PROJECT REPORT ON

E-Mail Server Setup

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PROBLEM STATEMENT

Building an E-mail Server using Cisco Packet Tracer which will help to send and receive the Emails very easly.

INTRODUCTION

Mail servers play an important role in the information society today. As the Internet user population continue to grow exponentially, there is an increasing demand for high performance mail servers. In day to life Email is important because it creates a fast, reliable form of communication that is free and easily accessible. It is not characterized by the inconveniences that are generally associated with traditional communication media, such as telephone or postal mail. In this project we have created an E-mail Server Setup using Cisco Packet Tracer. Setting up an E-mail server using CPT is easy and can be done without using too much protocols as it require only 2 protocols to build an E-mail Server.

Many individuals, groups and organizations still dismiss the importance of a mail server for several reasons such as the cost of subscription and the maintenance as well as its technical and technological aspects. But when benefits of using an E-mail server are considered, its importance becomes apparent and, thus, initial resistance to the installation of the mail server can be overcome. E-mail server is considered as more useful than Yahoo Mail, Hotmail etc.

This system is to be designed with user flexible screens through which user can navigate through the mailing system and access the above service for the basic purpose of communication.

SOFTWARE REQUIREMENTS

- Any Windows System
- Cisco Packet Tracer of latest version

FUNCTIONS

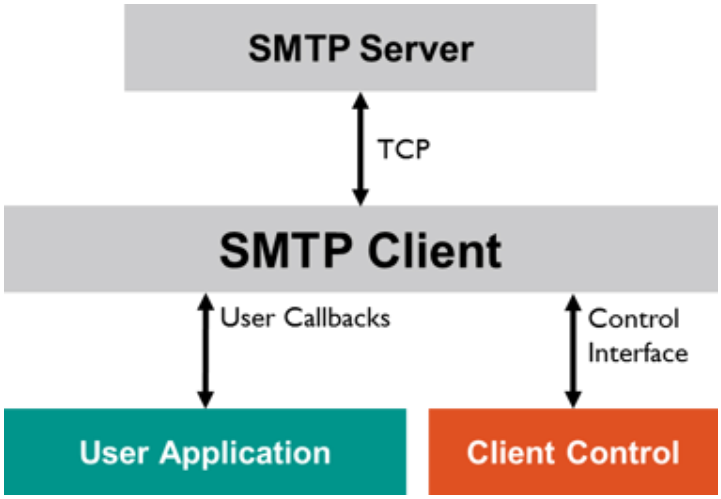
- Compose an email.
- Send an email
- Receive an email
- Saving an email in the form of draft
- Showing the detail of the received mail
- Saving the email ids in contact list
- Secured by password
- Recovery of the password

PROTOCOLS USED

In this project we have used two protocols as Simple Mail Transfer Protocol (SMTP) and Post Office Protocol (POP).

- **Simple Mail Transfer Protocol (SMTP)**

1. It is Message Transfer Agent (MTA).
2. It is push protocol.
3. It is limited to queue message at the receiving end, so it is usally used with POP3 or IMAP.
4. To send and receive mail, system must have MTA client and MTA Server respectively.
5. SMTP uses commands and responses to transfer messages between MTA client and MTA Server.



- **Post Office Protocol (POP)**

1. Currently version 3 s used, ie. POP3
2. It is Message Access Agent (MAA)
3. It is pull protocol where Client pull messages from the server.
4. The client POP3 software is installed on the recipient pc; the server POP3 software is installed on the mail server.
5. POP3 has 2 modes : delete mode and keep mode.

SERVER USED

In this project, a mail can be sent from gmail.com to Hotmail.com. For this, in DNS we have given two domain name as gmail and Hotmail. In this project we have used 2 servers Domain Name System (DNS) and Dynamic Host Configuration Protocol (DHCP)

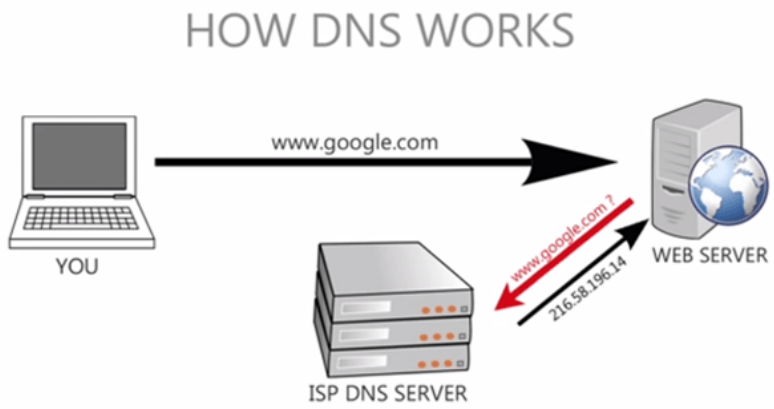
- **Domain Name System (DNS)**

  DNS is usually implemented using one or more centralized servers that are authoritative for certain domains. In case it is gmail.com and Hotmail.com. When a client host requests information from a name server, it usually connects to port 5.3. The name server then attempts to resolve the name requested. DNS is an Internet service that maps IP address and fully qualified domain names to one another. In this way, DNS alleviates the need to remember IP addresses.

  Domain Name System matches the domain name like google.com to their associated IP addresses --- 173.194.39.78 in the case of google.com. When you type google.com into your web browser's address bar, your computer contacts your current DNS server and ask what IP address is associated with google.com. Your computer then connects to IP address and displays "google.com" in your web browser.

  The DNS servers you use are likely provided by your Internet Service Provider (ISP). If you are behind a router, your computer is likely using your router as your DNS server, but the router is likely forwarding requests to your IPS's DNS server.

  The DNS configuration files are stored in the /etc/bind directory.



- **Dynamic Host Configuration Protocol (DHCP)**

  The Dynamic Host Configuration Protocol (DHCP) is a network service that enables host computers to be automatically assigned settings from a server as opposed to manually configuring each network host. Computers configured to be DHCP clients have no control over the settings they receive from the DHCP server, and the configuration is transparent to computer's users.

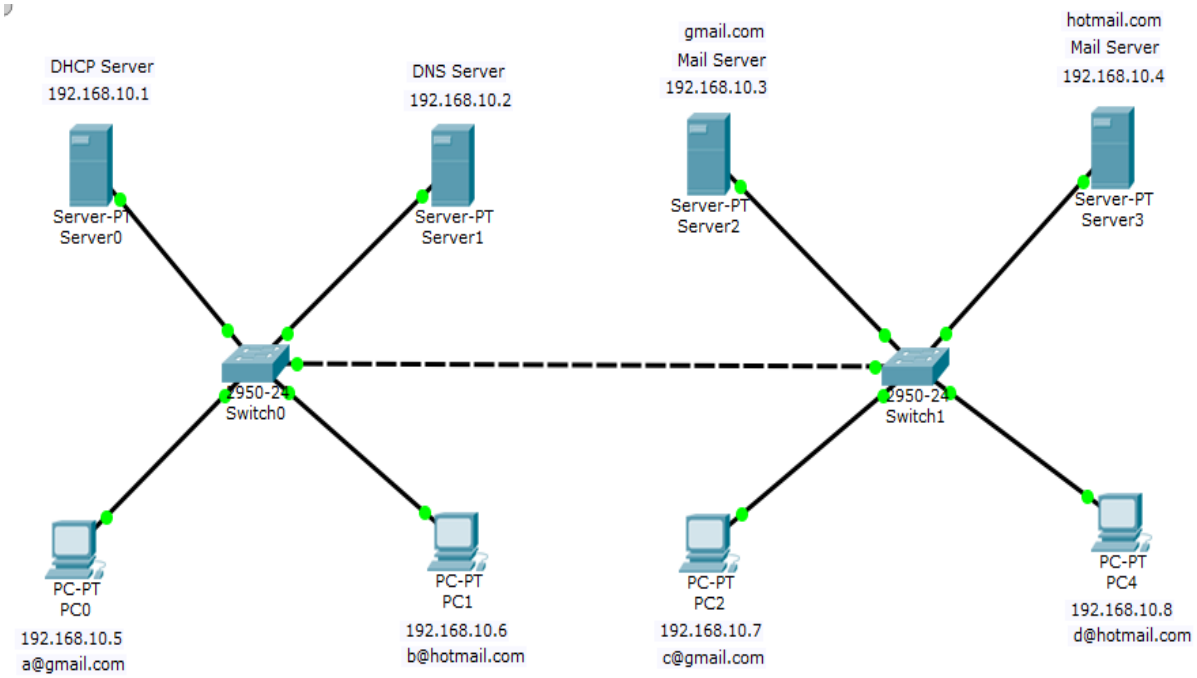
  The most common setting provided by a DHCP server to DHCP clients are

  1. IP address and netmask
  2. IP address of the default-gateway to use
  3. IP address of the DNS server to use

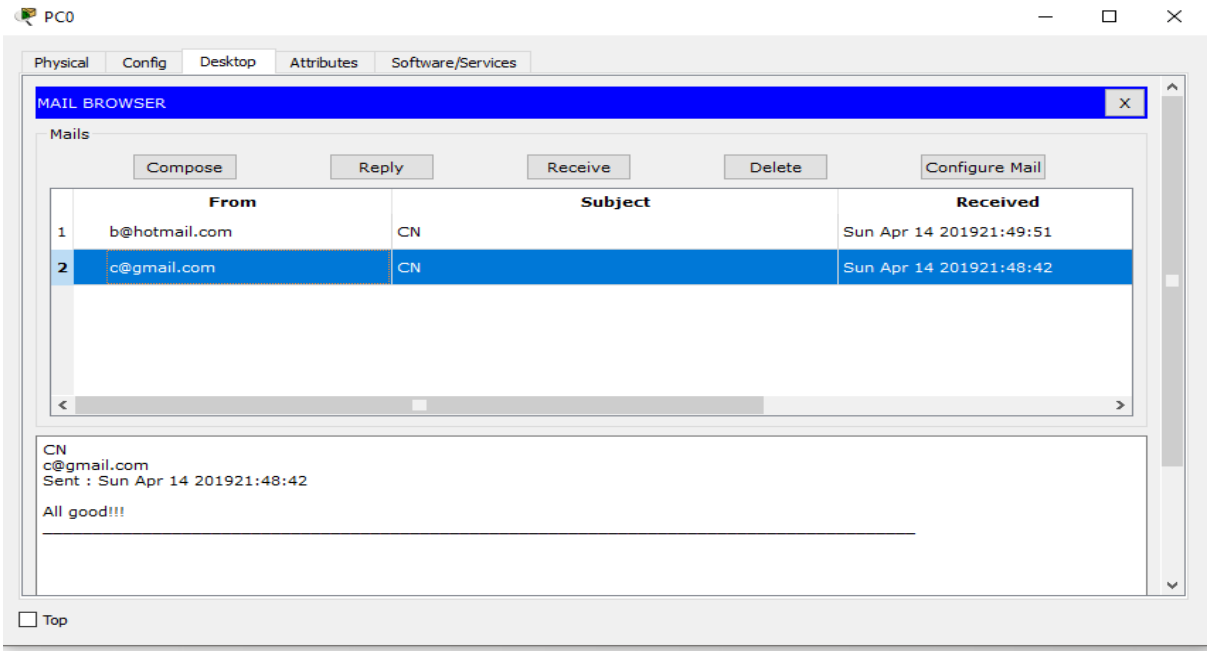
The advantage of using DHCP server is that changes to network, for example a change in the address of the DNS server, need only be changed at the DHCP server, and all network host will be configured the next time their DHCP clients poll the DHCP server. As an added advantage, it is also easier to integrate new computers into the network, as there is no need to check for the availability of an IP address.

RESULT

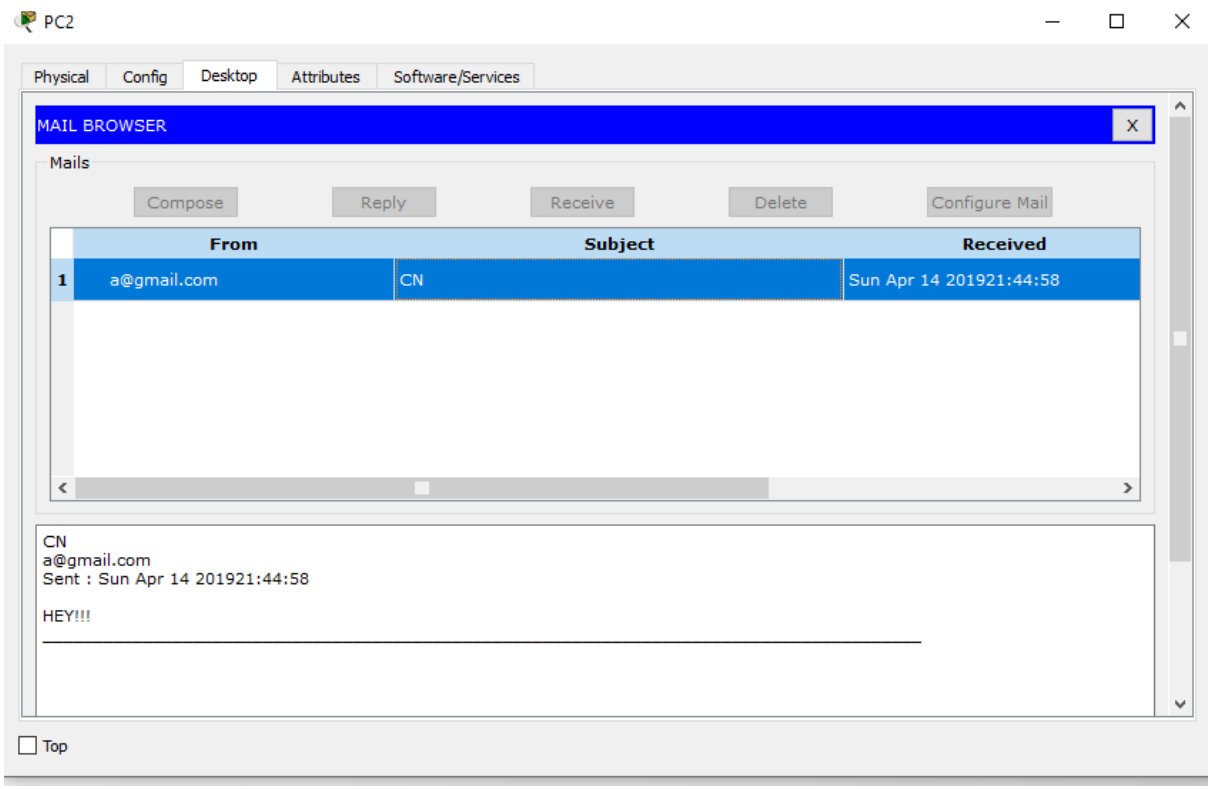
Overall view of the E-mail Server Setup



Sending mail to c



Receiving mail from a



CONCLUSION

Nowadays E-mail is becoming most important part of our day to day life. Through E-mail we can send any message or file (docx, pdf, excel etc) to the receiver. Mailing server is free of cost so anyone can use this without paying for it. The main advantage of this is that even a child can create a account on E-mail, which will help him/her in his/her future. One can access this at any corner of the world it is not necessary that his/she should be in India. The mail server setup considerably reduced the load on the available bandwidth. Further, the linking of the external and internal accounts provided a convenient single interface to the hobbits to access all of their "official" mails.

FUTURE SCOPE

This project is done on Cisco Packet Tracer. In future it can be done using JAVA language on Ubuntu etc. We can increase the number of sending mails like 1000 mails per day. Old mails like the mails before 3-4 months will be deleted automatically. File up to terabyte can be send through E-mail, which nowadays is not possible.