Nama : Yarin Nanditya Anggraeni

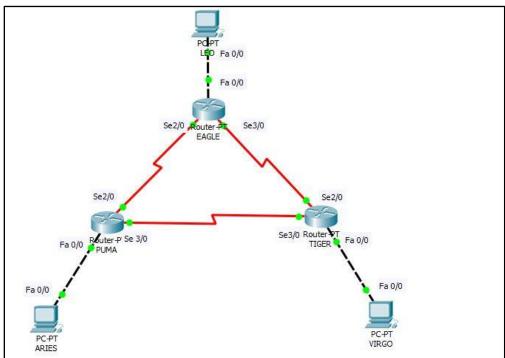
NIM : L200170155

Kelas : D

LAPORAN PRAKTIKUM JARINGAN KOMPUTER MODUL 8

KEGIATAN 1.

- 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) # p 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) #
```

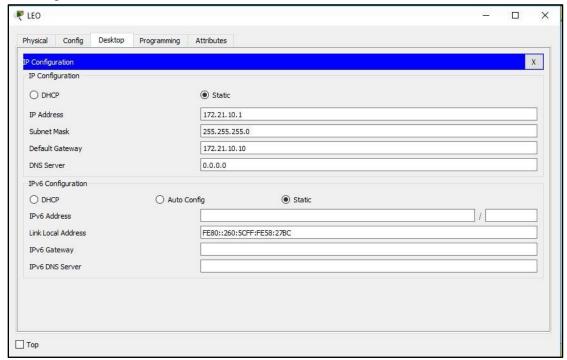
Konfigurasi IP address interface ethernet 0 untuk router tiger

```
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
```

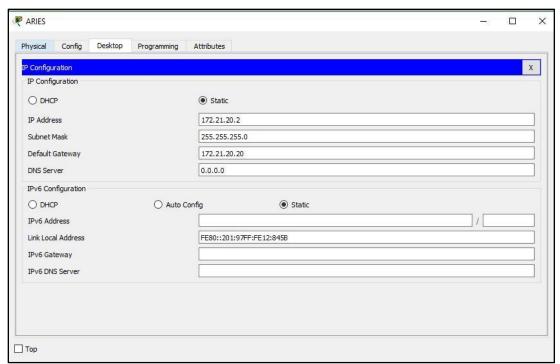
- Konfigurasi IP address interface serial 0 dan serial 1 untuk router tiger

```
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
```

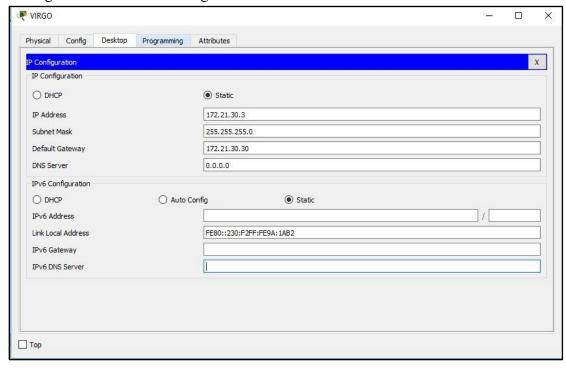
4. - Konfigurasi IP address PC Leo



Konfigurasi IP address PC Aries



- Konfigurasi IP address PC Virgo



5. - Lakukang ping dari PC leoke router eagle

- Lakukan ping dari PC arieske router puma

```
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<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:

Hinimum = Oms, Maximum = 22ms, Average = Sms

C:\>
```

Lakukan ping dari PC arieske router puma

```
Physical Config Desktop Programming Attributes

Command Prompt

X

Facket Tracer PC Command Line 1.0

C:\Pping 172.21.1.2

Pinging 172.21.1.2 with 32 bytes of data:

Reply from 172.21.1.2: bytes=32 time<1ms TII=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:\P
```

- Lakukan ping dari PC virgoke router tiger

```
Physical Config Desktop Programming Attributes

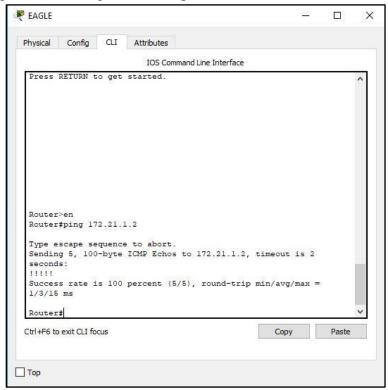
Command Prompt

Packet Tracer FC Command Line 1.0
C:\>ping 172.21.3.3

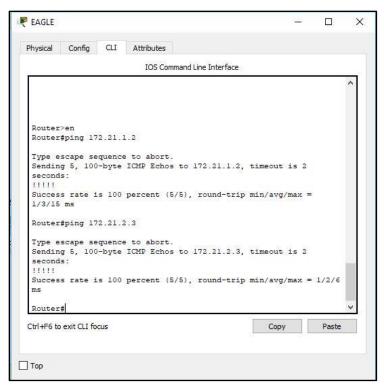
Pinging 172.21.3.3 with 32 bytes of data:
Reply from 172.21.3.3: bytes=32 time=lms TTL=255
Reply from 172.21.3.3: bytes=32 time=lms TTL=255
Reply from 172.21.3.3: bytes=32 time<lms TTL=255
Reply from 172.21.3.3: bytes=32 time<lms TTL=255
Reply from 172.21.3.3: packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = Oms, Maximum = lms, Average = Oms

C:\>
```

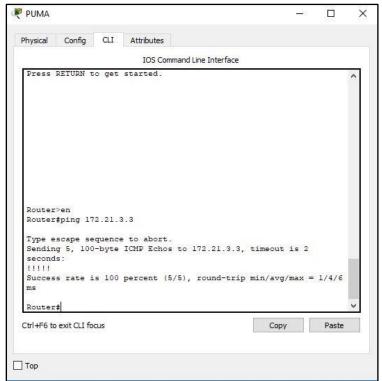
- Lakukan ping dari router eagle ke router puma



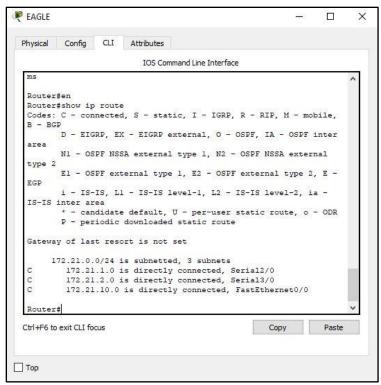
- Lakukan ping dari router eagle ke router tiger



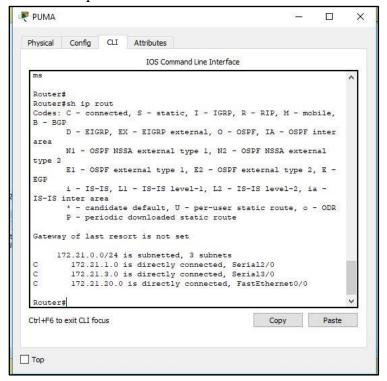
- Lakukan ping dari router puma ke router tiger



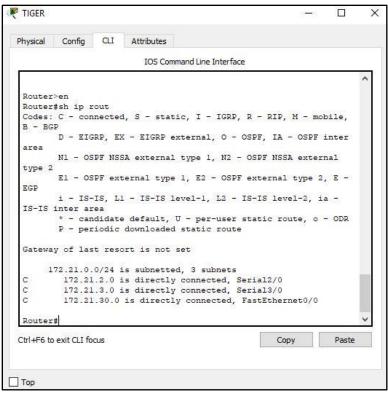
- 6. Simpankonfigurasiseluruh device yang telahdilakukan
- 7. Melihat route table router eagle



- Melihat route table router puma



- Melihat route table router tiger



8. Lakukan ping dari router eagle kealamat 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)
```

9. Lakukan trace dari PC leoke PC aries

```
C:\>tracert 172.21.20.2
Tracing route to 172.21.20.2 over a maximum of 30 hops:
                          0 ms
     0 ms
                0 ms
                                    172.21.10.10
 1
 2
     1 ms
                4 ms
                         13 ms
                                    172.21.1.2
 3
     13 ms
                3 ms
                          10 ms
                                    172.21.20.2
Trace complete.
```

10. Lakukan trace dari PC leokealamat interface s0 router eagle(172.21.1.1)

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

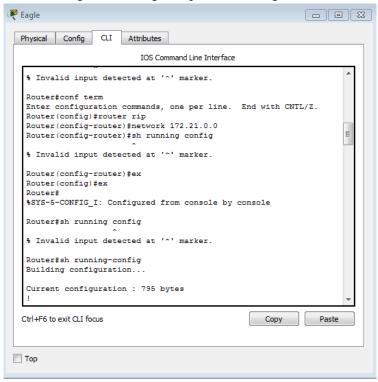
```
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#
```

12. Lakukan ping dari PC leoke PC aries, danlakukan pula trace dari PC leokearies

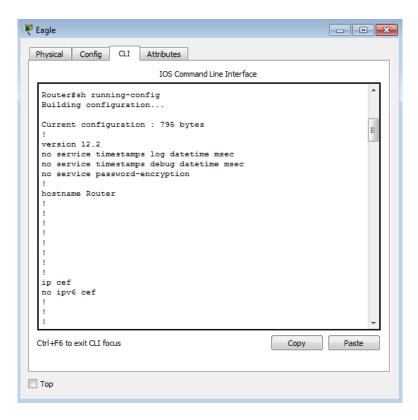
```
C:\>tracert 172.21.1.1
Tracing route to 172.21.1.1 over a maximum of 30 hops:
     0 ms
                0 ms
                          0 ms
                                   172.21.1.1
Trace complete.
C:\>ping 172.21.20.2
Pinging 172.21.20.2 with 32 bytes of data:
Reply from 172.21.20.2: bytes=32 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 = lms, Maximum = 2ms, Average = lms
```

KEGIATAN 2.

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



4. Lihat konfigurasi routing RIP yang telah dibuat dengan perintah "Show running-config" pada mode user.



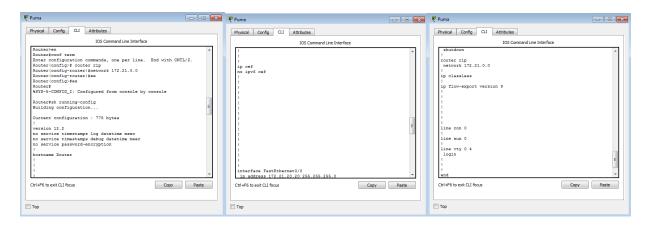
Perhatikan konfigurasi pada bagian "Router RIP".

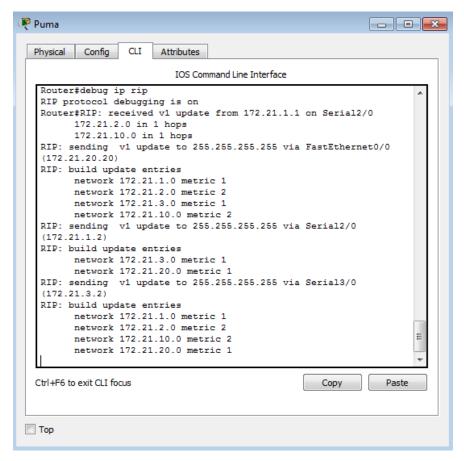
```
interface FastEthernet0/0
ip address 172.21.10.10 255.255.255.0
 duplex auto
speed auto
interface FastEthernet1/0
no ip address
duplex auto
speed auto
shutdown
interface Serial2/0
ip address 172.21.1.1 255.255.255.0
clock rate 2000000
interface Serial3/0
ip address 172.21.2.1 255.255.255.0
clock rate 2000000
interface FastEthernet4/0
no ip address
shutdown
interface FastEthernet5/0
no ip address
shutdown
router rip
network 172.21.0.0
ip classless
ip flow-export version 9
```

5. Lihat proses update routing RIP pada router eagle dengan perintah "debug ip rip" pada mode user.

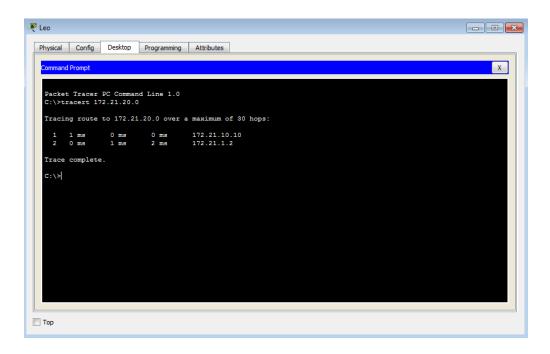
```
Router#debug ip rip
RIP protocol debugging is on
Router #RIP: sending v1 update to 255.255.255.255 via FastEthernet0/0 (172.21.10.10)
RIP: build update entries
      network 172.21.1.0 metric 1
      network 172.21.2.0 metric 1
RIP: sending v1 update to 255.255.255.255 via Serial2/0 (172.21.1.1)
RIP: build update entries
network 172.21.2.0 metric 1
network 172.21.10.0 metric 1
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: 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
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 172.21.10.0 metric 1
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: 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
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 172.21.10.0 metric 1
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
```

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.





7. Dari PC leo lakukan trace ke PC aries.



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

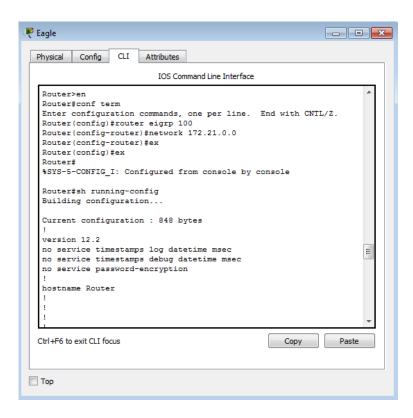
```
Router(config-if) #shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to
administratively down
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0,
changed state to down
RIP: received v1 update from 172.21.3.3 on Serial3/0
     172.21.1.0 in 16 hops
RIP: sending 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

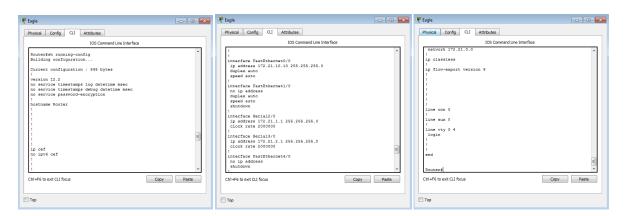
```
C:\>tracert 172.21.20.2
Tracing route to 172.21.20.2 over a maximum of 30 hops:
                          0 ms
                                   172.21.10.10
     0 ms
               0 ms
     1 ms
               2 ms
                         1 ms
                                   172.21.2.3
     0 ms
               2 ms
                         1 ms
                                   172.21.3.2
               0 ms
                         0 ms
                                   172.21.20.2
     0 ms
Trace complete.
C:\>
```

KEGIATAN 3.

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



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



5. Lihat proses transaksi routing EIGRP pada router eagle denganperintah "debug EIGRP 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
```

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

Catatan: Hasil tampilan perintah "debug ipeigrp 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 :

```
Router > en
Router # 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 - S - NBRCHANGE: IP - EIGRP 100: Neighbor 172.21.1.1 (Serial 2/0)
is up: new adjacency
```

• Melihat konfigurasi routing EIGRP yang telah dibuat.

• 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 dibuat.

Melihat proses transaksi routing EIGRP pada router tiger.

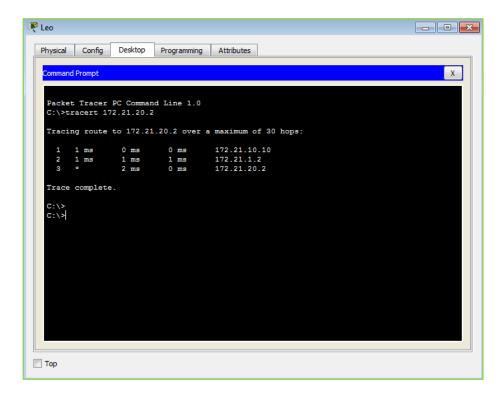
```
Router#debug eigrp packets
EIGRP Packets debugging is on
   (UPDATE, REQUEST, QUERY, REPLY, HELLO, ACK)
Router#
EIGRP: Received HELLO on Serial2/0 nbr 172.21.2.1
   AS 100, Flags 0x0, Seq 9/0 idbQ 0/0

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



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

```
Router no debug eigrp packets
EIGRP Packets debugging is off
Router configuration commands, one per line. End with CNTL/Z.
Router (config) int se2/0
Router (config-if) shutdown
Router (config-if) therface Serial 2/0, changed state to administratively down
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial 2/0, changed state to down
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.1.1 (Serial 2/0) 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 ms
                                    172.21.10.10
                0 ms
                                    172.21.2.3
      1 ms
                1 ms
                          0 ms
      1 ms
                                    172.21.3.2
                2 ms
                          0 ms
                                    172.21.20.2
      1 ms
                0 ms
                          0 ms
Trace complete.
C:\>
```