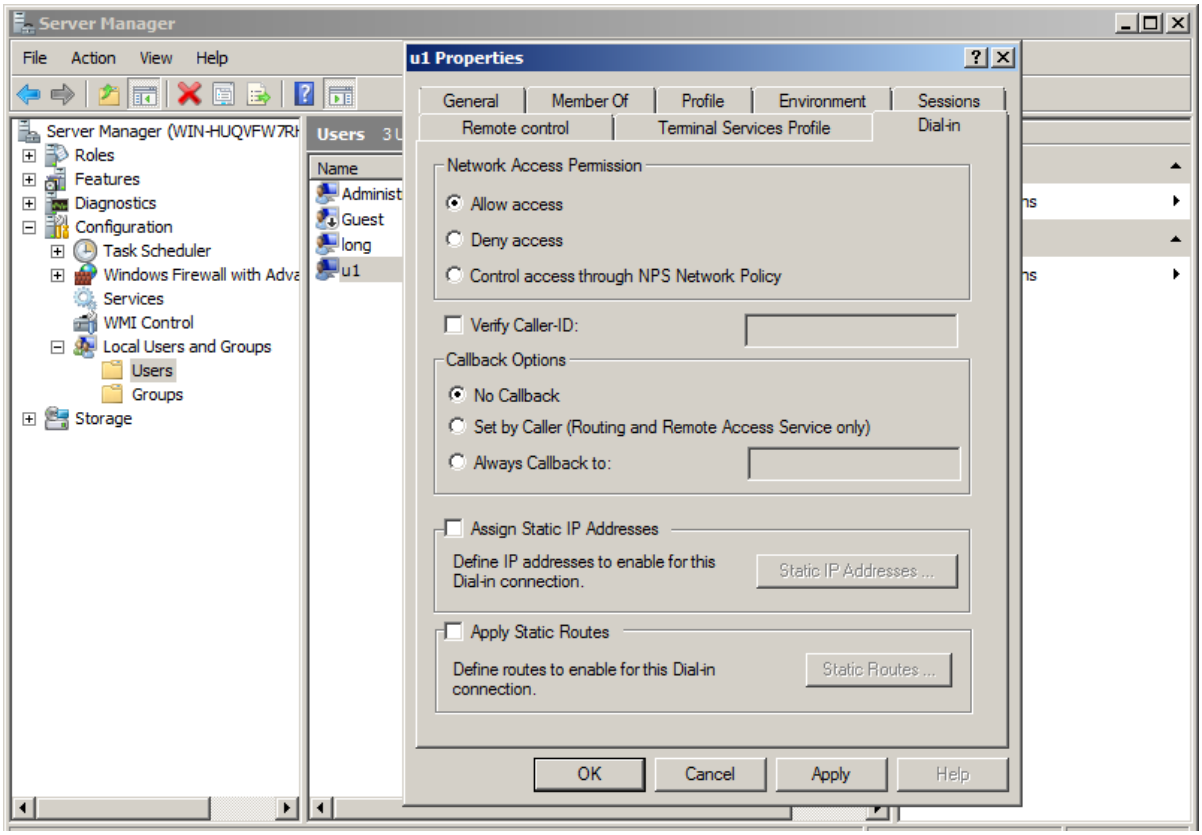

Routing and Remote Access Server Setup Wizard
Managing Multiple Remote Access Servers
Connection requests can be authenticated locally or forwarded to a Remote Authentication Dial-In User Service (RADIUS) server for authentication.
Although Routing and Remote Access can authenticate connection requests, large networks that include multiple remote access servers often use a RADIUS server for central authentication.
If you are using a RADIUS server on your network, you can set up this server to forward authentication requests to the RADIUS server.
Do you want to set up this server to work with a RADIUS server?
No, use Routing and Remote Access to authenticate connection requests
Yes, set up this server to work with a RADIUS server
For more information
< Back
Next >
Cancel


Routing and Remote Access
File
Routing and Remote Access Server Setup Wizard
Completing the Routing and Remote Access Server Setup Wizard
You have successfully completed the Routing and Remote Access Server Setup Wizard.
Summary:
Routing and Remote Access
To support the relaying of DHCP messages from remote access clients, you must configure the properties of the DHCP Relay Agent with the IP address of your DHCP server. Click Help for more information.
OK
Help
user accounts, see Routing and Remote Access Help.
To close this wizard, click Finish.
< Back
Finish
Cancel



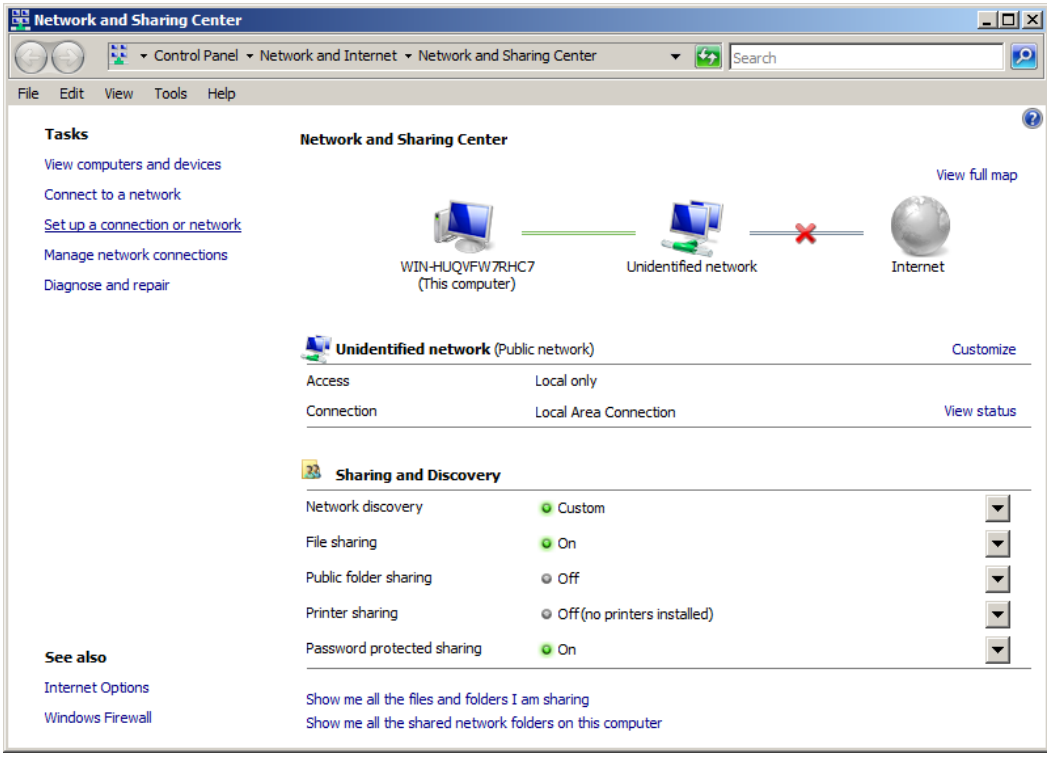
B5: Tạo user u1 trên Server và chỉnh tab dial-in cho nó allow access



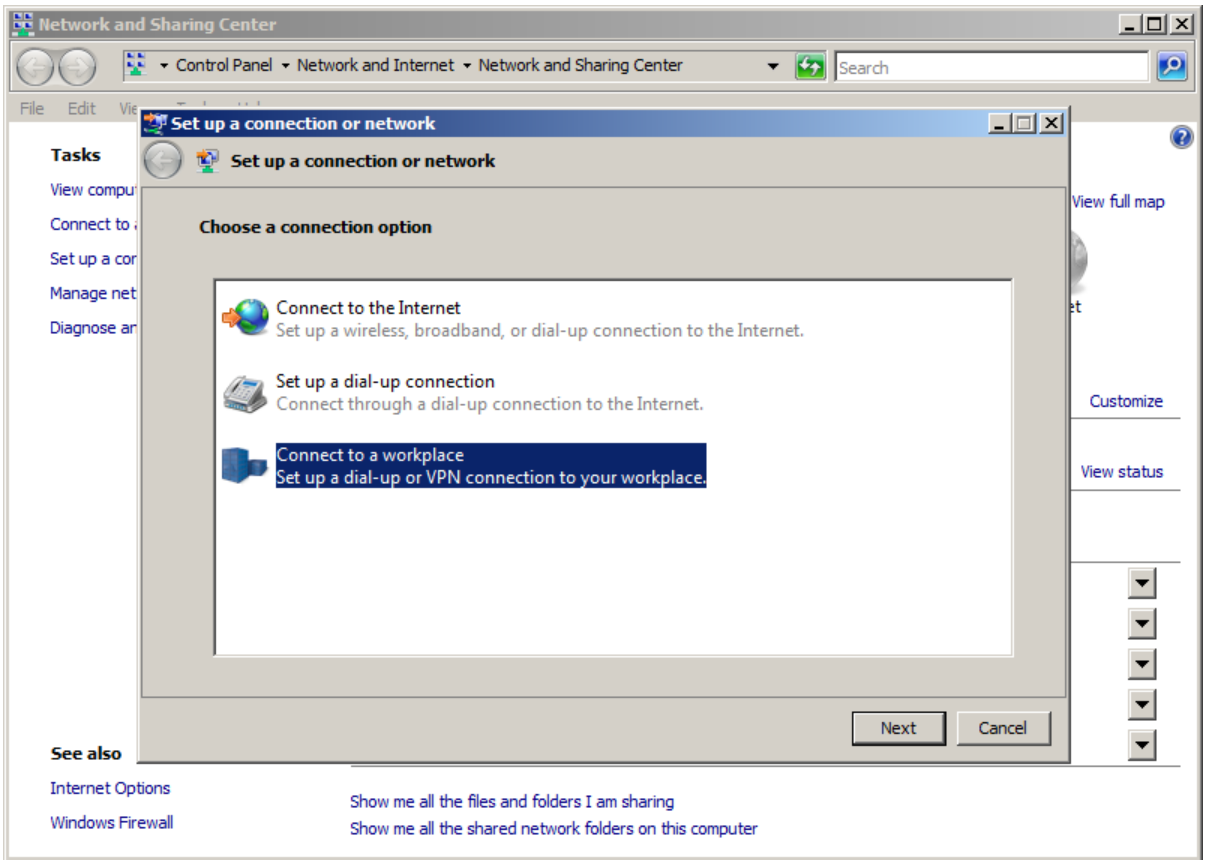


B6: Trên VPN client, tạo 1 kết nối VPN

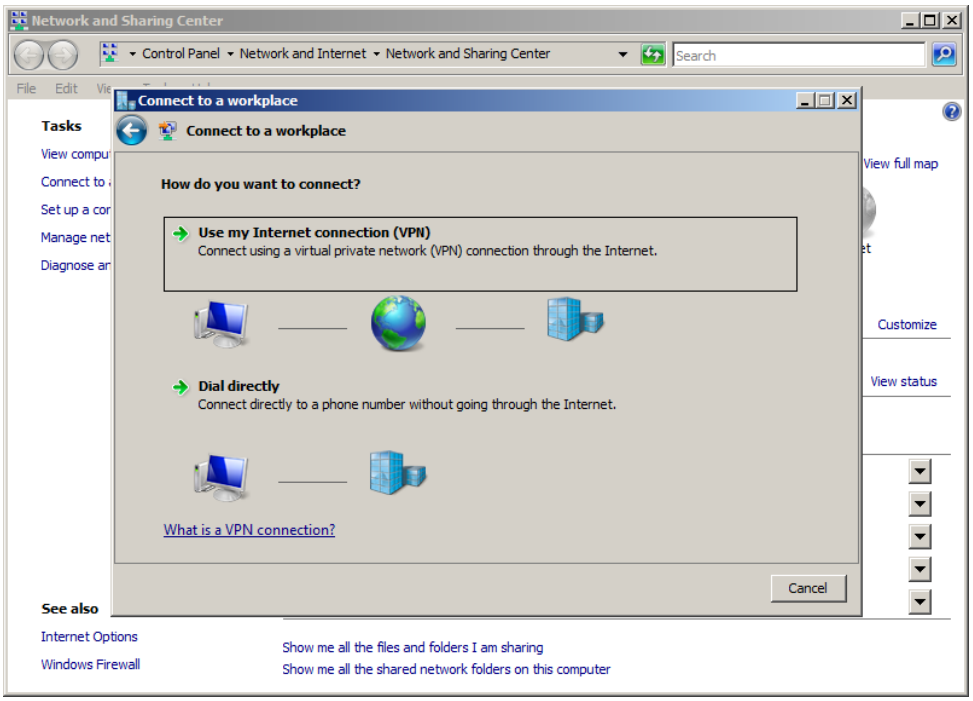
- Vảo Network and sharing center, chọn Set up a connection or network



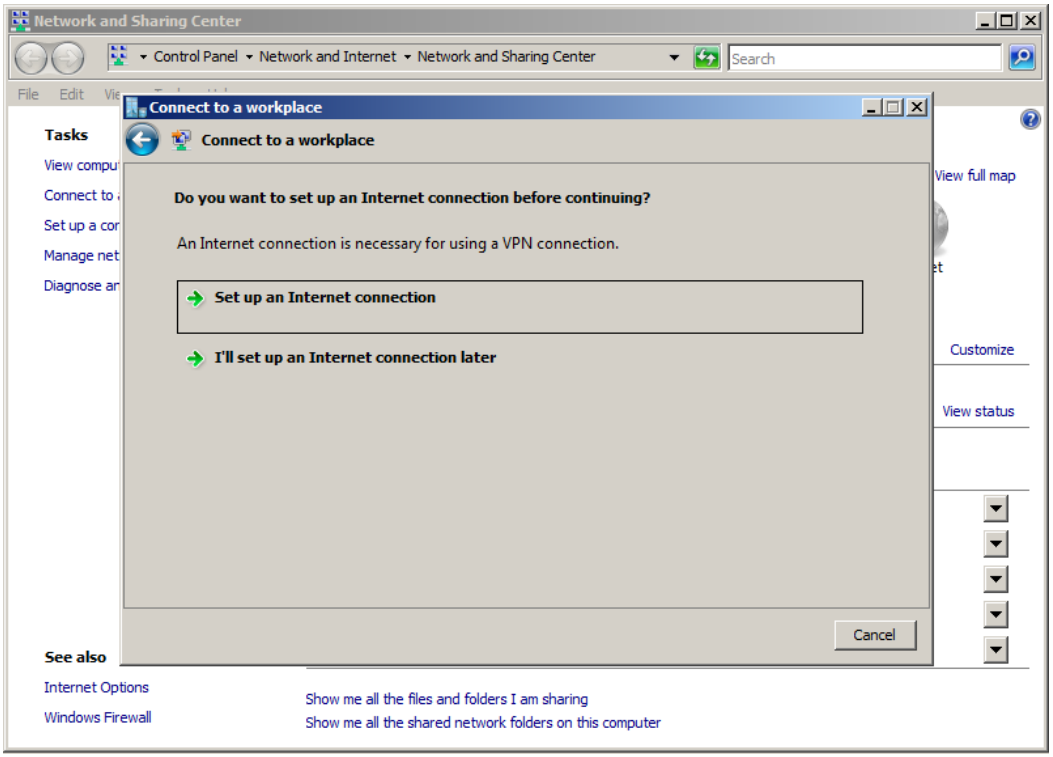
- Chọn mục Connect to a workplace -> Next



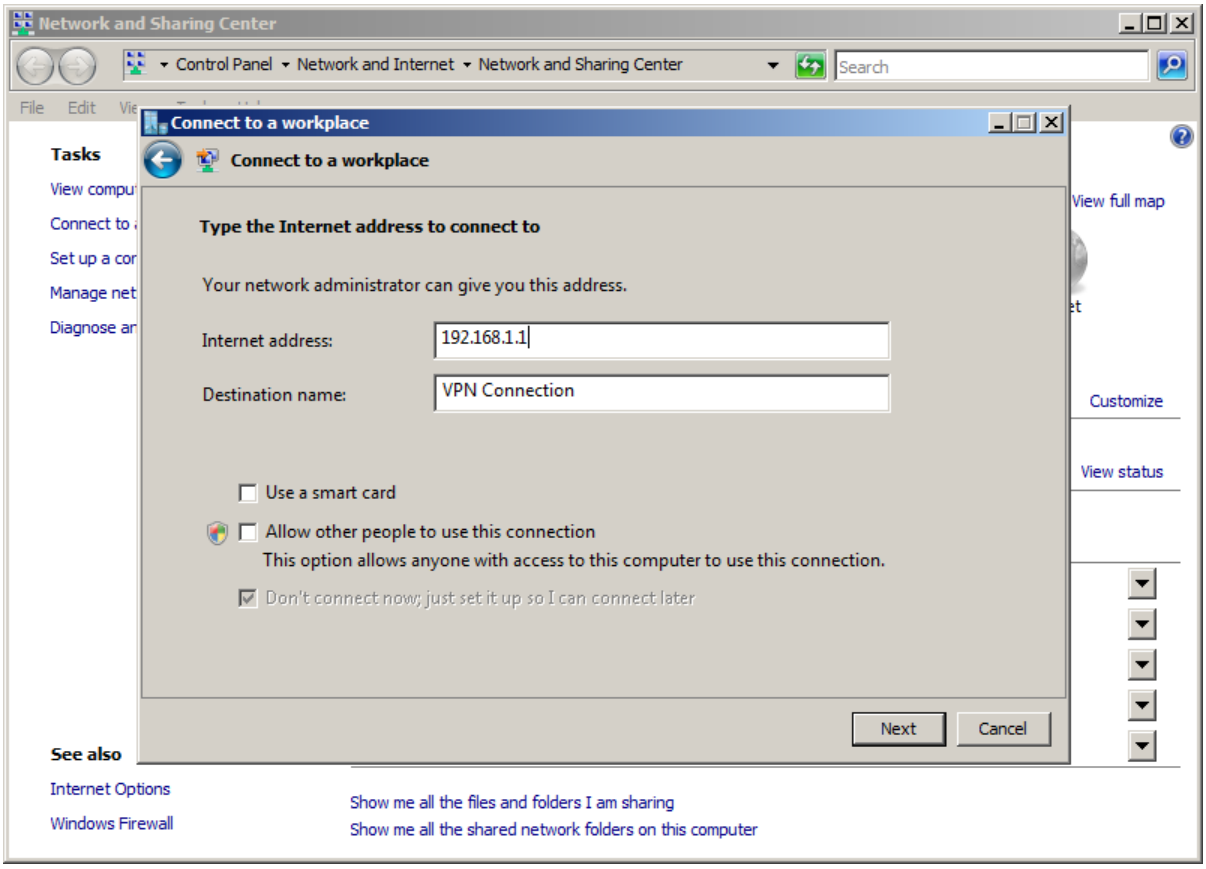
- Chọn mục Use my Internet connection (VPN)



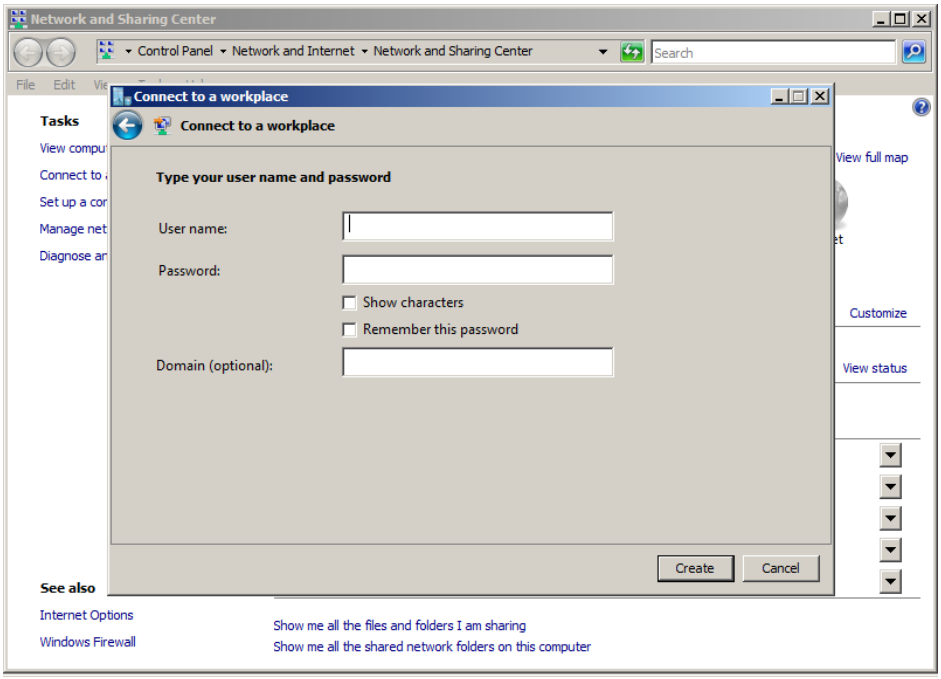
- Chọn mục I'll set up Internet connection later



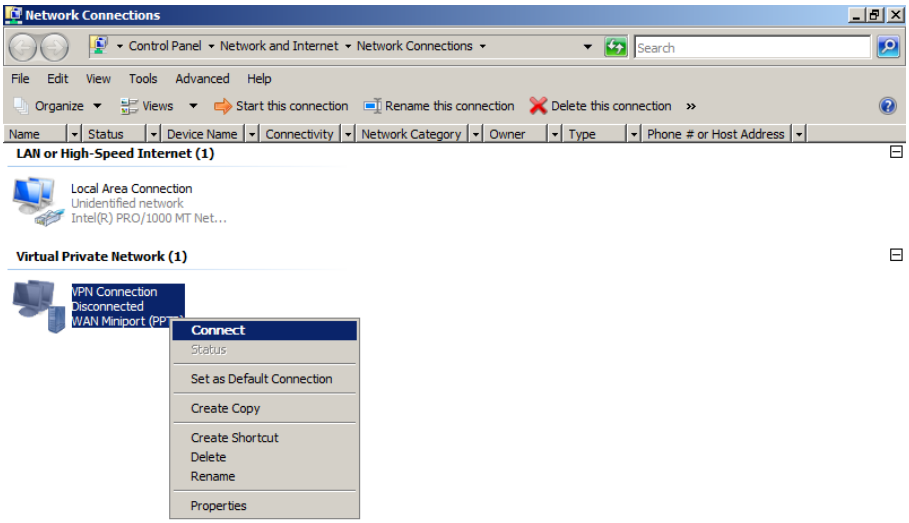
- Điền ip của Server -> Next

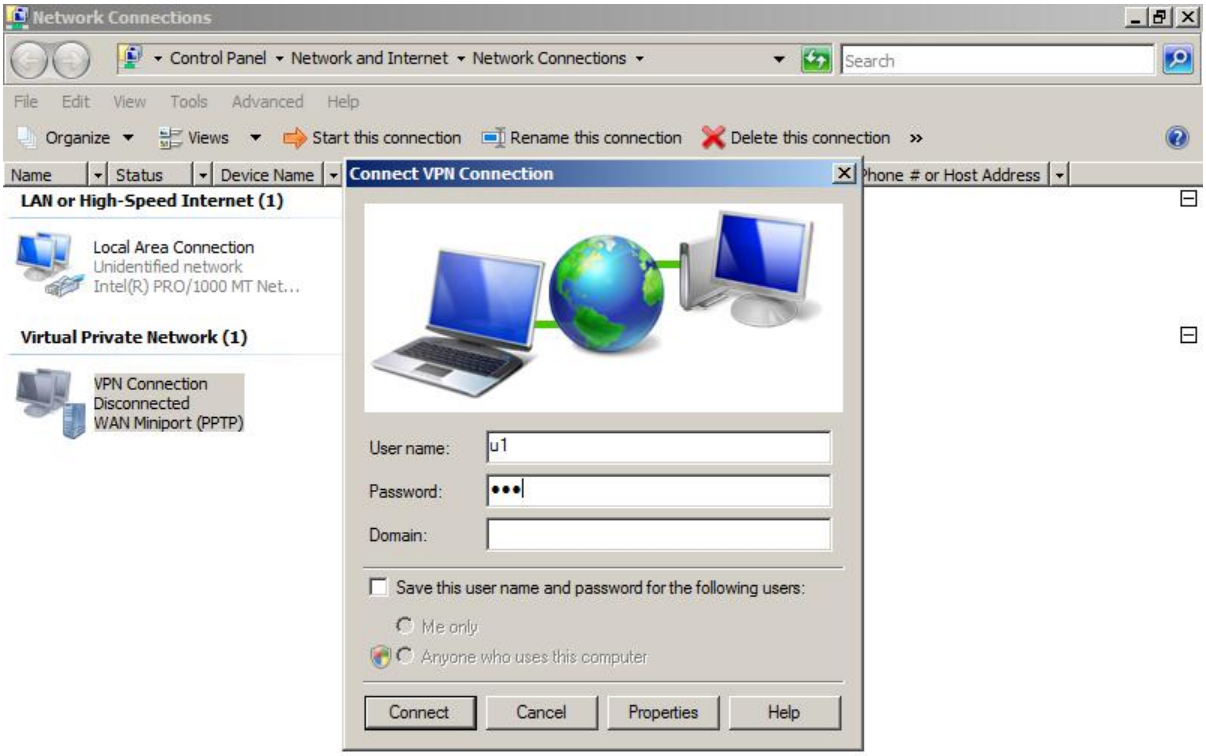


- Để mặc định, nhấn Create

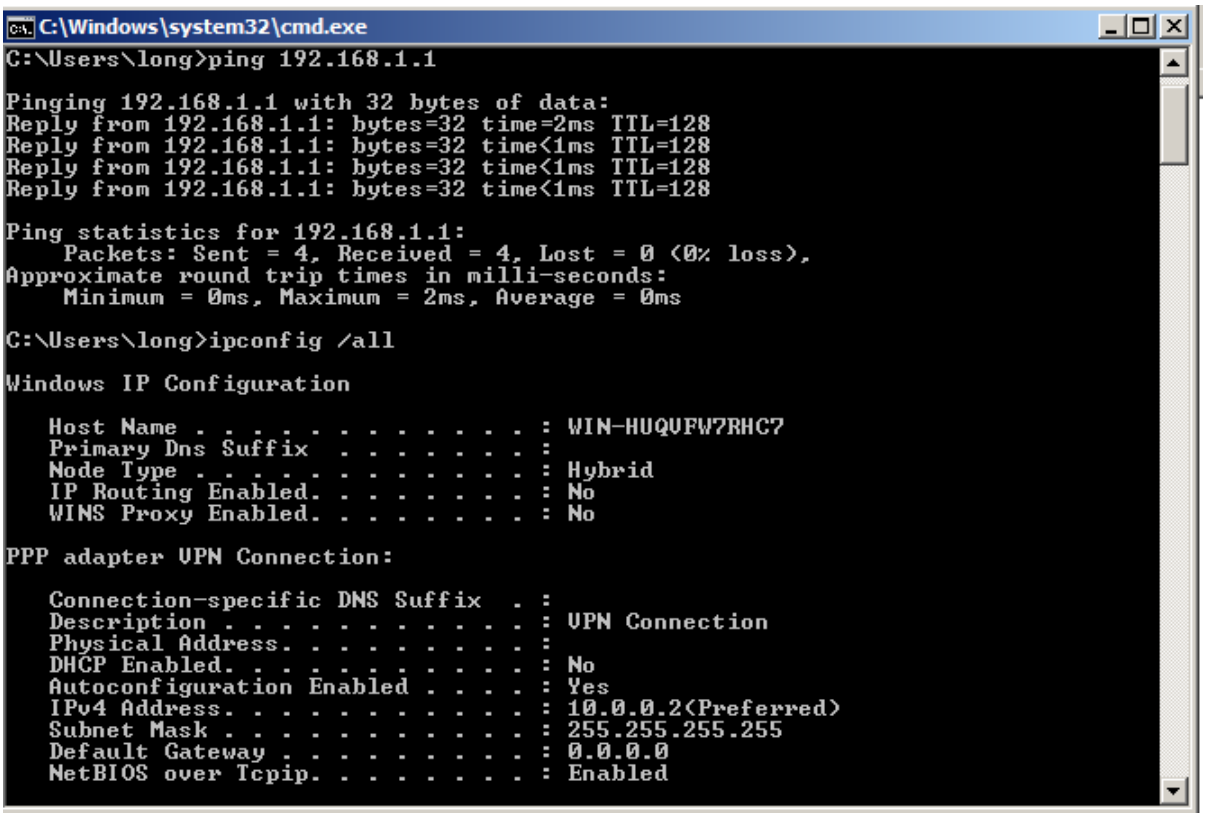


B7: Kiểm tra

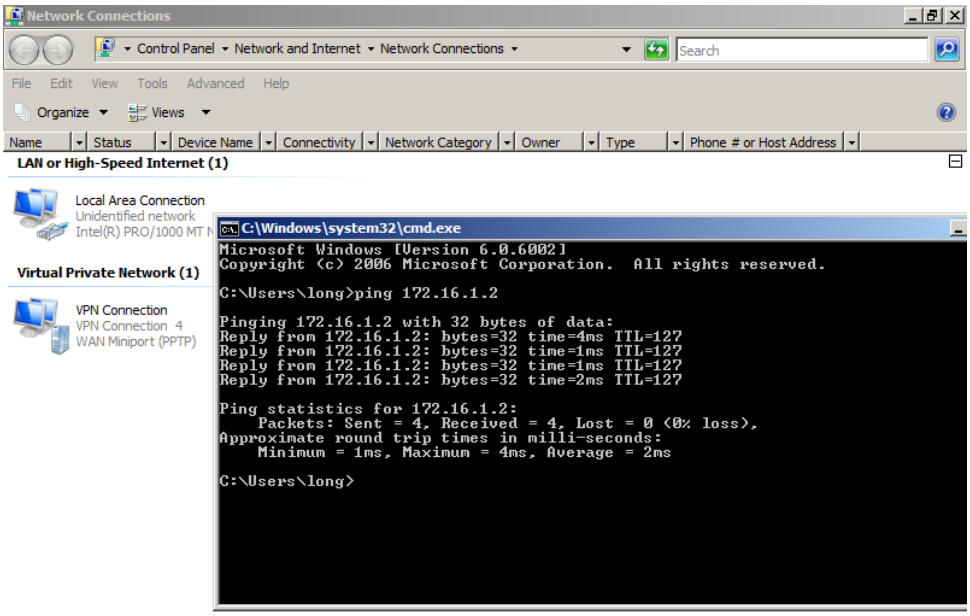




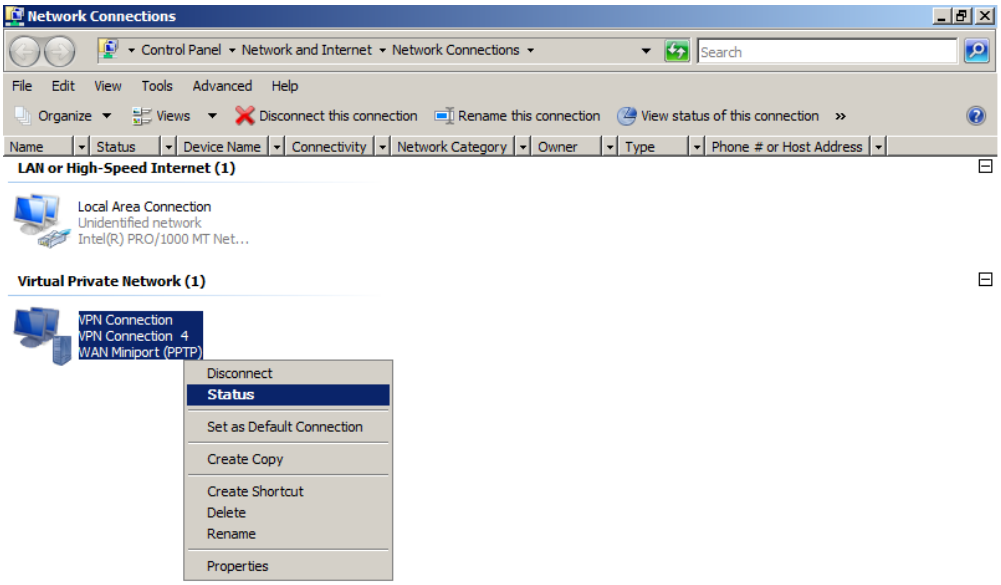
- Ta thấy client đã nhận được địa chỉ ip do server cấp



- Ping thấy máy local client bên trong nội bộ



- Kiểm tra trạng thái của kết nối VPN



- Ta thấy vpn client đã dùng giao thức PPTP để kết vào mạng nội bộ