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BANGLADESH UNIVERSITY OF BUSINESS AND TECHNOLOGY

Lab Report

Course Code: CSE 320

Course Title: Computer Networks Lab

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Program: B.Sc. in CSE

Semester: Spring 2021

Date of Submission: 24.06.2021

Report number: 03

Report name: HTTP, SMTP, DNS Server configuration.

Objectives: The purpose of this lab was to connect all of the devices and configure the IP addressing. Then configure HTTP, SMTP, DNS Serve and their simply services to make sure that they work.

Tools and Technology:

- Cisco Packet Tracer (version 8.0.0)
- End devices
- Switch
- Servers
- Copper Straight-Through Connection

Theory:

HTTP Server:

A HTTP or web server processes requests via HTTP, a network protocol used to exchange information on the World Wide Web (WWW). The main function of a HTTP server is to store, process and deliver web pages to clients. Pages delivered are usually HTML documents, which may include images, style sheets and scripts in addition to text content. Using HTML, you describe what a page must look like, what types of fonts to use, what color the text should be, where paragraph marks must come, and many more aspects of the document.

SMTP Server:

An SMTP (Simple Mail Transfer Protocol) server is an application that's primary purpose is to send, receive, and/or relay outgoing mail between email senders and receivers. An SMTP server will have an address (or addresses) that can be set by the mail client or application that you are using, and is generally formatted as smtp.serveraddress.com. (For example, Gmail's SMTP server address is smtp.gmail.com.

DNS Server:

The domain name system (DNS) connects URLs with their IP address. With DNS, it's possible to type words instead of a string of numbers into a browser, allowing people to search for websites and send emails using familiar names. When we use an alphanumeric address like "udemy.com" our computer needs to understand what numerical IP address it should contact to show up the content. Domain name server is a server responsible for keeping the file that contains information about the domain name(s) and corresponding IP addresses (zone file) as well as for providing the above-mentioned information during DNS queries. Domain name servers are a fundamental part of the Domain Name System. Name server is a server on the Internet specialized in handling queries regarding the location of the domain name's various services. In easy words, name servers define our domain's current DNS provider. All domains usually have at least two DNS servers.

Figures:

Step-1

1. Here, for server configuration we took four servers: DNS Server, HTTP Server- Google, Facebook, SMTP Server- Gmail.
2. Then we took four end devices (two PC and two laptop).
3. To make connection among the servers and end devices we took one switch.
4. Then we made Copper Straight-Through Connection.

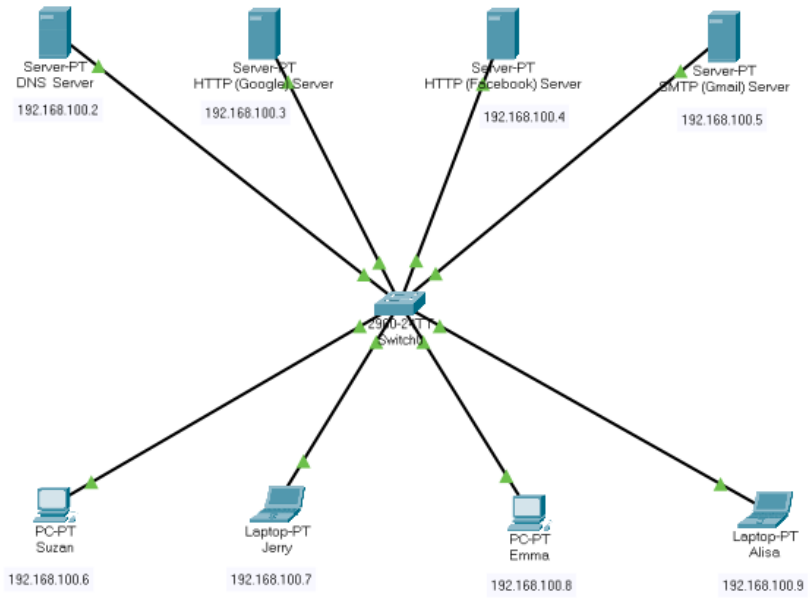

Figure 1: HTTP, SMTP, DNS Server Configuration

Step-2

IP Configuration (For servers):

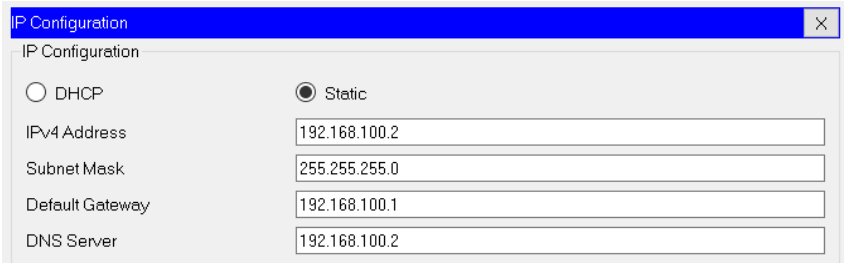

Figure 2: DNS Server IP addressing

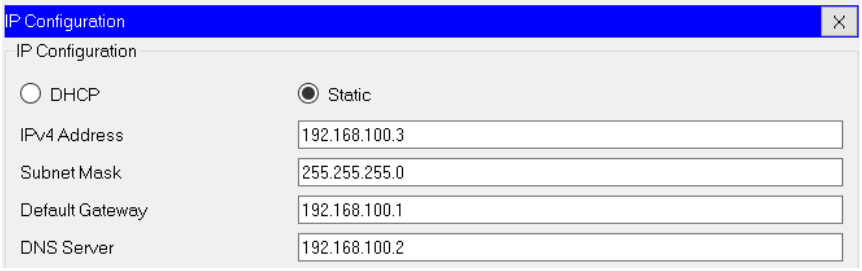

Figure 3: HTTP (Gmail Server) IP addressing

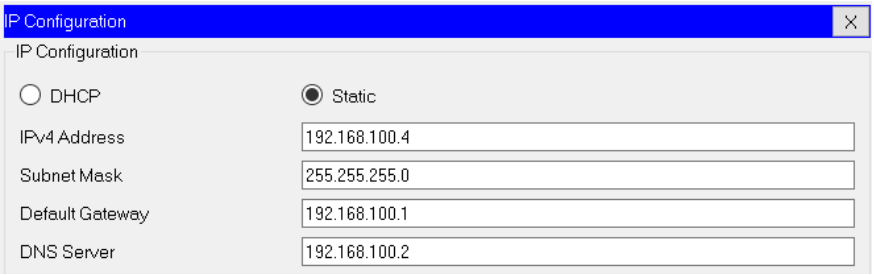

Figure 4: HTTP (Facebook Server) IP addressing

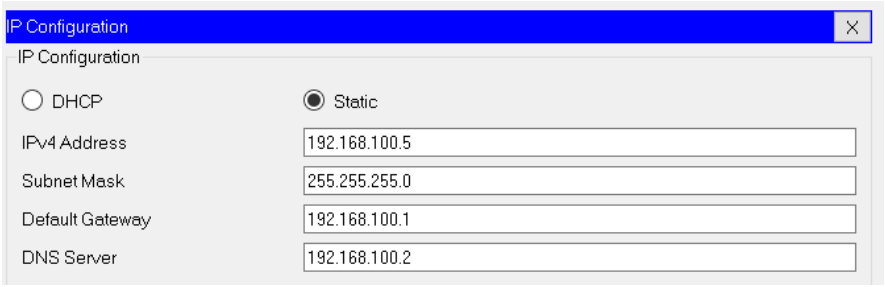

Figure 5: SMTP (Gmail Server) IP addressing

IP Configuration (For End Devices):

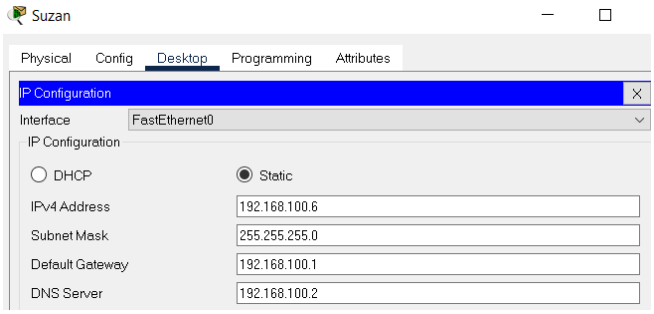

Figure 6: IP addressing for Suzan's PC

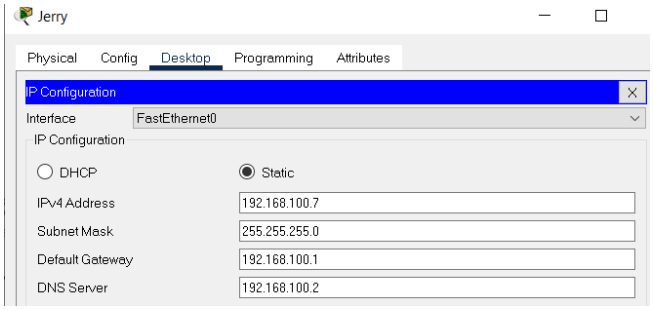

Figure 7: IP addressing for Jerry's Laptop

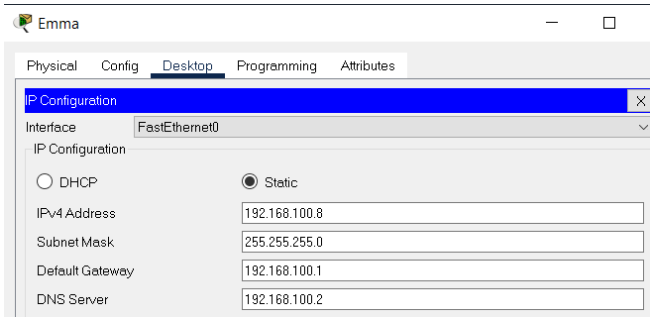

Figure 8: IP addressing for Emma's PC

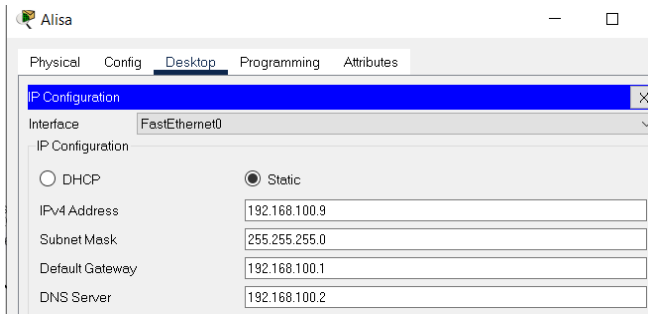

Figure 9: IP addressing for Alisa's Laptop

Step-3

DNS Server Configuration:

1. Initially, DNS services was off. So, turned it on.
2. Then we add some domain names that we used.

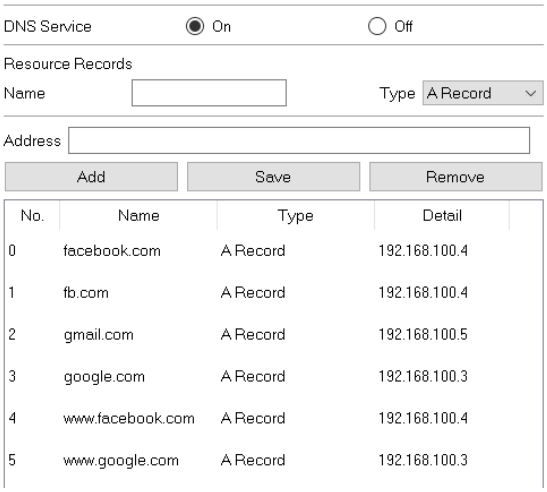

Figure 10: Domain names

Step-4

HTTP Server Configuration:

Google:

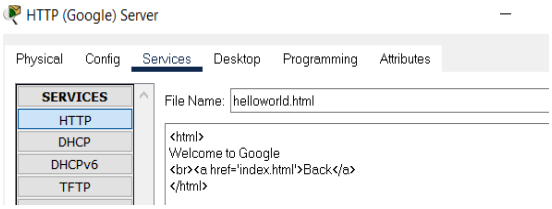

Figure 11: HTTP (Google Server) configuration

Facebook:

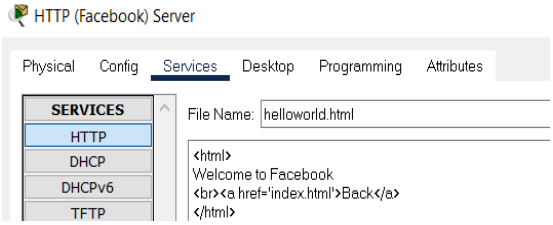

Figure 12: HTTP (Facebook Server) configuration

Step-5

SMTP Server Configuration:

1. Here, we add a SMTP server- Gmail.
2. Then we add the end device users by giving their username and password.

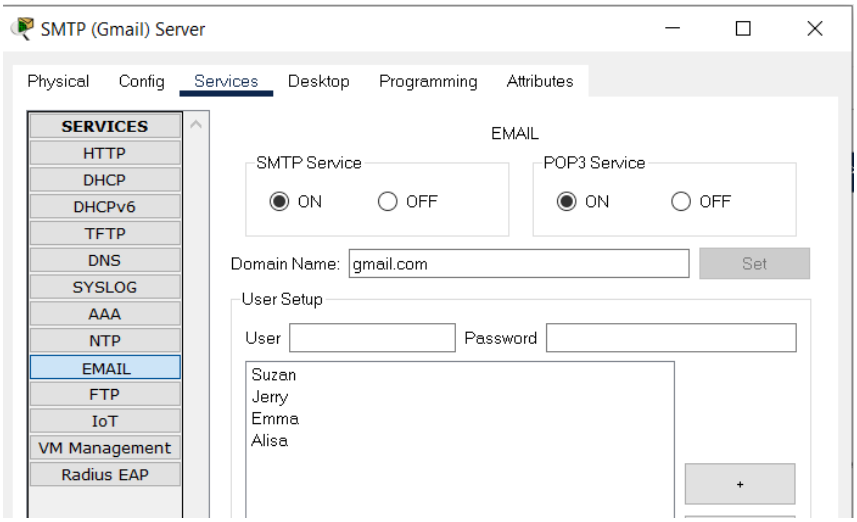

Figure 13: SMTP (Facebook Server) configuration

Output:

During the lab I couldn't find any output. But after trying on later I solved the problem successfully.

Figure 14: End users can browse for different domain name-1

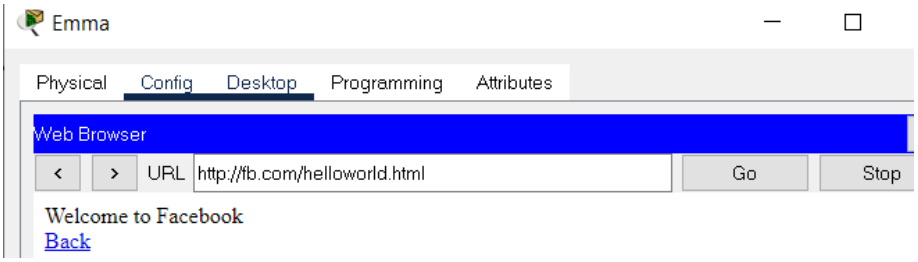

Figure 15: End users can browse for different domain name-2

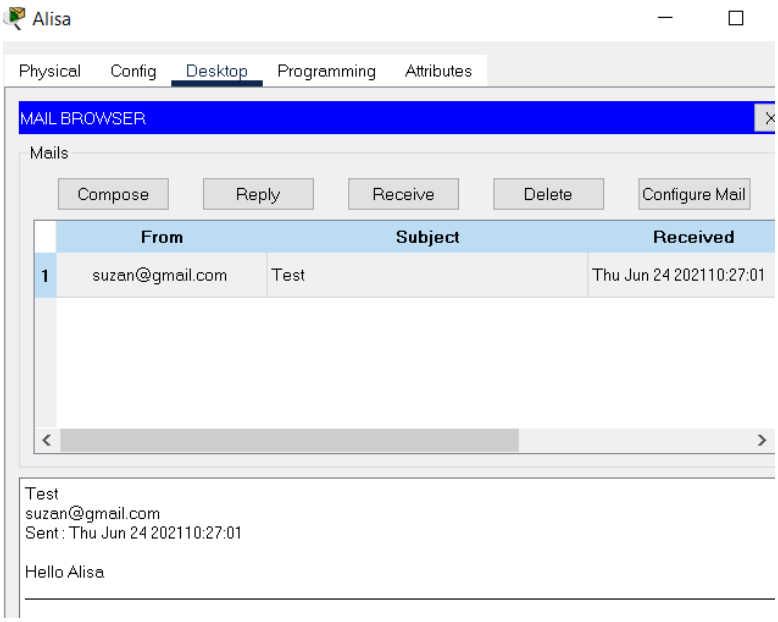

Figure 16: End users can send Emails among them

Conclusions:

In this lab we have gained the knowledge about HTTP, SMTP and DNS server Configuration. During designing part, I did face problem and I couldn't find the output successfully. After the lab session I tried it again and can find the output. The reason for which I could not do it during lab was: I gave a wrong IP address for an end device. Overall, the lab session was fruitful and we all get to learn new things.