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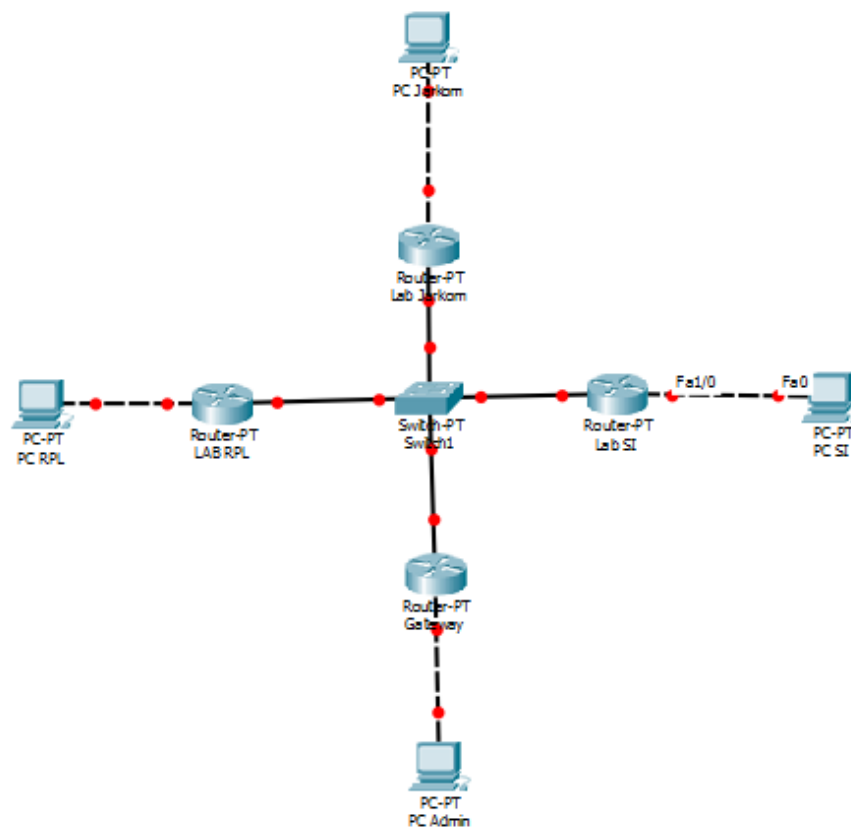
Kelas : D

Modul: XI

Tugas Modul XI

Buatlah topologi jaringan serupa dengan gambar 10.1 namun metode routing yang digunakan adalah routing statis.

1. Topologi



2. Konfigurasi semua router.

- Router Jarkom

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname Jarkom
Jarkom(config)#int fa0/0
Jarkom(config-if)#ip address 172.16.0.1 255.255.255.0
Jarkom(config-if)#no shutdown

Jarkom(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
exit
Jarkom(config)#int fa1/0
Jarkom(config-if)#ip address 172.15.0.1 255.255.255.0
Jarkom(config-if)#no shutdown

Jarkom(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to up
exit
```

- Router SI

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname SistemInformasi
SistemInformasi(config)#int fa0/0
SistemInformasi(config-if)#ip address 172.17.0.1 255.255.255.0
SistemInformasi(config-if)#no shutdown

SistemInformasi(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
exit
SistemInformasi(config)#int fa 1/0
SistemInformasi(config-if)#ip address 172.15.0.2 255.255.255.0
SistemInformasi(config-if)#no shutdown

SistemInformasi(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to up
exit
```

- Router RPL

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname RPL
RPL(config)#int fa0/0
RPL(config-if)#ip address 172.18.0.1 255.255.255.0
RPL(config-if)#no shutdown

RPL(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
exit
RPL(config)#int fa1/0
RPL(config-if)#ip address 172.15.0.3 255.255.255.0
RPL(config-if)#no shutdown

RPL(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to up
exit
```

- Router UMS(Gateway)

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname UMS

UMS(config)#int fa0/0
UMS(config-if)#ip address 172.19.0.1 255.255.255.0
UMS(config-if)#no shutdown

UMS(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
exit
UMS(config)#int fa1/0
UMS(config-if)#ip address 172.15.0.4 255.255.255.0
UMS(config-if)#no shutdown

UMS(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0,
changed state to up
exit
```

3. Konfigurasi Routing table

- Router Jarkom

```
Jarkom>en
Jarkom#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Jarkom(config)#router rip
Jarkom(config-router)#network 172.15.0.0
Jarkom(config-router)#network 172.16.0.0
Jarkom(config-router)#network 172.17.0.0
Jarkom(config-router)#network 172.18.0.0
Jarkom(config-router)#network 172.19.0.0
Jarkom(config-router)#
```

- Router SI

```
SistemInformasi>en
SistemInformasi#conf term
Enter configuration commands, one per line. End with CNTL/Z.
SistemInformasi(config)#router rip
SistemInformasi(config-router)#network 172.15.0.0
SistemInformasi(config-router)#network 172.16.0.0
SistemInformasi(config-router)#network 172.17.0.0
SistemInformasi(config-router)#network 172.18.0.0
SistemInformasi(config-router)#network 172.19.0.0
SistemInformasi(config-router)#
```

- Router RPL

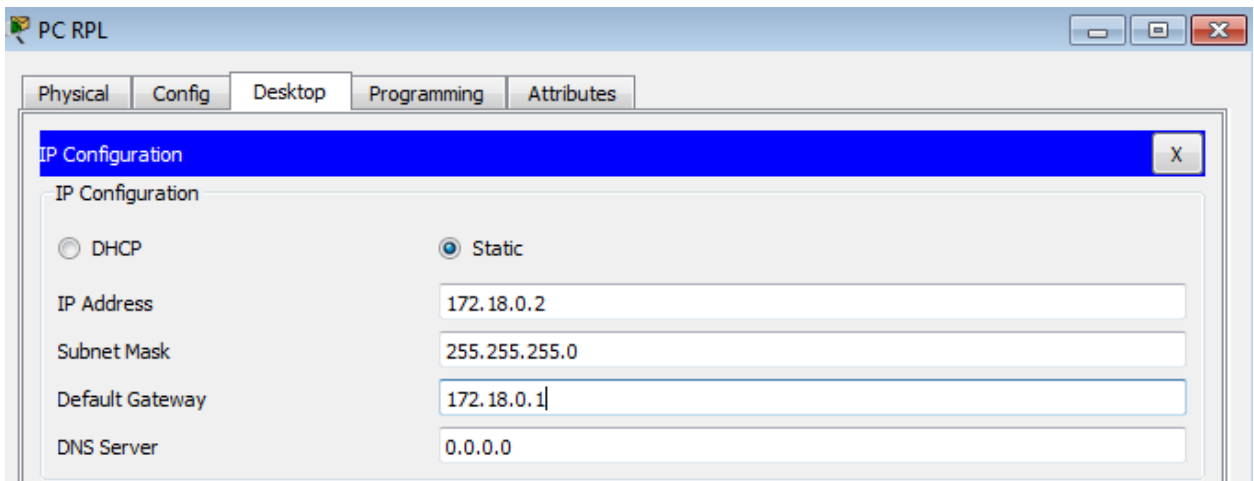
```
RPL>en
RPL#conf term
Enter configuration commands, one per line. End with CNTL/Z.
RPL(config)#router rip
RPL(config-router)#network 172.15.0.0
RPL(config-router)#network 172.16.0.0
RPL(config-router)#network 172.17.0.0
RPL(config-router)#network 172.18.0.0
RPL(config-router)#network 172.19.0.0
RPL(config-router)#
```

- Router UMS

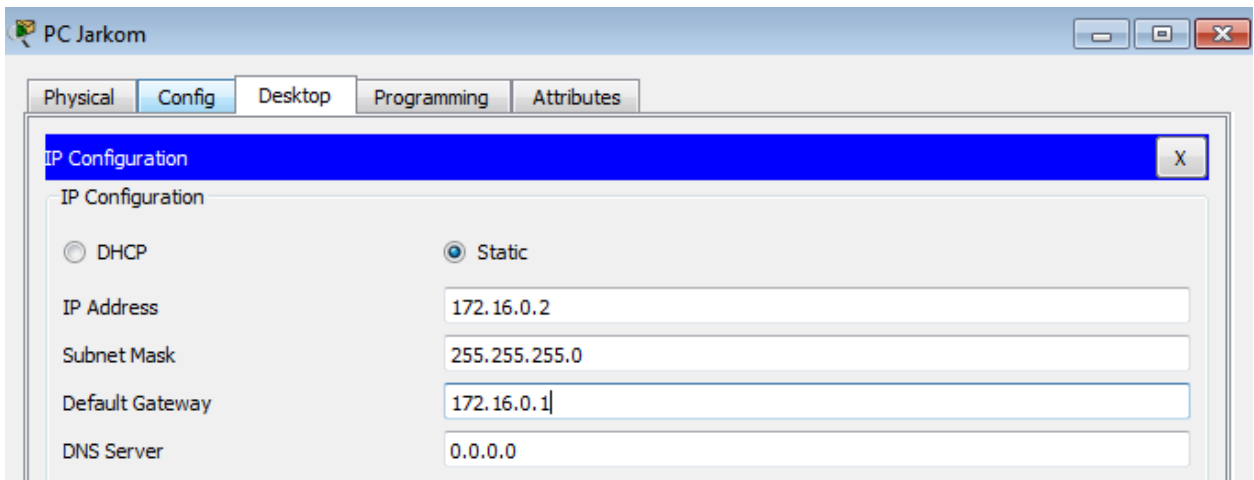
```
UMS(config)#router rip
UMS(config-router)#network 172.15.0.0
UMS(config-router)#network 172.16.0.0
UMS(config-router)#network 172.17.0.0
UMS(config-router)#network 172.18.0.0
UMS(config-router)#network 172.19.0.0
UMS(config-router)#
```

4. Konfigurasi IP pada tiap PC

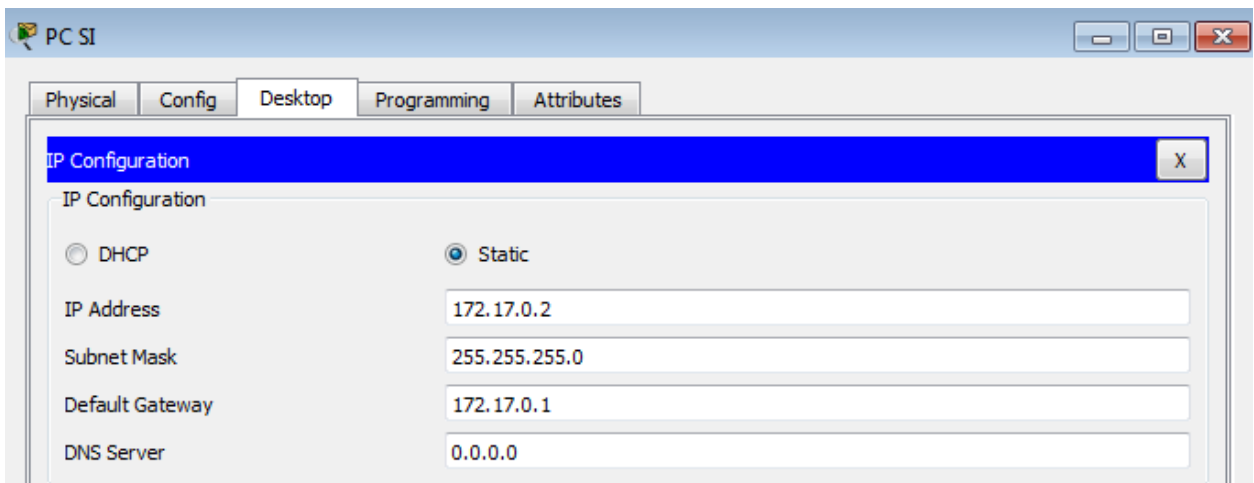
- PC RPL



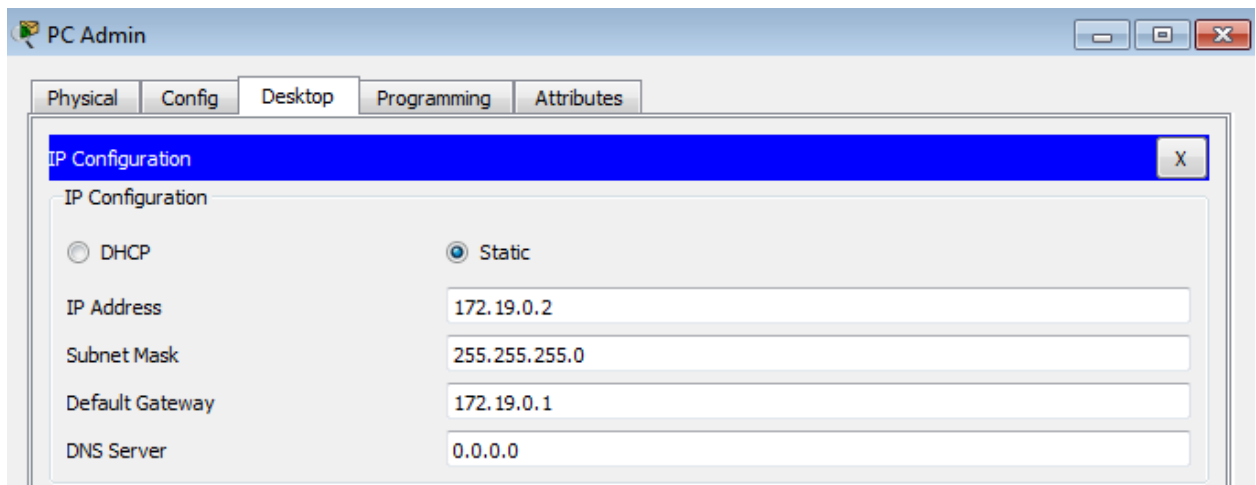
- PC Jarkom



- PC SI



- PC Admin



5. Melakukan uji koneksi

```
C:\>ping 172.16.0.2

Pinging 172.16.0.2 with 32 bytes of data:

Reply from 172.16.0.2: bytes=32 time<1ms TTL=126
Reply from 172.16.0.2: bytes=32 time<1ms TTL=126
Reply from 172.16.0.2: bytes=32 time<1ms TTL=126
Reply from 172.16.0.2: bytes=32 time<1ms TTL=126

Ping statistics for 172.16.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>ping 172.17.0.2

Pinging 172.17.0.2 with 32 bytes of data:

Reply from 172.17.0.2: bytes=32 time=1ms TTL=126
Reply from 172.17.0.2: bytes=32 time<1ms TTL=126
Reply from 172.17.0.2: bytes=32 time<1ms TTL=126
Reply from 172.17.0.2: bytes=32 time<1ms TTL=126

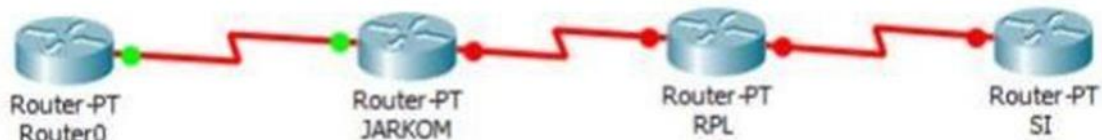
Ping statistics for 172.17.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Buatlah topologi jaringan bus untuk membangun sebuah laboratorium komputer yang terdiri dari 3 router (Jarkom, RPL, SI) dan berpusat pada 1 router gateway, dengan metode routing :

a. Statis

b. Dinamis

1. Topologi



2. Konfigurasi Router

- Router UMS

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname UMS
UMS(config)#int se 2/0
UMS(config-if)#ip address 192.168.1.1 255.255.255.0
UMS(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
UMS(config-if)#
```

- Router Jarkom

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname Jarkom
Jarkom(config)#int se 2/0
Jarkom(config-if)#ip address 192.168.1.2 255.255.255.0
Jarkom(config-if)#no shutdown

Jarkom(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
Jarkom(config)#int se 3/0
Jarkom(config-if)#clock rate 2000000
Jarkom(config-if)#ip address 192.168.2.1 255.255.255.0
Jarkom(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
```

- Router RPL

```
RPL>en
RPL#conf term
Enter configuration commands, one per line. End with CNTL/Z.
RPL(config)#int se 2/0
RPL(config-if)#ip address 192.168.3.1 255.255.255.0
RPL(config-if)#no shutdown

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

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

RPL(config-if)#int se 3/0
RPL(config-if)#clock rate 2000000
RPL(config-if)#ip address 192.168.2.2 255.255.255.0
RPL(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial3/0, changed state to down
RPL(config-if)#
```

- Router SI

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname SI
SI(config)#int se 2/0
SI(config-if)#ip address 192.168.3.2 255.255.255.0
SI(config-if)#no shutdown

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

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

3. Konfigurasi Routing

- Router UMS

```
UMS#conf term
Enter configuration commands, one per line. End with CNTL/Z.
UMS(config)#hostname gateway
gateway(config)#int se 2/0
gateway(config-if)#ip address 192.168.1.1
% Incomplete command.
gateway(config-if)#ip address 192.168.1.1 255.255.255.0
gateway(config-if)#no shutdown
gateway(config-if)#ex
gateway(config)#ip route 192.168.2.0 255.255.255.0 192.168.1.2
gateway(config)#ip route 192.168.3.0 255.255.255.0 192.168.1.2
gateway(config)#
```

- Router Jarkom

```
Jarkom(config)#ip route 192.168.3.0 255.255.255.0 192.168.2.2
Jarkom(config)#ip route 192.168.2.0 255.255.255.0 192.168.2.2
Jarkom(config)#
```

- Router RPL

```
RPL(config-if)#ex
RPL(config)#ip route 192.168.1.0 255.255.255.0 192.168.2.1
RPL(config)#
```

- Router SI

```
SI(config-if)#ex
SI(config)#ip route 192.168.1.0 255.255.255.0 192.168.3.1
SI(config)#ip route 192.168.2.0 255.255.255.0 192.168.3.1
SI(config)#
```

4. Uji koneksi

```
gateway(config-if)#ip address 192.168.1.1 255.255.255.0
gateway(config-if)#no shutdown
gateway(config-if)#exit
gateway(config)#ip route 192.168.2.0 255.255.255.0 192.168.1.2
gateway(config)#ip route 192.168.3.0 255.255.255.0 192.168.1.2
gateway(config)#exit
gateway#
%SYS-5-CONFIG_I: Configured from console by console

gateway#ping 192.168.2.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.2.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/3/6 ms

gateway#ping 192.168.3.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.3.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 3/5/12 ms
```