

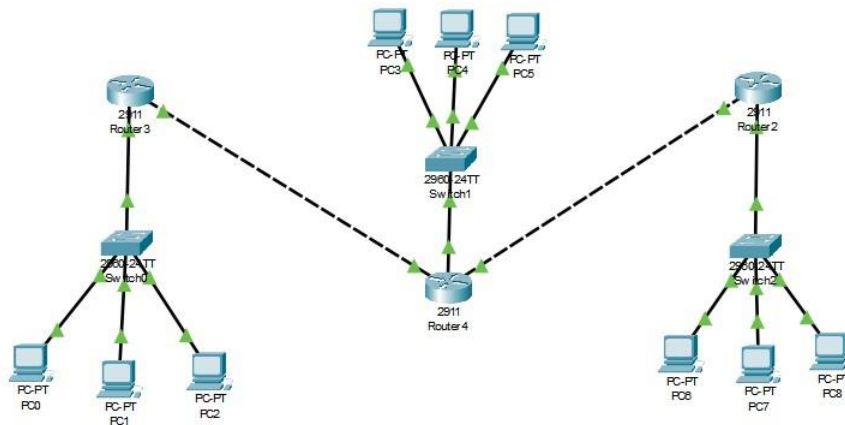
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TOPOLOGI



IP ROUTE DAN TABLE ROUTING 1

```
09010182327013_R1(config-if)#exit
09010182327013_R1(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.2
09010182327013_R1(config)#ip route 10.20.10.0 255.255.255.252 10.10.10.2
09010182327013_R1(config)#ip route 192.168.40.0 255.255.255.0 10.20.10.2
09010182327013_R1(config)#
09010182327013_R1(config)#show ip route

% Invalid input detected at '^' marker.

09010182327013_R1(config)#exit
09010182327013_R1#
%SYS-S-CONFIG_I: Configured from console by console

09010182327013_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
C       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 10.20.10.2

09010182327013_R1#
```

IP ROUTE DAN TABLE ROUTING 2

```
09010182327013_R1(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.2
09010182327013_R1(config)#ip route 10.20.10.0 255.255.255.252 10.10.10.2
09010182327013_R1(config)#ip route 192.168.40.0 255.255.255.0 10.20.10.2
09010182327013_R1(config)#
09010182327013_R1(config)#show ip route
^
% Invalid input detected at '^' marker.

09010182327013_R1(config)#exit
09010182327013_R1#
%SYS-5-CONFIG_I: Configured from console by console

09010182327013_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
```

IP ROUTE DAN TABLE ROUTING 3

```
09010182327013_R3>enable
09010182327013_R3#conf t
Enter configuration commands, one per line. End with CNTL/Z.
09010182327013_R3(config)#ip route 192.168.2.0 255.255.255.0 10.20.10.1
09010182327013_R3(config)#ip route 192.168.20.0 255.255.255.0 10.20.10.1
09010182327013_R3(config)#ip route 10.10.10.0 255.255.255.252 10.20.10.1
09010182327013_R3(config)#exit
09010182327013_R3#
%SYS-5-CONFIG_I: Configured from console by console

09010182327013_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

09010182327013_R3#
```

TES KONEKSI ICMP

NO	SUMBER	TUJUAN	HASIL	
			YA	TIDAK
1	PC1	PC2	YA	
		PC3	YA	
		PC4	YA	
		PC5	YA	
		PC6	YA	
		PC7	YA	
		PC8	YA	
		PC9	YA	

2	PC4	PC1	YA	
		PC2	YA	
		PC3	YA	
		PC5	YA	
		PC6	YA	
		PC7	YA	
		PC8	YA	
		PC9	YA	

3	PC7	PC1	YA	
		PC2	YA	
		PC3	YA	
		PC4	YA	
		PC5	YA	
		PC6	YA	
		PC8	YA	
		PC9	YA	

SCREENSHOT TES PING CMD PADA PC

PC1 -> PC5 DAN PC1 -> PC7

```
C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.2: bytes=32 time=14ms TTL=126
Reply from 192.168.20.2: bytes=32 time=10ms TTL=126
Reply from 192.168.20.2: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 14ms, Average = 8ms

C:\>ping 192.168.40.2

Pinging 192.168.40.2 with 32 bytes of data:

Reply from 192.168.40.2: bytes=32 time<1ms TTL=126
Reply from 192.168.40.2: bytes=32 time=11ms TTL=126
Reply from 192.168.40.2: bytes=32 time=1ms TTL=126
Reply from 192.168.40.2: bytes=32 time=28ms TTL=126

Ping statistics for 192.168.40.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 28ms, Average = 10ms
```

PC4 -> PC2 DAN PC4 -> PC8

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.3: bytes=32 time<1ms TTL=126
Reply from 192.168.2.3: bytes=32 time=10ms TTL=126
Reply from 192.168.2.3: bytes=32 time=10ms TTL=126

Ping statistics for 192.168.2.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 6ms

C:\>ping 192.168.40.3

Pinging 192.168.40.3 with 32 bytes of data:

Request timed out.
Reply from 192.168.40.3: bytes=32 time=13ms TTL=126
Reply from 192.168.40.3: bytes=32 time<1ms TTL=126
Reply from 192.168.40.3: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.40.3:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 13ms, Average = 4ms

C:\>
```

PC7 -> PC3 DAN PC7 -> PC9

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.4

Pinging 192.168.2.4 with 32 bytes of data:

Reply from 192.168.2.4: bytes=32 time=11ms TTL=125
Reply from 192.168.2.4: bytes=32 time<1ms TTL=125
Reply from 192.168.2.4: bytes=32 time=14ms TTL=125
Reply from 192.168.2.4: bytes=32 time=11ms TTL=125

Ping statistics for 192.168.2.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 14ms, Average = 9ms

C:\>ping 192.168.40.4

Pinging 192.168.40.4 with 32 bytes of data:

Reply from 192.168.40.4: bytes=32 time<1ms TTL=128
Reply from 192.168.40.4: bytes=32 time<1ms TTL=128
Reply from 192.168.40.4: bytes=32 time<1ms TTL=128
Reply from 192.168.40.4: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.40.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

ANALISIS

1. Konektivitas Antar-Router Berhasil:

- Berdasarkan topologi, Router 1, Router 2, dan Router 3 terhubung dengan subnet antar-router yang sesuai, yaitu 10.10.10.0/30 antara R1 dan R2, serta 10.20.10.0/30 antara R2 dan R3.
- Setiap router memiliki static route yang mengarahkan paket ke jaringan remote melalui next-hop yang benar.

2. Konektivitas Antar-Jaringan:

- Router 1 mengelola jaringan 192.168.2.0/24, Router 2 mengelola 192.168.20.0/24, dan Router 3 mengelola 192.168.40.0/24.
- Setiap router memiliki rute statis yang memungkinkan mereka mengirimkan dan menerima paket dari jaringan lainnya.

3. Pengujian Ping Berhasil:

- Ping dari PC di jaringan Router 1 ke jaringan Router 2 dan Router 3 berhasil mendapatkan reply, menunjukkan bahwa paket berhasil melewati router perantara dan mencapai tujuan.
- Tidak ada packet loss, yang menunjukkan routing statis telah dikonfigurasi dengan benar.

4. Pengiriman Surat Berhasil:

- Pengiriman data atau surat antar-jaringan juga berhasil, yang berarti selain ping, paket data lainnya dapat melewati jaringan tanpa masalah.

KESIMPULAN

Dengan routing statis yang dikonfigurasi dengan tepat, topologi ini memungkinkan komunikasi penuh antara jaringan Router 1, Router 2, dan Router 3. Semua ping dan pengiriman data berhasil, menunjukkan bahwa jaringan telah saling terhubung dengan benar dan rute yang diatur sesuai fungsi.