

WEB DEVELOPMENT TRACK

HTML AND CSS THEORY

Today, we are going to learn the basics of web development and the basic languages used in building websites, HTML and CSS.

First of all, for this class I will be teaching you with the VSCODE text editor, so you can do well to install it now in case you haven't. If you have a different one installed, you can equally use that.

You will also need a good browser, I recommend Google Chrome but you can also use Mozilla Firefox or Microsoft Edge if you like.

Follow this link to download VS Code for Windows, Linux or Mac:

<https://code.visualstudio.com/download>.

Follow this link to download Google Chrome: <https://www.google.com/chrome/>

Let us dive in, what is web development?

Web development is the process of building websites and applications for the internet, or for a private network known as an intranet. Web development is not concerned with the design of a website; rather, it's all about the coding and programming that powers the website's functionality.

In a nutshell, web development is the process of building applications that run on the internet.

There are 3 major types of web development. These are:

- 1) **Frontend (client side) Development**
- 2) **Backend (server side) Development**
- 3) **Full Stack Development.**

A website is simply a document hosted on a web server. The web server stores each of these documents in unique addresses called **IP** or **Internet Protocol** Address.

So when you navigate to a website like <https://twitter.com> for example, the client which is your computer, makes a **HTTP** (Hyper Text Transfer Protocol) request to that link which redirects it to the IP address where the Twitter website is stored on the server. It then sends that document back to your computer and displays the page on your browser.

So back to the point, **Frontend Web Development** is the process of building applications that run on the client aka on the browser. For example, the Twitter web page which is displayed on your browser. Frontend Development mainly deals with the part of the web application that you see on your browser.

Backend Web Development, on the other hand, is the process of building applications that run directly on the server. For example, when you open Twitter and see a loading indicator, the frontend application is sending a request to the backend application to get the tweets from the database on the server, or when you write a message and press the **Submit** button, the frontend application sends a request to submit that data to that backend application so that it can be stored in the database on the server. Backend Development deals with the part of the web application that you don't see on the browser. It runs on the server and sends responses back.

Full Stack Web Development is simply a combination of both frontend and backend development.

Web developers who build front-end applications are called **Frontend Developers**, web developers who build backend applications are called **Backend Developers** and web developers who build both **Frontend Developers** and **Backend Developer** are called **Full Stack Developers**.

Frontend applications are built primarily with HTML, CSS and JavaScript. They can also be built with advanced frameworks like React, Angular and Vue.

Backend applications can be built with a wide variety of languages like JavaScript (Node), PHP, Python, Java, Go, C#, Ruby etc.

For this training bootcamp, we will be introducing you to frontend web development with the 3 primary languages. But for this week, we will start with just 2 of them for now, HTML and CSS.

HTML stands for **Hyper Text Markup Language**, it is used to build the structure of the webpage. It allows the user to create paragraphs, sections, headings, links and blockquote for web pages and applications. HTML is NOT a programming language, meaning it doesn't have the ability to create dynamic functionality.

The current version of HTML being used is HTML5, hence the bold 5 on the HTML logo.



CSS stands for Cascading Style Sheets, it is used to define styles for the webpage like background color, text color, layout, margins, padding, font size, borders etc. CSS is NOT a programming language.

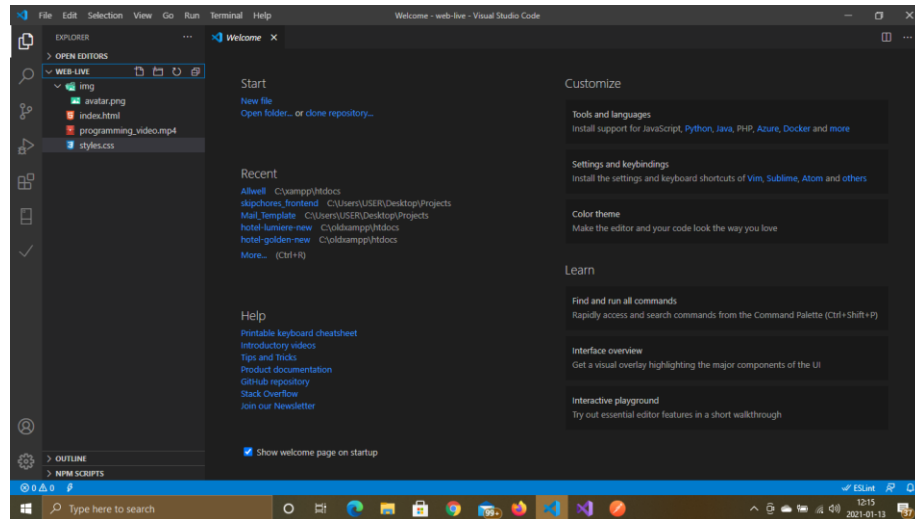
The current version of CSS being used is CSS3, hence the bold 3 on the CSS logo.



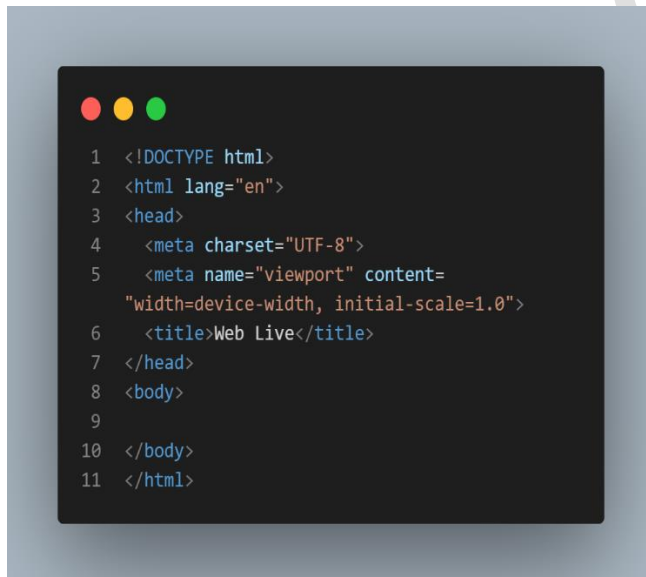
CREATING AN HTML CODE

- Ok, first of all, create a new folder and name it whatever you like e.g. my-first-webpage.
- Then open your VS Code.
- In your VS Code, click on **File** on the top menu bar, then click on the **Open Folder...** item.
- Select the folder you created and click the **Select Folder** button.

- You should see the name of the folder in the **Explorer** pane on the left side of the screen.



- Click the new file button beside the folder name to create a new file named **index.html**.
- Write the following code in your **index.html** file, don't worry if you don't understand it yet, I'll explain.



The **html** tag which starts on line 2 and ends on line 11 is used to wrap the entire html code. It has two child tags, **head** and **body**.

The **meta** tag on lines 4 and 5 are used to set some special configuration settings for the page like viewport scale, search engine optimization settings, character set etc.

The `meta` tag on line 4 simply states that the page should use the UTF-8 character set and the one on line 5 sets the content width as the device width, this is so that the screen content will not be tiny on a mobile screen so you won't have to zoom and pan unnecessarily.

The `title` tag on line 6 is used to define the title of the page that is displayed on the browser tab.

These tags I've explained so far are found in the `head` tag.

The `body` tag is where the actual page content is placed, so far, we have not put any content inside.

Now open the `index.html` file with your browser, you should see an empty page but the tab should display what you wrote in the `title` tag.

Are we there?

Now, inside the `body` tag, write this

```
<h1>Hello Elijah</h1>
```

You can replace **Elijah** with your name.

If you refresh the page, you should see it written as a bold heading text on your screen

The `h1` tag is the first heading tag, there are 6 of them ranging from `h1` to `h6`, each of them have different sizes, `h1` is the largest and `h6` is the smallest, you can experiment with the one written in your computer. Change the `h1` to any of the other sizes and refresh your browser to see what it shows.

After that write this under the heading tag inside the `body` tag.

```
<p>I am very excited to learn web development</p>
<p>HTML Rocks!</p>
```

This is the `p` tag, it is also called the paragraph tag, it is the main tag used to define text paragraphs on the webpage.

Refresh the page and tell me what you see

Are we there?

Now write this below the paragraphs.

```
<ol>
  <li>Party</li>
  <li>Rinse</li>
  <li>Repeat</li>
</ol>
```

Then refresh the page and tell me what you see

The `ol` tag is the ordered list tag, it is used to write numbered lists of items on the webpage. The `li` tag is the list item tag, it is used to define an individual item in a list.

Now add this.

```
<ul>
  <li>Learn HTML</li>
  <li>Learn CSS</li>
  <li>Learn JavaScript</li>
</ul>
```

Then refresh the page and tell me what you see.

Now add this below.

```
<a href="https://twitter.com/EUdogu">My Twitter Profile</a>
```

Refresh the page and see what happens, I follow back, by the way.

Now add this

```
<a href="https://twitter.com/EUdogu" target="_blank">My Twitter
Profile</a>
```

You can replace the URL for this one if you like, but click it and see if you can tell me the difference between this one and the first one.

Now for the next one, get a beautiful picture and copy it to the folder where your *index.html* file is, if you've done that, please react to this.

Now add this below

```

```

Where `picture.png` is the name of whatever picture you copied.

You should see the picture displayed on the page.

Now let's quickly practice some CSS before we round up.

There are 3 ways to apply CSS styles on a HTML page.

1. **Inline styling** where we define it within the style attribute of a HTML element or tag.

You can edit your heading tag to give it a blue text color like this

```
<h1 style="color: blue;">Hello Elijah</h1>
```

Refresh the page and what do you see

The `color` attribute in CSS is used to define the text color of an element. You can use the color name for the popular colors like we just did, or we can use RGB values or hexadecimal color values. You will learn more on this with the resources we will give you.

2. **Style tags in head element:** You can define the CSS in a *style* tag within the *head* element.

Add this within the *head* element

```
<style>
  p {
    background-color: yellow;
  }
</style>
```

Then refresh and tell me what you see

The `background-color` attribute is used to define background color of an element, you can define colors the same way you do for the `color` attribute.

3. CSS Files

Create a file in your folder called `styles.css`

Are we there?

Write this in your CSS file

```
a {
  color: red;
  text-decoration: none;
}a:hover {
  text-decoration: underline;
}ul {
  list-style-type: disc;
}
```

Then add this to your `head` element

```
<link rel="stylesheet" href="./styles.css">
```

Then refresh the page and tell me the difference.

So let me explain some of the CSS we wrote the `text-decoration` attribute can be used to underline text content with CSS, in this case, we used it to remove the underline from our link and make it appear only when you hover over the link with your mouse. That is why we enabled it in `a:hover`

The `list-style-type` attribute can be used to determine the kind of bullet that the unordered list uses. In this case we made it use the disc type

Ok everyone, I guess we can call it a day. Thank you for listening and paying attention. You are all awesome, I mean it.

You can use the resources in your course outline to learn further, there are many more HTML elements and CSS attributes out there that we didn't cover today. So take your time and learn them with the resources especially Freecodecamp.

I want you all to create a Freecodecamp account and take the HTML and CSS lessons there. From there, you will be able to practice writing these codes and that is what you really need to master it.

You can always reach out to me if you are stuck or if you need any clarification on any matter. I am here for you.

Task:

- 1) After you have covered the lessons in Freecodecamp, take a screenshot of your completed course list which you will submit in a thread created for you.
- 2) When you are done, try to replicate this page <https://www.training.miratechnologiesng.com/bootcamp/login.html> as much as possible with the skills you have learned in HTML and CSS.
- 3) REMEMBER TO INITIALIZE YOUR WORK WITH GIT, WHEN YOU FINISH, PUSH IT ON GITHUB AND ALSO HOST IT ON GITHUB THEN SHARE TO LINKS: THE **HOSTED URL OF YOUR LOGIN PAGE** and **URL TO THE GITHUB REPO**
NOTE: SUBMISSION LINK WILL BE PROVIDED TOMORROW.

Deadline: 11:59pm on Sunday(17/01/2021)

Mira bootcamp