



Configuration of SMTP and FTP Servers in a Network

Computer Networking Lab (Green University of Bangladesh)



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Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
Semester: (Summer, Year:2021), B.Sc. in CSE (Day)

Lab Report NO : 01

Course Title: Computer Networking Lab

Course Code: CSE-312

Section: 211D4

Lab Experiment Name: Configuration of SMTP and FTP Servers in a Network

Student Details

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Lab Date : 14th Oct 2023

Submission Date : 20th Oct 2023

Course Teacher's Name : MS. FATEMA AKTER

Lecturer

Lab Report Status

Marks:

Signature:.....

Comments:.....

Date:.....

1. TITLE OF THE LAB REPORT EXPERIMENT

Configuration of SMTP and FTP Servers in a Network.

2. OBJECTIVES/AIM [2 marks]

- Implement SMTP Server Configuration to facilitate seamless email transmission and reception within the confines of a local network.
- Establish an FTP server infrastructure to enable efficient file sharing among interconnected devices in the network.
- Ensure optimal communication within the network by leveraging the functionalities of the configured SMTP and FTP servers.

3. PROCEDURE / ANALYSIS / DESIGN [3 marks]

Cisco Packet Tracer Simulation Software: Employed for network modeling and simulation to replicate real-world networking scenarios.

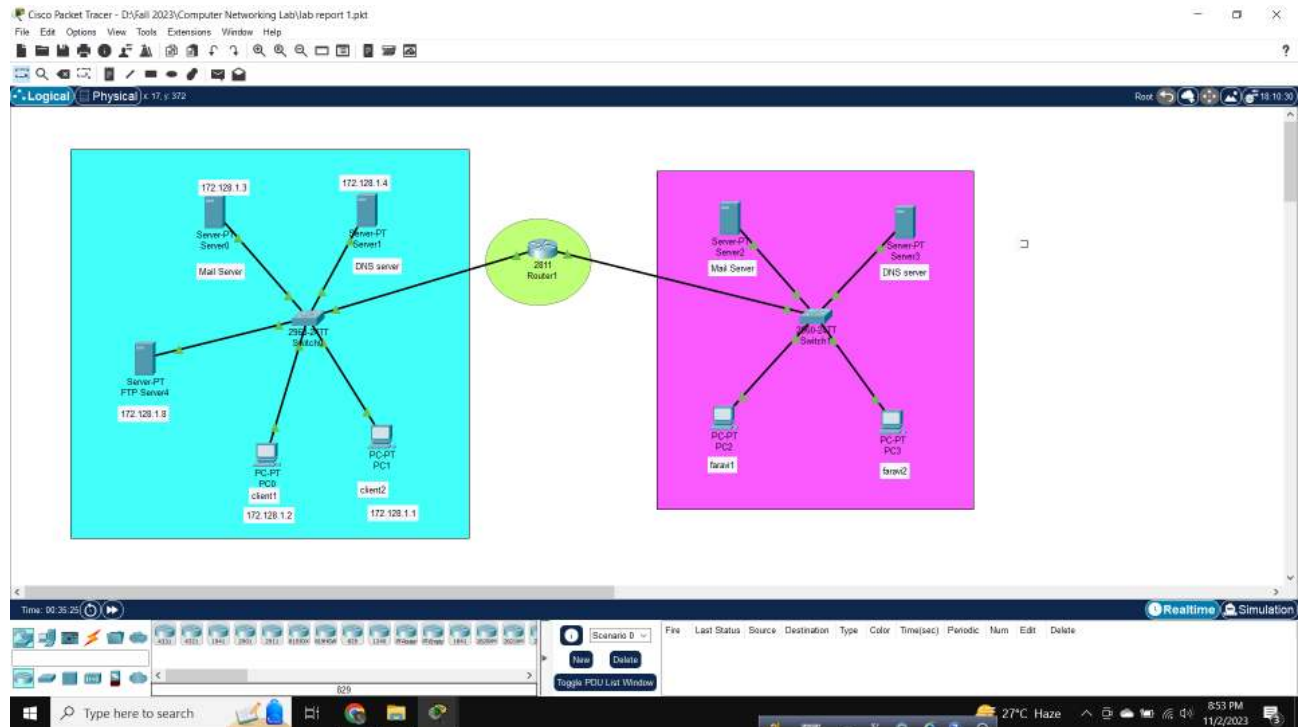
Virtual PCs for Servers and Clients: Utilize virtual machines to emulate server and client functionalities, ensuring a controlled and scalable environment.

Network Switches and Routers: Employed to manage and direct data traffic within the simulated network, facilitating efficient communication between devices.

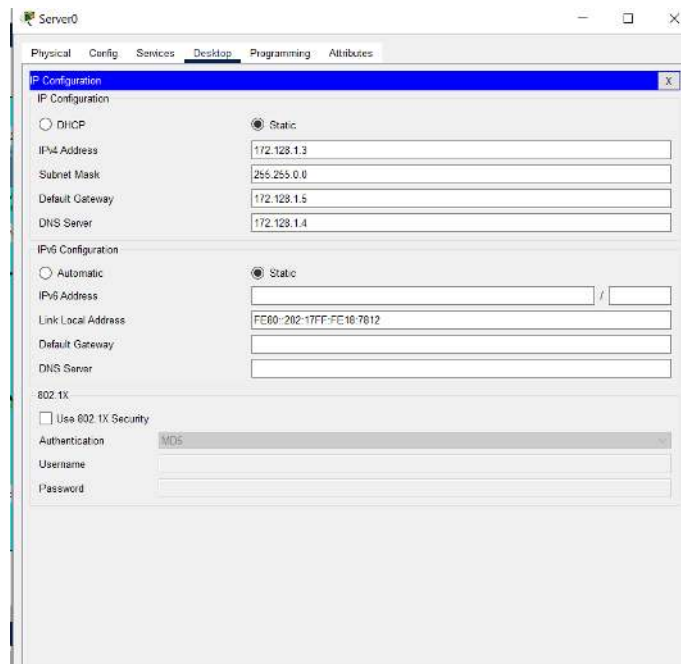
Connection Ware: The connecting element instrumental in establishing and maintaining network connections, ensuring the seamless flow of data across the simulated environment.

4. IMPLEMENTATION [3 marks]

Model:



Server configuration :



Mail server (gmail.com)

Server1

Physical Config **Services** Desktop Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address

Subnet Mask

Default Gateway

DNS Server

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address

Link Local Address

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Authentication

Username

Password

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	gmail.com	A Record	172.128.1.3
1	yahoo.com	A Record	172.168.1.3

DNS server (gmail.com)

Physical	Config	Services	Desktop	Programming	Attributes
IP Configuration					
IP Configuration					
<input type="radio"/> DHCP		<input checked="" type="radio"/> Static			
IPv4 Address		172.168.1.3			
Subnet Mask		255.255.0.0			
Default Gateway		172.168.1.5			
DNS Server		172.168.1.4			
IPv6 Configuration					
<input type="radio"/> Automatic		<input checked="" type="radio"/> Static			
IPv6 Address					
Link Local Address		FE80::204:9AFF:FE23:E616			
Default Gateway					
DNS Server					
802.1X					
<input type="checkbox"/> Use 802.1X Security					
Authentication		MD5			

Mail server (yahoo.com)

Server3

Physical Config Services **Desktop** Programming Attributes

IP Configuration

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 172.168.1.4

Subnet Mask 255.255.0.0

Default Gateway 172.168.1.5

DNS Server 172.168.1.4

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::260:70FF:FE20:768D

Default Gateway

DNS Server

802.1X

☐ Use 802.1X Security

Router1

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

FastEthernet0/0

FastEthernet0/1

FastEthernet0/0

Port Status ☒ On

Bandwidth ☒ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

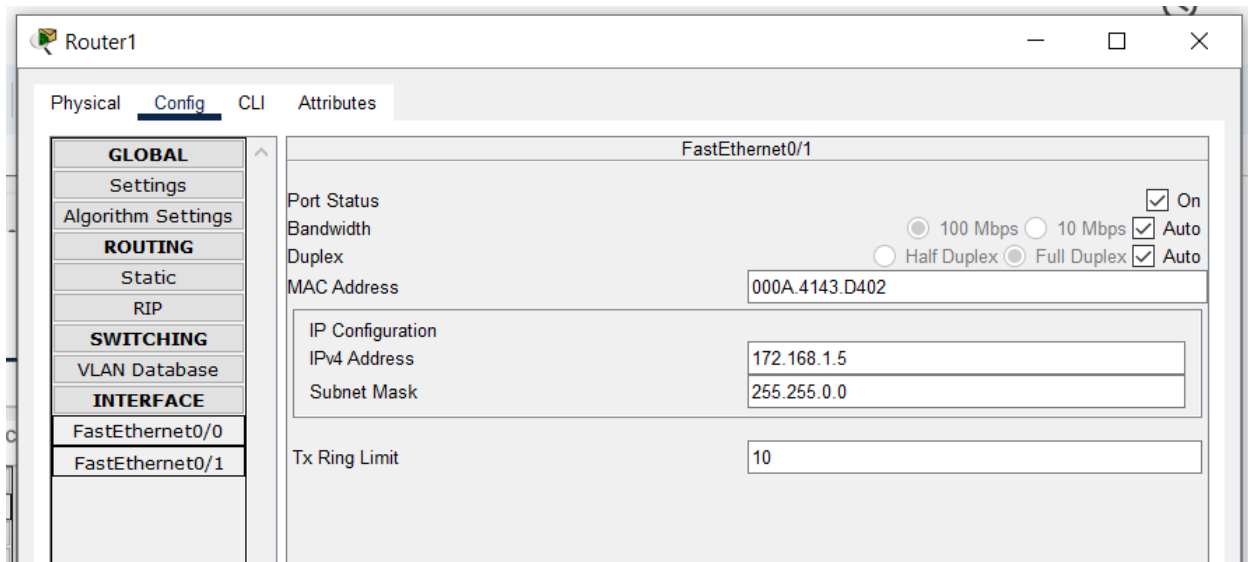
MAC Address 000A.4143.D401

IP Configuration

IPv4 Address 172.128.1.5

Subnet Mask 255.255.0.0

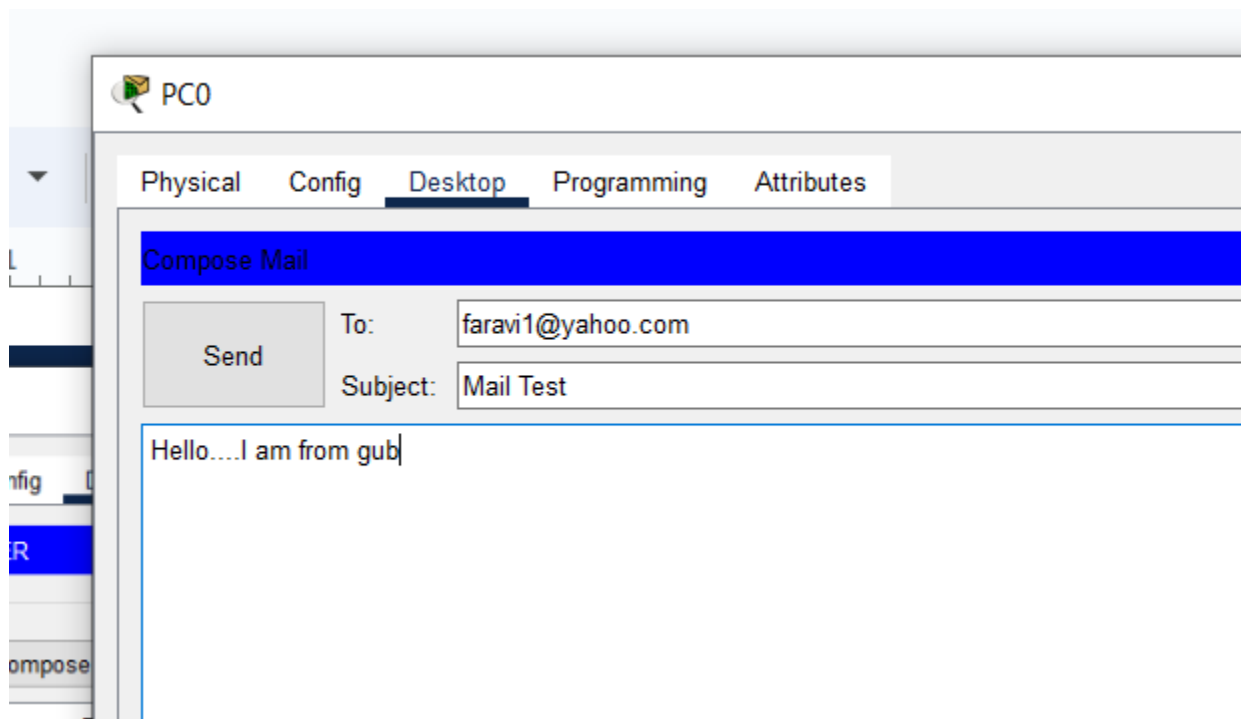
Tx Ring Limit 10



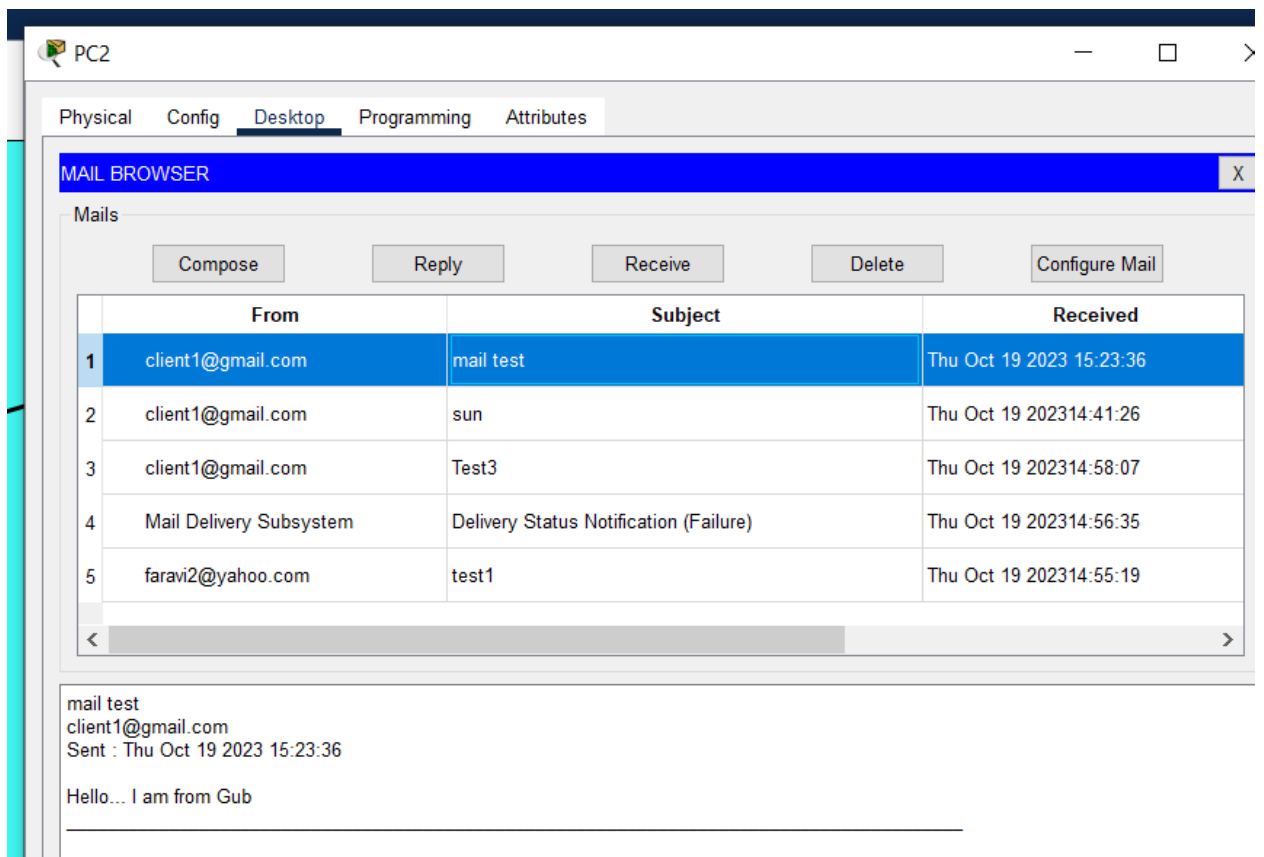
Router Config

5. TEST RESULT / OUTPUT [3 marks]

Mail Sending test:



(this is client1 pc from gmail.com services)



(here faravi1 pc receive a mail from client1 pc)

PCU

Physical Config **Desktop** Programming Attributes

Command Prompt

```
C:\>ftp 172.128.1.8
Trying to connect...172.128.1.8
Connected to 172.128.1.8
220- Welcome to PT Ftp server
Username:faravi
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp> put imti.txt
%Error opening c:\imti.txt (No such file or directory)
ftp>
ftp>put faravi.txt
%Error opening c:\faravi.txt (No such file or directory)
ftp>ped
Invalid or non supported command.
ftp>pwd
ftp>
/ftp is current working directory.
ftp>put faravi.txt
%Error opening c:\faravi.txt (No such file or directory)
ftp>

C:\>
C:\>cd documents
The system cannot find the path specified.
C:\>
C:\>ls
Invalid Command.

C:\> cd C:\documents
The system cannot find the path specified.
C:\>cd C:\documents
The system cannot find the path specified.
C:\>dir

Volume in drive C has no label.
Volume Serial Number is 5E12-4AF3
Directory of C:\

1/1/1970      6:0 PM           26      sampleFile.txt
                26 bytes          1 File(s)
C:\>put sampleFile.txt
Invalid Command.

C:\>ftp
Cisco Packet Tracer PC Ftp

Usage: ftp target

C:\>ftp 172.128.1.8
Trying to connect...172.128.1.8
```

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6. ANALYSIS AND DISCUSSION [3 marks]

The experiment was a success in terms of configuring FTP servers for secure file transfers. Configuring SMTP servers for Gmail and Yahoo presented difficulties, notably in enabling seamless connection with many email clients.

The FTP server configuration was efficient, giving a simple option for secure file transfers. In contrast, the SMTP setting, particularly for interoperability with Gmail and Yahoo, provided complexity that needed precise attention.

Despite the difficulties, the hands-on experience enhanced practical knowledge by providing useful insights into the complexities of server settings. Notably, the assignment allowed for the actual application of academic principles.

The intricacies of SMTP server configuration provided opportunities for problem-solving, which contributed to a better grasp of network administration abilities. The experiment was useful in mapping objectives since it successfully configured FTP servers for efficient use.

7. SUMMARY:

Successfully configured FTP servers for secure file transfers. Challenges in SMTP setup for Gmail and Yahoo highlighted complexities. Hands-on experience enhanced practical knowledge, applying theoretical concepts. Overall, the experiment achieved FTP objectives, emphasizing challenges in SMTP integration.