

NAMA : DEA MUTIA HUJENI
NIM : 09010182327001
KELAS : MI3A
PRAKTIKUM JARINGAN KOMPUTER_ROUTING STATIC

Route 1

```
dea01_R1>
dea01_R1>en
dea01_R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
dea01_R1(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.2
^
% Invalid input detected at '^' marker.

dea01_R1(config)#ip route 192.168.20.0 255.255.255.0 10.10.10.2
dea01_R1(config)#ip route 10.20.10.0 255.255.255.252 10.10.10.2
dea01_R1(config)#ip route 192.168.40.0 255.255.255.0 10.10.10.2
dea01_R1(config)#exit
dea01_R1#
%SYS-5-CONFIG_I: Configured from console by console
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
S       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
```

Route 2

```
dea01_R2>en
dea01_R2>conf t
Enter configuration commands, one per line. End with CNTL/Z.
dea01_R2(config)#ip route 192.168.2.0 255.255.255.0 10.10.10.1
dea01_R2(config)#ip route 192.168.40.0 255.255.255.0 10.20.10.2
dea01_R2(config)#exit
dea01_R2#
%SYS-5-CONFIG_I: Configured from console by console
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
S       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
```

Route 3

```
dea01_R3>en
dea01_R3>conf t
Enter configuration commands, one per line. End with CNTL/Z.
dea01_R3(config)#ip route 192.168.20.0 255.255.255.0 10.20.10.1
dea01_R3(config)#ip route 192.168.2.0 255.255.255.0 10.20.10.1
dea01_R3(config)#exit
dea01_R3#
%SYS-5-CONFIG_I: Configured from console by console
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
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
S       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

dea01_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	

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

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

PC1 > PC5

```
Cisco Packet Tracer PC Command Line 1.0
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=6ms 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 = 6ms, Average = 1ms
```

PC1 > PC7

```
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=125
Reply from 192.168.40.2: bytes=32 time<1ms TTL=125
Reply from 192.168.40.2: bytes=32 time<1ms TTL=125
Reply from 192.168.40.2: bytes=32 time<1ms TTL=125

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 = 0ms, Average = 0ms
```

PC4 > PC2

```
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
```

PC4 > PC8

```
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 = 1ms, Average = 0ms
```

PC7 > PC3

```
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<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
```

PC7 > PC9

```
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 = 0ms, Average = 0ms
```

HASIL PERCOBAAN

Hasil percobaan pengujian koneksi ICMP antar perangkat dalam versi kalimat yang berbeda tetapi tetap memiliki makna yang sama:

- a. PC 1 > PC 5: Koneksi berhasil, menunjukkan bahwa routing antar subnet yang menghubungkan PC 1 dan PC 5 sudah dikonfigurasi dengan benar di router terkait. Tidak ditemukan kendala dalam pengiriman paket ICMP antar kedua perangkat ini.
- b. PC 1 > PC 7: Koneksi berhasil, menandakan bahwa konfigurasi routing antar subnet yang menghubungkan PC 1 dan PC 7 sudah tepat di router terkait. Tidak ada masalah yang ditemukan dalam pengiriman paket ICMP antara kedua PC.
- c. PC 4 > PC 2: Koneksi berjalan lancar, menunjukkan bahwa routing dari PC 4 ke PC 2 sesuai dengan konfigurasi rute yang ditetapkan. Paket ICMP antara PC 4 dan PC 2 berhasil dikirimkan dan dibalas dengan baik.
- d. PC 4 > PC 8: Pengujian ini berhasil, menandakan bahwa routing dari PC 4 ke PC 8 sudah terkonfigurasi dengan benar pada seluruh router yang terlibat. Paket data dapat mencapai tujuan tanpa hambatan.
- e. PC 7 > PC 3: Koneksi berhasil, yang menandakan jalur routing dari PC 7 ke PC 3 telah diatur dengan benar. Data dapat dikirimkan antar subnet tanpa kendala.
- f. PC 7 > PC 9: Pengujian koneksi berhasil, menunjukkan bahwa konfigurasi routing antara PC 7 dan PC 9 sudah benar. Paket ICMP berhasil mencapai tujuan dan mendapat balasan.

ANALISIS PERCOBAAN

Hasil pengujian menunjukkan bahwa konfigurasi *routing* statis pada perangkat telah berhasil diterapkan dengan benar. Setiap perangkat yang diuji berhasil terhubung melalui koneksi ICMP, yang menandakan bahwa tabel *routing* di setiap router telah diatur dengan tepat untuk memastikan lalu lintas data antar jaringan berjalan sesuai rute yang ditentukan. Tujuan utama dari percobaan ini adalah untuk memastikan semua perangkat di jaringan dapat berkomunikasi satu sama lain, meskipun berada pada subnet yang berbeda, dengan menggunakan *routing* statis. Pengujian koneksi dilakukan menggunakan ping (ICMP Echo Request) untuk memastikan bahwa setiap perangkat dapat saling berkomunikasi. Hasil pengujian menunjukkan bahwa koneksi antar perangkat di subnet yang berbeda berjalan dengan baik.

KESIMPULAN

Dalam percobaan ini, konfigurasi *routing* statis telah berhasil digunakan untuk menghubungkan beberapa subnet yang terdiri dari perangkat-perangkat komputer. Pengujian koneksi antar perangkat melalui ICMP (ping) membuktikan bahwa konfigurasi *routing* statis berfungsi dengan baik. Semua perangkat yang diuji, termasuk PC 1, PC 2, PC 3, PC 4, PC 5, PC 6, PC 7, PC 8, dan PC 9, dapat saling berkomunikasi tanpa ada masalah.