



HTML



HTML

Hypertext Markup Language (**HTML**) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web.

HTML is the most widely used language to write Web Pages.

- **Hypertext** refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a **Markup Language** which means you use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.



Web Browsers

The purpose of a web browser (Chrome, IE, Firefox, Safari) is to read HTML documents and display them. The browser does not display the HTML tags, but uses them to determine how to display the document:





HTML Tags

HTML tags are element names surrounded by angle brackets:

`<tagname>content goes here...</tagname>`

- HTML tags normally come **in pairs** like `<p>` and `</p>`
- 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, but with a **forward slash** inserted before the tag name



The <!DOCTYPE> Declaration

The <!DOCTYPE> declaration represents the document type, and helps browsers to display web pages correctly.

It must only appear once, at the top of the page (before any HTML tags).

The <!DOCTYPE> declaration is not case sensitive.

The <!DOCTYPE> declaration for HTML is:

```
<!DOCTYPE html>
```



The HTML document itself begins with **<html>** and ends with **</html>**.

The visible part of the HTML document is between **<body>** and **</body>**.

Example

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



HTML <title> Tag

The <title> tag is required in all HTML documents and it defines the title of the document.

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>HTML Reference</title>
```



HTML **<body>** Tag

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

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

```
<html>
```

```
  <head>
```

```
    <title>Title of the document</title>
```

```
  </head>
```

```
  <body>
```

```
    The content of the document.....
```

```
  </body>
```

```
  </html>
```




HTML Paragraphs

HTML paragraphs are defined with the **<p>** tag:

Example :

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



The font tag is having three attributes called **size**, **color**, and **face** to customize your fonts.

Set Font Size

The default size of a font is 3.

```
<!DOCTYPE html>
<html>
<head> <title>Setting Font Size</title> </head>
<body>
<font size="1">Font size="1"</font><br />
<font size="2">Font size="2"</font><br />
<font size="3">Font size="3"</font><br />
</body> </html>
```

Setting Font Face



You can set font face using *face* attribute but be aware that if the user viewing the page doesn't have the font installed, they will not be able to see it. Instead user will see the default font face applicable to the user's computer.

Ex:

```
<body>
<font face="Times New Roman" size="5">Times New Roman</font><br />
<font face="Verdana" size="5">Verdana</font><br />
<font face="Comic sans MS" size="5">Comic Sans MS</font><br />
<font face="WildWest" size="5">WildWest</font><br />
<font face="Bedrock" size="5">Bedrock</font><br />
```



Setting Font Color

You can set any font color you like using *color* attribute. You can specify the color that you want by either the color name or hexadecimal code for that color.

Ex:

```
<font color="#FF00FF">This text is in pink</font><br/>  
<font color="red">This text is red</font>
```

This will produce following result:

This text is in pink
This text is red



HTML `<u>` Tag

The `<u>` tag represents some text with an underline

HTML `<i>` Tag

The `<i>` tag defines a part of text in an alternate voice or mood. The content of the `<i>` tag is usually displayed in italic.

HTML `` Tag

The `` tag specifies bold text.

Ex:

`<p>this is a <u>paragraph</u> to implement bold and <i> italics</i> characteristics.</p>`



HTML Links - Hyperlinks

HTML links are hyperlinks.

You can click on a link and jump to another document. When you move the mouse over a link, the mouse arrow will turn into a little hand.

Note: A link does not have to be text. It can be an image or any other HTML element.

HTML Links - Syntax

In HTML, links are defined with the **<a>** tag: anchor tag

```
<a href="url">link text</a>
```

Example

```
<a href="https://www.GTEC_PALAYAM.com/html/">Gtec palayam</a>
```

The **href** attribute specifies the destination address (https://www.GTEC_PALAYAM.com/html/) of the link.

The **link text** is the visible part (Gtec palayam).

Clicking on the link text will send you to the specified address.



Local Links

The example above used an absolute URL (A full web address).
A local link (link to the same web site) is specified with a relative URL (without http://www....).

Example

```
<a href="html_images.JPG">HTML Images</a>
```



HTML Link Colors

By default, a link will appear like this (in all browsers):

- An unvisited link is underlined and blue
- A visited link is underlined and purple
- An active link is underlined and red





HTML Images

HTML Images Syntax

In HTML, images are defined with the **** tag.

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

The src attribute specifies the URL (web address) of the image:

```

```



The alt Attribute

The alt attribute provides an alternate text for an image if the user for some reason cannot view it (because of slow connection, an error in the src attribute, or if the user uses a screen reader).

If a browser cannot find an image, it will display the value of the alt attribute:

```

```



HTML Links - Image as Link

It is common to use images as links:

Example

```
<a href="default.asp">  
   </a>
```



HTML Lists

An Unordered List:

- Item
- Item
- Item
- Item

An Ordered List:

1. First item
2. Second item
3. Third item
4. Fourth item



Unordered HTML List

An unordered list starts with the **** tag.

Each list item starts with the **** tag.

The list items will be marked with bullets (small black circles) by default:

Example

```
<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>
```

Unordered HTML List - Choose List Item Marker



The **list type** property is used to define the style of the list item marker:

Value	Description
disc	Sets the list item marker to a bullet (default)
circle	Sets the list item marker to a circle
square	Sets the list item marker to a square

EX:

```
<ul type="disc">  
  <li>Coffee</li>  
  <li>Tea</li>  
<li>Milk</li>  
</ul>
```



Ordered HTML List

An ordered list starts with the **** tag. Each list item starts with the **** tag.

The list items will be marked with numbers by default:

Example

```
<ol>
<li>Coffee</li>
  <li>Tea</li>
  <li>Milk</li>
</ol>
```



Type	Description
type="1"	The list items will be numbered with numbers (default)
type="A"	The list items will be numbered with uppercase letters
type="a"	The list items will be numbered with lowercase letters
type="I"	The list items will be numbered with uppercase roman numbers
type="i"	The list items will be numbered with lowercase roman numbers

Ex:

```
<ol type="a">  
<li>Coffee</li>  
<li>Tea</li>  
<li>Milk</li>  
</ol>
```




HTML Definition Lists

HTML also supports description lists.
A description list is a list of terms, with a description of each term.

The **<dl>** tag defines the description list, the **<dt>** tag defines the term (name), and the **<dd>** tag describes each term:

Example

```
<dl>  
  <dt>Coffee</dt>  
  <dd>- black hot drink</dd>  
  <dt>Milk</dt> <dd>- white cold drink</dd>  
</dl>
```

Result

Coffee
- black hot drink
Milk
- white cold drink



Nested HTML Lists

- Fruits
 - 1.banana
 - 2.grapes
- Flowers
 - 1.tulips
 - 2.jasmine
- Vegetables
 - 1.brinjal
 - 2.pumpkin



HTML Tables

An HTML table is defined with the **<table>** tag.

Each table row is defined with the **<tr>** tag.

A table header is defined with the **<th>** tag.

By default, table headings are bold and centered.

A table data/cell is defined with the **<td>** tag.



EX:

```
<table border="3">
<tr> <th>Firstname</th> <th>Lastname</th>
<th>Age</th> </tr>
  <tr> <td>Jill</td> <td>Smith</td>
<td>50</td> </tr>
<tr> <td>Eve</td> <td>Jackson</td>
<td>94</td> </tr>
</table>
```

Result:

Firstname	Lastname	Age
Jill	Smith	50
Eve	Jackson	94



cellpadding Attribute

The cellpadding attribute specifies the space, in pixels, between the cell wall and the cell content.

Note: Do not confuse this with the cellspacing attribute, which specifies the space between cells.

```
<table cellpadding="10">  
  <tr> <th>Month</th> <th>Savings</th> </tr>  
<tr> <td>January</td> <td>$100</td> </tr>  
</table>
```



cellspacing Attribute

The cellspacing attribute specifies the space, in pixels, between cells.

Note: Do not confuse this with the cellpadding attribute, which specifies the space between the cell wall and the cell content.

```
<table cellspacing="10">  
  <tr> <th>Month</th> <th>Savings</th> </tr>  
  <tr> <td>January</td> <td>$100</td> </tr>  
</table>
```



HTML frames

HTML frames are used to divide your browser window into multiple sections where each section can load a separate HTML document. A collection of frames in the browser window is known as a frameset. The window is divided into frames in a similar way the tables are organized: into rows and columns.

- To use frames on a page we use `<frameset>` tag instead of `<body>` tag.
- The `<frameset>` tag defines, how to divide the window into frames.
- The **rows** attribute of `<frameset>` tag defines horizontal frames
- **cols** attribute defines vertical frames.
- Each frame is indicated by `<frame>` tag and it defines which HTML document shall open into the frame.



```
<html>
<head>
<title>HTML Frames</title>
</head>
<frameset rows="10%,80%,10%">
    <frame name="top" src="top_frame.html" />
    <frame name="main" src="main_frame.html" />
    <frame name="bottom"
src="bottom_frame.html" />
    <body>
        Your browser does not support frames.
    </body>
</frameset>
```




HTML Forms

A form will take input from the site visitor and then will post it to a back-end application such as CGI, ASP Script or PHP script etc. The back-end application will perform required processing on the passed data based on defined business logic inside the application.

There are various form elements available like text fields, textarea fields, drop-down menus, radio buttons, checkboxes, etc.

The HTML **<form>** tag is used to create an HTML form and it has following syntax:

```
<form action="Script URL" method="GET|POST">
```

```
</form>
```



HTML Form Controls

There are different types of form controls that you can use to collect data using HTML form:

- Text Input Controls
- Checkboxes Controls
- Radio Box Controls
- Select Box Controls
- File Select boxes
- Clickable Buttons
- Submit and Reset Button



Text Input Controls

There are three types of text input used on forms:

- **Single-line text input controls** - This control is used for items that require only one line of user input, such as search boxes or names. They are created using HTML **<input>** tag.
- **Password input controls** - This is also a single-line text input but it masks the character as soon as a user enters it. They are also created using HTML **<input>** tag.
- **Multi-line text input controls** - This is used when the user is required to give details that may be longer than a single sentence. Multi-line input controls are created using HTML **<textarea>** tag.



Example 1:

```
<body>
<form >
First name: <input type="text" name="first_name" />
<br>
Last name: <input type="text" name="last_name" />
</form>
</body>
```



Attribute	Description
type	Indicates the type of input control and for text input control it will be set to text.
name	Used to give a name to the control which is sent to the server to be recognized and get the value.
value	This can be used to provide an initial value inside the control.
size	Allows to specify the width of the text-input control in terms of characters.
maxlength	Allows to specify the maximum number of characters a user can enter into the text box.



Multiple-Line Text Input Controls

This is used when the user is required to give details that may be longer than a single sentence. Multi-line input controls are created using HTML `<textarea>` tag.

```
<html>
<head>
<title>Multiple-Line Input Control</title>
</head>
<body>
<form>
Description: <br />
<textarea rows="5" cols="50" name="description"> Enter description here...
</textarea>
</form>
</body>
```



Checkbox Control

Checkboxes are used when more than one option is required to be selected. They are also created using HTML `<input>` tag but type attribute is set to **checkbox**.

```
<html>
<head>
<title>Checkbox Control</title>
</head>
<body>
<form>
<input type="checkbox" name="maths" value="on" checked> Maths
<input type="checkbox" name="physics" value="on"> Physics
</form>
</body>
</html>
```



Attribute	Description
type	Indicates the type of input control and for checkbox input control it will be set to checkbox.
name	Used to give a name to the control which is sent to the server to be recognized and get the value.
value	The value that will be used if the checkbox is selected.



Radio Button Control

Radio buttons are used when out of many options, just one option is required to be selected. They are also created using HTML `<input>` tag but type attribute is set to **radio**.

```
<input type="radio" name="subject" value="maths"> Maths  
<input type="radio" name="subject" value="physics"> Physics
```



Select Box Control

A select box, also called drop down box which provides option to list down various options in the form of drop down list, from where a user can select one or more options.

```
<select name="dropdown">  
<option value="Maths" >Maths</option>  
<option value="Physics">Physics</option>  
</select>
```



Attribute	Description
name	Used to give a name to the control which is sent to the server to be recognized and get the value.
size	This can be used to present a scrolling list box.
multiple	If set to "multiple" then allows a user to select multiple items from the menu.

Button Controls



There are various ways in HTML to create clickable buttons. You can also create a clickable button using `<input>` tag by setting its type attribute to **button**. The type attribute can take the following values:

submit	This creates a button that automatically submits a form.
reset	This creates a button that automatically resets form controls to their initial values.
button	This creates a button that is used to trigger a client-side script when the user clicks that button.



```
<form>  
<input type="submit" name="submit" value="Submit" />  
<input type="reset" name="reset" value="Reset" />  
<input type="button" name="ok" value="OK" />  
</form>
```



The <label> Element

The `<label>` tag defines a label for many form elements.

The `<label>` element is useful for screen-reader users, because the screen-reader will read out loud the label when the user is focused on the input element.

The `for` attribute of the `<label>` tag should be equal to the `id` attribute of the `<input>` element to bind them together.

Ex: `<label for="male">Male</label>`



File Upload Box

If you want to allow a user to upload a file to your web site, you will need to use a file upload box, also known as a file select box. This is also created using the `<input>` element but type attribute is set to **file**.

Example

Here is example HTML code for a form with one file upload box:

```
<form>
<input type="file" name="fileupload" accept="image/*" />
</form>
```