



Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
Semester: (Spring, Year:2022), BSc. in CSE (Day)

LAB REPORT - 02

Course Title: Computer Networking Lab

Course Code: CSE-312

Section: PC-201 DB

Student Details

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Lab Date: 28-11-2022

Submission Date: 15-12-2022

Course Teacher's Name: Rusmita Halim Chaity

[For Teachers use only: **Don't Write Anything inside this box**]

Lab Report Status

Marks:

Signature:

Comments:

Date:

1. TITLE OF THE LAB EXPERIMENT

Configuration of SMTP (Simple Mail Transfer Protocol) and FTP (File Transfer Protocol) Server in two networks using Cisco Packet Tracer.

2. OBJECTIVES/AIM

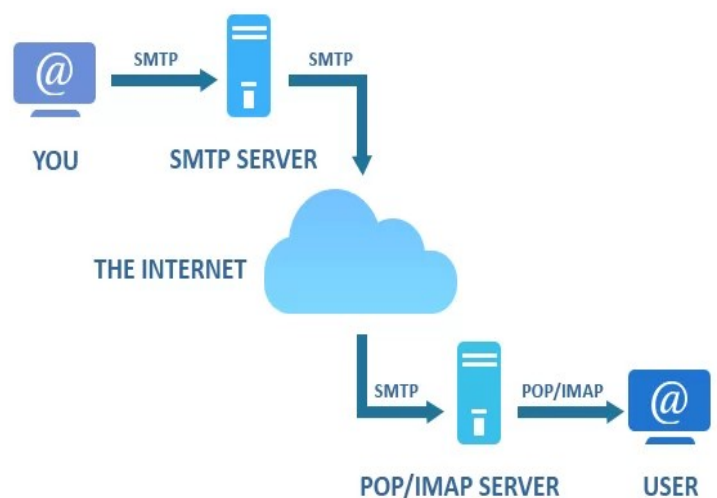
- To build and design network.
- To learn about step-by-step configuration of SMTP and FTP Server.
- To transfer mail from one computer to another computer of same or different network.
- To learn how to upload a file to the FTP Server.
- To learn how to rename and delete a file in an FTP server.
- To learn how to download a file from the FTP Server.
- To learn how to see all file list from the FTP Server.

3. PROCEDURE / ANALYSIS / DESIGN [2 marks]

From this experiment we will create two networks where we can use SMTP for mail and FTP for file transfer. The Simple Mail Transfer Protocol (SMTP) is an internet standard communication protocol for electronic mail transmission. Mail servers and other message transfer agents use SMTP to send and receive mail messages. The File Transfer Protocol (FTP) is a standard network protocol used for the transfer of computer files between a client and server on a computer network. To use FTP in Packet Tracer, its service must be enabled first. Then, a username, password, and permission (write, read, rename, delete, and list) have to be created. After connecting the server, FTP commands such as put, get, rename, dir, and delete can then be applied for the file operation. They will work based on the given permission to the username.



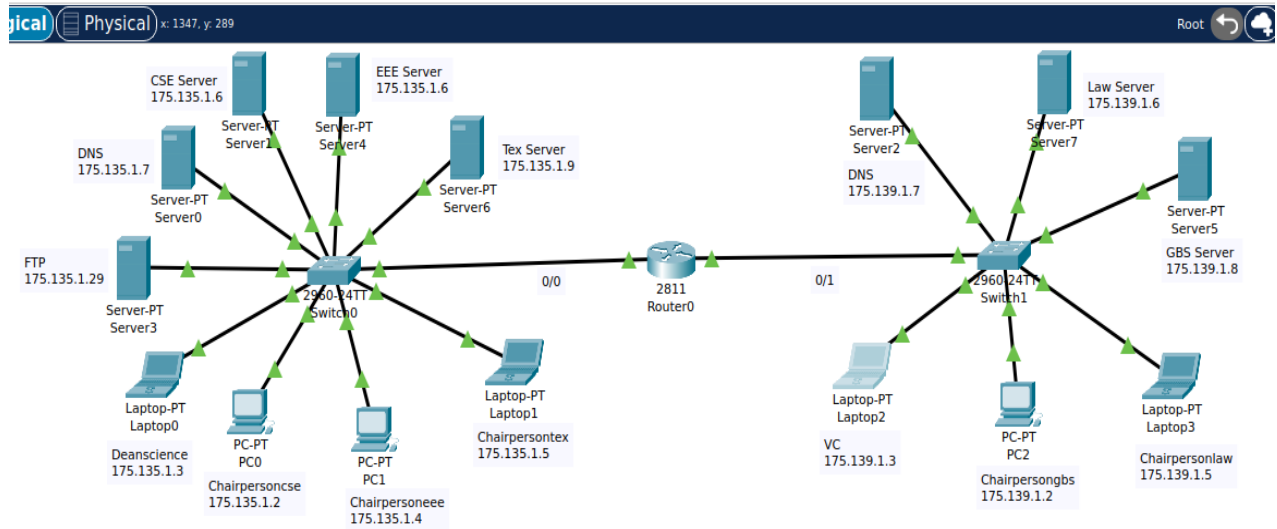
Figure_01: File Transfer



Figure_02: Mail Transfer

4. IMPLEMENTATION

First, we will design two networks that has FTP and SMTP server,



Figure_03: Two networks with FTP and SMTP server

Configuration for Devices,

The screenshot shows the 'IP Configuration' window for a device. The 'FastEthernet0' interface is selected. The 'IP Configuration' section shows the following settings:

Field	Value
Interface	FastEthernet0
IP Configuration	
<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IPv4 Address	175.135.1.2
Subnet Mask	255.255.0.0
Default Gateway	175.135.1.1
DNS Server	0.0.0.0

The 'IPv6 Configuration' section is also visible, showing the following settings:

Field	Value
IPv6 Configuration	
<input type="radio"/> Automatic	<input checked="" type="radio"/> Static
IPv6 Address	
Link Local Address	FE80::240:BFF:FE03:1D56
Default Gateway	
DNS Server	

Figure_04: Device IP Configuration

Physical Config **Desktop** Programming Attributes

Configure Mail

User Information

Your Name:

Email Address:

Server Information

Incoming Mail Server:

Outgoing Mail Server:

Logon Information

User Name:

Password:

Figure_05: Device mail Configuration

Physical Config **Services** Desktop Programming Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

DNS

DNS Service: ☒ On ☐ Off

Resource Records

Name: Type:

Address:

No.	Name	Type	Detail
0	cse.green.edu.bd	A Record	175.135.1.6
1	eee.green.edu.bd	A Record	175.135.1.6
2	gbs.green.edu.bd	A Record	175.135.1.10
3	gbs.green.edu.bd	A Record	175.139.1.8
4	law.green.edu.bd	A Record	175.139.1.6
5	tex.green.edu.bd	A Record	175.135.1.9

Figure_06: DNS Configuration

Physical Config **Services** Desktop Programming Attributes

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	Admin	A1	RWDNL
2	Chairpersoncse	C1	RWL
3	Chairpersoneee	E1	RWL
4	Chairpersongbs	G1	RWL
5	Chairpersonlaw	L1	RWL

File

1	R.txt
2	asa842-k8.bin
3	asa923-k8.bin
4	c1841-advipservicesk9-mz.124-15.T1.bin
5	c1841-ipbase-mz.123-14.T7.bin

Figure_07: FTP Configuration

Physical Config **Services** Desktop Programming Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

AAA

NTP

EMAIL

FTP

IoT

VM Management

Radius EAP

EMAIL

SMTP Service: ☒ ON ☐ OFF

POP3 Service: ☒ ON ☐ OFF

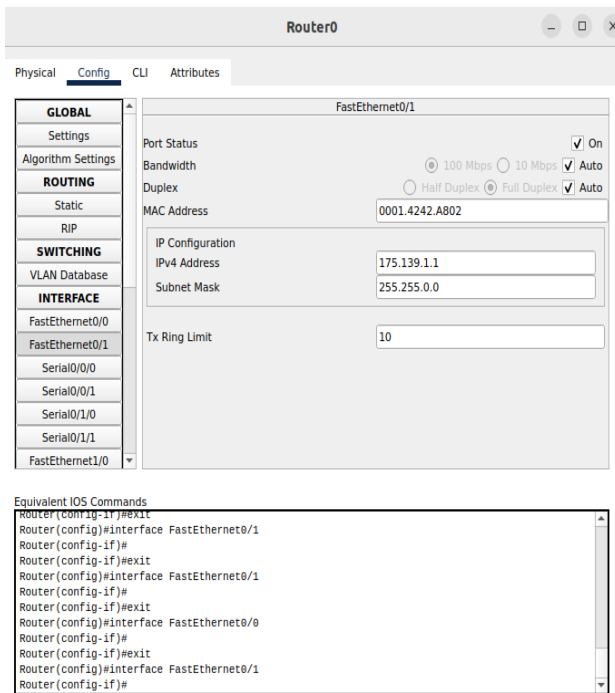
Domain Name:

User Setup

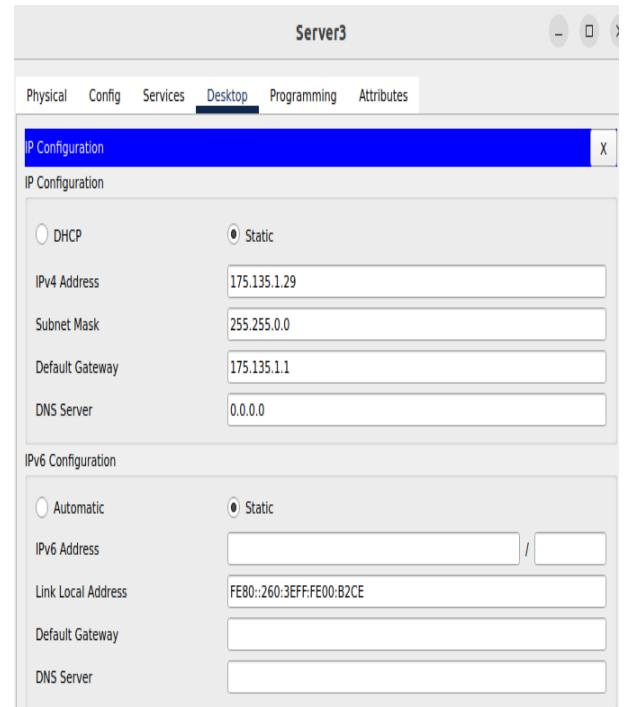
User: Password:

☐ Top

Figure_08: SMTP Configuration



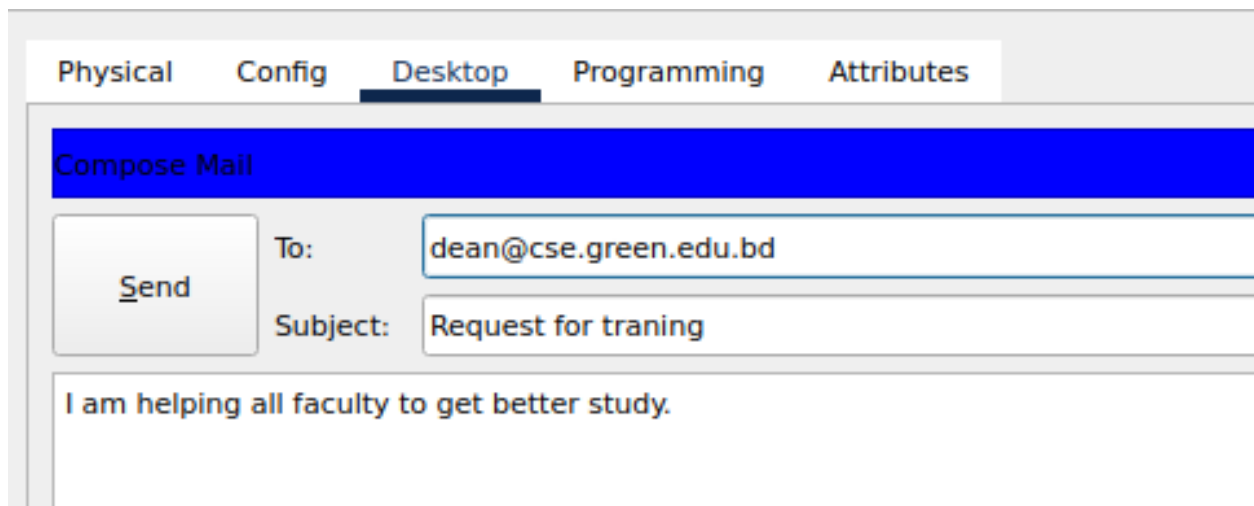
Figure_09: Router IP Configuration



Figure_10: Server IP Configuration

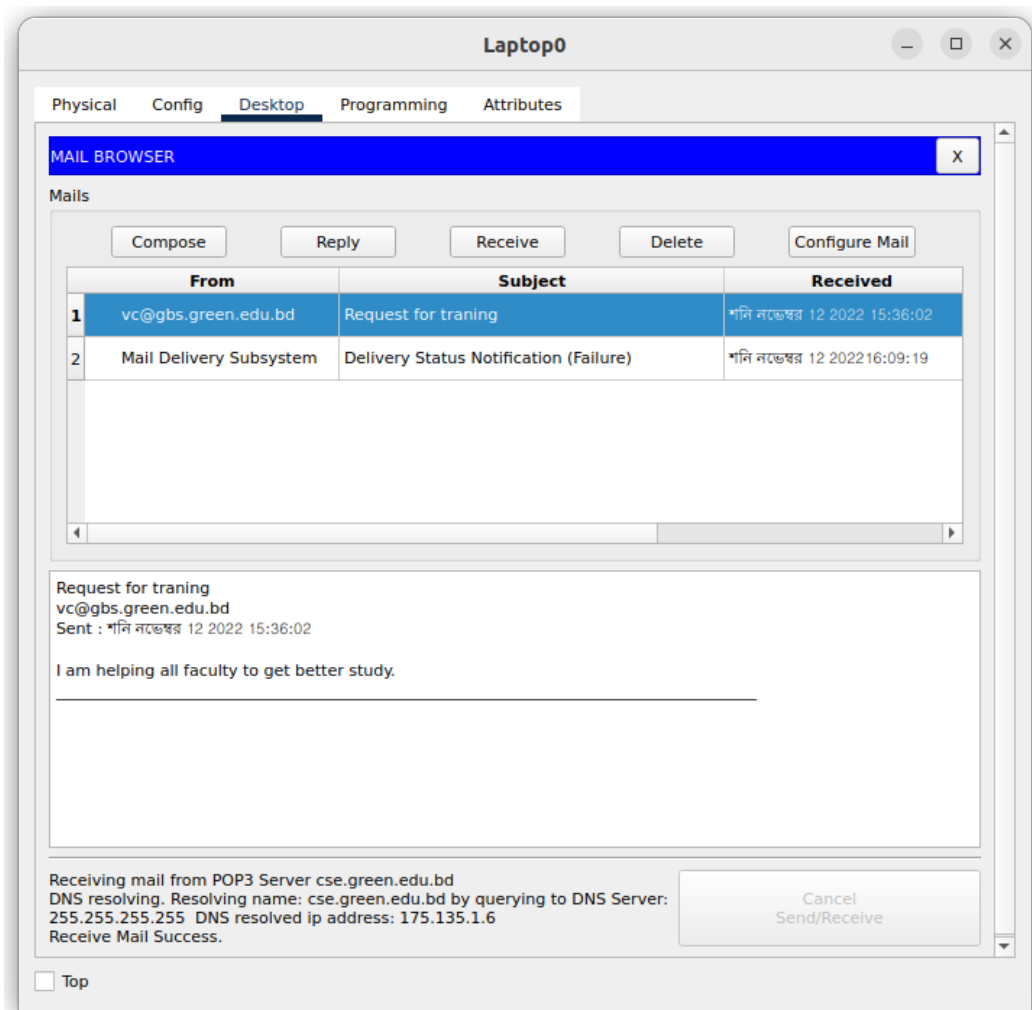
5. TEST RESULT / OUTPUT

For SMTP,



Figure_11: Send Mail

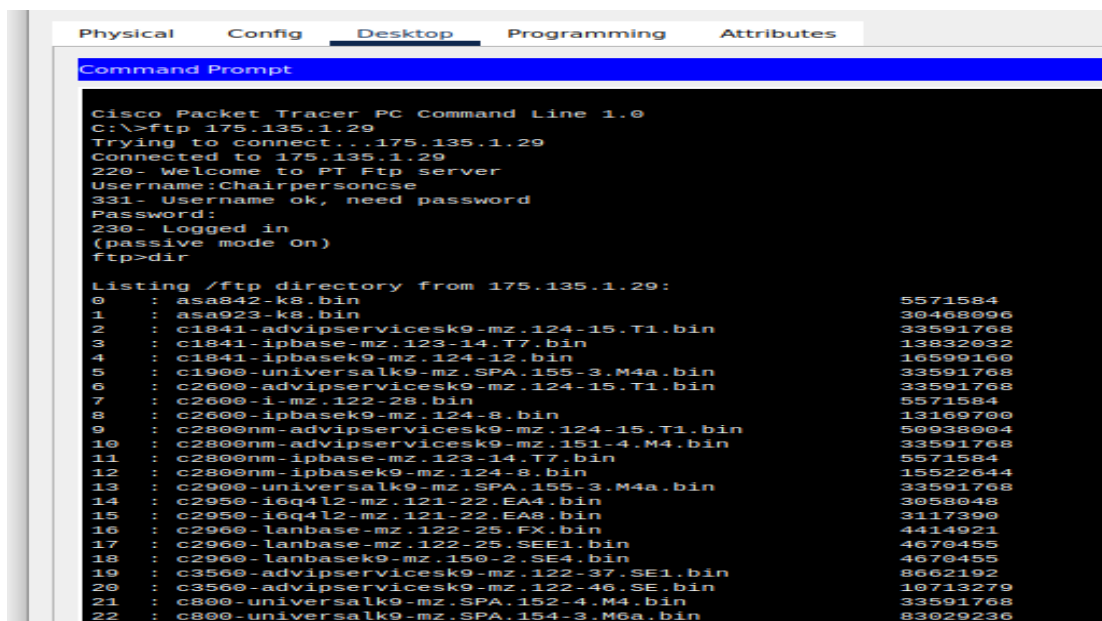
From this Figure_11 we send a mail from VC to DEAN. We use unique mail id to identify them. They are stayed in different network.



Figure_12: Receive Mail

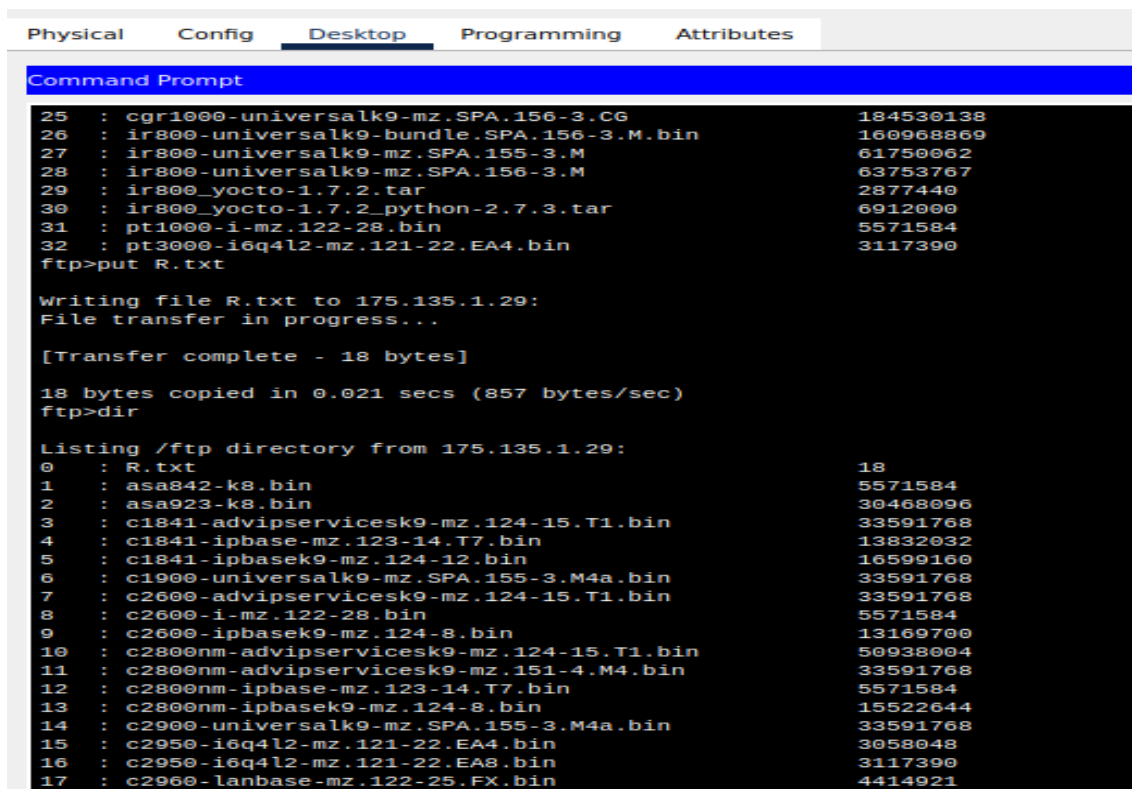
From this Figure_12 we dean take a mail from VC . We can also see the mail's message.

For FTP,



Figure_13: Connect FTP and see file

From this Figure_13 we will connect FTP server using IP address and UserName and Password and we can also see the all file of this server using dir command.



The screenshot shows a Windows desktop environment with a 'Command Prompt' window open. The window has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes', with 'Desktop' selected. The Command Prompt displays the following text:

```
25 : cgr1000-universalk9-mz.SPA.156-3.CG 184530138
26 : ir800-universalk9-bundle.SPA.156-3.M.bin 160968869
27 : ir800-universalk9-mz.SPA.155-3.M 61750062
28 : ir800-universalk9-mz.SPA.156-3.M 63753767
29 : ir800_yocto-1.7.2.tar 2877440
30 : ir800_yocto-1.7.2_python-2.7.3.tar 6912000
31 : pt1000-i-mz.122-28.bin 5571584
32 : pt3000-i6q4l2-mz.121-22.EA4.bin 3117390
ftp>put R.txt

Writing file R.txt to 175.135.1.29:
File transfer in progress...

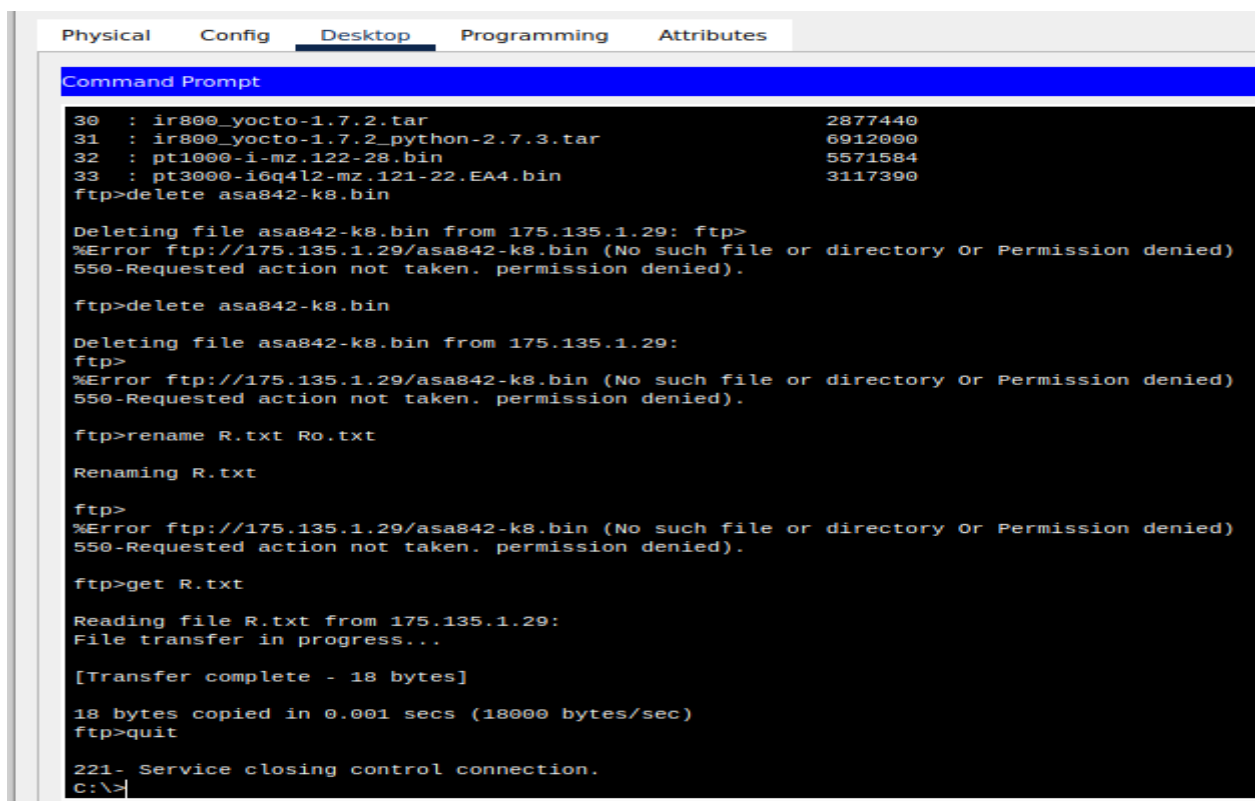
[Transfer complete - 18 bytes]

18 bytes copied in 0.021 secs (857 bytes/sec)
ftp>dir

Listing /ftp directory from 175.135.1.29:
0 : R.txt 18
1 : asa842-k8.bin 5571584
2 : asa923-k8.bin 30468096
3 : c1841-advipservicesk9-mz.124-15.T1.bin 33591768
4 : c1841-ipbase-mz.123-14.T7.bin 13832032
5 : c1841-ipbasek9-mz.124-12.bin 16599160
6 : c1900-universalk9-mz.SPA.155-3.M4a.bin 33591768
7 : c2600-advipservicesk9-mz.124-15.T1.bin 33591768
8 : c2600-i-mz.122-28.bin 5571584
9 : c2600-ipbasek9-mz.124-8.bin 13169700
10 : c2800nm-advipservicesk9-mz.124-15.T1.bin 50938004
11 : c2800nm-advipservicesk9-mz.151-4.M4.bin 33591768
12 : c2800nm-ipbase-mz.123-14.T7.bin 5571584
13 : c2800nm-ipbasek9-mz.124-8.bin 15522644
14 : c2900-universalk9-mz.SPA.155-3.M4a.bin 33591768
15 : c2950-i6q4l2-mz.121-22.EA4.bin 3058048
16 : c2950-i6q4l2-mz.121-22.EA8.bin 3117390
17 : c2960-lanbase-mz.122-25.FX.bin 4414921
```

Figure_14: Create .txt file and upload file

From this Figure_14 we will create a R.txt file using TextEditor and we can also upload that file of this server using put command.



The screenshot shows a Windows desktop environment with a 'Command Prompt' window open. The window has tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes', with 'Desktop' selected. The Command Prompt displays the following text:

```
30 : ir800_yocto-1.7.2.tar 2877440
31 : ir800_yocto-1.7.2_python-2.7.3.tar 6912000
32 : pt1000-i-mz.122-28.bin 5571584
33 : pt3000-i6q4l2-mz.121-22.EA4.bin 3117390
ftp>delete asa842-k8.bin

Deleting file asa842-k8.bin from 175.135.1.29: ftp>
%Error ftp://175.135.1.29/asa842-k8.bin (No such file or directory Or Permission denied)
550-Requested action not taken. permission denied).

ftp>delete asa842-k8.bin

Deleting file asa842-k8.bin from 175.135.1.29:
ftp>
%Error ftp://175.135.1.29/asa842-k8.bin (No such file or directory Or Permission denied)
550-Requested action not taken. permission denied).

ftp>rename R.txt Ro.txt

Renaming R.txt

ftp>

%Error ftp://175.135.1.29/asa842-k8.bin (No such file or directory Or Permission denied)
550-Requested action not taken. permission denied).

ftp>get R.txt

Reading file R.txt from 175.135.1.29:
File transfer in progress...

[Transfer complete - 18 bytes]

18 bytes copied in 0.001 secs (18000 bytes/sec)
ftp>quit

221- Service closing control connection.
C:\>
```

Figure_15: Delete, Rename, Get file and Quit FTP server

From this Figure_15 we will delete asa842-k8.bin file using delete command then we will rename R.txt file using rename command. But that Computer has no permission so it can't it. Next we will get R.txt file using get command and finally we quit this server using quit command.

6. ANALYSIS AND DISCUSSION

This experiment mainly based on Cisco Packet Tracer. Based on the focused objective(s) to learn the step-by-step configuration of FTP server and SMTP server. This task will help us to learn how to use the FTP services to transfer files between clients and the server and how to transfer mail from one network to another network. The main hard part of this experiment is successfully completed two networks. We face some problem for configuration devices(Server). Now, we get so many knowledge to create a complete relation between two networks.

7. SUMMARY:

In this experiment we create two networks and those are connected with router. To create a relational network where we can use SMTP for mail and FTP for file transfer. We use SMTP for transfer mail one devices to another. To begin with, SMTP and POP3 (Post Office Protocol 3) services should be enabled to ON first. SMTP is a protocol for sending an email, while POP3 is the 3rd version protocol for holding and receiving an email. FTP is used for transferring of computer files between a client and server. To use FTP in Packet Tracer, its service must be enabled first. Then, a username, password, and permission (write, read, rename, delete, and list) have to be created. After connecting the server, FTP commands such as put, get, rename, dir, and delete can then be applied for the file operation. They will work based on the given permission to the username. Those SMTP and FTP are most important part to create a good network. That;s why this experiment is very interesting and helpful for future.