

## Laporan Praktikum Jaringan Komputer

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Kelas : C  
Modul : 7 (Static Router, RIP dan IGRP)

### Kegiatan 2. RIP (Routing Information Protocol)

Pada mode configuration, konfigurasi routing RIP pada Router Eagle.

```
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)#
```

Lihat Konfigurasi routing RIP 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 : 891 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--
```



Lihat proses update routing RIP pada Router Eagle dengan perintah **"debug ip rip"** pada mode user. Tunggu beberapa saat untuk melihat proses yang terjadi.

```
Router#debug ip rip
RIP protocol debugging is on
Router#RIP: sending  vl 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  vl 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  vl 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  vl 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  vl 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  vl update to 255.255.255.255 via Serial3/0 (172.21.2.1)
RIP: build update entries
```

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

```
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)#
```

#### Router Tiger

```
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)#
```

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  8 ms    2 ms    1 ms    172.21.1.3
  2  1 ms    4 ms    3 ms    172.21.20.2

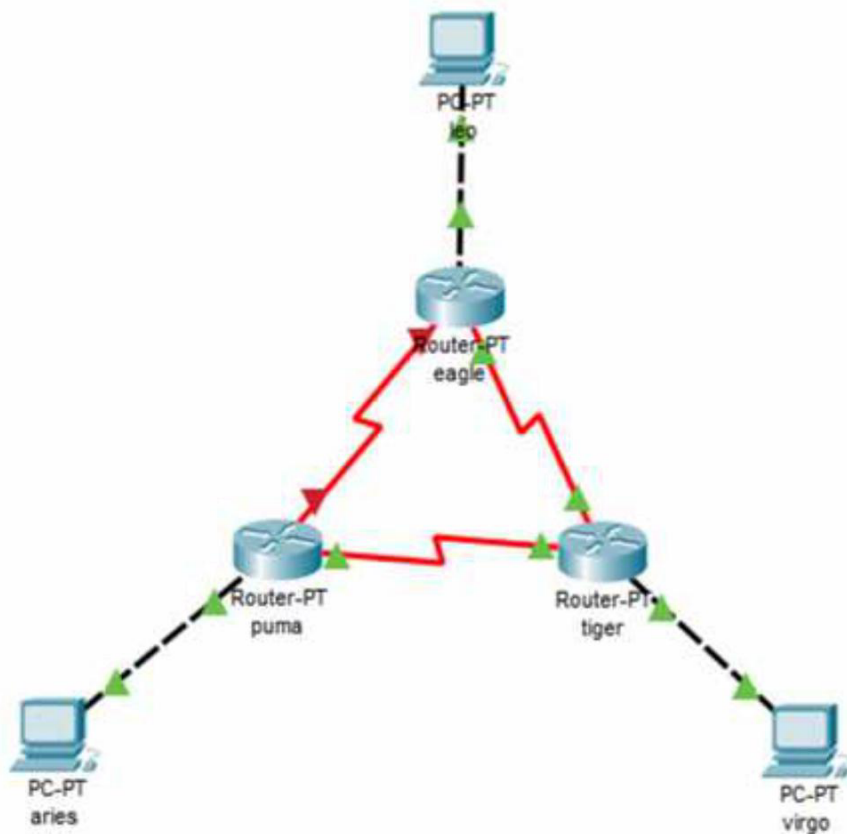
Trace complete.
```

Buat hubungan antara Router Eagle dan Puma terputus dan perhatikan proses update routing RIP yang terjadi.

```
Router>en
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-S-CHANGED: Interface Serial2/0, changed state to
administratively down

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



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 10 ms  1 ms  4 ms  172.21.2.2
  2  1 ms  1 ms  1 ms  172.21.3.2
  3  0 ms 10 ms 10 ms  172.21.20.2

Trace complete.
```

### Kegiatan 3. IGRP (Internet Gateway Routing Protocol)

Pada mode configuration, konfigurasi routing RIP pada Router Eagle

```
Router>
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router igrp 100
      ^
% Invalid input detected at '^' marker.

Router(config)#router igrp 100
      ^
% Invalid input detected at '^' marker.

Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#
```

Lihat konfigurasi routing IGRP yang telah dibuat dengan perintah **“show running-config”** pada mode user. Perhatikan konfigurasi pada bagian **“Router rip”**

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

Current configuration : 810 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--
```



Lihat proses transaksi routing IGRP pada Router Eagle dengan perintah **"debug ip igrp transactions"** pada mode user. Tunggu beberapa saat untuk melihat informasi transaksi routing IGRP yang terjadi.

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

Lakukan konfigurasi routing IGRP pada Router Puma dan Tiger. Perhatikan proses update routing IGRP pada Router Eagle (secara detail) ketika konfigurasi Router Puma dan Tiger dilakukan.

Router Puma:

Konfigurasi routing EIGRP pada Router Puma

```
Router>
Router>
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 EIGRP yang telah dibuat

```
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  
shutdown  
!  
router eigrp 100  
network 172.21.0.0  
auto-summary  
!  
ip classless  
!  
ip flow-export version 9  
--More--
```

## Melihat proses transaksi routing EIGRP pada Router Puma

```
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 Serial2/0  
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: 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 Serial2/0  
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 FastEthernet0/0  
AS 100, Flags 0x0, Seq 6/0 idbQ 0/0 iidbQ un/rely 0/0
```



Router Tiger:

Konfigurasi routing EIGRP pada Router Tiger

```
Router>
Router>
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 EIGRP yang telah dibuat

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

Current configuration : 797 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

```
EIGRP: Sending HELLO on FastEthernet0/0
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 Serial3/0
AS 100, Flags 0x0, Seq 11/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
AS 100, Flags 0x0, Seq 11/0 idbQ 0/0 iidbQ un/rely 0/0

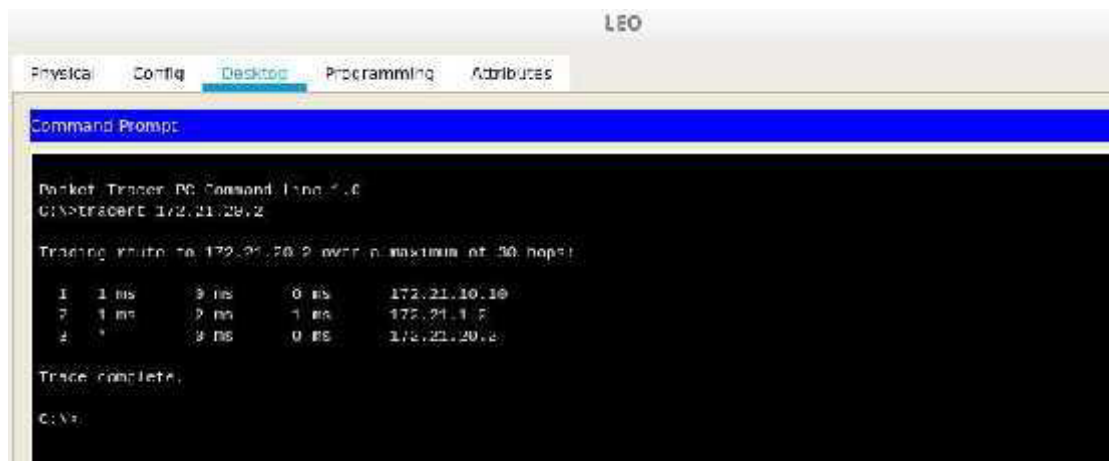
EIGRP: Received HELLO on Serial2/0 nbr 172.21.2.1
AS 100, Flags 0x0, Seq 9/0 idbQ 0/0

EIGRP: Sending HELLO on FastEthernet0/0
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 Serial3/0
AS 100, Flags 0x0, Seq 11/0 idbQ 0/0 iidbQ un/rely 0/0
```

## Dari PC Leo lakukan trace ke PC Aries



## Buat hubungan antara Router Eagle dan Puma terputus dan perhatikan proses update routing RIP yang terjadi

```
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se2/0
Router(config-if)#shutdown
```

Dari PC Leo lakukan tracer ke PC  
Aries

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1  1 ms    0 ms    0 ms    172.21.10.10
  2  0 ms    0 ms    1 ms    172.21.2.3
  3  2 ms    0 ms    0 ms    172.21.3.2
  4  0 ms    0 ms    1 ms    172.21.20.2

Trace complete.

C:\>
```