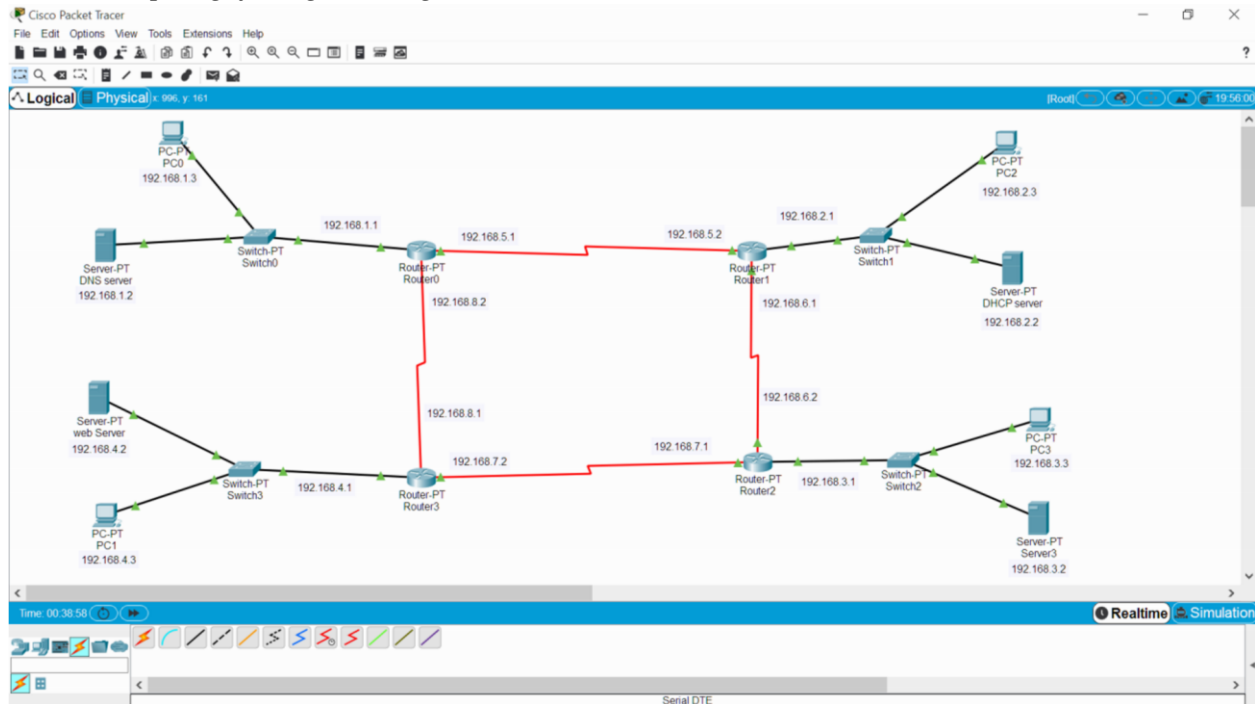


Nama : Dessy Nur Azizah  
 Nim : L200170016  
 Kelas : A

No.1

Membuat topologi jaringan sebagai berikut:



No.2

Konfigurasi pengalaman ip (sesuai gambar diatas (no.1)) a)

Router 0	Server DNS	PC 0
SE 2/0 (ip add 192.168.5.1)	Ip add 192.168.1.2	Ip add 192.168.1.3
SE 3/0 (ip add 192.168.8.2)		
Fa 0/0 (ip add 192.168.1.1)		

b)

Router 1	Server DHCP	PC 2
SE 2/0 (ip add 192.168.6.1)	Ip add 192.168.2.2	Otomatis sesuai pengaturan dhcp yang dibuat (ip add 192.168.2.3)
SE 3/0 (ip add 192.168.5.2)		
Fa 0/0 (ip add 192.168.2.1)		

c)

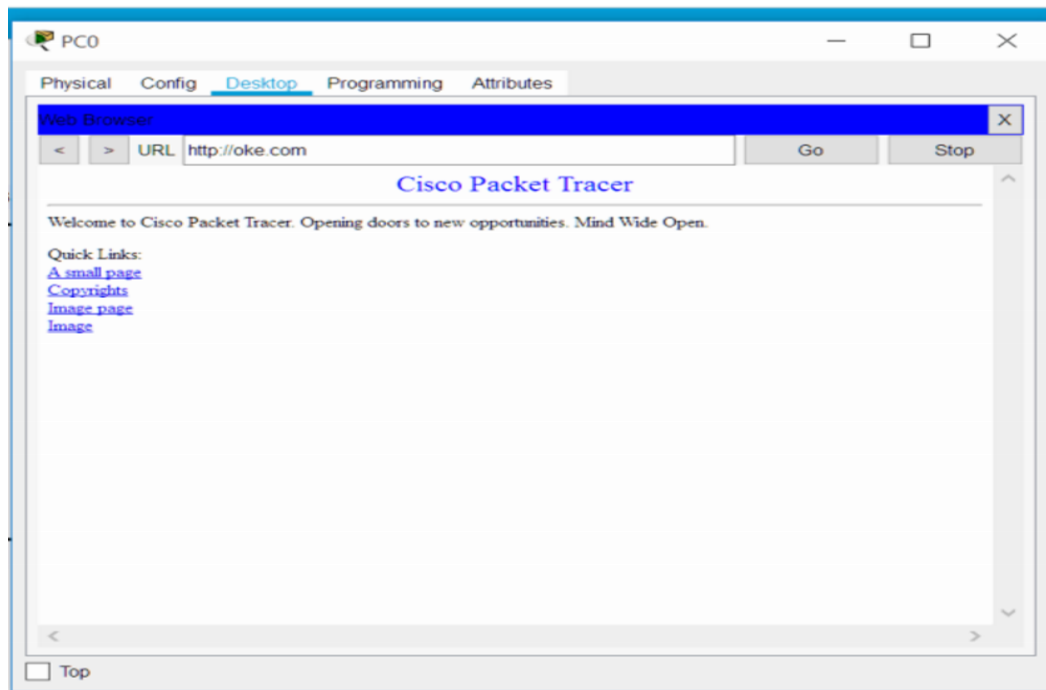
Router 2	Server3	PC 3
SE 2/0 (ip add 192.168.7.1)	Ip add 192.168.3.2	Ip add 192.168.3.3
SE 3/0 (ip add 192.168.6.2)		
Fa 0/0 (ip add 192.168.3.1)		

d)

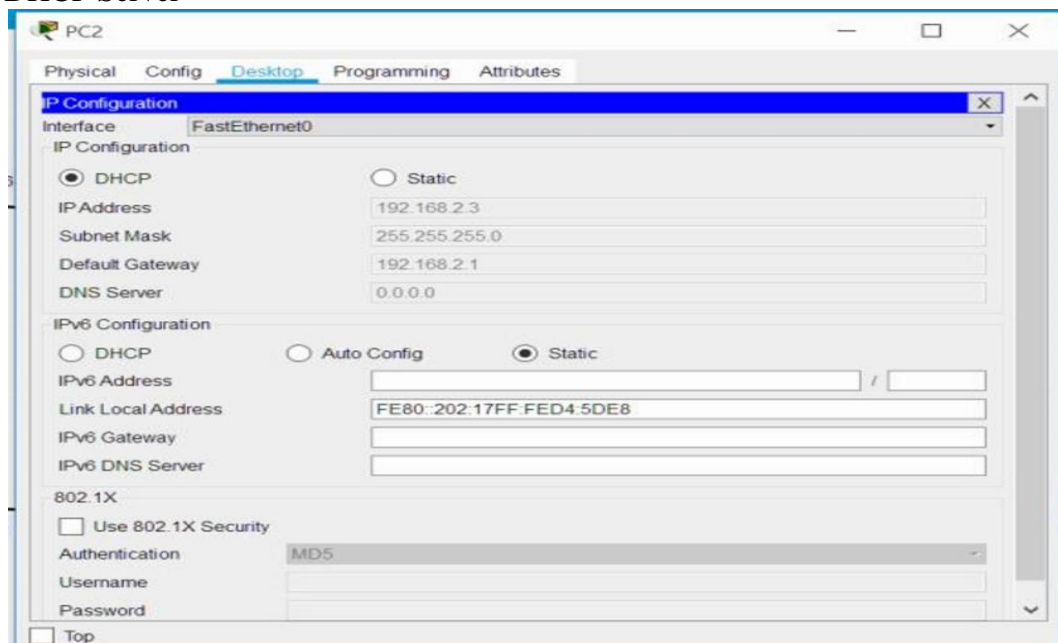
Router 3	Server Web	PC 1
SE 2/0 (ip add 192.168.8.1)	Ip add 192.168.4.2	Ip add 192.168.4.3
SE 3/0 (ip add 192.168.7.2)		
Fa 0/0 (ip add 192.168.4.1)		

## Test no.2

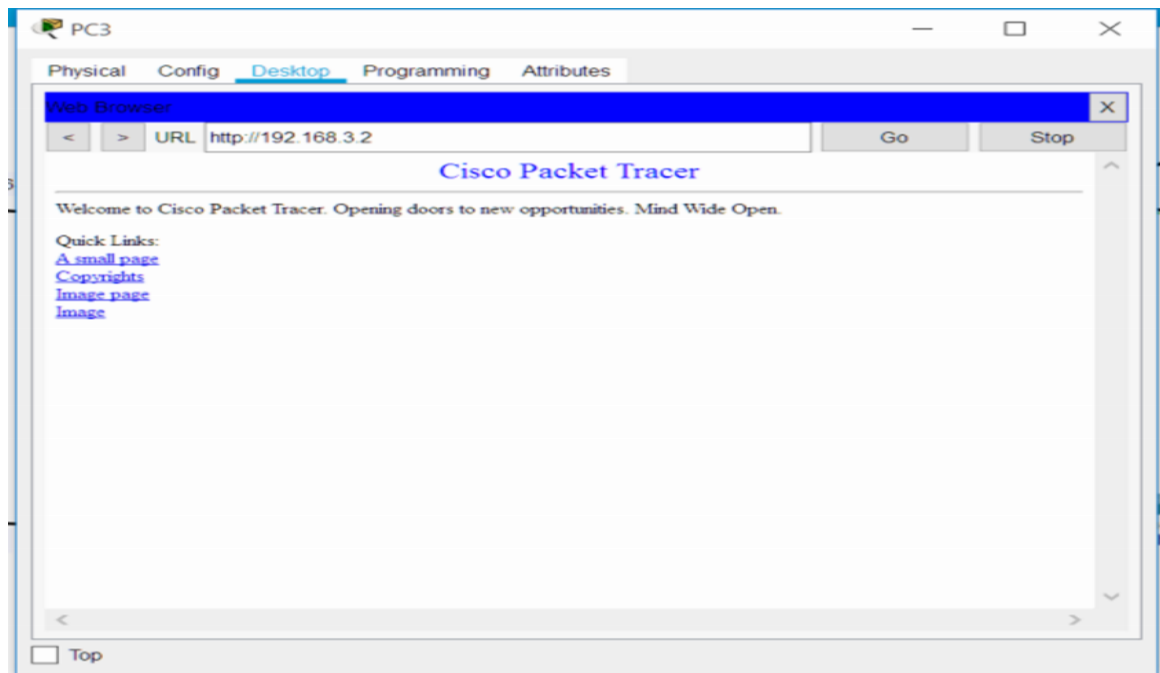
- DNS server



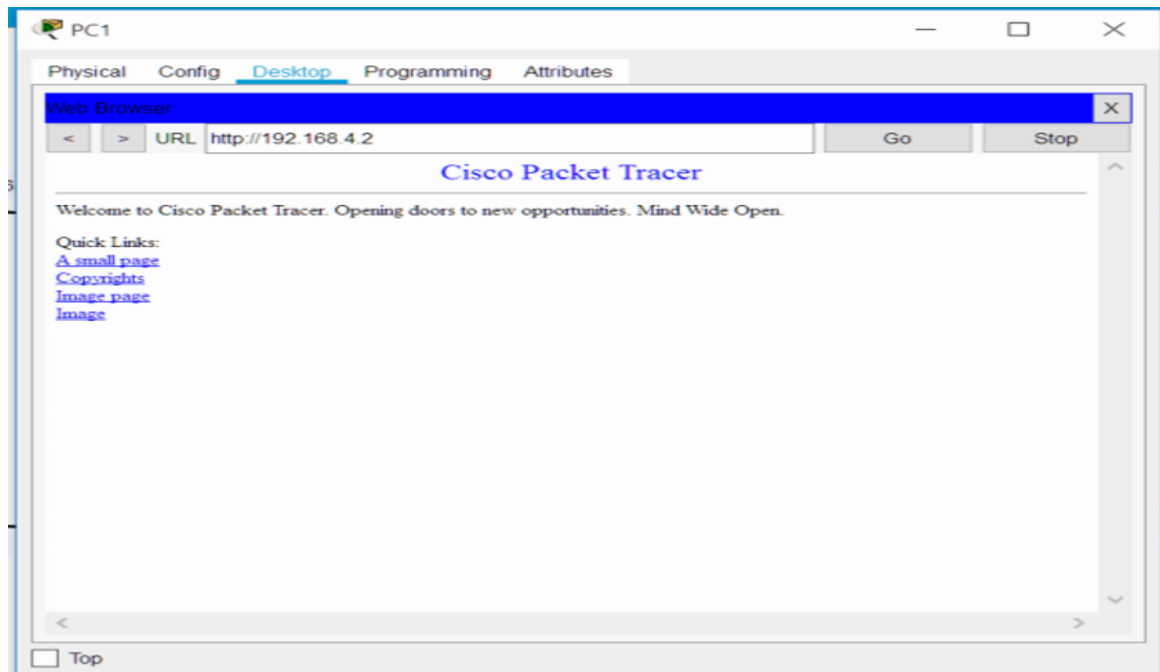
- DHCP Server



- Server3



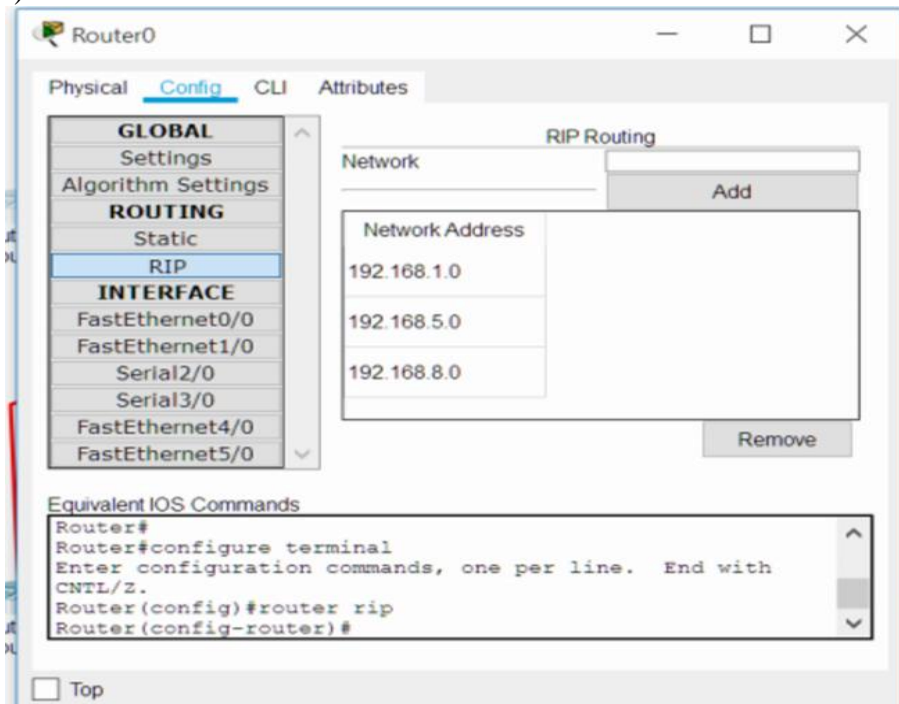
- Server Web



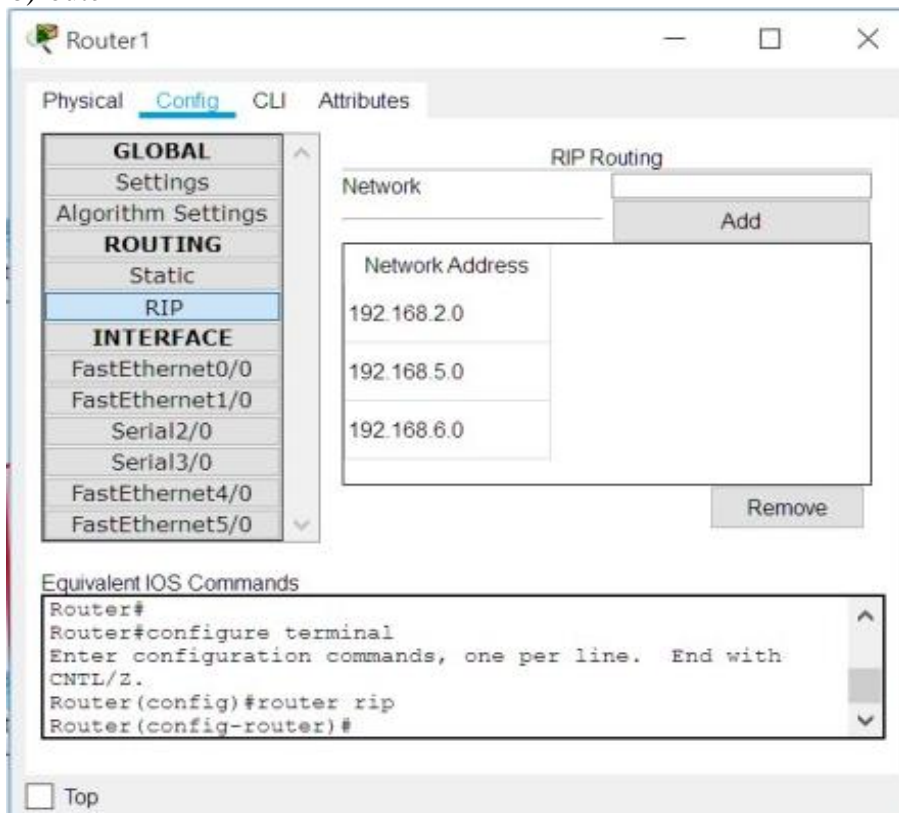
No.3

Konfigurasi routing dinamis

a)router 0



b)router 1



c)router 2

Router2

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

**RIP**

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

RIP Routing

Network

Add

Network Address

192.168.3.0

192.168.6.0

192.168.7.0

Remove

Equivalent IOS Commands

```
Router#
Router#configure terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Router(config)#router rip
Router(config-router)#
```

☐ Top

d)router 3

Router3

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

**RIP**

**INTERFACE**

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

RIP Routing

Network

Add

Network Address

192.168.4.0

192.168.7.0

192.168.8.0

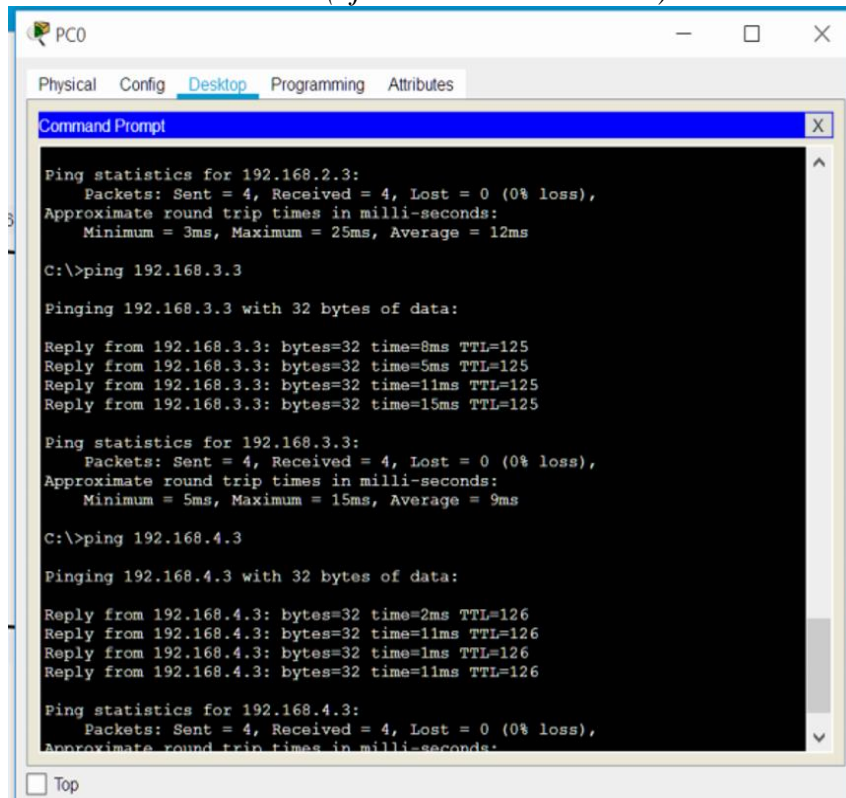
Remove

Equivalent IOS Commands

```
Router#
Router#configure terminal
Enter configuration commands, one per line. End with
CNTL/Z.
Router(config)#router rip
Router(config-router)#
```

☐ Top

➤ Test no.3 router dinamis (uji konektivitas antar PC)



PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Ping statistics for 192.168.2.3:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 3ms, Maximum = 25ms, Average = 12ms

C:\>ping 192.168.3.3

Pinging 192.168.3.3 with 32 bytes of data:

Reply from 192.168.3.3: bytes=32 time=8ms TTL=125
Reply from 192.168.3.3: bytes=32 time=5ms TTL=125
Reply from 192.168.3.3: bytes=32 time=11ms TTL=125
Reply from 192.168.3.3: bytes=32 time=15ms TTL=125

Ping statistics for 192.168.3.3:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 5ms, Maximum = 15ms, Average = 9ms

C:\>ping 192.168.4.3

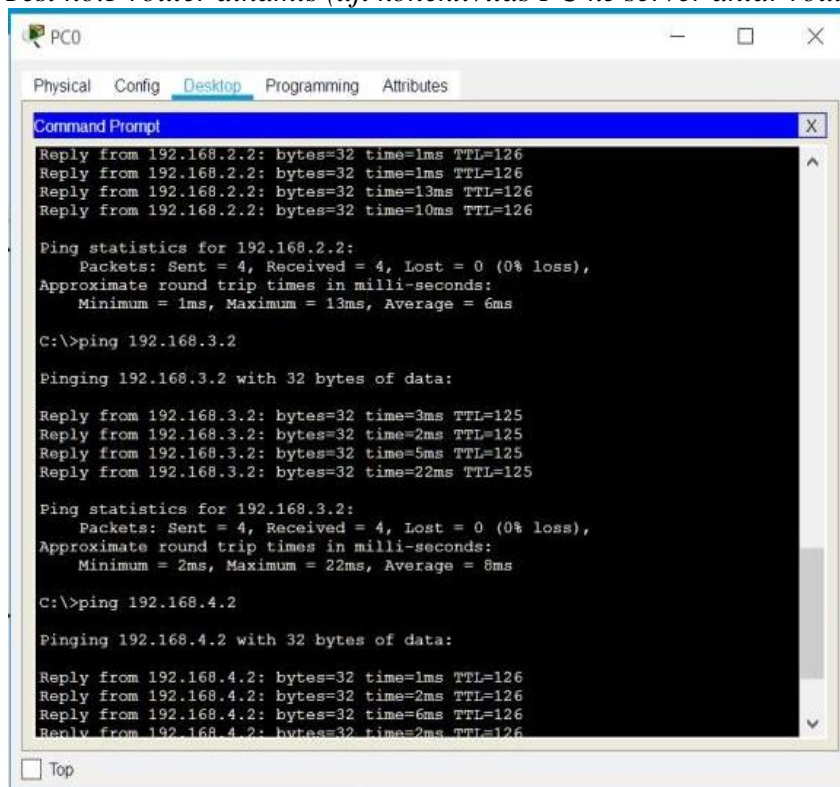
Pinging 192.168.4.3 with 32 bytes of data:

Reply from 192.168.4.3: bytes=32 time=2ms TTL=126
Reply from 192.168.4.3: bytes=32 time=11ms TTL=126
Reply from 192.168.4.3: bytes=32 time=1ms TTL=126
Reply from 192.168.4.3: bytes=32 time=11ms TTL=126

Ping statistics for 192.168.4.3:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
```

☐ Top

➤ Test no.3 router dinamis (uji konektivitas PC ke server antar router)



PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=1ms TTL=126
Reply from 192.168.2.2: bytes=32 time=13ms TTL=126
Reply from 192.168.2.2: bytes=32 time=10ms TTL=126

Ping statistics for 192.168.2.2:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 1ms, Maximum = 13ms, Average = 6ms

C:\>ping 192.168.3.2

Pinging 192.168.3.2 with 32 bytes of data:

Reply from 192.168.3.2: bytes=32 time=3ms TTL=125
Reply from 192.168.3.2: bytes=32 time=2ms TTL=125
Reply from 192.168.3.2: bytes=32 time=5ms TTL=125
Reply from 192.168.3.2: bytes=32 time=22ms TTL=125

Ping statistics for 192.168.3.2:
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
  Minimum = 2ms, Maximum = 22ms, Average = 8ms

C:\>ping 192.168.4.2

Pinging 192.168.4.2 with 32 bytes of data:

Reply from 192.168.4.2: bytes=32 time=1ms TTL=126
Reply from 192.168.4.2: bytes=32 time=2ms TTL=126
Reply from 192.168.4.2: bytes=32 time=6ms TTL=126
Reply from 192.168.4.2: bytes=32 time=2ms TTL=126
```

☐ Top

No.4

## Konfigurasi router statis

### a)router 0

The screenshot shows the configuration window for Router0. The left sidebar has a tree view with categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), and INTERFACE (FastEthernet0/0, FastEthernet1/0, Serial2/0, Serial3/0, FastEthernet4/0, FastEthernet5/0). The 'Static' option under ROUTING is selected. The main area is titled 'Static Routes' and contains input fields for 'Network', 'Mask', and 'Next Hop', followed by an 'Add' button. Below these fields is a list of configured static routes under the heading 'Network Address':

- 192.168.4.0/24 via 192.168.8.1
- 192.168.3.0/24 via 192.168.8.1
- 192.168.2.0/24 via 192.168.8.1
- 192.168.1.0/24 via 192.168.8.1

At the bottom, there is a 'Remove' button and a section titled 'Equivalent IOS Commands' containing a list of commands:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.8.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.8.1
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.8.1
Router(config)#
```

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

### b)router 1

The screenshot shows the configuration window for Router1. The left sidebar is identical to Router0, with 'Static' selected under ROUTING. The 'Static Routes' section contains input fields for 'Network', 'Mask', and 'Next Hop', followed by an 'Add' button. Below these fields is a list of configured static routes under the heading 'Network Address':

- 192.168.1.0/24 via 192.168.6.2
- 192.168.2.0/24 via 192.168.6.2
- 192.168.3.0/24 via 192.168.6.2
- 192.168.4.0/24 via 192.168.6.2

At the bottom, there is a 'Remove' button and a section titled 'Equivalent IOS Commands' containing a list of commands:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.7.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.8.0 255.255.255.0 192.168.6.2
Router(config)#ip route 192.168.8.0 255.255.255.0 192.168.5.1
Router(config)#ip route 192.168.7.0 255.255.255.0 192.168.5.1
Router(config)#ip route 192.168.6.0 255.255.255.0 192.168.5.1
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.5.1
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.5.1
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.5.1
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.5.1
Router(config)#
```

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



## c)router 2

The screenshot shows the configuration window for Router2. The left sidebar has tabs for Physical, Config (selected), CLI, and Attributes. Under Config, there are sub-tabs for GLOBAL, Settings, Algorithm Settings, ROUTING (selected), Static, RIP, and INTERFACE. The Static sub-tab is active, showing a list of static routes. The main area displays the 'Static Routes' configuration with fields for Network, Mask, and Next Hop, and an 'Add' button. Below this, a list of configured static routes is shown: 192.168.1.0/24 via 192.168.7.2, 192.168.2.0/24 via 192.168.7.2, 192.168.3.0/24 via 192.168.7.2, and 192.168.4.0/24 via 192.168.7.2. At the bottom, the 'Equivalent IOS Commands' section shows the following commands:

```
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.6.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.8.0 255.255.255.0 192.168.7.2
Router(config)#ip route 192.168.8.0 255.255.255.0 192.168.6.1
Router(config)#ip route 192.168.7.0 255.255.255.0 192.168.6.1
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.6.1
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.6.1
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.6.1
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.6.1
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.6.1
Router(config)#
Router(config)#
Router(config)#
Router(config)#
```

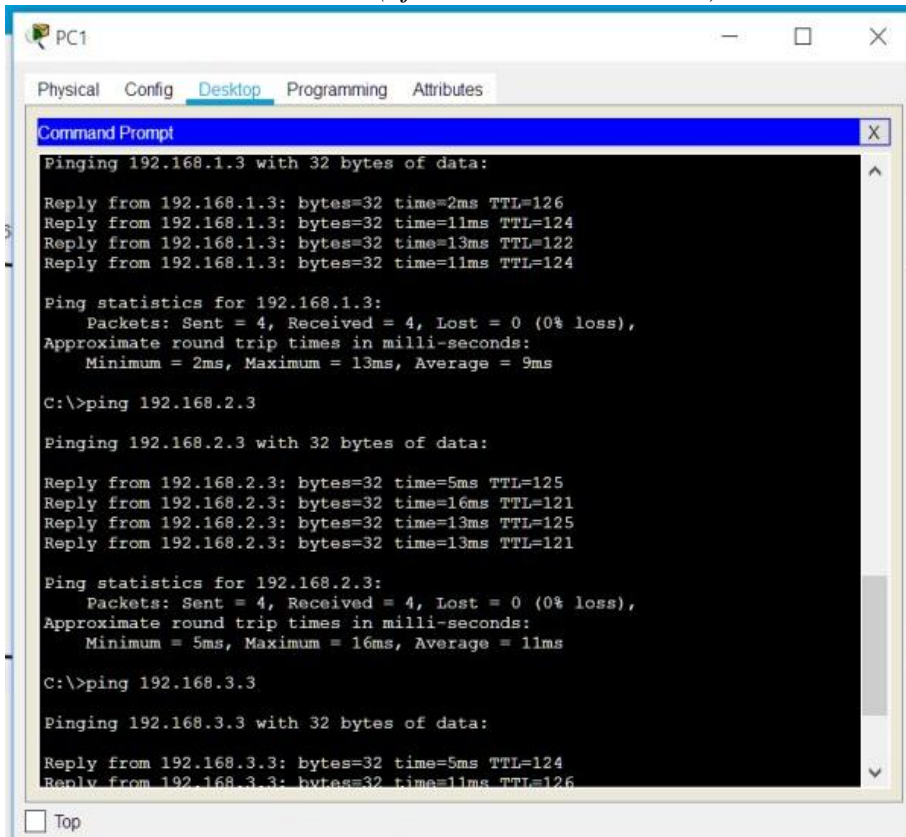
## c)router 3

The screenshot shows the configuration window for Router3. The left sidebar has tabs for Physical, Config (selected), CLI, and Attributes. Under Config, there are sub-tabs for GLOBAL, Settings, Algorithm Settings, ROUTING (selected), Static, RIP, and INTERFACE. The Static sub-tab is active, showing a list of static routes. The main area displays the 'Static Routes' configuration with fields for Network, Mask, and Next Hop, and an 'Add' button. Below this, a list of configured static routes is shown: 192.168.1.0/24 via 192.168.7.1, 192.168.2.0/24 via 192.168.7.1, 192.168.3.0/24 via 192.168.7.1, and 192.168.4.0/24 via 192.168.7.1. At the bottom, the 'Equivalent IOS Commands' section shows the following commands:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.6.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.8.0 255.255.255.0 192.168.7.1
Router(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.2
Router(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.2
Router(config)#ip route 192.168.5.0 255.255.255.0 192.168.8.2
Router(config)#ip route 192.168.4.0 255.255.255.0 192.168.8.2
Router(config)#ip route 192.168.3.0 255.255.255.0 192.168.8.2
Router(config)#ip route 192.168.2.0 255.255.255.0 192.168.8.2
Router(config)#ip route 192.168.1.0 255.255.255.0 192.168.8.2
Router(config)#
Router(config)#
Router(config)#
```



➤ *Test no.4 router statis(uji konektivitas antar PC)*



The screenshot shows a 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 results of three ping tests performed from the C:\ prompt. Each test sends 32 bytes of data to a specific IP address and displays the response times and TTL values for four consecutive replies, along with summary statistics.

```
Command Prompt
Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time=2ms TTL=126
Reply from 192.168.1.3: bytes=32 time=11ms TTL=124
Reply from 192.168.1.3: bytes=32 time=13ms TTL=122
Reply from 192.168.1.3: bytes=32 time=11ms TTL=124

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 13ms, Average = 9ms

C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time=5ms TTL=125
Reply from 192.168.2.3: bytes=32 time=16ms TTL=121
Reply from 192.168.2.3: bytes=32 time=13ms TTL=125
Reply from 192.168.2.3: bytes=32 time=13ms TTL=121

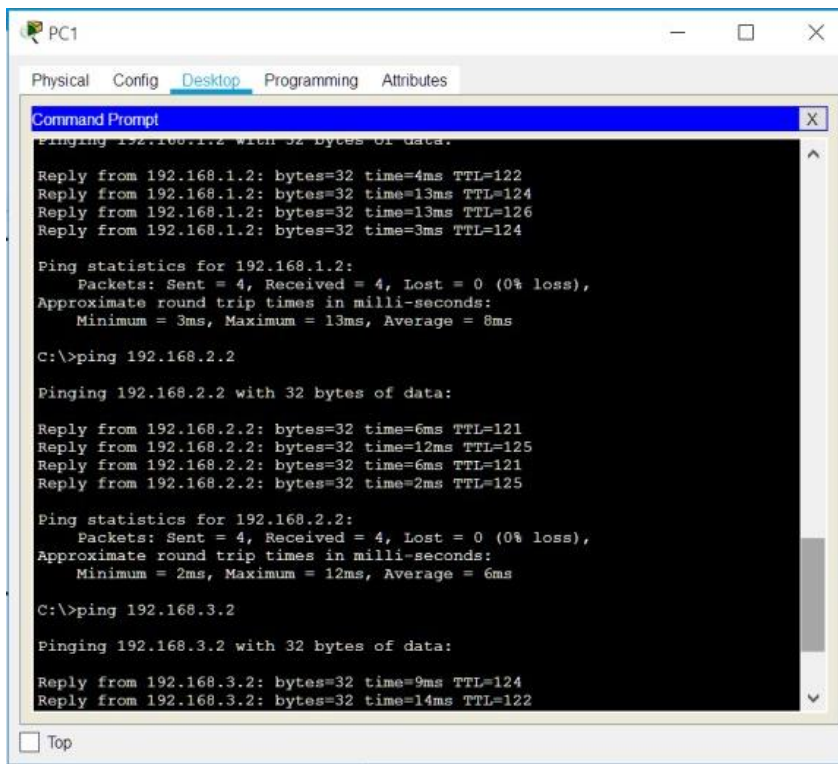
Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 5ms, Maximum = 16ms, Average = 11ms

C:\>ping 192.168.3.3

Pinging 192.168.3.3 with 32 bytes of data:

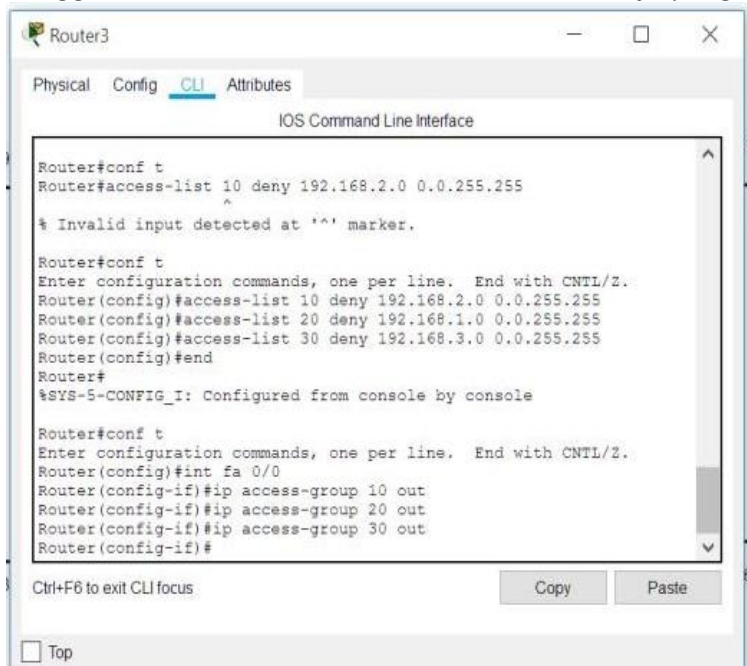
Reply from 192.168.3.3: bytes=32 time=5ms TTL=124
Reply from 192.168.3.3: bytes=32 time=11ms TTL=126
```

➤ *Test no.4 router statis (uji konektivitas PC ke server antar router)*

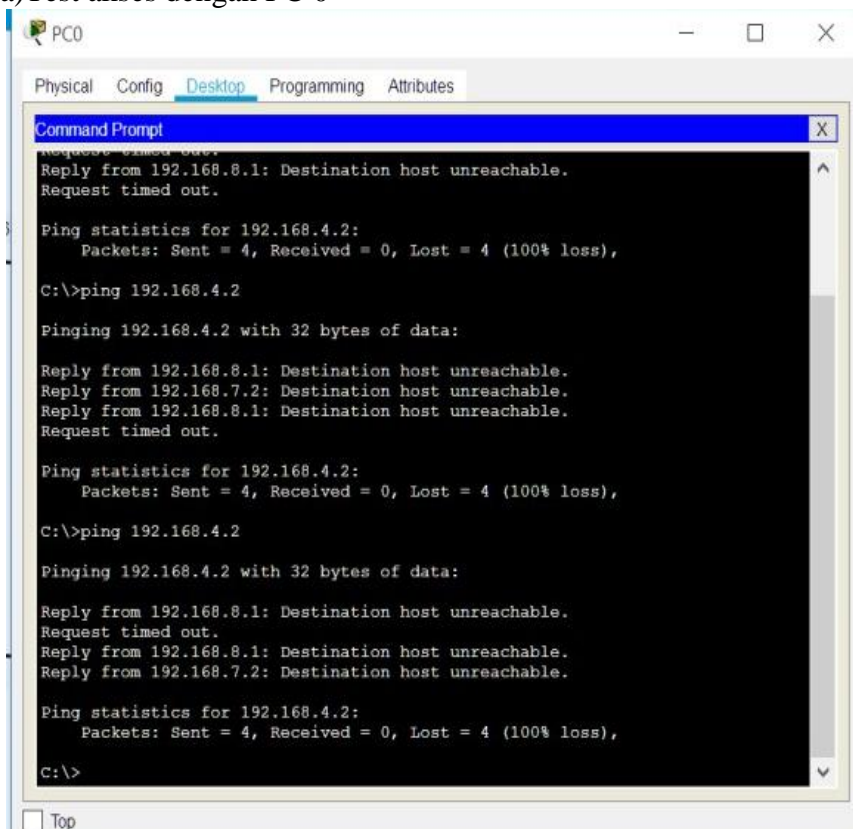


No.5

*Menggunakan access list untuk membatasi 1 PC saja yang dapat mengakses server web*



a) Test akses dengan PC 0



The screenshot shows a Windows Command Prompt window titled "PC0". The window has tabs for "Physical", "Config", "Desktop" (selected), "Programming", and "Attributes". The command prompt displays the output of a ping command to 192.168.4.2. The output shows that the destination host is unreachable, with a 100% loss of packets. The user has entered the command "ping 192.168.4.2" and the system has responded with "Pinging 192.168.4.2 with 32 bytes of data: Reply from 192.168.8.1: Destination host unreachable. Request timed out. Ping statistics for 192.168.4.2: Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),". The user has entered the command "ping 192.168.4.2" and the system has responded with "Pinging 192.168.4.2 with 32 bytes of data: Reply from 192.168.8.1: Destination host unreachable. Request timed out. Ping statistics for 192.168.4.2: Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),". The user has entered the command "ping 192.168.4.2" and the system has responded with "Pinging 192.168.4.2 with 32 bytes of data: Reply from 192.168.8.1: Destination host unreachable. Request timed out. Ping statistics for 192.168.4.2: Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),".

```
PC0
Physical Config Desktop Programming Attributes
Command Prompt
Request timed out.
Reply from 192.168.8.1: Destination host unreachable.
Request timed out.

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.4.2

Pinging 192.168.4.2 with 32 bytes of data:

Reply from 192.168.8.1: Destination host unreachable.
Reply from 192.168.7.2: Destination host unreachable.
Reply from 192.168.8.1: Destination host unreachable.
Request timed out.

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.4.2

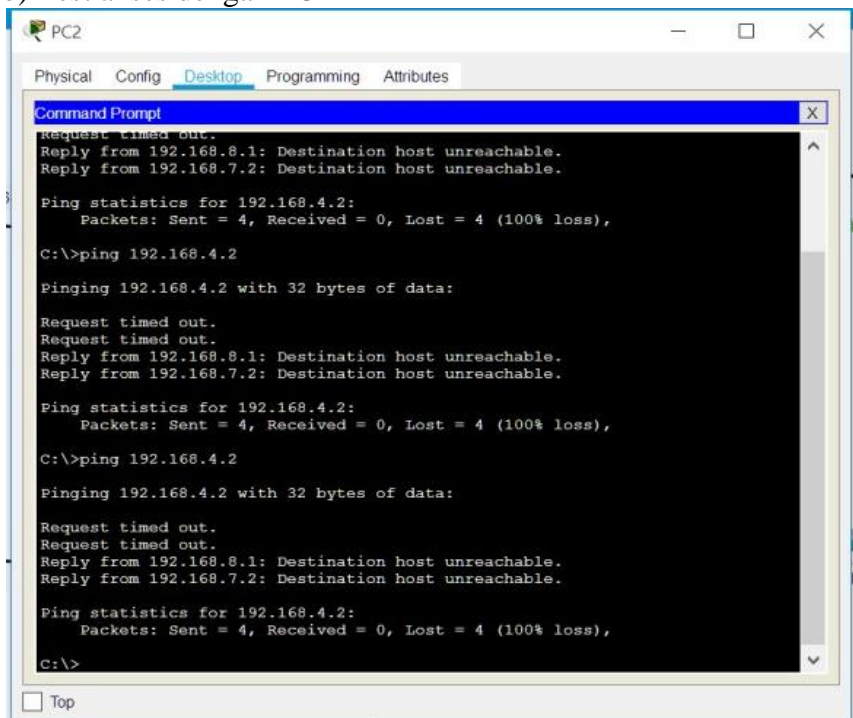
Pinging 192.168.4.2 with 32 bytes of data:

Reply from 192.168.8.1: Destination host unreachable.
Request timed out.
Reply from 192.168.8.1: Destination host unreachable.
Reply from 192.168.7.2: Destination host unreachable.

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

b) Test akses dengan PC 2



The screenshot shows a Windows Command Prompt window titled "PC2". The window has tabs for "Physical", "Config", "Desktop" (selected), "Programming", and "Attributes". The command prompt displays the output of a ping command to 192.168.4.2. The output shows that the destination host is unreachable, with a 100% loss of packets. The user has entered the command "ping 192.168.4.2" and the system has responded with "Pinging 192.168.4.2 with 32 bytes of data: Request timed out. Request timed out. Reply from 192.168.8.1: Destination host unreachable. Reply from 192.168.7.2: Destination host unreachable. Ping statistics for 192.168.4.2: Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),". The user has entered the command "ping 192.168.4.2" and the system has responded with "Pinging 192.168.4.2 with 32 bytes of data: Request timed out. Request timed out. Reply from 192.168.8.1: Destination host unreachable. Reply from 192.168.7.2: Destination host unreachable. Ping statistics for 192.168.4.2: Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),". The user has entered the command "ping 192.168.4.2" and the system has responded with "Pinging 192.168.4.2 with 32 bytes of data: Request timed out. Request timed out. Reply from 192.168.8.1: Destination host unreachable. Reply from 192.168.7.2: Destination host unreachable. Ping statistics for 192.168.4.2: Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),".

```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
Request timed out.
Reply from 192.168.8.1: Destination host unreachable.
Reply from 192.168.7.2: Destination host unreachable.

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.4.2

Pinging 192.168.4.2 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.8.1: Destination host unreachable.
Reply from 192.168.7.2: Destination host unreachable.

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.4.2

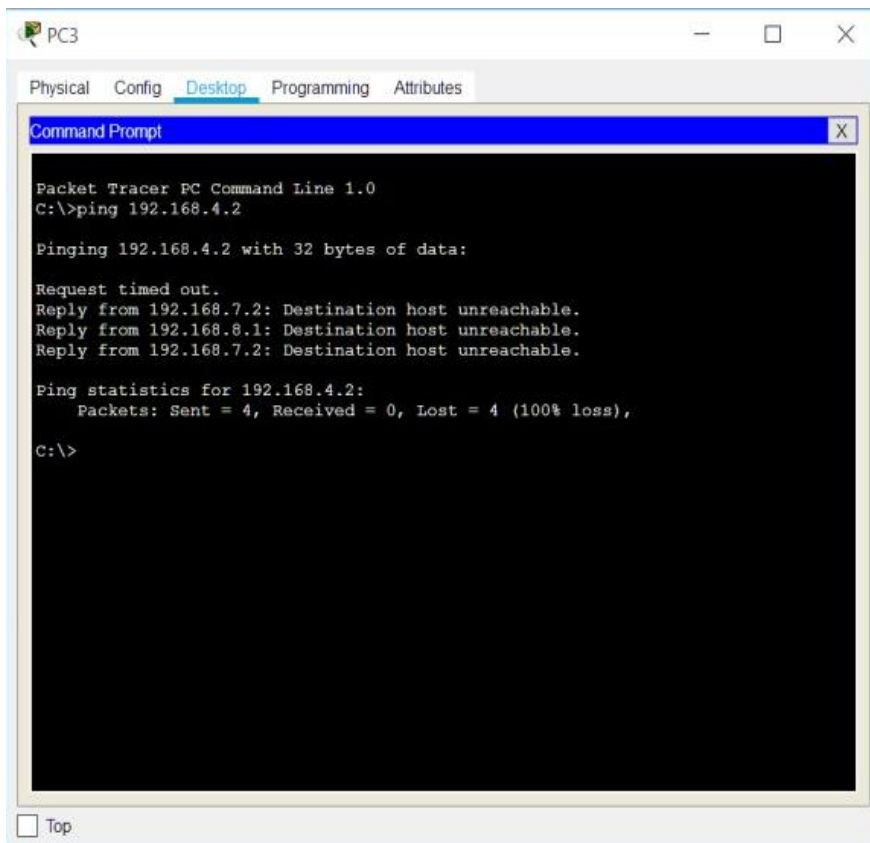
Pinging 192.168.4.2 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 192.168.8.1: Destination host unreachable.
Reply from 192.168.7.2: Destination host unreachable.

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```

c) Test akses dengan PC 3



d) Test akses dengan PC 1

