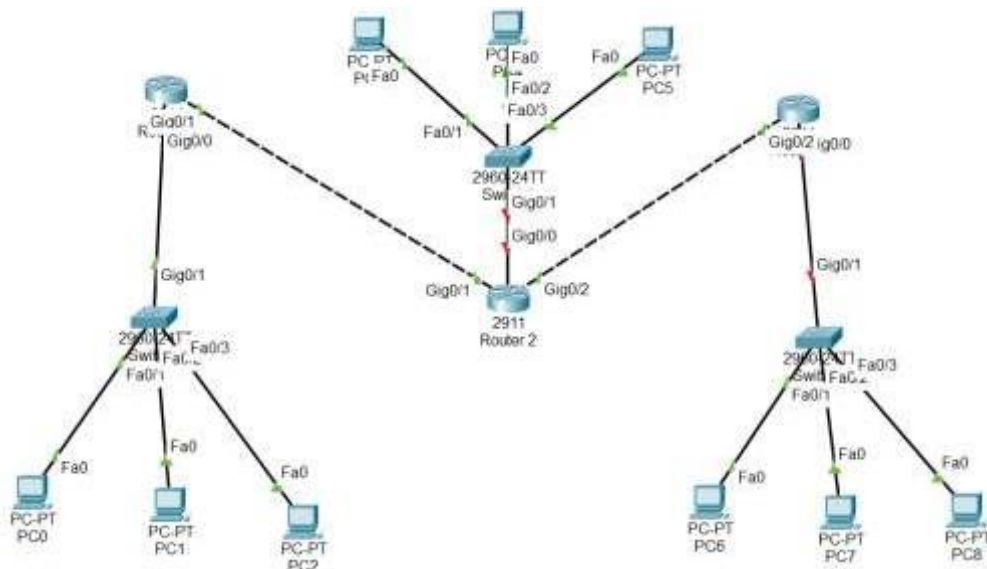


LAPORAN HASIL PRAKTIKUM

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Jurusan : Manajemen Informatika

Judul Percobaan : VLAN

Hasil Percobaan :



Router 1

```
09010282327034_R1(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.2
09010282327034_R1(config)#ip route 10.20.10.0 255.255.255.252 10.10.10.2
09010282327034_R1(config)#ip route 192.168.40.0 255.255.255.0 10.10.10.2
```

```
09010282327034_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
```

Hasil Percobaan :

Router 2

```
09010282327034_R2(config)#ip route 192.168.2.0 255.255.255.0 10.10.10.1
09010282327034_R2(config)#ip route 192.168.40.0 255.255.255.0 10.20.10.2
09010282327034_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

09010282327034_R2#
```

Router 3

```
09010282327034_R3(config)#ip route 192.168.20.0 255.255.255.0 10.20.10.1
09010282327034_R3(config)#ip route 10.10.10.0 255.255.255.252 10.20.10.1
09010282327034_R3(config)#ip route 192.168.2.0 255.255.255.0 10.20.10.1
09010282327034_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
        19.0.0.0/24 is subnetted, 1 subnets
S       19.168.20.0/24 [1/0] via 10.20.10.1
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

09010282327034_R3#
```

Hasill Percobaan :

Tes Koneksi ICMP

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	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 6	Ya	
		PC 8	Ya	
		PC 9	Ya	

Hasil Percobaan :

PC 1

```
PC0
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:

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 = 1ms, 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<1ms 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 = 0ms, Average = 0ms

C:\>
```

PC 4

```
PC3
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:

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 = 0ms, 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:\>
```

PC 7

```
PC6
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 = 0ms, 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:\>
```

Analisi Percobaan :

Percobaan ini berfokus pada konfigurasi dan pengujian routing statis pada jaringan menggunakan beberapa router dan klien PC. Setiap router diberi nama, dikonfigurasi dengan IP Address, dan disimpan ke NVRAM. Tabel routing statis dibuat untuk menghubungkan jaringan yang tidak terkoneksi langsung ke router. Langkah-langkah ini memastikan bahwa setiap router dapat mengenali rute ke jaringan lain melalui entri routing yang dirambahkan secara manual.

Selanjutnya, tes koneksi dilakukan menggunakan ICMP (ping) antara berbagai PC di jaringan dan hasil ping dicatat. Hal ini memungkinkan pengujian keberhasilan komunikasi antara perangkat yang berada pada subnet yang berbeda, yang diarahkan melalui router.

Kesimpulan Percobaan :

Dari percobaan ini, dapat disimpulkan bahwa routing statis berhasil diimplementasikan ketika tabel routing yang tepat ditambahkan ke router. Pengujian ICMP menunjukan bahwa perangkat yang tidak berada di jaringan yang sama secara langsung dapat berkomunikasi dengan baik selama tabel routing statis telah dikonfigurasi dengan benar. Namun, jika ada perubahan pada jaringan atau jumlah router, tabel tersebut perlu diperbarui secara manual.