

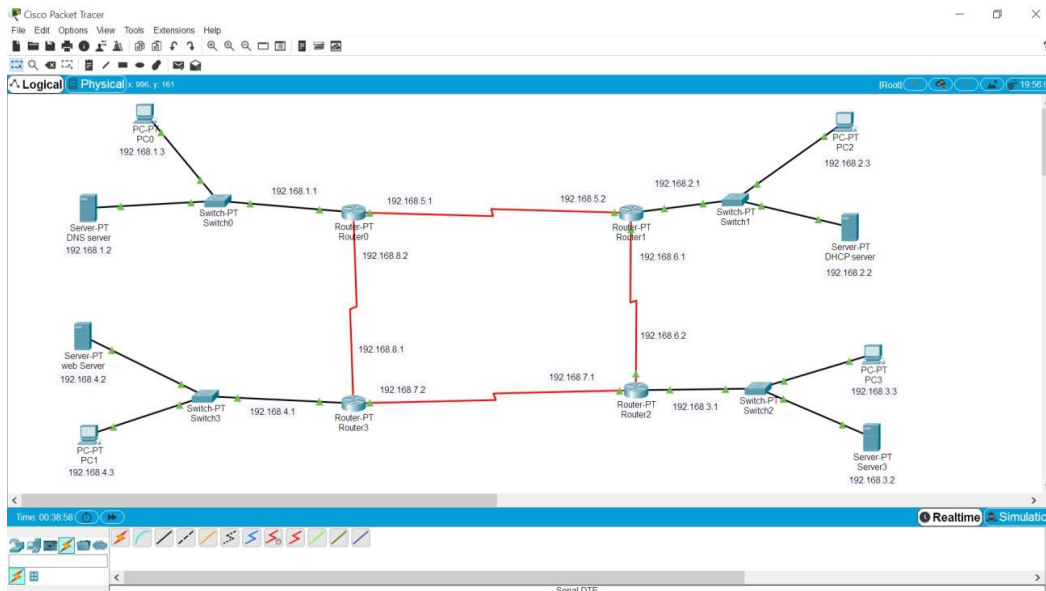
Nama : Riyan Aldiansyah

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Kelas : A

No.1

Membuat topologi jaringan sebagai berikut:



No.2

Konfigurasi pengalamatan ip(sesuai gambar diatas(no.1))

a)

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

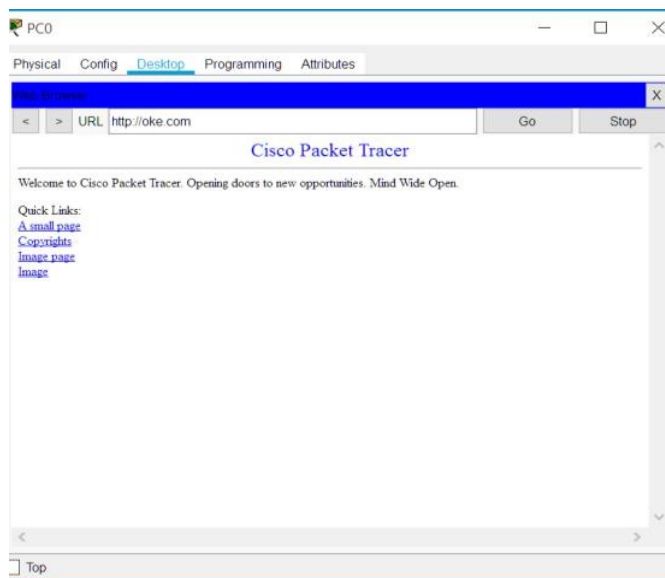
PC 2	Server DHCP	Router 1
Otomatis sesuai pengaturan dhcp yang dibuat (ip add 192.168.2.3)	Ip add 192.168.2.2	SE 2/0 (ip add 192.168.6.1)
		SE 3/0 (ip add 192.168.5.2)
		Fa 0/0 (ip add 192.168.2.1)

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

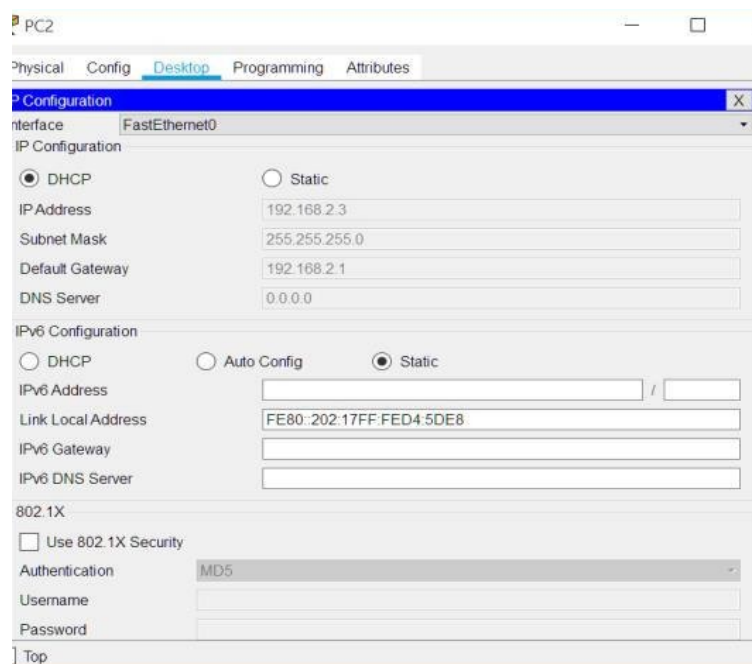
PC 3	Server 3	Router 3
Ip add 192.168.4.3	Ip add 192.168.4.2	SE 2/0 (ip add 192.168.8.1)
		SE 3/0 (ip add 192.168.7.2)
		Fa 0/0 (ip add 192.168.4.1)

Test no.2

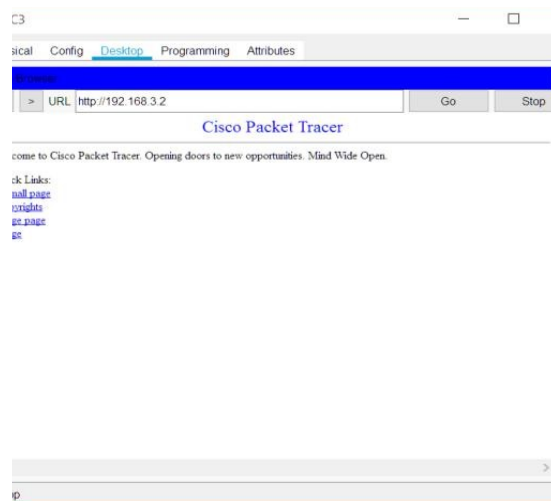
- DNS server



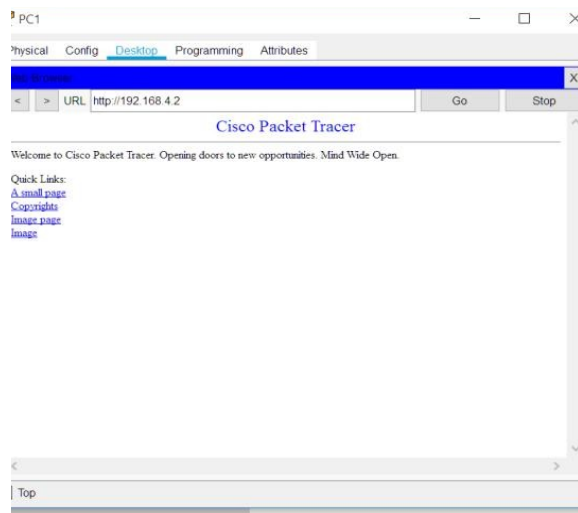
- DHCP Server



- Server3



- Server Web



No.3

Konfigurasi routing dinamis

a)router 0

Router0

Global Config CLI Attributes

GLOBAL

- Settings
- Routing Settings
- ROUTING**
- Static
- RIP**

INTERFACE

- FastEthernet0/0
- FastEthernet1/0
- Serial2/0
- Serial3/0
- FastEthernet4/0
- FastEthernet5/0

RIP Routing

Network

Add

Network Address

- 192.168.1.0
- 192.168.5.0
- 192.168.8.0

Remove

Valid IOS Commands

```
Router#
Router#configure terminal
Router(config)#router rip
Router(config-router)#
```

ip

b)router 1

Router1

Global Config CLI Attributes

GLOBAL

- Settings
- Routing Settings
- ROUTING**
- Static
- RIP**

INTERFACE

- FastEthernet0/0
- FastEthernet1/0
- Serial2/0
- Serial3/0
- FastEthernet4/0
- FastEthernet5/0

RIP Routing

Network

Add

Network Address

- 192.168.2.0
- 192.168.5.0
- 192.168.6.0

Remove

Valid IOS Commands

```
Router#
Router#configure terminal
Router(config)#router rip
Router(config-router)#
```

ip

c)router 2

router2

Physical

Config

CLI

Attributes

GLOBAL

Settings

Routing 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
router configuration commands, one per line. End with
Ctrl/Z.
router(config)#router rip
router(config-router)#

```

Top

d)router 3

router3

Physical

Config

CLI

Attributes

GLOBAL

Settings

Routing 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
router configuration commands, one per line. End with
Ctrl/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:
```



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
```

No.4

Konfigurasi router statis

a)router 0

er0

Config

CLI

Attributes

GLOBAL

Settings

lthm Settings

ROUTING

Static

RIP

INTERFACE

Ethernet0/0

Ethernet1/0

Serial2/0

Serial3/0

Ethernet4/0

Ethernet5/0

Static Routes

Network

Mask

Next Hop

Add

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

Remove

Equivalent IOS Commands

```
er0>enable
er0#
er0#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
er0(config)#
er0(config)#ip route 192.168.1.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.2.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.3.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.4.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.8.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.5.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.4.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.3.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.2.0 255.255.255.0 192.168.8.1
er0(config)#ip route 192.168.1.0 255.255.255.0 192.168.8.1
er0(config)#
```

b)router 1

Router1

Physical

Config

CLI

Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

INTERFACE

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

Static Routes

Network

Mask

Next Hop

Add

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

Remove

Equivalent IOS 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)#
```

Top

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

Static Routes

Network

Mask

Next Hop

Add

Network Address

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

192.168.4.0/24 via 192.168.7.2

Remove

Equivalent IOS Commands

```

Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
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)#

```

Top

c)router 3

r3

Config CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

INTERFACE

FastEthernet0/0

FastEthernet1/0

Serial2/0

Serial3/0

FastEthernet4/0

FastEthernet5/0

Static Routes

Network

Mask

Next Hop

Add

Network Address

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

192.168.4.0/24 via 192.168.7.1

Remove

Equivalent IOS Commands

```

r3>enable
r3#
r3#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
r3(config)#ip route 192.168.1.0 255.255.255.0 192.168.7.1
r3(config)#ip route 192.168.2.0 255.255.255.0 192.168.7.1
r3(config)#ip route 192.168.3.0 255.255.255.0 192.168.7.1
r3(config)#ip route 192.168.4.0 255.255.255.0 192.168.7.1
r3(config)#ip route 192.168.5.0 255.255.255.0 192.168.7.1
r3(config)#ip route 192.168.6.0 255.255.255.0 192.168.7.1
r3(config)#ip route 192.168.7.0 255.255.255.0 192.168.8.2
r3(config)#ip route 192.168.6.0 255.255.255.0 192.168.8.2
r3(config)#ip route 192.168.5.0 255.255.255.0 192.168.8.2
r3(config)#ip route 192.168.4.0 255.255.255.0 192.168.8.2
r3(config)#ip route 192.168.3.0 255.255.255.0 192.168.8.2
r3(config)#ip route 192.168.2.0 255.255.255.0 192.168.8.2
r3(config)#ip route 192.168.1.0 255.255.255.0 192.168.8.2
r3(config)#
r3(config)#
r3(config)#

```

TE



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

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
ping 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

ping 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

ping 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

Top
```



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

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
ping 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

ping 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

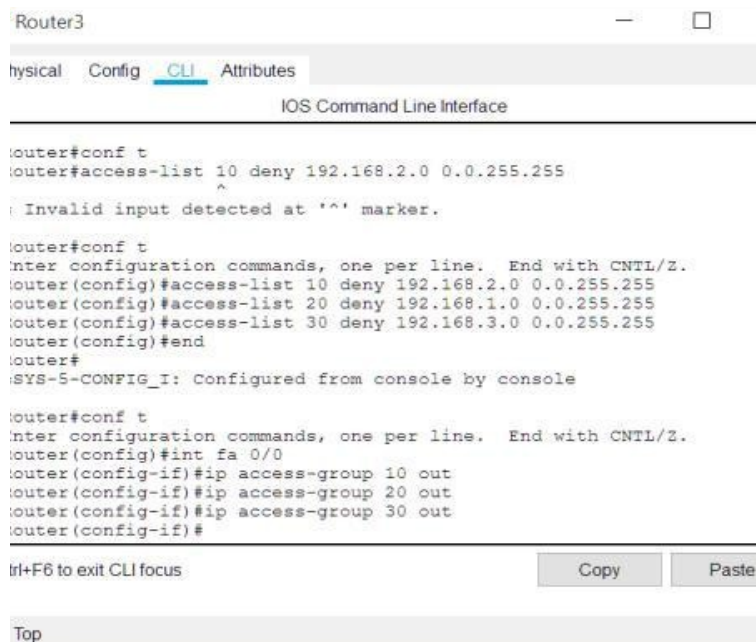
Ping statistics for 192.168.2.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 12ms, Average = 6ms

C:\>ping 192.168.3.2

ping 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



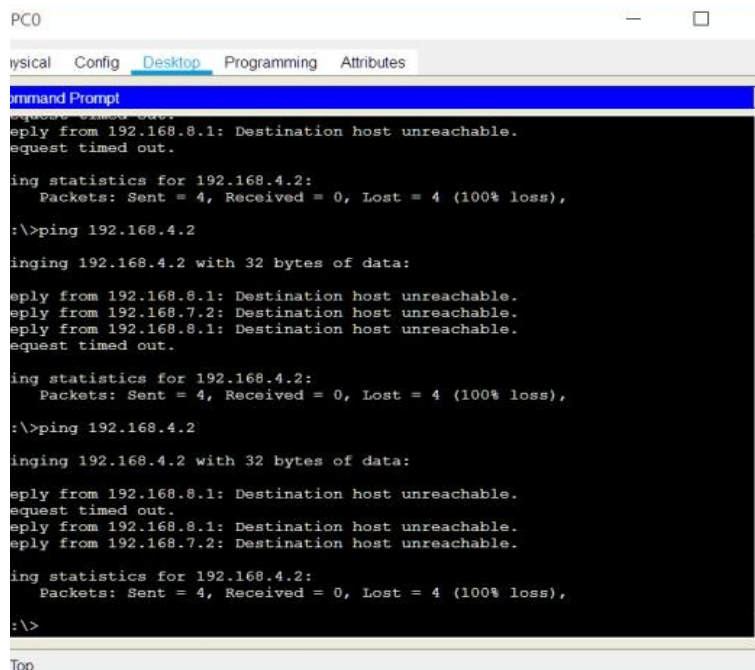
The screenshot shows the CLI of Router3. The user enters 'conf t' to enter configuration mode. They then enter 'access-list 10 deny 192.168.2.0 0.0.255.255'. An error message 'Invalid input detected at '^' marker.' appears. The user then enters 'conf t' again and enters the following commands: 'int fa 0/0', 'ip access-group 10 out', 'ip access-group 20 out', and 'ip access-group 30 out'. The configuration is saved with 'end'. The prompt returns to 'Router#'. Below the CLI window, there are 'Copy' and 'Paste' buttons and a 'Top' link.

```
Router3
Router#conf t
Router#access-list 10 deny 192.168.2.0 0.0.255.255
^
Invalid input detected at '^' marker.

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#access-list 10 deny 192.168.2.0 0.0.255.255
Router(config)#access-list 20 deny 192.168.1.0 0.0.255.255
Router(config)#access-list 30 deny 192.168.3.0 0.0.255.255
Router(config)#end
Router#
SYS-5-CONFIG_I: Configured from console by console

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0
Router(config-if)#ip access-group 10 out
Router(config-if)#ip access-group 20 out
Router(config-if)#ip access-group 30 out
Router(config-if)#
```

a)Test akses dengan PC 0



The screenshot shows the Command Prompt of PC0. The user enters 'ping 192.168.4.2'. The output shows 'Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)'. The user then enters 'ping 192.168.4.2' again. The output shows 'Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)'. The user then enters 'ping 192.168.4.2' again. The output shows 'Packets: Sent = 4, Received = 0, Lost = 4 (100% loss)'. The prompt returns to 'C:\>'. Below the Command Prompt window, there is a 'Top' link.

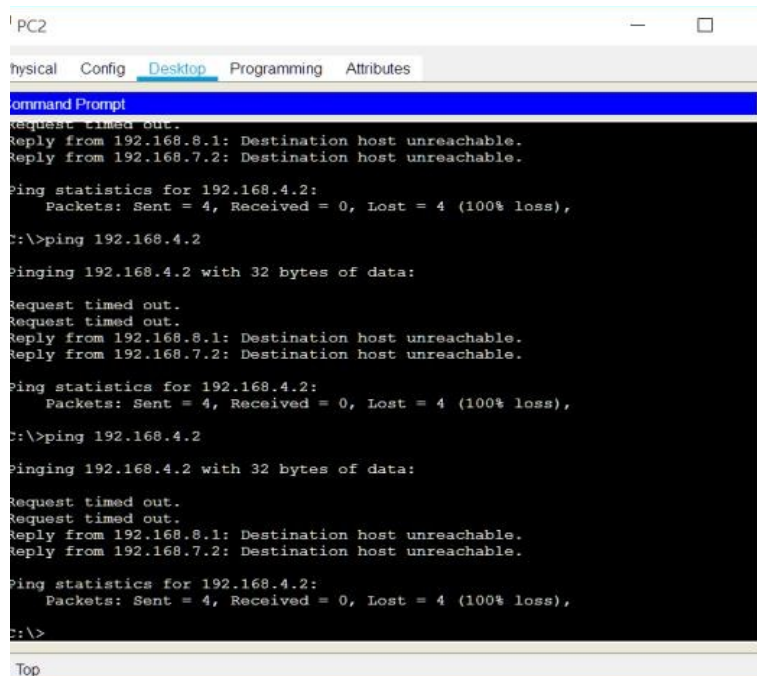
```
PC0
Command Prompt
C:\>ping 192.168.4.2
Pinging 192.168.4.2 with 32 bytes of data:
Reply from 192.168.8.1: Destination host unreachable.
Request timed out.

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
: \>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.

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
: \>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.

Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
: \>
```

b) Test akses dengan PC 2



The screenshot shows a Windows Command Prompt window titled 'PC2'. The 'Desktop' tab is selected in the top menu. The command prompt displays the output of a ping command to 192.168.4.2. The output shows that all four packets sent were lost, resulting in a 100% loss. The user has entered the command 'ping 192.168.4.2' three times, and the output is identical each time.

```
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

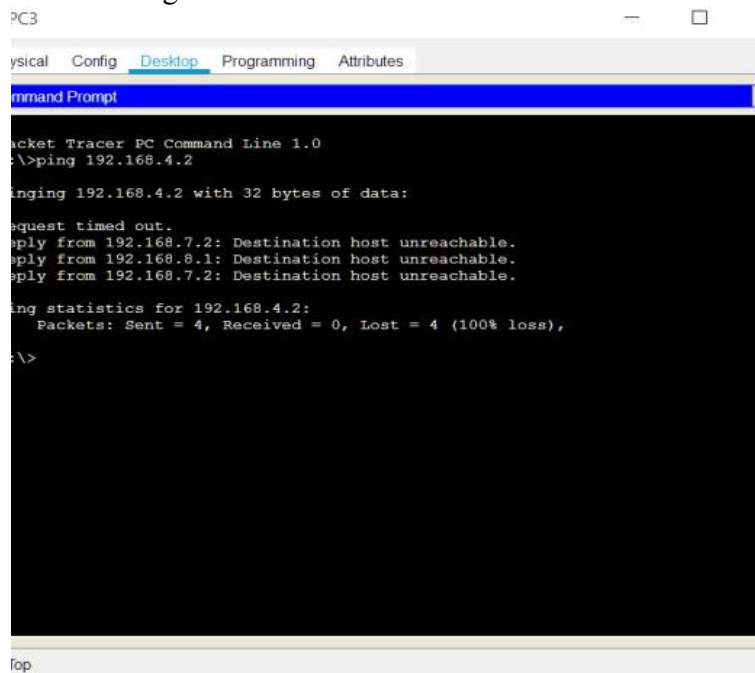
Pinging 192.168.4.2 with 32 bytes of data:

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



The screenshot shows a Windows Command Prompt window titled 'PC3'. The 'Desktop' tab is selected in the top menu. The command prompt displays the output of a ping command to 192.168.4.2. The output shows that all four packets sent were lost, resulting in a 100% loss. The user has entered the command 'ping 192.168.4.2' once, and the output is as follows:

```
PC3
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.4.2

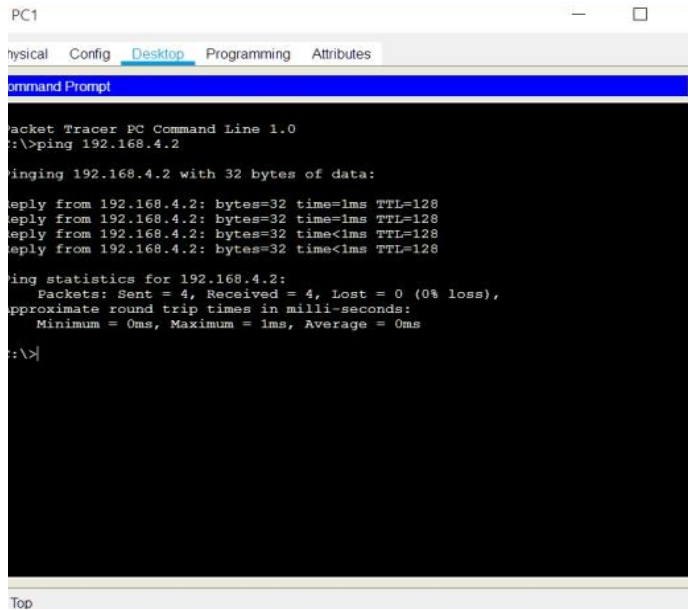
Pinging 192.168.4.2 with 32 bytes of data:

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



```
PC1
Physical Config Desktop Programming Attributes
Command Prompt

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=1ms TTL=128
Reply from 192.168.4.2: bytes=32 time=1ms TTL=128
Reply from 192.168.4.2: bytes=32 time<1ms TTL=128
Reply from 192.168.4.2: bytes=32 time<1ms 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 = 1ms, Average = 0ms

C:\>
```

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