

American International University-Bangladesh (AIUB)

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

Course Code and Title: CS 3204, Computer Networks

Semester: Fall 24-25

Lab Manual

Title: 1. Configurations of DNS, DHCP and Email Servers

Instructor

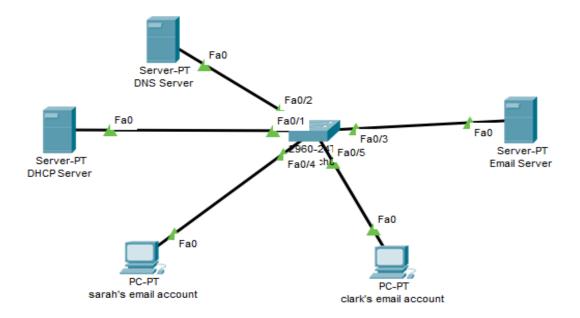
Dr. Nazib Abdun Nasir, Assistant Professor, CS, AIUB

Abstract: This experiment is designed to introduce

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

Software: Cisco Packet Tracer (version 7.3.0)

Network Design

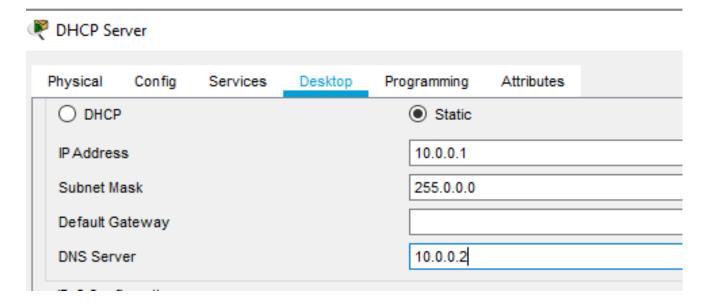


1st server: DHCP server

Desktop tab

→ IP configuration: Configure it manually

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

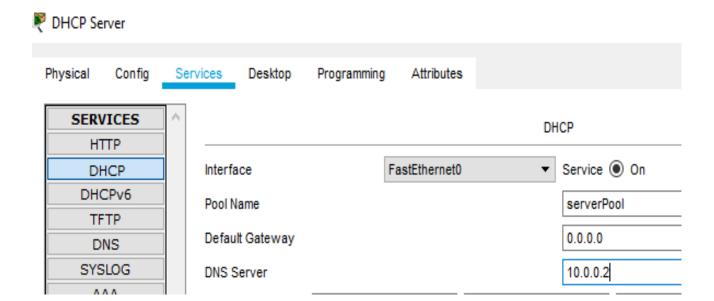


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Service tab

Activate service by clicking 'on'

Assign 10.0.0.2 as DNS server



2nd Server: DNS server

Desktop tab

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



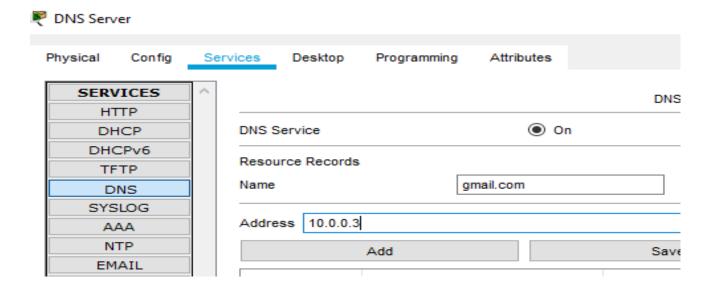
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Service tab

Activate service by clicking 'on'

Write down 'gmail.com' in 'Name' box and '10.0.0.3' in the 'Address' box

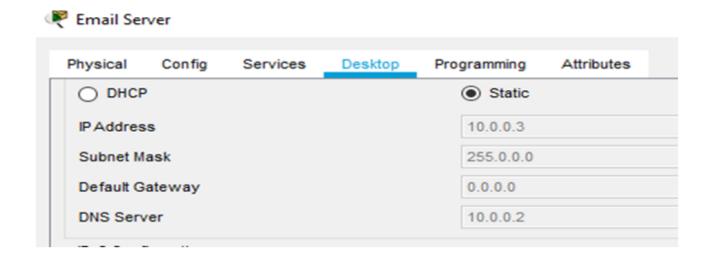
Then, click "Add" to store the record.



3rd Server: Email server

Desktop tab

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



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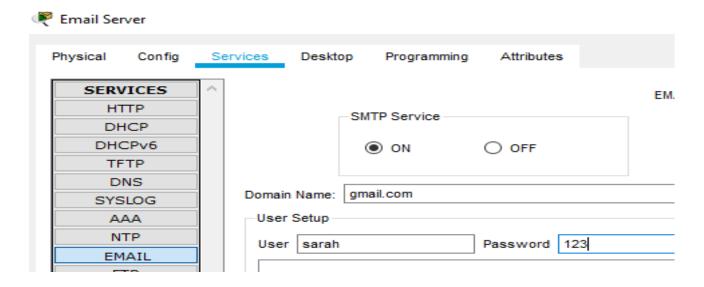
Service tab

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

Press 'set' button

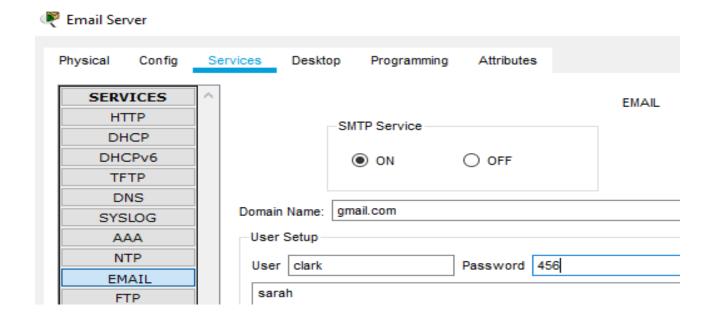
Write down 'sarah' in 'user' box and '123' in 'password' box

Press '+' button



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

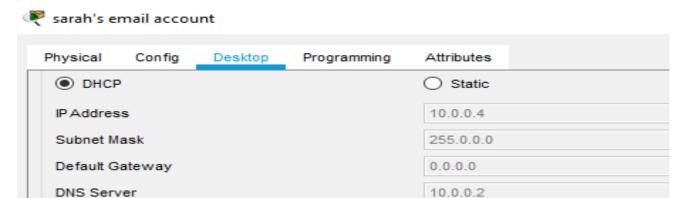
Press '+' button



Pc0

Desktop tab

→ IP configuration: by clicking the DHCP option



Desktop tab

→ Email tab: configure mail

Write down 'sarah' in 'Your name' box

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

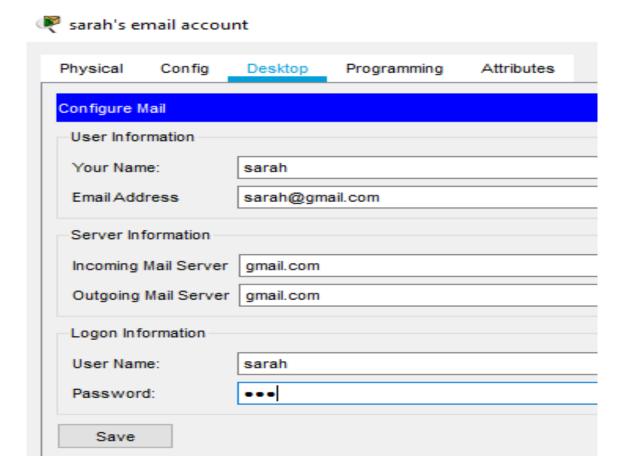
Write down 'gmail.com' in 'Incoming mail server' box

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

Write down 'sarah' in 'User Name' box

Write down '123' in 'password' box

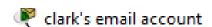
Press 'save' button

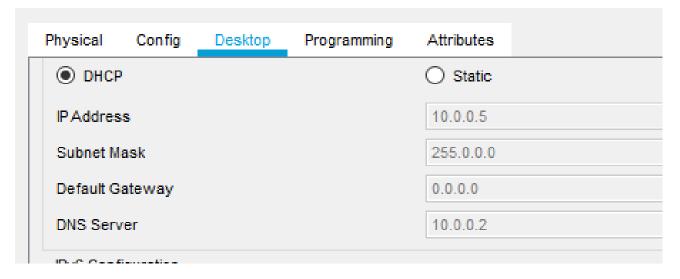


Pc1

Desktop tab

→ IP configuration: by clicking the DHCP option





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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

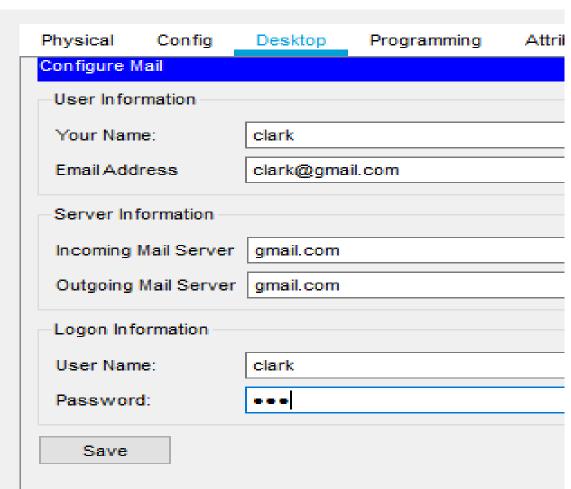
Write down 'gmail.com' in 'Outgoing mail server' box

Write down 'clark' in 'User Name' box

Write down '456' in 'password' box

Press 'save' button

🎤 clark's email account

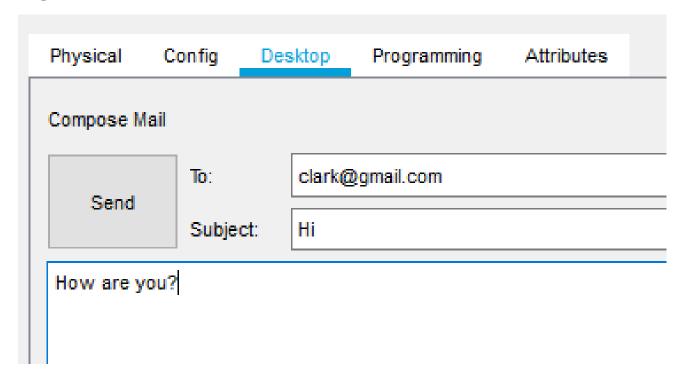


Now you can compose and send mail

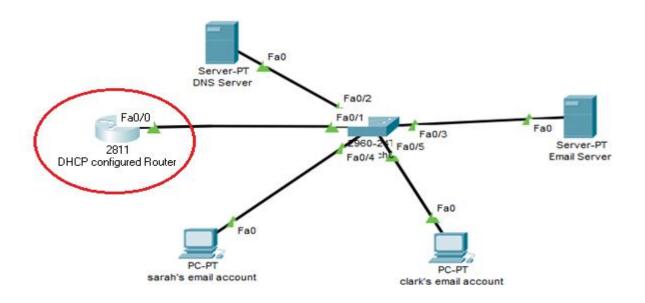
Open Desktop tab of PC0 and click Email. Then compose send email to Clark.



📭 sarah's email account



You can configure DHCP in a router as well. Consider the following network and practice it implementing now and at home as well.



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.