Building a Email Configuration Setup with Cisco Packet Tracer

A project based learning Work

BACHELOR OF TECHNOLOGY

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

By

MANDALAPU SAI SUDHEER 22EG104D36

Under the guidance of

Mr. Praveen Kumar

Asst. Professor

Department of ECE

Department of Electronics and Communication Engineering
ANURAG UNIVERSITY
SCHOOL OF ENGINEERING
(Affiliated to Jawaharlal Nehru Technological University, Hyderabad)
Venkatapur(V), Ghatkesar(M), Medchal-Malkajgiri Dist-500088

2024-2025

Email Configuration Setup in Cisco Packet Tracer

This guide provides **step-by-step instructions** to build and configure an **email system** using **Cisco Packet Tracer**, including setting up DHCP, DNS, Email Servers, and Email Clients.

Step 1: Build the Network Topology

Open Cisco Packet Tracer and create a new project.

Add the following devices from the device toolbar:

1. **Servers**:
    1. DHCP Server (1.0.0.1)
    2. DNS Server (1.0.0.2)
    3. Gmail Server (1.0.0.3)
    4. Hotmail Server (1.0.0.4)
2. **Switches**:

    1. 4 x **2960-24TT Switches**

3. **PCs**:

    1. PC0 (sudheer@gmail.com)
    2. PC1 (raji@hotmail.com)
    3. PC2 (vineel@gmail.com)
    4. PC3 (prathap@hotmail.com)

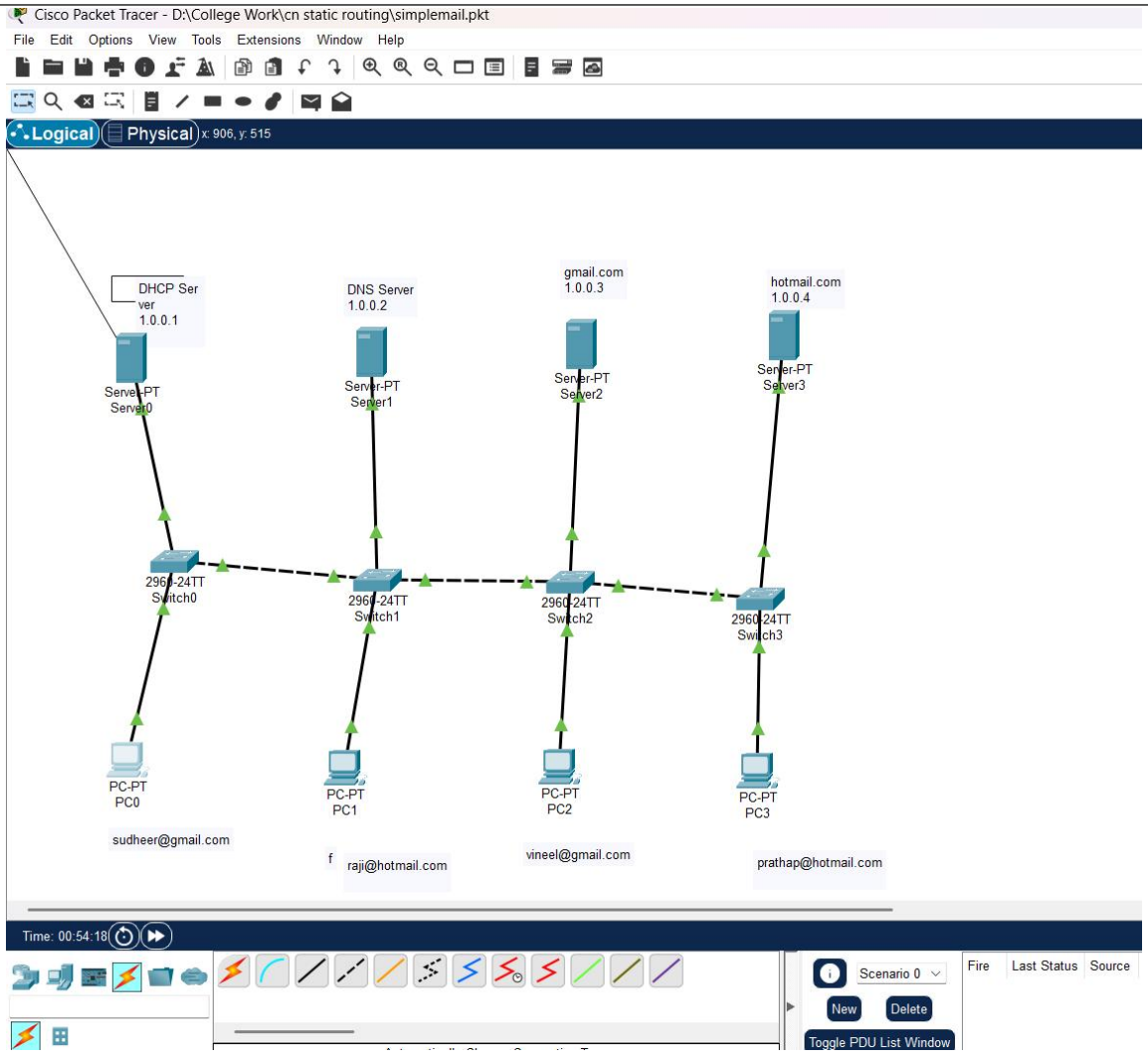
Connect all devices:

4. Use **copper straight-through cables** for:

    1. PC to Switch connections.
    2. Server to Switch connections.

5. Use **copper cross-over cables** to interconnect switches.

Verify that all connections are properly linked (green dots should appear).

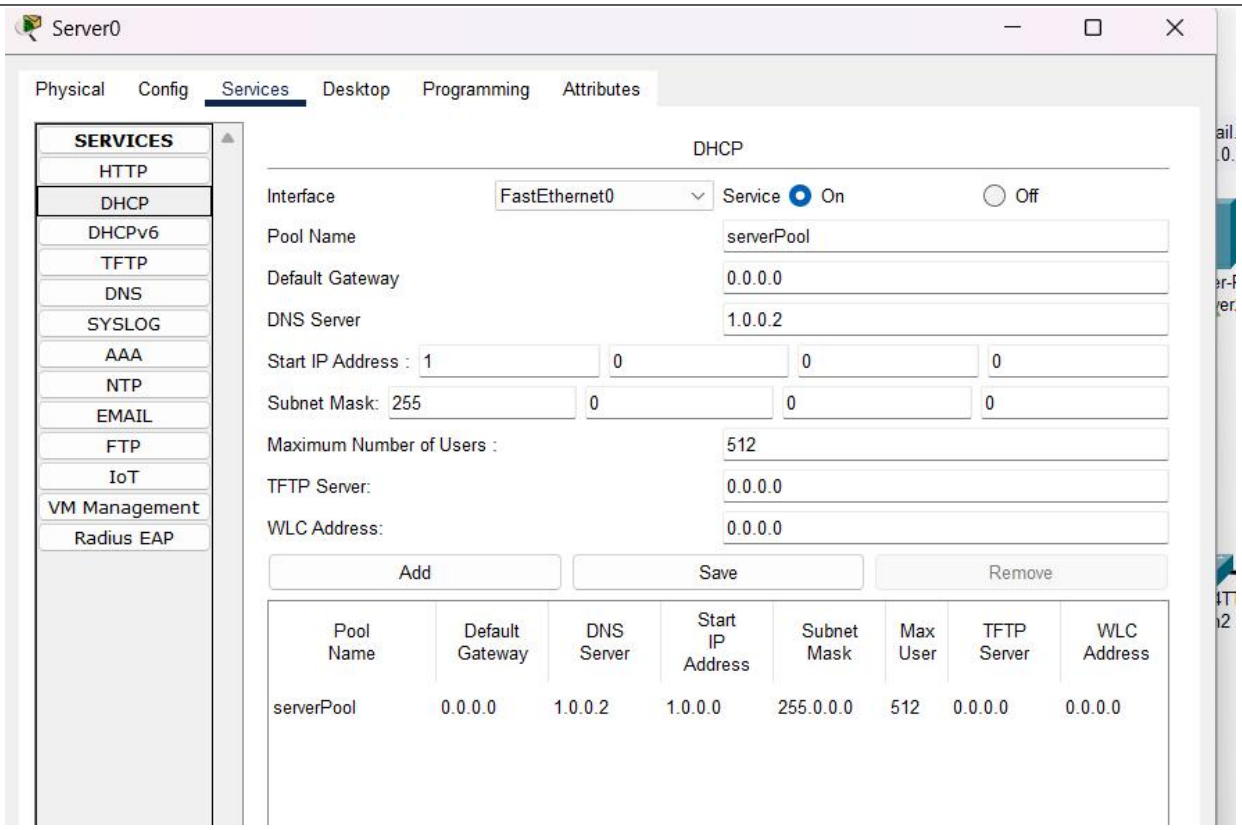


Step 2: Configure the DHCP Server (1.0.0.1)

1. Click on **DHCP Server** → Go to the **Services** tab → Select **DHCP**.
2. Turn **DHCP Service ON**.
3. Configure **DHCP Settings**:

    6. **Pool Name**: `Network1`
    7. **Default Gateway**: `1.0.0.1`
    8. **Subnet Mask**: `255.255.255.0`
    9. **DNS Server**: `1.0.0.2`
    10. **Starting IP Address**: `1.0.0.10`

4. Click **Add** and then **Save**.

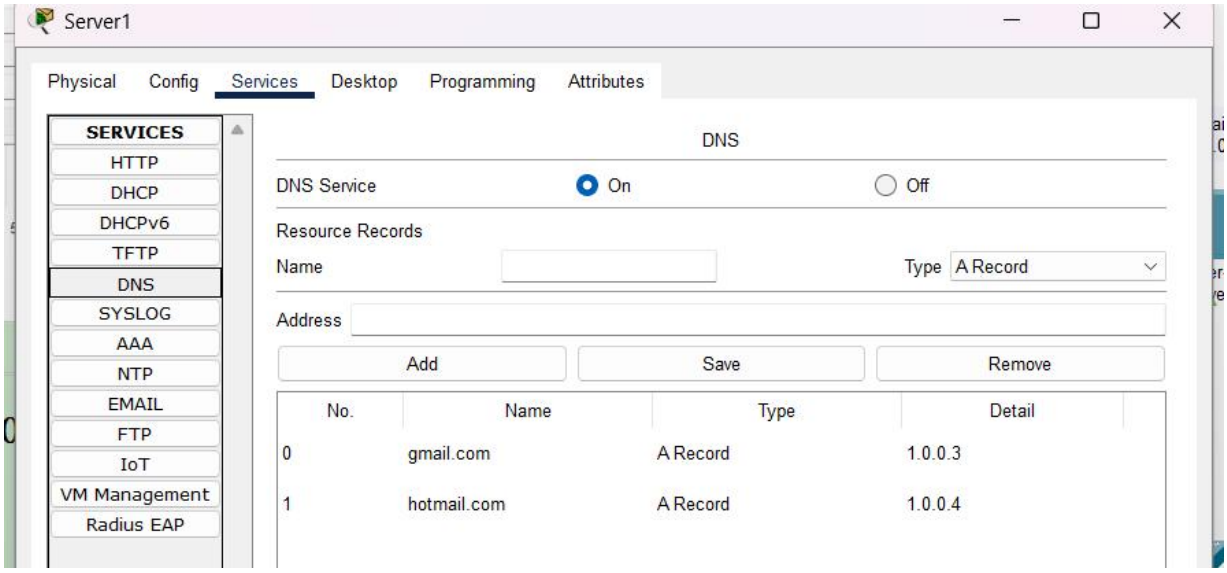


Step 3: Configure the DNS Server (1.0.0.2)

1. Click on **DNS Server** → Go to the **Services** tab → Select **DNS**.
2. Turn **DNS Service ON**.
3. Add the following entries:

    11. **gmail.com** → `1.0.0.3`
    12. **hotmail.com** → `1.0.0.4`

4. Click **Add** for each entry and **Save**.



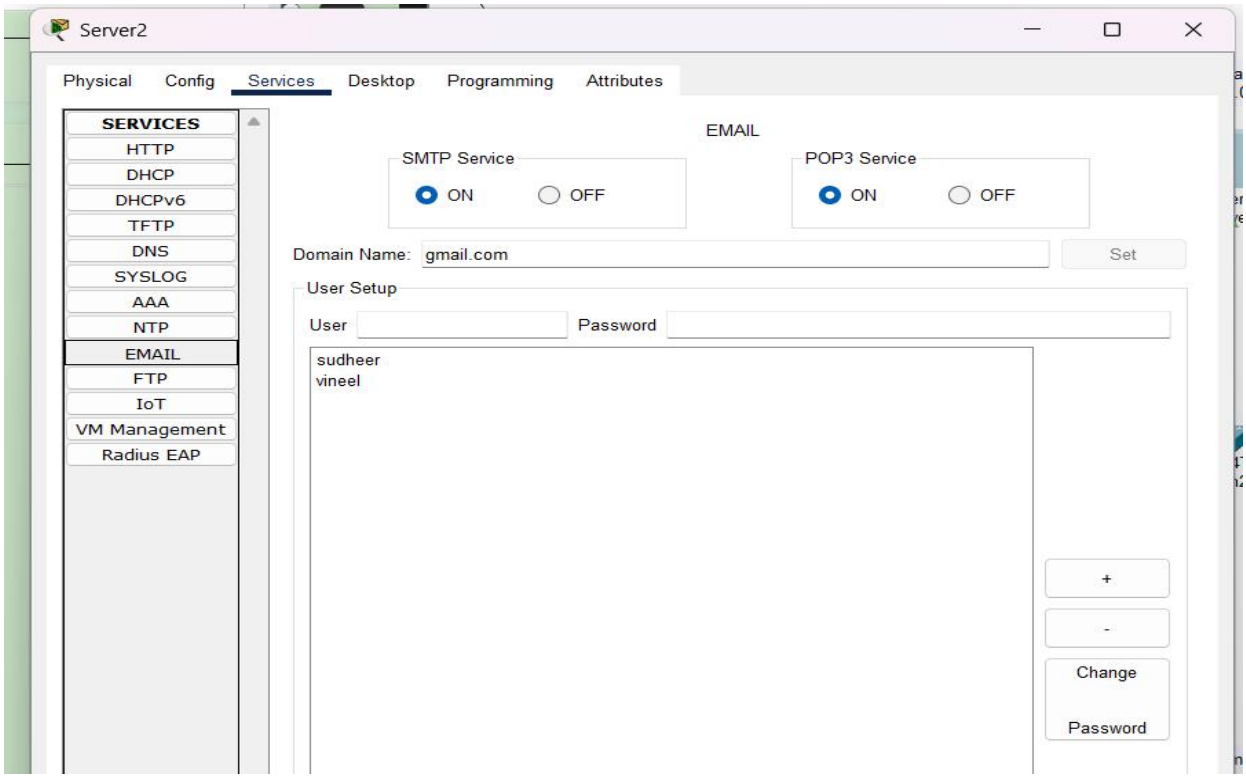
Step 4: Configure the Email Servers

Gmail Server (1.0.0.3)

1. Click on **Gmail Server** → Go to **Services** → Select **Email**.
2. Turn **Email Service ON**.
3. Set the **Domain Name** to `gmail.com`.
4. Add **Email Users**:

    1. **Username**: `sudheer` | **Password**: `password123`
    2. **Username**: `vineel` | **Password**: `password123`

5. Click **Add** for each user and **Save**.

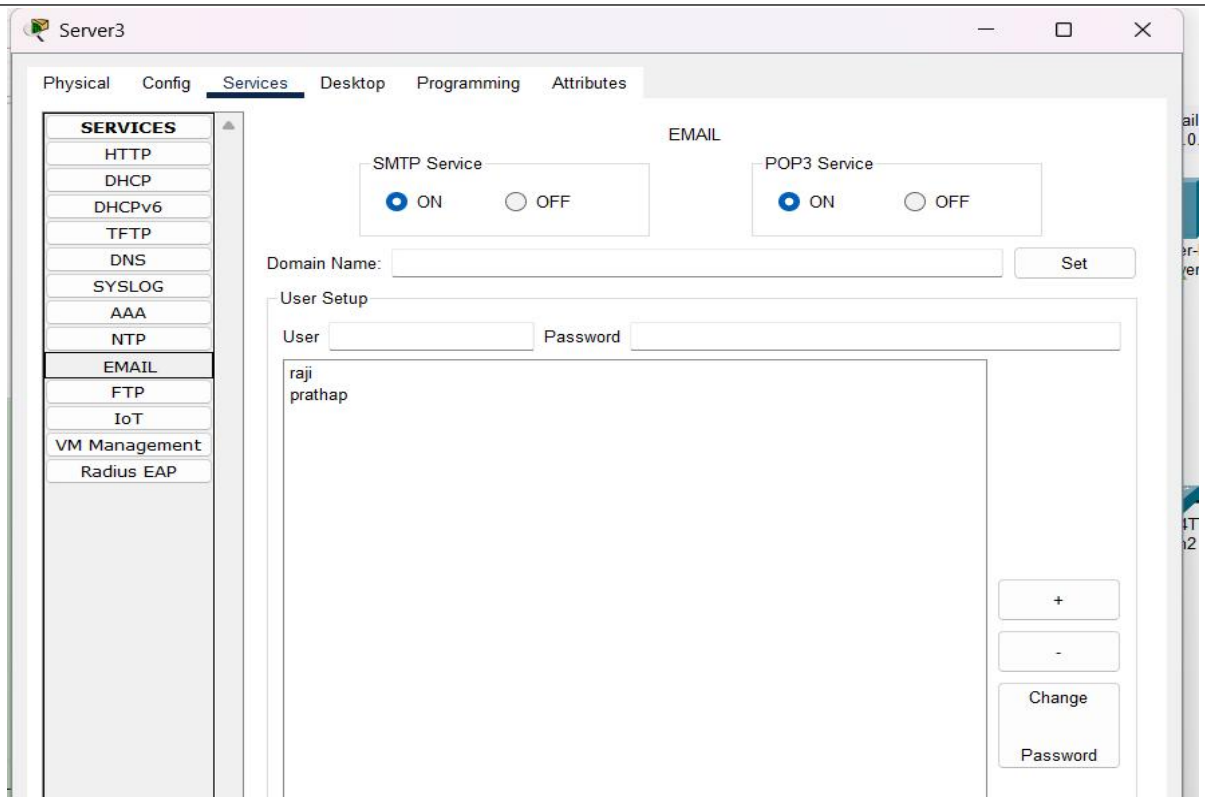


Hotmail Server (1.0.0.4)

1. Click on **Hotmail Server** → Go to **Services** → Select **Email**.
2. Turn **Email Service ON**.
3. Set the **Domain Name** to `hotmail.com`.
4. Add **Email Users**:

    1. **Username**: `raji` | **Password**: `password123`
    2. **Username**: `prathap` | **Password**: `password123`

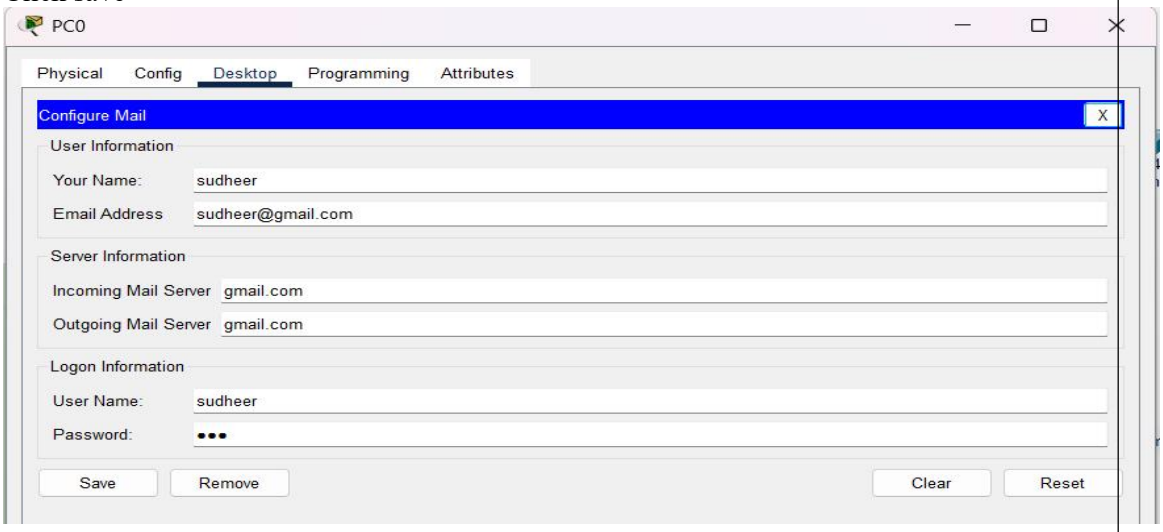
5. Click **Add** for each user and **Save**.



Step 5: Configure Email Clients (PCs)

Click on **PC0 (Sudheer)** → Go to **Desktop** → Select **Email**.

Configure:

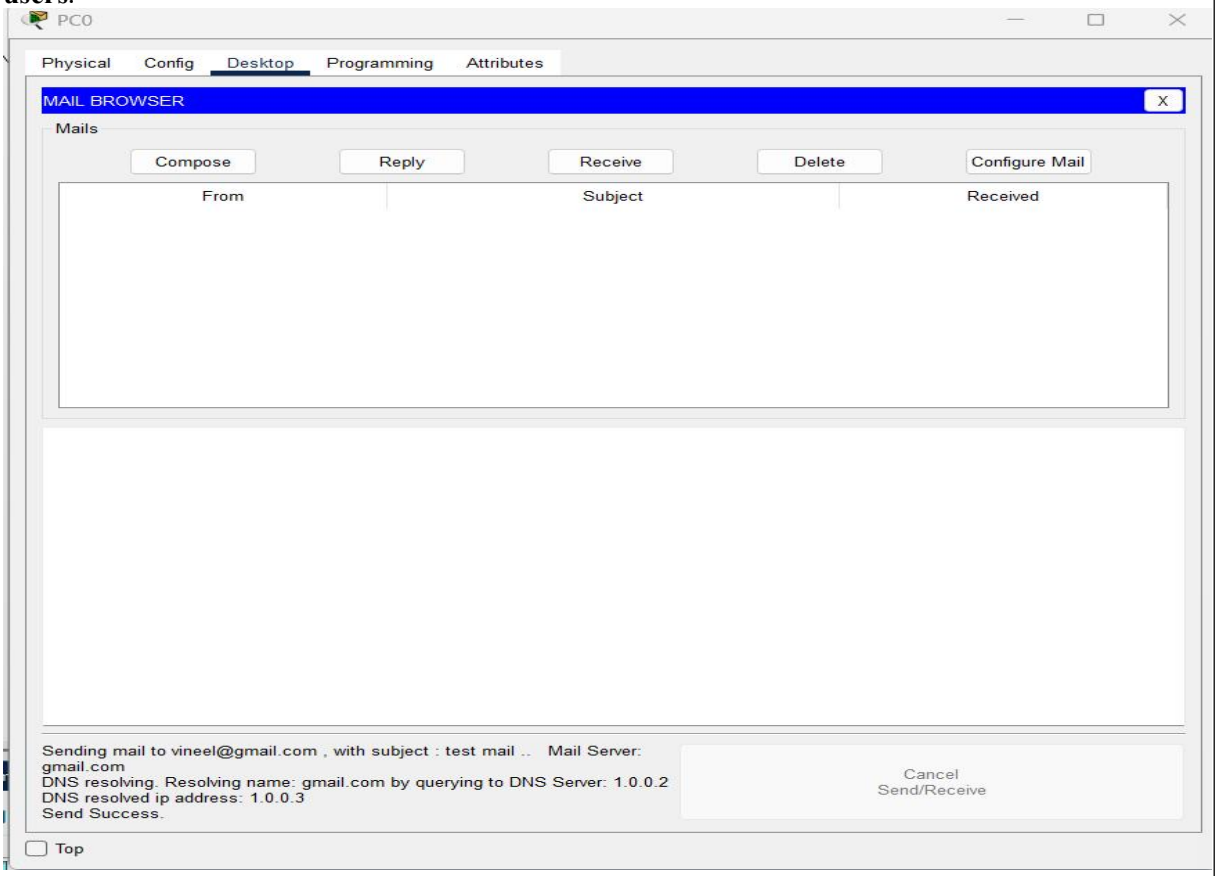
1. **Email Address**: `sudheer@gmail.com`
2. **Password**: `password123`
3. **Incoming Mail Server (POP3)**: `1.0.0.3`
4. **Outgoing Mail Server (SMTP)**: `1.0.0.3`
5. Click save
6. 

7. Repeat this for each PC:

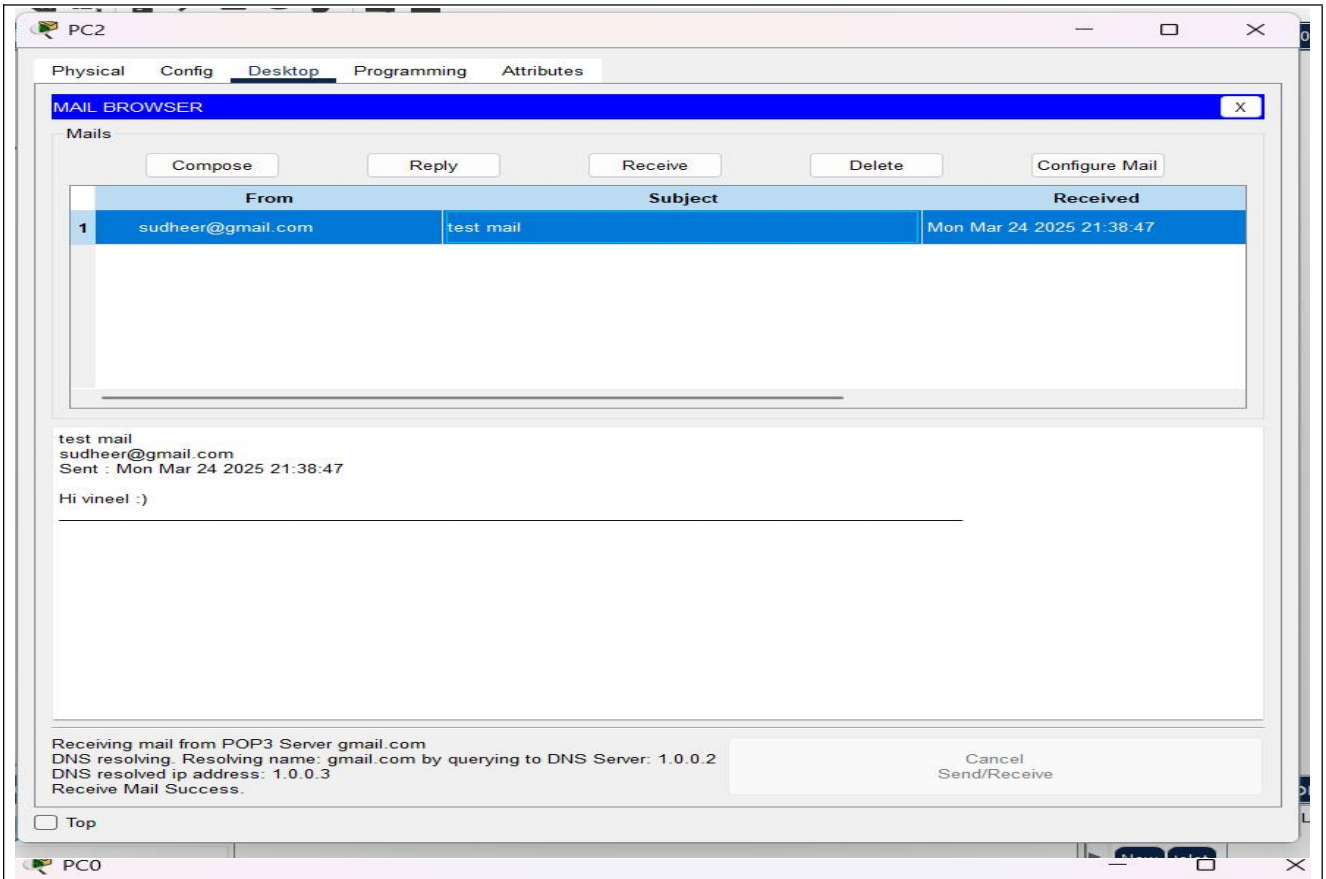
1. **PC1 (Raji)**: `raji@hotmail.com`, **Mail Server**: `1.0.0.4`
2. **PC2 (Vineel)**: `vineel@gmail.com`, **Mail Server**: `1.0.0.3`
3. **PC3 (Prathap)**: `prathap@hotmail.com`, **Mail Server**: `1.0.0.4`

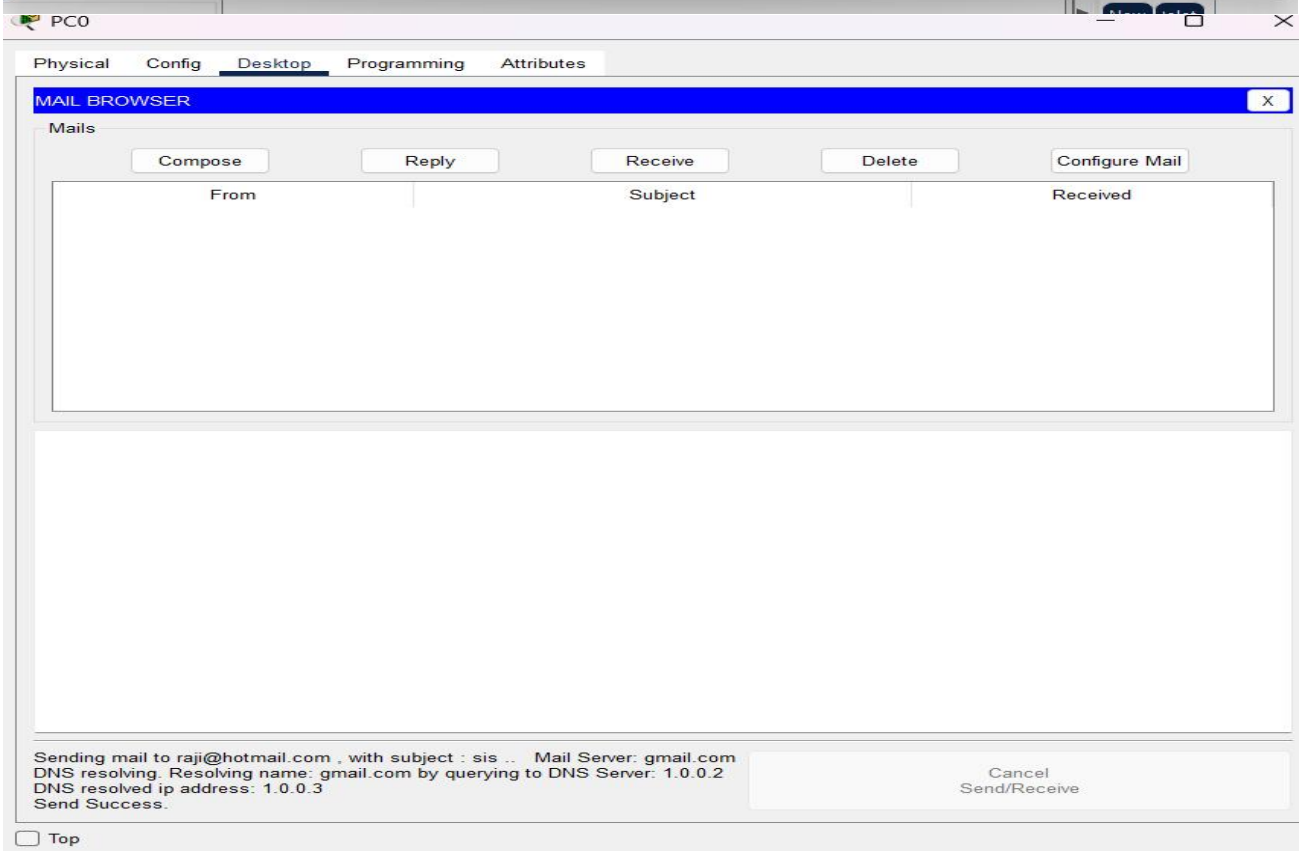
Step 6: Test Email Communication

1. **Open PC0 (Sudheer)** → Go to **Email Client** → Compose Email.
2. Send an email to vineel@gmail.com.
3. Open **PC2 (Vineel)** → Check inbox for received email.
4. Try sending emails between **Hotmail and Gmail users**.



5. Ensure both **sending and receiving** work.


PC2
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
1
sudheer@gmail.com
test mail
Mon Mar 24 2025 21:38:47
test mail
sudheer@gmail.com
Sent : Mon Mar 24 2025 21:38:47
Hi vineel :)
Receiving mail from POP3 Server gmail.com
DNS resolving. Resolving name: gmail.com by querying to DNS Server: 1.0.0.2
DNS resolved ip address: 1.0.0.3
Receive Mail Success.
Cancel
Send/Receive
Top


PC0
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
Sending mail to raji@hotmail.com , with subject : sis .. Mail Server: gmail.com
DNS resolving. Resolving name: gmail.com by querying to DNS Server: 1.0.0.2
DNS resolved ip address: 1.0.0.3
Send Success.
Cancel
Send/Receive
Top

Conclusion

In this project, we **successfully built an email system** using Cisco Packet Tracer. The network included **a DHCP server for IP allocation, a DNS server for domain resolution, email servers for Gmail and Hotmail, and email clients configured on PCs**. The system was tested by **sending and receiving emails between different users**, ensuring that the configuration was correctly implemented.

This **project simulates a real-world corporate network email system** and helps understand **networking, email services, and server configurations**.