

ROUTING DENGAN SETTING EIGRP DAN OSPF (MENGUNAKAN BANDWITDH DAN COST)

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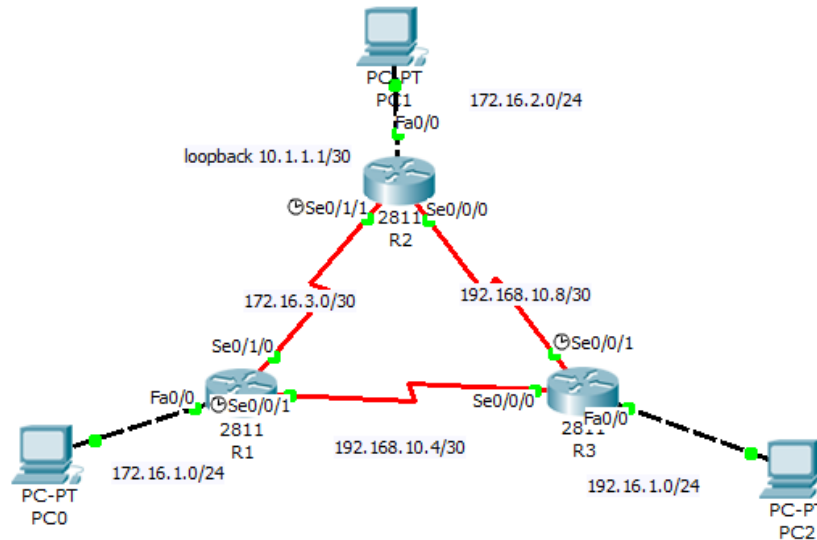
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1. ROUTER DENGAN SETTING EIGRP



1. R1

A. SHOW RUNNING-CONFIG

```

R1#show running-config
Building configuration...

Current configuration : 821 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R1
!
interface FastEthernet0/0
 ip address 172.16.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 no ip address
 shutdown
!
interface Serial0/0/1
 ip address 192.168.10.6 255.255.255.252
 clock rate 64000
!
interface Serial0/1/0
 ip address 172.16.3.2 255.255.255.252
!
interface Serial0/1/1
 no ip address
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 1
 network 172.16.1.0 0.0.0.255
 network 172.16.3.0 0.0.0.3
 network 192.168.10.4 0.0.0.3
 auto-summary
!
ip classless
!
end
    
```

B. SHOW IP ROUTE

```
R1#show ip route
Codes: C - connected, S - static, I - IGRP, 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

```
D 10.0.0.0/8 [90/2297856] via 172.16.3.1, 00:25:17, Serial0/1/0
  172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
D   172.16.0.0/16 is a summary, 00:25:17, Null0
C   172.16.1.0/24 is directly connected, FastEthernet0/0
D   172.16.2.0/24 [90/2172416] via 172.16.3.1, 00:25:17, Serial0/1/0
C   172.16.3.0/30 is directly connected, Serial0/1/0
D   192.16.1.0/24 [90/2172416] via 192.168.10.5, 00:25:17, Serial0/0/1
  192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks
D   192.168.10.0/24 is a summary, 00:25:17, Null0
C   192.168.10.4/30 is directly connected, Serial0/0/1
D   192.168.10.8/30 [90/2681856] via 192.168.10.5, 00:25:17, Serial0/0/1
R1#
```

D 10.0.0.0/8 [90/2297856] via 172.16.3.1, 00:00:21, Serial0/1/0

172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks

→ Network 10.0.0.0/8 diroutingkan melalui next hop 172.16.3.1 pada interface serial0/1/0

D 172.16.0.0/16 is a summary, 00:00:23, Null0

→ Network 172.16.0.0/16 diringkas pada Null0

C 172.16.1.0/24 is directly connected, FastEthernet0/0

→ Network 172.16.1.0 terhubung langsung dengan R1 dengan interface FastEthernet0/0

D 172.16.2.0/24 [90/2172416] via 172.16.3.1, 00:00:21, Serial0/1/0

→ Network 172.16.2.0 diroutingkan melalui Next Hop 172.16.3.1 pada interface serial0/1/0

C 172.16.3.0/30 is directly connected, Serial0/1/0

→ Network 172.16.3.0 terhubung langsung dengan R1 dengan interface Serial0/1/0

D 192.16.1.0/24 [90/2172416] via 192.168.10.5, 00:00:23, Serial0/0/1

→ Network 192.16.1.0 diroutingkan melalui Next Hop 192.168.10.5 pada interface serial0/0/1

192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks

D 192.168.10.0/24 is a summary, 00:00:23, Null0

→ Network 192.168.10.0/16 diringkas pada Null0

C 192.168.10.4/30 is directly connected, Serial0/0/1

→ Network 192.168.10.4 terhubung langsung dengan R1 dengan interface Serial0/0/1

D 192.168.10.8/30 [90/2681856] via 192.168.10.5, 00:00:23, Serial0/0/1

→ Network 192.168.10.8 diroutingkan melalui Next Hop 192.168.10.5 pada interface serial0/0/1

C. TABEL ROUTING

Type	Network	Port	Next Hop IP	Metric
C	172.16.1.0/24	FastEthernet0/0	---	0/0
C	172.16.3.0/30	Serial0/1/0	---	0/0
C	192.168.10.4/30	Serial0/0/1	---	0/0
D	10.0.0.0/8	Serial0/1/0	172.16.3.1	90/2297856
D	172.16.0.0/16	Null0	---	5/28160
D	172.16.2.0/24	Serial0/1/0	172.16.3.1	90/2172416
D	192.16.1.0/24	Serial0/0/1	192.168.10.5	90/2172416
D	192.168.10.0/24	Null0	---	5/2169856
D	192.168.10.8/30	Serial0/0/1	192.168.10.5	90/2681856

2. R2

A. SHOW RUNNING-CONFIG

```
R2#show running-config
Building configuration...
```

```
Current configuration : 919 bytes
```

```
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R2
!
interface Loopback1
 ip address 10.1.1.1 255.255.255.252
!
interface FastEthernet0/0
 ip address 172.16.2.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 192.168.10.9 255.255.255.252
!
```

```
interface Serial0/0/1
 no ip address
 shutdown
!
interface Serial0/1/0
 no ip address
 shutdown
!
interface Serial0/1/1
 ip address 172.16.3.1 255.255.255.252
 clock rate 64000
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 1
 network 172.16.3.0 0.0.0.3
 network 192.168.10.8 0.0.0.3
 network 10.1.1.0 0.0.0.3
 network 172.16.2.0 0.0.0.255
 auto-summary
!
router rip
!
 ip classless
!
 line con 0
 line vty 0 4
 login
!
end
```

B. SHOW IP ROUTE

```
R2>show ip route
Codes: C - connected, S - static, I - IGRP, 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
D       10.0.0.0/8 is a summary, 03:31:49, Null0
C       10.1.1.0/30 is directly connected, Loopback1
    172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
D       172.16.0.0/16 is a summary, 03:31:49, Null0
D       172.16.1.0/24 [90/2172416] via 172.16.3.2, 00:35:32, Serial0/1/1
C       172.16.2.0/24 is directly connected, FastEthernet0/0
C       172.16.3.0/30 is directly connected, Serial0/1/1
D       192.16.1.0/24 [90/2172416] via 192.168.10.10, 00:35:32, Serial0/0/0
    192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks
D       192.168.10.0/24 is a summary, 00:35:32, Null0
D       192.168.10.4/30 [90/2681856] via 192.168.10.10, 00:35:32, Serial0/0/0
C       192.168.10.8/30 is directly connected, Serial0/0/0
R2>|
```

10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

D 10.0.0.0/8 is a summary, 00:00:22, Null0

→ Network 10.0.0.0/8 diringkas pada Null0

C 10.1.1.0/30 is directly connected, Loopback1

→ Network 10.1.1.0/30 terhubung langsung dengan R1 dengan interface Loopback1

172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks

D 172.16.0.0/16 is a summary, 00:00:22, Null0

→ Network 172.16.0.0/16 diringkas pada Null0

D 172.16.1.0/24 [90/2172416] via 172.16.3.2, 00:00:17, Serial0/1/1

→ Network 172.16.1.0 diroutingkan melalui Next Hop 172.16.3.2 pada interface serial0/1/1

C 172.16.2.0/24 is directly connected, FastEthernet0/0

→ Network 172.16.2.0/24 terhubung langsung dengan R1 dengan interface FastEthernet0/0

C 172.16.3.0/30 is directly connected, Serial0/1/1

→ Network 172.16.3.0/30 terhubung langsung dengan R1 dengan interface Serial0/1/1

D 192.16.1.0/24 [90/2172416] via 192.168.10.10, 00:00:13, Serial0/0/0

→ Network 192.16.1.0 diroutingkan melalui Next Hop 192.168.10.10 pada interface serial0/0/0

192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks

D 192.168.10.0/24 is a summary, 00:00:22, Null0

→ Network 192.168.10.0/24 diringkas pada Null0

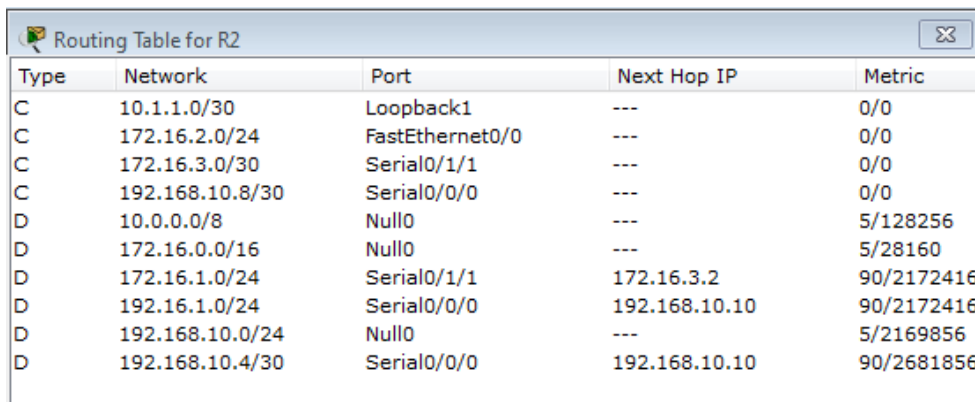
D 192.168.10.4/30 [90/2681856] via 192.168.10.10, 00:00:13, Serial0/0/0

→ Network 192.168.10.4 diroutingkan melalui Next Hop 192.168.10.10 pada interface serial0/0/0

C 192.168.10.8/30 is directly connected, Serial0/0/0

→ Network 192.168.10.8/30 terhubung langsung dengan R1 dengan interface Serial0/0/0

C. TABEL ROUTING



Type	Network	Port	Next Hop IP	Metric
C	10.1.1.0/30	Loopback1	---	0/0
C	172.16.2.0/24	FastEthernet0/0	---	0/0
C	172.16.3.0/30	Serial0/1/1	---	0/0
C	192.168.10.8/30	Serial0/0/0	---	0/0
D	10.0.0.0/8	Null0	---	5/128256
D	172.16.0.0/16	Null0	---	5/28160
D	172.16.1.0/24	Serial0/1/1	172.16.3.2	90/2172416
D	192.16.1.0/24	Serial0/0/0	192.168.10.10	90/2172416
D	192.168.10.0/24	Null0	---	5/2169856
D	192.168.10.4/30	Serial0/0/0	192.168.10.10	90/2681856

3. R3

A. SHOW RUNNING-CONFIG

```
R3#show running-config
Building configuration...

Current configuration : 718 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R3
!
interface FastEthernet0/0
 ip address 192.16.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 ip address 192.168.10.5 255.255.255.252
!

interface Serial0/0/1
 ip address 192.168.10.10 255.255.255.252
 clock rate 64000
!
interface Vlan1
 no ip address
 shutdown
!
router eigrp 1
 network 192.168.10.4 0.0.0.3
 network 192.168.10.8 0.0.0.3
 network 192.16.1.0
 auto-summary
!
ip classless
!
line con 0
line vty 0 4
 login
!
end
```

B. SHOW IP ROUTE

```
R3#show ip route
Codes: C - connected, S - static, I - IGRP, 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

D    10.0.0.0/8 [90/2297856] via 192.168.10.9, 00:42:23, Serial0/0/1
D    172.16.0.0/16 [90/2172416] via 192.168.10.6, 00:42:23, Serial0/0/0
      [90/2172416] via 192.168.10.9, 00:42:23, Serial0/0/1
C    192.16.1.0/24 is directly connected, FastEthernet0/0
      192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks
D    192.168.10.0/24 is a summary, 00:42:23, Null0
C    192.168.10.4/30 is directly connected, Serial0/0/0
C    192.168.10.8/30 is directly connected, Serial0/0/1
```

D 10.0.0.0/8 [90/2297856] via 192.168.10.9, 00:23:55, Serial0/0/1

→ Network 10.0.0.0/8 diroutingkan melalui Next Hop 192.168.10.9 pada interface serial0/0/1

D 172.16.0.0/16 [90/2172416] via 192.168.10.6, 00:23:56, Serial0/0/0

[90/2172416] via 192.168.10.9, 00:23:55, Serial0/0/1

→ Network 172.16.0.0 diroutingkan melalui Next Hop 192.168.10.6 pada interface serial0/0/0 dan melalui next hop 192.168.10.9 pada interface serial0/0/1

C 192.16.1.0/24 is directly connected, FastEthernet0/0

→ Network 192.16.1.0/24 langsung terhubung ke R3 pada interface FastEthernet0/0

192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks

D 192.168.10.0/24 is a summary, 00:24:04, Null0

→ Network 192.168.10.0/24 diringkas pada Null0

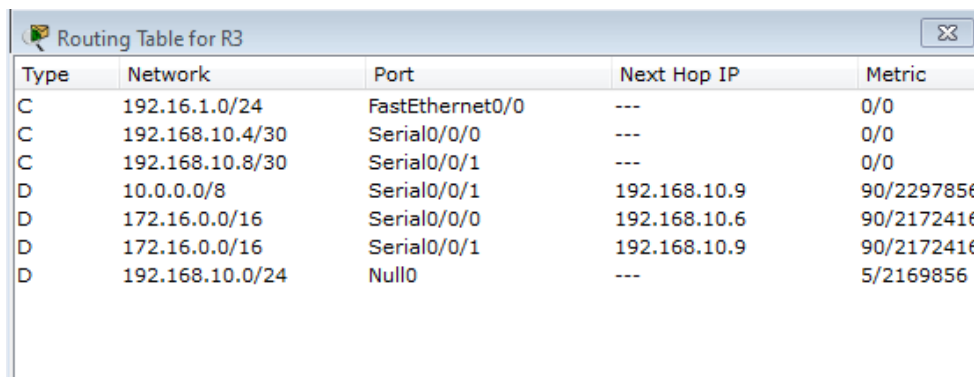
C 192.168.10.4/30 is directly connected, Serial0/0/0

→ Network 192.168.10.4/30 langsung terhubung ke R3 pada interface serial0/0/0

C 192.168.10.8/30 is directly connected, Serial0/0/1

→ Network 192.168.10.8/30 langsung terhubung ke R3 pada interface serial0/0/1

C. TABEL ROUTING



Type	Network	Port	Next Hop IP	Metric
C	192.16.1.0/24	FastEthernet0/0	---	0/0
C	192.168.10.4/30	Serial0/0/0	---	0/0
C	192.168.10.8/30	Serial0/0/1	---	0/0
D	10.0.0.0/8	Serial0/0/1	192.168.10.9	90/2297856
D	172.16.0.0/16	Serial0/0/0	192.168.10.6	90/2172416
D	172.16.0.0/16	Serial0/0/1	192.168.10.9	90/2172416
D	192.168.10.0/24	Null0	---	5/2169856

4. PING ROUTER Dari R1 ke semua Router

R1#ping 172.16.3.1

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 172.16.3.1, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 5/10/30 ms

R1#ping 192.168.10.9

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.10.9, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 5/8/13 ms

R1#ping 192.168.10.10

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.10.10, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/5 ms

R1#ping 192.168.10.5

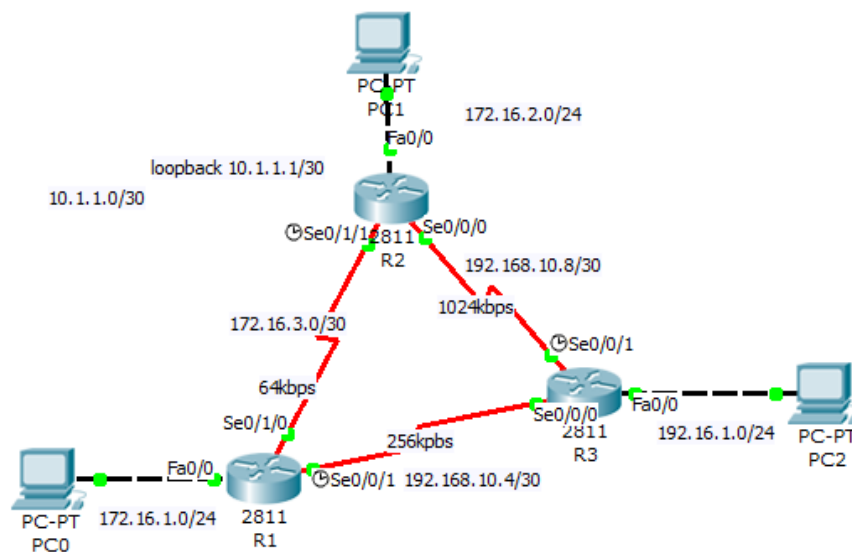
Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.10.5, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/5/13 ms

2. ROUTER DENGAN SETTING OSPF Dengan Bandwidth dan COST



1. R1

A. SHOW RUNNING-CONFIG

```
R1#show running-config
Building configuration...

Current configuration : 918 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R1
!
interface FastEthernet0/0
 ip address 172.16.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 no ip address
 shutdown
!
interface Serial0/0/1
 bandwidth 256
 ip address 192.168.10.6 255.255.255.252
 ip ospf cost 391
 clock rate 64000
!
```

```
interface Serial0/1/0
 bandwidth 64
 ip address 172.16.3.2 255.255.255.252
 ip ospf cost 1562
!
interface Serial0/1/1
 no ip address
 shutdown
!
interface Vlan1
 no ip address
 shutdown
!
router ospf 123
 log-adjacency-changes
 network 172.16.3.0 0.0.0.3 area 0
 network 192.168.10.4 0.0.0.3 area 0
 network 172.16.1.0 0.0.0.255 area 0
!
ip classless
!
line con 0
line vty 0 4
 login
!
end
```

B. SHOW IP ROUTE

```
R1>en
R1#show ip route
Codes: C - connected, S - static, I - IGRP, 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

    172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
C       172.16.1.0/24 is directly connected, FastEthernet0/0
O       172.16.2.0/24 [110/489] via 192.168.10.5, 00:59:19, Serial0/0/1
C       172.16.3.0/30 is directly connected, Serial0/1/0
O       192.16.1.0/24 [110/392] via 192.168.10.5, 00:59:19, Serial0/0/1
    192.168.10.0/30 is subnetted, 2 subnets
C       192.168.10.4 is directly connected, Serial0/0/1
O       192.168.10.8 [110/488] via 192.168.10.5, 00:59:19, Serial0/0/1
R1#
```

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

- C 172.16.1.0/24 is directly connected, FastEthernet0/0
 → Network 172.16.1.0 langsung terkoneksi dengan R1 pada interface FastEthernet0/0
- O 172.16.2.0/24 [110/489] via 192.168.10.5, 00:00:04, Serial0/0/1
 → Network 172.16.2.0/24 diroutingkan melalui next hop 192.168.10.5 pada interface serial0/0/1, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/489
- C 172.16.3.0/30 is directly connected, Serial0/1/0
 → Network 172.16.3.0 langsung terhubung langsung dengan R1 pada interface serial0/1/0
- O 192.16.1.0/24 [110/392] via 192.168.10.5, 00:00:04, Serial0/0/1
 → Network 192.16.21.0/24 diroutingkan melalui next hop 192.168.10.5 pada interface serial0/0/1, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/392
- 192.168.10.0/30 is subnetted, 2 subnets
- C 192.168.10.4 is directly connected, Serial0/0/1
 → Network 192.168.10.4 langsung terhubung langsung dengan R1 pada interface serial0/0/1
- O 192.168.10.8 [110/488] via 192.168.10.5, 00:00:04, Serial0/0/1
 → Network 192.168.10.8 diroutingkan melalui next hop 192.168.10.5 pada interface serial0/0/1, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/488

C. TABEL ROUTING

Type	Network	Port	Next Hop IP	Metric
C	172.16.1.0/24	FastEthernet0/0	---	0/0
C	172.16.3.0/30	Serial0/1/0	---	0/0
C	192.168.10.4/30	Serial0/0/1	---	0/0
O	172.16.2.0/24	Serial0/0/1	192.168.10.5	110/488
O	192.16.1.0/24	Serial0/0/1	192.168.10.5	110/391
O	192.168.10.8/30	Serial0/0/1	192.168.10.5	110/487

2. R2

A. SHOW RUNNING-CONFIG

```
R2#sh run
Building configuration...

Current configuration : 990 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R2
!
interface Loopback1
 ip address 10.1.1.1 255.255.255.252
!
interface FastEthernet0/0
 ip address 172.16.2.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 bandwidth 1024
 ip address 192.168.10.9 255.255.255.252
 ip ospf cost 98
!
interface Serial0/0/1
 no ip address
 shutdown
!
```

```
interface Serial0/1/0
 no ip address
 shutdown
!
interface Serial0/1/1
 bandwidth 64
 ip address 172.16.3.1 255.255.255.252
 ip ospf cost 1562
 clock rate 64000
!
interface Vlan1
 no ip address
 shutdown
!
router ospf 123
 log-adjacency-changes
 network 172.16.3.0 0.0.0.3 area 0
 network 192.168.10.8 0.0.0.3 area 0
 network 172.16.2.0 0.0.0.255 area 0
!
router rip
!
ip classless
!
line con 0
line vty 0 4
 login
!
end
```

B. SHOW IP ROUTE

```
R2#show ip route
Codes: C - connected, S - static, I - IGRP, 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

10.0.0.0/30 is subnetted, 1 subnets
C    10.1.1.0 is directly connected, Loopback1
172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
O    172.16.1.0/24 [110/488] via 192.168.10.10, 00:16:56, Serial0/0/0
C    172.16.2.0/24 is directly connected, FastEthernet0/0
C    172.16.3.0/30 is directly connected, Serial0/1/1
O    192.16.1.0/24 [110/98] via 192.168.10.10, 00:16:56, Serial0/0/0
192.168.10.0/30 is subnetted, 2 subnets
O    192.168.10.4 [110/487] via 192.168.10.10, 00:16:56, Serial0/0/0
C    192.168.10.8 is directly connected, Serial0/0/0
R2#
```

10.0.0.0/30 is subnetted, 1 subnets

C 10.1.1.0 is directly connected, Loopback1

- Network 10.1.1.0 langsung terkoneksi dengan R2 pada interface Loopback1
- 172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
- O 172.16.1.0/24 [110/489] via 192.168.10.10, 00:05:15, Serial0/0/0
- Network 172.16.1.0/24 diroutingkan melalui next hop 192.168.10.10 pada interface serial0/0/0, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/489
- C 172.16.2.0/24 is directly connected, FastEthernet0/0
- Network 172.16.2.0/24 langsung terkoneksi dengan R2 pada interface FastEthernet0/0
- C 172.16.3.0/30 is directly connected, Serial0/1/1
- Network 172.16.3.0/30 langsung terkoneksi dengan R2 pada interface Serial0/1/1
- O 192.16.1.0/24 [110/99] via 192.168.10.10, 00:05:15, Serial0/0/0
- Network 192.16.1.0/24 diroutingkan melalui next hop 192.168.10.10 pada interface serial0/0/0, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/99
- 192.168.10.0/30 is subnetted, 2 subnets
- O 192.168.10.4 [110/488] via 192.168.10.10, 00:05:15, Serial0/0/0
- Network 192.168.1.4 diroutingkan melalui next hop 192.168.10.10 pada interface serial0/0/0, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/488
- C 192.168.10.8 is directly connected, Serial0/0/0
- Network 192.168.10.8/30 langsung terkoneksi dengan R2 pada interface Serial0/0/0

C. TABEL ROUTING

Type	Network	Port	Next Hop IP	Metric
C	10.1.1.0/30	Loopback1	---	0/0
C	172.16.2.0/24	FastEthernet0/0	---	0/0
C	172.16.3.0/30	Serial0/1/1	---	0/0
C	192.168.10.8/30	Serial0/0/0	---	0/0
O	172.16.1.0/24	Serial0/0/0	192.168.10.10	110/488
O	192.16.1.0/24	Serial0/0/0	192.168.10.10	110/98
O	192.168.10.4/30	Serial0/0/0	192.168.10.10	110/487

3. R3

A. SHOW RUNNING-CONFIG

```
R3#show running-config
Building configuration...

Current configuration : 825 bytes
!
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname R3
!
interface FastEthernet0/0
 ip address 192.16.1.1 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet0/1
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial0/0/0
 bandwidth 256
 ip address 192.168.10.5 255.255.255.252
 ip ospf cost 391
!
interface Serial0/0/1
 bandwidth 1024
 ip address 192.168.10.10 255.255.255.252
 ip ospf cost 98
 clock rate 64000
!
interface Vlan1
 no ip address
 shutdown
!
router ospf 123
 log-adjacency-changes
 network 192.168.10.8 0.0.0.3 area 0
 network 192.168.10.4 0.0.0.3 area 0
 network 192.16.1.0 0.0.0.255 area 0
!
 ip classless
!
 line con 0
 line vty 0 4
 login
!
end
```

B. SHOW IP ROUTE

```
R3#show ip route
Codes: C - connected, S - static, I - IGRP, 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

```
       172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
O       172.16.1.0/24 [110/392] via 192.168.10.6, 00:18:11, Serial0/0/0
O       172.16.2.0/24 [110/99] via 192.168.10.9, 00:17:52, Serial0/0/1
O       172.16.3.0/30 [110/1660] via 192.168.10.9, 00:17:52, Serial0/0/1
C       192.16.1.0/24 is directly connected, FastEthernet0/0
       192.168.10.0/30 is subnetted, 2 subnets
C       192.168.10.4 is directly connected, Serial0/0/0
C       192.168.10.8 is directly connected, Serial0/0/1
R3#
```

172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks

O 172.16.1.0/24 [110/392] via 192.168.10.6, 00:18:11, Serial0/0/0

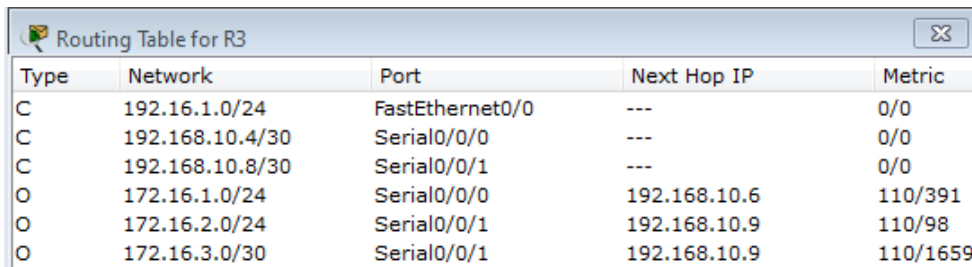
→ Network 172.16.1.0/24 diroutingkan melalui next hop 192.168.10.6 pada interface serial0/0/0, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/392

O 172.16.2.0/24 [110/99] via 192.168.10.9, 00:17:52, Serial0/0/1

→ Network 172.16.2.0/24 diroutingkan melalui next hop 192.168.10.9 pada interface serial0/0/1, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/99

- O 172.16.3.0/30 [110/1660] via 192.168.10.9, 00:17:52, Serial0/0/1
→ Network 172.16.3.0/30 diroutingkan melalui next hop 192.168.10.9 pada interface serial0/0/1, melalui ini karena merupakan jalur terpendek yang dilewati dengan cost 110/1660
- C 192.16.1.0/24 is directly connected, FastEthernet0/0
→ Network 192.16.1.0/24 langsung terhubung dengan R3 pada interface FastEthernet0/0
192.168.10.0/30 is subnetted, 2 subnets
- C 192.168.10.4 is directly connected, Serial0/0/0
→ Network 192.168.10.4 langsung terhubung dengan R3 pada interface Serial0/0/0
- C 192.168.10.8 is directly connected, Serial0/0/1
→ Network 192.168.10.8 langsung terhubung dengan R3 pada interface Serial0/0/1

C. TABEL ROUTING



Type	Network	Port	Next Hop IP	Metric
C	192.16.1.0/24	FastEthernet0/0	---	0/0
C	192.168.10.4/30	Serial0/0/0	---	0/0
C	192.168.10.8/30	Serial0/0/1	---	0/0
O	172.16.1.0/24	Serial0/0/0	192.168.10.6	110/391
O	172.16.2.0/24	Serial0/0/1	192.168.10.9	110/98
O	172.16.3.0/30	Serial0/0/1	192.168.10.9	110/1659

4. PING ROUTER Dari R1 ke semua Router

R1#ping 172.16.3.1

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 172.16.3.1, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 5/10/30 ms

R1#ping 192.168.10.9

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.10.9, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 5/8/13 ms

R1#ping 192.168.10.10

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.10.10, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/5 ms

R1#ping 192.168.10.5

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 192.168.10.5, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/5/13 ms

Biografi Penulis



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