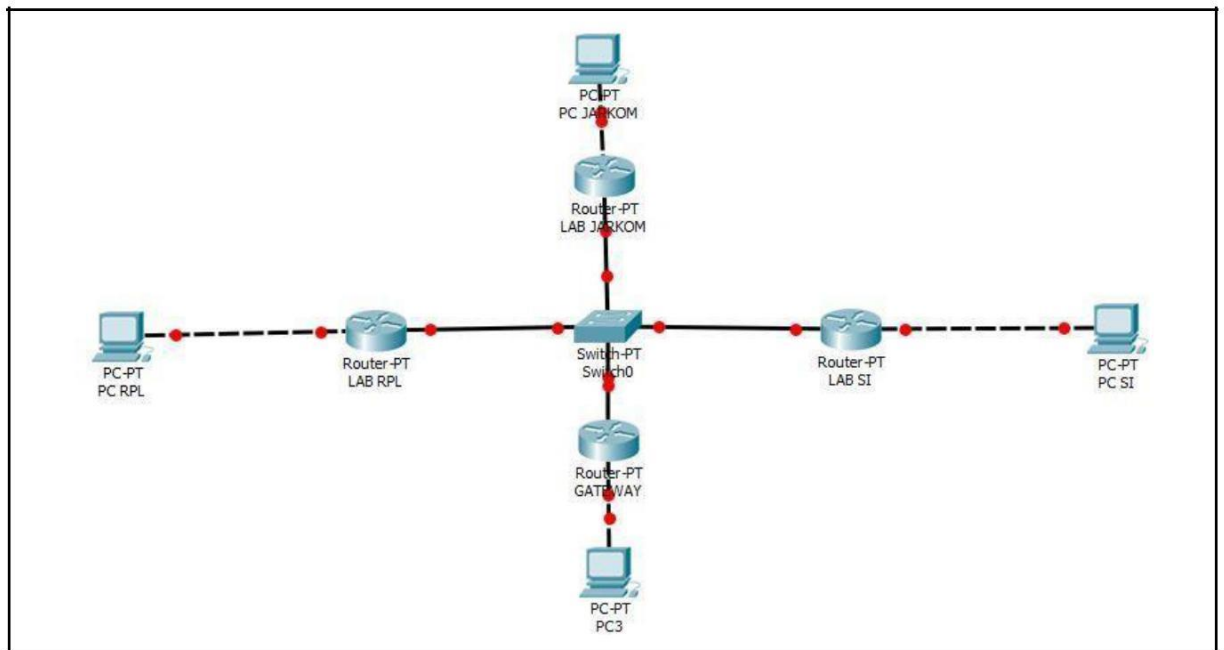
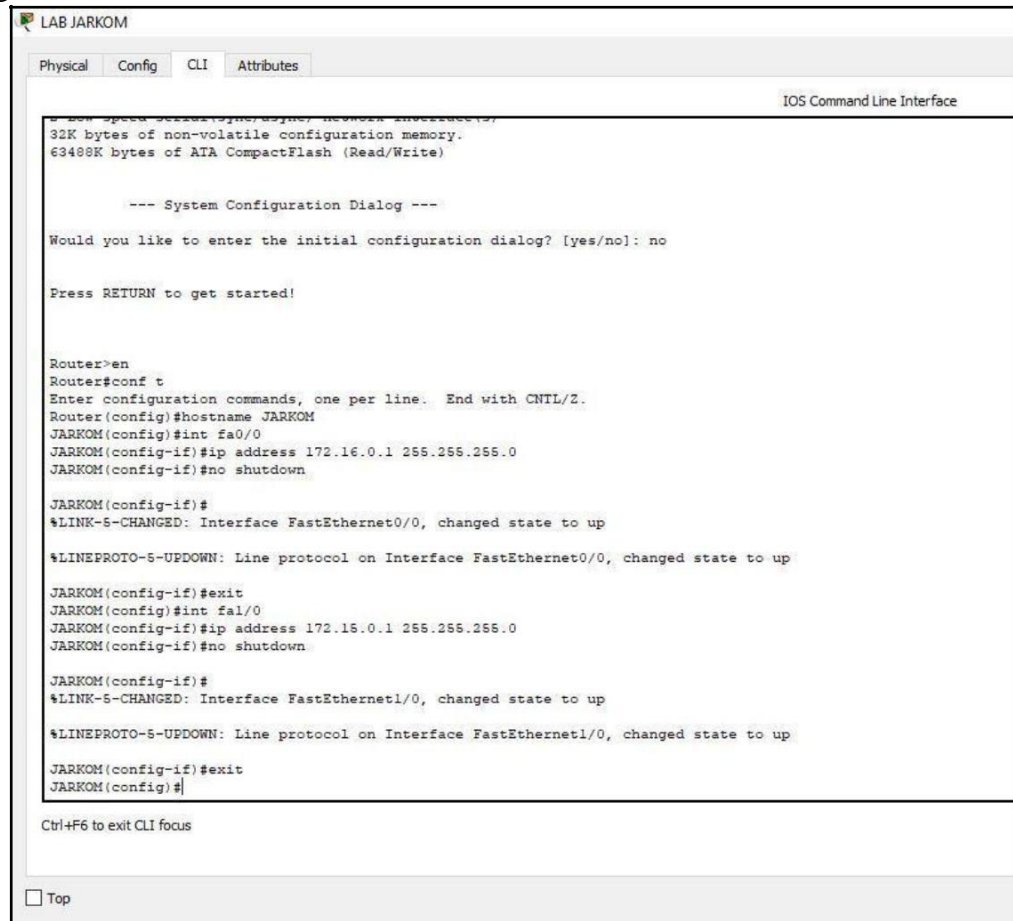


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Modul 11

1. Buat topologi seperti pada gambar.



## 2. Konfigurasi semua router a. Router Jarkom



```
LAB JARKOM
Physical Config CLI Attributes
IOS Command Line Interface

32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en
Router#conf t
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

JARKOM(config-if)#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

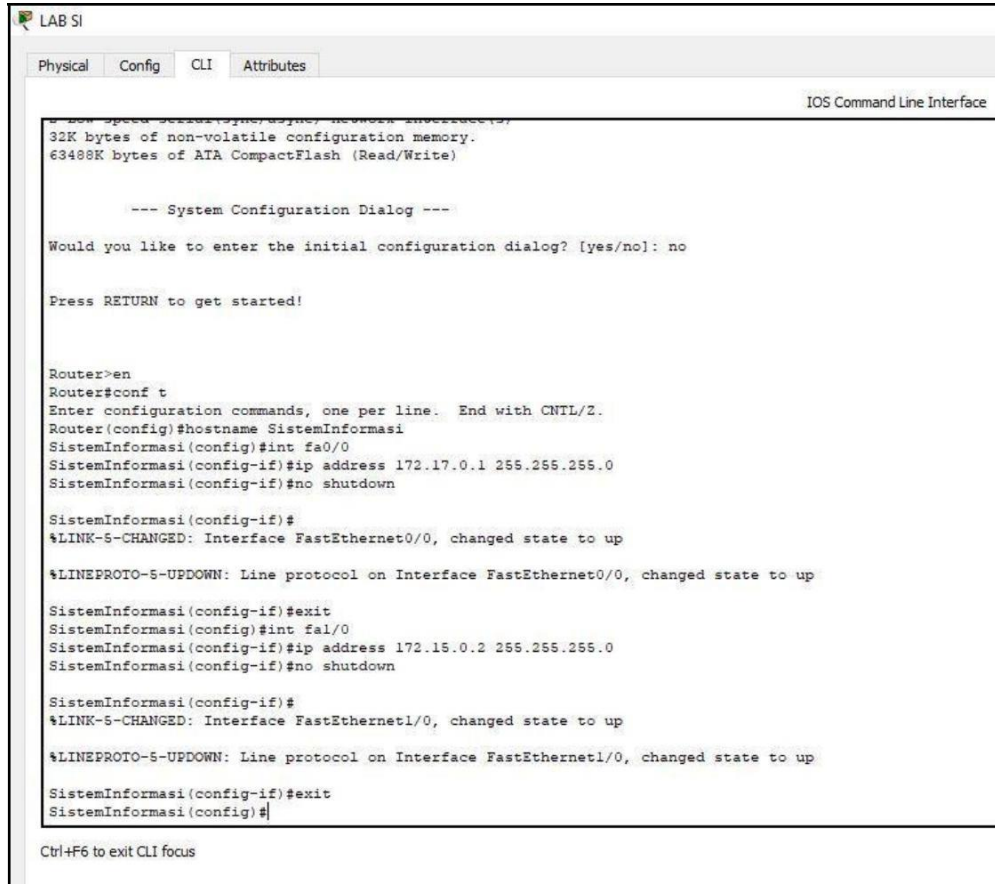
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

JARKOM(config-if)#exit
JARKOM(config)#

Ctrl+F6 to exit CLI focus

☐ Top
```

## b. Router SI



LAB SI

Physical Config CLI Attributes

IOS Command Line Interface

```
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en
Router#conf t
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

SistemInformasi(config-if)#exit
SistemInformasi(config)#int fa1/0
SistemInformasi(config-if)#ip address 172.15.0.2 255.255.255.0
SistemInformasi(config-if)#no shutdown

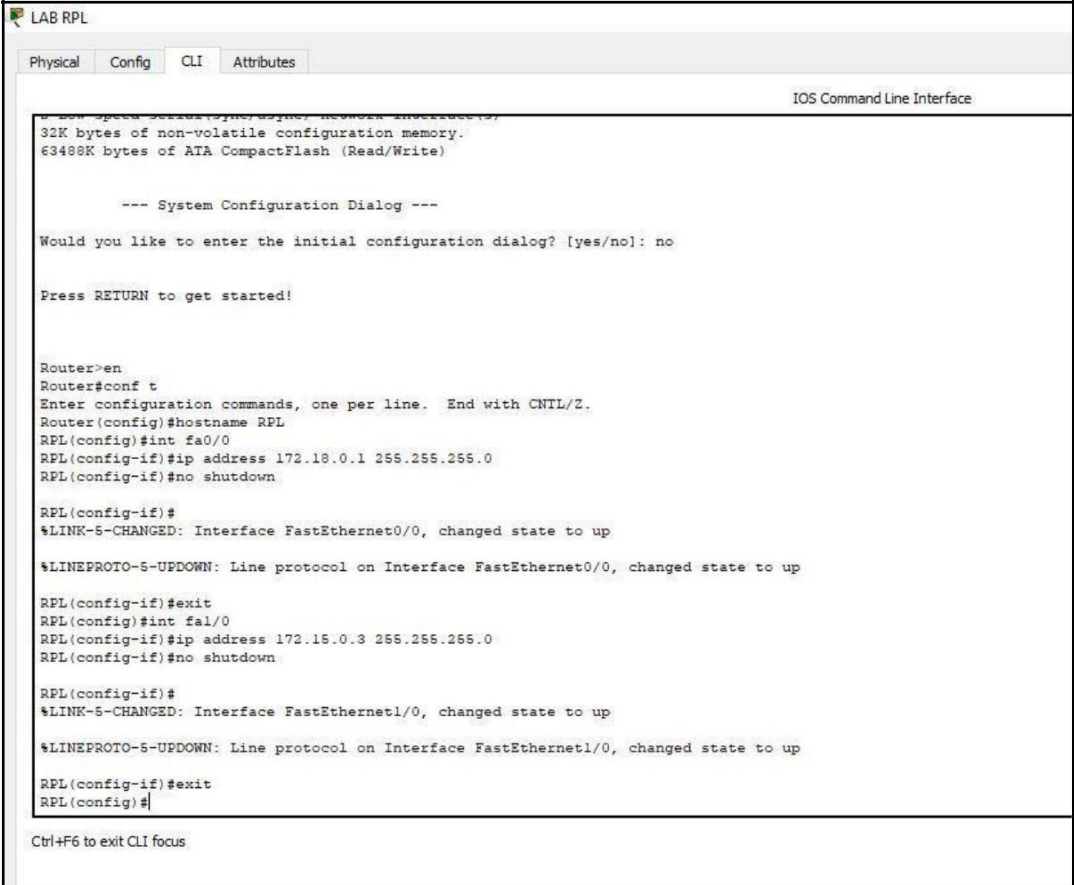
SistemInformasi(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

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

SistemInformasi(config-if)#exit
SistemInformasi(config)#

Ctrl+F6 to exit CLI focus
```

### c. Router RPL



The screenshot shows a software interface titled "LAB RPL" with four tabs: "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is active, displaying the "IOS Command Line Interface". The interface shows the configuration of a router named "RPL". It starts with a system configuration dialog asking to enter the initial configuration, which is answered "no". Then, the user enters the configuration mode and sets the hostname to "RPL". Next, they configure the FastEthernet0/0 interface with IP address 172.18.0.1 and 255.255.255.0, and enable it. Then, they configure the FastEthernet1/0 interface with IP address 172.15.0.3 and 255.255.255.0, and enable it. Finally, they exit the configuration mode. The interface also shows the status of the interfaces as "up".

```
LAB RPL
Physical Config CLI Attributes
IOS Command Line Interface

32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en
Router#conf t
Enter configuration commands, one per line. End with CNIL/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

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

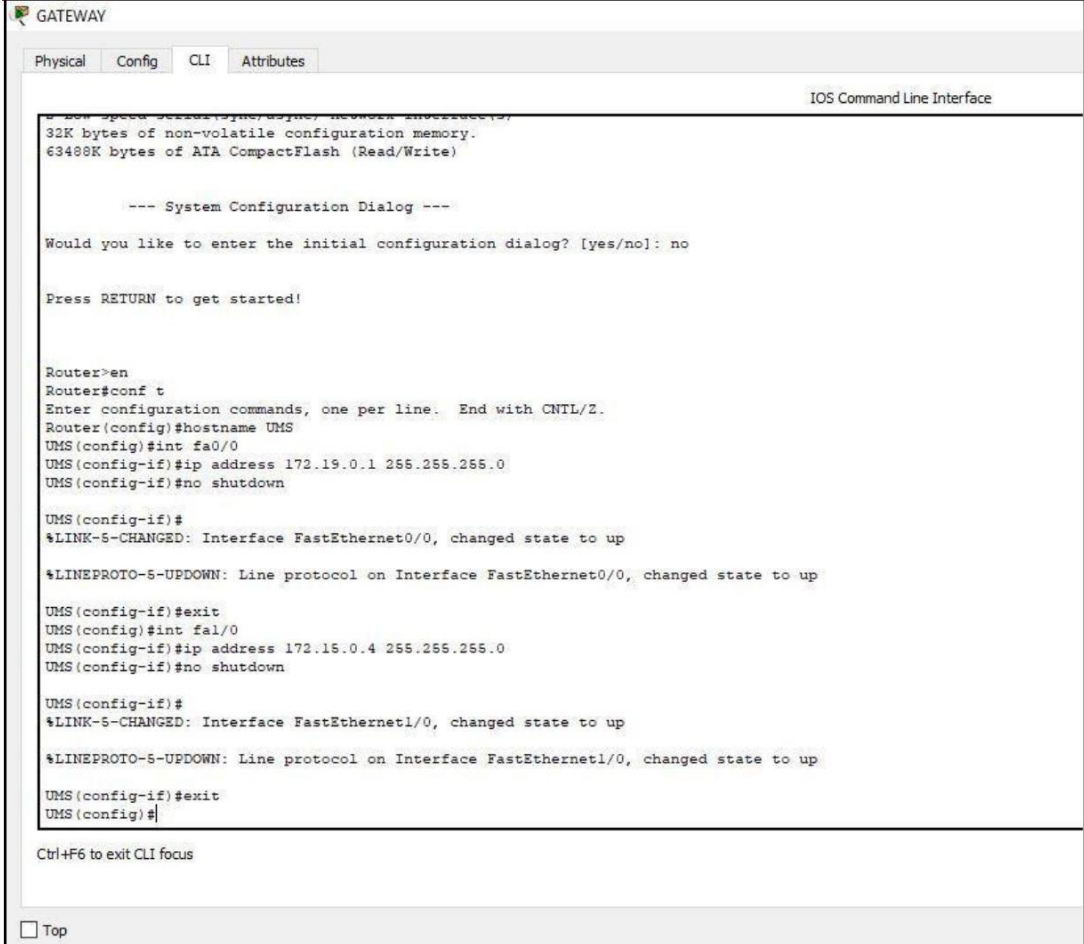
RPL(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

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

RPL(config-if)#exit
RPL(config)#

Ctrl+F6 to exit CLI focus
```

#### d. Router UMS



The screenshot shows a web-based configuration interface for a device named 'GATEWAY'. It has tabs for 'Physical', 'Config', 'CLI', and 'Attributes'. The 'CLI' tab is active, displaying the 'IOS Command Line Interface'. The interface shows the following text:

```
32K bytes of non-volatile configuration memory.  
63488K bytes of ATA CompactFlash (Read/Write)  
  
--- System Configuration Dialog ---  
  
Would you like to enter the initial configuration dialog? [yes/no]: no  
  
Press RETURN to get started!  
  
Router>en  
Router#conf t  
Enter configuration commands, one per line. End with CNTL/Z.  
Router(config)#hostname UMS  
UMS(config)#int fa0/0  
UMS(config-if)#ip address 172.15.0.1 255.255.255.0  
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  
  
UMS(config-if)#exit  
UMS(config)#int fal/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  
UMS(config)#  
  
Ctrl+F6 to exit CLI focus
```

At the bottom left, there is a checkbox labeled 'Top'.

#### 3. Konfigurasi routing table pada 4 router

a. Router Jarkom

```
JARKOM(config)#router rip
JARKOM(config-router)#network 172.15.0.0
JARKOM(config-router)#networj 172.16.0.0
      ^
% Invalid input detected at '^' marker.

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)#
```

b. Router SI

```
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)#
```

Ctrl+F6 to exit CLI focus

c. Router RPL

```
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)#
```

Ctrl+F6 to exit CLI focus

d. 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 masing- masing PC

a. PC Jarkom

The screenshot shows the 'PC JARKOM' configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, showing the following settings:

Field	Value
IP Address	172.16.0.2
Subnet Mask	255.255.255.0
Default Gateway	172.16.0.1
DNS Server	0.0.0.0

The 'IPv6 Configuration' section is also visible, with the following settings:

Field	Value
IPv6 Address	
Link Local Address	FE80::2D0:D3FF:FE30:5C09
IPv6 Gateway	
IPv6 DNS Server	

At the bottom left, there is a 'Top' button.

b. PC SI

PC SI

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.17.0.2

Subnet Mask 255.255.255.0

Default Gateway 172.17.0.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::201:C9FF:FE82:A4C1

IPv6 Gateway

IPv6 DNS Server

☐ Top

c. PC RPL

PC RPL

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IP Address 172.18.0.2

Subnet Mask 255.255.255.0

Default Gateway 172.18.0.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::260:3EFF:FE4C:A785

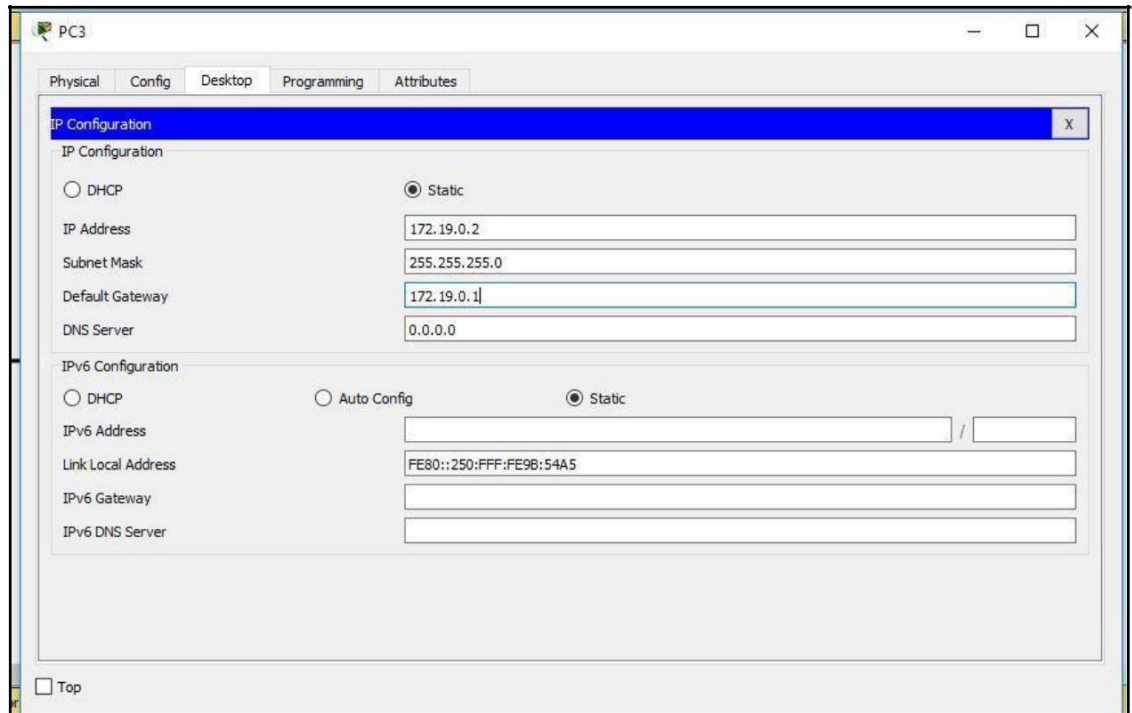
IPv6 Gateway

IPv6 DNS Server

☐ Top



d. PC UMS



2. Lakukan pengujian ICMP request(ping) untuk test koneksi a. PC UMS ke PC Jarkom

```
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=12ms TTL=126
Reply from 172.16.0.2: bytes=32 time=12ms TTL=126
Reply from 172.16.0.2: bytes=32 time=12ms 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 = 1ms, Maximum = 12ms, Average = 9ms
```

- b. PC UMS ke PC SI

```
C:\>ping 172.18.0.2

Pinging 172.18.0.2 with 32 bytes of data:

Reply from 172.18.0.2: bytes=32 time<1ms TTL=126
Reply from 172.18.0.2: bytes=32 time=15ms TTL=126
Reply from 172.18.0.2: bytes=32 time=19ms TTL=126
Reply from 172.18.0.2: bytes=32 time=12ms TTL=126

Ping statistics for 172.18.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 19ms, Average = 11ms

C:\>
```

- c. PC UMS ke PC RPL

```
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=19ms TTL=126  
Reply from 172.17.0.2: bytes=32 time=10ms TTL=126  
Reply from 172.17.0.2: bytes=32 time=12ms 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 = 19ms, Average = 10ms
```