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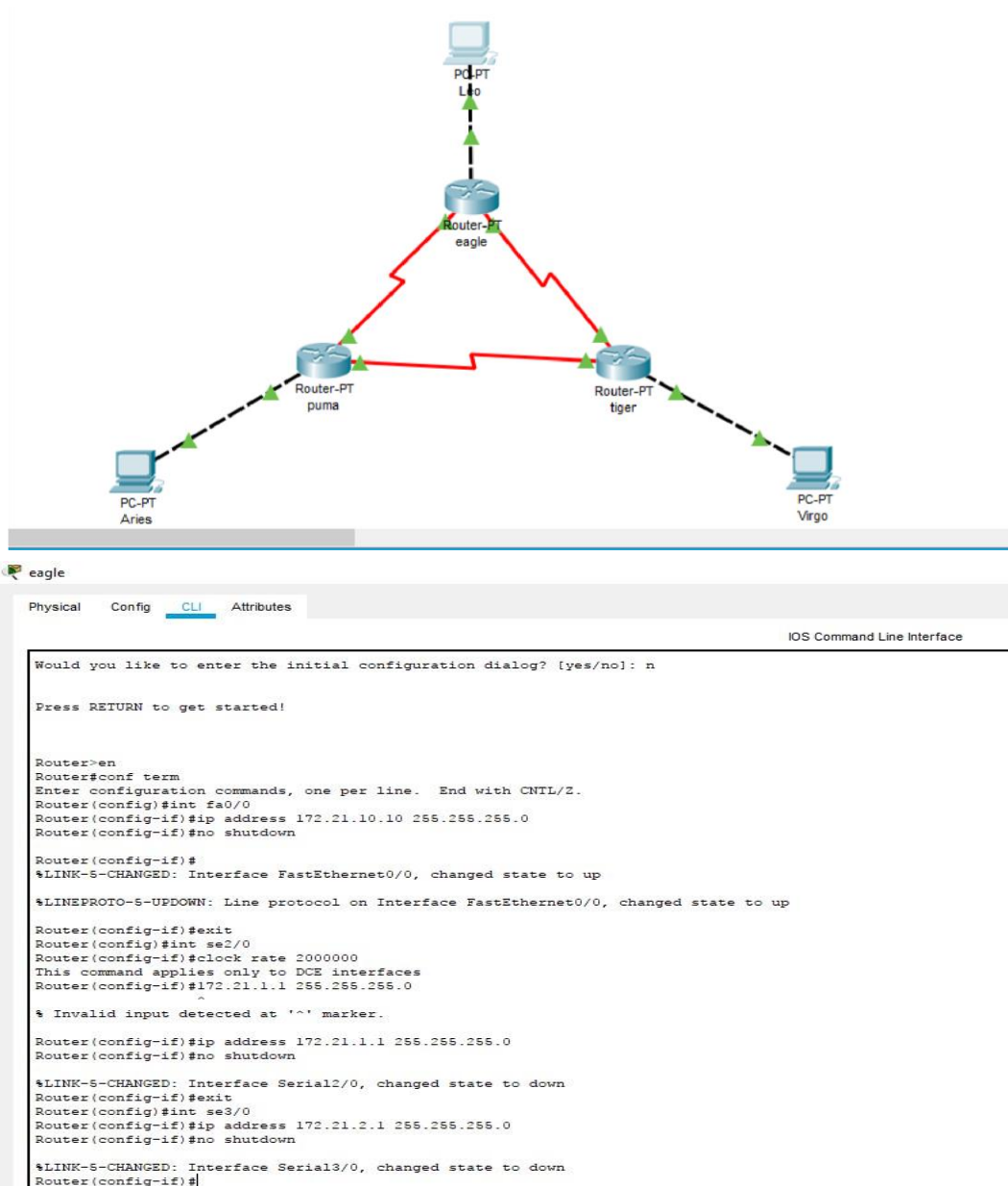
NIM : L200170146

KELAS : D

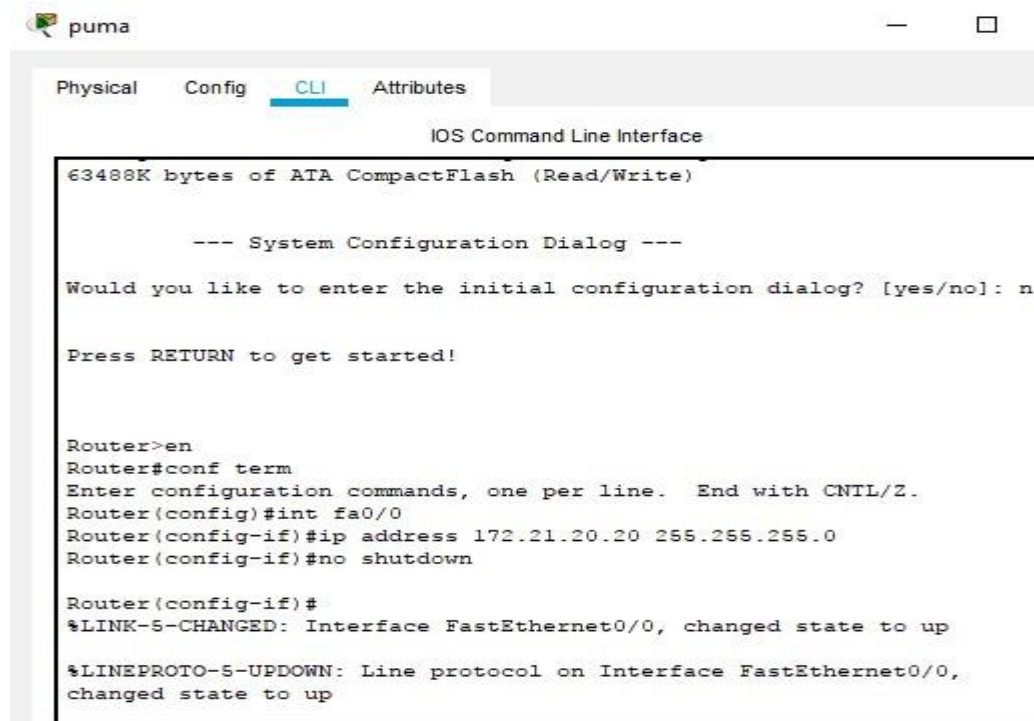
PRAKTIKUM JARKOM – TUGAS MODUL 7 (KEG 1)

1. Konfigurasi masing-masing Interface pada tiap Router dengan IP Address.

a. Router Eagle



b. Router Puma



The screenshot shows the Router Puma CLI interface with tabs for Physical, Config, CLI (selected), and Attributes. The CLI window displays the following text:

```
63488K bytes of ATA CompactFlash (Read/Write)

--- System Configuration Dialog ---

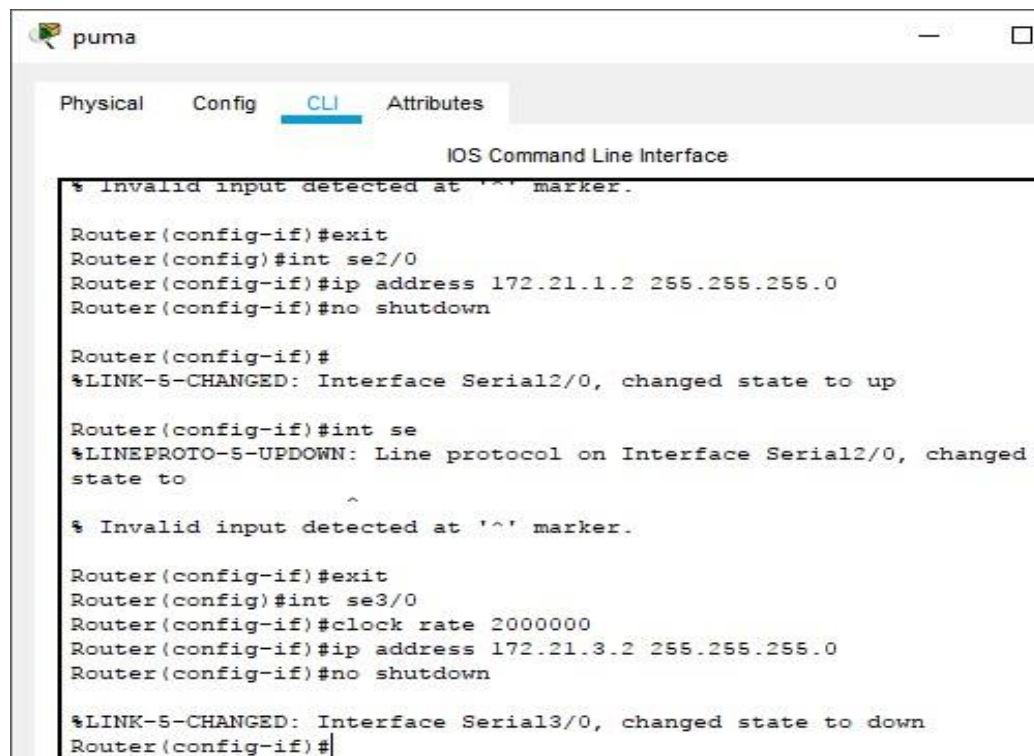
Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 172.21.20.20 255.255.255.0
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
```



The screenshot shows the Router Puma CLI interface with tabs for Physical, Config, CLI (selected), and Attributes. The CLI window displays the following text:

```
% Invalid input detected at '^' marker.

Router(config-if)#exit
Router(config)#int se2/0
Router(config-if)#ip address 172.21.1.2 255.255.255.0
Router(config-if)#no shutdown

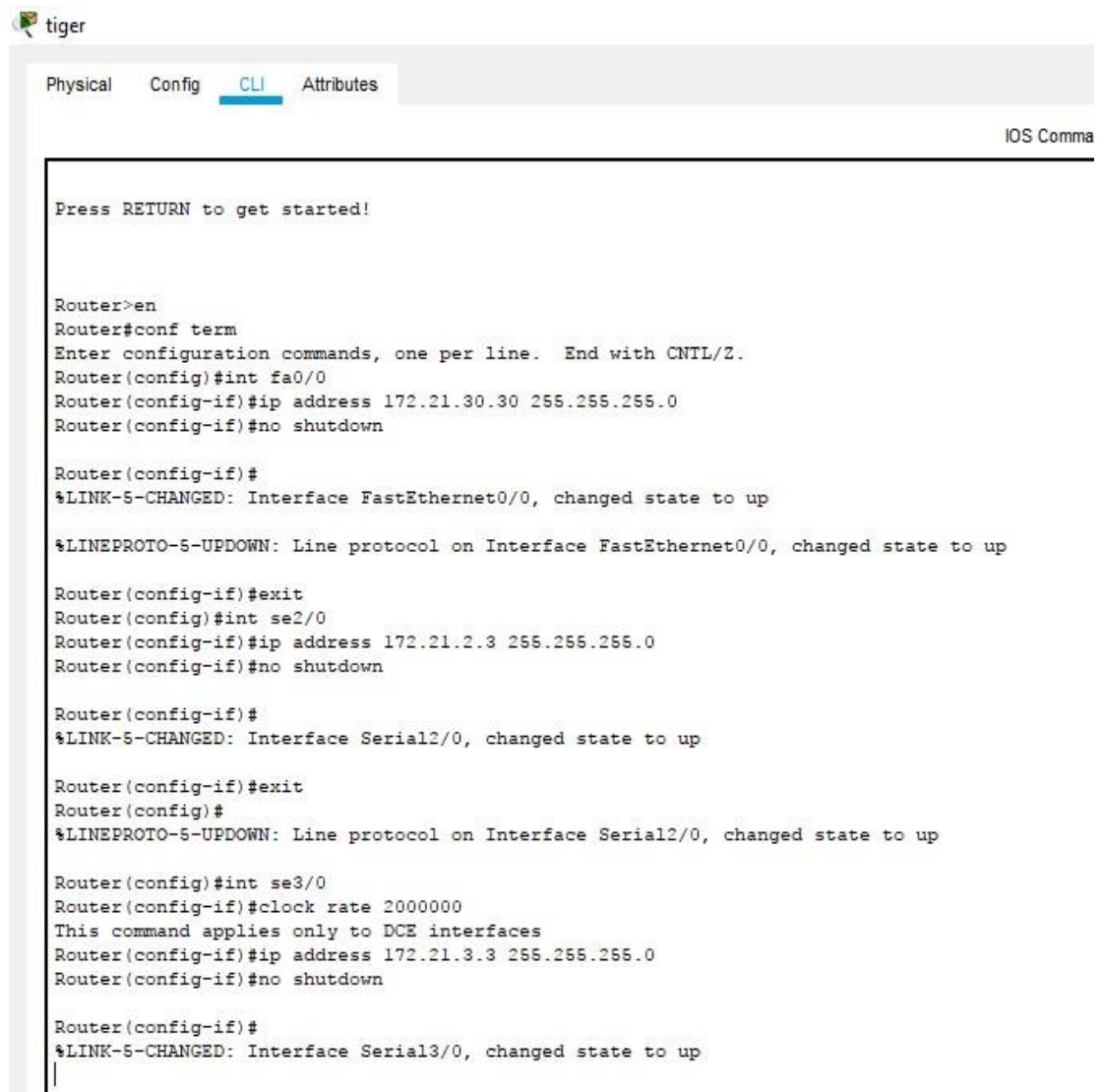
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#int se
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed
state to
^
% Invalid input detected at '^' marker.

Router(config-if)#exit
Router(config)#int se3/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip address 172.21.3.2 255.255.255.0
Router(config-if)#no shutdown

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

c. Router Tiger



```
tiger
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 172.21.30.30 255.255.255.0
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)#exit
Router(config)#int se2/0
Router(config-if)#ip address 172.21.2.3 255.255.255.0
Router(config-if)#no shutdown

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

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

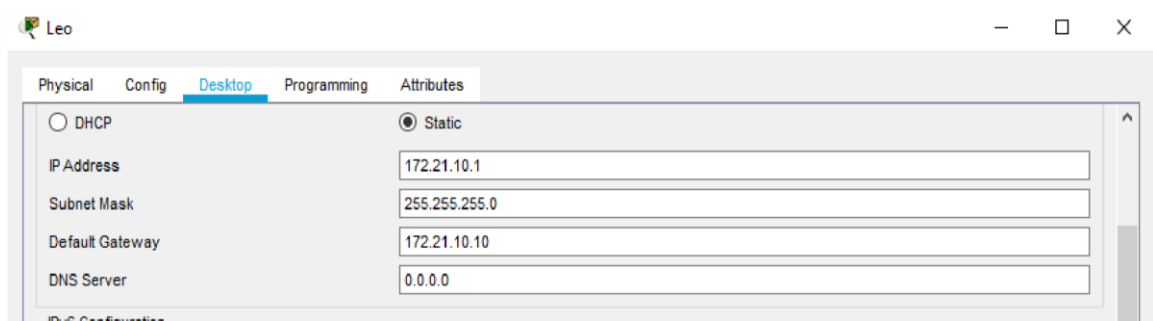
Router(config)#int se3/0
Router(config-if)#clock rate 2000000
This command applies only to DCE interfaces
Router(config-if)#ip address 172.21.3.3 255.255.255.0
Router(config-if)#no shutdown

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

Router(config-if)#
```

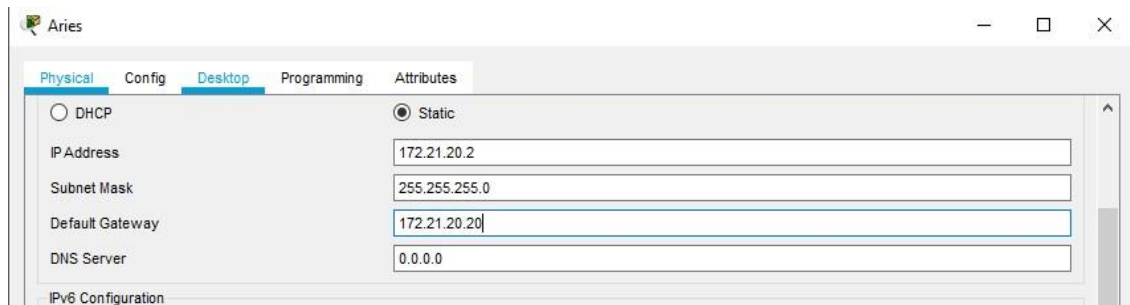
2. Konfigurasi IP Address pada setiap PC.

a. PC Leo

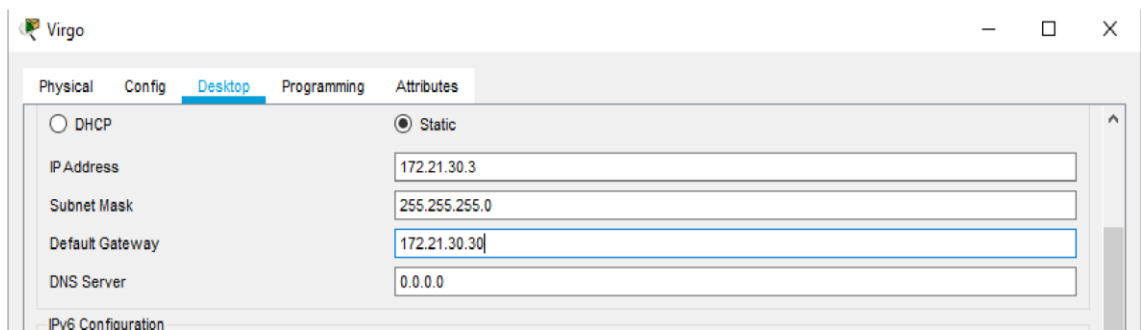


Physical	Config	Desktop	Programming	Attributes
<input type="radio"/> DHCP <input checked="" type="radio"/> Static				
IP Address		172.21.10.1		
Subnet Mask		255.255.255.0		
Default Gateway		172.21.10.10		
DNS Server		0.0.0.0		

b. PC Aries

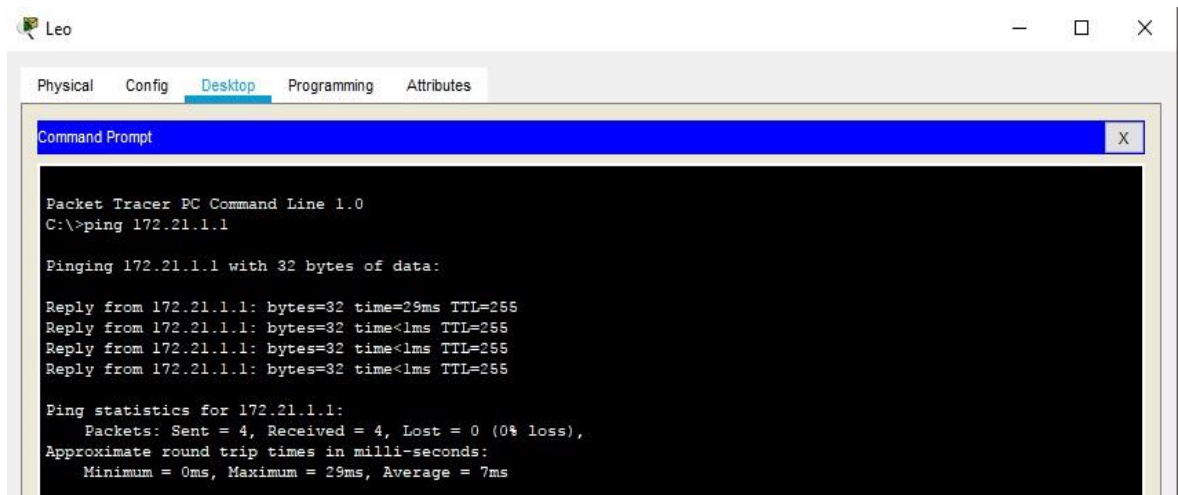


c. PC Virgo

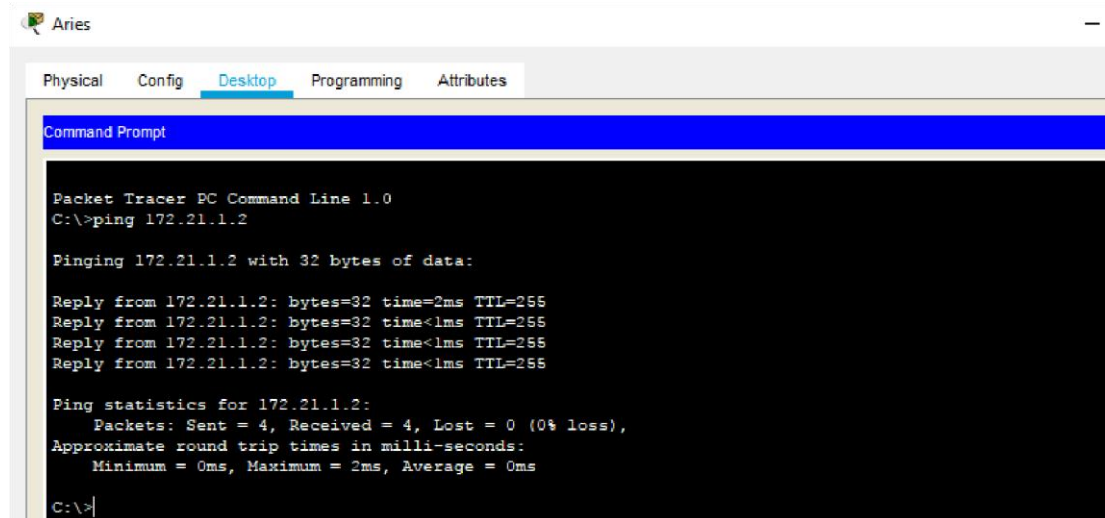


3. Uji konfigurasi telah sesuai (proses ping)

a. PC Leo ke router eagle



b. PC Aries ke router puma



The screenshot shows the Packet Tracer interface for PC Aries. The 'Desktop' tab is selected, and the 'Command Prompt' window is open. The command prompt displays the output of a ping command to 172.21.1.2. The output shows four successful replies with 32 bytes of data, a time of 2ms, and a TTL of 255. The ping statistics indicate that all four packets were sent and received, with 0% loss. The approximate round trip times are 0ms, 2ms, and 0ms.

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.2

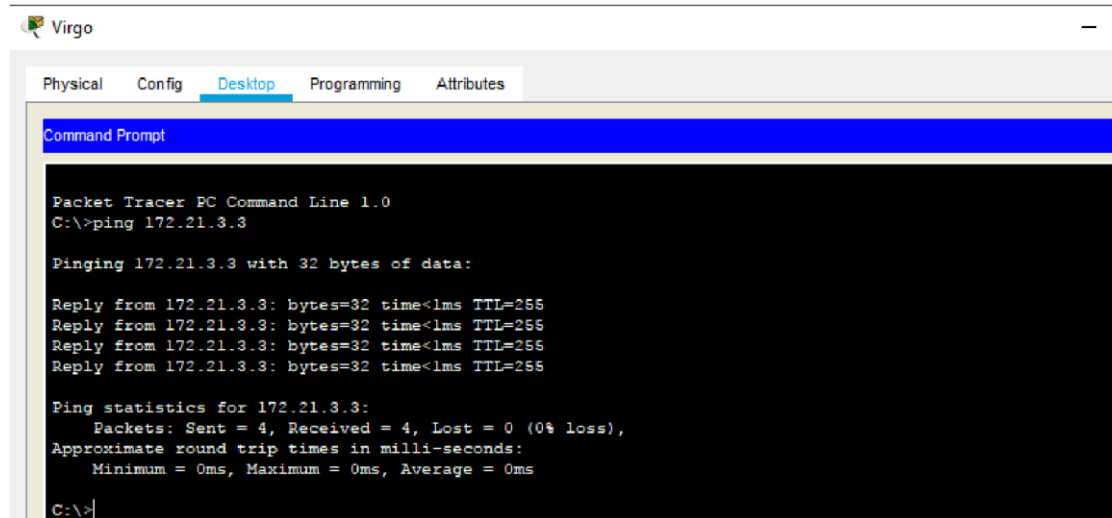
Pinging 172.21.1.2 with 32 bytes of data:

Reply from 172.21.1.2: bytes=32 time=2ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255

Ping statistics for 172.21.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 0ms

C:\>
```

c. PC Virgo ke router tiger



The screenshot shows the Packet Tracer interface for PC Virgo. The 'Desktop' tab is selected, and the 'Command Prompt' window is open. The command prompt displays the output of a ping command to 172.21.3.3. The output shows four successful replies with 32 bytes of data, a time of 1ms, and a TTL of 255. The ping statistics indicate that all four packets were sent and received, with 0% loss. The approximate round trip times are 0ms, 0ms, and 0ms.

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.3.3

Pinging 172.21.3.3 with 32 bytes of data:

Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255
Reply from 172.21.3.3: bytes=32 time<1ms TTL=255

Ping statistics for 172.21.3.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

d. Router eagle ke puma

```
eagle
Physical  Config  CLI  Attributes

IOS Command Line Interface

%LINK-5-CHANGED: Interface Serial3/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed
state to up

Router>en
Router#ping 172.21.1.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.1.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/3/8 ms

Router#
```

e. Router eagle ke tiger

```
Router#ping 172.21.2.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.2.3, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/8 ms

Router#
```

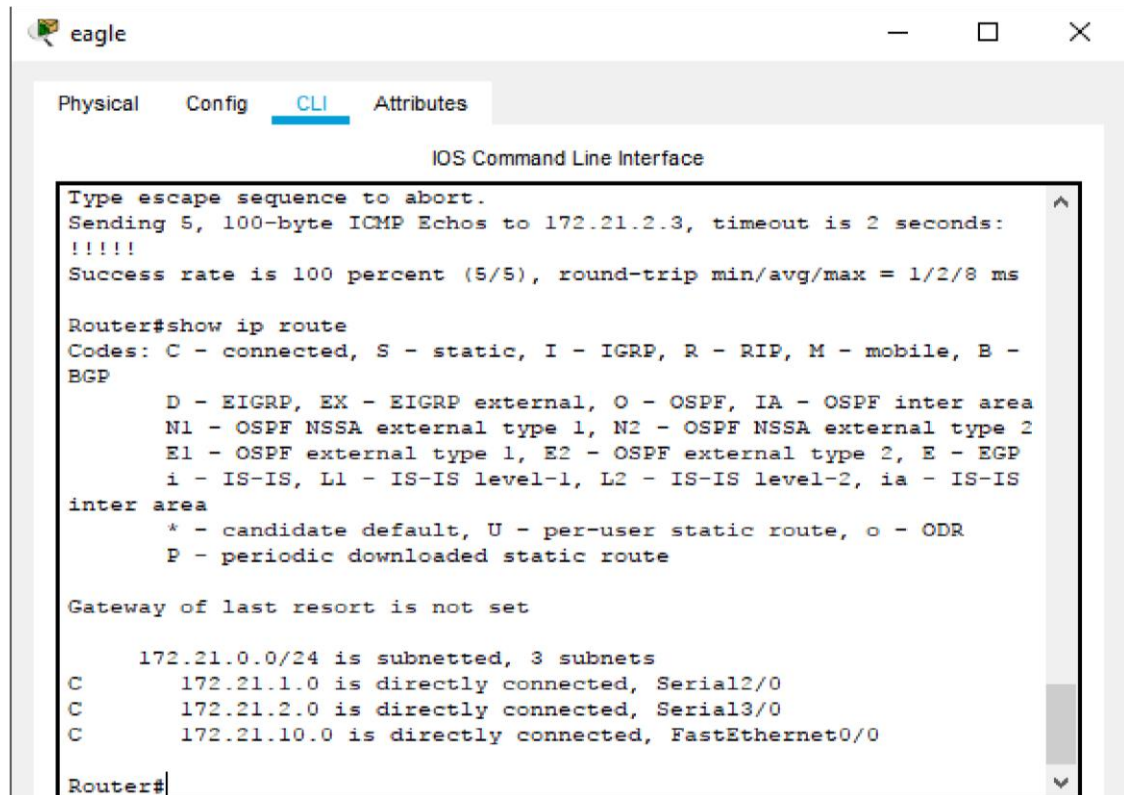
f. Router puma ke tiger

```
Router>en
Router#ping 172.21.3.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.3.3, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/5 ms

Router#
```


7. melihat router table pada masing router

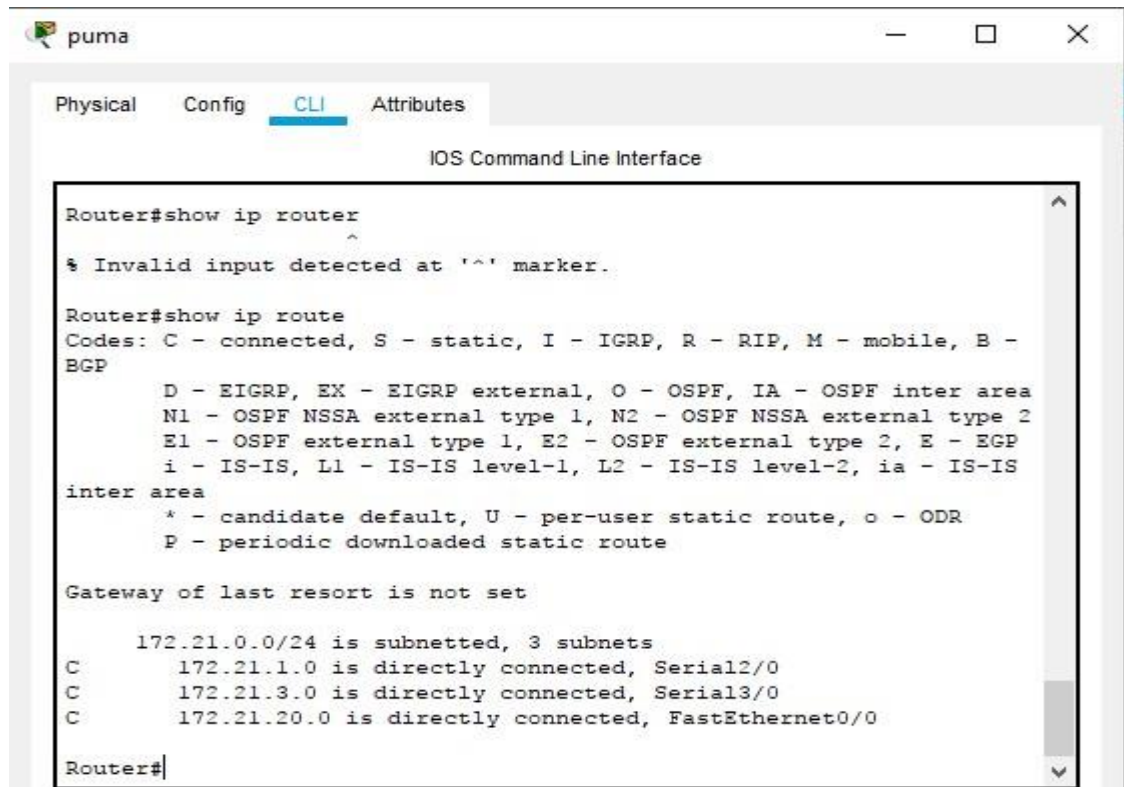


```
eagle
Physical Config CLI Attributes
IOS Command Line Interface
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.2.3, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/8 ms

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -
      BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set

      172.21.0.0/24 is subnetted, 3 subnets
C       172.21.1.0 is directly connected, Serial2/0
C       172.21.2.0 is directly connected, Serial3/0
C       172.21.10.0 is directly connected, FastEthernet0/0
Router#
```



```
puma
Physical Config CLI Attributes
IOS Command Line Interface

Router#show ip router
^
% Invalid input detected at '^' marker.

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -
      BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set

      172.21.0.0/24 is subnetted, 3 subnets
C       172.21.1.0 is directly connected, Serial2/0
C       172.21.3.0 is directly connected, Serial3/0
C       172.21.20.0 is directly connected, FastEthernet0/0
Router#
```

```
tiger
Physical Config CLI Attributes
IOS Command Line Interface

Router>en
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B -
      BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
      i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS
      inter area
      * - candidate default, U - per-user static route, o - ODR
      P - periodic downloaded static route

Gateway of last resort is not set

      172.21.0.0/24 is subnetted, 3 subnets
C       172.21.2.0 is directly connected, Serial12/0
C       172.21.3.0 is directly connected, Serial13/0
C       172.21.30.0 is directly connected, FastEthernet0/0

Router#
```

8. Melakukan ping dari router eagle ke alamat fa router puma (172.21.20.20)

```
Router#ping 172.21.20.20

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.21.20.20, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5)

Router#
```

Tugas 8A: pada gambar di atas dijelaskan bahwa router eagle dengan alamat fa router puma saling terhubung.

9. Melakukan trace dari PC Leo ke PC Aries

Leo

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 29ms, Average = 7ms

C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1  0 ms    0 ms    0 ms    172.21.10.10
  2  0 ms    *        0 ms    172.21.10.10
  3  *        0 ms    *        Request timed out.
  4  0 ms    *        0 ms    172.21.10.10
  5  *        0 ms    *        Request timed out.
  6  0 ms    *        0 ms    172.21.10.10
  7  *        0 ms    *        Request timed out.
  8  0 ms    *        0 ms    172.21.10.10
  9  *        0 ms    *        Request timed out.
 10 0 ms    *        0 ms    172.21.10.10
 11 *        0 ms    *        Request timed out.
 12 0 ms    *        0 ms    172.21.10.10
 13 *        0 ms    *        Request timed out.
 14 0 ms    *        0 ms    172.21.10.10
 15 *        0 ms    *        Request timed out.
 16 0 ms    *        0 ms    172.21.10.10
 17 *        0 ms    *        Request timed out.
 18 0 ms    *        0 ms    172.21.10.10
 19 *        0 ms    *        Request timed out.
 20 0 ms    *        0 ms    172.21.10.10
 21 *        0 ms    *        Request timed out.
 22 0 ms    *        0 ms    172.21.10.10
 23 *        0 ms    *        Request timed out.
 24 0 ms    *        2 ms    172.21.10.10
 25 *        0 ms    *        Request timed out.
 26 0 ms    *        0 ms    172.21.10.10
 27 *        0 ms    *        Request timed out.
 28 0 ms    *        0 ms    172.21.10.10
 29 *        0 ms    *        Request timed out.
 30 0 ms    *        0 ms    172.21.10.10

Trace complete.

C:\>
```

10. melakukan trace dari PC Leo ke alamat s0 router eagle(172.21.1.1)

```
C:\>tracert 172.21.1.1

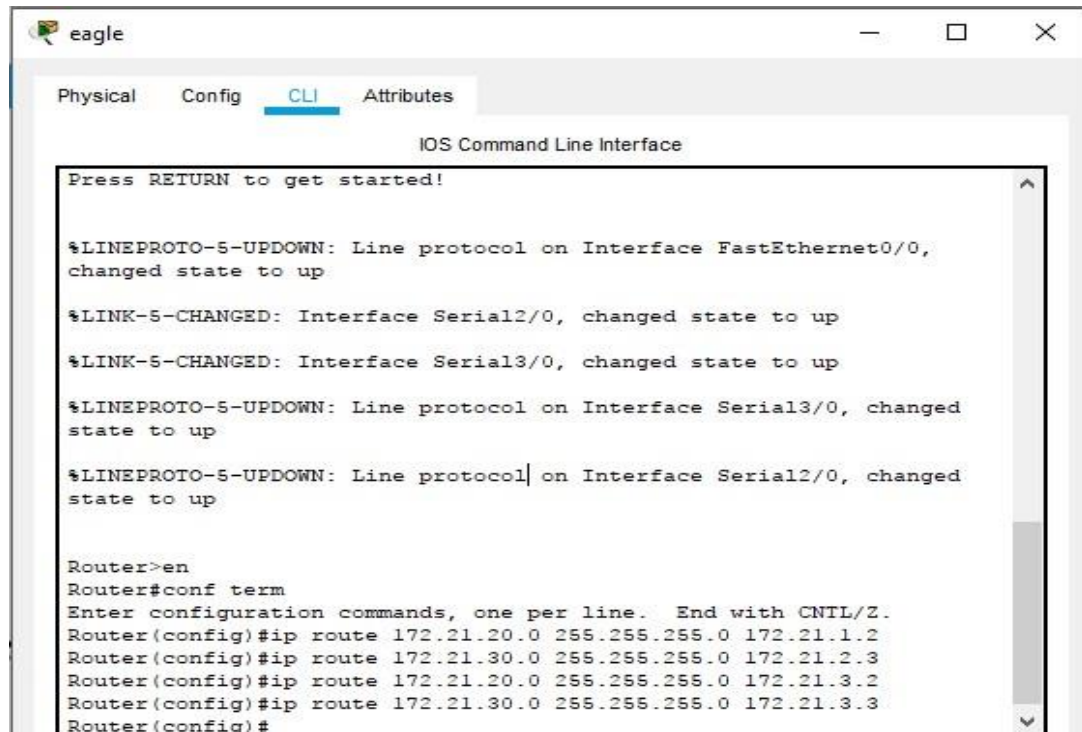
Tracing route to 172.21.1.1 over a maximum of 30 hops:

  1  0 ms    0 ms    1 ms    172.21.1.1

Trace complete.

C:\>
```

11A. Menambahkan route table (static route)



The screenshot shows the 'eagle' network simulator window with the 'CLI' tab selected. The 'IOS Command Line Interface' is active, displaying a series of status messages and configuration commands. The status messages indicate that the line protocol on FastEthernet0/0 and Serial2/0 has changed to 'up', and the link state on Serial2/0 and Serial3/0 has also changed to 'up'. The configuration commands show the user entering 'en' for enable mode, 'conf term' for configuration terminal, and then four 'ip route' commands to add static routes. The routes are: 172.21.20.0/24 to 172.21.1.2, 172.21.30.0/24 to 172.21.2.3, 172.21.20.0/24 to 172.21.3.2, and 172.21.30.0/24 to 172.21.3.3. The prompt returns to 'Router(config)#' after the last command.

```
Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

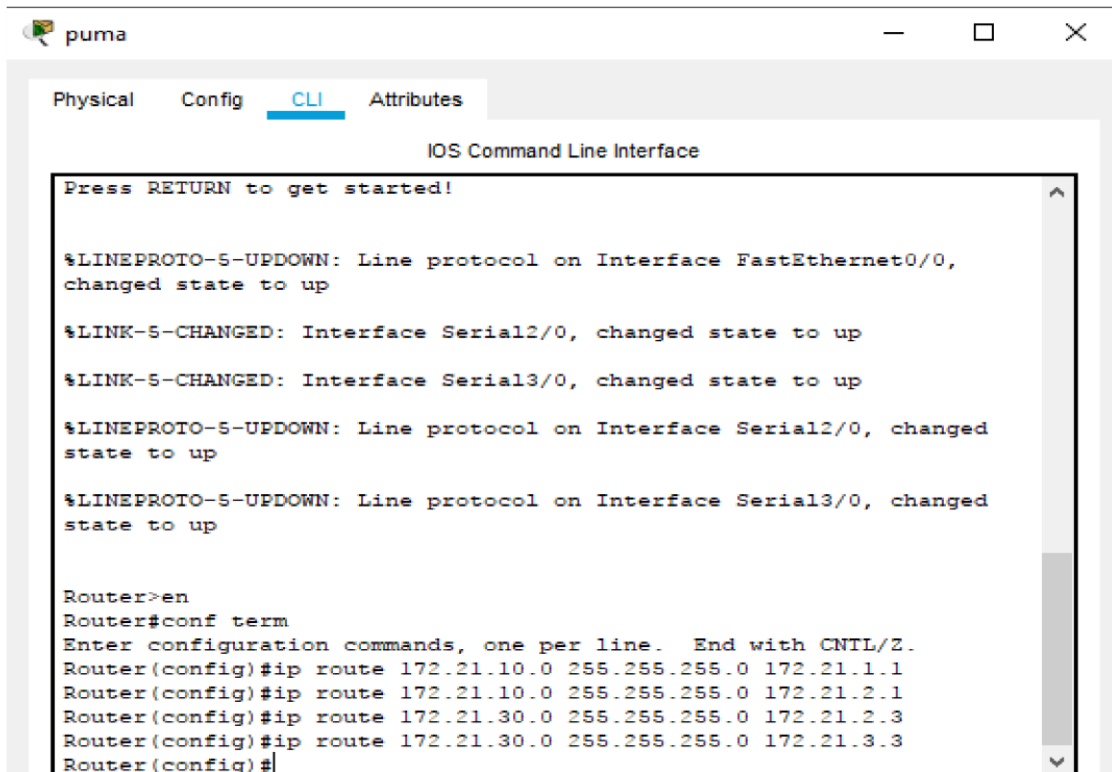
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

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

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed
state to up

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

Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.1.2
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.2.3
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.3.3
Router(config)#
```



The screenshot shows the 'puma' network simulator window with the 'CLI' tab selected. The 'IOS Command Line Interface' is active, displaying a series of status messages and configuration commands. The status messages indicate that the line protocol on FastEthernet0/0 and Serial2/0 has changed to 'up', and the link state on Serial2/0 and Serial3/0 has also changed to 'up'. The configuration commands show the user entering 'en' for enable mode, 'conf term' for configuration terminal, and then four 'ip route' commands to add static routes. The routes are: 172.21.10.0/24 to 172.21.1.1, 172.21.10.0/24 to 172.21.2.1, 172.21.30.0/24 to 172.21.2.3, and 172.21.30.0/24 to 172.21.3.3. The prompt returns to 'Router(config)#' after the last command.

```
Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up

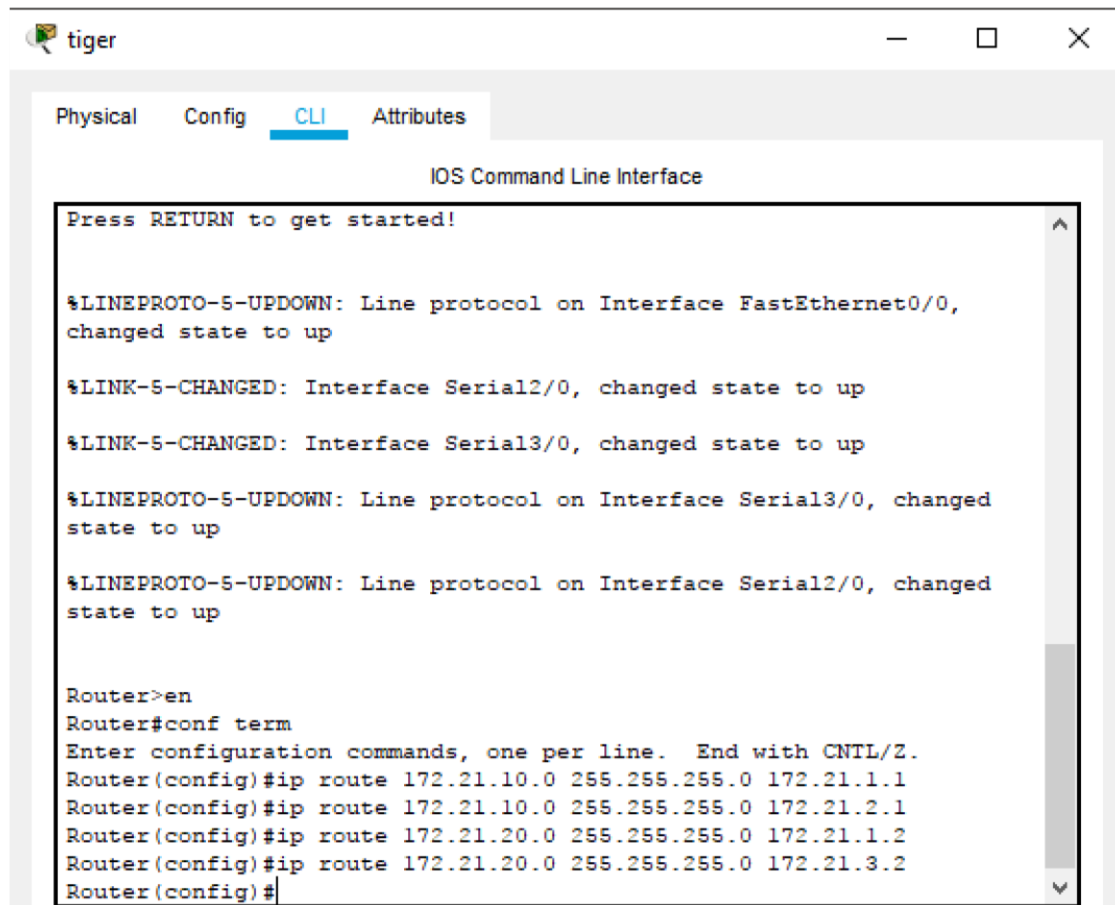
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

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

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

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed
state to up

Router>en
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.1.1
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.2.3
Router(config)#ip route 172.21.30.0 255.255.255.0 172.21.3.3
Router(config)#
```



12A. Melakukan ping dan trace dari PC Leo ke PC Aries

