Nama : Ikhwan fahmi T

NIM : L200170174

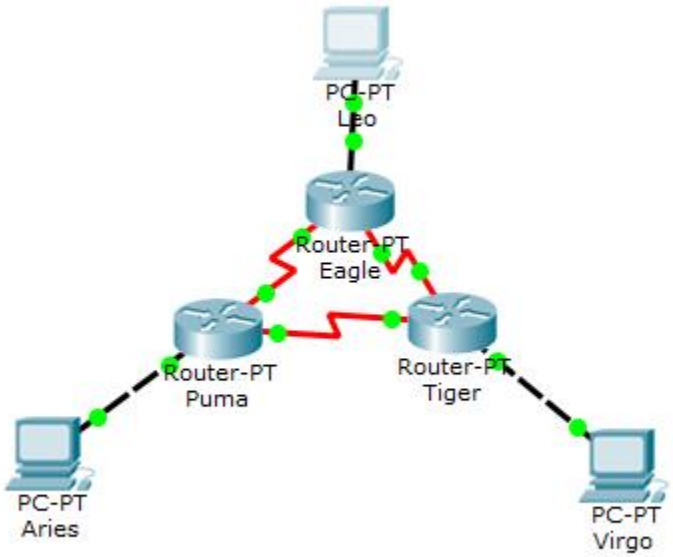
Kelas : D

Modul : 7

Praktikum

1 Tampilan CPT dan

2 Nama masing- masing router



3 Konfigurasi

Router 1 (eagle)

Ethernet 0

```
Eagle#enable
Eagle#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Eagle(config)#int fa 0/0
Eagle(config-if)#ip add 172.21.10.10 255.255.255.0
Eagle(config-if)#no shut
```

Serial 0

```
Eagle(config)#interface Serial2/0
Eagle(config-if)#clock rate
% Incomplete command.
Eagle(config-if)#clock rate 2000000
Eagle(config-if)#ip address 172.21.1.100 255.255.255.0
Eagle(config-if)#no shut
```

Router 2(Puma)

Ethernet 0

```
Puma>enable
Puma#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Puma(config)#int fa 0/0
Puma(config-if)#ip add 172.21.20.20 255.255.255.0
Puma(config-if)#no shut
```

Serial 0

```
% Incomplete command.
Puma(config)#interface Serial2/0
Puma(config-if)#ip add 172.21.3.2 255.255.255.0
Puma(config-if)#no shut
```

Router 3 (Tiger)

Ethernet 0

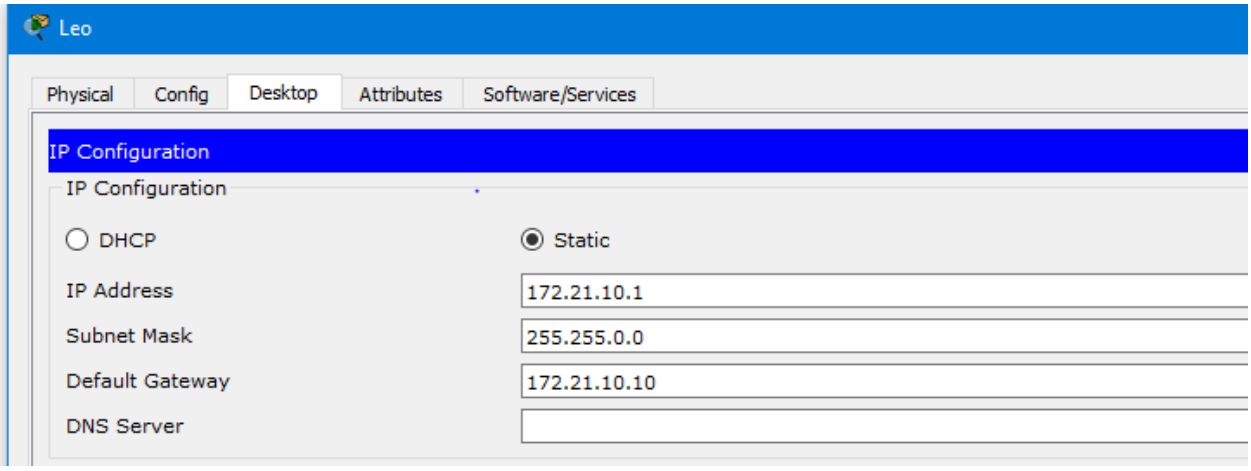
```
Tiger>en
Tiger#conf
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
Tiger(config)#int fa0/0
Tiger(config-if)#ip add 172.21.30.30 255.255.255.0
Tiger(config-if)#no shut
```

Serial 0

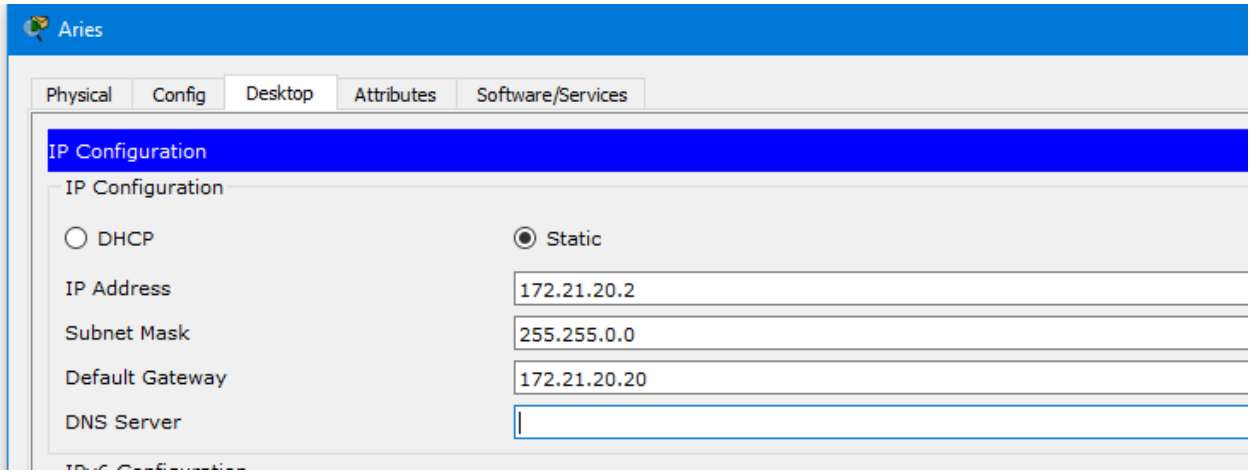
```
Tiger(config-if)#exit
Tiger(config)#interface Serial2/0
Tiger(config-if)#ip add 172.21.2.3 255.255.255.0
Tiger(config-if)#no shut
```

4 Konfigurasi nama dan alamat ip PC

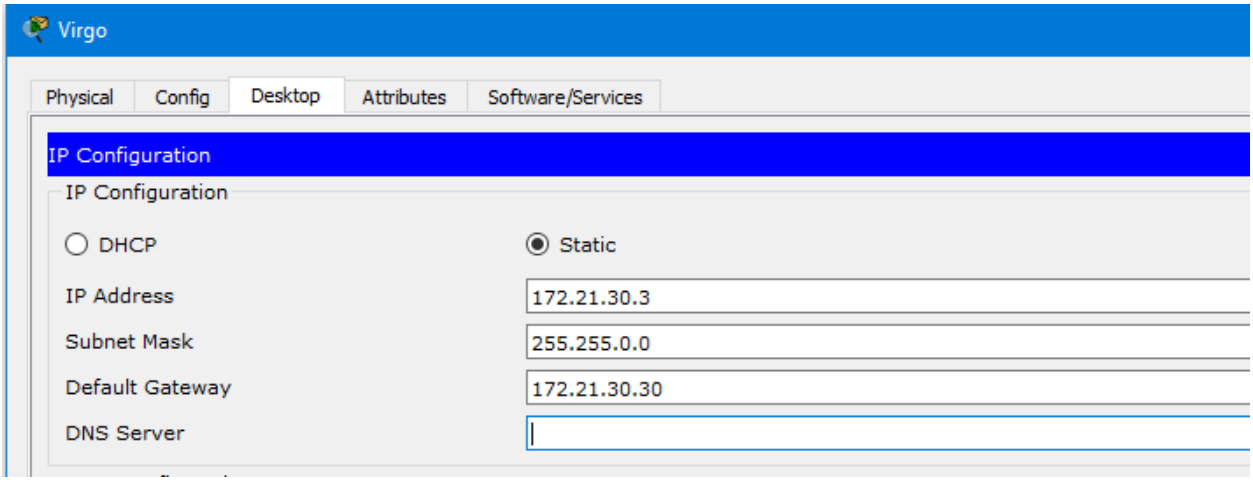
Leo



Aries


Aries
Physical
Config
Desktop
Attributes
Software/Services
IP Configuration
IP Configuration
DHCP
Static
IP Address
172.21.20.2
Subnet Mask
255.255.0.0
Default Gateway
172.21.20.20
DNS Server

Virgo


Virgo
Physical
Config
Desktop
Attributes
Software/Services
IP Configuration
IP Configuration
DHCP
Static
IP Address
172.21.30.3
Subnet Mask
255.255.0.0
Default Gateway
172.21.30.30
DNS Server

5 Uji konfigurasi

Ping PC Leo ke router Eagle

```
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=68ms TTL=255
Reply from 172.21.1.1: bytes=32 time=81ms 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 = 81ms, Average = 37ms

C:\>
```

Ping Aries ke router Puma

```
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=70ms TTL=255
Reply from 172.21.1.2: bytes=32 time<1ms TTL=255
Reply from 172.21.1.2: bytes=32 time=15ms TTL=255
Reply from 172.21.1.2: bytes=32 time=16ms 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 = 70ms, Average = 25ms
```

Ping PC Virgo ke router Tiger

```
C:\>ping 172.21.2.3

Pinging 172.21.2.3 with 32 bytes of data:

Reply from 172.21.2.3: bytes=32 time=67ms TTL=255
Reply from 172.21.2.3: bytes=32 time<1ms TTL=255
Reply from 172.21.2.3: bytes=32 time=16ms TTL=255
Reply from 172.21.2.3: bytes=32 time=16ms TTL=255

Ping statistics for 172.21.2.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 67ms, Average = 24ms
```

Ping router Eagle 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 0 percent (0/5)
```

Ping 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 0 percent (0/5)
```

Ping router Puma ke Tiger

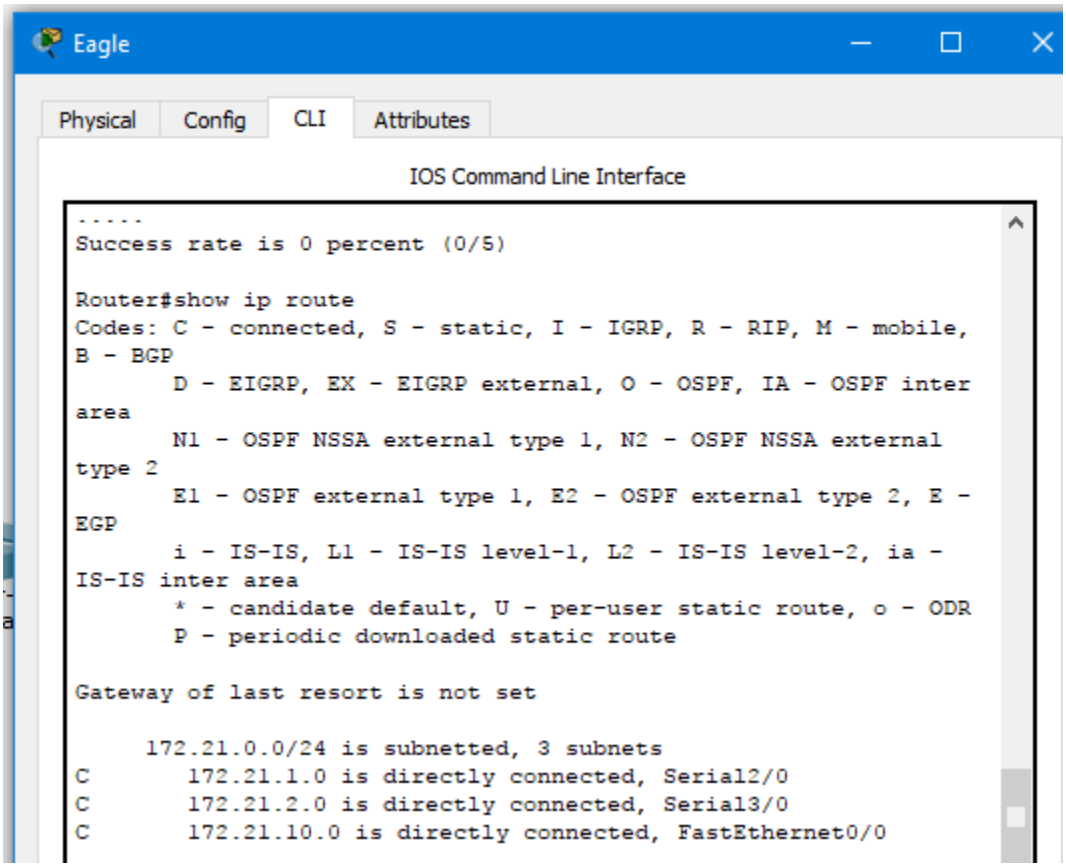
```
Router#ping 172.21.3.3

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 =
1/6/30 ms
```

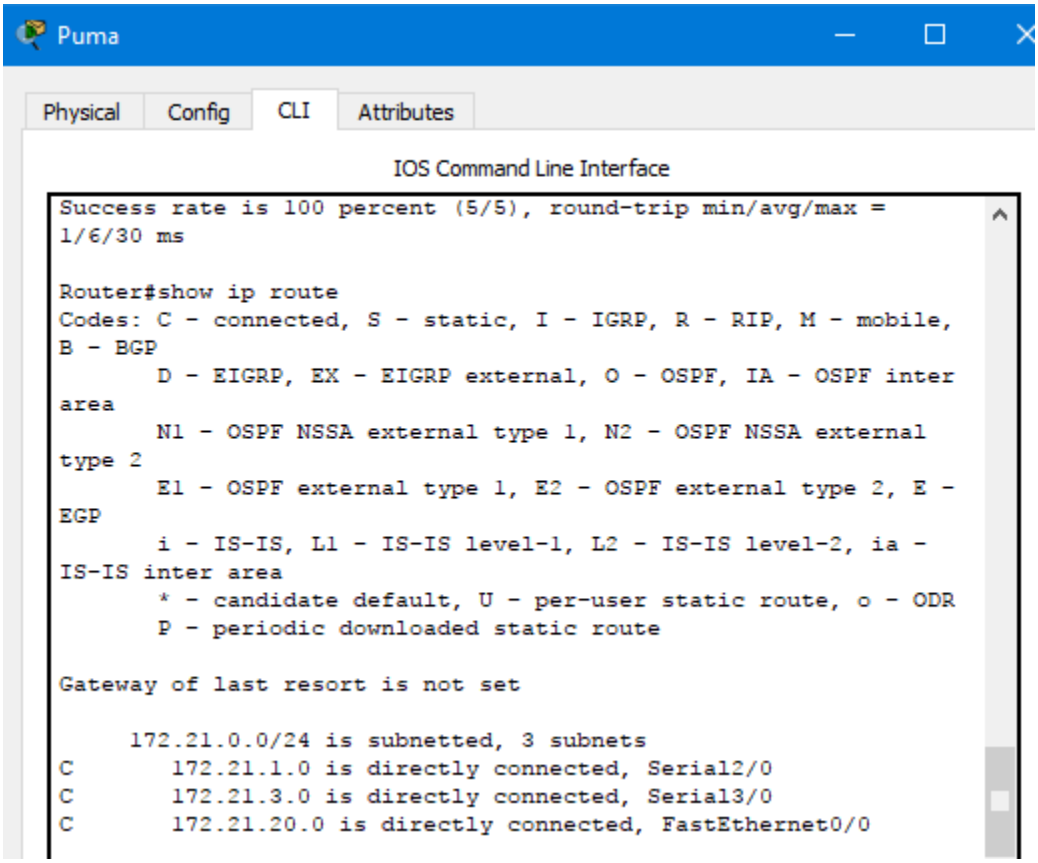
6 Simpan konfigurasi

7 show ip route masing- masing Router

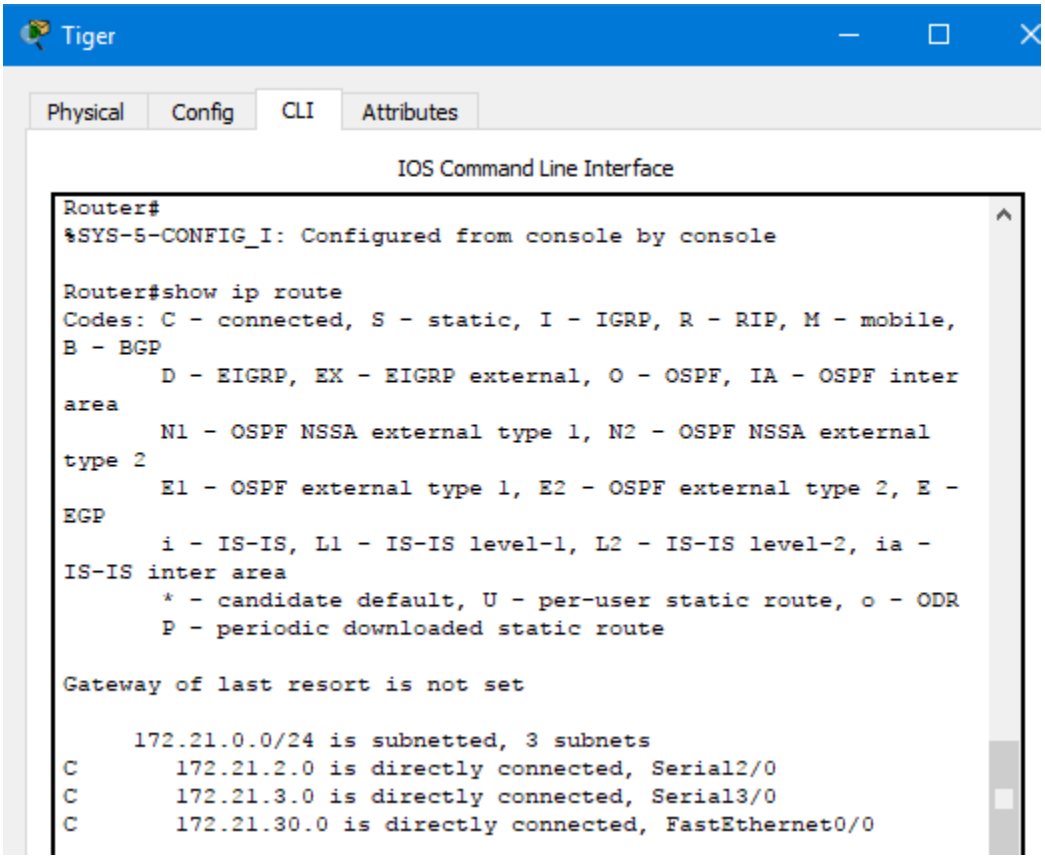
Router Eagle



Router Puma


Puma
Physical
Config
CLI
Attributes
IOS Command Line Interface
Success rate is 100 percent (5/5), round-trip min/avg/max =
1/6/30 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 Tiger



8 ping Eagle ke Puma

```
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)
```

9 tracert 172.21.20.2

```
C:\>tracert 172.21.20.2

Tracing route to 172.21.20.2 over a maximum of 30 hops:

  1    *        *        *       Request timed out.
  2    *        *        *       Request timed out.
  3    *        *        *       Request timed out.
  4    *        *        *       Request timed out.
  5    *        *        *       Request timed out.
  6    *        *        *       Request timed out.
  7    *        *        *       Request timed out.
  8    *        *        *       Request timed out.
  9    *        *        *       Request timed out.
  10   *        *        *       Request timed out.
  11   *        *        *       Request timed out.
  12   *        *        *       Request timed out.
```

10 tracert 172.21.1.1

```
C:\>tracert 172.21.1.1

Tracing route to 172.21.1.1 over a maximum of 30 hops:

  1    1 ms      11 ms     0 ms      172.21.1.1

Trace complete.
```

11 penambahan route table

Route Eagle

```
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)#
```

Route Puma

```
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)#
```

Route 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 172.21.10.0 255.255.255.0 172.21.2.1
Router(config)#ip route 172.21.20.0 255.255.255.0 172.21.3.2
Router(config)#
```

12 Ping PC Leo ke Aries dan Trace dari PC Leo ke Aries

```
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:\>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=2ms TTL=126
Reply from 172.21.20.2: bytes=32 time=1ms 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 = 2ms, Average = 1ms
```

```
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    1 ms       4 ms       13 ms      172.21.1.2
  3    13 ms      3 ms       10 ms      172.21.20.2

Trace complete.

C:\>
```

Kegiatan 2 RIP(Routing Information Protocol)

3. Proses konfigurasi

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

4. Hasil ‘show running-config'

```
Router(config-router)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show running-config
Building configuration...

Current configuration : 775 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!

Router#
```

5. Hasil ‘debug ip rip’

```
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
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
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
```

```
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
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
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
```

6. Proses routing rip pada router puma dan tiger

Puma

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

Tiger

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

7. Trace dari PC Leo ke PC Aries

```
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 172.21.20.20

Pinging 172.21.20.20 with 32 bytes of data:
```

8. Buat router Puma dan Tiger terputus

```
Router(config)#int se2/0
Router(config-if)#shut

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
```

9. Trace dari PC Leo ke PC Aries

```
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 172.21.20.20

Pinging 172.21.20.20 with 32 bytes of data:
```

Kegiatan 3 IGRP (Interior Gateway Routing Protocol)

3. Proses konfigurasi

```
Router#conf
Configuring from terminal, memory, or network [terminal]?
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)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

4. Hasil 'show running-conf'

```
Router#show running-conf
Building configuration...

Current configuration : 825 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
!
!
!
```

```
!
interface FastEthernet0/0
 ip address 172.21.20.20 255.255.255.0
 duplex auto
 speed auto
!
interface FastEthernet1/0
 no ip address
 duplex auto
 speed auto
 shutdown
!
interface Serial2/0
 ip address 172.21.1.2 255.255.255.0
 clock rate 2000000
 shutdown
!
interface Serial3/0
 ip address 172.21.3.2 255.255.255.0
 clock rate 2000000
!
interface FastEthernet4/0
 no ip address
 shutdown
!
interface FastEthernet5/0
 no ip address
 shutdown
!
router eigrp 100
 network 172.21.0.0
 auto-summary
!
ip classless
!
ip flow-export version 9
!
!
```

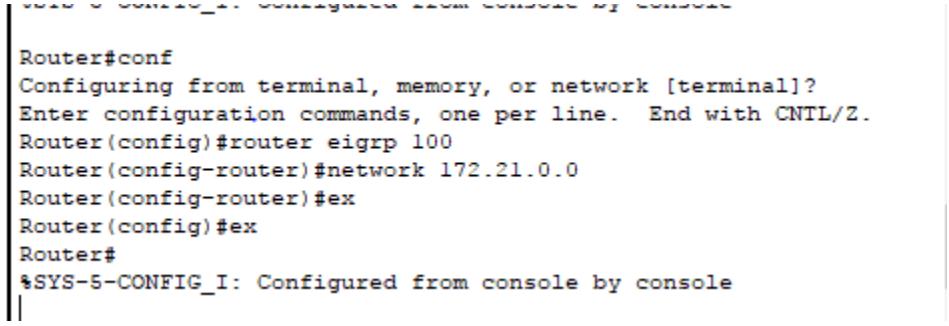
```
line con 0
!
line aux 0
!
line vty 0 4
 login
!
!
!
end
```

5. hasil ‘debug eigrp transactions

6.

7. Konfigurasi EIGRP pada router Puma dan Tiger

Puma



Hasil konfigurasi

```
Router#show running-conf
Building configuration...

Current configuration : 825 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
!
!
```

Tiger

```
Router#conf
Configuring from terminal, memory, or network [terminal]?
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)#ex
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

Hasil Konfigurasi

```
Router#show running-conf
Building configuration...

Current configuration : 825 bytes
!
version 12.2
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname Router
!
!
!
!
!
!
!
!
ip cef
no ipv6 cef
!
!
!
!
!
!
!
!
!
!
!
!
!
```

8. Lakukan Trace dari PC Leo ke PC Aries

```
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 172.21.20.20

Pinging 172.21.20.20 with 32 bytes of data:
```

9. Buat hubungan router puma dan tiger terputus

```
Router(config)#int se2/0
Router(config-if)#shut

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
```

10. Trace PC Leo ke PC Aries

```
C:\>ping 172.21.20.2

Pinging 172.21.20.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 172.21.20.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 172.21.20.20

Pinging 172.21.20.20 with 32 bytes of data:
```