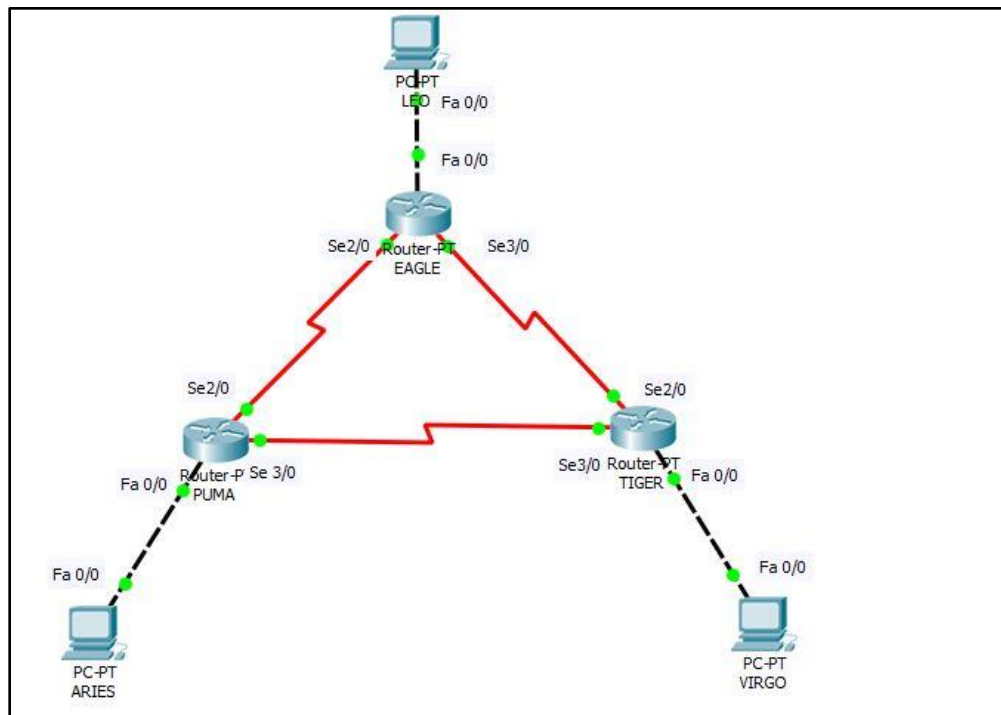


**Laporan Praktikum Jarkom**  
**Modul 7**  
**Static, Route, RIP dan IGRP**  
**Kegiatan 1.Topologi 1 (Static Routing)**

1. Menggunakan paket tracer buat topologi berikut ini dengan menggunakan router generic.
2. Beri nama masing-masing router dengan eagle(router1), puma(router2), dan tiger(router 3).



3. - Konfigurasi IP address interface ethernet 0 untuk router eagle

```
Router#en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 172.21.10.10 255.255.255.0
Router(config-if)#no shutdown
```

- Konfigurasi IP address interface serial 0 dan serial 1 untuk router eagle

```
Router(config-if)#int se2/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip add 172.21.1.1 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#int se3/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip add 172.21.2.1 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#
```

- Konfigurasi IP address interface ethernet 0 untuk router puma

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 172.21.20.20 255.255.255.0
Router(config-if)#no shutdown
```

- Konfigurasi IP address interface serial 0 dan serial 1 untuk router puma

```
Router(config-if)#int se2/0
Router(config-if)#ip add 172.21.1.2 255.255.255.0
Router(config-if)#no shutdown

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

Router(config-if)#int se3/0
Router(config-if)#cl
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to up
% Ambiguous command: "c"
Router(config-if)#clock rate 2000000
Router(config-if)#ip add 172.21.3.2 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
Router(config-if)#
```

- Konfigurasi IP address interface ethernet 0 untuk router tiger

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip add 172.21.30.30 255.255.255.0
Router(config-if)#no shutdown
```

- Konfigurasi IP address interface serial 0 dan serial 1 untuk router tiger

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

```
Router(config-if)#int se2/0
Router(config-if)#ip add 172.21.2.3 255.255.255.0
Router(config-if)#no shutdown

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

Router(config-if)#int se3/0
Router(config-if)#ip add 162
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to up

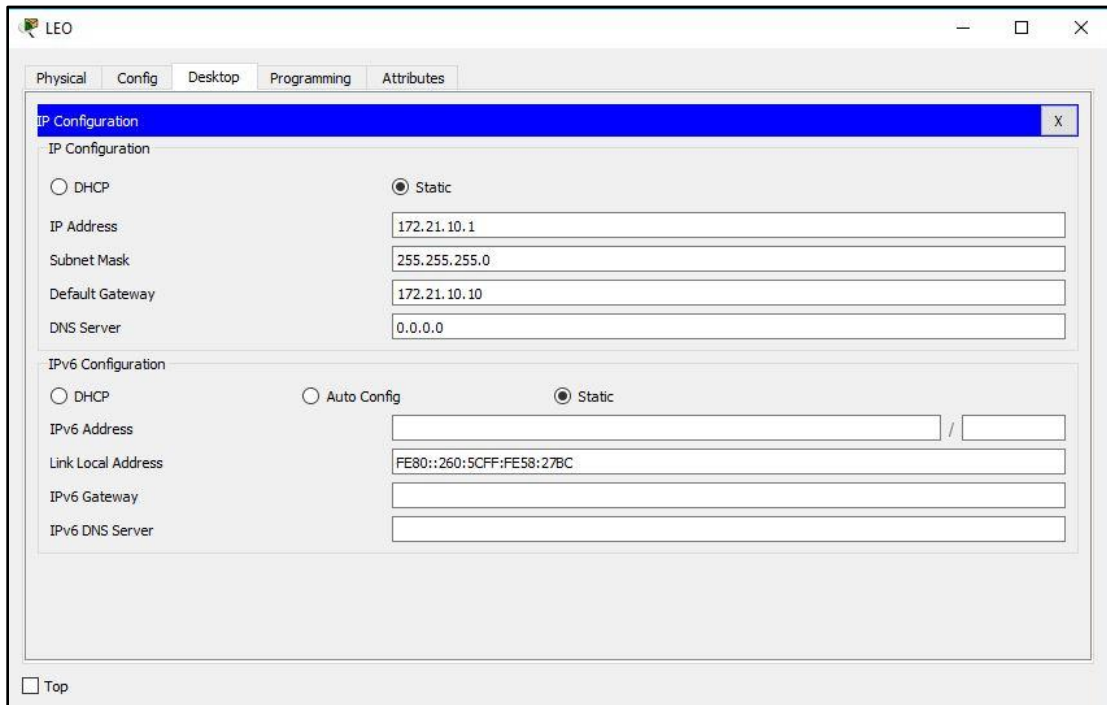
^
% Invalid input detected at '^' marker.

Router(config-if)#ip add 172.21.3.3 255.255.255.0
Router(config-if)#no shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0,
changed state to up
```

#### 4. - Konfigurasi IP address PC Leo



The screenshot shows the LEO network configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, displaying the following settings:

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	172.21.10.1
Subnet Mask	255.255.255.0
Default Gateway	172.21.10.10
DNS Server	0.0.0.0

Below the IP Configuration section, the 'IPv6 Configuration' section is visible with the following settings:

IPv6 Configuration		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::260:5CFF:FE58:27BC	
IPv6 Gateway		
IPv6 DNS Server		

At the bottom left of the window, there is a checkbox labeled 'Top' which is currently unchecked.

#### - Konfigurasi IP address PC Aries

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

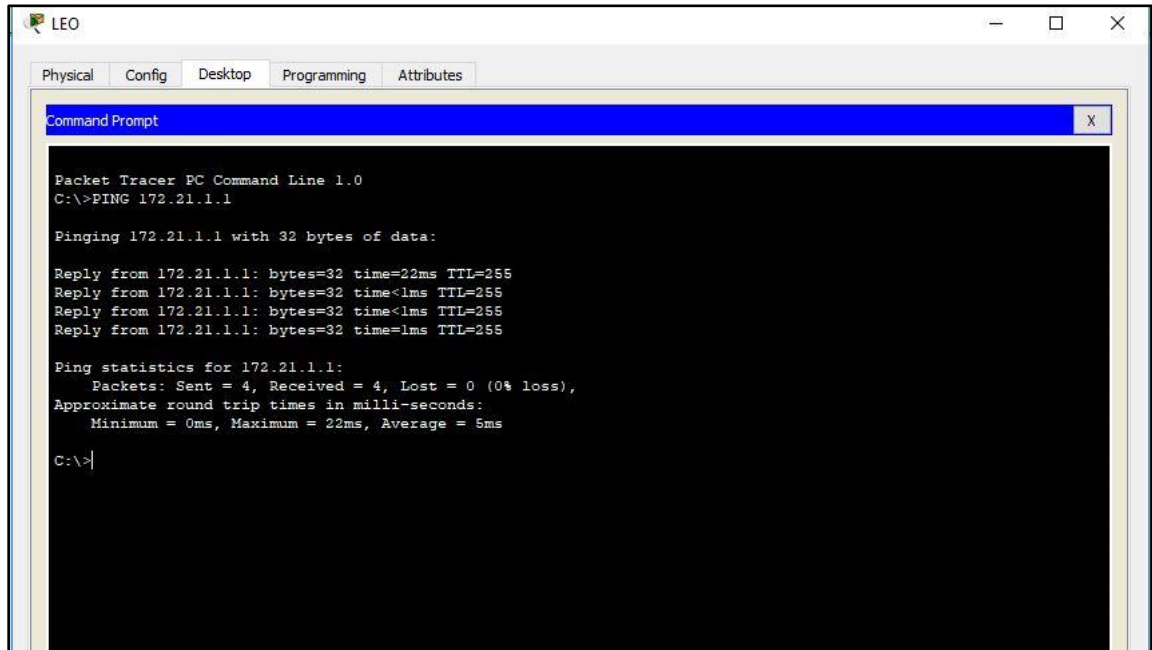
The screenshot shows the 'ARIES' network configuration window. It has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Config' tab is active, and the 'IP Configuration' section is highlighted. Under 'IP Configuration', the 'Static' radio button is selected. The fields are filled with: IP Address: 172.21.20.2, Subnet Mask: 255.255.255.0, Default Gateway: 172.21.20.20, and DNS Server: 0.0.0.0. Under 'IPv6 Configuration', the 'Static' radio button is also selected. The fields are: IPv6 Address (empty), Link Local Address: FE80::201:97FF:FE12:845B, IPv6 Gateway (empty), and IPv6 DNS Server (empty). A 'Top' button is at the bottom left.

- Konfigurasi IP address PC Virgo

The screenshot shows the 'VIRGO' network configuration window. It has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Config' tab is active, and the 'IP Configuration' section is highlighted. Under 'IP Configuration', the 'Static' radio button is selected. The fields are filled with: IP Address: 172.21.30.3, Subnet Mask: 255.255.255.0, Default Gateway: 172.21.30.30, and DNS Server: 0.0.0.0. Under 'IPv6 Configuration', the 'Static' radio button is also selected. The fields are: IPv6 Address (empty), Link Local Address: FE80::230:F2FF:FE9A:1AB2, IPv6 Gateway (empty), and IPv6 DNS Server (empty). A 'Top' button is at the bottom left.

5. - Lakukang ping dari PC leo ke router eagle
  - Lakukan ping dari PC aries ke router puma

Muhibah Fata Tika  
L200170156  
D  
JARKOM



LEO

Physical Config Desktop Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>PING 172.21.1.1

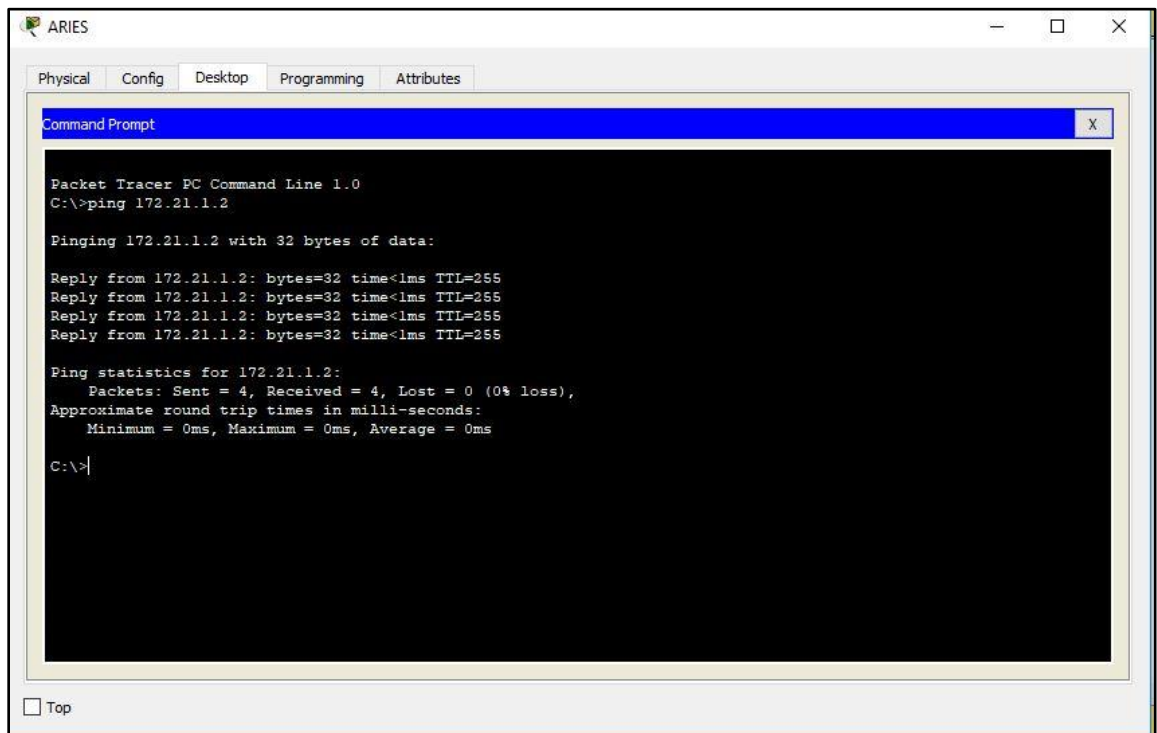
Pinging 172.21.1.1 with 32 bytes of data:

Reply from 172.21.1.1: bytes=32 time=22ms TTL=255
Reply from 172.21.1.1: bytes=32 time<1ms TTL=255
Reply from 172.21.1.1: bytes=32 time<1ms TTL=255
Reply from 172.21.1.1: bytes=32 time=1ms TTL=255

Ping statistics for 172.21.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 22ms, Average = 5ms

C:\>|
```

- Lakukan ping dari PC aries ke router puma



ARIES

Physical Config Desktop Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.2

Pinging 172.21.1.2 with 32 bytes of data:

Reply from 172.21.1.2: bytes=32 time<1ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255

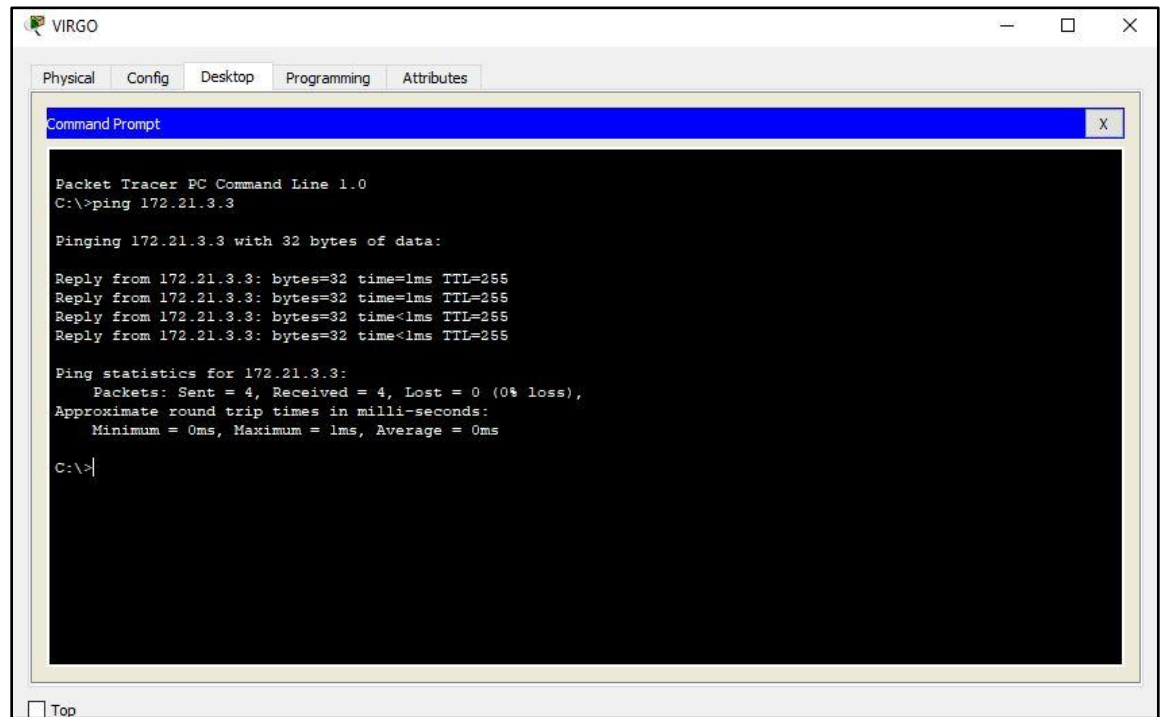
Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

☐ Top

- Lakukan ping dari PC virgo ke router tiger

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**



The screenshot shows a 'VIRGO' window with a 'Command Prompt' tab. The text inside the command prompt is as follows:

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.3.3

Pinging 172.21.3.3 with 32 bytes of data:

Reply from 172.21.3.3: bytes=32 time=1ms TTL=255
Reply from 172.21.3.3: bytes=32 time=1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255

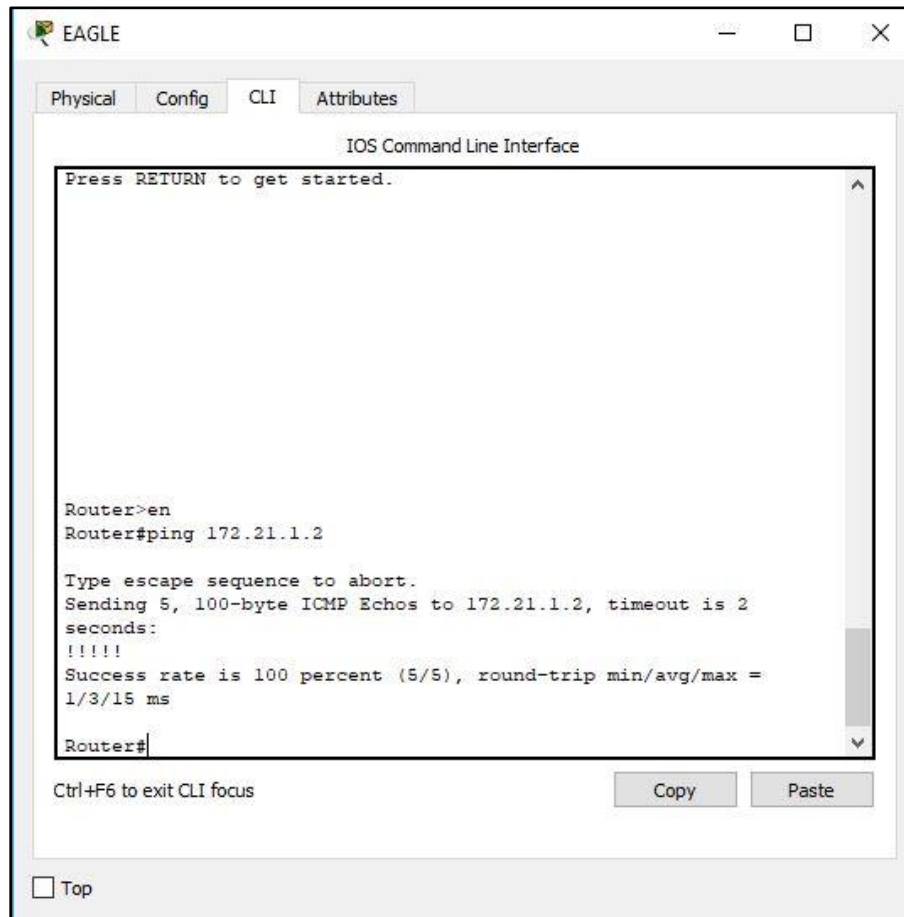
Ping statistics for 172.21.3.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>|
```

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

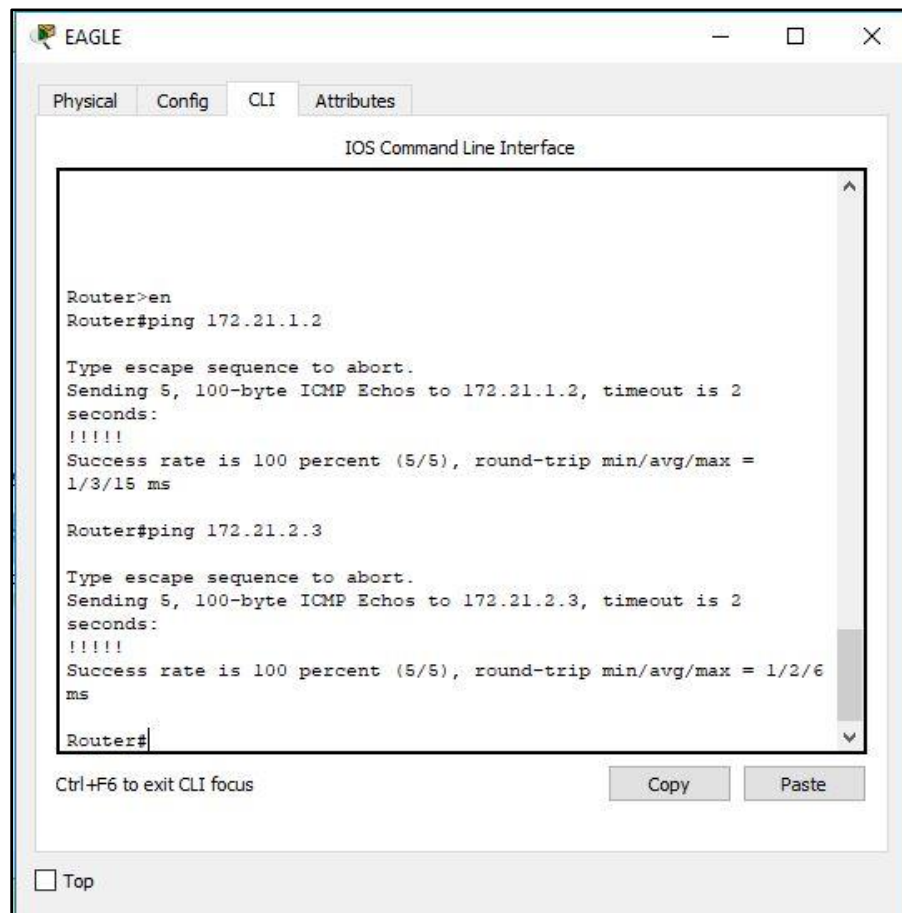
- Lakukan ping dari router eagle ke router puma

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**



- Lakukan ping dari router eagle ke router tiger

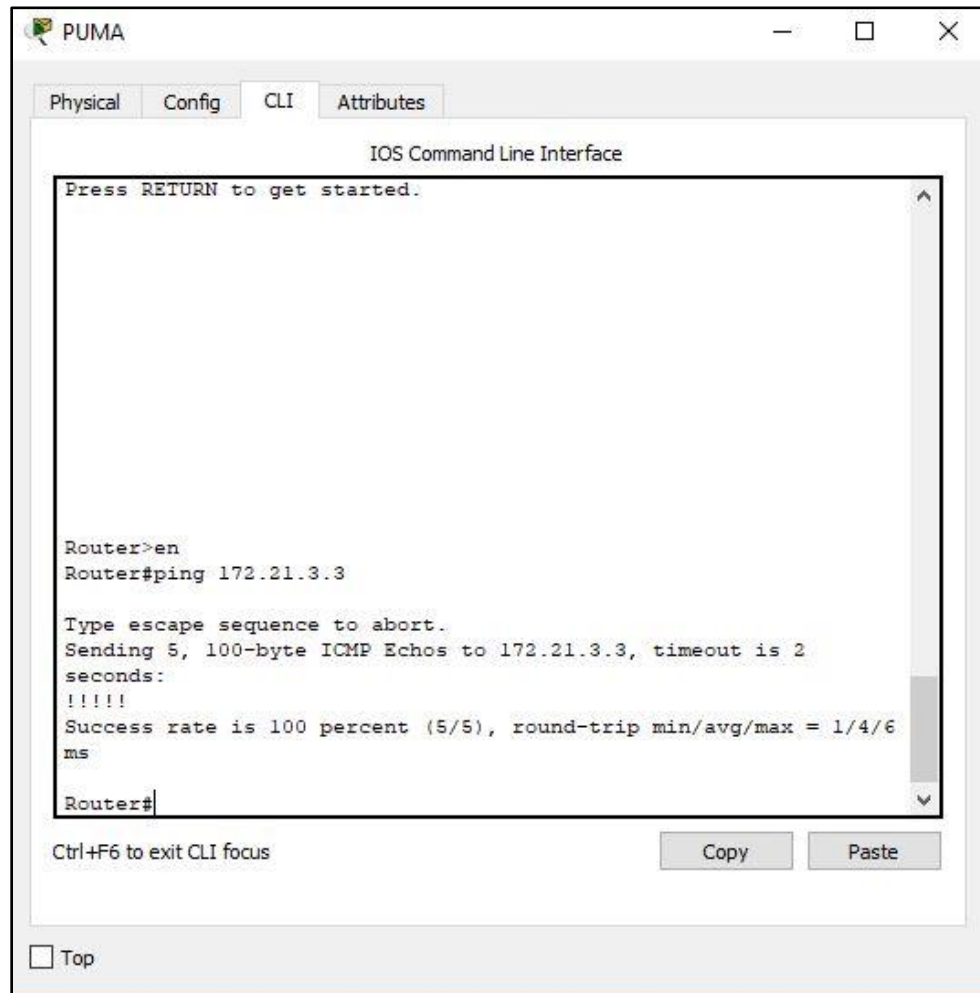
Muhibah Fata Tika  
L200170156  
D  
JARKOM



- Lakukan ping dari router puma ke router tiger

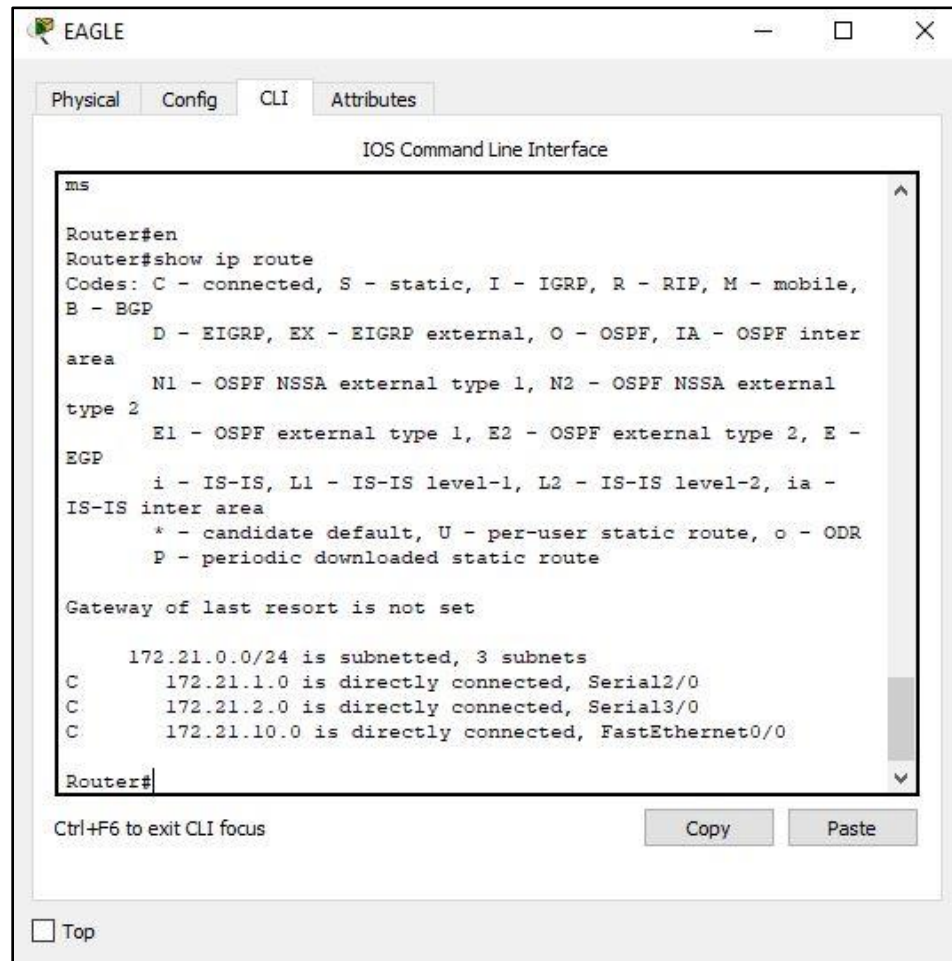


**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**



6. Simpan konfigurasi seluruh device yang telah dilakukan
7. - Melihat route table router eagle

Muhibah Fata Tika  
L200170156  
D  
JARKOM



The screenshot shows the EAGLE network simulator interface. The 'CLI' tab is selected, displaying the 'IOS Command Line Interface'. The command 'Router#show ip route' has been entered, and the output is displayed. The output shows the gateway of last resort is not set and lists three subnets: 172.21.0.0/24, 172.21.1.0, and 172.21.2.0, all directly connected to their respective interfaces (Serial12/0, Serial13/0, and FastEthernet0/0).

```
ms
Router#
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia -
IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

      172.21.0.0/24 is subnetted, 3 subnets
C       172.21.1.0 is directly connected, Serial12/0
C       172.21.2.0 is directly connected, Serial13/0
C       172.21.10.0 is directly connected, FastEthernet0/0
Router#
```

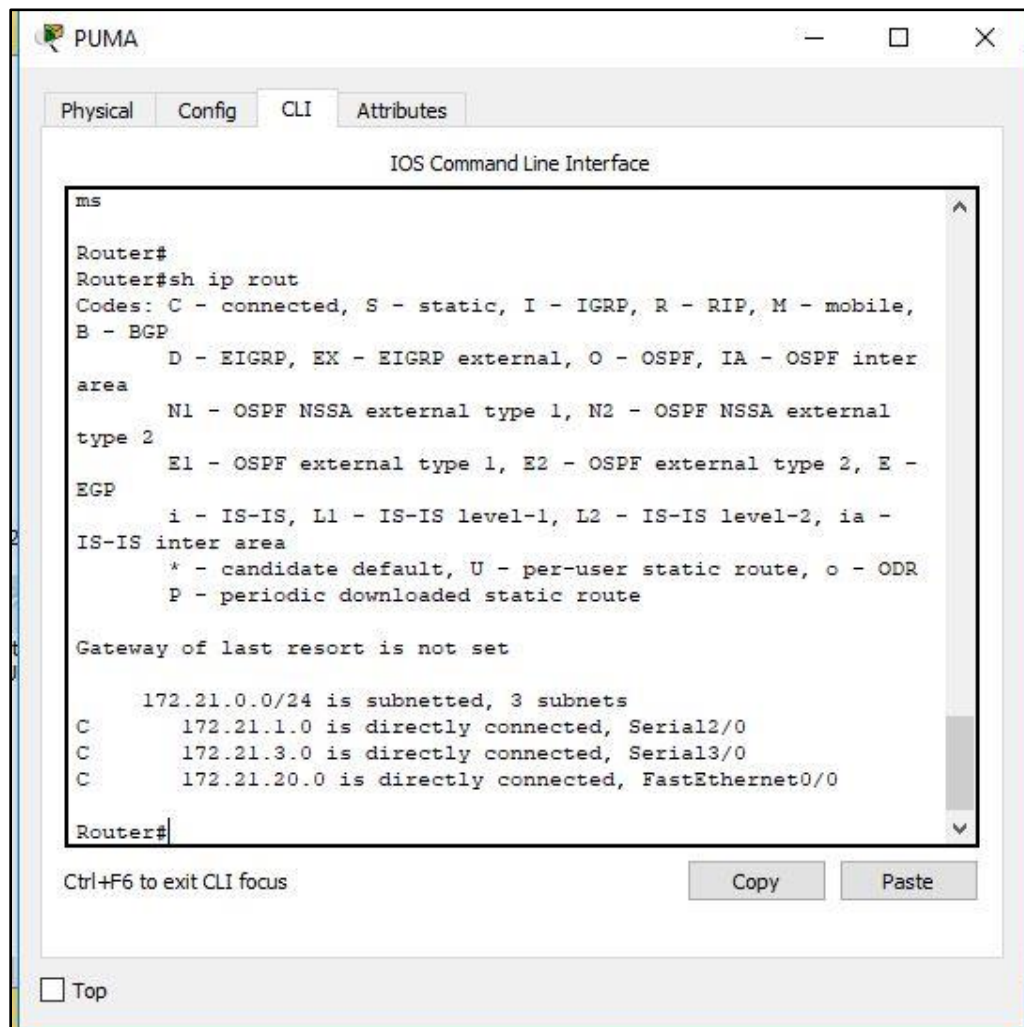
Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

- Melihat route table router puma

Muhibah Fata Tika  
L200170156  
D  
JARKOM



```
ms
Router#
Router#sh ip rout
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia -
IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

      172.21.0.0/24 is subnetted, 3 subnets
C        172.21.1.0 is directly connected, Serial2/0
C        172.21.3.0 is directly connected, Serial3/0
C        172.21.20.0 is directly connected, FastEthernet0/0
Router#
```

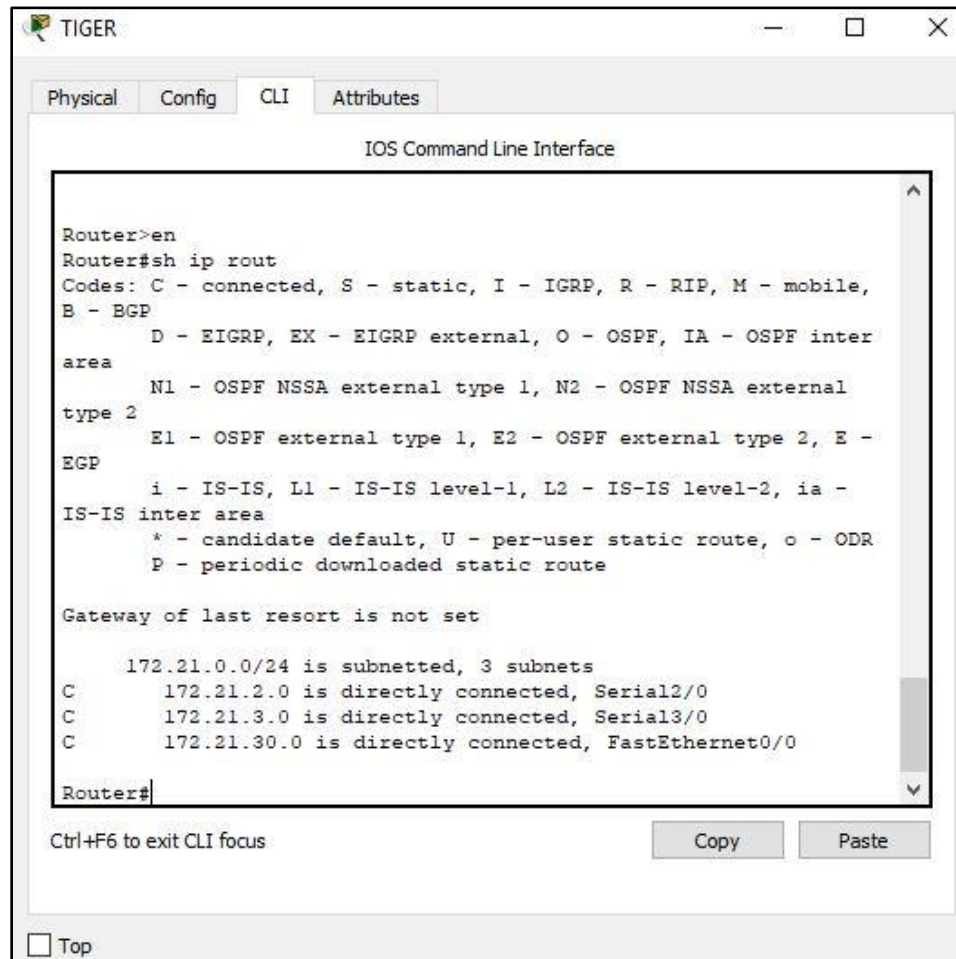
Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

- Melihat route table router tiger

Muhibah Fata Tika  
L200170156  
D  
JARKOM



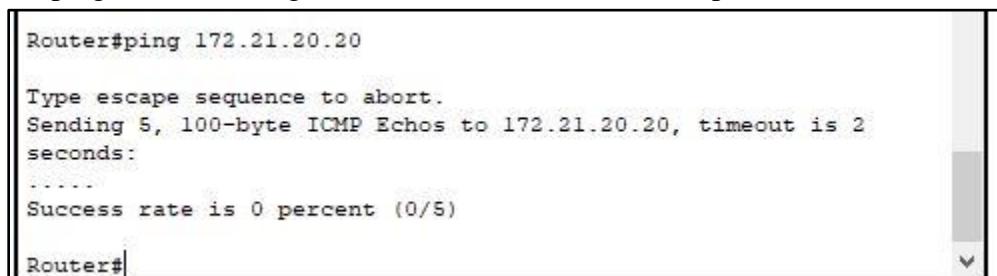
```
Router>en
Router#sh ip rout
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia -
IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

      172.21.0.0/24 is subnetted, 3 subnets
C       172.21.2.0 is directly connected, Serial12/0
C       172.21.3.0 is directly connected, Serial13/0
C       172.21.30.0 is directly connected, FastEthernet0/0

Router#
```

8. Lakukan ping dari router eagle ke alamat interface S0 router puma(172.21.20.20)



```
Router#ping 172.21.20.20

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.20.20, timeout is 2
seconds:
.....
Success rate is 0 percent (0/5)

Router#
```

9. Lakukan trace dari PC leo ke PC aries

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1  0 ms      0 ms      0 ms      172.21.10.10
  2  1 ms      4 ms      13 ms     172.21.1.2
  3  13 ms     3 ms      10 ms     172.21.20.2

Trace complete.

C:\>
```

10. Lakukan trace dari PC leo ke alamat interface s0 router eagle(172.21.1.1)

```
C:\>tracert 172.21.1.1

Tracing route to 172.21.1.1 over a maximum of 30 hops:

  1  0 ms      0 ms      0 ms      172.21.1.1

Trace complete.

C:\>
```

11. - Menambahkan route table pada router eagle

```
Router#en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.1.2
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.2.3
Router(config)#
```

- Menambahkan route table pada router puma

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.1.1
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.3.3
Router(config)#
```

- Menambahkan route table pada router tiger

```
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#
```

12. Lakukan ping dari PC leo ke PC aries, dan lakukan pula trace dari PC leo ke aries

Muhibah Fata Tika  
L200170156  
D  
JARKOM

```
C:\>tracert 172.21.1.1

Tracing route to 172.21.1.1 over a maximum of 30 hops:

  1  0 ms      0 ms      0 ms      172.21.1.1

Trace complete.

C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Reply from 172.21.20.2: bytes=32 time=1ms TTL=126
Reply from 172.21.20.2: bytes=32 time=2ms TTL=126
Reply from 172.21.20.2: bytes=32 time=1ms TTL=126
Reply from 172.21.20.2: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1  0 ms      0 ms      0 ms      172.21.10.10
  2  1 ms      4 ms      13 ms     172.21.1.2
  3  13 ms     3 ms      10 ms     172.21.20.2

Trace complete.

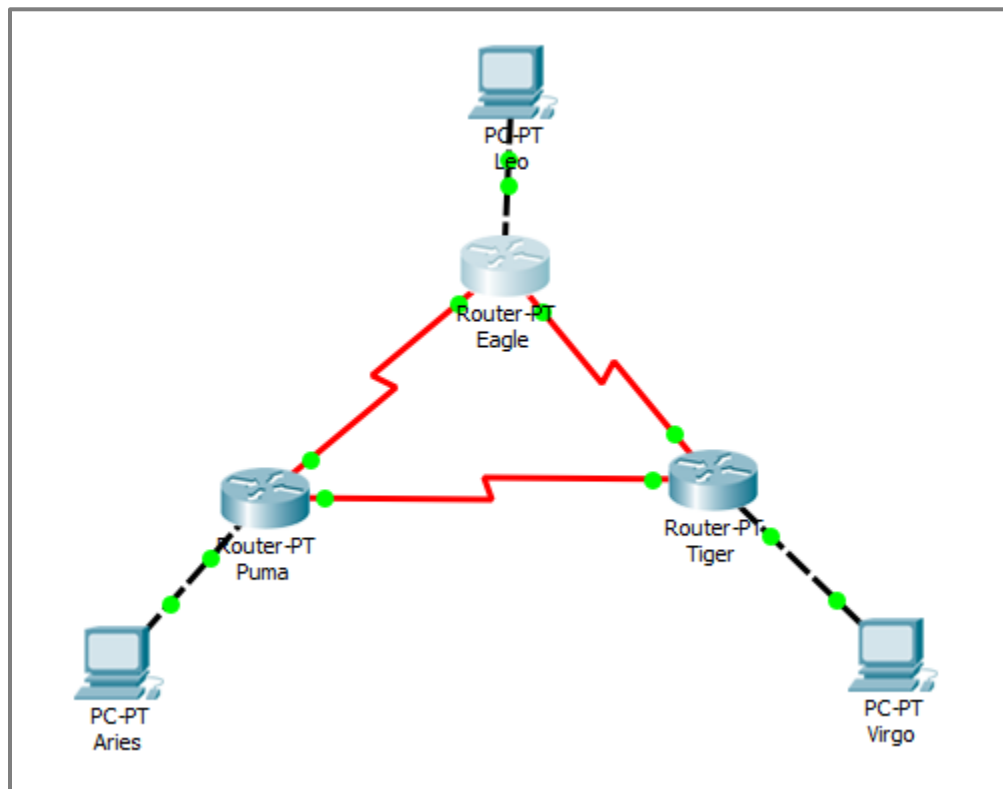
C:\>
```

## Kegiatan 2.

### Rip (Routing Information Protocol)

---

1. Dari Packet Tracer, buka(load) topologi NetMap yang dipakai **Kegiatan 1**.



3. Pada mode configuration, konfigurasi routing RIP pada router eagle.

Langkahpengoperasian

- Masuk mode configuration
- Ketik router rip
- Ketik network 172.21.0

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

```
Router>en
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 172.21.0.0
Router(config-router)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show running-config
Building configuration...

Current configuration : 755 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
```

4. Lihat konfigurasi routing RIP yang telah dibuat dengan perintah "show running-config" pada mode user. Perhatikan konfigurasi pada bagian "router rip"

```
!
interface FastEthernet0/0
 ip address 172.21.30.30 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet1/0
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial2/0
 ip address 172.21.2.3 255.255.255.0
!
interface Serial3/0
 ip address 172.21.3.3 255.255.255.0
!
interface FastEthernet4/0
 no ip address
 shutdown
!
interface FastEthernet5/0
 no ip address
 shutdown
!
router rip
 network 172.21.0.0
```



**Muhibah Fata Tika**

**L200170156**

**D**

**JARKOM**

Tugas 4A : Berapa nomor alamat jaringan yang terdaftar pada konfigurasi routing RIP?

5. Lihat proses update routing RIP pada router eagle dengan perintah "debug ip rip" pada mode user. Tunggu beberapa saat untuk melihat proses yang terjadi.

```
network 172.21.1.0 metric 1
network 172.21.10.0 metric 1
RIP: received v1 update from 172.21.2.3 on Serial3/0
    172.21.3.0 in 1 hops
    172.21.30.0 in 1 hops
RIP: sending v1 update to 255.255.255.255 via FastEthernet0/0
(172.21.10.10)
RIP: build update entries
    network 172.21.1.0 metric 1
    network 172.21.2.0 metric 1
    network 172.21.3.0 metric 2
    network 172.21.30.0 metric 2
RIP: sending v1 update to 255.255.255.255 via Serial2/0
(172.21.1.1)
RIP: build update entries
    network 172.21.2.0 metric 1
    network 172.21.3.0 metric 2
    network 172.21.10.0 metric 1
    network 172.21.30.0 metric 2
RIP: sending v1 update to 255.255.255.255 via Serial3/0
(172.21.2.1)
RIP: build update entries
    network 172.21.1.0 metric 1
    network 172.21.10.0 metric 1
RIP: received v1 update from 172.21.2.3 on Serial3/0
    172.21.3.0 in 1 hops
    172.21.30.0 in 1 hops
```

6. Lakukan konfigurasi routing RIP pada router puma dan tiger. Perhatikan proses update routing RIP pada router eagle ketika konfigurasi router puma dan tiger dilakukan.

#### **Router Puma**

- Konfigurasi routing RIP pada router puma.

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 172.21.0.0
Router(config-router)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

- Melihat konfigurasi routing RIP yang telah dibuat.

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

```
interface FastEthernet0/0
 ip address 172.21.20.20 255.255.255.0
 duplex auto
 speed auto
 !
interface FastEthernet1/0
 no ip address
 duplex auto
 speed auto
 shutdown
 !
interface Serial2/0
 ip address 172.21.1.2 255.255.255.0
 !
interface Serial3/0
 ip address 172.21.3.2 255.255.255.0
 clock rate 2000000
 !
interface FastEthernet4/0
 no ip address
 shutdown
 !
interface FastEthernet5/0
 no ip address
```

```
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

- Melihat proses update routing RIP pada router puma.

```
Router#debug ip rip
RIP protocol debugging is on
Router#RIP: sending v1 update to 255.255.255.255 via
FastEthernet0/0 (172.21.20.20)
RIP: build update entries
    network 172.21.1.0 metric 1
    network 172.21.2.0 metric 2
    network 172.21.3.0 metric 1
    network 172.21.10.0 metric 2
RIP: sending v1 update to 255.255.255.255 via Serial2/0
(172.21.1.2)
RIP: build update entries
    network 172.21.3.0 metric 1
    network 172.21.20.0 metric 1
RIP: sending v1 update to 255.255.255.255 via Serial3/0
(172.21.3.2)
RIP: build update entries
    network 172.21.1.0 metric 1
    network 172.21.2.0 metric 2
    network 172.21.10.0 metric 2
    network 172.21.20.0 metric 1

Router#RIP: received v1 update from 172.21.1.1 on Serial2/0
172.21.2.0 in 1 hops
172.21.10.0 in 1 hops
```

**Router Tiger**

- Konfigurasi routing RIP pada router tiger.

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 172.21.0.0
Router(config-router)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

- Melihat konfigurasi routing RIP yang telah dibuat.

```
Router#show running-config
Building configuration...

Current configuration : 755 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
```

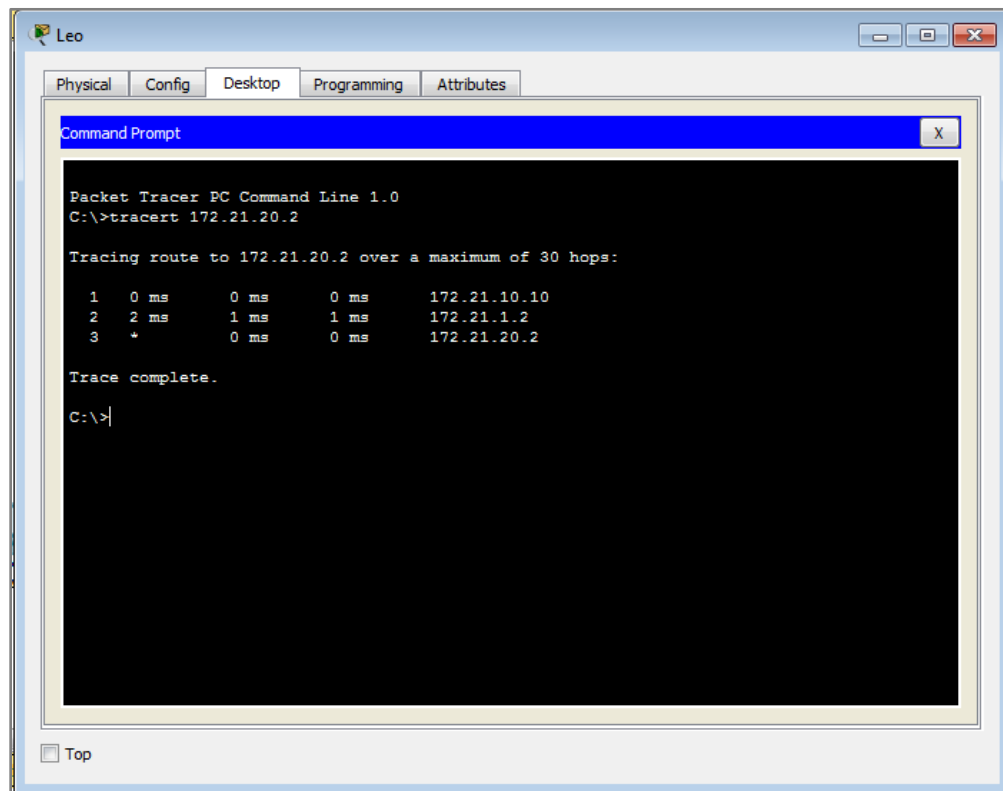
- Melihat proses update routing RIP pada router tiger.

Muhibah Fata Tika  
L200170156  
D  
JARKOM

```
Router#debug ip rip
RIP protocol debugging is on
Router#RIP: sending v1 update to 255.255.255.255 via
FastEthernet0/0 (172.21.20.20)
RIP: build update entries
    network 172.21.1.0 metric 1
    network 172.21.2.0 metric 2
    network 172.21.3.0 metric 1
    network 172.21.10.0 metric 2
RIP: sending v1 update to 255.255.255.255 via Serial2/0
(172.21.1.2)
RIP: build update entries
    network 172.21.3.0 metric 1
    network 172.21.20.0 metric 1
RIP: sending v1 update to 255.255.255.255 via Serial3/0
(172.21.3.2)
RIP: build update entries
    network 172.21.1.0 metric 1
    network 172.21.2.0 metric 2
    network 172.21.10.0 metric 2
    network 172.21.20.0 metric 1

Router#RIP: received v1 update from 172.21.1.1 on Serial2/0
172.21.2.0 in 1 hops
172.21.10.0 in 2 hops
```

7. Dari PC leo lakukan trace ke PC aries.



**Muhibah Fata Tika**

**L200170156**

**D**

**JARKOM**

8. Buat hubungan antara router eagle dan puma terputus dan perhatikan proses update routing RIP yang terjadi.

Langkah pengoperasian

-Masuk ke router puma

-Masuk ke mode interface s0

-Ketik shutdown

```
Router(config-if)#shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to
administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to down
RIP: received v1 update from 172.21.3.3 on Serial3/0
      172.21.1.0 in 16 hops
RIP: sending  v1 update to 255.255.255.255 via FastEthernet0/0
(172.21.20.20)
RIP: build update entries
      network 172.21.2.0 metric 16
      network 172.21.3.0 metric 1
      network 172.21.10.0 metric 16
      network 172.21.30.0 metric 2
RIP: sending  v1 update to 255.255.255.255 via Serial3/0
(172.21.3.2)
RIP: build update entries
```

9. Dari PC leo lakukan trace ke PC aries

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  0  0 ms    0 ms    0 ms    172.21.10.10
  1  1 ms    2 ms    1 ms    172.21.2.3
  2  0 ms    2 ms    1 ms    172.21.3.2
  3  0 ms    0 ms    0 ms    172.21.20.2

Trace complete.

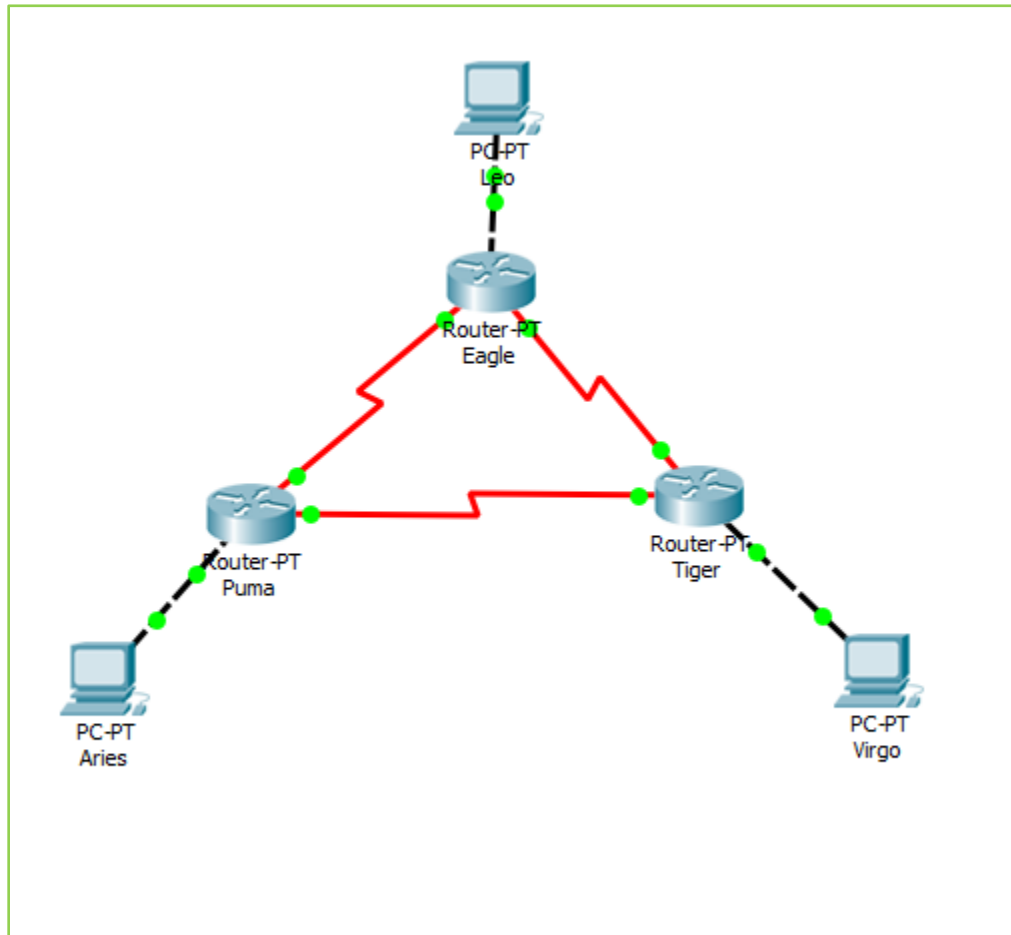
C:\>|
```

### Kegiatan 3.

#### EIGRP(Interior Gateway Routing Protocol)

---

1. Dari packet Tracer, buka(load) topologi NetMap yang dipakai di Kegiatan 1.



2. Load konfigurasi seluruh device yang disimpan pada langkah 6 Kegiatan 1.
3. Pada mode configuration, konfigurasi routing RIP pada router eagle.

Langkah pengoperasian:

- Masuk mode configuration
- Ketik router igrp 100
- Ketik network 172.21.0.0

```
Router>en
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

4. Lihat konfigurasi routing EIGRP yang telah dibuat dengan perintah "show running-config" pada mode user. Perhatikan konfigurasi pada bagian "router rip"

```
Router#show running-config
Building configuration...

Current configuration : 815 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
--More--
```

5. Lihat proses transaksi routing EIGRP pada router eagle dengan perintah "debug ip igrp transactions" pada mode user. Tunggu beberapa saat untuk melihat informasi transaksi routing EIGRP yang terjadi.

```
EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
```

6. Lihat proses transaksi routing EIGRP pada router eagle dengan perintah "debug ip eigrp transactions" pada mode user. Tunggu beberapa saat untuk melihat informasi transaksi routing EIGRP yang terjadi.

Catatan : Hasil tampilan perintah "debug ip eigrp transactions" memperlihatkan informasi update routing EIGRP secara detail. Untuk melihat informasi update routing EIGRP secara lebih ringkas digunakan perintah "debug ip eigrp events.(dengan lebih dahulu menonaktifkan "debug ip eigrp transactions" dengan perintah "no debug ip eigrp transactions").

7. Lakukan konfigurasi routing EIGRP pada router puma dan tiger. Perhatikan proses update routing EIGRP pada router eagle (secara detail) ketika konfigurasi router puma dan tiger dilakukan.

#### **Router Puma :**

- Konfigurasi routing EIGRP pada router puma :



```
changed state to up

Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.1.1 (Serial2/0)
is up: new adjacency
|
```

- Melihat konfigurasi routing EIGRP yang telah dibuat.

```
Router#show running-config
Building configuration...

Current configuration : 795 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
--More-- |
```

- Melihat proses transaksi routing EIGRP pada router puma.

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

```
Router#debug eigrp packets
EIGRP Packets debugging is on
  (UPDATE, REQUEST, QUERY, REPLY, HELLO, ACK )
Router#
EIGRP: Received HELLO on Serial2/0 nbr 172.21.1.1
      AS 100, Flags 0x0, Seq 6/0 idbQ 0/0

EIGRP: Sending HELLO on FastEthernet0/0
      AS 100, Flags 0x0, Seq 6/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
      AS 100, Flags 0x0, Seq 6/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
      AS 100, Flags 0x0, Seq 6/0 idbQ 0/0 iidbQ un/rely 0/0
```

**Router Tiger :**

- Konfigurasi routing EIGRP pada router tiger.

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.3.2 (Serial3/0)
is up: new adjacency

%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.2.1 (Serial2/0)
is up: new adjacency
|
```

- Melihat konfigurasi routing EIGRP yang telah dibuat.

**Muhibah Fata Tika**  
**L200170156**  
**D**  
**JARKOM**

```
Router#show running-config
Building configuration...

Current configuration : 775 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
--More-- |
```

- Melihat proses transaksi routing EIGRP pada router tiger.

```
Router#debug eigrp packets
EIGRP Packets debugging is on
(UPDATE, REQUEST, QUERY, REPLY, HELLO, ACK )
Router#
EIGRP: Received HELLO on Serial2/0 nbr 172.21.2.1
      AS 100, Flags 0x0, Seq 9/0 idbQ 0/0

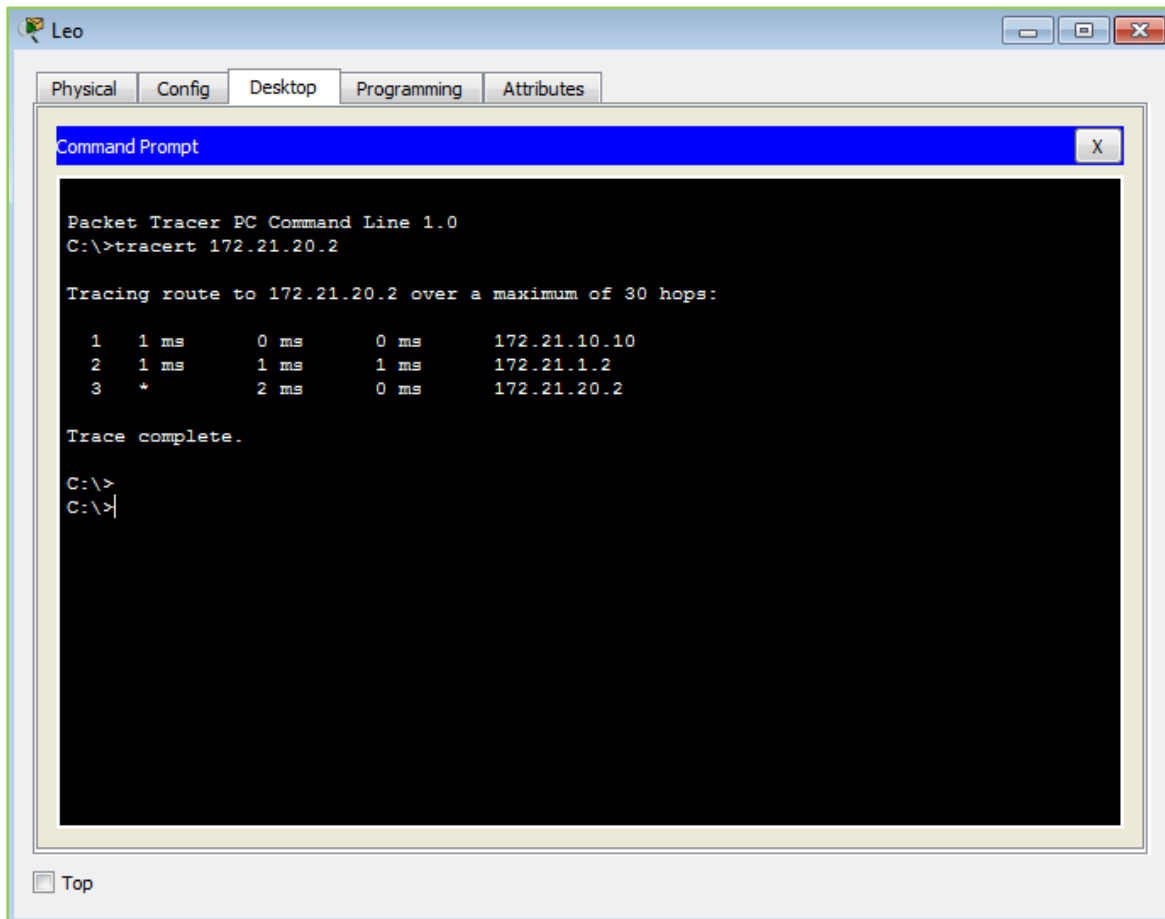
EIGRP: Sending HELLO on Serial3/0
      AS 100, Flags 0x0, Seq 11/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Received HELLO on Serial3/0 nbr 172.21.3.2
      AS 100, Flags 0x0, Seq 9/0 idbQ 0/0

EIGRP: Sending HELLO on FastEthernet0/0
      AS 100, Flags 0x0, Seq 11/0 idbQ 0/0 iidbQ un/rely 0/0
|
```

8. Dari PC Leo lakukan trace ke PC aries

Muhibah Fata Tika  
L200170156  
D  
JARKOM



9. Buat hubungan antara router eagle dan puma terputus dan perhatikan proses update routing RIP yang terjadi.

Langkah pengoperasian

- Masuk ke router puma
- Masuk mode interface s0
- Ketik shutdown

Muhibah Fata Tika  
L200170156  
D  
JARKOM

```
Router#no debug eigrp packets
EIGRP Packets debugging is off
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#shutdown

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to
administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to down

%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.1.1 (Serial2/0)
is down: interface down
|
```

10. Dari pc leo lakukan trace ke PC Aries.

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  0  0 ms    0 ms    0 ms    172.21.10.10
  1  1 ms    1 ms    0 ms    172.21.2.3
  2  1 ms    2 ms    0 ms    172.21.3.2
  3  1 ms    0 ms    0 ms    172.21.20.2

Trace complete.

C:\>|
```