American International University-Bangladesh (AIUB)

Faculty of Science and Technology (FST)
Department of Computer Science (CS)
Undergraduate Program

I. Course Code and Title:
COE 3206: Computer Networks

II. Credit:
3 credits

III. Nature:
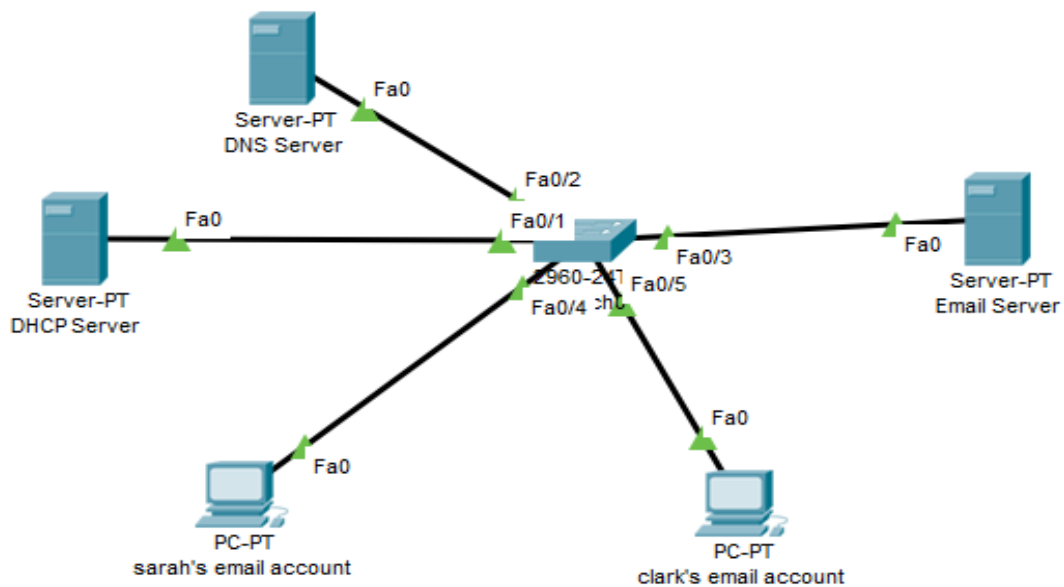**Core Course for CS, CSE, CSSE, SE, CIS**

Lab Manual

Title: Configuration of DNS, DHCP and Email servers

Abstract: This experiment is designed to introduce

1. DNS server configuration
2. DHCP server configuration
3. Email server configuration

Software: Cisco Packet Tracer

Network Design

1st server: DHCP server

Desktop tab

→ IP configuration: Configure it manually

- Configure IP address,
- Configure subnet mask and
- Configure DNS server

DHCP Server

Physical	Config	Services	Desktop	Programming	Attributes

○ DHCP	◉ Static
IP Address	10.0.0.1
Subnet Mask	255.0.0.0
Default Gateway	
DNS Server	10.0.0.2

Activate service by clicking 'on'

Assign 10.0.0.2 as DNS server

DHCP Server

			DHCP
Physical	Config	Services	Desktop	Programming	Attributes

SERVICES

HTTP

DHCP

DHCPv6

TFTP

DNS

SYSLOG

Interface	FastEthernet0 ▼	Service ◉ On
Pool Name		serverPool
Default Gateway		0.0.0.0
DNS Server		10.0.0.2

2nd Server: DNS server

Desktop tab

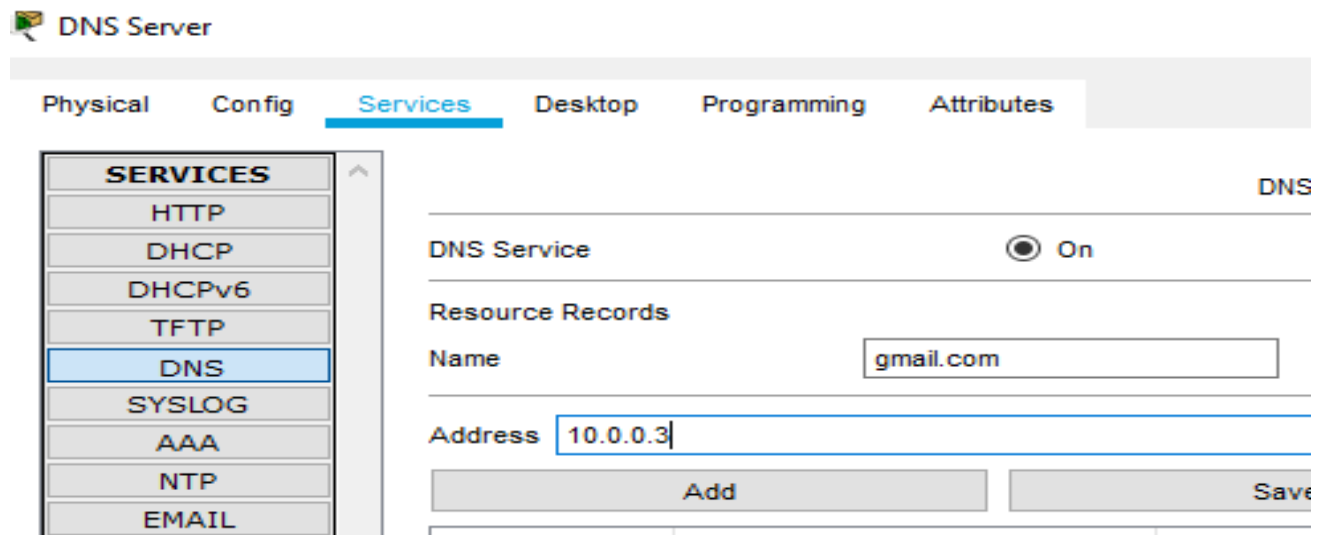→ Ip configuration: Since this is a server, we will set a static IP configuration.

DNS Server

Physical	Config	Services	Desktop	Programming	Attributes

○ DHCP   ◉ Static

IP Address	10.0.0.2
Subnet Mask	255.0.0.0
Default Gateway	0.0.0.0
DNS Server	10.0.0.2

Activate service by clicking 'on'

Write down 'gmail.com' in 'Name' box and '10.0.0.3' in the 'Address' box
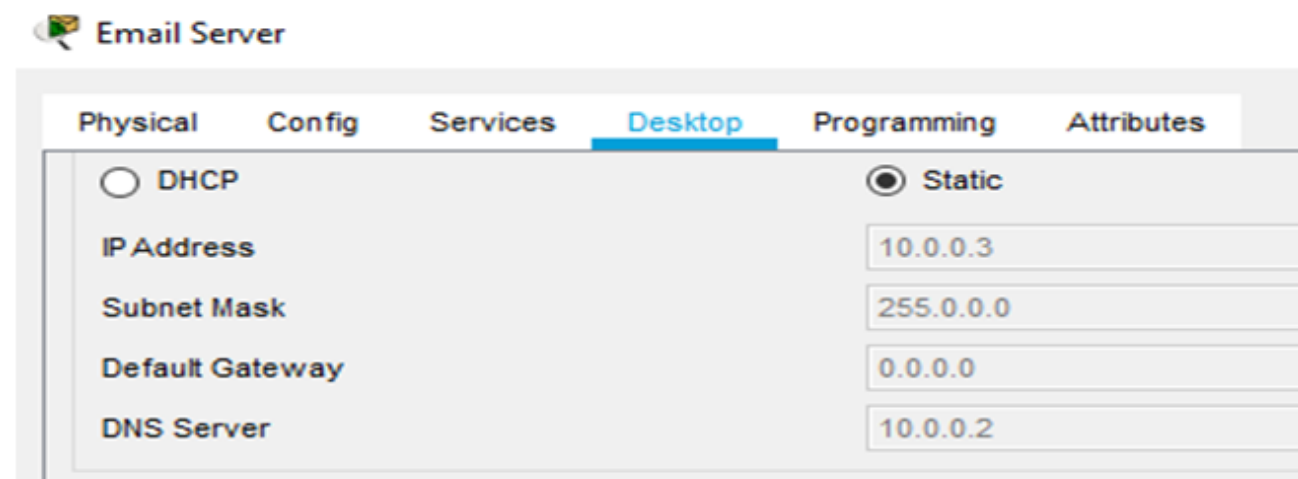
Then, click "Add" to store the record.

3rd Server: Email server

Desktop tab

→ IP configuration: Since this is a server, we will set a static IP configuration.

<u>Service tab</u>

Write down 'gmail.com' in 'Domain name' box

Press 'set' button

Write down 'sarah' in 'user' box and '123' in 'password' box

Press '+' button

Write down 'clark' in 'user' box and '456' in 'password' box

Press '+' button

Pc0

<u>Desktop tab</u>

→ IP configuration: by clicking the DHCP option

sarah's email account

Physical	Config	Desktop	Programming	Attributes

⦿ DHCP	◯ Static
IP Address	10.0.0.4
Subnet Mask	255.0.0.0
Default Gateway	0.0.0.0
DNS Server	10.0.0.2

<u>Desktop tab</u>

→ Email tab: configure mail

Write down 'sarah' in 'Your name' box

Write down 'sarah@gmail.com' in 'Email address' box

Write down 'gmail.com' in 'Incoming mail server' box

Write down 'gmail.com' in 'Outgoing mail server' box

Write down 'sarah' in 'User Name' box

Write down '123' in 'password' box

Press 'save' button

sarah's email account

| Physical | Config | Desktop | Programming | Attributes |

Configure Mail

User Information

Your Name: sarah

Email Address: sarah@gmail.com

Server Information

Incoming Mail Server: gmail.com

Outgoing Mail Server: gmail.com

Logon Information

User Name: sarah

Password: •••

Save

Pc1

Desktop tab

→ IP configuration: by clicking the DHCP option

clark's email account

| Physical | Config | Desktop | Programming | Attributes |

⦿ DHCP   ◯ Static

IP Address   10.0.0.5

Subnet Mask   255.0.0.0

Default Gateway   0.0.0.0

DNS Server   10.0.0.2

Desktop tab

→ Email tab: Configure mail

Write down 'clark' in 'Your name' box

Write down 'clark@gmail.com' in 'Email address' box

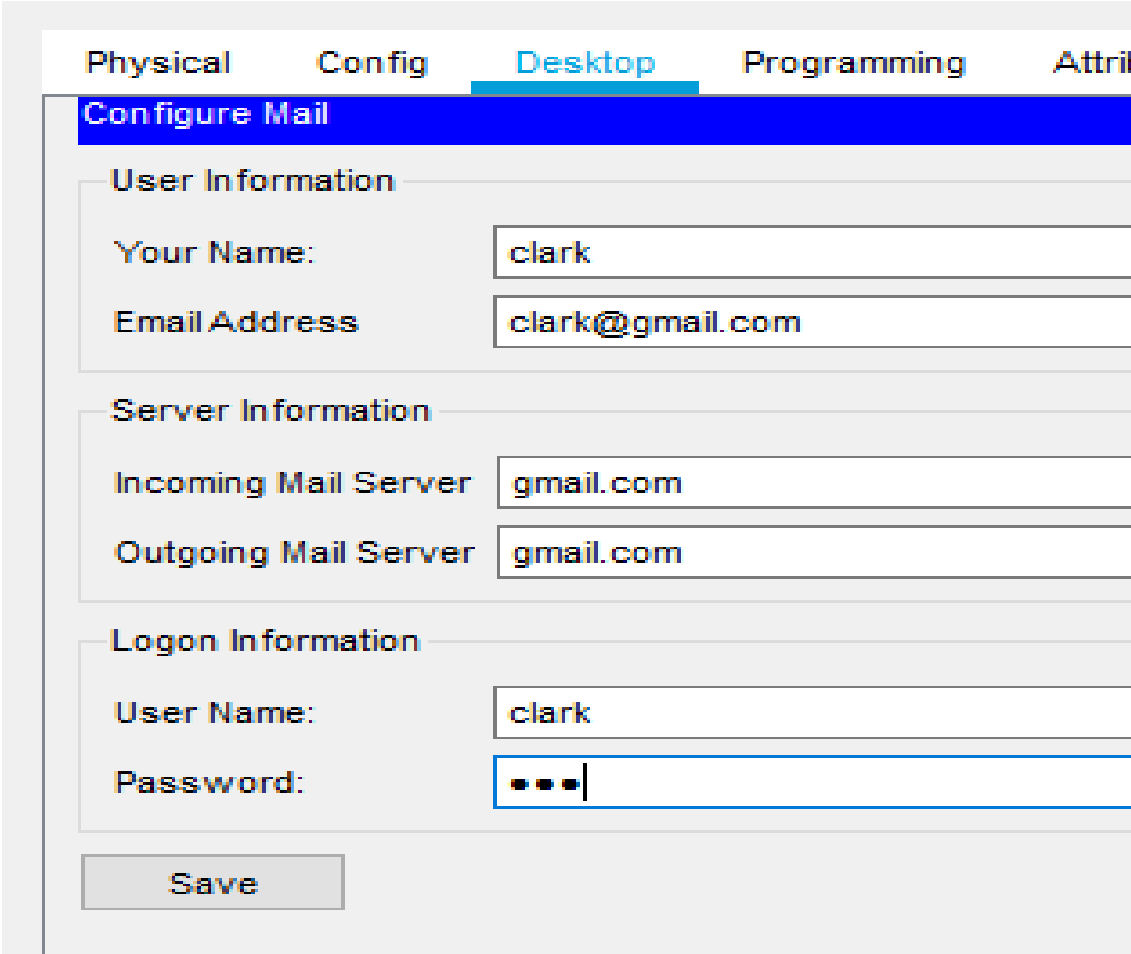Write down 'gmail.com' in 'Incoming mail server' box

Write down 'gmail.com' in 'Outgoing mail server' box

Write down 'clark' in 'User Name' box

Write down '456' in 'password' box

Press 'save' button

Now you can compose and send mail

Open Desktop tab of PC0 and click Email. Then compose send email to Clark.

You can configure DHCP in a router as well. Consider the following network,
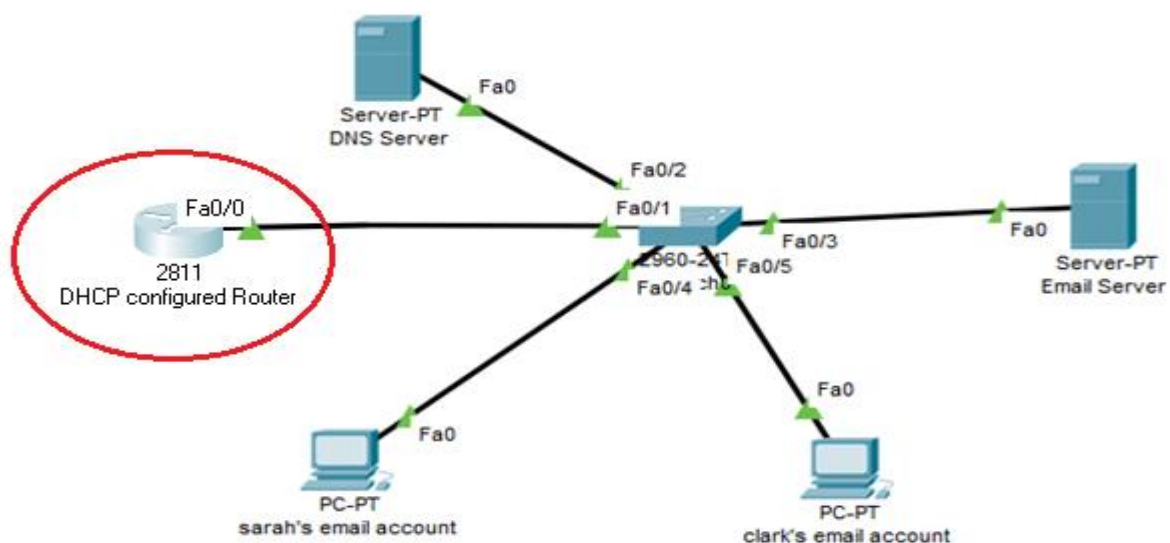
Router configuration

```
Router>en

Router#conf t

Router(config)#int f0/0

Router(config-if)#ip address 10.0.0.1 255.0.0.0

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#ip dhcp pool dpool

Router(dhcp-config)#network 10.0.0.0 255.0.0.0

Router(dhcp-config)#default-router 10.0.0.1

Router(dhcp-config)#dns-server 10.0.0.2

Router(dhcp-config)#exit
```

Note: All the other configuration remains the same.