

## Computer Networks Lab Task – 6

Instructor: Ma'am Hurmat Hidayat

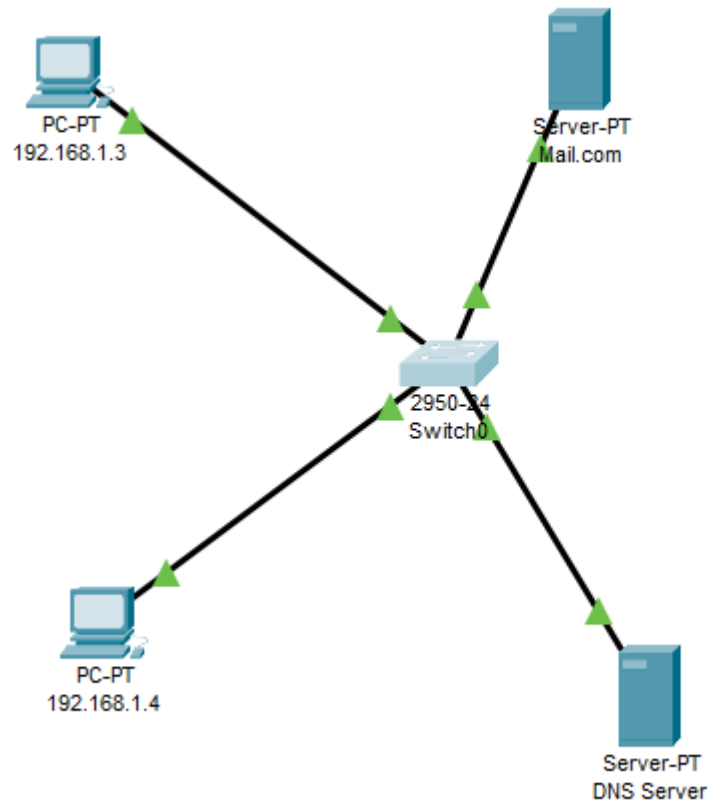
Roll No: 20P-0101

Name: Muhammad sherjeel Akhtar

Section: B

Task : How to configure an email server in Packet Tracer

Build a network topology for this first and then we connect them with wire



Then we configure IP addresses on pc DNS and Mail server

Physical Config **Desktop** Programming Attributes

## IP Configuration X

Interface FastEthernet0 ▾

## IP Configuration

☐ DHCP☒ Static

IPv4 Address

192.168.1.3

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

## IPv6 Configuration

☐ Automatic☒ Static

IPv6 Address

Link Local Address

FE80::207:ECFF:FE80:5087

Default Gateway

DNS Server

## 802.1X

☐ Use 802.1X Security

Authentication

MD5 ▾

Username

Password

Physical Config **Desktop** Programming Attributes

## IP Configuration

X

Interface FastEthernet0

## IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.4

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

## IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::20A:41FF:FE9E:69E2

Default Gateway

DNS Server

## 802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

Physical Config Services **Desktop** Programming Attributes

## IP Configuration

X

## IP Configuration

☐ DHCP☒ Static

IPv4 Address

192.168.1.2

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

## IPv6 Configuration

☐ Automatic☒ Static

IPv6 Address

Link Local Address

FE80::20B:BEFF:FE89:CDD0

Default Gateway

DNS Server

## 802.1X

☐ Use 802.1X Security

Authentication

MD5

Username

Password

☐ Top

DNS Server

Physical Config Services Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.5

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:A3FF:FECB:2B22

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

New Delete

Now we configure the mail clients for both the pc

192.168.1.3

PhysicalConfigDesktopProgrammingAttributes

Configure Mail

User Information

Your Name:

ahmed

Email Address

ahmed@gmail.com

Server Information

Incoming Mail Server

gmail.com

Outgoing Mail Server

gmail.com

Logon Information

User Name:

ahmed

Password:

.....

Save

Remove

Clear

Reset

☐ Top

192.168.1.4

Physical Config **Desktop** Programming Attributes

**Configure Mail** X

User Information

Your Name: usman

Email Address: usman@gmail.com

Server Information

Incoming Mail Server: gmail.com

Outgoing Mail Server: gmail.com

Logon Information

User Name: usman

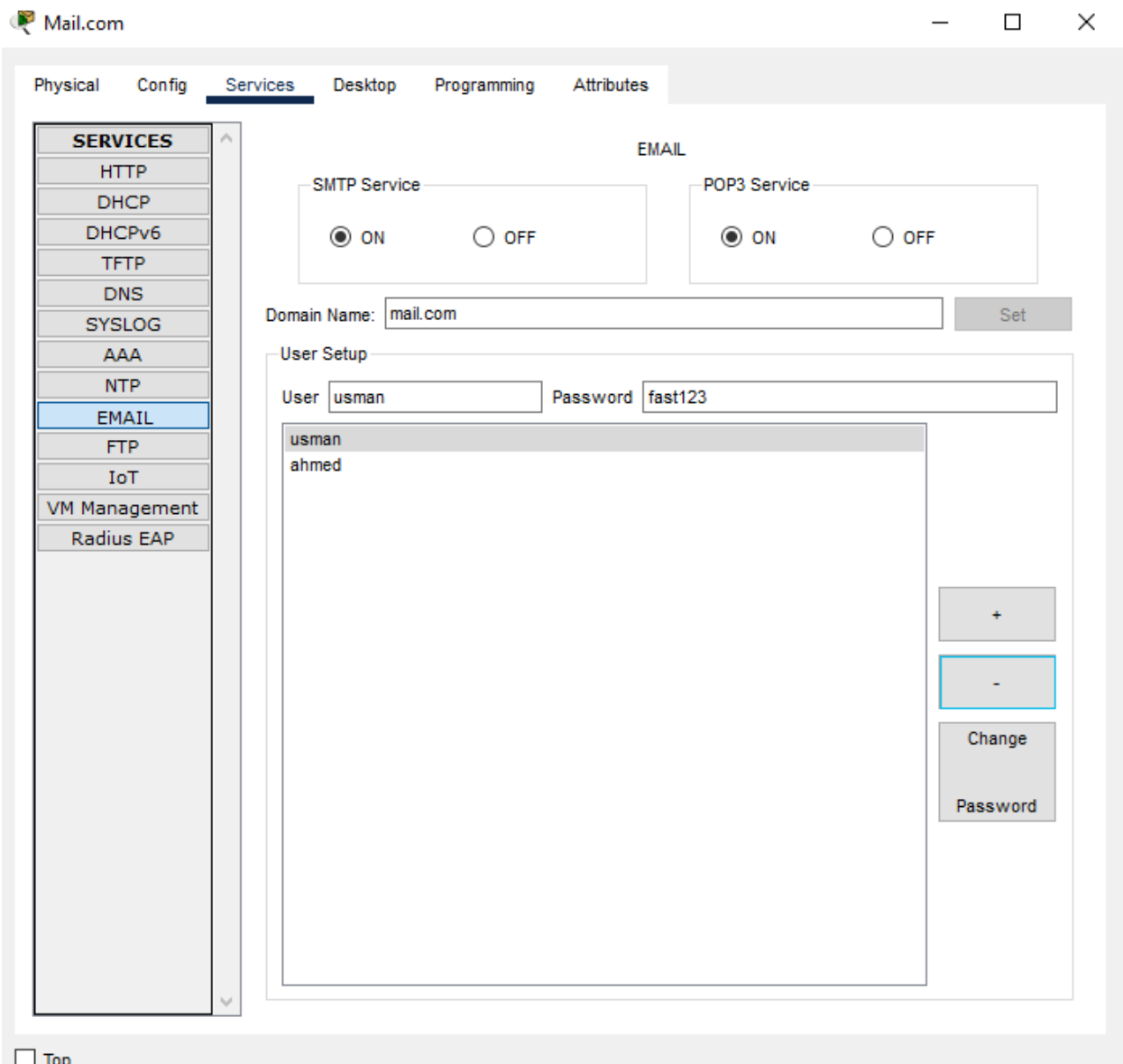
Password: .....

Save Remove Clear Reset

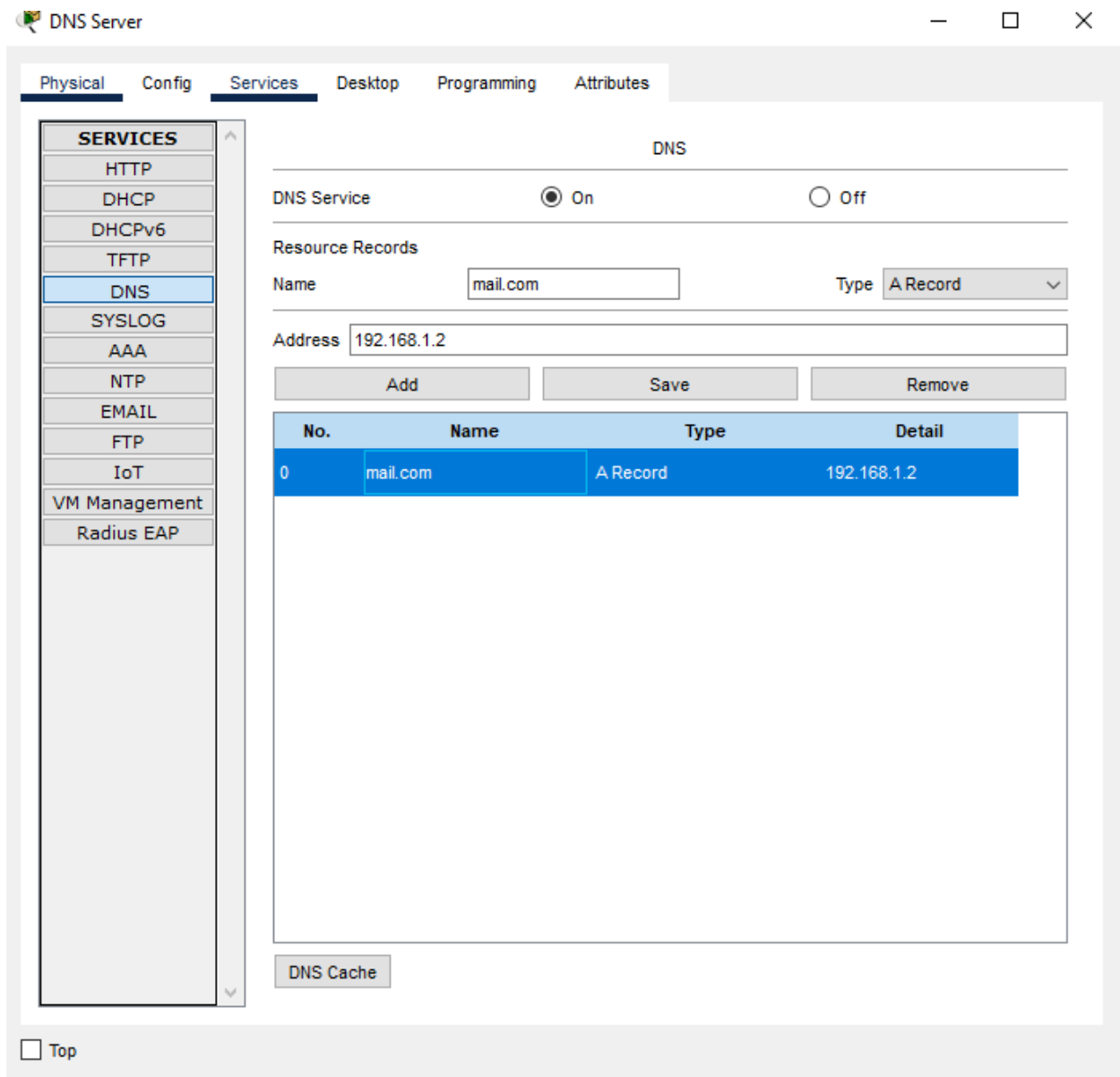
☐ Top

Now we go on the Mail server and then we go on services and then we go on email portion and then we add the domain name and set it then we add the client details to the server client 1 and client 2

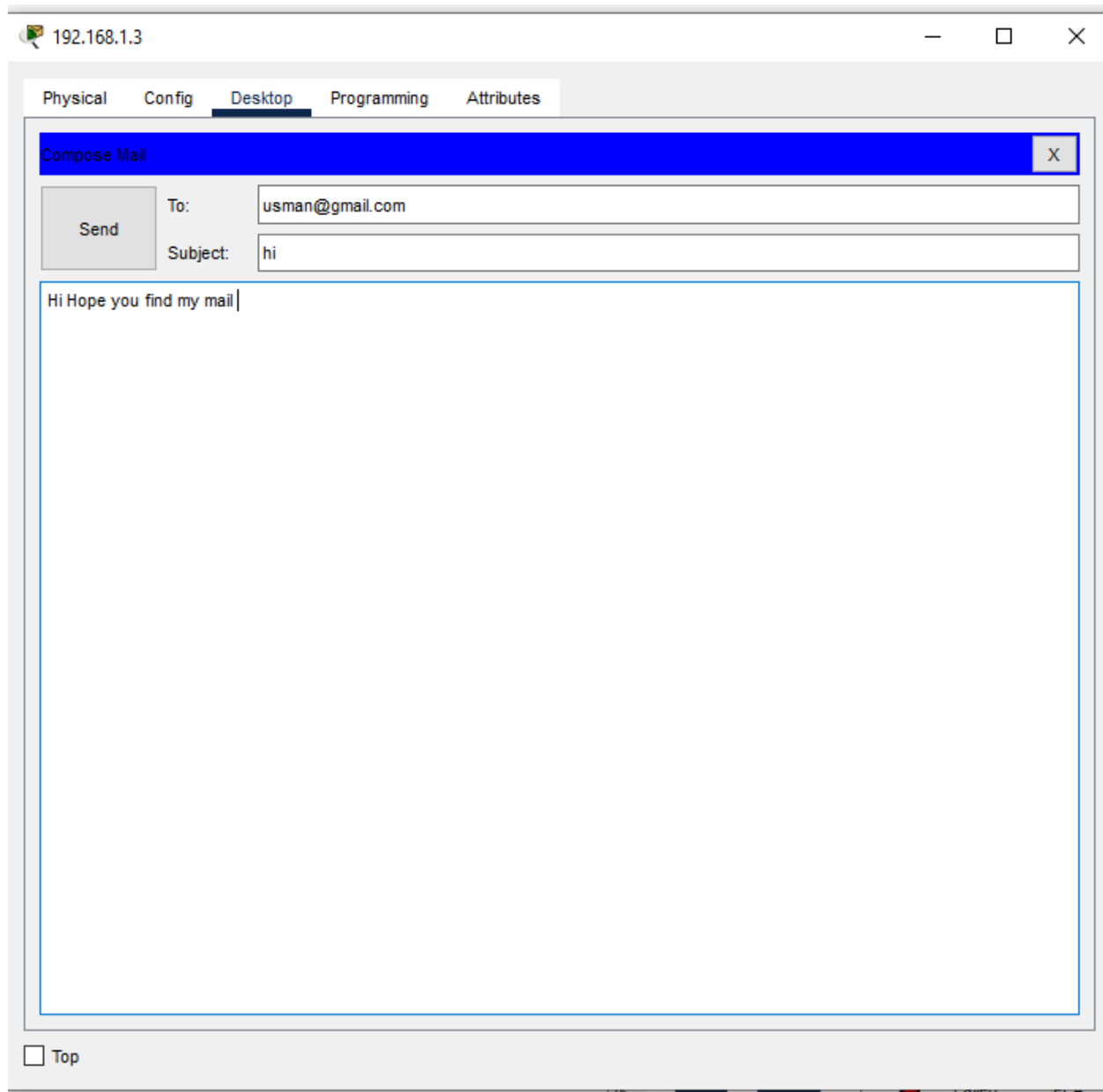




Then we go on the DNS server and go on services and click DNS and add the domain name with its IP Address 192.168.1.2



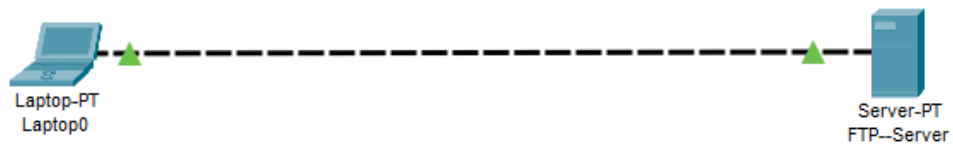
Now after configuring everything we test it by sending a mail from ahmed to usman



Now we reply from usman back toahmed

Task : How to configure an FTP server in Packet Tracer

First we build a topology for this and connect the laptop with server through the fast wire



Then we configure the ip address for the laptop and the server

Laptop0

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

DHCP

Static

IPv4 Address

192.168.1.1

Subnet Mask

255.255.255.0

Default Gateway

0.0.0.0

DNS Server

0.0.0.0

IPv6 Configuration

Automatic

Static

IPv6 Address

/

Link Local Address

FE80::200:CFF:FE02:20ED

Default Gateway

DNS Server

802.1X

Use 802.1X Security

Authentication

MD5

Username

Password

Top

Server2

Physical Config Services **Desktop** Programming Attributes

**IP Configuration** X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 0.0.0.0

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:D3FF:FEAB:D4D6

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

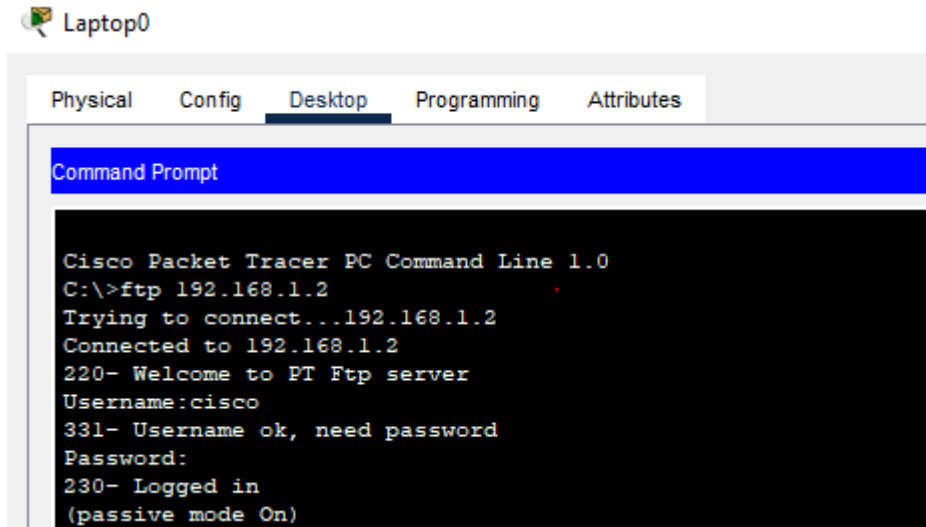
Username

Password

☐ Top

Now by using ftp client built in laptop we send files to an ftp server so first we open the command prompt of the laptop

And then type [ftp 192.168.1.2](ftp://192.168.1.2)



Then it will ask for username and password which is default and that is cisco for both

Then after this we have to send a file so we create a file with some data inside it we use the text editor and write in some data and save it with txt format

Physical Config Desktop Programming Attributes

Text Editor

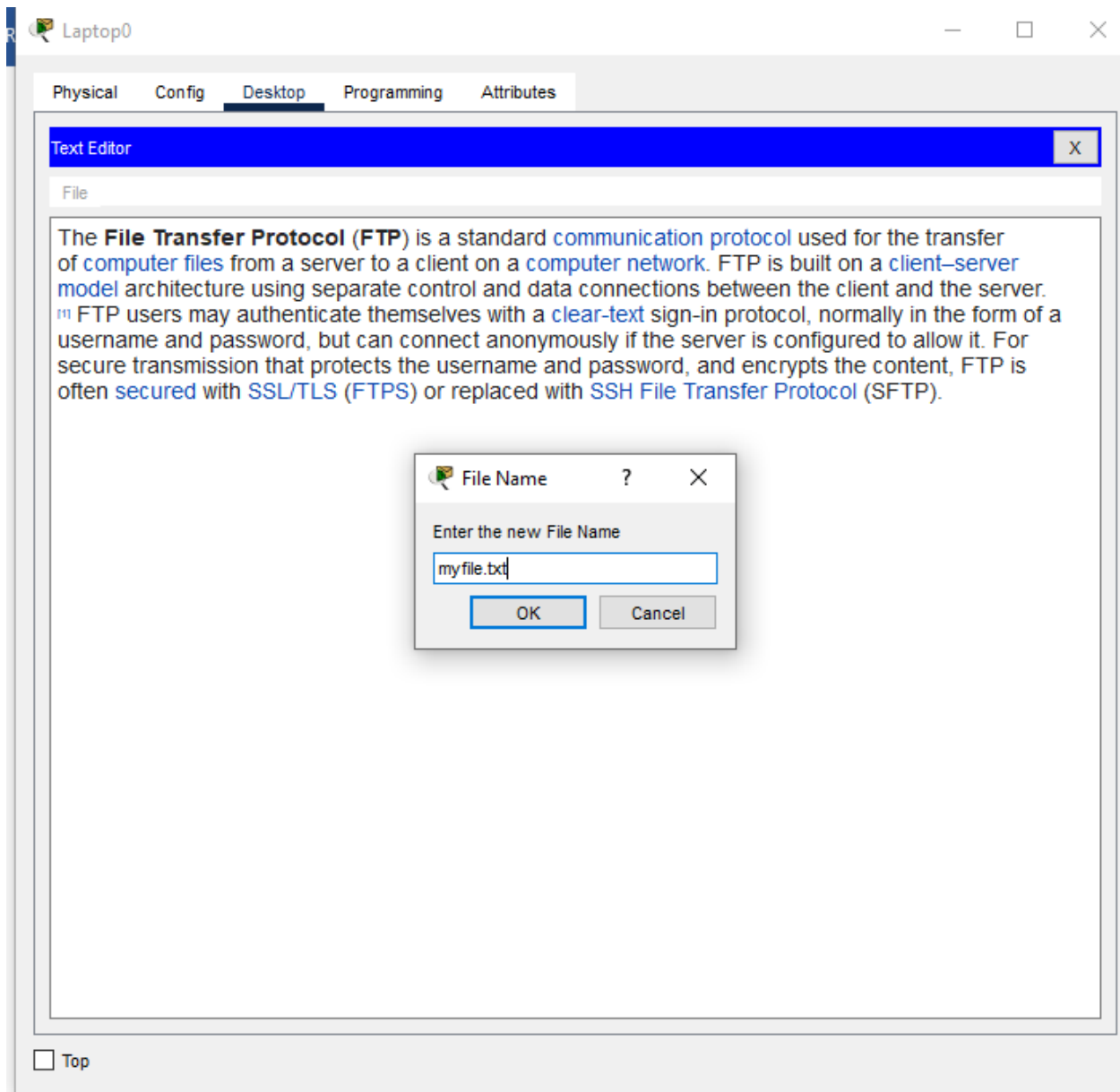
X

File

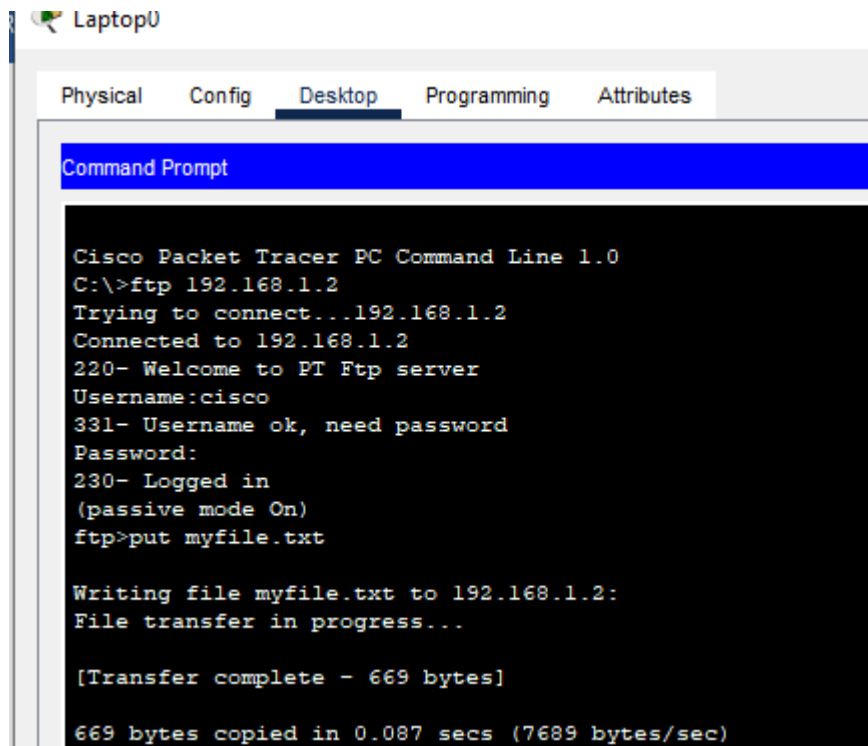
The **File Transfer Protocol (FTP)** is a standard [communication protocol](#) used for the transfer of [computer files](#) from a server to a client on a [computer network](#). FTP is built on a [client-server model](#) architecture using separate control and data connections between the client and the server.

<sup>(1)</sup> FTP users may authenticate themselves with a [clear-text](#) sign-in protocol, normally in the form of a username and password, but can connect anonymously if the server is configured to allow it. For secure transmission that protects the username and password, and encrypts the content, FTP is often [secured](#) with [SSL/TLS \(FTPS\)](#) or replaced with [SSH File Transfer Protocol \(SFTP\)](#).<sup>|</sup>





Now we send the file so we type in the command prompt put myfile.txt



The screenshot shows a Cisco Packet Tracer PC Command Line interface. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The Command Prompt shows the following text:

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ftp 192.168.1.2
Trying to connect...192.168.1.2
Connected to 192.168.1.2
220- Welcome to FT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>put myfile.txt

Writing file myfile.txt to 192.168.1.2:
File transfer in progress...

[Transfer complete - 669 bytes]

669 bytes copied in 0.087 secs (7689 bytes/sec)
```

Now to check if the file is sent we go the server and check in services ftp

**SERVICES**

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

**FTP**

IoT

VM Management

Radius EAP

## FTP

Service

☒ On☐ Off

## User Setup

Username

Password

☐ Write☐ Read☐ Delete☐ Rename☐ List

	Username	Password	Permission
1	cisco	cisco	RWDNL

Add

Save

Remove

## File

28	ir800-universalk9-mz.SPA.155-3.M
29	ir800-universalk9-mz.SPA.156-3.M
30	ir800_yocto-1.7.2.tar
31	ir800_yocto-1.7.2_python-2.7.3.tar
32	my file.txt

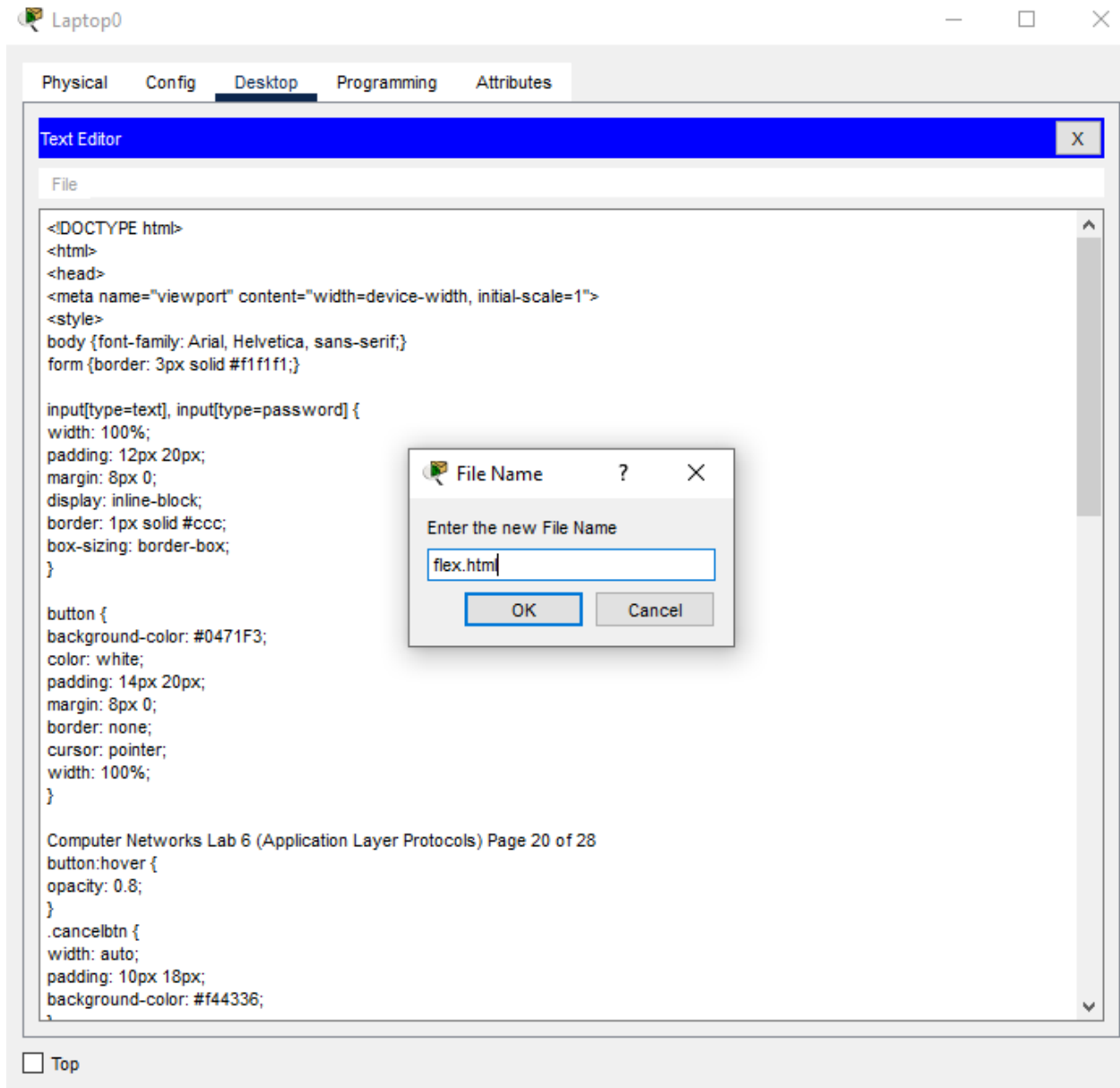
Remove

Task: Create and Upload html file to HTTP server directory Using FTP

Now we have to upload an http file to the http server using ftp

So first we write down the html code in text editor

And then save it by the name flex.html



Now we change the directory from ftp to http by typing in the command prompt  
Cd /http

```
669 bytes copied in 0.082 secs (8158 bytes/sec)
ftp>cd /http
ftp>
Working directory changed to /http successfully
ftp>
```

☐ Top

Now we upload the file in http by simply putting put flex.html

```
669 bytes copied in 0.082 secs (8158 bytes/sec)
ftp>cd /http
ftp>
Working directory changed to /http successfully
ftp>put flex.html

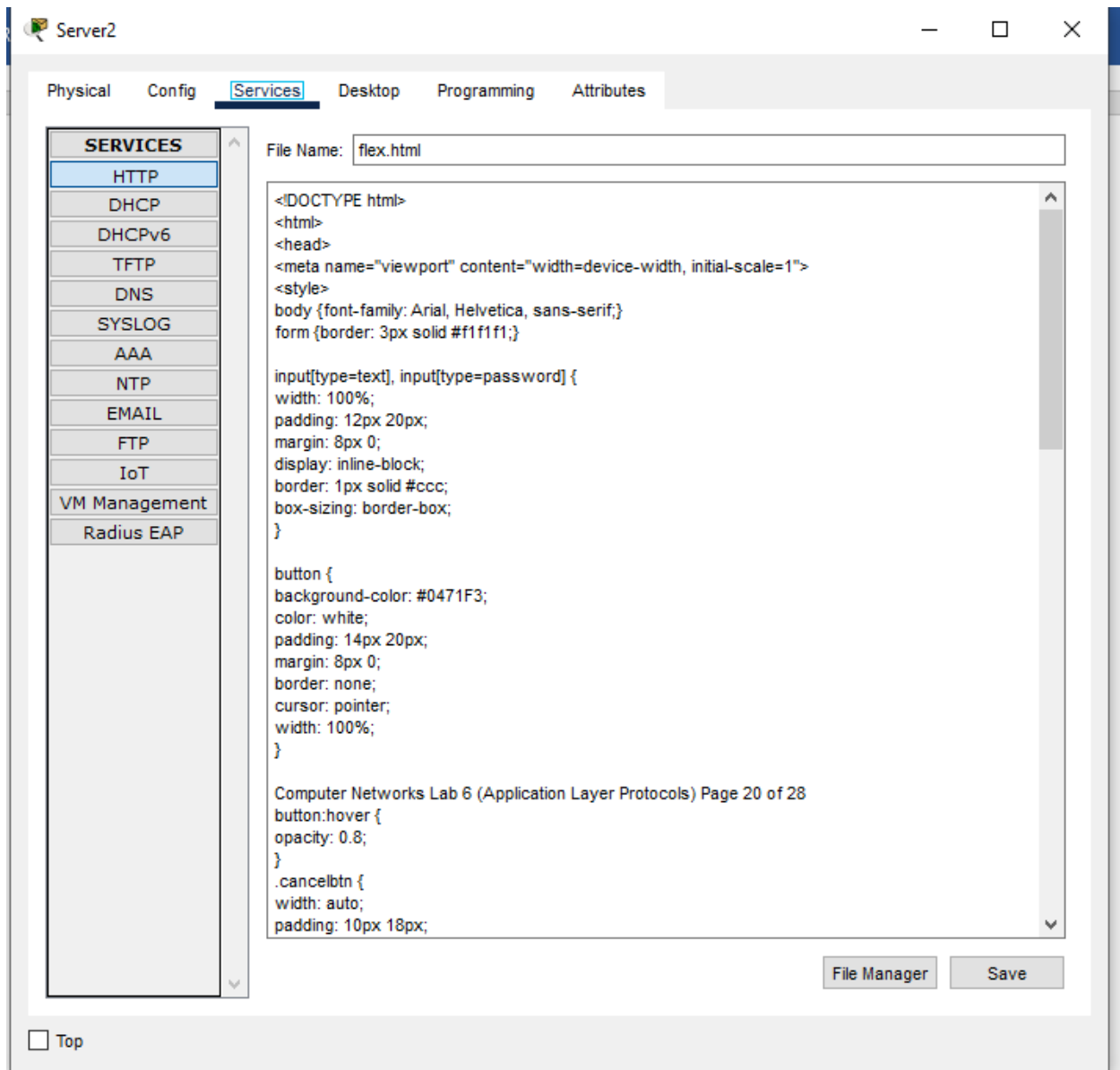
Writing file flex.html to 192.168.1.2:
File transfer in progress...

[Transfer complete - 1900 bytes]

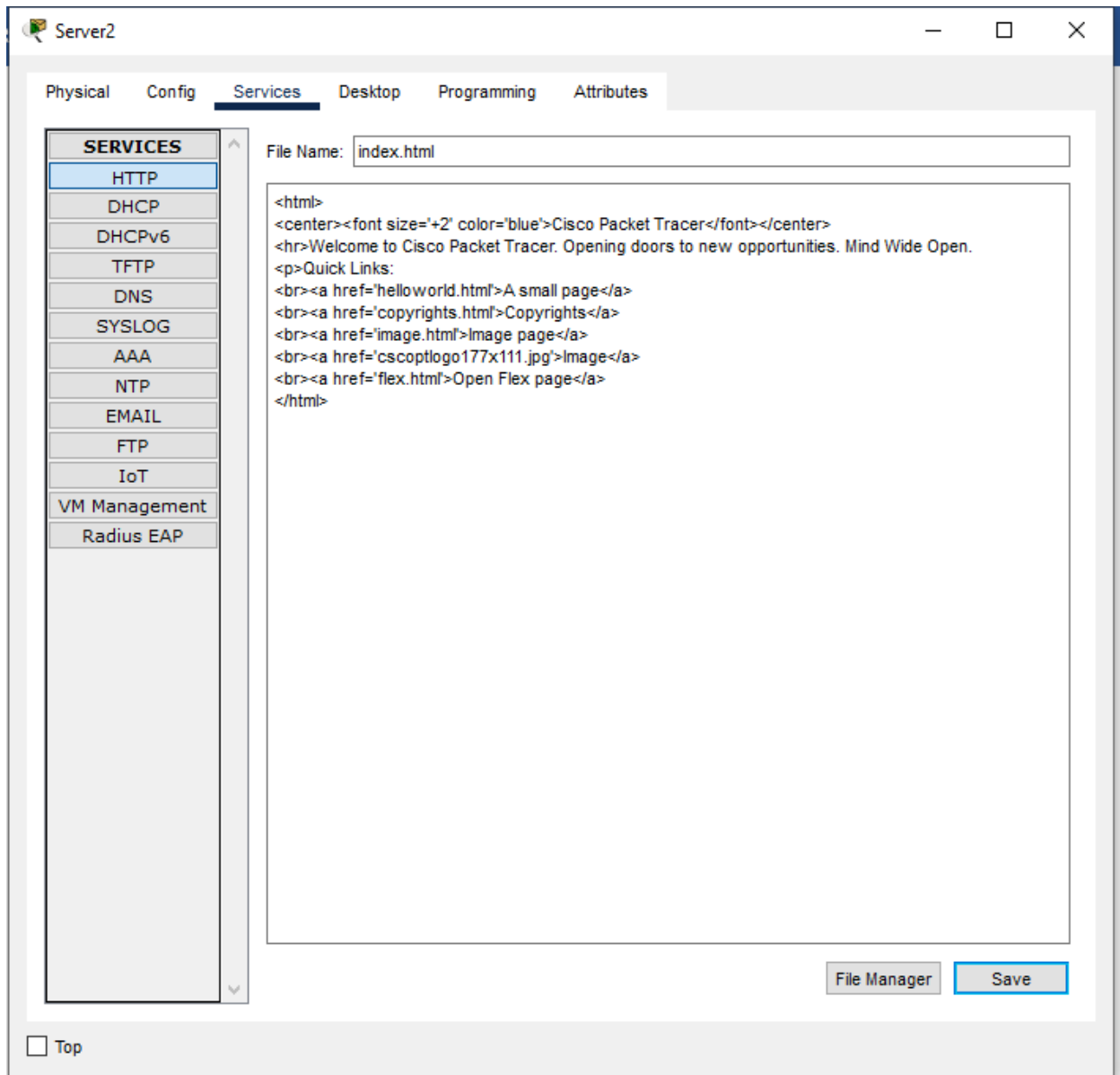
1900 bytes copied in 0.078 secs (24358 bytes/sec)
ftp>
```

☐ Top

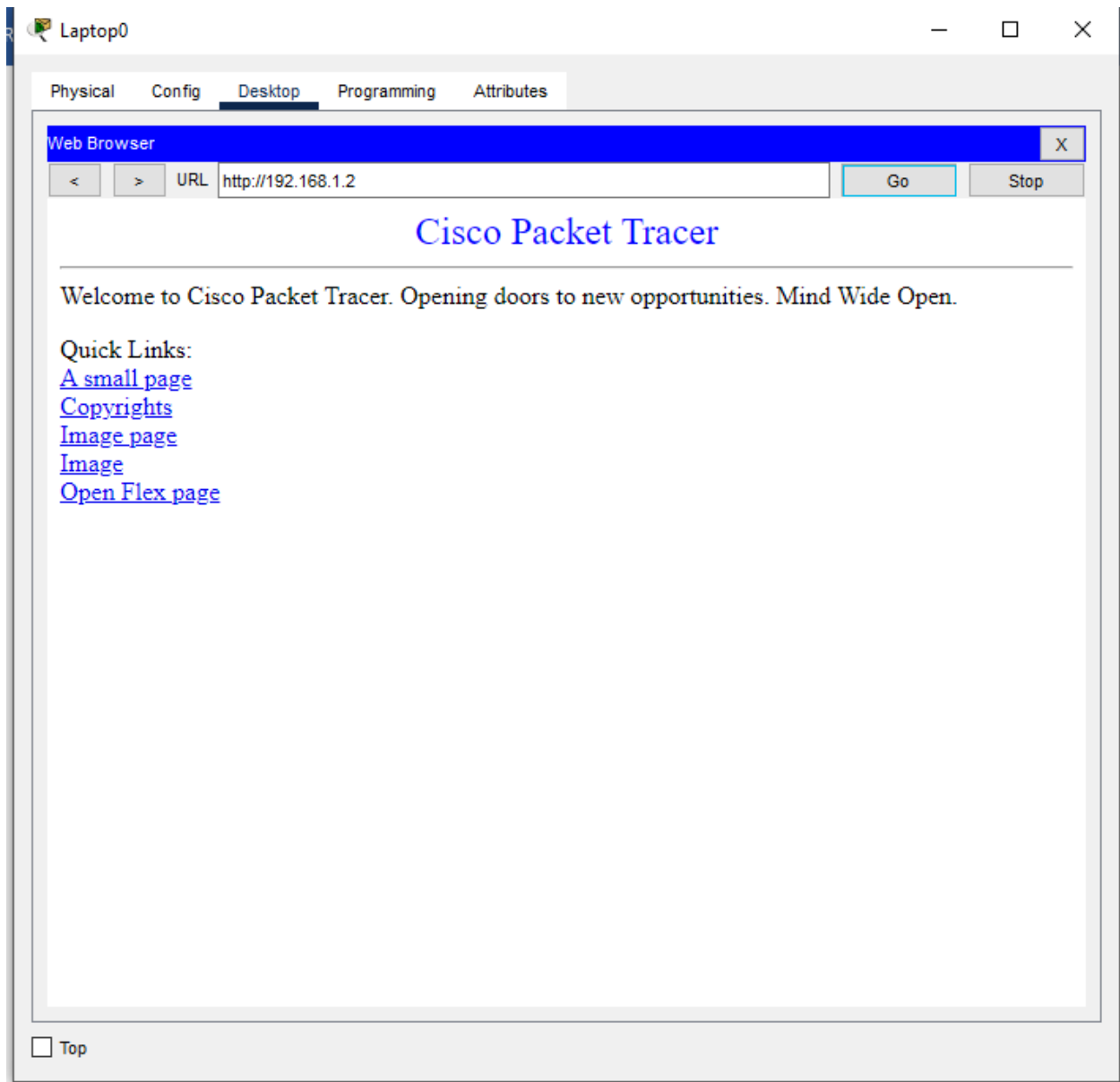
Now we check on the server



Now we go on the index.html file and add the flex.html file in it



And now we open the browser on our laptop and then we run the <http://192.168.1.2> address on the browser



So if we click on the open flex page it will open the flex.html file we used to link it so it would display like this



Physical

Config

Desktop


Programming

Attributes

Web Browser

< > URL http://192.168.1.2/flex.html Go Stop

# Flex Academic Suite

 Avatar

**Username**

Enter Username

**Password**

Enter Password

Login

☒ Remember me

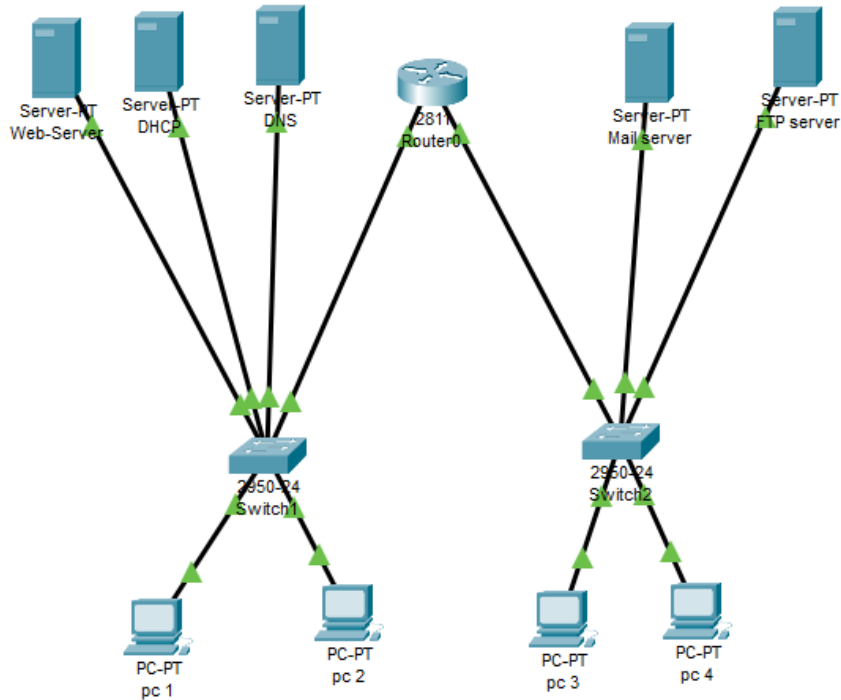
Cancel

Forgot [password?](#)

☐ Top

Task: Configure Mail server, Ftp Server, DHCP Server, DNS Server and web Server in a single topology, use router and switch.

First we build the network topology



Now we make the connection of the switches with the router through the wires

Router0

Physical **Config** CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

FastEthernet0/0

FastEthernet0/1

**FastEthernet0/0**

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0006.2A0E.5201

IP Configuration

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

☐ Top

switch 1 is connected with fa0/0 having ip address 192.168.1.1

Router0

Physical Config CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

FastEthernet0/0

FastEthernet0/1

**FastEthernet0/1**

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0006.2A0E.5202

IP Configuration

IPv4 Address 192.168.2.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#
```

☐ Top

and switch 2 is connected with fa 0/1 having ip address 192.168.2.1

Now we configure all the servers and assign them their ip addresses

For DHCP Server

DHCP

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.4

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2E0:8FFF:FE48:4869

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5


Username

Password

☐ Top

New Delete

For DNS Server

 DNS

—

□

×

PhysicalConfigServicesDesktopProgrammingAttributes

IP ConfigurationX

IP Configuration

☐ DHCP

☒ Static

IPv4 Address

192.168.1.4

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

192.168.1.4

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::201:97FF:FE5A:E6A1

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MD5

▼

Username

Password

☐ Top

New

Delete

Failed

PC4

For web server

Web-Server

Physical Config Services **Desktop** Programming Attributes

**IP Configuration** X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.3

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 192.168.1.4

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:BAFF:FE1E:8B2A

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Now for the mail server

Mail server

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.2

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.1

DNS Server 192.168.1.3

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:3EFF:FEBC:C5EC

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

And for the ftp server



FTP server

Physical Config Services **Desktop** Programming Attributes

**IP Configuration** X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.2.3

Subnet Mask 255.255.255.0

Default Gateway 192.168.2.1

DNS Server 192.168.1.3

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:43FF:FE94:25C5

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Username

Password

☐ Top

Now we go on DHCP server and go to services and go on DHCP connection and we add two new server pools

pool 1





pc 1

Physical Config Desktop Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.1.10

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

192.168.1.4

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

 /

Link Local Address

FE80::202:17FF:FE93:B8A1

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MDS

Username

Password

☐ Top

pc 2

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.1.11

Subnet Mask

255.255.255.0

Default Gateway

192.168.1.1

DNS Server

192.168.1.4

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::200:CFF:FEB0:DD8B

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

MDS

Username

Password

☐ Top

pc 3

Physical

Config

Desktop

Programming

Attributes

IP Configuration

X

Interface

FastEthernet0

▼

IP Configuration

☒ DHCP

☐ Static

IPv4 Address

192.168.2.10

Subnet Mask

255.255.255.0

Default Gateway

192.168.2.1

DNS Server

192.168.1.3

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

/

Link Local Address

FE80::204:9AFF:FE76:EC97

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

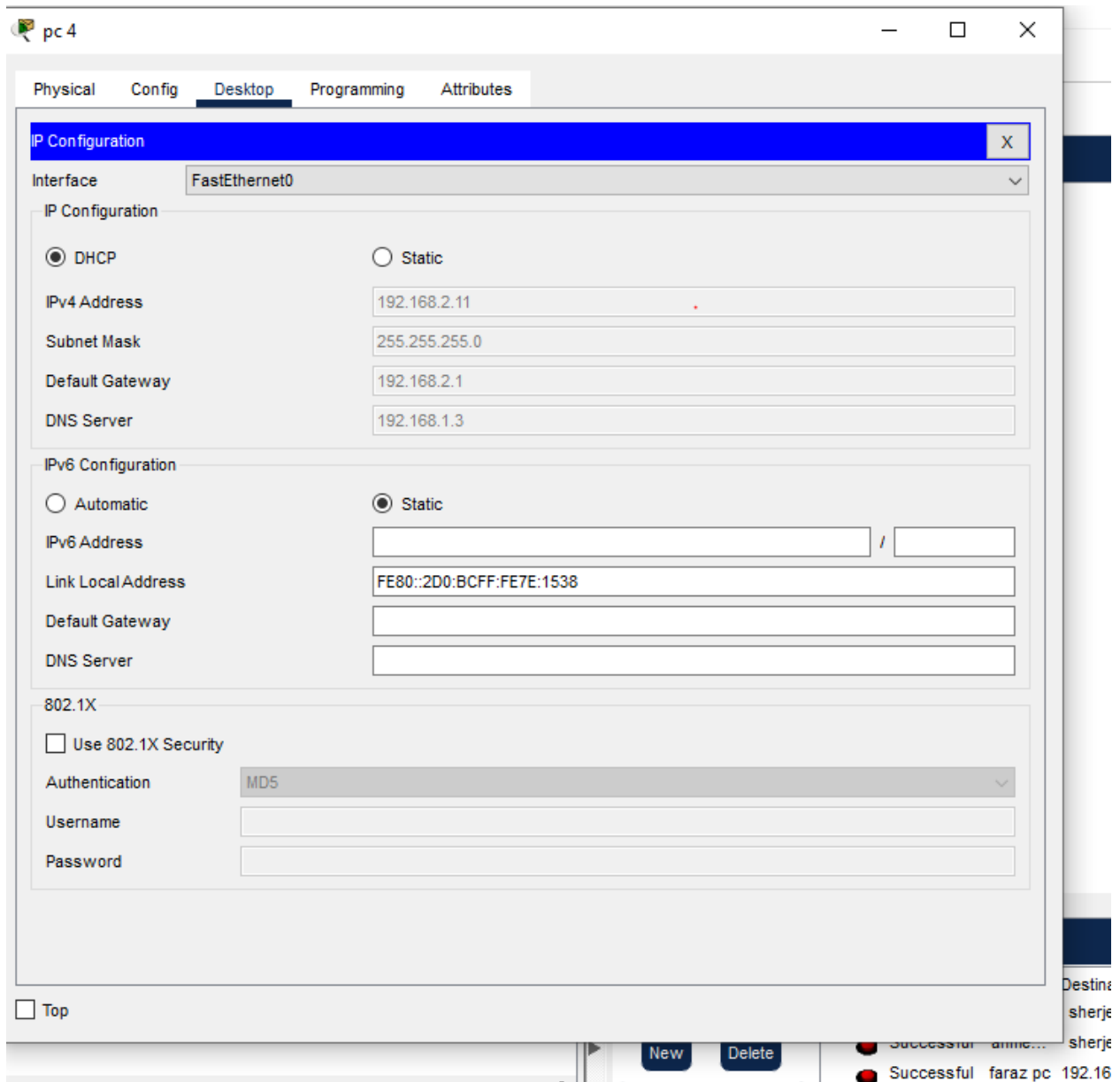
MD5

▼

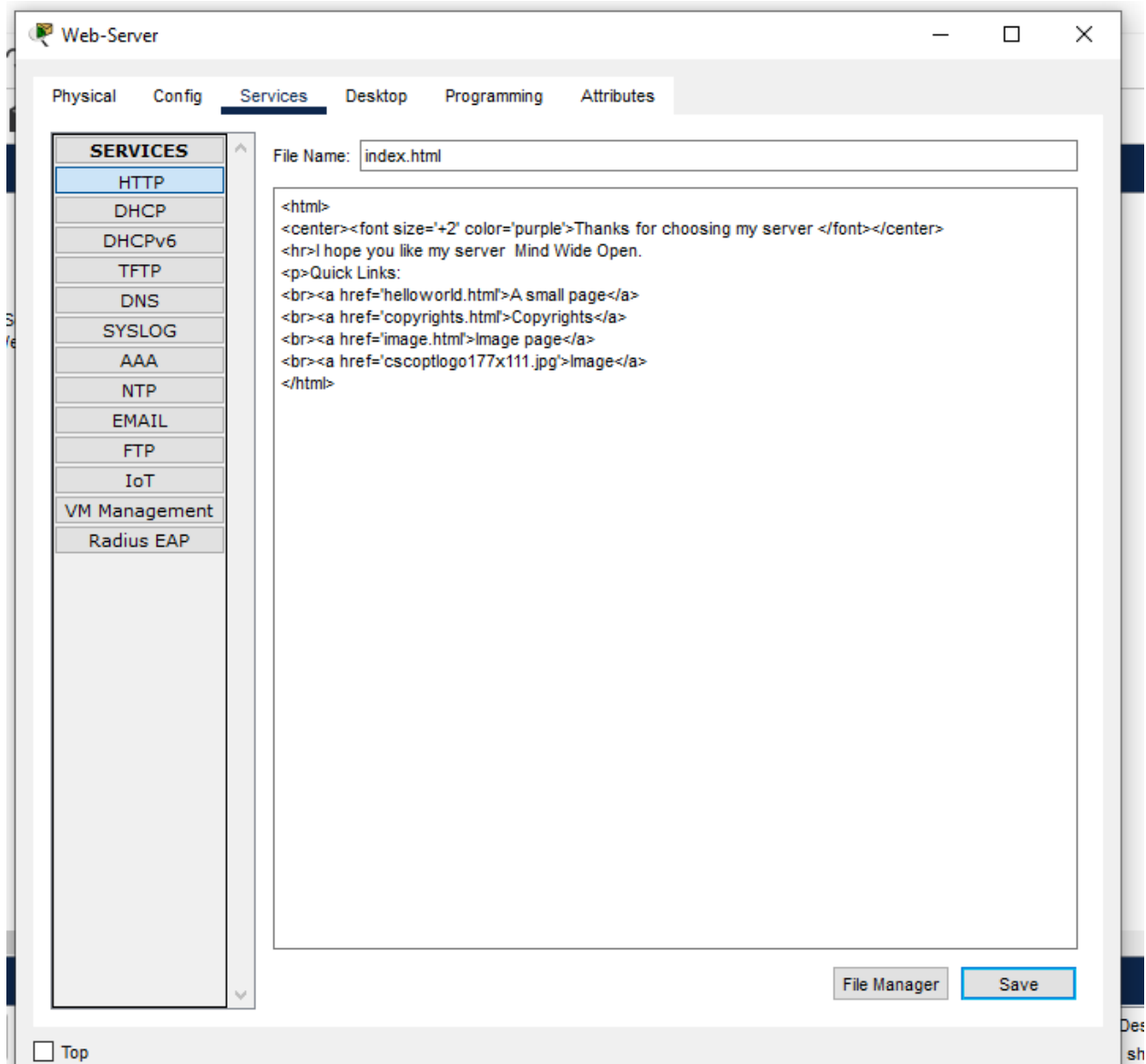
Username

Password

☐ Top

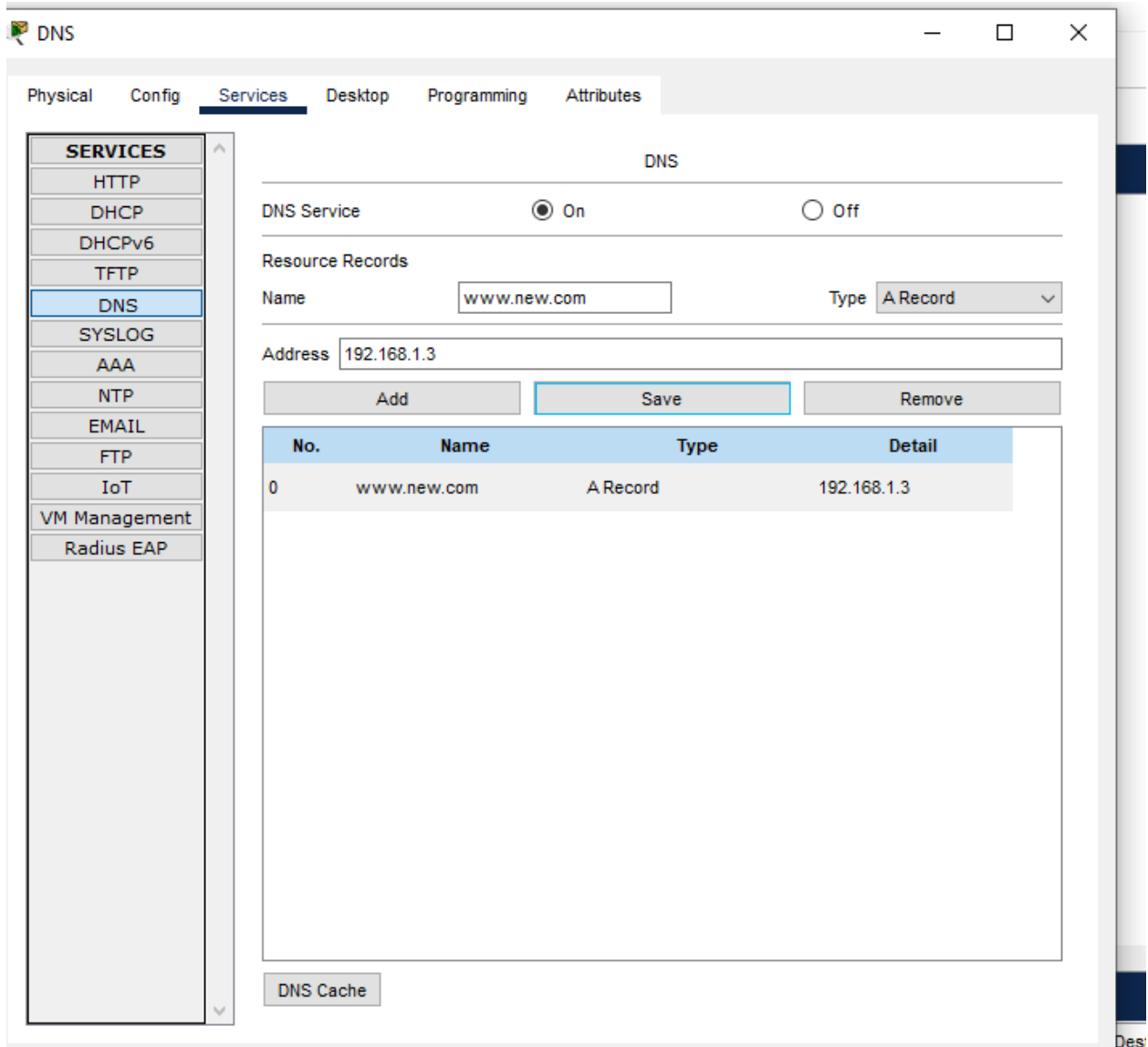


After that we open the web server and go to services and http  
And edit the html code

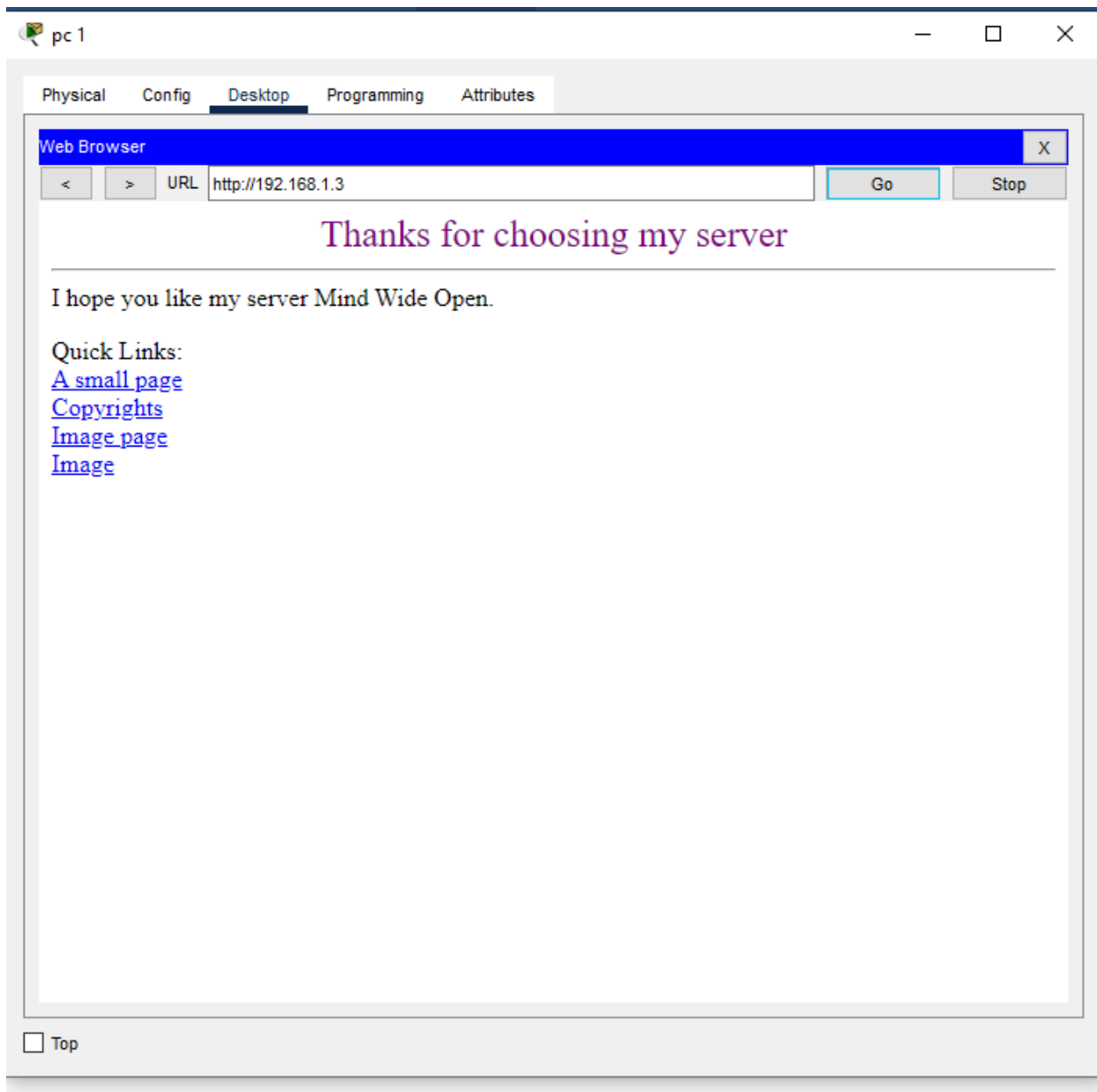


After that we go to the DNS server and go to services and add a domain name and add its ip address





After saving this we open the web browser on our pc and write the ip address of the web server



Then we set the email configuration for all the pc

pc 1

Physical

Config

Desktop

Programming

Attributes

Configure Mail

X

User Information

Your Name:

pc1

Email Address

pc1@gmail.com

Server Information

Incoming Mail Server

192.168.2.2

Outgoing Mail Server

192.168.2.2

Logon Information

User Name:

pc1

Password:

.....

Save

Remove

Clear

Reset

☐ Top

pc 2

Physical Config **Desktop** Programming Attributes

**Configure Mail** X

User Information

Your Name: pc2

Email Address: pc2@gmail.com

Server Information

Incoming Mail Server: 192.168.2.2

Outgoing Mail Server: 192.168.2.2

Logon Information

User Name: pc2

Password: .....

Save Remove Clear Reset

☐ Top

pc 3

Physical Config **Desktop** Programming Attributes

**Configure Mail** X

User Information

Your Name: pc3

Email Address: pc3@gmail.com

Server Information

Incoming Mail Server: 192.168.2.2

Outgoing Mail Server: 192.168.2.2

Logon Information

User Name: pc3

Password: .....

Save Remove Clear Reset

☐ Top

pc 4

Physical Config **Desktop** Programming Attributes

### Configure Mail

User Information

Your Name: pc4

Email Address: pc4@gmail.com

Server Information

Incoming Mail Server: 192.168.2.2

Outgoing Mail Server: 192.168.2.2

Logon Information

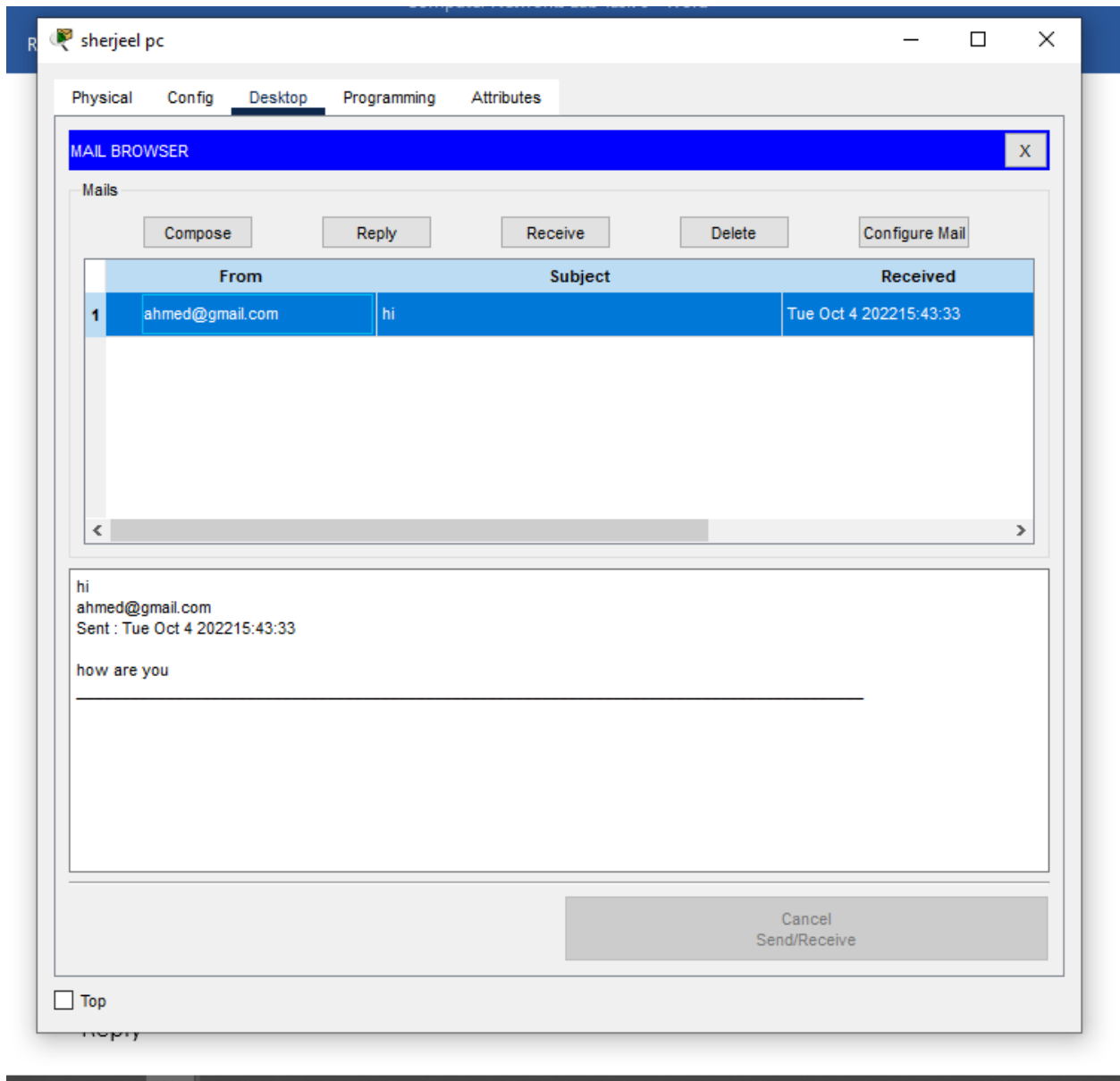
User Name: pc4

Password: .....

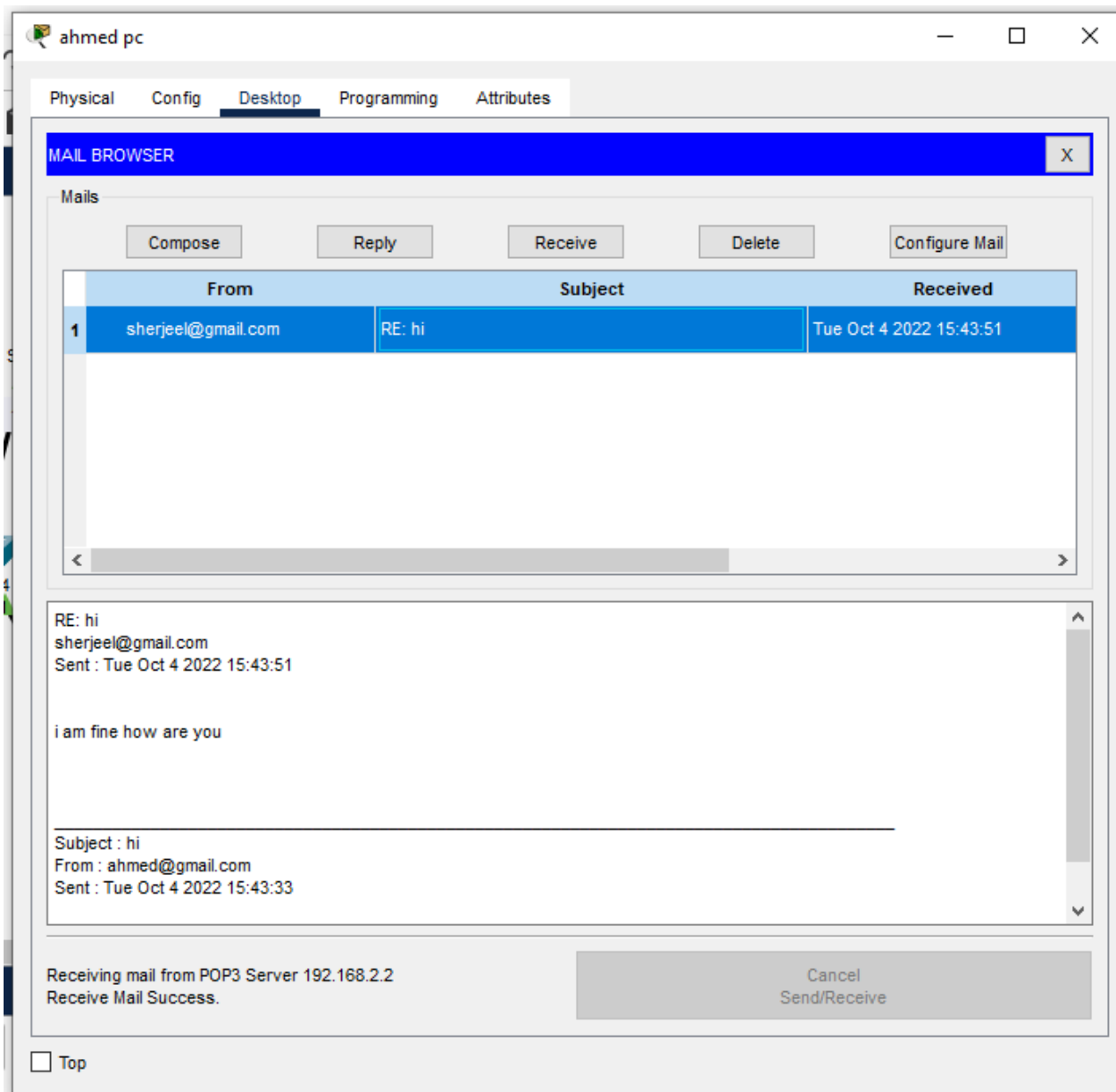
Save Remove Clear Reset

☐ Top

Then we send a mail from pc1 to pc2 and then pc2 reply back to pc1



Reply

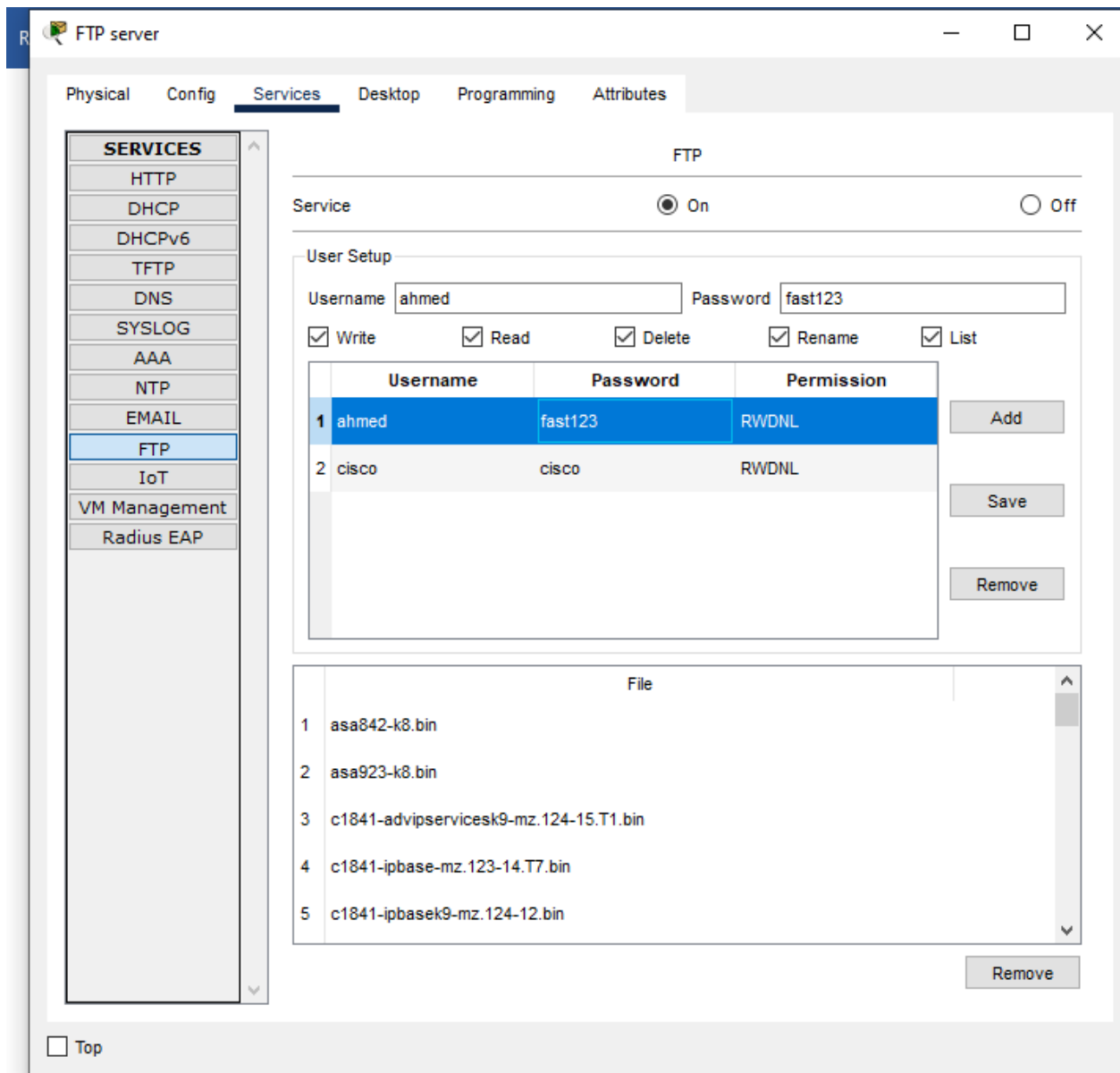


Now we go on to the ftp server and go on services and ftp over there we add username and password we set for the mail server

For example over here we write ahmed and pass fast123

And add and save

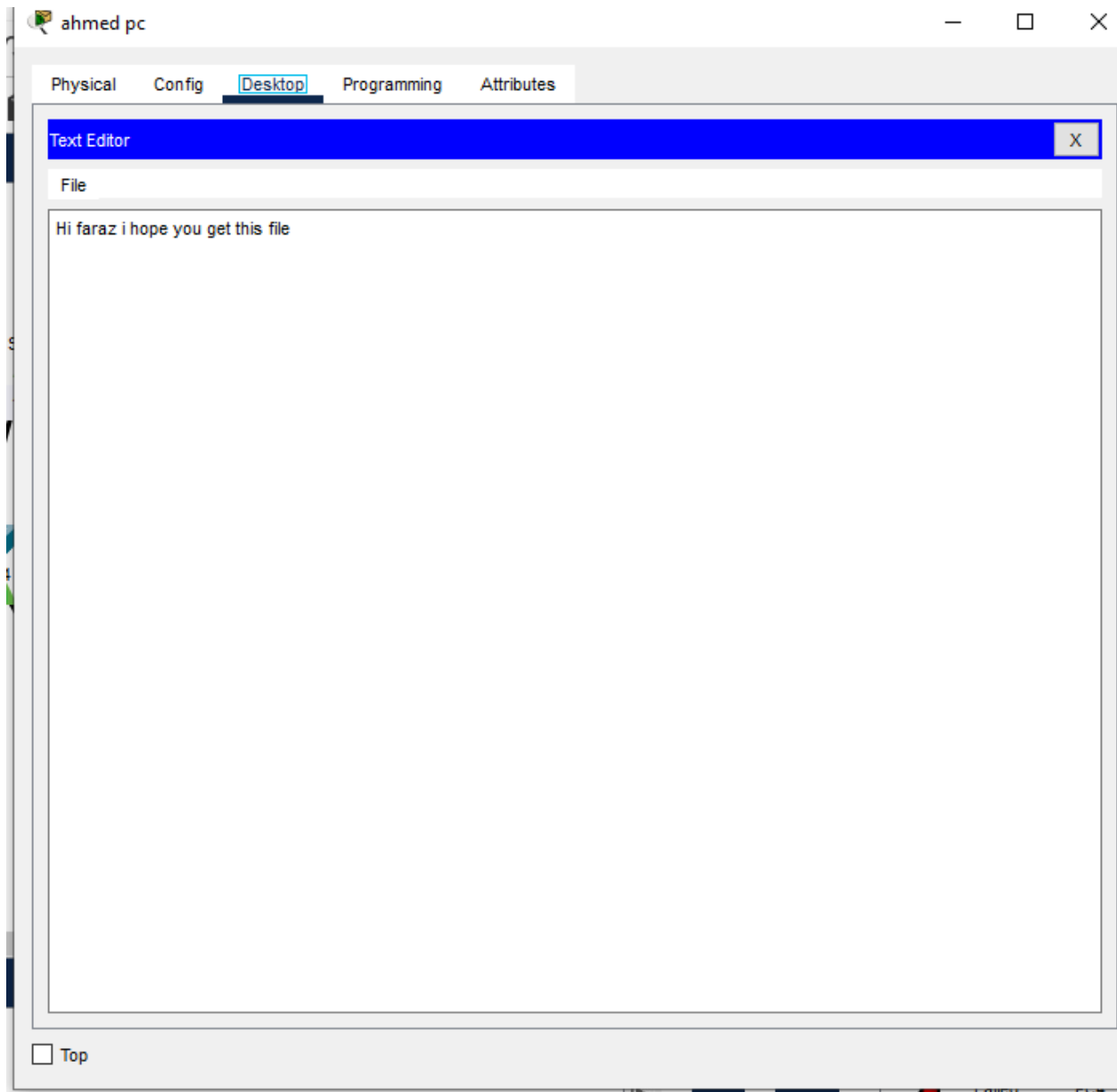




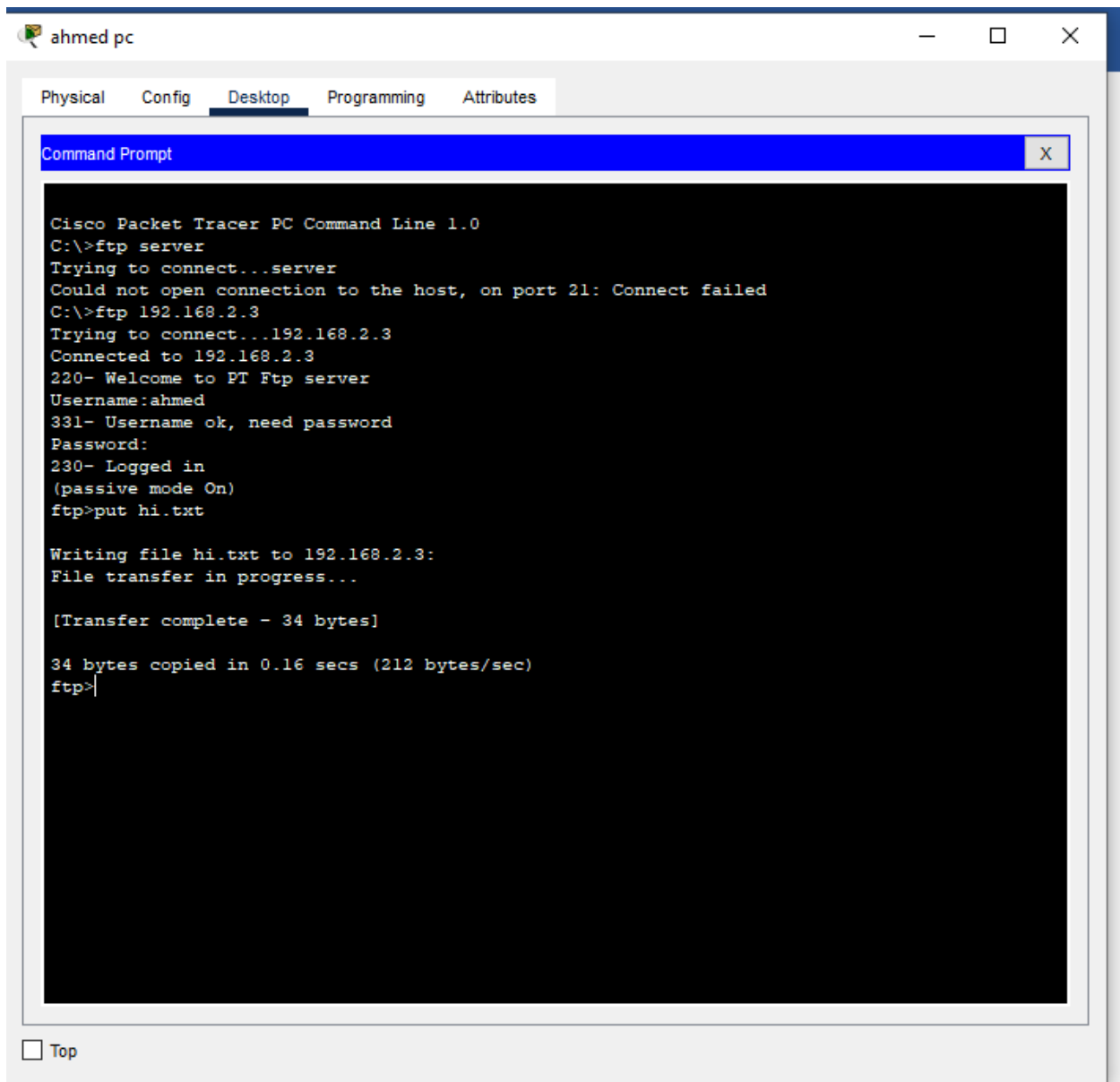
Now we check this we open faraz pc and get the information from the ahmed ftp

First we made a file called hi.txt

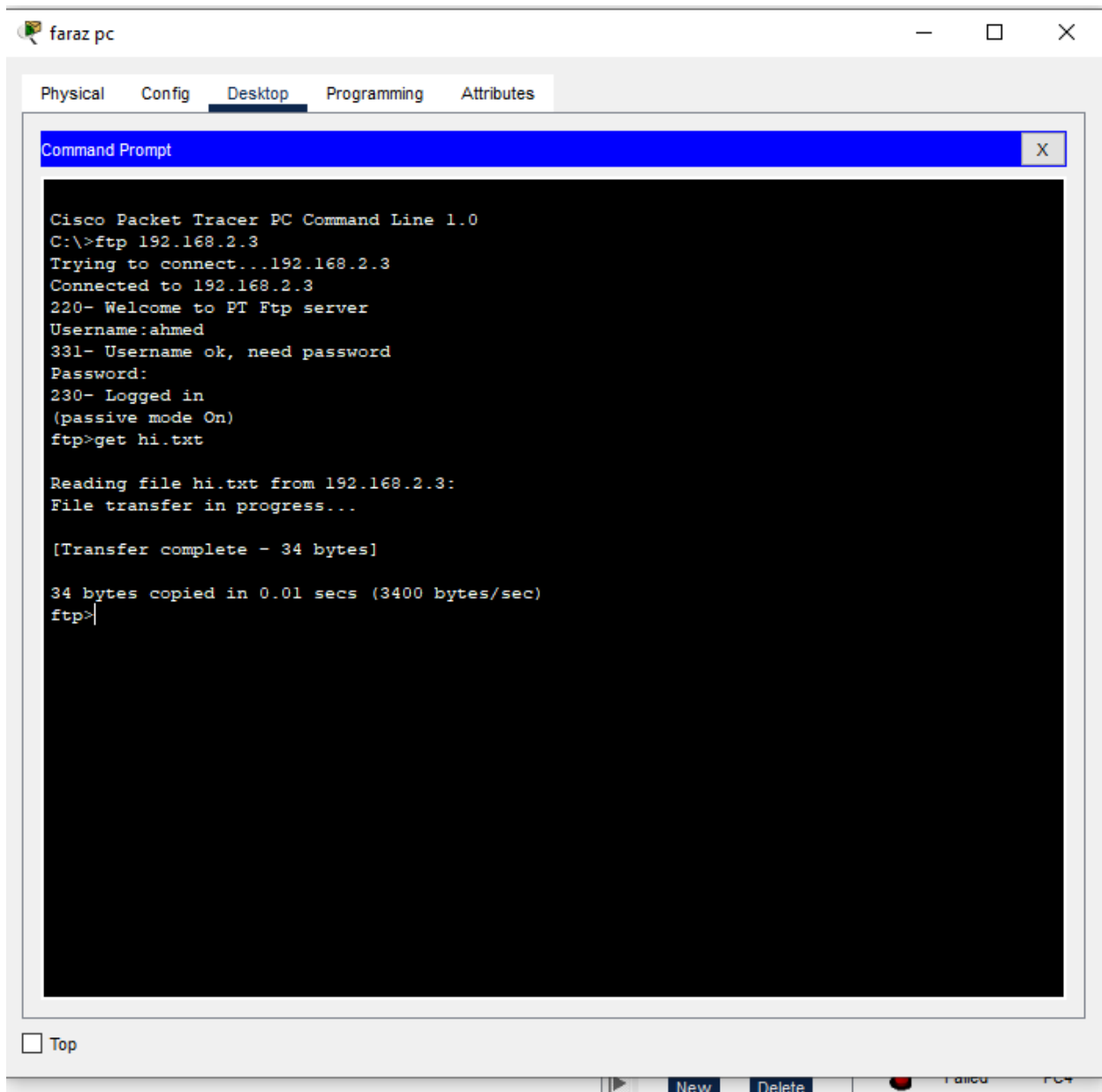
And wrote this



Now we open command prompt and put this in ftp server we connect by typing [ftp 192.168.2.3](ftp://192.168.2.3) and enter ahmed username and pass and logged in and put the file hi.txt



Now we open faraz pc and get the file



Over her you can see the colored portion we have successfully got the file from ahmed pc through the ftp

