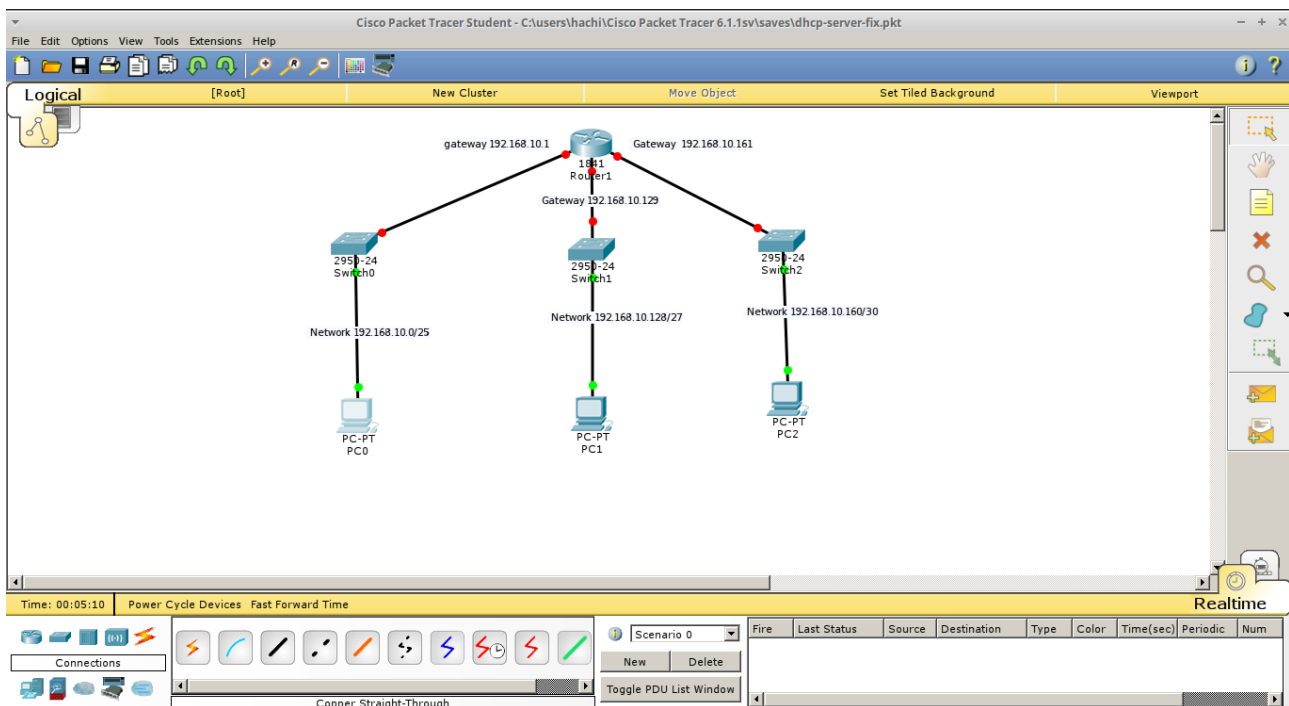


Nama : Muhammad Bella Buay Nunyai  
NPM : 1707051018  
Prodi : D3 Manajemen Informatika  
Tugas : Modul JKKD-Pertemuan 4 - DHCP

## Konfigurasi DHCP Server menggunakan Cisco Packet Tracer

1. Buka Cisco Packet Tracer
2. Buat Topologi Seperti dibawah ini
  - a. Lab A : 192.168.10.128/27
  - b. Lab B : 192.168.10.0/25
  - c. Lab C : 192.168.10.160/30



3. Konfigurasi DHCP pada perangkat Router

### KONFIGURASI DHCP SERVER PADA LAB A Interface FastEthernet 0/0

```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/0
Router(config-if)#ip address 192.168.10.129 255.255.255.224
Router(config-if)#no shu
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#ip dhcp pool ILKOM-A
Router(dhcp-config)#network 192.168.10.128 255.255.255.224
Router(dhcp-config)#default-router 192.168.10.129
Router(dhcp-config)#dns-server 192.168.10.158
```

```
Router(dhcp-config)#ex
Router(config)#ip dhcp ex
Router(config)#ip dhcp excluded-address 192.168.10.129 192.168.10.134
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
Router#
```

## =====

### KONFIGURASI DHCP SERVER PADA LAB A Interface FastEthernet 0/1

## =====

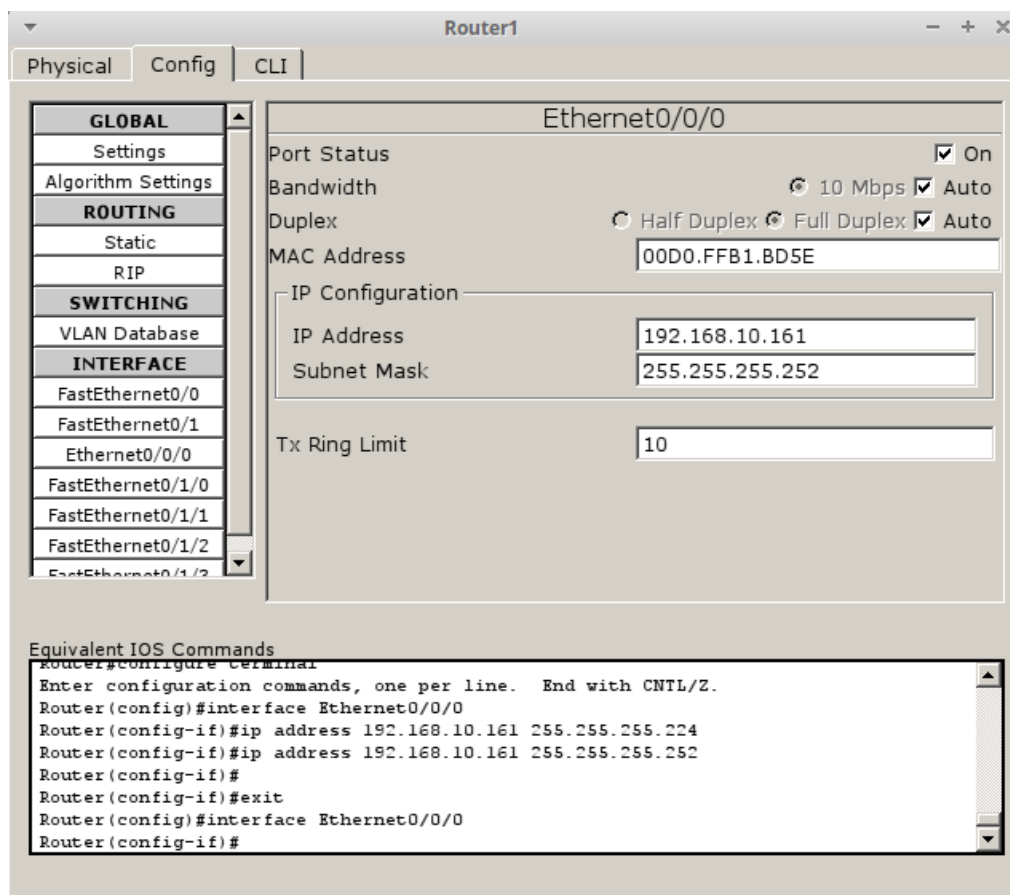
```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface fastEthernet 0/1
Router(config-if)#ip address 192.168.10.1 255.255.255.128
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
Router(config-if)#exit
Router(config)#ip dhcp pool ILKOM-B
Router(dhcp-config)#network 192.168.10.0 255.255.255.128
Router(dhcp-config)#default-router 192.168.10.1
Router(dhcp-config)#dns-server 192.168.10.126
Router(dhcp-config)#ex
Router(config)#ip dhcp excluded-address 192.168.10.1 192.168.10.5
Router(config)#ex
Router#
%SYS-5-CONFIG_I: Configured from console by console
Router#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
```

## =====

### KONFIGURASI DHCP SERVER PADA LAB A Interface Ethernet0/0/0

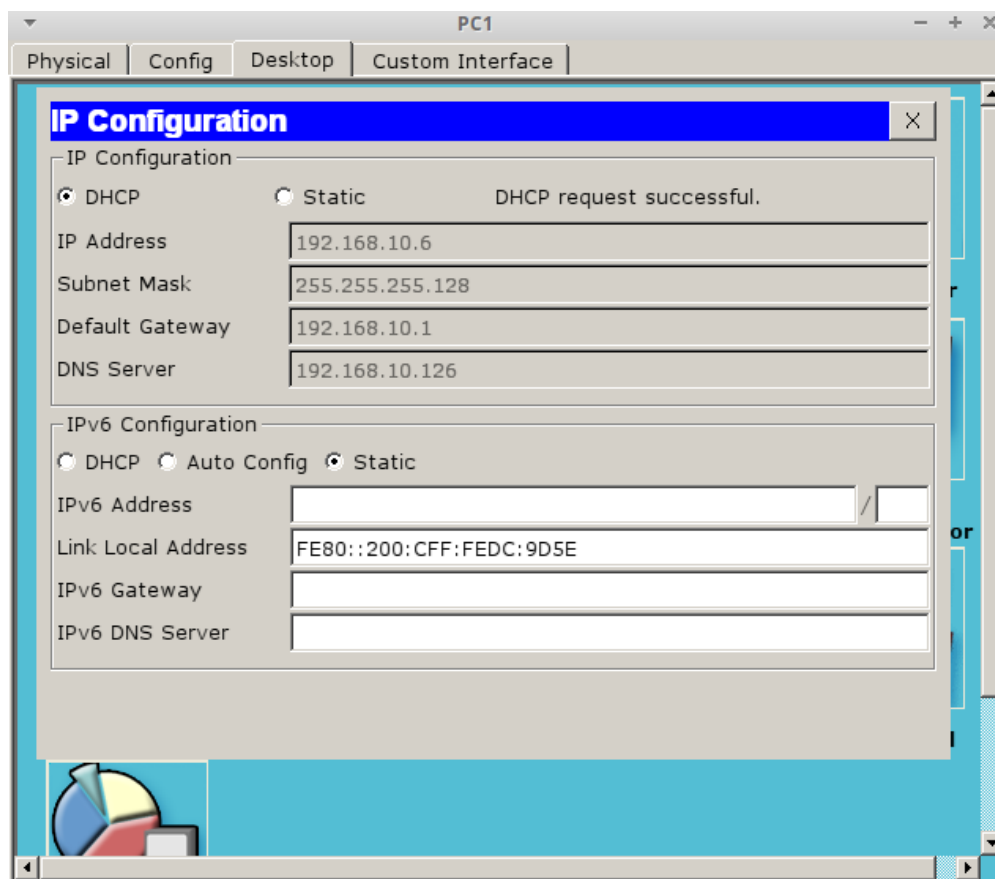
## =====

```
Router#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Ethernet0/0/0
Router(config-if)#ip address 192.168.10.161 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```



4. Buka PC0 pada LAB-A dan aktifkan DHCP Client

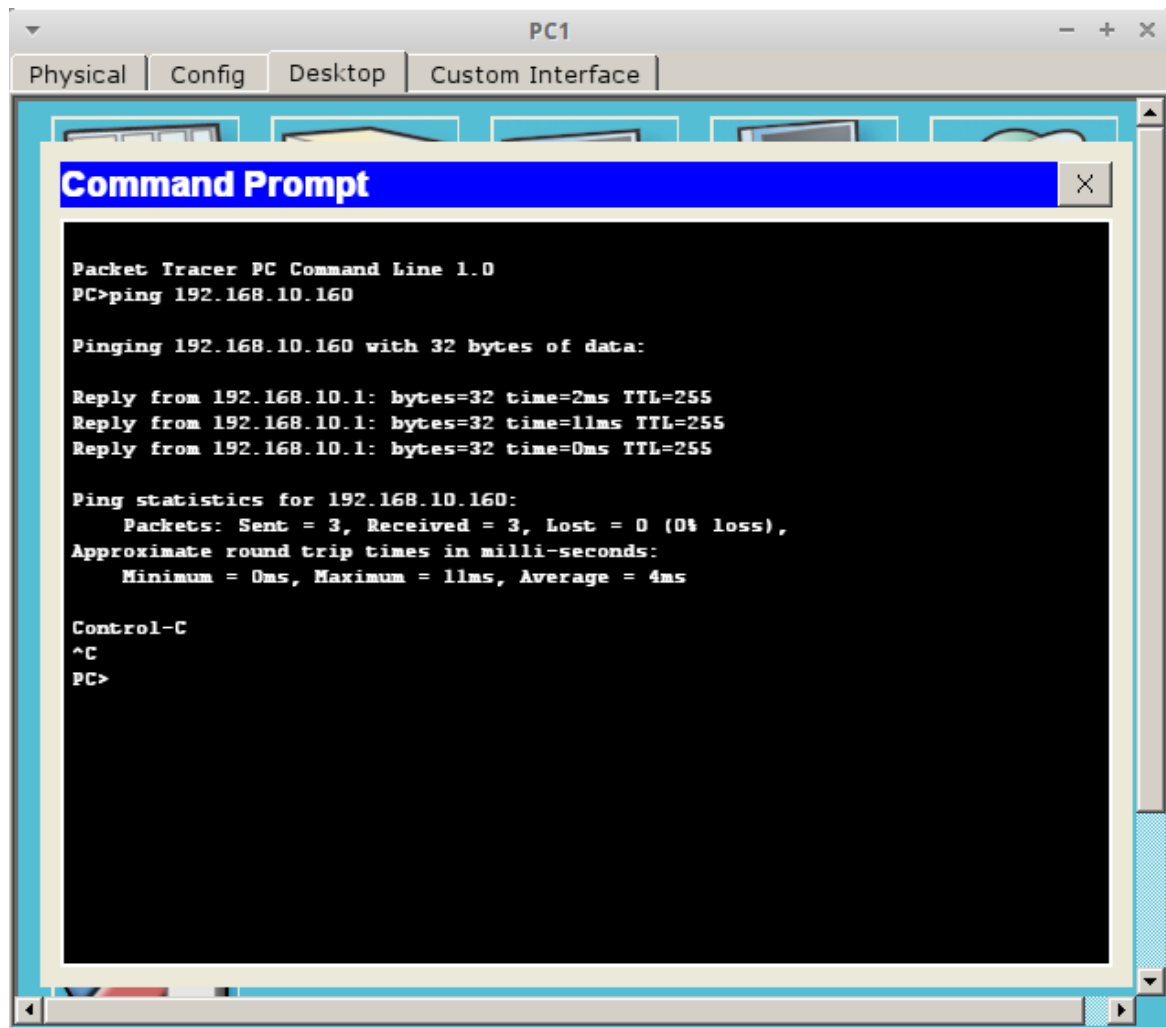
Jika berhasil maka kita akan dapat **IP Address, subnetmask, default, dan dns server** terisi otomatis



5. Lakukan hal yang sama pada setiap LAB seperti pada point 4

6. Lakukan ujikonektivitas pada masing masing pc

Contoh Ping dari PC 1 ke PC 2



The screenshot shows a Packet Tracer PC Command Line window for PC1. The window has tabs for Physical, Config, Desktop, and Custom Interface. The Desktop tab is active, displaying a Command Prompt window. The Command Prompt shows the following text:

```
Packet Tracer PC Command Line 1.0
PC>ping 192.168.10.160

Pinging 192.168.10.160 with 32 bytes of data:

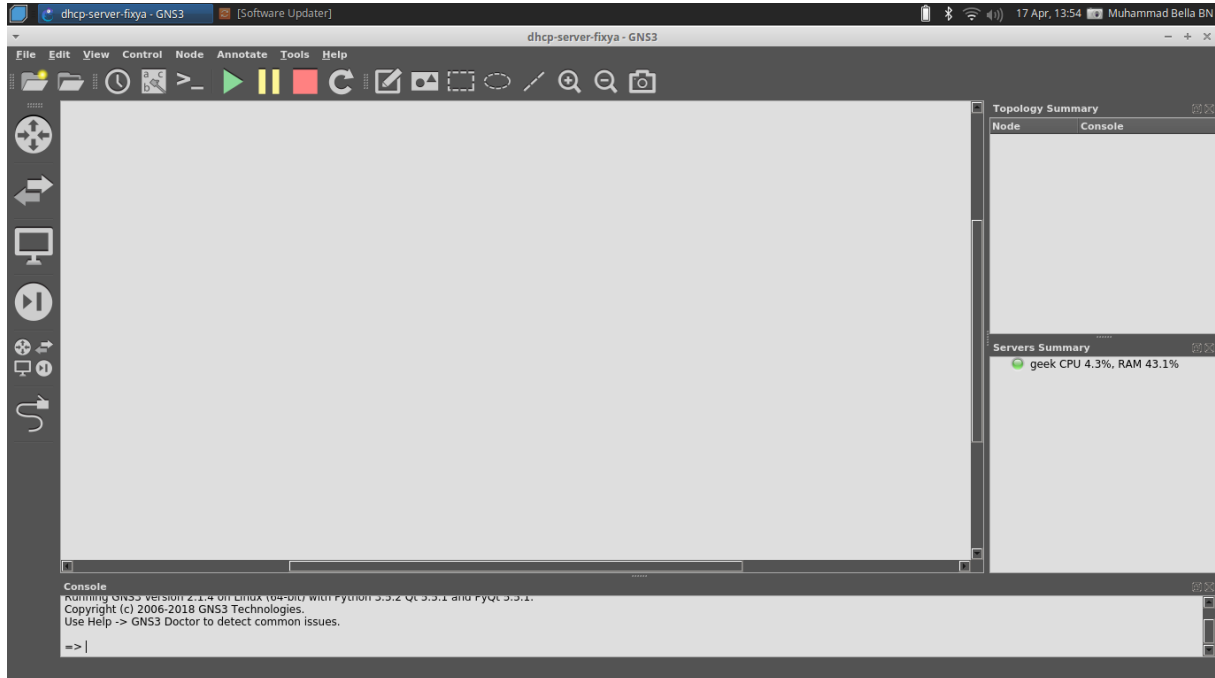
Reply from 192.168.10.1: bytes=32 time=2ms TTL=255
Reply from 192.168.10.1: bytes=32 time=11ms TTL=255
Reply from 192.168.10.1: bytes=32 time=0ms TTL=255

Ping statistics for 192.168.10.160:
    Packets: Sent = 3, Received = 3, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 11ms, Average = 4ms

Control-C
^C
PC>
```

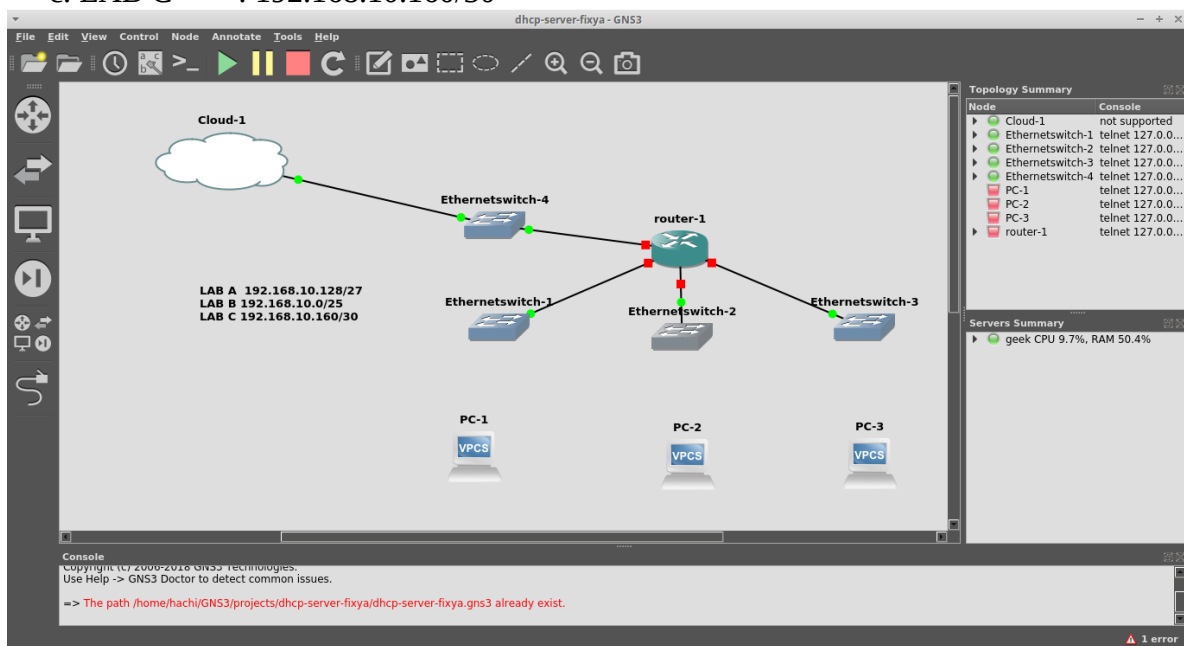
# Konfigurasi DHCP Server menggunakan GNS3

## 1. Buka GNS3



## 2. Buat Topologi seperti dibawah ini

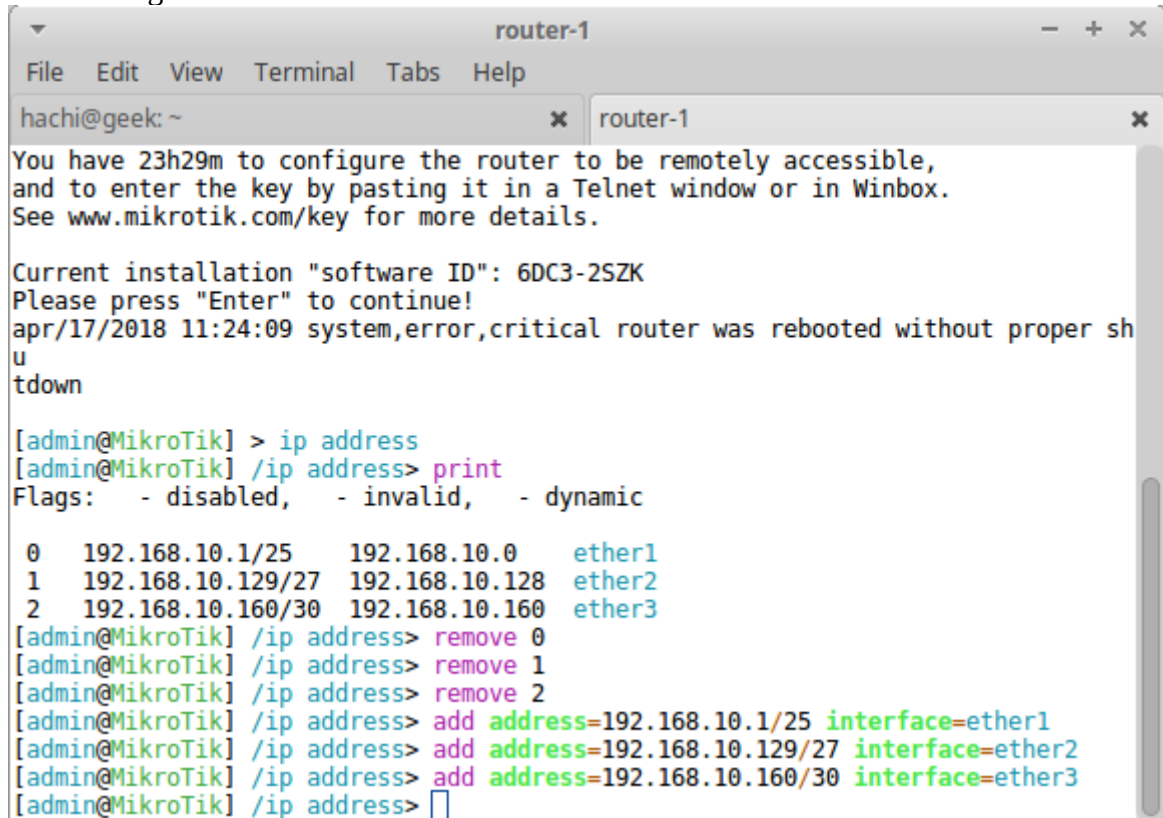
- a. LAB A : 192.168.10.128/27
- b. LAB B : 192.168.10.0/25
- c. LAB C : 192.168.10.160/30



### 3. Konfigurasi Router untuk Interface yang mengarah ke LAB A

a. Buka klik kanan pada mikrotik nya lalu klik terminal

b. Konfigurasi IP Address



```
router-1
File Edit View Terminal Tabs Help
hachi@geek: ~ x router-1 x
You have 23h29m to configure the router to be remotely accessible,
and to enter the key by pasting it in a Telnet window or in Winbox.
See www.mikrotik.com/key for more details.

Current installation "software ID": 6DC3-2SZK
Please press "Enter" to continue!
apr/17/2018 11:24:09 system,error,critical router was rebooted without proper shutdown

[admin@MikroTik] > ip address
[admin@MikroTik] /ip address> print
Flags: - disabled, - invalid, - dynamic

0 192.168.10.1/25 192.168.10.0 ether1
1 192.168.10.129/27 192.168.10.128 ether2
2 192.168.10.160/30 192.168.10.160 ether3
[admin@MikroTik] /ip address> remove 0
[admin@MikroTik] /ip address> remove 1
[admin@MikroTik] /ip address> remove 2
[admin@MikroTik] /ip address> add address=192.168.10.1/25 interface=ether1
[admin@MikroTik] /ip address> add address=192.168.10.129/27 interface=ether2
[admin@MikroTik] /ip address> add address=192.168.10.160/30 interface=ether3
[admin@MikroTik] /ip address> 
```

Dengan masuk ke menu **ip** lalu ketik :

**Buat LAB A address add address=192.168.10.129/27 interface=ether2**

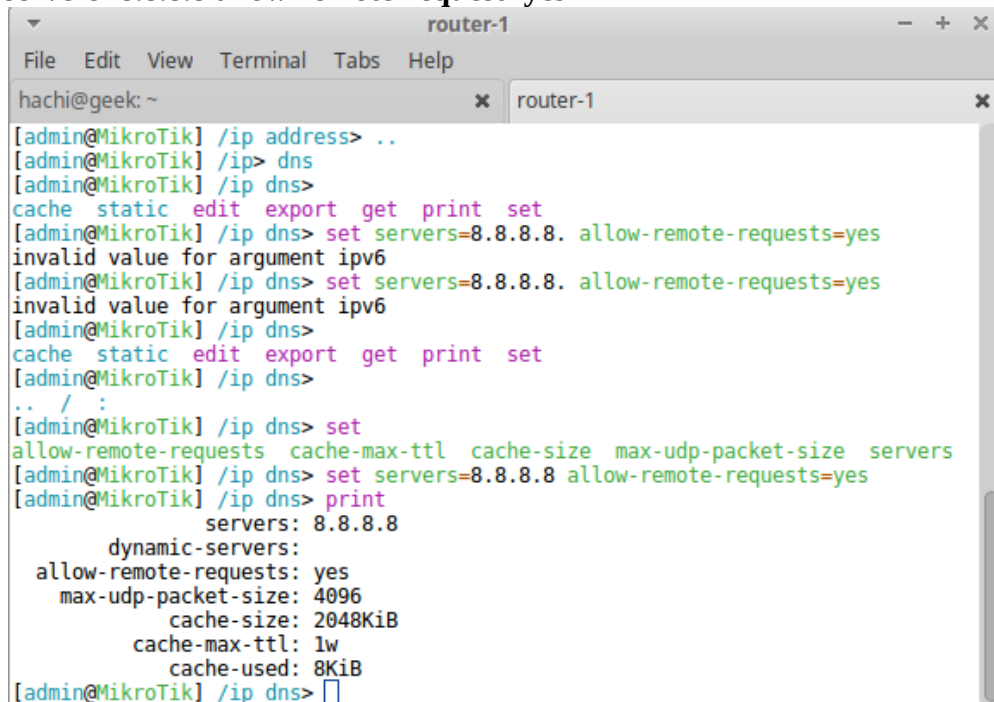
**Buat LAB B address add address=192.168.10.1/25 interface=ether1**

**Buat LAB C address add address=192.168.10.160/30 interface=ether3**

Untuk melihat ip yang sudah disetting menggunakan perintah **address print**

#### 4. Konfigurasi DNS Server

Dengan masuk ke menu **ip dns** dan memasukkan perintah **set servers=8.8.8.8 allow-remote-request=yes**

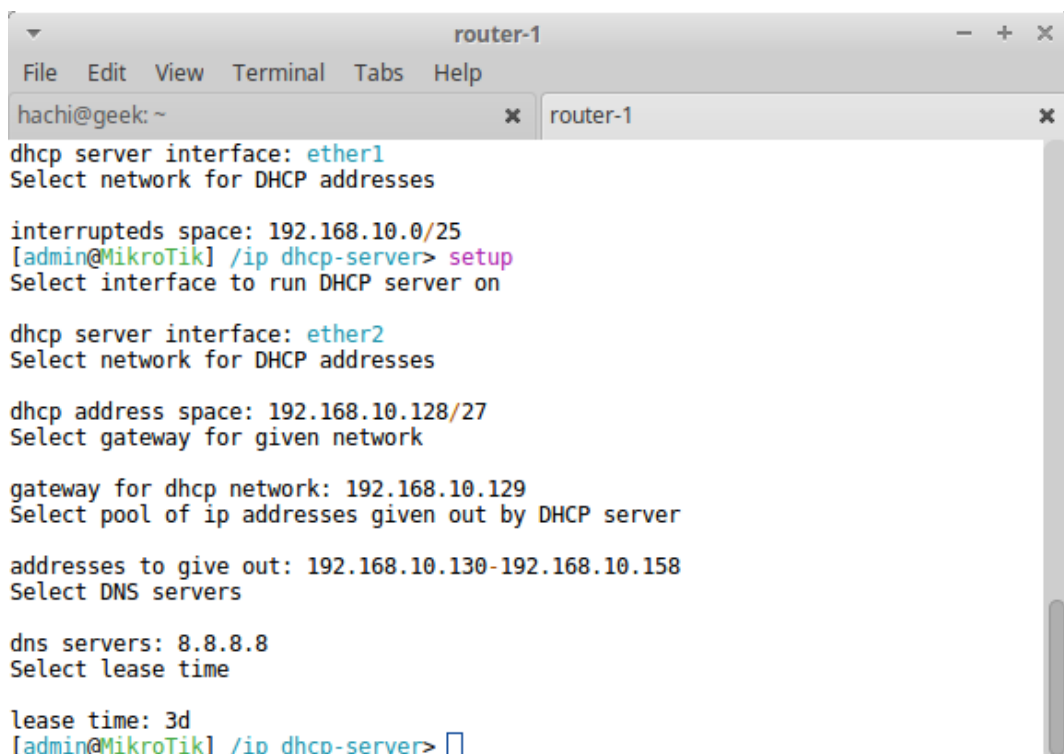


```
router-1
File Edit View Terminal Tabs Help
hachi@geek: ~ x router-1 x
[admin@MikroTik] /ip address> ..
[admin@MikroTik] /ip> dns
[admin@MikroTik] /ip dns>
cache static edit export get print set
[admin@MikroTik] /ip dns> set servers=8.8.8.8. allow-remote-requests=yes
invalid value for argument ipv6
[admin@MikroTik] /ip dns> set servers=8.8.8.8. allow-remote-requests=yes
invalid value for argument ipv6
[admin@MikroTik] /ip dns>
cache static edit export get print set
[admin@MikroTik] /ip dns>
.. / :
[admin@MikroTik] /ip dns> set
allow-remote-requests cache-max-ttl cache-size max-udp-packet-size servers
[admin@MikroTik] /ip dns> set servers=8.8.8.8 allow-remote-requests=yes
[admin@MikroTik] /ip dns> print
servers: 8.8.8.8
dynamic-servers:
allow-remote-requests: yes
max-udp-packet-size: 4096
cache-size: 2048KiB
cache-max-ttl: 1w
cache-used: 8KiB
[admin@MikroTik] /ip dns> □
```

#### 5. Konfigurasi DHCP Server

Dengan masuk ke menu **ip** lalu ketik **dhcp-server setup**

Lalu masukan interface yang mau dipakai disini saya memakai interface **ether2** lalu enter terus sampai selesai



```
router-1
File Edit View Terminal Tabs Help
hachi@geek: ~ x router-1 x
dhcp server interface: ether1
Select network for DHCP addresses

interrupteds space: 192.168.10.0/25
[admin@MikroTik] /ip dhcp-server> setup
Select interface to run DHCP server on

dhcp server interface: ether2
Select network for DHCP addresses

dhcp address space: 192.168.10.128/27
Select gateway for given network

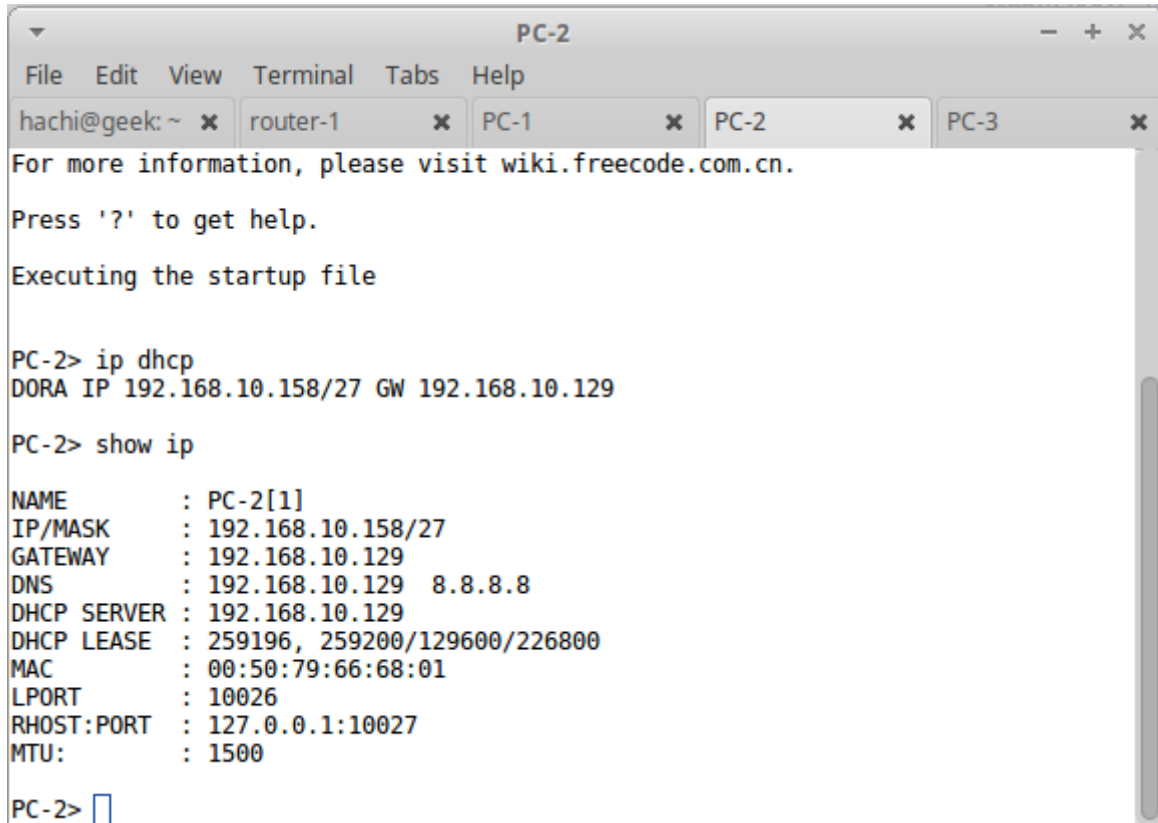
gateway for dhcp network: 192.168.10.129
Select pool of ip addresses given out by DHCP server

addresses to give out: 192.168.10.130-192.168.10.158
Select DNS servers

dns servers: 8.8.8.8
Select lease time

lease time: 3d
[admin@MikroTik] /ip dhcp-server> □
```

6. Aktifkan DHCP Client pada PC LAB A dengan mengetik perintah **ip dhcp** maka secara otomatis akan mendapat IP address, gateway, netmask, dns dll  
Kalau sudah, untuk mengeceknya menggunakan perintah **show ip** maka akan terlihat semua yang didapatkan



```
PC-2
File Edit View Terminal Tabs Help
hachi@geek: ~ x router-1 x PC-1 x PC-2 x PC-3 x
For more information, please visit wiki.freecode.com.cn.
Press '?' to get help.
Executing the startup file

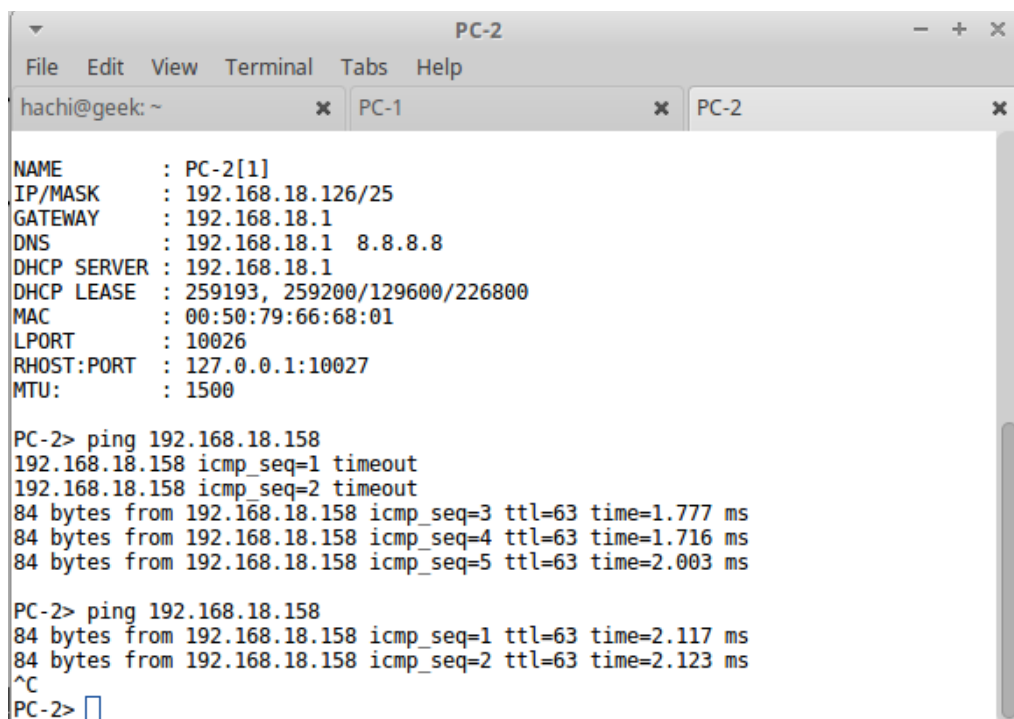
PC-2> ip dhcp
DORA IP 192.168.10.158/27 GW 192.168.10.129

PC-2> show ip

NAME       : PC-2[1]
IP/MASK    : 192.168.10.158/27
GATEWAY    : 192.168.10.129
DNS        : 192.168.10.129 8.8.8.8
DHCP SERVER : 192.168.10.129
DHCP LEASE  : 259196, 259200/129600/226800
MAC        : 00:50:79:66:68:01
LPORT      : 10026
RHOST:PORT  : 127.0.0.1:10027
MTU        : 1500

PC-2> 
```

7. Lakukan konfigurasi pada LAB B dengan cara yang sama seperti diatas  
8. Kalau sudah kita lakukan pengujian ping antar pc  
Ping dari PC 2 Ke PC 1



```
PC-2
File Edit View Terminal Tabs Help
hachi@geek: ~ x PC-1 x PC-2 x

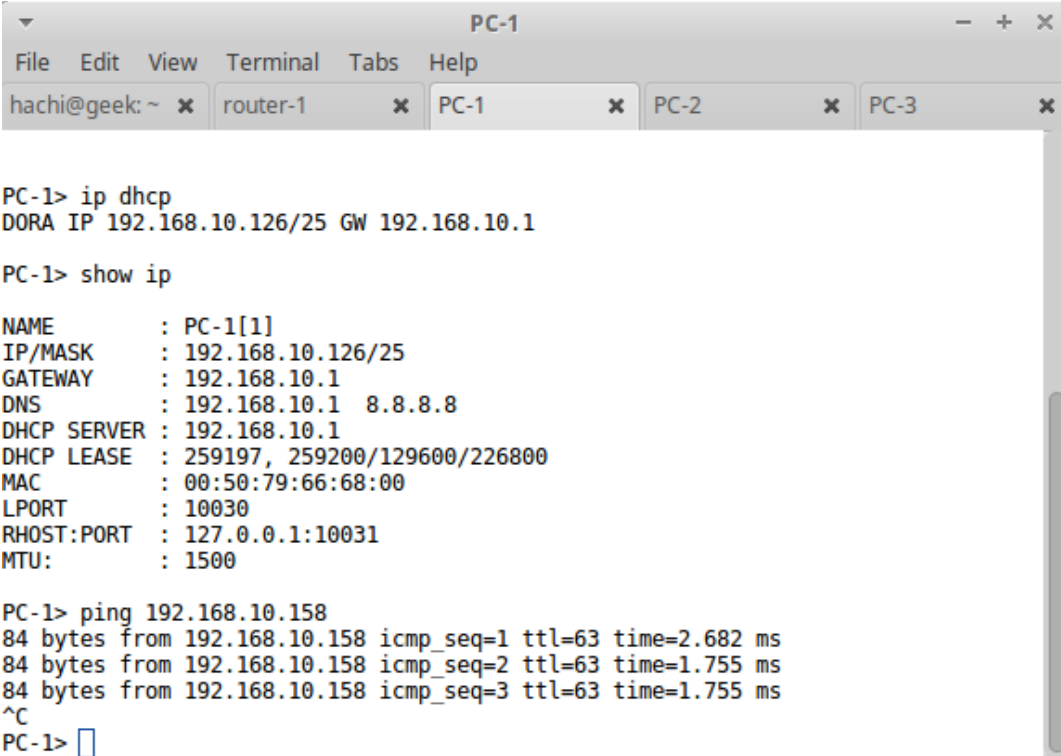
NAME       : PC-2[1]
IP/MASK    : 192.168.18.126/25
GATEWAY    : 192.168.18.1
DNS        : 192.168.18.1 8.8.8.8
DHCP SERVER : 192.168.18.1
DHCP LEASE  : 259193, 259200/129600/226800
MAC        : 00:50:79:66:68:01
LPORT      : 10026
RHOST:PORT  : 127.0.0.1:10027
MTU        : 1500

PC-2> ping 192.168.18.158
192.168.18.158 icmp_seq=1 timeout
192.168.18.158 icmp_seq=2 timeout
84 bytes from 192.168.18.158 icmp_seq=3 ttl=63 time=1.777 ms
84 bytes from 192.168.18.158 icmp_seq=4 ttl=63 time=1.716 ms
84 bytes from 192.168.18.158 icmp_seq=5 ttl=63 time=2.003 ms

PC-2> ping 192.168.18.158
84 bytes from 192.168.18.158 icmp_seq=1 ttl=63 time=2.117 ms
84 bytes from 192.168.18.158 icmp_seq=2 ttl=63 time=2.123 ms
^C
PC-2> 
```



Ping dari PC 1 Ke PC 2



The image shows a terminal window titled "PC-1" with a menu bar (File, Edit, View, Terminal, Tabs, Help) and a tab bar showing "hachi@geek: ~", "router-1", "PC-1", "PC-2", and "PC-3". The terminal content shows the following commands and output:

```
PC-1> ip dhcp
DORA IP 192.168.10.126/25 GW 192.168.10.1

PC-1> show ip

NAME       : PC-1[1]
IP/MASK     : 192.168.10.126/25
GATEWAY     : 192.168.10.1
DNS         : 192.168.10.1  8.8.8.8
DHCP SERVER : 192.168.10.1
DHCP LEASE  : 259197, 259200/129600/226800
MAC         : 00:50:79:66:68:00
LPORT      : 10030
RHOST:PORT  : 127.0.0.1:10031
MTU         : 1500

PC-1> ping 192.168.10.158
84 bytes from 192.168.10.158 icmp_seq=1 ttl=63 time=2.682 ms
84 bytes from 192.168.10.158 icmp_seq=2 ttl=63 time=1.755 ms
84 bytes from 192.168.10.158 icmp_seq=3 ttl=63 time=1.755 ms
^C
PC-1> 
```