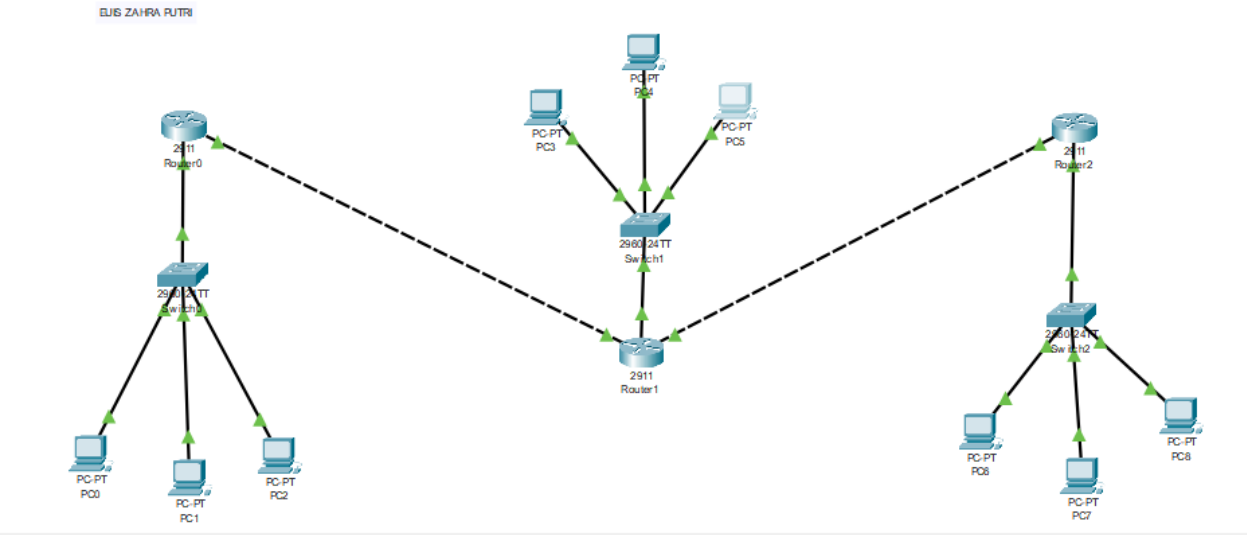
NAMA : EUIS ZAHRA PUTRI

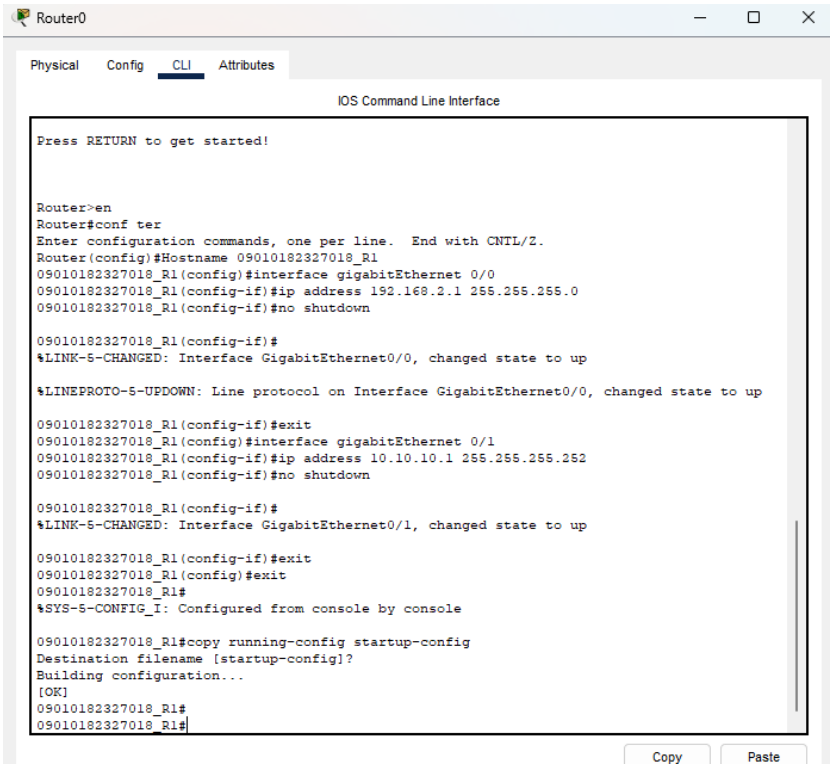
NIM : 09010182327018

KELAS : MI 3A

PRAKTIKUM JARINGAN KOMPUTER

DYNAMIC





```
Router>en
Router#conf ter
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#Hostname 09010182327018_R2
09010182327018_R2(config)#interface gigabitEthernet 0/0
09010182327018_R2(config-if)#ip address 192.168.20.1 255.255.255.0
09010182327018_R2(config-if)#no shutdown

09010182327018_R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

09010182327018_R2(config-if)#exit
09010182327018_R2(config)#interface gigabitEthernet 0/1
09010182327018_R2(config-if)#ip address 10.10.10.2 255.255.255.252
09010182327018_R2(config-if)#no shutdown

09010182327018_R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

09010182327018_R2(config-if)#exit
09010182327018_R2(config)#
09010182327018_R2(config)#interface gigabitEthernet 0/2
09010182327018_R2(config-if)#ip address 10.20.10.1 255.255.255.252
09010182327018_R2(config-if)#no shutdown

09010182327018_R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

09010182327018_R2(config-if)#exit
```

```
09010182327018_R2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
09010182327018 R2#
```

Router2

Physical | Config | CLI | Attributes

IOS Command Line Interface

```
Router>en
Router#conf ter
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#Hostname 09010182327018_R3
09010182327018_R3(config)#interface gigabitEthernet 0/0
09010182327018_R3(config-if)#ip address 192.168.40.1 255.255.255.0
09010182327018_R3(config-if)#no shutdown

09010182327018_R3(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to
up

09010182327018_R3(config-if)#exit
09010182327018_R3(config)#interface gigabitEthernet 0/2
09010182327018_R3(config-if)#ip address 10.20.10.2 255.255.255.252
09010182327018_R3(config-if)#no shutdown

09010182327018_R3(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to
up

09010182327018_R3(config-if)#exit
09010182327018_R3(config)#exit
09010182327018_R3#
%SYS-5-CONFIG_I: Configured from console by console

09010182327018_R3#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
09010182327018_R3#
```

Copy | Paste

Top

```
09010182327018_R1(config)#router rip
09010182327018_R1(config-router)#version 2
09010182327018_R1(config-router)#network 192.168.2.0
09010182327018_R1(config-router)#network 10.10.10.0
09010182327018_R1(config-router)#exit
09010182327018_R1(config)#show ip route
                          ^
% Invalid input detected at '^' marker.

09010182327018_R1(config)#exit
09010182327018_R1#
%SYS-5-CONFIG_I: Configured from console by console

09010182327018_R1#show ip route
Codes: L - local, C - connected, S - static, 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

     10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
C       10.10.10.0/30 is directly connected, GigabitEthernet0/1
L       10.10.10.1/32 is directly connected, GigabitEthernet0/1
S       10.20.10.0/30 [1/0] via 10.10.10.2
     192.168.2.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.2.0/24 is directly connected, GigabitEthernet0/0
L       192.168.2.1/32 is directly connected, GigabitEthernet0/0
S    192.168.20.0/24 [1/0] via 10.10.10.2
S    192.168.40.0/24 [1/0] via 10.10.10.2

09010182327018_R1#
09010182327018_R2(config)#router rip
09010182327018_R2(config-router)#version 2
09010182327018_R2(config-router)#network 192.168.20.0
09010182327018_R2(config-router)#network 10.10.10.0
09010182327018_R2(config-router)#network 10.20.10.0
09010182327018_R2(config-router)#exit
09010182327018_R2(config)#show ip route
                          ^
% Invalid input detected at '^' marker.

09010182327018_R2(config)#exit
09010182327018_R2#
%SYS-5-CONFIG_I: Configured from console by console

09010182327018_R2#show ip route
Codes: L - local, C - connected, S - static, 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

     10.0.0.0/8 is variably subnetted, 4 subnets, 2 masks
C       10.10.10.0/30 is directly connected, GigabitEthernet0/1
L       10.10.10.2/32 is directly connected, GigabitEthernet0/1
C       10.20.10.0/30 is directly connected, GigabitEthernet0/2
L       10.20.10.1/32 is directly connected, GigabitEthernet0/2
R    192.168.2.0/24 [120/1] via 10.10.10.1, 00:00:04, GigabitEthernet0/1
     192.168.20.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.20.0/24 is directly connected, GigabitEthernet0/0
L       192.168.20.1/32 is directly connected, GigabitEthernet0/0

09010182327018_R2#
```

```
09010182327018_R3(config)#router rip
09010182327018_R3(config-router)#version 2
09010182327018_R3(config-router)#network 192.168.40.0
09010182327018_R3(config-router)#network 10.20.10.0
09010182327018_R3(config-router)#exit
09010182327018_R3(config)#show ip route
                          ^
% Invalid input detected at '^' marker.

09010182327018_R3(config)#exit
09010182327018_R3#
%SYS-5-CONFIG_I: Configured from console by console

09010182327018_R3#show ip route
Codes: L - local, C - connected, S - static, 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

     10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       10.20.10.0/30 is directly connected, GigabitEthernet0/2
L       10.20.10.2/32 is directly connected, GigabitEthernet0/2
     192.168.40.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.40.0/24 is directly connected, GigabitEthernet0/0
L       192.168.40.1/32 is directly connected, GigabitEthernet0/0

09010182327018_R3#
```

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PC 1	PC2	✓	
		PC3	✓	
		PC4	✓	
		PC5	✓	
		PC6	✓	
		PC7	✓	
		PC8	✓	
		PC9	✓	

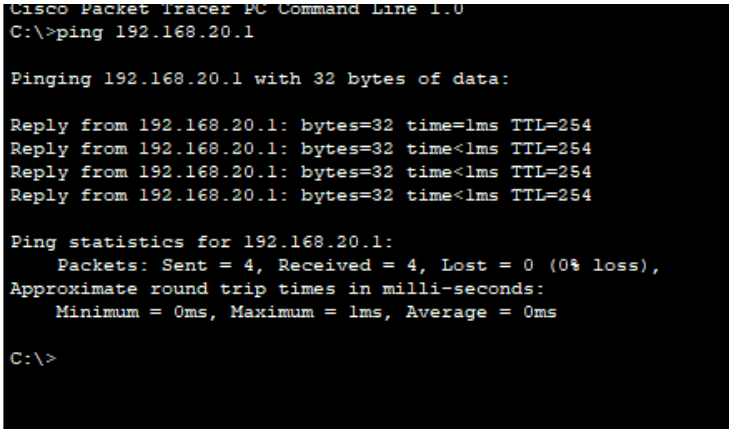
No	Sumber	Tujuan	Hasil	
			Ya	Tidak
2	PC1	PC1	✓	
		PC2	✓	
		PC3	✓	
		PC5	✓	
		PC6	✓	
		PC7	✓	
		PC8	✓	
		PC9	✓	

No	Sumber	Tujuan	Hasil	
			Ya	Tidak
3	PC7	PC1	✓	
		PC2	✓	
		PC3	✓	
		PC4	✓	
		PC5	✓	
		PC6	✓	

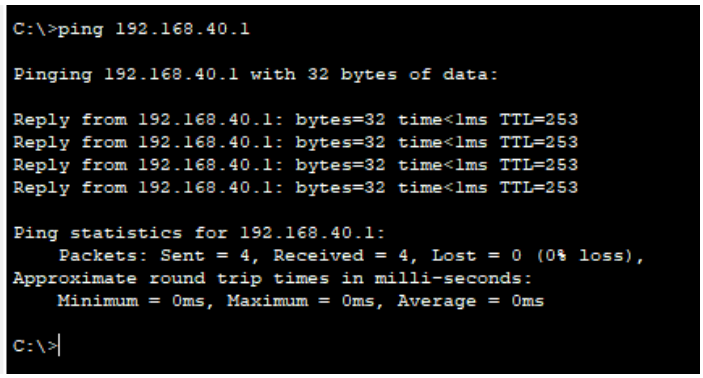
		PC8	✓	
		PC9	✓	

Screenshot hasil Ping pada cmd PC:

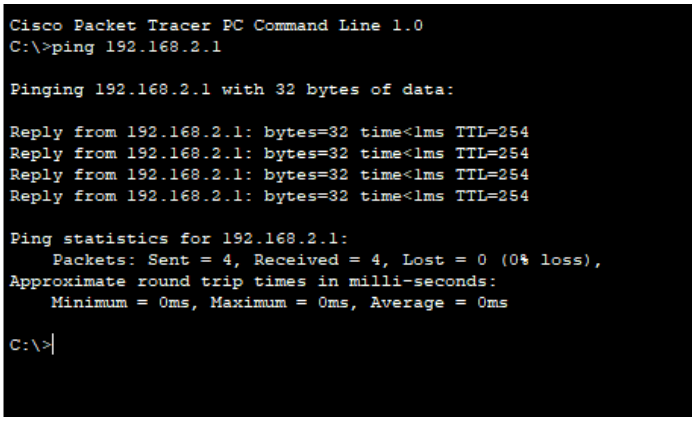
PC1 -> PC5



PC1 -> PC7



PC4 -> PC2



PC4 -> PC8

```
C:\>ping 192.168.40.1

Pinging 192.168.40.1 with 32 bytes of data:

Reply from 192.168.40.1: bytes=32 time<1ms TTL=254
Reply from 192.168.40.1: bytes=32 time<1ms TTL=254
Reply from 192.168.40.1: bytes=32 time<1ms TTL=254
Reply from 192.168.40.1: bytes=32 time<1ms TTL=254

Ping statistics for 192.168.40.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

PC7 -> PC3

```
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time<1ms TTL=253
Reply from 192.168.2.1: bytes=32 time=1ms TTL=253
Reply from 192.168.2.1: bytes=32 time<1ms TTL=253
Reply from 192.168.2.1: bytes=32 time=1ms TTL=253

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

PC7 -> PC9

```
C:\>ping 192.168.40.1

Pinging 192.168.40.1 with 32 bytes of data:

Reply from 192.168.40.1: bytes=32 time<1ms TTL=255
Reply from 192.168.40.1: bytes=32 time<1ms TTL=255
Reply from 192.168.40.1: bytes=32 time<1ms TTL=255
Reply from 192.168.40.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.40.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

Hasil Praktikum:

- Saya membuat topologi jaringan sesuai dengan Gambar 11.3, menggunakan beberapa router, switch dan PC klien.
- Setiap router saya atur alamat IP-nya sesuai dengan rentang IP yang sudah ditentukan di tabel.
- Saya mengonfigurasi routing pada setiap router dengan menggunakan protokol RIP versi 2 supaya router bisa bertukar informasi tentang rute.
- Setelah konfigurasi, saya cek tabel routing di tiap router untuk memastikan ada tanda "D" yang menunjukkan konfigurasi routing dinamis sudah berhasil.
- Saya lakukan tes koneksi menggunakan perintah ping antar PC untuk memastikan semua PC di jaringan bisa saling terhubung.

Analisa:

- Konfigurasi RIP berhasil karena tiap router bisa bertukar informasi rute. Hal ini terlihat di tabel routing pada tiap router yang menampilkan rute ke jaringan lainnya.
- Protokol RIP ini punya batas maksimal 15 hop, jadi hanya cocok untuk jaringan kecil sampai menengah.
- Hasil tes ping menunjukkan bahwa PC-PC dalam jaringan dapat terhubung dengan baik, artinya konfigurasi berjalan sesuai harapan.

Kesimpulan:

- Konfigurasi routing dinamis berjalan lancar, membuat tiap perangkat dalam jaringan ini bisa berkomunikasi tanpa masalah.
- Protokol RIP versi 2 ini cukup efektif untuk jaringan kecil hingga menengah, membantu mengatur rute antar perangkat.

- Berdasarkan hasil tes ping, jaringan sudah terkonfigurasi dengan benar karena semua PC bisa terhubung sesuai yang diharapkan.