Introduction to Internet Applications Programming

Chapter1

Definitions

1. **Internet**: the large system of connected computers around the world that allows people to share information and communicate with each other.

2. **WWW**: the World Wide Web is a network of online content that is formatted in HTML and accessed via HTTP. The term refers to all the interlinked HTML pages that can be accessed over the Internet.

3. **World Wide Web Consortium (W3C):** is an international organization committed to improving the web. It is made up of several hundred-member organizations from a variety of related IT industries. W3C sets standards for the World Wide Web (WWW) to facilitate interoperability and cooperation among all web stakeholders. The creator of the WWW, Tim Berners-Lee, established it in 1994.

4. **Web Site:** A website is a collection of related web pages, including multimedia content, typically identified with a common domain name, and published on at least one web server. Such as wikipedia.org, google.com, and amazon.com.

   Web sites types:

   - personal website
   - a corporate website for a company
   - a government website
   - an organization website

5. **Web page:** A web page is a document that is suitable for the World Wide Web and web browsers. A web browser displays a web page on monitor or mobile device. Usually written in HTML using NotePAD as editing program.

6. **A Web Browser**: is a software application for accessing information on the World Wide Web. The most popular web browsers are Chrome, Firefox, Safari, and Internet Explorer. Web browsers coordinate various web resource elements for the written web page, such as style sheets, scripts, and images, to present the web page.

7. **Web Server:** The primary function of a web server is to store, process and deliver web pages to clients. The communication between client and server takes place using the Hypertext Transfer Protocol (HTTP). Pages delivered are most frequently HTML documents, which may include images, style sheets and scripts in addition to the text content.

8. **Web Page Addresses (URL):** Uniform Resource Locator (URL): specifies the location of a resource (such as a web page) on the internet. The URL also specifies how to retrieve that resource, also known as the "protocol", such as HTTP, HTTPS, FTP, etc.

Ex. http://www.microsoft.com/faqs.html

URL Forms: URL can be written into **two** forms
1. **protocol**://**domain-name**/**path** of the requested resource(web page)

Ex1. Http://www.example.com/index.html

Http: which indicates a protocol.
www.example.com: a domain name
index.html: a file name

Ex2. ftp:// ftp.mcafee.com/
Ex3. http://www.house.gov/rr2012/design.html,

2. **protocol://IP-Address:port/path of the** requested resource
http://192.168.1.1:8080/index.html

URL Parts: URL have **three** parts
1. **Protocol**: The protocol indicates how a browser should retrieve information about a resource.
   Different types of protocol are:
   - **http**: // Hyper Text Transfer Protocol: is used to request pages from web servers and send them back from servers to browsers.
   - **https**://Secure Hypertext Transfer Protocol: encrypts the data sent between browser and web server for the purposes of security and privacy.
   - **ftp**:// file transfer protocol: network protocol used for the transfer of computer files between a client and server on a computer network.and to upload source files to web server.
   - **file**:// used to indicate that a file is on the local hard disk or shared directory in LAN.

2. **Domain name**: The domain name (or hostname) is the human-readable name of the specific location where a resource (in most cases, a website) is located. **Ex. microsoft.com**

3. **Path**: is the pointer to a specific file on that server, you should write it.

Each individual web page, image, and video is identified by a distinct URL, enabling browsers to retrieve and display it on the user's device.

What is Domain Registrar?

- A company that provides domain name registration services for a fee.
- Maintain database which maps domain names to IP's using DNS (Domain Name System).
- Propagate new domain name/IP address information across the internet.

The Process of Requesting and Receiving a Web Page

The purpose of a web browser is to **fetch information** resources and display them on a user's device. This process begins when **(1)** the user inputs a URL, such as https://www.bau.edu.jo/, into the browser.

(2) Once a web page has been retrieved, the browser's rendering engine displays it on the user's device. This includes image and video formats supported by the browser.
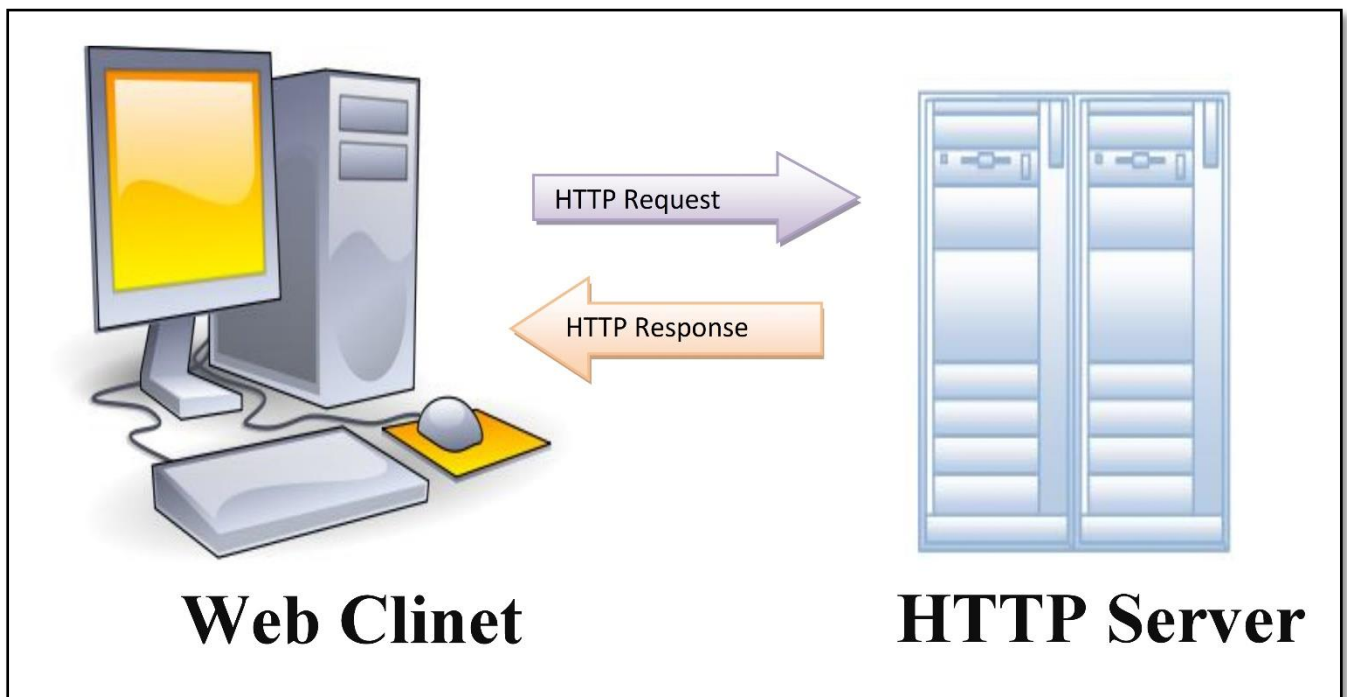
Primary Technologies for the Web

- **Hypertext markup language (HTML)**
- Cascading style sheets (CSS)
- JavaScript (JS)
- **Personal home page (PHP)**
- **Structured query language (SQL)**

1. **Html**:

   ➢ This is the language used to "write" web pages
   ➢ It describes what is "on" a web page
   ➢ HTML is necessary because without it, your web page is empty.

2. **CSS**:

   ➢ This is the language used to control the appearance of web pages.
   ➢ You can control appearance of web pages using just HTML (so CSS is optional).
   ➢ However, web pages that do not use CSS are ugly.

3. **JS**:

   ➢ This is the language used to write the programs that run in the browser.
   ➢ JavaScript is awesome because enables web pages to "feel" very interactive.
   ➢ Anything you can do in JS you can also do in PHP, but it "feels" less responsive.

4. **PHP**:

   ➢ This is the language used to write programs that run on the server.
   ➢ There are very many quite worthy alternatives (including Java, ASP, and C#).
   ➢ However, PHP is easy to learn and widely available, so we will use it in this course.

5. **SQL**:

➢ This is the language used to tell the database what to do (including read and write data).
➢ There are alternatives, but none of them are as widely supported or standardized.
➢ SQL (or one of those alternatives) is typically used when you need to manage a lot of data.