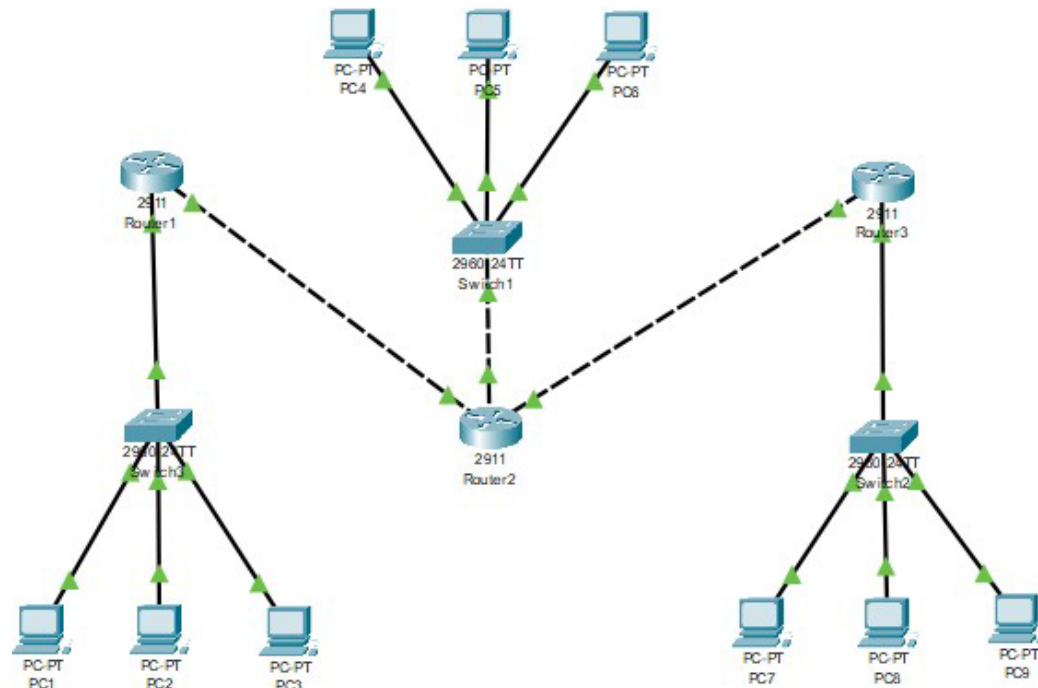


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Nim 09010282327022  
Kelas : MI3A  
Mata kuliah : praktikum jaringan komputer



#### Router 1

```
09010282327022_R1(config)#router rip
09010282327022_R1(config-router)#version 2
09010282327022_R1(config-router)#network 192.168.2.0
09010282327022_R1(config-router)#network 10.10.10.0
09010282327022_R1(config-router)#exit
09010282327022_R1(config)#exit
09010282327022_R1#
%SYS-5-CONFIG_I: Configured from console by console

09010282327022_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, 4 subnets, 4 masks
C       10.0.0.0/8 is directly connected, GigabitEthernet0/1
L       10.10.10.1/32 is directly connected, GigabitEthernet0/1
S       10.20.10.0/24 [1/0] via 10.10.10.2
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

09010282327022_R1#
```

## Router 2

```
Enter configuration commands, one per line. End with CNTL/Z.
09010182327022_R2(config)#router rip
09010182327022_R2(config-router)#version 2
09010182327022_R2(config-router)#network 192.168.20.0
09010182327022_R2(config-router)#network 10.20.10.0
09010182327022_R2(config-router)#no network 10.20.10.0
09010182327022_R2(config-router)#network 10.10.10.0
09010182327022_R2(config-router)#network 10.20.10.0
09010182327022_R2(config-router)#exit
09010182327022_R2(config)#exit
09010182327022_R2#
%SYS-5-CONFIG_I: Configured from console by console

09010182327022_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
S       192.168.2.0/24 [1/0] via 10.10.10.1
        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
S       192.168.40.0/24 [1/0] via 10.20.10.2

09010182327022_R2#
```

## Router 3

```
09010282327022_R3(config)#router rip
09010282327022_R3(config-router)#version 2
09010282327022_R3(config-router)#network 192.168.40.0
09010282327022_R3(config-router)#network 10.20.10.0
09010282327022_R3(config-router)#exit
09010282327022_R3(config)#exit
09010282327022_R3#
%SYS-5-CONFIG_I: Configured from console by console

09010282327022_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, 3 subnets, 2 masks
S       10.10.10.0/30 [1/0] via 10.20.10.1
C       10.20.10.0/30 is directly connected, GigabitEthernet0/2
L       10.20.10.2/32 is directly connected, GigabitEthernet0/2
S       192.168.2.0/24 [1/0] via 10.20.10.1
S       192.168.20.0/24 [1/0] via 10.20.10.1
        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

09010282327022_R3#
```

no	Sumber	Tujuan	Hasil	
			Ya	Tidak
1	PC 1	PC 2	Ya	-
		PC 3	Ya	-
		PC 4	Ya	-
		PC 5	Ya	-
		PC 6	Ya	-
		PC 7	Ya	-
		PC 8	Ya	-
		PC 9	Ya	-

no	Sumber	Tujuan	Hasil	
			Ya	Tidak
2	PC 4	PC 1	Ya	-
		PC 2	Ya	-
		PC 3	Ya	-
		PC 5	Ya	-
		PC 6	Ya	-
		PC 7	Ya	-
		PC 8	Ya	-
		PC 9	Ya	-

no	Sumber	Tujuan	Hasil	
			Ya	Tidak
3	PC 7	PC 1	Ya	-
		PC 2	Ya	-
		PC 3	Ya	-
		PC 4	Ya	-
		PC 5	Ya	-
		PC 7	Ya	-
		PC 8	Ya	-
		PC 9	Ya	-

**Hasil Ping pada cmd PC :**

**PC1 -> PC5**

**PC1 -> PC7**

**PC4 -> PC2**

**PC4 -> PC8**

**PC7 -> PC3**

**PC7 -> PC9**

PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.20.11

Pinging 192.168.20.11 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.11: bytes=32 time<1ms TTL=126
Reply from 192.168.20.11: bytes=32 time<1ms TTL=126
Reply from 192.168.20.11: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.20.11:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.20.11

Pinging 192.168.20.11 with 32 bytes of data:

Reply from 192.168.20.11: bytes=32 time<1ms TTL=126
Reply from 192.168.20.11: bytes=32 time<1ms TTL=126
Reply from 192.168.20.11: bytes=32 time<1ms TTL=126
Reply from 192.168.20.11: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.20.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.40.10

Pinging 192.168.40.10 with 32 bytes of data:

Reply from 192.168.40.10: bytes=32 time<1ms TTL=125
Reply from 192.168.40.10: bytes=32 time=4ms TTL=125
Reply from 192.168.40.10: bytes=32 time<1ms TTL=125
Reply from 192.168.40.10: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.40.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 4ms, Average = 1ms

C:\>
```

☐ Top

PC4

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.11

Pinging 192.168.2.11 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.11: bytes=32 time<1ms TTL=126
Reply from 192.168.2.11: bytes=32 time<1ms TTL=126
Reply from 192.168.2.11: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.11:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.2.11

Pinging 192.168.2.11 with 32 bytes of data:

Reply from 192.168.2.11: bytes=32 time<1ms TTL=126
Reply from 192.168.2.11: bytes=32 time=1ms TTL=126
Reply from 192.168.2.11: bytes=32 time<1ms TTL=126
Reply from 192.168.2.11: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.2.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

```
C:\>ping 192.168.40.11

Pinging 192.168.40.11 with 32 bytes of data:

Reply from 192.168.40.11: bytes=32 time<1ms TTL=126
Reply from 192.168.40.11: bytes=32 time<1ms TTL=126
Reply from 192.168.40.11: bytes=32 time<1ms TTL=126
Reply from 192.168.40.11: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.40.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

☐ Top

PC7

Physical Config Desktop Programming Attributes

Command Prompt

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.12

Pinging 192.168.2.12 with 32 bytes of data:

Reply from 192.168.2.12: bytes=32 time<1ms TTL=125
Reply from 192.168.2.12: bytes=32 time<1ms TTL=125
Reply from 192.168.2.12: bytes=32 time<1ms TTL=125
Reply from 192.168.2.12: bytes=32 time<1ms TTL=125

Ping statistics for 192.168.2.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.40.12

Pinging 192.168.40.12 with 32 bytes of data:

Reply from 192.168.40.12: bytes=32 time<1ms TTL=128
Reply from 192.168.40.12: bytes=32 time<1ms TTL=128
Reply from 192.168.40.12: bytes=32 time<1ms TTL=128
Reply from 192.168.40.12: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.40.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

☐ Top

## Hasil Praktikum

### 1. Konfigurasi IP Address :

#### 1) Router 1 :

- Interface gigaEthernet0/0: IP 192.168.2.1 / Subnet Mask 255.255.255.0
- Interface gigaEthernet0/1: IP 10.10.10.1 / Subnet Mask 255.255.255.252

#### 2) Router 2 :

- Interface gigaEthernet0/0: IP 192.168.20.1 / Subnet Mask 255.255.255.0
- Interface gigaEthernet0/1: IP 10.10.10.2 / Subnet Mask 255.255.255.252
- Interface gigaEthernet0/2: IP 10.20.10.1 / Subnet Mask 255.255.255.252

#### 3) Router 3 :

- Interface gigaEthernet0/0: IP 192.168.40.1 / Subnet Mask 255.255.255.0
- Interface gigaEthernet0/2: IP 10.20.10.2 / Subnet Mask 255.255.255.252

### 2. Routing Dinamis :

#### 1) Konfigurasi Protokol Routing :

- Router 1:  
network 192.168.2.0  
network 10.10.10.0
- Router 2:  
network 192.168.40.0  
network 192.168.20.0  
network 10.10.10.0
- Router 3:  
network 192.168.40.0  
network 10.20.10.0

### 3. Tes Koneksi ping pada cmd PC :

- 1) Ping dari PC 1 ke PC 5 – Sukses
- 2) Ping dari PC 1 ke PC 7 – Sukses
- 3) Ping dari PC 4 ke PC 2 – Sukses
- 4) Ping dari PC 4 ke PC 8 - Sukses
- 5) Ping dari PC 7 ke PC 3 - Sukses
- 6) ping dari PC 7 ke PC 9 - Sukses

## Kesimpulan

Dari praktikum ini dapat disimpulkan bahwa:

#### 1. Konfigurasi IP Address dan Routing Dinamis yang Tepat

Konfigurasi IP dan protokol routing yang dilakukan dengan benar memungkinkan komunikasi yang stabil antar-router. Pengaturan RIP sebagai protokol routing

#### 2. dinamis berhasil mendistribusikan informasi rute sehingga setiap router dapat mengenali jaringan lain dengan baik.

#### 3. Pengujian Koneksi ICMP sebagai Verifikasi Konektivitas

Pengujian koneksi menggunakan ICMP (ping) membuktikan bahwa koneksi antar- router berfungsi dengan optimal, tanpa packet loss, yang menandakan bahwa konektivitas dan tabel routing bekerja dengan benar.

4. **Efektivitas Protokol RIP untuk Jaringan Sederhana**
5. RIP adalah protokol yang efektif untuk jaringan sederhana seperti dalam praktikum ini. Namun, untuk jaringan yang lebih kompleks, protokol lain yang lebih efisien mungkin lebih cocok.
6. Secara keseluruhan, praktikum ini menunjukkan bahwa dengan konfigurasi IP dan routing yang tepat, jaringan antar-router dapat berfungsi secara optimal dan mendukung komunikasi data yang stabil dan andal

