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Kelas : B

## PRAKTIKUM JARINGAN KOMPUTER

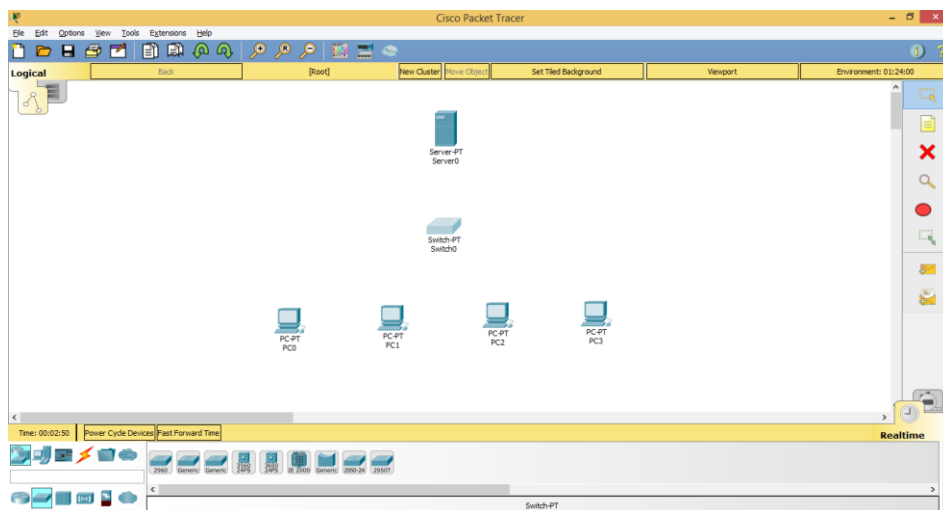
### MODUL 5

### DHCP SERVER DAN WEB SERVER

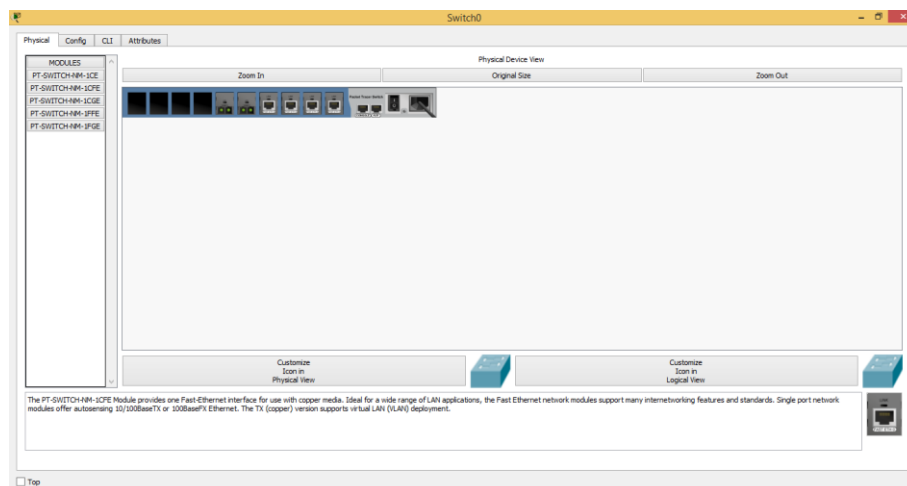
#### ❖ Kegiatan Praktikum

##### 1. Praktikum 1 Membuat DHCP SERVER

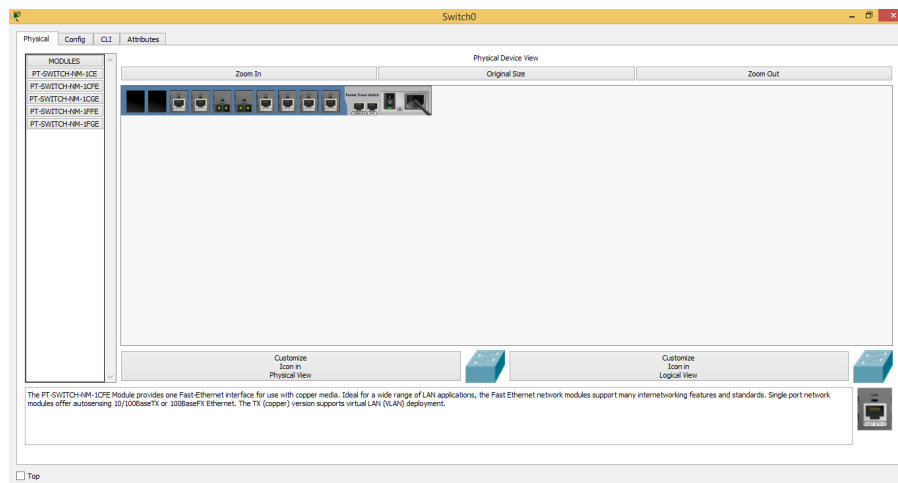
- Menyusun komponen-komponen pada rancangan, yaitu terdiri dari 1 server, 1 switch, dan 4 PC



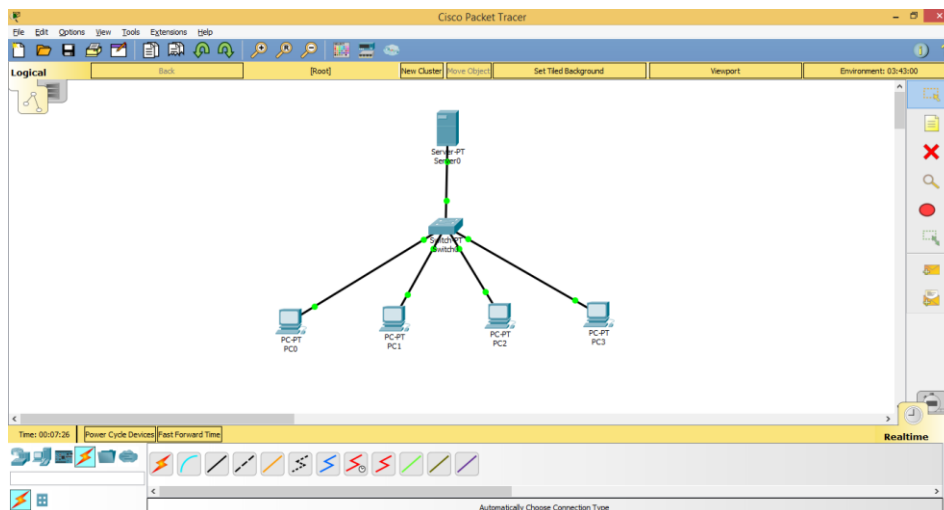
- Mengatur atau menambah port pada switch
  - Memilih PT-SWITCH-NM-1CFE dan mematikan power terlebih dahulu



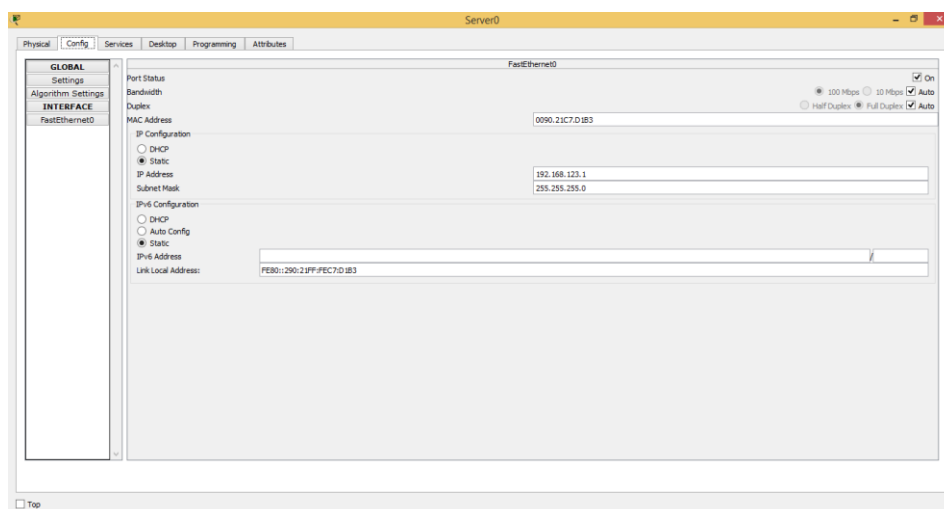
- Menambahkan port dan menyalakan power



- Screenshot dari rancangan DHCP Server

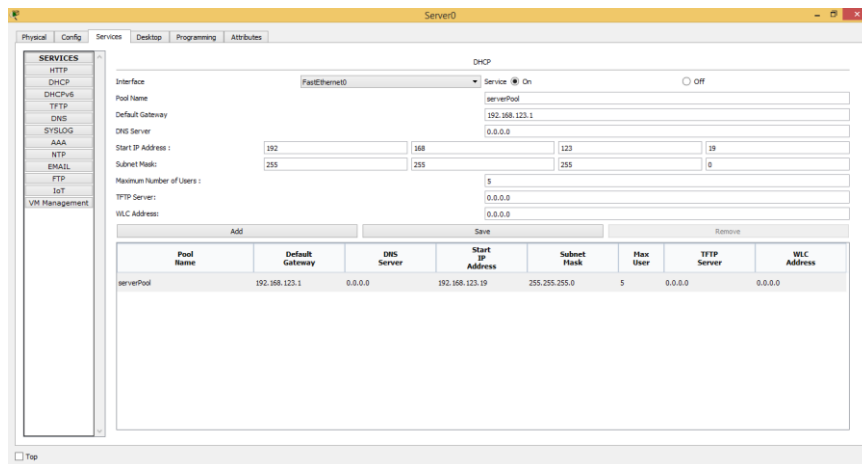


- Double klik Server0, memilih config. Pada menu Interface, pilih Fast-Ethernet. Pada bagian IP Configuration, isikan dengan IP Address server.



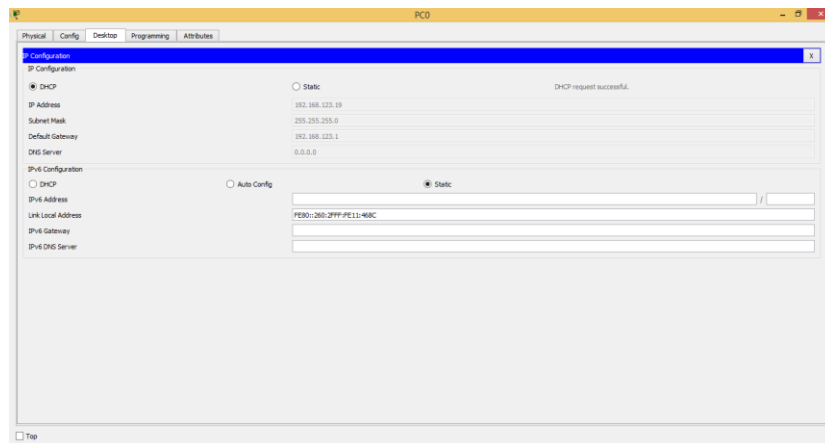
- Untuk konfigurasi DHCP Server pada jendela properties server 0 pada services, DHCP. Pastikan service DHCP On. Isikan blok IP Address yang akan diberikan ke PC

client. Pada start IP Address isikan dengan 192.168.123.19 dan pada maximum number of users = 5.

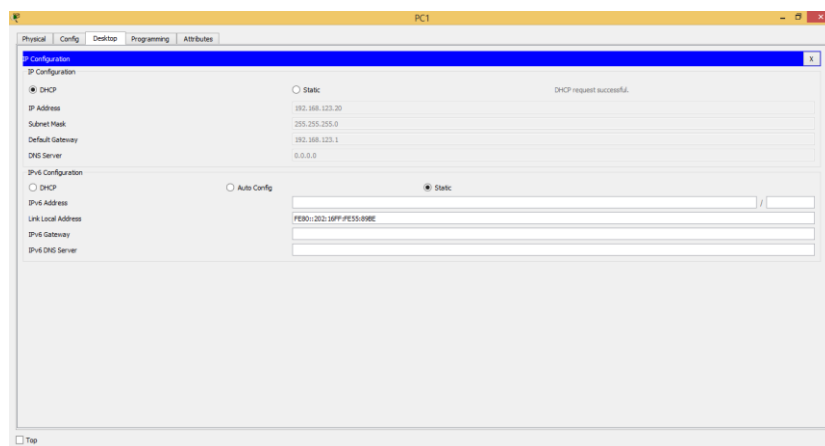


- Pada sisi client konfigurasi dilakukan dengan cara double klik pada PC, pilih tab desktop, pada menu yang ada, pilih menu IP Configuration. Pastikan pilihan radio button pada pilihan DHCP. Setelah konfigurasi selesai, silakan cek IP pada PC tersebut.

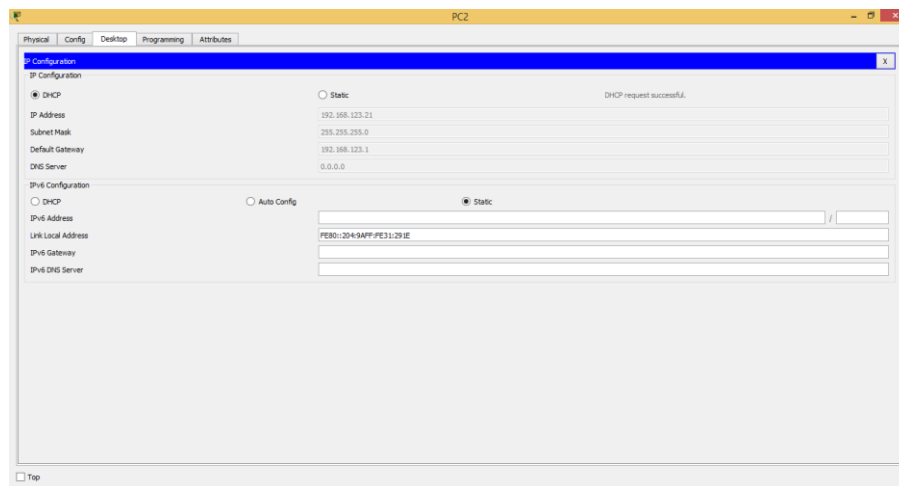
#### ■ PC 0



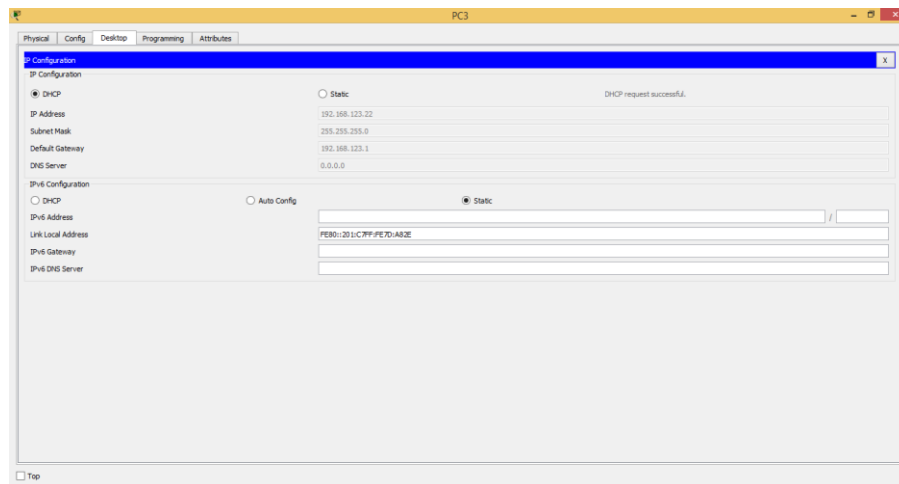
#### ■ PC 1



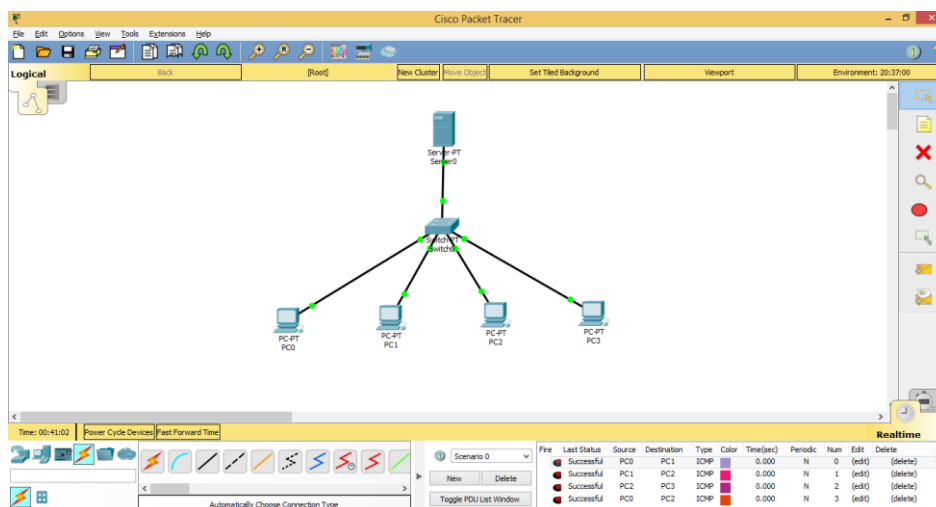
## ■ PC 2



## ■ PC 3



- Setelah selesai konfigurasi semua, ping ke semua PC yang terhubung dengan server DHCP



PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.123.20

Pinging 192.168.123.20 with 32 bytes of data:

Reply from 192.168.123.20: bytes=32 time=2ms TTL=128
Reply from 192.168.123.20: bytes=32 time=4ms TTL=128
Reply from 192.168.123.20: bytes=32 time=7ms TTL=128
Reply from 192.168.123.20: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.123.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 7ms, Average = 3ms

C:\>ping 192.168.123.21

Pinging 192.168.123.21 with 32 bytes of data:

Reply from 192.168.123.21: bytes=32 time=1ms TTL=128
Reply from 192.168.123.21: bytes=32 time=10ms TTL=128
Reply from 192.168.123.21: bytes=32 time=1ms TTL=128
Reply from 192.168.123.21: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.123.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 10ms, Average = 3ms

C:\>ping 192.168.123.22

Pinging 192.168.123.22 with 32 bytes of data:

Reply from 192.168.123.22: bytes=32 time=5ms TTL=128
Reply from 192.168.123.22: bytes=32 time=15ms TTL=128
Reply from 192.168.123.22: bytes=32 time=10ms TTL=128
Reply from 192.168.123.22: bytes=32 time=13ms TTL=128

Ping statistics for 192.168.123.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 5ms, Maximum = 15ms, Average = 10ms
```

☐ Top

PC1

Physical Config Desktop Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.123.19

Pinging 192.168.123.19 with 32 bytes of data:

Reply from 192.168.123.19: bytes=32 time=1ms TTL=128
Reply from 192.168.123.19: bytes=32 time=1ms TTL=128
Reply from 192.168.123.19: bytes=32 time=1ms TTL=128
Reply from 192.168.123.19: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.123.19:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 3ms

C:\>ping 192.168.123.21

Pinging 192.168.123.21 with 32 bytes of data:

Reply from 192.168.123.21: bytes=32 time=1ms TTL=128
Reply from 192.168.123.21: bytes=32 time=15ms TTL=128
Reply from 192.168.123.21: bytes=32 time=1ms TTL=128
Reply from 192.168.123.21: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.123.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 15ms, Average = 3ms

C:\>ping 192.168.123.22

Pinging 192.168.123.22 with 32 bytes of data:

Reply from 192.168.123.22: bytes=32 time=1ms TTL=128
Reply from 192.168.123.22: bytes=32 time=5ms TTL=128
Reply from 192.168.123.22: bytes=32 time=1ms TTL=128
Reply from 192.168.123.22: bytes=32 time=8ms TTL=128

Ping statistics for 192.168.123.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 8ms, Average = 3ms
```

☐ Top

PC2

Physical Config Desktop Programming Attributes

Command Prompt

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.123.19

Pinging 192.168.123.19 with 32 bytes of data:

Reply from 192.168.123.19: bytes=32 time=1ms TTL=128
Reply from 192.168.123.19: bytes=32 time=5ms TTL=128
Reply from 192.168.123.19: bytes=32 time=5ms TTL=128
Reply from 192.168.123.19: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.123.19:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 5ms, Average = 3ms

C:\>ping 192.168.123.20

Pinging 192.168.123.20 with 32 bytes of data:

Reply from 192.168.123.20: bytes=32 time=1ms TTL=128
Reply from 192.168.123.20: bytes=32 time=4ms TTL=128
Reply from 192.168.123.20: bytes=32 time=7ms TTL=128
Reply from 192.168.123.20: bytes=32 time=10ms TTL=128

Ping statistics for 192.168.123.20:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 10ms, Average = 3ms

C:\>ping 192.168.123.22

Pinging 192.168.123.22 with 32 bytes of data:

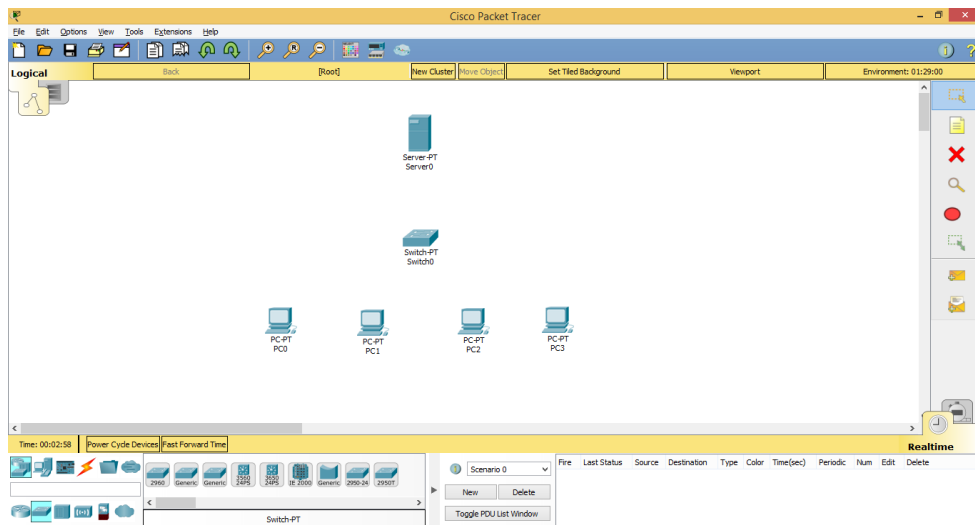
Reply from 192.168.123.22: bytes=32 time=1ms TTL=128
Reply from 192.168.123.22: bytes=32 time=1ms TTL=128
Reply from 192.168.123.22: bytes=32 time=1ms TTL=128
Reply from 192.168.123.22: bytes=32 time=15ms TTL=128

Ping statistics for 192.168.123.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 15ms, Average = 3ms
```

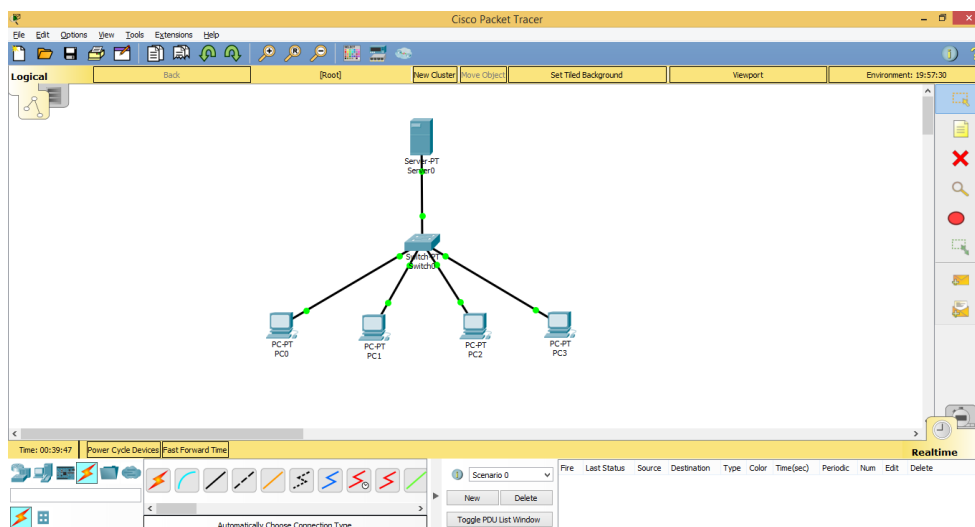
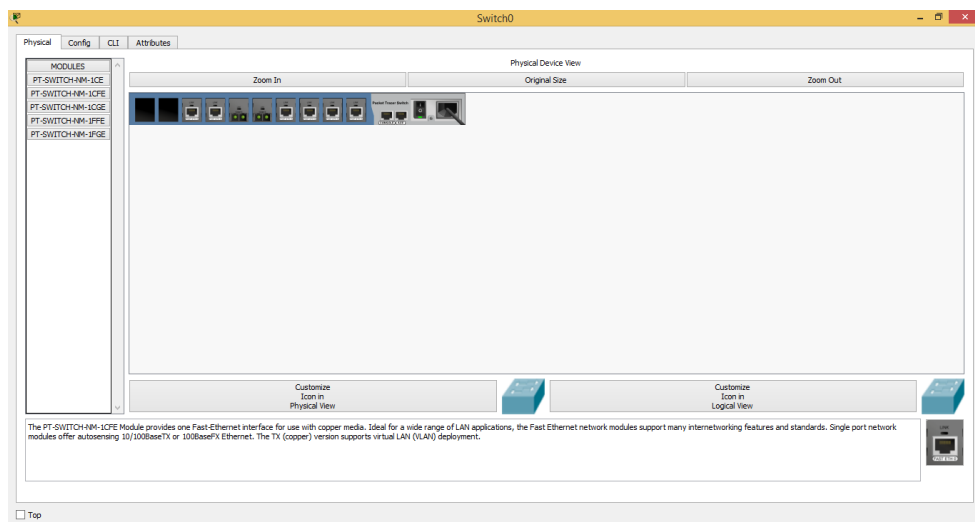
☐ Top

## 2. Praktikum 2 Membuat Web Server

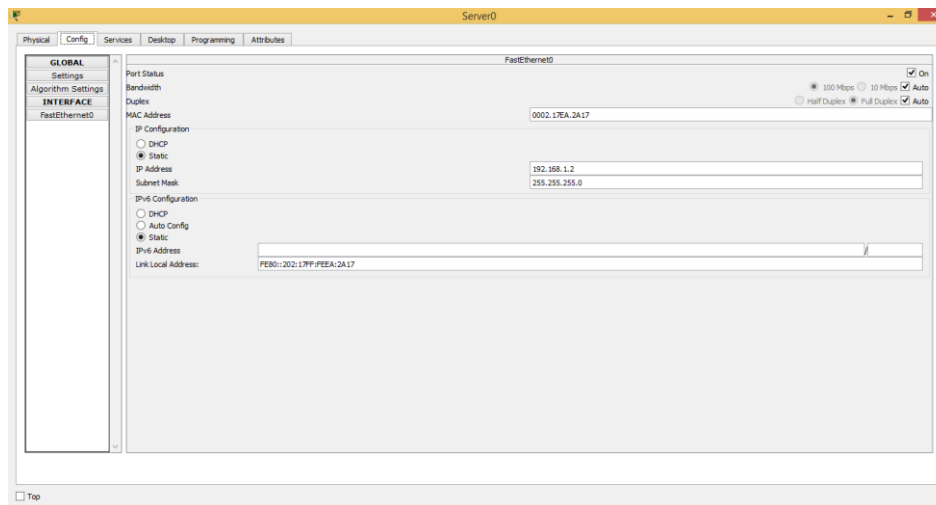
- Menyusun komponen-komponen pada rancangan, yaitu terdiri dari 1 server, 1 switch, dan 4 PC



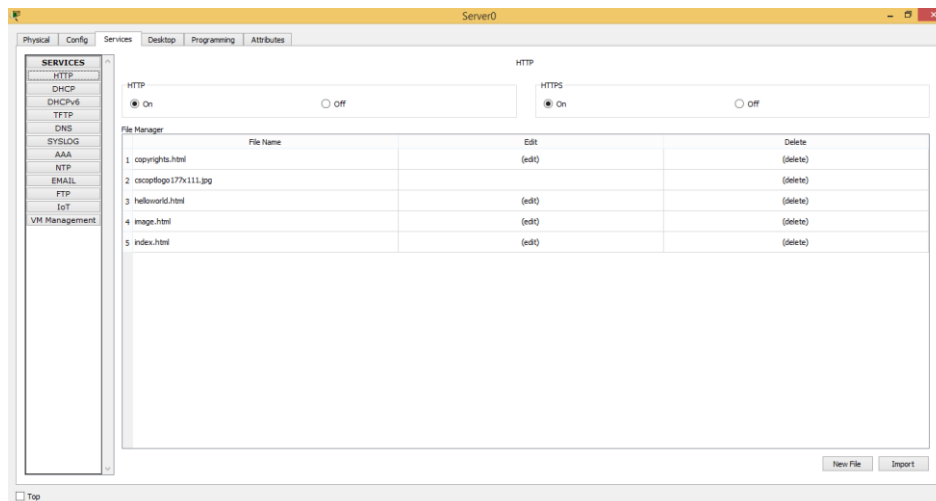
- Menambahkan port kemudian menghubungkan komponen-komponen dengan kabel



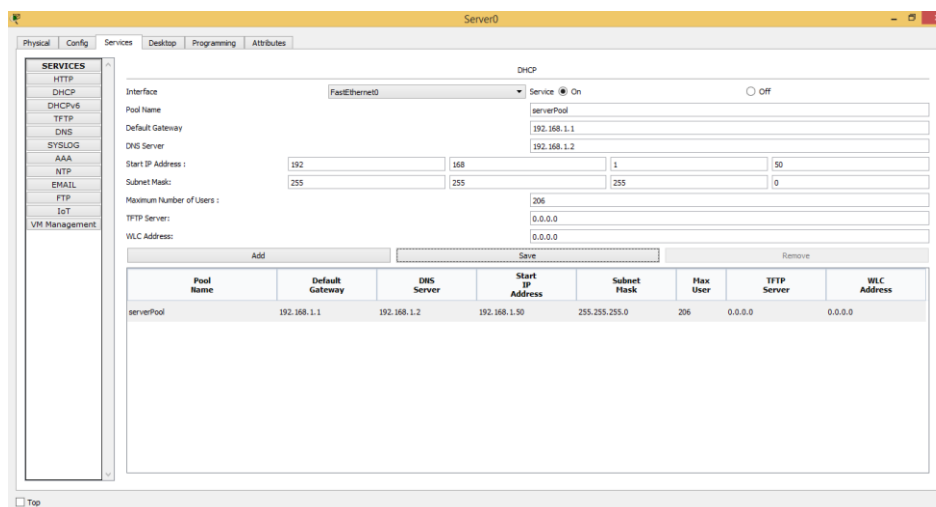
- Double klik Server0, memilih config. Pada menu Interface, pilih Fast-Ethernet. Pada bagian IP Configuration, isikan dengan IP Address server.



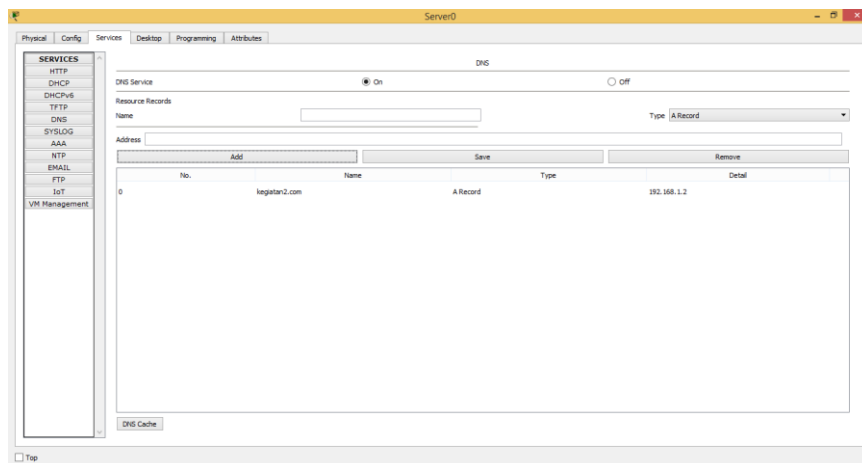
- Memastikan radio button service HTTP pada pilihan on



- Mengatur pada service DHCP

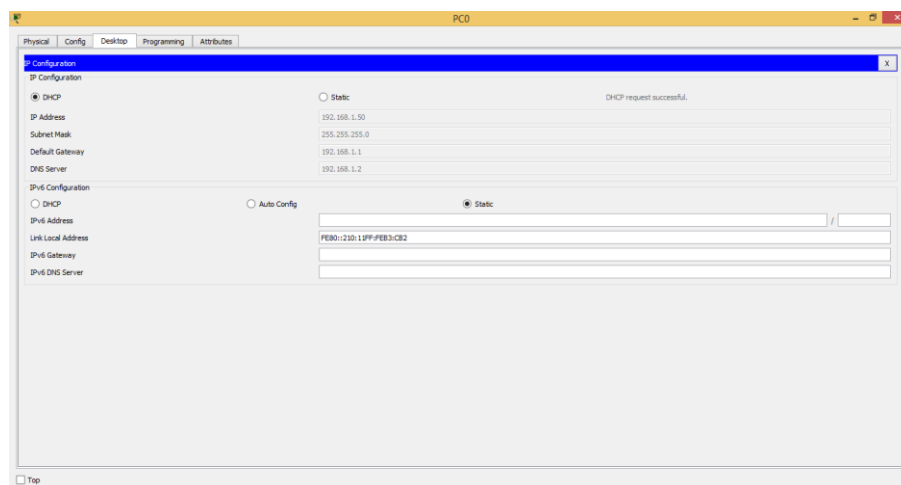


- Mengatur pada service DNS

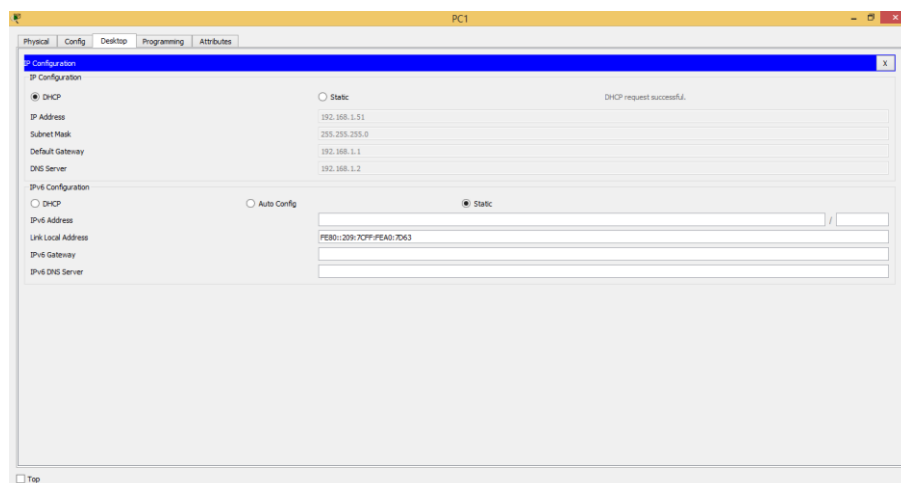


- Pada sisi client konfigurasi dilakukan dengan cara double klik pada PC, pilih tab desktop, pada menu yang ada, pilih menu IP Configuration. Pastikan pilihan radio button pada pilihan DHCP. Setelah konfigurasi selesai, silakan cek IP pada PC tersebut.

#### ■ PC0

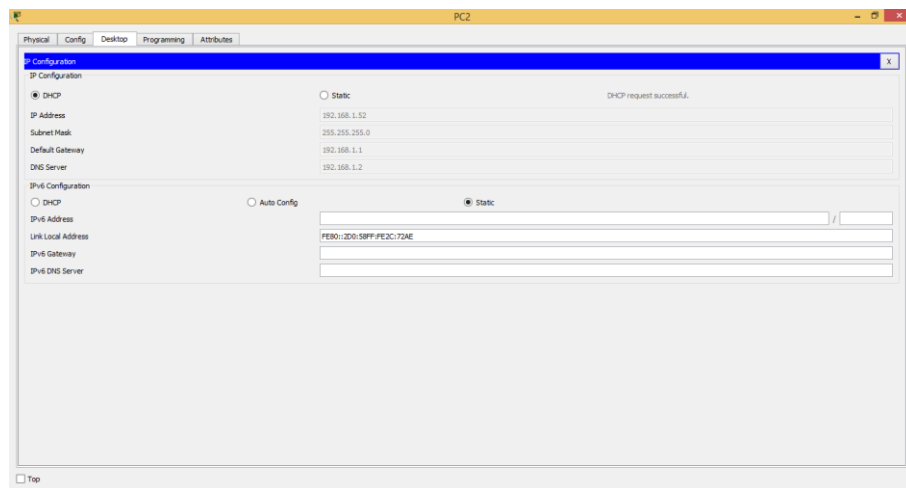


#### ■ PC1

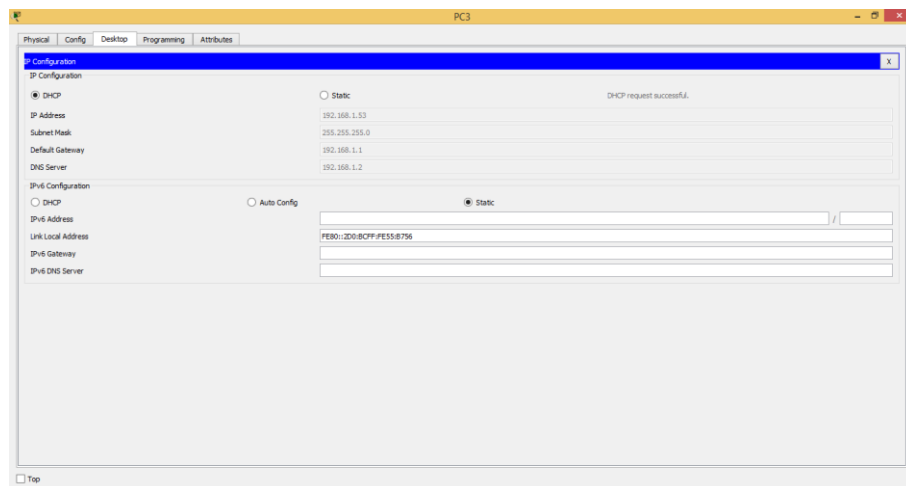




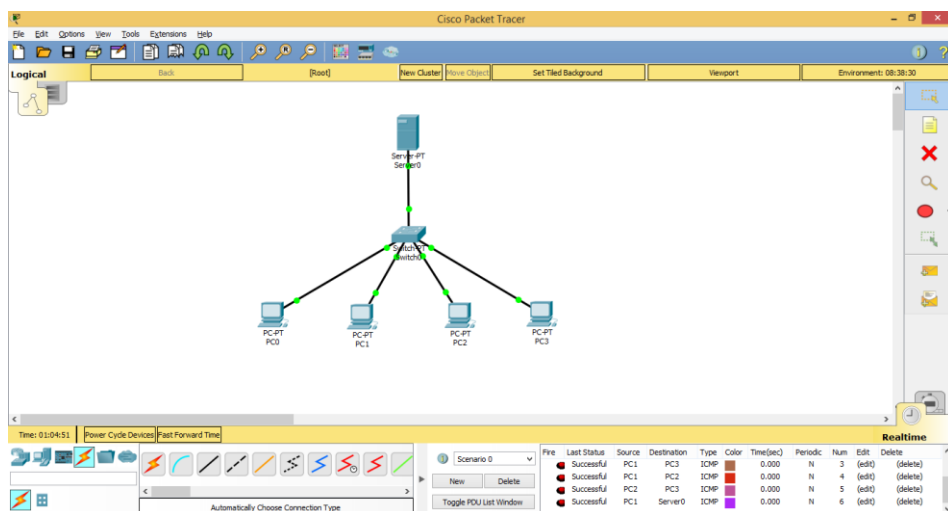
## ■ PC2



## ■ PC3



- Setelah selesai konfigurasi semua, ping ke semua PC yang terhubung dengan server DHCP



```
PC0
Physical Config Desktop Programming Attributes
Command Prompt
Pinging 192.168.1.51 with 32 bytes of data:
Reply from 192.168.1.51: bytes=32 time=1ms TTL=128
Reply from 192.168.1.51: bytes=32 time=0ms TTL=128
Reply from 192.168.1.51: bytes=32 time=1ms TTL=128
Reply from 192.168.1.51: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.51:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 20ms, Average = 10ms

C:\>ping 192.168.1.52

Pinging 192.168.1.52 with 32 bytes of data:
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128
Reply from 192.168.1.52: bytes=32 time=0ms TTL=128
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.52:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 20ms, Average = 11ms

C:\>ping 192.168.1.53

Pinging 192.168.1.53 with 32 bytes of data:
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.53:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 19ms, Average = 12ms

C:\>
```

```
PC1
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.52

Pinging 192.168.1.52 with 32 bytes of data:
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128
Reply from 192.168.1.52: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.1.52:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 21ms, Average = 15ms

C:\>ping 192.168.1.53

Pinging 192.168.1.53 with 32 bytes of data:
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.1.53:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 23ms, Average = 10ms

C:\>
```

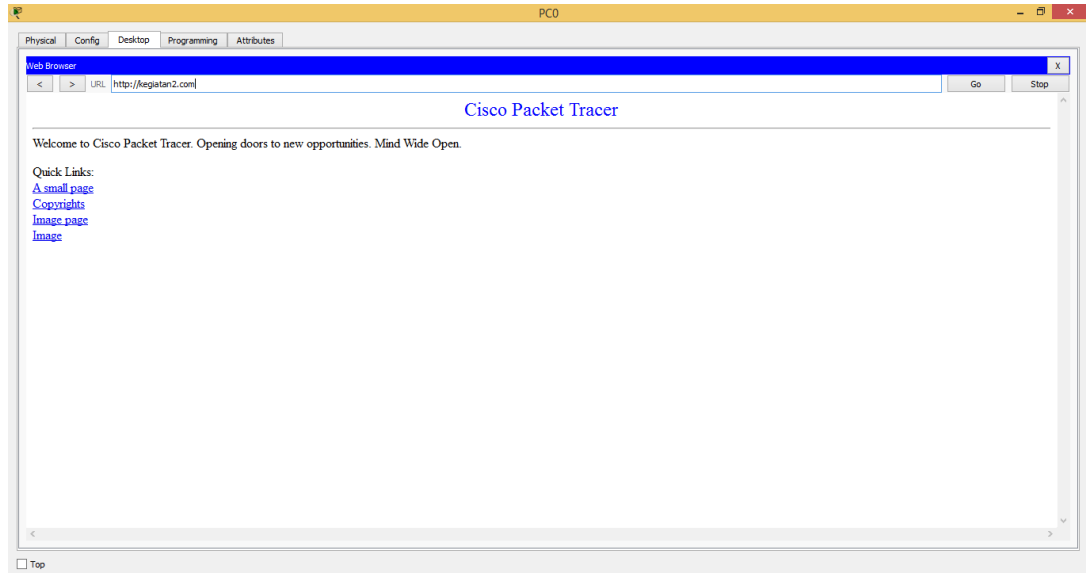
```
PC2
Physical Config Desktop Programming Attributes
Command Prompt
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.1.53

Pinging 192.168.1.53 with 32 bytes of data:
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=1ms TTL=128
Reply from 192.168.1.53: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.1.53:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 20ms, Average = 14ms

C:\>
```

- Melakukan browsing HTTP dengan cara double klik PC0 sehingga muncul jendela properties PC0. Pilih tab desktop, pada daftar menu, pilih web browser. Ketika jendela web browser muncul, ketikkan kegiatan2.com Sesaat setelah itu akan dihasilkan halaman web pada Server0 di web browser PC0.

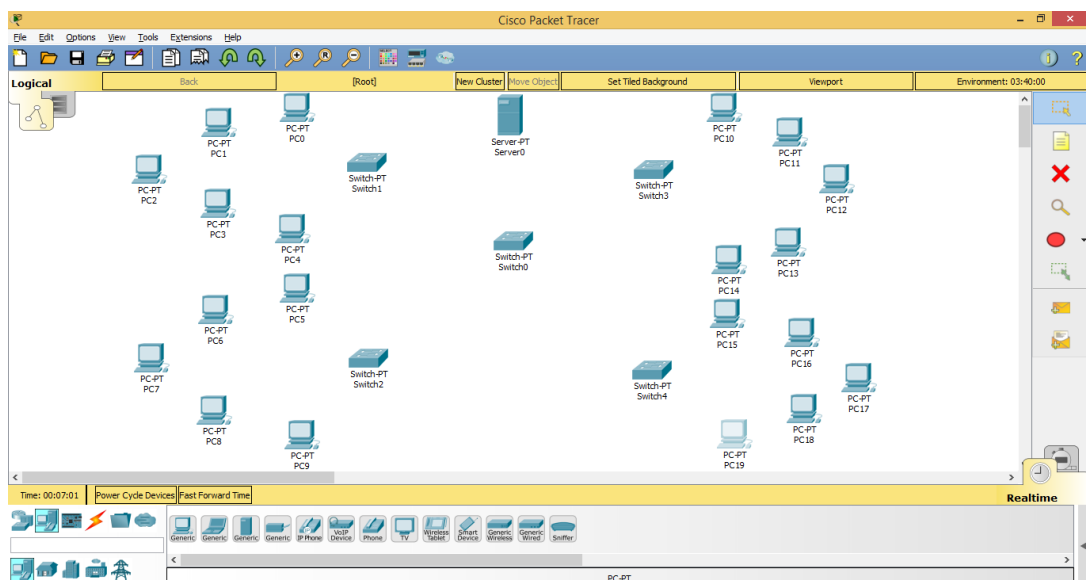


## ❖ Tugas

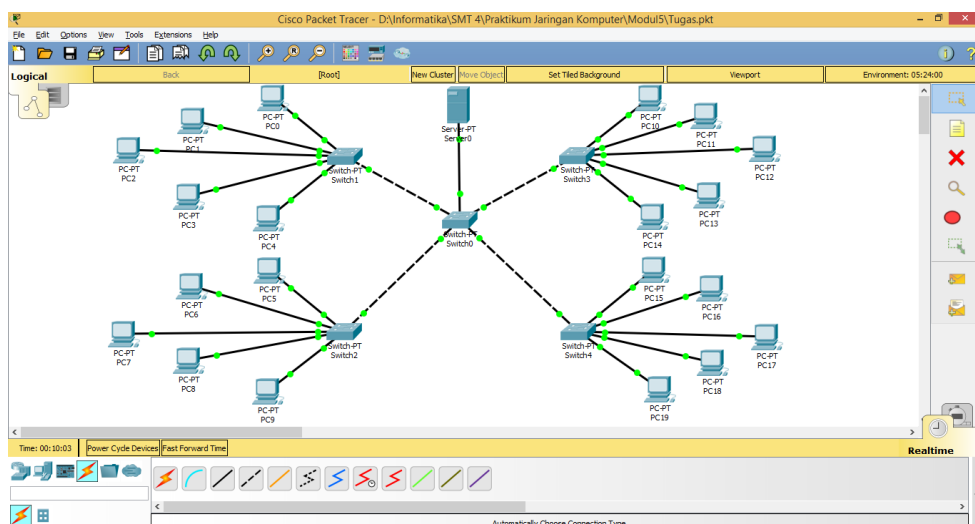
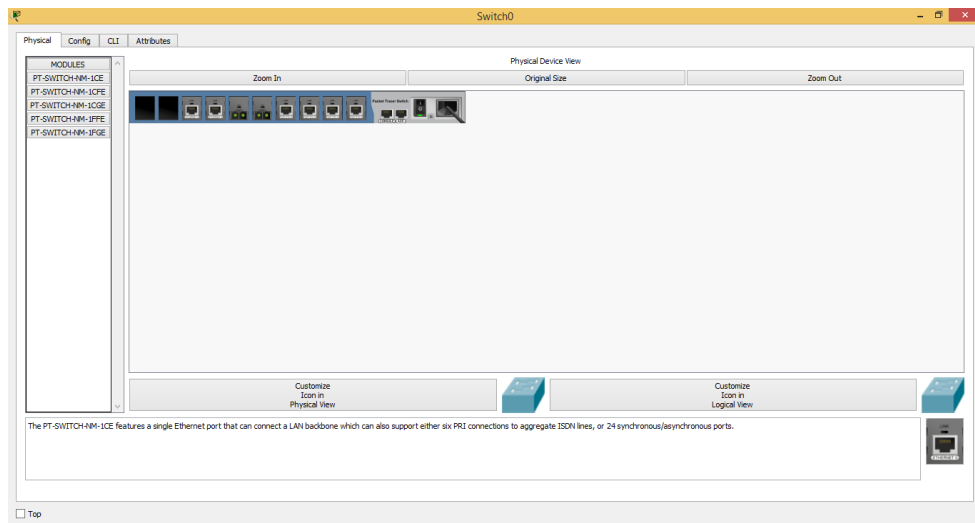
- 1) Buatlah DHCP Server dengan packet tracer dengan client terdiri dari 20 PC!

Jawab:

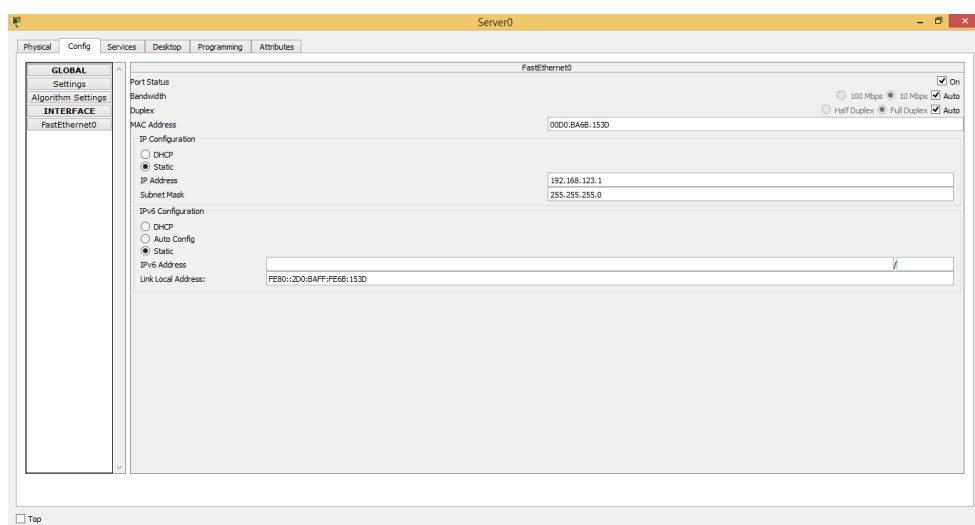
- Menyusun komponen – komponen yang terdiri dari 1 server, 5 switch, dan 20 PC



- Menambahkan port pada switch kemudian menghubungkan komponen-komponen dengan kabel



- Double klik Server0, memilih config. Pada menu Interface, pilih Fast-Ethernet. Pada bagian IP Configuration, isikan dengan IP Address server.

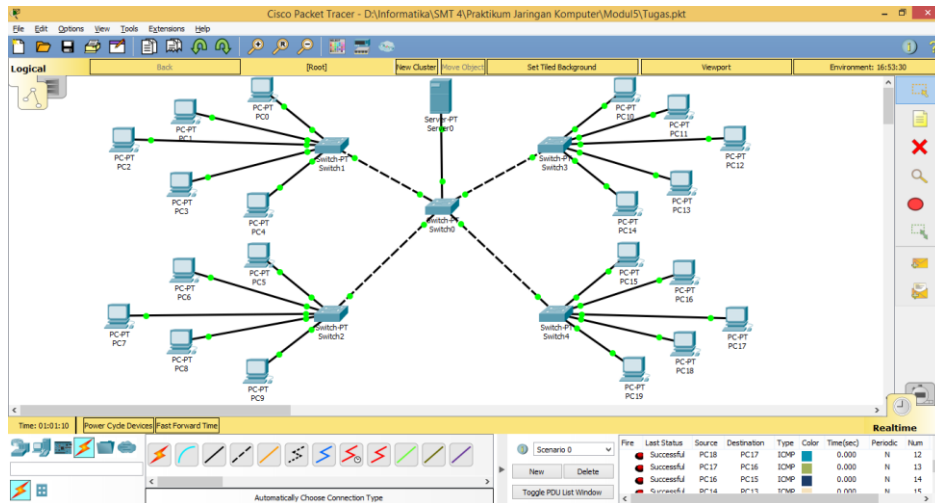


- Untuk konfigurasi DHCP Server pada jendela properties server 0 pada services, DHCP. Pastikan service DHCP On. Isikan blok IP Address yang akan diberikan ke PC client. Pada start IP Address isikan dengan 192.168.123.19 dan pada maximum number of users = 20.

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	192.168.123.1	0.0.0.0	192.168.123.19	255.255.255.0	20	0.0.0.0	0.0.0.0

- Pada sisi client konfigurasi dilakukan dengan cara double klik pada PC, pilih tab desktop, pada menu yang ada, pilih menu IP Configuration. Pastikan pilihan radio button pada pilihan DHCP. Setelah konfigurasi selesai, silakan cek IP pada PC tersebut.

- Setelah selesai konfigurasi semua, ping ke semua PC yang terhubung dengan server DHCP



The screenshot shows a Windows PC with a taskbar at the top containing icons for File Explorer, Google Chrome, and a Command Prompt window. The Command Prompt window is titled "Command Prompt" and has a blue header bar. It displays the results of three ping tests performed from the IP address 192.168.123.21 to different destination IP addresses.

The first test is to 192.168.123.21, showing a successful connection with a 0% loss and an average round trip time of 18ms.

The second test is to 192.168.123.25, also showing a successful connection with a 0% loss and an average round trip time of 19ms.

The third test is to 192.168.123.32, showing a successful connection with a 0% loss and an average round trip time of 20ms.

At the bottom of the Command Prompt window, there is a "Top" button.

```

Physical  Config  Desktop  Programming  Attributes
Command Prompt

Pinging 192.168.123.21 with 32 bytes of data:

Reply from 192.168.123.21: bytes=32 time=31ms TTL=128
Reply from 192.168.123.21: bytes=32 time=15ms TTL=128
Reply from 192.168.123.21: bytes=32 time=24ms TTL=128
Reply from 192.168.123.21: bytes=32 time=7ms TTL=128

Ping statistics for 192.168.123.21:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 31ms, Average = 18ms

C:\>ping 192.168.123.25

Pinging 192.168.123.25 with 32 bytes of data:

Reply from 192.168.123.25: bytes=32 time=67ms TTL=128
Reply from 192.168.123.25: bytes=32 time=24ms TTL=128
Reply from 192.168.123.25: bytes=32 time=13ms TTL=128
Reply from 192.168.123.25: bytes=32 time=21ms TTL=128

Ping statistics for 192.168.123.25:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 13ms, Maximum = 67ms, Average = 31ms

C:\>ping 192.168.123.32

Pinging 192.168.123.32 with 32 bytes of data:

Reply from 192.168.123.32: bytes=32 time=34ms TTL=128
Reply from 192.168.123.32: bytes=32 time=28ms TTL=128
Reply from 192.168.123.32: bytes=32 time=15ms TTL=128
Reply from 192.168.123.32: bytes=32 time=6ms TTL=128

Ping statistics for 192.168.123.32:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 34ms, Average = 20ms

C:\>ping 192.168.123.38
  
```

The screenshot shows a Windows Firewall log with the following details:

- Log Name:** Windows Firewall
- Source:** 192.168.123.19
- Destination:** 192.168.123.24
- Protocol:** TCP
- Port:** 135
- Reason:** The connection is blocked because the application is not allowed to communicate through the firewall.
- Time:** 12/1/2011 1:11:11 PM
- User:** Administrator

The log also shows the following details for each entry:

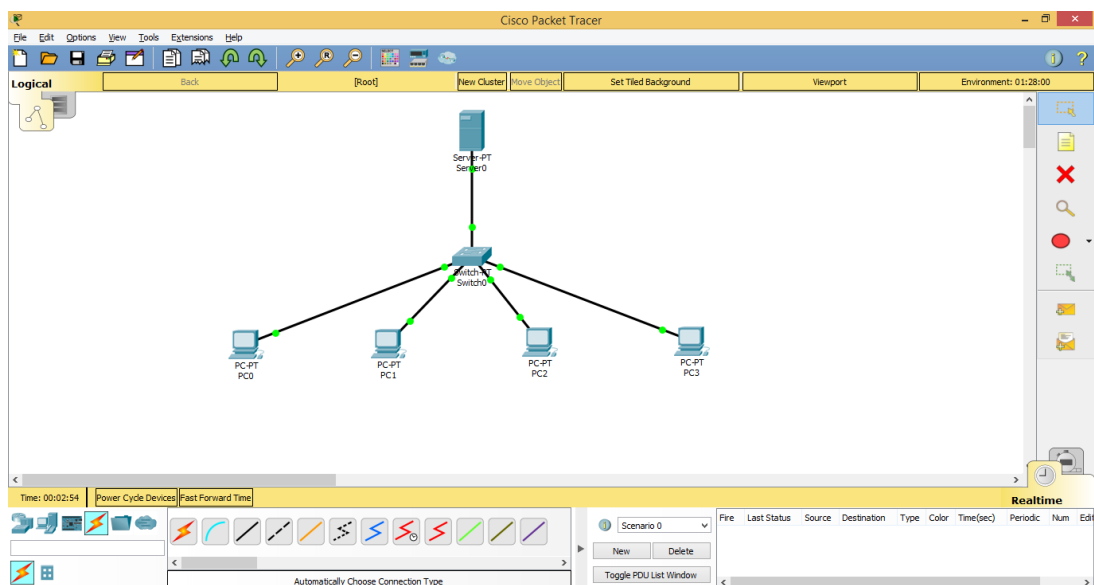
- Source IP:** 192.168.123.19
- Destination IP:** 192.168.123.24
- Protocol:** TCP
- Port:** 135
- Reason:** The connection is blocked because the application is not allowed to communicate through the firewall.
- Time:** 12/1/2011 1:11:11 PM
- User:** Administrator

2) Buatlah web server pada packet tracer, dengan mengubah tampilan pada web tersebut dengan isi:

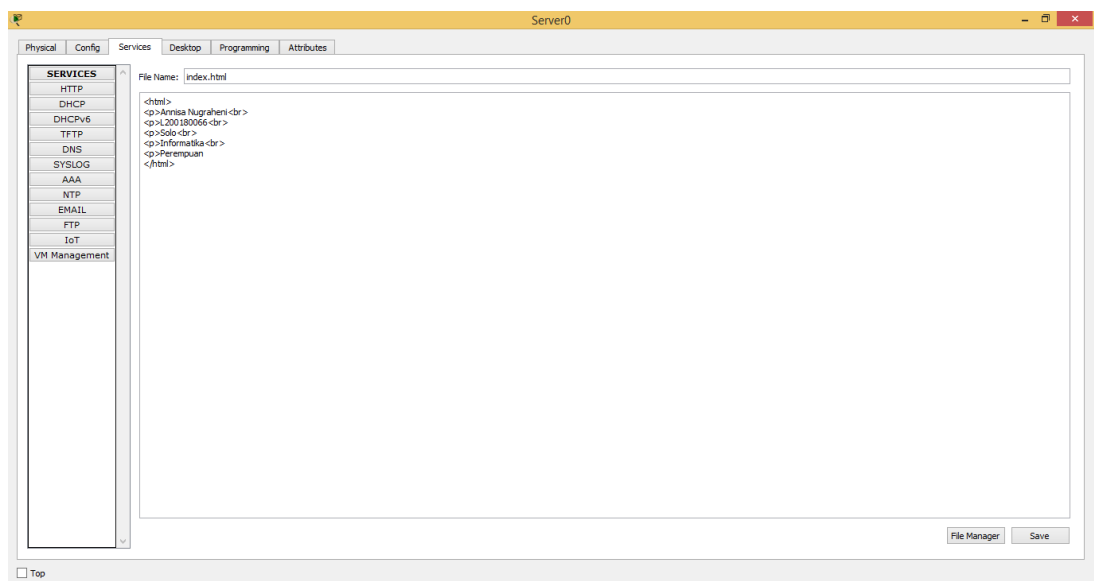
- a. Nama
- b. NIM
- c. Alamat
- d. Jurusan
- e. Jenis Kelamin

Jawab:

- Merancang DHCP Server



- Mengubah index.html pada HTTP



- Berikut adalah screenshot tampilan pada web browser:

