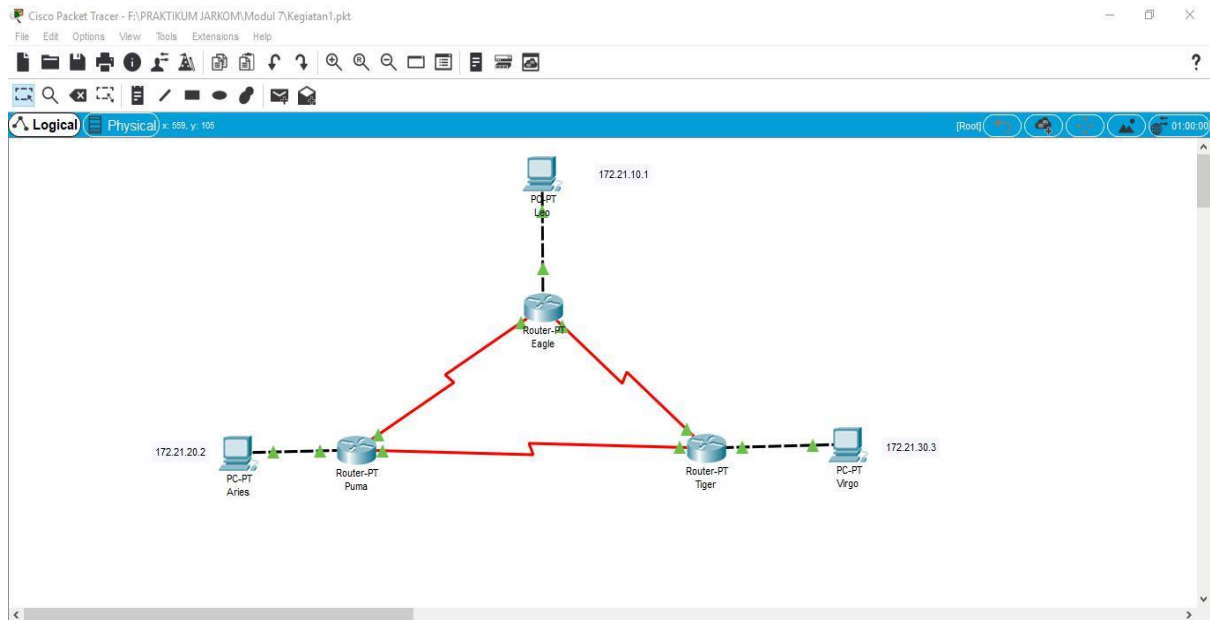


Name : Fikri Anggra Berlian
NIM : L200174090
Class : X

Modul 7 Static Routing



1. Konfigurasi masing masing interface pada tiap Router

```
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0
Router(config-if)#ip address 172.21.10.10 255.255.255.0
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 se 2/0
Router(config-if)#clock rate 2000000
Router(config-if)#ip address 172.21.1.1 255.255.255.0
Router(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#int se 3/0
Router(config-if)#ip address 172.21.2.1 255.255.255.0
Router(config-if)#no shutdown

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

Ctrl+F6 to exit CLI focus

Copy Paste

Top

```

--- System Configuration Dialog ---

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

Press RETURN to get started!

Router>en
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa 0/0
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

Router(config-if)#int se 2/0
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 3/0
Router(config-if)#cld
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to
Router(config-if)#int se 3/0
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)#

```

Ctrl+F6 to exit CLI focus

Press RETURN to get started!

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0
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)#int se 3/0
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)#ip address 172.21.3.3 255.255.255.0
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up

Router(config-if)#int se 2/0
Router(config-if)#clock rate 2000000
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)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#
```

Ctrl+F6 to exit CLI focus

2. Konfigurasi ip PC

Leo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ 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

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::207:ECFF:FE5B:7596

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Aries

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.20.2

Subnet Mask 255.255.255.0

Default Gateway 172.21.20.20

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::203:E4FF:FE08:BB97

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Virgo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address 172.21.30.3

Subnet Mask 255.255.255.0

Default Gateway 172.21.30.30

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address

Link Local Address FE80::202:17FF:FE0C:4483

IPv6 Gateway

IPv6 DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

3. Pengujian kesesuaian konfigurasi

Leo

Physical Config **Desktop** Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.1

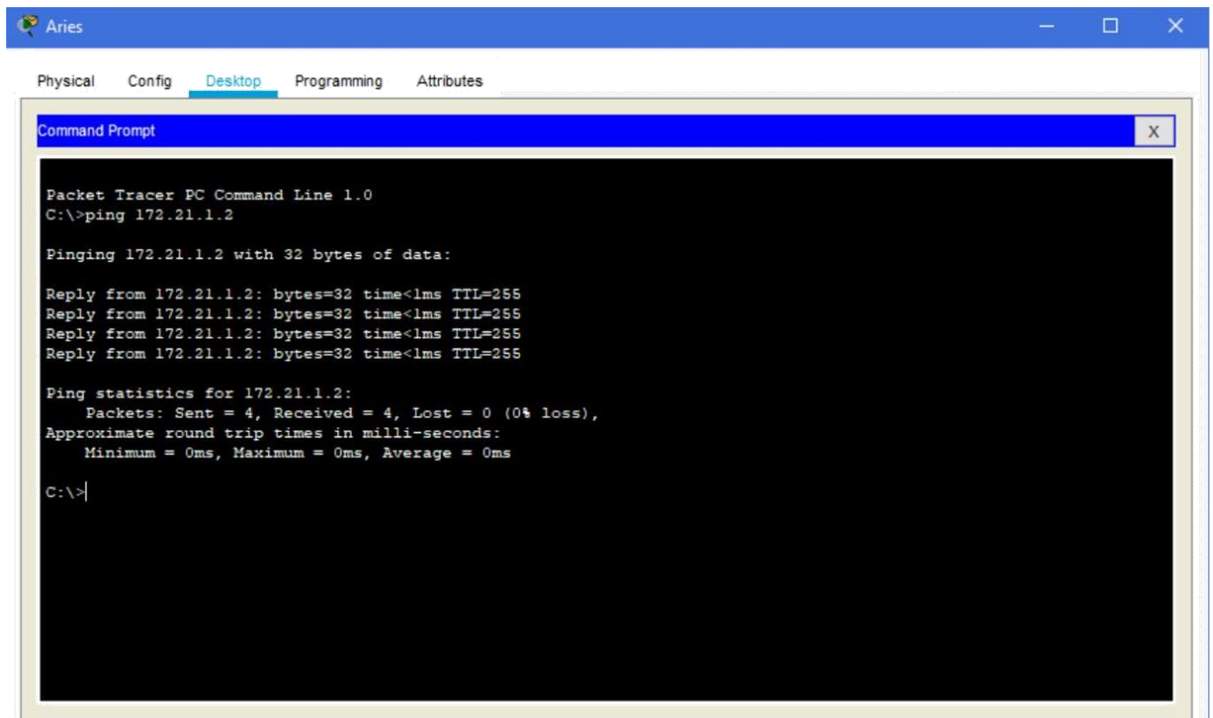
Pinging 172.21.1.1 with 32 bytes of data:

Reply from 172.21.1.1: bytes=32 time=1ms TTL=255
Reply from 172.21.1.1: bytes=32 time<1ms TTL=255
Reply from 172.21.1.1: bytes=32 time<1ms TTL=255
Reply from 172.21.1.1: bytes=32 time<1ms TTL=255

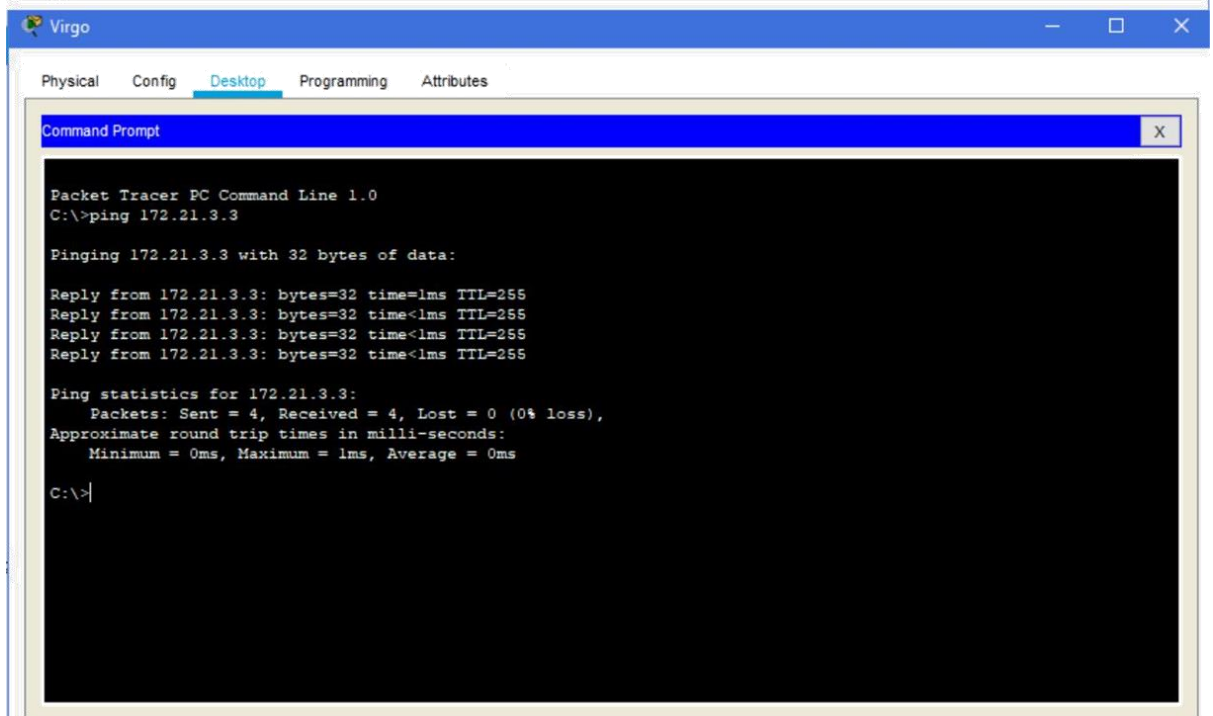
Ping statistics for 172.21.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

☐ Top



☐ Top



☐ Top

IOS Command Line Interface

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ping 172.21.1.2
^
% Invalid input detected at '^' marker.

Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console

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 = 1/2/6 ms

Router#
```

Ctrl+F6 to exit CLI focus

Copy

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☐ Top

```
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 = 0/1/6 ms

Router#
```

Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

IOS Command Line Interface

Press RETURN to get started.

```
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 = 1/3/8 ms
Router#
```

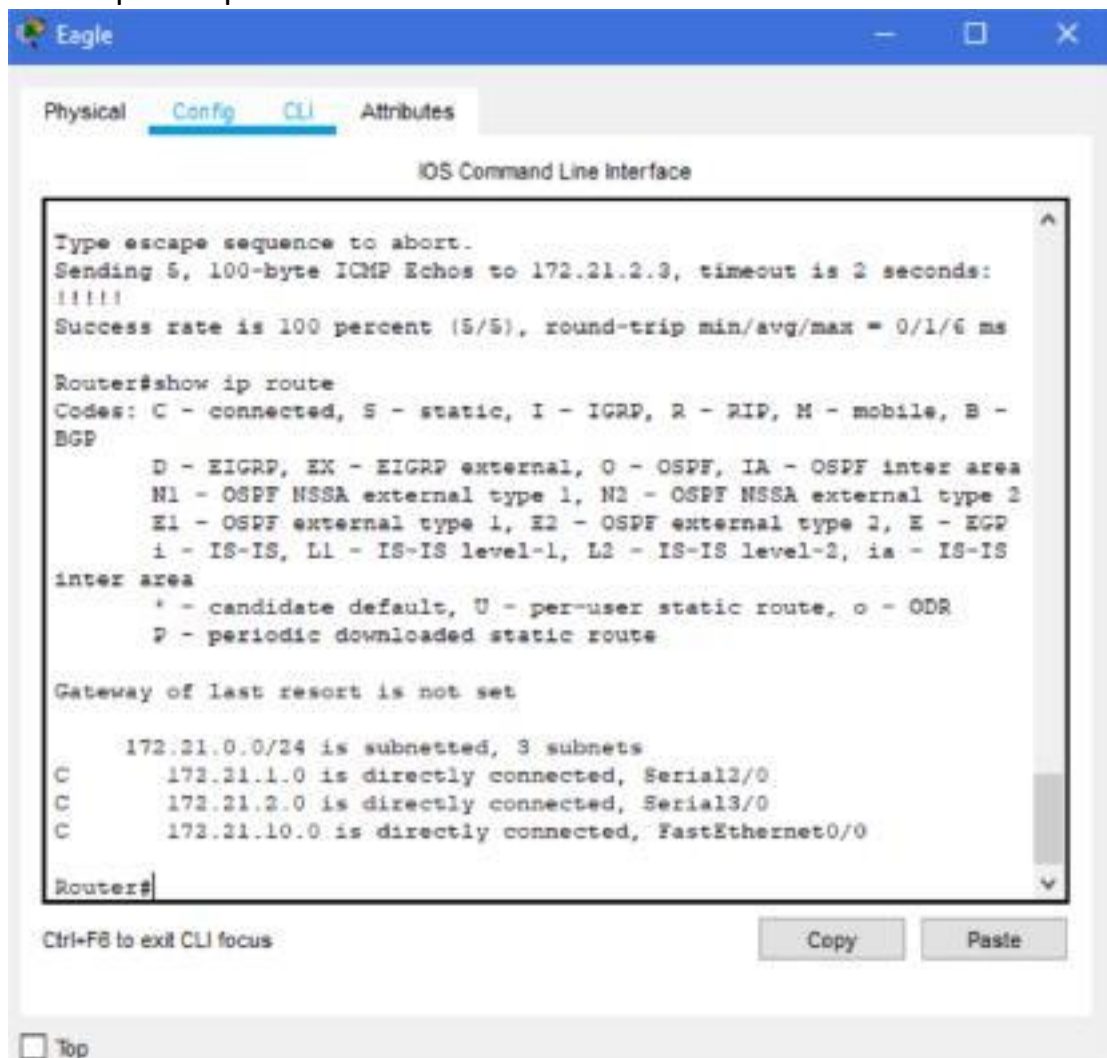
Ctrl+F6 to exit CLI focus


Copy

Paste

☐ Top

4. Menampilkan ip route



 Puma

Physical

Config

CLI

Attributes

IOS Command Line Interface

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 = 1/3/8 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 172.21.3.0 is directly connected, Serial3/0
C 172.21.20.0 is directly connected, FastEthernet0/0

Router#

Ctrl+F6 to exit CLI focus

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Paste

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, Serial2/0
C       172.21.3.0 is directly connected, Serial3/0
C       172.21.30.0 is directly connected, FastEthernet0/0
Router#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

5. Melakukan ping dari router eagle ke interface 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#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

6. Trace PC leo ke PC aries

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1  131 ms    0 ms    0 ms    172.21.10.10
  2   0 ms     *      52 ms   172.21.10.10
  3   *        0 ms    *      Request timed out.
  4   0 ms     *      13 ms   172.21.10.10
  5   *        0 ms    *      Request timed out.
  6   0 ms     *      0 ms    172.21.10.10
  7
Control-C
^C
C:\>
```

☐ Top

7. Trace dari PC leo ke 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     0 ms    172.21.1.1

Trace complete.

C:\>
```

8. Melakukan ip route pada masing masing router

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
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)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
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 172.21.30.0 255.255.255.0 172.21.3.3
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

9. Ping PC leo ke PC aries dan tracer PC leo ke PC aries

```
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Request timed out.
Reply from 172.21.20.2: bytes=32 time=130ms TTL=126
Reply from 172.21.20.2: bytes=32 time=15ms TTL=126
Reply from 172.21.20.2: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 130ms, Average = 48ms

C:\>
```

☐ Top

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  0  0 ms    0 ms    0 ms    172.21.10.10
  1  1 ms    1 ms    4 ms    172.21.1.2
  2  0 ms    13 ms   0 ms    172.21.20.2

Trace complete.

C:\>
```

☐ Top

10. Mengubah alamat jaringan pada Leo menjadi 172.21.100.0/24

The screenshot shows the 'Leo' configuration window with the 'Desktop' tab selected. The 'Static' radio button is chosen for the IP configuration. The IP Address is set to 172.21.100.1, Subnet Mask to 255.255.255.0, and Default Gateway to 172.21.100.10. The DNS Server is set to 0.0.0.0. The IPv6 Configuration section shows 'Static' selected, with an IPv6 Address field containing a slash and a Link Local Address of FE80::207:ECFF:FE5B:7596. The 802.1X section has 'Use 802.1X Security' unchecked, and the Authentication dropdown is set to 'MD5'. A 'Top' button is at the bottom left.

<input type="radio"/> DHCP		<input checked="" type="radio"/> Static	
IP Address	172.21.100.1		
Subnet Mask	255.255.255.0		
Default Gateway	172.21.100.10		
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::207:ECFF:FE5B:7596		
IPv6 Gateway			
IPv6 DNS Server			
802.1X			
<input type="checkbox"/> Use 802.1X Security			
Authentication	MD5		
Username			
Password			

☐ Top

11. Konfigurasi ip baru pada router eagle

```
Router#en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa 0/0
Router(config-if)#ip address 172.21.100.10 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
```

Ctrl+F6 to exit CLI focus

Copy

☐ Top

12. Menambahkan konfigurasi ip route baru pada router puma dan tiger

```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.100.0 255.255.255.0 172.21.1.1
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

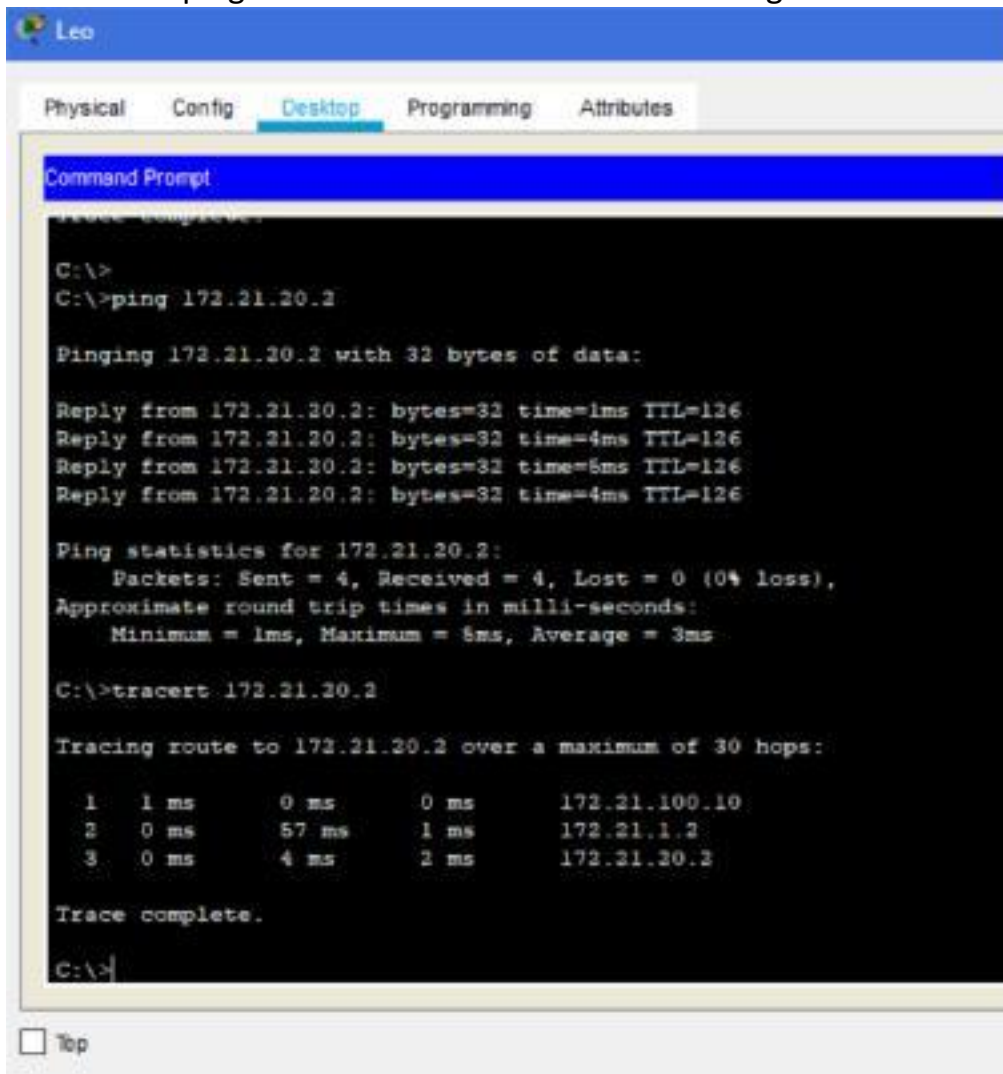
```
Router>en
Router#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.100.0 255.255.255.0 172.21.2.1
Router(config)#
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

13. Melakukan ping dan tracer dari Leo ke Aries dan Virgo



The screenshot shows a network simulator window titled "Leo" with tabs for Physical, Config, Desktop, Programming, and Attributes. The "Desktop" tab is active, displaying a "Command Prompt" window. The Command Prompt shows the execution of a ping command to 172.21.20.2, followed by a traceroute command to the same IP address. The ping results show four successful replies with varying times and TTL values. The traceroute shows a path of three hops, with the final hop being the destination IP 172.21.20.2.

```
Leo
Physical Config Desktop Programming Attributes
Command Prompt
Trace complete.
C:\>
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Reply from 172.21.20.2: bytes=32 time=1ms TTL=126
Reply from 172.21.20.2: bytes=32 time=4ms TTL=126
Reply from 172.21.20.2: bytes=32 time=8ms TTL=126
Reply from 172.21.20.2: bytes=32 time=4ms TTL=126

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 8ms, Average = 3ms

C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  0  1 ms    0 ms    0 ms    172.21.100.10
  1  0 ms    57 ms   1 ms    172.21.1.2
  2  0 ms    4 ms    2 ms    172.21.20.2

Trace complete.
C:\>
```

☐ Top

Leo

PhysicalConfigDesktopProgrammingAttributes

Command Prompt

Trace complete.

C:\>ping 172.21.30.3

Pinging 172.21.30.3 with 32 bytes of data:

Reply from 172.21.30.3: bytes=32 time=2ms TTL=126

Reply from 172.21.30.3: bytes=32 time=1ms TTL=126

Reply from 172.21.30.3: bytes=32 time=1ms TTL=126

Reply from 172.21.30.3: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.30.3:

 Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

 Approximate round trip times in milli-seconds:

 Minimum = 1ms, Maximum = 2ms, Average = 1ms

C:\>tracert 172.21.30.3

Tracing route to 172.21.30.3 over a maximum of 30 hops:

1	0 ms	56 ms	0 ms	172.21.100.10
2	1 ms	1 ms	0 ms	172.21.2.3
3	12 ms	3 ms	2 ms	172.21.30.3

Trace complete.

C:\>

☐ Top