

# Basic Web Development With HTML5

## Getting Started

HTML5 is the most recent version of HTML, and modern browsers will interpret .html files as being written in HTML5 without the need to specify the version in the DOCTYPE tags. Thus, in order to create an HTML5 program, one simply needs to include the line `<!DOCTYPE html>` at the top of the document, and use .html as the document's file extension. These programs can then be run on a browser of your choice.



(Example HTML5 file.)

HTML5, like all other versions of HTML, makes use of “tags” to organise and specify how each part of its content should be interpreted. Each tag requires an opening and closing tag to define its scope. There are three major tags that (almost) every HTML document will contain: the “html” tag, the “head” tag, and the “body” tag. The “html” tag should encompass all the HTML code in the document (essentially, the entire document) and can also be used to specify the version of HTML being used. The “head” tag includes meta information about the webpage, (e.g. what charset it uses,) and links to any resources that the webpage needs to function. The “body” tag is for describing the content of the webpage itself, such as any paragraphs, headers, table, and buttons that it should contain.

## Adding Intractability

HTML5 itself is used to provide structure to a website/application. If you wish to add functionality, then you must use a language like JavaScript alongside it. There are two ways of utilising JavaScript with an HTML5 application. The first method is to inject a “script” tag into the “head” tag of the main HTML5 program, and to write the JavaScript code within the “script” tags. The “script” tags can be used for more languages than just JavaScript, but the code within these tags will be interpreted as JavaScript (or “JS”) by default, and other languages must be specified using the “type” parameter. While this method works perfectly well, it comes with a range of downsides. The two major downsides are that it congests the HTML5 file, (which decreases readability and can make it harder to locate certain parts of the document,) and it can lead to the same

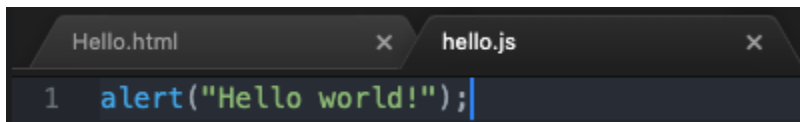
code being repeated in multiple files (which slows down the maintenance and refactorisation of said code, as it has to be located and modified over and over again). In order to combat these, we have a second approach.

```
<head>
  <script>
    alert("Hello world!");
  </script>
</head>
```

(Example of the first approach.)

The second approach to utilising JS in an HTML5 application is to just simply have a link to a .js file in the “head” tag of an HTML5 document. To do this, you will need to use “script” tags once more, but, instead of writing anything within the tags, you simply have the path to the desired .js file as the “src” parameter of the opening tag. There is no limit to how many JS files you can link your HTML5 document to, so you’re free to organise your JS code into as many files as you wish, and reuse specific code with ease.

```
<head>
  <script src="hello.js"></script>
</head>
```



(Example of the second approach.)

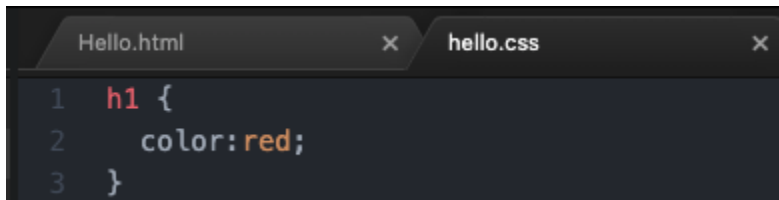
## Adding Style

In this day and age, it's not enough to simply have a website that functions; it needs to look good. This is where CSS (or “Cascading Style Sheets”) comes into play. CSS is a programming language whose sole use is to add style to a webpage. It determines not only *where* elements should appear on a page, but also *how* they should look. CSS is integrated into an HTML5 document in much the same way as JavaScript, but, instead of using the “script” tags to inject the code directly, you use “style” tags, and, to link an external CSS file to your document, you must use a “link” tag. It is once again advised to write the CSS for a webpage in a separate .css file, and to link that file to the webpage in the “head” tags.

However, there is a third method of using CSS that does not apply to JavaScript. Each HTML element has a “style” parameter that can be applied to its opening tag, which consists of CSS code. The CSS in the “style” parameter will be applied to only the

contents that fall within the opening and closing tags, and is used to modify specific parts of a webpage. Once again, though, this is inadvisable over just using a separate stylesheet and attaching an identifier to the part that you want to change.

```
<!DOCTYPE html>
<html>
  <head>
    <script src="hello.js"></script>
    <link rel='stylesheet' type='text/css' href="hello.css">
  </head>
  <body>
    <h1>Hello world!</h1>
  </body>
</html>
```



```
Hello.html x hello.css x
1  h1 {
2    color:red;
3  }
```

(Example of linking to a CSS file.)