

COMPUTER NETWORK PRACTICE

MODULE 5 : DHCP SERVER AND WEB SERVER



By :

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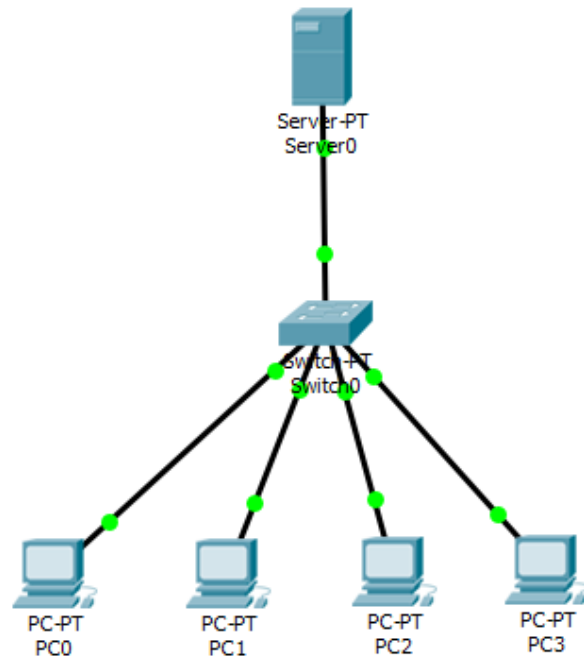
UNIVERSITY OF MUHAMMADIYAH SURAKARTA

2020

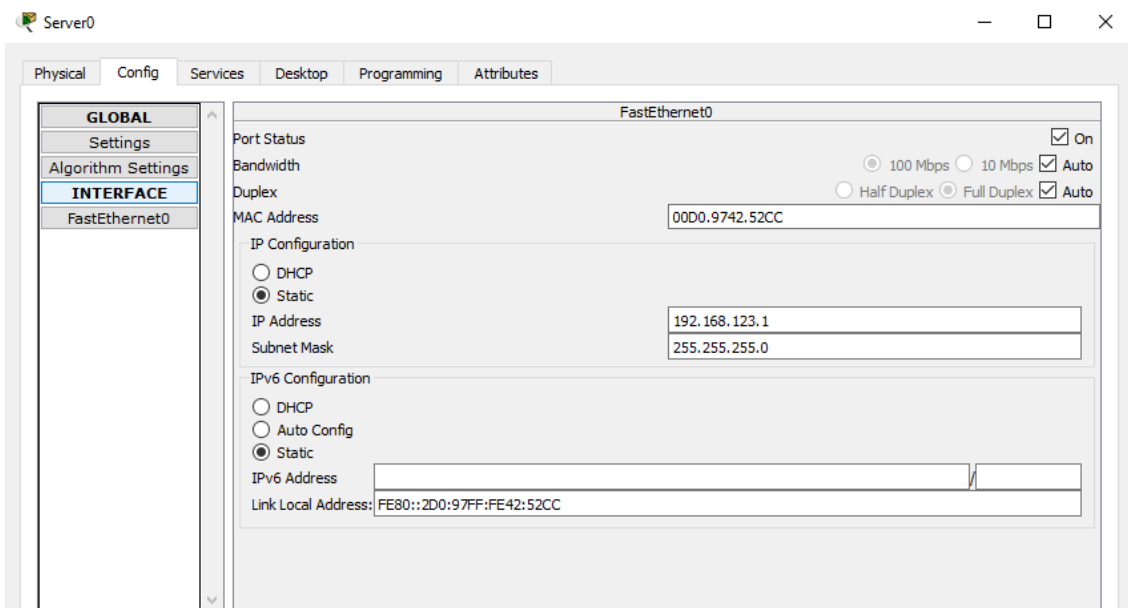
## PRACTICUM ACTIVITIES

### 1. PRACTICUM 1 MAKE DHCP SERVER

- Designing 5 workstations, 1 switch, and 1 server on packet tracer



- IP address on server0



c. Configure DHCP on the server

The screenshot shows the 'Server0' configuration window with the 'Services' tab selected. On the left, a list of services 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' radio button set to 'On'. The configuration fields are as follows:

- 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

Below the configuration fields are 'Add', 'Save', and 'Remove' buttons. At the bottom, a table displays the configured DHCP pool:

| Pool Name  | Default Gateway | DNS Server | Start IP Address | Subnet Mask   | Max User | TFTP Server | WLC Address |
|------------|-----------------|------------|------------------|---------------|----------|-------------|-------------|
| serverPool | 0.0.0.0         | 0.0.0.0    | 192.168.123.19   | 255.255.255.0 | 5        | 0.0.0.0     | 0.0.0.0     |

d. Configuration IP on all PCs

The screenshot shows the 'PC0' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is active, showing the following settings:

- IP Configuration: DHCP (selected), Static (unselected). Status: DHCP request successful.
- IP Address: 192.168.123.19
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

The 'IPv6 Configuration' section shows 'Static' selected, with the following settings:

- IPv6 Address: (empty)
- Link Local Address: FE80::290:21FF:FE8A:A48C
- IPv6 Gateway: (empty)
- IPv6 DNS Server: (empty)

The screenshot shows the 'PC1' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is active, showing the following settings:

- IP Configuration: DHCP (selected), Static (unselected). Status: DHCP request successful.
- IP Address: 192.168.123.20
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

The 'IPv6 Configuration' section shows 'Static' selected, with the following settings:

- IPv6 Address: (empty)
- Link Local Address: FE80::2D0:97FF:FE93:704D
- IPv6 Gateway: (empty)
- IPv6 DNS Server: (empty)

PC2

Physical Config Desktop Programming Attributes

IP Configuration X

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:D3FF:FE32:318C

IPv6 Gateway

IPv6 DNS Server

PC3

Physical Config Desktop Programming Attributes

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

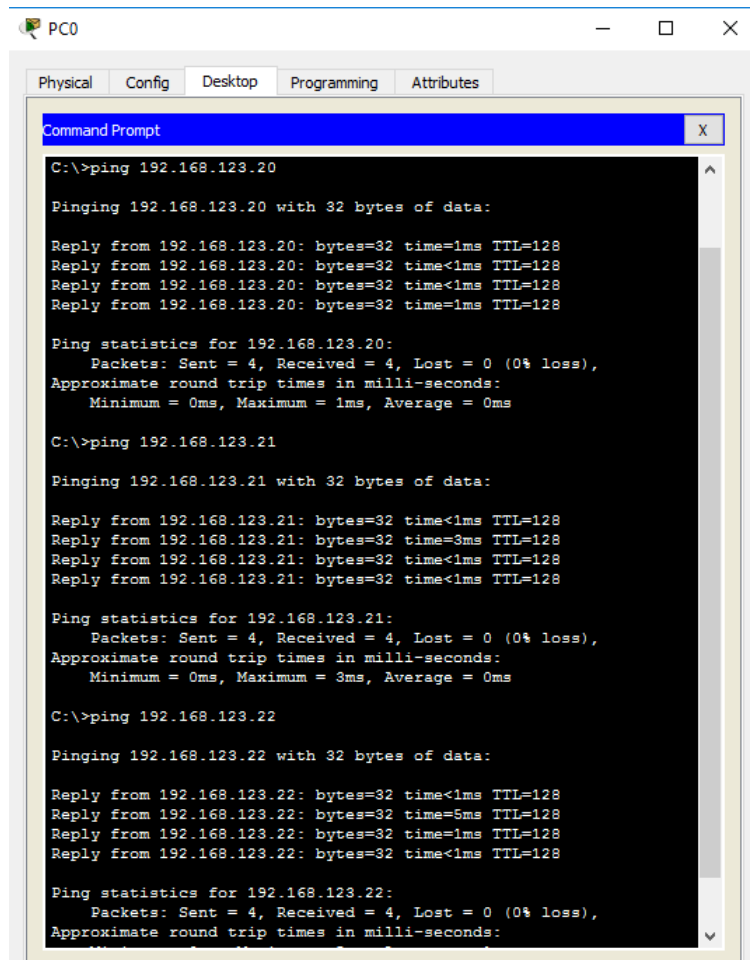
IPv6 Address /

Link Local Address FE80::20A:41FF:FE3:232E

IPv6 Gateway

IPv6 DNS Server

- e. Ping to all PC connected to the DHCP server



```
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<1ms TTL=128
Reply from 192.168.123.20: bytes=32 time<1ms 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 = 1ms, Average = 0ms

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=3ms 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 = 3ms, Average = 0ms

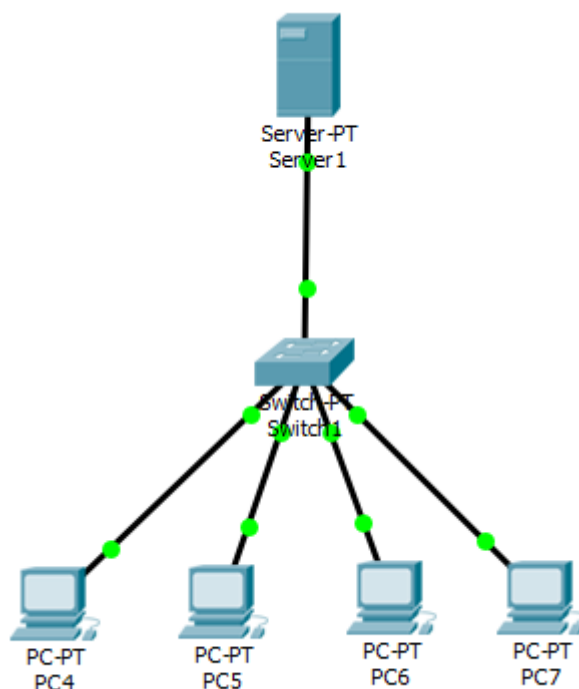
C:\>ping 192.168.123.22

Pinging 192.168.123.22 with 32 bytes of data:

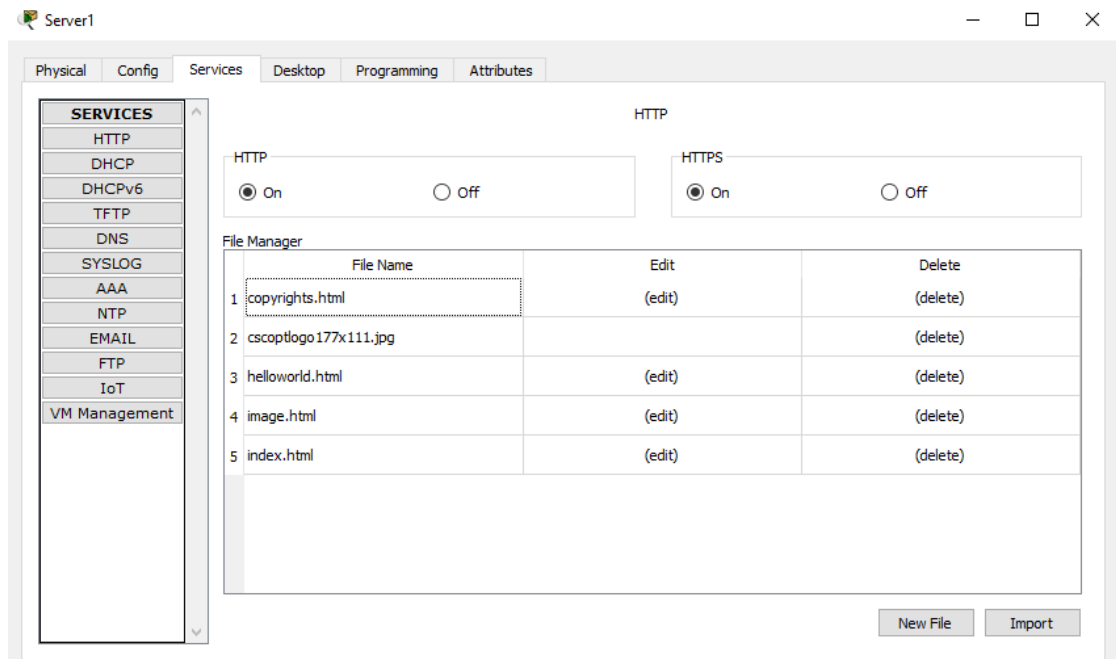
Reply from 192.168.123.22: bytes=32 time<1ms TTL=128
Reply from 192.168.123.22: bytes=32 time=5ms TTL=128
Reply from 192.168.123.22: bytes=32 time=1ms TTL=128
Reply from 192.168.123.22: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.123.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
```

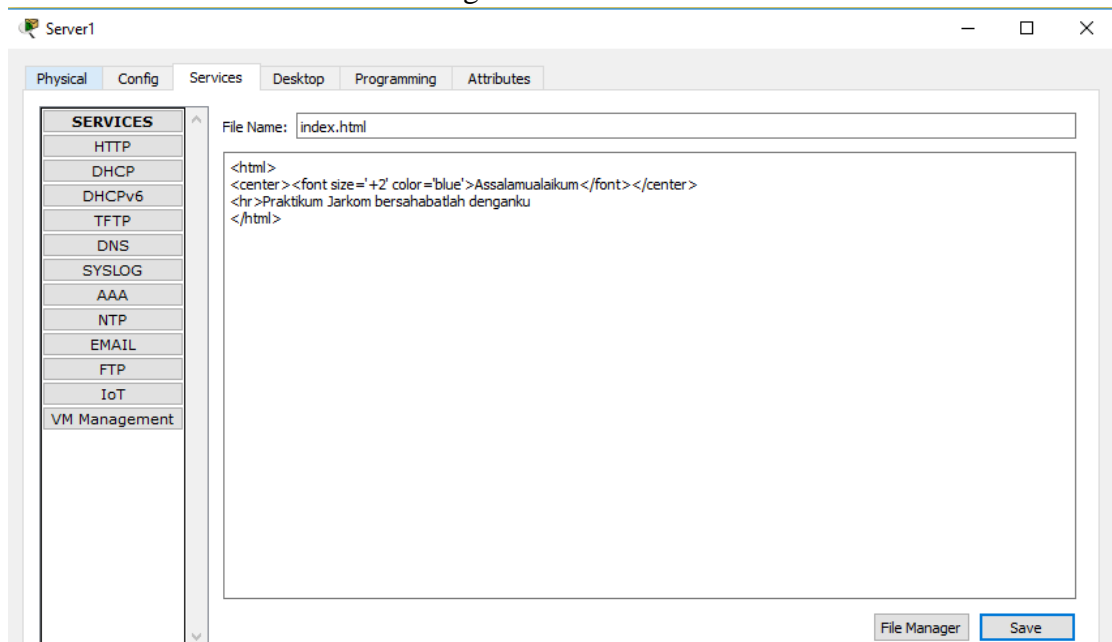
2. Practicum 2 make a web server  
a. DHCP Server design



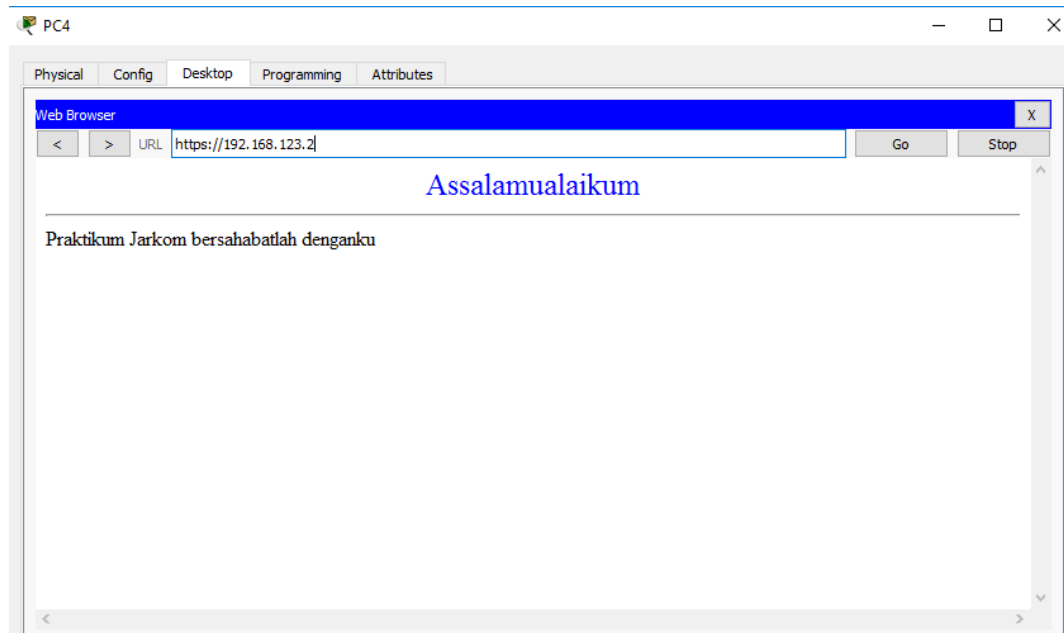
b. Activating HTTP service



c. Edit the contents of the index.html tag

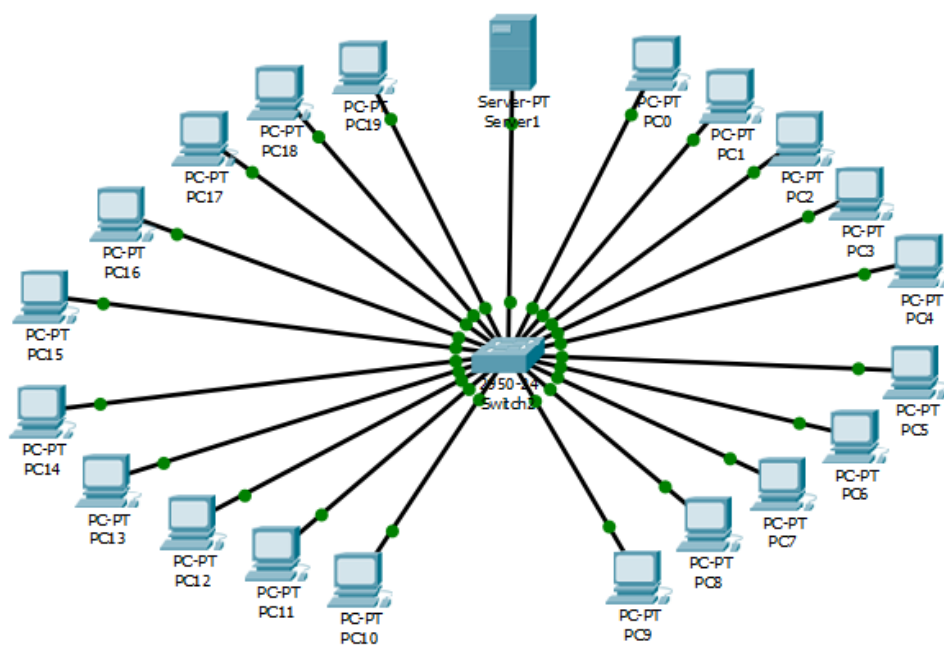


#### d. Browsing HTTP



### Assigment

#### a. Topology desain



b. IP address on server1

Server1

Physical Config Services Desktop Programming Attributes

**GLOBAL**

Settings

Algorithm Settings

**INTERFACE**

FastEthernet0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0004.9A4B.E3E8

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::204:9AFF:FE4B:E3E8

c. Configure DHCP on the server

Server1

Physical Config Services Desktop Programming Attributes

**SERVICES**

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

DHCP

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 0

Subnet Mask: 255 255 255 0

Maximum Number of Users : 22

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 | 0.0.0.0         | 0.0.0.0    | 192.168.123.0    | 255.255.255.0 | 22       | 0.0.0.0     | 0.0.0.0     |



d. Configuration IP on all PCs

The screenshot shows the configuration window for PC0. The 'Config' tab is active, and the 'IP Configuration' sub-tab is selected. The 'DHCP' radio button is selected, and a message 'DHCP request successful.' is displayed. The IP Address is 192.168.123.2, Subnet Mask is 255.255.255.0, Default Gateway is 0.0.0.0, and DNS Server is 0.0.0.0. The 'IPv6 Configuration' sub-tab is also visible, with 'Static' selected and a Link Local Address of FE80::290:2BFF:FE18:AAD4.

PC0

Physical Config Desktop Programming Attributes

IP Configuration

☒ DHCP ☐ Static DHCP request successful.

IP Address 192.168.123.2

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::290:2BFF:FE18:AAD4

IPv6 Gateway

IPv6 DNS Server

e. Activating HTTP service

The screenshot shows the configuration window for Server1. The 'Services' tab is active. The 'HTTP' and 'HTTPS' services are both set to 'On'. A 'File Manager' table is also visible, listing files and their edit/delete actions.

Server1

Physical Config Services Desktop Programming Attributes

SERVICES

HTTP

☒ On ☐ Off

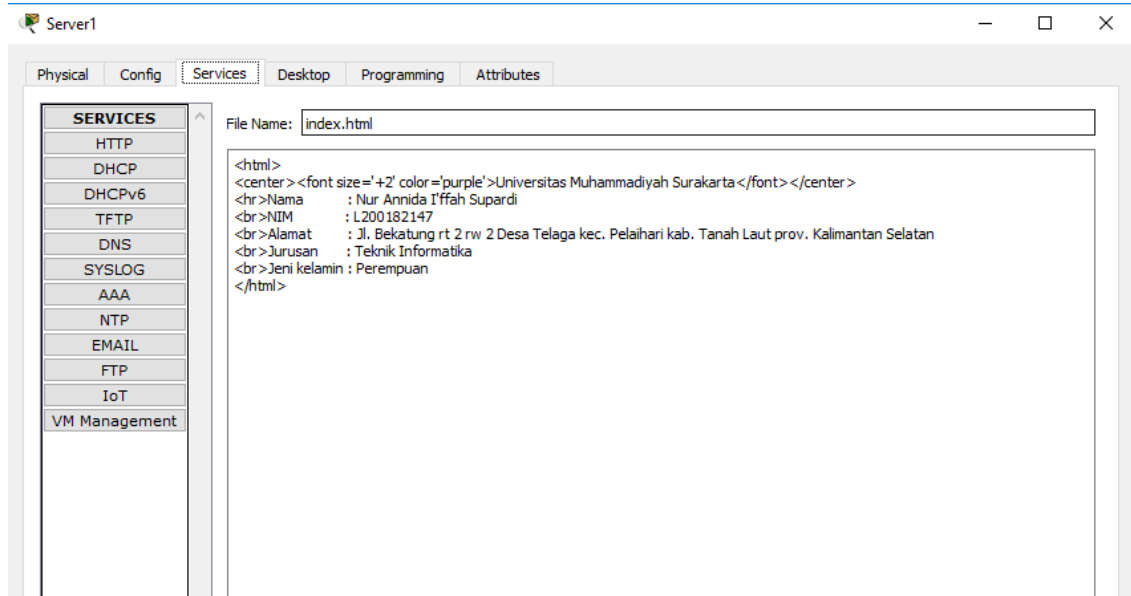
HTTPS

☒ On ☐ Off

File Manager

|   | File Name             | Edit   | Delete   |
|---|-----------------------|--------|----------|
| 1 | copyrights.html       | (edit) | (delete) |
| 2 | cscoptlogo177x111.jpg |        | (delete) |
| 3 | helloworld.html       | (edit) | (delete) |
| 4 | image.html            | (edit) | (delete) |
| 5 | index.html            | (edit) | (delete) |

f. Edit the contents of the index.html tag



g. Browsing http

