

**Name : Izaan MOhtashim**

**Roll No: P20-0613**

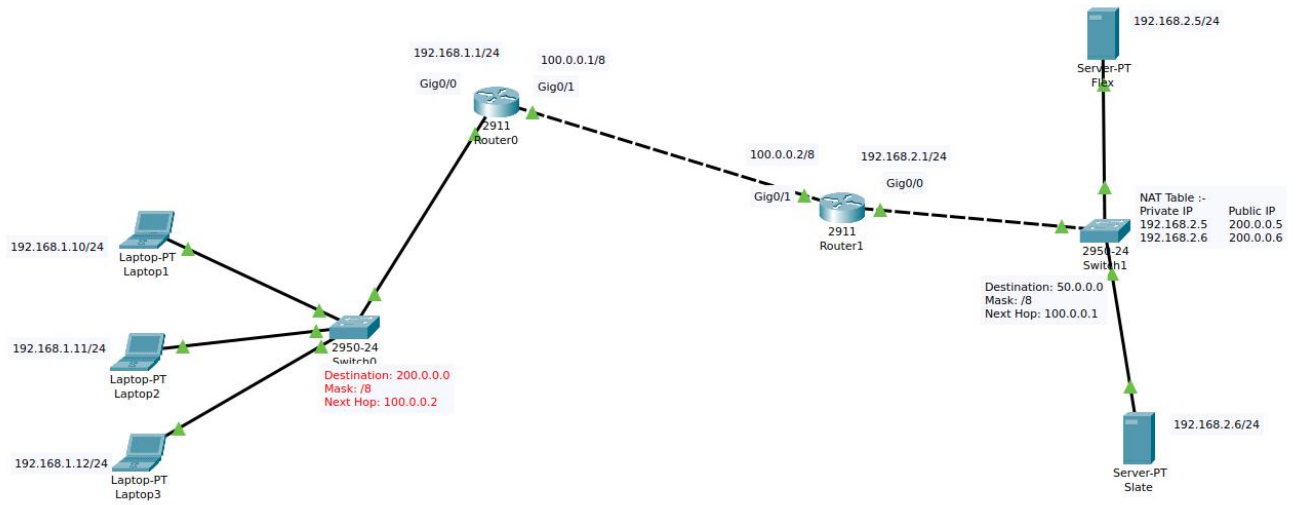
**Sec : 5A**

**Computer Networks**

# Lab Task 13

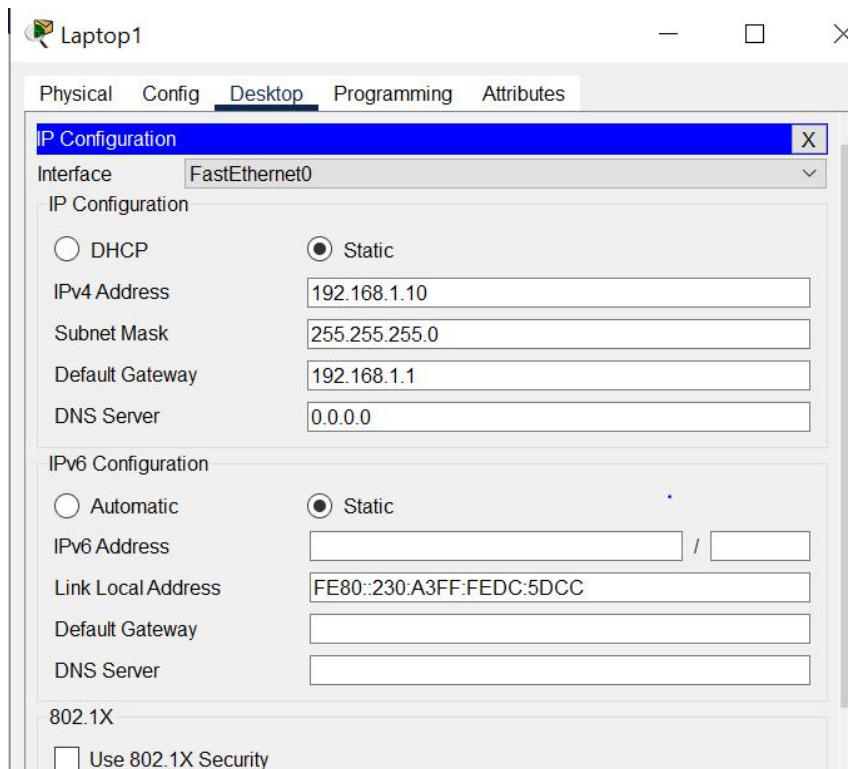


## Task:



## PC CONFIGURATION:

First we will configure the laptop ip addresses.



Laptop2

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 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:BAFF:FE43:8136

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication MD5

Top

Laptop3

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 192.168.1.12

Subnet Mask 255.255.255.0

Default Gateway 192.168.1.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::2D0:58FF:FEA8:2576

Default Gateway

DNS Server

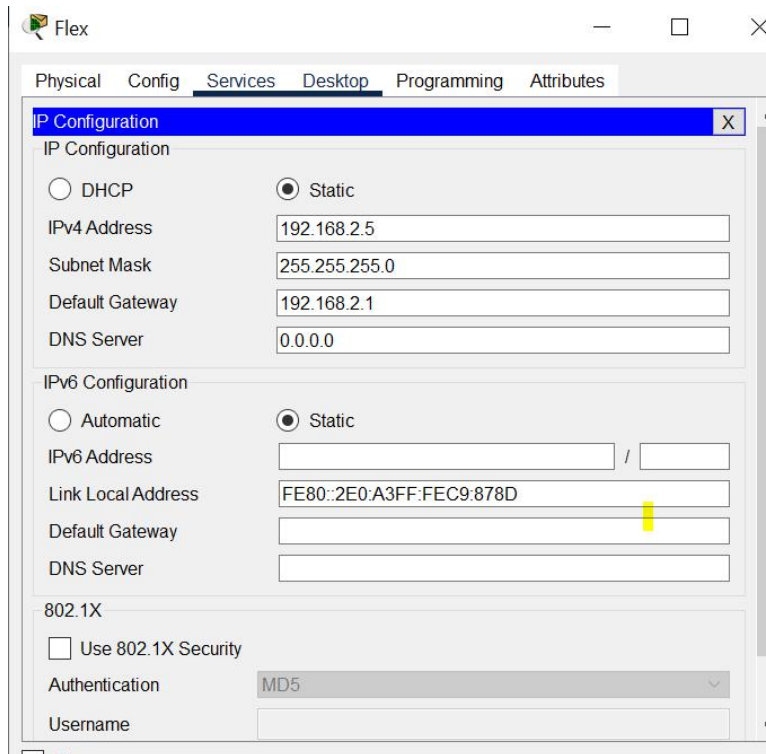
802.1X

☐ Use 802.1X Security

Authentication MD5

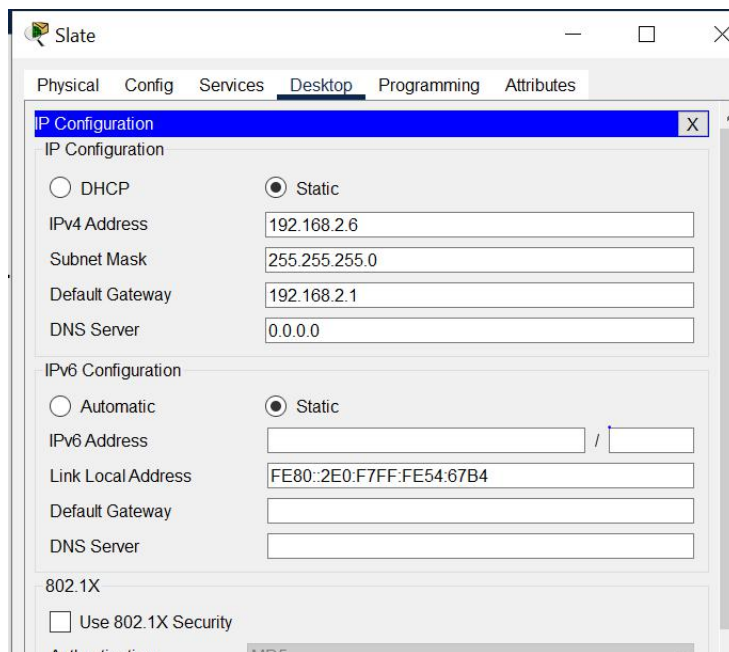
## SERVER CONFIGURATION:

In this we are doing configuration of servers.



The screenshot shows the 'Flex' configuration window with the 'Services' tab selected. The 'IP Configuration' section is expanded, showing settings for both IPv4 and IPv6. The IPv4 configuration is set to 'Static' with an address of 192.168.2.5, subnet mask of 255.255.255.0, default gateway of 192.168.2.1, and DNS server of 0.0.0.0. The IPv6 configuration is also set to 'Static' with a link local address of FE80::2E0:A3FF:FEC9:878D. The 802.1X section is visible at the bottom, with 'Use 802.1X Security' unchecked, 'Authentication' set to 'MD5', and 'Username' empty.

Configuration Type	Static
IPv4 Address	192.168.2.5
Subnet Mask	255.255.255.0
Default Gateway	192.168.2.1
DNS Server	0.0.0.0
IPv6 Address	
Link Local Address	FE80::2E0:A3FF:FEC9:878D
Default Gateway	
DNS Server	
802.1X Security	Use 802.1X Security
Authentication	MD5
Username	



The screenshot shows the 'Slate' configuration window with the 'Desktop' tab selected. The 'IP Configuration' section is expanded, showing settings for both IPv4 and IPv6. The IPv4 configuration is set to 'Static' with an address of 192.168.2.6, subnet mask of 255.255.255.0, default gateway of 192.168.2.1, and DNS server of 0.0.0.0. The IPv6 configuration is also set to 'Static' with a link local address of FE80::2E0:F7FF:FE54:67B4. The 802.1X section is visible at the bottom, with 'Use 802.1X Security' unchecked, 'Authentication' set to 'MD5', and 'Username' empty.

Configuration Type	Static
IPv4 Address	192.168.2.6
Subnet Mask	255.255.255.0
Default Gateway	192.168.2.1
DNS Server	0.0.0.0
IPv6 Address	
Link Local Address	FE80::2E0:F7FF:FE54:67B4
Default Gateway	
DNS Server	
802.1X Security	Use 802.1X Security
Authentication	MD5
Username	

## ROUTER CONFIGURATION:

We will now connect them through router by doing configuration of both router.

### ROUTER 0

Router0

Physical **Config** CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

GigabitEthernet0/0

GigabitEthernet0/1

GigabitEthernet0/2

GigabitEthernet0/0

Port Status ☒ On

Bandwidth ☐ 1000 Mbps ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0007.ECC3.9501

IP Configuration

IPv4 Address 192.168.1.1

Subnet Mask 255.255.255.0

Tx Ring Limit 10

Equivalent IOS Commands

Router(config-if) #

Router0

Physical **Config** CLI Attributes

**GLOBAL**

Settings

Algorithm Settings

**ROUTING**

Static

RIP

**SWITCHING**

VLAN Database

**INTERFACE**

GigabitEthernet0/0

GigabitEthernet0/1

GigabitEthernet0/2

GigabitEthernet0/1

Port Status ☒ On

Bandwidth ☒ 1000 Mbps ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0007.ECC3.9502

IP Configuration

IPv4 Address 100.0.0.1

Subnet Mask 255.0.0.0

Tx Ring Limit 10

Equivalent IOS Commands

Router(config-if) #

Router(config-if) #exit

## ROUTER 1.

The top screenshot shows the configuration for GigabitEthernet0/0. The left sidebar has a tree view with categories: GLOBAL (Settings, Algorithm Settings), ROUTING (Static, RIP), SWITCHING (VLAN Database), and INTERFACE (GigabitEthernet0/0, GigabitEthernet0/1, GigabitEthernet0/2). The main panel for GigabitEthernet0/0 shows: Port Status (On), Bandwidth (100 Mbps), Duplex (Full Duplex), MAC Address (0030.A3C3.0701), IP Configuration (IPv4 Address: 192.168.2.1, Subnet Mask: 255.255.255.0), and Tx Ring Limit (10).

The bottom screenshot shows the configuration for GigabitEthernet0/1. The left sidebar is the same, but GigabitEthernet0/1 is selected. The main panel for GigabitEthernet0/1 shows: Port Status (On), Bandwidth (1000 Mbps), Duplex (Full Duplex), MAC Address (0030.A3C3.0702), IP Configuration (IPv4 Address: 100.0.0.2, Subnet Mask: 255.0.0.0), and Tx Ring Limit (10).

Below the configuration panel in the bottom screenshot is a terminal window titled "Equivalent IOS Commands" showing the following commands:

```
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface GigabitEthernet0/0
Router(config-if)#
Router(config-if)#exit
```

### Configure Dynamic NAT:

There are 4 steps which are required to configure the dynamic NAT. For router 0 we will follow these 4 steps.

#### 1. Create an access list of IP addresses which need translation

In the first step we will create a standard access list which defines which inside local addresses are permitted to map with inside global address.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#
```

Copy

Paste

## 2. Create a pool of all IP address which are available for translation

In second step we define a pool of inside global addresses which are available for translation.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat pool pool1 50.0.0.1 50.0.0.2 netmask 255.0.0.0
Router(config)#
```

Copy

Paste

## 3. Map access list with pool

In third step we map access list with pool. Following command will map the access list with pool and configure the dynamic NAT.

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# access-list 1 permit 192.168.1.0 0.0.0.255
Router(config)#ip nat pool pool1 50.0.0.1 50.0.0.2 netmask 255.0.0.0
Router(config)#ip nat inside source list 1 pool pool1
Router(config)#
```

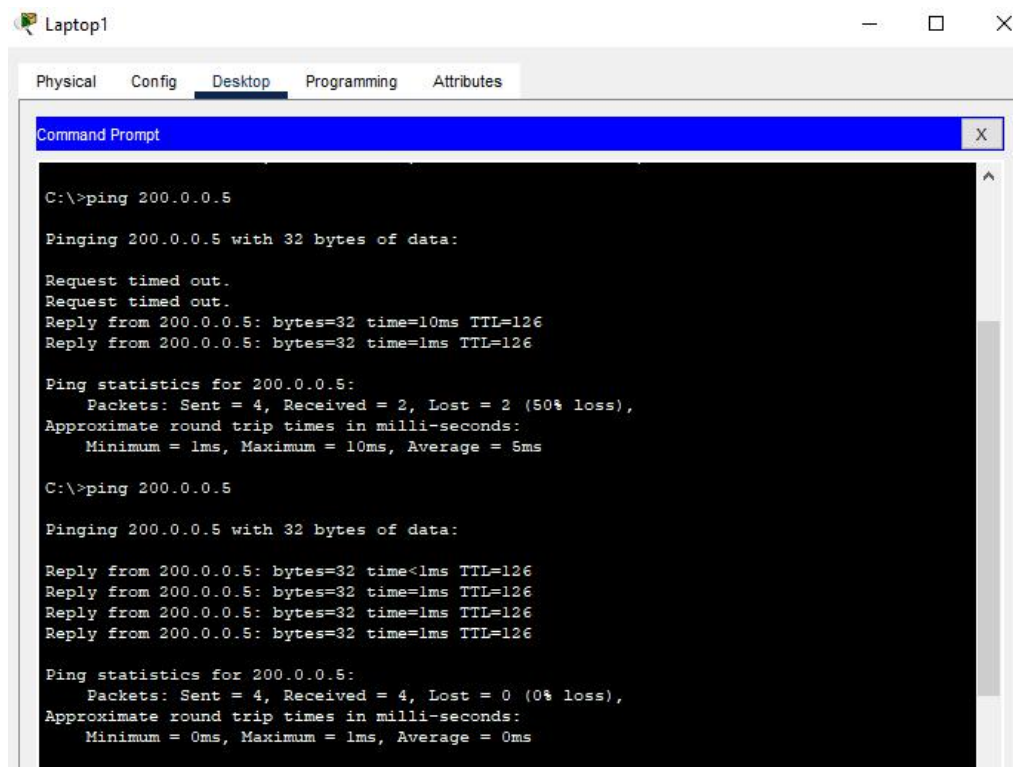
## 4. Define inside and outside interfaces

Now we will determine which interface is connected with local and global network.

```
Router(config-if)#exit
Router(config)#interface Gig0/1
Router(config-if)#ip nat outside
Router(config-if)#exit
```



## Testing Dynamic NAT Configuration



The screenshot shows a Packet Tracer interface for a laptop named 'Laptop1'. The 'Desktop' tab is selected, displaying a 'Command Prompt' window. The window shows the results of two ping commands to the IP address 200.0.0.5. The first command shows a 50% loss of packets, while the second command shows 0% loss.

```
C:\>ping 200.0.0.5

Pinging 200.0.0.5 with 32 bytes of data:

Request timed out.
Request timed out.
Reply from 200.0.0.5: bytes=32 time=10ms TTL=126
Reply from 200.0.0.5: bytes=32 time=1ms TTL=126

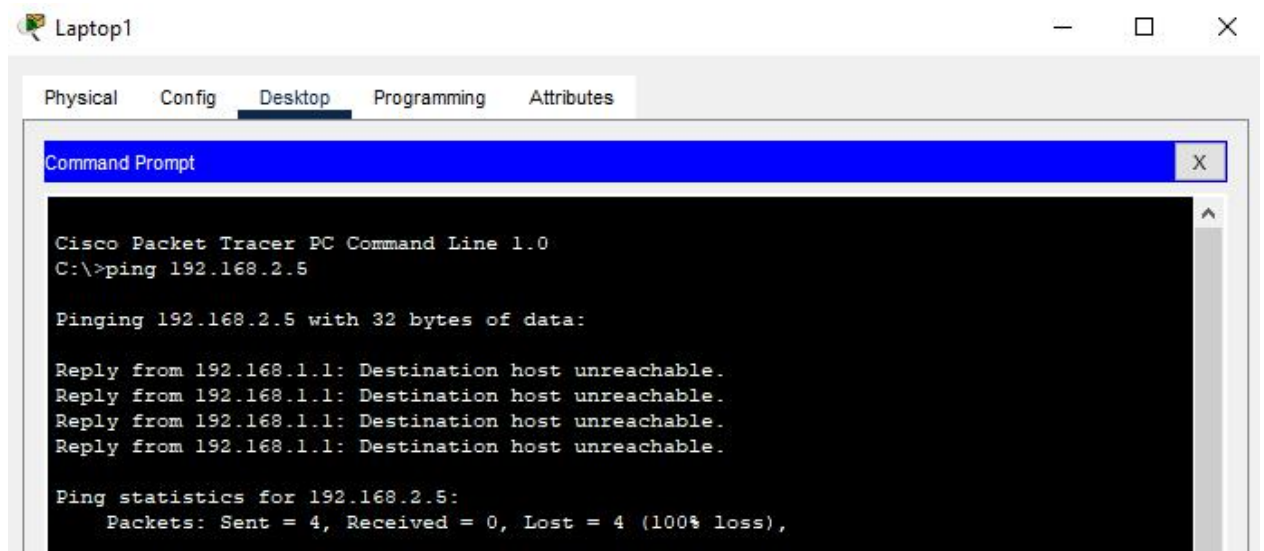
Ping statistics for 200.0.0.5:
    Packets: Sent = 4, Received = 2, Lost = 2 (50% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 10ms, Average = 5ms

C:\>ping 200.0.0.5

Pinging 200.0.0.5 with 32 bytes of data:

Reply from 200.0.0.5: bytes=32 time<1ms TTL=126
Reply from 200.0.0.5: bytes=32 time=1ms TTL=126
Reply from 200.0.0.5: bytes=32 time=1ms TTL=126
Reply from 200.0.0.5: bytes=32 time=1ms TTL=126

Ping statistics for 200.0.0.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```



The screenshot shows a Packet Tracer interface for a laptop named 'Laptop1'. The 'Desktop' tab is selected, displaying a 'Command Prompt' window. The window shows the results of a ping command to the IP address 192.168.2.5, which results in 100% loss of packets.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.5

Pinging 192.168.2.5 with 32 bytes of data:

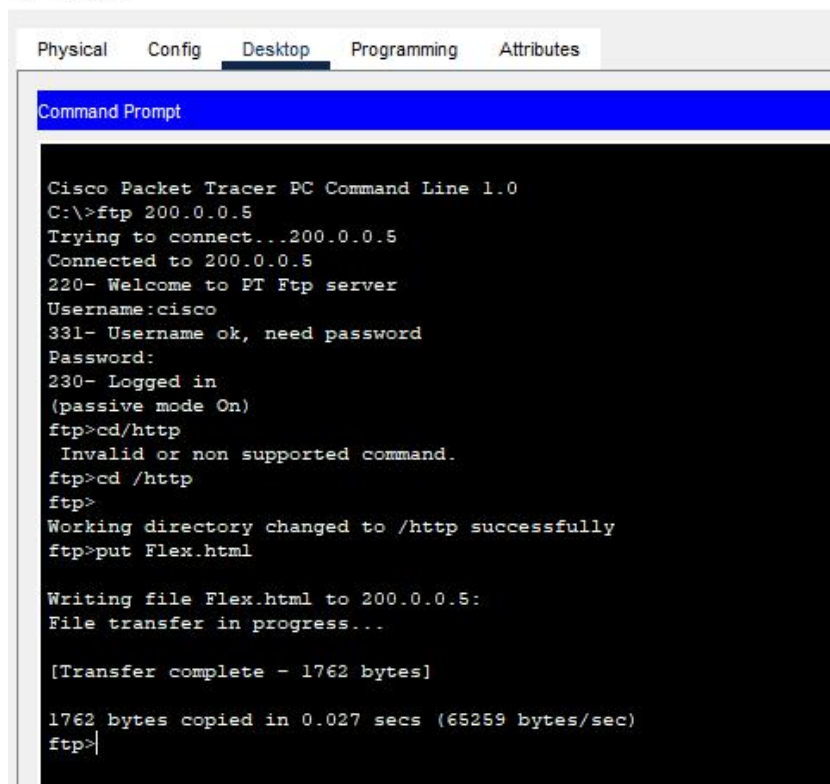
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.
Reply from 192.168.1.1: Destination host unreachable.

Ping statistics for 192.168.2.5:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```



Now we will create a file and then put it on server and then go to go laptop to access it in webbrowser by ip adress.

Laptop2



The image shows the Cisco Packet Tracer PC Command Line interface for a device named Laptop2. The tabs at the top are Physical, Config, Desktop, Programming, and Attributes. The Desktop tab is selected, and a Command Prompt window is open. The command prompt shows the following sequence of commands and responses:

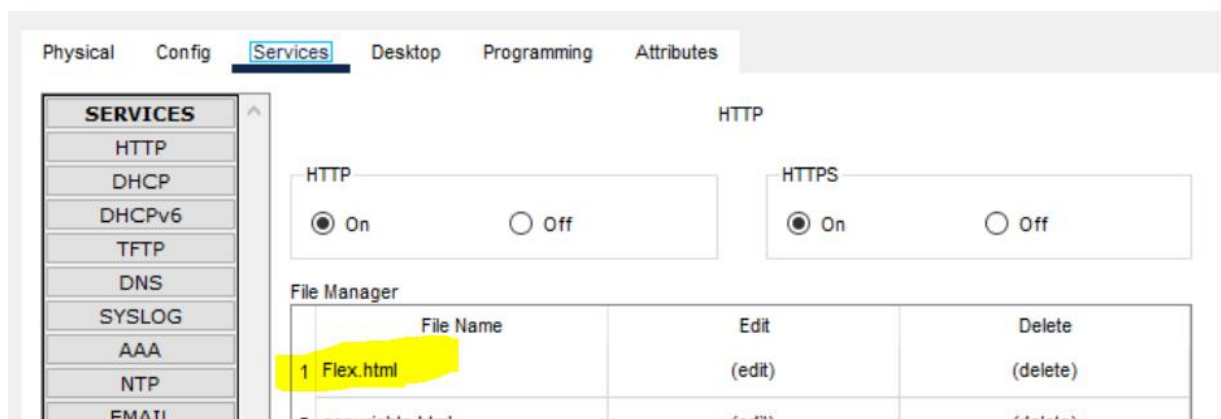
```
Cisco Packet Tracer PC Command Line 1.0
C:\>ftp 200.0.0.5
Trying to connect...200.0.0.5
Connected to 200.0.0.5
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>cd/http
Invalid or non supported command.
ftp>cd /http
ftp>
Working directory changed to /http successfully
ftp>put Flex.html

Writing file Flex.html to 200.0.0.5:
File transfer in progress...

[Transfer complete - 1762 bytes]

1762 bytes copied in 0.027 secs (65259 bytes/sec)
ftp>
```

Flex



The image shows the Cisco Packet Tracer configuration interface for a device named Flex. The tabs at the top are Physical, Config, Services, Desktop, Programming, and Attributes. The Services tab is selected, and the HTTP service is configured. The File Manager tab is also visible, showing a list of files.

**SERVICES**

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL

**HTTP**

HTTP ☒ On ☐ Off

HTTPS ☒ On ☐ Off

**File Manager**

	File Name	Edit	Delete
1	Flex.html	(edit)	(delete)
2	copyrights.html	(edit)	(delete)

