



Web Development

Web development refers to the building, creating, and maintaining of websites. It includes aspects such as web design, web publishing, web programming, and database management. It is the creation of an application that works over the internet i.e. websites.

How the internet actually works?

<https://www.submarinecablemap.com/>

https://www.youtube.com/watch?v=TNQsmPf24go&ab_channel=Vox

Web Development can be classified into two ways:

- Frontend Development
- Backend Development

Frontend Development:

The part of a website that the user interacts directly is termed as front end. It is also referred to as the ‘client side’ of the application.

- HTML
- CSS
- JS

HTML

Hyper text markup language

- Developed by Tim Berners Lee in the year 1991 .
- HTML 2.0 published in 1995 .
- HTML 4.0 in 1999.
- HTML 5.0 in 2012 with added features.
- It is used to design the front end portion of web pages using markup language. It acts as a skeleton for a website since it is used to make the structure of a website.



HTML is not a programming language because it cannot execute logic.



Let's Code !!!!!

Download Visual studio Code:-

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

Download VS code Extensions for web development :

- Prettier –code formatter

- Path intellisense
- CSS peek
- Auto close Tag
- Auto Rename Tag
- Code Spell Checker
- Vscode icons

▼ Tags and Attributes in HTML

Tags and attributes are the basis of html.

What are HTML Tags?

Tags are used to mark up the start of an HTML page and they are usually enclosed in angle brackets “ < > ”



Example of a tag :<h1>

Most of the tags in HTML are to be closed.

Example :<h1> </h1>

What are HTML Attributes?

Attributes add additional pieces of information to the HTML tags. Attributes takes the form of an opening tag and additional information is placed inside it.

Example of an attribute :

```
<img src = "cute.cat.jpg" alt = "a photo of a cute cat">
```

Here, “src” and “alt” are attributes and “img” is a tag

<!DOCTYPE html>

Every HTML document should begin with <!DOCTYPE html>

Why?

The `<!DOCTYPE html>` declaration is used to inform a website visitor's browser that the document being rendered is an HTML document.

▼ Understanding the structure of HTML page

```
<!DOCTYPE html>

  <html> --
    <head> .....
      <meta charset="utf-8">
      <title>Type Title Here</title>
    </head> .....

    <body> -->
      </body> -->
    </html> -->
```

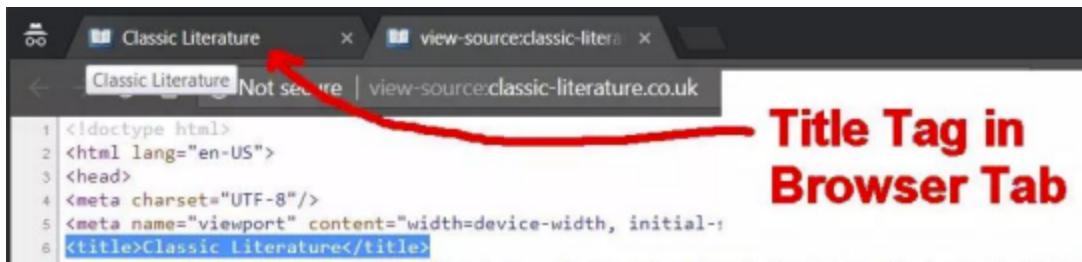
<html> : This tag signals the browser that everything from here is written in HTML code.

<head> : This is where all the meta data goes. This stuff is basically related to the search engines optimizations.

<body> : This is where the contents of the webpage goes.

example : images, headings, paragraphs etc.

<title> : This is used to mention the title of the website



```
1 <!doctype html>
2 <html lang="en-US">
3 <head>
4 <meta charset="UTF-8"/>
5 <meta name="viewport" content="width=device-width, initial-
6 <title>Classic Literature</title>
```

Title Tag in Browser Tab

Headings in HTML

All of these heading tags vary with the font sizes, that is h1 has bigger font size than h2

They are represented as:

```
<h1> Hello world</h1>
<h2> Hello world </h2>
<h3> Hello world </h3>
.
.
.
<h7> Hello world </h7>
```

Paragraphs in HTML

A para always starts from new line

They are represented as

```
<p> add your text here </p>
```

We can use these tags to change the appearance of the text :

```
<b> to make the text look bold </b>
<strong> highlight text </strong>
<i> italic text </i>
<mark> highlight the background of text </mark>
<u> underlined text </u>
Example : <p> Hi this is <em> My </em>
brand new website. This site will be my new
<strong> home </strong> on webpage . </p>
<em> emphasised text </em>
<sup> superscript text </sup>
<sub> subscript text </sub>
```



Note : <pre> can be used to display the text in formatted script

Horizontal line tag

Break (space) tag

Example:

```
<hr width= "2px" color = "black">
<p> hi there this is a paragraph <br><br>
This is another paragraph </p>
```

How to insert links in your website which direct to other websites?

Anchor tag <a>

```
<a href = "link" >Your Link Text Here </a>
```

Here,

href is an attribute where you mention the website link.

href stands for destination of a hyperlink.

Meanwhile, the second part of the attribute contains the text which will be displayed to a visitor in order to entice them to click on that link

Adding images in your website

 tag

```
<img src= "path of the image in your " width = "width of image" height = "height of image">
```

Here ,

src is an attribute which indicates the source of that image (path).

Width and height are also attributes which can be mentioned in pixels.

for example :

```
<img src = "image.jpg" alt = "this is a picture of me" width = "300px" height = "500px" >
```

Here,

alt will show the text whenever the image is not rendered properly in the website

Here,

The image is being loaded from other website.



Note: is a self closing tag.

Ordered Lists:

- Use the HTML `` element to define an ordered list
- Use the HTML `` element to define a list item
- List items can contain other HTML elements

for example:

```
<h1> Names </h1>
<ol>
<li> balaji </li>
<li> sarath </li>
<li> nandhu </li>
</ol>
```

UNOrdered Lists:

- Use the HTML `` element to define an unordered list
- Use the HTML `` element to define a list item

example:

```
<h1> Names of students </h1>
<ul>
<li> balaji </li>
<li> sarath </li>
<li> nandhu </li>
</ul>
```

Tables

Example:

```
<table>
<tr>
<td> Name </td>
<td> date of birth </td>
</tr>
<tr>
<td> Emma Watson </td>
<td> 17/05/1989 </td>
</tr>
</table>
```

Forms in html `<form> </form>`:

The `<form>` tag in html is used to take different types of inputs from the user using text fields, checkboxes, radio buttons, submit buttons etc.

General format :

```
<form>  
Tags which allow user to give inputs  
</form>
```

<input> tag:

The HTML <input> tag is the most used html tag inside the forms.

You can take different kind of inputs from the user by using a attribute called “type” inside the</input> tag.

```
<input type = "text"> Displays a single-line text input field  
<input type="radio"> Displays a radio button (for selecting one of many choices)  
<input type="checkbox"> Displays a checkbox (for selecting zero or more of many choices)  
<input type="submit"> Displays a submit button (for submitting the form)  
<input type="button"> Displays a clickable button
```

<LABEL> Tag:

<label> tag will define label for many form tags.

Its important to always link up the input from the user to the desired label and we need to use attributes “for” and “id” <label>tag

Example:

```
<label for ="fname">First Name: </label>  
<input type = "text" id = "fname">  
<label for ="lname">last Name: </label>  
<input type = "text" id = "lname">
```

css(Cascading Style Sheets):

Using CSS we can add design and style to your webpage

Getting started with CSS

Step 1 : create a styles.css file.

Note: Your browser will only read your .html file so in order to tell the browser that we have also added CSS to our website, we have

to link the website with the styles.css file using the <link> tag

Step 2: link the html file with the CSS by

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

here,

rel stands for relation

Difference between href and src ?

Yes. There is a differentiation between src and href and they can't be used interchangeably. We use src for replaced tags while href for establishing a relationship between the referencing document and an external resource.

CSS SYNTAX

```
Selector {  
    property : value ;  
    property : value ;  
}
```

Example :

```
h1 {  
    font-family : latto ;  
    color : blue ;  
}
```

Using CSS we can do all of this :

- Change background color of your website
- Change font sizes, color, and we can use different font families
- Change the position of different tags.

SS has limited number of font families

CLASS ATTRIBUTE

The HTML class attribute is used to specify a class or give a name to a HTML Tag

EXAMPLE:

```
<h1 class= "heading"> This is Heading 1 </h1>
```

Now,

to style this heading in CSS we can use its class name “heading”

```
.heading {  
color : blue ;  
}
```

We have three types of CSS

- internal CSS
- Line CSS
- External CSS

Internal CSS can be used within the HTML file by mentioning

```
<style> CSS code is written </style>
```

tag in the head section, Here you don't have to link the styles sheet to your html page.

Inline CSS can be used with in the html tag itself where the style will be used as attribute.

Example for inline CSS :

```
: <h1 style = "color: green"> </h1>
```

Using anchor tag to redirect to another page of the website :

```
<a href = "index2.html">Another Page</a>
```

Using **<centre></center>**

tag we can align elements to center .

Example:

```
<center>
<p> hi there </p>
</center>
```

How to import fonts into our
websites from GOOGLE FONTS

Head over to this Link:

```
https://fonts.googleapis.com/
```

Just copy past the code from the
dashboard in the google fonts website
into the head section in your html page

<meta> : This is where the information about the html webpage is stored.

Example1 :

```
: <meta charset = "UTF-8">
```

which means we are instructing the webpage to load all
the symbols from every language.

Example2 :

```
<meta name = "description" content = "hey this is our website">
```