Lets Code!

HTML Basics

HTML

What is HTML

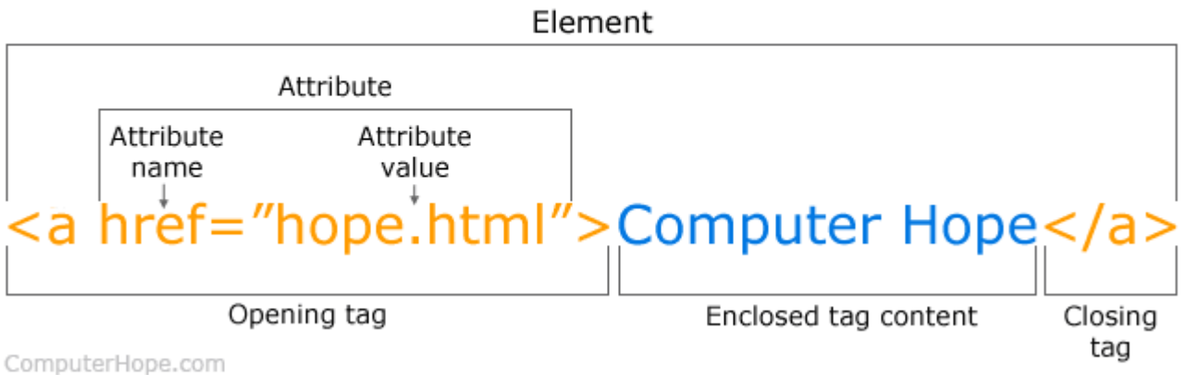
First developed by Tim Berners-Lee in 1990, HTML is short for Hypertext Markup Language. HTML is used to create electronic documents (called pages) that are displayed on the World Wide Web. Every web page you see on the Internet is written using one version of HTML code or another.

What is HTML

HTML code ensures the proper formatting of text and images for your Internet browser. Without HTML, a browser would not know how to display text as elements or load images or other elements. HTML also provides a basic structure of the page, upon which Cascading Style Sheets are overlaid to change its appearance. One could think of HTML as the bones (structure) of a web page, and CSS as its skin (appearance).

HTML Tag

Breakdown of an HTML Tag



HTML page Structure

Head Section

The HTML element is a container for the following elements: `<title>`, `<style>`, `<meta>`, `<link>`, `<script>`, and `<base>`.

The element is a container for metadata (data about data) and is placed between the tag and the tag.

Meta Data

The tag defines metadata about an HTML document. Metadata is data (information) about data.

Meta Data

tags always go inside the element, and are typically used to specify character set, page description, keywords, author of the document, and viewport settings.

Meta Data

Metadata will not be displayed on the page, but is machine parsable.

Title

The `<title>` tag defines the title of the document. The title must be text-only, and it is shown in the browser's title bar or in the page's tab.

Title

The `<title>` tag is required in HTML documents!

Title

The contents of a page title is very important for search engine optimization (SEO)! The page title is used by search engine algorithms to decide the order when listing pages in search results.

Title

The `<title>` element:

- defines a title in the browser toolbar
- provides a title for the page when it is added to favorites
- displays a title for the page in search-engine results

Title

Here are some tips for creating good titles:

- Go for a longer, descriptive title (avoid one- or two-word titles)
- Search engines will display about 50-60 characters of the title, so try not to have titles longer than that
- Do not use just a list of words as the title (this may reduce the page's position in search results)

Title

You can NOT have more than one `<title>` element in an HTML document.

favicon

A favicon is a small image file that contains one or more icons that can be used to represent a website, blog, or even a single web page.

```
<link rel="shortcut icon" href="http://example.com/favicon.ico">
```

favicon

You could use other image formats, such as .png. .gif, .jpeg, and even animated GIFs. However, the .ico format has had wide acceptance from browsers for quite some time and is a common format when using favicons.

Favicons can be 16x16, 32x32, 48x48, or 64x64 pixels in size, and 8-bit, 24-bit, or 32-bit in color depth.

Viewport

The viewport is the user's visible area of a web page. It varies with the device - it will be smaller on a mobile phone than on a computer screen.

You should include the following element in all your web pages:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

This gives the browser instructions on how to control the page's dimensions and scaling.

Body

The <body> tag defines the document's body.

The <body> element contains all the contents of an HTML document, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

There can only be one <body> element in an HTML document.

Block Level vs Inline Level

Block Level Elements

A block-level element always starts on a new line and takes up the full width available (stretches out to the left and right as far as it can).

`<article>`	`<aside>`	`<blockquote>`	`<canvas>`	`<di`
`<fieldset>`	`<figure>`	`<footer>`	`<form>`	`<h1` `<h`
`<header>`	`<hr>`	`<li>`	`<main>`	`<na`
`<ol>`	`<p>`	`<table>`	`<ul>`	`<vid`

Inline Level Elements

An inline element does not start on a new line and it only takes up as much width as necessary.

`<a>`	`<abbr>`	`<acronym>`	`<b>`	`<big>`
` `	`<button>`	`<code>`	`<em>`	`<i>`
`<img>`	`<input>`	`<label>`	`<map>`	`<object>`
`<output>`	`<script>`	`<small>`	`<span>`	`<strong>`
`<sub>`	`<sup>`	`<textarea>`	`<time>`	

Images

The HTML <img> tag is used to embed an image in a web page.

```
<img src="img_dogs.jpg" alt="A Pack of Dogs">
```

Images

Images are not technically inserted into a web page; images are linked to web pages. The tag creates a holding space for the referenced image.

The `<img>` tag is empty, it contains attributes only, and does not have a closing tag.

Images

The `<img>` tag has two required attributes:

- src - Specifies the path to the image
- alt - Specifies an alternate text for the image

Images

You can use the width and height attributes:

```
<img src="img_dogs.jpg" alt="A Pack of Dogs" width="500" height="600">
```

But we can do better with CSS

Accepted Image Formats

APNG	Animated Portable Network Graphics	.apng
GIF	Graphics Interchange Format	.gif
ICO	Microsoft Icon	.ico, .cur
JPEG	Joint Photographic Expert Group image	.jpg, .jpeg, .jfif, .pjpeg, .pjp
PNG	Portable Network Graphics	.png
SVG	Scalable Vector Graphics	.svg

Relative vs Absolute paths

A file path describes the location of a file in a web site's folder structure.

Absolute Path

An absolute file path is the full URL to a file:

```
<img src="https://www.SomeExcitingWebsite.com/images/beach.jpg" alt="The Beach">
```

Relative Path

A relative file path points to a file relative to the current page.

In the following example, the file path points to a file in the images folder located at the root of the current web directory:

```
<img src="../images/beach.jpg" alt="The Beach">
```

Attributes

HTML attributes provide additional information about HTML elements.

HTML Attributes

- All HTML elements can have attributes
- Attributes provide additional information about elements
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs like: name="value"

Nesting tags

HTML elements can be nested (this means that elements can contain other elements).

All HTML documents consist of nested HTML elements.

Browser Dev Tools

Developer tools or dev tools can tell you a lot about any website, such as CSS markup and JavaScript errors. In addition, they allow you to test drive front-end changes, check you site's responsive design, and even optimize its performance.

Furthermore, they are completely free and built right into all major browsers.

Web Request and Web Response

HTTP stands for HyperText Transfer Protocol. This is a basis for data communication in the internet. The data communication starts with a request sent from a client and ends with the response received from a web server.

Web Request and Web Response

- A website URL starting with “http://” is entered in a web browser from a computer (client). The browser can be a Chrome, Firefox, Edge, Safari, Opera or anything else.
- Browser sends a request sent to the web server that hosts the website. The web server then returns a response as a HTML page or any other document format to the browser.
- Browser displays the response from the server to the user.

Web Request and Web Response