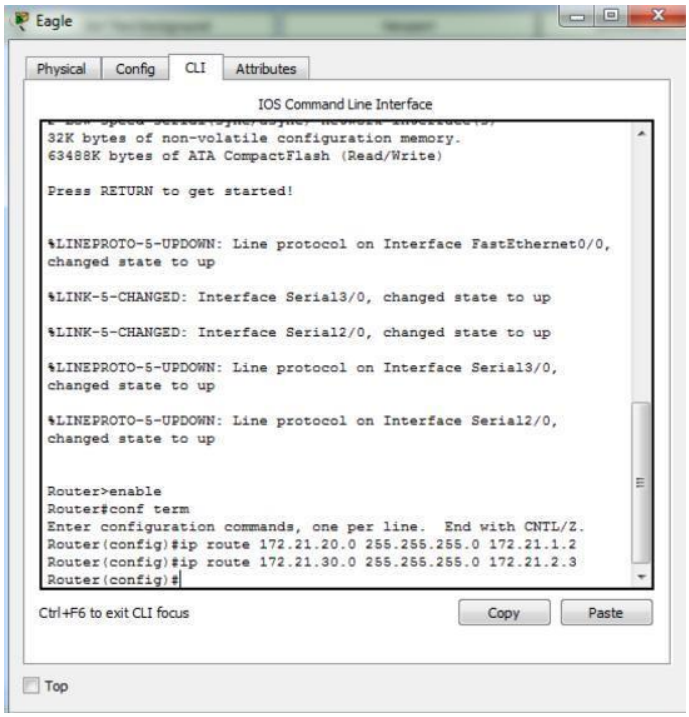
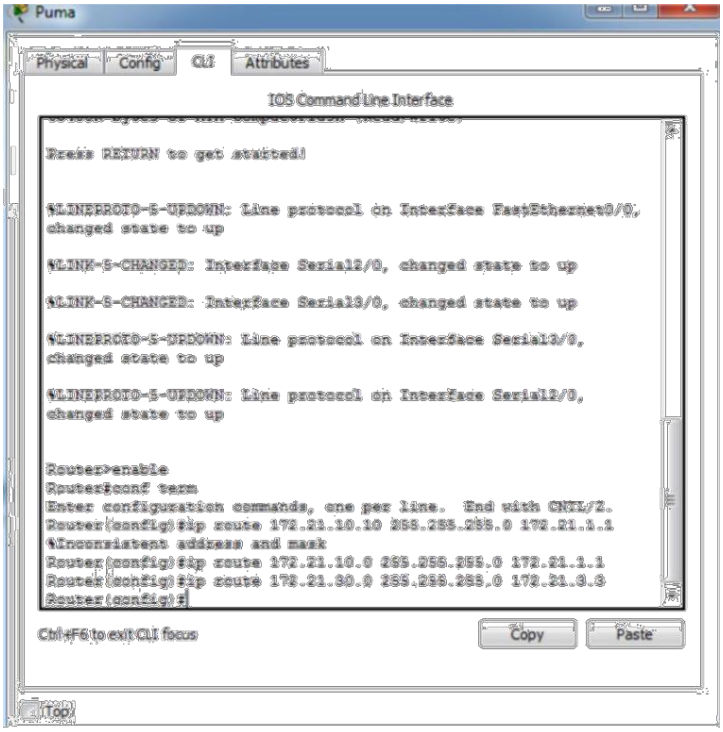
NAMA : NARENDRA GUSTIAJI
NIM : L200170151
KELAS : D
MODUL 7

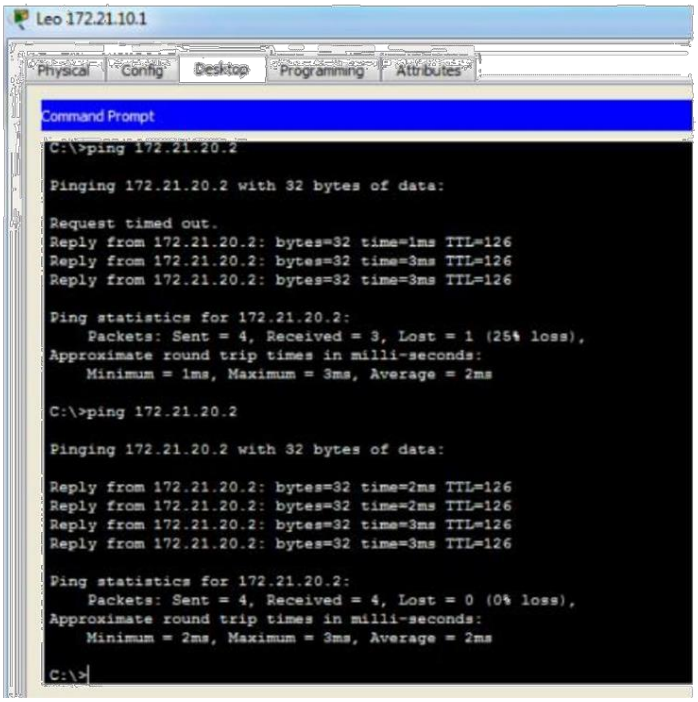
KEGIATAN 1

Tugas 11A: Tuliskan langkah penambahan route table (static route) pada router puma dan eagle.

Jawab : Berikut langkah penambahan route table




Puma
Physical
Config
CLI
Attributes
IOS Command Line Interface
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>enable
Router#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 172.21.10.10 255.255.255.0 172.21.1.1
%Inconsistent address and mask
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


Leo 172.21.10.1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
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=1ms TTL=126
Reply from 172.21.20.2: bytes=32 time=3ms TTL=126
Reply from 172.21.20.2: bytes=32 time=3ms 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 = 3ms, Average = 2ms
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=2ms TTL=126
Reply from 172.21.20.2: bytes=32 time=2ms TTL=126
Reply from 172.21.20.2: bytes=32 time=3ms TTL=126
Reply from 172.21.20.2: bytes=32 time=3ms 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 = 2ms, Maximum = 3ms, Average = 2ms
C:\>

Tugas 12A: Apakah mendapat tanggapan dari leo? Jelaskan secara singkat mengapa demikian. **Jawab :** Iya, Hal ini dikarenakan telah dibuat peroutingan untuk data lewat melalui jalur yang mana.

Tugas 12B: Jika alamat jaringan pada segmen leo diubah dari 172.21.10.0/24 menjadi 172.21.100./24. Tuliskan langkah perubahan konfigurasi yang dilakukan pada setiap router agar PC leo dapat dihubungi (ping) dari PC aries dan virgo. Mengapa langkah-langkah tersebut harus dilakukan?

Jawab :

1. Lakukan konfigurasi pada router eagle.
2. Lakukan konfigurasi pada PC Leo dan ubah default gateway.
3. Lakukan routing pada masing masing router sesuai dengan blok ip pc
4. Lakukan pengecekan dengan cara (ping)

Kegiatan 2

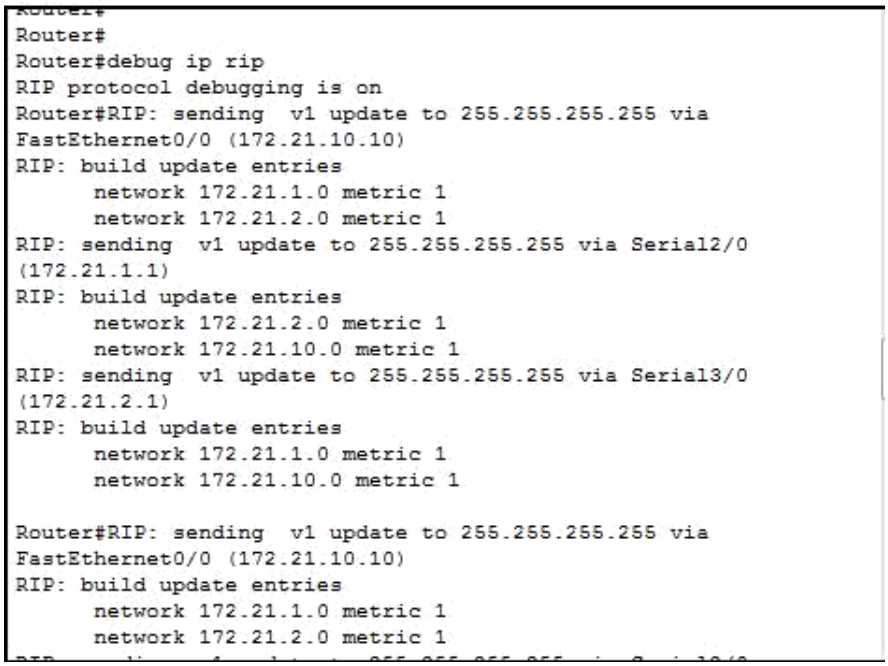
Tugas 4A : Berapa nomor alamat jaringan yang terdaftar pada konfigurasi routing RIP?

```
!
interface FastEthernet5/0
 no ip address
 shutdown
!
router rip
 network 172.21.0.0
!
ip classless
!
ip flow-export version 9
!
!
!
!
!
!
!
line con 0
!
line aux 0
!
line vty 0 4
 login
```

Tugas 4B : Mengapa alamat jaringan yang langsung terhubung dengan interface e0(172.21.10.0), s0(172.21.1.0), dan s1(172.21.2.0) tidak di daftarkan ke konfigurasi routing RIP? **Jawab :** Karena pada 172.21.0.0 mencakup semua alamat jaringan.

Tugas 5A : Jelaskan secara singkat proses tersebut.

Jawab :



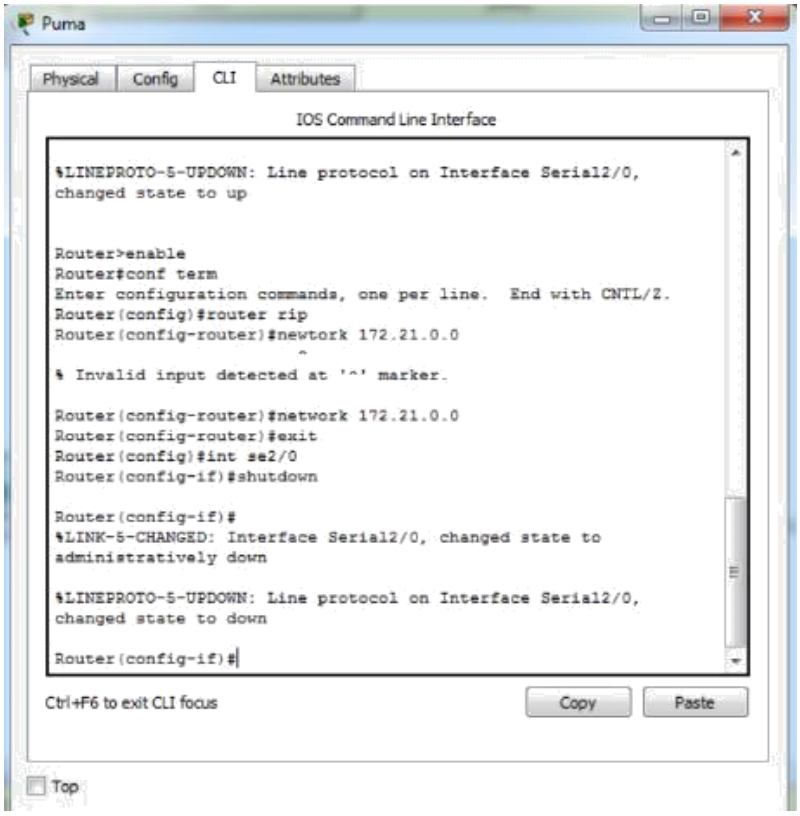
```
Router#
Router#debug ip rip
RIP protocol debugging is on
Router#RIP: sending  v1 update to 255.255.255.255 via
FastEthernet0/0 (172.21.10.10)
RIP: build update entries
      network 172.21.1.0 metric 1
      network 172.21.2.0 metric 1
RIP: sending  v1 update to 255.255.255.255 via Serial2/0
(172.21.1.1)
RIP: build update entries
      network 172.21.2.0 metric 1
      network 172.21.10.0 metric 1
RIP: sending  v1 update to 255.255.255.255 via Serial3/0
(172.21.2.1)
RIP: build update entries
      network 172.21.1.0 metric 1
      network 172.21.10.0 metric 1

Router#RIP: sending  v1 update to 255.255.255.255 via
FastEthernet0/0 (172.21.10.10)
RIP: build update entries
      network 172.21.1.0 metric 1
      network 172.21.2.0 metric 1
```

Tugas 6A : Tuliskan langkah konfigurasi routing RIP yang dilakukan pada salah satu router(puma atau tiger)

Jawab :

```
Router>en
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 172.21.0.0
Router(config-router)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

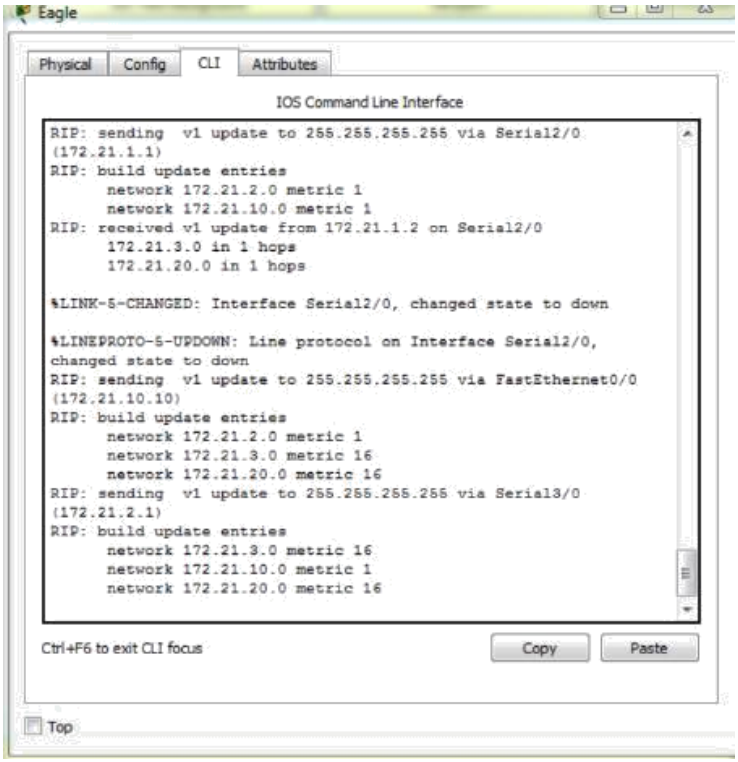
Tugas 6B : Jelaskan secara singkat proses update yang terjadi pada router eagle ketika konfigurasi salah satu router(puma atau tiger) dilakukan. (Perhatikan bagian "RIP: Received updated from 172.21.X.X on SerialX" dan tambahan subnet yang terjadi)



Tugas 6C : Jika alamat jaringan pada segmen leo diubah dari 172.21.100.0/24. Apakah perlu dilakukan perubahan konfigurasi pada setiap router agar PC leo dapat dihubungi (ping) dari PC aries dan virgo? Mengapa demikian? **Jawab :** Tidak perlu. Hal tersebut karena network yang dipakai adalah 172.21.0.0 yang dimana masih dalam satu jaringan.

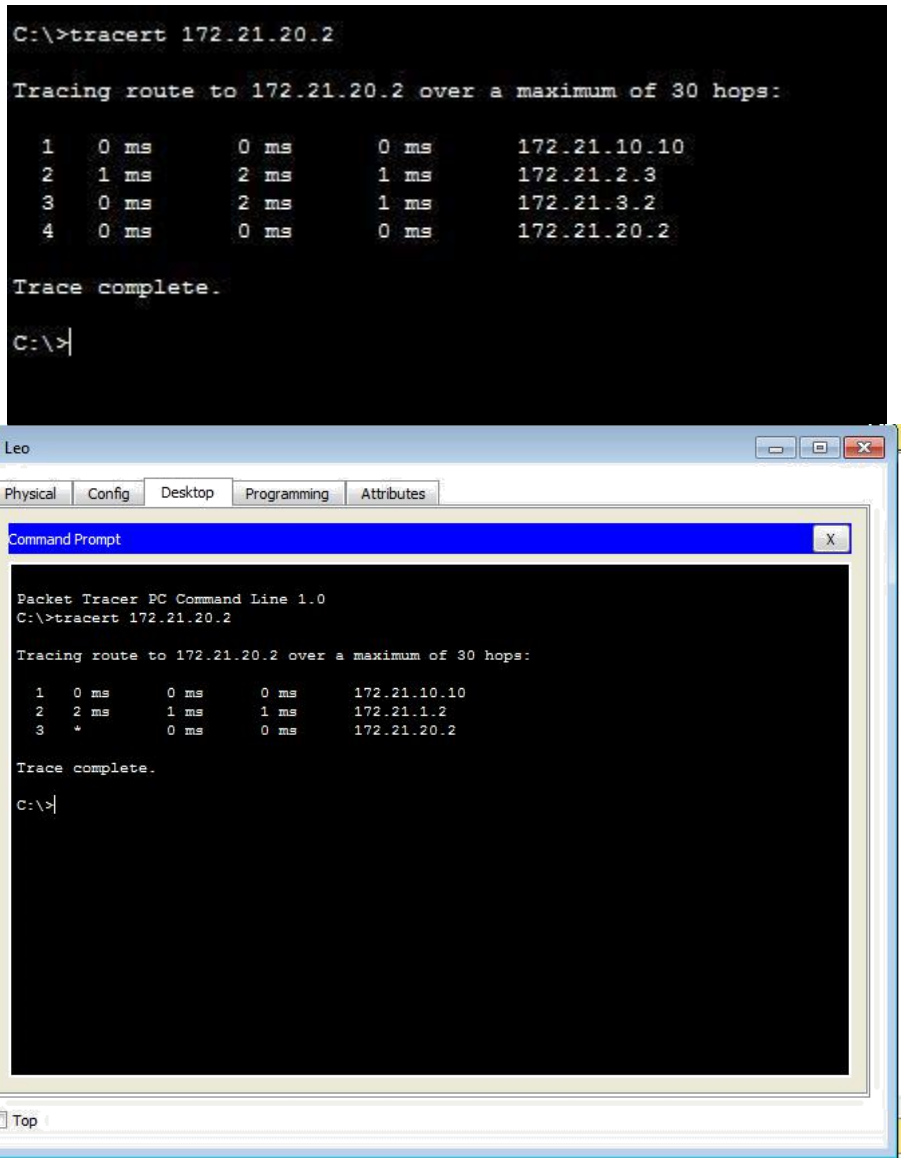
Tugas 8A : Jelaskan secara singkat proses update yang terjadi pada router eagle. (Perhatikan bagian "RIP : Received Updated from 172.21.2.3 on Serial1" dan perubahan hops dari subnet 172.21.20.0 yang terjadi)

Jawab : Routing otomatis di downkan dan dimana melalui serial 3/0 yang terjadi di mana hops juga berubah.



Tugas 9A : Apakah hasil yang diperoleh berbeda dengan langkah 8 diatas(ketika langkah 8 belum dilakukan)? Jelaskan secara singkat mengapa demikian.

Jawab :

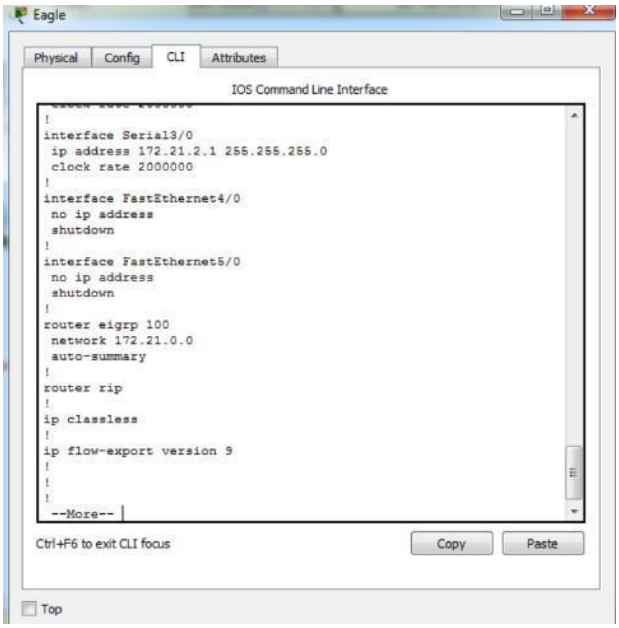


Dikarenakan hubungan di downkan maka hasil routing yang berawal dari dimulai menjadi berhenti dan menghasilkan RTO karena jaringan tidak terhubung.

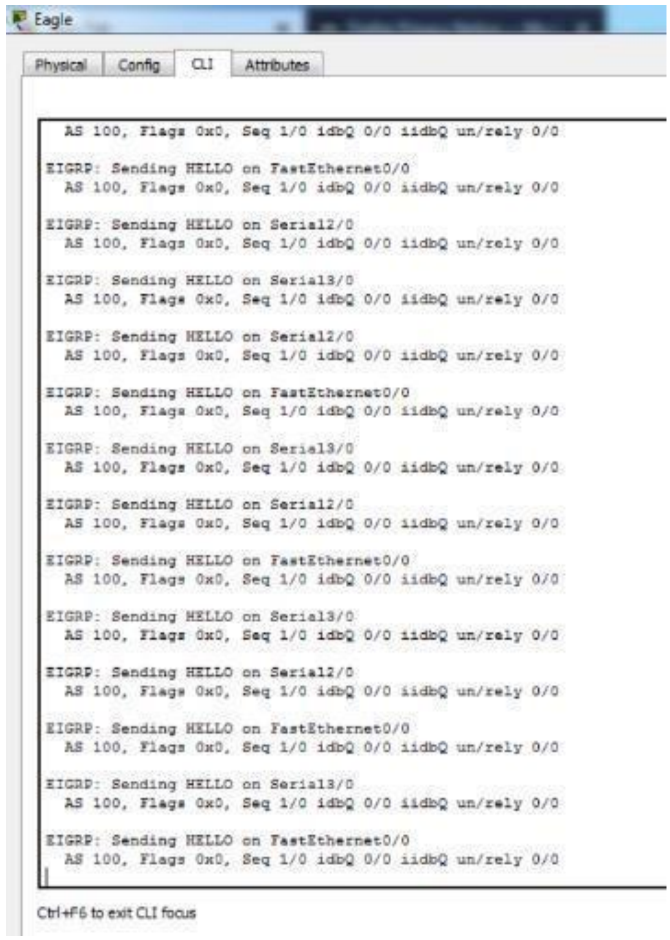
Kegiatan 3

Tugas 4A : Berapa nomor alamat jaringan yang terdaftar pada konfigurasi routing EIGRP?

Jawab :



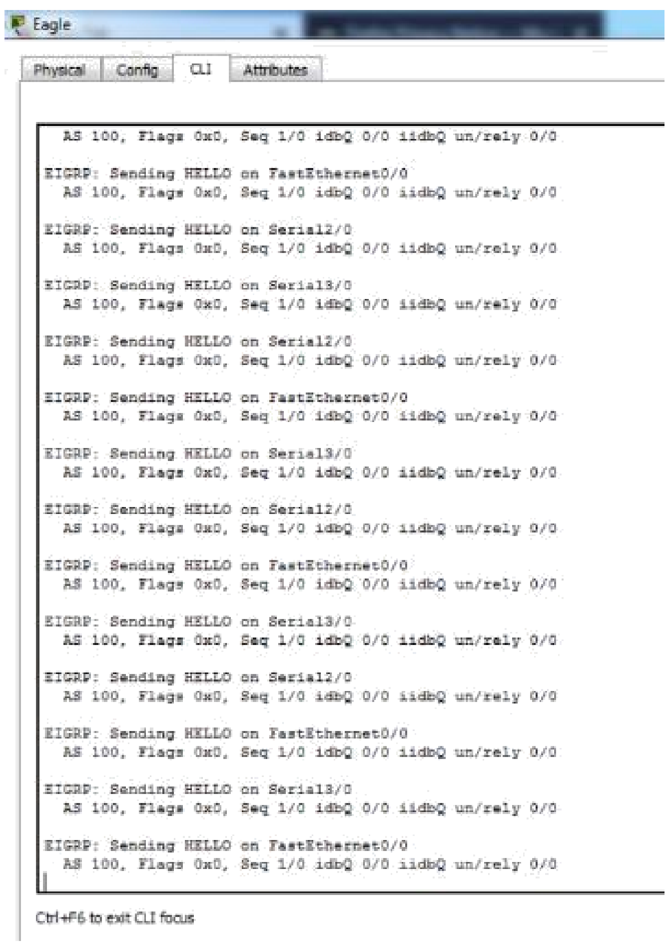
Tugas 5A : Jelaskan secara singkat proses tersebut?
Jawab : Terjadi suatu transaksi yang mengiri tanda ataupun sapa untuk router lain dan komputer melalui fa dan serial.



Tugas 6A : Jelaskan secara singkat proses tersebut
Jawab :

```
Router>en
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.3.2 (Serial3/0)
is up: new adjacency

%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.2.1 (Serial2/0)
is up: new adjacency
```

Tugas 7A : Tuliskan langkah konfigurasi routing EIGRP yang dilakukan pada salah satu router(puma atau tiger).
Jawab :




```
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial2/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on Serial3/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0

EIGRP: Sending HELLO on FastEthernet0/0
  AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
```

Tugas 7B : Jelaskan secara singkat proses update yang terjadi pada router eagle ketika konfigurasi salah satu router(puma atau tiger) dilakukan. (perhatikan bagian "EIGRP : Received updated from 172.21.X.X on SerialX" dan tambahan subnet yang terjadi)

Jawab : Setelah router puma di konfigurasi maka di router eagle otomatis meng-update kemudian mengirim ACK hingga proses selesai.

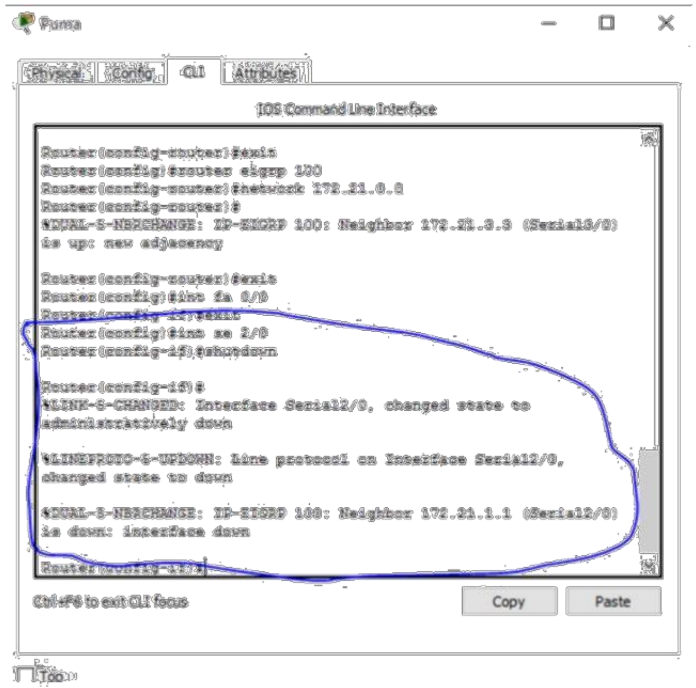
Tugas 7C : Jika alamat jaringan pada segmen leo diubah dari 172.21.10.0/24 menjadi 172.21.100.0/24. Apakah perlu dilakukan perubahan konfigurasi pada setiap router agar PC leo dapat dihubungi(ping) dari PC aries dan virgo? Mengapa demikian?

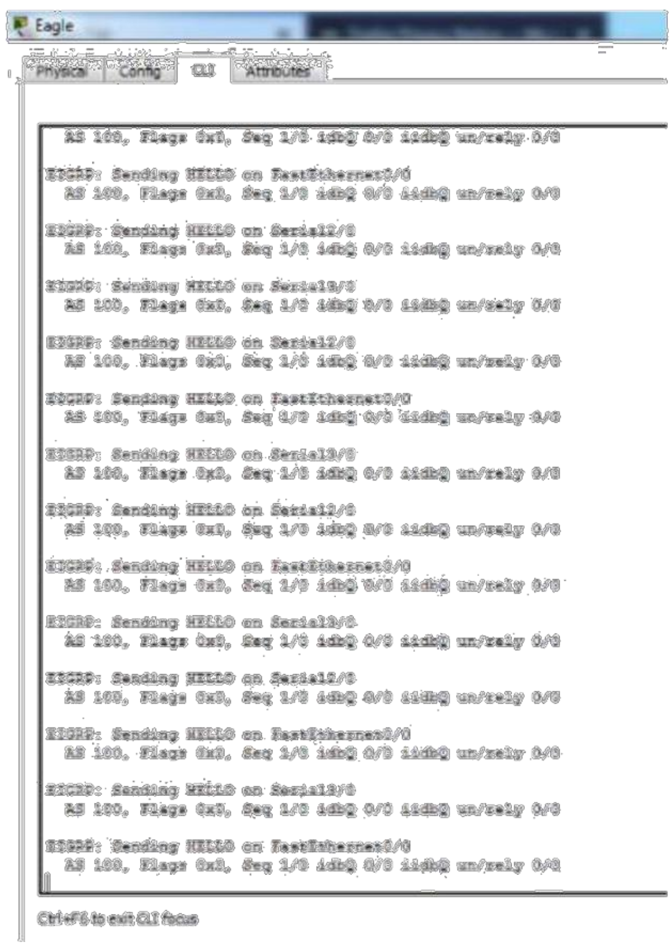
Jawab : Tidak perlu. Karena tetap berada pada jaringan yang sama dan routing sudah dinamis.

Tugas 9A : Jelaskan secara singkat proses update yang terjadi pada router

eagle.(perhatikan bagian"EIGRP : Received updated from 172.21.2.3 on Serial1")

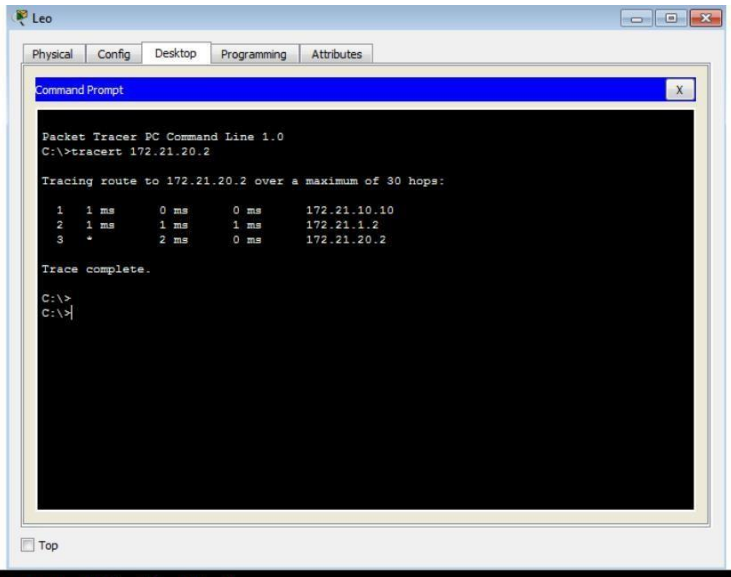
Jawab :

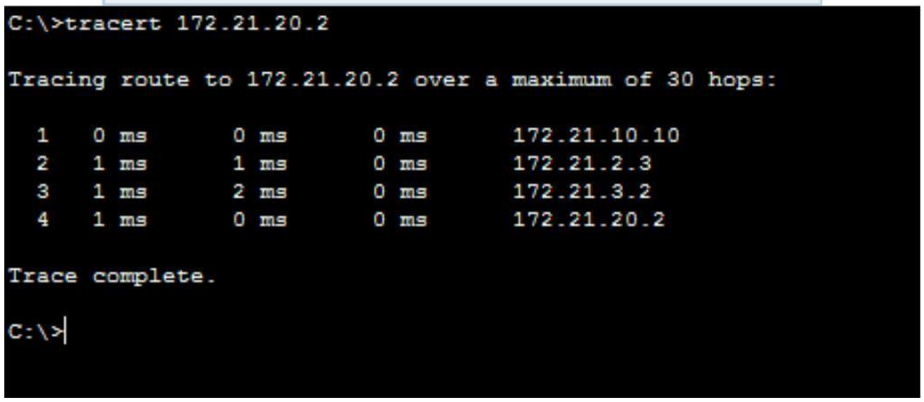

Puma
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router(config-router)#exit
Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.3.3 (Serial3/0) is up: new adjacency
Router(config-router)#exit
Router(config)#int fa 0/0
Router(config-if)#exit
Router(config)#int se 2/0
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to administratively down
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to down
%DUAL-5-NBRCHANGE: IP-EIGRP 100: Neighbor 172.21.1.1 (Serial2/0) is down: interface down
Ctrl+F6 to exit CLI focus
Copy
Paste
Top


Eagle
Physical
Config
CLI
Attributes
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on FastEthernet0/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial2/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial3/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial2/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on FastEthernet0/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial3/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial2/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on FastEthernet0/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial3/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial2/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on FastEthernet0/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on Serial3/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
EIGRP: Sending HELLO on FastEthernet0/0
AS 100, Flags 0x0, Seq 1/0 idbQ 0/0 iidbQ un/rely 0/0
Ctrl+F6 to exit CLI focus

Setelah pemutusan pada router puma dan eagle pada router puma, maka akan ada notifikasi dan update pada router eagle.

Tugas 10A : Apakah hasil yang diperoleh berbeda dengan langkah 8 diatas(ketika langkah 9 belum dilakukan)? Jelaskan secara singkat mengapa demikian.
Jawab :
Setelah router terputus waktu yang dibutuhkan untuk mengirim data menjadi berbeda. Juga terdapat perbedaan pada hops atau jalan yang dilalui.

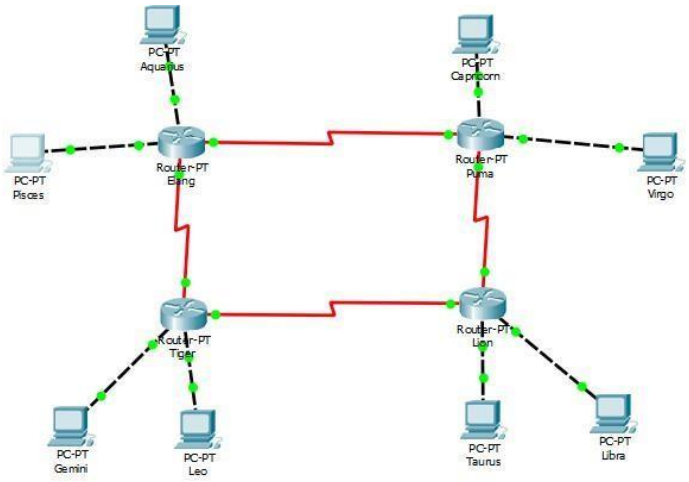




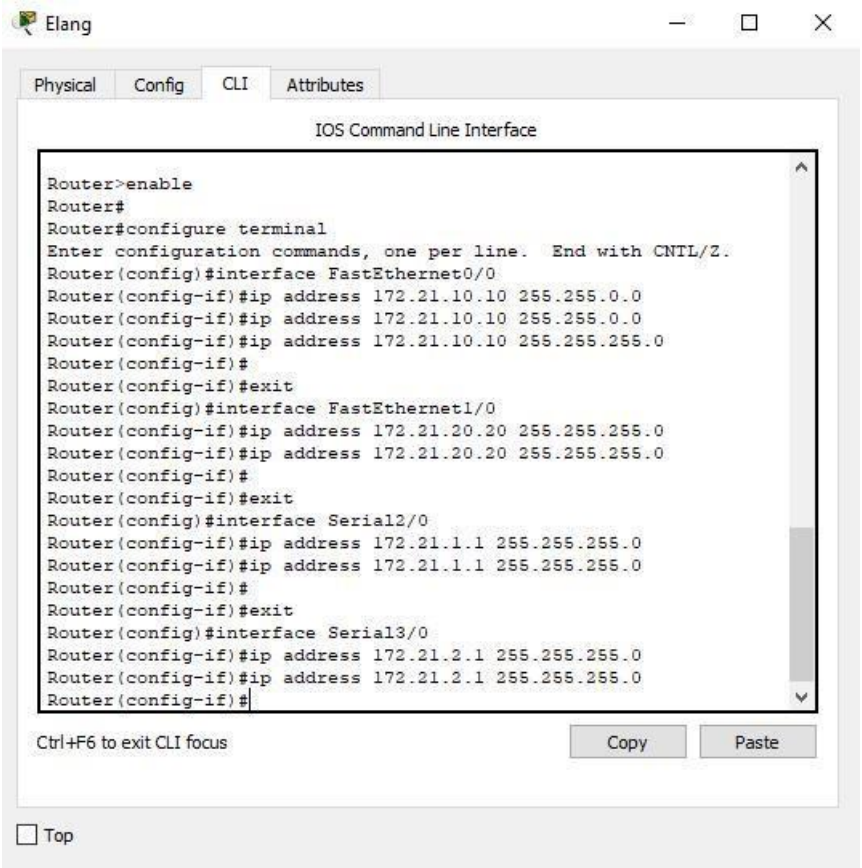
TUGAS MODUL 5

1.

1. Gambar Topologi



2. Konfigurasi masing masing router.



, Puma 0 X

O.1

IOS Command Line Interface

```
aoute...>enabl•
aoute...s
;touterSconfiqur• terminal
tnter eonfiquration eonw.nd•, one per line.  End with CNTL/Z.
aouterCconfiq(tinte...faee fast£thernet0/0
.loute...Ceonfiq-1f)tno ip addr•••
aout•rleonfiq-if)tip addr••• 172.21.20.10 2SS.2SS.O.O
aouterCconfiq-if)tip addr••• 172.21.20.10 2SS.2SS.O.O
aoute...Cconf1q-1f)t1p add...e•• 172.21.20.10 2SS.2SS.2SS.O
aoute...Cconfiq-if)f
;touterCeonfiq-if)tex1t
aouterCeonfiq(tinterfaee Fast!thernetl/0
aoute...Cconf19-1f)f1p &dd...ess 172.21.30.20 2SS 2SS.2SS 0
aoute...Cconfiq-if)fip addr••• 172.21.30.20 2SS 2SS.2SS 0
aouter(eonf19-if)f aouterCconf19-
1fJtex1t aoute...Cconfiq)tinte...faee
Fast!thernet0/0
.Loute...Cconf19-1f)f
aouter1confiq-1f)texit
aouterCconfiq(tinterfaee Fast£thernetl/0
aoute...Cconf19-1f)t
aoute...Cconfiq-if)texit
aouter1confiq(tinterfaee Serial2/0
;toucerCconf19-if)tip address 172.21.1.2 2SS.2SS.2SS.O
```

Ctrl+Ri to e0t Q.I foOJs Copy

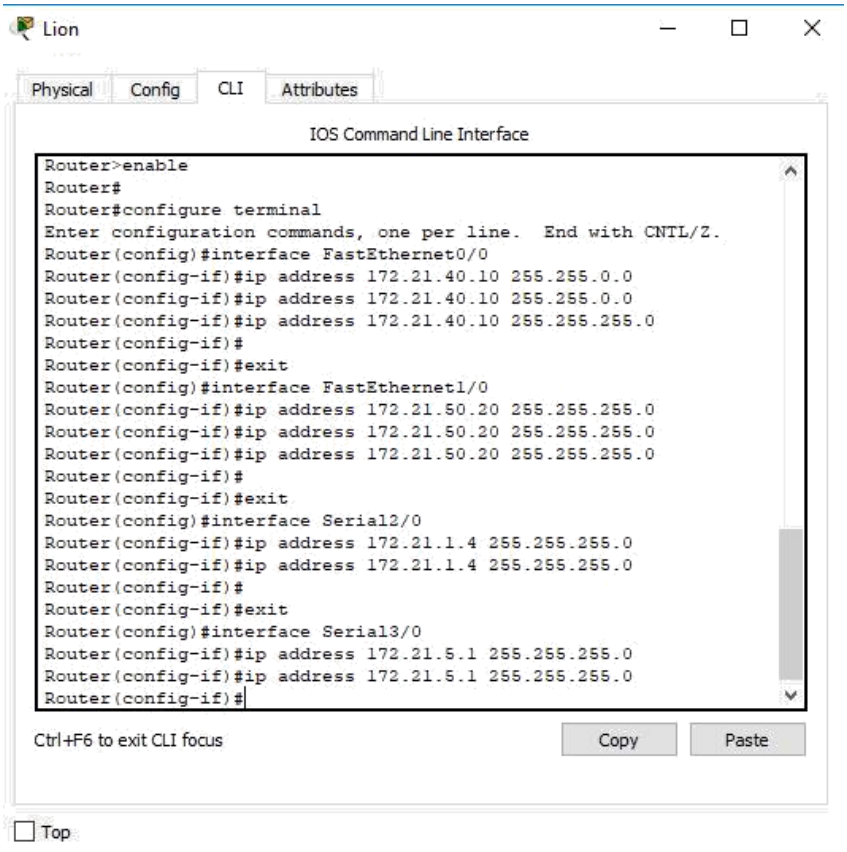
'5 Tiger D X

OJ Attributes

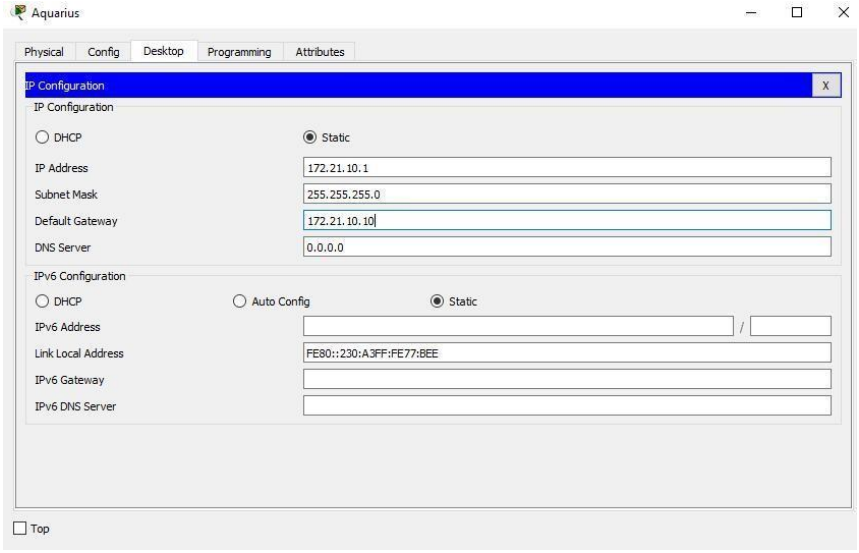
IOS Conmand lrM!: lnti!rface

```
>loueer>enabl•
:Louterf
:Louertc:onfiqure terminal
Enter eonfiquretion  comm.ands, one per line.  End with CNTL/Z.
aouterCc:ontiq)tinterfeee Fast!thernet0/0
aouterCeonfi9-if)t1p address 172.21.30.10 2SS.2SS.O.O
aouterceontiq-if!tip addr••• 172.21.30.10 lSS.2SS.O.O
aoueercc:ontiq-i!Jfip addr••• 172.21.30.10 2ss.2ss.2ss.o
KouterCeontiq-it!t
:Louter(c:ontiq-it)texit
:LouterCc:ontiq)tintertaee Fast!thernetl/0
aouterCeont19-1f)t1p address 172.21.40.20 2SS.2SS.2SS.O
aouterceonfi9-1!Jt1p addr••• 172.21.40.20 2SS.2SS.2SS.O
aouterceonfiq-it!t
:LoueerCeontiq-i!Jtexit
KouterCeont19)tinterfaee Serial2/0
:LouterCc:ontiq-it)tip addr••• 172.21.1.3 2SS.2SS.2SS.O
aouterlc:ontiq-it)tip address 172.21.1.3 2SS.2SS.2SS.0
aouterCeonti9-1tJt
:Louterceontiq-i!Jt•xit
aoueerceontiq)tintertaee Serial3/0
KoueerCeontiq-i!Jtip addr••• 172.21.4.1 2SS.2SS.2SS.O
KouterCeont19-i!lffP address 172.21.4.1 2SS.2SS.2SS.O
KouterCc:ontiq-i!Jt!
```

Cb1-+f-6 to eXJt O.1 focus ges ..


Lion
Physical
Config
CLI
Attributes
IOS Command Line Interface
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 172.21.40.10 255.255.0.0
Router(config-if)#ip address 172.21.40.10 255.255.0.0
Router(config-if)#ip address 172.21.40.10 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#ip address 172.21.50.20 255.255.255.0
Router(config-if)#ip address 172.21.50.20 255.255.255.0
Router(config-if)#ip address 172.21.50.20 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial2/0
Router(config-if)#ip address 172.21.1.4 255.255.255.0
Router(config-if)#ip address 172.21.1.4 255.255.255.0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial3/0
Router(config-if)#ip address 172.21.5.1 255.255.255.0
Router(config-if)#ip address 172.21.5.1 255.255.255.0
Router(config-if)#
Ctrl+F6 to exit CLI focus
Copy
Paste
Top

3. Konfigurasi pada setiap PC.



4. Cek koneksi

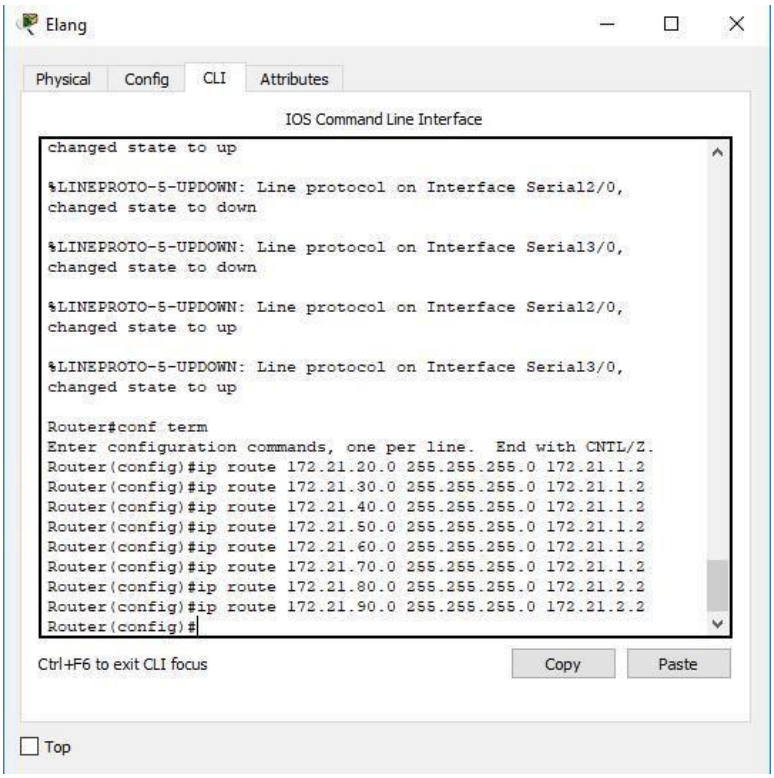
dari PC Aquarius ke Router Elang.

```
C:\>ping 172.21.10.10

Pinging 172.21.10.10 with 32 bytes of data:

Reply from 172.21.10.10: bytes=32 time=108ms TTL=255
Reply from 172.21.10.10: bytes=32 time<1ms TTL=255
Reply from 172.21.10.10: bytes=32 time<1ms TTL=255
Reply from 172.21.10.10: bytes=32 time<1ms TTL=255

Ping statistics for 172.21.10.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 108ms, Average = 27ms
```

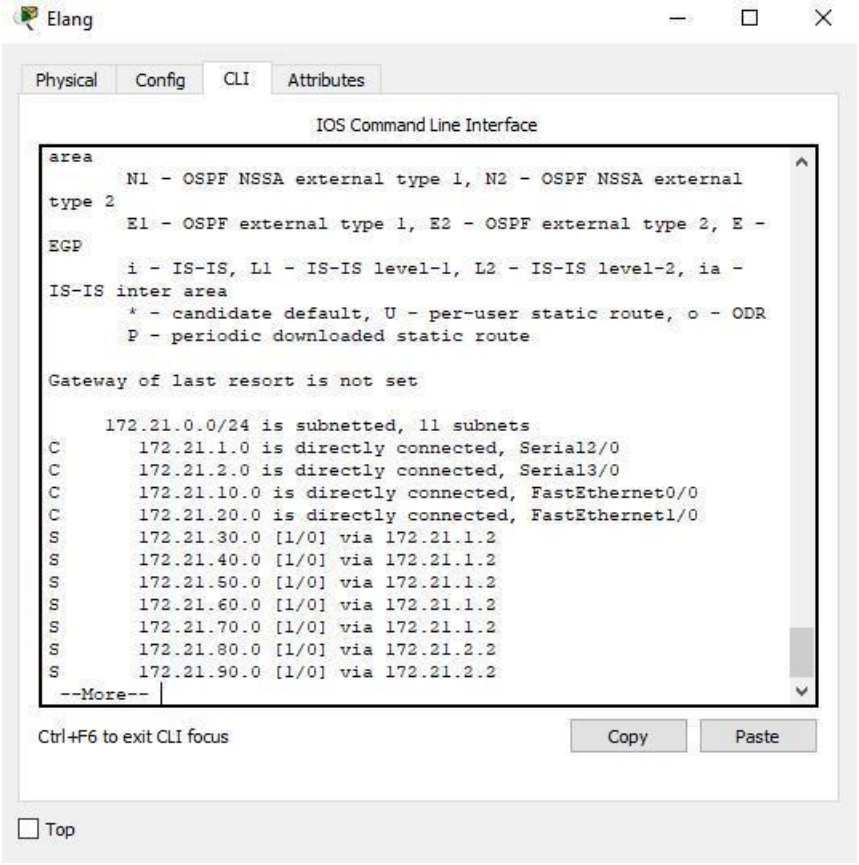
dari Router Elang ke Router Puma.

```
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 =
1/3/11 ms
```

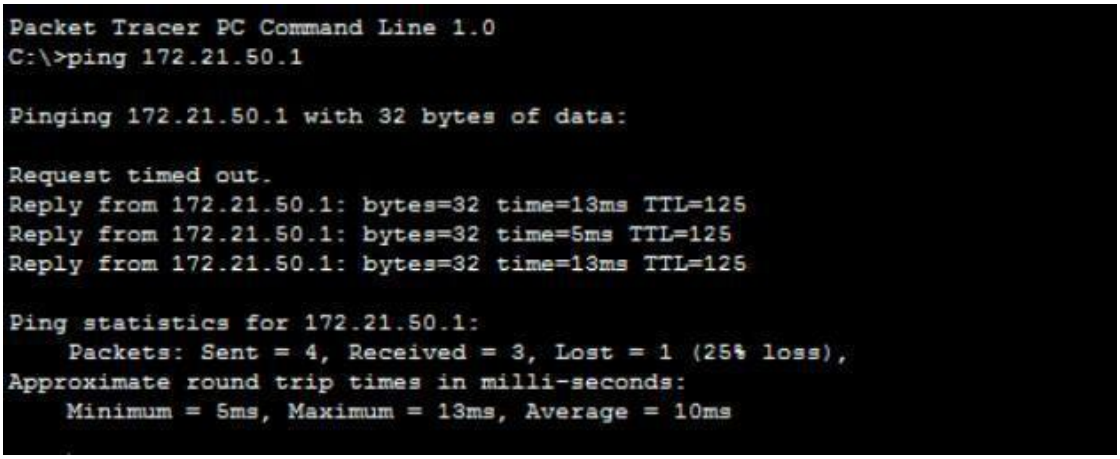
5. Melakukan routing

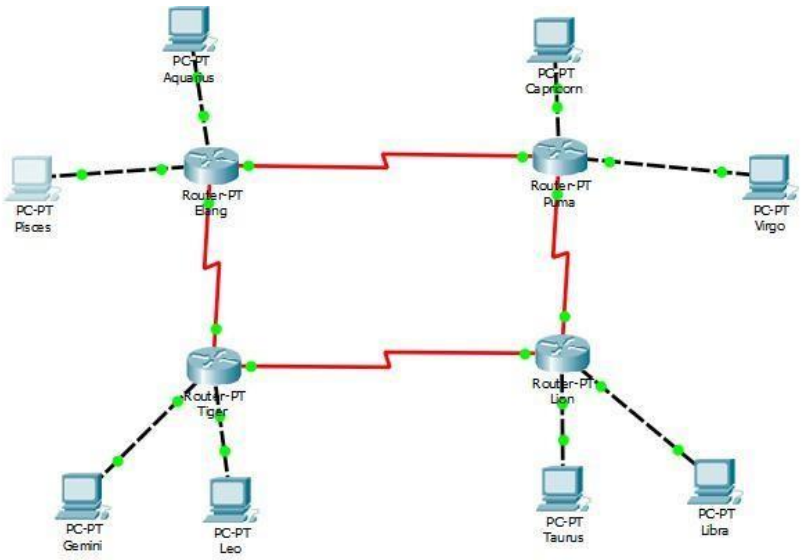


6. Show ip route

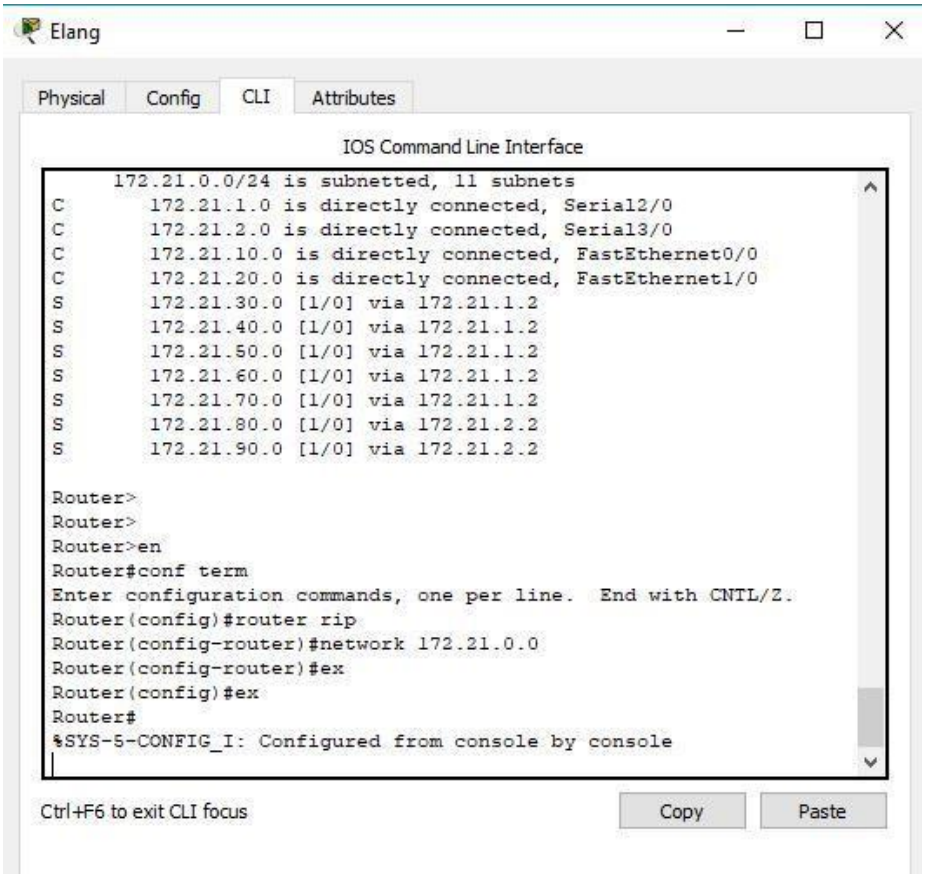


7. PING PC Pisces ke Libra

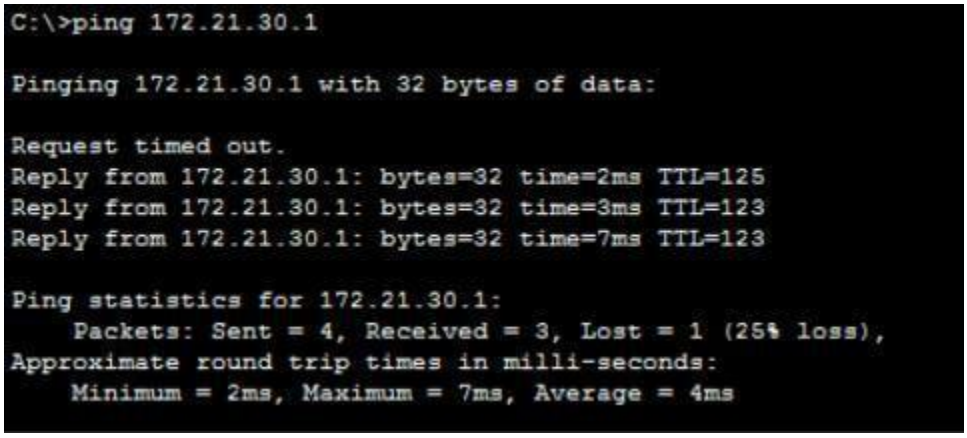




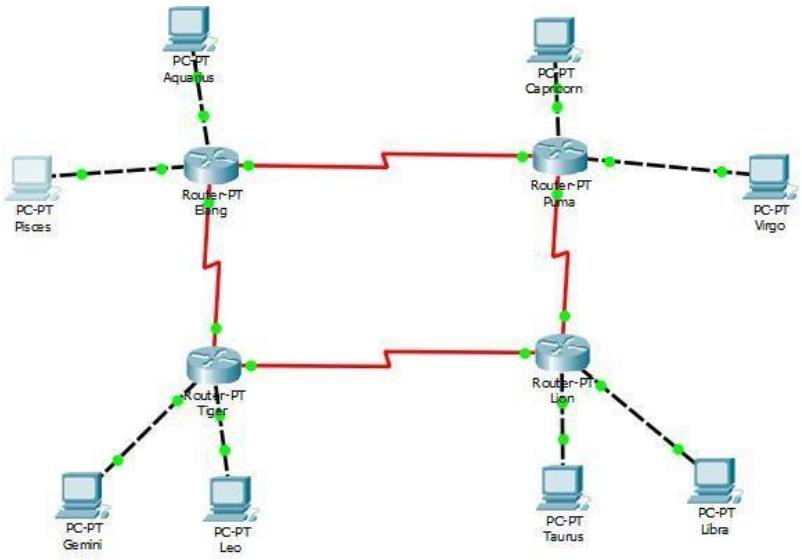
1. Konfigurasi IP dan routing.



2. Melakukan PING PC Gemini ke Capcricorn.



EIGRP



1. Konfigurasi IP dan routing

```
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#router eigrp 100
Router(config-router)#network 172.21.0.0
Router(config-router)#
```

2. Melakukan PING PC Libra ke PC Pisces