

COMPUTER NETWORKS  
PRACTICUM 5



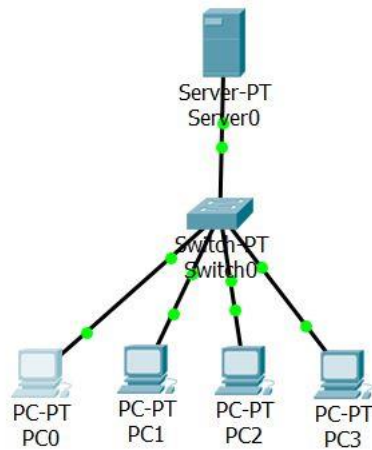
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INFORMATION STUDY PROGRAM  
COMMUNICATION AND INFORMATION FACULTY  
MUHAMMADIYAH UNIVERSITY OF SURAKARTA  
2020

# Practicum Activities

## 1. PRACTICUM 1 MAKE DHCP SERVER

- Layout of DHCP Server



- Configure DHCP Server on Server 0

The screenshot shows the configuration window for Server0. The left sidebar displays a network diagram with the server connected to a switch, which is then connected to four PCs. The main window is divided into tabs: Physical, Config, Services, Desktop, Programming, and Attributes. The 'Config' tab is active, showing the 'FastEthernet0' interface configuration. The 'IP Configuration' section is set to 'Static' with an IP address of 192.168.123.1 and a subnet mask of 255.255.255.0. The 'IPv6 Configuration' section is also set to 'Static' with an IPv6 address of FE80::205:5EFF:FE73:972A and a link local address of FE80::205:5EFF:FE73:972A. The 'Port Status' is 'On', 'Bandwidth' is '100 Mbps', and 'Duplex' is 'Full Duplex'. The 'MAC Address' is 0005.5E73.972A.

➤ Service on server 0

The screenshot shows the 'Server0' configuration window with the 'Services' tab selected. On the left, a 'SERVICES' list includes HTTP, DHCP, DHCPv6, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP, IoT, and VM Management. The 'DHCP' service is configured for the 'FastEthernet0' interface, with the 'Service' set to 'On'. The configuration fields are as follows:

- Interface: FastEthernet0
- Service: ☒ On ☐ Off
- Pool Name: serverPool
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0
- Start IP Address: 192, 168, 123, 19
- Subnet Mask: 255, 255, 255, 0
- Maximum Number of Users: 5
- TFTP Server: 0.0.0.0
- WLC Address: 0.0.0.0

Buttons for 'Add', 'Save', and 'Remove' are present. Below the configuration fields is a table showing the DHCP pool configuration:

| Pool Name  | Default Gateway | DNS Server | Start IP Address | Subnet Mask | Max Use | TFTP Server | WLC Address |
|------------|-----------------|------------|------------------|-------------|---------|-------------|-------------|
| serverPool | 0.0.0.0         | 0.0.0.0    | 192.16...        | 255.25...   | 5       | 0.0.0.0     | 0.0.0.0     |

A 'Top' button is located at the bottom left of the window.

➤ IP Configuration on PC

The screenshot shows the 'PC0' configuration window with the 'IP Configuration' section selected. It contains two main configuration areas:

**IP Configuration**

- ☒ DHCP ☐ Static
- IP Address: 192.168.123.20
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

**IPv6 Configuration**

- ☐ DHCP ☐ Auto Config ☒ Static
- IPv6 Address: [Empty field] / [Empty field]
- Link Local Address: FE80::260:70FF:FE99:1046
- IPv6 Gateway: [Empty field]
- IPv6 DNS Server: [Empty field]

A 'Top' button is located at the bottom left of the window.

PC1

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☒ DHCP ☐ Static

IP Address 192.168.123.19

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:F9FF:FE7C:8B60

IPv6 Gateway

IPv6 DNS Server

Top

PC2

Physical Config Desktop Programming Attributes

IP Configuration

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IP Address 192.168.123.21

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:BCFF:FEC6:E4D5

IPv6 Gateway

IPv6 DNS Server

Top

PC3

PhysicalConfigDesktopProgrammingAttributes

IP Configuration

X

IP Configuration

☒ DHCP

☐ Static

DHCP request successful.

IP Address

192.168.123.22

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

☒ Static

IPv6 Address

/

Link Local Address

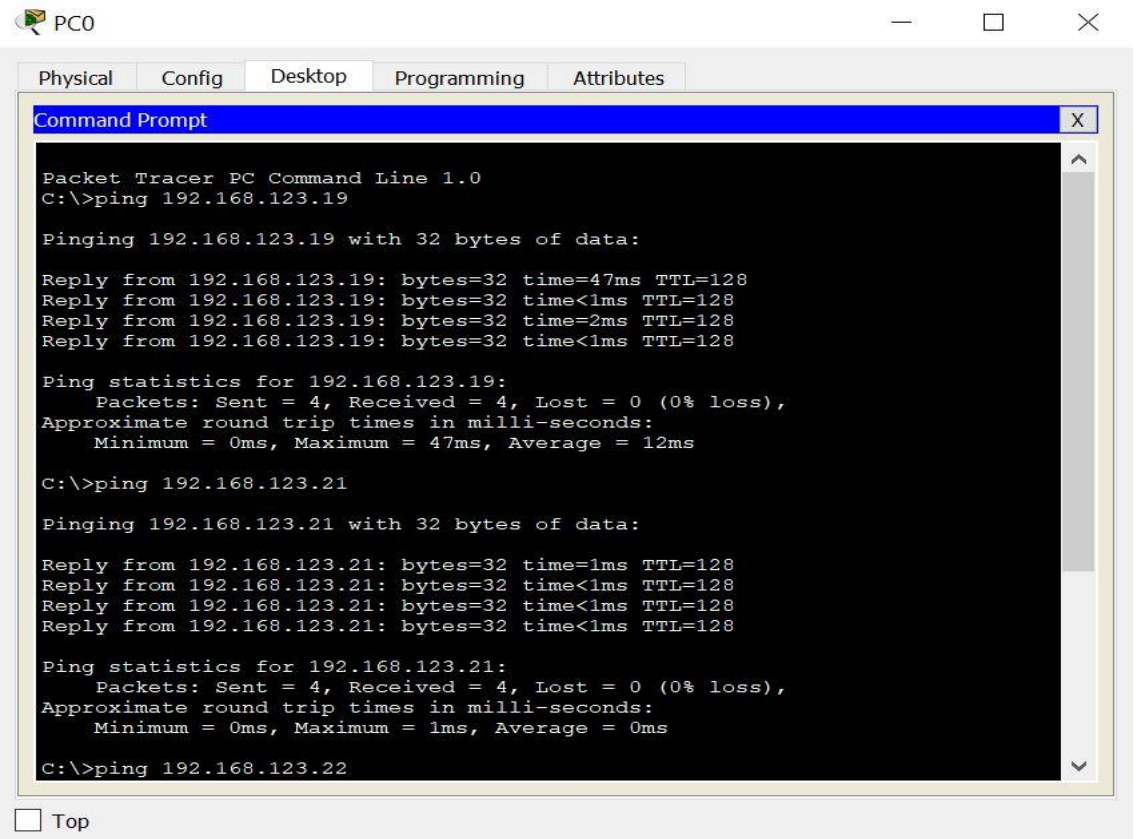
FE80::260:2FFF:FE42:C862

IPv6 Gateway

IPv6 DNS Server

☐ Top

➤ Ping the entire PC



PC0

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=47ms TTL=128
Reply from 192.168.123.19: bytes=32 time<1ms TTL=128
Reply from 192.168.123.19: bytes=32 time=2ms 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 = 47ms, Average = 12ms

C:\>ping 192.168.123.21

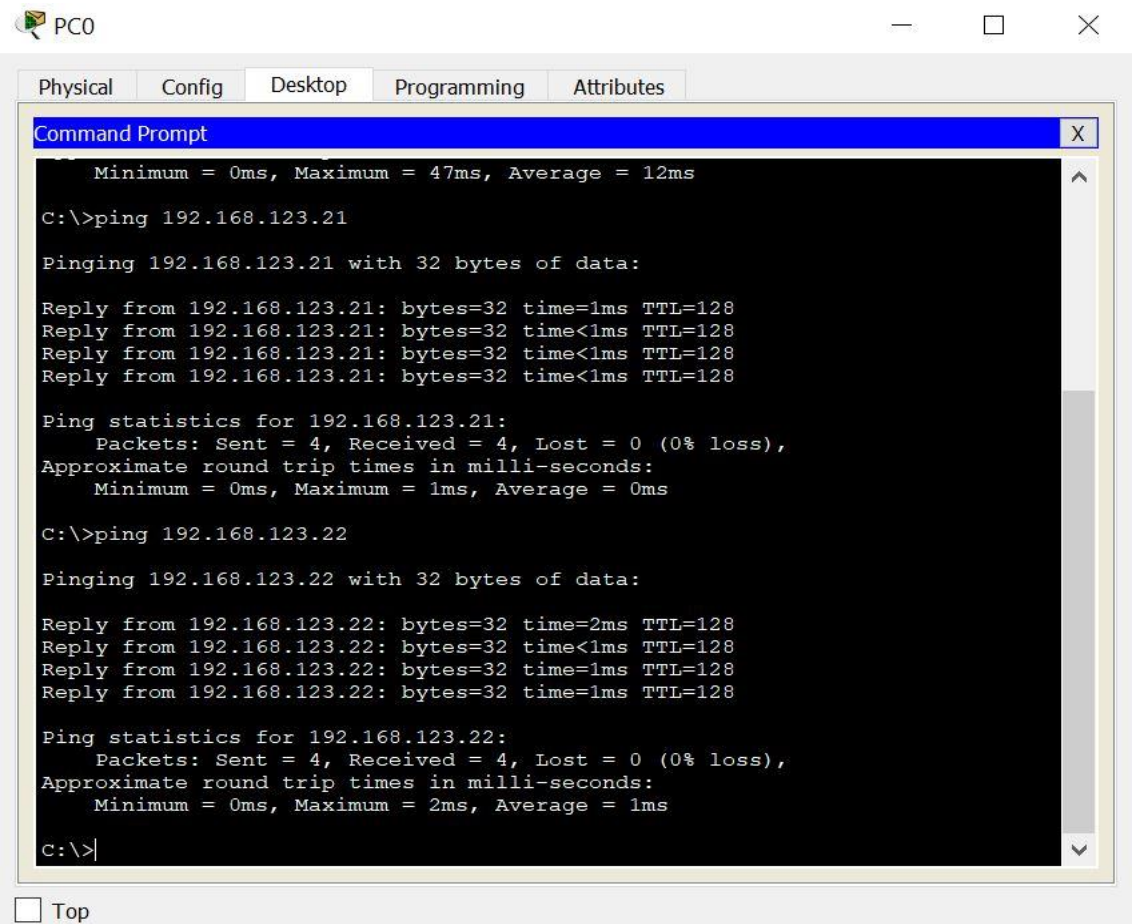
Pinging 192.168.123.21 with 32 bytes of data:

Reply from 192.168.123.21: bytes=32 time=1ms TTL=128
Reply from 192.168.123.21: bytes=32 time<1ms 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 = 1ms, Average = 0ms

C:\>ping 192.168.123.22
```

☐ Top



PC0

Physical Config Desktop Programming Attributes

Command Prompt

```
    Minimum = 0ms, Maximum = 47ms, Average = 12ms

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<1ms 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 = 1ms, Average = 0ms

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=2ms 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=1ms TTL=128

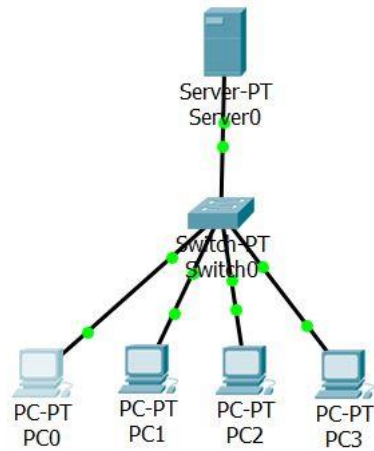
Ping statistics for 192.168.123.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 2ms, Average = 1ms

C:\>|
```

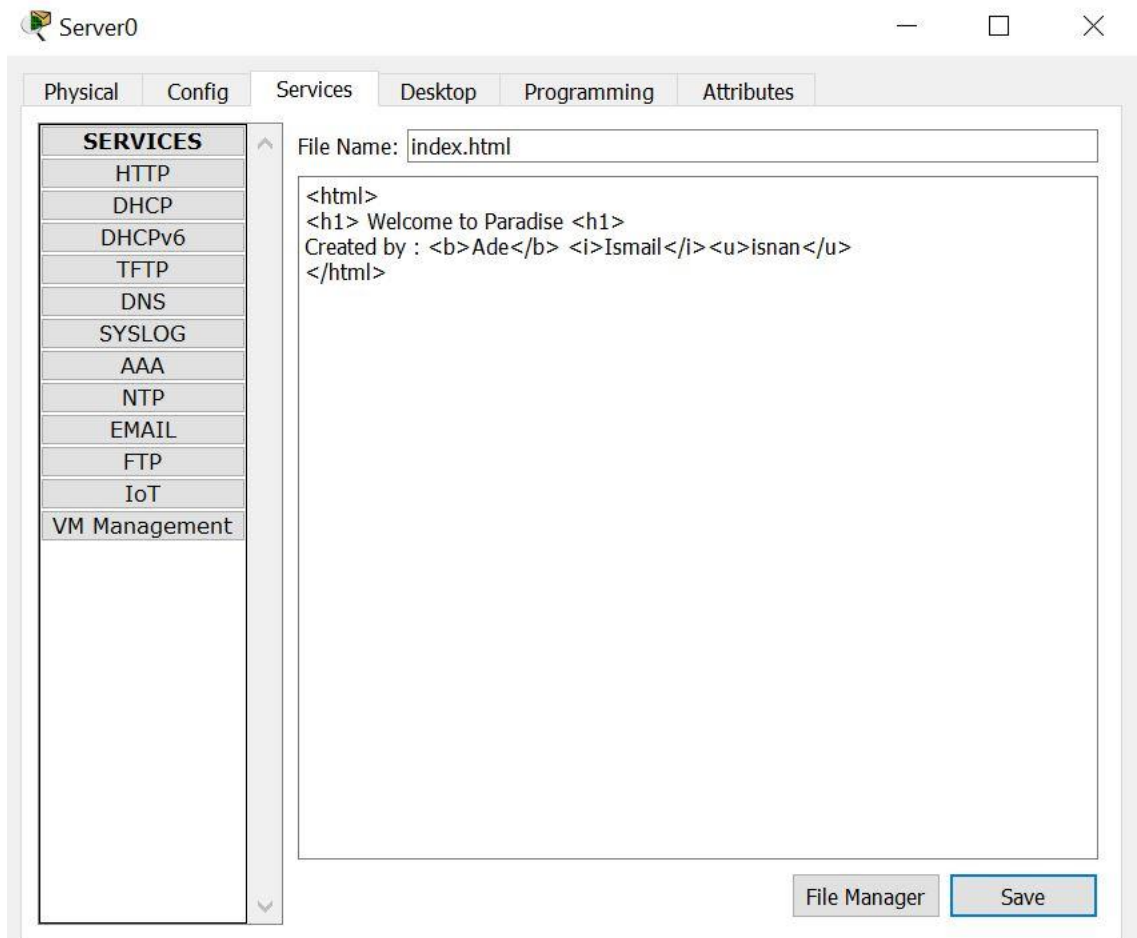
☐ Top

## 2. PRACTICUM 2 MAKE WEB SERVER

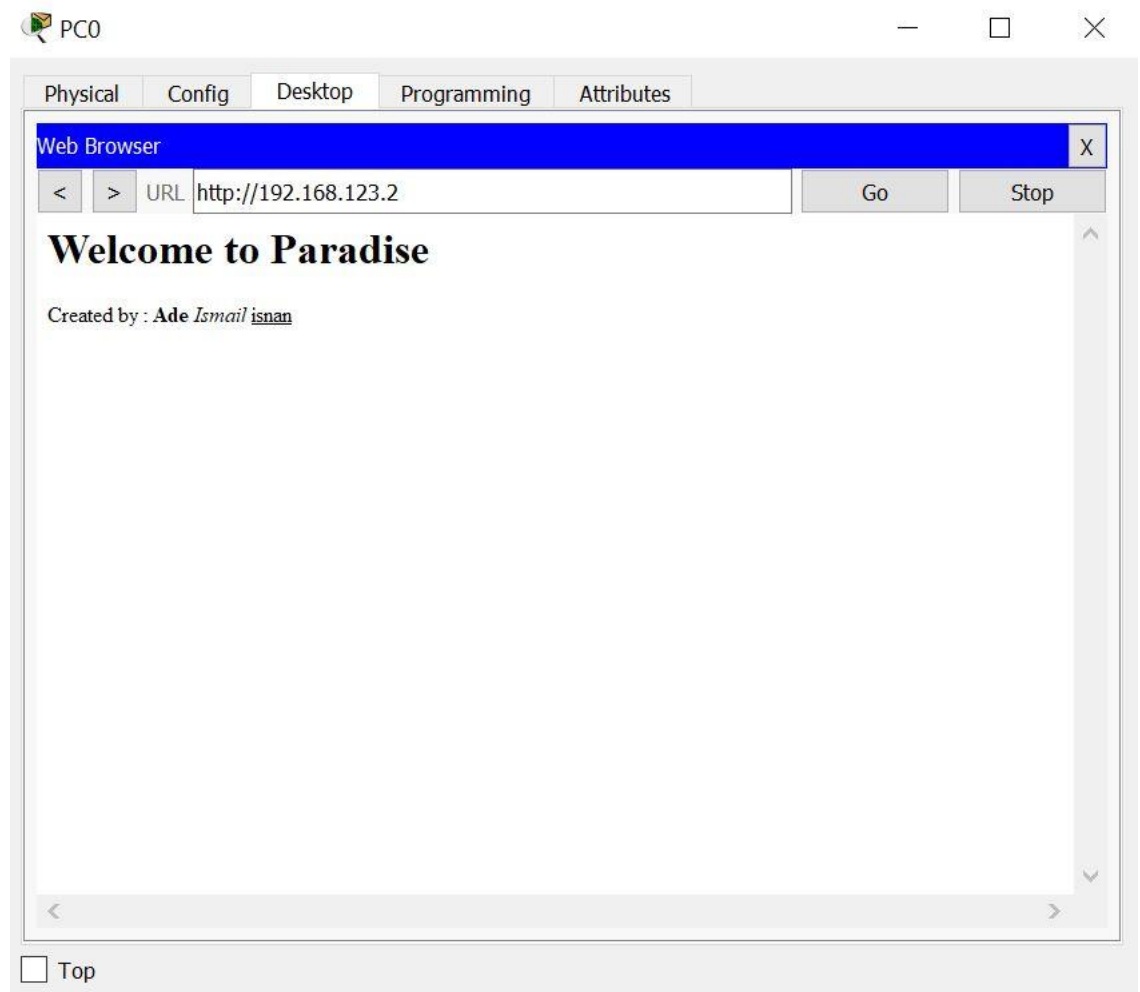
### ➤ Layout of DHCP Server



### ➤ Change the HTML Script



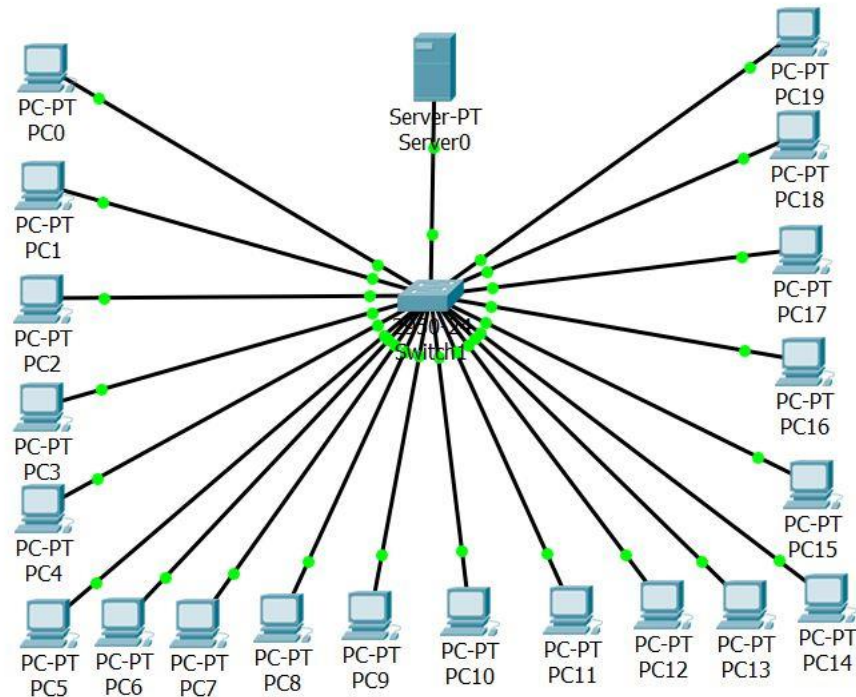
➤ Results from PC 0 Web Browser





# ASSIGNMENT

## ➤ Layout of DHCP Server



## ➤ Server Configuration

Server2

Physical Config Services Desktop Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

FastEthernet0

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0090.2127.3ED9

IP Configuration

☐ DHCP

☒ Static

IP Address 192.168.123.1

Subnet Mask 255.255.255.0

IPv6 Configuration

☐ DHCP

☐ Auto Config

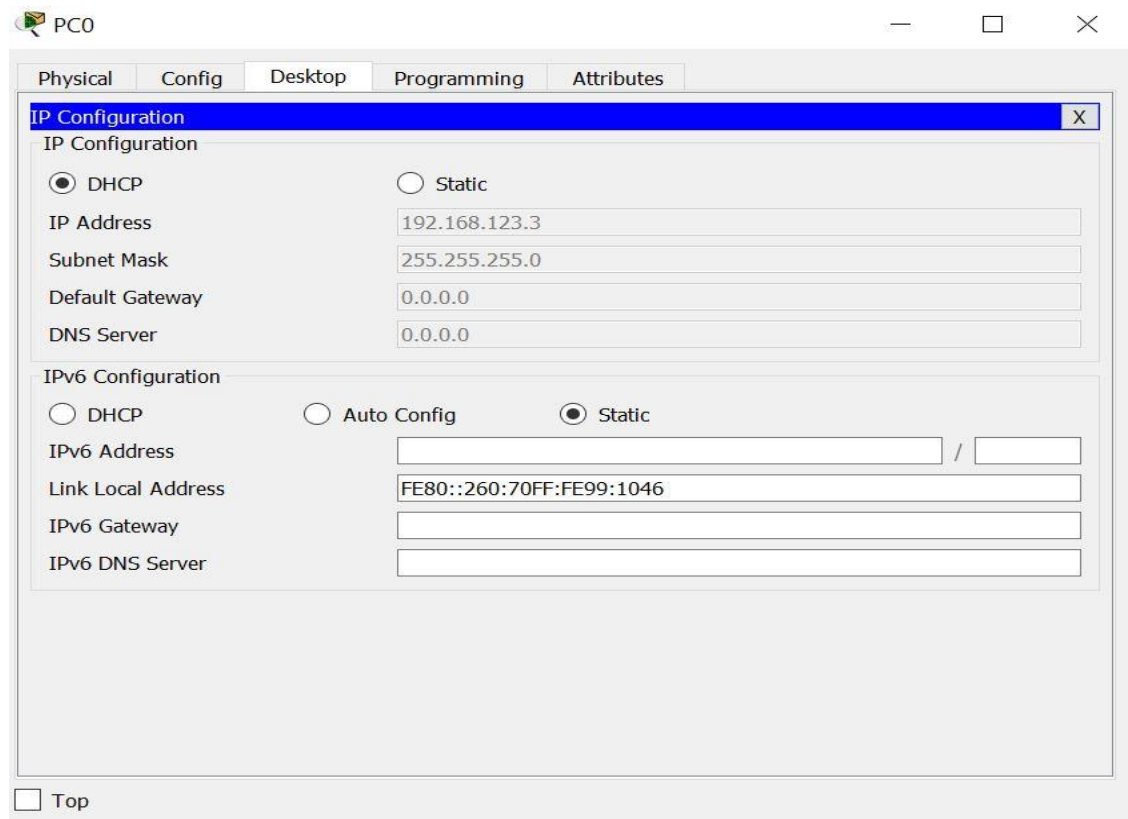
☒ Static

IPv6 Address

Link Local Address: FE80::290:21FF:FE27:3ED9

☐ Top

➤ Configuration on a PC

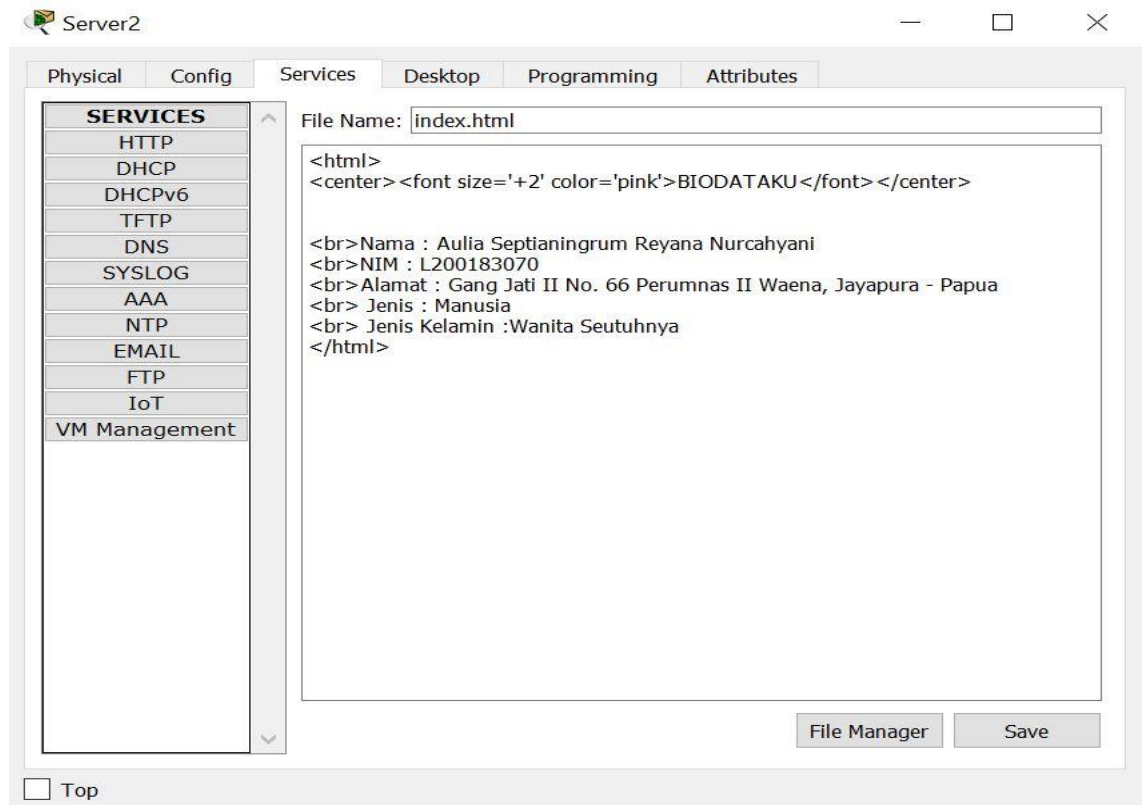


The screenshot shows the configuration window for PC0. The 'Config' tab is selected. The 'IP Configuration' section has 'DHCP' selected. The 'IPv6 Configuration' section has 'Static' selected. The fields are filled with the following values:

| Field              | Value                    |
|--------------------|--------------------------|
| IP Address         | 192.168.123.3            |
| Subnet Mask        | 255.255.255.0            |
| Default Gateway    | 0.0.0.0                  |
| DNS Server         | 0.0.0.0                  |
| IPv6 Address       |                          |
| Link Local Address | FE80::260:70FF:FE99:1046 |
| IPv6 Gateway       |                          |
| IPv6 DNS Server    |                          |

At the bottom left, there is a 'Top' button.

➤ Configuration in the index.html file



The screenshot shows the configuration window for Server2. The 'Services' tab is selected. The 'File Name' field is set to 'index.html'. The content of the file is as follows:

```
<html>
<center> <font size='+2' color='pink'>BIODATAKU</font> </center>

<br>Nama : Aulia Septianingrum Reyana Nurcahyani
<br>NIM : L200183070
<br>Alamat : Gang Jati II No. 66 Perumnas II Waena, Jayapura - Papua
<br>Jenis : Manusia
<br>Jenis Kelamin :Wanita Seutuhnya
</html>
```

At the bottom right, there are 'File Manager' and 'Save' buttons. At the bottom left, there is a 'Top' button.

➤ Results on a PC web browser

