

HTML Basics

Chitram Dasgupta

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1 Introduction

- HTML is the most basic building block of the Web. It defines the meaning and structure of web content.
- It lays the foundation for other web technologies like CSS, which describes a web page's appearance / presentation, and JavaScript, which describes the functionality / behavior of a web page.
- HTML stands for HyperText Markup Language.
- “Hypertext” refers to links that connect web pages to one another, either within a single website or between websites. Links are a fundamental aspect of the Web.
- HTML uses “markup” to annotate text, images, and other content for display in a Web browser.
- An HTML element is written as “tags”, for example `<p>`, `<h1>`, etc.

2 Tools to Use

1. A text editor like VS Code.
 - Install an extension called, **Live Server**.
2. A web browser like Google Chrome.

3 First Web Page

1. Open VS Code.
2. Create a new file and name it, say, `index.html`.
3. Type `html:5` and hit *Enter*. This will generate a basic html structure.

An HTML file consists of two areas:

1. `<head> </head>`
 - This does not show up in the web browser. This is considered to be metadata about the webpage.
2. `<body> </body>`
 - This is where the content that will show up in the browser go.

3.1 A Simple Web Page

```
<!DOCTYPE html>
<html lang="en">

  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hello World</title>
  </head>

  <body>
    <h1>Hello UEM, Jaipur</h1>
    <p>Welcome to the React Boot camp</p>
  </body>

</html>
```

- We can see this in our web browser using the **Live Server** extension in VS Code.

3.2 Validate the HTML

1. Go to <https://validator.w3.org/>
2. Upload our html file

It is a good idea to validate the markup that we write, especially as we are learning it.

4 Head Elements

- Remember that elements inside the `<head>` area are not rendered on the web browser. Instead it adds additional information about the web page.
- A few examples of tags typically placed in the `<head>` area, along with their attributes:

1. `<meta name="author" content="Chitram Dasgupta">`
2. `<meta name="description" content="This is our first web page"`
3. `<title>Hello World</title>`

- We can also link to resources in our web page.

1. `<link rel="stylesheet" href="main.css">`
2. `<link rel="icon" href="smiley.png" type="image/x-icon">`

- It is a good practice to keep our stylesheets in a separate file and then link to it from our HTML file.

5 Working with Text

- Web pages are structured like a text document, newspaper article, etc.
- We maintain a clear hierarchy of topics, their headings, and sub-topics, and so on.
- We usually achieve this using `<h1>`, `<h2>`, `<h3>`, and so on. This demarcates the topics, sub-topics both visually and semantically.

```
<body>
<h1>Web Development</h1>
<p>Web Development means developing software applications to deliver via the web.</p>

<h2>Web Technologies</h2>
<p>We use various technologies to develop web applications: HTML, CSS, and JS</p>

<h3>JavaScript Frameworks</h3>
<p>These days we also use JavaScript frameworks like React, Angular, and Vue to make comp
</body>
```

5.1 Block Elements and Inline Elements

In simple words,

1. Block elements add a line break at the end.
2. Inline elements do not add a line break.

Examples of inline elements are ``, ``, etc.

5.2 HTML Entities

We can add special characters to our HTML using HTML entities. Some examples are:

- `∞`
- `∫`

Refer to all of them at: <https://html.spec.whatwg.org/multipage/named-characters.html>

5.3 Comments

We can add comments in our HTML file which will not be visible in the browser:

```
<!-- This is a note for us -->
```

We can, however, see this in the inspect page.

6 Working with Lists

- HTML provides three types of lists: ordered list, unordered list, description list

6.1 Ordered List

- Used when we want to number the list items

```
<ol>
  <li>HTML</li>
  <li>CSS</li>
  <li>JavaScript</li>
</ol>
```

- We can also change the number style using the `type` attribute:

```
<ol type="A"> <!-- A, B, C... -->
<ol type="a"> <!-- a, b, c... -->
<ol type="I"> <!-- I, II, III... -->
<ol type="i"> <!-- i, ii, iii... -->
```

6.2 Unordered List

- Used when we the order of the list items does not matter.

```
<ul>
  <li>React</li>
  <li>Angular</li>
  <li>Vue</li>
</ul>
```

- We can change the bullet style using CSS

```
ul {
  list-style-type: square; /* options: disc, circle, square, none */
}
```

6.3 Description List

- Used for terms and descriptions (like a dictionary).

```
<dl>
  <dt>HTML</dt>
  <dd>Used for writing the meaning and content of a web page</dd>

  <dt>CSS</dt>
  <dd>Used for styling a web page</dd>
</dl>
```

7 Working with Links

- In simple words, links (also called *anchors*) are used for navigation: going to a different web page in the same website, to a different website, or even a different section in the same web page.

```
<!-- External website -->
<a href="https://www.google.com">Google</a>

<!-- Different web page in the our website -->
<a href="about.html">Google</a>
```

- We can also jump to a section in the same web page

```
<a href="#contact">Go to Contact</a>

<!-- Later in the page -->
<h2 id="contact">Contact Section</h2>
```

- Special links

```
<a href="mailto:someone@example.com">Send Email</a>

<a href="tel:+1234567890">Call Us</a>
```

7.1 Common Attributes

1. `target="_blank"`: Opens the link in a new tab
2. `title="Tooltip"`: Shows a tooltip on hover
3. `download` Forces the link to download the file instead of opening it

- `Download PDF`

8 Working with Images

```

```

- Always include `alt` for accessibility and SEO.
- If `src` is wrong, `alt` will be displayed.