

Using HTML



Content

- HTML tags
- Design and test website

HTML Tags

Basic HTML

<!DOCTYPE> in html document

- All HTML documents must start with a <!DOCTYPE> declaration.
- The declaration is not an HTML tag. It is an "information" to the browser about what document type to expect.

HTML Tags

Basic HTML

<html> tag

- The <html> tag represents the root of an HTML document.
- The <html> tag is the container for all other HTML elements (except for the <!DOCTYPE> tag).
- You should always include the **lang** attribute inside the <html> tag, to declare the language of the Web page. This is meant to assist search engines and browsers.

HTML Tags

Basic HTML

<head> tag

- The <head> element is a container for metadata (data about data) and is placed between the <html> tag and the <body> tag.
- Metadata is data about the HTML document. Metadata is not displayed.
- Metadata typically define the document title, character set, styles, scripts, and other meta information.
- The following elements can go inside the <head> element:
<title> (required in every HTML document), <style> , <base> ,
<link>, <meta>, <script>, <noscript>

HTML Tags

Basic HTML

<title> tag

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

HTML Tags

Basic HTML

<body> tag

- 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.

HTML Tags

Basic HTML

`<h1>` to `<h6>` tags

- The `<h1>` to `<h6>` tags are used to define HTML headings.
- `<h1>` defines the most important heading. `<h6>` defines the least important heading.

HTML Tags

Basic HTML

<p> tag

- The <p> tag defines a paragraph.
- Browsers automatically add a single blank line before and after each <p> element.
- You may use CSS to style paragraphs.

HTML Tags

Basic HTML

`
` tag

- The `
` tag inserts a single line break.
- The `
` tag is an empty tag which means that it has no end tag.
- You may use the `
` tag to enter line breaks.

HTML Tags

Basic HTML

`<hr>` tag

- The `<hr>` tag defines a thematic break in an HTML page (e.g. a shift of topic).
- The `<hr>` element is most often displayed as a horizontal rule that is used to separate content (or define a change) in an HTML page.

HTML Tags

Basic HTML

`<!-- ... -->` tag

- The comment tag is used to insert comments in the source code. Comments are not displayed in the browsers.
- You can use comments to explain your code, which can help you when you edit the source code at a later date.

HTML Tags

Basic HTML

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Title of the document</title>
</head>
<body>
  <h1>This is a heading</h1>
  <p>This is a paragraph.</p>
  <hr>
  <h2>This is a heading</h2>
  <p>This is a paragraph. <br> This is a next line</p>
</body>
</html>
```

HTML Tags

Formatting

<abbr> tag

- The <abbr> tag defines an abbreviation or an acronym, like "HTML", "CSS", "Mr.", "Dr.", "ASAP", "ATM".
- The **title** attribute may be used to show the description for the abbreviation/acronym when you mouse over the element.

The `<abbr title="Hypertext Markup Language">HTML</abbr>` is used for websites development.

HTML Tags

Formatting

**** tag

- The **** tag specifies bold text

```
<p>This is normal text - <b>and this is  
bold text</b>.</p>
```

HTML Tags

Formatting

<bdo> tag

- BDO stands for Bi-Directional Override.
- The <bdo> tag is used to override the current text direction.

```
<bdo dir="rtl"> This text will go right-  
to-left. </bdo>
```


HTML Tags

Formatting

** tag**

- The tag is used to define emphasized text. The content inside is typically displayed in italic.
- A screen reader will pronounce the words in with an emphasis, using verbal stress.

```
<p>You <em>have</em> to hurry up!</p>
```

HTML Tags

Formatting

`<i>` tag

- The `<i>` tag defines a part of text in an alternate voice or mood. The content inside is typically displayed in italic.
- Use the `<i>` element only when there is not a more appropriate semantic element, such as:

`` (emphasized text), `` (important text),
`<mark>` (marked/highlighted text), `<cite>` (the title of a work), `<dfn>` (a definition term)

HTML Tags

Formatting

<mark> tag

- The <mark> tag defines text that should be marked or highlighted

```
<p>Do not forget to buy <mark>milk</mark>  
today.</p>
```

HTML Tags

Formatting

<meter> tag

- The <meter> tag defines a scalar measurement within a known range, or a fractional value. This is also known as a gauge.
- Examples: Disk usage, the relevance of a query result, etc.
- The <meter> tag should not be used to indicate progress (as in a progress bar). For progress bars, use the <progress> tag.
- Always add the <label> tag for best accessibility practices!

HTML Tags

Formatting

<meter> tag

```
<label for="disk_c">Disk usage C:</label>
```

```
<meter id="disk_c" value="2" min="0"  
  max="10">2 out of 10</meter><br>
```

```
<label for="disk_d">Disk usage D:</label>
```

```
<meter id="disk_d" value="0.6">60%</meter>
```

HTML Tags

Formatting

<pre> tag

- 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.

```
<pre>
```

```
Text in a pre element  
is displayed in a fixed-width  
font, and it preserves both      spaces and  
line breaks
```

```
</pre>
```

HTML Tags

Formatting

<progress> tag

- The <progress> tag represents the completion progress of a task.
- Always add the <label> tag for best accessibility practices!
- The <progress> tag is not suitable for representing a gauge (e.g. disk space usage or relevance of a query result). To represent a gauge, use the <meter> tag instead.

```
<label for="file">Downloading progress:</label>
```

```
<progress id="file" value="32" max="100"> 32%  
</progress>
```

HTML Tags

Formatting

** tag**

- The tag defines text that has been deleted from a document. Browsers will usually strike a line through deleted text.
- Also look at the <ins> tag to markup inserted text.

```
<p>My favorite color is <del>blue</del>  
  <ins>red</ins>!</p>
```


HTML Tags

Formatting

<s> tag

- The <s> tag specifies text that is no longer correct, accurate or relevant. The text will be displayed with a line through it.
- The <s> tag should not be used to define deleted text in a document, use the tag for that.

```
<p><s>Only 50 tickets left!</s></p>
```

```
<p>SOLD OUT!</p>
```

HTML Tags

Formatting

<small> tag

- The <small> tag defines smaller text (like copyright and other side-comments).
- This tag is not deprecated, but it is possible to achieve richer (or the same) effect with CSS.

```
<p>This is some normal text.</p>
```

```
<p><small>This is some smaller  
text.</small></p>
```

HTML Tags

Formatting

**** tag

- The **** tag is used to define text with strong importance. The content inside is typically displayed in bold.

```
<strong>This text is important!</strong>
```

HTML Tags

Formatting

<sub> tag

- The <sub> tag defines subscript text. Subscript text appears half a character below the normal line, and is sometimes rendered in a smaller font.

```
<p>This text contains <sub>subscript</sub>  
text.</p>
```

HTML Tags

Formatting

<sup> tag

- The <sup> tag defines superscript text. Superscript text appears half a character above the normal line, and is sometimes rendered in a smaller font.

```
<p>This text contains  
<sup>superscript</sup> text.</p>
```

HTML Tags

Formatting

<u> tag

- The <u> tag represents some text with an underline.
- Avoid using the <u> element where it could be confused for a hyperlink!

```
<p>This is some <u>mispelled</u> text.</p>
```

HTML Tags

Images

 tag

- The tag is used to embed an image in an HTML page.
- 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 tag has two required attributes:
 - src - Specifies the path to the image
 - alt - Specifies an alternate text for the image, if the image for some reason cannot be displayed

```

```

HTML Tags

Audio / Video

<audio> tag

- The <audio> tag is used to embed sound content in a document, such as music or other audio streams.
- The <audio> tag contains one or more <source> tags with different audio sources. The browser will choose the first source it supports.
- The text between the <audio> and </audio> tags will only be displayed in browsers that do not support the <audio> element.
- There are three supported audio formats in HTML: MP3, WAV, and OGG.

HTML Tags

Audio / Video

<audio> tag

```
<audio controls>
```

```
  <source src="horse.ogg" type="audio/ogg">
```

```
  <source src="horse.mp3" type="audio/mpeg">
```

```
Your browser does not support the audio element.
```

```
</audio>
```

HTML Tags

Links

<a> tag

- The <a> tag defines a hyperlink, which is used to link from one page to another.
- The most important attribute of the <a> element is the href attribute, which indicates the link's destination.
- By default, links will appear as follows in all browsers:
 - An unvisited link is underlined and blue
 - A visited link is underlined and purple
 - An active link is underlined and red

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

HTML Tags

Links

<link> tag

- The <link> tag defines the relationship between the current document and an external resource.
- The <link> tag is most often used to link to external style sheets or to add a **favicon** to your website.
- The <link> element is an empty element, it contains attributes only.

```
<head>
```

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

```
</head>
```

HTML Tags

Lists

** tag**

- The tag defines an unordered (bulleted) list.
- Use the tag together with the tag to create unordered lists.

```
<ul>
```

```
  <li>Coffee</li>
```

```
  <li>Tea</li>
```

```
  <li>Milk</li>
```

```
</ul>
```

HTML Tags

Lists

** tag**

- The tag defines an ordered list. An ordered list can be numerical or alphabetical.
- The tag is used to define each list item.

```
<ol>
```

```
  <li>Coffee</li>
```

```
  <li>Tea</li>
```

```
  <li>Milk</li>
```

```
</ol>
```

HTML Tags

Lists

** tag**

- The tag defines a list item.
- The tag is used inside ordered lists(), unordered lists (), and in menu lists (<menu>).
- In and <menu>, the list items will usually be displayed with bullet points.
- In , the list items will usually be displayed with numbers or letters.

```
<ol>
```

```
  <li>Coffee</li>
```

```
  <li>Tea</li>
```

```
  <li>Milk</li>
```

```
</ol>
```

HTML Tags

Lists

<dl, dt, dd> tags

- The <dl> tag defines a description list.
- The <dl> tag is used in conjunction with <dt> (defines terms/names) and <dd> (describes each term/name).

```
<dl>
```

```
<dt>Coffee</dt>
```

```
<dd>Black hot drink</dd>
```

```
<dt>Milk</dt>
```

```
<dd>White cold drink</dd>
```

```
</dl>
```

HTML Tags

Tables

`<table>` tag

- The `<table>` tag defines an HTML table.
- An HTML table consists of one `<table>` element and one or more `<tr>`, `<th>`, and `<td>` elements.
- The `<tr>` element defines a table row, the `<th>` element defines a table header, and the `<td>` element defines a table cell.
- An HTML table may also include `<caption>`, `<colgroup>`, `<thead>`, `<tfoot>`, and `<tbody>` elements.

HTML Tags

Tables

<table> tag

```
<table>
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
</table>
```

HTML Tags

Tables

<caption> tag

- The <caption> tag defines a table caption.
- The <caption> tag must be inserted immediately after the <table> tag.

```
<table>
```

```
<caption>Monthly savings</caption>
```

```
<tr><th>Month</th><th>Savings</th></tr>
```

```
<tr><td>January</td><td>$100</td></tr>
```

```
</table>
```

HTML Tags

Tables

<th> tag

- The `<th>` tag defines a header cell in an HTML table.
- An HTML table has two kinds of cells:
 - Header cells - contains header information (created with the `<th>` element)
 - Data cells - contains data (created with the `<td>` element)
- The text in `<th>` elements are bold and centered by default.
- The text in `<td>` elements are regular and left-aligned by default.

HTML Tags

Tables

`<tr>` tag

- The `<tr>` tag defines a row in an HTML table.
- A `<tr>` element contains one or more `<th>` or `<td>` elements.

HTML Tags

Tables

`<td>` tag

- The `<td>` tag defines a standard data cell in an HTML table.
- An HTML table has two kinds of cells:
 - Header cells - contains header information (created with the `<th>` element)
 - Data cells - contains data (created with the `<td>` element)
- The text in `<td>` elements are regular and left-aligned by default.
- The text in `<th>` elements are bold and centered by default.

HTML Tags

Tables

<thead> tag

- The `<thead>` tag is used to group header content in an HTML table.
- The `<thead>` element is used in conjunction with the `<tbody>` and `<tfoot>` elements to specify each part of a table (header, body, footer).
- Browsers can use these elements to enable scrolling of the table body independently of the header and footer. Also, when printing a large table that spans multiple pages, these elements can enable the table header and footer to be printed at the top and bottom of each page.
- The `<thead>` element must have one or more `<tr>` tags inside.
- The `<thead>` tag must be used in the following context: As a child of a `<table>` element, after any `<caption>` and `<colgroup>` elements, and before any `<tbody>`, `<tfoot>`, and `<tr>` elements.

HTML Tags

Tables

<thead> tag

```
<table>
```

```
<thead>
```

```
  <tr><th>Month</th><th>Savings</th></tr>
```

```
</thead>
```

```
<tbody>
```

```
  <tr><td>January</td><td>$100</td></tr>
```

```
  <tr><td>February</td><td>$80</td></tr>
```

```
</tbody>
```

```
<tfoot>
```

```
  <tr><td>Sum</td><td>$180</td></tr>
```

```
</tfoot>
```

```
</table>
```

HTML Tags

Tables

`<tbody>` tag

- The `<tbody>` tag is used to group the body content in an HTML table.
- The `<tbody>` element is used in conjunction with the `<thead>` and `<tfoot>` elements to specify each part of a table (body, header, footer).
- Browsers can use these elements to enable scrolling of the table body independently of the header and footer. Also, when printing a large table that spans multiple pages, these elements can enable the table header and footer to be printed at the top and bottom of each page.
- The `<tbody>` element must have one or more `<tr>` tags inside.
- The `<tbody>` tag must be used in the following context: As a child of a `<table>` element, after any `<caption>`, `<colgroup>`, and `<thead>` elements.

HTML Tags

Tables

<tfoot> tag

- The <tfoot> tag is used to group footer content in an HTML table.
- The <tfoot> element is used in conjunction with the <thead> and <tbody> elements to specify each part of a table (footer, header, body).
- Browsers can use these elements to enable scrolling of the table body independently of the header and footer. Also, when printing a large table that spans multiple pages, these elements can enable the table header and footer to be printed at the top and bottom of each page.
- The <tfoot> element must have one or more <tr> tags inside.
- The <tfoot> tag must be used in the following context: As a child of a <table> element, after any <caption>, <colgroup>, <thead>, and <tbody> elements.

HTML Tags

Forms and Input

<form> tag

- The <form> tag is used to create an HTML form for user input.
- The <form> element can contain one or more of the following form elements:

<input> ,<textarea>, <button>, <select>, <option>,
<optgroup>, <fieldset>, <label>, <output>

HTML Tags

Forms and Input

<form> tag

```
<form action="/action_page.php" method="get">  
  <label for="fname">First name:</label>  
  <input type="text" id="fname"  
    name="fname"><br><br>  
  <label for="lname">Last name:</label>  
  <input type="text" id="lname"  
    name="lname"><br><br>  
  <input type="submit" value="Submit">  
</form>
```

HTML Tags

Forms

<input> tag

- The <input> tag specifies an input field where the user can enter data.
- The <input> element is the most important form element.
- The <input> element can be displayed in several ways, depending on the type attribute.
- The different input types are as follows:

`<input type="text">` (default value),

`<input type="button">`, `<input type="checkbox">`, `<input type="color">`,

`<input type="date">`, `<input type="datetime-local">`, `<input type="email">`,

`<input type="file">`, `<input type="hidden">`, `<input type="image">` ,

`<input type="month">`, `<input type="number">`, `<input type="password">`,

`<input type="radio">` , `<input type="range">`, `<input type="reset">` ,

`<input type="search">`, `<input type="submit">`, `<input type="tel">`,

`<input type="time">` , `<input type="url">`, `<input type="week">`

HTML Tags

Forms

<textarea> tag

- The <textarea> tag defines a multi-line text input control.
- The <textarea> element is often used in a form, to collect user inputs like comments or reviews.
- A text area can hold an unlimited number of characters, and the text renders in a fixed-width font (usually Courier).
- The size of a text area is specified by the cols and rows attributes (or with CSS).
- The name attribute is needed to reference the form data after the form is submitted (if you omit the name attribute, no data from the text area will be submitted).
- The id attribute is needed to associate the text area with a label.

```
<label for="w3review">Review of W3Schools:</label>
```

```
<textarea id="w3review" name="w3review" rows="4" cols="50">
```

```
At w3schools.com you will learn.
```

```
</textarea>
```

HTML Tags

Forms

<button> tag

- The <button> tag defines a clickable button.
- Inside a <button> element you can put text (and tags like <i>, , ,
, , etc.). That is not possible with a button created with the <input> element!
- Always specify the type attribute for a <button> element, to tell browsers what type of button it is.

```
<button type="button">Click Me!</button>
```

HTML Tags

Forms

<select> tag

- The <select> element is used to create a drop-down list.
- The <select> element is most often used in a form, to collect user input.
- The name attribute is needed to reference the form data after the form is submitted (if you omit the name attribute, no data from the drop-down list will be submitted).
- The id attribute is needed to associate the drop-down list with a label.
- The <option> tags inside the <select> element define the available options in the drop-down list.

```
<select name="cars" id="cars">  
  <option value="volvo">Volvo</option>  
  <option value="saab">Saab</option>  
</select>
```

HTML Tags

Forms

<optgroup> tag

- The <optgroup> tag is used to group related options in a <select> element (drop-down list).
- If you have a long list of options, groups of related options are easier to handle for a user.

```
<select name="cars" id="cars">
<optgroup label="Swedish Cars">
  <option value="volvo">Volvo</option><option value="saab">Saab</option>
</optgroup>
<optgroup label="German Cars">
<option value="mercedes">Mercedes</option><option
  value="audi">Audi</option>
</optgroup>
</select>
```


HTML Tags

Forms

<option> tag

- The <option> tag defines an option in a select list.
- <option> elements go inside a <select>, <optgroup>, or <datalist> element.
- The <option> tag can be used without any attributes, but you usually need the value attribute, which indicates what is sent to the server on form submission.
- If you have a long list of options, you can group related options within the <optgroup> tag.

HTML Tags

Forms

<label> tag

- The <label> tag defines a label for several elements:
<input type="text"> , <input type="button">, <input type="checkbox">,
<input type="color">, <input type="date">, <input type="datetime-local">,
<input type="email">, <input type="file">, <input type="month">,
<input type="number">, <input type="password">, <input type="radio"> ,
<input type="range">, <input type="search">, <input type="tel">,
<input type="time"> , <input type="url">, <input type="week">,
<meter>, <progress>, <select>, <textarea>
- Proper use of labels with the elements above will benefit:
 - Screen reader users (will read out loud the label, when the user is focused on the element)
 - Users who have difficulty clicking on very small regions (such as checkboxes) - because when a user clicks the text within the <label> element, it toggles the input (this increases the hit area).

HTML Tags

Forms

<label> tag

```
<form action="/action_page.php">
  <input type="radio" id="html" name="fav_language"
    value="HTML">
  <label for="html">HTML</label><br>
  <input type="radio" id="css" name="fav_language"
    value="CSS">
  <label for="css">CSS</label><br>
  <input type="radio" id="javascript" name="fav_language"
    value="JavaScript">
  <label for="javascript">JavaScript</label><br><br>
  <input type="submit" value="Submit">
</form>
```

HTML Tags

Forms

<fieldset> tag

- The <fieldset> tag is used to group related elements in a form.
- The <fieldset> tag draws a box around the related elements.
- The <legend> tag is used to define a caption for the <fieldset> element.

HTML Tags

Forms

<fieldset> tag

```
<form action="/action_page.php">
  <fieldset>
    <legend>Personal info:</legend>
    <label for="fname">First name:</label>
    <input type="text" id="fname" name="fname"><br><br>
    <label for="lname">Last name:</label>
    <input type="text" id="lname" name="lname"><br><br>
    <label for="email">Email:</label>
    <input type="email" id="email" name="email"><br><br>
    <label for="birthday">Birthday:</label>
    <input type="date" id="birthday" name="birthday"><br><br>
    <input type="submit" value="Submit">
  </fieldset>
</form>
```

HTML Tags

Forms

<fieldset> tag

- The <fieldset> tag is used to group related elements in a form.
- The <fieldset> tag draws a box around the related elements.
- The <legend> tag is used to define a caption for the <fieldset> element.