

Introduction to HTML

- HTML is the standard markup language for Web pages.
- With HTML you can create your own Website.
- HTML is easy to learn - You will enjoy it!
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

HTML tags

- HTML markup tags are usually called HTML tags
- HTML tags are keywords (tag names) surrounded by angle brackets like <html>
- HTML tags normally come in pairs like and
- The first tag in a pair is the start tag, the second tag is the end tag
- The end tag is written like the start tag, with a forward slash before the tag name
- Start and end tags are also called opening tags and closing tags

History of HTML

Year	Version
1989	Tim Berners-Lee invented www
1991	Tim Berners-Lee invented HTML
1993	Dave Raggett drafted HTML+
1995	HTML Working Group defined HTML 2.0
1997	W3C Recommendation: HTML 3.2
1999	W3C Recommendation: HTML 4.01
2000	W3C Recommendation: XHTML 1.0
2008	WHATWG HTML5 First Public Draft
2012	<u>WHATWG HTML5 Living Standard</u>
2014	<u>W3C Recommendation: HTML5</u>
2016	W3C Candidate Recommendation: HTML 5.1
2017	<u>W3C Recommendation: HTML5.1 2nd Edition</u>
2017	<u>W3C Recommendation: HTML5.2</u>

Structure of HTML Page

```
<html>

    <head>
        <title>Page title</title>
    </head>

    <body>
        <h1>This is a heading</h1>
        <p>This is a paragraph.</p>
        <p>This is another paragraph.</p>
    </body>

</html>
```

HTML Example

```
<!DOCTYPE html>
<html>
<body>
<h1>My First Heading</h1>
<p>My first paragraph.</p>
</body>
</html>
```

Explanation

- The DOCTYPE declaration defines the document type
- The text between <html> and </html> describes the web page
- The text between <body> and </body> is the visible page content
- The text between <h1> and </h1> is displayed as a heading
- The text between <p> and </p> is displayed as a paragraph

Tags

- HTML is written in the form of **tags**
- A tag is a keyword enclosed by pair of angle brackets (Example: < >)
- Where some text is placed between tags.
- HTML elements have two basic properties

➤ **Attributes**

➤ **contents**

More Tags...

- The opening and closing tags use the same command except the closing tag contains an additional forward slash /
- For example, the expression Warning would cause the word ‘Warning’ to appear in bold face on a Web page.
- There are some tags which has opening tag but not closing tag, also known as Empty HTML Elements.

Eg -
,<hr> i.e Break and Horizontal rule

Nested Tags

- Whenever you have HTML tags within other HTML tags, you must close the nearest tag first
- Example:

```
<h1> <il> The Nation </li> </h1>
```

HTML Elements

An HTML element is defined by a start tag, some content, and an end tag.

HTML Elements

The HTML **element** is everything from the start tag to the end tag:

<tagname>Content goes here...</tagname>

Examples of some HTML elements:

<h1>My First Heading</h1>

<p>My first paragraph.</p>

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"**

For example:

The href Attribute

The `<a>` tag defines a hyperlink.

The href attribute specifies the URL of the page the link goes to:

```
<a href="https://www.w3schools.com">Visit W3Schools</a>
```

The <TITLE> Tag

- Choose the title of your Web page carefully;
The title of a Web page determines its ranking
in certain search engines
- The title will also appear on Favorite lists,
History lists, and Bookmark lists to identify
your page

Headings

- Web pages are typically organized into sections with headings; To create a heading we use the expression
- `<Hn>....</Hn>` where n is a number between 1 and 6
- In this case, the 1 corresponds to the largest size heading while the 6 corresponds to the smallest size

Text Formatting

- Manipulating text in HTML can be tricky;
Oftentimes, what you see is NOT what you get
- For instance, special HTML tags are needed to
create paragraphs, move to the next line, and
create headings

Text Formatting Tags

** Bold Face **

** This is also same like bold but shows importance **

<i> Italics </i>

<u> Underline </u>

<p> New Paragraph </p>

 Next Line

Example on Text Formatting Tags

```
<!DOCTYPE html>
<head>
<title>Example on Text Formatting Tags</title>
</head>
<body>
<p><b> Bold Face </b> <br>
<strong> this is also same like bold but shows importance </strong> </p>
<p><i>The text will appear as Italics </i> </p>
<p><u>This text will appear in Underline </u> </p>
<p> New Paragraph will be started from this tag,
```

we can write the paragraph as

```
many number of lines and sentences </p>
<br>
</body>
</html>
```

Other Formatting Tags

<pre>- Preformatted Text

<mark> - Marked text

<small> - Smaller text

 - Deleted text

<ins> - Inserted text

<sub> - Subscript text

<sup> - Superscript text

pre: Defines preformatted text

The <pre> tag defines preformatted text.

- Text in a <pre> element is displayed in a fixed-width font, and the text preserves both spaces and line breaks. The text will be displayed exactly as written in the HTML source code.

<mark>- Marked text

The HTML `<mark>` element defines text that should be marked or highlighted:

Example

```
<p> Please come with your <mark>  
Observation and Record </mark> for  
your WT Lab  
</p>
```

<small> Tag

- The HTML <small> element defines smaller text:

Example:

```
<h6> this will display heading is small font </h6>
<small> This will display text in very small
</small>
```

Note: h6 is smaller than compared with small attribute.

 - Deleted Text tag

The HTML element defines text that has been deleted from a document. Browsers will usually strike a line through deleted text:

Example:

```
<p>My Interested Job is Software Government. </p>
```

<ins> - Inserted text

The HTML <ins> element defines a text that has been inserted into a document. Browsers will usually underline inserted text:

Example:

```
<p>
My Interested Job is <del>
Software</del> <ins>Government </ins>.
</p>
```

<sub> - Subscript text

The HTML <sub> element defines subscript text. Subscript text appears half a character below the normal line, and is sometimes rendered in a smaller font. Subscript text can be used for chemical formulas, like H₂O:

Example:

```
<p>This is an example on  
<sub>subscripted</sub> text.</p>
```

HTML <sup> Element

The HTML <sup> element defines superscript text. Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font. Superscript text can be used for footnotes, like www^[1]:

```
<p>This is an example on  
<sup>superscripted</sup> text.</p>
```

Example on Text Formatting Tags

```
<!DOCTYPE html>
<head>
<title>Text Formatting tags </title>
</head>
<body>
<pre>Please come with your
Observation and Record
for your WT Lab </pre>

<p> Please come with your <mark> Observation and Record </mark> for your WT Lab
</p>
<h6> this will display heading is small font </h6>
<small> This will display text in very small </small>
<p>My Interested Job is <del> Software</del> Government. </p>
<p>
My Interested Job is <del> Software</del> <ins>Government </ins>. </p>
<p>This is an example on <sub>subscripted</sub> text.</p>
<p>This is an example on <sup>superscripted</sup> text.</p>
</body>
</html>
```

Tables

- Tables can be used to display rows and columns of data, create multi-column text, captions for images, and sidebars
- The <table> tag is used to create a table; the <tr> tag defines the beginning of a row while the <td> tag defines the beginning of a cell
<th> is used to define the table heading for a cell
<thead> is used to define the heading for the entire table

Adding a Border

- The BORDER=n attribute allows you to add a border n pixels thick around the table
- To make a solid border color, use the BORDERCOLOR="color" attribute

Creating Simple Table

```
<TABLE BORDER=10>
  <TR>
    <TD>One</TD>
    <TD>Two</TD>
  </TR>
  <TR>
    <TD>Three</TD>
    <TD>Four</TD>
  </TR>
</TABLE>
```

- Here's how it would look on the Web:

One	Two
Three	Four

Centering a Table

- There are two ways to center a table
 - Type <TABLE ALIGN=CENTER>
 - Enclose the <TABLE> tags in opening and closing <CENTER> tags

HTML Lists

HTML offers web authors three ways for specifying lists of information. All lists must contain one or more list elements. Lists may contain –

**** – An unordered list. This will list items using plain bullets.

**** – An ordered list. This will use different schemes of numbers to list your items.

<dl> – A definition list. This arranges your items in the same way as they are arranged in a dictionary.

HTML Un-Ordered List

An unordered list is a collection of related items that have no special order or sequence. This list is created by using HTML **** tag. Each item in the list is marked with a bullet.

Example

```
<!DOCTYPE html>
<html>
<head>
<title>HTML Unordered List</title>
</head>
<body>
<ul>
    <li>HTML</li>
    <li>CSS</li>
    <li>Java Script</li>
    <li>Angular</li>
</ul>
</body>
</html>
```

The type Attribute

You can use **type** attribute for tag to specify the type of bullet you like. By default, it is a disc. Following are the possible options

```
<ul type = "square">
```

```
<ul type = "disc">
```

```
<ul type = "circle">
```

HTML Ordered Lists

If you are required to put your items in a numbered list instead of bulleted, then HTML ordered list will be used. This list is created by using **** tag. The numbering starts at one and is incremented by one for each successive ordered list element tagged with ****

Ordered List

```
<!DOCTYPE html>
<html>
<head>
<title>HTML Unordered List</title>
</head>
<body>
<ol>
    <li>HTML</li>
    <li>CSS</li>
    <li>Java Script</li>
    <li>Angular</li>
</ol>
</body>
</html>
```

The type Attribute

You can use **type** attribute for `` tag to specify the type of numbering you like. By default, it is a number. Following are the possible options –

- `<ol type = "1">` - Default-Case Numerals.
- `<ol type = "I">` - Upper-Case Numerals.
- `<ol type = "i">` - Lower-Case Numerals.
- `<ol type = "A">` - Upper-Case Letters.
- `<ol type = "a">` - Lower-Case Letters.

Html definition/description list

In order to create the definition or description list in html,we have 3 important tags. They are as follows:

<dl> this is root element ofdefinition list </dl>

<dt> defines the definition type or name of data

<dd> defines the data of hat definition type

Example on definition list

```
<dl>
  <dt>Programming</dt>
    <dd>C</dd>
    <dd>CPP</dd>
    <dd>JAVA</dd>
  <dt>Designing</dt>
    <dd>HTML</dd>
    <dd>CSS</dd>
</dl>
```

HTML FORMS

HTML Forms are required when you want to collect some data from the site visitor. For example during user registration you would like to collect information such as name, email address, credit card, etc. A form will take input from the site visitor and then will post it to a back-end application such as database, ASP Script or PHP script etc.

Example

Form Elements Example - Windows Internet Explorer

C:\Users\praveen\Desktop\WEB TECHNOLOGIES\TMPhd

Bing

Favorites | Suggested Sites | Web Slice Gallery

Form Elements Example

Page Safety Tools ? >>

Registration Form

First Name :

Last Name :

Gender :

Branch : Btech M.Tech

Done Computer | Protected Mode: Off 90%

This screenshot shows a Microsoft Internet Explorer window displaying a registration form. The title bar reads "Form Elements Example - Windows Internet Explorer". The address bar shows the local file path "C:\Users\praveen\Desktop\WEB TECHNOLOGIES\TMPhd". The toolbar includes standard buttons for Back, Forward, Stop, Refresh, and Search (Bing). Below the toolbar are links for Favorites, Suggested Sites, and Web Slice Gallery. The main content area displays the "Registration Form" with fields for First Name, Last Name, Gender (with "Male" selected), and Branch (with "Btech" selected). At the bottom of the page are "Submit" and "Clear" buttons. The status bar at the bottom right shows "Computer | Protected Mode: Off" and a zoom level of "90%".

Html form tag

form -create an html form,
contains form elements . form
elements .

<form>

form elements

</form>

Form elements

Form Elements are text fields, text area fields, drop-down menus, radio buttons, check boxes.

Sub-Element

<input> element which contains main attribute type.

```
<input type="text">  
<input type="radio">  
<input type="submit">
```

text type

Text Input

<form>

First name:

<input type="text" name="firstname">

Last name:

<input type="text" name="lastname">

</form>

Radio Button Input

- Input type="radio" defines a radio button

```
<html>
<body>
<form>
First name: <br>
<input type="radio" name="gender" value="Male"“> Male <br>
<input type="radio" name="gender" value="female"> Female<br>
<input type="radio" name="gender" value="other"> Other <br>
</form>
</body>
</html>
```

Other tags

- <input type =“checkbox”>
- <input type =“file”>
- <textarea rows=“5” cols=“100”>
- </textarea>

Type = Submit button attribute

```
<body>
<form action="a.txt">
First name:<br>
<input type="text" name="firstname"> <br>
Password:<br>
<input type="password" name="pass" ><br><br>
<input type="submit" value="Submit">
</form>
```

Cascading Style Sheets(CSS)

- CSS stands for Cascading Style Sheets
- Styles define how to display HTML elements
- Styles were added to HTML 4.0 to solve a problem
- External Style Sheets can save a lot of work
- External Style Sheets are stored in CSS files
- The extension for external style sheets is .css

CSS Syntax

CSS Syntax

The CSS syntax is made up of three parts: a selector, a property and a value:

```
selector { property : value ;Font-family:"times"  
;color:red ; size:10; }
```

The selector is normally the **HTML element/tag** you wish to define, the property is the **attribute** you wish to change, and each property can take a value. The property and value are separated by a **colon**, and surrounded by curly braces:

For example

```
body {font-family: times new roman;  
color: blue; width:20pt;}
```

Or else we can also define as follows:

```
p  
{  
font-family : "sans serif"  
}  
H1{}  
H2{}
```

Levels of Style Sheets

The CSS can be declared in 3 ways:

- 1) External style sheet
- 2) Internal style sheet (inside the <head> tag)
- 3) Inline style (inside an HTML element)

1) Internal Style Sheet

An internal style sheet should be used when a **single document** has a unique style. You define internal styles in the head section with the <style> tag.

Example:

```
<head>
<style type="text/css">
body
{background-color: red}
p
{margin-left: 20px}
</style>
</head>
```

2) Inline Styles

An inline style should be used when a unique style is to be applied to a single occurrence of an element.

To use inline styles you use the style attribute in the relevant tag. The style attribute can contain any CSS property. The example shows how to change the color and the left margin of a paragraph:

For Example

```
<p style="color: red; margin-left: 20px">
```

```
    This is a paragraph</p>
```

3)External Style Sheet

An external style sheet is ideal, when the style is applied **to many pages**. Each page must link to the style sheet using the `<link>` tag. The `<link>` tag goes inside the head section.

```
<head>  
  <link rel="stylesheet" type="text/css"  
        href="mystyle.css">  
</head>
```