PRAKTIKUM
JARINGAN KOMPUTER
(computer networking)

LAPORAN TUGAS
MODUL 11

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Kelas : D

PROGRAM STUDI INFORMATIKA

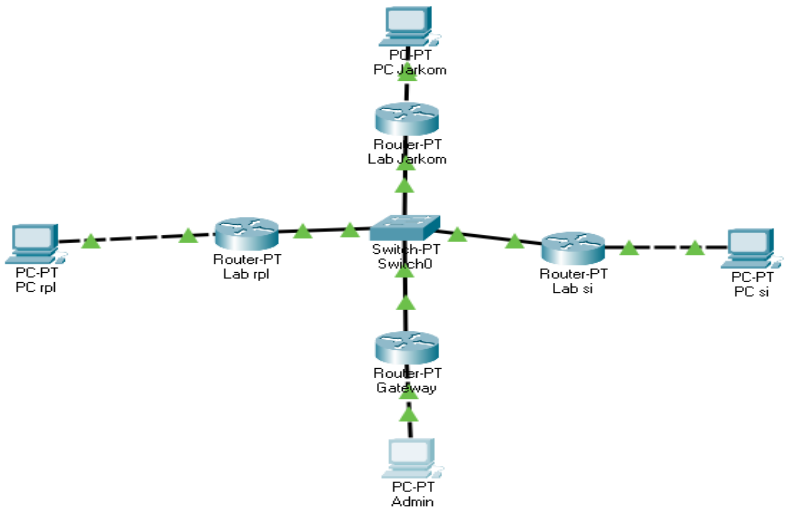
FAKULTAS KOMUNIKASI DAN INFORMATIKA

UNIVERSITAS MUHAMMADIYAH

SURAKARTA

D. Kegiatan praktikum

1. topologi



2. Konfigurasi Semua Router

Lab Jarkom

Physical Config CLI Attributes

IOS Command Line Interface

```
jarkom(config)#interface FastEthernet0/0
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

jarkom(config-if)#exit
```

```
jarkom(config)#interface FastEthernet1/0
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

jarkom(config-if)#exit
```

Lab si

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname sisteminformasi
sisteminformasi(config)#interface FastEthernet0/0
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

sisteminformasi(config-if)#exit
sisteminformasi(config)#interface FastEthernet1/0
sisteminformasi(config-if)#ip address 172.17.0.2 255.255.255.0
% 172.17.0.0 overlaps with FastEthernet0/0
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

sisteminformasi(config-if)#exit
sisteminformasi(config)#exit
```

Lab rpl

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname rpl
rpl(config)#interface FastEthernet0/0
rpl(config-if)#172.18.0.1 255.255.255.0
               ^
% Invalid input detected at '^' marker.

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

rpl(config-if)#exit
rpl(config)#interface FastEthernet1/0
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

rpl(config-if)#exit
rpl(config)#exit
```

Gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname ums
ums(config)#interface FastEthernet0/0
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

ums(config-if)#exit
ums(config)#interface FastEthernet1/0
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

ums(config-if)#exit
```

3. Konfigurasi routing table pada semua router

Lab Jarkom

Physical Config CLI Attributes

IOS Command Line Interface

```
jarkom>en
jarkom#conf t
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)#exit
jarkom(config)#exit
```

Lab si

Physical Config CLI Attributes

IOS Command Line Interface

```
sisteminformasi>en
sisteminformasi#conf t
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)#exit
sisteminformasi(config)#exit
```

Lab rpl

Physical Config CLI Attributes

IOS Command Line Interface

```
rpl>en
rpl#conf t
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)#exit
```

Gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
ums>en
ums#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
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)#exit
ums(config)#exit
```

4. Setting IP Address pada semua PC client

PC Jarkom

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

DHCP Static

IPv4 Address 172.16.0.2

Subnet Mask 255.255.255.0

Default Gateway 172.16.0.1

DNS Server 0.0.0.0

PC rpl

Physical Config Desktop Programming Attribute

IP Configuration

Interface FastEthernet0

IP Configuration

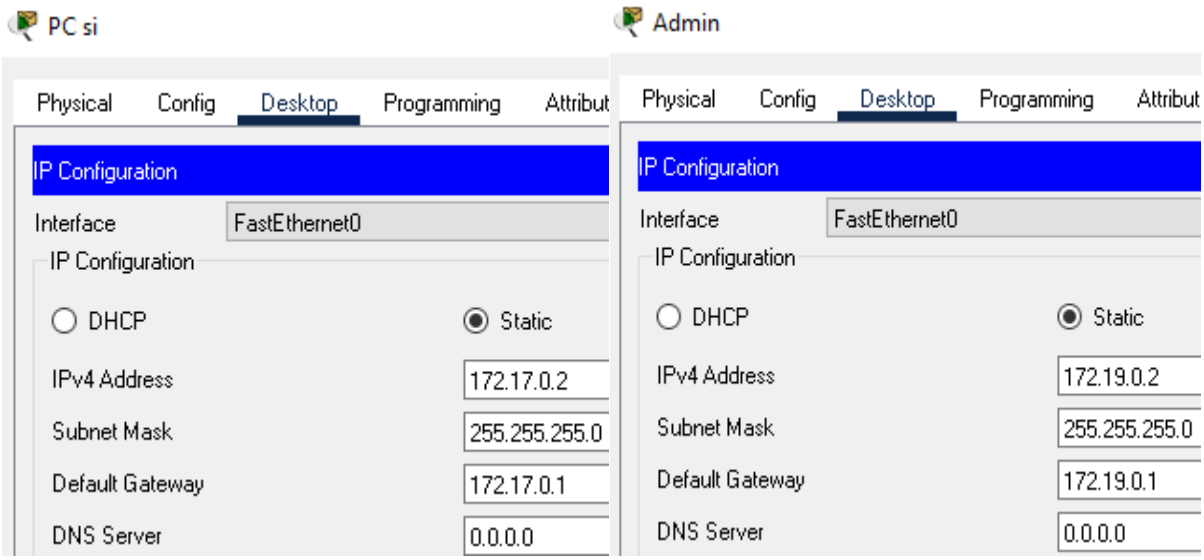
DHCP Static

IPv4 Address 172.18.0.2

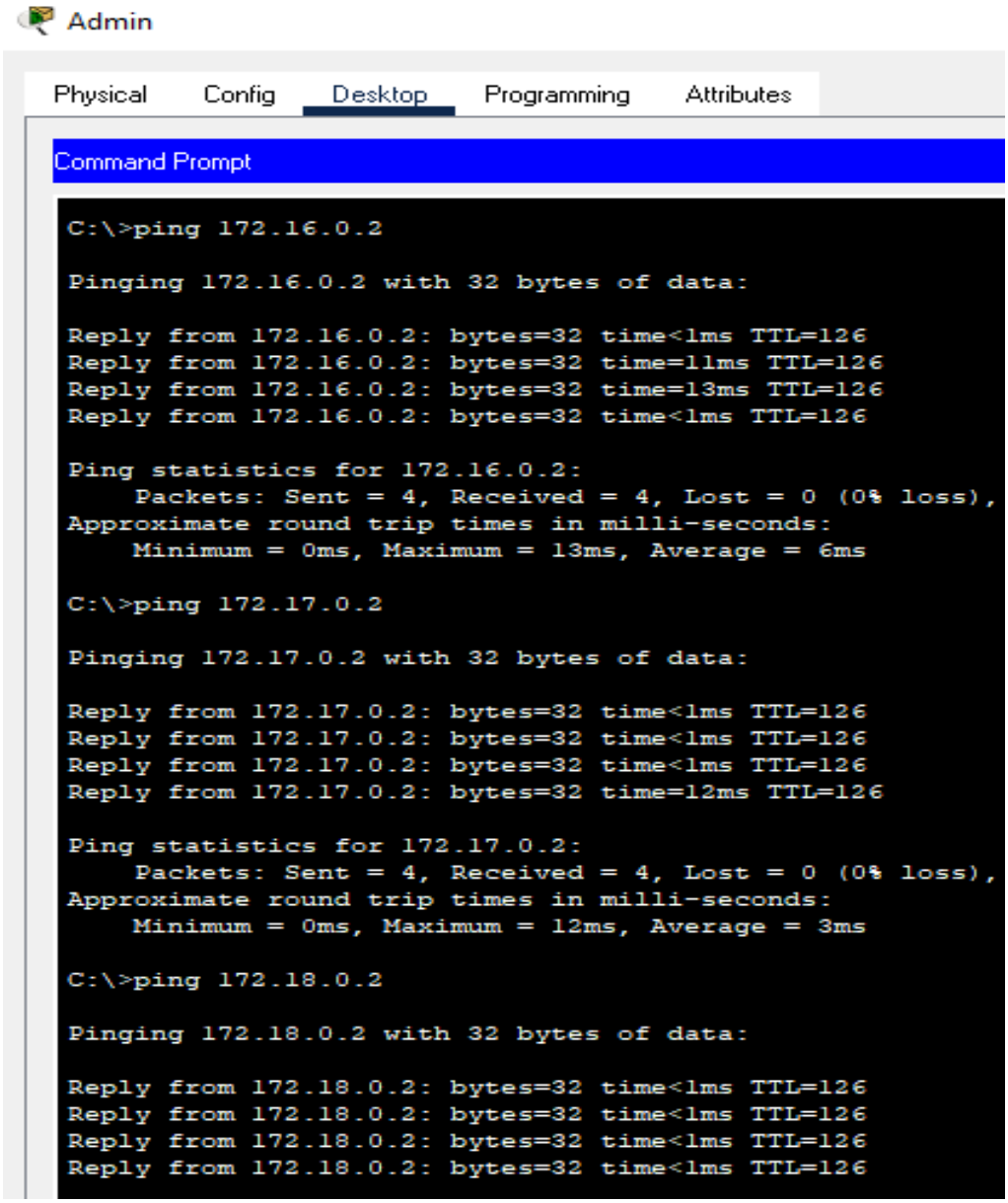
Subnet Mask 255.255.255.0

Default Gateway 172.18.0.1

DNS Server 0.0.0.0

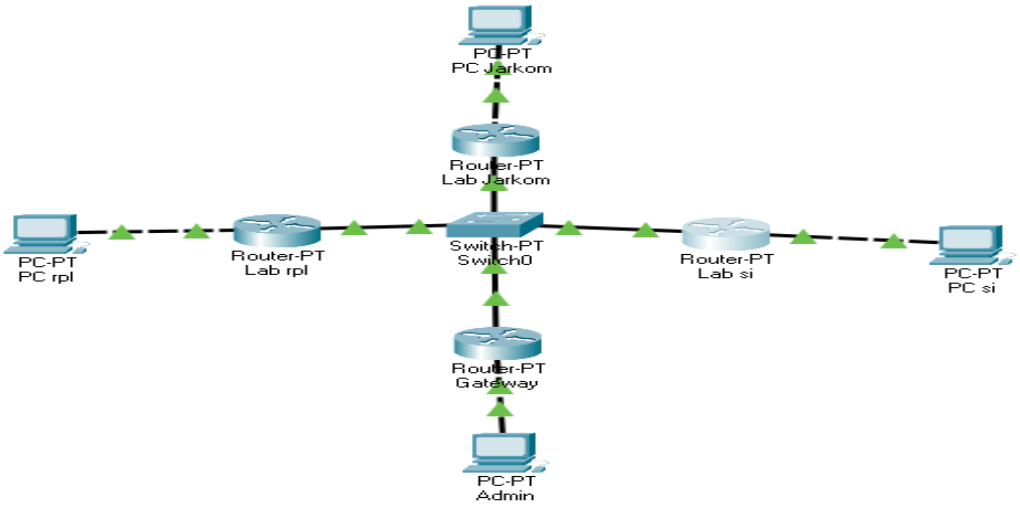


5. Test network dengan ping dari PC Admin ke semua PC client



E. Tugas

1. Topologi



2. Setting IP Router

Router Jarkom

INTERFACE	IP Configuration	
FastEthernet0/0	IPv4 Address	172.16.0.1
FastEthernet1/0	Subnet Mask	255.255.255.0
INTERFACE	**IP Configuration**	
FastEthernet0/0	IPv4 Address	172.15.0.1
FastEthernet1/0	Subnet Mask	255.255.255.0

Router Rpl

INTERFACE	IP Configuration	
FastEthernet0/0	IPv4 Address	172.18.0.1
FastEthernet1/0	Subnet Mask	255.255.255.0
INTERFACE	**IP Configuration**	
FastEthernet0/0	IPv4 Address	172.15.0.2
FastEthernet1/0	Subnet Mask	255.255.255.0

Router Si

INTERFACE	IP Configuration	
FastEthernet0/0	IPv4 Address	172.17.0.1
FastEthernet1/0	Subnet Mask	255.255.255.0
INTERFACE	**IP Configuration**	
FastEthernet0/0	IPv4 Address	172.15.0.3
FastEthernet1/0	Subnet Mask	255.255.255.0

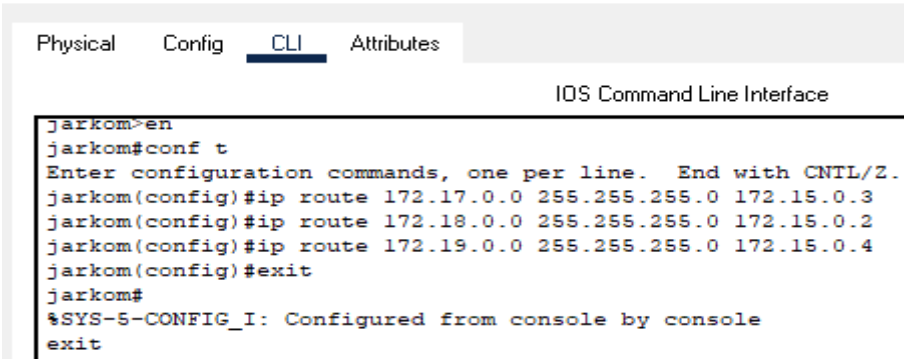
Router Gateway

INTERFACE	IP Configuration	
FastEthernet0/0	IPv4 Address	172.19.0.1
FastEthernet1/0	Subnet Mask	255.255.255.0
INTERFACE	**IP Configuration**	
FastEthernet0/0	IPv4 Address	172.15.0.4
FastEthernet1/0	Subnet Mask	255.255.255.0

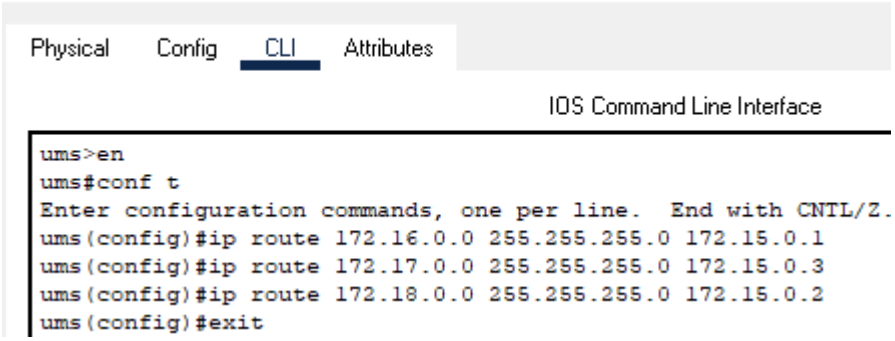
***IP PC menyesuaikan sesuai IP Router masing-masing(FastEthernet0/0)**

3. Setting Routing Statis

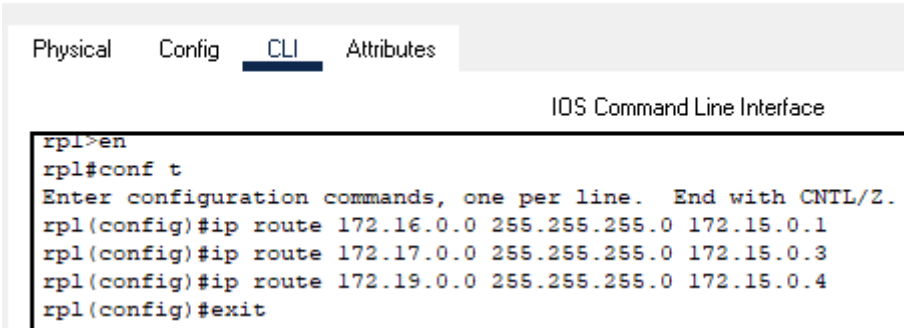
Lab Jarkom



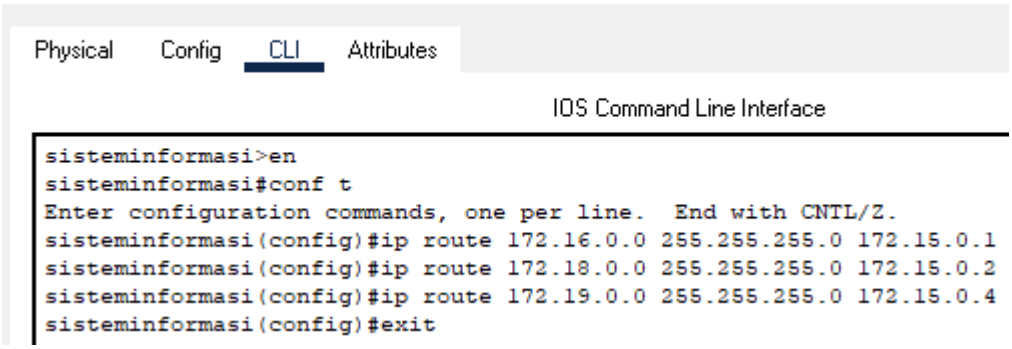
Gateway



Lab rpl



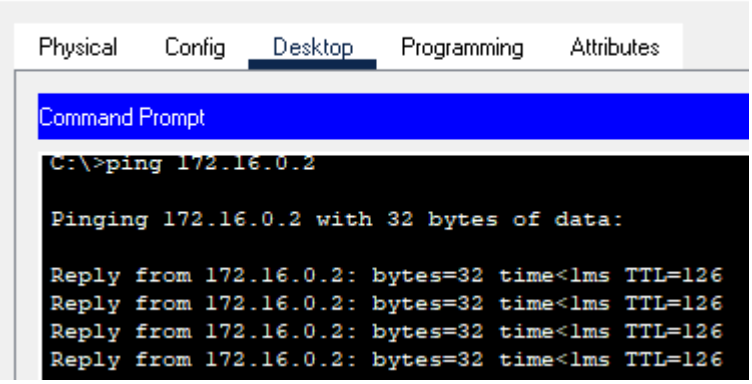
Lab si



4. Melakukan test jaringan (ping)

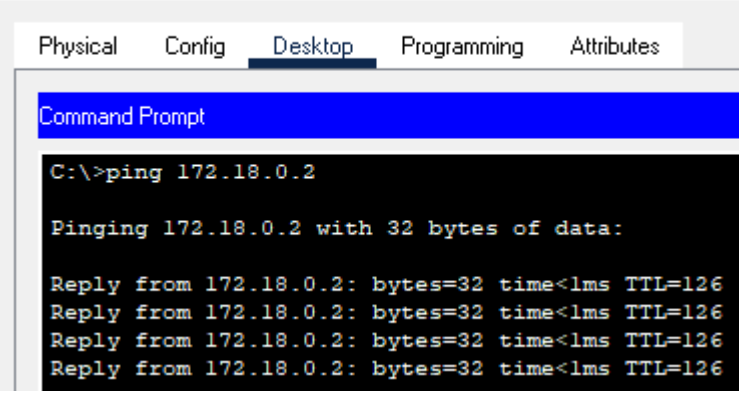
***sample ping dari pc admin ke pc jarkom**

Admin



***sample ping dari pc si ke pc rpl**

PC si

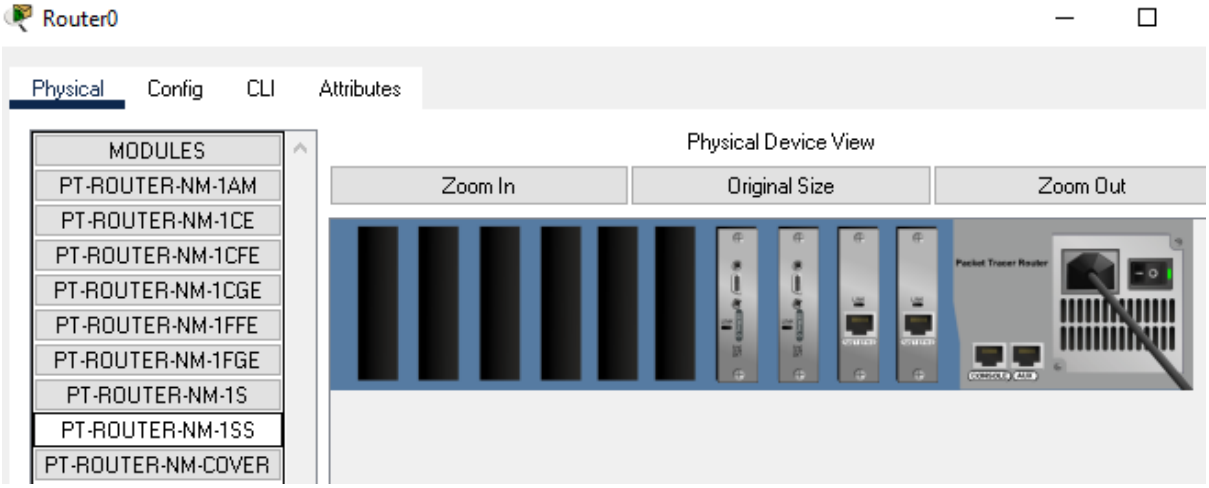


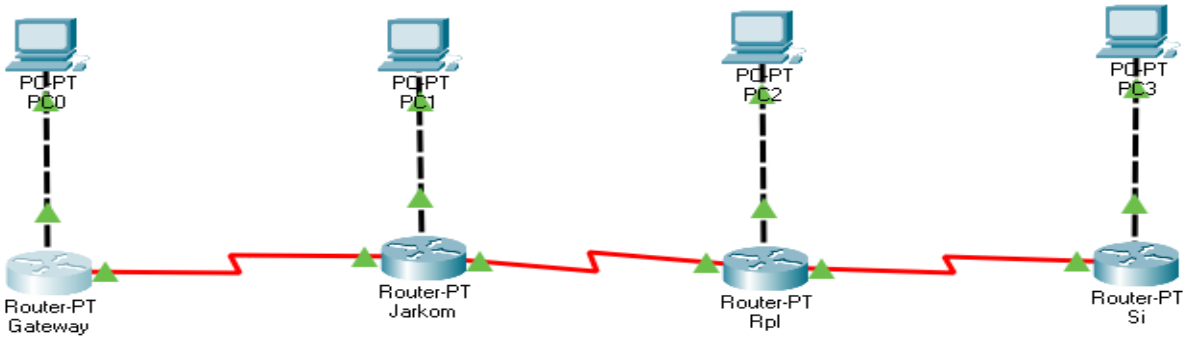
“semua PC client sudah saling terhubung”

Tugas 2 A (Statis)

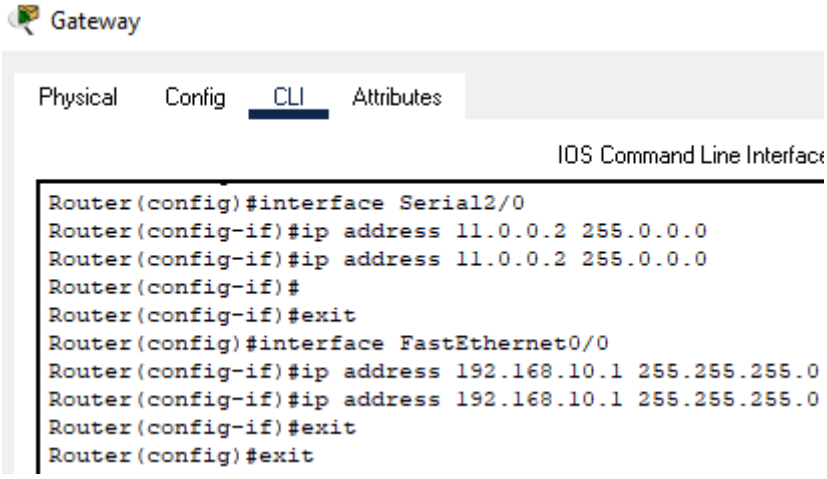
1. Topologi BUS

***Menambahkan card 1SS pada semua router**





2. Setting IP router dan Gateway



Jarkom

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#ip address 192.168.20.1 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#ip address 11.0.0.3 255.0.0.0
Router(config-if)#ip address 11.0.0.3 255.0.0.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial3/0
Router(config-if)#ip address 12.0.0.2 255.0.0.0
Router(config-if)#ip address 12.0.0.2 255.0.0.0
Router(config-if)#exit
Router(config)#exit
```

Rpl

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.30.1 255.255.255.0
Router(config-if)#ip address 192.168.30.1 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial3/0
Router(config-if)#ip address 12.0.0.3 255.0.0.0
Router(config-if)#ip address 12.0.0.3 255.0.0.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#ip address 13.0.0.2 255.0.0.0
Router(config-if)#ip address 13.0.0.2 255.0.0.0
Router(config-if)#exit
```

Si

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.40.1 255.255.255.0
Router(config-if)#ip address 192.168.40.1 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#ip address 13.0.0.3 255.0.0.0
Router(config-if)#ip address 13.0.0.3 255.0.0.0
Router(config-if)#exit
```

3. Setting IP PC

PC Gateway dan PC Jarkom

IPv4 Address	192.168.10.2	IPv4 Address	192.168.20.2
Subnet Mask	255.255.255.0	Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1	Default Gateway	192.168.20.1
DNS Server	0.0.0.0	DNS Server	0.0.0.0

PC Rpl dan PC Si

IPv4 Address	192.168.30.2	IPv4 Address	192.168.40.2
Subnet Mask	255.255.255.0	Subnet Mask	255.255.255.0
Default Gateway	192.168.30.1	Default Gateway	192.168.40.1
DNS Server	0.0.0.0	DNS Server	0.0.0.0

4. Setting Routing Static

Gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
Router(config)#
Router(config)#ip route 192.168.20.0 255.255.255.0 11.0.0.3
Router(config)#ip route 192.168.30.0 255.255.255.0 11.0.0.3
Router(config)#ip route 192.168.40.0 255.255.255.0 11.0.0.3
Router(config)#exit
```

Jarkom

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#ip route 0.0.0.0 0.0.0.0 11.0.0.2
Router(config)#ip route 0.0.0.0 0.0.0.0 12.0.0.3
Router(config)#exit
```

Rpl

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#ip route 0.0.0.0 0.0.0.0 12.0.0.2
Router(config)#ip route 0.0.0.0 0.0.0.0 13.0.0.3
Router(config)#exit
```

Si

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#ip route 0.0.0.0 0.0.0.0 13.0.0.2
Router(config)#exit
```

5. Melakukan test ping dari PC gateway ke semua PC client

PC Gateway

Physical Config Desktop Programming Attributes

Command Prompt

```
C:\>ping 192.168.20.2

Pinging 192.168.20.2 with 32 bytes of data:

Reply from 192.168.20.2: bytes=32 time=1ms TTL=126
Reply from 192.168.20.2: bytes=32 time=2ms TTL=124
Reply from 192.168.20.2: bytes=32 time=10ms TTL=122
Reply from 192.168.20.2: bytes=32 time=3ms TTL=122

Ping statistics for 192.168.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 10ms, Average = 4ms

C:\>ping 192.168.30.2

Pinging 192.168.30.2 with 32 bytes of data:

Reply from 192.168.30.2: bytes=32 time=25ms TTL=123
Reply from 192.168.30.2: bytes=32 time=10ms TTL=123
Reply from 192.168.30.2: bytes=32 time=10ms TTL=123
Reply from 192.168.30.2: bytes=32 time=3ms TTL=123

Ping statistics for 192.168.30.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 3ms, Maximum = 25ms, Average = 12ms

C:\>ping 192.168.40.2

Pinging 192.168.40.2 with 32 bytes of data:

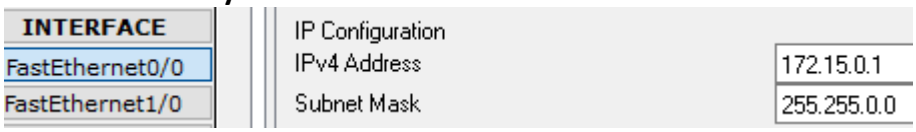
Reply from 192.168.40.2: bytes=32 time=36ms TTL=124
Reply from 192.168.40.2: bytes=32 time=11ms TTL=124
Reply from 192.168.40.2: bytes=32 time=5ms TTL=124
Reply from 192.168.40.2: bytes=32 time=3ms TTL=124
```

E. Tugas 2B (Dinamis)

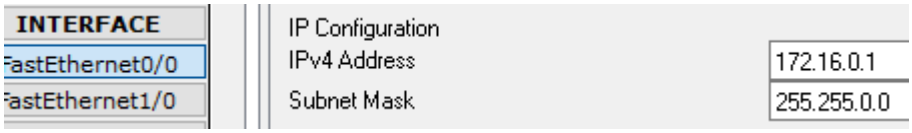
1. Topologi BUS, sama dengan tugas 2a diatas

2. Setting IP Router, sama dengan tugas 2a diatas, saya ubah IP dari router ke PC

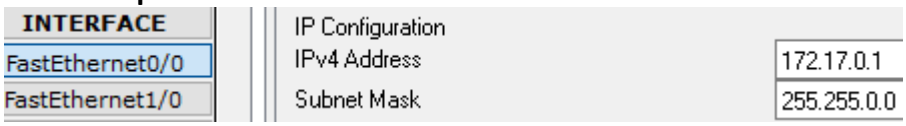
***Router Gateway**



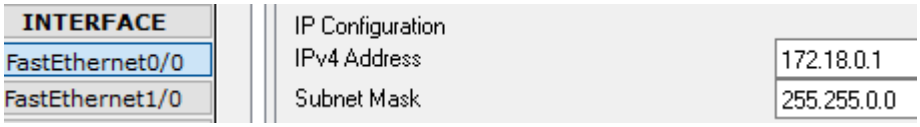
***Router Jarkom**



***Router Rpl**

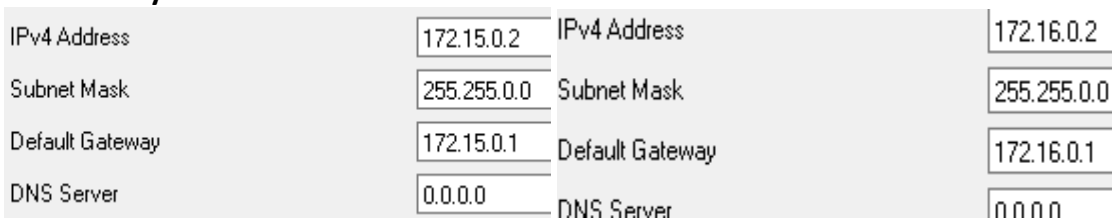


***Router Si**

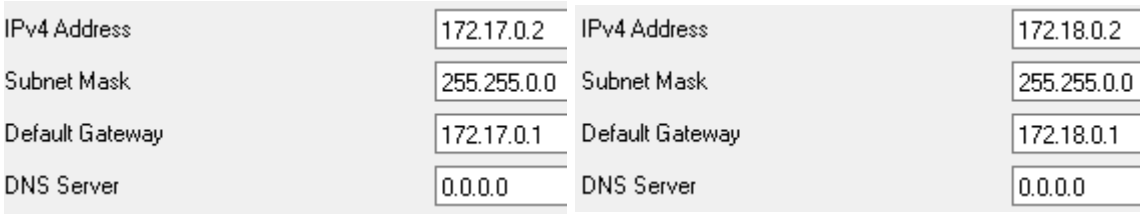


3. Setting IP PC

PC Gateway dan PC Jarkom



PC Rpl dan PC Si



4. Set Router rip pada semua router

Gateway

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 11.0.0.0
Router(config-router)#network 12.0.0.0
Router(config-router)#network 13.0.0.0
Router(config-router)#network 172.15.0.0
Router(config-router)#network 172.16.0.0
Router(config-router)#network 172.17.0.0
Router(config-router)#network 172.18.0.0
Router(config-router)#exit
```

Jarkom

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 11.0.0.0
Router(config-router)#network 12.0.0.0
Router(config-router)#network 13.0.0.0
Router(config-router)#network 172.15.0.0
Router(config-router)#network 172.16.0.0
Router(config-router)#network 172.17.0.0
Router(config-router)#network 172.18.0.0
Router(config-router)#exit
Router(config)#exit
```

Rpl

Physical Config CLI Attributes

IOS Command Line Interface

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 11.0.0.0
Router(config-router)#network 12.0.0.0
Router(config-router)#network 13.0.0.0
Router(config-router)#network 172.15.0.0
Router(config-router)#network 172.16.0.0
Router(config-router)#network 172.17.0.0
Router(config-router)#network 172.18.0.0
Router(config-router)#exit
```

Si

Physical Config CLI Attributes

IOS Command Line Interface

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Router(config-router)#exit
```

5. Melakukan Test ping

Dari pc gateway ke semua pc client