

INSTITUTE OF COMPUTER TECHNOLOGY
B. TECH COMPUTER SCIENCE AND ENGINEERING

Subject: Computer Networks[CN]

Name : Archita Gahoi

Enrollment_No. : 23162171002

SEM : 5

Class : A

Batch : 52 (CS)

Practical 2

Aim: To demonstrate configuration of Mail Server (SMTP)

Scenario:

Mr. Tim is planning to set up the network for his company's branch office which contains 2 departments - Department A and Department B. The configuration should be done such that all the devices in those departments should be able to reach each other. For security reasons, Mr. Tim doesn't want to use any external company service for mail. So, he asked his Network Engineer to set up the server in the company premises only to use the mail services. Therefore, help the network Engineer to do the same. Note the important point while designing and implementing the network. The branch office is connected to the main office. Therefore you need to show the network of the main office as well. The mail domain of the main office is future.first.in and the mail domain of the branch office is future.second.in. All the users in the main office and branch office should be able to send and receive the mail. Design the network so that at least 2 users are there in branch office and at least 2 users in the main office.

Note:

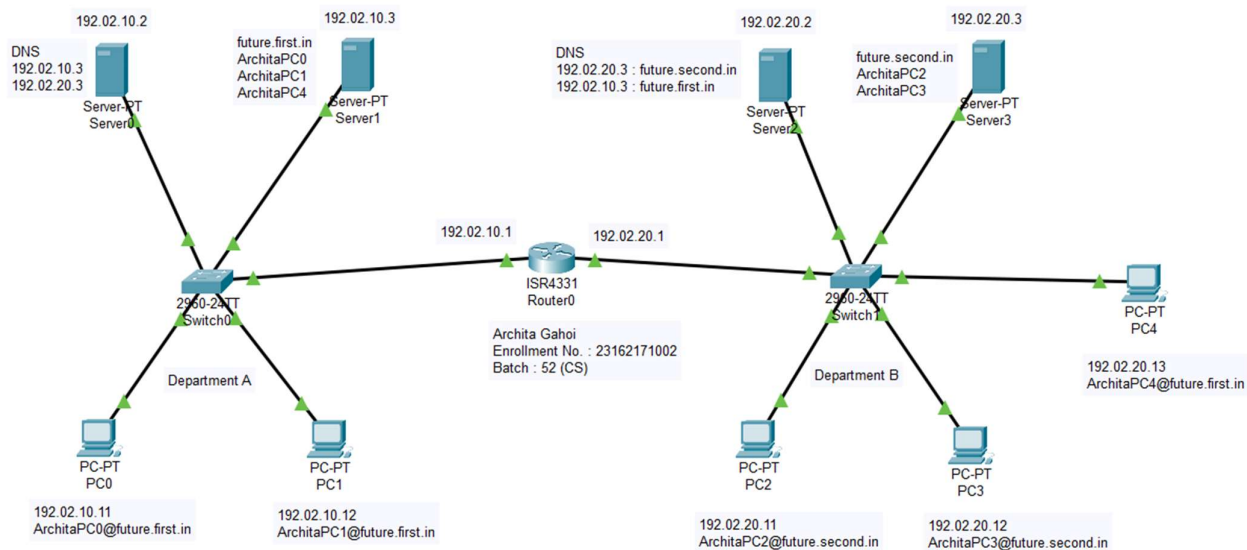
Make sure last two digits of your enrollment numbers appears in network IP address that must be visible in snapshot of the cisco packet tracer. i.e. 192. XX .10.1 (XX indicates last two digits of your enrollment no.)

Configuration:

1. IP CONFIG
2. ALL DNS CONFIG
3. ALL SMTP SERVER CONFIG

Output:

⇒ Main Circuit



1] IP CONFIG

○ PC0

PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface: FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address: 192.2.10.11

Subnet Mask: 255.255.255.0

Default Gateway: 192.2.10.1

DNS Server: 192.2.10.2

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::290:CFF:FE32:A5E

Default Gateway:

DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

Username:

Password:

PC0

Physical Config **Desktop** Programming Attributes

Configure Mail X

User Information

Your Name: ArchitaPC0

Email Address: ArchitaPC0@future.first.in

Server Information

Incoming Mail Server: mail.future.first.in

Outgoing Mail Server: mail.future.first.in

Logon Information

User Name: ArchitaPC0

Password: ••••••

Save Remove Clear Reset

2] DNS Config

o Server 0 – DNS

Server0

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: A Record

Address:

Add Save Remove

No.	Name	Type	Detail
0	future.first.in	A Record	192.2.10.3
1	future.second.in	A Record	192.2.20.3
2	mail.future.first.in	A Record	192.2.10.3
3	mail.future.second.in	A Record	192.2.20.3

○ Server 2 – DNS

The screenshot shows the 'Server2' configuration window with the 'Services' tab selected. In the left sidebar, 'DNS' is highlighted under the 'SERVICES' section. The main area is titled 'DNS' and contains the following elements:

- DNS Service:** A toggle switch set to 'On'.
- Resource Records:** A section with a 'Name' input field, a 'Type' dropdown menu set to 'A Record', and an 'Address' input field.
- Buttons:** 'Add', 'Save', and 'Remove' buttons are located below the input fields.
- Table:** A table listing four resource records.

No.	Name	Type	Detail
0	future.first.in	A Record	192.2.10.3
1	future.second.in	A Record	192.2.20.3
2	mail.future.first.in	A Record	192.2.10.3
3	mail.future.second.in	A Record	192.2.20.3

3] SMTP Config

○ Server 1 – SMTP

The screenshot shows the 'Server1' configuration window with the 'Services' tab selected. In the left sidebar, 'EMAIL' is highlighted under the 'SERVICES' section. The main area is titled 'EMAIL' and contains the following elements:

- SMTP Service:** A toggle switch set to 'ON'.
- POP3 Service:** A toggle switch set to 'ON'.
- Domain Name:** An input field containing 'future.first.in' and a 'Set' button.
- User Setup:** A section with 'User' and 'Password' input fields.
- User List:** A list box containing the entries 'ArchitaPC0', 'ArchitaPC1', and 'ArchitaPC4'.
- Buttons:** '+', '-', 'Change', and 'Password' buttons are located at the bottom right.

○ Server 3 – SMTP

Server3

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

ArchitaPC2
ArchitaPC3

⇒ Mail Transfer from PC0 TO PC2

The screenshot shows a window titled "PC2" with a menu bar containing "Physical", "Config", "Desktop", "Programming", and "Attributes". The "Desktop" tab is active, displaying a "MAIL BROWSER" window. The "MAIL BROWSER" window has a blue header bar with the title "MAIL BROWSER" and a close button "X". Below the header, there is a "Mails" section with buttons for "Compose", "Reply", "Receive", "Delete", and "Configure Mail". A table lists three emails:

	From	Subject	Received
1	ArchitaPC0@future.first.in	sending mail to PC2 from PC0 - Department A	Mon Aug 18 2025 19:15:01
2	ArchitaPC0@future.first.in	hello	Mon Aug 18 2025 19:14:37
3	ArchitaPC0@future.first.in	hello	Mon Aug 18 2025 19:24:56

Below the table, the details of the selected email (index 1) are shown:

sending mail to PC2 from PC0 - Department A
ArchitaPC0@future.first.in
Sent : Mon Aug 18 2025 19:15:01

At the bottom of the "MAIL BROWSER" window, there is a status bar with the text: "Receiving mail from POP3 Server mail.future.second.in", "DNS resolving. Resolving name: mail.future.second.in by querying to DNS Server: 192.2.20.2 DNS resolved ip address: 192.2.20.3", and "Receive Mail Success.". To the right of the status bar, there are buttons for "Cancel" and "Send/Receive".

At the bottom left of the "PC2" window, there is a checkbox labeled "Top".

Conclusion:

The configuration of the Mail Server (SMTP) was successfully demonstrated, enabling the sending and management of emails over a network. This experiment helped understand the working of SMTP protocol and its role in reliable email communication.