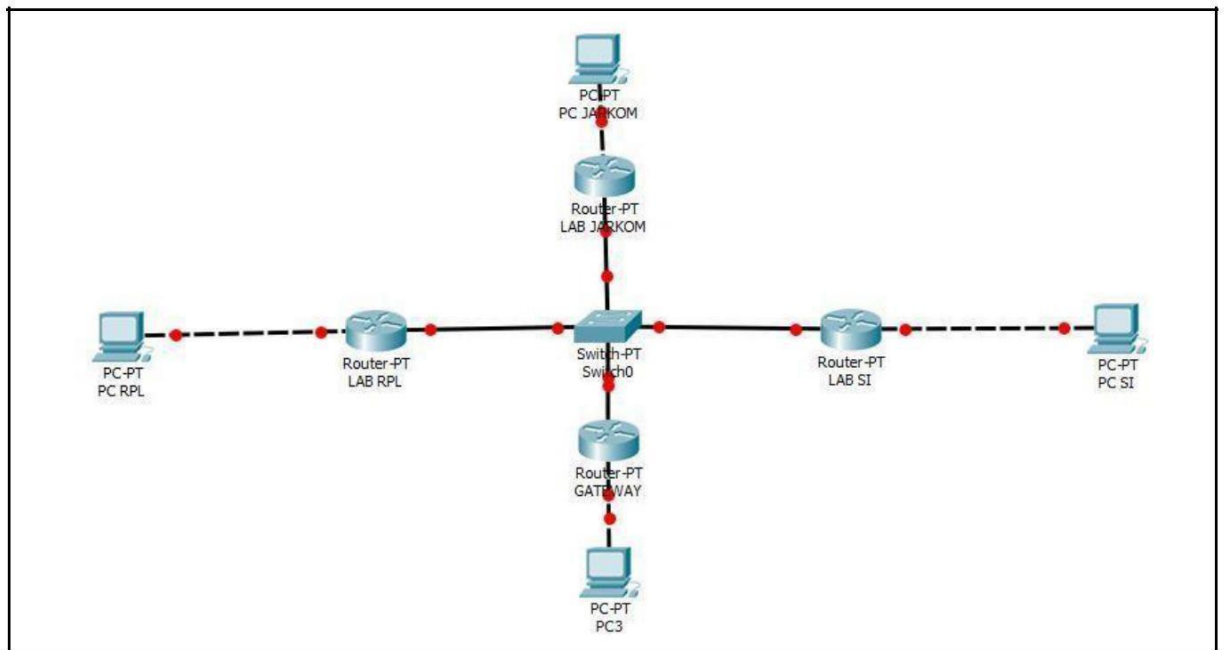


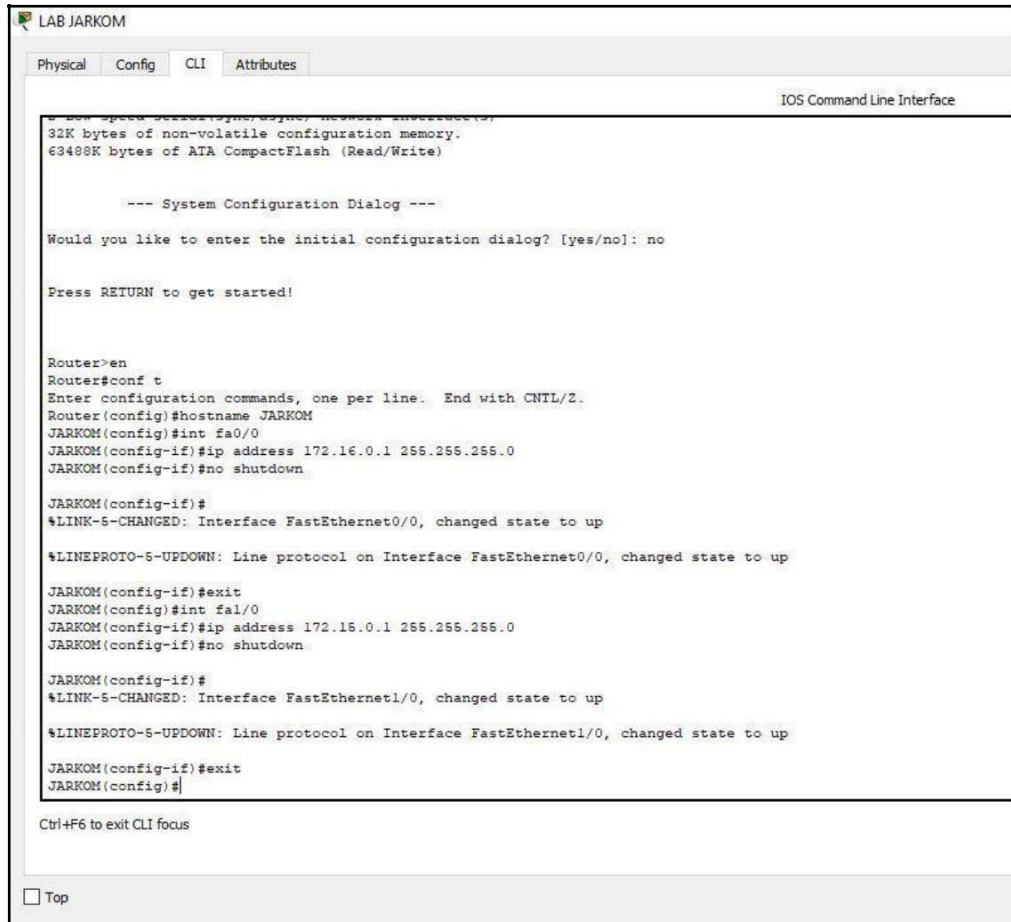
Nama : Ahmad Rozin
NIM : L200170135
Kelas C
Modul 11

1. Buat topologi seperti pada gambar.



2. Konfigurasi semua router

A. Router Jarkom



The screenshot displays the LAB JARKOM environment with the IOS Command Line Interface. The interface includes tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, showing the following commands and their outputs:

```
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

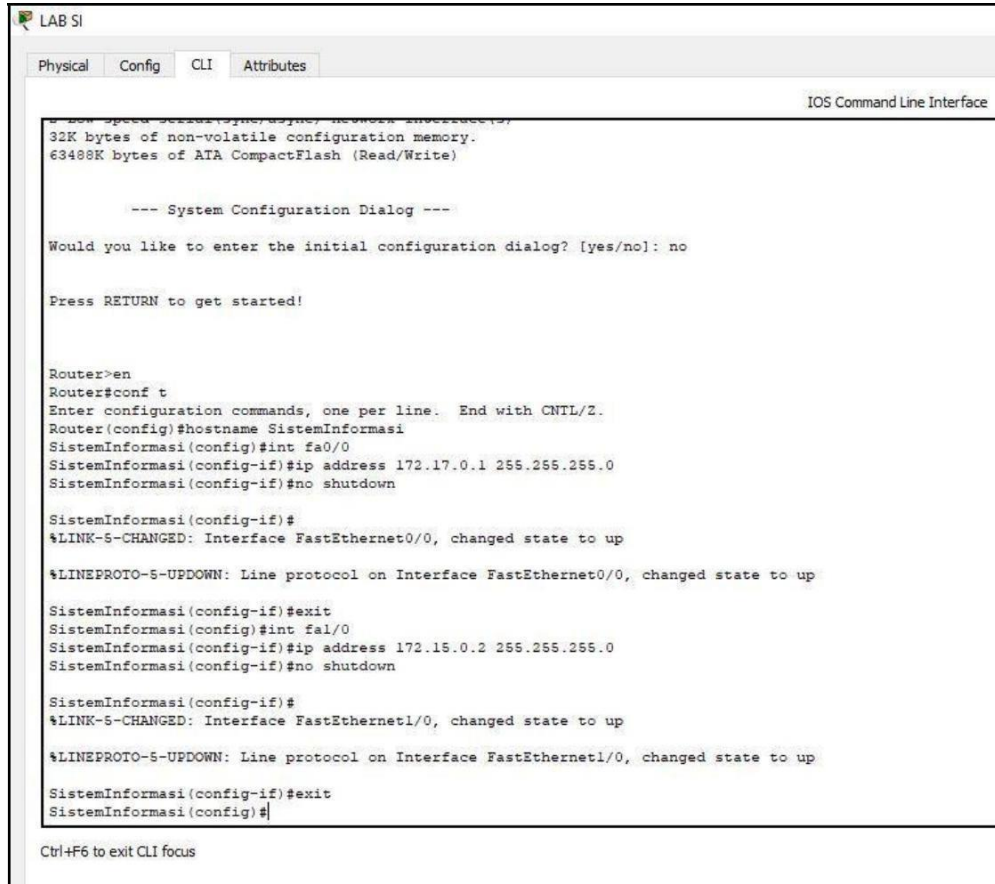
JARKOM(config-if)#exit
JARKOM(config)#int fa1/0
JARKOM(config-if)#ip address 172.15.0.1 255.255.255.0
JARKOM(config-if)#no shutdown

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)#
```

At the bottom of the CLI window, there is a note: "Ctrl+F6 to exit CLI focus". A "Top" link is also present at the bottom left of the interface.

B. Router SI



LAB SI

Physical Config CLI Attributes

IOS Command Line Interface

```
Low Speed Serial (Sync/Async) Network Interface(s)
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 fal/0
SistemInformasi(config-if)#ip address 172.15.0.2 255.255.255.0
SistemInformasi(config-if)#no shutdown

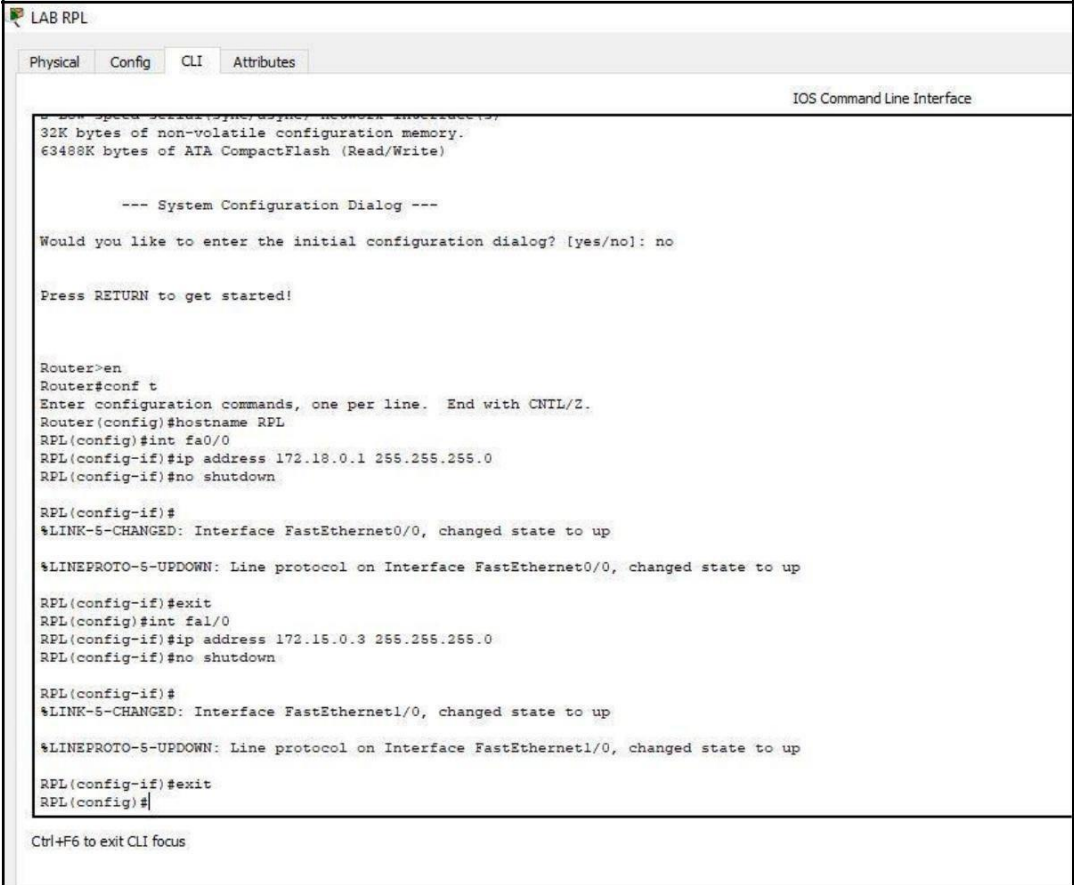
SistemInformasi(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up

%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 tabs for "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, the user configures the FastEthernet0/0 interface with IP address 172.18.0.1 and 255.255.255.0, and enables it. Then, the user configures the FastEthernet1/0 interface with IP address 172.15.0.3 and 255.255.255.0, and enables it. Finally, the user exits the configuration mode. The interface also shows the status of the interfaces: "Interface FastEthernet0/0, changed state to up" and "Interface FastEthernet1/0, changed state to 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

 GATEWAY

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 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

☐ 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)#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)#
```

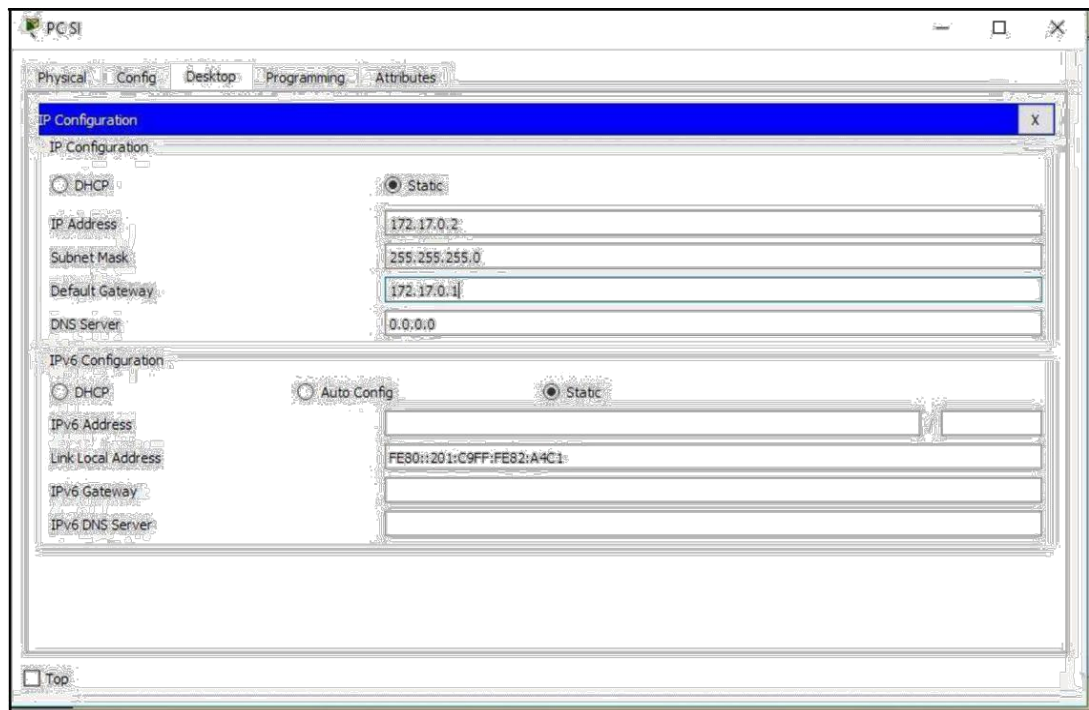
4. Konfigurasi IP pada masing- masing PC

A. PC Jarkom

The screenshot shows the 'PC JARKOM' configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, displaying settings for both IPv4 and IPv6. The IPv4 configuration is set to 'Static' with the following values: IP Address (172.16.0.2), Subnet Mask (255.255.255.0), Default Gateway (172.16.0.1), and DNS Server (0.0.0.0). The IPv6 configuration is also set to 'Static' with the following values: IPv6 Address (empty), Link Local Address (FE80::2D0:D3FF:FE30:5C09), IPv6 Gateway (empty), and IPv6 DNS Server (empty). A 'Top' button is located at the bottom left of the window.

Configuration Type	Option	Field	Value
IP Configuration	<input checked="" type="radio"/> Static	IP Address	172.16.0.2
		Subnet Mask	255.255.255.0
		Default Gateway	172.16.0.1
		DNS Server	0.0.0.0
IPv6 Configuration	<input checked="" type="radio"/> Static	IPv6 Address	
		Link Local Address	FE80::2D0:D3FF:FE30:5C09
		IPv6 Gateway	
		IPv6 DNS Server	

B. PC SI

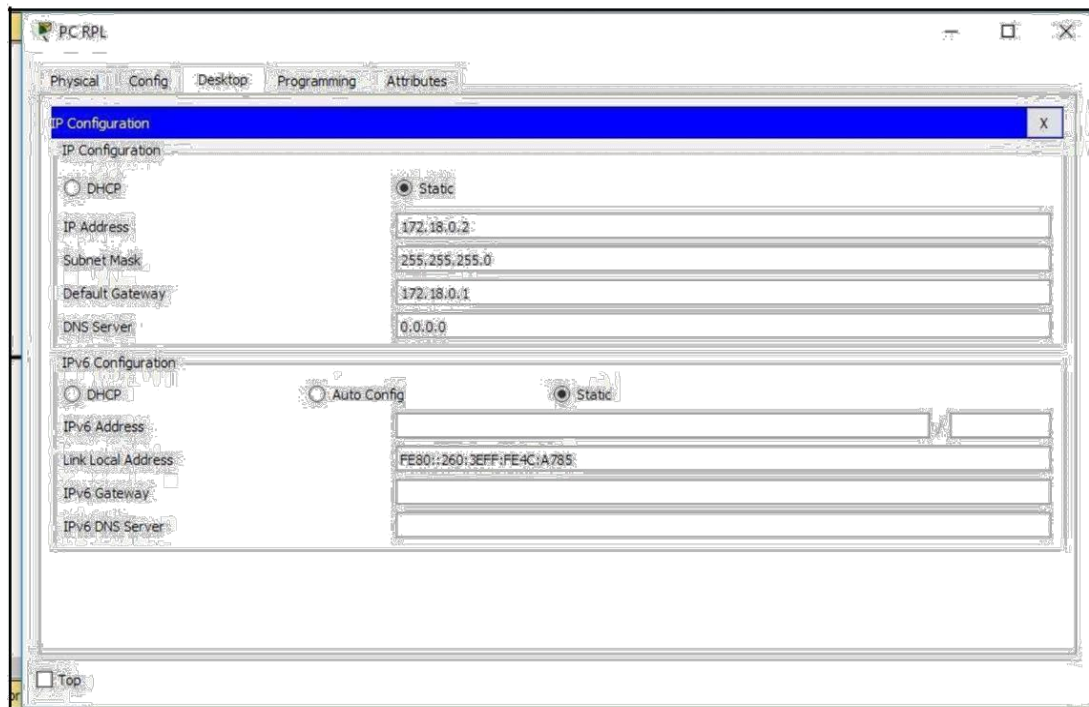


The screenshot shows the 'PC SI' configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, showing 'Static' as the selected option. The IP Address is 172.17.0.2, Subnet Mask is 255.255.255.0, and Default Gateway is 172.17.0.1. The DNS Server is 0.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected and a Link Local Address of FE80::201:C9FF:FE82:A4C1.

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> 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		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::201:C9FF:FE82:A4C1	
IPv6 Gateway		
IPv6 DNS Server		

C. PC RPL

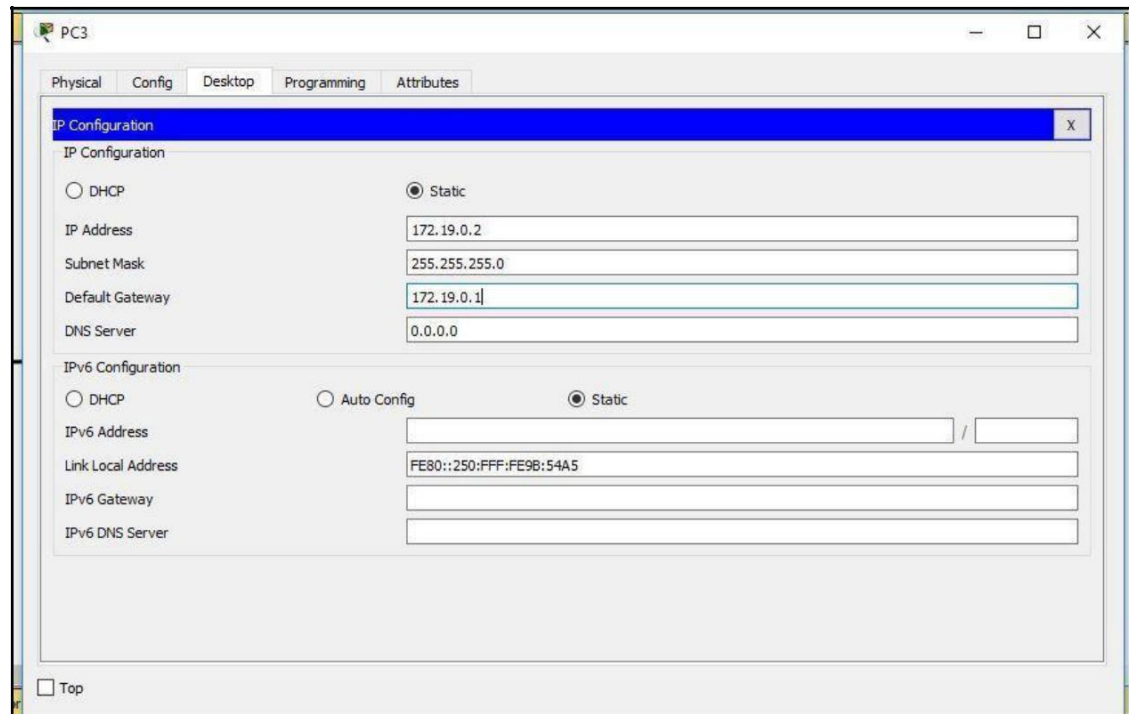


The screenshot shows the 'PC RPL' configuration window with the 'Config' tab selected. The 'IP Configuration' section is active, showing 'Static' as the selected option. The IP Address is 172.18.0.2, Subnet Mask is 255.255.255.0, and Default Gateway is 172.18.0.1. The DNS Server is 0.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected and a Link Local Address of FE80::260:3EFF:FE4C:A785.

IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> 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		
<input type="radio"/> DHCP	<input type="radio"/> Auto Config	<input checked="" type="radio"/> Static
IPv6 Address		
Link Local Address	FE80::260:3EFF:FE4C:A785	
IPv6 Gateway		
IPv6 DNS Server		

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
```