

MODUL PRAKTIKUM 08

DYNAMIC ROUTING CISCO, WINDOWS

TUJUAN

Setelah praktikum dilaksanakan, peserta praktikum diharapkan memiliki kemampuan

1. Melakukan konfigurasi RIP pada Cisco Router
2. Melakukan konfigurasi RIP pada Windows Server 2008

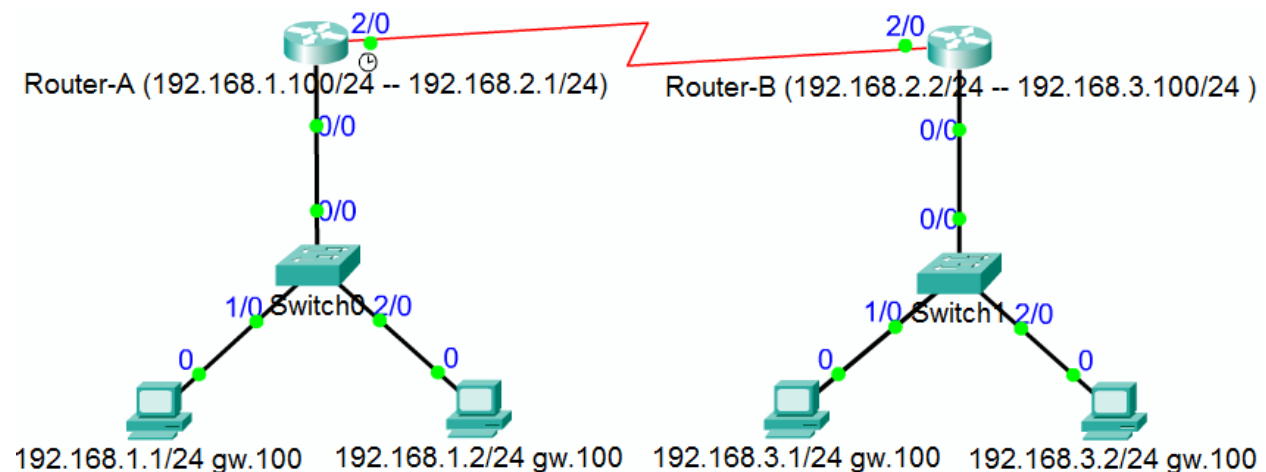
PERANGKAT

Perangkat yang digunakan untuk praktikum adalah sbb :

1. Packet Tracer 3.2
2. Windows Server 2008
3. Windows XP
4. Kabel UTP Straight atau Cross
5. Switch

PROSEDUR PRAKTIKUM

Berikut topologi yang akan dijadikan materi praktikum :



1. Melakukan konfigurasi RIP pada Cisco Router

a. Konfigurasi pada Router-A

i. Konfigurasi dasar

Perintah	Keterangan																		
Router0>enable	Berpindah ke Privileged Exec																		
Router0#configure terminal	Masuk Mode Global Configuration																		
Router0(config)#hostname Router-A	Mengganti nama router																		
Router-A(config)#interface FastEthernet 0/0	Masuk Mode Interface Configuration																		
Router-A(config-if)#ip address 192.168.1.100 255.255.255.0	Memberi IP Address																		
Router-A(config-if)#no shutdown	Mengaktifkan interface																		
Router-A(config-if)#exit	Keluar dari Interface Configuration																		
Router-A(config)#interface serial 2/0	Masuk Mode Interface Configuration																		
Router-A(config-if)#ip address 192.168.2.1 255.255.255.0	Memberi IP Address																		
Router-A(config-if)#clock rate 56000	Memberikan clock-rate 56Kbps																		
Router-A(config-if)#no shutdown	Mengaktifkan interface																		
Router-A(config-if)#exit	Keluar dari Interface Configuration																		
Router-A(config)#exit	Keluar dari Global Configuration																		
Router-A#show ip interface brief	Melihat IP Address																		
<table border="1"> <thead> <tr> <th>Interface</th> <th>IP-Address</th> <th>OK?</th> <th>Method</th> <th>Status</th> <th>Protocol</th> </tr> </thead> <tbody> <tr> <td>FastEthernet0/0</td> <td>192.168.1.100</td> <td>YES</td> <td>manual</td> <td>up</td> <td>up</td> </tr> <tr> <td>Serial2/0</td> <td>192.168.2.1</td> <td>YES</td> <td>manual</td> <td>up</td> <td>up</td> </tr> </tbody> </table>		Interface	IP-Address	OK?	Method	Status	Protocol	FastEthernet0/0	192.168.1.100	YES	manual	up	up	Serial2/0	192.168.2.1	YES	manual	up	up
Interface	IP-Address	OK?	Method	Status	Protocol														
FastEthernet0/0	192.168.1.100	YES	manual	up	up														
Serial2/0	192.168.2.1	YES	manual	up	up														

ii. Konfigurasi dynamic routing

Perintah	Keterangan
Router-A#show ip route	Melihat Routing Table
<pre>Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP ...[truncated]... Gateway of last resort is not set C 192.168.1.0/24 is directly connected, FastEthernet0/0 C 192.168.2.0/24 is directly connected, Serial2/0</pre>	
Router-A#configure terminal	Masuk Mode Global Configuration
Router-A(config)#router rip	Masuk Mode Routing Protocol RIP
Router-A(config-router)#version 2	Memilih RIP Version 2
Router-A(config-router)#network 192.168.1.0	Menambah Network 192.168.1.0
Router-A(config-router)#network 192.168.2.0	Menambah Network 192.168.2.0

<pre>Router-A#show ip route Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP ...[truncated]... C 192.168.1.0/24 is directly connected, FastEthernet0/0 C 192.168.2.0/24 is directly connected, Serial2/0 R 192.168.3.0/24 [120/1] via 192.168.2.2, Serial2/0</pre>	Melihat Routing Table
---	-----------------------

iii. Melihat dan menyimpan konfigurasi keseluruhan

Perintah	Keterangan
<pre>Router-A#show running-config Current configuration: ! version 12.2 ! hostname "Router-A" ! interface FastEthernet0/0 ip address 192.168.1.100 255.255.255.0 ! interface Serial2/0 ip address 192.168.2.1 255.255.255.0 clock rate 56000 ! router rip version 2 network 192.168.1.0 network 192.168.2.0 ! ! ! line con 0 ! end</pre>	Melihat Running-Configuration di RAM
<pre>Router-A#copy running-config startup-config Router-A#show startup-config ! version 12.2 ! hostname "Router-A" ! interface FastEthernet0/0 ip address 192.168.1.100 255.255.255.0 ! interface Serial2/0 ip address 192.168.2.1 255.255.255.0 clock rate 56000 ! router rip version 2 network 192.168.1.0</pre>	Menyimpan konfigurasi ke NVRAM Melihat Startup-Configuration di NVRAM

<pre> network 192.168.2.0 ! ! ! line con 0 ! end </pre>	
---	--

b. Konfigurasi pada Router-B

i. Konfigurasi keseluruhan dari Router-B

Perintah	Keterangan
<pre> Router-B#show startup-config ! version 12.2 ! hostname "Router-B" ! interface FastEthernet0/0 ip address 192.168.3.100 255.255.255.0 ! interface Serial2/0 ip address 192.168.2.2 255.255.255.0 ! router rip version 2 network 192.168.2.0 network 192.168.3.0 ! ! ! line con 0 ! end </pre>	Melihat Startup-Configuration di NVRAM

c. Menghapus konfigurasi yang salah

Menghapus konfigurasi / perintah yang salah dengan menggunakan “no <perintah>”.

Contoh untuk menghapus IP Address :

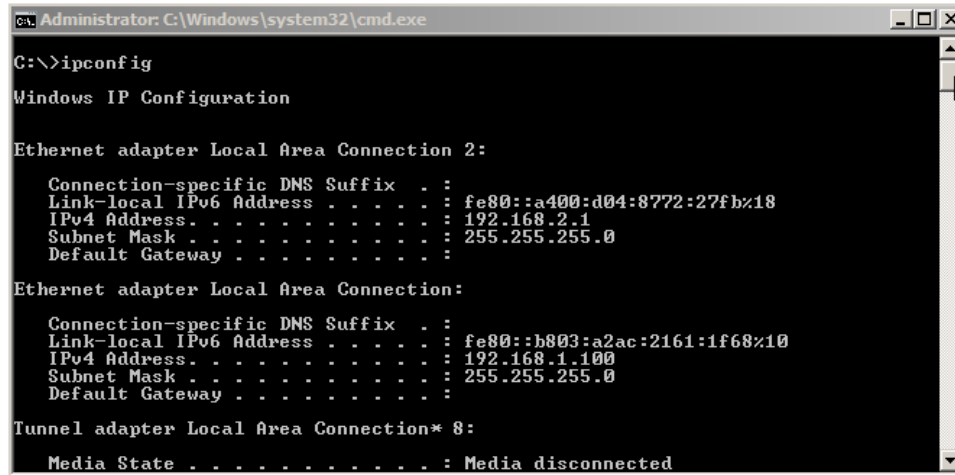
Router-A(config-if)#no ip address

Router-A(config)#no router rip

Router-A(config-router)#no network 192.168.1.0

2. Melakukan konfigurasi RIP pada Windows Server 2008

- a. Tambahkan IP Address pada interface yang sesuai



```
C:\Administrator: C:\Windows\system32\cmd.exe
C:\>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection 2:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::a400:d04:8772:27fb%18
    IPv4 Address. . . . . : 192.168.2.1
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 

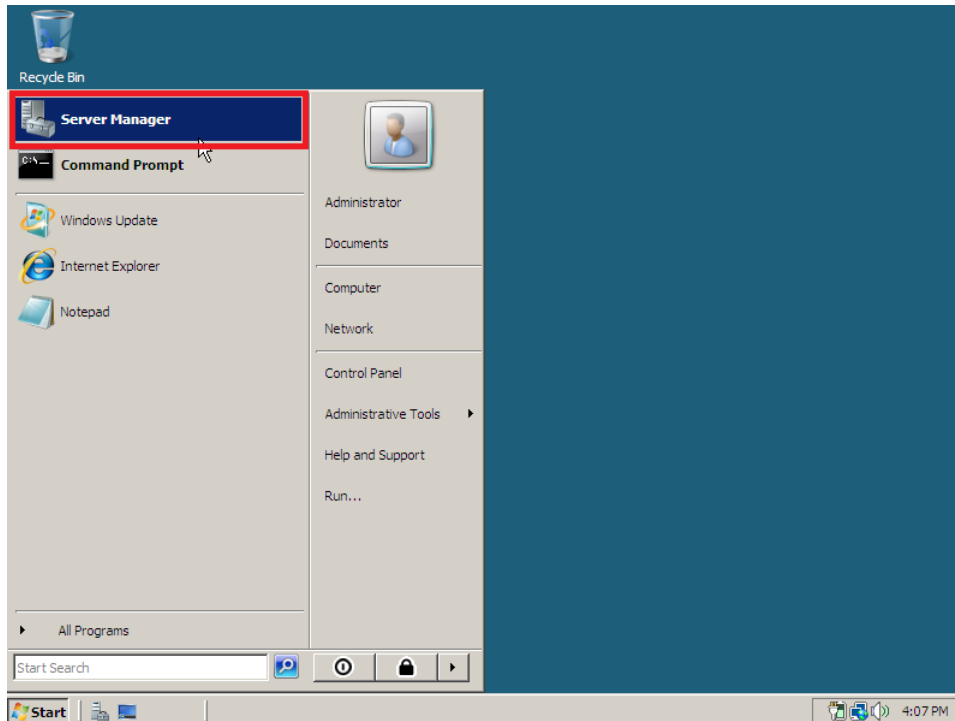
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::b803:a2ac:2161:1f68%10
    IPv4 Address. . . . . : 192.168.1.100
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 

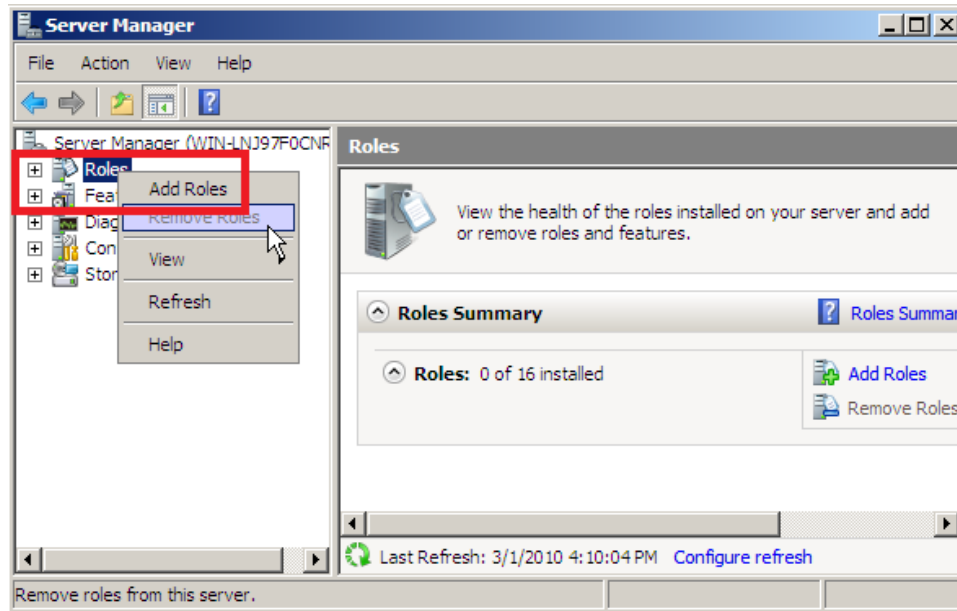
Tunnel adapter Local Area Connection* 8:

    Media State . . . . . : Media disconnected
```

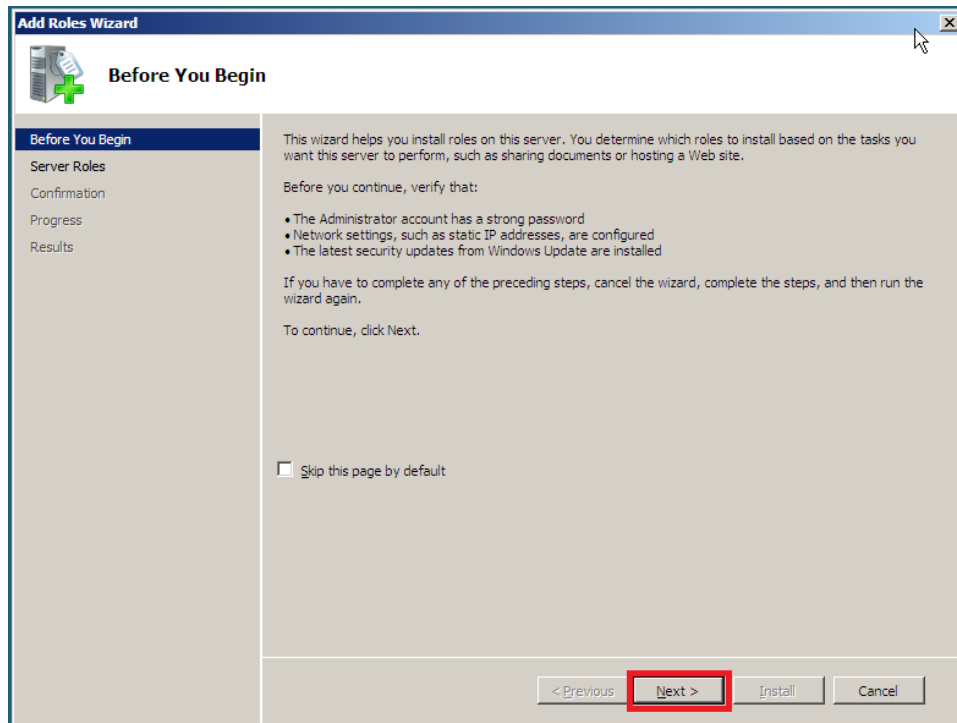
- b. Instalasi **Routing and Remote Access** melalui Server Manager



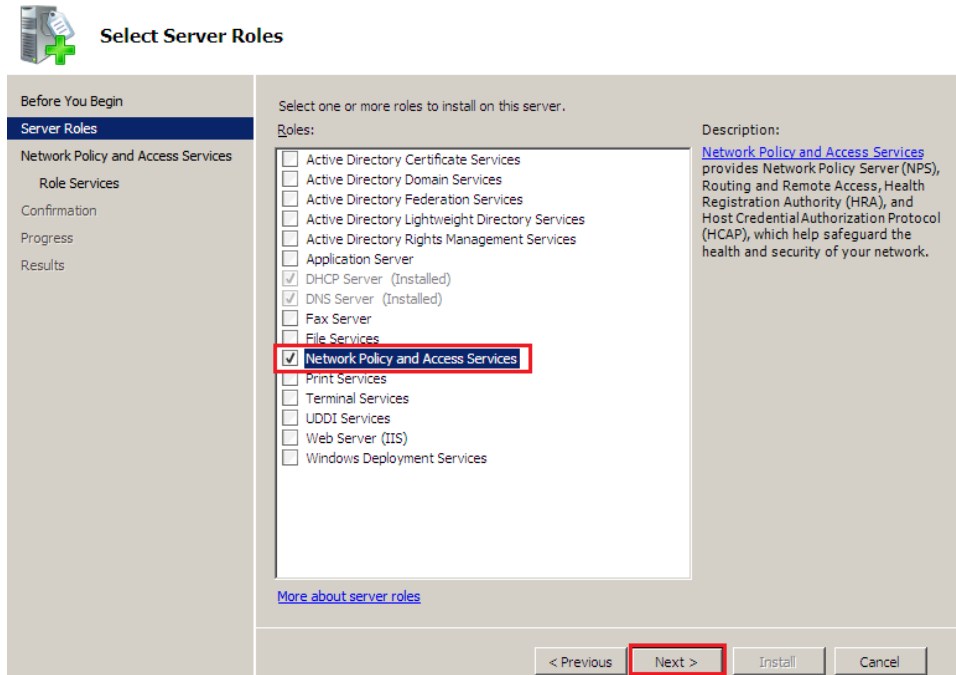
- c. Tambahkan peran Server agar menjadi **Routing and Remote Access**



- d. Ikuti Wizard instalasi



e. Pilih peran “Network Policy and Access Services”



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:

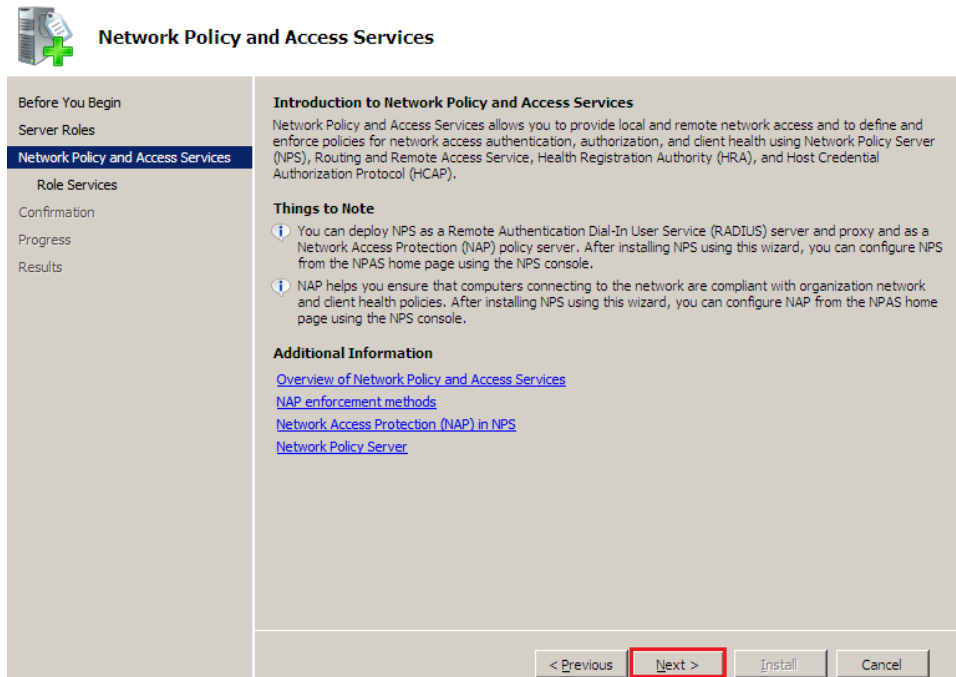
- Active Directory Certificate Services
- Active Directory Domain Services
- Active Directory Federation Services
- Active Directory Lightweight Directory Services
- Active Directory Rights Management Services
- Application Server
- DHCP Server (Installed)
- DNS Server (Installed)
- Fax Server
- File Services
- Network Policy and Access Services**
- Print Services
- Terminal Services
- UDDI Services
- Web Server (IIS)
- Windows Deployment 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



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

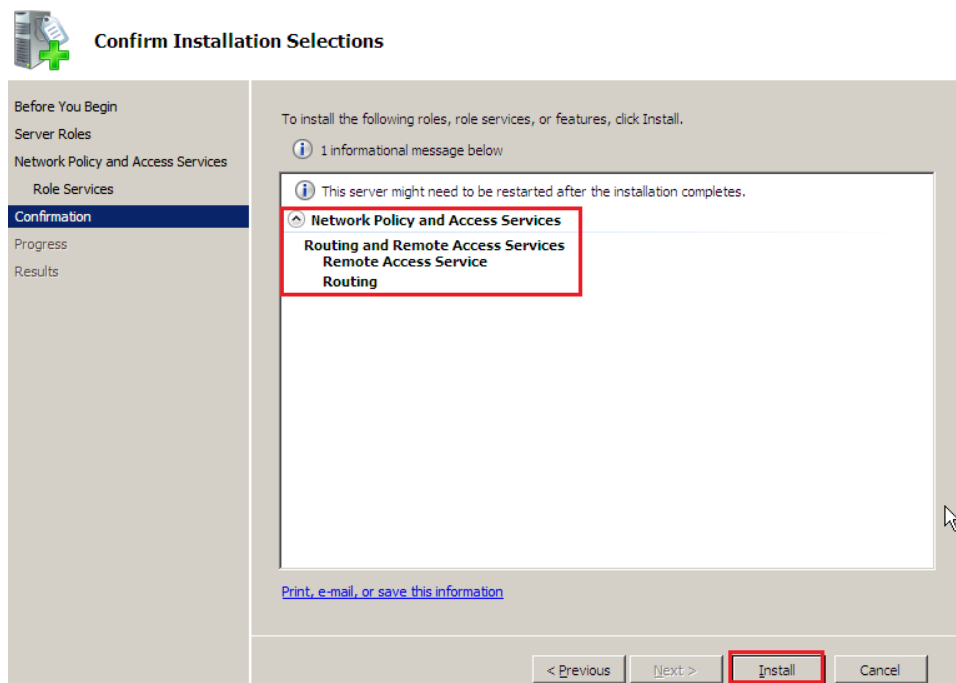
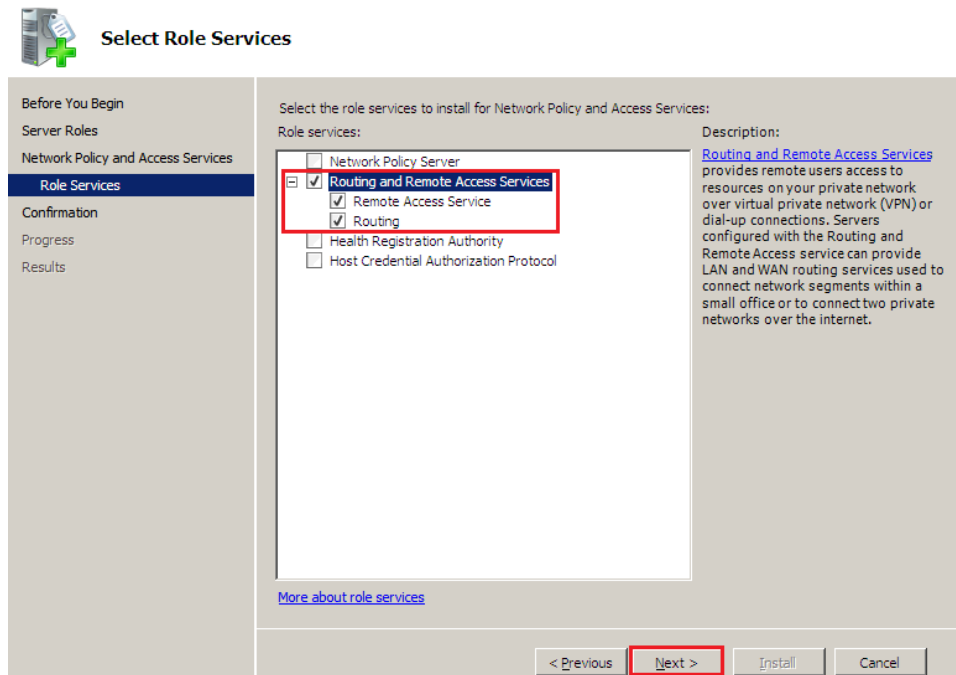
- You can deploy NPS as a Remote Authentication Dial-In User Service (RADIUS) server and proxy and as a Network Access Protection (NAP) policy server. After installing NPS using this wizard, you can configure NPS from the NPAS home page using the NPS console.
- NAP helps you ensure that computers connecting 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

f. Pilih **“Routing and Remote Access Services”** serta konfirmasi instalasi



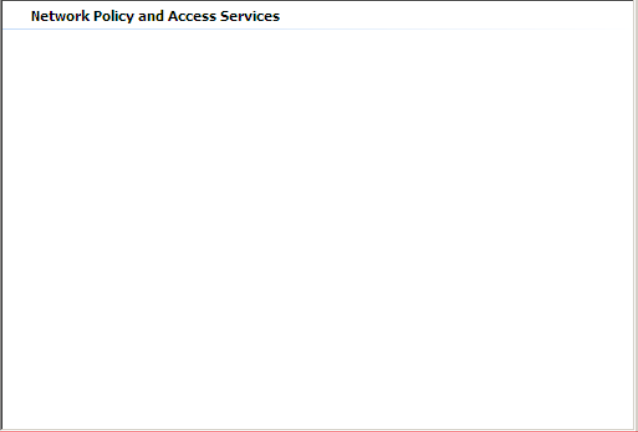


Installation Progress

Before You Begin
Server Roles
Network Policy and Access Services
 Role Services
Confirmation
Progress
Results

The following roles, role services, or features are being installed:

Network Policy and Access Services



Initializing installation...

< Previous Next > Install Cancel



Installation Results

Before You Begin
Server Roles
Network Policy and Access Services
 Role Services
Confirmation
Progress
Results

The following roles, role services, or features were installed successfully:

⚠ 1 warning message below

⚠ Windows automatic updating is not enabled. To install the latest updates, use Windows Update in Control Panel to check for updates.

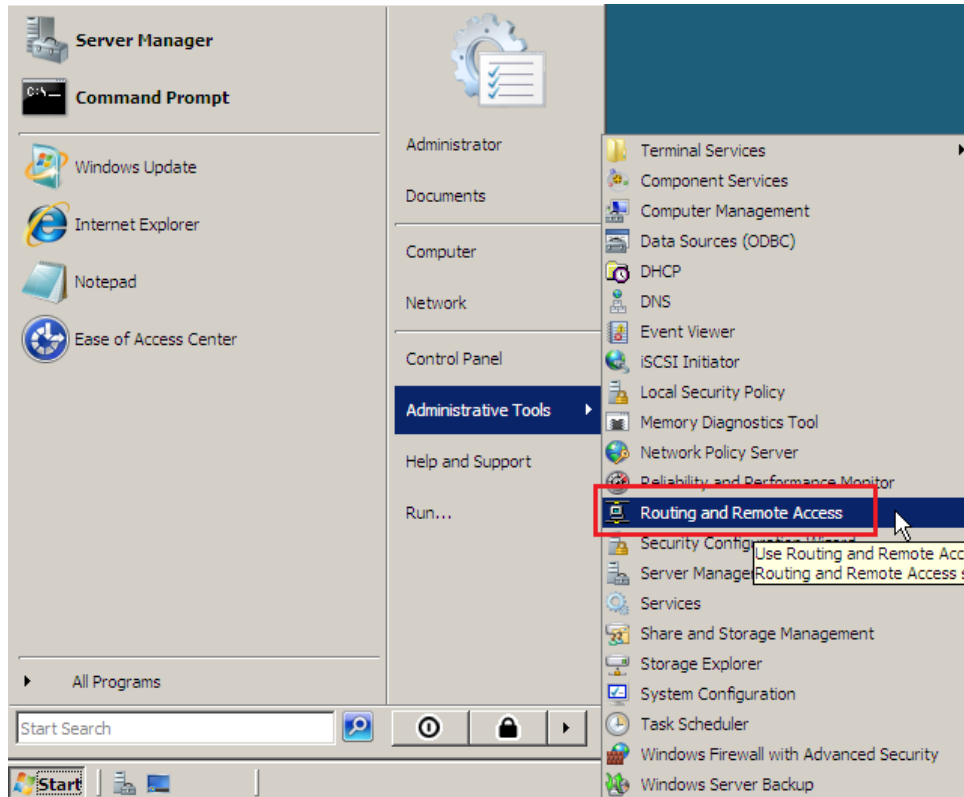
⊖ **Network Policy and Access Services** ✓ **Installation succeeded**

The following role services were installed:
Routing and Remote Access Services
 Remote Access Service
 Routing

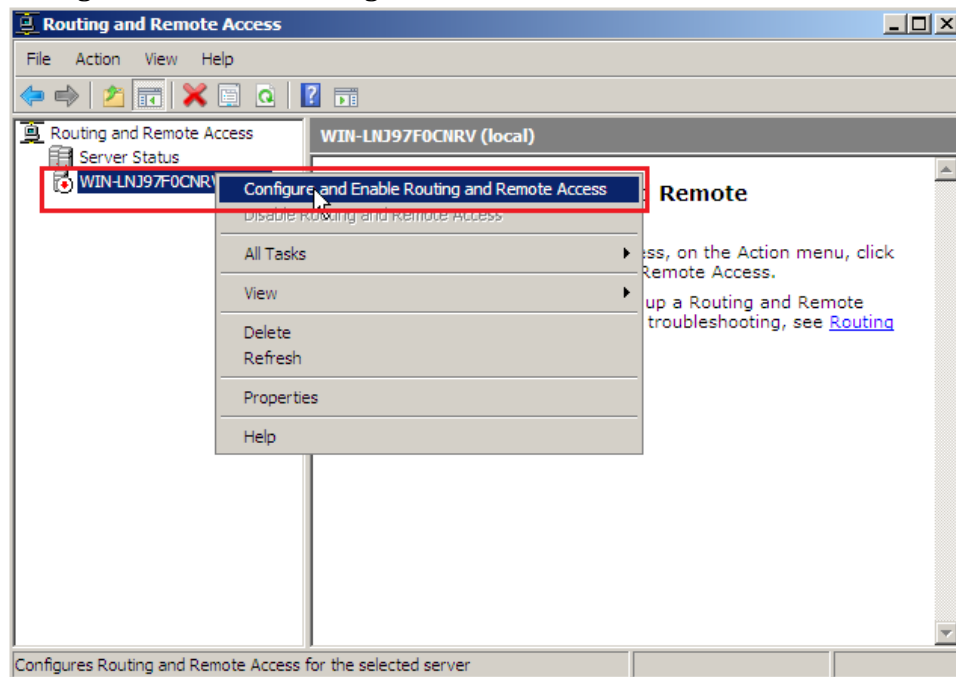
[Print, e-mail, or save the installation report](#)

< Previous Next > Close Cancel

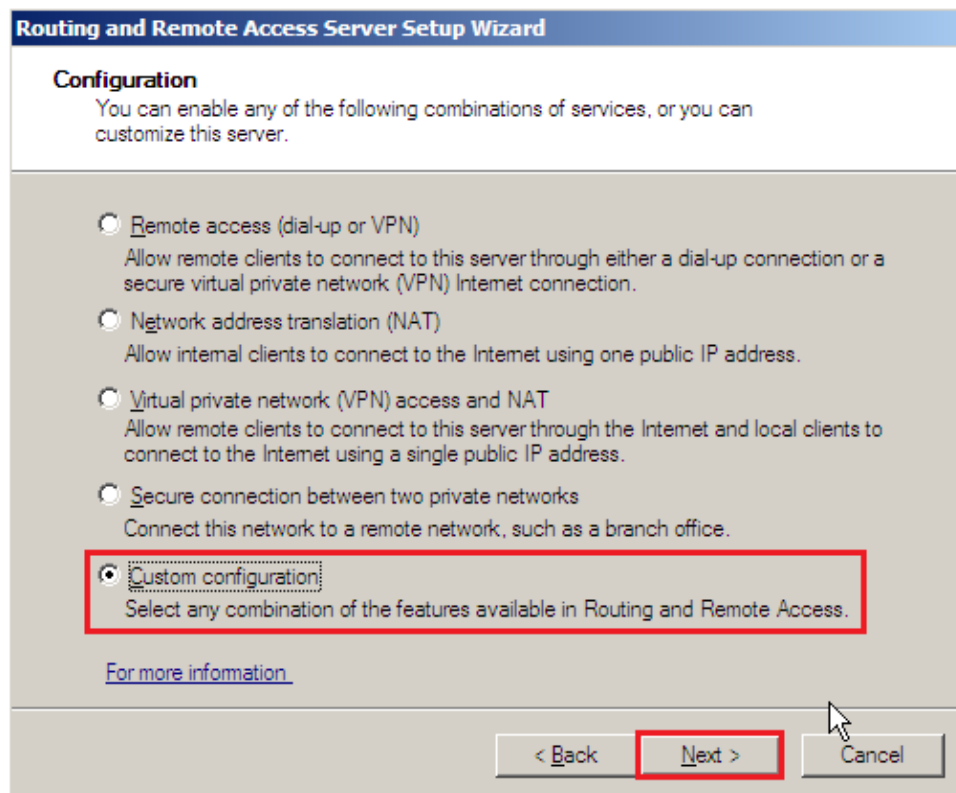
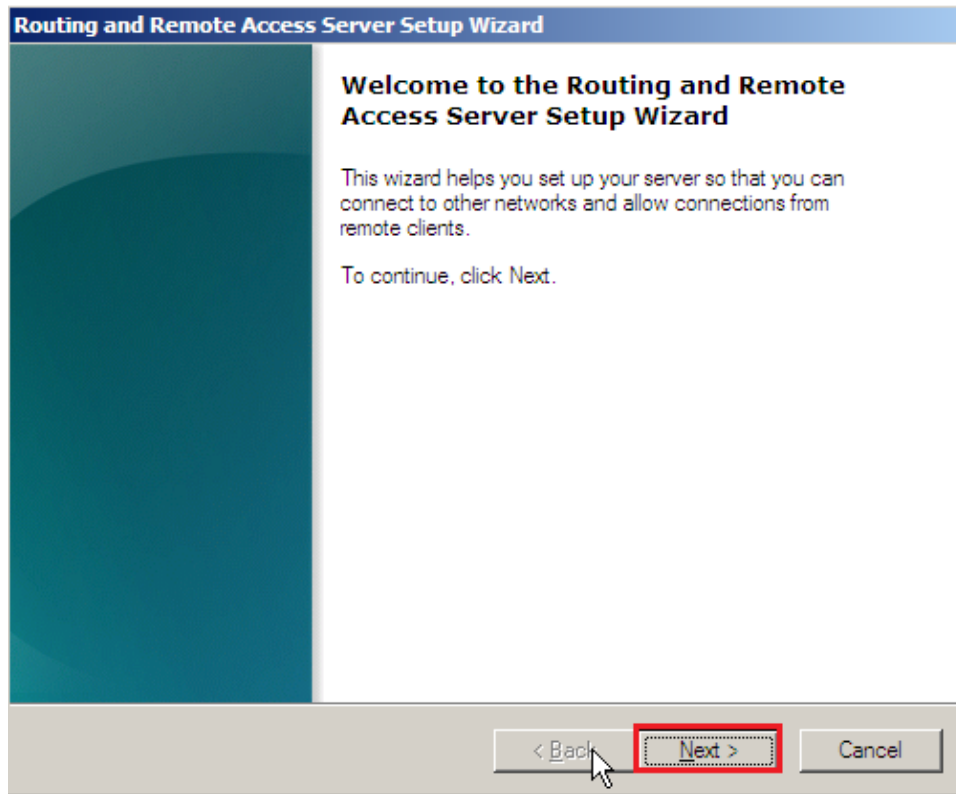
- g. Pengaturan Routing and Remote Access dapat dilakukan melalui **Administrative Tools – Routing And Remote Access**

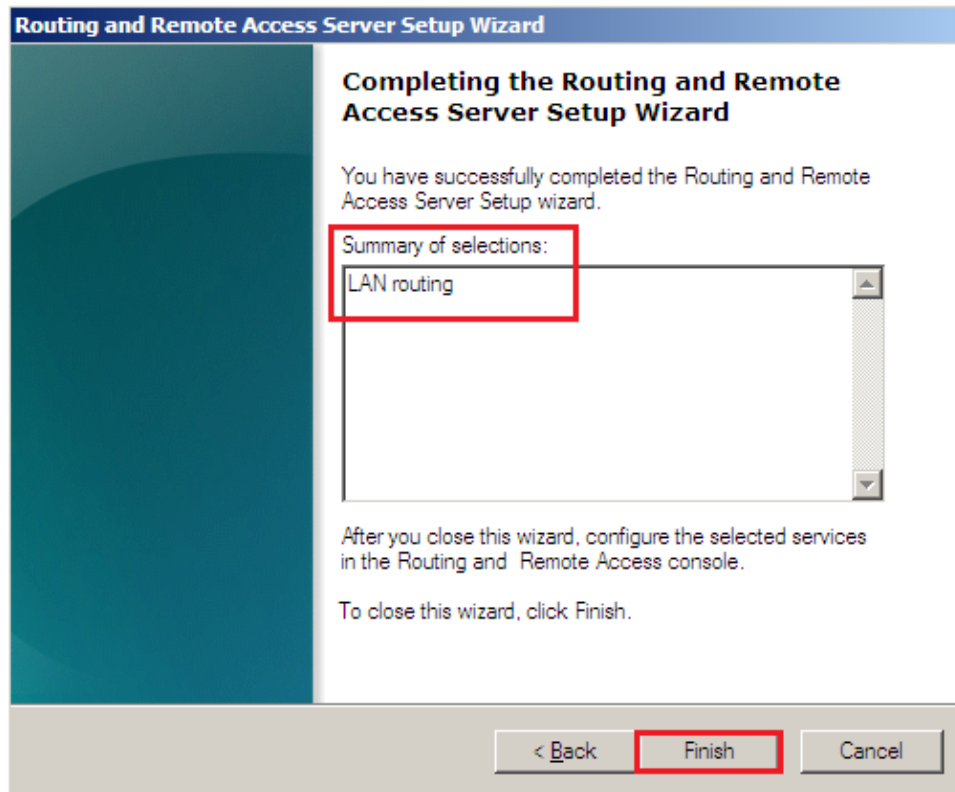
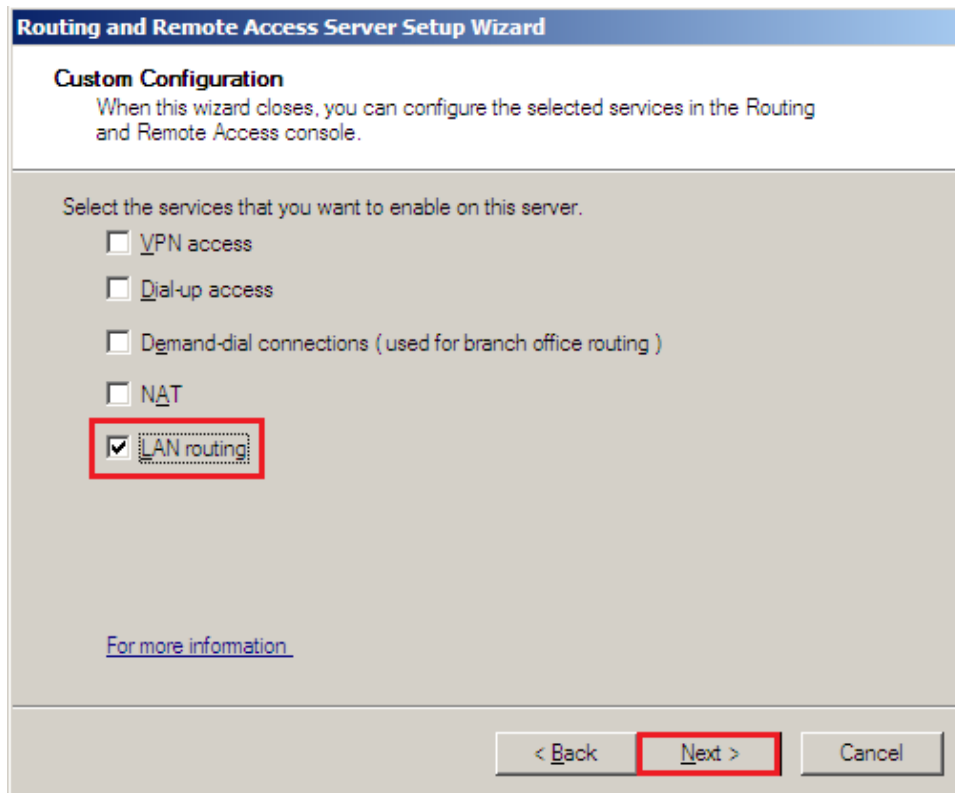


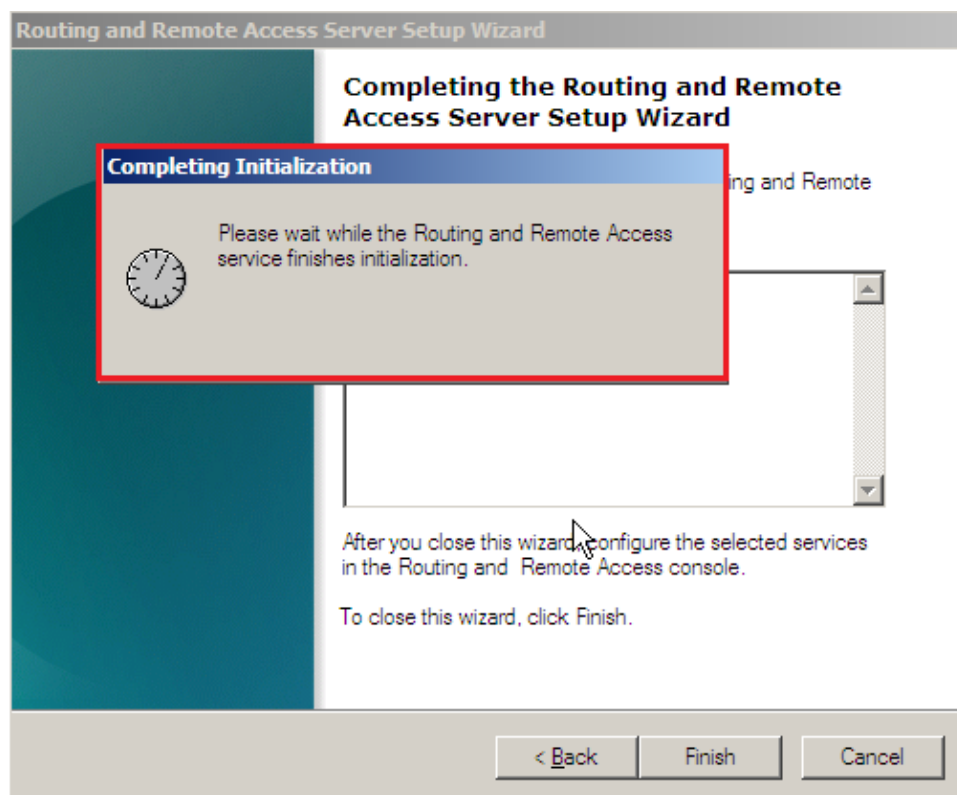
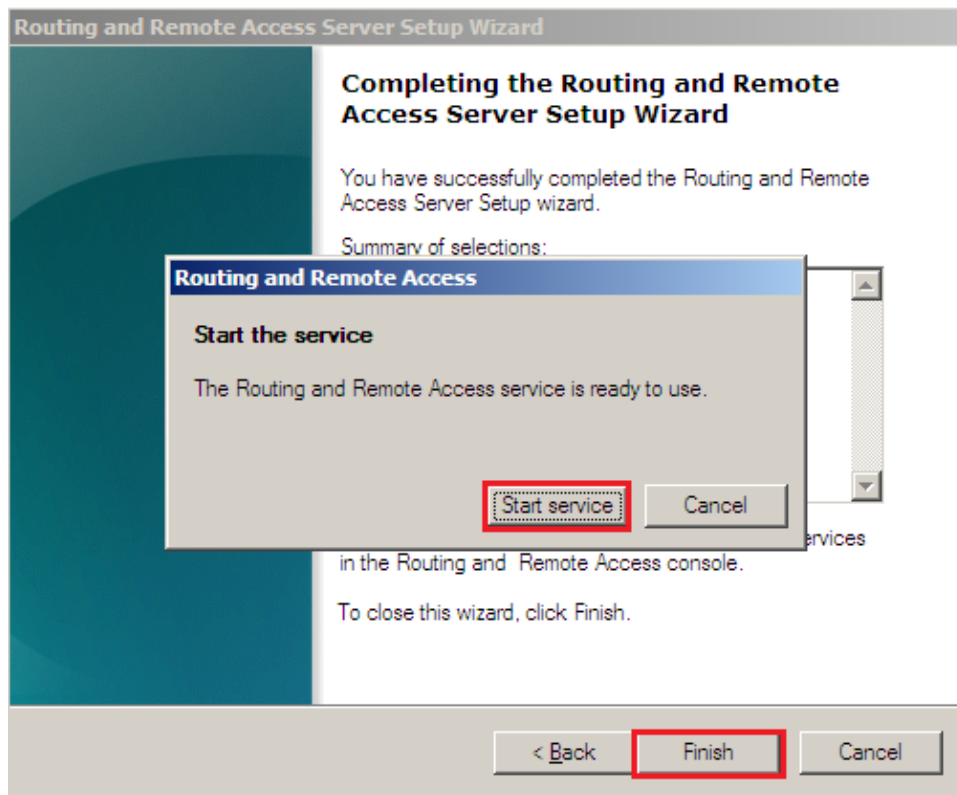
- h. Setelah jendela Routing and Remote Access terbuka, klik kanan pada komputer dan pilih **“Configure and Enable Routing and Remote Access”**



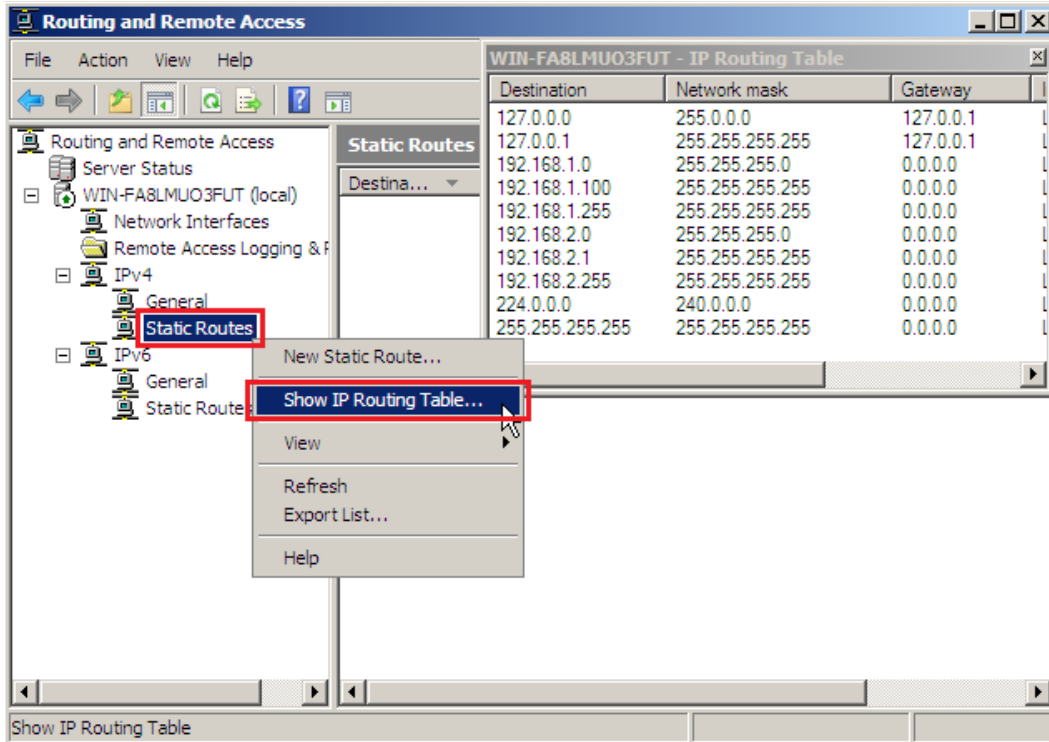
i. Ikuti Setup Wizard



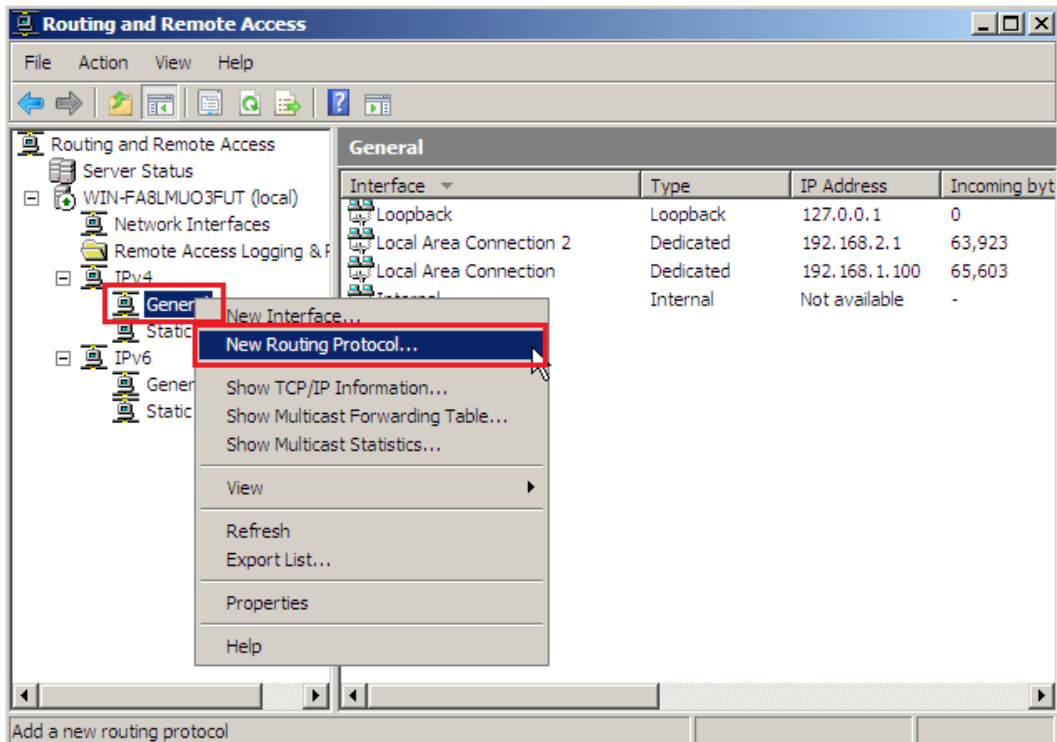




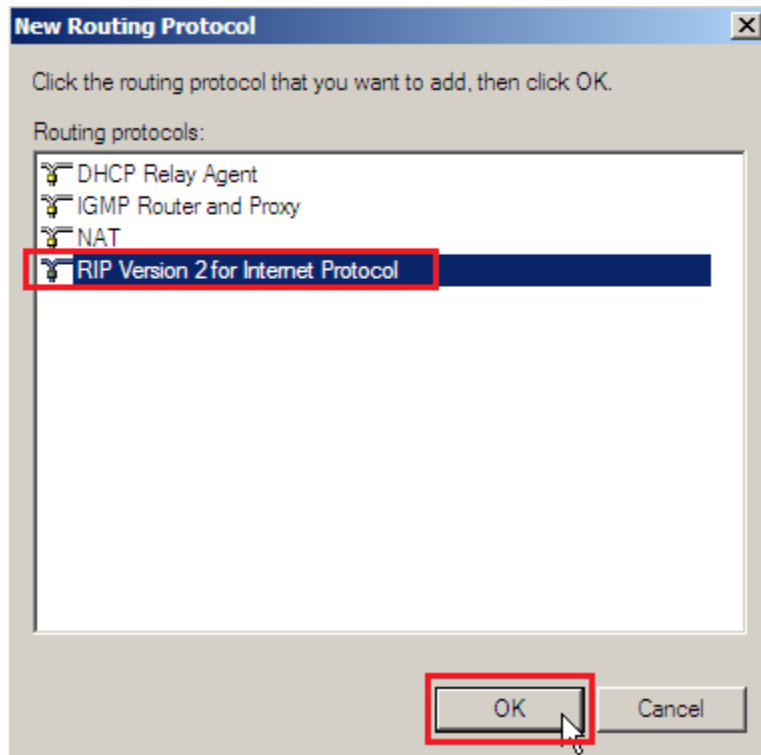
- j. Setelah proses setup selesai, untuk melihat Routing Table bisa dilakukan melalui **"IPv4 – Static Routes – Show IP Routing Table ..."**



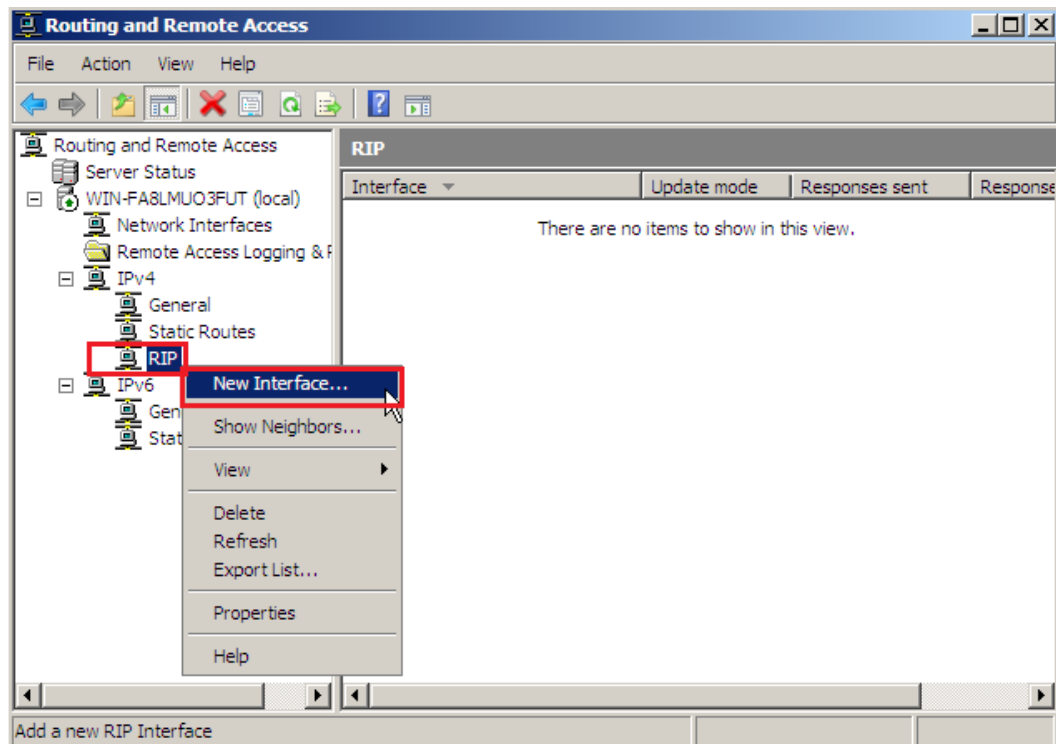
- k. Tambahkan Routing Protocol baru melalui **"IPv4 – General – New Routing Protocol..."**



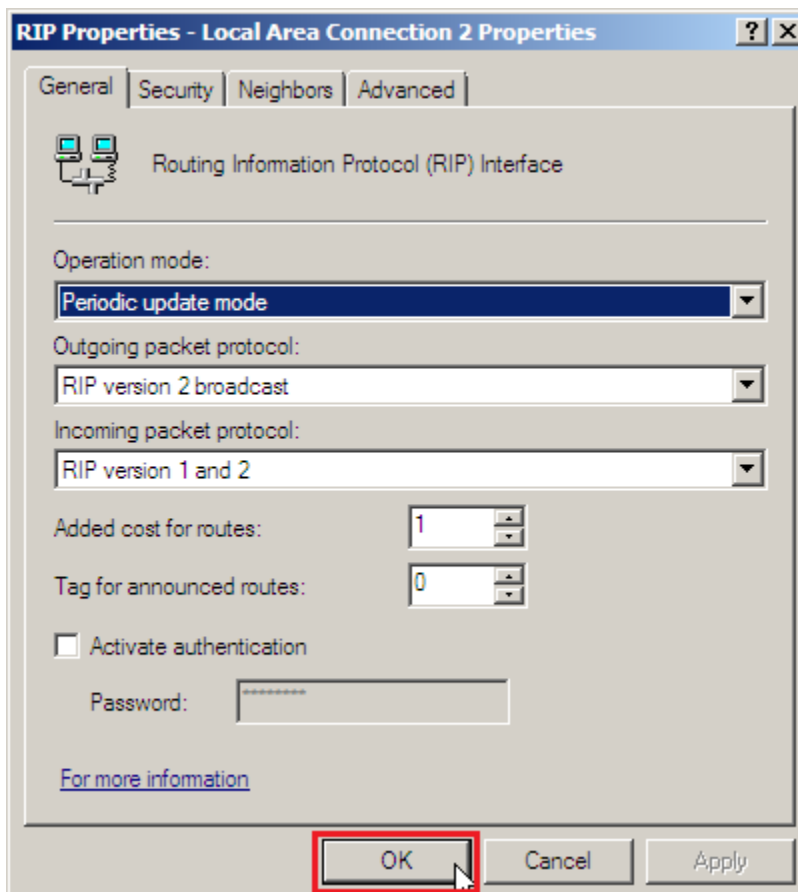
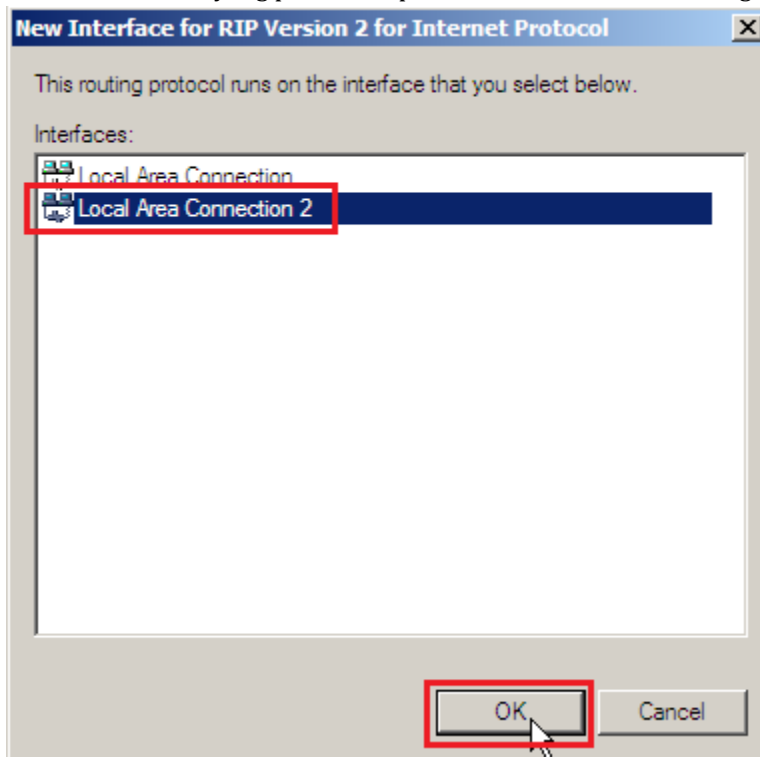
l. **“Pilih RIP Version 2 for Internet Protocol”** saat memilih New Routing Protocol



m. Setelah muncul Routing Protocol RIP, tambahkan Interface melalui **“IPv4 – RIP – New Interface...”**



- n. Pilih interface yang perlu mempertukarkan informasi Routing Table



- o. Jika setiap router sudah ditambahkan interface yang diperlukan, hasil pertukaran dapat dilihat pada Routing Table.

WIN-FABLMU03FUT - IP Routing Table

Destination	Network mask	Gateway	Interface	Metric	Protocol
127.0.0.0	255.0.0.0	127.0.0.1	Loopback	51	Local
127.0.0.1	255.255.255.255	127.0.0.1	Loopback	306	Local
192.168.1.0	255.255.255.0	0.0.0.0	Local Area Connection	266	Network managem
192.168.1.100	255.255.255.255	0.0.0.0	Local Area Connection	266	Network managem
192.168.1.255	255.255.255.255	0.0.0.0	Local Area Connection	266	Network managem
192.168.2.0	255.255.255.0	0.0.0.0	Local Area Connection 2	266	Network managem
192.168.2.1	255.255.255.255	0.0.0.0	Local Area Connection 2	266	Network managem
192.168.2.255	255.255.255.255	0.0.0.0	Local Area Connection 2	266	Network managem
192.168.3.0	255.255.255.0	192.168.2.2	Local Area Connection 2	13	RIP
224.0.0.0	240.0.0.0	0.0.0.0	Local Area Connection	266	Network managem
255.255.255.255	255.255.255.255	0.0.0.0	Local Area Connection	266	Network managem

Static Routes

- New Static Route...
- Show IP Routing Table...
- View
- Refresh
- Export List...
- Help