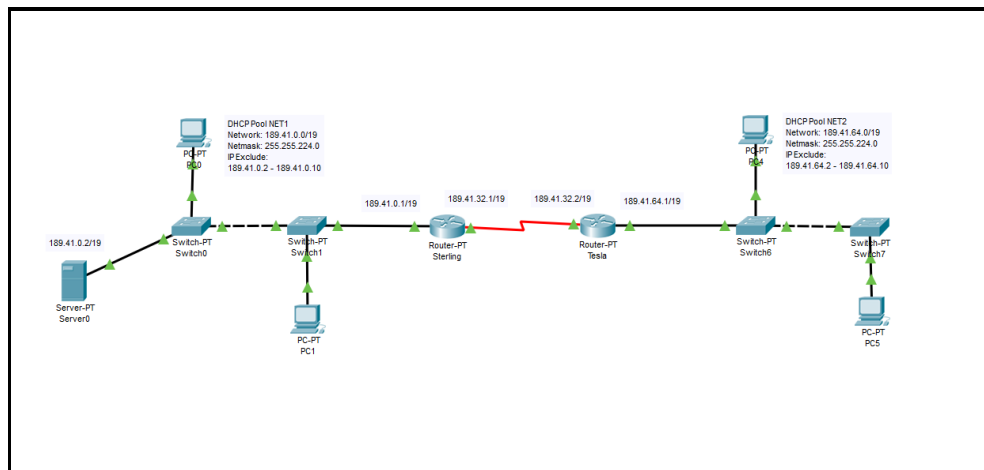


TUGAS PRAKTIKUM

SOAL PRAKTIKUM

1. Coba simulasikan kembali Soal Modul I nomor 2 menggunakan packet tracer lalu konfigurasi dhcp beserta routing agar 2 jaringan dapat saling terhubung! (20 poin)

a. Topologi Bus



- List IP Address

Server

Fa0/0 : 189.41.0.2/19

Router Sterling

Fa0/0 : 189.41.0.1/19

Se2/0 : 189.41.32.1/19

Router Tesla

Fa1/0 : 189.41.64.1/19

Se2/0 : 189.41.32.2/19

DHCP Pool

Client R. Sterling : 189.41.0.11 – 189.41.31.254

Client R. Tesla : 189.41.64.11 – 189.41.127.254

TUGAS PRAKTIKUM

- Konfigurasi IP Address Router

Router Sterling06941-JK189

```
Router>en
Router#conf t
Router(config)#int fa0/0
Router(config-if)#ip add 189.41.0.1 255.255.224.0
Router(config-if)#no shut
Router(config-if)#ex
Router(config)#
Router(config)#int se2/0
Router(config-if)#ip add 189.41.32.1 255.255.224.0
Router(config-if)#no shut
Router(config-if)#ex
Router(config)#
```

Router Tesla06941-JK189

```
Router>en
Router#conf t
Router(config)#int fa1/0
Router(config-if)#ip add 189.41.64.1 255.255.224.0
Router(config-if)#no shut
Router(config-if)#ex
Router(config)#
Router(config)#int se2/0
Router(config-if)#ip add 189.41.32.2 255.255.224.0
Router(config-if)#no shut
Router(config-if)#ex
Router(config)#
```

TUGAS PRAKTIKUM

- Konfigurasi Routing

Router Sterling06941-JK189

```
Router>en
```

```
Router#conf t
```

```
Router(config)#ip route 189.41.64.0 255.255.224.0  
189.41.32.2
```

```
Router(config)#
```

Router Tesla06941-JK189

```
Router>en
```

```
Router#conf t
```

```
Router(config)#ip route 189.41.0.0 255.255.224.0  
189.41.32.1
```

```
Router(config)#
```

- Konfigurasi DHCP

Router Sterling06941-JK189

```
Router>en
```

```
Router#conf t
```

```
Router(config)#ip dhcp pool NET1
```

```
Router(dhcp-config)#network 189.41.0.0  
255.255.224.0
```

```
Router(dhcp-config)#default-router 189.41.0.1
```

```
Router(dhcp-config)#ex
```

```
Router(config)#ip dhcp exclude-address 189.41.0.2  
189.41.0.10
```

TUGAS PRAKTIKUM

Router Tesla06941-JK189

Router>en

Router#conf t

Router(config)#ip dhcp pool NET2

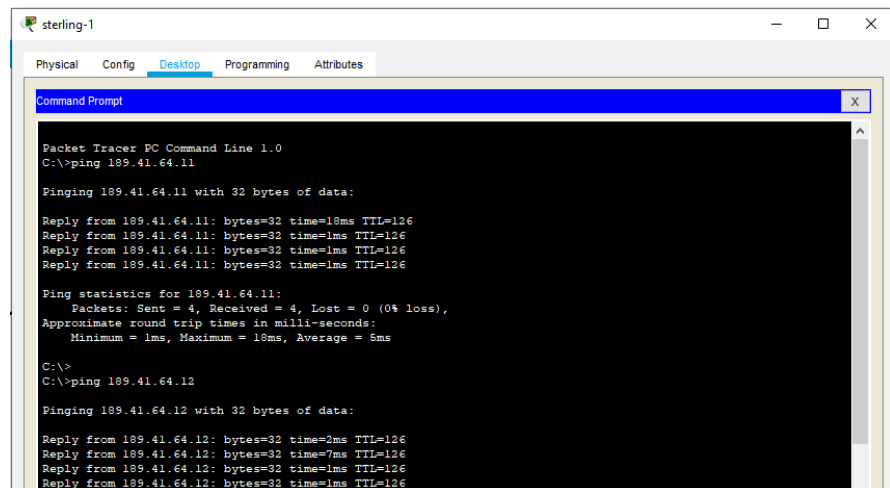
Router(dhcp-config)#network 189.41.64.0
255.255.224.0

Router(dhcp-config)#default-router 189.41.64.1

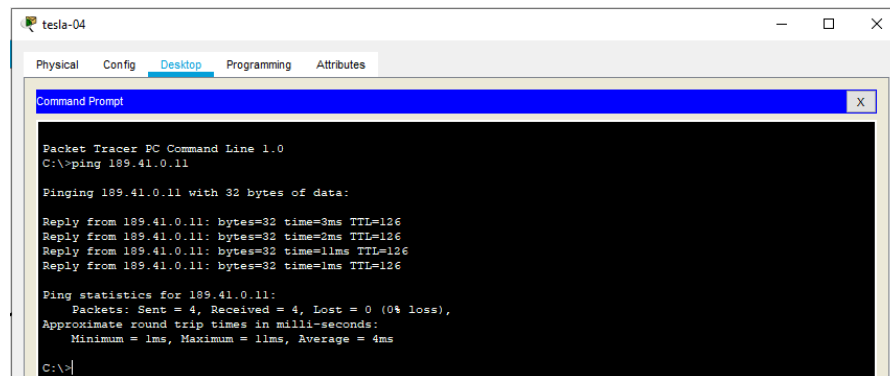
Router(dhcp-config)#ex

Router(config)#ip dhcp exclude-address 189.41.64.2
189.41.64.10

- Test koneksi : Ping antar client beda network
PC sterling-1 ke PC tesla-04

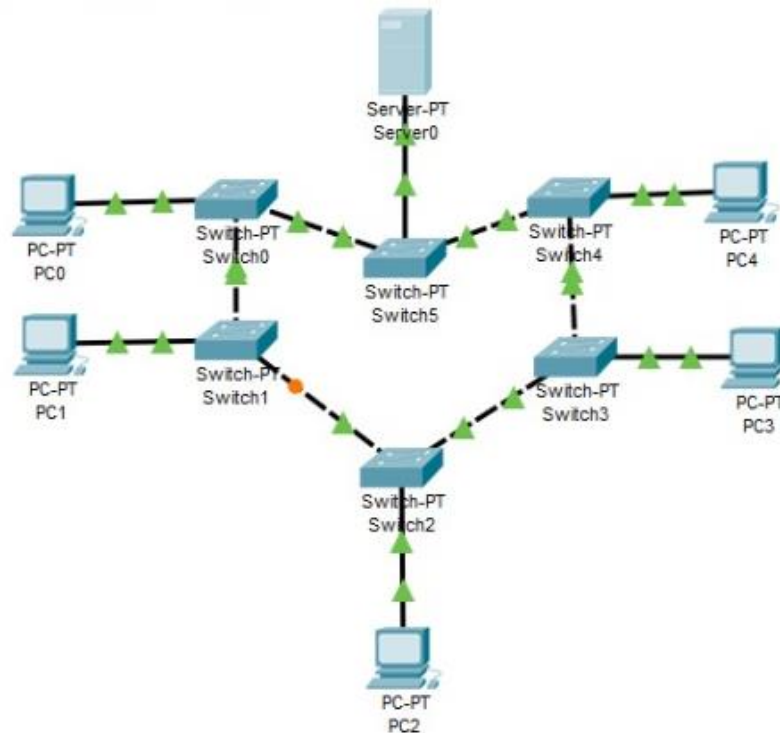


PC tesla-04 ke PC sterling-0



TUGAS PRAKTIKUM

b. Topologi Ring



• Konfigurasi DHCP Server

Server0

Physical Config Services **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address: 192.0.0.1

Subnet Mask: 255.255.240.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::20C:CFFF:FE86:D64

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

☐ Top

TUGAS PRAKTIKUM

• Konfigurasi server pool DHCP

Server0

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 192.0.0.1

DNS Server: 255.255.240.0

Start IP Address: 192.0.0.5

Subnet Mask: 255.255.240.0

Maximum Number of Users: 100

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.0.0.1	255.255.240.0	192.0.0.5	255.255.240.0	100	0.0.0.0	0.0.0.0

< >

☐ Top

• Konfigurasi DHCP PC0

PC0

Physical Config **Desktop** Programming Attributes

☒ DHCP ☐ Static

IP Address: 192.0.0.5

Subnet Mask: 255.255.240.0

Default Gateway: 192.0.0.1

DNS Server: 255.255.240.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::290:21FF:FE88:BB70

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MDS

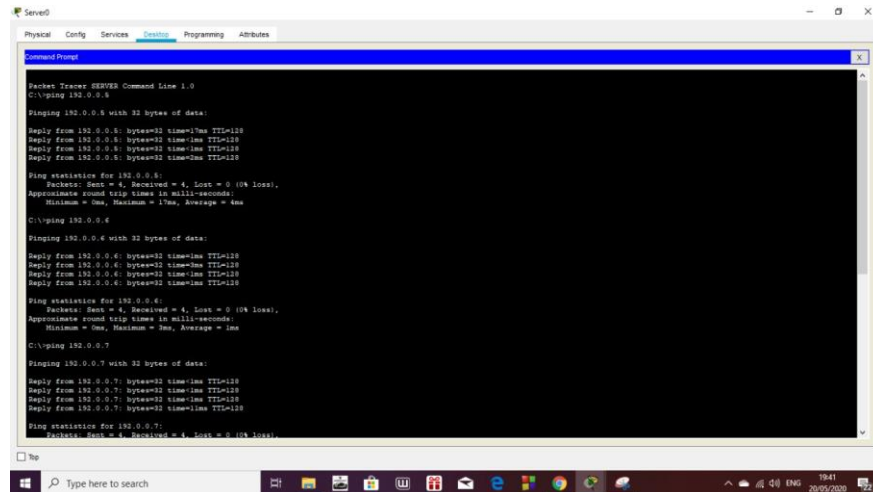
Username:

Password:

☐ Top

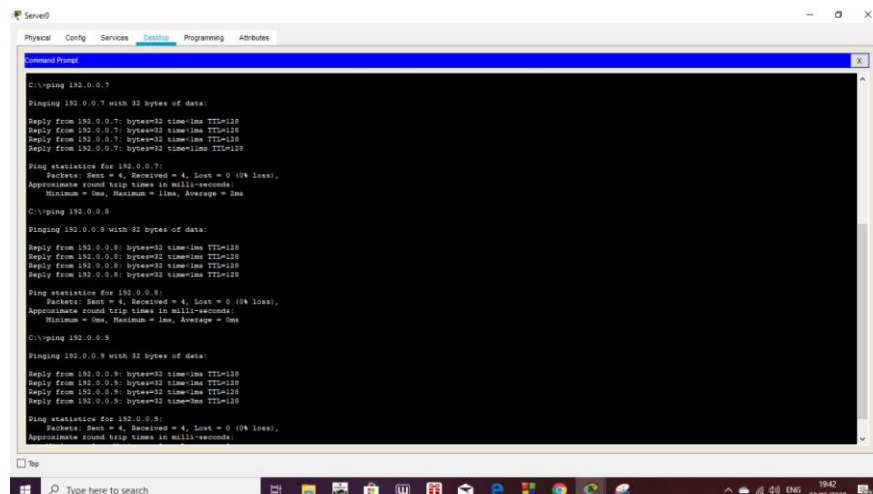
TUGAS PRAKTIKUM

• Tes Ping Dari Server DHCP Ke Client1 / PC0



```
Server0
Physical Config Services Desktop Programming Attributes
Command Prompt
Packet Tracer SERVER Command Line 1.0
C:\>ping 192.0.0.4
Pinging 192.0.0.4 with 32 bytes of data:
Reply from 192.0.0.4: bytes=32 time=1ms TTL=128
Reply from 192.0.0.4: bytes=32 time=1ms TTL=128
Reply from 192.0.0.4: bytes=32 time=1ms TTL=128
Reply from 192.0.0.4: bytes=32 time=1ms TTL=128
Ping statistics for 192.0.0.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.0.0.6
Pinging 192.0.0.6 with 32 bytes of data:
Reply from 192.0.0.6: bytes=32 time=1ms TTL=128
Reply from 192.0.0.6: bytes=32 time=1ms TTL=128
Reply from 192.0.0.6: bytes=32 time=1ms TTL=128
Reply from 192.0.0.6: bytes=32 time=1ms TTL=128
Ping statistics for 192.0.0.6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 192.0.0.7
Pinging 192.0.0.7 with 32 bytes of data:
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Ping statistics for 192.0.0.7:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
```

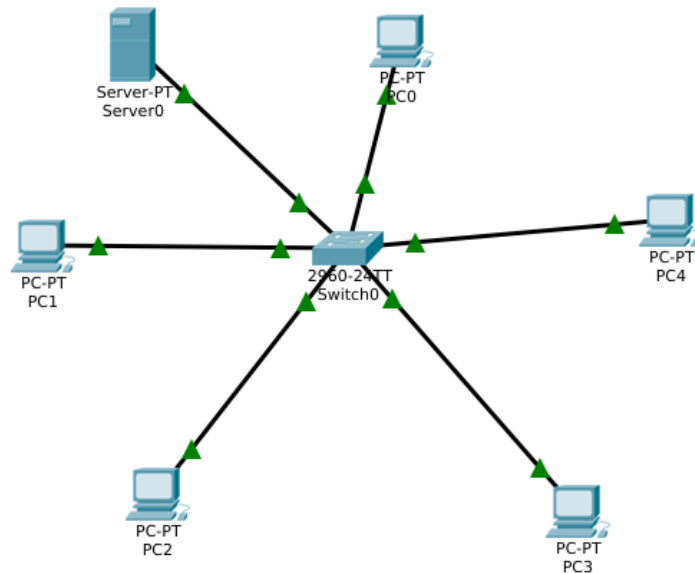
• Tes Ping Dari Client1 / PC0 Ke Server DHCP



```
Server0
Physical Config Services Desktop Programming Attributes
Command Prompt
C:\>ping 192.0.0.7
Pinging 192.0.0.7 with 32 bytes of data:
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Reply from 192.0.0.7: bytes=32 time=1ms TTL=128
Ping statistics for 192.0.0.7:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.0.0.8
Pinging 192.0.0.8 with 32 bytes of data:
Reply from 192.0.0.8: bytes=32 time=1ms TTL=128
Reply from 192.0.0.8: bytes=32 time=1ms TTL=128
Reply from 192.0.0.8: bytes=32 time=1ms TTL=128
Reply from 192.0.0.8: bytes=32 time=1ms TTL=128
Ping statistics for 192.0.0.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
C:\>ping 192.0.0.9
Pinging 192.0.0.9 with 32 bytes of data:
Reply from 192.0.0.9: bytes=32 time=1ms TTL=128
Reply from 192.0.0.9: bytes=32 time=1ms TTL=128
Reply from 192.0.0.9: bytes=32 time=1ms TTL=128
Reply from 192.0.0.9: bytes=32 time=1ms TTL=128
Ping statistics for 192.0.0.9:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
```

TUGAS PRAKTIKUM

c. Topologi Star



• Konfigurasi DHCP Server

The screenshot shows the configuration interface for a DHCP server, titled "Server0". The "Desktop" tab is selected. The "IP Configuration" section is expanded, showing the "Static" configuration. The "IP Address" is set to "219.18.90.1", the "Subnet Mask" is "255.255.255.0", the "Default Gateway" is "0.0.0.0", and the "DNS Server" is "0.0.0.0". The "IPv6 Configuration" section is also expanded, showing the "Static" configuration. The "IPv6 Address" is set to "FE80::290:2BFF:FE21:AEB1", the "Link Local Address" is "FE80::290:2BFF:FE21:AEB1", the "IPv6 Gateway" is "0.0.0.0", and the "IPv6 DNS Server" is "0.0.0.0". The "802.1X" section is expanded, showing the "Use 802.1X Security" checkbox is unchecked, the "Authentication" is set to "MD5", and the "Username" and "Password" fields are empty. A "Top" button is located at the bottom left of the interface.

TUGAS PRAKTIKUM

• Konfigurasi DHCP Pool

The screenshot shows the 'Services' tab for 'Server0' in Cisco Packet Tracer. The 'DHCP' service is enabled for the 'FastEthernet0' interface. The configuration fields are as follows:

- Interface: FastEthernet0
- Service: ☒ On
- Pool Name: serverPool
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0
- Start IP Address: 219.18.90.18
- Subnet Mask: 255.255.255.0
- Maximum Number of Users: 255
- TFTP Server: 0.0.0.0
- WLC Address: 0.0.0.0

Below the configuration fields is a table showing the DHCP pool configuration:

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPoolNew	219.18.90.0	255.255.255.0	219.18.90.0	255.255.255.0	255	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	219.18.90.0	255.255.255.0	255	0.0.0.0	0.0.0.0

• Setting DHCP Client1 / PC0

The screenshot shows the 'Desktop' tab for 'PC0' in Cisco Packet Tracer. The 'DHCP' option is selected under the 'IP Configuration' section. The configuration fields are as follows:

- IP Configuration: ☒ DHCP
- IP Address: 219.18.90.3
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

Below the DHCP configuration is the 'IPv6 Configuration' section:

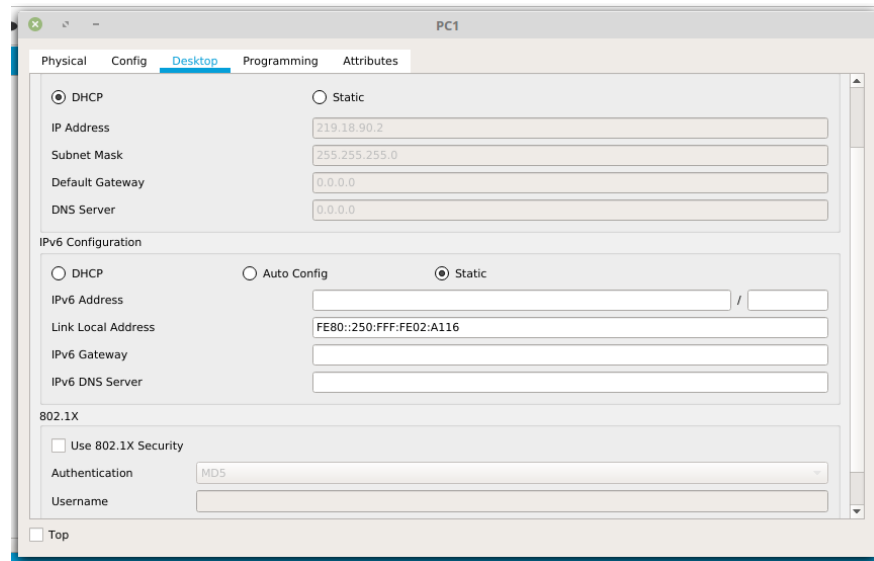
- IPv6 Configuration: ☐ DHCP, ☐ Auto Config, ☒ Static
- IPv6 Address: [Empty field]
- Link Local Address: FE80::201:C7FF:FE6B:A5B7
- IPv6 Gateway: [Empty field]
- IPv6 DNS Server: [Empty field]

Below the IPv6 configuration is the '802.1X' section:

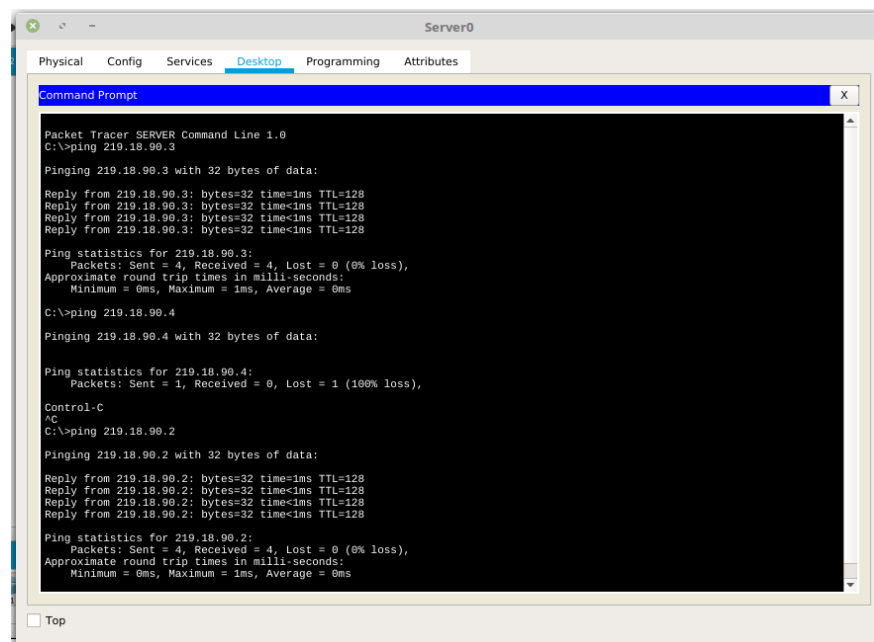
- 802.1X: ☐ Use 802.1X Security
- Authentication: MD5
- Username: [Empty field]

TUGAS PRAKTIKUM

• Setting DHCP Client2 / PC1

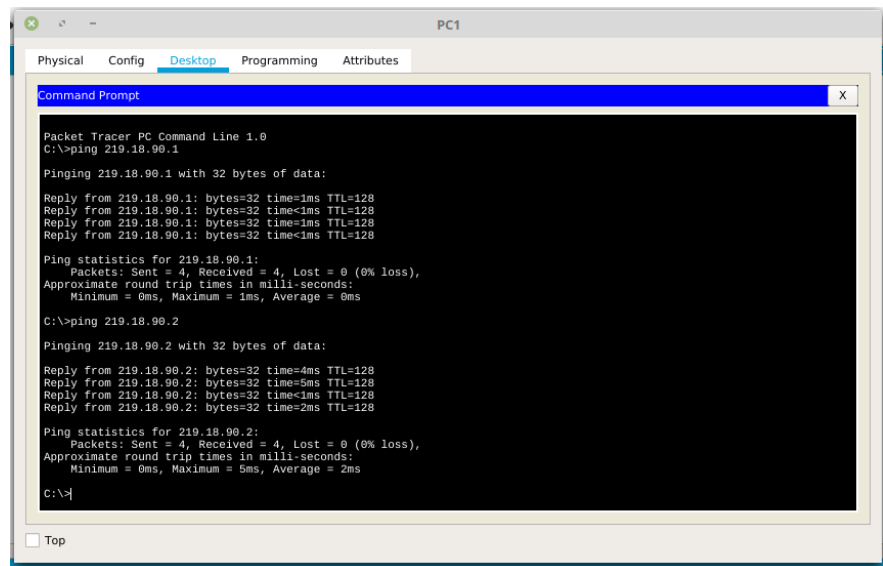


• Tes Ping Dari Server DHCP Ke Client1 & Client2



TUGAS PRAKTIKUM

• Tes Ping Dari Client1 Ke Server & Client2



```
Packet Tracer PC Command Line 1.0
C:\>ping 219.18.90.1

Pinging 219.18.90.1 with 32 bytes of data:

Reply from 219.18.90.1: bytes=32 time=1ms TTL=128
Reply from 219.18.90.1: bytes=32 time=1ms TTL=128
Reply from 219.18.90.1: bytes=32 time=1ms TTL=128
Reply from 219.18.90.1: bytes=32 time=1ms TTL=128

Ping statistics for 219.18.90.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 219.18.90.2

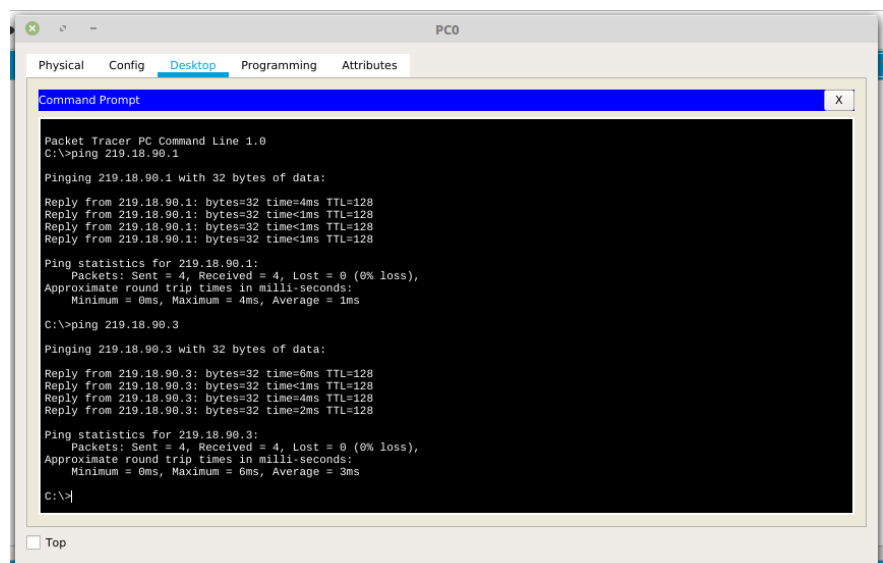
Pinging 219.18.90.2 with 32 bytes of data:

Reply from 219.18.90.2: bytes=32 time=4ms TTL=128
Reply from 219.18.90.2: bytes=32 time=5ms TTL=128
Reply from 219.18.90.2: bytes=32 time=1ms TTL=128
Reply from 219.18.90.2: bytes=32 time=2ms TTL=128

Ping statistics for 219.18.90.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 2ms

C:\>
```

• Tes Ping Dari Client2 Ke Server & Client1



```
Packet Tracer PC Command Line 1.0
C:\>ping 219.18.90.1

Pinging 219.18.90.1 with 32 bytes of data:

Reply from 219.18.90.1: bytes=32 time=4ms TTL=128
Reply from 219.18.90.1: bytes=32 time=1ms TTL=128
Reply from 219.18.90.1: bytes=32 time=1ms TTL=128
Reply from 219.18.90.1: bytes=32 time=1ms TTL=128

Ping statistics for 219.18.90.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 4ms, Average = 1ms

C:\>ping 219.18.90.3

Pinging 219.18.90.3 with 32 bytes of data:

Reply from 219.18.90.3: bytes=32 time=6ms TTL=128
Reply from 219.18.90.3: bytes=32 time=1ms TTL=128
Reply from 219.18.90.3: bytes=32 time=4ms TTL=128
Reply from 219.18.90.3: bytes=32 time=2ms TTL=128

Ping statistics for 219.18.90.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 6ms, Average = 3ms

C:\>
```

2. Lakukan konfigurasi routing pada **Server Virtual** kalian dan buktikan bahwa tiap **Client** dapat terhubung! (40 poin)

Konfigurasi untuk PC Router:

- a. Setting IP untuk eth0 192.168.1.1 dan eth1 192.168.2.1 dengan subnetmask sama yaitu 255.255.255.0 dengan perintah berikut:

nano /etc/network/interfaces

TUGAS PRAKTIKUM

```
root@JK189: ~  
muchasin_06941@JK189:~$ sudo -i  
[sudo] password for muchasin_06941:  
root@JK189:~# nano /etc/network/interfaces
```

```
auto [nama_interfaces_0]  
iface [nama_interfaces_0] inet static  
address 192.168.1.1  
netmask 255.255.255.0  
network 192.168.1.0  
gateway 192.168.1.1
```

```
auto [nama_interfaces_1]  
iface [nama_interfaces_1] inet static  
address 192.168.2.1  
netmask 255.255.255.0  
network 192.168.2.0  
gateway 192.168.2.1
```

Simpan dengan ctrl+x kemudian tekan y lalu enter

```
root@JK189: ~  
GNU nano 2.5.3 File: /etc/network/interfaces Modified  
# interfaces(5) file used by ifup(8) and ifdown(8)  
auto lo  
iface lo inet loopback  
  
auto enp0s3  
iface enp0s3 inet static  
address 192.168.1.1  
netmask 255.255.255.0  
network 192.168.1.0  
  
auto enp0s8  
iface enp0s8 inet static  
address 192.168.2.1  
netmask 255.255.255.0  
network 192.168.2.0
```

- b. Kemudian restart interfaces menggunakan perintah berikut:

```
# /etc/init.d/networking restart
```

Atau

```
# ifup [nama_interfaces_0] dan ifup  
[nama_interface_1]
```

TUGAS PRAKTIKUM

```
root@JK189: ~
muchasin_06941@JK189:~$ sudo -i
[sudo] password for muchasin_06941:
root@JK189:~# nano /etc/network/interfaces
root@JK189:~# /etc/init.d/networking restart
[ ok ] Restarting networking (via systemctl): networking.service.
root@JK189:~#
```

- c. Supaya bisa meneruskan paket kita setting dengan mengetik perintah:

```
# echo 1 > /proc/sys/net/ipv4/ip_forward
```

```
root@JK189: ~
muchasin_06941@JK189:~$ sudo -i
[sudo] password for muchasin_06941:
root@JK189:~# nano /etc/network/interfaces
root@JK189:~# /etc/init.d/networking restart
[ ok ] Restarting networking (via systemctl): networking.service.
root@JK189:~# echo 1 > /proc/sys/net/ipv
ipv4/ ipv6/
root@JK189:~# echo 1 > /proc/sys/net/ipv4/ip_forward
root@JK189:~#
```

- d. Tambahkan iptable untuk forwarding interfaces eth0 ke eth1 di PC Router dengan perintah berikut:

```
# sudo iptables -t nat -A POSTROUTING -o eth2 -j
MASQUERADE

# sudo iptables -A FORWARD -i eth1 -o eth0 -m
state --state RELATED, ESTABLISHED -j ACCEPT

# sudo iptables -A FORWARD -i eth0 -o eth1 -j
ACCEPT
```

```
root@JK189: ~
muchasin_06941@JK189:~$ sudo -i
[sudo] password for muchasin_06941:
root@JK189:~# nano /etc/network/interfaces
root@JK189:~# /etc/init.d/networking restart
[ ok ] Restarting networking (via systemctl): networking.service.
root@JK189:~# echo 1 > /proc/sys/net/ipv
ipv4/ ipv6/
root@JK189:~# echo 1 > /proc/sys/net/ipv4/ip_forward
root@JK189:~# iptables -t nat -A POSTROUTING -o enp0s8 -j MASQUERADE
root@JK189:~# iptables -A FORWARD -i enp0s8 -o RELATED,ESTABLISHED -j ACCEPT

root@JK189:~# iptables -A FORWARD -i enp0s8 -o enp0s3 -m state --state RELATED,E
STABLISHED -j ACCEPT
root@JK189:~# iptables -A FORWARD -i enp0s3 -o enp0s8 -j ACCEPT
root@JK189:~#
```

- e. Lakukan tes ping ke [nama_interfaces_0] dan [nama_interfaces_1].

TUGAS PRAKTIKUM

```
root@JK189: ~
root@JK189:~# iptables -A FORWARD -i enp0s8 -o enp0s3 -n state --state RELATED,E
STABLISHED -j ACCEPT
root@JK189:~# iptables -A FORWARD -i enp0s3 -o enp0s8 -j ACCEPT
root@JK189:~# ping 192.168.1.1
PING 192.168.1.1 (192.168.1.1) 56(84) bytes of data.
64 bytes from 192.168.1.1: icmp_seq=1 ttl=64 time=0.032 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=64 time=0.048 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=64 time=0.039 ms
^C
--- 192.168.1.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2037ms
rtt min/avg/max/mdev = 0.032/0.039/0.048/0.009 ms
root@JK189:~# ping 192.168.2.1
connect: Network is unreachable
root@JK189:~# ping 192.168.2.1
PING 192.168.2.1 (192.168.2.1) 56(84) bytes of data.
64 bytes from 192.168.2.1: icmp_seq=1 ttl=64 time=0.053 ms
64 bytes from 192.168.2.1: icmp_seq=2 ttl=64 time=0.033 ms
64 bytes from 192.168.2.1: icmp_seq=3 ttl=64 time=0.042 ms
^C
--- 192.168.2.1 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2023ms
rtt min/avg/max/mdev = 0.033/0.042/0.053/0.011 ms
root@JK189:~#
```

- f. Lihat hasil konfigurasi pada table routing dengan mengetikkan:

```
# route -n
```

```
root@JK189:~# route -n
Kernel IP routing table
Destination Gateway Genmask Flags Metric Ref Use Iface
169.254.0.0 0.0.0.0 255.255.0.0 U 1000 0 0 enp0s3
192.168.1.0 0.0.0.0 255.255.255.0 U 0 0 0 enp0s3
192.168.1.0 0.0.0.0 255.255.255.0 U 0 0 0 enp0s8
192.168.1.0 0.0.0.0 255.255.255.0 U 100 0 0 enp0s8
192.168.2.0 0.0.0.0 255.255.255.0 U 0 0 0 enp0s8
192.168.2.0 0.0.0.0 255.255.255.0 U 100 0 0 enp0s8
root@JK189:~#
```

3. Konfigurasi Client1

- a. Login sebagai User Root.

```
root@JK189-client: ~
muchlas_06941@JK189-client:~$ sudo -i
[sudo] password for muchlas_06941:
```

- b. Setting IP yang satu kelas dengan PC Router, misalnya:

```
# nano /etc/network/interfaces
```

```
root@JK189-client: ~
muchlas_06941@JK189-client:~$ sudo -i
[sudo] password for muchlas_06941:
root@JK189-client:~# nano /etc/network/interfaces
```

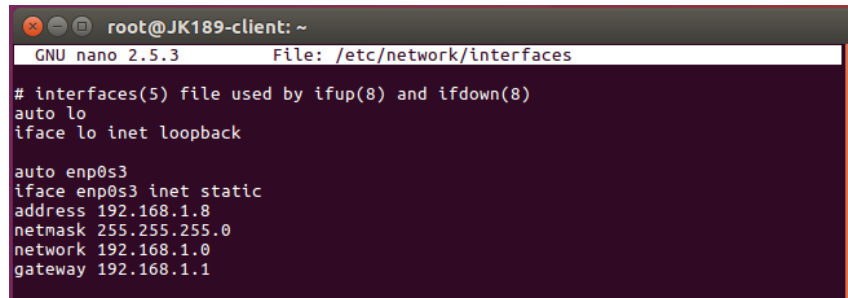
```
auto [nama_interfaces]
iface [nama_interfaces]
address 192.168.1.8
netmask 255.255.255.0
```

TUGAS PRAKTIKUM

network 192.168.1.0

gateway 192.168.1.1

Simpan dengan ctrl+x kemudian tekan y lalu enter



```
root@JK189-client: ~
GNU nano 2.5.3 File: /etc/network/interfaces

# interfaces(5) file used by ifup(8) and ifdown(8)
auto lo
iface lo inet loopback

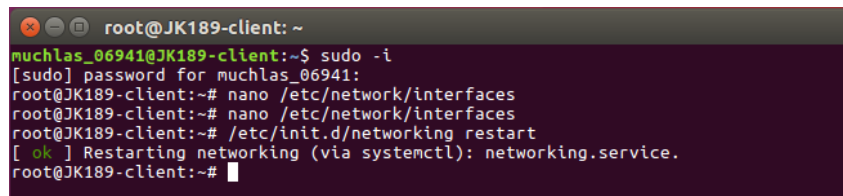
auto enp0s3
iface enp0s3 inet static
address 192.168.1.8
netmask 255.255.255.0
network 192.168.1.0
gateway 192.168.1.1
```

- c. Restart service network

/etc/init.d/networking restart

Atau

#ifup [nama_intefaces]



```
root@JK189-client: ~
muchlas_06941@JK189-client:~$ sudo -i
[sudo] password for muchlas_06941:
root@JK189-client:~# nano /etc/network/interfaces
root@JK189-client:~# nano /etc/network/interfaces
root@JK189-client:~# /etc/init.d/networking restart
[ ok ] Restarting networking (via systemctl): networking.service.
root@JK189-client:~#
```

4. Konfigurasi Client2

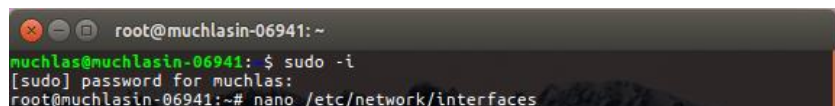
- a. Login User Root.



```
root@muchlasin-06941: ~
muchlas@muchlasin-06941: $ sudo -i
[sudo] password for muchlas:
root@muchlasin-06941:~#
```

- b. Setting IP yang satu kelas dengan PC Router, misalnya:

nano /etc/network/interfaces



```
root@muchlasin-06941: ~
muchlas@muchlasin-06941: $ sudo -i
[sudo] password for muchlas:
root@muchlasin-06941:~# nano /etc/network/interfaces
```

auto [nama_interfaces]

iface [nama_interfaces]

address 192.168.2.8

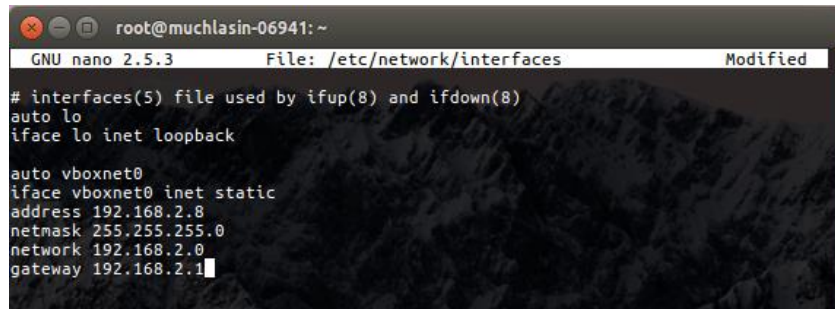
netmask 255.255.255.0

TUGAS PRAKTIKUM

network 192.168.2.0

gateway 192.168.2.1

Simpan dengan ctrl+x kemudian tekan y lalu enter



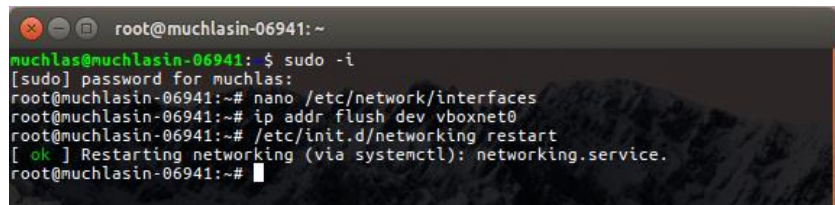
```
root@muchlasin-06941: ~  
GNU nano 2.5.3 File: /etc/network/interfaces Modified  
# interfaces(5) file used by ifup(8) and ifdown(8)  
auto lo  
iface lo inet loopback  
  
auto vboxnet0  
iface vboxnet0 inet static  
address 192.168.2.8  
netmask 255.255.255.0  
network 192.168.2.0  
gateway 192.168.2.1
```

- c. Restart service network.

/etc/init.d/networking restart

Atau

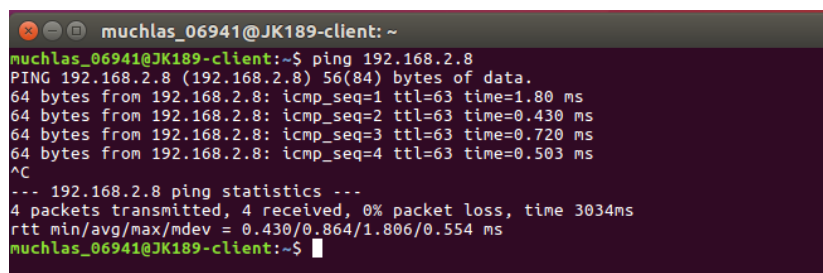
#ifup [nama_intefaces]



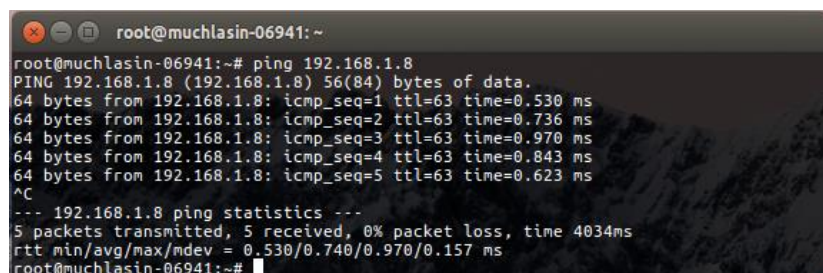
```
root@muchlasin-06941: ~  
muchlas@muchlasin-06941: $ sudo -i  
[sudo] password for muchlas:  
root@muchlasin-06941:~# nano /etc/network/interfaces  
root@muchlasin-06941:~# ip addr flush dev vboxnet0  
root@muchlasin-06941:~# /etc/init.d/networking restart  
[ ok ] Restarting networking (via systemctl): networking.service.  
root@muchlasin-06941:~#
```

5. Pengetesan Routing

- a. Lakukan ping dari client1 ke client2 atau sebaliknya (proses ping harus menunjukkan koneksi), seperti dibawah ini:



```
muchlas_06941@JK189-client: ~  
muchlas_06941@JK189-client:~$ ping 192.168.2.8  
PING 192.168.2.8 (192.168.2.8) 56(84) bytes of data:  
64 bytes from 192.168.2.8: icmp_seq=1 ttl=63 time=1.80 ms  
64 bytes from 192.168.2.8: icmp_seq=2 ttl=63 time=0.430 ms  
64 bytes from 192.168.2.8: icmp_seq=3 ttl=63 time=0.720 ms  
64 bytes from 192.168.2.8: icmp_seq=4 ttl=63 time=0.503 ms  
^C  
--- 192.168.2.8 ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3034ms  
rtt min/avg/max/mdev = 0.430/0.864/1.806/0.554 ms  
muchlas_06941@JK189-client:~$
```



```
root@muchlasin-06941: ~  
root@muchlasin-06941:~# ping 192.168.1.8  
PING 192.168.1.8 (192.168.1.8) 56(84) bytes of data:  
64 bytes from 192.168.1.8: icmp_seq=1 ttl=63 time=0.530 ms  
64 bytes from 192.168.1.8: icmp_seq=2 ttl=63 time=0.736 ms  
64 bytes from 192.168.1.8: icmp_seq=3 ttl=63 time=0.970 ms  
64 bytes from 192.168.1.8: icmp_seq=4 ttl=63 time=0.843 ms  
64 bytes from 192.168.1.8: icmp_seq=5 ttl=63 time=0.623 ms  
^C  
--- 192.168.1.8 ping statistics ---  
5 packets transmitted, 5 received, 0% packet loss, time 4034ms  
rtt min/avg/max/mdev = 0.530/0.740/0.970/0.157 ms  
root@muchlasin-06941:~#
```


TUGAS PRAKTIKUM

- b. Catatlah hasil percobaan tersebut pada laporan sementara.

NB : Proses routing terbukti berhasil apabila tiap client yang terletak pada kelas atau jaringan yang berbeda dapat saling melakukan ping(terkoneksi).