

CMPS 2680 Homework 1

Spring 2025

World Wide Web Communication

The World Wide Web is about communication between web **clients** and web **servers**.

Clients are often browsers (Chrome, Edge, Safari), but they can be any type of program or device.

Servers are most often linux computers in the cloud (like Odin, which is a server managed by our department).

HTTP Request / Response

Communication between clients and servers is done by **requests** and **responses**:

1. A client (a browser) sends an **HTTP request** to the web
2. A web server receives the request
3. The server runs an application to process the request
4. The server returns an **HTTP response** (output) to the browser
5. The client (the browser) receives the response

The HTTP Request Circle

A typical HTTP request / response circle:

1. The browser requests an HTML page. The server returns an HTML file that references additional resources:
 - a. The browser requests the style sheet. The server returns a CSS file.
 - b. The browser requests some JPEG images. The server returns some JPEG files.
 - c. The browser requests JavaScript code. The server returns a JS file.
 - d. The browser requests data. The server returns data (usually as XML or JSON).

HyperText Markup Language

HTML is a markup language used with web documents that consists of markup `<tags>` with data encapsulated within them. Each tag is a different instruction for the browser to 'interpret'. HTML defines the content of a webpage.

Cascading Style Sheets

CSS is a set of declarations and rules for the browser. These 'rules' tell the browser 'how' to display the data within an HTML tag, depending on which tag is being used. Style sheets are widely used for the overall look and feel of a webpage (layouts).

JavaScript

JS is a lightweight and effective client side scripting language. Like HTML and CSS, JS is interpreted by the browser. In short, JS allows a static webpage to become dynamic and interactive within your browser environment.

Supplemental Reading

Review the following links for additional information:

HTTP Explained: <https://www.youtube.com/watch?v=KvGi-UDfy00>

Intro to HTML: https://www.w3schools.com/html/html_intro.asp

HTML Elements: https://www.w3schools.com/html/html_elements.asp