**HTML Elements**

An HTML element usually consists of a **start** tag and **end** tag, with the content inserted in between:

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

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

<p>My first paragraph.</p>

|  |  |  |
| --- | --- | --- |
| **Start tag** | **Element content** | **End tag** |
| <h1> | My First Heading | </h1> |
| <p> | My first paragraph. | </p> |
| <br> |  |  |

## HTML Line Breaks

The HTML **<br>** element defines a **line break**.

Use <br> if you want a line break (a new line) without starting a new paragraph:

### Example

<p>This is<br>a paragraph<br>with line breaks.</p>

**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;*">

## HTML Background Color

The **background-color** property defines the background color for an HTML element.

This example sets the background color for a page to powderblue:

### Example

<body style="background-color:powderblue;">

## HTML Text Color

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

### Example

<h1 style="color:blue;">This is a heading</h1>

## HTML Fonts

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

### Example

<h1 style="font-family:verdana;">This is a heading</h1>

## HTML Text Alignment

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

### Example

<h1 style="text-align:center;">Centered Heading</h1>

**HTML Formatting Elements**

In the previous chapter, you learned about the HTML **style attribute**.

HTML also defines special **elements** for defining text with a special **meaning**.

HTML uses elements like <b> and <i> for formatting output, like **bold** or *italic* text.

Formatting elements were designed to display special types of text:

* <b> - Bold text
* <strong> - Important text
* <i> - Italic text
* <mark> - Marked text
* <small> - Small text
* <del> - Deleted text
* <sub> - Subscript text
* <sup> - Superscript text
* The HTML **<del>** element defines (removed) text.

### Example

* <p>My favorite color is <del>blue</del> red.</p>
* **HTML Comment Tags**
* You can add comments to your HTML source by using the following syntax:
* <!-- Write your comments here -->

## Styling HTML with CSS

**CSS** stands for **C**ascading **S**tyle **S**heets

* **Inline** - by using the style attribute in HTML elements
* **Internal** - by using a <style> element in the <head> section
* **External** - by using an external CSS file

## Inline CSS

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the style attribute of an HTML element.

This example sets the text color of the <h1> element to blue:

### Example

<h1 style="color:blue;">This is a Blue Heading</h1>

## Internal CSS

An internal CSS is used to define a style for a single HTML page.

An internal CSS is defined in the <head> section of an HTML page, within a <style> element:

### Example

<!DOCTYPE html>  
<html>  
<head>  
<style>  
body {background-color: powderblue;}  
h1   {color: blue;}  
p    {color: red;}  
</style>

## External CSS

An external style sheet is used to define the style for many HTML pages.

**With an external style sheet, you can change the look of an entire web site, by changing one file!**

To use an external style sheet, add a link to it in the <head> section of the HTML page:

### Example

<!DOCTYPE html>  
<html>  
<head>  
  <link rel="stylesheet" href="styles.css">  
</head>

## CSS Border

The CSS **border** property defines a border around an HTML element:

### Example

p {  
    border: 1px solid powderblue;  
}

## CSS Padding

The CSS **padding** property defines a padding (space) between the text and the border:

### Example

p {  
    border: 1px solid powderblue;  
    padding: 30px;  
}

## CSS Margin

The CSS **margin** property defines a margin (space) outside the border:

### Example

p {  
    border: 1px solid powderblue;  
    margin: 50px;  
}

## HTML Links - Hyperlinks

## HTML Links - Syntax

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

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

### Example

<a href="https://www.w3schools.com/html/">Visit our HTML tutorial</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

You can change the default colors, by using styles:

### Example

<style>  
a:link    {color:green; background-color:transparent; text-decoration:none}  
a:visited {color:pink; background-color:transparent; text-decoration:none}  
a:hover   {color:red; background-color:transparent; text-decoration:underline}  
a:active  {color:yellow; background-color:transparent; text-decoration:underline}  
</style>

**HTML Links - The target Attribute**

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

The target attribute can have one of the following values:

* \_blank - Opens the linked document in a new window or tab
* \_self - Opens the linked document in the same window/tab as it was clicked (this is default)

### Example

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

## HTML Links - Image as Link

It is common to use images as links:

### Example

## <img src="smiley.gif" alt="HTML tutorial" style="width:42px;height:42px;border:0;"> HTML Images Syntax

In HTML, images are defined with the **<img>** tag.

The <img> 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:

<img src="*url*" alt="*some\_text*" style="width:*width*;height:*height*;">

## Images in Another Folder

If not specified, the browser expects to find the image in the same folder as the web page.

However, it is common to store images in a sub-folder. You must then include the folder name in the src attribute:

### Example

<img src="/images/html5.gif" alt="HTML5 Icon" style="width:128px;height:128px;">

## Defining an HTML Table

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.

### Example

<table style="width:100%">  
  <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>

# HTML Lists

## 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>

## Unordered HTML List - Choose List Item Marker

The CSS **list-style-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 |
| none | The list items will not be marked |

### Example - Disc

<ul style="list-style-type:disc">  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>

**Ordered HTML List - The Type Attribute**

The **type** attribute of the <ol> tag, defines the type of the list item marker:

|  |  |
| --- | --- |
| **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 |

**Iframe Syntax**

An HTML iframe is defined with the **<iframe>** tag:

<iframe src="*URL*"></iframe>

# HTML File Paths

|  |  |
| --- | --- |
| **Path** | **Description** |
| <img src="picture.jpg"> | picture.jpg is located in the same folder as the current page |
| <img src="images/picture.jpg"> | picture.jpg is located in the images folder located in the current folder |
| <img src="/images/picture.jpg"> | picture.jpg is located in the images folder located at the root of the current web |
| <img src="../picture.jpg"> | picture.jpg is located in the folder one level up from the current folder |

**The <form> Element**

The HTML **<form>** element defines a form that is used to collect user input:

<form>  
.  
*form elements*  
.  
</form>

**The <input> Element**

The **<input>** element is the most important form element.

The <input> element can be displayed in several ways, depending on the **type** attribute.

Here are some examples:

|  |  |
| --- | --- |
| **Type** | **Description** |
| <input type="text"> | Defines a one-line text input field |
| <input type="radio"> | Defines a radio button (for selecting one of many choices) |
| <input type="submit"> | Defines a submit button (for submitting the form) |

## Text Input

**<input type="text">** defines a one-line input field for **text input**:

### Example

<form>  
  First name:<br>  
  <input type="text" name="firstname"><br>  
  Last name:<br>  
  <input type="text" name="lastname">  
</form>

## The <select> Element

The **<select>** element defines a **drop-down list**:

### Example

<select name="cars">  
  <option value="volvo">Volvo</option>  
  <option value="saab">Saab</option>  
  <option value="fiat">Fiat</option>  
  <option value="audi">Audi</option>  
</select>

## The <textarea> Element

The **<textarea>** element defines a multi-line input field (**a text area**):

### Example

<textarea name="message" rows="10" cols="30">  
The cat was playing in the garden.  
</textarea>

## The <button> Element

The **<button>** element defines a clickable **button**:

### Example

<button type="button" onclick="alert('Hello World!')">Click Me!</button>

## Input Type Submit

**<input type="submit">** defines a button for **submitting** form data to a **form-handler**.

The form-handler is typically a server page with a script for processing input data.

The form-handler is specified in the form's **action** attribute:

### Example

<form action="/action\_page.php">  
  First name:<br>  
  <input type="text" name="firstname" value="Mickey"><br>  
  Last name:<br>  
  <input type="text" name="lastname" value="Mouse"><br><br>  
  <input type="submit" value="Submit">  
</form>

## Input Type Radio

**<input type="radio">** defines a **radio button**.

### Example

<form>  
  <input type="radio" name="gender" value="male" checked> Male<br>  
  <input type="radio" name="gender" value="female"> Female<br>  
  <input type="radio" name="gender" value="other"> Other  
</form>

## Input Type Checkbox

**<input type="checkbox">** defines a **checkbox**.

Checkboxes let a user select ZERO or MORE options of a limited number of choices.

### Example

<form>  
  <input type="checkbox" name="vehicle1" value="Bike"> I have a bike<br>  
  <input type="checkbox" name="vehicle2" value="Car"> I have a car   
</form>

## The maxlength Attribute

The **maxlength** attribute specifies the maximum allowed length for the input field:

### Example

<form action="">  
First name:<br>  
<input type="text" name="firstname" maxlength="10">  
</form>

## The formtarget Attribute

The **formtarget** attribute specifies a name or a keyword that indicates where to display the response that is received after submitting the form.

The formtarget attribute overrides the target attribute of the <form> element.

The formtarget attribute can be used with type="submit" and type="image".



### Example

A form with two submit buttons, with different target windows:

<form action="/action\_page.php">  
  First name: <input type="text" name="fname"><br>  
  Last name: <input type="text" name="lname"><br>

**HTML tags vs. elements vs. attributes**

When talking (or writing) about HTML, it is common for many people to refer to just about **everything** as "tags" instead of using the proper terms: "tag", "element", and "attribute". A lot of the time what the author really means can be figured out by looking at the context, but sometimes it can be confusing.

Using the correct terminology is not very difficult. It will also make it easier for others to correctly interpret what you mean, not to mention lend more credibility to what you have to say. This is pretty basic knowledge, but in case you need to refresh your memory I've written a quick explanation of tags, elements, and attributes in HTML.

## HTML elements

An element in HTML represents some kind of structure or semantics and generally consists of a start tag, content, and an end tag. The following is a paragraph element:

<p>

This is the content of the paragraph element.

</p>

## HTML tags

Tags are used to mark up the start and end of an HTML element.

A start tag consists of an opening [angle bracket](http://www.answers.com/angle+bracket) (<) followed by the element name, zero or more space separated attribute/value pairs, and a closing angle bracket (>).

A start tag with no attributes:

<p>

A start tag with an attribute:

<p class="info">

End tags consist of an opening angle bracket followed by a forward slash, the element name, and a closing angle bracket:

</p>

There are also some elements that are empty, meaning that they only consist of a single tag and do not have any content. In HTML, such tags look just like opening tags:

<br>

The syntax is slightly different in XHTML. Empty elements must either have an end tag or the start tag must end with />. In order to ensure backward compatibility with HTML the most common way of writing empty elements in XHTML is to use minimised tag syntax with a space before the trailing />:

<br />

## HTML attributes

An attribute defines a property for an element, consists of an attribute/value pair, and appears within the element's start tag. An element's start tag may contain any number of space separated attribute/value pairs.

The most popular misuse of the term "tag" is referring to alt attributes as "alt tags". There is no such thing in HTML. **Alt is an attribute, not a tag.**

<img src="foobar.gif" alt="A foo can be balanced on a bar by placing its fubar on the bar's foobar.">

## Document sections

Another related term is "section". An HTML document is divided into a "head" section (the contents of the head element) and a "body" section (the contents of the body element).

## Not nitpicking

You may call this nitpicking, but I don't think it is. Sure, most of the time people will understand what you mean even if you call everything a "tag". But by using the correct terminology you reduce the risk of being misunderstood, and you will sound more professional, so you really have nothing to lose by learning the difference.