

Cisco Packet Tracer : Konfigurasi Router Menggunakan CLI

fm_iqbal

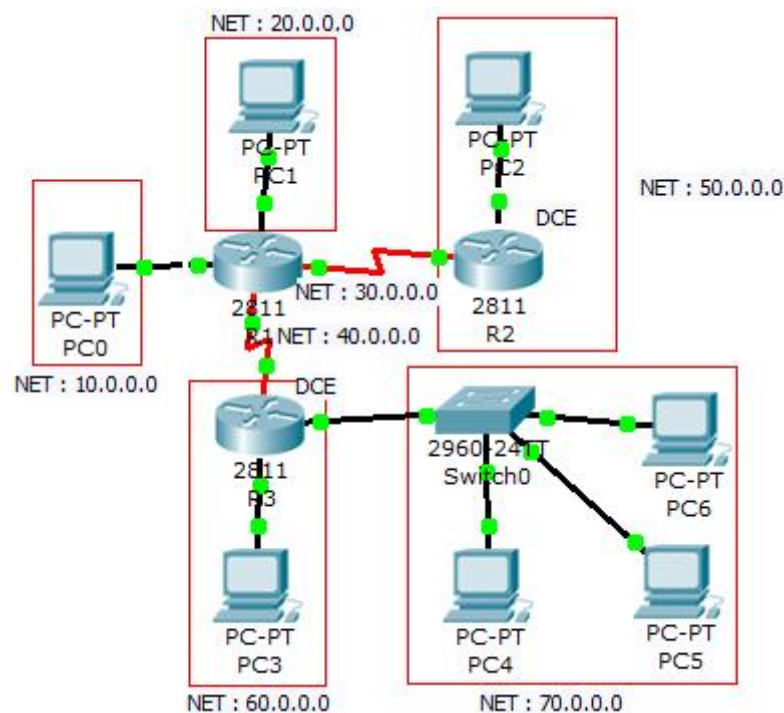
faiqmuhammadiqbal@gmail.com

Lisensi Dokumen:

Copyright © 2003-2007 IlmuKomputer.Com

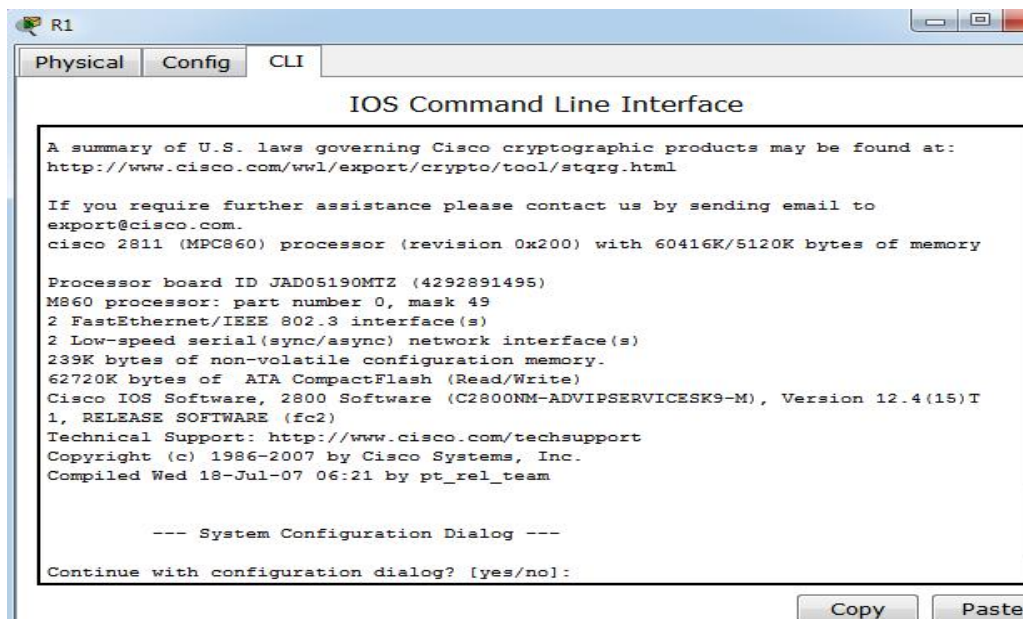
Seluruh dokumen di IlmuKomputer.Com dapat digunakan, dimodifikasi dan disebarkan secara bebas untuk tujuan bukan komersial (nonprofit), dengan syarat tidak menghapus atau merubah atribut penulis dan pernyataan copyright yang disertakan dalam setiap dokumen. Tidak diperbolehkan melakukan penulisan ulang, kecuali mendapatkan ijin terlebih dahulu dari IlmuKomputer.Com.

A. Membuat konfigurasi seperti gambar



B. Konfigurasi R1

1. Klik kiri R1
2. Memilih menu CLI



3. Melanjutkan langkah-langkah di bawah ini

```
Continue with configuration dialog? [yes/no]: no
```

Press RETURN to get started!

```
Router>enable
```

```
Router#conf t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
Router(config)#hostname R1
```

```
R1(config)#enable secret faiq
```

```
R1(config)#line con 0
```

```
R1(config-line)#password iqbal
```

```
R1(config-line)#login
```

```
R1(config-line)#exit
```

```
R1(config)#line vty 0 4
```

```
R1(config-line)#password iqbal
```

```
R1(config-line)#login
```

```
R1(config-line)#exit
```

```
R1(config)#int fa0/0
```

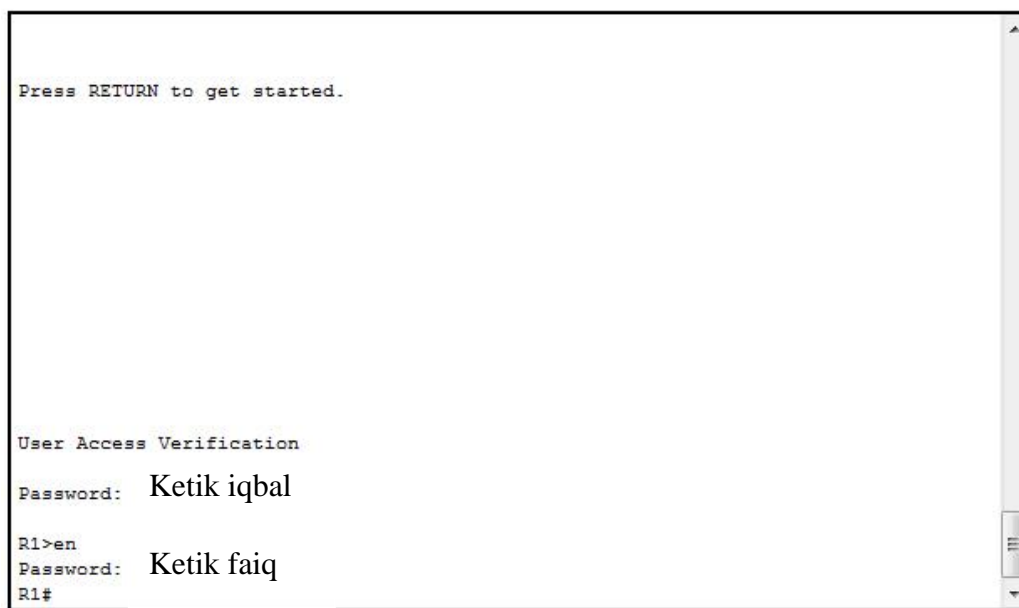
```
R1(config-if)#ip add 10.1.0.0 255.0.0.0
```

```
R1(config-if)#no shut
```

```
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
```

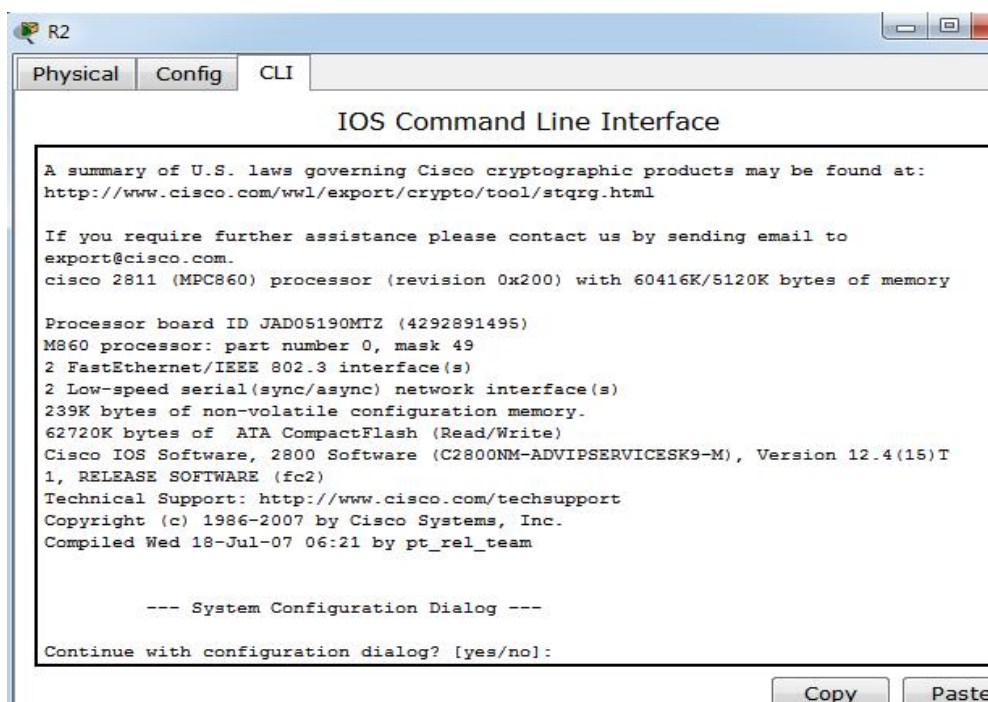
```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,  
changed state to up  
R1(config-if)#exit  
R1(config)#int fa0/1  
R1(config-if)#ip add 20.1.0.0 255.0.0.0  
R1(config-if)#no shut  
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up  
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,  
changed state to up  
R1(config-if)#exit  
R1(config)#int se0/3/0  
R1(config-if)#ip add 30.1.0.0 255.0.0.0  
R1(config-if)#no shut  
R1(config-if)#exit  
R1(config)#int se0/3/1  
R1(config-if)#ip add 40.1.0.0 255.0.0.0  
R1(config-if)#no shut  
R1(config-if)#exit  
%LINK-5-CHANGED: Interface Serial0/3/1, changed state to down  
User Access Verification  
R1(config)#router rip  
R1(config-router)#network 10.0.0.0  
R1(config-router)#network 20.0.0.0  
R1(config-router)#network 30.0.0.0  
R1(config-router)#network 40.0.0.0  
R1(config-router)#exit  
R1(config)#exit  
%SYS-5-CONFIG_I: Configured from console by console  
R1#copy running-config startup-config  
Destination filename [startup-config]?  
Building configuration...  
[OK]  
R1#exit
```

IOS Command Line Interface



C. Konfigurasi R2

1. Klik kiri R2
2. Memilih menu CLI



3. Melanjutkan langkah-langkah di bawah ini

Continue with configuration dialog? [yes/no]: **no**

Press RETURN to get started!

```
Router>enable
```

```
Router#conf t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
Router(config)#hostname R2
```

```
R2(config)#enable secret faiq
```

```
R2(config)#line con 0
```

```
R2(config-line)#password iqbal
```

```
R2(config-line)#login
```

```
R2(config-line)#exit
```

```
R2(config)#line vty 0 4
```

```
R2(config-line)#password iqbal
```

```
R2(config-line)#login
```

```
R2(config-line)#exit
```

```
R2(config)#int fa0/0
```

```
R2(config-if)#ip add 50.1.0.0 255.0.0.0
```

```
R2(config-if)#no shut
```

```
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
```

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

```
R2(config-if)#exit
```

```
R2(config)#int se0/3/0
```

```
R2(config-if)#ip add 30.2.0.0 255.0.0.0
```

```
R2(config-if)#no shut
```

```
%LINK-5-CHANGED: Interface Serial0/3/0, changed state to up
```

```
R2(config-if)#clock rate 64000
```

```
R2(config-if)#
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/3/0, changed  
state to up
```

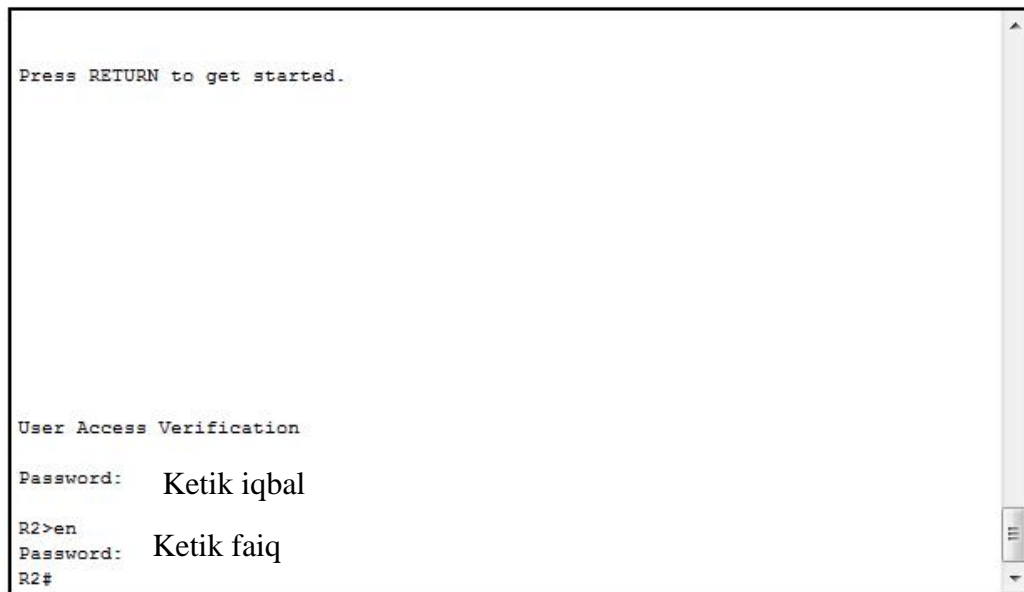
```
R2(config-if)#exit
```

```
R2(config)#router rip
```

```
R2(config-router)#network 50.0.0.0
```

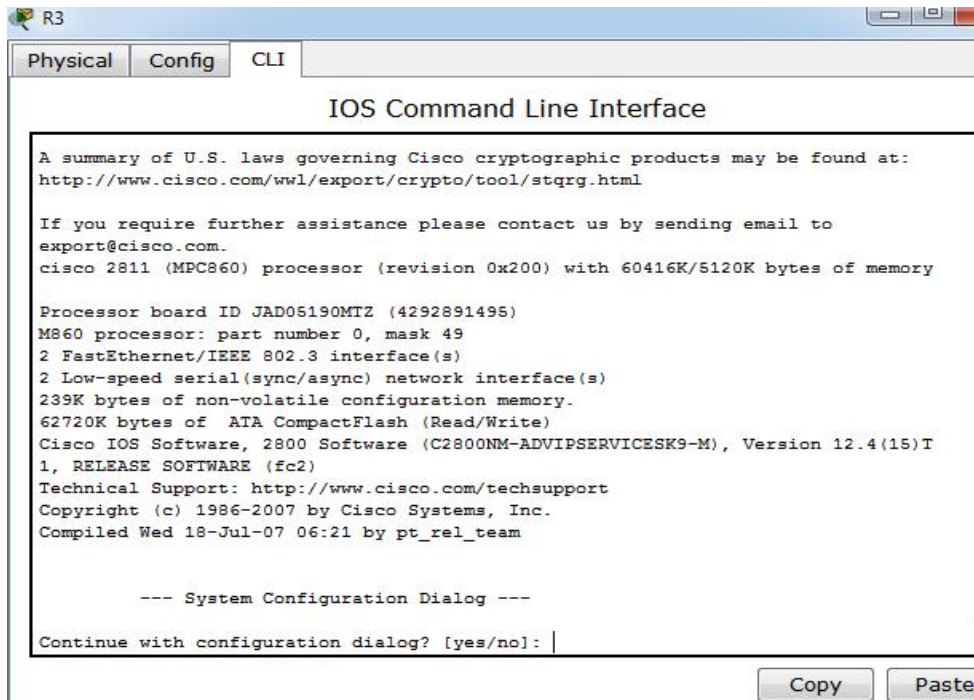
```
R2(config-router)#network 30.0.0.0
R2(config-router)#^Z
R2#
%SYS-5-CONFIG_I: Configured from console by console
R2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R2#exit
```

IOS Command Line Interface



D. Konfigurasi R3

1. Klik kiri R3
2. Memilih menu CLI



3. Melanjutkan langkah-langkah di bawah ini

```
Continue with configuration dialog? [yes/no]: no
```

```
Press RETURN to get started!
```

```
Router>enable
```

```
Router#conf t
```

```
Enter configuration commands, one per line. End with CNTL/Z.
```

```
Router(config)#hostname R3
```

```
R3(config)#enable secret faiq
```

```
R3(config)#line con 0
```

```
R3(config-line)#password iqbal
```

```
R3(config-line)#login
```

```
R3(config-line)#exit
```

```
R3(config)#line vty 0 4
```

```
R3(config-line)#password iqbal
```

```
R3(config-line)#login
```

```
R3(config-line)#exit
```

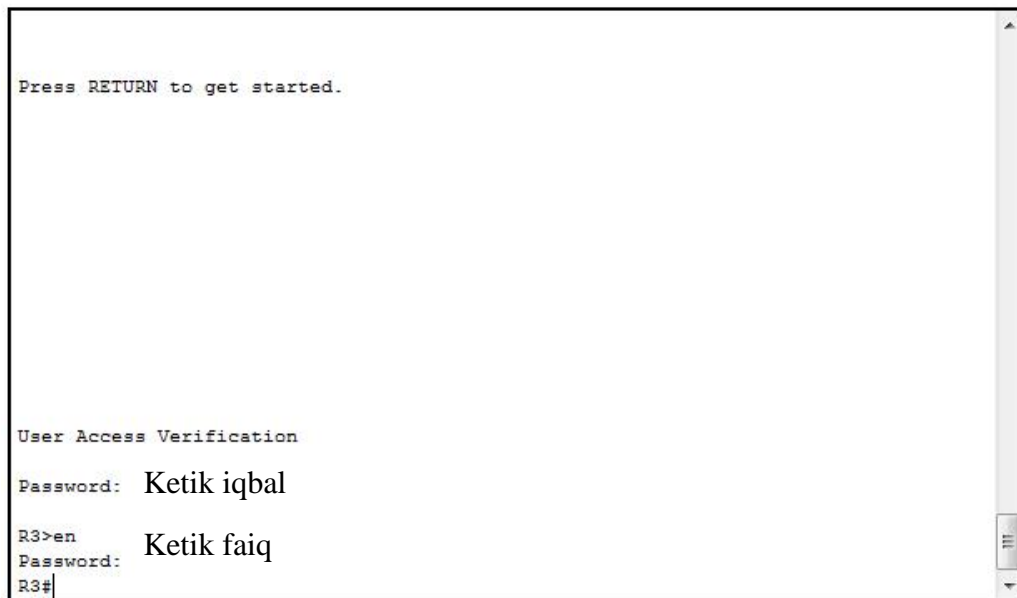
```
R3(config)#int fa0/0
```

```
R3(config-if)#ip add 60.1.0.0 255.0.0.0
```

```
R3(config-if)#no shut
```

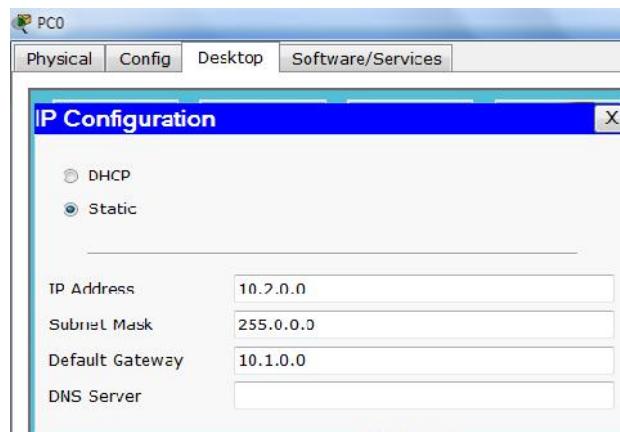
```
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
R3(config-if)#exit
R3(config)#int fa0/1
R3(config-if)#ip add 70.1.0.0 255.0.0.0
R3(config-if)#no shut
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1,
changed state to up
R3(config-if)#exit
R3(config)#int se0/3/0
R3(config-if)#ip add 40.2.0.0 255.0.0.0
R3(config-if)#no shut
%LINK-5-CHANGED: Interface Serial0/3/0, changed state to up
R3(config-if)#clock rate 64000
R3(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/3/0, changed
state to up
R3(config-if)#exit
R3(config)#router rip
R3(config-router)#network 40.0.0.0
R3(config-router)#network 60.0.0.0
R3(config-router)#network 70.0.0.0
R3(config-router)#^Z
R3#
%SYS-5-CONFIG_I: Configured from console by console
R3#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R3#exit
```


IOS Command Line Interface



E. Setting IP Address pada PC0

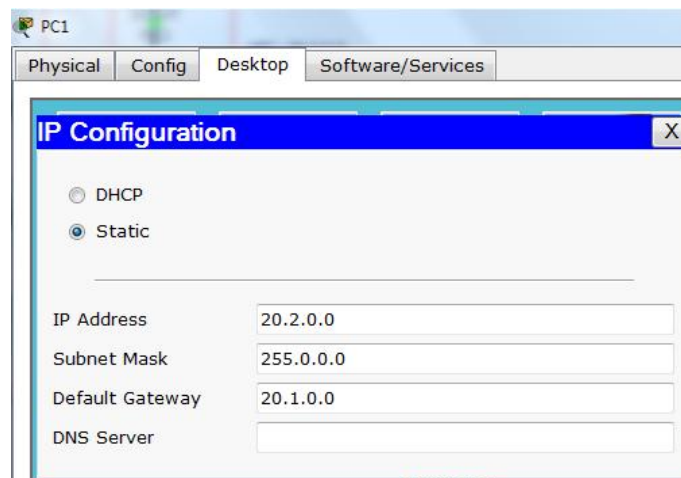
1. Klik kiri pada PC0
2. Memilih Desktop
3. Memilih IP Configuration
4. Mengetik konfigurasi PC0



F. Setting IP Address pada PC1

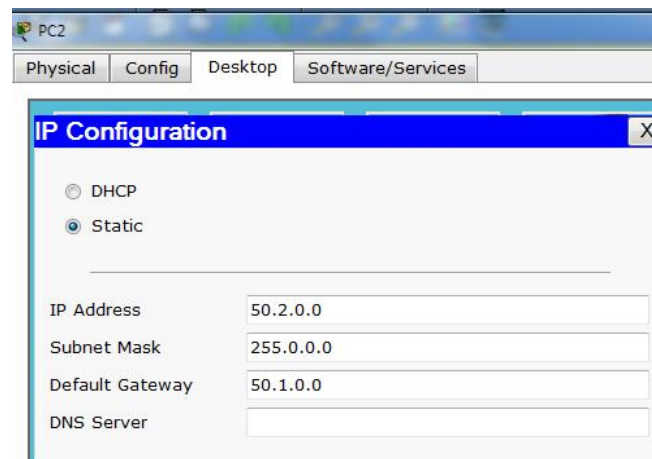
1. Klik kiri pada PC1
2. Memilih Desktop
3. Memilih IP Configuration

4. Mengetik konfigurasi PC1



G. Setting IP Address pada PC2

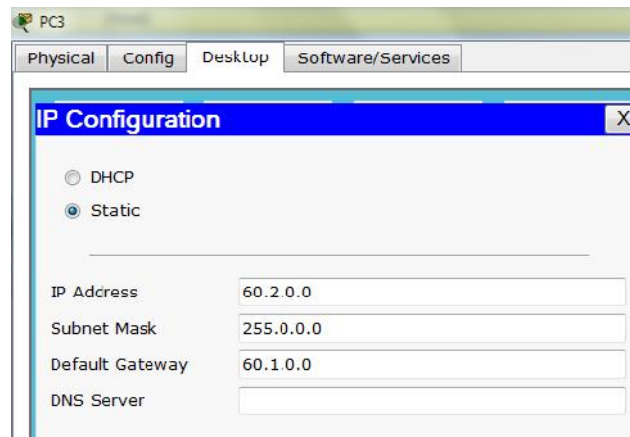
1. Klik kiri pada PC2
2. Memilih Desktop
3. Memilih IP Configuration
4. Mengetik konfigurasi PC2



H. Setting IP Address pada PC3

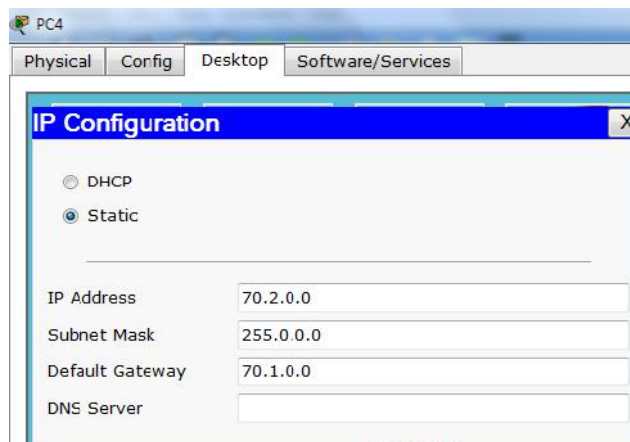
1. Klik kiri pada PC3
2. Memilih Desktop
3. Memilih IP Configuration

4. Mengetik konfigurasi PC3



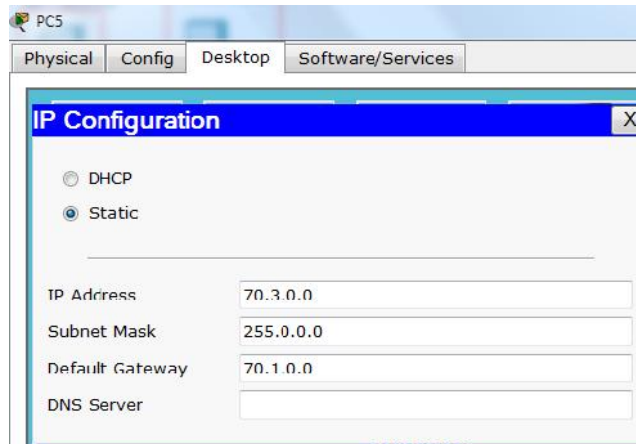
I. Setting IP Address pada PC4

1. Klik kiri pada PC4
2. Memilih Desktop
3. Memilih IP Configuration
4. Mengetik konfigurasi PC4



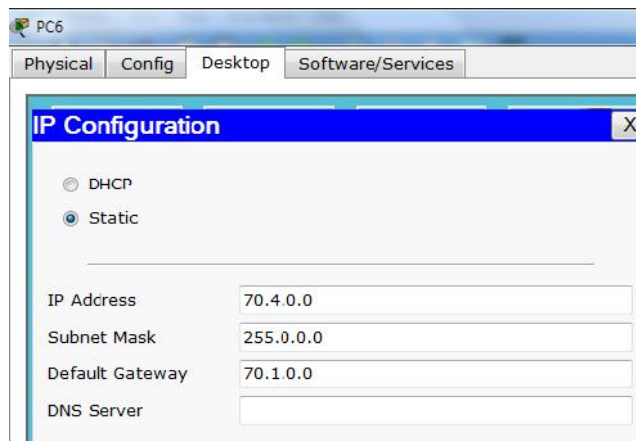
J. Setting IP Address pada PC5

1. Klik kiri pada PC5
2. Memilih Desktop
3. Memilih IP Configuration
4. Mengetik konfigurasi PC5



K. Setting IP Address pada PC6

1. Klik kiri pada PC6
2. Memilih Desktop
3. Memilih IP Configuration
4. Mengetik konfigurasi PC6



L. Show IP Route pada R1

IOS Command Line Interface

```
Password:

R1>en
Password:
R1#sh 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

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is directly connected, FastEthernet0/1
C    30.0.0.0/8 is directly connected, Serial0/3/0
C    40.0.0.0/8 is directly connected, Serial0/3/1
R    50.0.0.0/8 [120/1] via 30.2.0.0, 00:00:03, Serial0/3/0
R    60.0.0.0/8 [120/1] via 40.2.0.0, 00:00:26, Serial0/3/1
R    70.0.0.0/8 [120/1] via 40.2.0.0, 00:00:26, Serial0/3/1
R1#
```

Penjelasan:

Pada keterangan **show ip route** diatas dapat diambil kesimpulan,

1. Network 10.0.0.0/8 terkoneksi secara langsung dengan R1 melalui interface FastEthernet0/0
2. Network 20.0.0.0/8 terkoneksi secara langsung dengan R1 melalui interface FastEthernet0/1
3. Network 30.0.0.0/8 terkoneksi secara langsung dengan R1 melalui interface Serial0/3/0
4. Network 40.0.0.0/8 terkoneksi secara langsung dengan R1 melalui interface Serial0/3/1
5. Network 50.0.0.0/8 terkoneksi dengan R1 melalui routing alamat 30.2.0.0 pada interface Serial0/3/0
6. Network 60.0.0.0/8 terkoneksi dengan R1 melalui routing alamat 40.2.0.0 pada interface Serial0/3/1
7. Network 70.0.0.0/8 terkoneksi dengan R1 melalui routing alamat 40.2.0.0 pada interface Serial0/3/1

M. Show IP Route pada R2

IOS Command Line Interface

```
R2#  
R2#  
R2#  
R2#  
R2#sh 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  
  
R    10.0.0.0/8 [120/1] via 30.1.0.0, 00:00:18, Serial0/3/0  
R    20.0.0.0/8 [120/1] via 30.1.0.0, 00:00:18, Serial0/3/0  
C    30.0.0.0/8 is directly connected, Serial0/3/0  
R    40.0.0.0/8 [120/1] via 30.1.0.0, 00:00:18, Serial0/3/0  
C    50.0.0.0/8 is directly connected, FastEthernet0/0  
R    60.0.0.0/8 [120/2] via 30.1.0.0, 00:00:18, Serial0/3/0  
R    70.0.0.0/8 [120/2] via 30.1.0.0, 00:00:18, Serial0/3/0  
R2#
```

Penjelasan:

Pada keterangan **show ip route** diatas dapat diambil kesimpulan,

1. Network 10.0.0.0/8 terkoneksi dengan R2 melalui routing alamat 30.1.0.0 pada interface Serial0/3/0
2. Network 20.0.0.0/8 terkoneksi dengan R2 melalui routing alamat 30.1.0.0 pada interface interface Serial0/3/0
3. Network 30.0.0.0/8 terkoneksi secara langsung dengan R2 melalui interface Serial0/3/0
4. Network 40.0.0.0/8 terkoneksi dengan R2 melalui routing alamat 30.1.0.0 pada interface interface Serial0/3/0
5. Network 50.0.0.0/8 terkoneksi secara langsung dengan R2 melalui interface FastEthernet0/0
6. Network 60.0.0.0/8 terkoneksi dengan R2 melalui routing alamat 30.1.0.0 pada interface Serial0/3/0
7. Network 70.0.0.0/8 terkoneksi dengan R2 melalui routing alamat 30.1.0.0 pada interface Serial0/3/0

N. Show IP Route pada R3

IOS Command Line Interface

```
Password:

R3>en
Password:
R3#sh 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

R    10.0.0.0/8 [120/1] via 40.1.0.0, 00:00:14, Serial0/3/0
R    20.0.0.0/8 [120/1] via 40.1.0.0, 00:00:14, Serial0/3/0
R    30.0.0.0/8 [120/1] via 40.1.0.0, 00:00:14, Serial0/3/0
C    40.0.0.0/8 is directly connected, Serial0/3/0
R    50.0.0.0/8 [120/2] via 40.1.0.0, 00:00:14, Serial0/3/0
C    60.0.0.0/8 is directly connected, FastEthernet0/0
C    70.0.0.0/8 is directly connected, FastEthernet0/1
R3#
```

Penjelasan:

Pada keterangan **show ip route** diatas dapat diambil kesimpulan,

1. Network 10.0.0.0/8 terkoneksi dengan R3 melalui routing alamat 40.1.0.0 pada interface Serial0/3/0
2. Network 20.0.0.0/8 terkoneksi dengan R3 melalui routing alamat 40.1.0.0 pada interface Serial0/3/0
3. Network 30.0.0.0/8 terkoneksi dengan R3 melalui routing alamat 40.1.0.0 pada interface Serial0/3/0
4. Network 40.0.0.0/8 terkoneksi secara langsung dengan R3 melalui interface Serial0/3/0
5. Network 50.0.0.0/8 terkoneksi dengan R3 melalui routing alamat 40.1.0.0 pada interface Serial0/3/0
6. Network 60.0.0.0/8 terkoneksi secara langsung dengan R3 melalui interface FastEthernet0/0
7. Network 70.0.0.0/8 terkoneksi secara langsung dengan R3 melalui interface FastEthernet0/1

O. Cek Status Interface IP

1. Show IP Interface Brief pada R1

IOS Command Line Interface

```
R1#  
R1#  
R1#  
R1#  
R1#  
R1#  
R1#  
R1#  
R1#  
R1#  
R1#sh ip int brief  
Interface                IP-Address      OK? Method Status  Protocol  
  
FastEthernet0/0          10.1.1.0.0      YES manual up      up  
FastEthernet0/1          20.1.1.0.0      YES manual up      up  
Serial0/3/0               30.1.1.0.0      YES manual up      up  
Serial0/3/1               40.1.1.0.0      YES manual up      up  
Vlan1                     unassigned      YES unset  administratively down down  
R1#
```

Penjelasan:

Dari keterangan Show IP Interface Brief di atas dapat di ambil kesimpulan bahwa:

1. Interface FastEthernet0/0 dengan IP Address 10.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan.
2. Interface FastEthernet0/1 dengan IP Address 20.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan.
3. Interface Serial0/3/0 dengan IP Address 30.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan.
4. Interface Serial0/3/1 dengan IP Address 40.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan.

2. Show IP Interface Brief pada R2

IOS Command Line Interface

```
R2#  
R2#  
R2#  
R2#  
R2#  
R2#  
R2#sh ip int brief  
^  
% Invalid input detected at '^' marker.  
  
R2#sh ip int brief  
Interface                IP-Address      OK? Method Status      Protocol  
  
FastEthernet0/0          50.1.0.0        YES manual up          up  
FastEthernet0/1          unassigned      YES unset  administratively down down  
Serial0/3/0              30.2.0.0        YES manual up          up  
Serial0/3/1              unassigned      YES unset  administratively down down  
Vlan1                    unassigned      YES unset  administratively down down  
R2#
```

Penjelasan:

Dari keterangan Show IP Interface Brief di atas dapat di ambil kesimpulan bahwa:

1. Interface FastEthernet0/0 dengan IP Address 50.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan sedangkan Interface FastEthernet0/1 dalam kondisi down / tidak terkoneksi dengan jaringan.
2. Interface Serial0/3/0 dengan IP Address 30.2.0.0 sudah dalam kondisi terkoneksi dengan jaringan sedangkan Interface Serial0/3/1 dalam kondisi down/tidak terkoneksi dengan jaringan.

3. Show IP Interface Brief pada R3

IOS Command Line Interface

```
R3#  
R3#  
R3#  
R3#  
R3#  
R3#  
R3#  
R3#  
R3#  
R3#  
R3#sh ip int brief  
Interface                IP-Address      OK? Method Status      Protocol  
  
FastEthernet0/0          60.1.0.0        YES manual up           up  
FastEthernet0/1          70.1.0.0        YES manual up           up  
Serial0/3/0               40.2.0.0        YES manual up           up  
Serial0/3/1               unassigned      YES unset  administratively down down  
Vlan1                     unassigned      YES unset  administratively down down  
R3#
```

Penjelasan:

Dari keterangan Show IP Interface Brief di atas dapat di ambil kesimpulan bahwa:

1. Interface FastEthernet0/0 dengan IP Address 60.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan.
2. Interface FastEthernet0/1 dengan IP Address 70.1.0.0 sudah dalam kondisi terkoneksi dengan jaringan.
3. Interface Serial0/3/0 dengan IP Address 40.2.0.0 sudah dalam kondisi terkoneksi dengan jaringan sedangkan Interface Serial0/3/1 dalam kondisi down/tidak terkoneksi dengan jaringan.

P. Melihat Konfigurasi Router yang sedang Running

1. Show Running-Config pada R1

```
R1#sh run  
Building configuration...  
Current configuration : 741 bytes  
!  
version 12.4
```



```
duplex auto
speed auto
!
interface Serial0/3/0
 ip address 30.1.0.0 255.0.0.0
!
interface Serial0/3/1
 ip address 40.1.0.0 255.0.0.0
!
interface Vlan1
 no ip address
 shutdown
!
router rip
 network 10.0.0.0
 network 20.0.0.0
 network 30.0.0.0
 network 40.0.0.0
!
ip classless
!
!
!
!
!
!
!
!
line con 0
 password iqbal
 login
line vty 0 4
 password iqbal
```

```
login
!  
!  
!  
end
```

Dari keterangan **show ip running-config** diatas, menunjukkan interface yang sedang running pada R1. Adapun interface yang sedang running yaitu,

1. Interface FastEthernet0/0 dengan ip address 10.1.0.0/8
2. Interface FastEthernet0/1 dengan ip address 20.1.0.0/8
3. interface Serial0/3/0 dengan ip address 30.1.0.0/8
4. Interface Serial0/3/1 dengan ip address 40.1.0.0/8

2. Show Runnig-Config pada R2

```
R2#sh run
Building configuration...
Current configuration : 709 bytes
!  
version 12.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!  
hostname R2
!  
!  
!  
enable secret 5 $1$mERr$kAwMmaF4xMkQKOzzDAMbz0
!  
!  
!  
!
```



```
no ip address
shutdown
!
router rip
network 30.0.0.0
network 50.0.0.0
!
ip classless
!
!
!
!
!
!
!
!
line con 0
password iqbal
login
line vty 0 4
password iqbal
login
!
!
!
end
```

Dari keterangan **show ip running-config** diatas, menunjukkan interface yang sedang running pada R2. Adapun interface yang sedang running yaitu,

1. Interface FastEthernet0/0 dengan ip address 50.1.0.0/8
2. Interface Serial0/3/0 dengan ip address 30.2.0.0/8

3. Show Runnig-Config pada R3

```
R3#sh run
```

```
Building configuration...
```

```
Current configuration : 735 bytes
```

```
!
```

```
version 12.4
```

```
no service timestamps log datetime msec
```

```
no service timestamps debug datetime msec
```

```
no service password-encryption
```

```
!
```

```
hostname R3
```

```
!
```

```
!
```

```
!
```

```
enable secret 5 $1$mERr$kAwMmaF4xMkQKOzzDAMbz0
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
!
```

```
interface FastEthernet0/0
```



```
ip address 60.1.0.0 255.0.0.0
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 70.1.0.0 255.0.0.0
duplex auto
speed auto
!
interface Serial0/3/0
ip address 40.2.0.0 255.0.0.0
clock rate 64000
!
interface Serial0/3/1
no ip address
shutdown
!
interface Vlan1
no ip address
shutdown
!
router rip
network 40.0.0.0
network 60.0.0.0
network 70.0.0.0
!
ip classless
!
!
!
!
!
```

```
!  
!  
line con 0  
  password iqbal  
  login  
line vty 0 4  
  password iqbal  
  login  
!  
!  
!  
end
```

Dari keterangan **show ip running-config** diatas, menunjukkan interface yang sedang running pada R3. Adapun interface yang sedang running yaitu,

1. Interface FastEthernet0/0 dengan ip address 60.1.0.0/8
2. Interface FastEthernet0/1 dengan ip address 70.1.0.0/8
3. Interface Serial0/3/0 dengan ip address 40.2.0.0/8

Q. Ping pada Router

1. Ping dari R1 ke Router lain dan PC

IOS Command Line Interface

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 11/16/31 ms

R1#ping 30.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 30.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/3/5 ms

R1#ping 40.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 40.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/5/13 ms

R1#ping 10.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 3/4/6 ms

R1#ping 20.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 20.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/4/5 ms

R1#ping 50.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 50.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/6/10 ms

R1#ping 60.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 60.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 6/9/12 ms
```

```
R1#ping 70.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 5/10/15 ms

R1#ping 70.3.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.3.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 6/11/14 ms

R1#ping 70.4.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.4.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 7/11/14 ms

R1#
```

2. Ping dari R2 ke Router lain dan PC

IOS Command Line Interface

```
R2#ping 30.1.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 30.1.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 5/5/6 ms

R2#ping 40.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 40.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 5/8/11 ms

R2#ping 10.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/7/11 ms
```

```
R2#ping 20.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 20.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 3/5/7 ms

R2#ping 50.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 50.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/3/5 ms

R2#ping 60.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 60.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 9/13/17 ms

R2#ping 70.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 7/13/19 ms

R2#ping 70.3.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.3.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 12/15/19 ms

R2#ping 70.4.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.4.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 6/11/16 ms

R2#
```

3. Ping dari R3 ke Router lain dan PC

IOS Command Line Interface

```
R3>en
Password:
R3#ping 40.1.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 40.1.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/3/6 ms

R3#ping 30.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 30.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 5/7/10 ms

R3#ping 10.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 7/8/11 ms

R3#ping 20.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 20.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 6/10/18 ms

R3#ping 50.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 50.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 5/9/15 ms

R3#ping 60.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 60.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 3/4/5 ms
```

```
R3#ping 70.2.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.2.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 3/5/8 ms

R3#ping 70.3.0.0

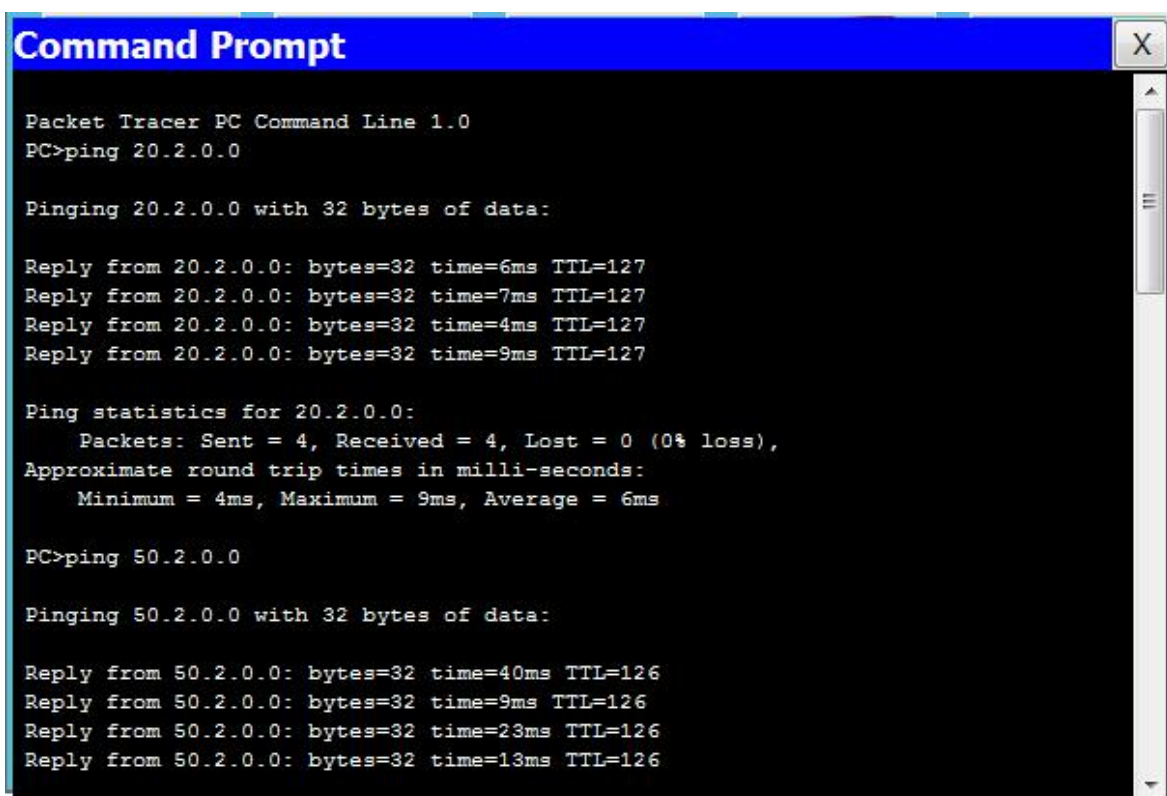
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.3.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 8/8/11 ms

R3#ping 70.4.0.0

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 70.4.0.0, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/6/8 ms

R3#
```

R. Ping dari PC0 ke semua PC



```
Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 20.2.0.0

Pinging 20.2.0.0 with 32 bytes of data:

Reply from 20.2.0.0: bytes=32 time=6ms TTL=127
Reply from 20.2.0.0: bytes=32 time=7ms TTL=127
Reply from 20.2.0.0: bytes=32 time=4ms TTL=127
Reply from 20.2.0.0: bytes=32 time=9ms TTL=127

Ping statistics for 20.2.0.0:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 9ms, Average = 6ms

PC>ping 50.2.0.0

Pinging 50.2.0.0 with 32 bytes of data:

Reply from 50.2.0.0: bytes=32 time=40ms TTL=126
Reply from 50.2.0.0: bytes=32 time=9ms TTL=126
Reply from 50.2.0.0: bytes=32 time=23ms TTL=126
Reply from 50.2.0.0: bytes=32 time=13ms TTL=126
```

```
Ping statistics for 50.2.0.0:  
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
  Minimum = 9ms, Maximum = 40ms, Average = 21ms
```

```
PC>ping 60.2.0.0
```

```
Pinging 60.2.0.0 with 32 bytes of data:
```

```
Reply from 60.2.0.0: bytes=32 time=8ms TTL=126  
Reply from 60.2.0.0: bytes=32 time=14ms TTL=126  
Reply from 60.2.0.0: bytes=32 time=13ms TTL=126  
Reply from 60.2.0.0: bytes=32 time=6ms TTL=126
```

```
Ping statistics for 60.2.0.0:  
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
  Minimum = 6ms, Maximum = 14ms, Average = 10ms
```

```
PC>ping 70.2.0.0
```

```
Pinging 70.2.0.0 with 32 bytes of data:
```

```
Reply from 70.2.0.0: bytes=32 time=9ms TTL=126
```

```
Reply from 70.2.0.0: bytes=32 time=9ms TTL=126  
Reply from 70.2.0.0: bytes=32 time=9ms TTL=126  
Reply from 70.2.0.0: bytes=32 time=17ms TTL=126  
Reply from 70.2.0.0: bytes=32 time=18ms TTL=126
```

```
Ping statistics for 70.2.0.0:  
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
  Minimum = 9ms, Maximum = 18ms, Average = 13ms
```

```
PC>ping 70.3.0.0
```

```
Pinging 70.3.0.0 with 32 bytes of data:
```

```
Reply from 70.3.0.0: bytes=32 time=41ms TTL=126  
Reply from 70.3.0.0: bytes=32 time=9ms TTL=126  
Reply from 70.3.0.0: bytes=32 time=9ms TTL=126  
Reply from 70.3.0.0: bytes=32 time=9ms TTL=126
```

```
Ping statistics for 70.3.0.0:  
  Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
  Minimum = 9ms, Maximum = 41ms, Average = 17ms
```

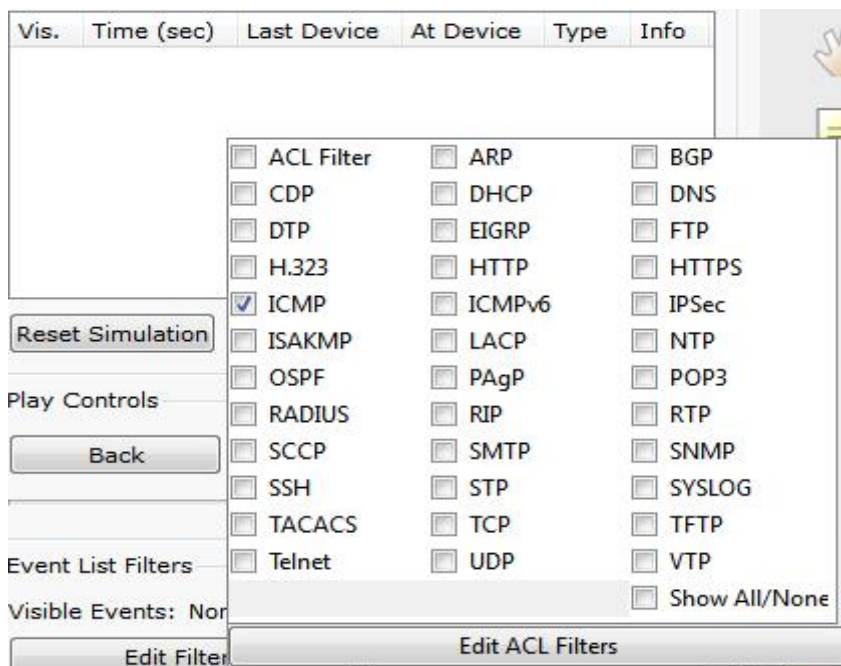
```
PC>ping 70.4.0.0
```



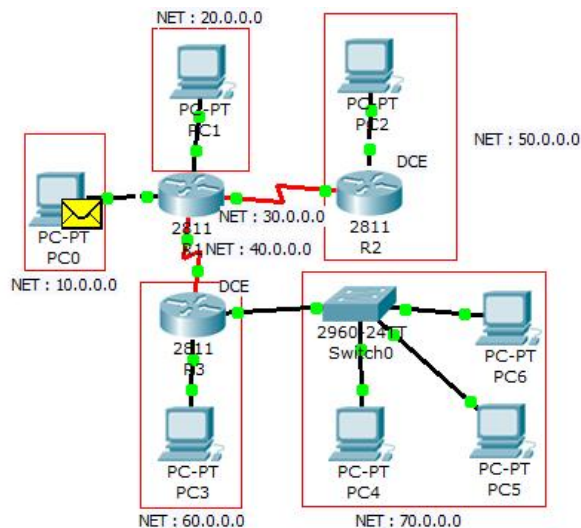
```
Pinging 70.4.0.0 with 32 bytes of data:  
  
Reply from 70.4.0.0: bytes=32 time=11ms TTL=126  
Reply from 70.4.0.0: bytes=32 time=15ms TTL=126  
Reply from 70.4.0.0: bytes=32 time=8ms TTL=126  
Reply from 70.4.0.0: bytes=32 time=6ms TTL=126  
  
Ping statistics for 70.4.0.0:  
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 6ms, Maximum = 15ms, Average = 10ms  
  
PC>
```

S. Simulasi Ping dengan Packet ICMP dari PC0 ke PC5

1. Memilih Simulation
2. Memilih Edit Filters
3. Klik Show All/None
4. Memilih ICMP



5. Klik dan membawa gambar sampul ke PC0 dan di klik kemudian di PC5
6. Klik Auto Capture/Play
 - a) Packet di PC0



At Device: PC0
 Source: PC0
 Destination: PC5

In Layers

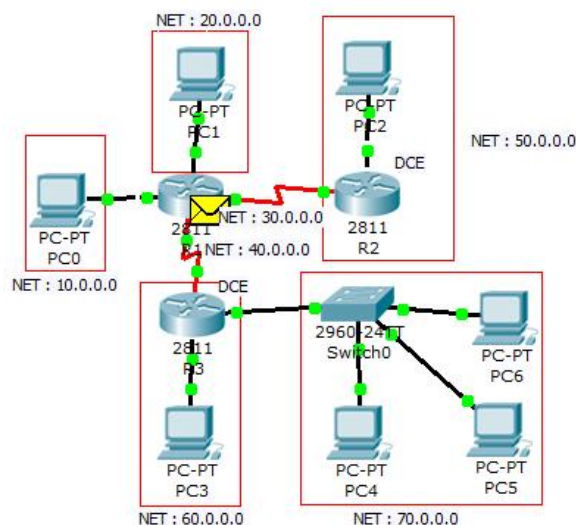
Layer7
Layer6
Layer5
Layer4
Layer3
Layer2
Layer1

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.2.0.0, Dest. IP: 70.3.0.0 ICMP Message Type: 8
Layer 2: Ethernet II Header 0030.A365.E306 >> 0060.3EB2.4401
Layer 1: Port(s): FastEthernet

Pengiriman packet ICMP dimulai dari PC0 dengan IP address 10.2.0.0 dan Mac Address 0030.A365.E306 menuju PC5 dengan IP address 70.3.0.0 dan Mac Address 000D.BDBC.CD66, tetapi packet ICMP harus terlebih dahulu melewati Interface FaceIthernet0/0 dengan Mac Address 0060.3EB2.4401

b) Packet berada di R1



At Device: R1
 Source: PC0
 Destination: PC5

In Layers

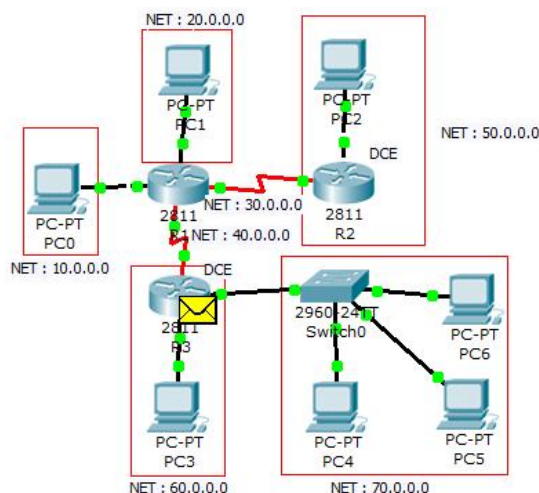
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.2.0.0, Dest. IP: 70.3.0.0 ICMP Message Type: 8
Layer 2: Ethernet II Header 0030.A365.E306 >> 0060.3EB2.4401
Layer 1: Port FastEthernet0/0

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.2.0.0, Dest. IP: 70.3.0.0 ICMP Message Type: 8
Layer 2: HDLC Frame HDLC
Layer 1: Port(s): Serial0/3/1

Packet ICMP sampai di R3 melalui port FastEthernet0/1, selanjutnya R3 akan meneruskan packet dari IP 10.2.0.0 dengan terlebih dahulu mencari IP Address 70.3.0.0

c) Packet berada di R3



At Device: R3
 Source: PC0
 Destination: PC5

In Layers

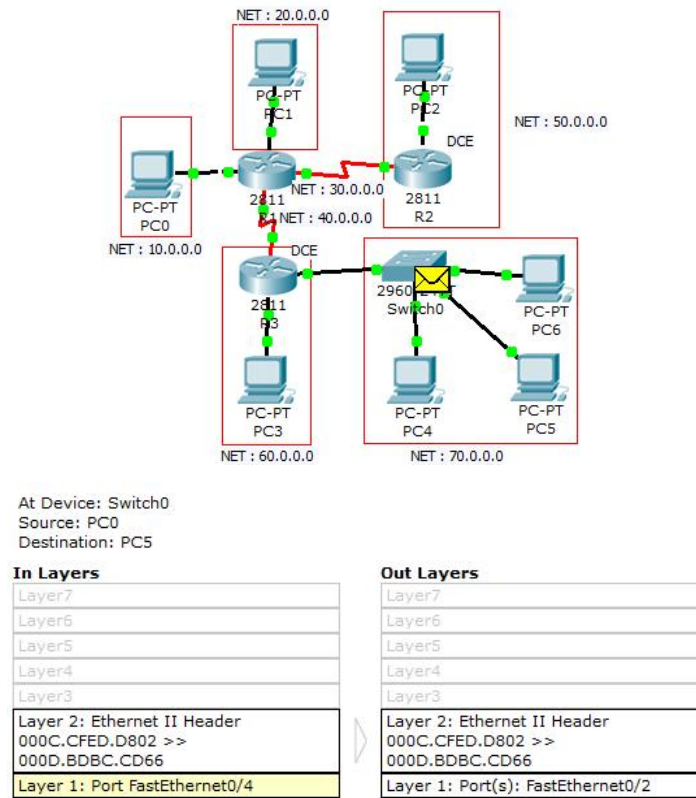
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.2.0.0, Dest. IP: 70.3.0.0 ICMP Message Type: 8
Layer 2: HDLC Frame HDLC
Layer 1: Port Serial0/3/0

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 10.2.0.0, Dest. IP: 70.3.0.0 ICMP Message Type: 8
Layer 2: Ethernet II Header 000C.CFED.D802 >> 000D.BDBC.CD66
Layer 1: Port(s): FastEthernet0/1

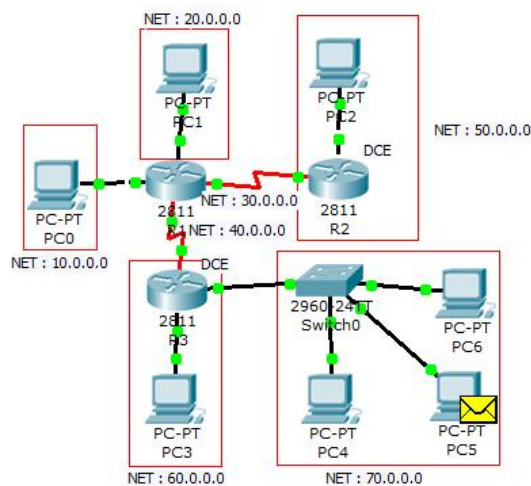
Packet berada di R3 melalui port Serial0/3/0, kemudian packet ICMP akan dikirim pada IP Address 70.3.0.0 (catatan: IP Source dan IP Destination tidak berubah) melalui port FastEthernet0/1 yang memiliki Mac Address 000C.CFED.D802 menuju Mac Address 000D.BDBC.CD66 (PC5)

d) Packet di Switch0



Port FastEthernet0/4 pada Switch0 menerima packet dari FastEthernet0/1 (R3), selanjutnya packet akan dikirim menuju Mac Address 000D.BDBC.CD66 (PC5) melalui port FastEthernet0/2

e) Packet di PC5



At Device: PC5
 Source: PC0
 Destination: PC5

In Layers

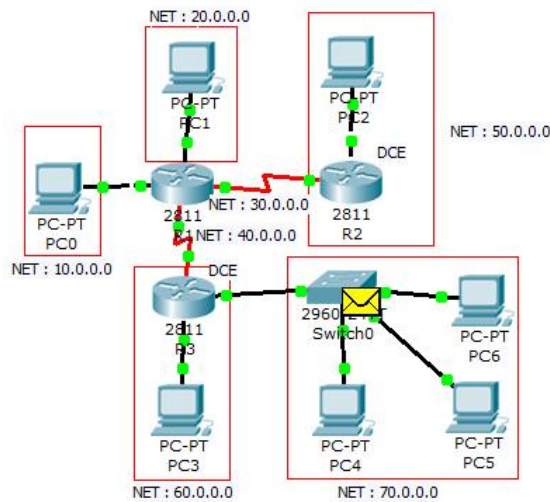
Layer7
Layer6
Layer5
Layer4
Layer3: IP Header Src. IP: 10.2.0.0, Dest. IP: 70.3.0.0 ICMP Message Type: 8
Layer 2: Ethernet II Header 000C.CFED.D802 >> 000D.BDBC.CD66
Layer 1: Port FastEthernet

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 70.3.0.0, Dest. IP: 10.2.0.0 ICMP Message Type: 0
Layer 2: Ethernet II Header 000D.BDBC.CD66 >> 000C.CFED.D802
Layer 1: Port(s): FastEthernet

Packet yang datang dengan IP address 10.2.0.0 dan Mac Address 000C.CFED.D802 (R3) sampai di PC5 yang memiliki IP Address 70.3.0.0 dan Mac Address 000D.BDBC.CD66, seanjutnya PC5 akan menjawab dengan melakukan pengiriman balik Packet ICMP ke PC0 dengan terlebih dahulu melalui port FastEthernet di Switch0 menuju R3

f) Packet kembali ke Switch0



At Device: Switch0
 Source: PC0
 Destination: PC5

In Layers

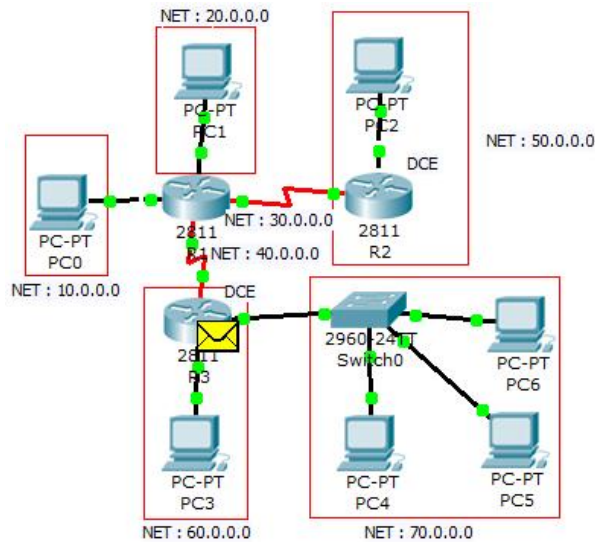
Layer7
Layer6
Layer5
Layer4
Layer3
Layer 2: Ethernet II Header 000D.BDBC.CD66 >> 000C.CFED.D802
Layer 1: Port FastEthernet0/2

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer 2: Ethernet II Header 000D.BDBC.CD66 >> 000C.CFED.D802
Layer 1: Port(s): FastEthernet0/4

Packet dari PC5 sampai di Switch0 melalui port FastEthernet0/2 selanjutnya packet ICMP akan dikirimkan menuju R3 yang memiliki Mac Address 000C.CFED.DB02 melalui FastEthernet0/4

g) Packet kembali ke R3



At Device: R3
 Source: PC0
 Destination: PC5

In Layers

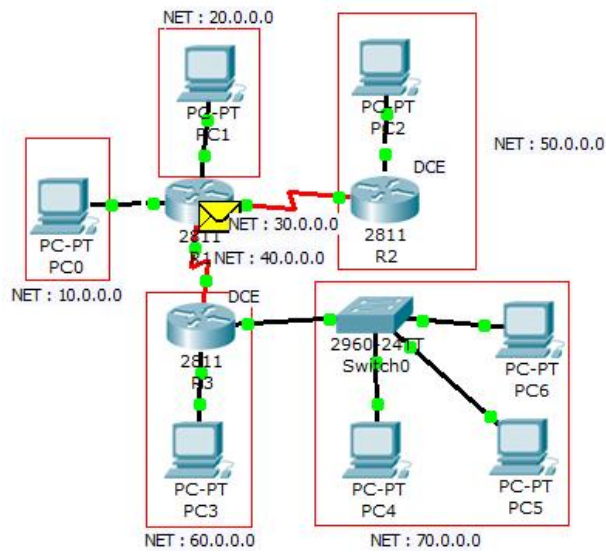
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 70.3.0.0, Dest. IP: 10.2.0.0 ICMP Message Type: 0
Layer 2: Ethernet II Header 000D.BDBC.CD66 >> 000C.CFED.D802
Layer 1: Port FastEthernet0/1

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 70.3.0.0, Dest. IP: 10.2.0.0 ICMP Message Type: 0
Layer 2: HDLC Frame HDLC
Layer 1: Port(s): Serial0/3/0

Packet ICMP sampai di R3 melalui port FastEthernet0/1, selanjutnya R3 akan meneruskan packet dari IP 70.3.0.0 dengan terlebih dahulu mencari IP Address 10.2.0.0

h) Packet kembali ke R1



At Device: R1
 Source: PC0
 Destination: PC5

In Layers

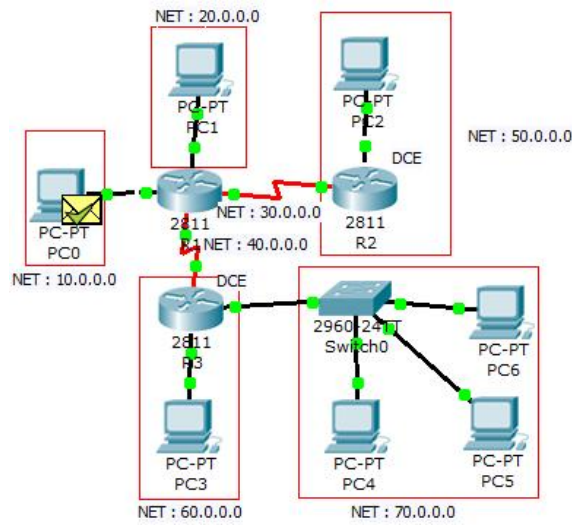
Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 70.3.0.0, Dest. IP: 10.2.0.0 ICMP Message Type: 0
Layer 2: HDLC Frame HDLC
Layer 1: Port Serial0/3/1

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer 3: IP Header Src. IP: 70.3.0.0, Dest. IP: 10.2.0.0 ICMP Message Type: 0
Layer 2: Ethernet II Header 0060.3EB2.4401 >> 0030.A365.E306
Layer 1: Port(s): FastEthernet0/0

Port Serial0/3/1 pada R1 menerima packet dari R3, selanjutnya R1 akan meneruskan packet ICMP menuju PC0 yang memiliki IP Address 10.2.0.0 dan Mac Address 0030.A365.E306 dengan terlebih dahulu melewati port FastEthernet0/0

i) Packet kembali ke PC0



At Device: PC0
 Source: PC0
 Destination: PC5

In Layers

Layer7
Layer6
Layer5
Layer4
Layer3: IP Header Src. IP: 70.3.0.0, Dest. IP: 10.2.0.0 ICMP Message Type: 0
Layer 2: Ethernet II Header 0060.3EB2.4401 >> 0030.A365.E306
Layer 1: Port FastEthernet

Out Layers

Layer7
Layer6
Layer5
Layer4
Layer3
Layer2
Layer1

Packet sampai kembali di PC0 setelah melewati port FastEthernet. Proses ping (Pengiriman Packet ICMP) telah sukses dijalankan.

Biografi Penulis



Faiq Muhammad Iqbal

Sedang menyelesaikan pendidikan vokasi Diploma 4 (D4) Jurusan Teknik Elektro Program Studi Teknik Telekomunikasi di Politeknik Negeri Semarang (Polines).

Lulusan dari SMA negeri 9 Semarang, SMP Negeri 12 Semarang, SD Negeri Srandol Kulon 01 A-B Semarang. dan TK PGRI 20 Semarang.