Html :

* HTML stands for HyperText Markup Language.
* HTML is used to create web pages and web applications.
* HTML is widely used language on the web.
* We can create a static website by HTML only.
* Technically, HTML is a Markup language rather than a programming language.

What is HTML

HTML is an acronym which stands for **Hyper Text Markup Language** which is used for creating web pages and web applications.

**Hyper Text:** HyperText simply means "Text within Text." A text has a link within it, is a hypertext. Whenever you click on a link which brings you to a new webpage,

**Markup language:** A markup language is a computer language that is used to apply layout and formatting conventions to a text document. Markup language makes text more interactive and dynamic. It can turn text into images, tables, links, etc.

**Web Page:** A web page is a document which is commonly written in HTML and translated by a web browser. A web page can be identified by entering an URL A Web page can be of the static or dynamic type. **With the help of HTML only, we can create static web pages**.

## Description of HTML Example

**<!DOCTYPE>:** It defines the document type or it instruct the browser about the version of HTML.

**<html >** :This tag informs the browser that it is an HTML document. Text between html tag describes the web document. It is a container for all other elements of HTML except <!DOCTYPE>

**<head>:** It should be the first element inside the <html> element, which contains the metadata(information about the document). It must be closed before the body tag opens.

**<title>:** As its name suggested, it is used to add title of that HTML page which appears at the top of the browser window. It must be placed inside the head tag and should close immediately. (Optional)

**<body>**: Text between body tag describes the body content of the page that is visible to the end user. This tag contains the main content of the HTML document.

# Building blocks of HTML

An HTML document consist of its basic building blocks which are:

* **Tags:** An HTML tag surrounds the content and apply meaning to it. It is written between < and > brackets.
* **Attribute:** An attribute in HTML provides extra information about the element, and it is applied within the start tag. An HTML attribute contains two fields: name & value.

## Syntax

1. **<tag** name  attribute\_name= " attr\_value"**>** content **</** **tag** name**>**

* **Elements:** An HTML element is an individual component of an HTML file. In an HTML file, everything written within tags are termed as HTML elements.

HTML comment :--

* HTML comment is used to make a comment in an HTML document.
* HTML comment is ignored by the browser. Anything written as a comment is not taken under consideration.
* Anything written in between **<!--** and **-->** is considered a comment.

# HTML Tags

HTML tags are like keywords which defines that how web browser will format and display the content.

HTML tags contain three main parts: opening tag, content and closing tag. But some HTML tags are unclosed tags.

* All HTML tags must enclosed within < > these brackets.
* Every tag in HTML perform different tasks.
* If you have used an open tag <tag>, then you must use a close tag </tag> (except some tags)

## HTML Meta Tags

DOCTYPE, title, link, meta and style

## HTML Text Tags

<p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, <strong>, <em>, <abbr>, <acronym>, <address>, <bdo>, <blockquote>, <cite>, <q>, <code>, <ins>, <del>, <dfn>, <kbd>, <pre>, <samp>, <var> and <br>

## HTML Image and Object Tags

<img>, <area>, <map>, <param> and <object>

## HTML List Tags

<ul>, <ol>, <li>, <dl>, <dt> and <dd>

## HTML Table Tags

table, tr, td, th, tbody, thead, tfoot, col, colgroup and caption

## HTML Form Tags

form, input, textarea, select, option, optgroup, button, label, fieldset and legend

## HTML Scripting Tags

script and noscript

| Elements with closing tags | | |
| --- | --- | --- |
| **Element Name** | **HTML Code** | **Description** |
| Paragraph | **<p>** | Used to create a paragraph. |
| Heading | **<h1>** to **<h6>** | Used to create a heading. |
| Button | **<button>** | Used to create a button. |
| List | **<ul>** and **<ol>** | Used to create a lists. |
| List Item | **<li>** | Used to create a list item. |
| Link | **<a>** | Used to create a link. |
| Table | **<table>** | Used to create a table. |
| Table Row | **<tr>** | Used to create a table row. |
| Table Cell | **<td>** and **<th>** | Used to create a table cell. |
| Form | **<form>** | Used to create a form. |
| Input | **<input>** | Used to create an input. |
| Textarea | **<textarea>** | Used to create a textarea. |
| Select | **<select>** | Used to create a select. |
| Option | **<option>** | Used to create an option. |
| Label | **<label>** | Used to create a label. |
| Span | **<span>** | Used to create a span. |
| Div | **<div>** | Used to create a div. |

Here is a list of self closing elements:

| Elements with self closing tags | | |
| --- | --- | --- |
| **Element Name** | **HTML Code** | **Description** |
| Image | **<img>** | Used to create an image. |
| Break | **<br>** | Used to create a break. |
| Horizontal Rule | **<hr>** | Used to create a horizontal rule. |
| Video | **<video>** | Used to create a video. |
| Audio | **<audio>** | Used to create an audio. |
| Source | **<source>** | Used to create a source. |
| Embed | **<embed>** | Used to create an embed. |
| Object | **<object>** | Used to create an object. |
| Param | **<param>** | Used to create a param. |
| Map | **<map>** | Used to create a map. |
| Area | **<area>** | Used to create an area. |

HTML Attribute

* HTML attributes are special words which provide additional information about the elements or attributes are the modifier of the HTML element.
* Each element or tag can have attributes, which defines the behaviour of that element.
* Attributes should always be applied with start tag.
* The Attribute should always be applied with its name and value pair.
* should be written in Lowercase only.
* You can add multiple attributes in one HTML element, but need to give space between two attributes.

**Syntax:---**

**<element** attribute\_name="value"**>**content**</element>**

1. **<p** style="height: 50px; color: blue"**>**It will add style property in element**</p>**

## The title attribute in HTML

**Description:** The title attribute is used as text tooltip in most of the browsers. It display its text when user move the cursor over a link or any text.

1. **<h1** title="This is heading tag"**>**Example of title attribute**</h1>**

## The href attribute in HTML

The href attribute is the main attribute of <a> anchor tag. This attribute gives the link address which is specified in that link. **The href attribute provides the hyperlink, and if it is blank, then it will remain in same page**.

1. **<a** href="https://www.javatpoint.com/html-anchor"**>**This is a link**</a>**

## The src Attribute

The **src** attribute is one of the important and required attribute of **<img>** element. It is source for the image which is required to display on browser.

**<img** src="whitepeacock.jpg" height="400" width="600"**>**

| **Attribute** | **Used in** | **Description** |
| --- | --- | --- |
| alt | <img> | Description of the image |
| src | <img> | URL of the image |
| width | <img> | Width of the image |
| height | <img> | Height of the image |
| href | <a> | URL of the link |
| target | <a> | Target of the link |
| rel | <a> | Relation of the link |
| lang | Html | Language of the text |
| style | Almost all elements | Style of the element |
| class | Almost all elements | Class of the element |
| id | Almost all elements | Id of the element |
| title | Almost all elements | Title of the element |
| dir | Almost all elements | Direction of the text |
| colspan | <td> | Number of columns to span |
| rowspan | <td> | Number of rows to span |
| for | <label> | For which element the label is |
| placeholder | <input> | Placeholder of the input |
| autofocus | <input> | Focus the input |
| required | <input> | Input is required |
| checked | <input> | Input is checked |
| disabled | <input> | Input is disabled |
| readonly | <input> | Input is readonly |
| max | <input> | Maximum value of the input |
| min | <input> | Minimum value of the input |
| action | <form> | Action of the form |
| method | <form> | Method of the form |

# HTML Elements

An HTML file is made of elements. An element in HTML usually consist of a start tag <tag name>, close tag </tag name> and content inserted between them. **Technically, an element is a collection of start tag, attributes, end tag, content between them**.

## Block-level element:

* These are the elements, which structure main part of web page, by dividing a page into coherent blocks.
* A block-level element always start with new line and takes the full width of web page, from left to right.
* These elements can contain block-level as well as inline elements.

<address>, <article>, <aside>, <blockquote>, <canvas>, <dd>, <div>, <dl>, <dt>, <fieldset>, <figcaption>, <figure>, <footer>, <form>, <h1>-<h6>, <header>, <hr>, <li>, <main>, <nav>, <noscript>, <ol>, <output>, <p>, <pre>, <section>, <table>, <tfoot>, <ul> and <video>.

## Inline elements:

* Inline elements are those elements, which differentiate the part of a given text and provide it a particular function.
* These elements does not start with new line and take width as per requirement.
* The Inline elements are mostly used with other elements.

<a>, <abbr>, <acronym>, <b>, <bdo>, <big>, <br>, <button>, <cite>, <code>, <dfn>, <em>, <i>, <img>, <input>, <kbd>, <label>, <map>, <object>, <q>, <samp>, <script>, <select>, <small>, <span>, <strong>, <sub>, <sup>, <textarea>, <time>, <tt>, <var>.

# HTML Formatting

**HTML Formatting** is a process of formatting text for better look and feel. HTML provides us ability to format text without using CSS.

* Physical tag: These tags are used to provide the visual appearance to the text.
* Logical tag: These tags are used to add some logical or semantic value to the text.

#### There are some physical and logical tags which may give same visual appearance, but they will be different in semantics.

|  |  |
| --- | --- |
| **Element name** | **Description** |
| <b> | This is a physical tag, which is used to bold the text written between it. |
| <strong> | This is a logical tag, which tells the browser that the text is important. |
| <i> | This is a physical tag which is used to make text italic. |
| <em> | This is a logical tag which is used to display content in italic. |
| <mark> | This tag is used to highlight text. |
| <u> | This tag is used to underline text written between it. |
| <tt> | This tag is used to appear a text in teletype. (not supported in HTML5) |
| <strike> | This tag is used to draw a strikethrough on a section of text. (Not supported in HTML5) |
| <sup> | It displays the content slightly above the normal line. |
| <sub> | It displays the content slightly below the normal line. |
| <del> | This tag is used to display the deleted content. |
| <ins> | This tag displays the content which is added |
| <big> | This tag is used to increase the font size by one conventional unit. |
| <small> | This tag is used to decrease the font size by one unit from base font size. |

# HTML Heading

A HTML heading or HTML h tag can be defined as a title or a subtitle which you want to display on the webpage. When you place the text within the heading tags <h1>.........</h1>,<h6>…</h6>

# HTML Paragraph

HTML paragraph or HTML p tag is used to define a paragraph in a webpage. Let's take a simple example to see how it work.

#### If we are using various <p> tags in one HTML file then browser automatically adds a single blank line between the two paragraphs.

## How to Use <br> and <hr> tag with paragraph?

An HTML <br> tag is used for line break and it can be used with paragraph elements. <br> with <p> element.

# HTML Phrase tag

The HTML phrase tags are special purpose tags, which defines the structural meaning of a block of text or semantics of text. Following is the list of phrase tags, some of which we have already discussed in HTML formatting.

* Abbreviation tag : <abbr>
* Acronym tag: <acronym> (not supported in HTML5)
* Marked tag: <mark>
* Strong tag: <strong>
* Emphasized tag : <em>
* Definition tag: <dfn>
* Quoting tag: <blockquote>
* Short quote tag : <q>
* Code tag: <code>
* Keyboard tag: <kbd>
* Address tag: <address>

# HTML Anchor

The **HTML anchor tag** defines *a hyperlink that links one page to another page*. It can create hyperlink to other web page as well as files, location, or any URL. The "href" attribute is the most important attribute of the HTML a tag.

## href attribute of HTML anchor tag

<a href = "..........."> Link Text </a>

**Note:**

* The **target** attribute can only use with href attribute in anchor tag.
* If we will not use target attribute then link will open in same page.

Image tags:-

mages are used to make web pages beautiful and more descriptive.

HTML displays images using <img> tag.

* src - Used for giving url of image.
* alt - It provides additional information about the image.

<img src="flowers.jpg" alt="Beautiful flowers">

Table tag:

**HTML table tag** is used to display data in tabular form (row \* column). There can be many columns in a row.

|  |  |
| --- | --- |
| **Tag** | **Description** |
| <table> | It defines a table. |
| <tr> | It defines a row in a table. |
| <th> | It defines a header cell in a table. |
| <td> | It defines a cell in a table. |
| <caption> | It defines the table caption. |
| <colgroup> | It specifies a group of one or more columns in a table for formatting. |
| <col> | It is used with <colgroup> element to specify column properties for each column. |
| <tbody> | It is used to group the body content in a table. |
| <thead> | It is used to group the header content in a table. |
| <tfooter> | It is used to group the footer content in a table. |

HTML Lists

HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

1. Ordered List or Numbered List (ol)
2. Unordered List or Bulleted List (ul)
3. Description List or Definition List (dl)

orderlist

1. **<ol>**
2. **<li>**Aries**</li>**
3. **<li>**Bingo**</li>**
4. **<li>**Leo**</li>**
5. **<li>**Oracle**</li>**
6. **</ol>**

## HTML Description List or Definition List

HTML Description list is also a list style which is supported by HTML and XHTML. It is also known as definition list where entries are listed like a dictionary or encyclopedia.

1. **<dl> tag** defines the start of the list.
2. **<dt> tag** defines a term.
3. **<dd> tag** defines the term definition (description).
4. **<dl>**
5. **<dt>**Aries**</dt>**
6. **<dd>**-One of the 12 horoscope sign.**</dd>**
7. **<dt>**Bingo**</dt>**
8. **<dd>**-One of my evening snacks**</dd>**
9. **<dt>**Leo**</dt>**
10. **<dd>**-It is also an one of the 12 horoscope sign.**</dd>**
11. **<dt>**Oracle**</dt>**
12. **<dd>**-It is a multinational technology corporation.**</dd>**
13. **</dl>**

# HTML Form

An **HTML form** is *a section of a document* which contains controls such as text fields, password fields, checkboxes, radio buttons, submit button, menus etc.

## Why use HTML Form

HTML forms are required if you want to collect some data from of the site visitor.

## HTML Form Tags

Let's see the list of HTML 5 form tags.

|  |  |
| --- | --- |
| **Tag** | **Description** |
| <form> | It defines an HTML form to enter inputs by the used side. |
| <input> | It defines an input control. |
| <textarea> | It defines a multi-line input control. |
| <label> | It defines a label for an input element. |
| <fieldset> | It groups the related element in a form. |
| <legend> | It defines a caption for a <fieldset> element. |
| <select> | It defines a drop-down list. |
| <optgroup> | It defines a group of related options in a drop-down list. |
| <option> | It defines an option in a drop-down list. |
| <button> | It defines a clickable button. |

#### The <form> element does not itself create a form but it is container to contain all required form elements, such as <input>, <label>, etc.

1. **<form>**
2. **<label** for="firstname"**>**First Name: **</label>** **<br/>**
3. **<input** type="text" id="firstname" name="firstname"**/>** **<br/>**
4. **<label** for="lastname"**>**Last Name: **</label>**
5. **<input** type="text" id="lastname" name="lastname"**/>** **<br/>**
6. **</form>**

## HTML Password Field Control

The password is not visible to the user in password field control.

1. **<form>**
2. **<label** for="password"**>**Password: **</label>**
3. **<input** type="password" id="password" name="password"**/>** **<br/>**
4. **</form>**

## HTML 5 Email Field Control

The email field in new in HTML 5. It validates the text for correct email address. You must use @ and . in this field.

1. **<form>**
2. **<label** for="email"**>**Email: **</label>**
3. **<input** type="email" id="email" name="email"**/>** **<br/>**
4. **</form>**

#### Note: If we will not enter the correct email, it will display error like:

## Radio Button Control

The radio button is used to select one option from multiple options. It is used for selection of gender, quiz questions etc.

If you use one name for all the radio buttons, only one radio button can be selected at a time.

Using radio buttons for multiple options, you can only choose a single option at a time.

1. **<form>**
2. **<label** for="gender"**>**Gender: **</label>**
3. **<input** type="radio" id="gender" name="gender" value="male"**/>**Male
4. **<input** type="radio" id="gender" name="gender" value="female"**/>**Female **<br/>**
5. **</form>**

## Checkbox Control

The checkbox control is used to check multiple options from given checkboxes.

1. **<form>**
2. Hobby:**<br>**
3. **<input** type="checkbox" id="cricket" name="cricket" value="cricket"**/>**
4. **<label** for="cricket"**>**Cricket**</label>** **<br>**
5. **<input** type="checkbox" id="football" name="football" value="football"**/>**
6. **<label** for="football"**>**Football**</label>** **<br>**
7. **<input** type="checkbox" id="hockey" name="hockey" value="hockey"**/>**
8. **<label** for="hockey"**>**Hockey**</label>**
9. **</form>**

#### Note: These are similar to radio button except it can choose multiple options at a time and radio button can select one button at a time, and its display.

**Output:**

## Submit button control

HTML **<input type="submit">** are used to add a submit button on web page. When user clicks on submit button, then form get submit to the server.

Syntax:

1. **<input** type="submit" value="submit"**>**

The type = submit , specifying that it is a submit button

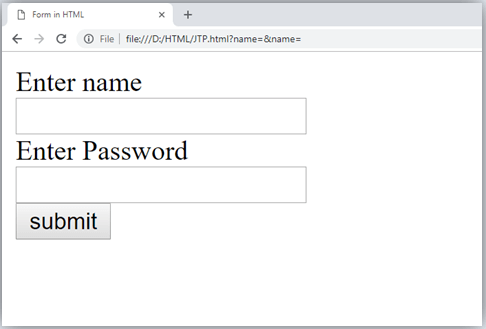
The value attribute can be anything which we write on button on web page.

The name attribute can be omit here.

**Example:**

1. **<form>**
2. **<label** for="name"**>**Enter name**</label><br>**
3. **<input** type="text" id="name" name="name"**><br>**
4. **<label** for="pass"**>**Enter Password**</label><br>**
5. **<input** type="Password" id="pass" name="pass"**><br>**
6. **<input** type="submit" value="submit"**>**
7. **</form>**

**Output:**



## HTML <fieldset> element:

The <fieldset> element in HTML is used to group the related information of a form. This element is used with <legend> element which provide caption for the grouped elements.

**Example:**

1. **<form>**
2. **<fieldset>**
3. **<legend>**User Information:**</legend>**
4. **<label** for="name"**>**Enter name**</label><br>**
5. **<input** type="text" id="name" name="name"**><br>**
6. **<label** for="pass"**>**Enter Password**</label><br>**
7. **<input** type="Password" id="pass" name="pass"**><br>**
8. **<input** type="submit" value="submit"**>**
9. **</fieldset>**
10. lt;/form**>**

**Output:**

## HTML Form Example

Following is the example for a simple form of registration.

1. <!DOCTYPE html**>**
2. **<html>**
3. **<head>**
4. **<title>**Form in HTML**</title>**
5. **</head>**
6. **<body>**
7. **<h2>**Registration form**</h2>**
8. **<form>**
9. **<fieldset>**
10. **<legend>**User personal information**</legend>**
11. **<label>**Enter your full name**</label><br>**
12. **<input** type="text" name="name"**><br>**
13. **<label>**Enter your email**</label><br>**
14. **<input** type="email" name="email"**><br>**
15. **<label>**Enter your password**</label><br>**
16. **<input** type="password" name="pass"**><br>**
17. **<label>**confirm your password**</label><br>**
18. **<input** type="password" name="pass"**><br>**
19. **<br><label>**Enter your gender**</label><br>**
20. **<input** type="radio" id="gender" name="gender" value="male"**/>**Male  **<br>**
21. **<input** type="radio" id="gender" name="gender" value="female"**/>**Female **<br/>**
22. **<input** type="radio" id="gender" name="gender" value="others"**/>**others **<br/>**
23. **<br>**Enter your Address:**<br>**
24. **<textarea></textarea><br>**
25. **<input** type="submit" value="sign-up"**>**
26. **</fieldset>**
27. **</form>**
28. **</body>**
29. **</html>**

# HTML Form Input Types

In HTML <input type=" "> is an important element of HTML form. The "type" attribute of input element can be various types, which defines information field. Such as <input type="text" name="name"> gives a text box.

## Following is a list of all types of <input> element of HTML.

|  |  |
| --- | --- |
| **type=" "** | **Description** |
| text | Defines a one-line text input field |
| password | Defines a one-line password input field |
| submit | Defines a submit button to submit the form to server |
| reset | Defines a reset button to reset all values in the form. |
| radio | Defines a radio button which allows select one option. |
| checkbox | Defines checkboxes which allow select multiple options form. |
| button | Defines a simple push button, which can be programmed to perform a task on an event. |
| file | Defines to select the file from device storage. |
| image | Defines a graphical submit button. |

**HTML5 added new types on <input> element. Following is the list of types of elements of HTML5**

|  |  |
| --- | --- |
| **type=" "** | **Description** |
| color | Defines an input field with a specific color. |
| date | Defines an input field for selection of date. |
| datetime-local | Defines an input field for entering a date without time zone. |
| email | Defines an input field for entering an email address. |
| month | Defines a control with month and year, without time zone. |
| number | Defines an input field to enter a number. |
| url | Defines a field for entering URL |
| week | Defines a field to enter the date with week-year, without time zone. |
| search | Defines a single line text field for entering a search string. |
| tel | Defines an input field for entering the telephone number. |