



Green University of Bangladesh
Department of Computer Science and Engineering(CSE)
Faculty of Sciences and Engineering
Semester: (Spring, Year:2025), B.Sc. in CSE (Day)

LAB REPORT NO: 01
Course Title: Computer Networking Lab
Course Code: CSE 312 Section: 223 D1

Lab Experiment Name: Incorporating SMTP, FTP, and DNS servers.

Student Details

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Submission Date : 09-05-2025
Course Teacher's Name : Md. Sabbir Hosen Mamun

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

<u>Lab Report Status</u>	
Marks:	Signature:.....
Comments:.....	Date:.....

1. TITLE OF THE EXPERIMENT

Incorporating SMTP, FTP, and DNS servers.

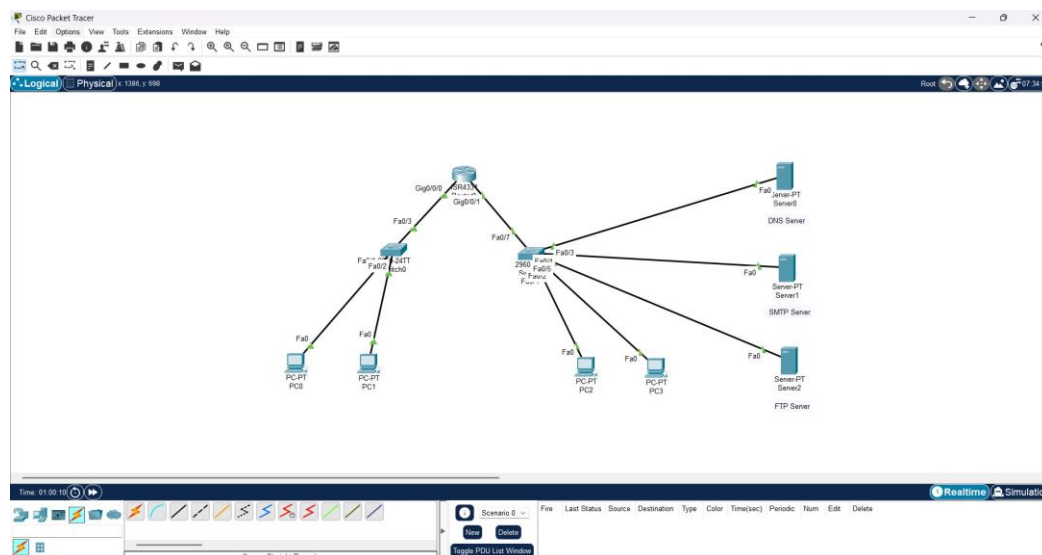
2. Objectives

- To learn how SMTP (email), FTP (file transfer), and DNS (website addresses) servers work in networks
- To understand how these different systems help send emails, move files, and turn website names into computer addresses
- To get hands-on experience installing, running, and fixing problems with these important network tools and see how these systems are used in real life

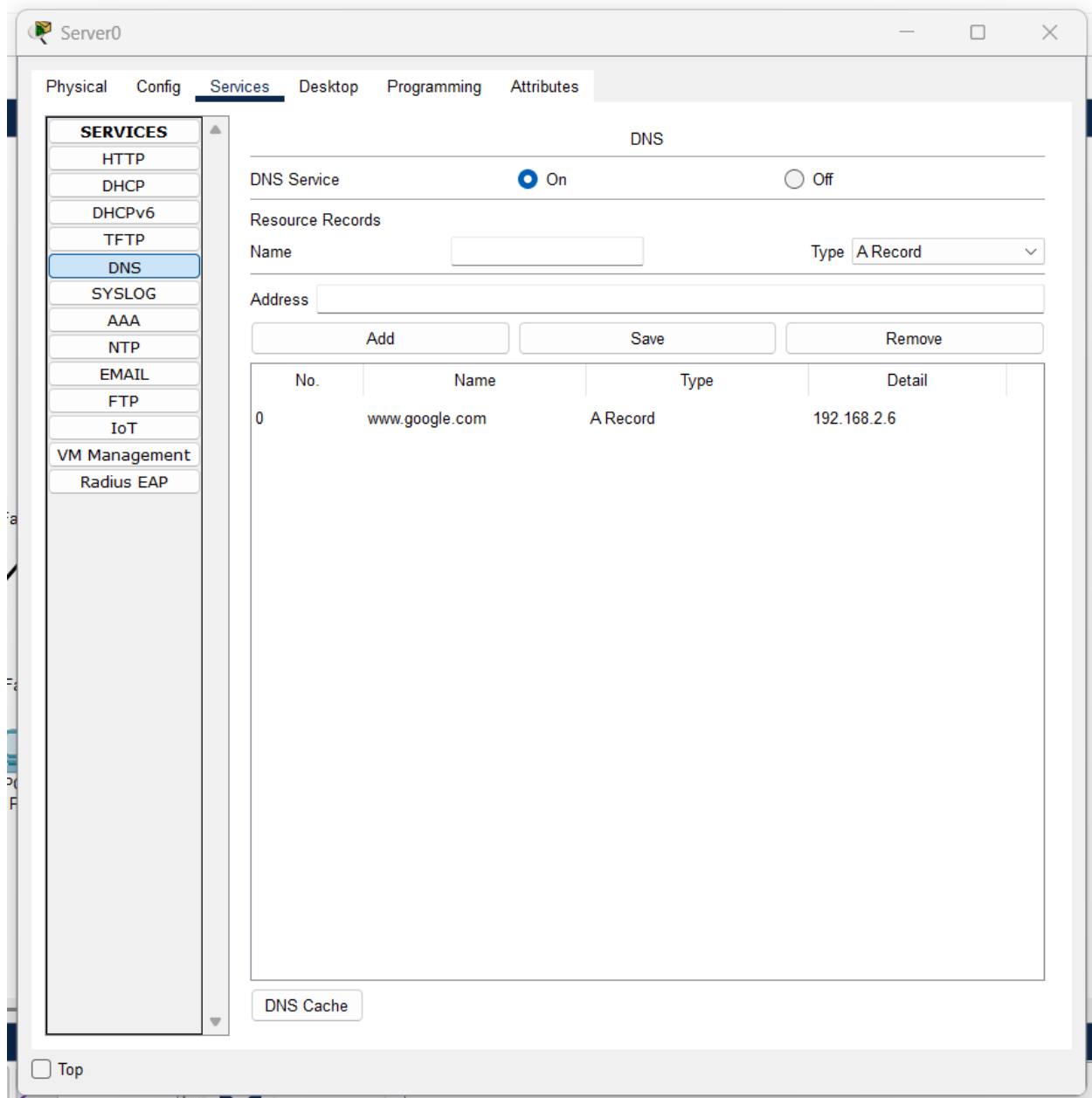
3. Experimental Procedure

- Prepare computer by installing needed software for all three services
- Set up the email server (SMTP) first and make sure it can send messages
- Next, prepare the file sharing system (FTP) to send and receive files
- Then, configure the address book system (DNS) to find websites correctly
- Test everything works by:
 - Sending test emails
 - Transferring sample files
 - Looking up website addresses
- Fix any problems that come up during testing

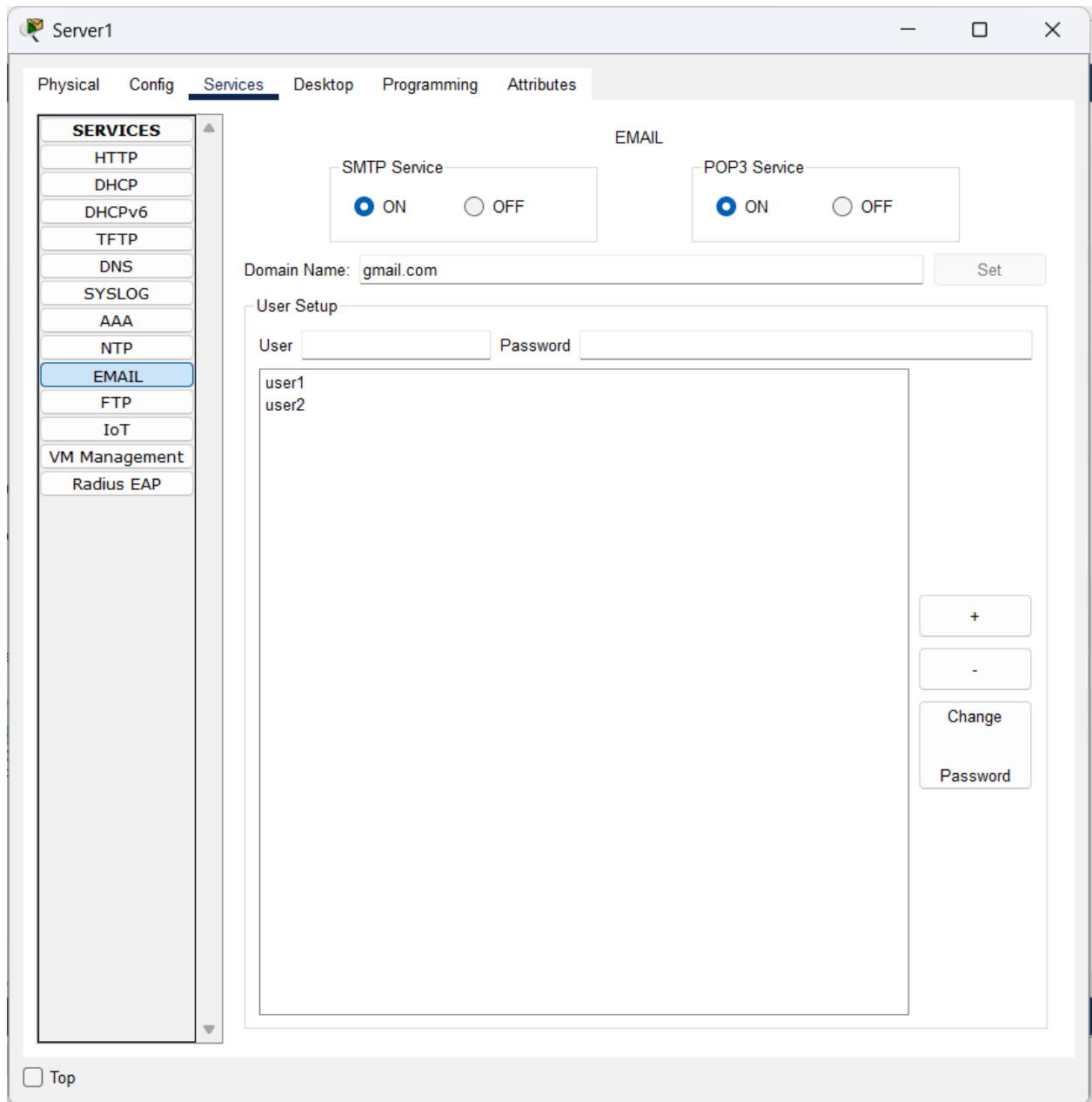
4. IMPLEMENTATION



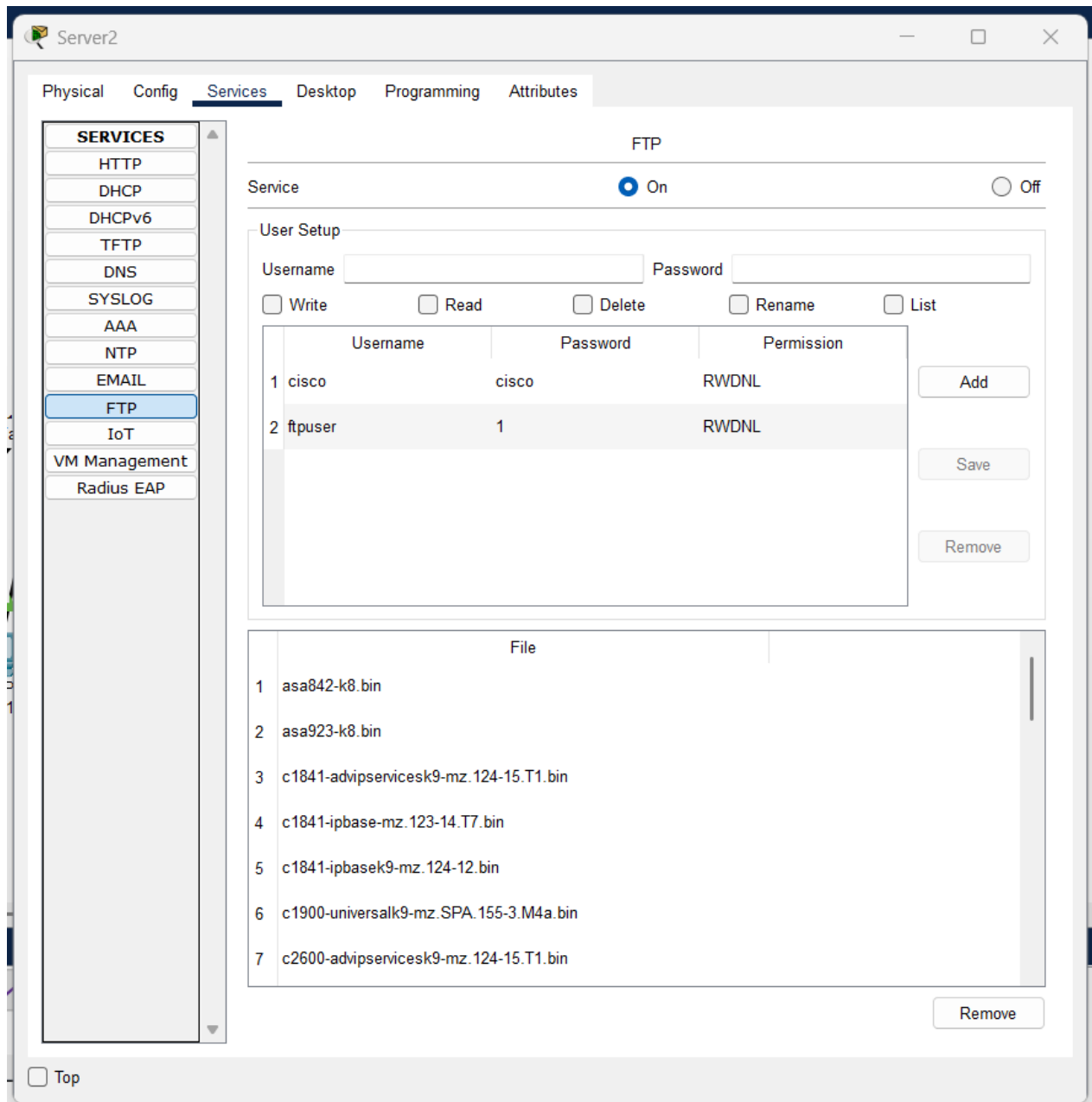
4.1 Simulation of the DNS, SMTP, and FTP Servers



4.2 Implementation of DNS Server

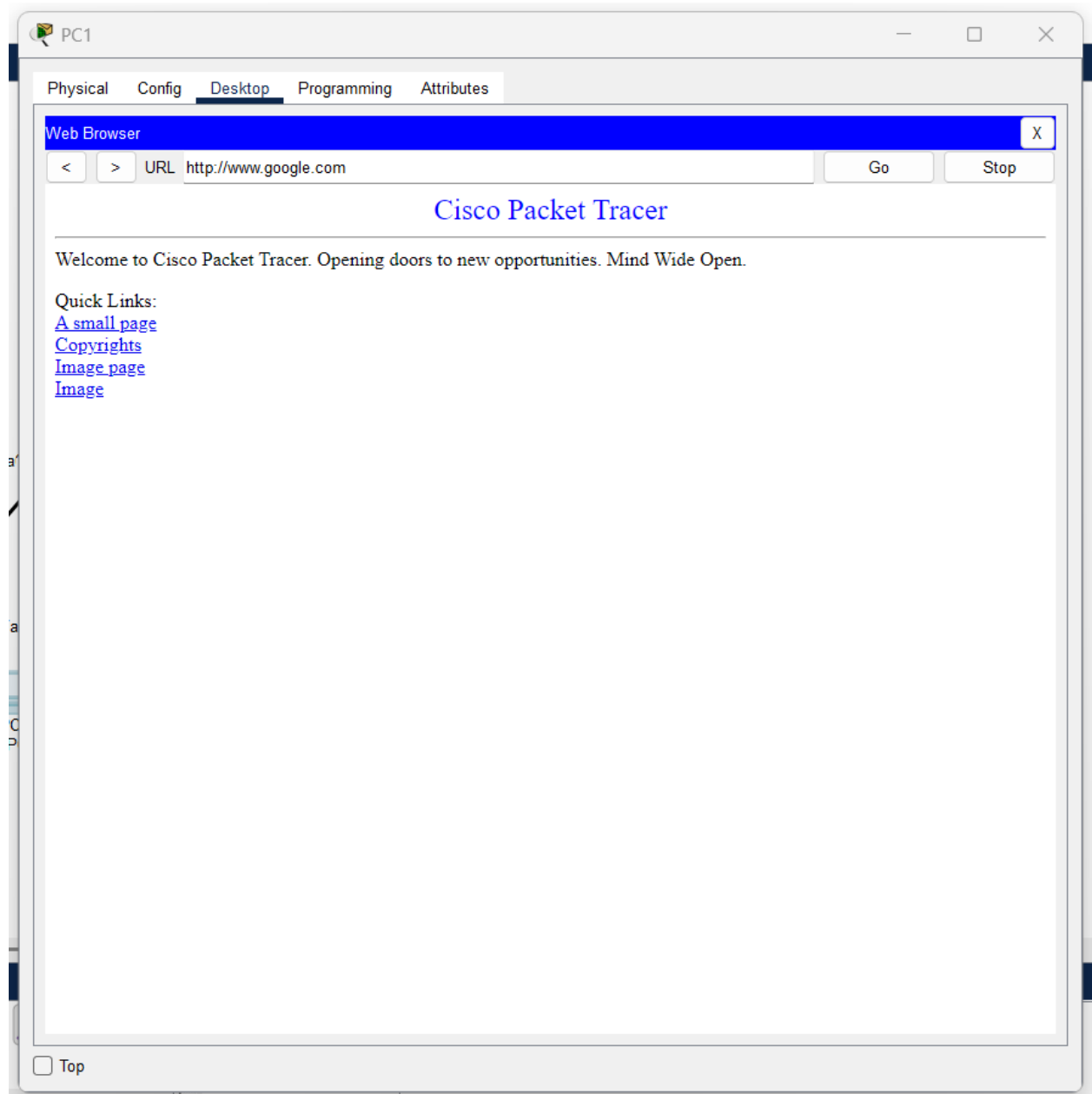


4.3 Implementation of SMTP Email Server

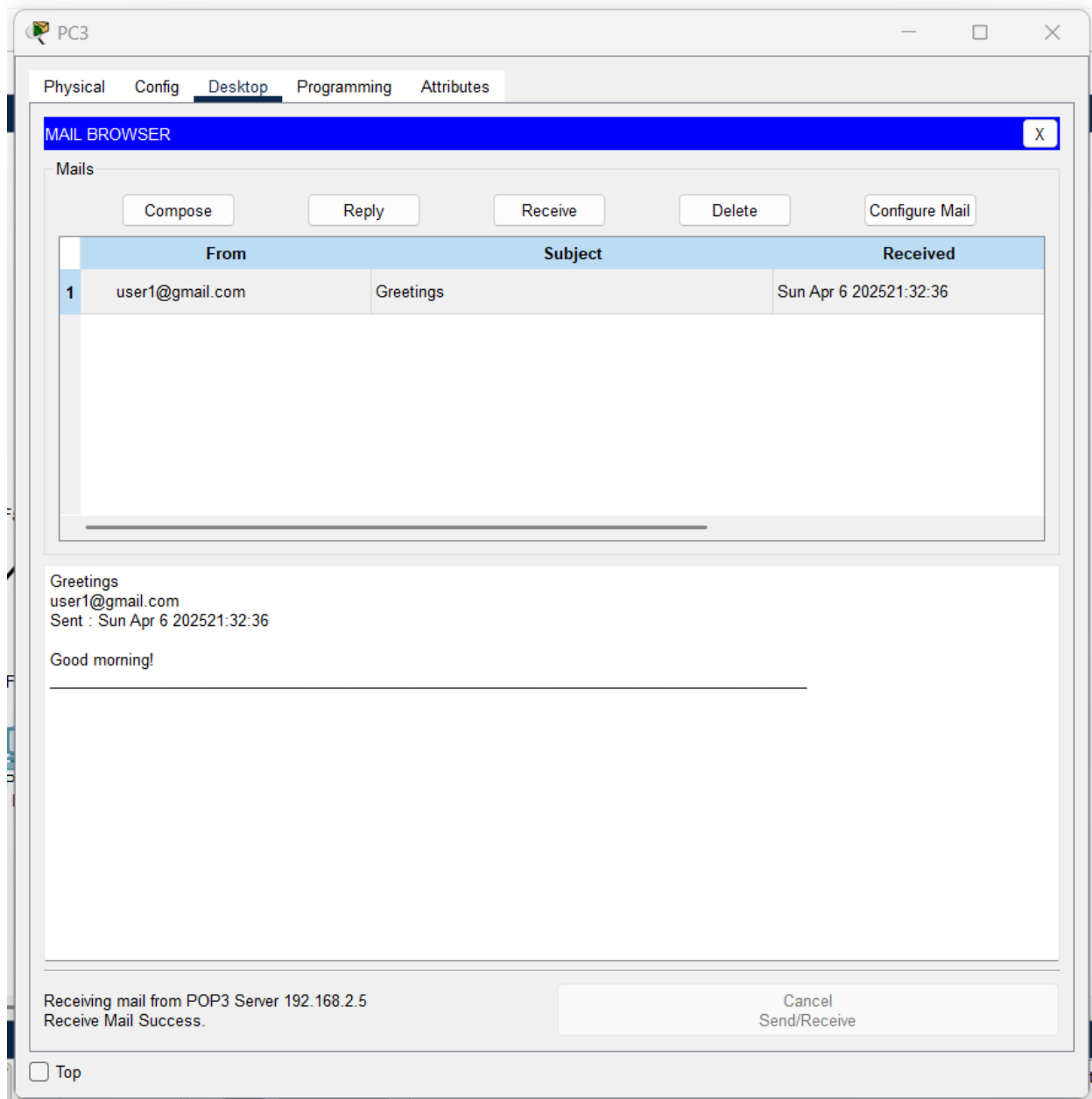


4.4 Implementation of FTP Server

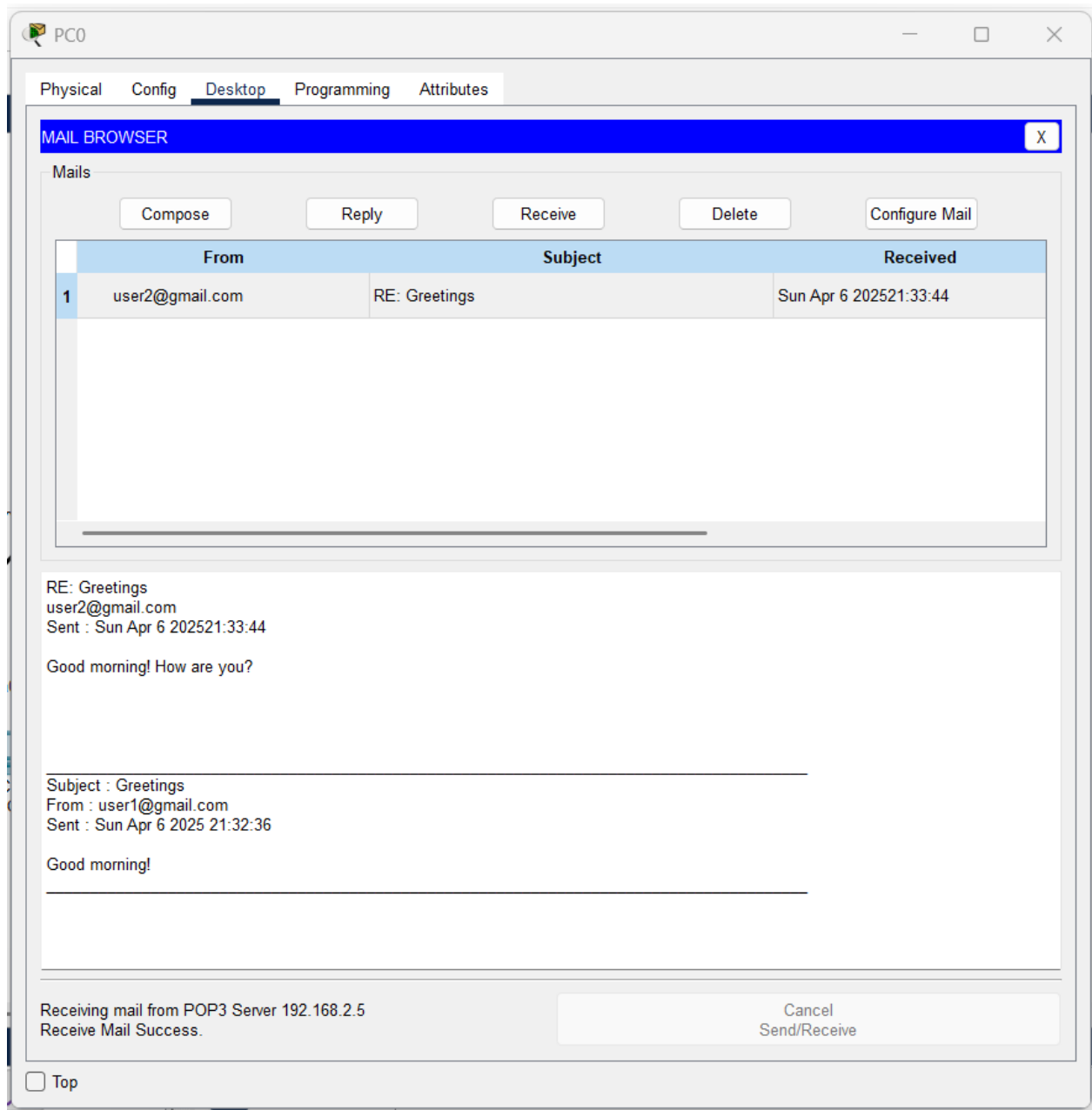
5. SAMPLE INPUT/ OUTPUT



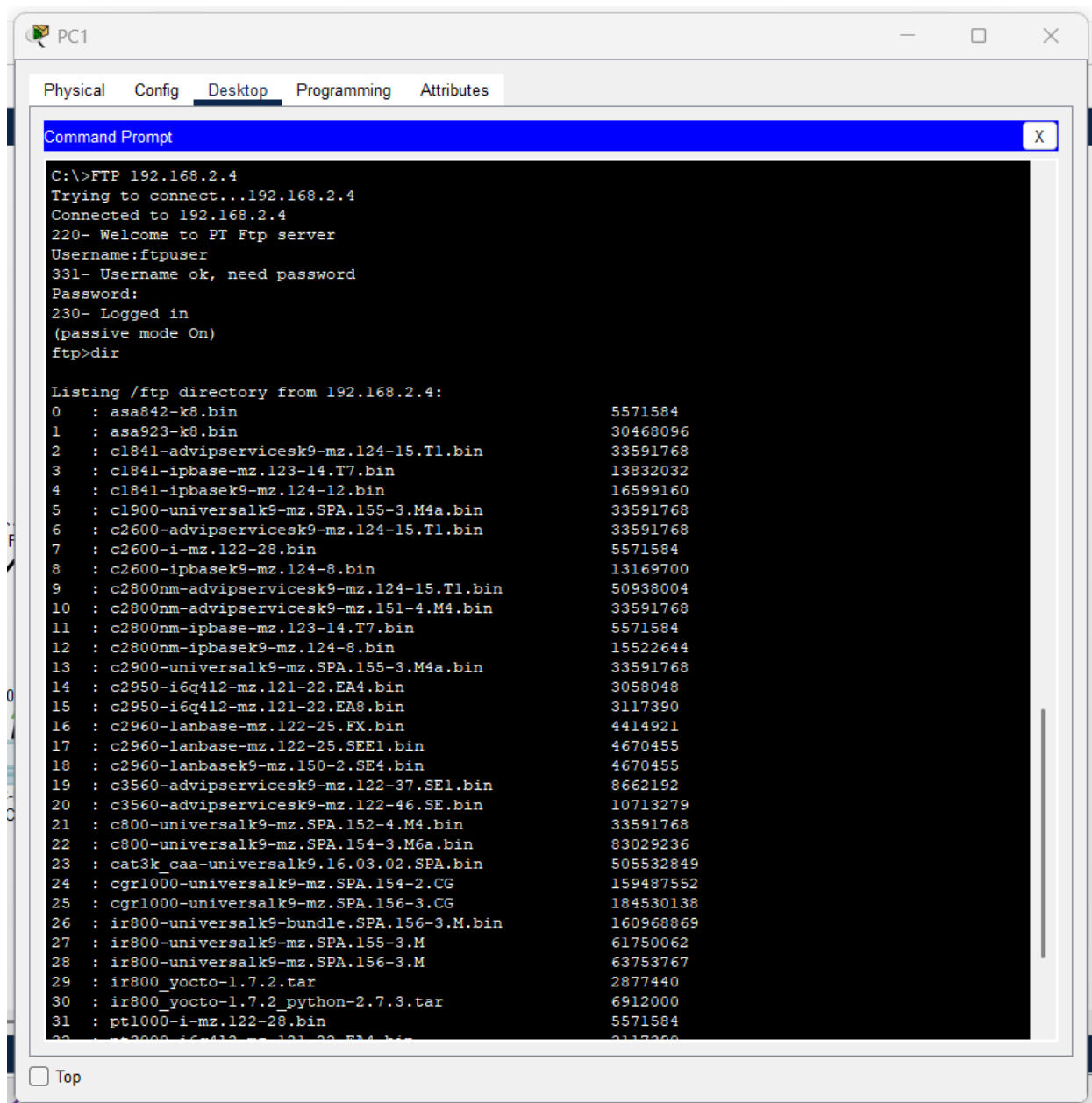
5.1 Output of the DNS Server



5.2 Successfully Received User-02 User-01 Email



5.3 Successfully Received User-01 User-02 Reply Email



The screenshot shows a window titled 'PC1' with tabs for 'Physical', 'Config', 'Desktop', 'Programming', and 'Attributes'. The 'Desktop' tab is active, displaying a 'Command Prompt' window. The command prompt shows the following sequence of commands and output:

```
C:\>FTP 192.168.2.4
Trying to connect...192.168.2.4
Connected to 192.168.2.4
220- Welcome to FT Ftp server
Username:ftpuuser
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>dir

Listing /ftp directory from 192.168.2.4:
 0 : asa842-k8.bin                    5571584
 1 : asa923-k8.bin                    30468096
 2 : c1841-advipservicesk9-mz.124-15.T1.bin 33591768
 3 : c1841-ipbase-mz.123-14.T7.bin    13832032
 4 : c1841-ipbasek9-mz.124-12.bin    16599160
 5 : c1900-universalk9-mz.SPA.155-3.M4a.bin 33591768
 6 : c2600-advipservicesk9-mz.124-15.T1.bin 33591768
 7 : c2600-i-mz.122-28.bin           5571584
 8 : c2600-ipbasek9-mz.124-8.bin     13169700
 9 : c2800nm-advipservicesk9-mz.124-15.T1.bin 50938004
10 : c2800nm-advipservicesk9-mz.151-4.M4.bin 33591768
11 : c2800nm-ipbase-mz.123-14.T7.bin  5571584
12 : c2800nm-ipbasek9-mz.124-8.bin    15522644
13 : c2900-universalk9-mz.SPA.155-3.M4a.bin 33591768
14 : c2950-i6q412-mz.121-22.EA4.bin  3058048
15 : c2950-i6q412-mz.121-22.EA8.bin  3117390
16 : c2960-lanbase-mz.122-25.FX.bin   4414921
17 : c2960-lanbase-mz.122-25.SEE1.bin 4670455
18 : c2960-lanbasek9-mz.150-2.SE4.bin 4670455
19 : c3560-advipservicesk9-mz.122-37.SE1.bin 8662192
20 : c3560-advipservicesk9-mz.122-46.SE.bin 10713279
21 : c800-universalk9-mz.SPA.152-4.M4.bin 33591768
22 : c800-universalk9-mz.SPA.154-3.M6a.bin 83029236
23 : cat3k_caa-universalk9.16.03.02.SPA.bin 505532849
24 : cgr1000-universalk9-mz.SPA.154-2.CG 159487552
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 : pt2000-i6q412-mz.121-22.EA4.bin 3117390
```

At the bottom of the Command Prompt window, there is a 'Top' button.

5.4 Successfully logged in FTP Server and access the file

6. Discussion

In this lab, I worked with three important network services:

- SMTP – Used to send and receive emails.
- FTP – Helped transfer files between computers.
- DNS – Converted website names (like google.com) into computer-friendly IP addresses.

I set up each server, tested them, and confirmed they worked properly. Here's what I observed:

- SMTP successfully sent test emails between accounts.
- FTP allowed me to upload and download files smoothly.
- DNS quickly translated domain names into the correct IPs.

I faced some issues, especially with SMTP configurations and sending emails initially. But by checking online guides and videos, I fixed the problems, which helped me understand these protocols better.

Overall, this experiment gave me real-world experience in how these services work together to power everyday internet tasks like emailing, file sharing, and web browsing.

Github Link:

<https://github.com/Avijit-Datta-Gupta>