

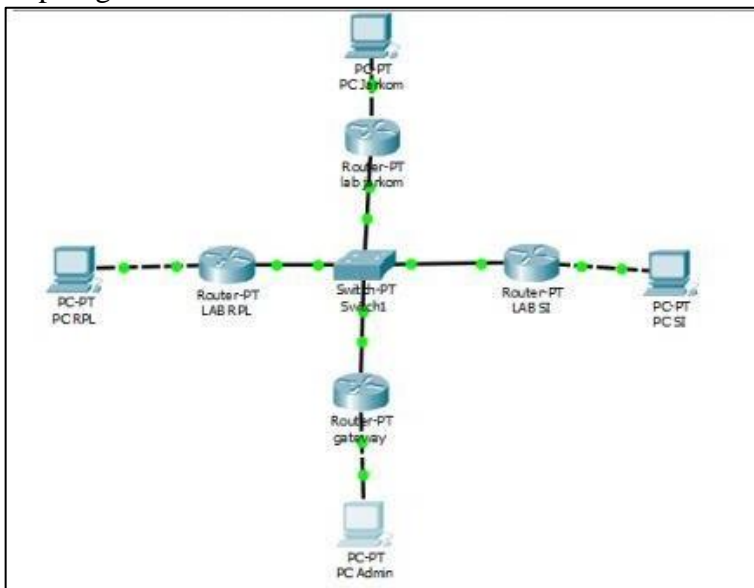
LAPORAN PRAKTIKUM JARINGAN KOMPUTER
MODUL 11
“PERANCANGAN JARINGAN LABORATORIUM SEDERHANA
MENGGUNAKAN PACKET TRACER”

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Kelas : D

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

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1. Topologi



2. Konfigurasi Router Jarkom

```
Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa /0
^
% Invalid input detected at '^' marker.

Router(config)#int fa 0/0
Router(config-if)#ip address 172.16.0.1 255.255.255.0
Router(config-if)#no shutdown

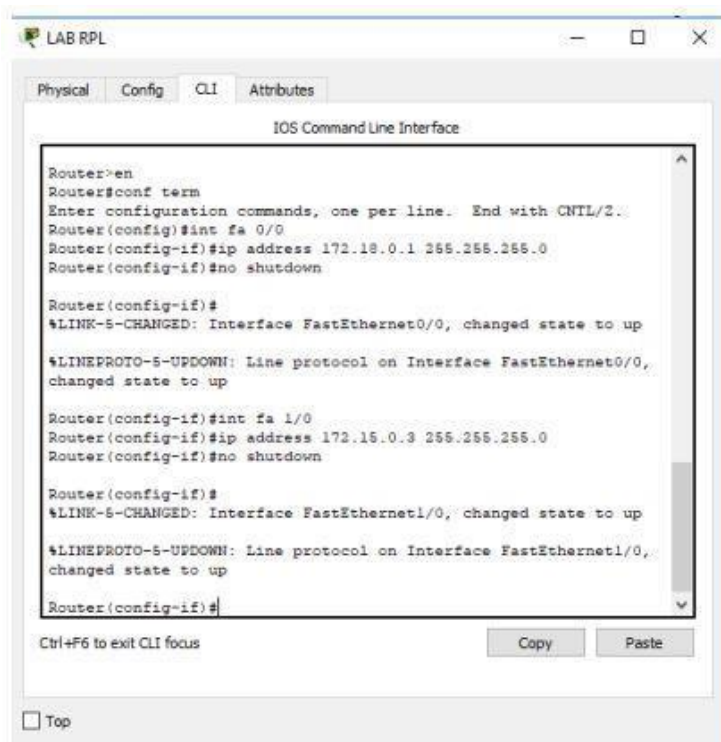
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router(config-if)#int fa 1/0
Router(config-if)#ip address 172.18.0.1 255.255.255.0
Router(config-if)#no shutdown

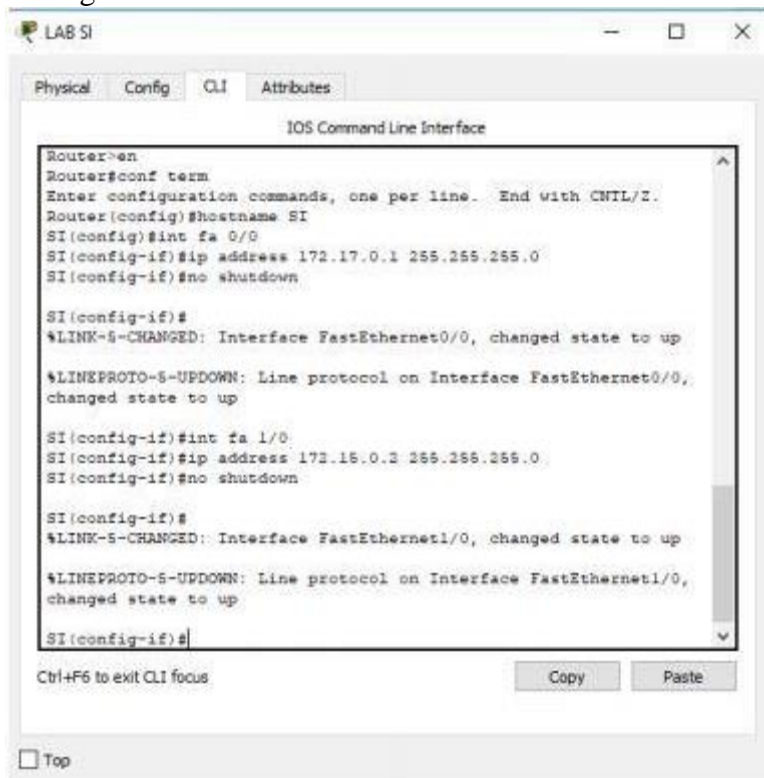
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state to up

Router(config-if)#ex
Router(config)#hostname jarkom
jarkom(config)#
```

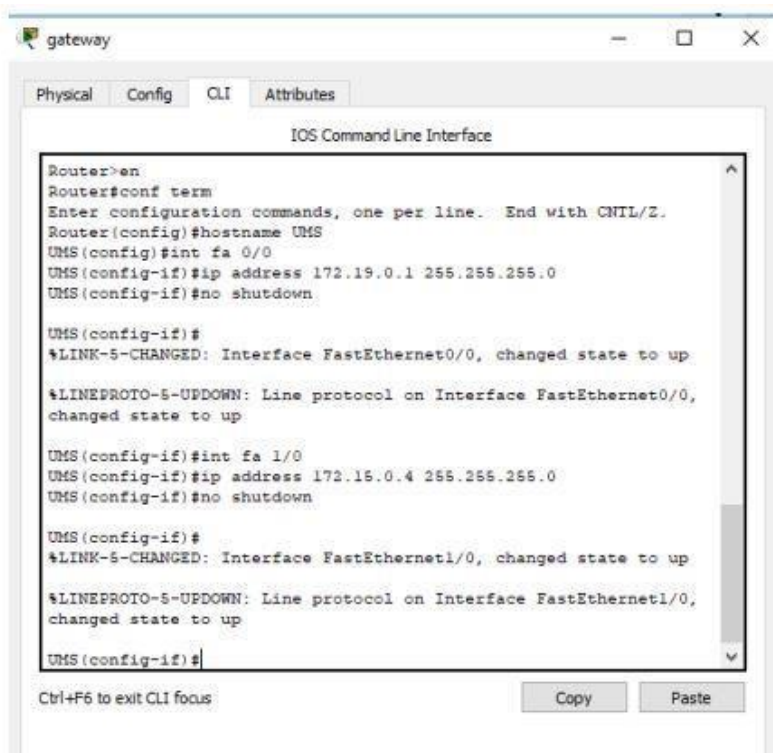
3. Konfigurasi Router RPL



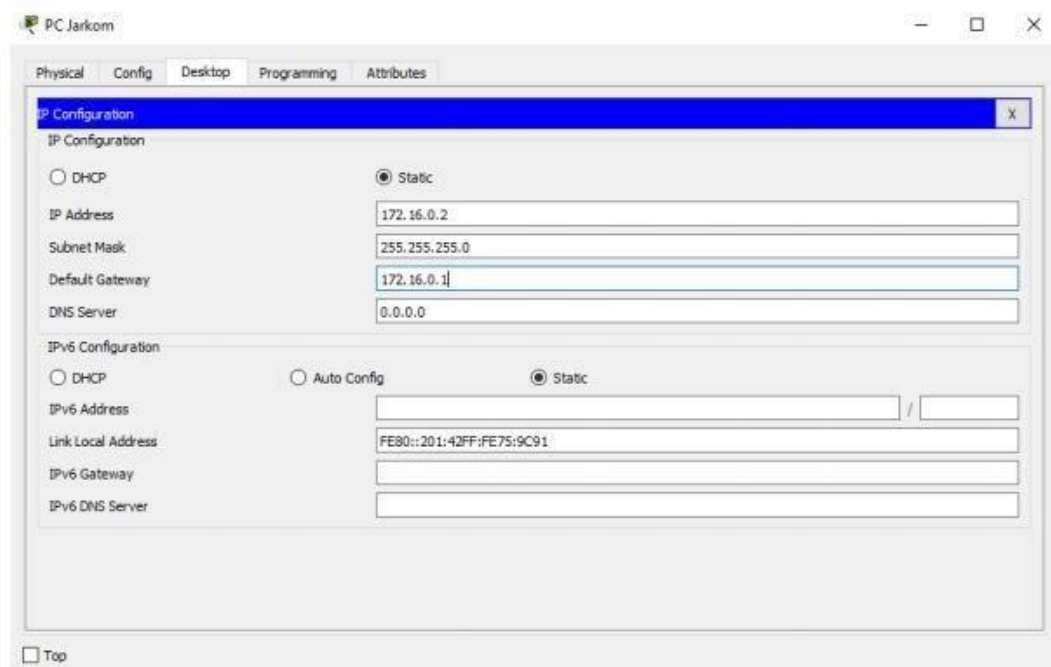
4. Konfigurasi Router SI



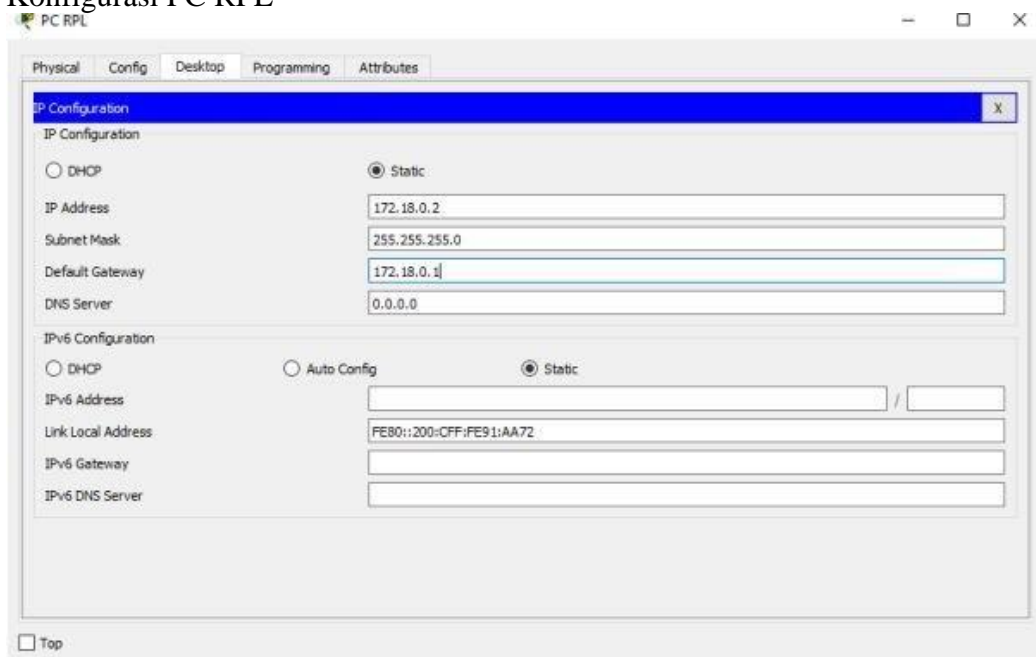
5. Konfigurasi Router Gateway



6. Konfigurasi PC Jarkom



7. Konfigurasi 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, Default Gateway is 172.18.0.1, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected and a Link Local Address of FE80::200:OFF:FE91:AA72.

Physical Config Desktop Programming Attributes

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: /

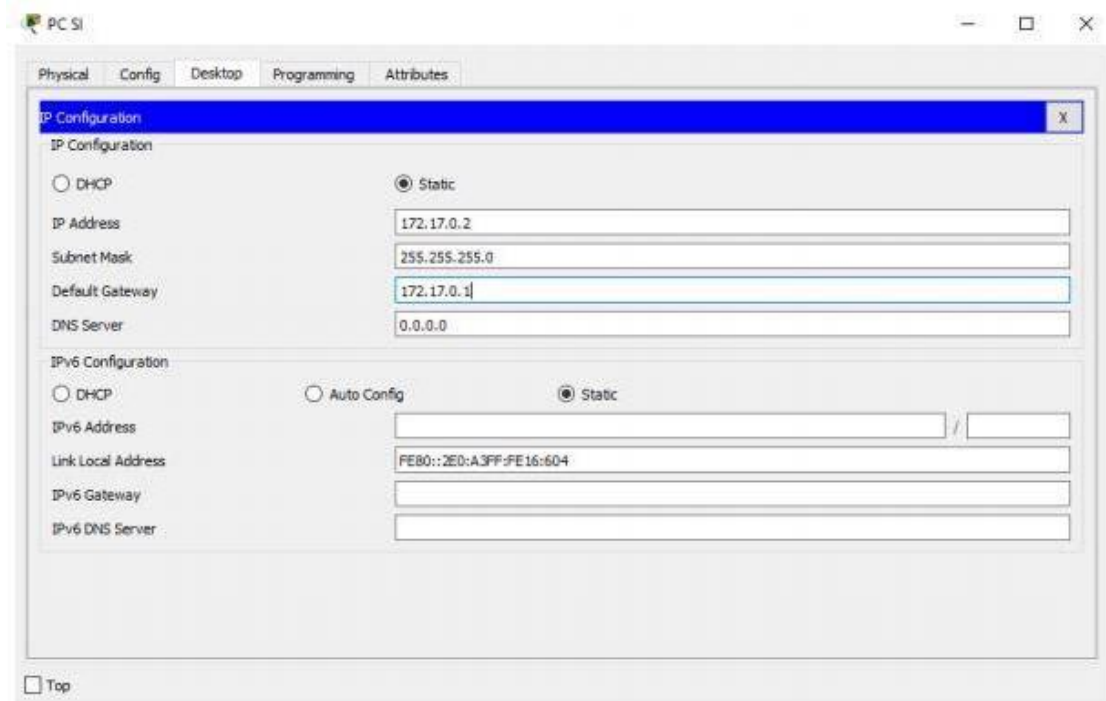
Link Local Address: FE80::200:OFF:FE91:AA72

IPv6 Gateway:

IPv6 DNS Server:

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8. Konfigurasi 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, Default Gateway is 172.17.0.1, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' section is also visible, with 'Static' selected and a Link Local Address of FE80::2E0:A3FF:FE16:604.

Physical Config Desktop Programming Attributes

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: /

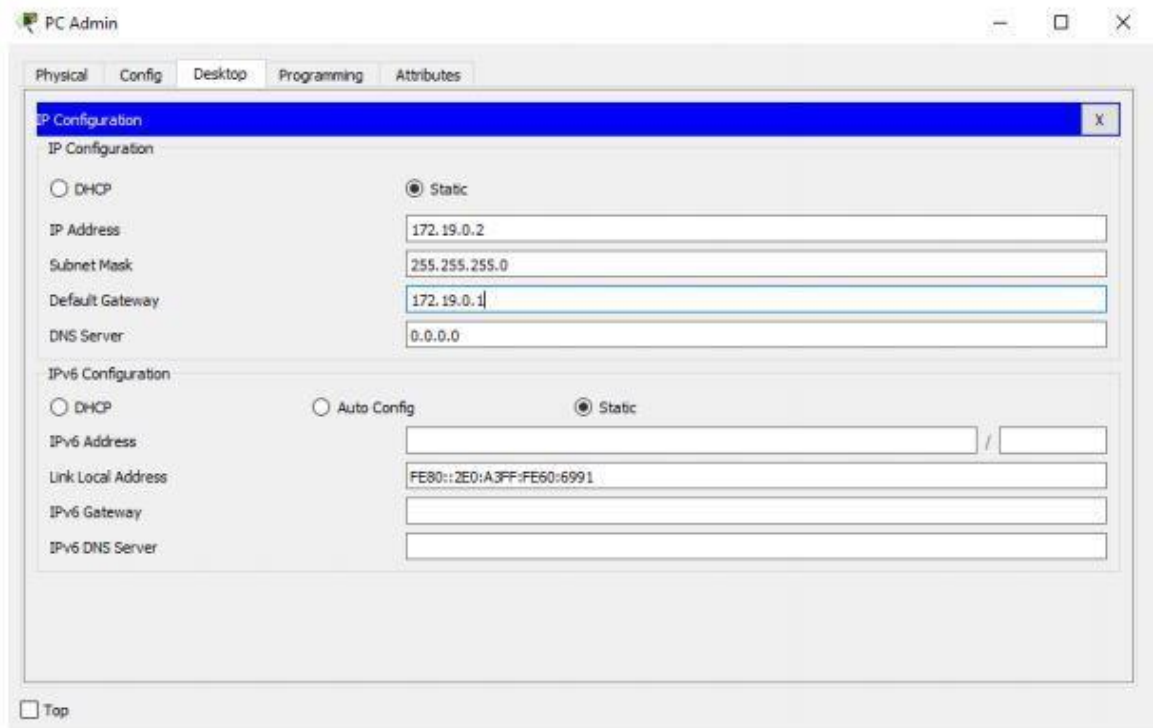
Link Local Address: FE80::2E0:A3FF:FE16:604

IPv6 Gateway:

IPv6 DNS Server:

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9. Konfigurasi PC Admin



10. Routing Router Jarkom

```
jarkom>en
jarkom#conf term
Enter configuration commands, one per line. End with CNTL/Z.
jarkom(config)#ip route 172.18.0.0 255.255.255.0 172.15.0.3
jarkom(config)#ip route 172.17.0.0 255.255.255.0 172.15.0.2
jarkom(config)#ip route 172.19.0.0 255.255.255.0 172.15.0.4
jarkom(config)#
```

11. Routing Router RPL

```
RPL(config)#ip route 172.16.0.0 255.255.255.0 172.15.0.1
RPL(config)#ip route 172.17.0.0 255.255.255.0 172.15.0.2
RPL(config)#ip route 172.19.0.0 255.255.255.0 172.15.0.4
RPL(config)#
```

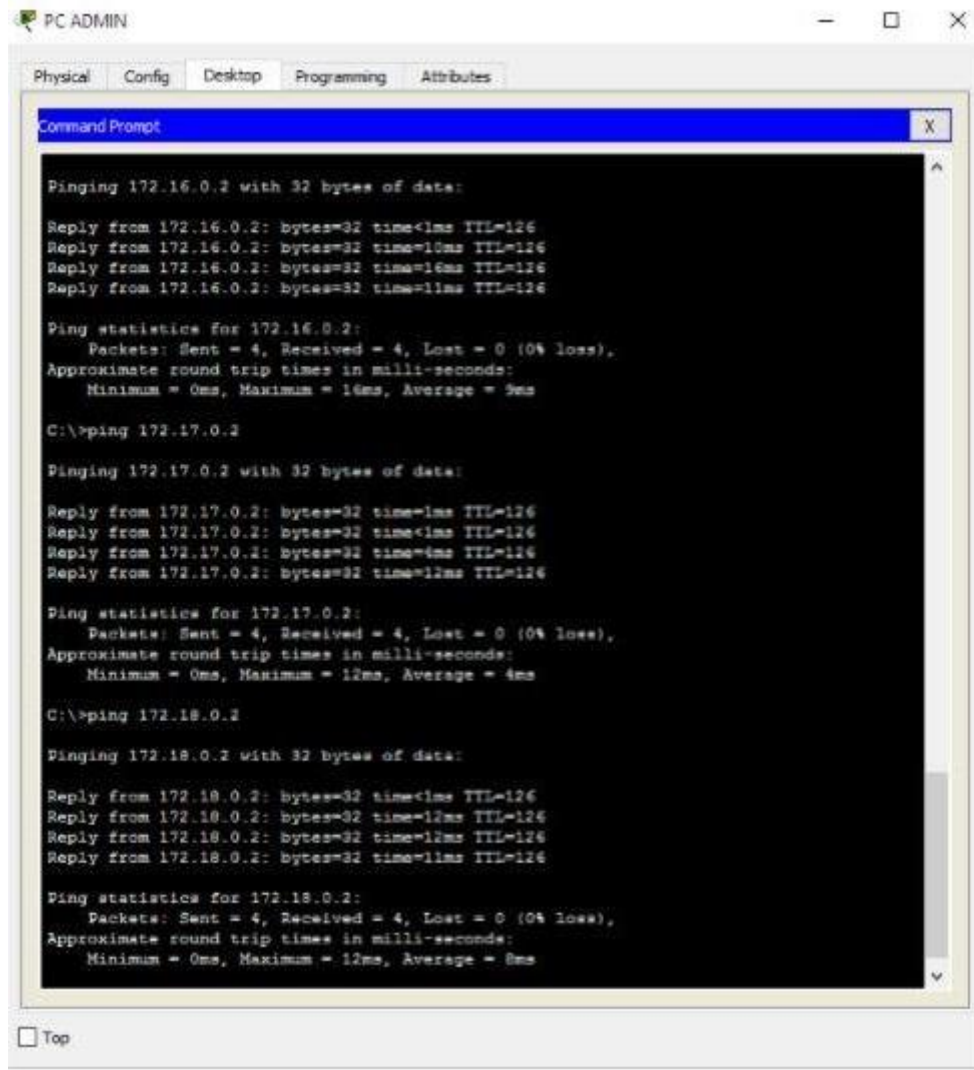
12. Routing Router SI

```
SI>en
SI#conf term
Enter configuration commands, one per line. End with CNTL/Z.
SI(config)#ip route 172.16.0.0 255.255.255.0 172.15.0.1
SI(config)#ip route 172.18.0.0 255.255.255.0 172.15.0.3
SI(config)#ip route 172.19.0.0 255.255.255.0 172.15.0.4
SI(config)#
```

13. Routing Router Gateway

```
UMS(config)#ip route 172.16.0.0 255.255.255.0 172.15.0.1
UMS(config)#ip route 172.18.0.0 255.255.255.0 172.15.0.3
UMS(config)#ip route 172.17.0.0 255.255.255.0 172.15.0.2
UMS(config)#
```

14. Melakukan uji koneksi / ping

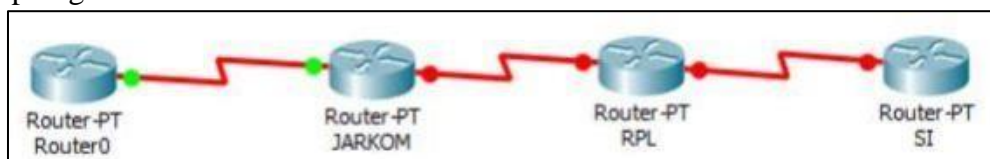


Buatlah topologi jaringan BUS untuk membangun sebuah laboratorium komputer yang terdiri dari 3 router(jarkom,RPL,SI) dan berpusat pada 1 router gateway dengan metode routing :

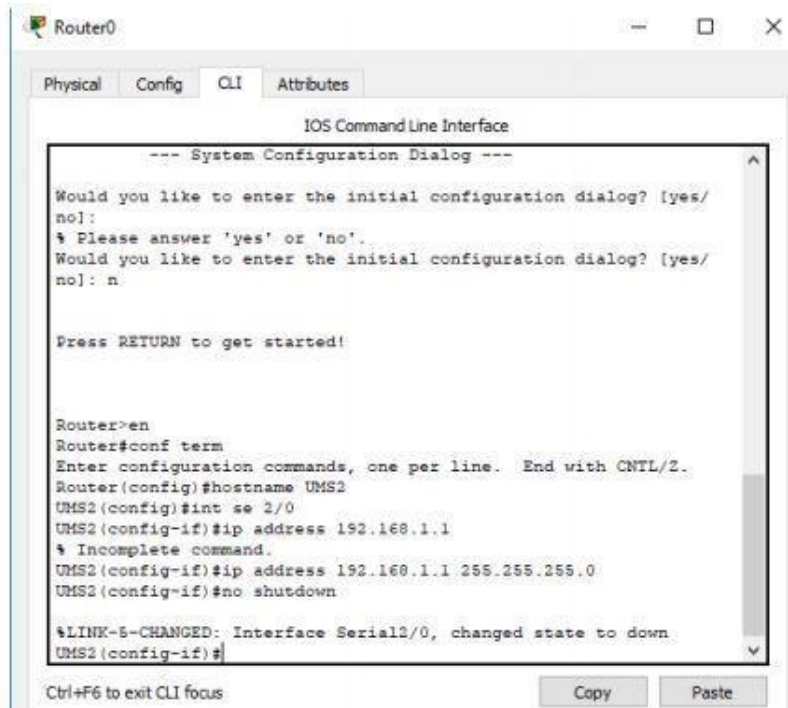
- Statis
- Dinamis

⇒

1. Topologi



2. Konfigurasi Router UMS2



The screenshot shows a window titled 'Router0' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The interface shows a 'System Configuration Dialog' where the user has responded 'n' to the question 'Would you like to enter the initial configuration dialog?'. Below this, the user has entered 'en' to enter configuration mode. The configuration commands entered are: 'conf term', 'hostname UMS2', 'int se 2/0', 'ip address 192.168.1.1', and 'no shutdown'. The interface also shows a message '%LINK-S-CHANGED: Interface Serial2/0, changed state to down.' and the prompt 'UMS2(config-if)#'. At the bottom, there is a 'Ctrl+F6 to exit CLI focus' message and 'Copy' and 'Paste' buttons.

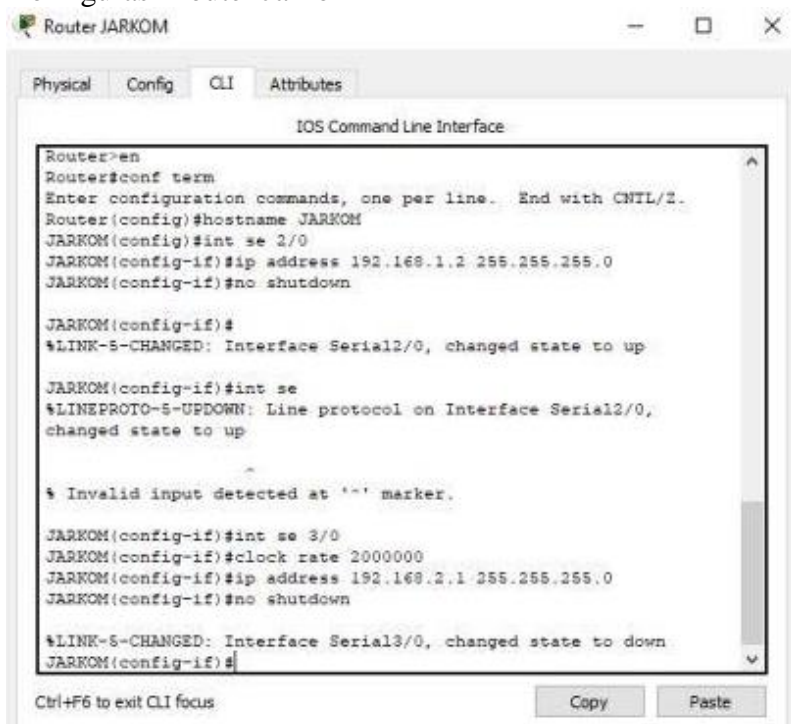
```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
--- System Configuration Dialog ---
Would you like to enter the initial configuration dialog? [yes/no]:
% Please answer 'yes' or 'no'.
Would you like to enter the initial configuration dialog? [yes/no]: n
Press RETURN to get started!

Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname UMS2
UMS2(config)#int se 2/0
UMS2(config-if)#ip address 192.168.1.1
% Incomplete command.
UMS2(config-if)#ip address 192.168.1.1 255.255.255.0
UMS2(config-if)#no shutdown

%LINK-S-CHANGED: Interface Serial2/0, changed state to down.
UMS2(config-if)#

Ctrl+F6 to exit CLI focus Copy Paste
```

3. Konfigurasi Router Jarkom



The screenshot shows a window titled 'Router JARKOM' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The interface shows the user entering 'en' to enter configuration mode. The configuration commands entered are: 'conf term', 'hostname JARKOM', 'int se 2/0', 'ip address 192.168.1.2 255.255.255.0', and 'no shutdown'. The interface also shows a message '%LINK-S-CHANGED: Interface Serial2/0, changed state to up'. The user then enters 'int se 3/0', 'clock rate 2000000', 'ip address 192.168.2.1 255.255.255.0', and 'no shutdown'. The interface also shows a message '%LINK-S-CHANGED: Interface Serial3/0, changed state to down.' and the prompt 'JARKOM(config-if)#'. At the bottom, there is a 'Ctrl+F6 to exit CLI focus' message and 'Copy' and 'Paste' buttons.

```
Router JARKOM
Physical Config CLI Attributes
IOS Command Line Interface
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-S-CHANGED: Interface Serial2/0, changed state to up

JARKOM(config-if)#int se
%LINEPROTO-S-UPDOWN: Line protocol on Interface Serial2/0,
changed state to up

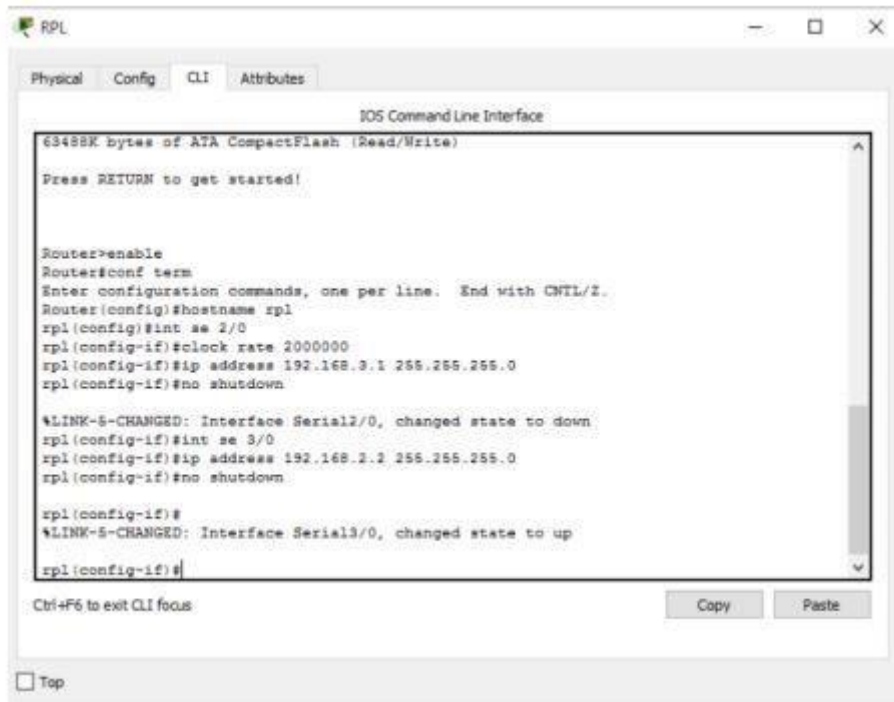
% Invalid input detected at '-' marker.

JARKOM(config-if)#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

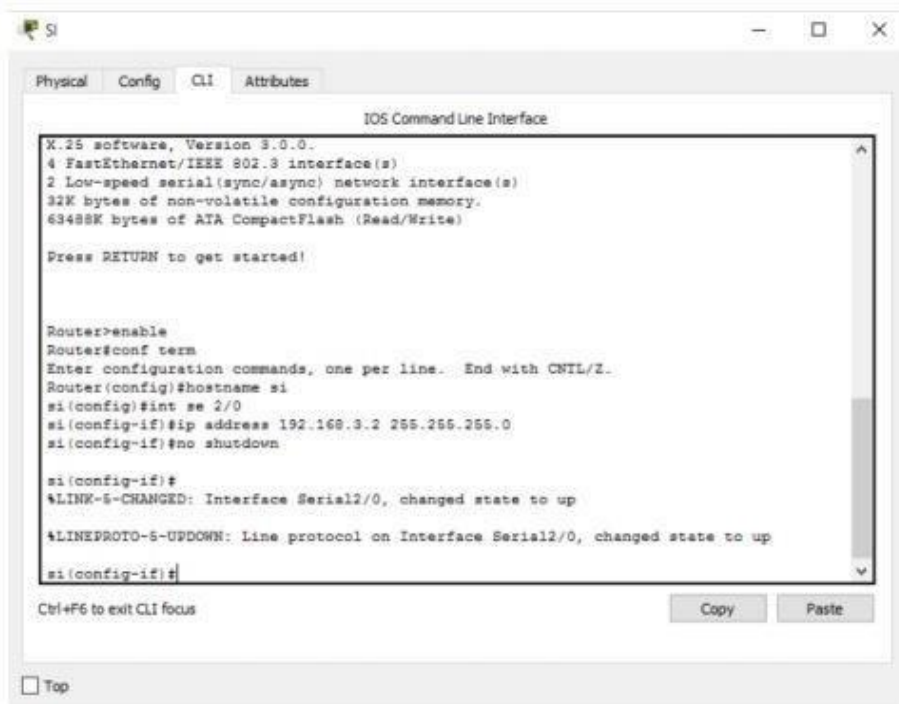
%LINK-S-CHANGED: Interface Serial3/0, changed state to down
JARKOM(config-if)#

Ctrl+F6 to exit CLI focus Copy Paste
```

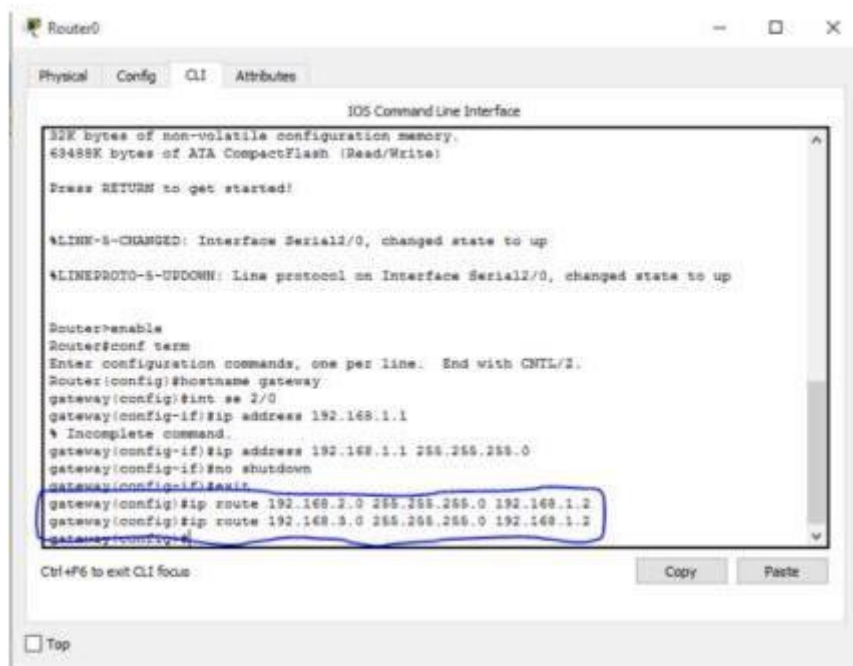
4. Konfigurasi Router RPL



5. Konfigurasi Router SI



6. Routing Router UMS2



```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
32K bytes of non-volatile configuration memory.
68488K bytes of ATA CompactFlash (Read/Write)

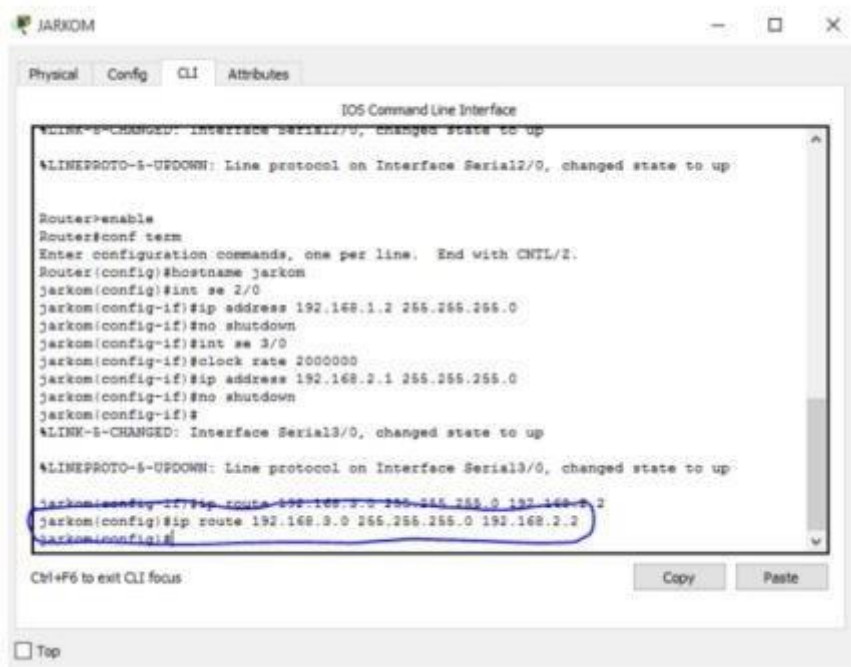
Press RETURN to get started!

%LINK-3-CHANGED: Interface Serial2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router>enable
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname gateway
gateway(config)#int s2/0
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)#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)#

Ctrl+F6 to exit CLI focus
```

7. Routing Router Jarkom



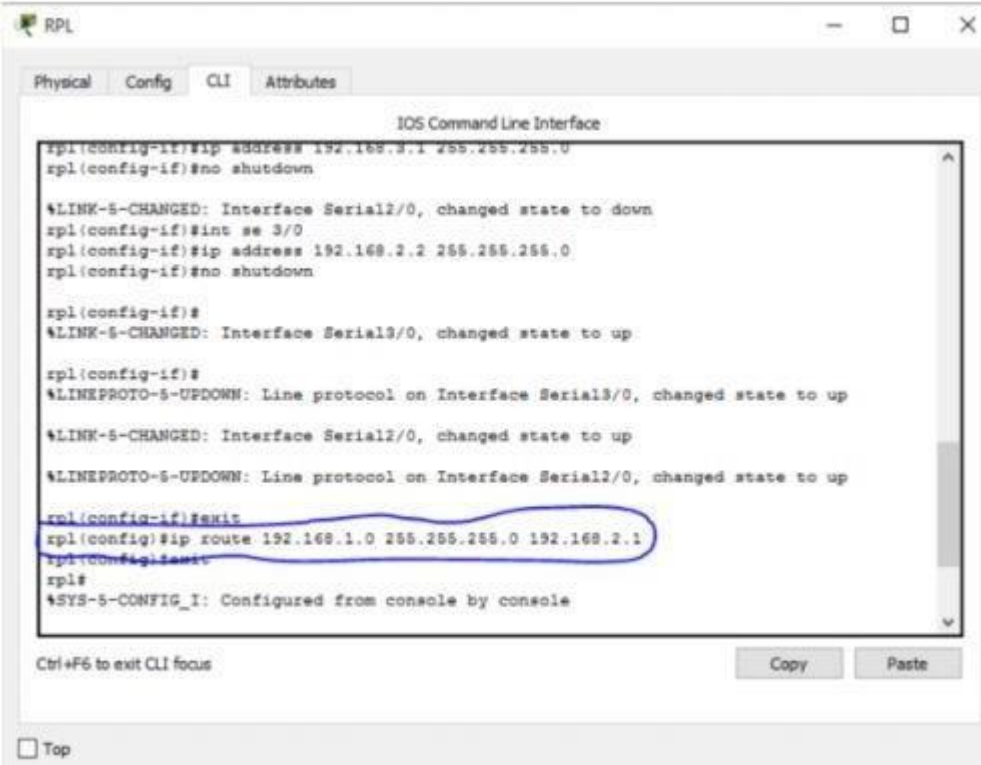
```
JARKOM
Physical Config CLI Attributes
IOS Command Line Interface
%LINK-3-CHANGED: Interface Serial2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router>enable
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname jarkom
jarkom(config)#int s2/0
jarkom(config-if)#ip address 192.168.1.2 255.255.255.0
jarkom(config-if)#no shutdown
jarkom(config-if)#int s3/0
jarkom(config-if)#clock rate 2000000
jarkom(config-if)#ip address 192.168.2.1 255.255.255.0
jarkom(config-if)#no shutdown
jarkom(config-if)#
%LINK-3-CHANGED: Interface Serial3/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

jarkom(config)#ip route 192.168.3.0 255.255.255.0 192.168.1.2
jarkom(config)#ip route 192.168.3.0 255.255.255.0 192.168.2.2
jarkom(config)#

Ctrl+F6 to exit CLI focus
```

8. Routing Router RPL



The screenshot shows the RPL router's CLI interface. The user is in configuration mode for interface Serial2/0, then Serial3/0, and finally in global configuration mode. The commands entered are: `rpl(config-if)#ip address 192.168.3.1 255.255.255.0`, `rpl(config-if)#no shutdown`, `rpl(config-if)#int se 3/0`, `rpl(config-if)#ip address 192.168.2.2 255.255.255.0`, `rpl(config-if)#no shutdown`, `rpl(config-if)#`, `rpl(config-if)#`, `rpl(config-if)#`, `rpl(config-if)#exit`, `rpl(config)#ip route 192.168.1.0 255.255.255.0 192.168.2.1`, `rpl(config)#exit`, and `rpl#`. The final output is `%SYS-5-CONFIG_I: Configured from console by console`. The command `rpl(config-if)#exit` is circled in blue.

```
rpl>configure terminal
rpl(config-if)#ip address 192.168.3.1 255.255.255.0
rpl(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down

rpl(config-if)#int se 3/0
rpl(config-if)#ip address 192.168.2.2 255.255.255.0
rpl(config-if)#no shutdown

rpl(config-if)#
%LINK-5-CHANGED: Interface Serial3/0, changed state to up

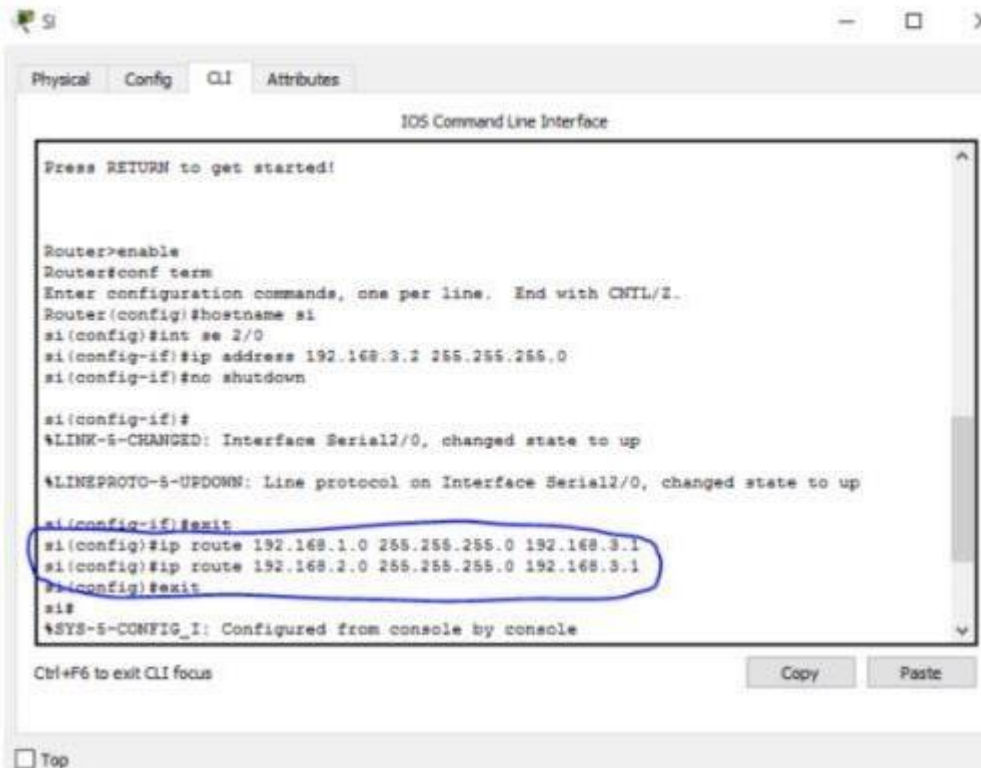
rpl(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

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

rpl(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

rpl(config-if)#exit
rpl(config)#ip route 192.168.1.0 255.255.255.0 192.168.2.1
rpl(config)#exit
rpl#
%SYS-5-CONFIG_I: Configured from console by console
```

9. Routing Router SI



The screenshot shows the SI router's CLI interface. The user is in configuration mode for interface Serial2/0, then in global configuration mode. The commands entered are: `Router>enable`, `Router#conf term`, `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)#`, `si(config-if)#`, `si(config-if)#exit`, `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)#exit`, and `si#`. The final output is `%SYS-5-CONFIG_I: Configured from console by console`. The command `si(config-if)#exit` is circled in blue.

```
Press RETURN to get started!

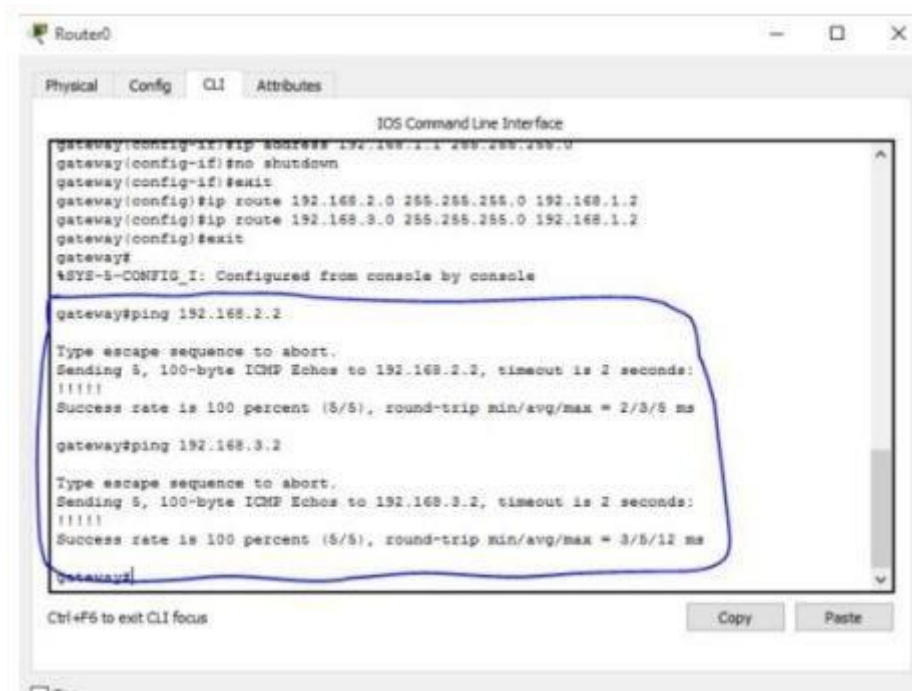
Router>enable
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname si
si(config)#int se 2/0
si(config-if)#ip address 192.168.3.2 255.255.255.0
si(config-if)#no shutdown

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

si(config-if)#exit
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)#exit
si#
%SYS-5-CONFIG_I: Configured from console by console
```

10. Melakukan uji koneksi(ping)



The screenshot shows a Cisco Packet Tracer window titled "Router0" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface". The configuration commands entered are:

```
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#
```

A system message follows: "%SYS-5-CONFIG_I: Configured from console by console".

Two ping tests are performed, with their results highlighted by a blue hand-drawn box:

```
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

gateway#
```

At the bottom of the CLI window, it says "Ctrl+F5 to exit CLI focus". There are "Copy" and "Paste" buttons on the right side of the CLI area.

