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## **MODUL 9**

### **PENGENALAN STATIC NETWORK ADDRESS TRANSLATION PADA ROUTER CISCO**

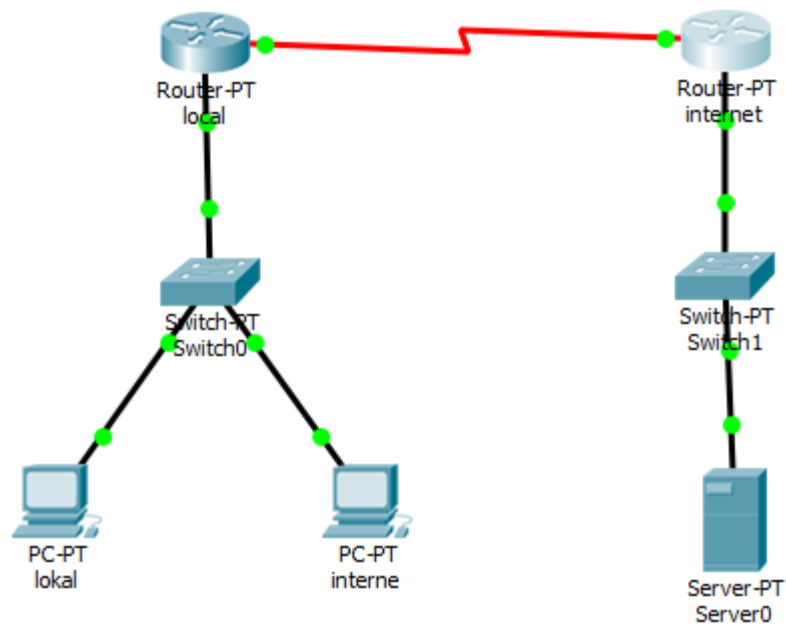
#### **E. Tugas Modul 9**

1. Tarik kesimpulan dari konfigurasi NAT tersebut, bandingkan dengan mekanisme routing static tanpa menggunakan NAT

Konfigurasi dari NAT bisa digunakan untuk membantu computer atau PC local (LAN) yang menggunakan IP Private agar bisa terhubung dengan internet dengan cara menstranslasi alamat IP Private tersebut ke dalam alamat IP global, dimana dalam kasus yang dapat ditemui adalah computer server yang digunakan pada saat UNBK.

Perbandingan yang terlihat diantara penggunaan mekanisme routing static dengan dan tanpa NAT adalah kegunaannya dimana NAT akan lebih digunakan sebagai jembatan antara jaringan local dengan jaringan global, sedangkan mekanisme yang tidak memanfaatkan NAT akan lebih cocok sebagai dinding atau pembatas untuk mengelompokkan kumpulan jaringan dan membuat akses khusus pada jaringan tertentu.

2. Catat langkah praktikum 1 – 7 dan jawaban kesimpulan anda pada laporan praktikum, kumpulkan pada pertemuan berikutnya



### 1) Konfigurasi Router Internet

```

router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
router(config)#hostname internet
internet(config)#int fa0/0
internet(config-if)#ip address 10.0.0.1 255.255.255.0
internet(config-if)#no shutdown

internet(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

internet(config-if)#exit

internet(config)#int serial2/0
internet(config-if)#ip address 20.0.0.2 255.255.255.0
internet(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
internet(config-if)#exit

```

```

internet(config)#ip route 30.0.0.0 255.255.255.0 20.0.0.1
internet(config)#ip nat inside source static 10.0.0.2 50.0.0.1
internet(config)#int fa 0/0
internet(config-if)#ip nat inside
internet(config-if)#exit
internet(config)#int serial 2/0
internet(config-if)#ip nat outside
internet(config-if)#exit

```

## 2) Konfigurasi Router Local

```

Router>enable
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname lokal
lokal(config)#int fa0/0
lokal(config-if)#ip address 30.0.0.1 255.255.255.0
lokal(config-if)#no shutdown

lokal(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

lokal(config-if)#exit

lokal(config-if)#exit
lokal(config)#int serial2/0
lokal(config-if)#ip address 20.0.0.1 255.255.255.0
lokal(config-if)#clock rate 64000
lokal(config-if)#bandwidth 64
lokal(config-if)#no shutdown
lokal(config-if)#exit
lokal(config)#ip route 50.0.0.0 255.255.255.0 20.0.0.2
lokal(config)#exit
lokal#
%SYS-5-CONFIG_I: Configured from console by console

lokal#

```

### 3) Konfigurasi IP Address, Subnet Mask, dan Default Gateway untuk PC Lokal

The screenshot shows a window titled 'IP Configuration' with a blue header bar. Below the header, there are tabs: 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Config' tab is selected. The main area is divided into two sections: 'IP Configuration' and 'IPv6 Configuration'. In the 'IP Configuration' section, the 'Static' radio button is selected. The fields are filled with: IP Address: 30.0.0.2, Subnet Mask: 255.255.255.0, Default Gateway: 30.0.0.1, and DNS Server: 0.0.0.0. In the 'IPv6 Configuration' section, the 'Static' radio button is selected. The fields are: IPv6 Address (empty), Link Local Address: FE80::2D0:BCFF:FE74:5481, IPv6 Gateway (empty), and IPv6 DNS Server (empty). A 'Top' button is located at the bottom left of the window.

| IP Configuration   |               |
|--|---------------|
| <input type="radio"/> DHCP <input checked="" type="radio"/> Static |               |
| IP Address   | 30.0.0.2      |
| Subnet Mask  | 255.255.255.0 |
| Default Gateway  | 30.0.0.1      |
| DNS Server   | 0.0.0.0       |

| IPv6 Configuration   |                          |
|--|--------------------------|
| <input type="radio"/> DHCP <input type="radio"/> Auto Config <input checked="" type="radio"/> Static |                          |
| IPv6 Address   | /                        |
| Link Local Address   | FE80::2D0:BCFF:FE74:5481 |
| IPv6 Gateway   |                          |
| IPv6 DNS Server  |                          |

☐ Top

4) Konfigurasi IP Address, Subnet Mask, dan Default Gateway untuk PC internet

The image shows a screenshot of a configuration window titled 'interne'. The window has several tabs: 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Config' tab is selected. Inside the 'Config' tab, there is a sub-tab 'IP Configuration' which is highlighted in blue. Below this sub-tab, there are two main sections: 'IP Configuration' and 'IPv6 Configuration'.

**IP Configuration:**

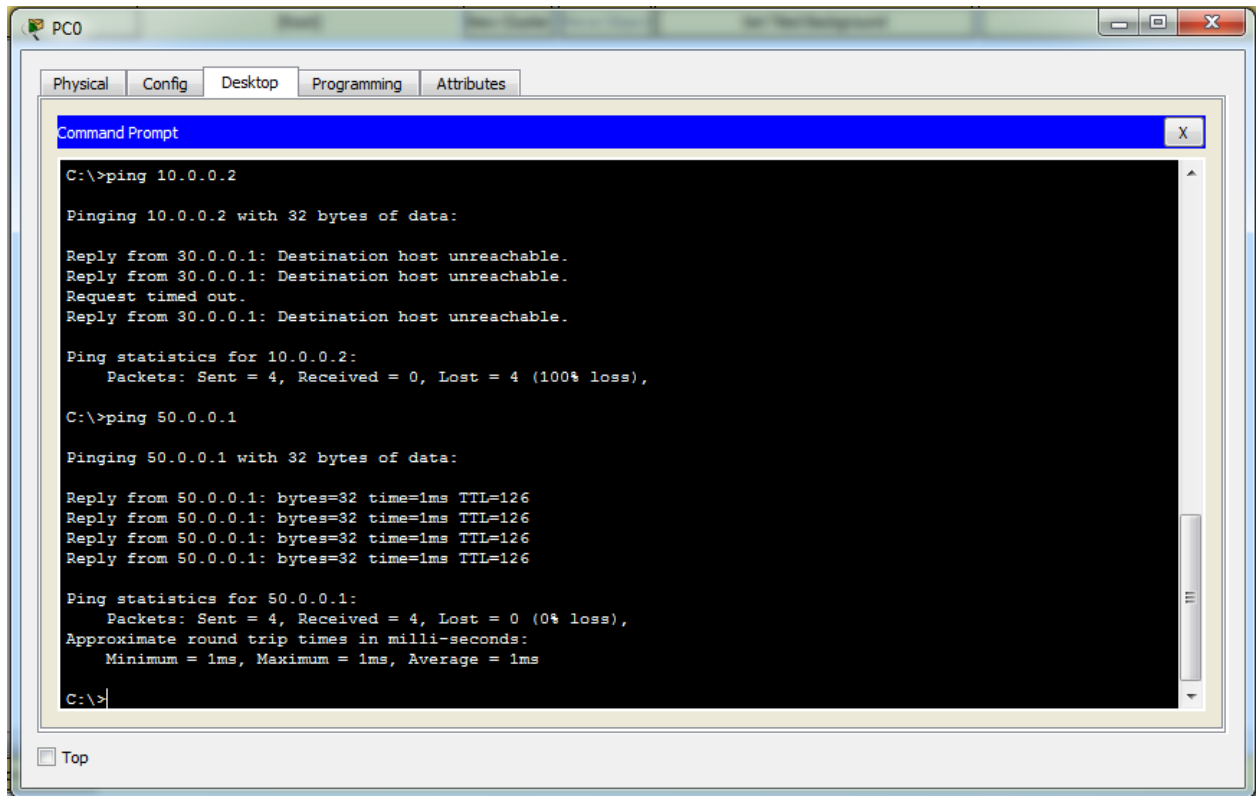
- ☐ DHCP
- ☒ Static
- IP Address: 10.0.0.2
- Subnet Mask: 255.255.255.0
- Default Gateway: 10.0.0.1
- DNS Server: 0.0.0.0

**IPv6 Configuration:**

- ☐ DHCP
- ☐ Auto Config
- ☒ Static
- IPv6 Address: [empty] / [empty]
- Link Local Address: FE80::206:2AFF:FE44:1290
- IPv6 Gateway: [empty]
- IPv6 DNS Server: [empty]

At the bottom left of the window, there is a checkbox labeled 'Top' which is currently unchecked.

5) Menguji coba koneksi PC local dengan server



The screenshot shows a window titled "PC0" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the results of two ping commands. The first command is "C:\>ping 10.0.0.2", which results in four "Destination host unreachable" replies and a 100% loss of packets. The second command is "C:\>ping 50.0.0.1", which results in four successful replies with a 1ms time and TTL of 126, and a 0% loss of packets.

```
C:\>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 30.0.0.1: Destination host unreachable.
Reply from 30.0.0.1: Destination host unreachable.
Request timed out.
Reply from 30.0.0.1: Destination host unreachable.

Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 50.0.0.1

Pinging 50.0.0.1 with 32 bytes of data:

Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126

Ping statistics for 50.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms

C:\>
```