Task 11a

a) Establishing a Web Server Connection Using the PC's Web Browser

Webserver

> Hosts and delivers web content (e.g., HTML pages, images, files) to clients like web browsers.
> Uses the **HTTP/HTTPS** protocol.
> Example: When you enter http://example.com in a browser, the web server
>
> serves the content (like index.html).

DNS server

> Translates human-readable domain names (e.g., example.com) into IP addresses (e.g., 192.168.1.2), so devices can locate the correct server.
> Example: When you type example.com, the DNS server tells the browser which IP
>
> address (e.g., 192.168.1.2) to connect to.

Key Difference:

> A **web server** serves content, while a **DNS server** resolves domain names into IP addresses to help locate the web server.

Note: We are going to test by giving domain name instead of IP and the concerned webservers content is displayed without using IP addresses from the pc's webbrowser.
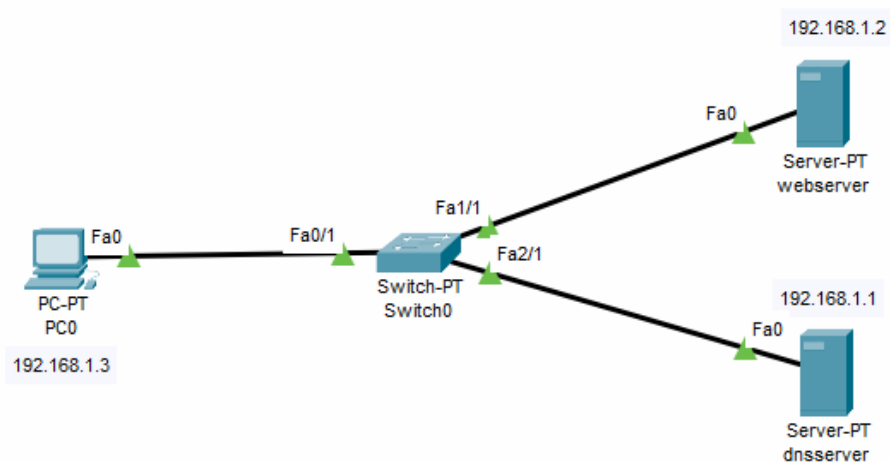
Note: To get the names like webserver and dnsserver .Goto options->preferences->check the show device name labels
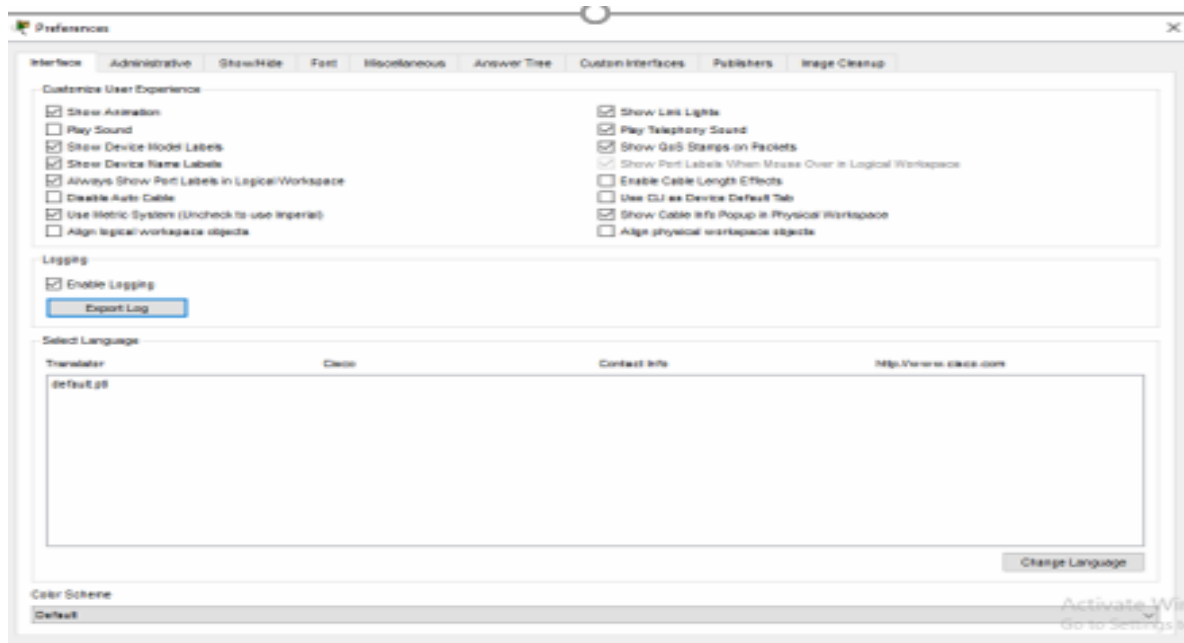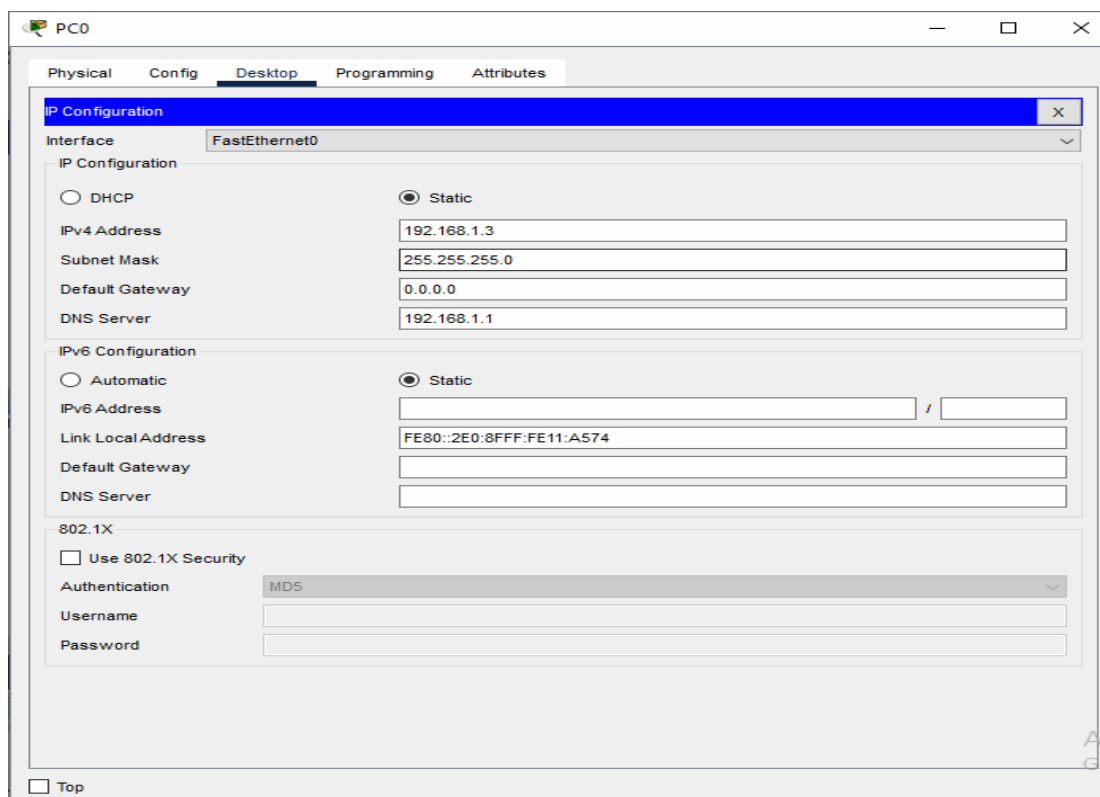

Follow the below steps:

Step 1:

Configure IP addresses

PC0 IP:192.168.1.3   DNS server IP:192.168.1.1

Take **normal server not meraki server from the list of end devices** and name it as webserver

Webserver IP:192.168.1.2 DNS server:192.168.1.1

Take one more server from the list and name it as DNS server

DNS server IP:192.168.1.1   DNS server:192.168.1.1

Step 2: Enable DNS service on the DNS server

For the server in our topology to serve a webpage, when requested with a domain name instead of an IP address, we need to enable DNS service and add a DNS record.
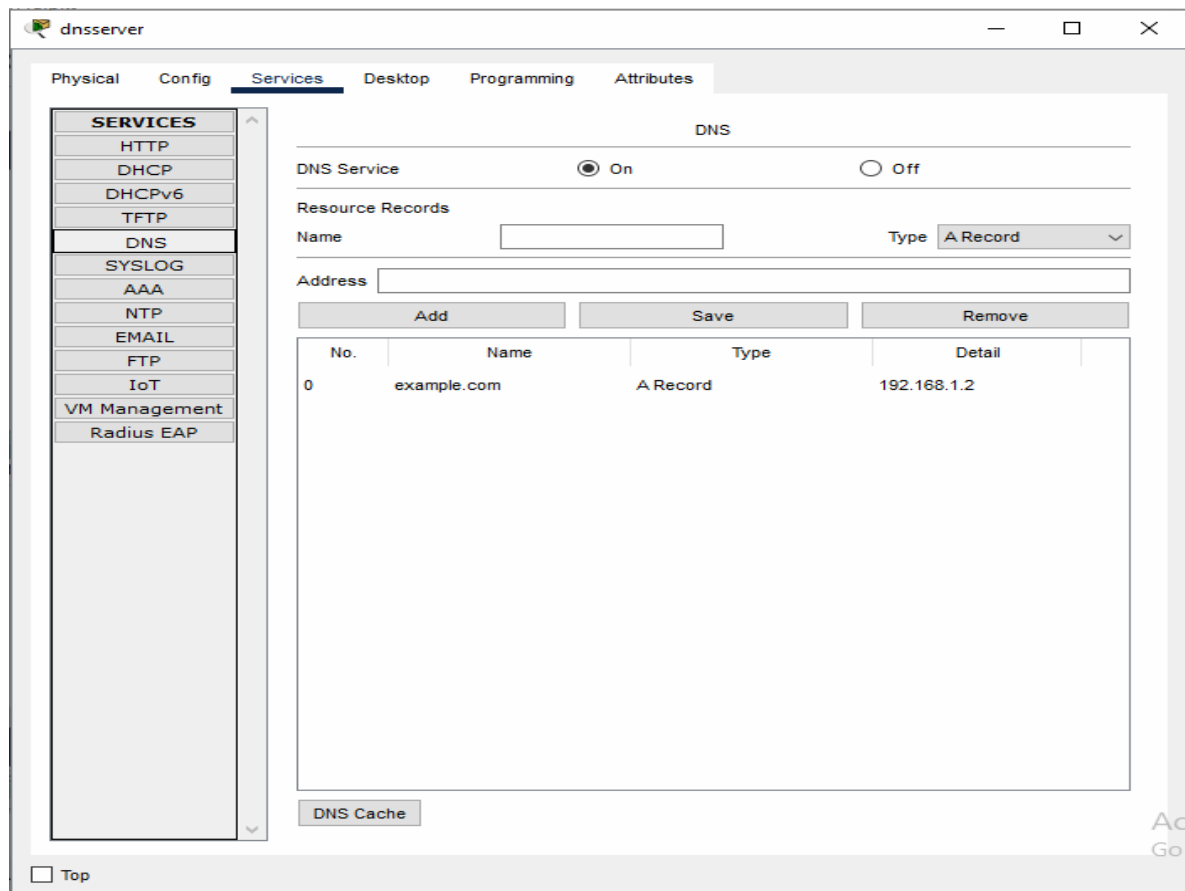
 Goto->dnsserver->services->DNS and give as shown in the screenshot

In the above image, we made the IP address; 192.168.1.2 which is the IP address of the webserver to resolve to example.com

Click on add button and the record will be added as shown in below screenshot
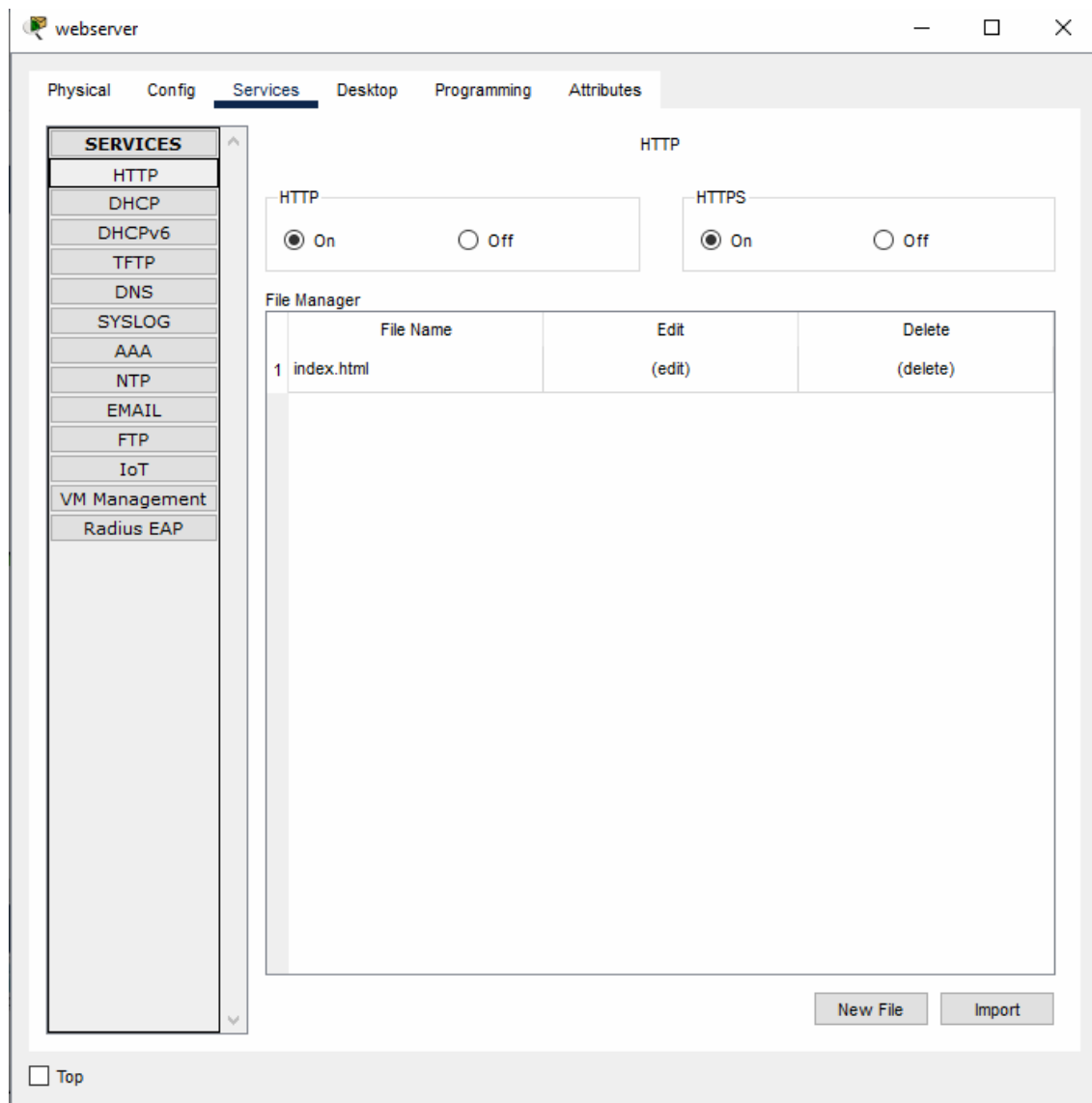

Step 3: Enable HTTP service on the webserver

HTTP/HTTPS allows a client to send and receive data (a webpage) between the webserver and the client's browser.

To Enable HTTP service on the webserver, go to **services>HTTP**

Click the on checkbox for both http and https

In http tab->we have up to five default webpages that can be served by the webserver. Those are created by Cisco; you can customize them or delete them. In this demonstration, I will delete every other webpage except "index.html." **as we will write our code to create a webpage to test the functionality.**

Step 4: Create the webpage

Edit the index.html code by clicking on **edit** button

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Welcome to example</title>
<style>
body {
font-family: Arial, sans-serif;
```

```
text-align: center;
margin: 50px;
}
h1 {
color: #007BFF;
}
</style>
</head>
<body>
<h1>Welcome to example</h1>
<p>The best networking blog.</p>
</body>

</html>
```

webserver — □ ✕

Physical   Config   Services   Desktop   Programming   Attributes

SERVICES

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

File Name: index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Welcome to example</title>
<style>
body {
font-family: Arial, sans-serif;
text-align: center;
margin: 50px;
}
h1 {
color: #007BFF;
}
</style>
</head>
<body>
<h1>Welcome to example</h1>
<p>The best networking blog.</p>
</body>
</html>
```

File Manager   Save

☐ Top
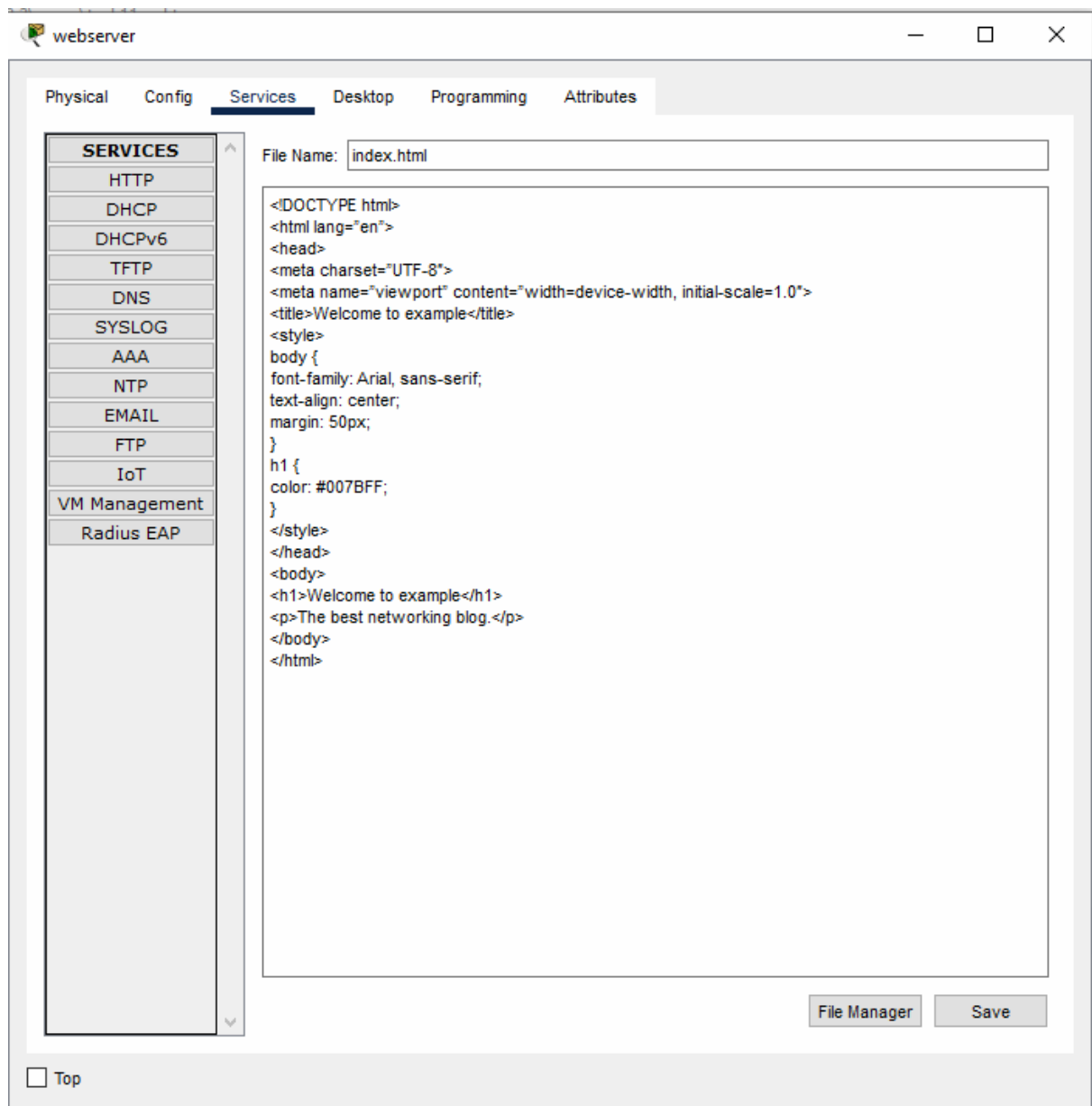
Step 5: View the Webpage

Now that we have enabled DNS service on dns server and HTTP service on the webserver, we can view the webpage we created using an HTTP request and a domain name instead of an IP address.

Test the functionality

Go to Services> webbrowser on PCO.

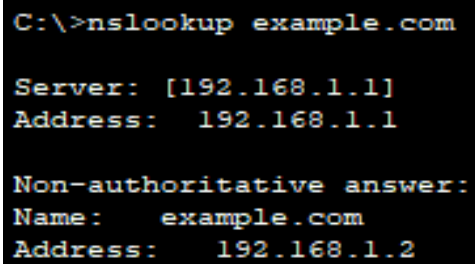Then enter the domain address we added to the record of the DNS server. i.e example.com
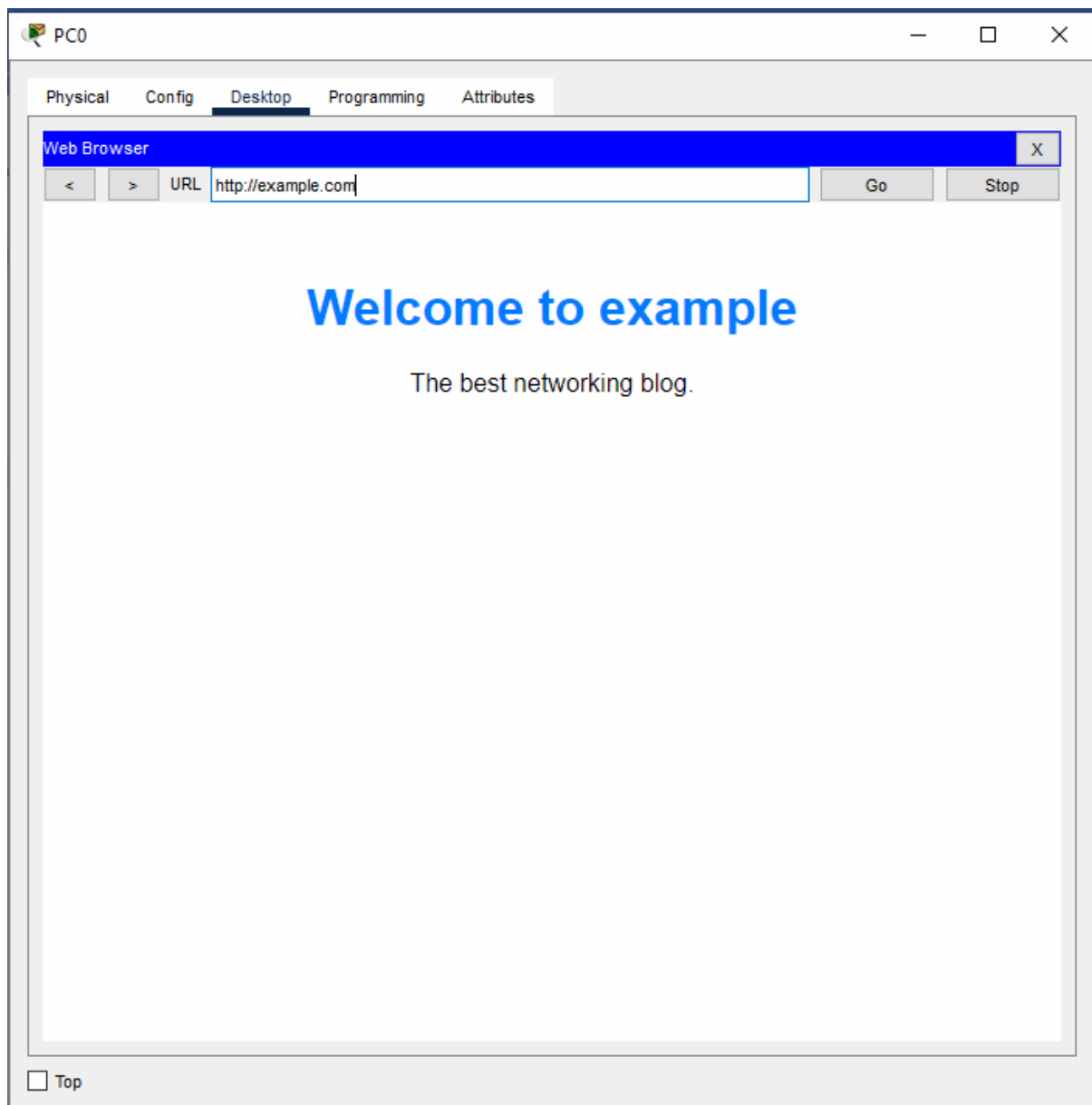
As shown above, the webpage we created was displayed by typing example.com on the web browser rather than the IP address of the web server, which is 192.168.1.2

Test2:

We can also see server and address and domain name and address allocated

In PC0->goto desktop->command prompt

```
C:\>nslookup example.com

Server:  [192.168.1.1]
Address:  192.168.1.1

Non-authoritative answer:
Name:   example.com
Address:    192.168.1.2
```

Note: We can also use one server to configure both http and DNS configurations