

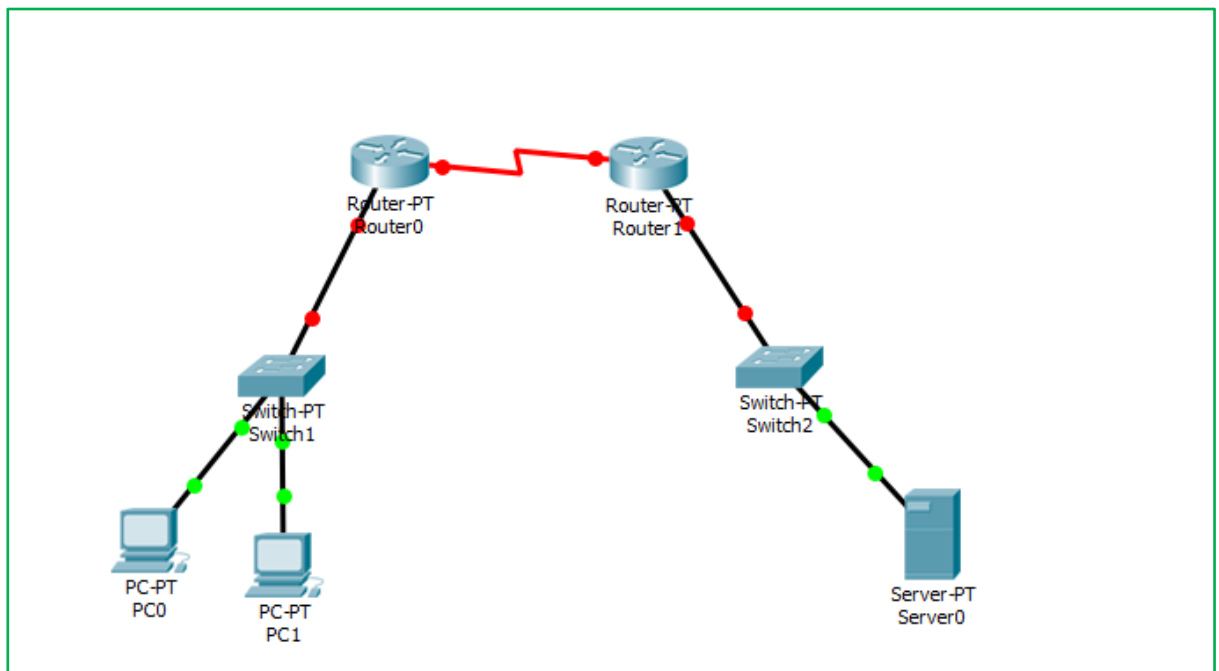
**Laporan Praktikum
Jaringan Komputer
Modul 9**

“Pengenalan Static Network Address Translation Pada Router Cisco”

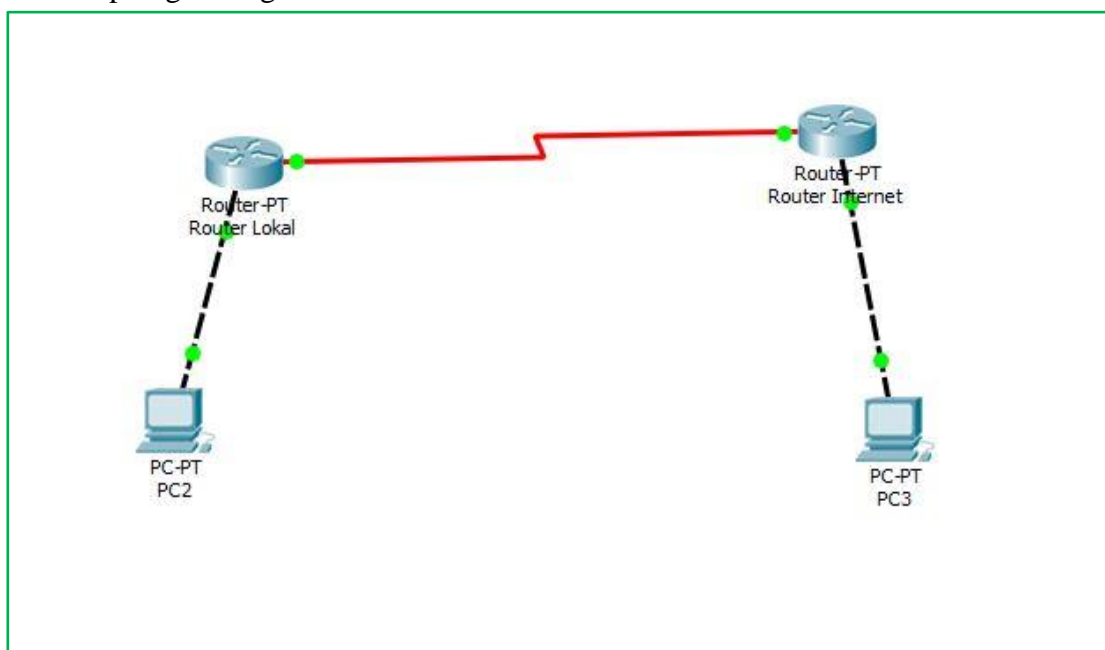
Kegiatan Praktikum

1. Topologi Praktek

Persiapkan topologi jaringan seperti pada gambar :



2. Buat Topologi Jaringan



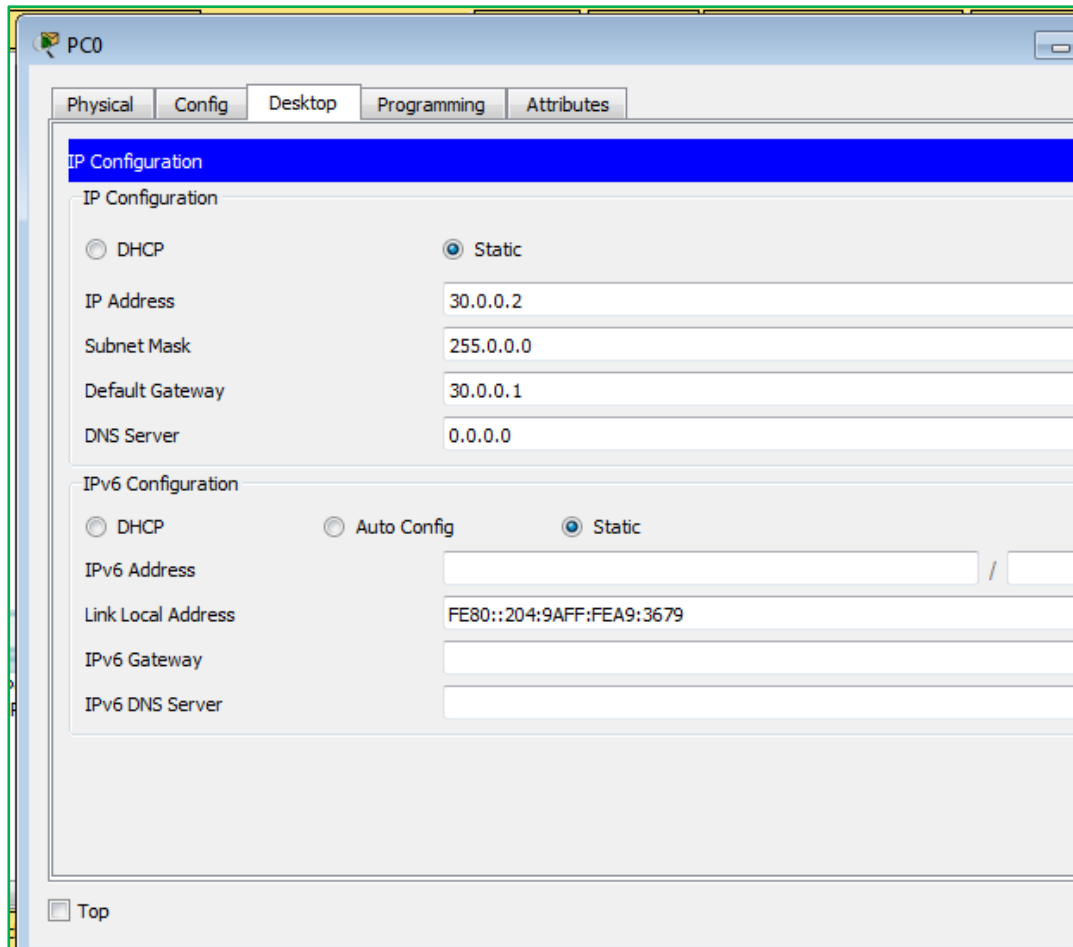
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3. Beri alamat IP PC 0



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:

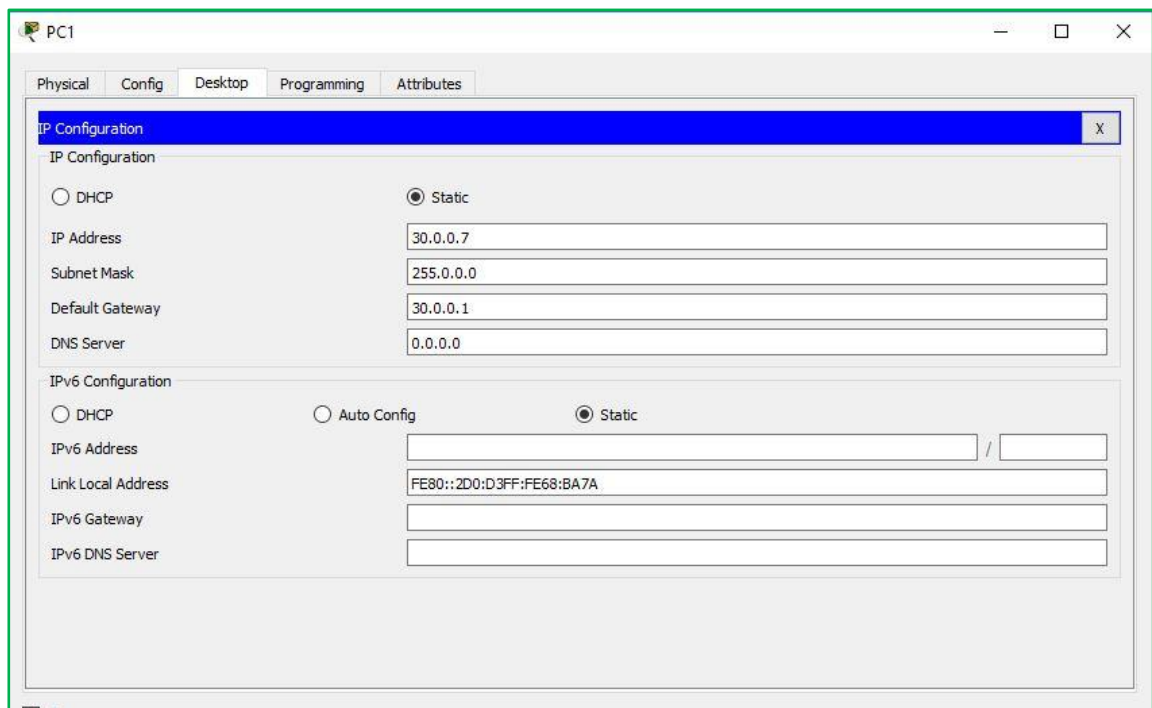
Field	Value
IP Address	30.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	30.0.0.1
DNS Server	0.0.0.0

Under 'IPv6 Configuration', the 'Static' radio button is also 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.

4. Beri alamat IP 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:

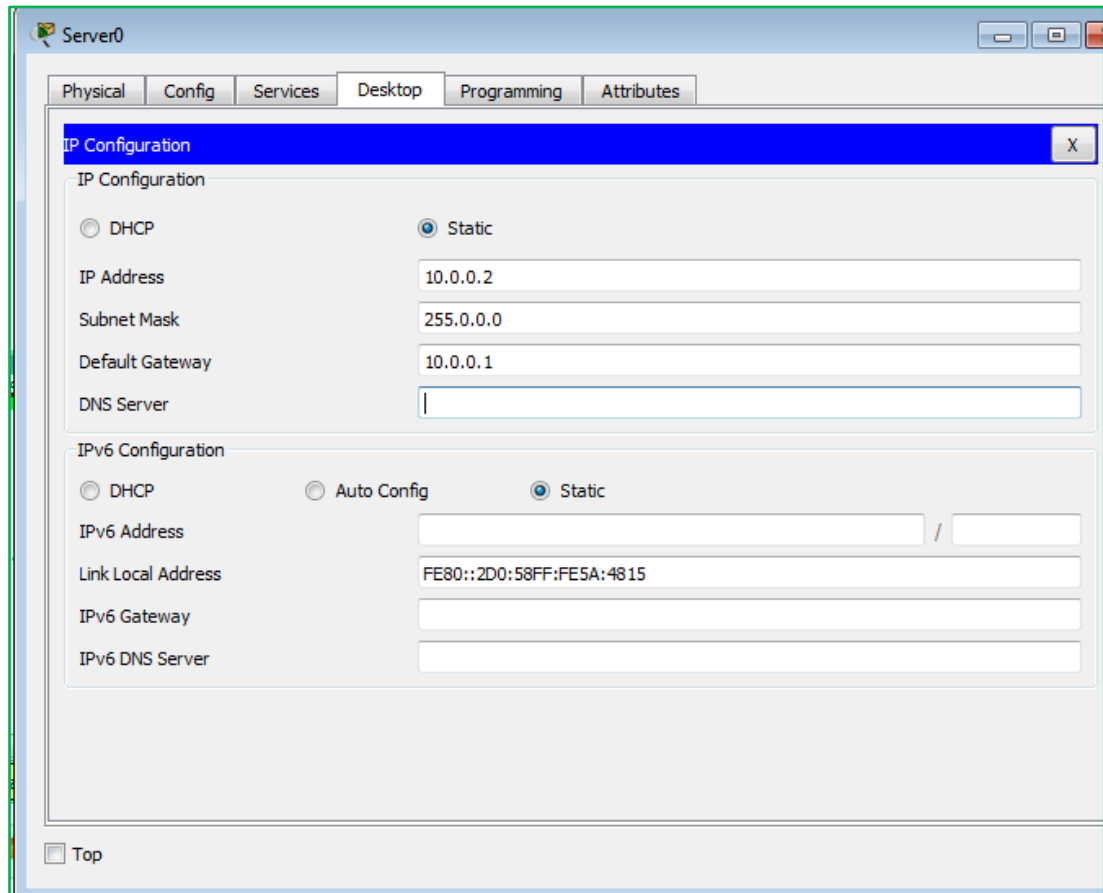
Field	Value
IP Address	30.0.0.7
Subnet Mask	255.0.0.0
Default Gateway	30.0.0.1
DNS Server	0.0.0.0

Under 'IPv6 Configuration', the 'Static' radio button is also 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	

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5. Beri IP webserver



The screenshot shows a window titled "Server0" with tabs for Physical, Config, Services, Desktop, Programming, and Attributes. The "Config" tab is active, and the "IP Configuration" section is selected. The "IP Configuration" section has a blue header bar with a close button (X). Below the header, there are two main sections: "IP Configuration" and "IPv6 Configuration".

IP Configuration

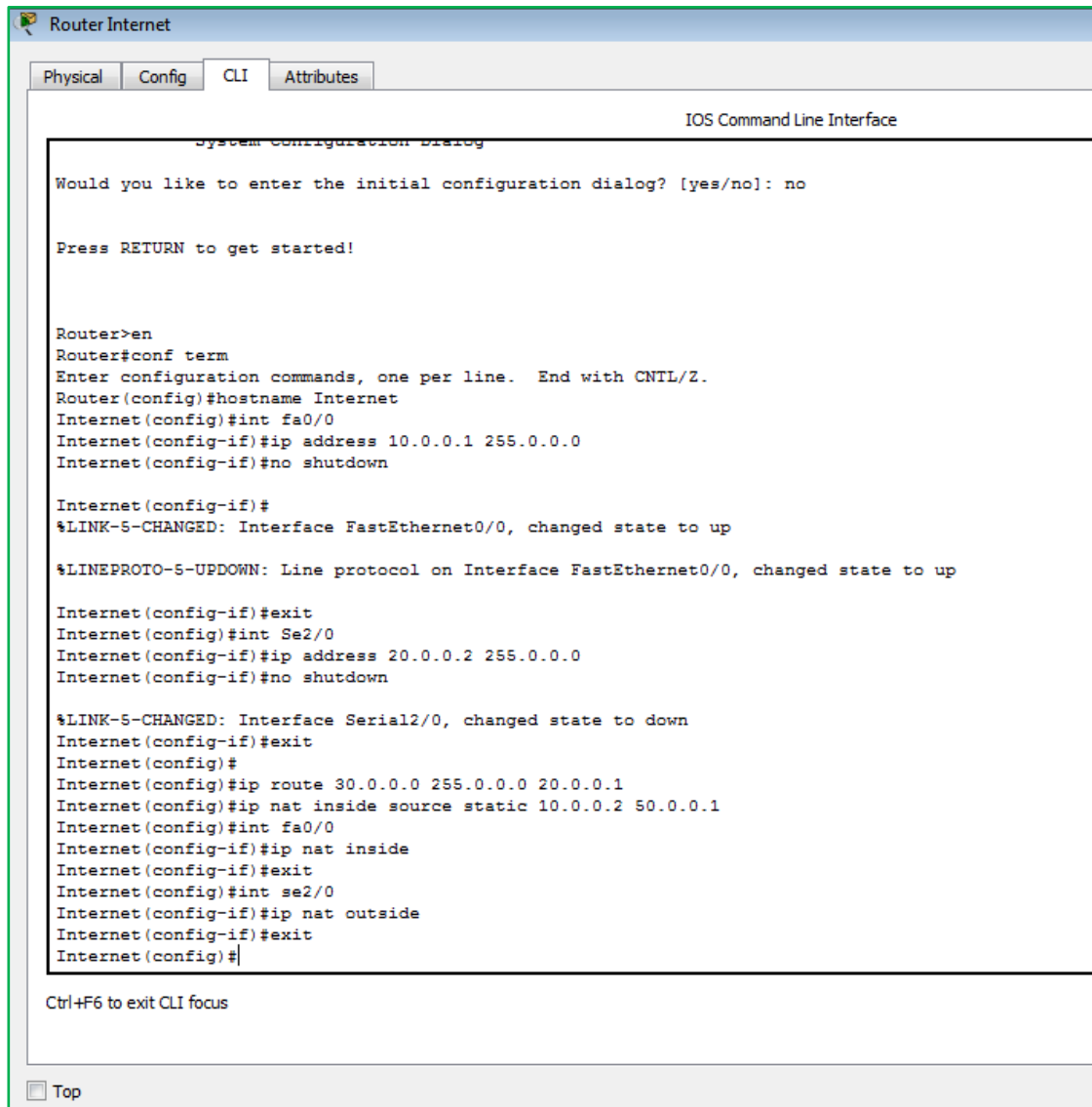
- ☐ DHCP
- ☒ Static
- IP Address: 10.0.0.2
- Subnet Mask: 255.0.0.0
- Default Gateway: 10.0.0.1
- DNS Server: (empty field)

IPv6 Configuration

- ☐ DHCP
- ☐ Auto Config
- ☒ Static
- IPv6 Address: (empty field) / (empty field)
- Link Local Address: FE80::2D0:58FF:FE5A:4815
- IPv6 Gateway: (empty field)
- IPv6 DNS Server: (empty field)

At the bottom left of the window, there is a "Top" button.

6. Konfigurasi Router Internet



The screenshot shows the 'Router Internet' configuration window in a network simulator. The 'CLI' tab is selected, displaying the 'IOS Command Line Interface'. The interface shows a 'System Configuration Dialog' where the user has chosen 'no' to enter the initial configuration dialog. Below this, the user has entered the following commands in the CLI:

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname Internet
Internet(config)#int fa0/0
Internet(config-if)#ip address 10.0.0.1 255.0.0.0
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

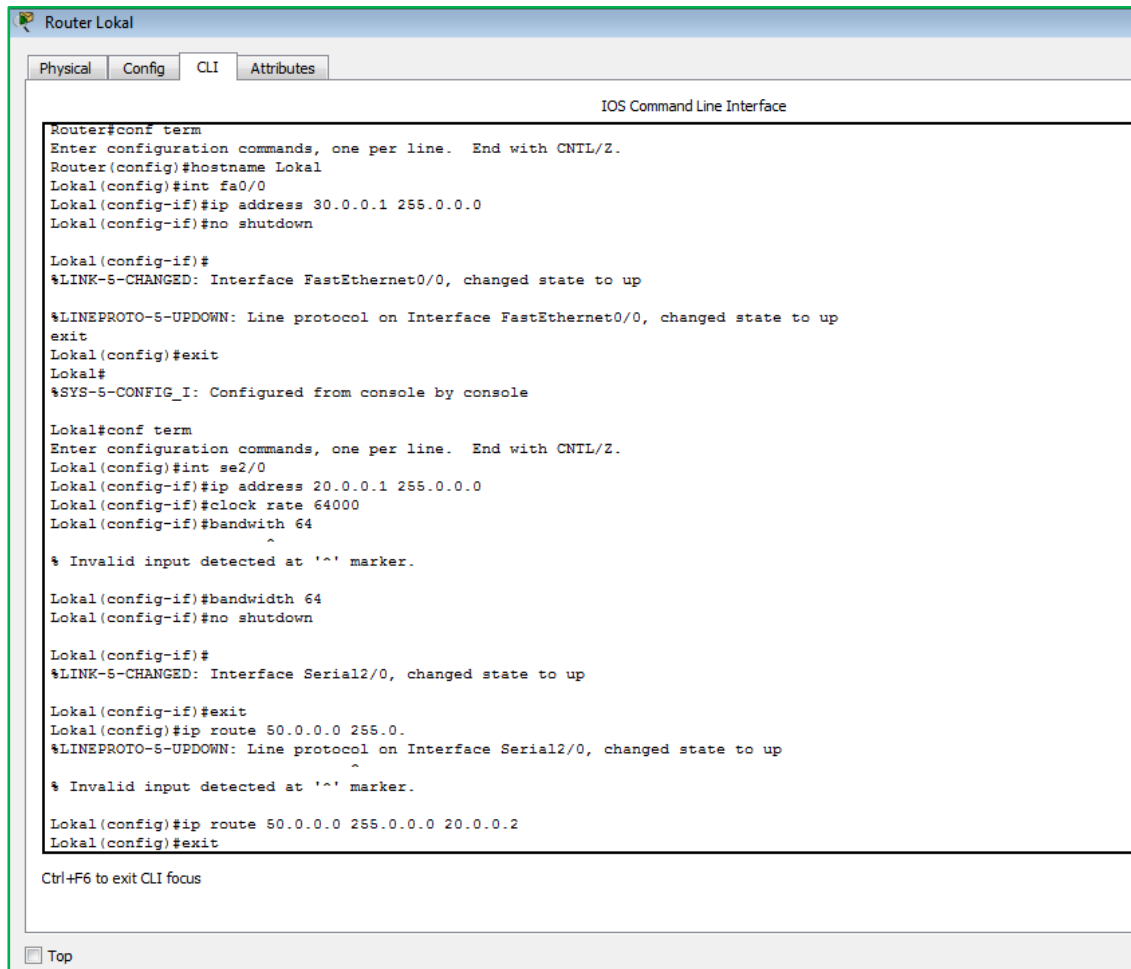
Internet(config-if)#exit
Internet(config)#int Se2/0
Internet(config-if)#ip address 20.0.0.2 255.0.0.0
Internet(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Internet(config-if)#exit
Internet(config)#
Internet(config)#ip route 30.0.0.0 255.0.0.0 20.0.0.1
Internet(config)#ip nat inside source static 10.0.0.2 50.0.0.1
Internet(config)#int fa0/0
Internet(config-if)#ip nat inside
Internet(config-if)#exit
Internet(config)#int se2/0
Internet(config-if)#ip nat outside
Internet(config-if)#exit
Internet(config)#
```

At the bottom of the CLI window, it says 'Ctrl+F6 to exit CLI focus'. There is also a 'Top' button in the bottom left corner of the window.

7. Konfigurasi Router Lokal

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The screenshot shows the 'Router Lokal' configuration window in Packet Tracer. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The configuration process is as follows:

```
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname Lokal
Lokal(config)#int fa0/0
Lokal(config-if)#ip address 30.0.0.1 255.0.0.0
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
exit
Lokal(config)#exit
Lokal#
%SYS-5-CONFIG_I: Configured from console by console

Lokal#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Lokal(config)#int se2/0
Lokal(config-if)#ip address 20.0.0.1 255.0.0.0
Lokal(config-if)#clock rate 64000
Lokal(config-if)#bandwidth 64
^
% Invalid input detected at '^' marker.

Lokal(config-if)#bandwidth 64
Lokal(config-if)#no shutdown

Lokal(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

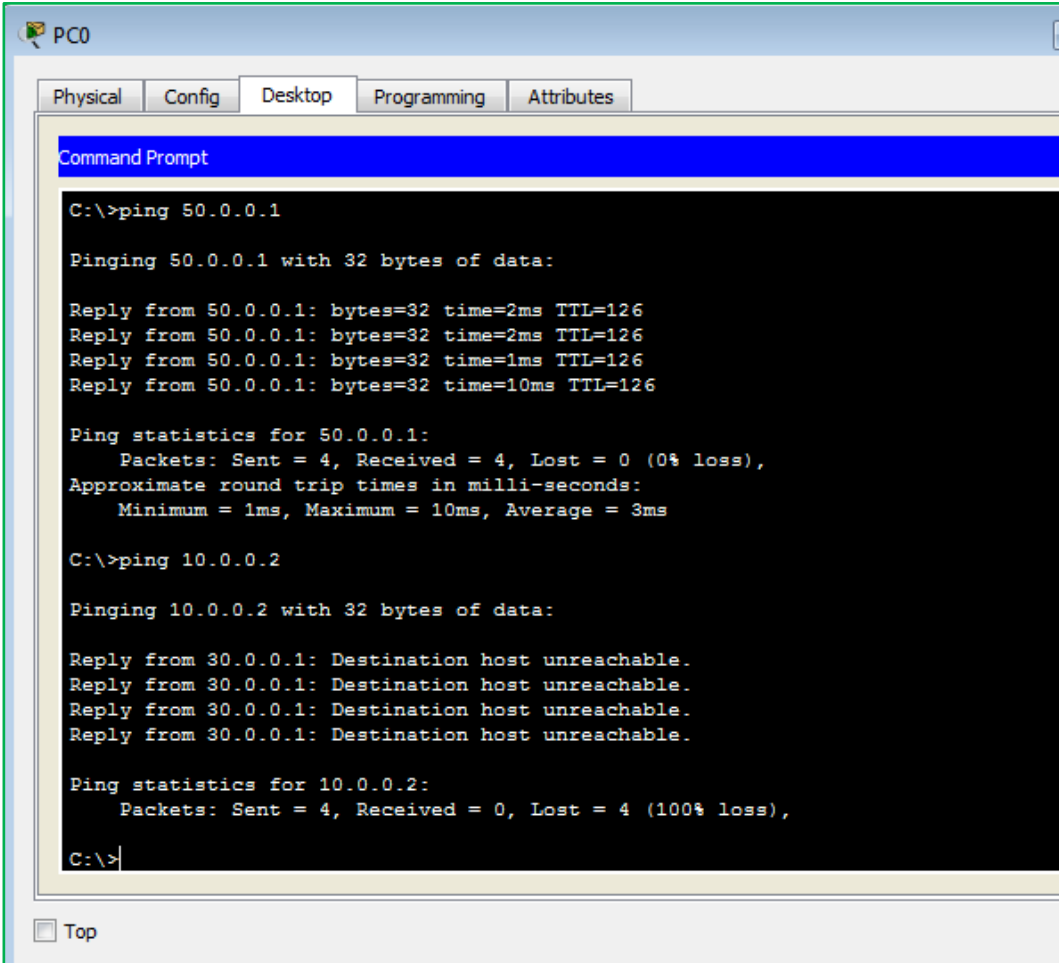
Lokal(config-if)#exit
Lokal(config)#ip route 50.0.0.0 255.0.0.0
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
^
% Invalid input detected at '^' marker.

Lokal(config)#ip route 50.0.0.0 255.0.0.0 20.0.0.2
Lokal(config)#exit

Ctrl+F6 to exit CLI focus
```

At the bottom left, there is a 'Top' button.

8. Uji Coba Koneksi dari PC-Lokal ke Web Server
- Ping ke IP Private Server
 - Ping ke IP Publik 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=2ms TTL=126
Reply from 50.0.0.1: bytes=32 time=2ms TTL=126
Reply from 50.0.0.1: bytes=32 time=1ms TTL=126
Reply from 50.0.0.1: bytes=32 time=10ms 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 = 10ms, Average = 3ms

C:\>ping 10.0.0.2

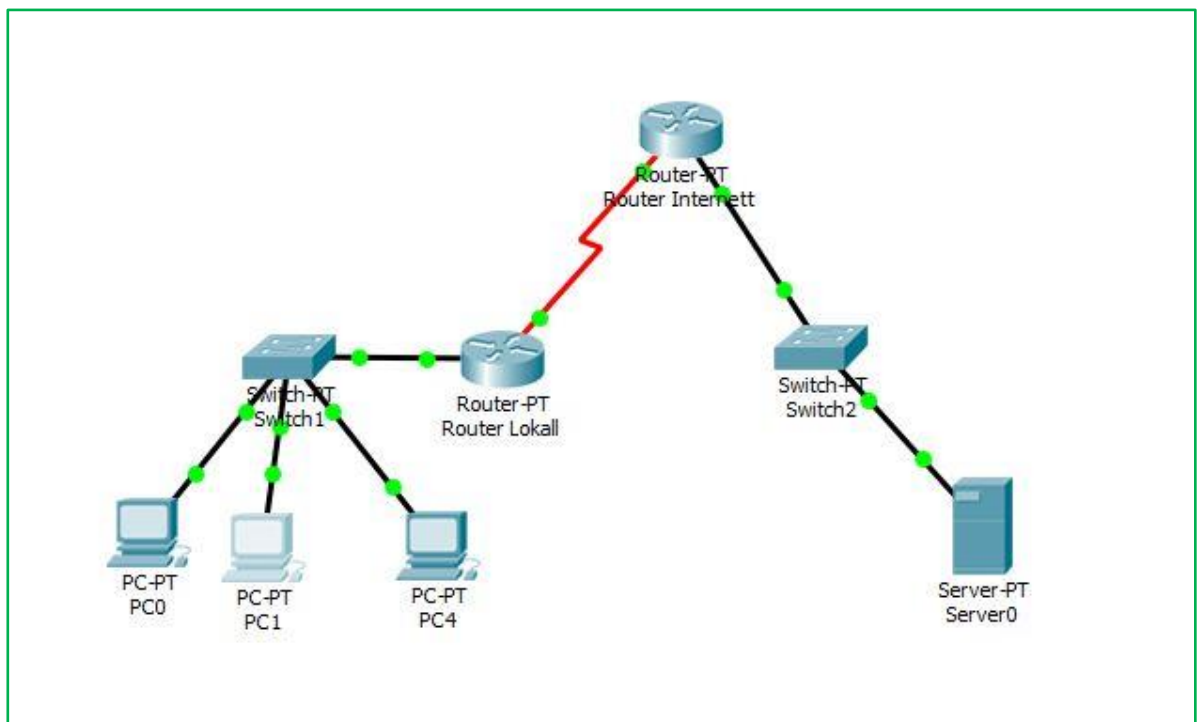
Pinging 10.0.0.2 with 32 bytes of data:

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.

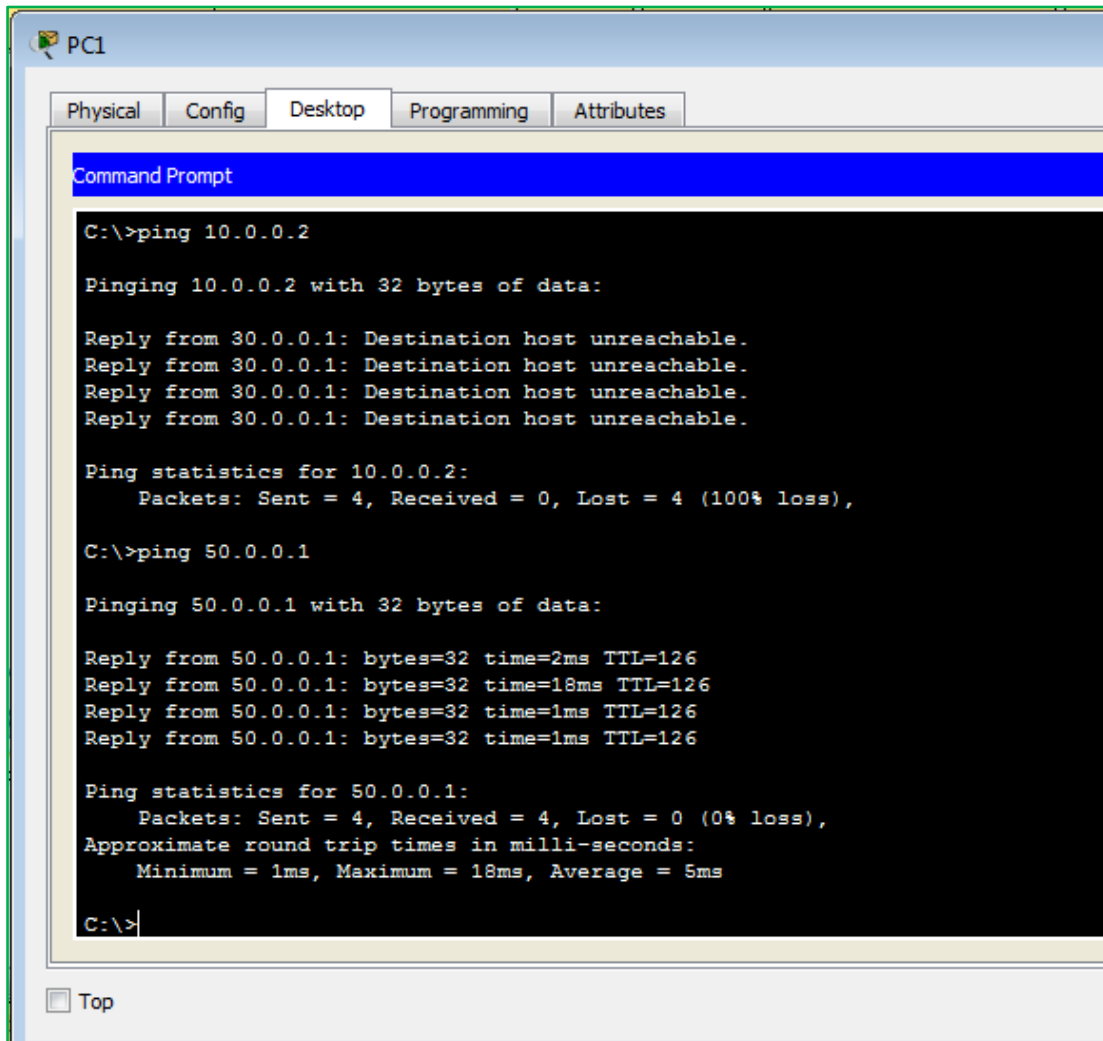
Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

9. Kembangkan topologi dari langkah poin 1 menjadi topologi seperti gambar dibawah ini :



10. Beri IP PC 1



The screenshot shows a Windows-style window titled "PC1" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The command prompt shows the execution 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 varying round trip times (2ms, 18ms, 1ms, 1ms) and a 0% loss of packets. The window also includes a "Top" button at the bottom left.

```
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

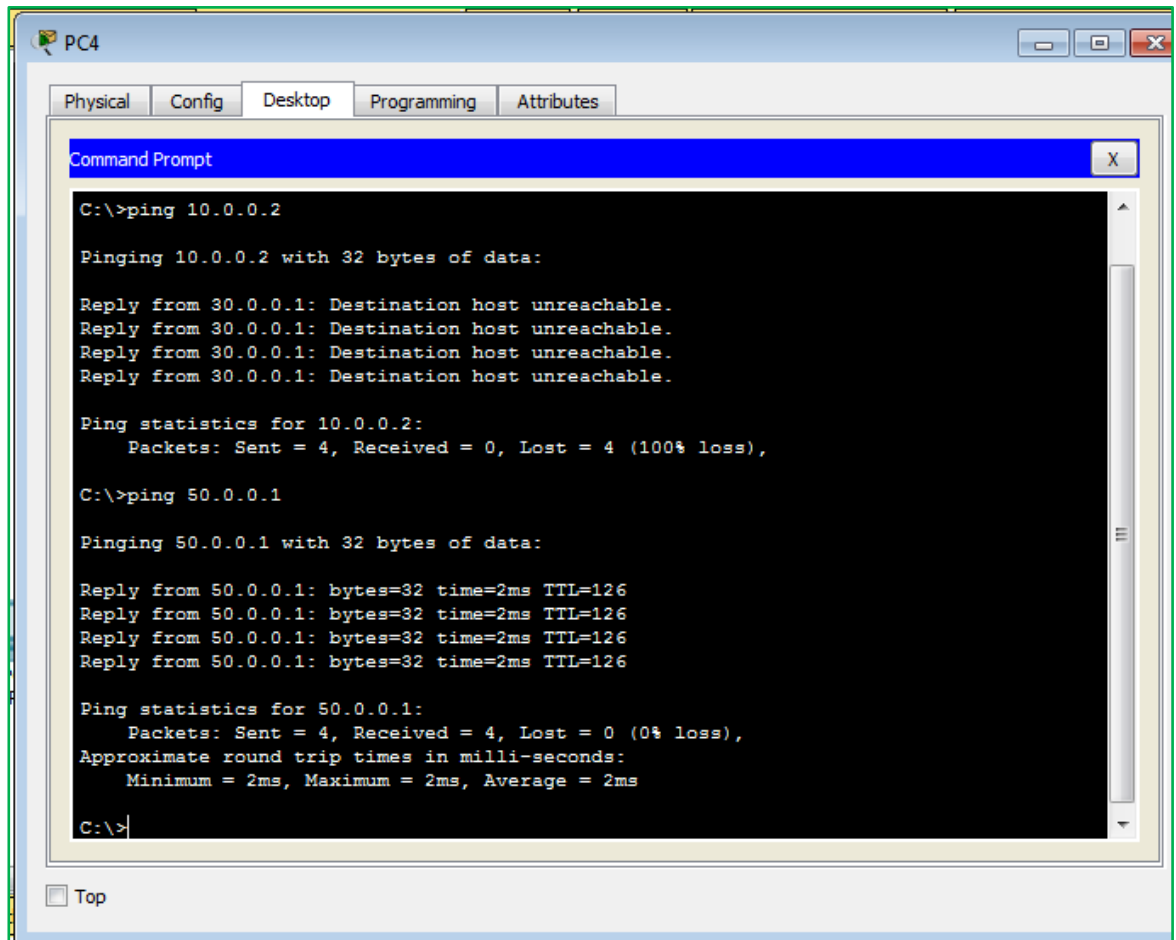
Pinging 50.0.0.1 with 32 bytes of data:

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

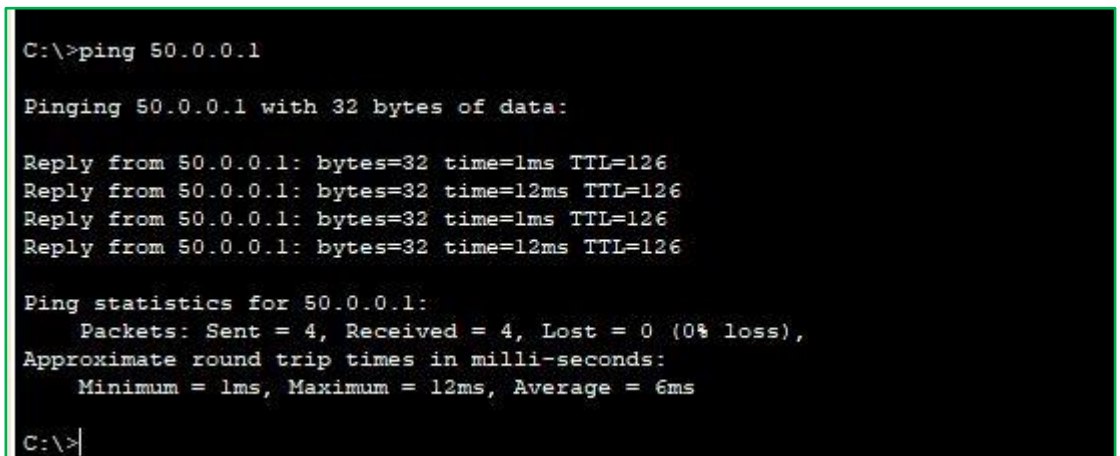
C:\>
```

11. Beri IP PC4



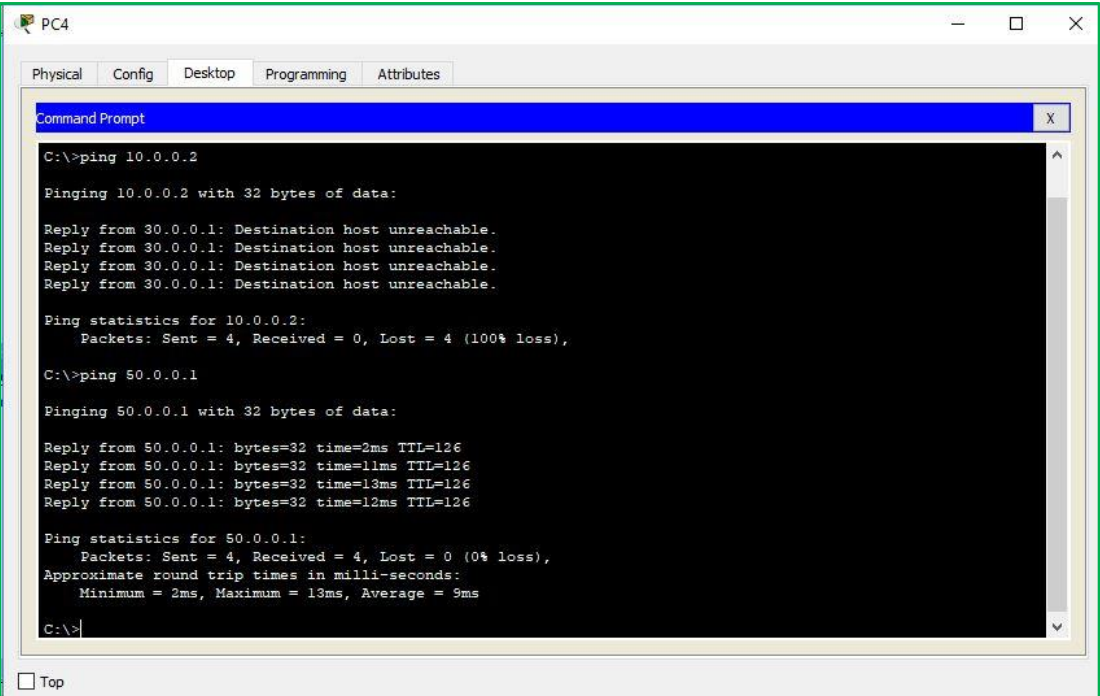
12. Uji coba koneksi PC 1 dan PC 4 dengan Server melalui IP Publik

- PC 1 ke server



- PC 4 ke server

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The screenshot shows a window titled "PC4" with tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the execution 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 varying round trip times (2ms, 11ms, 13ms, 12ms) and a 0% loss of packets. The Command Prompt window has a blue title bar and a scroll bar on the right. A "Top" button is visible at the bottom left of the PC4 window.

```
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=11ms TTL=126
Reply from 50.0.0.1: bytes=32 time=13ms 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 = 2ms, Maximum = 13ms, Average = 9ms

C:\>
```