



**HTML introduction** by [Marc Oscar Schwager](#)

## **Background of this document + what it is**

I put this information together in order to have a supplement to the school program in computer science for my son.

**This course is a guideline for teachers.**

The HTML introduction gives you an idea how to create HTML pages on a base of examples and a minimum of theoretical background.

## **Prerequisites**

- You have to know the basic concepts mentioned in the [Computer Crash Course](#).
- The [Build a Website easily](#) document explains you which steps you can take to create a Website. This is the umbrella document for this course.

## **Computer Crash Course (CCC)**

The Computer Crash Course contains a guideline for teachers in basic computer knowledge. It can also be used as an introduction for beginners. You have to follow the mentioned links and read additional information concerning the keywords in the CCC document, otherwise you won't understand this course.

## **Build a Website easily**

The "Build a Website easily" document explains you which steps you can take to create a Website. This is an umbrella document for the following courses : HTML introduction, CSS introduction and SEO introduction.

## **Further reading**

### **CSS introduction**

The document [CSS introduction](#) completes the HTML introduction document. The CSS introduction course gives you an idea how to use CSS to design the look (style) of your web pages (HTML documents).

### **SEO introduction**

The [SEO introduction](#) document describes how to write web pages search engine friendly with the goal that your web pages will be indexed and have a high ranking in search engines.

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## Abstract

HTML is a page description language, not a programming language! HTML is the acronym for Hyper Text Markup Language. A markup language is a set of markup tags. HTML uses markup tags to describe web pages. HTML documents contain HTML tags and plain text.

HTML is used to build the structure of web pages, whereas CSS does the formatting (style). With HTML and CSS you can build nice static web pages. If you want to create dynamic web pages, you have to use PHP or other programming languages.

The web browser (like Internet Explorer, Firefox, Chrome or others) can read HTML documents and display them as web pages. The browser does not display the HTML tags, but it interprets the tags in order to display the (structured) content of the web page.

## Tags

HTML tags are keywords surrounded by angle brackets like `<html>`.

HTML tags normally come in pairs like `<b>` and `</b>`.

The first tag in a pair is the start tag, the second tag is the end tag.

## Elements

An HTML element is everything between and including the tags;

example : `<p>this is a paragraph</p>`

## HTML document - web page relations

HTML documents describe web pages. HTML documents are also called web pages.

## HTML document - creation

There are (at least) two ways to create an HTML document. You can use a simple text editor to create a HTML document, or you can use a WYSIWYG editor.

## HTML document - file format

The HTML document has to be (ASCII) text only! The file name of an HTML document must end with ".htm" or ".html" (without the quotes). Example : myWebPage.html

## WYSIWYG

WYSIWYG is the acronym of **What You See Is What You Get**.

WYSIWYG editors are also called Web authoring software. These editors attempt to display the Web page as it will show on the browser. They are visual editors and you don't manipulate the code directly.

If you choose for example to put a table on your Web page, you define only the number of rows and columns and the table style. The tool will then generate the table code for you.

Using a WYSIWYG editor does not require any HTML knowledge, these editors are easier for an average computer user to get started with.

## Web page basic structure

```
<!DOCTYPE html>

<html>

  <head>
    <meta charset="UTF-8" />
    <title>title of your web page</title>
  </head>

  <body>

    </body>

</html>
```

### Explanations

The !DOCTYPE declaration identifies the content of the web page as conforming to a particular HTML, DTD specification.

The text between `<html>` and `</html>` describes the web page

The text between `<head>` and `</head>` contains basically

- the meta tag(s)  
these are tags in the Hypertext Markup Language (HTML), they describe some aspects of the content of a web page

the `<meta charset="UTF-8" />`  
is mandatory in HTML5, it specifies the character encoding for the web page

- the title tag  
will be displayed in the browsers title bar

Between `<body>` and `</body>` will be your visible page content

## Comments, headings, paragraphs

`<!-- this is a comment line, which is not displayed -->`

`<h1>This is a heading</h1>`

`<h2>This is also a heading</h2>`

`<h3>This is another heading</h3>`

`<p> this is a paragraph, if you want a line break use <br /> this text is now on the new line </p>`

## Text formatting

Text formatting by HTML tags is deprecated, use only CSS for styling!

`<p><em>this is emphasized text</em><br />`

`<strong>this is strong text</strong></p>`

`<u>this text is underlined</u>`

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

## The sub and sup tags

Subscript text can be used for chemical formulas, like H<sub>2</sub>O.

`<p>The following text is <sub>subscript</sub> text.</p>`

Superscript text can be used for footnotes, like WWW<sup>[1]</sup>.

`<p>The following text is <sup>superscript</sup> text.</p>`

## Images

`<p></p>`

It's recommended to define `width` and `height` with CSS. Avoid styling with HTML !

## Tables

### Basic table

```
<table>
<tr>
  <th>header a</th>
  <th>&nbsp;</th> <!-- this is only a placeholder for visual purposes -->
  <th>header b</th>
</tr>
<tr>
  <td>content a-1</td>
  <td>&nbsp;</td> <!-- this is only a placeholder for visual purposes -->
  <td>content b-1</td>
</tr>
<tr>
  <td>content a-2</td>
  <td>&nbsp;</td> <!-- this is only a placeholder for visual purposes -->
  <td>content b-2</td>
</tr>
</table>
```



## Sophisticated table

```
<table>
  <caption>This table contains....</caption>
  <thead> <!-- header -->
    <tr>
      <th>Name</th>
      <th>Age</th>
      <th>Country</th>
    </tr>
  </thead>

  <tfoot> <!-- footer -->
    <tr>
      <th>Name</th>
      <th>Age</th>
      <th>Country</th>
    </tr>
  </tfoot>

  <tbody> <!-- data -->
    <tr>
      <td>Peter</td>
      <td>33</td>
      <td>Spain</td>
    </tr>
    <tr>
      <td>Rolf</td>
      <td>22</td>
      <td>Switzerland</td>
    </tr>
    <tr>
      <td>Jamie</td>
      <td>55</td>
      <td>USA</td>
    </tr>
  </tbody>
</table>
```

## Lists

### Unordered list

```
<ul>  
  <li>item 1</li>  
  <li>item 2</li>  
</ul>
```

### Ordered list

```
<ol>  
  <li>first item</li>  
  <li>second item</li>  
</ol>
```

### Definition list

```
<dl>  
  <dt>first term</dt>  
  <dd>definition</dd>  
  <dt>next term</dt>  
  <dd>definition</dd>  
</dl>
```

## Links

### http links

```
<p><a href="http://www.phoenix-it-mos.com/">link to Phoenix IT MOS</a></p>
```

### Links to other pages

```
<p><a href="page1.htm">This is a link to page 1</a></p>
```

### Links inside pages

```
<p><a href="#abcde">links to the other position on this page</a></p>
```

```
<br /><br /><br /><br /><br /><br /><br /><br /><br /><br />
<br /><br /><br /><br /><br /><br /><br /><br /><br /><br />
<br /><br /><br /><br /><br /><br /><br /><br /><br /><br />
<br /><br /><br /><br /><br /><br /><br /><br /><br /><br />
```

```
<p><a name="abcde">This is the link destination</a></p>
```

This code is a an example for **bad style**, don't use the `<br />` shown above for your real pages !!!!

### Links to a specific point inside another page

Main page code :

```
<p><a href="page1.html#abcd">This is a link to page 1 : anchor 1</a></p>
```

page1.html code :

```
<a name="abcd">This is anchor 1</a>
```

## Forms

Users can fill out a form and then submit the form content to an agent for processing. Agents can be web-servers or mail-servers.

### Simple form

```
<form title="testform" method="post" action="mailto:yourmail@test.com">

<label for="test">type in your comment :</label><br />
<textarea name="firstbox" id="test" rows="10" cols="50">
this text can be replaced by yours</textarea><br />

<input type = "reset" value = "Reset your form" />
<input type = "submit" value = "Submit your form" />

</form>
```

### Additional form elements

#### Password box

```
<label for="pass">type in your password please :</label>
<input type="password" name="pass" id="pass" />
```

#### Check boxes

```
<input type="checkbox" name="Ubuntu" id="test1" />
<label for="test1">Ubuntu</label>
```

#### Radio buttons

```
<input type="radio" name="os" value="linux" id="linux" />
<label for="linux">Linux</label><br />
<input type="radio" name="os" value="minix" id="minix" />
<label for="minix">Minix</label><br />
```

#### Drop down menu

```
<label for="test2">choose :</label><br />
<select name="anyname" id="test2">
  <option value="first">first choice</option>
  <option value="second">second choice</option>
  <option value="third">third choice</option>
</select>
```

## Multimedia

With HTML 5 you can easily integrate audio and video in your HTML page. The code below comes from [w3schools](#) .

### Audio

```
<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>
```

### Video

```
<video width="400" controls>
  <source src="mov_bbb.mp4" type="video/mp4">
  <source src="mov_bbb.ogv" type="video/ogg">
  Your browser does not support HTML5 video.
</video>
```

```
<p>
Video courtesy of
<a href="http://www.bigbuckbunny.org/" target="_blank">Big Buck Bunny</a>.
</p>
```

## HTML entities

Character entities are used to display reserved characters in HTML.

### Non breaking space `&nbsp;`;

Web browsers will always truncate spaces in HTML pages. If you write 8 spaces in your text, the browser will remove 7 of them. To add spaces to your text, you can use the `&nbsp;` character entity.

### Ampersand `&`;

HTML5 allows you to leave the `&` unescaped, for browser compatibility it's easier to `escape` all instances of this symbol.

**unescaped**     `<a href="index.php?page=w_news&id=5">World news</a>`

**escaped**        `<p><a href="index.php?page=w_news&amp;id=5">World news</a></p>`

## Styles

You have two possibilities to style/format your HTML documents (web pages)

### The old way (depreciated)

You define the style inside the HTML document. You can use for example `bgcolor` (background color) or `font` or "`<b>`" (bold) and so on. If you want for example to uniform all fonts on your entire website, you have to edit all concerned HTML documents.

### The new way

HTML 4.0 and higher allows that all style/formatting can be removed from the HTML document and stored in a style sheet.

With an external style sheet, you can change the look of an entire website by changing elements in one file.

To learn more about style sheets, read my course "CSS introduction".