

1. TITLE OF THE LAB REPORT EXPERIMENT

Configuration of SMTP Server

2. OBJECTIVES

This setup reflects a small office or organizational network, where devices from two different network segments are interconnected.

3. PROCEDURE / ANALYSIS / DESIGN [3 marks]

let's break down and analyze the key objects visible in the network:

1. Router (2811 Router0)

- **Role:** Acts as the central routing device in the network.
- **Connections:** Connects to two switches: one managing the 17.34.18.5 network and the other handling the 16.32.18.4 network.
- **Interface:** It is connected through the IP 16.32.18.5 and another interface at 17.34.18.7.

2. Switches

- **Switch 2950-24 (Left):** Handles devices in the 17.34.18.5 network.
 - **Connected Devices:** Multiple PCs and servers like Yahoo (17.34.18.4), DNS (17.34.18.5), FTP server (17.34.18.6), and a few PCs (17.34.x.x).
- **Switch 2950-24 (Right):** Manages devices in the 16.32.x.x network.
 - **Connected Devices:** PCs and servers, such as the mail server (16.32.18.3), DNS (16.32.18.4), and PCs with IP addresses in the 16.32.18.x range.

3. PCs

- **PCs in 17.34.x.x Network:**
 - **Eva (17.34.18.1), Prity (17.34.18.2), Sakib (17.34.18.3):** These are user PCs connected to the switch on the left.
- **PCs in 16.32.x.x Network:**
 - **Fahad (16.32.18.1), Shuvo (16.32.18.2):** These PCs are connected to the right-side switch.

4. Servers

- **Yahoo Server (17.34.18.4)** : Likely simulates an external web service.
- **FTP Server (17.34.18.6)** : Hosts FTP services for file transfers.
- **Mail Server (16.32.18.3)** : Handles mail services.
- **DNS Servers**: Two DNS servers, one on each side of the network: 17.34.18.5 and 16.32.18.4 .

5. Other Devices

- **Laptop (Sakib)**: Connected to the left switch, simulating a wireless or mobile user.
- **PC PT (Prity, Eva)**: User devices connected on both sides of the network.

IP Addressing Scheme:

- **Network 1: 16.32.x.x** — This network is managed by the right-side switch.
- **Network 2: 17.34.x.x** — Managed by the left-side switch, connecting other servers and PCs.

Overall Network Topology:

- The network consists of two separate subnets, interconnected via a central router (**Router0**), with two different VLANs or networks for the devices.
- Each switch acts as a connection point for various servers, PCs, and laptops, with a well-segmented IP addressing scheme for the 16.32.x.x and 17.34.x.x networks.

If you'd like to dive deeper into specific configurations, routing protocols, or more details on how traffic flows between the networks, feel free to ask!

4. IMPLEMENTATION

For implementing this network topology from your Cisco Packet Tracer screenshot, follow these steps to recreate and configure the network. This process will involve adding devices, configuring IP addresses, and ensuring inter-device communication.

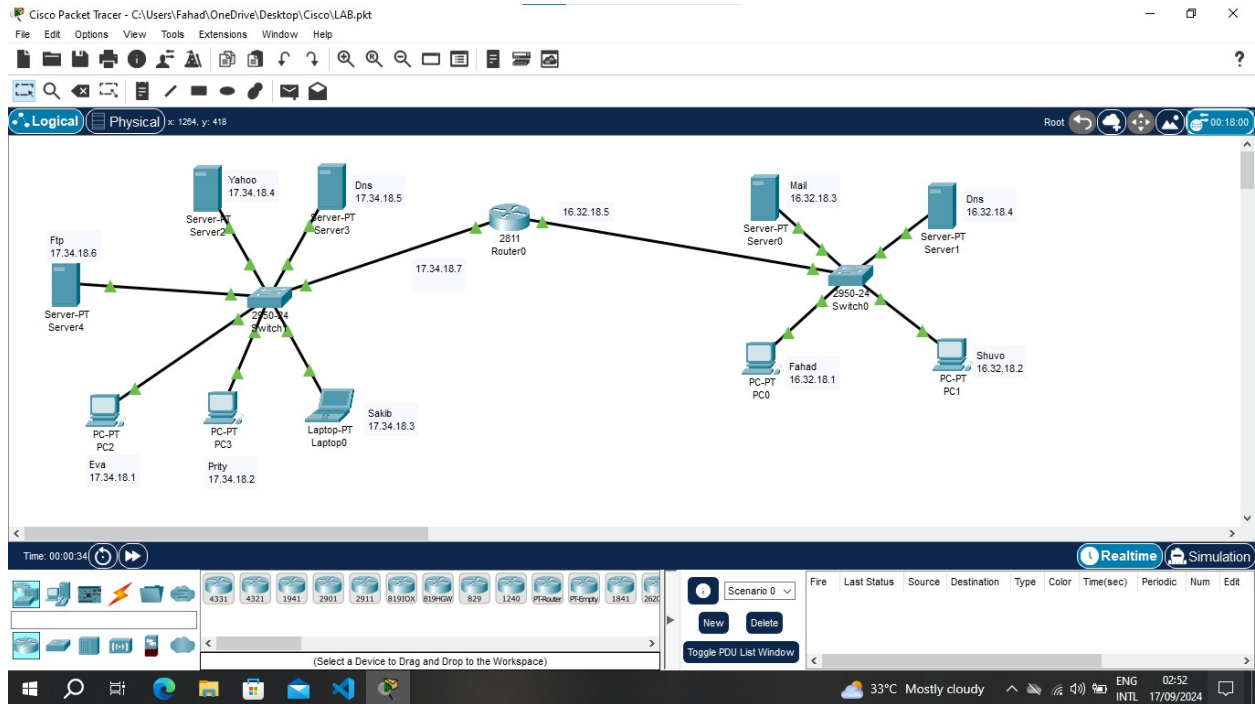


Figure: 01

5. TEST RESULT

Gmail_Side:

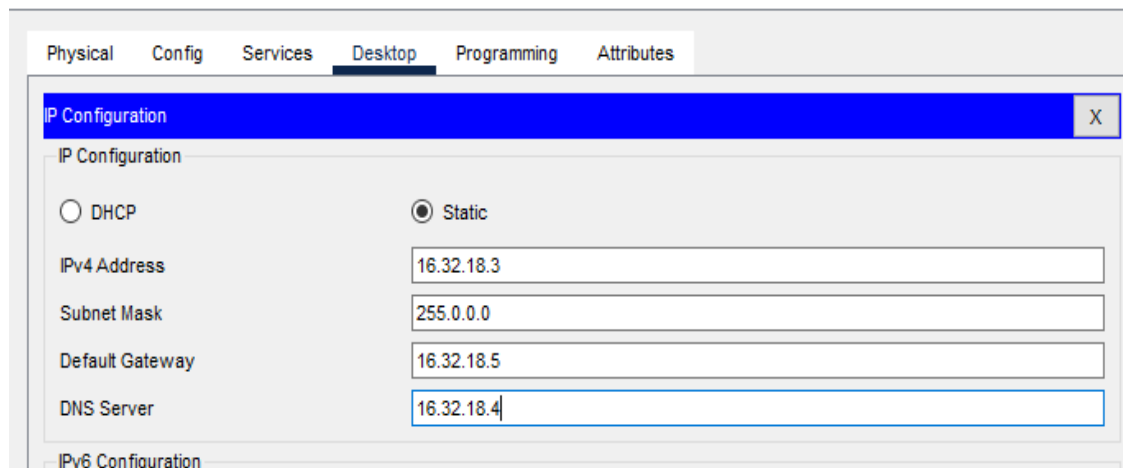


Figure: 02

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 16.32.18.4

Subnet Mask 255.0.0.0

Default Gateway 16.32.18.5

DNS Server 16.32.18.4

Figure: 03

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 16.32.18.1

Subnet Mask 255.0.0.0

Default Gateway 16.32.18.5

DNS Server 16.32.18.4

IPv6 Configuration

Figure: 04

SERVICES

SMTP Service ☒ ON ☐ OFF

POP3 Service ☒ ON ☐ OFF

Domain Name: gmail.com Set

User Setup

User Password

fahad shuvo

Figure: 05

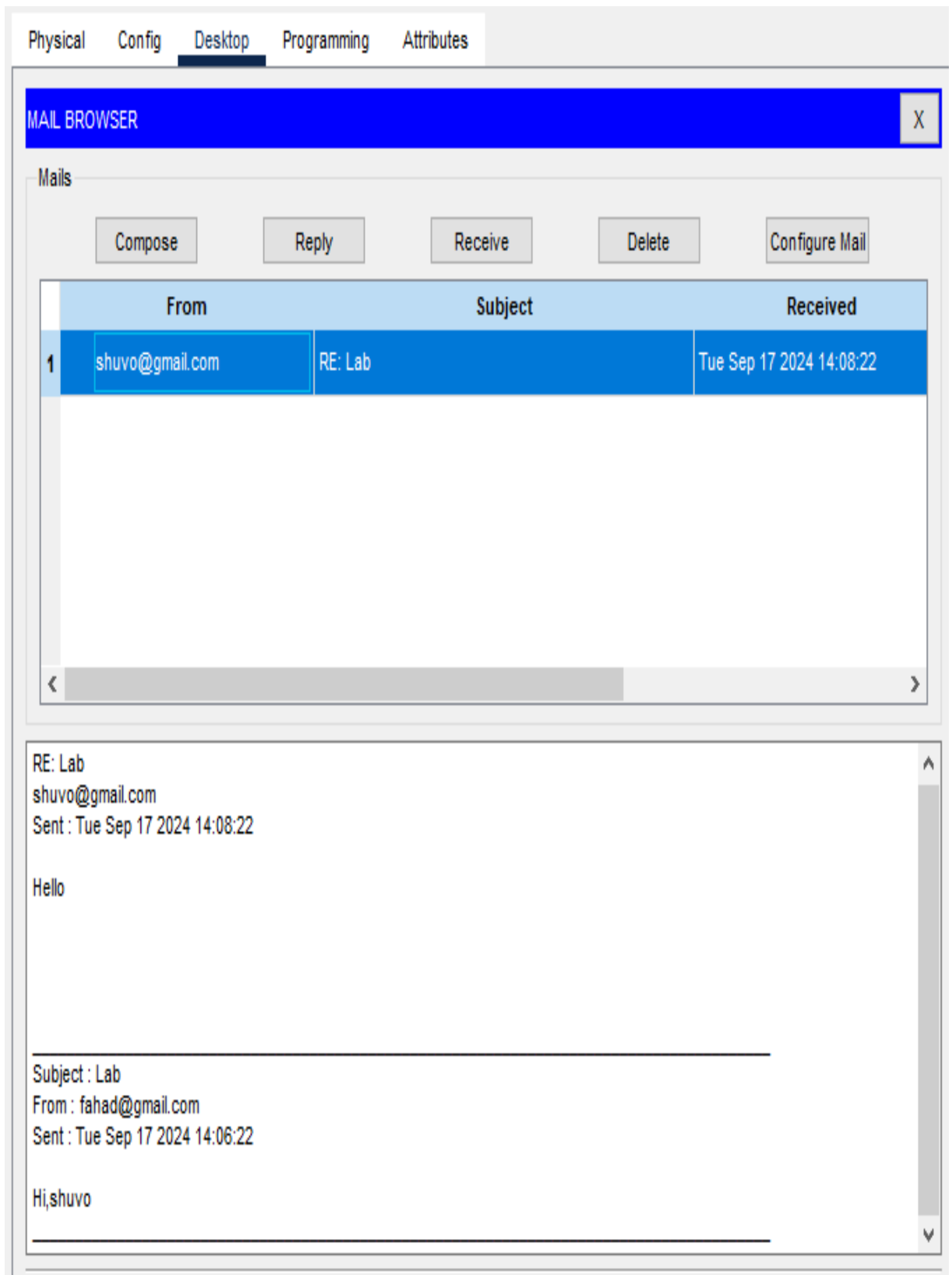


Figure: 06

Router_Side:

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

FastEthernet0/0

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☐ Full Duplex ☒ Auto

MAC Address 0001.63B7.9E01

IP Configuration

IPv4 Address 16.32.18.5

Subnet Mask 255.0.0.0

Tx Ring Limit 10

Physical **Config** CLI Attributes

GLOBAL

Settings

Algorithm Settings

ROUTING

Static

RIP

SWITCHING

VLAN Database

INTERFACE

FastEthernet0/0

FastEthernet0/1

FastEthernet0/1

Port Status ☒ On

Bandwidth ☐ 100 Mbps ☐ 10 Mbps ☒ Auto

Duplex ☐ Half Duplex ☒ Full Duplex ☒ Auto

MAC Address 0001.63B7.9E02

IP Configuration

IPv4 Address 17.34.18.7

Subnet Mask 255.0.0.0

Tx Ring Limit 10

Figure: 07

Yahoo_Side:

Physical Config **Desktop** Programming Attributes

IP Configuration X

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 17.34.18.1

Subnet Mask 255.0.0.0

Default Gateway 17.34.18.7

DNS Server 17.34.18.5

IPv6 Configuration

IP Configuration X

IP Configuration

☐ DHCP ☒ Static Another device has attempted to use this IP address.

IPv4 Address 17.34.18.4

Subnet Mask 255.0.0.0

Default Gateway 17.34.18.7

DNS Server 17.34.18.5

IPv6 Configuration

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static This address is already used in the network.

IPv4 Address 17.34.18.5

Subnet Mask 255.0.0.0

Default Gateway 17.34.18.7

DNS Server 17.34.18.5

IPv6 Configuration

PhysicalConfig**Services**DesktopProgrammingAttributes

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:

Set

User Setup

User

Password

eva

prity

sakib

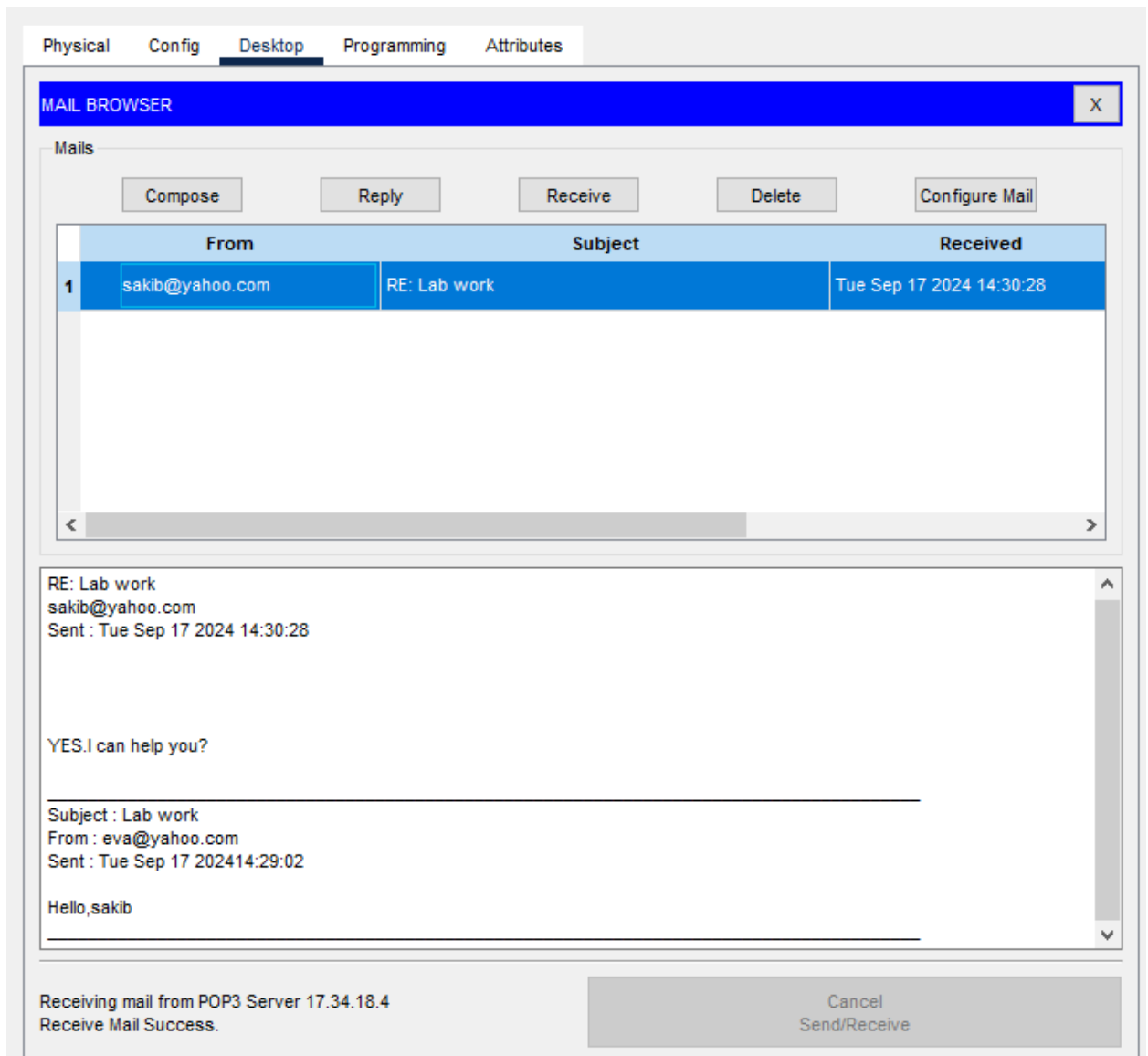


Figure: 08

FTP:

Physical Config Services **Desktop** Programming Attributes

IP Configuration X

IP Configuration

☐ DHCP ☒ Static This address is already used in the network.

IPv4 Address 17.34.18.6

Subnet Mask 255.0.0.0

Default Gateway 17.34.18.7

DNS Server 17.34.18.5

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP**
- IoT
- VM Management
- Radius EAP

FTP

Service ☒ On ☐ Off

User Setup

Username Password

☐ Write ☐ Read ☐ Delete ☐ Rename ☐ List

	Username	Password	Permission	
1	cisco	cisco	RWDNL	Add
2	sarkar	sarkar	RWDNL	

Save Remove

File

1	asa842-k8.bin
2	asa923-k8.bin
3	c1841-advipservicesk9-mz.124-15.T1.bin
4	c1841-ipbase-mz.123-14.T7.bin
5	c1841-ipbasek9-mz.124-12.bin
6	c1900-universalk9-mz.SPA.155-3.M4a.bin

Remove

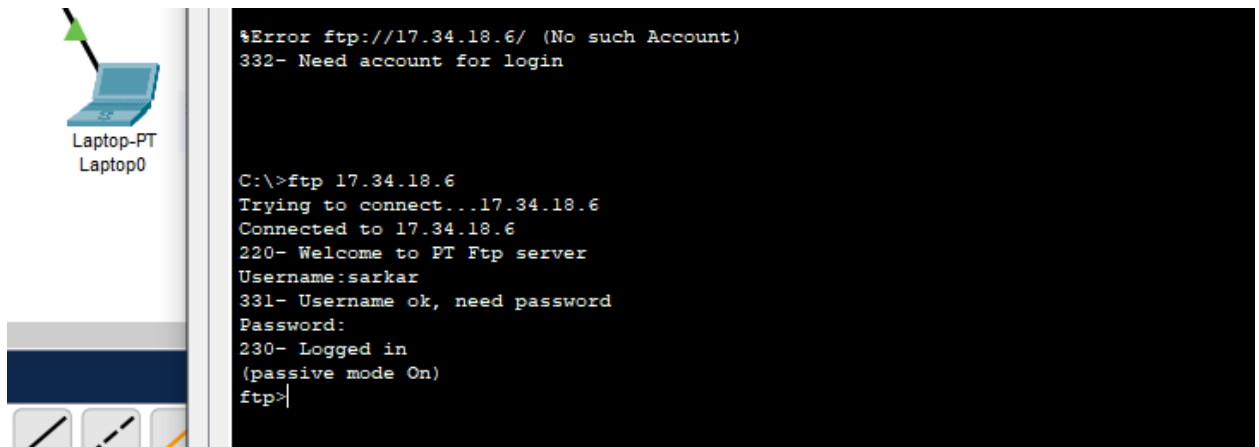


Figure: 10

Final_Output:

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	gmail.com	A Record	16.32.18.3
1	yahoo.com	A Record	17.34.18.4

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	gmail.com	A Record	16.32.18.3
1	yahoo.com	A Record	17.34.18.4

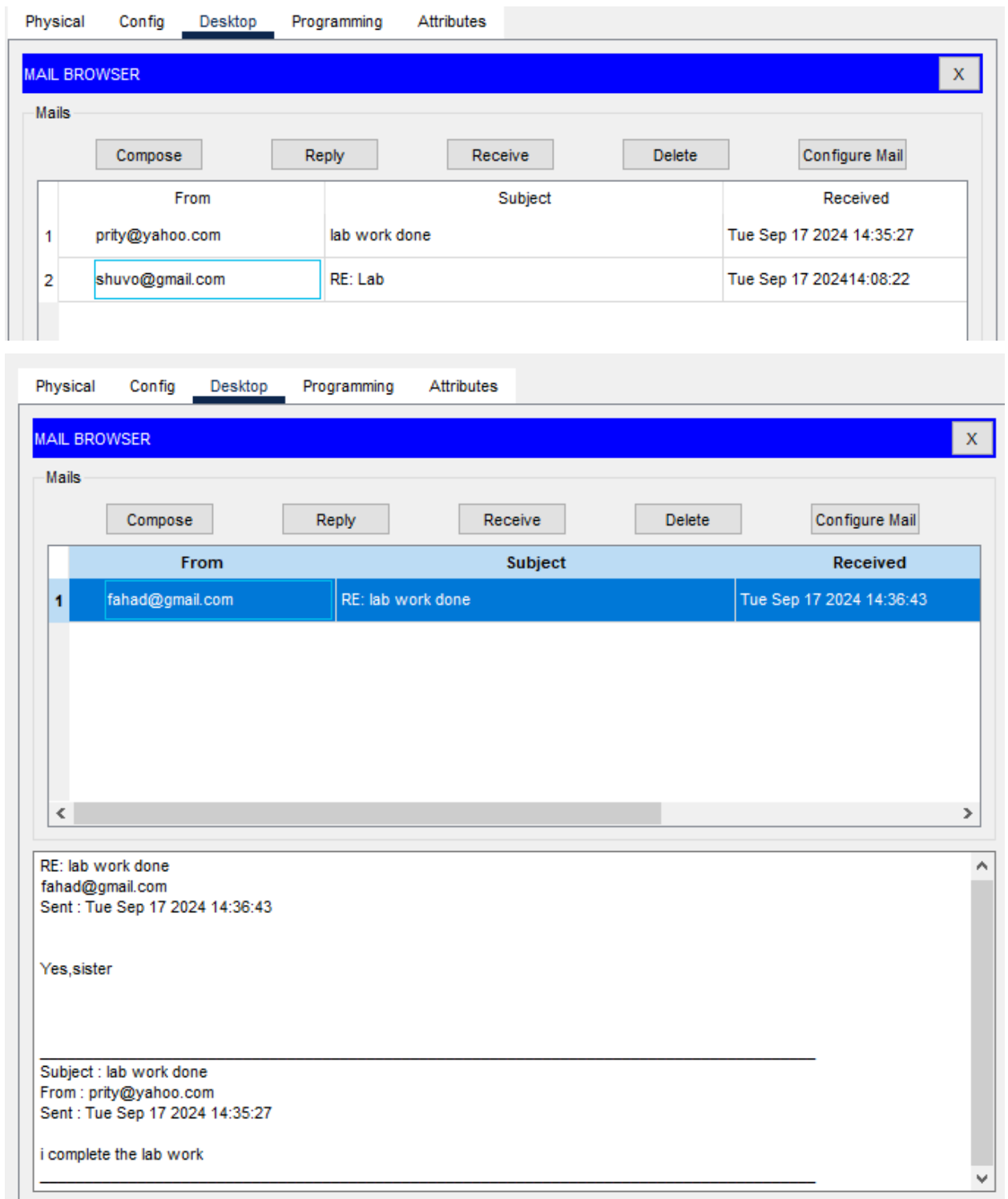


Figure: 11

6. ANALYSIS AND DISCUSSION

The network consists of two subnets connected by a router to enable communication between them. Switches connect PCs and servers within each subnet, with IP addresses assigned to facilitate network services like DNS, FTP, and Mail.

[EXTRA 1 mark] for skill and attitude on this Lab Report by the student]