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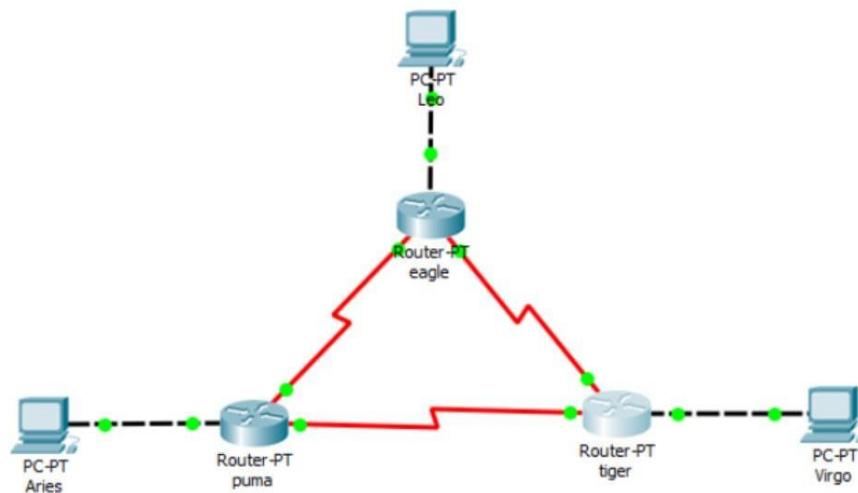
NIM : L200180097

Kelas : C

Praktikum Jarkom modul 7

Kegiatan 1. Static routing

1. Rancangan Jaringan



2. Show ip route

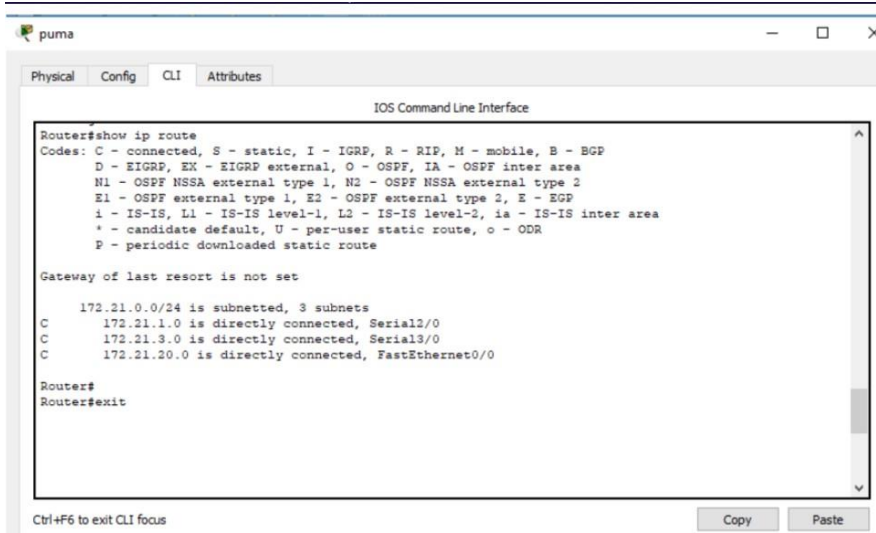
```
eagle
Physical Config CLI Attributes
IOS Command Line Interface

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, Serial2/0
C       172.21.2.0 is directly connected, Serial3/0
C       172.21.10.0 is directly connected, FastEthernet0/0

Router#exit
```



puma

Physical Config CLI Attributes

IOS Command Line Interface

```
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

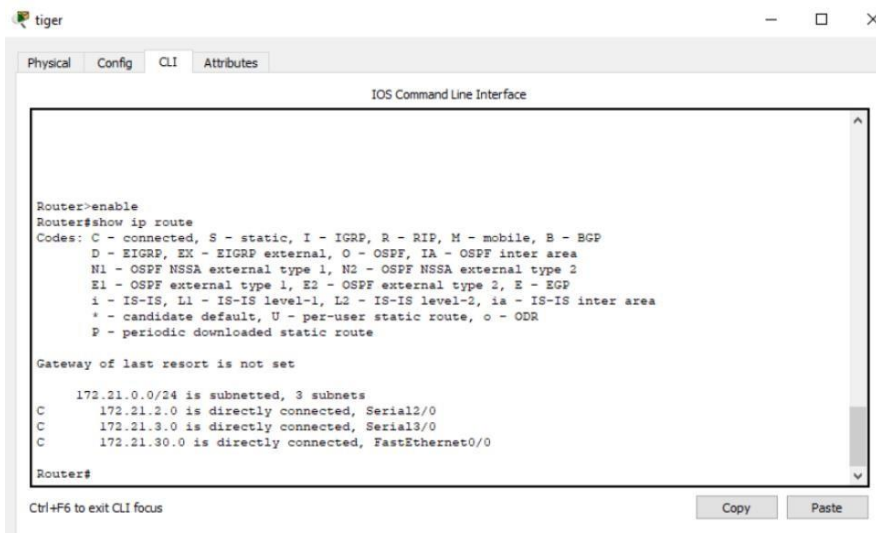
Gateway of last resort is not set

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

Router#
Router#exit
```

Ctrl+F6 to exit CLI focus

Copy Paste



tiger

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
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       172.21.2.0 is directly connected, Serial2/0
C       172.21.3.0 is directly connected, Serial3/0
C       172.21.30.0 is directly connected, FastEthernet0/0

Router#
```

Ctrl+F6 to exit CLI focus

Copy Paste

3. Melakukan ping dari router eagle ke router puma



eagle

Physical Config CLI Attributes

IOS Command Line Interface

```
Press RETURN to get started.

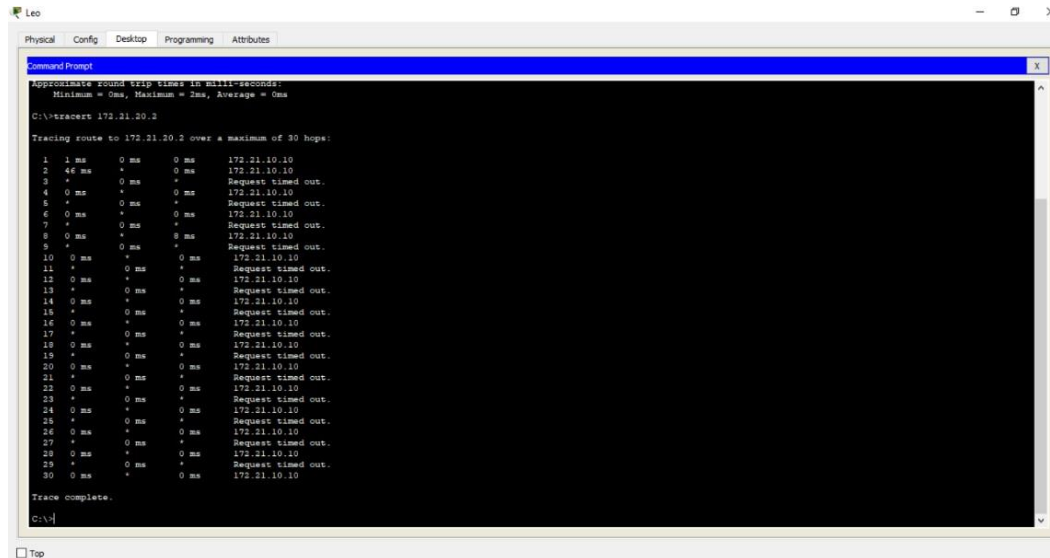
Router>ping 172.21.20.20
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.20.20, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5)

Router#>
```

Ctrl+F6 to exit CLI focus

Copy Paste

4. Lakukan trace dari PC leo ke PC aries



Leo

Physical Config Desktop Programming Attributes

Command Prompt

Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

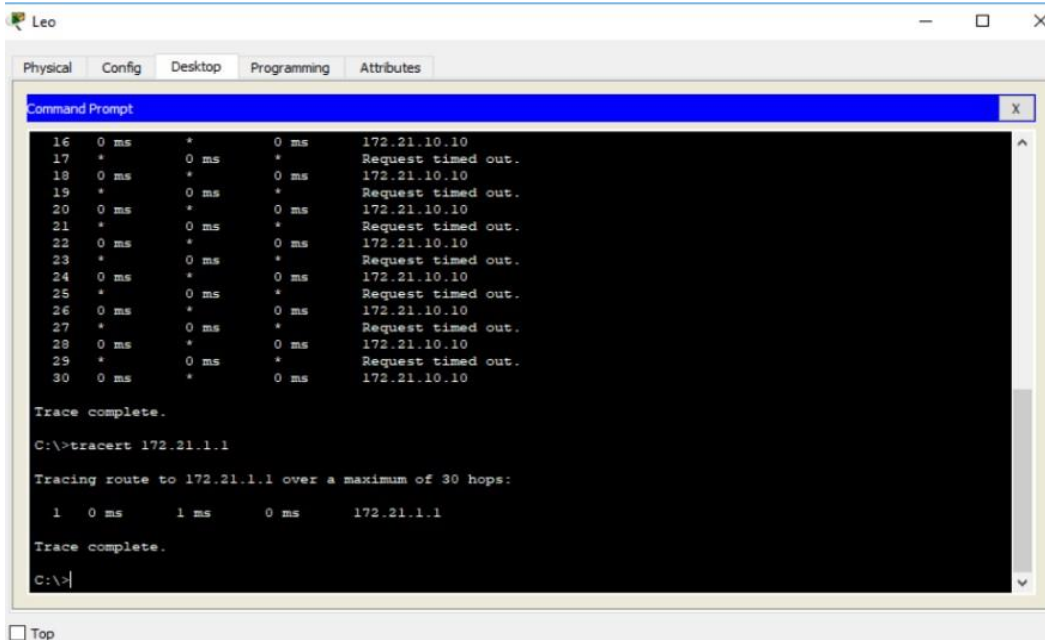
	Source	Destination	Source	Destination
1	1 ms	0 ms	0 ms	172.21.10.10
2	46 ms	*	0 ms	172.21.10.10
3	*	0 ms	*	Request timed out.
4	0 ms	*	0 ms	172.21.10.10
5	*	0 ms	*	Request timed out.
6	0 ms	*	0 ms	172.21.10.10
7	*	0 ms	*	Request timed out.
8	0 ms	*	8 ms	172.21.10.10
9	*	0 ms	*	Request timed out.
10	0 ms	*	0 ms	172.21.10.10
11	*	0 ms	*	Request timed out.
12	0 ms	*	0 ms	172.21.10.10
13	*	0 ms	*	Request timed out.
14	0 ms	*	0 ms	172.21.10.10
15	*	0 ms	*	Request timed out.
16	0 ms	*	0 ms	172.21.10.10
17	*	0 ms	*	Request timed out.
18	0 ms	*	0 ms	172.21.10.10
19	*	0 ms	*	Request timed out.
20	0 ms	*	0 ms	172.21.10.10
21	*	0 ms	*	Request timed out.
22	0 ms	*	0 ms	172.21.10.10
23	*	0 ms	*	Request timed out.
24	0 ms	*	0 ms	172.21.10.10
25	*	0 ms	*	Request timed out.
26	0 ms	*	0 ms	172.21.10.10
27	*	0 ms	*	Request timed out.
28	0 ms	*	0 ms	172.21.10.10
29	*	0 ms	*	Request timed out.
30	0 ms	*	0 ms	172.21.10.10

Trace complete.

C:\>

☐ Top

5. Lakukan trace dari PC leo ke router eagle



Leo

Physical Config Desktop Programming Attributes

Command Prompt

	Source	Destination	Source	Destination
16	0 ms	*	0 ms	172.21.10.10
17	*	0 ms	*	Request timed out.
18	0 ms	*	0 ms	172.21.10.10
19	*	0 ms	*	Request timed out.
20	0 ms	*	0 ms	172.21.10.10
21	*	0 ms	*	Request timed out.
22	0 ms	*	0 ms	172.21.10.10
23	*	0 ms	*	Request timed out.
24	0 ms	*	0 ms	172.21.10.10
25	*	0 ms	*	Request timed out.
26	0 ms	*	0 ms	172.21.10.10
27	*	0 ms	*	Request timed out.
28	0 ms	*	0 ms	172.21.10.10
29	*	0 ms	*	Request timed out.
30	0 ms	*	0 ms	172.21.10.10

Trace complete.

C:\>tracert 172.21.1.1

Tracing route to 172.21.1.1 over a maximum of 30 hops:

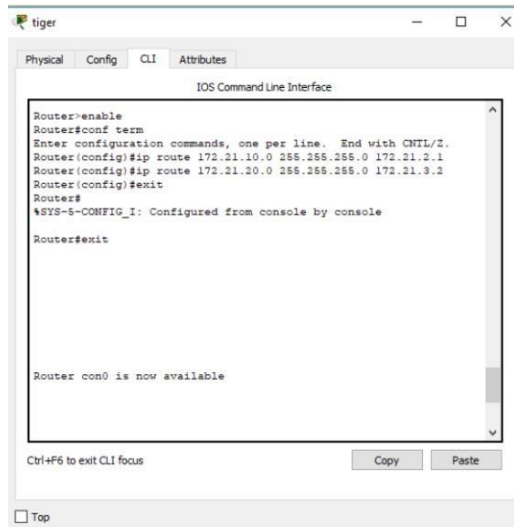
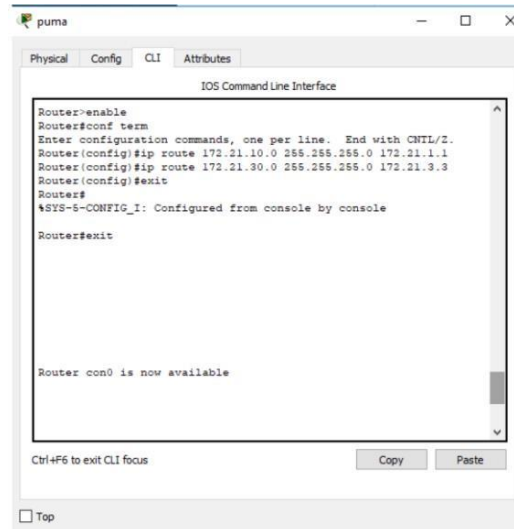
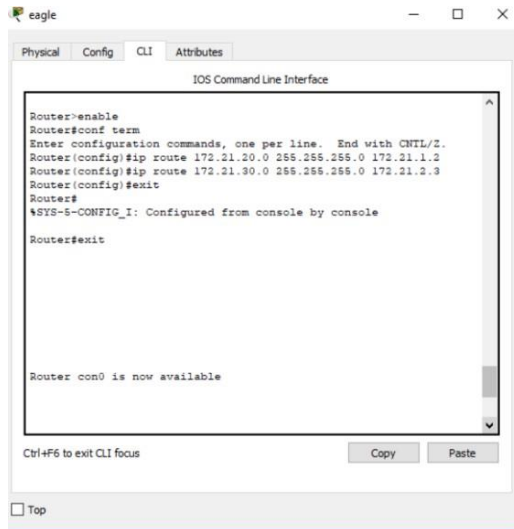
	Source	Destination	Source	Destination
1	0 ms	1 ms	0 ms	172.21.1.1

Trace complete.

C:\>

☐ Top

6. Konfigurasi static routing pada masing-masing router eagle



7. Lakukan ping dari PC le ke PC aries dan trancert dari leo ke aries

```
Leo
Physical Config Desktop Programming Attributes
Command Prompt
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=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
Reply from 172.21.20.2: bytes=32 time=10ms 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 = 10ms, Average = 3ms

C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  0  1 ms    0 ms    0 ms   172.21.10.10
  1  1 ms    0 ms    0 ms   172.21.1.2
  2  4 ms    0 ms    1 ms   172.21.20.2

Trace complete.

C:\>
```

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

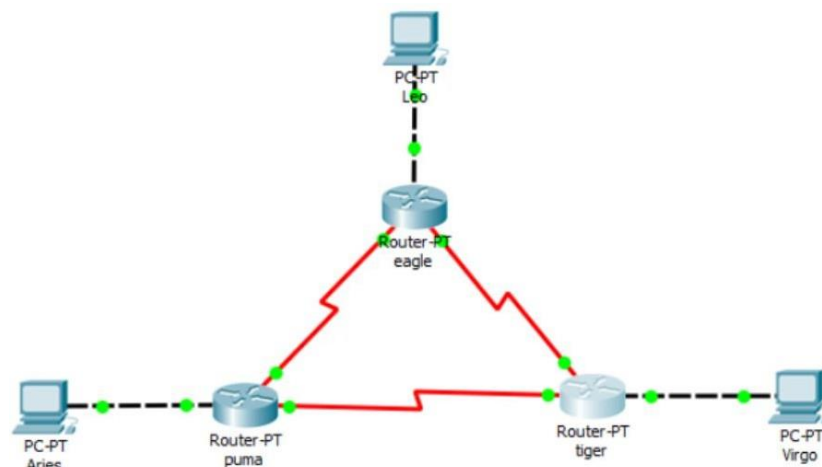
  0  0 ms    0 ms    0 ms   172.21.10.10
  1  1 ms    4 ms   13 ms   172.21.1.2
  2  13 ms   3 ms   10 ms   172.21.20.2

Trace complete.

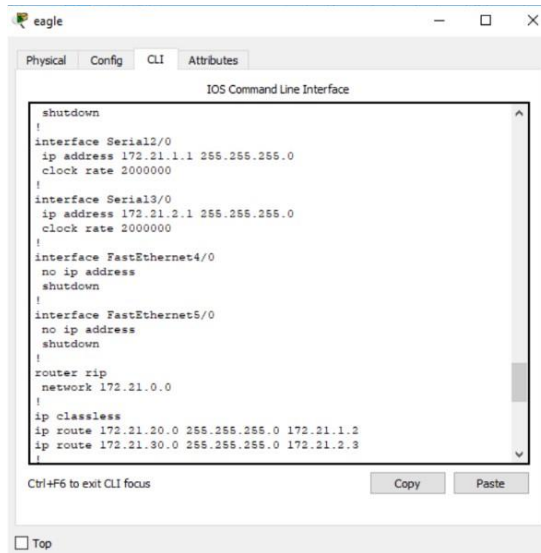
C:\>
```

Kegiatan 2. RIP (Routing Information Protocol)

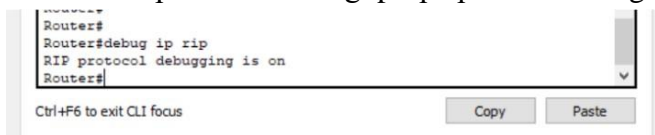
1. Rancangan Jaringan



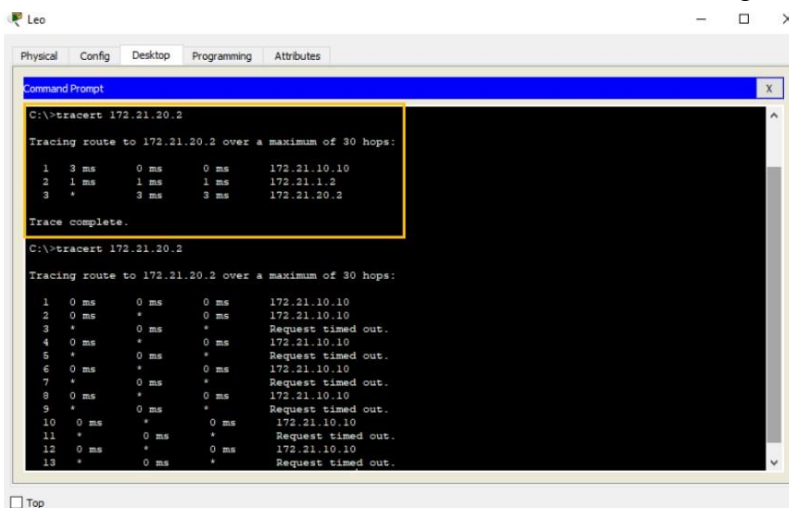
2. Nomor alamat jaringan pada konfigurasi routing RIP



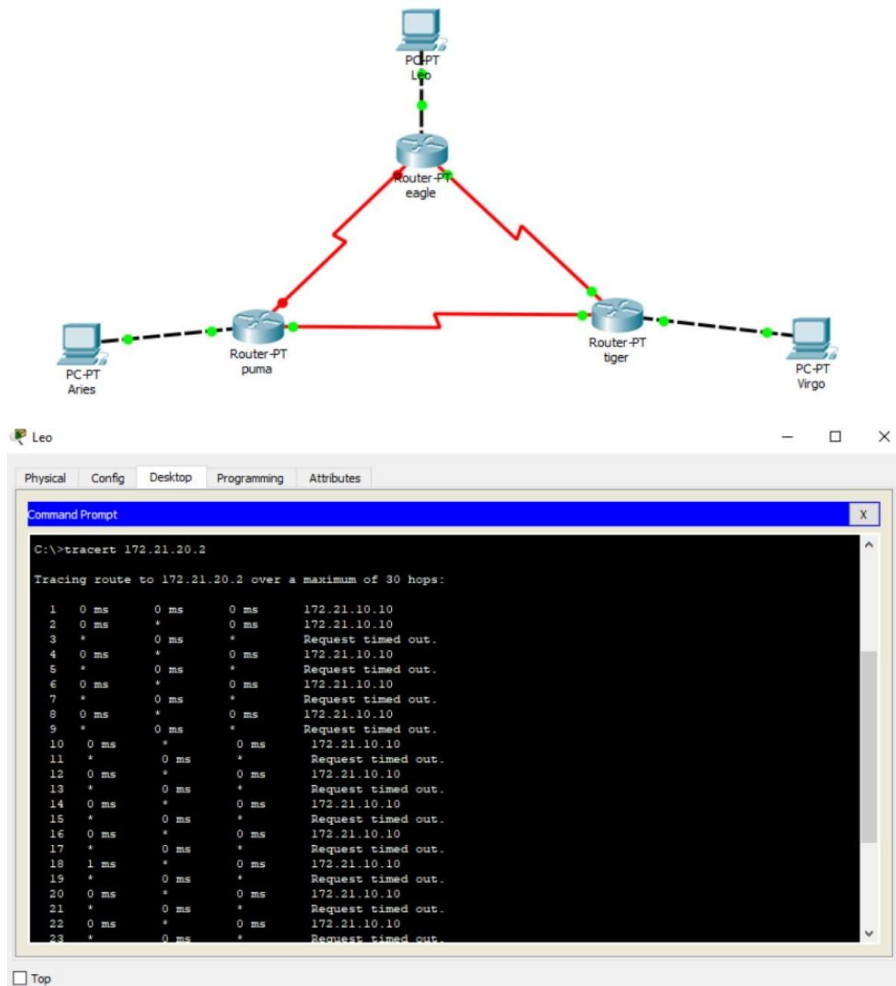
3. Melakukan perintah “debug ip rip” pada route cagle



4. Trace dari PC leo ke PC aries sebelum memutus router eagle ke router puma

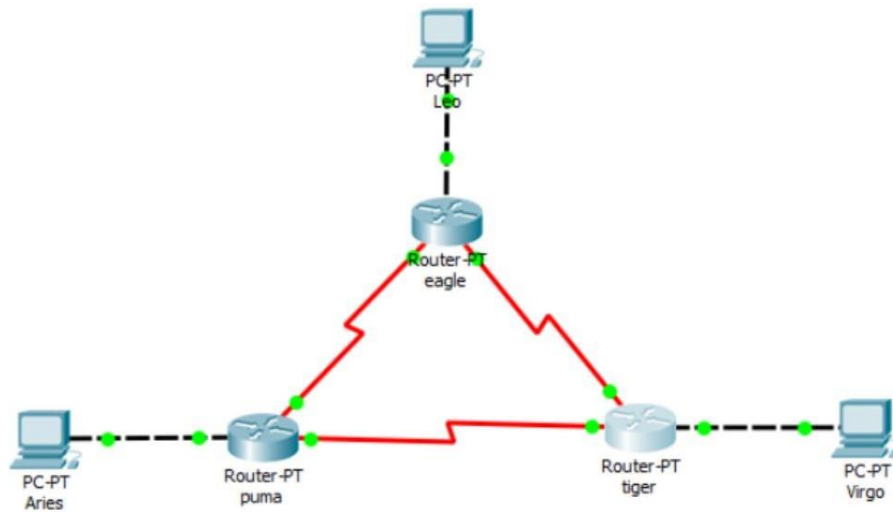


5. Trace dari PC leo ke PC aries setelah diputus antara router eagle ke router puma



Kegiatan 3. IGRP

1. Rancangan Jaringan



2. Konfigurasi routing RIP pada router eagle

```

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

```

3. Lakukan perintah “show running-config” pada mode user

```

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--

```

4. Lakukan perintah “debug ip igrp transactions” pada mode user dan di router eagle.
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 iibQ un/rely 0/0

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

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

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

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

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

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

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

EIGRP: Sending HELLO on Serial2/0

```

5. Melakukan konfigurasi routing EIGRP pada router puma dan tiger
- 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 di buat

```

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

```

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 di buat

```

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

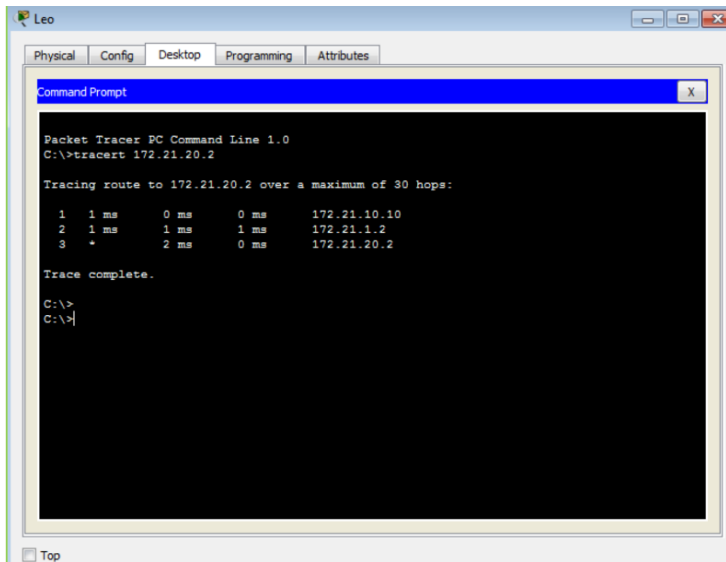
EIGRP: Sending HELLO on Serial3/0
      AS 100, Flags 0x0, Seq 11/0 idbQ 0/0 iidbQ un/rely 0/0

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

```

6. Melakukan tracert dari PC leo ke PC aries



7. Membuat hubungan antara router eagle dan puma terputus

```

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

```

8. Melakukan trace dari PC leo ke PC aries

```
lC>cf ace c1<.<1.<0.<
```

```
Tr ce co+r@1ele
```

```
d
```