

Lab 7a – Basic Web Development Techniques and Concepts

For this Lab Assignment, answer the following questions and perform the given tasks, as well.

1. What is the difference between the Internet and the World Wide Web?

Internet:

- is a global network of networks.
- is a means of connecting a computer to any other computer anywhere in the world.

World wide Web:

- is the collection of web sites and pages around the world;
- is a collection of pages(information) that can be accessed via the Internet .

2 Write short notes about the following:

a. Internet Protocol (IP):

- a set of rules that dictate how data should be delivered over the public network (Internet).
- Often works in conjunction with the transmission control protocol (TCP), which divides traffic into packets for efficient transport through the Internet; together they are referred to as TCP/IP.

b. Transmission Control Protocol (TCP):

- is a standard that defines how to establish and maintain a network conversation by which applications can exchange data.
- defines how computers send packets of data to each other.
- is a connection-oriented protocol. which means a connection is established and maintained Until the applications at each end have finished exchanging messages.

c. HyperText Transfer Protocol (HTTP):

- is an application protocol for distributed, collaborative, hypermedia information systems that allows users to communicate data on the World Wide Web.

3. Launch/Open your Windows Command Prompt window or MacOS Terminal. And execute a command to display your computer's IP Address. Take a screenshot and paste it below.

[Screenshot showing result with IP Address]

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C:\Windows\System32\cmd.exe

C:\WINDOWS\system32>ipconfig

Windows IP Configuration

Wireless LAN adapter Local Area Connection* 2:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Wireless LAN adapter Local Area Connection* 4:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :

Ethernet adapter Ethernet 2:

    Connection-specific DNS Suffix  . :
    IPv6 Address. . . . . : 2603:8080:6e0d:ac00::1
    IPv6 Address. . . . . : 2603:8080:6e0d:ac00:f10b:4552:f6d4:5da2
    Temporary IPv6 Address. . . . . : 2603:8080:6e0d:ac00:4f7:b655:af40:7511
    Link-local IPv6 Address . . . . . : fe80::f10b:4552:f6d4:5da2%12
    IPv4 Address. . . . . : 192.168.0.3
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : fe80::8229:94ff:fece:5775%12
                                192.168.0.1

Wireless LAN adapter Wi-Fi:

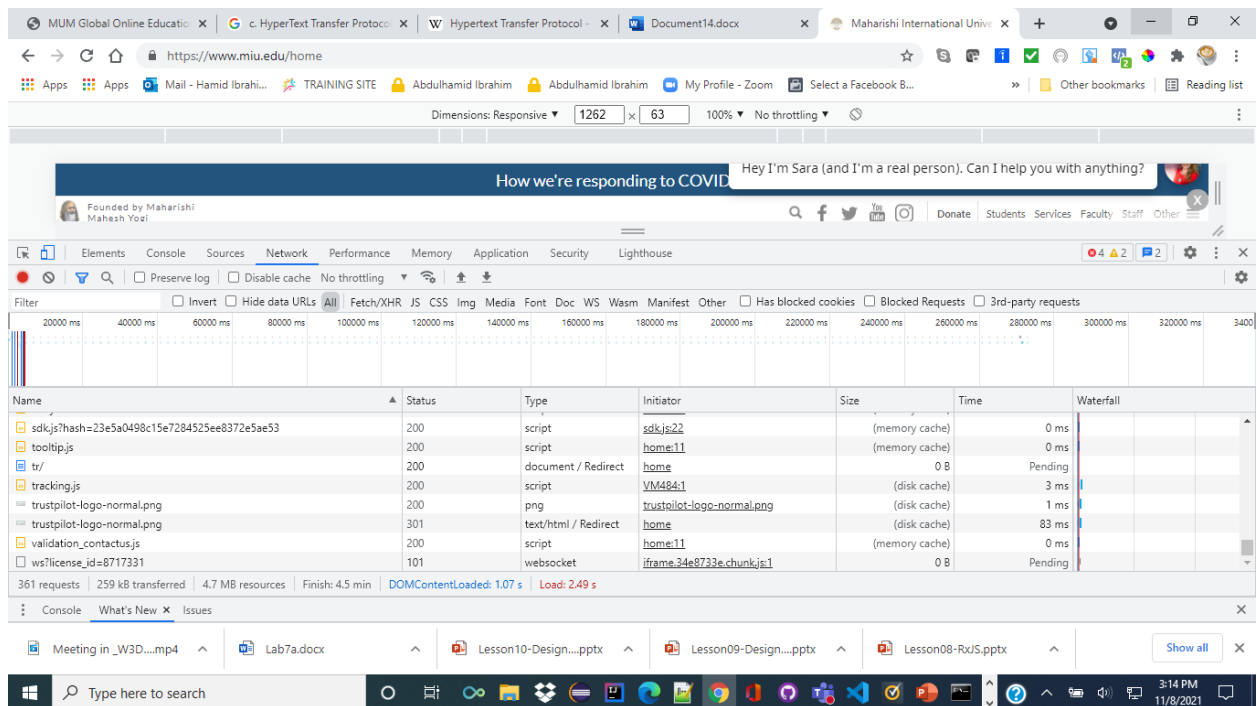
    Connection-specific DNS Suffix  . : tx.rr.com
    IPv6 Address. . . . . : 2603:8080:6e0d:ac00::3
    IPv6 Address. . . . . : 2603:8080:6e0d:ac00:ac47:b8f5:4ba2:5b06
    Temporary IPv6 Address. . . . . : 2603:8080:6e0d:ac00:80aa:2063:56f5:78f8
    Link-local IPv6 Address . . . . . : fe80::ac47:b8f5:4ba2:5b06%9
    IPv4 Address. . . . . : 192.168.0.19
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : fe80::8229:94ff:fece:5775%9
                                192.168.0.1

Ethernet adapter Bluetooth Network Connection:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . :
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4. Launch/open your Google Chrome browser. Type into the Address bar, the url: <https://www.miu.edu/home> and press [ENTER]. Open the Chrome Developer Tools window (e.g. Press function key, F12 or use the Chrome Browser's :: menu). Open the Network tab. And take screenshots, showing excerpts of the data from the Headers, the Response and the Cookies, sub-tabs.

Place/paste your screenshots below.



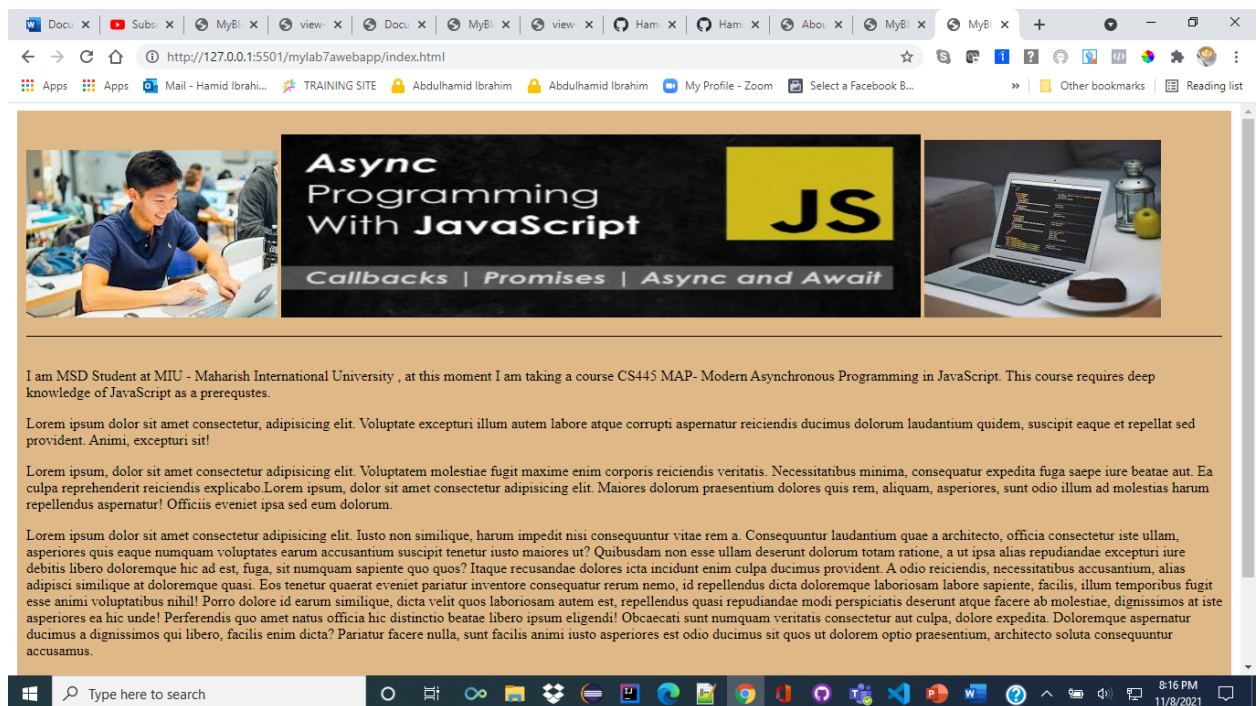
5. What is the difference between HTTP and HTTPS?

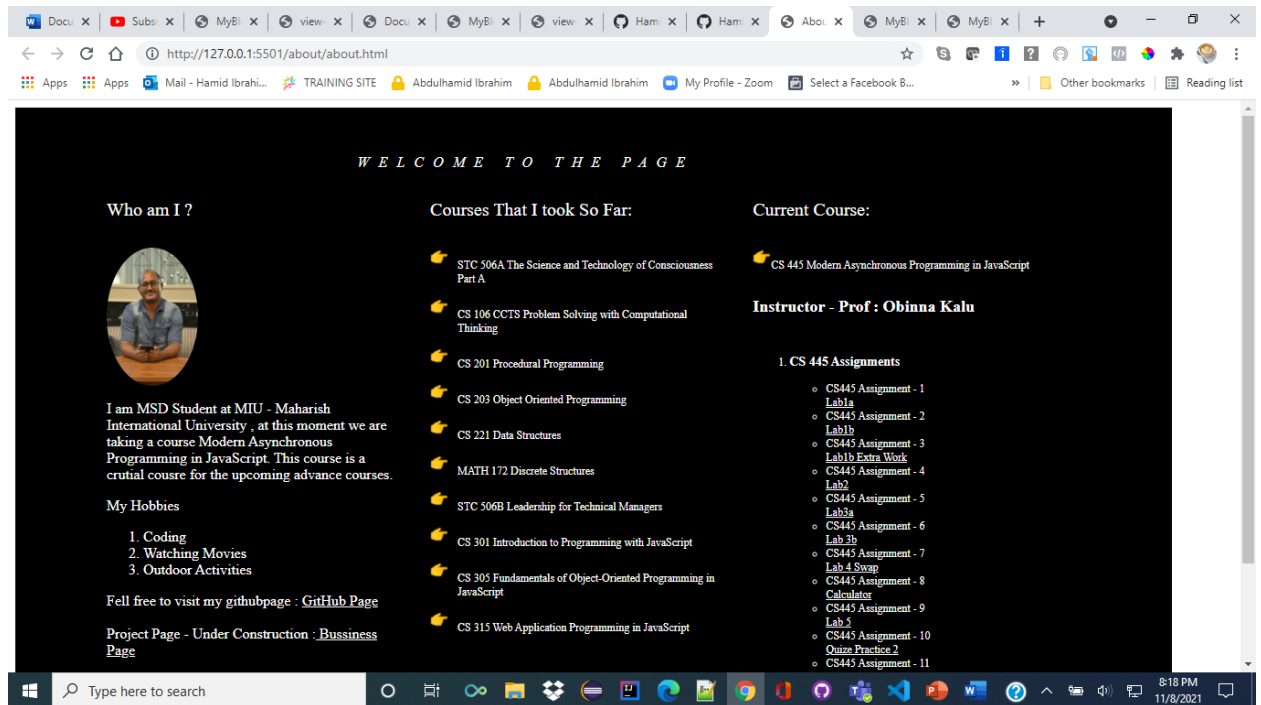
- HTTP is unsecured while HTTPS is secured.
- HTTP sends data over port 80 while HTTPS uses port 443.
- HTTP operates at application layer, while HTTPS operates at transport layer.
- No SSL certificates are required for HTTP, with HTTPS it is required that you have an SSL certificate and it is signed by a CA

6. Working with URLs (absolute versus relative) in a basic web application. Do the following:

- a. Create a new root folder, for your web application named "mylab7awebapp".
- b. Add the homepage html file, named, index.html
- c. Add the following sub-folders and files:
 - i. js – for javascript (add filename: app.js)
 - ii. css – for CSS stylesheet(s) (add filename: styles.css)

- iii. images – for images (obtain from the web and add 2 or 3 or more images, you like)
- d. In the index.html page, add the following content:
 - i. Add the app.js and styles.css files – using the appropriate relative urls to target/load the files.
 - ii. Add one of your images to be the banner/header of your web app.
 - iii. Add some text content to the page (one or two or more paragraphs. You may use dummy lorem ipsum text)
- e. Create a sub-folder named, about, and Add in it, an 'About Us' page – about.html. Add one of your images to the About us page – make sure to use appropriate relative url to target/load the image correctly.
- f. Take screenshots of your homepage and about page and paste them below:





7. It is said that HTTP is a stateless protocol. What does it mean?

HTTP is a stateless protocol. This means a HTTP server needs not keep track of any state information. So, at any time, client can send any valid command. The server will not relate this command to any previous or future commands.