# HTML5

## Choose and configure HTML5 tags to display text content

HTML is the language used to provide structure to web pages. Example of a HTML file:

<!DOCTYPE html>

<html lang=”en”>

<head>

<meta charset=”utf-8” />

<title> Basic HTML </title>

</head>

<body>

<h1> DCI Resources </h1>

<p> Learning HTML5, CSS and JavaScript </p>

</body>

</html>

Browsers “read” HTML files and then produce web pages based on the tags that are used.

HTML4 was the standard before. But, a strong demand for rich web experience, including video, audio etc led to the development of new HTML standard.

HTML5 is platform independent which means it will work on a variety of different browsers and render the content in a very similar manner.

**What’s new in HTML5?**

|  |  |
| --- | --- |
| Audio and video tags | Embed video on web pages using the <audio> and <video> tags |
| Canvas | Create space for JavaScript to draw graphics on a web page |
| Media queries | A feature in CSS3 that detects screen size and adjusts output to fit |
| New application programming interfaces | Provide access to many digital resources that can be incorporated into the code of web applications |
| Geo Locations | Use JavaScript to detect geographic location of a device |

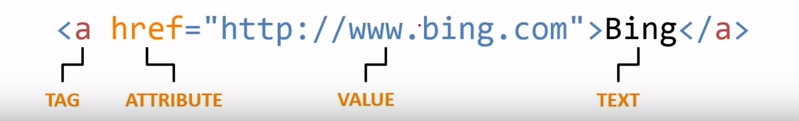
**HTML Basics**

A tag is a keyword surrounded by angle brackets

Common HTML tags are <html>,<head>,<title>,<body>,<p>,<a>,<h1>,<img>

Tags may be used in combination with attributes to describe how data should be rendered on a web page

Example:



**Nesting elements**

Creating web pages require you to combine elements, their attributes and engaging content

Nesting is the process of placing one element inside another

Example: <p> I am <em> HTML </em> </p>

**Special Characters in HTML**

A special character, such as a percent sign or a copyright symbol, is known as entity in HTML

Including entity in a web page require character encoding or the special characters will not render - Users will see garbled text instead

Each special character can be reproduced using its entity name or a numerical code

|  |  |  |  |
| --- | --- | --- | --- |
| **Char** | **Description** | **Entity name** | **Code** |
| © | Copyright | &copy; | &#169; |
| $ | Dollar Sign | &dollar; | &#36; |
| % | Percent Sign | &percnt; | &#37; |
| & | Ampersand | &amp; | &#38; |

**The DOCTYPE**

A Doctype declaration is used to help a Web Browser determine which rules it should use for rendering a web page

For HTML5 Doctype declaration is < ! DOCTYPE html>

**Text elements:**

|  |  |
| --- | --- |
| **ELEMENT** | **FUNCTIONALITY** |
| <b> | Defines bold text |
| <em> | Defines emphasized text |
| <i> | Defines italicized text |
| <small> | Defines smaller text |
| <strong> | Defines important text |
| <sub> | Defines subscript text |
| <sup> | Defines superscript text |

**Difference between <b>,<strong> and <i>,<em>:**

They have the same effect on normal web browser rendering engines, but there is a fundamental difference between them.

<b>and <i> are explicit - are styling to the document - they specify bold and italic respectively.

<strong> and <em> are semantic meaning to your document.

"Bold" is a style - when you say *"bold a word"*, people basically know that it means to add more, let's say "ink", around the letters until they stand out more amongst the rest of the letters.

**<strong>** however **is an indication of how something should be understood**. "Strong" could (and often does) mean "bold" in a browser, but it could also mean a higher tone for a speaking program like Jaws (for blind people) or be represented by an underline (since you can't bold a bold) on a Palm Pilot.

Strong and em also allow actual styling to be controlled via CSS.

**Deprecated elements**

Some elements are no longer used in HTML5. They are called deprecated elements. They may still render in older browsers, but best practice suggests you should not use them if developing for newer browsers.

Some of the deprecated elements are:

|  |  |
| --- | --- |
| **Deprecated Element** | **New Element** |
| <acronym> | <abbr> |
| <applet> | <object> |
| <basefont> | Use CSS instead |
| <big> | Use CSS instead |
| <center> | Use CSS instead |
| <dir> | <ul> |
| <font> | Use CSS instead |
| <strike> | <del> or use CSS instead |

**Displaying Graphics:**

Images: There are two categories:

1. Raster images - made up of tiny little things called pixels of different colors
2. Vector images - are made of lines and curves

Vector images don’t distort when they are increased in size while raster images do.

How to embed image in our web page - using the <img> tag

NOTE: A closing tag is not needed for an image element

The img tag requires the use of the src and alt attributes

* src stands for source
* alt stands for alternative

src defines the pathway (link) for the image file, while the value of the alt attribute makes text accessible when the image is not rendered or for people with disabilities

<img src=”something.jpg” alt=”This is my picture for my portfolio website” title=”portrait”/>

|  |  |  |
| --- | --- | --- |
| **Attribute** | **Value** | **Description** |
| src | URL | Specifies the location of an image |
| alt | Text | Specifies alternative text for an image, which also displays when a user hovers their mouse pointer over it |
| height | pixels | Specifies the height of an image |
| width | pixels | Specifies the width of an image |
| ismap | ismap | Specifies an image as a server-side image map |
| usemap | #mapname | Specifies an image as a client-side image map |

Source: w3schools:

## Definition and Usage of ismap and usemap

<a href="/action\_page.php">

<img src="w3html.gif" alt="W3Schools.com" ismap>

</a>

The ismap attribute is a boolean attribute.

When present, it specifies that the image is part of a server-side image-map (an image-map is an image with clickable areas).

When clicking on a server-side image-map, the click coordinates are sent to the server as a URL query string.

**Note:** The ismap attribute is allowed only if the <img> element is a descendant of an <a> element with a valid href attribute.

<img src="planets.gif" width="145" height="126" alt="Planets" usemap="#planetmap">

<map name="planetmap">

 <area shape="rect" coords="0,0,82,126" href="sun.htm" alt="Sun">

 <area shape="circle" coords="90,58,3" href="mercur.htm" alt="Mercury">

 <area shape="circle" coords="124,58,8" href="venus.htm" alt="Venus">

</map>

The usemap attribute specifies an image as a client-side image-map (an image-map is an image with clickable areas).

The usemap attribute is associated with a [<map>](https://www.w3schools.com/tags/tag_map.asp) element's name attribute, and creates a relationship between the <img> and the <map>.

**Note:** The usemap attribute cannot be used if the <img> element is a descendant of an <a> or <button> element.

Other elements used with img are figure and figcaption, to organize images and provide captions

The figure element specifies the type of figure that is being added, and can also be used to group images side by side

The figcaption element can be used to add captions before or after images.