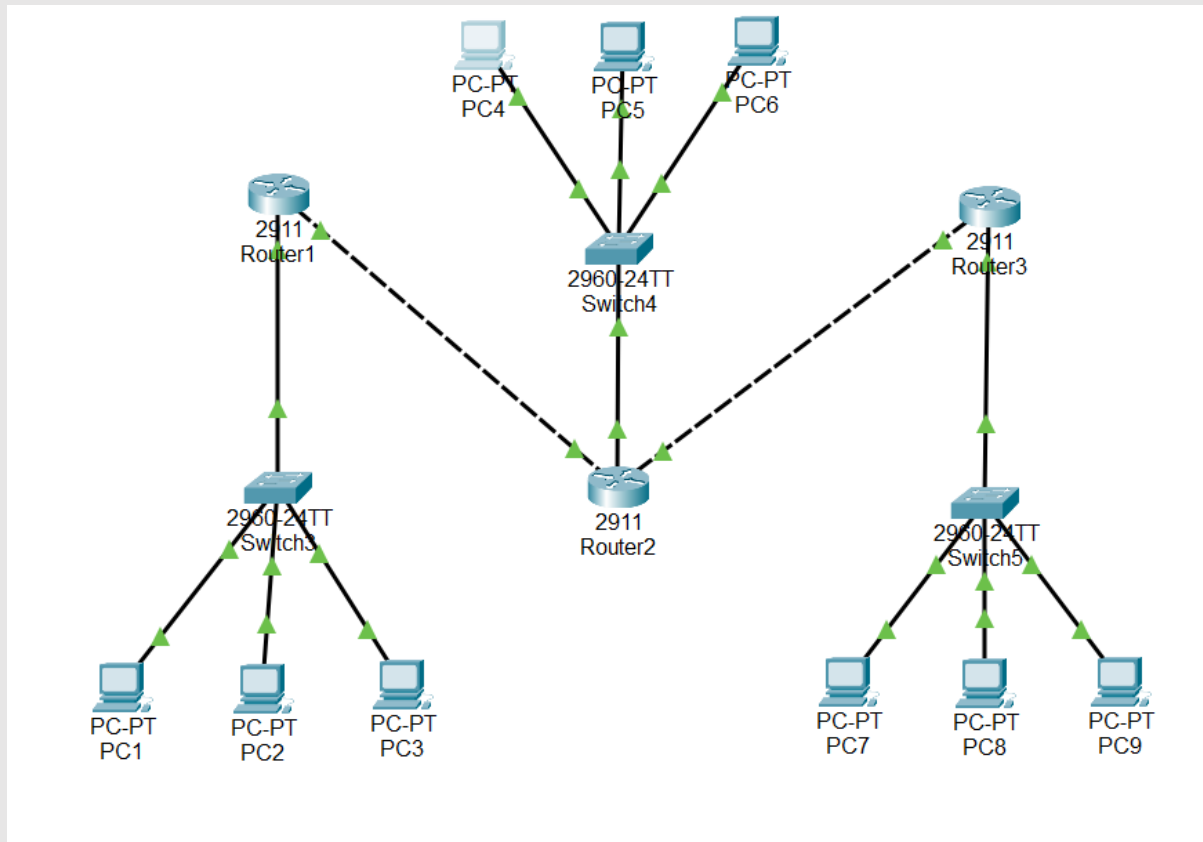


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Laporan Hasil Praktikum



Router 1

```
09010182327008_R1(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.2
09010182327008_R1(config)#ip route 10.20.10.0 255.255.255.252 10.10.10.2
09010182327008_R1(config)#ip route 192.168.40.0 255.255.255.0 10.10.10.2
09010182327008_R1(config)#
```

```
09010182327008_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, 3 masks
C    10.0.0.0/8 is directly connected, GigabitEthernet0/1
L    10.10.10.1/32 is directly connected, GigabitEthernet0/1
S    10.20.10.0/30 [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
```

Router 2

```
09010182327008_R2(config)#ip route 192.168.2.0 255.255.255.0 10.10.10.1
09010182327008_R2(config)#ip route 192.168.40.0 255.255.255.0 10.20.10.2
09010182327008_R2(config)#
```

```
09010182327008_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
```

```
09010182327008_R2#
```

Router 3

```
09010182327008_R3(config)#ip route 192.168.20.0 255.255.255.0 10.20.10.1
09010182327008_R3(config)#ip route 10.10.10.0 255.255.255.252 10.20.10.1
09010182327008_R3(config)#ip route 192.168.2.0 255.255.255.0 10.20.10.1
09010182327008_R3(config)#
```

```
09010182327008_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
```

```
09010182327008_R3#
```

Tes Koneksi ICMP (catat hasil yang anda dapatkan)

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

Screenshot hasil Ping pada cmd PC:

PC1 -> PC5 PC1 -> PC7

```
C:\>ping 192.168.20.3

Pinging 192.168.20.3 with 32 bytes of data:

Reply from 192.168.20.3: bytes=32 time<1ms TTL=126
Reply from 192.168.20.3: bytes=32 time<1ms TTL=126
Reply from 192.168.20.3: bytes=32 time<1ms TTL=126
Reply from 192.168.20.3: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.20.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 192.168.40.3

Pinging 192.168.40.3 with 32 bytes of data:

Reply from 192.168.40.3: bytes=32 time<1ms TTL=125
Reply from 192.168.40.3: bytes=32 time<1ms TTL=125
Reply from 192.168.40.3: bytes=32 time<1ms TTL=125
Reply from 192.168.40.3: bytes=32 time<1ms TTL=125

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

C:\>
```

PC4 -> PC2

PC4 -> PC8

```
C:\>ping 192.168.2.3

Pinging 192.168.2.3 with 32 bytes of data:

Reply from 192.168.2.3: bytes=32 time<1ms TTL=126
Reply from 192.168.2.3: bytes=32 time<1ms TTL=126
Reply from 192.168.2.3: bytes=32 time<1ms TTL=126
Reply from 192.168.2.3: bytes=32 time<1ms TTL=126

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

C:\>ping 192.168.40.3

Pinging 192.168.40.3 with 32 bytes of data:

Reply from 192.168.40.3: bytes=32 time<1ms 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
Reply from 192.168.40.3: bytes=32 time<1ms TTL=126

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

PC7 -> PC3

PC7 -> PC9

```
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<1ms TTL=125
Reply from 192.168.2.4: bytes=32 time<1ms TTL=125
Reply from 192.168.2.4: bytes=32 time<1ms TTL=125
Reply from 192.168.2.4: bytes=32 time<1ms 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 = 0ms, Average = 0ms

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

Hasil Percobaan :

Hasil Konfigurasi router :

Router berhasil dikonfigurasi sesuai dengan alamat ip. Setiap router menampilkan tabel routing yang telah ditambahkan

Hasil Tes koneksi :

Semua koneksi berhasil dan tidak ada masalah saat melakukan pengiriman paket ICMP.

Analisis Percobaan :

Percobaan ini kita melakukan konfigurasi dan uji coba routing statis dalam jaringan yang melibatkan beberapa router dan PC. Tabel routing statis dibuat untuk memungkinkan komunikasi antar jaringan yang tidak terhubung langsung dengan router. Tahapan ini memastikan setiap router dapat menemukan jalur ke jaringan lain melalui entri routing yang diatur secara manual.

Selanjutnya, konektivitas diuji menggunakan ICMP (ping) di antara PC dalam jaringan, dan hasil ping dicatat. Ini memungkinkan verifikasi keberhasilan komunikasi antara perangkat di subnet yang berbeda yang diarahkan melalui router.

Kesimpulan Percobaan :

Berdasarkan hasil percobaan ini, dapat disimpulkan bahwa implementasi routing statis berhasil ketika tabel routing yang sesuai ditambahkan pada router. Pengujian ICMP menunjukkan bahwa perangkat di jaringan berbeda dapat berkomunikasi dengan lancar selama tabel routing statis dikonfigurasi dengan benar. Namun, jika terjadi perubahan pada topologi jaringan atau penambahan jumlah router, tabel tersebut harus diperbarui secara manual untuk mempertahankan konektivitas.