

HTML5

INTRODUCTION

What is
HTML 5?

HTML 5 is the **latest version of the HTML markup language**. It includes all valid elements from HTML 4 and XHTML 1.0.

Simpler markup

Simpler doctype, simpler character encoding, simplified `<link>` and `<script>` elements and more.

More flexible elements

Flexible <dl>, <a>, heading levels
and more.

Rich, semantic markup

New structural elements such as `<header>`, `<section>`, `<article>` and more.

Native functionality

Drag and drop, open and shut,
form validation and more.

Advanced functionality

Geo-location, local storage and more.

There are two groups working on **slightly different versions of the HTML 5 specification** - The World Wide Web Consortium (W3C) and Web Hypertext Application Technology Working Group (WHATWG).

W3C HTML 5.1 specification

<http://www.w3.org/html/wg/drafts/html/master/>

WhatWG HTML 5 specification

<http://www.whatwg.org/specs/web-apps/current-work/multipage/>

Simpler markup

The following changes make it **easier for us to write HTML documents**, as well as making our markup cleaner.

Doctype

With HTML5, we can use a **much simpler doctype** than before.

```
<!-- HTML 4.01 -->
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01  
Transitional//EN">
```

```
<!-- XHTML 1.0 -->
```

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0  
Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/  
xhtml1-strict.dtd">
```

```
<!-- HTML 5 -->
```

```
<!DOCTYPE html>
```

Character encoding

With HTML5, we can use a **much simpler character encoding** than before.

```
<!-- HTML 4.01 -->
```

```
<meta http-equiv="content-type"  
content="text/html; charset=utf-8">
```

```
<!-- XHTML 1.0 -->
```

```
<meta http-equiv="content-type"  
content="text/html; charset=utf-8" />
```

```
<!-- HTML 5 -->
```

```
<meta charset="utf-8">
```

Note: Character encoding should be placed within the first 512 characters of your document - before any content-based elements (like the <title> element).

The type *attribute*

The “type” attribute is **no longer required** for CSS or JavaScript links.

```
<link rel="stylesheet" href="a.css"  
type="text/css">
```

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

```
<style type="text/css"></style>
```

```
<style></style>
```

```
<script src="a.js" type="text/javascript">  
</script>
```

```
<script src="a.js">  
</script>
```

Void elements

The trailing slash is **no longer required** for empty or void elements.

<hr />

<hr>

<input />

<input>

<link />

<link>

<meta />

<meta>

Note: The decision to use or not use slashes is up to you, or your team. It really does not matter which unless you are going to be using XML in some form. The key is to be consistent!

Attribute minimisation

With HTML5, boolean attributes
can now be **mimimised**.

checked="checked"
compact="compact"
declare="declare"
disabled="disabled"
multiple="multiple"
selected="selected"

checked
compact
declare
disabled
multiple
selected

Exercise 1:

simplify a document

Simpler doctype

Simpler character encoding

Remove type (CSS and JS)

Remove trailing slashes

Remove boolean values

Changes to
existing
elements

The following changes **clarify the purpose** of some elements, as well as changing how we use others.

The `<a>` element

The <a> element can **now wrap around block-level elements** as long as there is no interactive content inside.

```
<!-- HTML markup -->  
<a href="/about/">  
    <div class="section">  
        <h1>Heading</h1>  
        <p>text</p>  
    </div>  
</a>
```

Some browsers **apply underlines**
to all content inside the <a>
element, other browsers do not.

You should always set these `<a>` elements to **“display: block”** and turn off underlines, so that they are visually consistent across different browsers.

The <address> element

The **<address> element**
represents contact information for
nearest article or body element.


```
<!-- HTML markup -->
```

```
<address>
```

```
    Written by <a href="#">Jen Smith</a>
```

```
</address>
```

The <address> element is **not to be used for physical address information** (such as street or postal address details).

The `` element

The ** element** now allows us to draw attention to text, without conveying any extra importance.

```
<!-- HTML markup -->
```

```
<p>
```

```
    Some text including bold text.
```

```
</p>
```

The `<cite>` element

The **<cite> element** now solely represents the title of a work (e.g. a book, paper, essay, poem, song, painting etc).

```
<!-- HTML markup -->
```

```
<p>
```

```
    The <cite>The Chronicles of Narnia</cite>
```

```
</p>
```


The <cite> element is **not to be used** for names or for quotations.

The `<dl>` element

The **<dl> element** now represents an association list of name-value groups such as terms and definitions, Q&A information etc.

```
<!-- HTML markup -->
```

```
<dl>
```

```
  <dt>Allegory</dt>
```

```
  <dd>a form of extended metaphor</dd>
```

```
  <dt>Amplification</dt>
```

```
  <dd>the use of bare expressions</dd>
```

```
</dl>
```

The <dl> element is **not to be used for dialogue.**

The `<hr>` element

The **<hr> element** now represents
a paragraph-level thematic break.

```
<!-- HTML markup -->
```

```
<p>
```

A paragraph of text.

```
</p>
```

```
<hr>
```

```
<p>
```

Another paragraph of text.

```
</p>
```


The `<i>` element

The **<i> element** now represents a span of text in an alternate voice such as a taxonomic designation, a technical term, an idiomatic phrase etc.

```
<!-- HTML markup -->
```

```
<p>
```

```
    Eastern Grey Kangaroo, <i>Macropus  
    giganteus</i>, is a marsupial mammal
```

```
</p>
```

The `<s>` element

The **<s> element** has resurfaced and again represents information that is no longer accurate or relevant.

```
<!-- HTML markup -->
```

```
<p>
```

```
    Buy now:<br>
```

```
    <s>Only $2.95 per unit</s>
```

```
    Only $2.50 per unit
```

```
</p>
```

The <small> element

The **<small> element** now represents side comments such as small print.


```
<!-- HTML markup -->
```

```
<p>
```

```
    Only $2.95 <small>(inc GST)</small>
```

```
</p>
```

The **<small> element** should not be used to visually represent smaller content.

Exercise 2:

change elements

Add <cite>

Add <address>

Replace with <i>

Replace with

Wrap relevant <a>'s around blocks

Changes to
existing
attributes

The ID attribute

Before HTML 5, values for the **ID attribute** had to begin with a letter.

```
<!-- HTML markup -->  
<div id="wide480"></div>
```


The ID attribute is **now allowed to have any value**, as long as it is unique, is not the empty string, and does not contain space characters.

```
<!-- HTML markup -->  
<div id="480wide"></div>
```

However, if ID values start with a number, they **must be escaped** when writing CSS selectors.

```
<!-- HTML markup -->  
<div id="480wide"></div>
```

```
/* escaped number */  
#\34 80wide { }
```

The name *attribute*

Before HTML 5, the **name attribute** was used to name elements.

```
<!-- HTML markup -->
```

```
<h2 name="source">
```

```
    Source
```

```
</h2>
```

HTML 5 requires that the name attribute be **replaced by the ID instead.**


```
<!-- HTML markup -->  
<h2 id="source">  
    Source  
</h2>
```

The summary
attribute

The **summary attribute** was used to describe table elements to assistive technologies.

```
<!-- HTML markup -->  
<table summary="table summary here">  
    ...  
</table>
```

The summary attribute has been dropped in the HTML 5 specification. There are **several alternative solutions** available:

The **caption element** can be used to describe the purpose of the table.

```
<!-- HTML markup -->
```

```
<table>
```

```
    <caption>Caption here</caption>
```

```
</table>
```

The **aria-describedby** attribute can be used to describe the purpose of the table.


```
<!-- HTML markup -->
<table aria-describedby="table-dates">
    ...
</table>
<p id="table-dates">
    The table below is a three column table
    with city, workshop, and dates.
</p>
```

The media *attribute*

Before HTML 5, the **media attribute** only allowed one or more comma-separated media values.

```
<!-- HTML markup -->
```

```
<link media="screen, print">
```

The media attribute **now accepts media queries.**

```
<!-- HTML markup -->
```

```
<link media="screen and (min-width:700px)">
```

The tabindex attribute

Before HTML 5, the **tabindex**
attribute only allowed positive
numbers between 0 and 32,767.


```
<!-- HTML markup -->
```

```
<input type="text" tabindex="1">
```

The tabindex attribute now **allows negative values** which indicate that the element can receive focus but cannot be tabbed to.

```
<!-- HTML markup -->
```

```
<input type="text" tabindex="-1">
```

The language attribute

The **language attribute** was used to define the language of <script> elements.

```
<!-- HTML markup -->
```

```
<script language="javascript"></script>
```

The **language attribute** is now
obsolete and should be removed.

```
<!-- HTML markup -->
```

```
<script></script>
```


The start attribute

In HTML4.01, the **start attribute** was removed. This made it very hard to restart ordered lists without resorting to invalid markup or hacks.

HTML 5 now allows the start attribute to be **defined within the element.**

```
<!-- HTML markup -->
```

```
<ol start="3">
```

```
    <li>Eastern Grey Kangaroo</li>
```

```
    <li>Red Kangaroo</li>
```

```
</ol>
```

Exercise 2a:

change attributes

Add a start attribute and value
Change a name attribute to an ID
Remove language attribute

New elements

New elements 1

<article>	an independent piece of content
<aside>	content that is slightly related
<audio>	for multimedia content
<bdi>	bidirectional text formatting
<canvas>	renders dynamic bitmap graphics
<command>	a command the user can invoke
<datalist>	used to make combo boxes
<details>	additional information or controls

New elements 2

<code><embed></code>	used for plugin content
<code><figcaption></code>	a caption for the <code><figure></code> element
<code><figure></code>	self-contained flow content
<code><footer></code>	the footer for a section
<code><header></code>	the header of a section
<code><keygen></code>	control for key pair generation
<code><mark></code>	a marked run of text
<code><menu></code>	a typical user interface menu

New elements 3

<code><meter></code>	represents a measurement
<code><nav></code>	a section intended for navigation
<code><output></code>	represents some type of output
<code><progress></code>	the completion of a task
<code><rp></code>	for marking up ruby annotations
<code><rt></code>	for marking up ruby annotations
<code><ruby></code>	for marking up ruby annotations
<code><section></code>	a generic document section

New elements 4

<code><time></code>	represents a date and/or time
<code><track></code>	provides text tracks for video element
<code><video></code>	for multimedia content
<code><wbr></code>	a line break opportunity



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