

UAS PRAKTIKUM JARINGAN KOMPUTER

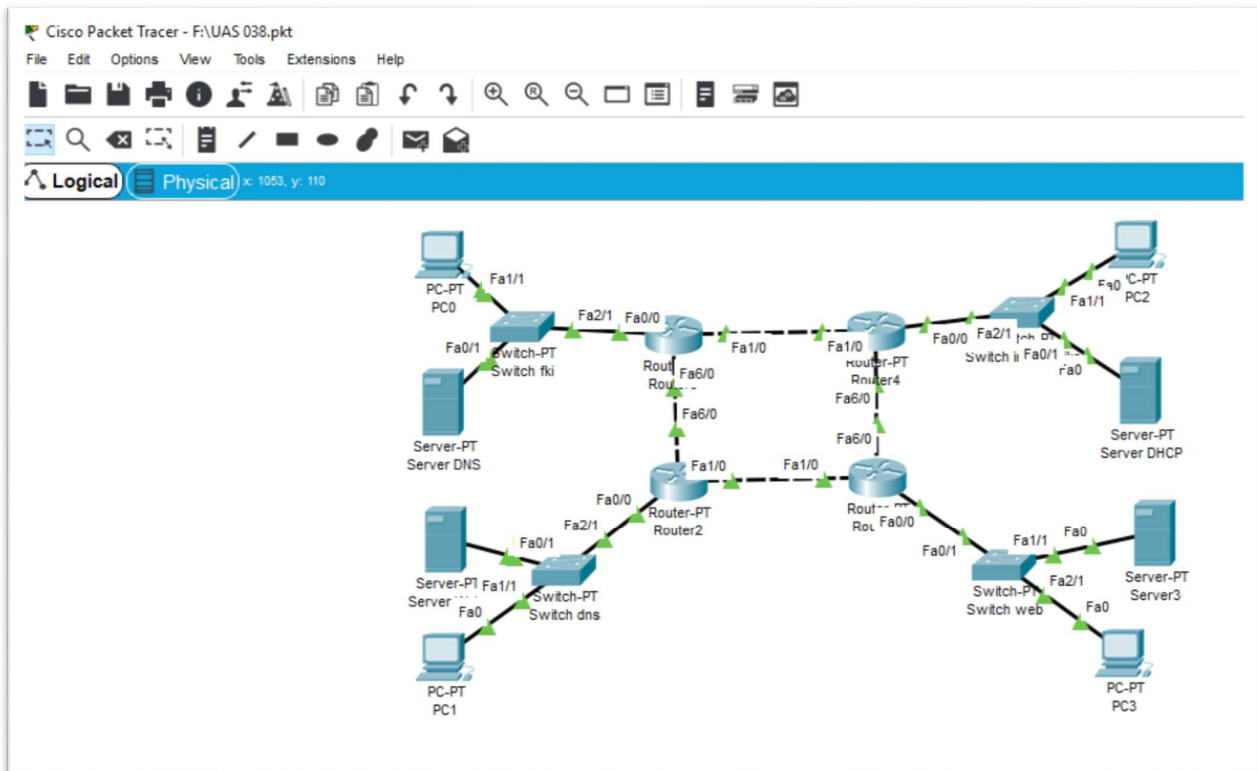
Nama : Alfian Syahrani

NIM : L200170038

Kelas : A

No.1

Membuat topologi jaringan sebagai berikut:



No.2

Konfigurasi pengalamatan 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)

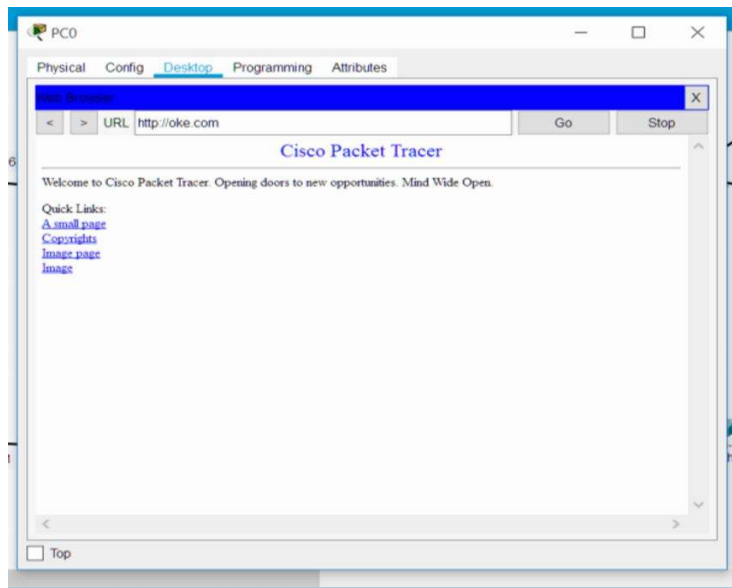
Router 2	Server3	PC 3
SE 2/0 (ip add 192.168.7.1)	Ip add 192.168.3.2	Ip add 192.168.3.3
SE 3/0 (ip add 192.168.6.2)		
Fa 0/0 (ip add 192.168.3.1)		

d)

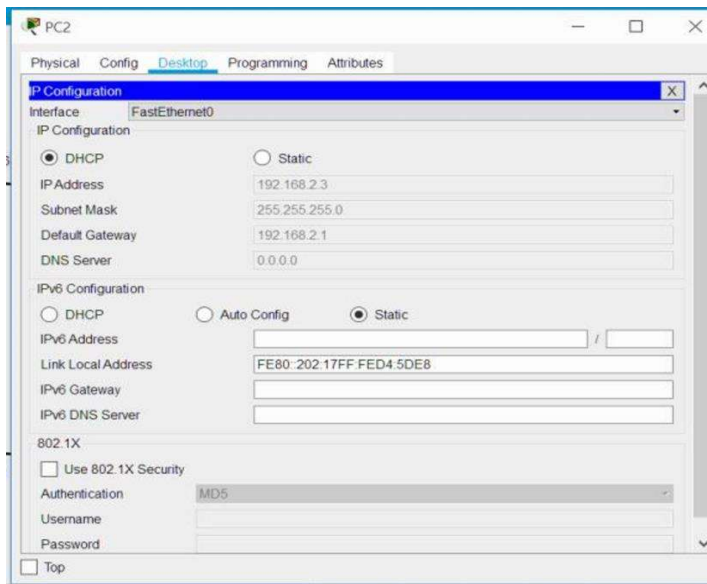
Router 3	Server Web	PC 1
SE 2/0 (ip add 192.168.8.1)	Ip add 192.168.4.2	Ip add 192.168.4.3
SE 3/0 (ip add 192.168.7.2)		
Fa 0/0 (ip add 192.168.4.1)		

Test no.2

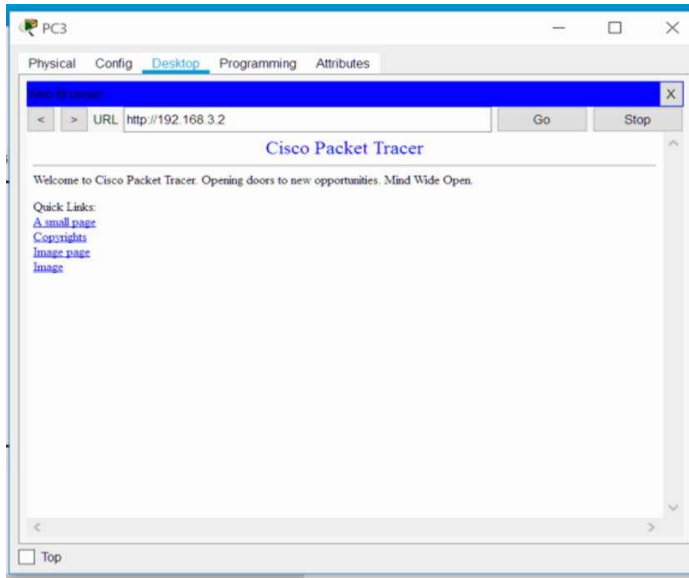
☐ DNS server



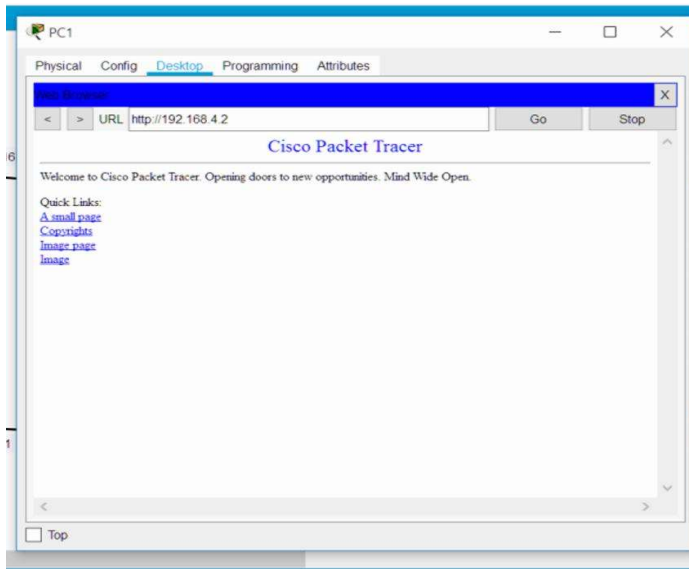
☐ DHCP Server



❑ Server3



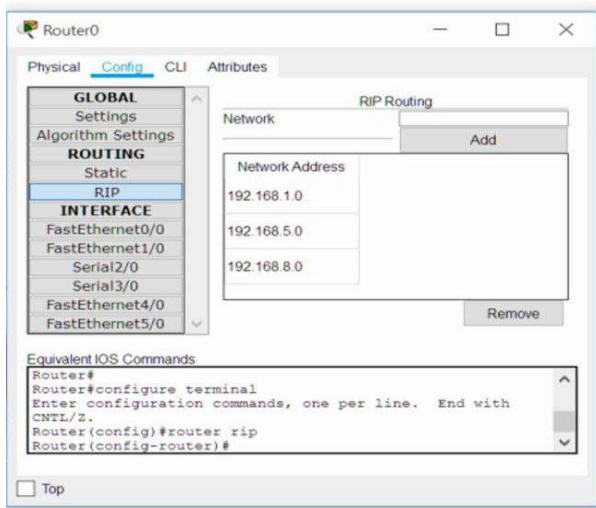
❑ Server Web



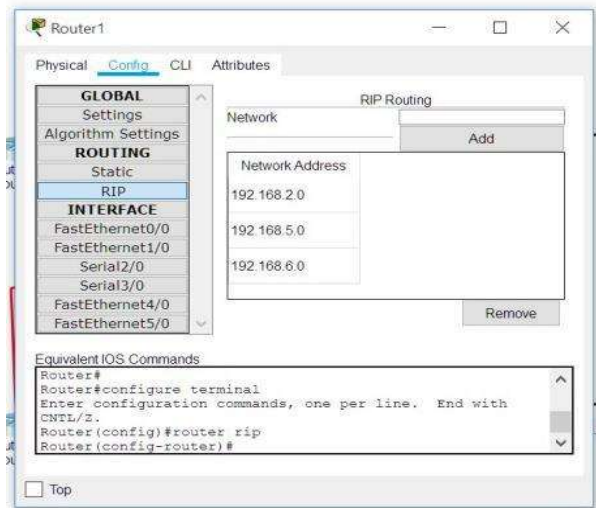
No.3

Konfigurasi routing dinamis

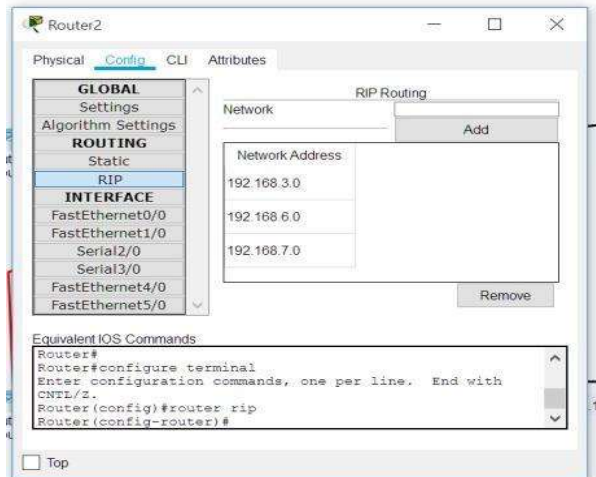
a)router 0



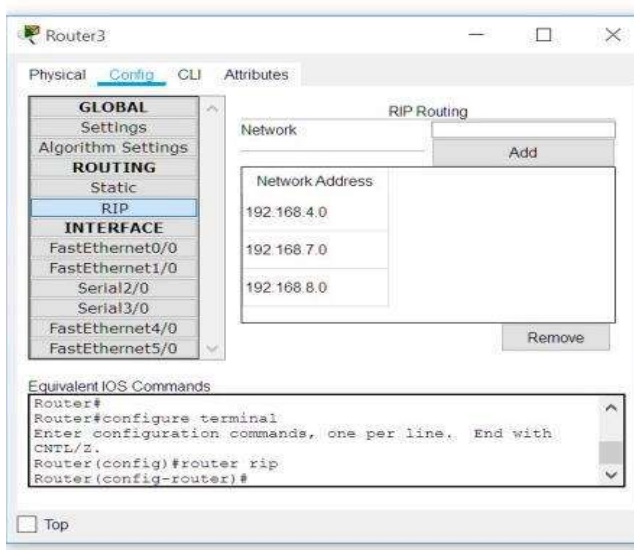
b)router 1



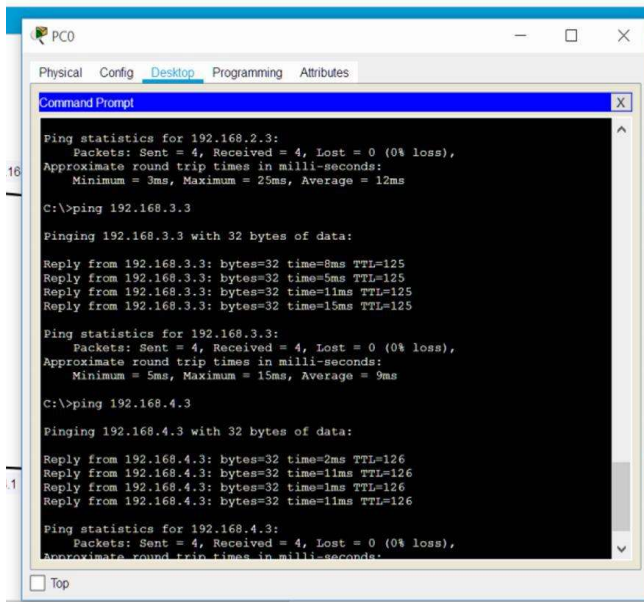
c)router 2



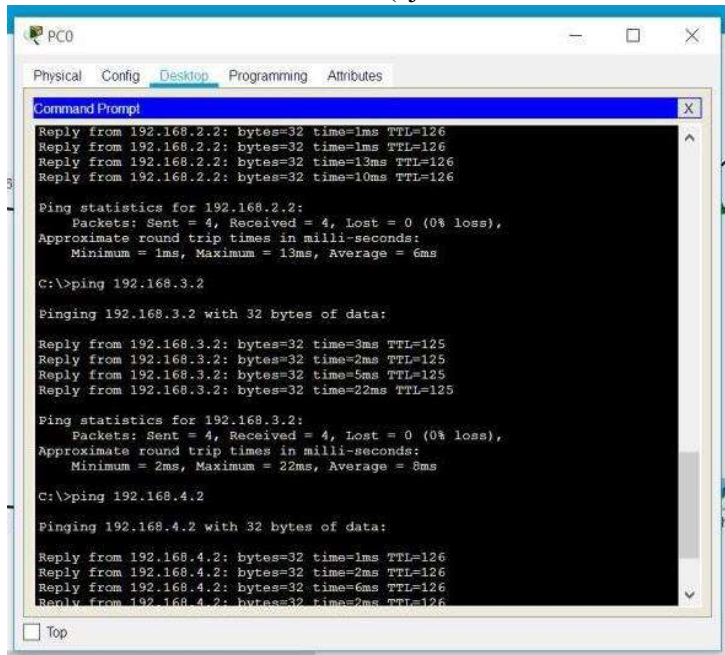
d)router 3



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



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



The screenshot shows a Command Prompt window titled 'PC0' with tabs for Physical, Config, Desktop, Programming, and Attributes. The 'Desktop' tab is active. The window displays the output of three ping commands executed from the C:\ directory. Each command shows four replies with their respective byte sizes, times, and TTL values, followed by a summary of the ping statistics.

```
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

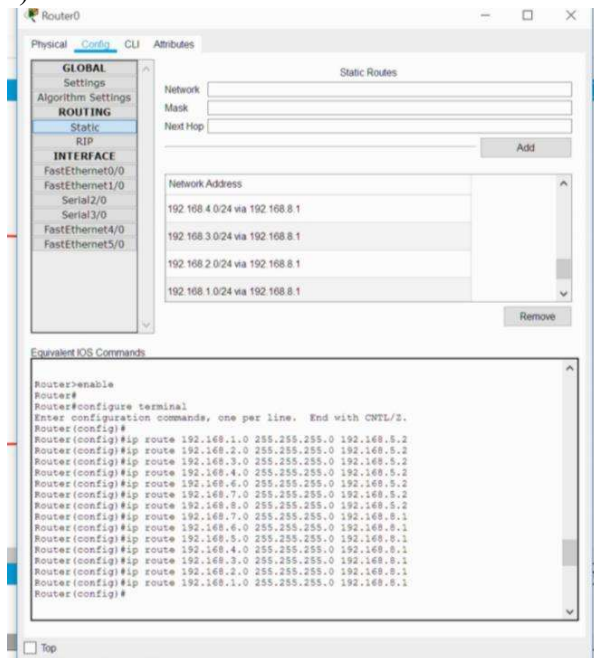
Pinging 192.168.4.2 with 32 bytes of data:

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
```

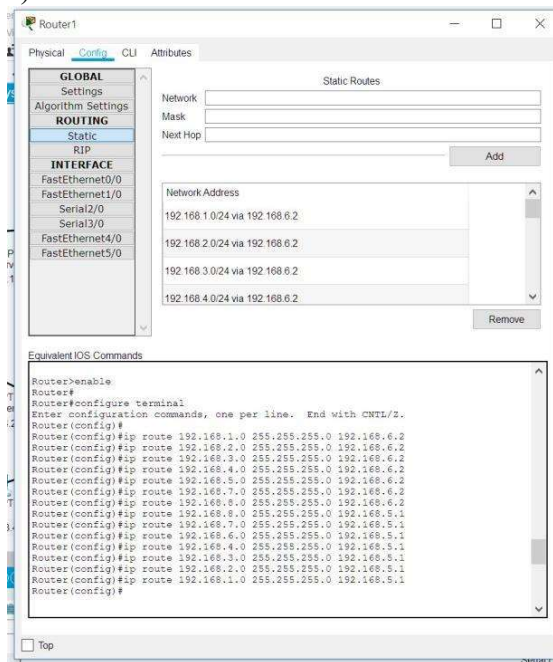
No.4

Konfigurasi router statis

a)router 0



b)router 1



c)router 2

The screenshot shows the configuration window for Router2. The left sidebar has tabs for Physical, Config, CLI, and Attributes. Under the Config tab, there are sections for GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), and INTERFACE (FastEthernet0/0, FastEthernet1/0, Serial2/0, FastEthernet4/0, FastEthernet5/0). The Static Routes section is active, showing a list of routes with Network, Mask, and Next Hop fields. Below this is a list of equivalent IOS commands.

Static Routes

Network	Mask	Next Hop
192.168.1.0/24	255.255.255.0	192.168.7.2
192.168.2.0/24	255.255.255.0	192.168.7.2
192.168.3.0/24	255.255.255.0	192.168.7.2
192.168.4.0/24	255.255.255.0	192.168.7.2
192.168.5.0/24	255.255.255.0	192.168.7.2
192.168.6.0/24	255.255.255.0	192.168.7.2
192.168.7.0/24	255.255.255.0	192.168.6.1
192.168.8.0/24	255.255.255.0	192.168.6.1
192.168.9.0/24	255.255.255.0	192.168.6.1
192.168.10.0/24	255.255.255.0	192.168.6.1
192.168.11.0/24	255.255.255.0	192.168.6.1
192.168.12.0/24	255.255.255.0	192.168.6.1
192.168.13.0/24	255.255.255.0	192.168.6.1
192.168.14.0/24	255.255.255.0	192.168.6.1
192.168.15.0/24	255.255.255.0	192.168.6.1

Equivalent IOS Commands

```

Router2#
Router2#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router2(config)#
Router2(config)#ip route 192.168.1.0 255.255.255.0 192.168.7.2
Router2(config)#ip route 192.168.2.0 255.255.255.0 192.168.7.2
Router2(config)#ip route 192.168.3.0 255.255.255.0 192.168.7.2
Router2(config)#ip route 192.168.4.0 255.255.255.0 192.168.7.2
Router2(config)#ip route 192.168.5.0 255.255.255.0 192.168.7.2
Router2(config)#ip route 192.168.6.0 255.255.255.0 192.168.7.2
Router2(config)#ip route 192.168.7.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.8.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.9.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.10.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.11.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.12.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.13.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.14.0 255.255.255.0 192.168.6.1
Router2(config)#ip route 192.168.15.0 255.255.255.0 192.168.6.1
Router2(config)#
Router2(config)#
Router2(config)#
Router2(config)#
Router2(config)#

```

c)router 3

The screenshot shows the configuration window for Router3. The left sidebar has tabs for Physical, Config, CLI, and Attributes. Under the Config tab, there are sections for GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), and INTERFACE (FastEthernet0/0, FastEthernet1/0, Serial2/0, FastEthernet4/0, FastEthernet5/0). The Static Routes section is active, showing a list of routes with Network, Mask, and Next Hop fields. Below this is a list of equivalent IOS commands.

Static Routes

Network	Mask	Next Hop
192.168.1.0/24	255.255.255.0	192.168.7.1
192.168.2.0/24	255.255.255.0	192.168.7.1
192.168.3.0/24	255.255.255.0	192.168.7.1
192.168.4.0/24	255.255.255.0	192.168.7.1
192.168.5.0/24	255.255.255.0	192.168.7.1
192.168.6.0/24	255.255.255.0	192.168.7.1
192.168.7.0/24	255.255.255.0	192.168.8.2
192.168.8.0/24	255.255.255.0	192.168.8.2
192.168.9.0/24	255.255.255.0	192.168.8.2
192.168.10.0/24	255.255.255.0	192.168.8.2
192.168.11.0/24	255.255.255.0	192.168.8.2
192.168.12.0/24	255.255.255.0	192.168.8.2
192.168.13.0/24	255.255.255.0	192.168.8.2
192.168.14.0/24	255.255.255.0	192.168.8.2
192.168.15.0/24	255.255.255.0	192.168.8.2

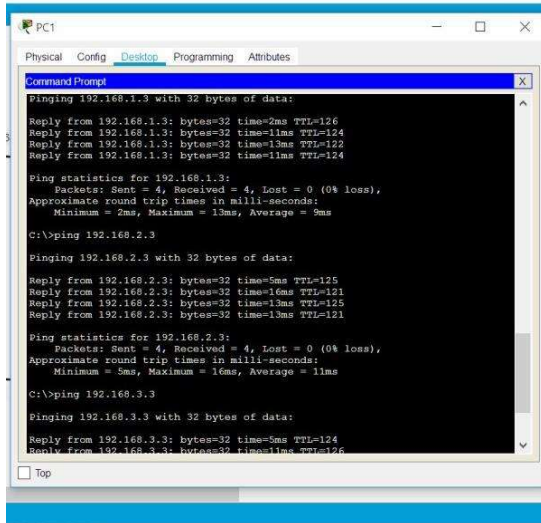
Equivalent IOS Commands

```

Router3#
Router3#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router3(config)#
Router3(config)#ip route 192.168.1.0 255.255.255.0 192.168.7.1
Router3(config)#ip route 192.168.2.0 255.255.255.0 192.168.7.1
Router3(config)#ip route 192.168.3.0 255.255.255.0 192.168.7.1
Router3(config)#ip route 192.168.4.0 255.255.255.0 192.168.7.1
Router3(config)#ip route 192.168.5.0 255.255.255.0 192.168.7.1
Router3(config)#ip route 192.168.6.0 255.255.255.0 192.168.7.1
Router3(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.8.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.9.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.10.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.11.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.12.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.13.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.14.0 255.255.255.0 192.168.8.2
Router3(config)#ip route 192.168.15.0 255.255.255.0 192.168.8.2
Router3(config)#
Router3(config)#
Router3(config)#
Router3(config)#
Router3(config)#

```

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



```
PC1
Physical Config Desktop Programming Attributes
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

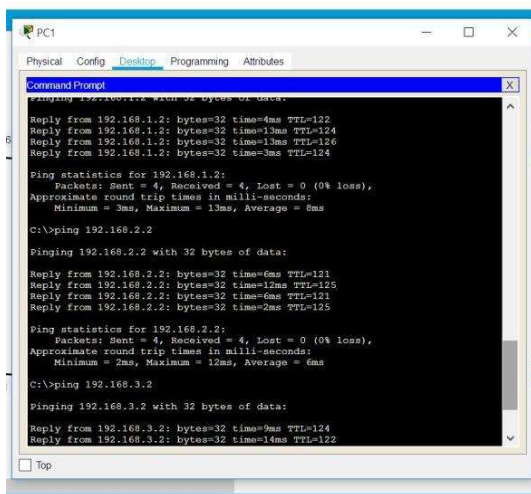
Pinging 192.168.2.3 with 32 bytes of data:
Reply from 192.168.2.3: bytes=32 time=5ms TTL=125
Reply from 192.168.2.3: bytes=32 time=16ms TTL=121
Reply from 192.168.2.3: bytes=32 time=13ms TTL=125
Reply from 192.168.2.3: bytes=32 time=13ms TTL=121

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)



```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
Pinging 192.168.1.2 with 32 bytes of data:
Reply from 192.168.1.2: bytes=32 time=4ms TTL=122
Reply from 192.168.1.2: bytes=32 time=13ms TTL=124
Reply from 192.168.1.2: bytes=32 time=13ms TTL=126
Reply from 192.168.1.2: bytes=32 time=3ms TTL=124

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 13ms, Average = 8ms

C:\>ping 192.168.2.2

Pinging 192.168.2.2 with 32 bytes of data:
Reply from 192.168.2.2: bytes=32 time=6ms TTL=121
Reply from 192.168.2.2: bytes=32 time=12ms TTL=125
Reply from 192.168.2.2: bytes=32 time=6ms TTL=121
Reply from 192.168.2.2: bytes=32 time=2ms TTL=125

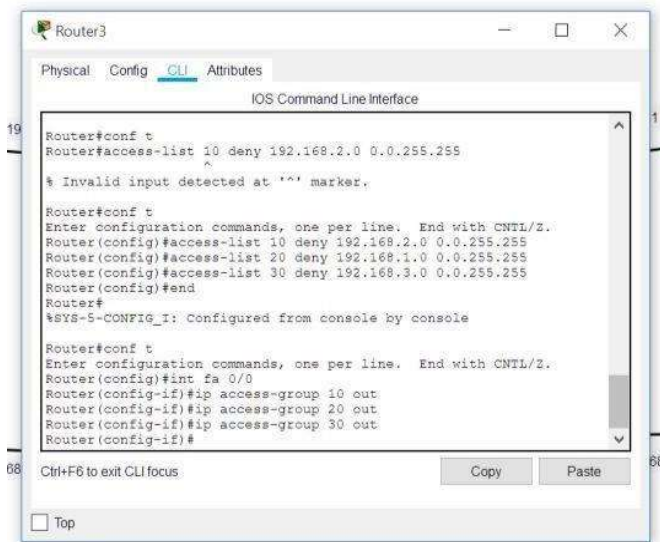
Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 12ms, Average = 6ms

C:\>ping 192.168.3.2

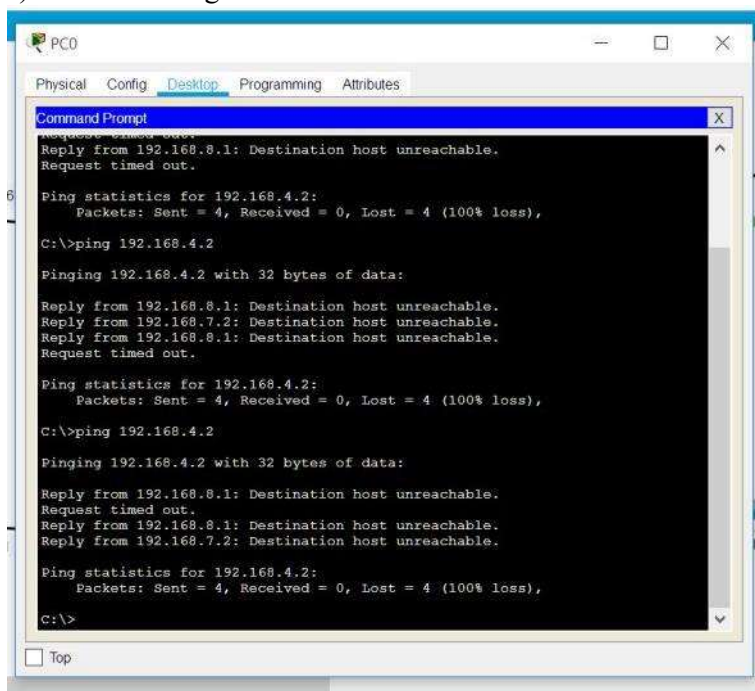
Pinging 192.168.3.2 with 32 bytes of data:
Reply from 192.168.3.2: bytes=32 time=9ms TTL=124
Reply from 192.168.3.2: bytes=32 time=14ms TTL=122
```

No.5

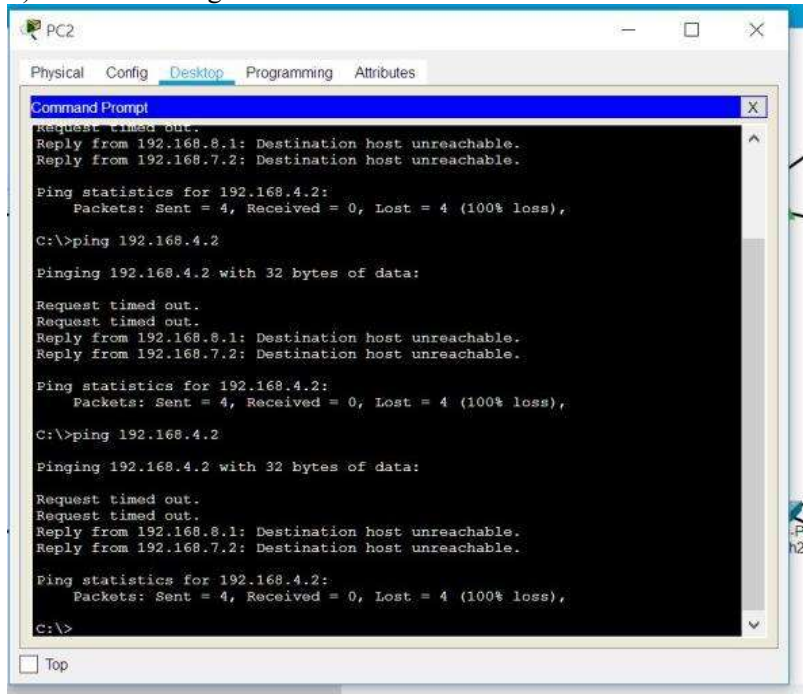
Menggunakan access list untuk membatasi 1 PC saja yang dapat mengakses server web



a)Test akses dengan PC 0



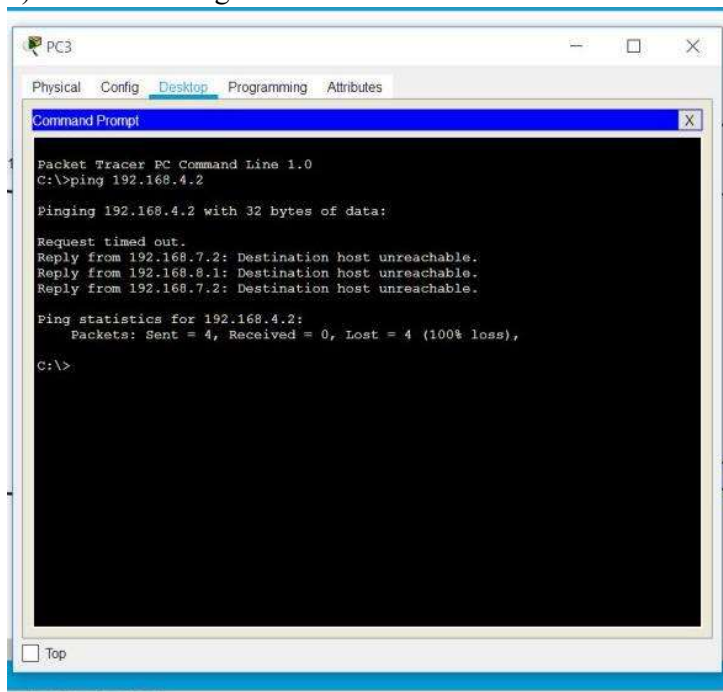
b) Test akses dengan PC 2



The screenshot shows a Packet Tracer window for PC2. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the results of a ping command to 192.168.4.2. The output indicates that the destination host is unreachable for all four attempts, resulting in a 100% loss of packets.

```
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:\>
```

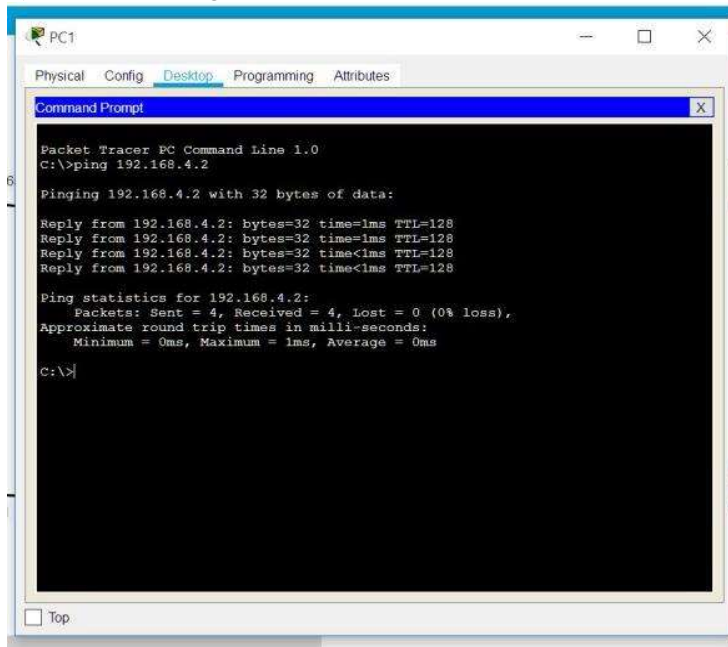
c) Test akses dengan PC 3



The screenshot shows a Packet Tracer window for PC3. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the results of a ping command to 192.168.4.2. The output indicates that the destination host is unreachable for all four attempts, resulting in a 100% loss of packets.

```
Packet Tracer PC Command Line 1.0  
C:\>ping 192.168.4.2  
  
Pinging 192.168.4.2 with 32 bytes of data:  
  
Request timed out.  
Reply from 192.168.7.2: Destination host unreachable.  
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:\>
```

d) Test akses dengan PC 1



The screenshot shows a Packet Tracer PC Command Line window for PC1. The window has tabs for Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is active, displaying a Command Prompt. The Command Prompt shows the execution of the command 'C:\>ping 192.168.4.2'. The output indicates a successful ping with 4 packets sent, 4 received, and 0% loss. The round trip times are all 0ms.

```
Packet Tracer PC Command Line 1.0
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=0ms TTL=128
Reply from 192.168.4.2: bytes=32 time=0ms TTL=128
Reply from 192.168.4.2: bytes=32 time=0ms TTL=128
Reply from 192.168.4.2: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.4.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```