Nama : Hendrawan Fauzi

Nim : 09010182327003

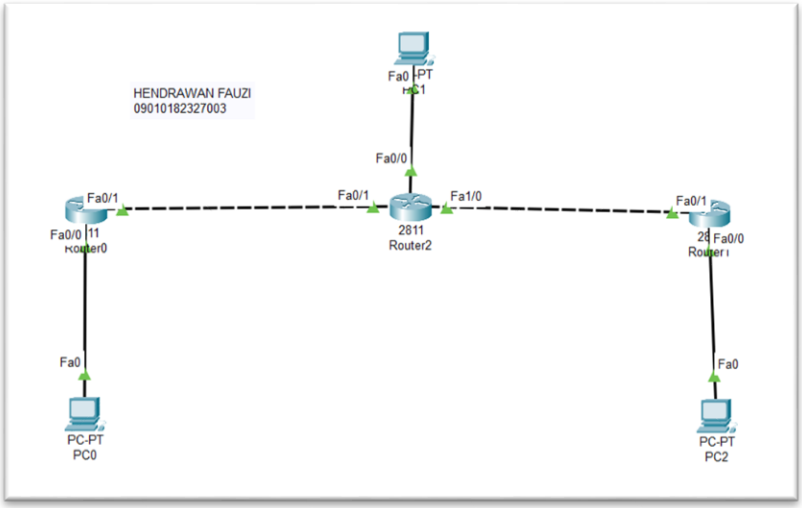
Kelas : MI3A

1. KONFIGURASI ROUTING RIP

Lakukan PING dan Traceroute dari PC1 ke PC2 dan PC3, PC2 ke PC1 dan PC3, serta PC3 ke PC1 dan PC2.

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PC1	PC2	YA	
		PC3	YA	
2	PC2	PC1	YA	
		PC3	YA	
3	PC3	PC1	YA	
		PC2	YA	

- SS Topologi Routing RIP dan EIGRP, sekaligus berikan Nama, NIM, dan Kelas pada pojok kiri Topologi Kalian (*Place Note*).



- SS hasil perintah `#show ip route rip` dari setiap router.

```
RouterA_09010182327003#show ip route rip
     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
R    192.168.3.0/24 [120/2] via 192.168.100.2, 00:00:22, FastEthernet0/1
     192.168.200.0/30 is subnetted, 1 subnets
R       192.168.200.0 [120/1] via 192.168.100.2, 00:00:22, FastEthernet0/1
```

```
RouterB_09010182327003#show ip route rip
R    192.168.1.0/24 [120/1] via 192.168.100.1, 00:00:19, FastEthernet0/1
     192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
R    192.168.3.0/24 [120/1] via 192.168.200.2, 00:00:24, FastEthernet1/0
```

```
RouterC_09010182327003#show ip route rip
R    192.168.1.0/24 [120/2] via 192.168.200.1, 00:00:01, FastEthernet0/1
R    192.168.2.0/24 [120/1] via 192.168.200.1, 00:00:01, FastEthernet0/1
     192.168.100.0/30 is subnetted, 1 subnets
R       192.168.100.0 [120/1] via 192.168.200.1, 00:00:01, FastEthernet0/1
```

- Tabel hasil Ping.

PC1 TUJUAN PC2-PC3

```
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.3.10

Pinging 192.168.3.10 with 32 bytes of data:

Reply from 192.168.3.10: bytes=32 time<1ms TTL=125
Reply from 192.168.3.10: bytes=32 time=14ms TTL=125
Reply from 192.168.3.10: bytes=32 time<1ms TTL=125
Reply from 192.168.3.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.3.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 14ms, Average = 3ms
```

PC2 TUJUAN PC1-PC3

```
C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time=6ms TTL=128
Reply from 192.168.2.10: bytes=32 time=4ms TTL=128
Reply from 192.168.2.10: bytes=32 time=11ms TTL=128
Reply from 192.168.2.10: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 11ms, Average = 5ms
```

PC3 TUJUAN PC1-PC2

```
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

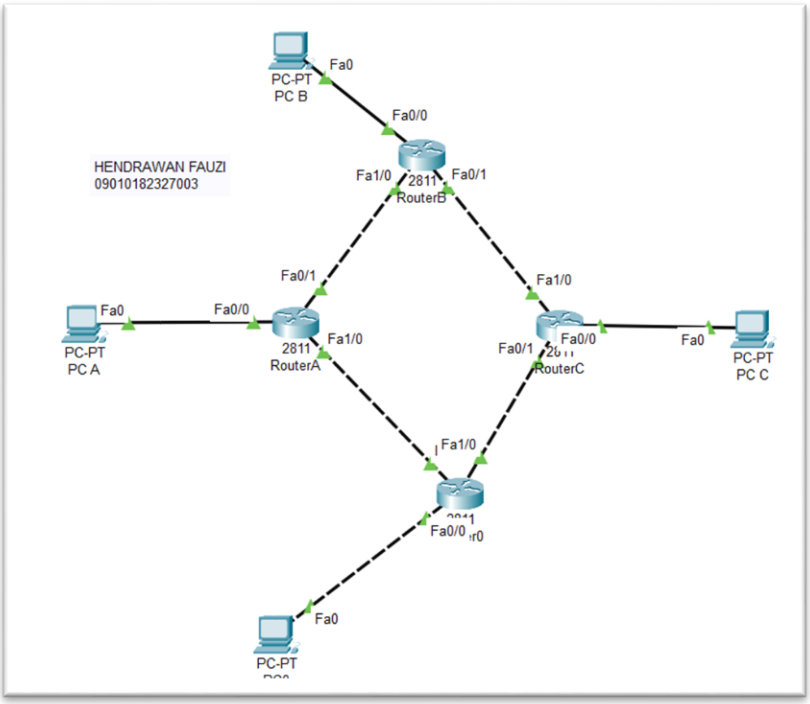
```
C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time<1ms TTL=125
Reply from 192.168.1.10: bytes=32 time=1ms TTL=125
Reply from 192.168.1.10: bytes=32 time<1ms TTL=125
Reply from 192.168.1.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

2. KONFIGURASI ROUTING EIGRP

Lakukan PING dan Traceroute dari PCA ke PCB dan PCC, PCB ke PCA dan PCC, serta PCC ke PCA dan PCB.

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PCA	PCB	YA	
		PCC	YA	
2	PCB	PCA	YA	
		PCC	YA	
3	PCC	PCA	YA	

- SS Topologi Routing RIP dan EIGRP, sekaligus berikan Nama, NIM, dan Kelas pada pojok kiri Topologi Kalian (*Place Note*).



- SS hasil perintah `#show ip route rip` dari setiap router.

```
RouterA_09010182327003#show ip route eigrp
     100.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       100.100.100.8/30 [90/30720] via 100.100.100.6, 00:02:00, FastEthernet0/1
D       100.100.100.12/30 [90/30720] via 100.100.100.2, 00:02:00, FastEthernet1/0
     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
D    192.168.2.0/24 [90/30720] via 100.100.100.6, 00:02:00, FastEthernet0/1
D    192.168.3.0/24 [90/33280] via 100.100.100.6, 00:02:00, FastEthernet0/1
D    192.168.4.0/24 [90/30720] via 100.100.100.2, 00:02:00, FastEthernet1/0
```

```
RouterB_09010182327003#show ip route eigrp
     100.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       100.100.100.0/30 [90/30720] via 100.100.100.5, 00:02:36, FastEthernet1/0
D       100.100.100.12/30 [90/33280] via 100.100.100.5, 00:02:36, FastEthernet1/0
D    192.168.1.0/24 [90/30720] via 100.100.100.5, 00:02:36, FastEthernet1/0
     192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
D    192.168.3.0/24 [90/30720] via 100.100.100.10, 00:02:36, FastEthernet0/1
D    192.168.4.0/24 [90/33280] via 100.100.100.5, 00:02:36, FastEthernet1/0
```

```
RouterC_09010182327003#show ip eigrp
% Incomplete command.
RouterC_09010182327003#show ip route eigrp
     100.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       100.100.100.0/30 [90/33280] via 100.100.100.9, 00:03:45, FastEthernet1/0
D       100.100.100.4/30 [90/30720] via 100.100.100.9, 00:03:45, FastEthernet1/0
D    192.168.1.0/24 [90/33280] via 100.100.100.9, 00:03:45, FastEthernet1/0
D    192.168.2.0/24 [90/30720] via 100.100.100.9, 00:03:45, FastEthernet1/0
     192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
D    192.168.4.0/24 [90/35840] via 100.100.100.9, 00:03:45, FastEthernet1/0
```

```
RouterD_09010182327003#show ip route eigrp
     100.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       100.100.100.4/30 [90/30720] via 100.100.100.1, 00:04:19, FastEthernet0/1
D       100.100.100.8/30 [90/33280] via 100.100.100.1, 00:04:19, FastEthernet0/1
D    192.168.1.0/24 [90/30720] via 100.100.100.1, 00:04:19, FastEthernet0/1
D    192.168.2.0/24 [90/33280] via 100.100.100.1, 00:04:19, FastEthernet0/1
D    192.168.3.0/24 [90/35840] via 100.100.100.1, 00:04:19, FastEthernet0/1
```

- Tabel hasil Ping.

PCA TUJUAN PCB-PCC-PCD

```
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.3.10

Pinging 192.168.3.10 with 32 bytes of data:

Reply from 192.168.3.10: bytes=32 time<1ms TTL=125
Reply from 192.168.3.10: bytes=32 time<1ms TTL=125
Reply from 192.168.3.10: bytes=32 time<1ms TTL=125
Reply from 192.168.3.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.3.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.4.10

Pinging 192.168.4.10 with 32 bytes of data:

Reply from 192.168.4.10: bytes=32 time<1ms TTL=126
Reply from 192.168.4.10: bytes=32 time<1ms TTL=126
Reply from 192.168.4.10: bytes=32 time<1ms TTL=126
Reply from 192.168.4.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.4.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

PCB TUJUAN PCA-PCC-PCD

```
C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time=4ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 4ms, Average = 1ms
```

```
C:\>ping 192.168.3.10

Pinging 192.168.3.10 with 32 bytes of data:

Reply from 192.168.3.10: bytes=32 time<1ms TTL=126
Reply from 192.168.3.10: bytes=32 time<1ms TTL=126
Reply from 192.168.3.10: bytes=32 time<1ms TTL=126
Reply from 192.168.3.10: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.3.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

```
C:\>ping 192.168.4.10

Pinging 192.168.4.10 with 32 bytes of data:

Reply from 192.168.4.10: bytes=32 time<1ms TTL=125
Reply from 192.168.4.10: bytes=32 time<1ms TTL=125
Reply from 192.168.4.10: bytes=32 time<1ms TTL=125
Reply from 192.168.4.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.4.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

PCC TUUAN PCA-PCB-PCD

```
C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time<1ms TTL=125
Reply from 192.168.1.10: bytes=32 time<1ms TTL=125
Reply from 192.168.1.10: bytes=32 time<1ms TTL=125
Reply from 192.168.1.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126
Reply from 192.168.2.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.4.10

Pinging 192.168.4.10 with 32 bytes of data:

Reply from 192.168.4.10: bytes=32 time<1ms TTL=124
Reply from 192.168.4.10: bytes=32 time<1ms TTL=124
Reply from 192.168.4.10: bytes=32 time<1ms TTL=124
Reply from 192.168.4.10: bytes=32 time<1ms TTL=124

Ping statistics for 192.168.4.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

PCD TUJUAN PCA-PCB-PCC

```
C:\>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:

Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126
Reply from 192.168.1.10: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.168.2.10

Pinging 192.168.2.10 with 32 bytes of data:

Reply from 192.168.2.10: bytes=32 time<1ms TTL=125
Reply from 192.168.2.10: bytes=32 time<1ms TTL=125
Reply from 192.168.2.10: bytes=32 time<1ms TTL=125
Reply from 192.168.2.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.2.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

```
C:\>ping 192.168.3.10

Pinging 192.168.3.10 with 32 bytes of data:

Reply from 192.168.3.10: bytes=32 time<1ms TTL=124
Reply from 192.168.3.10: bytes=32 time<1ms TTL=124
Reply from 192.168.3.10: bytes=32 time<1ms TTL=124
Reply from 192.168.3.10: bytes=32 time<1ms TTL=124

Ping statistics for 192.168.3.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```

- Berikan penjelasan terkait hasil dari praktikum kali ini.

Dalam praktikum ini, konfigurasi routing RIP dan EIGRP telah diimplementasikan pada jaringan yang terdiri dari beberapa PC yang saling berhubungan melalui router. Setelah konfigurasi, pengujian koneksi antar-PC dilakukan dengan menggunakan perintah PING dan Traceroute untuk memastikan bahwa masing-masing perangkat dapat mencapai perangkat lainnya melalui jaringan. Hasil pengujian menunjukkan bahwa koneksi antara semua perangkat berhasil dengan

baik, ditandai dengan respons "YA" pada tabel hasil PING, yang menandakan bahwa paket data berhasil dikirimkan dan diterima.

- Buat Analisa terkait praktikum yang dikerjakan.

Konfigurasi RIP dan EIGRP digunakan untuk membandingkan kedua protokol routing dalam mengatur rute paket data pada jaringan. RIP, yang menggunakan distance vector routing dengan batas maksimum hop count 15, cocok untuk jaringan kecil hingga menengah. Sedangkan EIGRP, yang menggunakan algoritma hybrid, memberikan performa lebih baik dengan memungkinkan penggunaan lebih banyak metrik dan mendukung deteksi jaringan yang lebih luas dan dinamis. Berdasarkan hasil PING dan traceroute yang berhasil, terlihat bahwa keduanya efektif dalam mengatur rute di jaringan ini, meskipun EIGRP menawarkan kecepatan konvergensi yang lebih cepat dan lebih stabil pada jaringan yang lebih kompleks.

- Kesimpulan.

Praktikum ini menunjukkan bahwa baik RIP maupun EIGRP dapat digunakan untuk routing pada jaringan, tetapi masing-masing memiliki karakteristik dan keunggulan tersendiri. RIP lebih sederhana tetapi terbatas pada jaringan yang lebih kecil, sementara EIGRP lebih kompleks namun mendukung performa yang lebih tinggi pada jaringan yang lebih besar. Implementasi dan hasil pengujian membuktikan bahwa konfigurasi yang dilakukan pada kedua protokol berhasil memastikan komunikasi antar perangkat dalam jaringan.