EECS 485: Introduction to Web Systems Notes

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Abstract

Notes for Dr. Andrew DeOrio's EECS 485: Introduction to Web Systems. Note template by Pingbang Hu.

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Chapter 1

Introduction to Web Systems

Lecture 1: Introduction

1.1 The Request Response Cycle

The **request response cycle** is how two computers communicate with each other on the web.

> **Definition 1.1.1** (Request Response Cycle)**.** The request response cycle is a basic web communication protocol consisting of the following basic steps:
>
> 1. A client requests some data
> 2. A server responds to the request

A server may respond with different kinds of files. Common examples include:

- HTML
- CSS
- JavaScript

1.2 Static Pages

A **static page** is only HTML/CSS. There is no programming language on the server, and so you receive the same content upon every load of the webpage. It will send only files that do not change, such as HTML, CSS, or images.

When running a static file server, the server does the following:

1. Waits for connection from client
2. Receives a request
3. Looks in content directory, computes files name
4. Loads file from disk
5. Writes response to client: 200 OK, followed by the bytes of the file

Lecture 2: Static Pages I

1.2.1 Document Object Model (DOM)

HTML tags form a tree called the **document object model (DOM)**:

```
<html>
  <head></head>
  <body>
    ...
  </body>
</html>
```

The DOM is a data structure built from the HTML. In the DOM, everything is a **node**. All HTML elements are element nodes, with text inside HTML being text nodes.