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Kelas : C

Modul : 9

1. Routing Statis tanpa NAT

Static routing (Routing Statis) adalah sebuah router yang memiliki tabel routing statik yang di setting secara manual oleh para administrator jaringan. Routing static merupakan pengaturan routing paling sederhana yang dapat dilakukan pada jaringan komputer. Menggunakan routing statik murni dalam sebuah jaringan berarti mengisi setiap entri dalam forwarding table di setiap router yang berada di jaringan tersebut.

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.

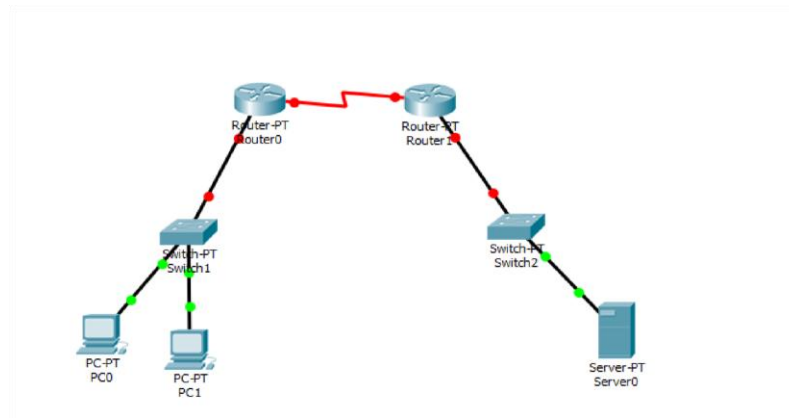
2. Konfigurasi NAT

NAT (Network Address Translation) adalah sebuah metode yang berfungsi untuk menghubungkan lebih dari satu komputer ke internet melalui satu IP address. Alasan penggunaan metode ini adalah karena terbatasnya ketersediaan IP Address yang dapat langsung menghubungkan komputer ke internet.

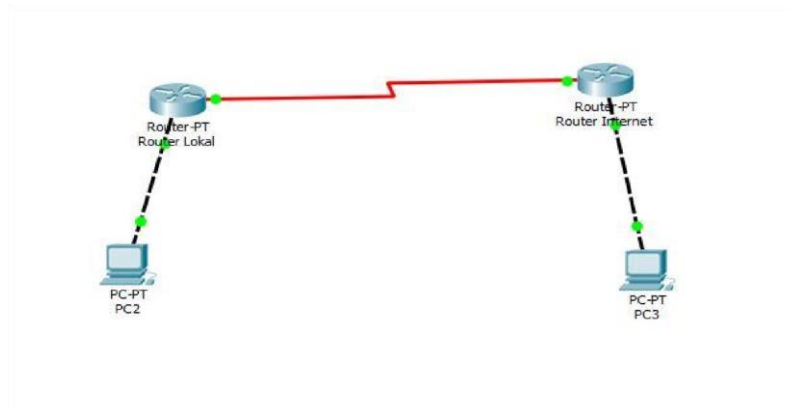
TUGAS

1. Desain jaringan

- Topologi Praktek

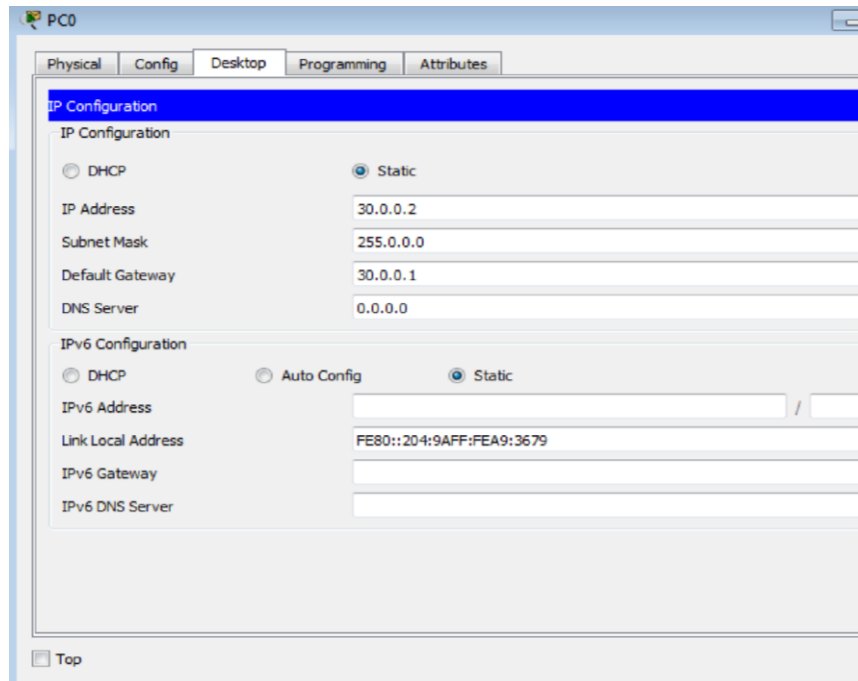


- Topologi Jaringan



2. Memberi alamat IP

- PC 0



The screenshot shows the configuration window for PC0. The 'Config' tab is selected, and the 'IP Configuration' section is highlighted. Under 'IP Configuration', the 'Static' radio button is selected. The fields are filled with the following values:

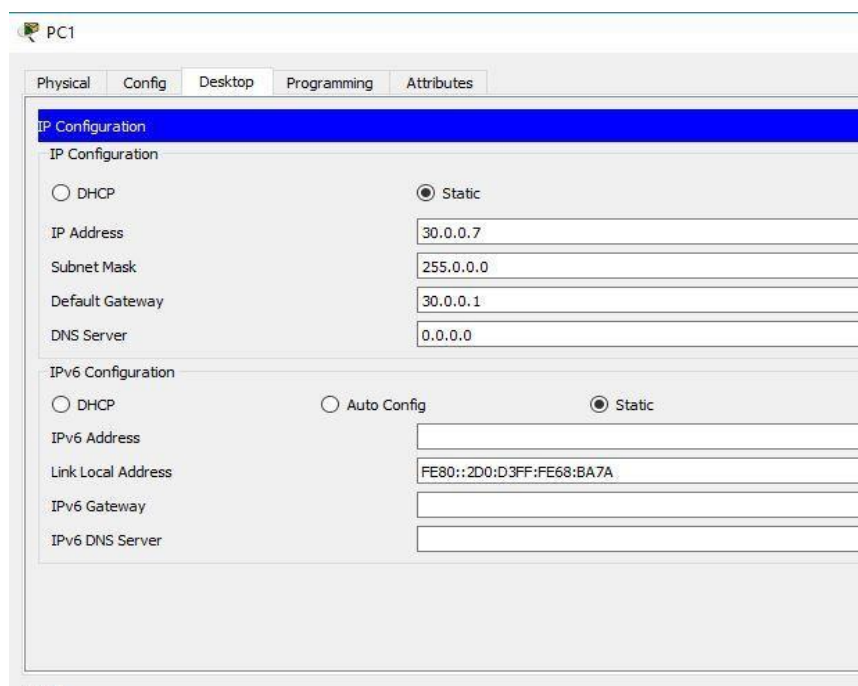
Field	Value
IP Address	30.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	30.0.0.1
DNS Server	0.0.0.0

Below the IP Configuration section is the 'IPv6 Configuration' section. The 'Static' radio button is selected. The fields are filled with the following values:

Field	Value
IPv6 Address	
Link Local Address	FE80::204:9AFF:FEA9:3679
IPv6 Gateway	
IPv6 DNS Server	

A 'Top' button is located at the bottom left of the window.

- PC 1



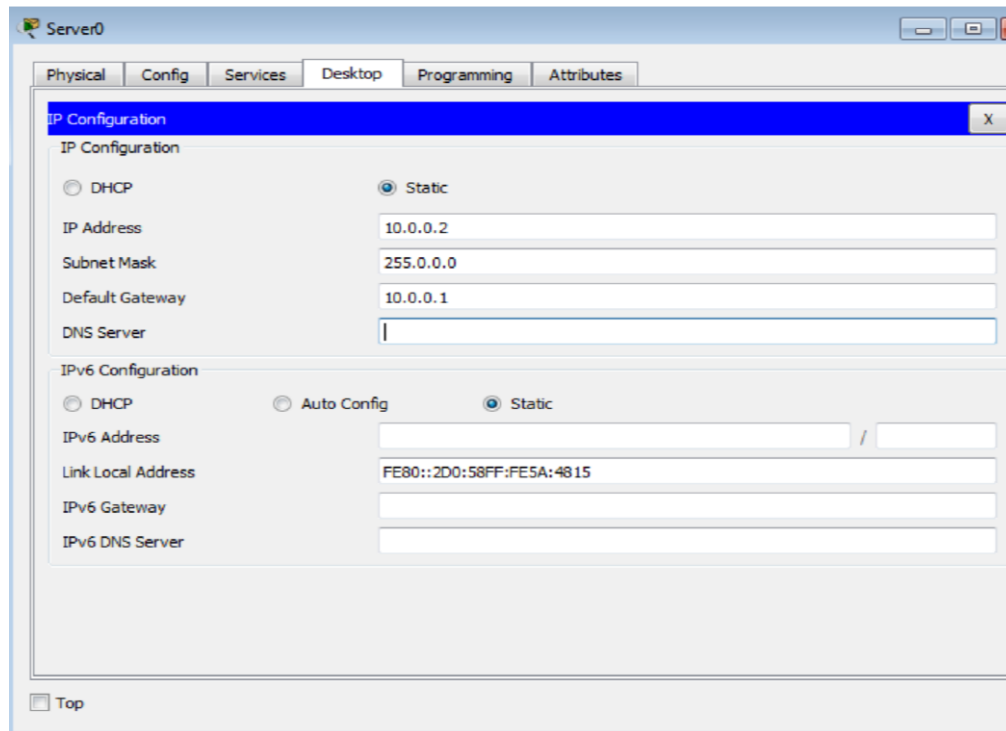
The screenshot shows the configuration window for PC1. The 'Config' tab is selected, and the 'IP Configuration' section is highlighted. Under 'IP Configuration', the 'Static' radio button is selected. The fields are filled with the following values:

Field	Value
IP Address	30.0.0.7
Subnet Mask	255.0.0.0
Default Gateway	30.0.0.1
DNS Server	0.0.0.0

Below the IP Configuration section is the 'IPv6 Configuration' section. The 'Static' radio button is selected. The fields are filled with the following values:

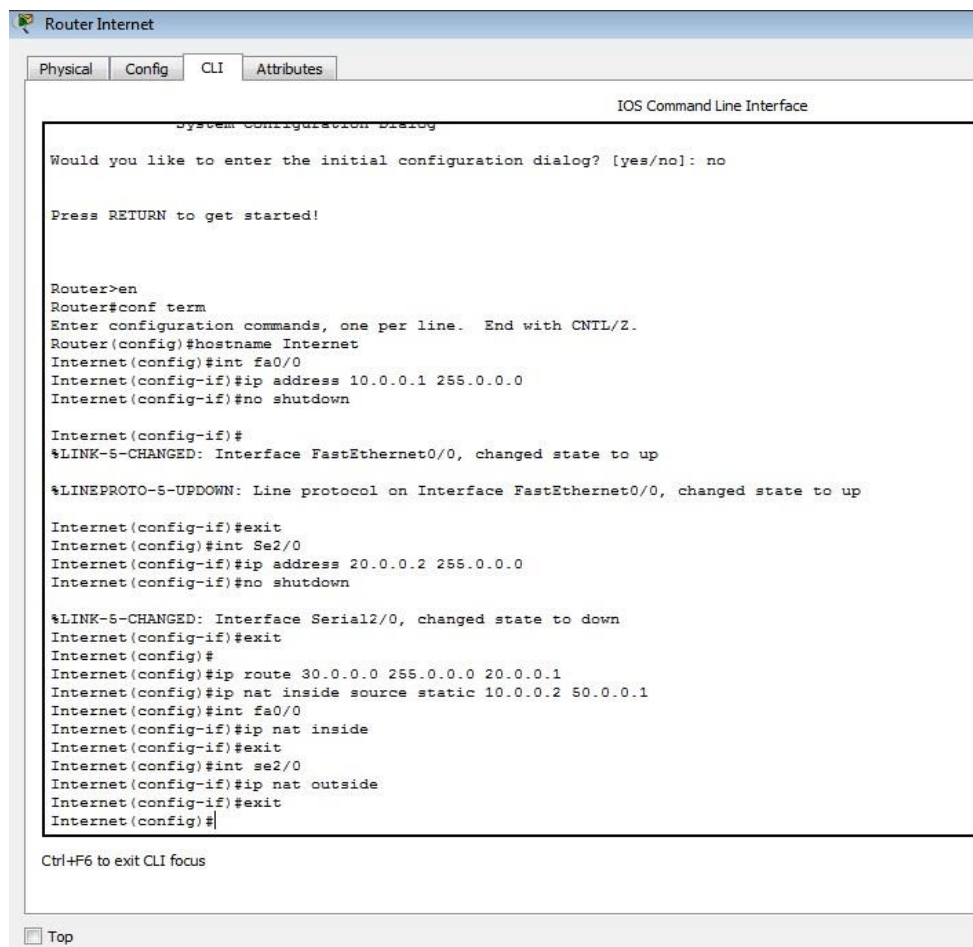
Field	Value
IPv6 Address	
Link Local Address	FE80::2D0:D3FF:FE68:BA7A
IPv6 Gateway	
IPv6 DNS Server	

3. Memberi IP pada webserver

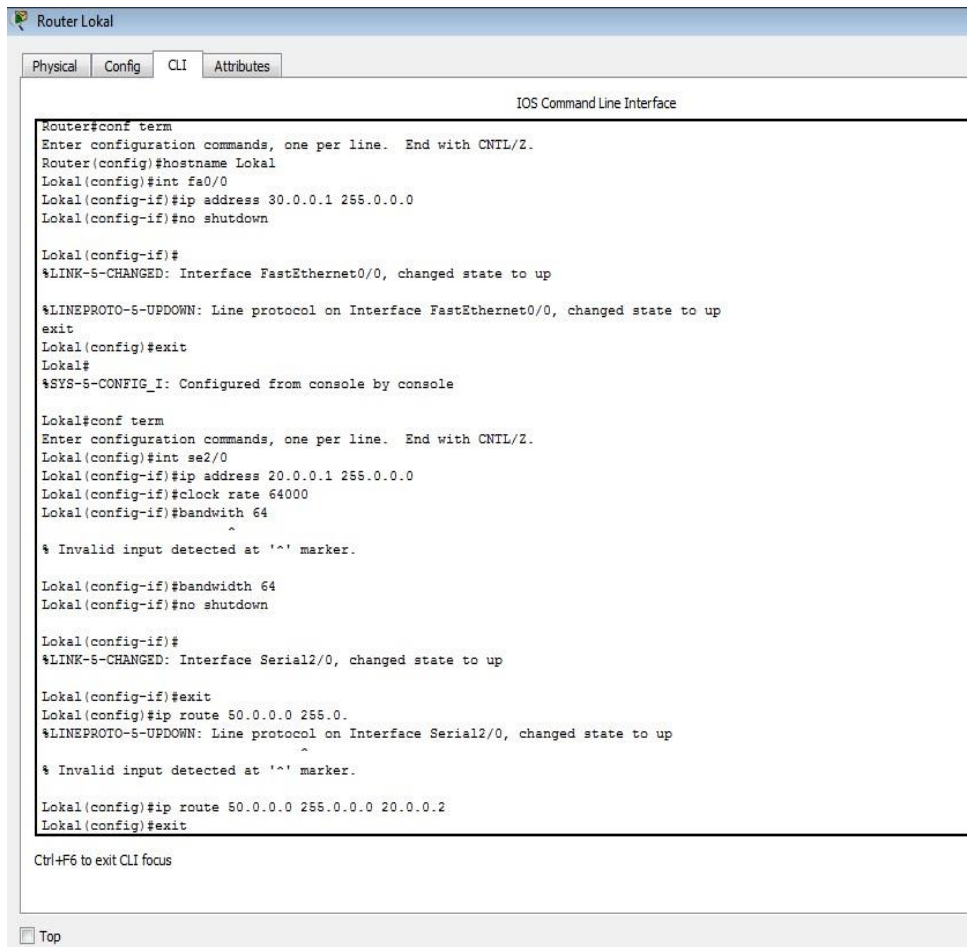


4. Konfigurasi router

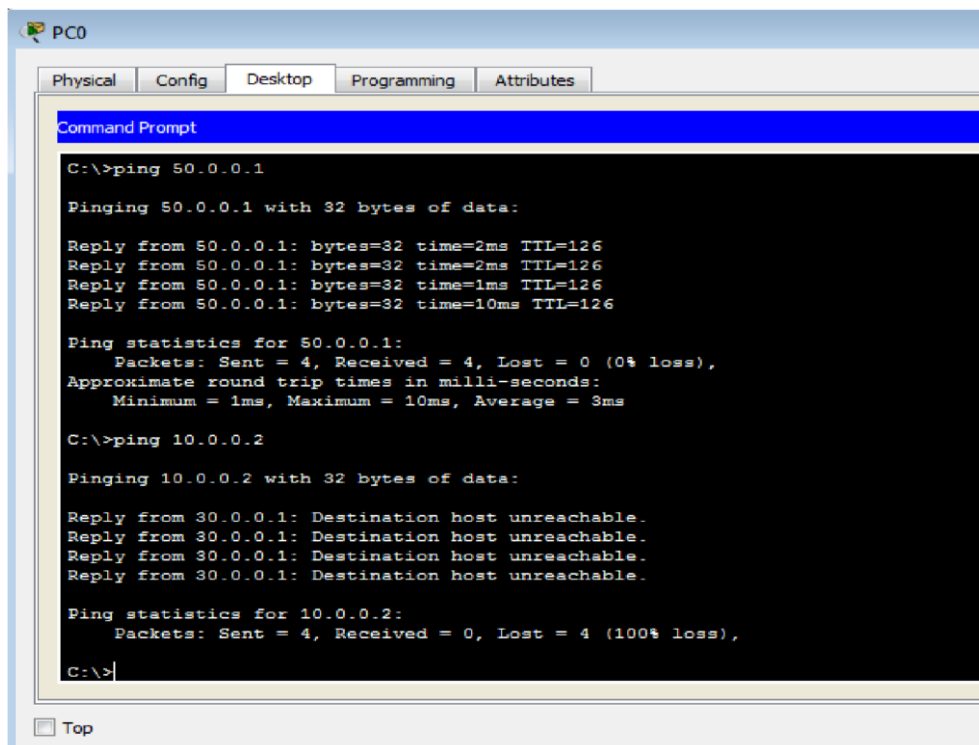
- Router Internet



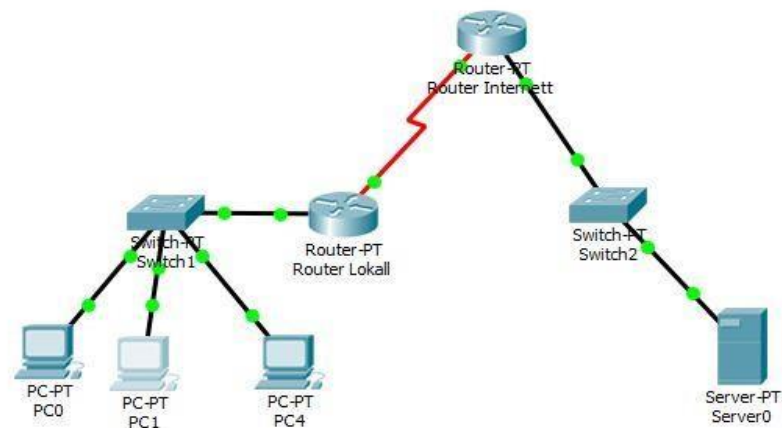
- Router Lokal



5. Uji koneksi dari PC Lokal ke webserver



6. Pengembangan topologi
a. Desain Jaringan



b. Beri IP
• PC1

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
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.
Reply from 30.0.0.1: Destination host unreachable.
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=2ms TTL=126
Reply from 50.0.0.1: bytes=32 time=18ms 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 = 18ms, Average = 5ms

C:\>
```

- PC4

```

PC4
Physical Config Desktop Programming Attributes
Command Prompt
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.
Reply from 30.0.0.1: Destination host unreachable.
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=2ms TTL=126
Reply from 50.0.0.1: bytes=32 time=2ms TTL=126
Reply from 50.0.0.1: bytes=32 time=2ms TTL=126
Reply from 50.0.0.1: bytes=32 time=2ms 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 = 2ms, Maximum = 2ms, Average = 2ms

C:\>
  
```

- c. Uji coba koneksi PC1 dan PC4 dengan server melalui IP Publik

- PC 1 ke server

```

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=12ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=12ms 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 = 12ms, Average = 6ms

C:\>
  
```

- PC 4 ke server

```
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.
Reply from 30.0.0.1: Destination host unreachable.
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),
```