LAPORAN HASIL PRAKTIKUM

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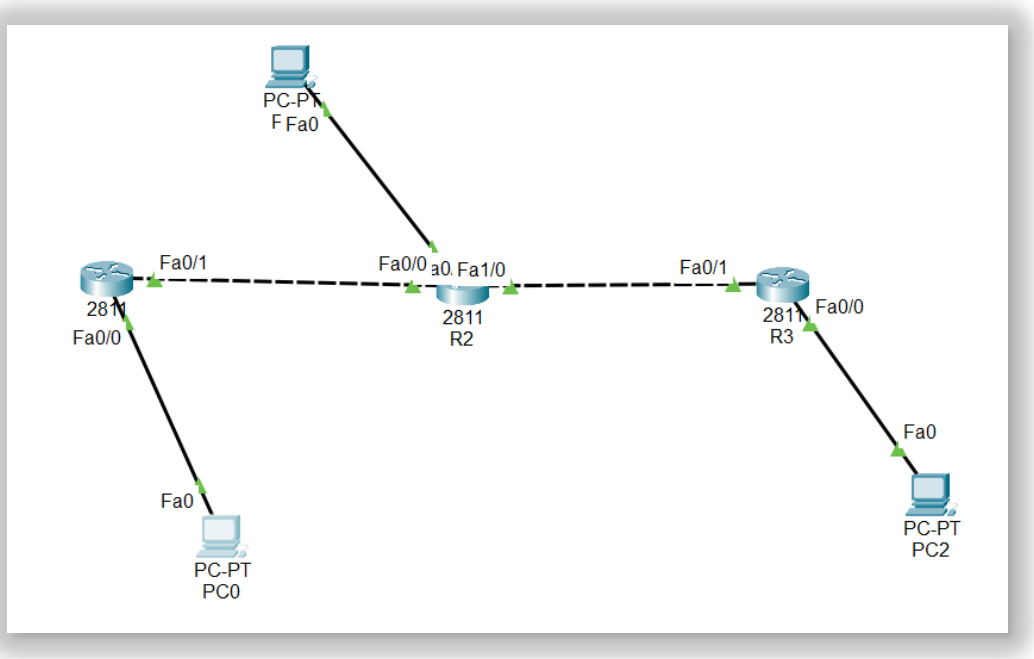
Judul Percobaan : RIP Dan EIGRP

Hasil Percobaan :



Router 1

```
R1_09010282327034#show ip route rip
     192.168.1.0/24 is variably subnetted, 2 subnets, 2 masks
R    192.168.2.0/24 [120/1] via 192.168.100.2, 00:00:07, FastEthernet0/1
R    192.168.3.0/24 [120/2] via 192.168.100.2, 00:00:07, FastEthernet0/1
     192.168.200.0/30 is subnetted, 1 subnets
R       192.168.200.0 [120/1] via 192.168.100.2, 00:00:07, FastEthernet0/1
```

Router 2

```
R2_09010282327034#show ip route rip
R    192.168.1.0/24 [120/1] via 192.168.100.1, 00:00:06, 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, 00:00:08, FastEthernet1/0
```

Hasil Percobaan :

Router 3

```
R3_09010282327034#show ip route rip
R    192.168.1.0/24 [120/2] via 192.168.200.1, 00:00:18, FastEthernet0/1
R    192.168.2.0/24 [120/1] via 192.168.200.1, 00:00:18, FastEthernet0/1
     192.168.100.0/30 is subnetted, 1 subnets
R       192.168.100.0 [120/1] via 192.168.200.1, 00:00:18, FastEthernet0/1
```

Tes Koneksi ICMP

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PC 1	PC 2	Ya	
		PC 3	Ya	

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
2	PC 2	PC 1	Ya	
		PC 3	Ya	

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
3	PC 3	PC 1	Ya	
		PC 2	Ya	

Hasil Percobaan :

PC 1

```
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=12ms 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 = 12ms, Average = 3ms

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
```

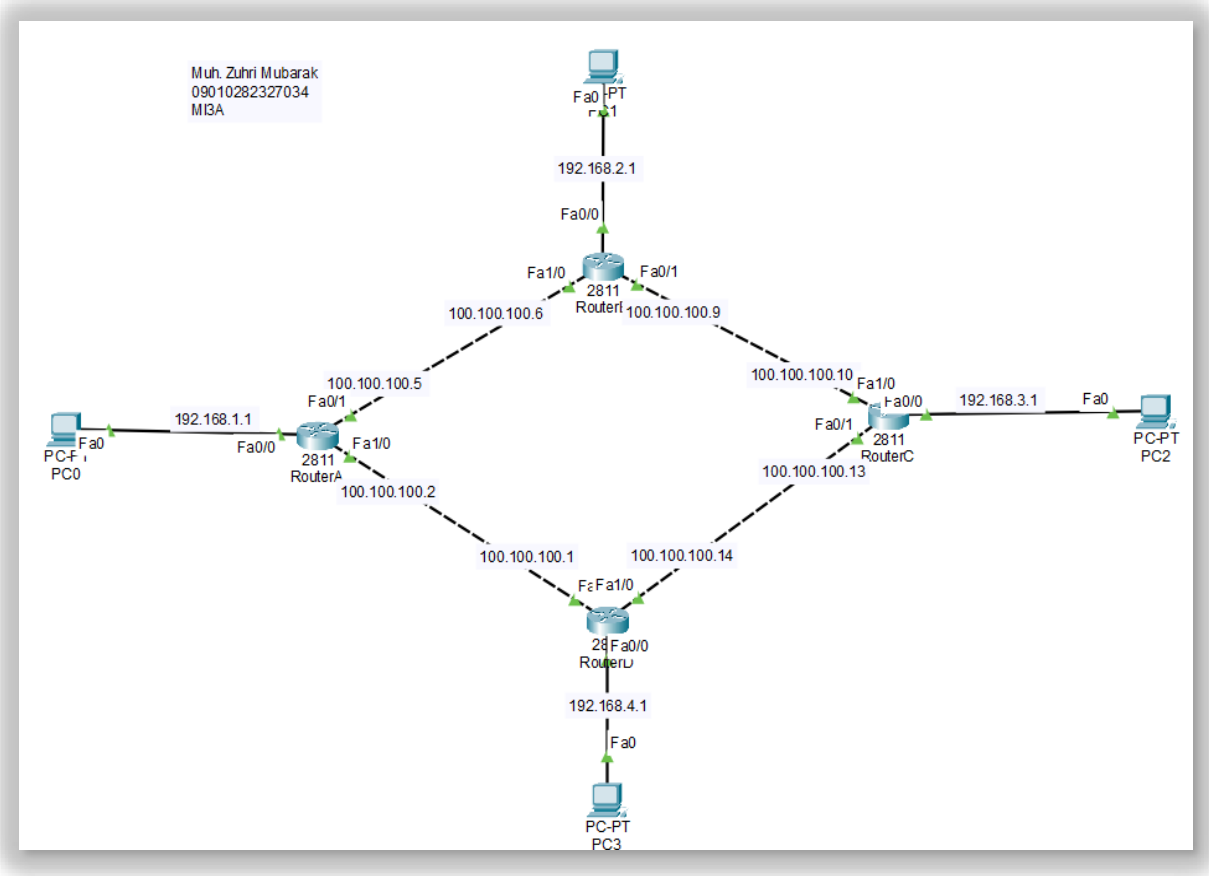
PC 2

```
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 192.168.3.10

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=1ms 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 = 1ms, Average = 0ms
```

PC 3

```
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
```

Hasil Percobaan :



Router A

```
RouterA_09010282327034#show ip route eigrp
     100.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       100.100.100.0/30 [90/35840] via 100.100.100.6, 00:02:46, FastEthernet0/1
D       100.100.100.8/30 [90/30720] via 100.100.100.6, 00:02:46, FastEthernet0/1
     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, 00:02:46, FastEthernet0/1
D    192.168.3.0/24 [90/33280] via 100.100.100.6, 00:02:46, FastEthernet0/1
D    192.168.4.0/24 [90/35840] via 100.100.100.6, 00:02:46, FastEthernet0/1
```

Router B

```
RouterB_09010282327034#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 100.100.100.10, 00:06:14, FastEthernet0/1
D       100.100.100.12/30 [90/30720] via 100.100.100.10, 00:06:14, FastEthernet0/1
D    192.168.1.0/24 [90/30720] via 100.100.100.5, 00:06:14, 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, 00:06:14, FastEthernet0/1
D    192.168.4.0/24 [90/33280] via 100.100.100.10, 00:06:14, FastEthernet0/1
```

Router C

```
RouterC_09010282327034#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 100.100.100.14, 00:07:21, FastEthernet0/1
D       100.100.100.4/30 [90/30720] via 100.100.100.9, 00:07:21, FastEthernet1/0
D    192.168.1.0/24 [90/33280] via 100.100.100.9, 00:07:20, FastEthernet1/0
D    192.168.2.0/24 [90/30720] via 100.100.100.9, 00:07:21, FastEthernet1/0
     192.168.3.0/24 is variably subnetted, 2 subnets, 2 masks
D    192.168.4.0/24 [90/30720] via 100.100.100.14, 00:07:21, FastEthernet0/1
```

Hasil Percobaan :

Router D

```
RouterD_09010282327034#show ip route eigrp
     100.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D       100.100.100.4/30 [90/33280] via 100.100.100.13, 00:08:12, FastEthernet1/0
D       100.100.100.8/30 [90/30720] via 100.100.100.13, 00:08:13, FastEthernet1/0
D    192.168.1.0/24 [90/35840] via 100.100.100.13, 00:08:12, FastEthernet1/0
D    192.168.2.0/24 [90/33280] via 100.100.100.13, 00:08:12, FastEthernet1/0
D    192.168.3.0/24 [90/30720] via 100.100.100.13, 00:08:13, FastEthernet1/0
```

PC A

```
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=124
Reply from 192.168.1.10: bytes=32 time<1ms TTL=124
Reply from 192.168.1.10: bytes=32 time<1ms TTL=124
Reply from 192.168.1.10: bytes=32 time<1ms TTL=124

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=3ms 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 = 3ms, 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=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=1ms 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 = 1ms, Average = 0ms
```

PC B

```
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

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=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
```

PC C

```
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 192.168.3.10

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=13ms 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 = 13ms, Average = 3ms

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
```

PC D

```
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=18ms 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=10ms 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 = 18ms, Average = 7ms

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
```

Penjelasan Percobaan :

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 membuktikan bahwa antara semua perangkat behasil dengan baik yang ditandai dengan respon “YA” pada tabel hasil PING, yang menandakan bahwa paket data berhasil dikirimkan dan diterima.

Analisi Percobaan :

Konfigurasi RIP dan EIGRP digunakan untuk membandingkan kedua protokol dalam 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 pengguna lebih banyak metrik dan mendukung deteksi jaringan yang lebih luas dan dinamis. Berdasarkan hasil PING dan tracerout 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 Percobaan :

Praktikum ini menunjukan bahwa baik RIP maupun EIGRP dapat digunakan untuk routing pada jaringan, tetapi masing-masing memiliki karateristik dan keunggulan tersendiri. RIP yang 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.