

HTML Tutorial

HTML Links - The target Attribute

By default, the linked page will be displayed in the current browser window. To change this, you must specify another target for the link.

The `target` attribute specifies where to open the linked document.

The `target` attribute can have one of the following values:

- `_self` - Default. Opens the document in the same window/tab as it was clicked
- `_blank` - Opens the document in a new window or tab
- `_parent` - Opens the document in the parent frame
- `_top` - Opens the document in the full body of the window

A Example

The target attribute specifies where to open the linked document:

```
<a href="https://www.google.com" target="_blank">Visit W3Schools</a>
```

Absolute URLs vs. Relative URLs

Both examples above are using an **absolute URL** (a full web address) in the `href` attribute.

A local link (a link to a page within the same website) is specified with a **relative URL** (without the "https://www" part):

Example

```
<h2>Absolute URLs</h2>
<p><a href="https://www.w3.org/">W3C</a></p>
<p><a href="https://www.google.com/">Google</a></p>

<h2>Relative URLs</h2>
<p><a href="html_images.asp">HTML Images</a></p>
<p><a href="/css/default.asp">CSS Tutorial</a></p>
```

Link to an Email Address

Use `mailto:` inside the `href` attribute to create a link that opens the user's email program (to let them send a new email):

Example

```
<a href="mailto:someone@example.com">Send email</a>
```

The lang Attribute

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.

The following example specifies English as the language:

```
<!DOCTYPE html>
<html lang="en">
<body>
...
</body>
</html>
```

Bigger Headings?

Each HTML heading has a default size. However, you can specify the size for any heading with the `style` attribute, using the CSS `font-size` property:

Example

```
<h1 style="font-size:60px;">Heading 1</h1>
```

The Poem Problem

This poem will display on a single line:

Example

```
<p>
  My Bonnie lies over the ocean.
  My Bonnie lies over the sea.
  My Bonnie lies over the ocean.
  Oh, bring back my Bonnie to me.
</p>
```

Solution - The HTML <pre> Element

The HTML `<pre>` element defines preformatted text.

The text inside a `<pre>` element is displayed in a fixed-width font (usually Courier), and it preserves both spaces and line breaks:

Example

```
<pre>
  My Bonnie lies over the ocean.
  My Bonnie lies over the sea.
  My Bonnie lies over the ocean.
  Oh, bring back my Bonnie to me.
</pre>
```

The HTML Style Attribute

Setting the style of an HTML element, can be done with the `style` attribute.

The HTML `style` attribute has the following syntax:

```
<tagname style="property:value;">
```

The **property** is a CSS property. The **value** is a CSS value.

Example

Set background color for two different elements:

```
<body>  
<h1 style="background-color:powderblue;">This is a heading</h1>  
<p style="background-color:tomato;">This is a paragraph.</p>  
</body>
```

Text Color

The CSS **color** property defines the text color for an HTML element:

Example

```
<h1 style="color:blue;">This is a heading</h1>  
<p style="color:red;">This is a paragraph.</p>
```

Fonts

The CSS **font-family** property defines the font to be used for an HTML element:

Example

```
<h1 style="font-family:verdana;">This is a heading</h1>  
<p style="font-family:courier;">This is a paragraph.</p>
```

Text Size

The CSS **font-size** property defines the text size for an HTML element:

Example

```
<h1 style="font-size:300%;">This is a heading</h1>  
<p style="font-size:160%;">This is a paragraph.</p>
```

Text Alignment

The CSS `text-align` property defines the horizontal text alignment for an HTML element:

Example

```
<h1 style="text-align:center;">Centered Heading</h1>
<p style="text-align:center;">Centered paragraph.</p>
```

Summary

- Use the `style` attribute for styling HTML elements
- Use `background-color` for background color
- Use `color` for text colors
- Use `font-family` for text fonts
- Use `font-size` for text sizes
- Use `text-align` for text alignment

HTML Text Formatting

HTML contains several elements for defining text with a special meaning.

Example

This text is bold

This text is italic

This is _{subscript} and ^{superscript}

HTML Formatting Elements

Formatting elements were designed to display special types of text:

- `<b>` - Bold text
- `<strong>` - Important text
- `<i>` - Italic text
- `<em>` - Emphasized text
- `<mark>` - Marked text

- `<small>` - Smaller text
- `<del>` - Deleted text
- `<ins>` - Inserted text
- `<sub>` - Subscript text
- `<sup>` - Superscript text

HTML `<b>` and `<strong>` Elements

The HTML `<b>` element defines bold text, without any extra importance.

Example

```
<b>This text is bold</b>
```

The HTML `<strong>` element defines text with strong importance. The content inside is typically displayed in bold.

Example

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

HTML `<i>`

The HTML `<i>` element defines a part of text in an alternate voice or mood. The content inside is typically displayed in italic.

Tip: The `<i>` tag is often used to indicate a technical term, a phrase from another language, a thought, a ship name, etc.

Example

```
<i>This text is italic</i>
```

HTML `<mark>` Element

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

Example

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

HTML Element

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

Example

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

HTML Text Formatting Elements

Tag	Description
<code></code>	Defines bold text
<code></code>	Defines emphasized text
<code><i></code>	Defines a part of text in an alternate voice or mood
<code><small></code>	Defines smaller text
<code></code>	Defines important text
<code><sub></code>	Defines subscripted text
<code><sup></code>	Defines superscripted text
<code><ins></code>	Defines inserted text
<code></code>	Defines deleted text
<code><mark></code>	Defines marked/highlighted text

HTML <address> for Contact Information

The HTML `<address>` tag defines the contact information for the author/owner of a document or an article.

The contact information can be an email address, URL, physical address, phone number, social media handle, etc.

The text in the `<address>` element usually renders in *italic*, and browsers will always add a line break before and after the `<address>` element.

Example

`<address>`

Written by John Doe.`<br>`

Visit us at:`<br>`

Example.com`<br>`

Box 564, Disneyland`<br>`

USA

`</address>`

Color Names

In HTML, a color can be specified by using a color name.

HTML supports [140 standard color names](#).

Color Values

In HTML, colors can also be specified using RGB values, HEX values, HSL values, RGBA values, and HSLA values.

RGB Color Values

In HTML, a color can be specified as an RGB value, using this formula:

`rgb(red, green, blue)`

Each parameter (red, green, and blue) defines the intensity of the color with a value between 0 and 255.

This means that there are $256 \times 256 \times 256 = 16777216$ possible colors!

For example, `rgb(255, 0, 0)` is displayed as red, because red is set to its highest value (255), and the other two (green and blue) are set to 0.

Another example, `rgb(0, 255, 0)` is displayed as green, because green is set to its highest value (255), and the other two (red and blue) are set to 0.

To display black, set all color parameters to 0, like this: `rgb(0, 0, 0)`.

To display white, set all color parameters to 255, like this: `rgb(255, 255, 255)`.

HTML HEX Colors

A hexadecimal color is specified with: `#RRGGBB`, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color.

HEX Color Values

In HTML, a color can be specified using a hexadecimal value in the form:

`#rrggbb`

Where rr (red), gg (green) and bb (blue) are hexadecimal values between 00 and ff (same as decimal 0-255).

For example, `#ff0000` is displayed as red, because red is set to its highest value (ff), and the other two (green and blue) are set to 00.

Another example, `#00ff00` is displayed as green, because green is set to its highest value (ff), and the other two (red and blue) are set to 00.

To display black, set all color parameters to 00, like this: `#000000`.

To display white, set all color parameters to ff, like this: `#ffffff`.

Images on Another Server/Website

Some web sites point to an image on another server.

To point to an image on another server, you must specify an absolute (full) URL in the `src` attribute:

Example

```

```

Image as a Link

To use an image as a link, put the `<img>` tag inside the `<a>` tag:

Example

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

HTML Tables

HTML tables allow web developers to arrange data into rows and columns.

Define an HTML Table

A table in HTML consists of table cells inside rows and columns.

Example

A simple HTML table:

```
<table>  
  <tr>  
    <th>Company</th>  
    <th>Contact</th>
```

```
    <th>Country</th>
</tr>
<tr>
    <td>Alfreds Futterkiste</td>
    <td>Maria Anders</td>
    <td>Germany</td>
</tr>
<tr>
    <td>Centro comercial Moctezuma</td>
    <td>Francisco Chang</td>
    <td>Mexico</td>
</tr>
</table>
```

Table Cells

Each table cell is defined by a `<td>` and a `</td>` tag.

`td` stands for table data.

Everything between `<td>` and `</td>` are the content of the table cell.

Example

```
<table>
  <tr>
    <td>Emil</td>
    <td>Tobias</td>
    <td>Linus</td>
  </tr>
</table>
```

Note: A table cell can contain all sorts of HTML elements: text, images, lists, links, other tables, etc.

Table Rows

Each table row starts with a `<tr>` and ends with a `</tr>` tag.

`tr` stands for table row.

Example

```
<table>
  <tr>
    <td>Emil</td>
    <td>Tobias</td>
    <td>Linus</td>
  </tr>
  <tr>
    <td>16</td>
    <td>14</td>
    <td>10</td>
  </tr>
</table>
```

You can have as many rows as you like in a table; just make sure that the number of cells are the same in each row.

Table Headers

Sometimes you want your cells to be table header cells. In those cases use the `<th>` tag instead of the `<td>` tag:

`th` stands for table header.

Example

Let the first row be table header cells:

```
<table>
  <tr>
    <th>Person 1</th>
    <th>Person 2</th>
    <th>Person 3</th>
  </tr>
  <tr>
    <td>Emil</td>
    <td>Tobias</td>
    <td>Linus</td>
  </tr>
  <tr>
    <td>16</td>
    <td>14</td>
    <td>10</td>
  </tr>
</table>
```

By default, the text in `<th>` elements are bold and centered, but you can change that with CSS.

HTML Lists

HTML lists allow web developers to group a set of related items in list

Example

An unordered HTML list:

- Item
- Item
- Item
- Item

An ordered HTML list:

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

Unordered HTML List

An unordered list starts with the `<ul>` tag. Each list item starts with the `<li>` 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>
```

Ordered HTML List

An ordered list starts with the `<ol>` tag. Each list item starts with the `<li>` tag.

The list items will be marked with numbers by default:

Example

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

HTML List Tags

Tag	Description
<code></code>	Defines an unordered list
<code></code>	Defines an ordered list
<code></code>	Defines a list item
<code><dl></code>	Defines a description list
<code><dt></code>	Defines a term in a description list
<code><dd></code>	Describes the term in a description list

HTML File Paths

A file path describes the location of a file in a web site's folder structure.

File Path Examples

Path	Description
<code></code>	The "picture.jpg" file is located in the same folder as the current page
<code></code>	The "picture.jpg" file is located in the images folder in the current folder
<code></code>	The "picture.jpg" file is located in the images folder at the root of the current web
<code></code>	The "picture.jpg" file is located in the folder one level up from the current folder

HTML File Paths

A file path describes the location of a file in a web site's folder structure.

File paths are used when linking to external files, like:

- Web pages
- Images
- Style sheets
- JavaScripts

FORMS

The required Attribute

The input **required** attribute specifies that an input field must be filled out before submitting the form.

The **required** attribute works with the following input types: text, search, url, tel, email, password, date pickers, number, checkbox, radio, and file.

Example

A required input field:

```
<form>
  <label>Username:</label>
  <input type="text" id="username" name="username" required>
</form>
```

The maxlength Attribute

The input **maxlength** attribute specifies the maximum number of characters allowed in an input field.

Note: When a **maxlength** is set, the input field will not accept more than the specified number of characters. However, this attribute does not provide any feedback. So, if you want to alert the user, you must write JavaScript code.

Example

Set a maximum length for an input field:

```
<form>
  <label>First name:</label><br>
  <input type="text" id="fname" name="fname" size="50"><br>
  <label>PIN:</label><br>
  <input type="text" id="pin" name="pin" maxlength="4" size="4">
</form>
```

Input Type File

The `<input type="file">` defines a file-select field and a "Browse" button for file uploads.

Example

```
<form>
  <label>Select a file:</label>
  <input type="file" id="myfile" name="myfile">
</form>
```

Input Type Email

The `<input type="email">` is used for input fields that should contain an e-mail address.

Depending on browser support, the e-mail address can be automatically validated when submitted.

Some smartphones recognize the email type, and add ".com" to the keyboard to match email input.

Example

```
<form>
  <label>Enter your email:</label>
  <input type="email" id="email" name="email">
</form>
```

Input Type Date

The `<input type="date">` is used for input fields that should contain a date.

Depending on browser support, a date picker can show up in the input field.

Example

```
<form>
  <label for="birthday">Birthday:</label>
  <input type="date" id="birthday" name="birthday">
</form>
```

Input Type Reset

`<input type="reset">` defines a **reset button** that will reset all form values to their default values:

Example

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

HTML Input Types

Here are the different input types you can use in HTML:

- `<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="text">`
- `<input type="time">`
- `<input type="url">`
- `<input type="week">`

Tip: The default value of the `type` attribute is "text".