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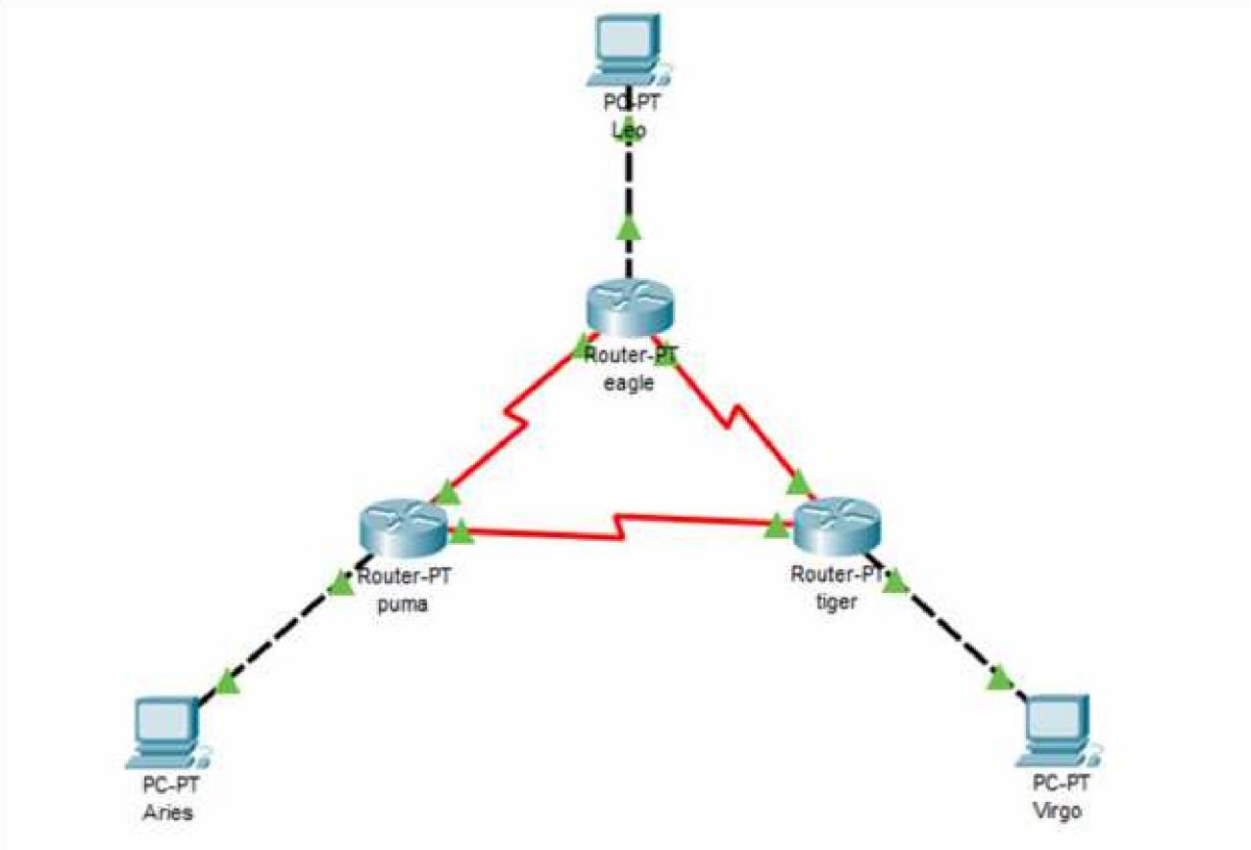
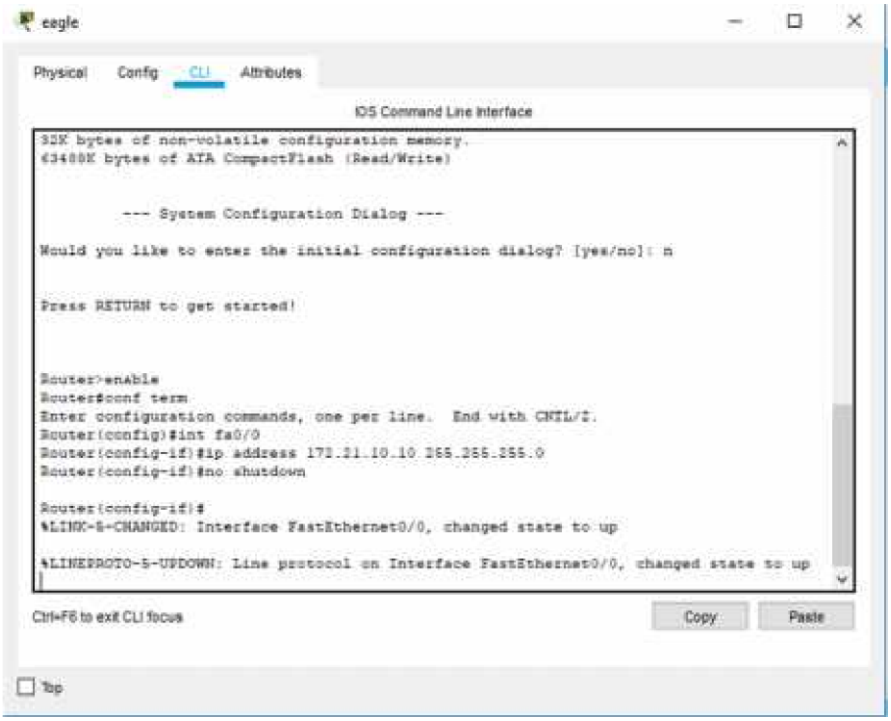
Kelas : C
Modul : 7 (Kegiatan 1 – Static Routing)

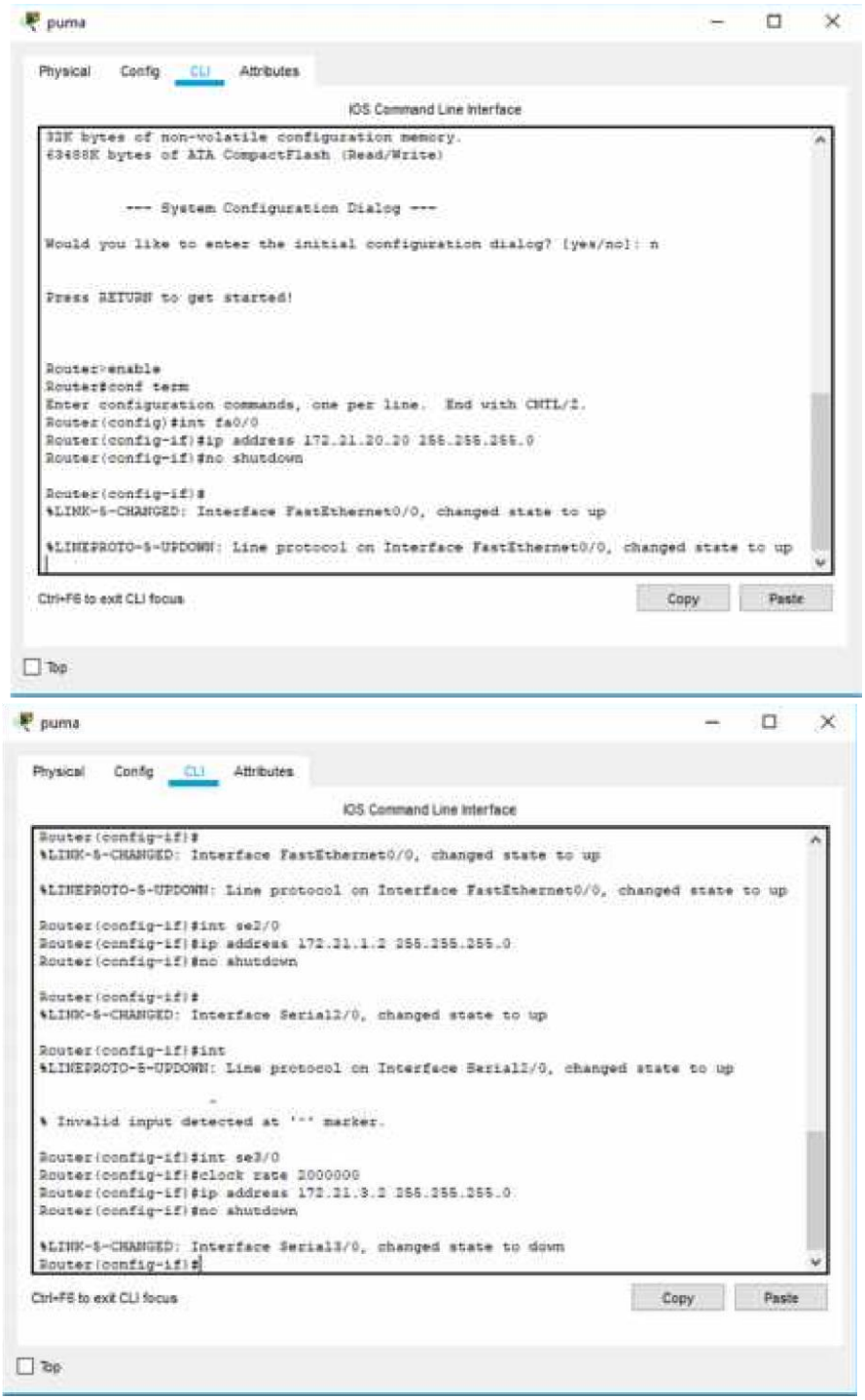
**Kegiatan 1. Topologi 1 (Static Routing)**



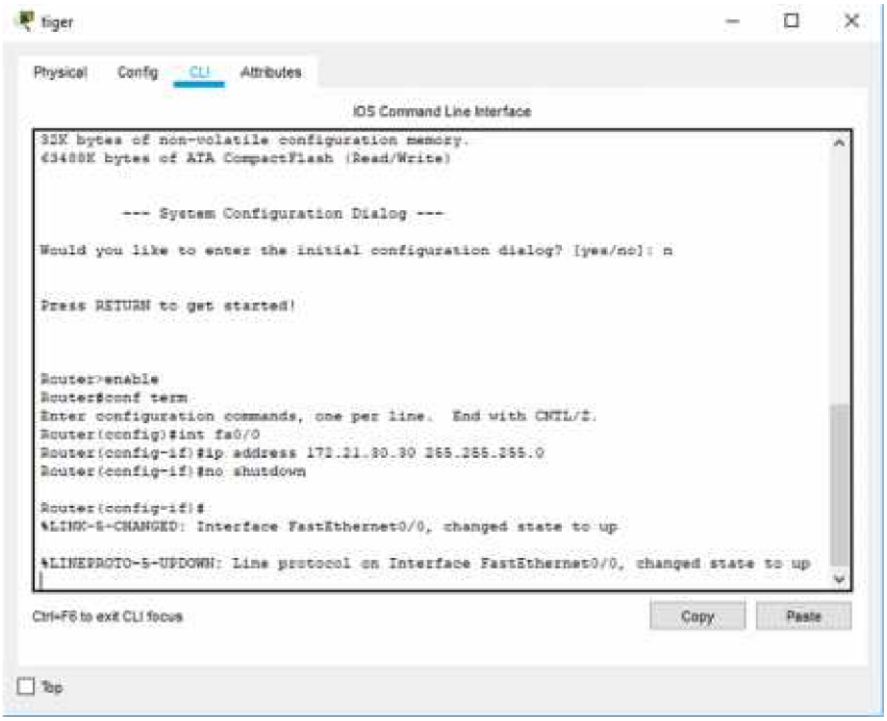

1. Konfigurasi masing-masing Interface pada tiap Router dengan IP Address.
   a. Router Eagle

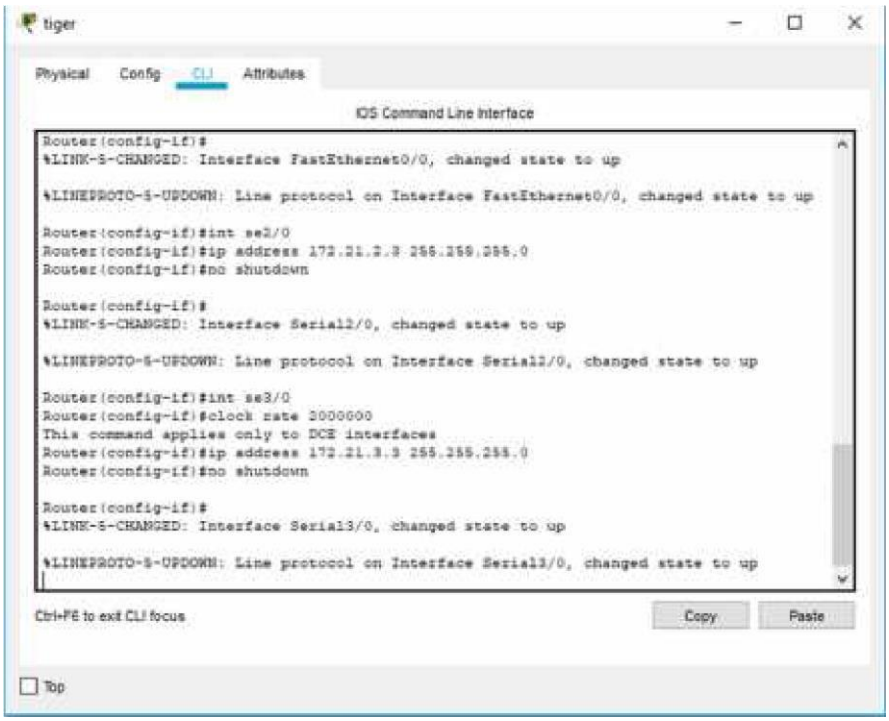



b. Router Puma



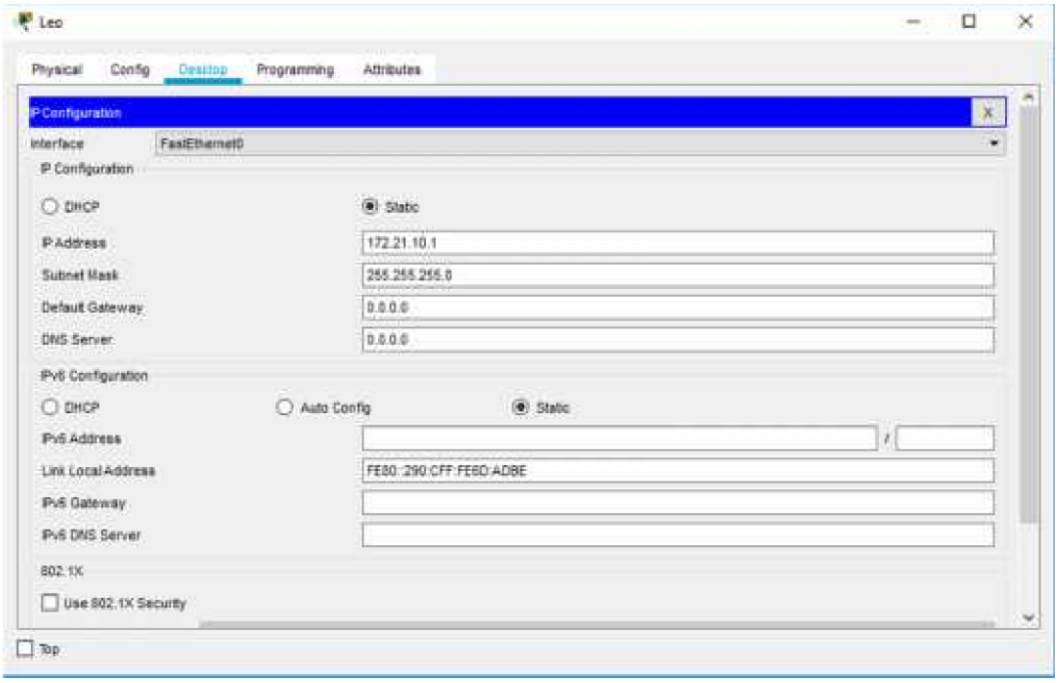

c. Router Tiger



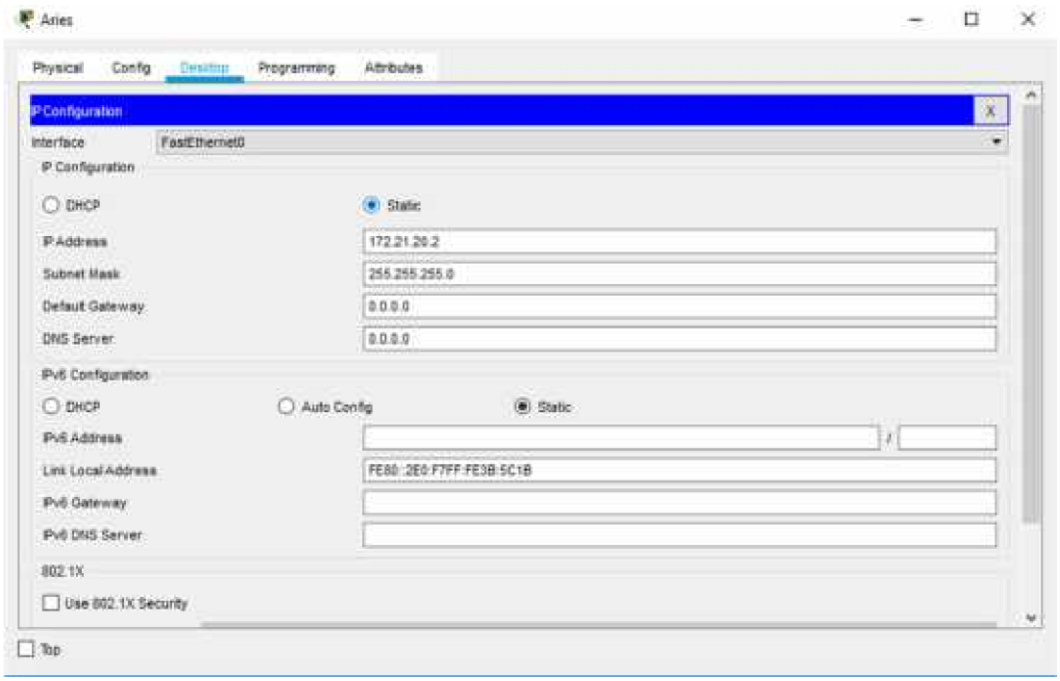

2. Konfigurasi IP Address pada setiap PC.

   a. PC Leo



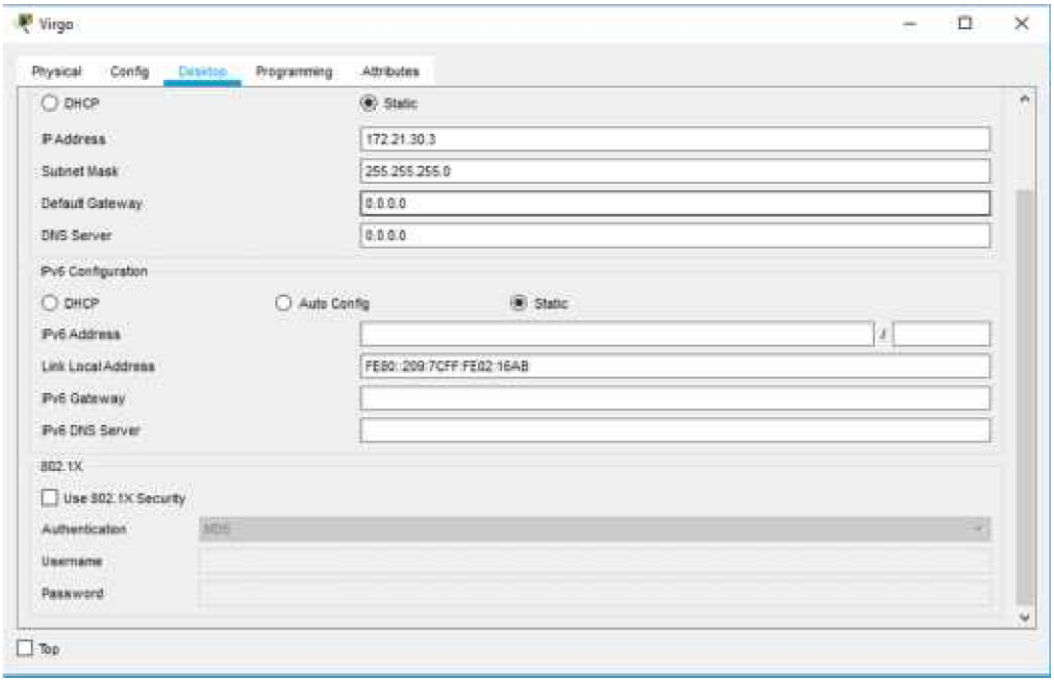

b.

PC Aries




c.

PC Virgo




3. Uji konfigurasi telah sesuai (proses *ping*).
   a. *Ping* dari PC Leo ke Router Eagle (172.21.1.1)

```
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=67ms 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 = 67ms, Average = 16ms

C:\>
```

   b. *Ping* dari PC Aries ke Router Puma (172.21.1.2)

```
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<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
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 = 0ms, Average = 0ms

C:\>
```

c. *Ping* dari PC Virgo ke Router Tiger (172.21.3.3)

```
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. *Ping* dari router eagle ke router puma (172.21.1.2)

```
Router>enable
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 = 1/12/55 ms

Router#
```

e. *Ping* dari Router Eagle ke Router Tiger (172.21.2.3)

```
Router>enable
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 = 1/2/5 ms

Router#
```

f. *Ping* dari Router Puma ke Router Tiger(172.21.3.3)

```
Router>enable
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 = 1/1/4 ms

Router#
```

4. Show Route Table pada masing-masing Router
   a. Router Eagle

```
Router>enable
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       172.21.10.0 is directly connected, FastEthernet0/0

Router#
```

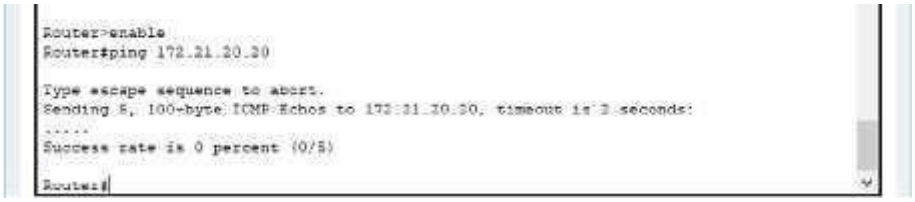
   b. Router Puma

```
Router>enable
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#
```

   c. Router Tiger

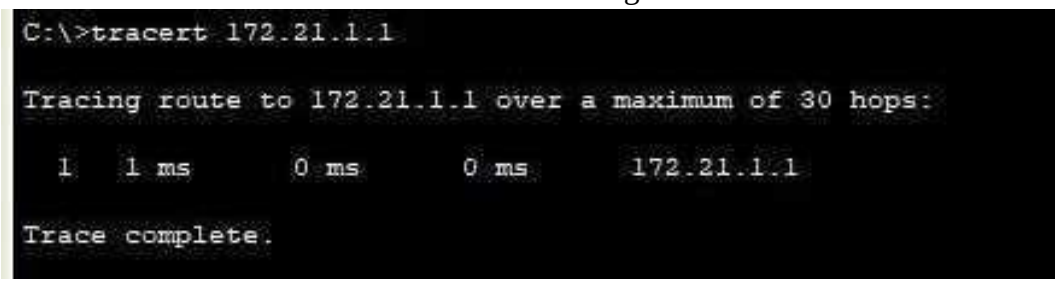
```
Router>enable
Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external 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#
```

5. Proses *ping* dari Router Eagle ke alamat Interface Router Puma.

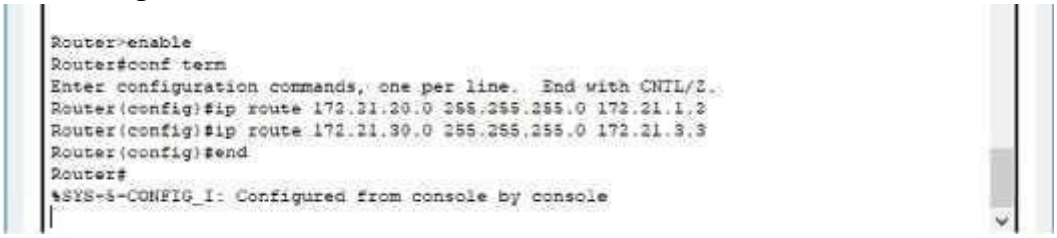



6. Proses tracert dari PC Leo ke PC Aries.


7. Proses tracert dari PC Leo ke interface Router Eagle.




8. Menambahkan Route Table pada setiap Router.
   a. Router Eagle




   b. Router Puma

```
Router>enable
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 172.21.30.0 255.255.255.0 172.21.2.3
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

c.

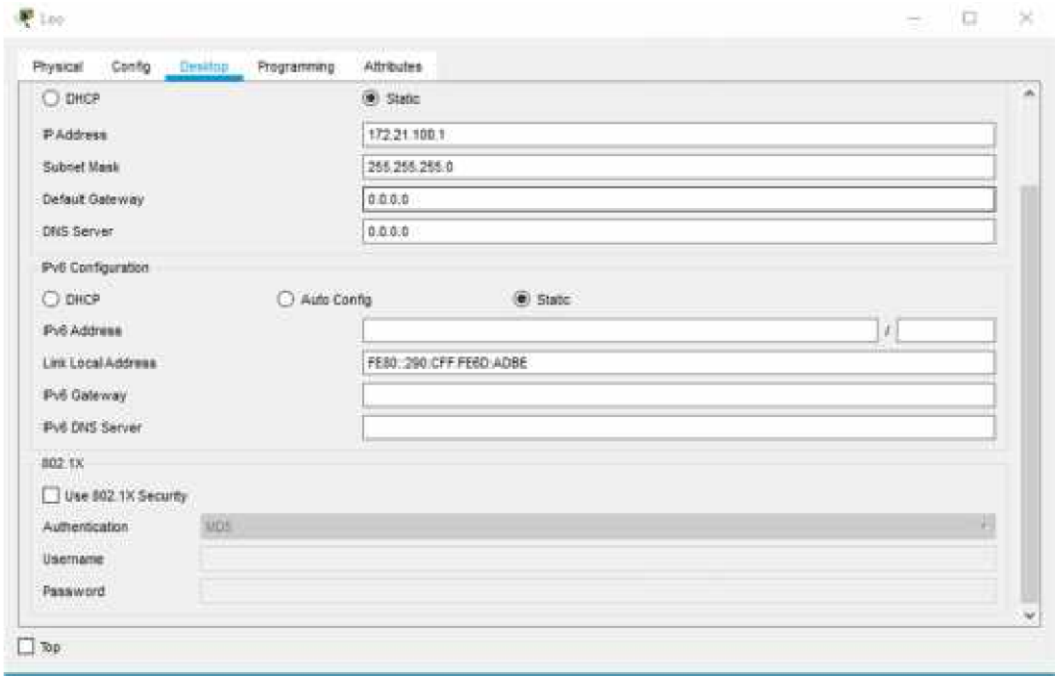
Router Tiger

```
Router>enable
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

9. Melakukan Ping dan Tracer dari PC Leo ke PC Aries.

```
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=4ms TTL=126
Reply from 172.21.20.2: bytes=32 time=14ms TTL=126
Reply from 172.21.20.2: bytes=32 time=2ms 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 = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 14ms, Average = 5ms

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    4 ms      3 ms      0 ms      172.21.1.2
  3    0 ms      0 ms      1 ms      172.21.20.2

Trace complete.
```

10. Mengubah IP PC leo diubah menjadi 172.21.100.0/24




- Mengubah Konfigurasi IP pada Router Eagle.

```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#ip address 172.21.100.0 255.255.255.0
Bad mask /24 for address 172.21.100.0
Router(config-if)#no shutdown
Router(config-if)#
Router(config-if)#int fa0/0
Router(config-if)#ip address 172.21.100.10 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
```

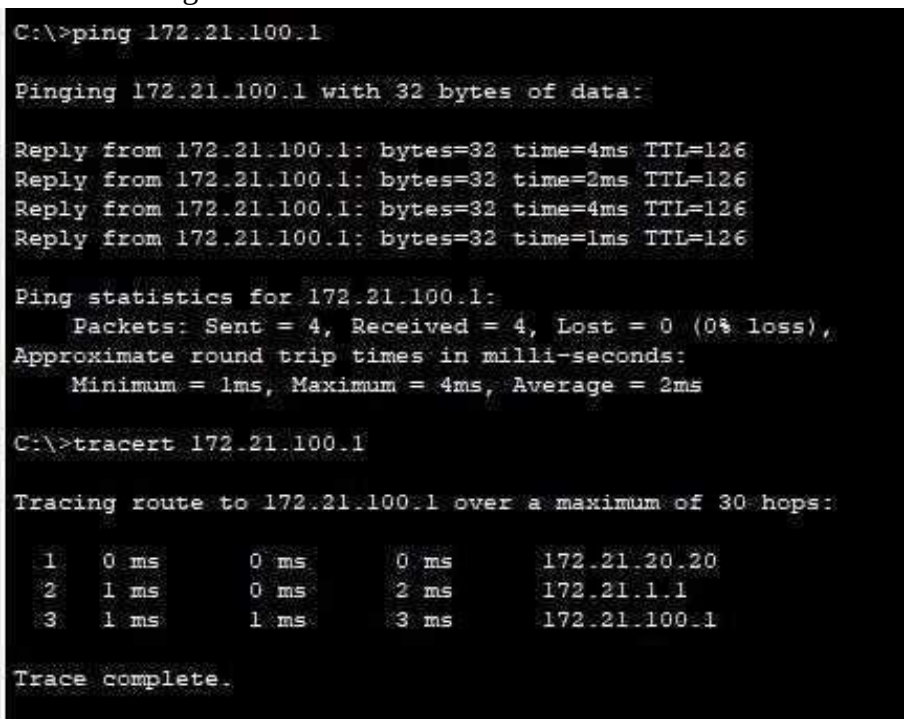
- Menambah Konfigurasi Router Puma.

```
Router>enable
Router#config term
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)#ip route 172.21.100.0 255.255.255.0 172.21.1.1
Router(config)#
```

- Menambah Konfigurasi Router Tiger.

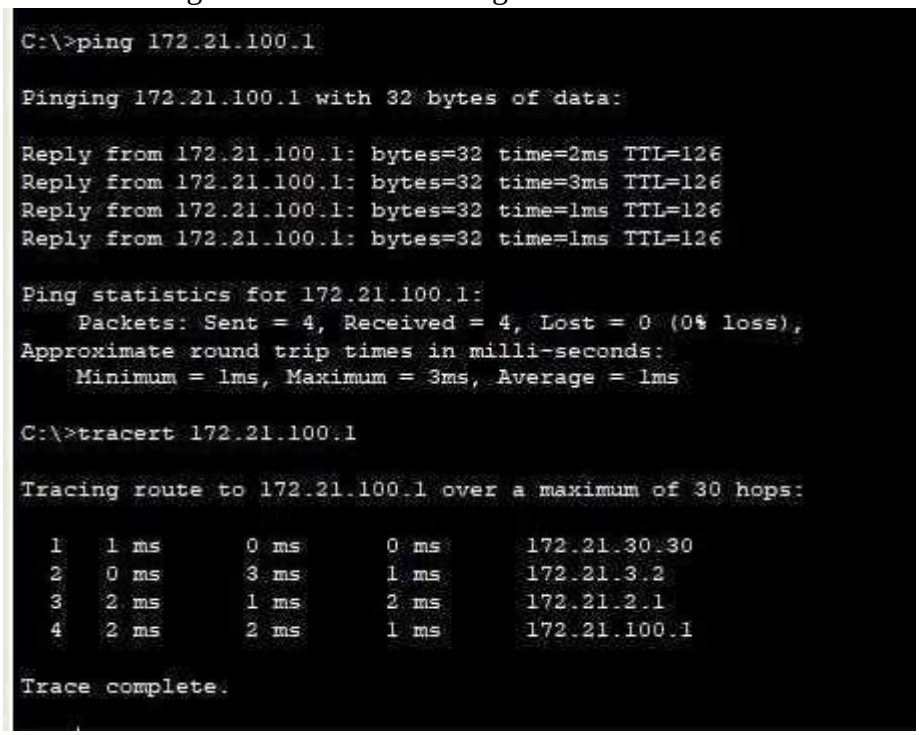
```
Router>enable
Router#config term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 172.21.100.0 255.255.255.0 172.21.2.1
```

- Melakukan Ping dan Trace dari PC Aries ke PC Leo.



```
C:\>ping 172.21.100.1

Pinging 172.21.100.1 with 32 bytes of data:

Reply from 172.21.100.1: bytes=32 time=4ms TTL=126
Reply from 172.21.100.1: bytes=32 time=2ms TTL=126
Reply from 172.21.100.1: bytes=32 time=4ms TTL=126
Reply from 172.21.100.1: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 4ms, Average = 2ms

C:\>tracert 172.21.100.1

Tracing route to 172.21.100.1 over a maximum of 30 hops:

  1    0 ms      0 ms      0 ms      172.21.20.20
  2    1 ms      0 ms      2 ms      172.21.1.1
  3    1 ms      1 ms      3 ms      172.21.100.1

Trace complete.
```

- Melakukan Ping dan Trace dari PC Virgo ke PC Leo.



```
C:\>ping 172.21.100.1

Pinging 172.21.100.1 with 32 bytes of data:

Reply from 172.21.100.1: bytes=32 time=2ms TTL=126
Reply from 172.21.100.1: bytes=32 time=3ms TTL=126
Reply from 172.21.100.1: bytes=32 time=1ms TTL=126
Reply from 172.21.100.1: bytes=32 time=1ms TTL=126

Ping statistics for 172.21.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 1ms, Maximum = 3ms, Average = 1ms

C:\>tracert 172.21.100.1

Tracing route to 172.21.100.1 over a maximum of 30 hops:

  1    1 ms      0 ms      0 ms      172.21.30.30
  2    0 ms      3 ms      1 ms      172.21.3.2
  3    2 ms      1 ms      2 ms      172.21.2.1
  4    2 ms      2 ms      1 ms      172.21.100.1

Trace complete.
```