

PRAKTIKUM JARINGAN KOMPUTER PERTEMUAN KE-13

Nama : Tarisa Dwi Septia

NIM : 205410126

DYNAMIC ROUTING DENGAN OSPF

Praktik

1. Konfigurasi Router

- R1

```
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fa0/0
Router(config-if)#ip add 172.16.0.1 255.255.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

Router(config-if)#interface ser2/0
Router(config-if)#ip add 172.17.0.1 255.255.0.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#clock rate 64000
Router(config-if)#no shut
Router(config)#router ospf 1
Router(config-router)#network 172.16.0.0 0.0.255.255 area 0
Router(config-router)#network 172.17.0.0 0.0.255.255 area 0
Router(config-router)#
```

- R2

```
Router(config)#interface fa0/0
Router(config-if)#ip add 172.18.0.1 255.255.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

Router(config-if)#interface ser2/0
Router(config-if)#ip add 172.17.0.2 255.255.0.0
Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, change
state to up

Router(config-if)#interface ser3/0
Router(config-if)#ip add 172.19.0.1 255.255.0.0
Router(config-if)#clock rate 64000
Router(config-if)#no shut
Router(config-router)#router ospf 1
Router(config-router)#network 172.17.0.0 0.0.255.255 area 0
Router(config-router)#network 172.18.0.0 0.0.255.255 area 0
Router(config-router)#network 172.19.0.0 0.0.255.255 area 0
Router(config-router)#
```

```

- R3
Router(config)#interface fa0/0
Router(config-if)#ip add 172.20.0.1 255.255.0.0
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, chan

%LINEPROTO-5-UPDOWN: Line protocol on Interface
changed state to up

Router(config-if)#interface ser2/0
Router(config-if)#ip add 172.19.0.2 255.255.0.0
Router(config-if)#clock rate 64000
This command applies only to DCE interfaces
Router(config-if)#no shut
Router(config-router)#router ospf 1
Router(config-router)#network 172.19.0.0 0.0.255.255 area 0
Router(config-router)#network 172.20.0.0 0.0.255.255 area 0
Router(config-router)#

```

2. Test Ping

- PC 0 – PC 2 & PC 0 – PC 4

```

Packet Tracer PC Command Line 1.0
C:\>ping 172.18.0.10

Pinging 172.18.0.10 with 32 bytes of data:

Request timed out.
Reply from 172.18.0.10: bytes=32 time=1ms TTL=126
Reply from 172.18.0.10: bytes=32 time=2ms TTL=126
Reply from 172.18.0.10: bytes=32 time=1ms TTL=126

Ping statistics for 172.18.0.10:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>
C:\>ping 172.20.0.10

Pinging 172.20.0.10 with 32 bytes of data:

Reply from 172.20.0.10: bytes=32 time=3ms TTL=125
Reply from 172.20.0.10: bytes=32 time=3ms TTL=125
Reply from 172.20.0.10: bytes=32 time=3ms TTL=125
Reply from 172.20.0.10: bytes=32 time=2ms TTL=125

Ping statistics for 172.20.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 3ms, Average = 2ms

```

- PC2 – PC 1 & PC2 – PC 5

```

C:\>ping 172.16.0.11

Pinging 172.16.0.11 with 32 bytes of data:

Reply from 172.16.0.11: bytes=32 time=1ms TTL=126
Reply from 172.16.0.11: bytes=32 time=1ms TTL=126
Reply from 172.16.0.11: bytes=32 time=2ms TTL=126
Reply from 172.16.0.11: bytes=32 time=3ms TTL=126

Ping statistics for 172.16.0.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 3ms, Average = 1ms

C:\>ping 172.20.0.11

Pinging 172.20.0.11 with 32 bytes of data:

Request timed out.
Reply from 172.20.0.11: bytes=32 time=2ms TTL=126
Reply from 172.20.0.11: bytes=32 time=2ms TTL=126
Reply from 172.20.0.11: bytes=32 time=10ms TTL=126

Ping statistics for 172.20.0.11:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 10ms, Average = 4ms

```

- PC 5 – PC0 & PC5 – PC2

```

Packet Tracer PC Command Line 1.0
C:\>ping 172.16.0.10

Pinging 172.16.0.10 with 32 bytes of data:

Reply from 172.16.0.10: bytes=32 time=3ms TTL=125
Reply from 172.16.0.10: bytes=32 time=11ms TTL=125
Reply from 172.16.0.10: bytes=32 time=3ms TTL=125
Reply from 172.16.0.10: bytes=32 time=2ms TTL=125

Ping statistics for 172.16.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 11ms, Average = 4ms

C:\>ping 172.18.0.10

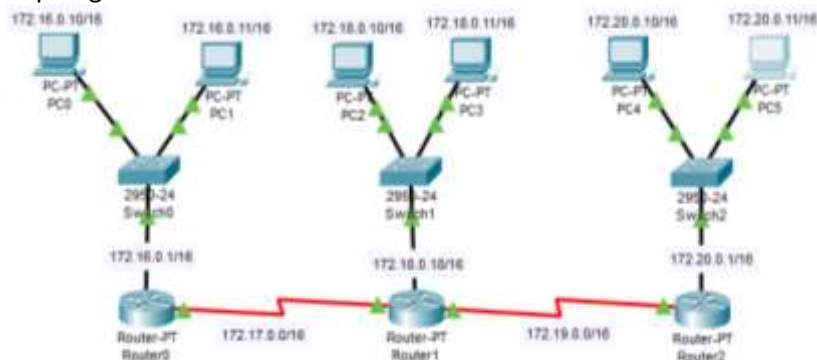
Pinging 172.18.0.10 with 32 bytes of data:

Reply from 172.18.0.10: bytes=32 time=2ms TTL=126
Reply from 172.18.0.10: bytes=32 time=2ms TTL=126
Reply from 172.18.0.10: bytes=32 time=1ms TTL=126
Reply from 172.18.0.10: bytes=32 time=1ms TTL=126

Ping statistics for 172.18.0.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms

```

3. Topologi



Tugas

1. Konfigurasi Router OSPF 1

- R1


```

Router(config-router)#router ospf 1
Router(config-router)#network 192.168.0.12 0.0.0.7 area 0
Router(config-router)#network 192.168.0.0 0.0.0.7 area 0
      
```
- R2


```

Router(config-router)#router ospf 1
Router(config-router)#network 192.168.0.0 0.0.0.7 area 0
Router(config-router)#network 192.168.0.4 0.0.0.7 area 0
      
```
- R3


```

Router(config-router)#router ospf 1
Router(config-router)#network 192.168.0.4 0.0.0.7 area 0
Router(config-router)#network 192.168.0.8 0.0.0.7 area 0
Router(config-router)#network 192.168.0.20 0.0.0.15 area 0
      
```
- R4


```

Router(config-router)#router ospf 1
Router(config-router)#network 192.168.0.8 0.0.0.7 area 0
Router(config-router)#network 192.168.0.52 0.0.0.15 area 0
      
```

2. Test Ping

- PC0 – PC1 & PC0-PC3

```
C:\>ping 192.168.0.22

Pinging 192.168.0.22 with 32 bytes of data:

Reply from 192.168.0.22: bytes=32 time=3ms TTL=125
Reply from 192.168.0.22: bytes=32 time=16ms TTL=125
Reply from 192.168.0.22: bytes=32 time=2ms TTL=125
Reply from 192.168.0.22: bytes=32 time=2ms TTL=125

Ping statistics for 192.168.0.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 16ms, Average = 5ms

C:\>ping 192.168.0.54

Pinging 192.168.0.54 with 32 bytes of data:

Reply from 192.168.0.54: bytes=32 time=4ms TTL=124
Reply from 192.168.0.54: bytes=32 time=11ms TTL=124
Reply from 192.168.0.54: bytes=32 time=17ms TTL=124
Reply from 192.168.0.54: bytes=32 time=4ms TTL=124

Ping statistics for 192.168.0.54:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 17ms, Average = 9ms
```

- PC2-PC1 & PC2-PC4

```
C:\>ping 192.168.0.14

Pinging 192.168.0.14 with 32 bytes of data:

Reply from 192.168.0.14: bytes=32 time=2ms TTL=125
Reply from 192.168.0.14: bytes=32 time=2ms TTL=125
Reply from 192.168.0.14: bytes=32 time=16ms TTL=125
Reply from 192.168.0.14: bytes=32 time=2ms TTL=125

Ping statistics for 192.168.0.14:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 16ms, Average = 5ms

C:\>ping 192.168.0.55

Pinging 192.168.0.55 with 32 bytes of data:

Reply from 192.168.0.55: bytes=32 time=1ms TTL=126
Reply from 192.168.0.55: bytes=32 time=2ms TTL=126
Reply from 192.168.0.55: bytes=32 time=2ms TTL=126
Reply from 192.168.0.55: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.0.55:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 2ms, Average = 1ms
```

- PC3-PC1 & PC3-PC2

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.0.14

Pinging 192.168.0.14 with 32 bytes of data:

Reply from 192.168.0.14: bytes=32 time=3ms TTL=124
Reply from 192.168.0.14: bytes=32 time=3ms TTL=124
Reply from 192.168.0.14: bytes=32 time=4ms TTL=124
Reply from 192.168.0.14: bytes=32 time=13ms TTL=124

Ping statistics for 192.168.0.14:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 3ms, Maximum = 13ms, Average = 5ms

C:\>ping 192.168.0.23

Pinging 192.168.0.23 with 32 bytes of data:

Reply from 192.168.0.23: bytes=32 time=1ms TTL=126
Reply from 192.168.0.23: bytes=32 time=1ms TTL=126
Reply from 192.168.0.23: bytes=32 time=16ms TTL=126
Reply from 192.168.0.23: bytes=32 time=1ms TTL=126

Ping statistics for 192.168.0.23:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 16ms, Average = 4ms
```

3. Topologi

