

# Web Design and Development



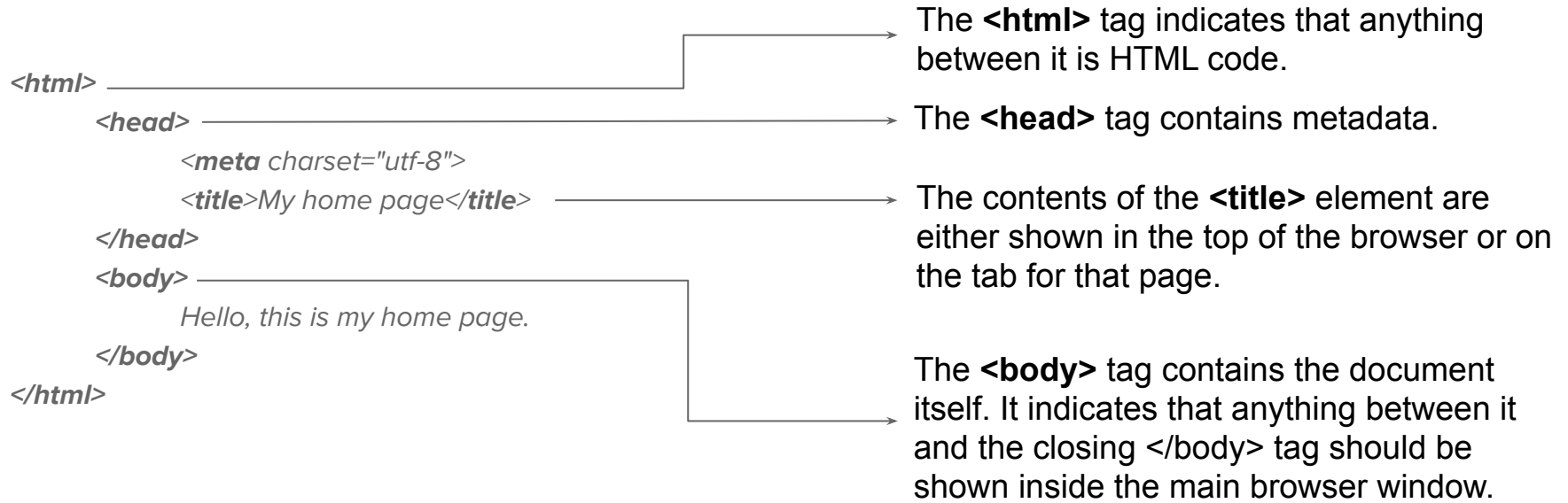
Tutorial #1: Creating HTML documents

# Learning Objectives

1. Understand the basic structure of an HTML document
2. Set up your development environment
3. Use the browser developer tools
4. Create a basic HTML document

# Basic structure of an HTML document

The HTML tags below represent the basic structure of an HTML document.



# What is metadata?

While much of the content included in an HTML document is visible to the user, an HTML document can also include additional information called **metadata** that influences several aspects of the web page.

Metadata typically consists of descriptors of the content in the web page used by search engines and links to external resources such as JavaScript and CSS files and.

Different tags can be used to specify metadata, such as the meta tag (meta tag) and the title tag. The **meta tag** is critical for implementing search engine optimization, as you will see later.

Metadata is included inside the head element of an HTML document:

```
<head>  
  <meta charset="utf-8">  
  <title>My home page</title>  
</head>
```

# What is metadata?

An important use of the meta tag is to specify the character encoding or charset of the web page:

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

This meta tag informs the browser about the encoding used to represent the text on the web page. Failing to specify the correct charset leads to the display of unrecognizable characters on the web page.

Les véhicules autonomes utilisent normalement de moyens techniques sans fil pour assurer la communication entre un véhicule et un autre, pour transmettre des informations relatives la circulation

The current standard to be used in any web page (regardless of the language) is UTF-8.

Therefore, you also need to make sure to use UTF-8 when creating your web pages in your source-code editor.

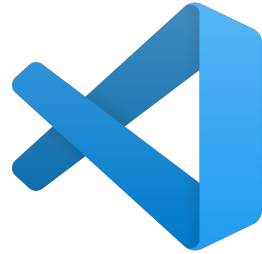


# What is a development environment?

Before start building a website, you need to set up the tools required for web development. The **development environment** is a collection of tools and procedures for developing, testing, and debugging a software application.

You will need the following tools in your development environment:

- A **source-code** editor for writing the code of your websites and web applications
- A **web browser**
- A **version control system** to keep track of your changes



# Working with Visual Studio Code

**Visual Studio Code** (VS Code) is a source-code editor made by Microsoft and available for Windows, Linux and macOS.

VS Code is currently one of the most popular editors for writing computer code.

Installation guide:

- <https://code.visualstudio.com/download>



VS Code functionality can be extended via extensions.

A handy extension for web development is [Live Server](#). It launches a local development server with live (automatic) reload feature for web pages.



**Live Server** ritwickdey.liveserver

Ritwick Dey | 13,058,157 | ★★★★★ | Repository | License | v5.6.1

Launch a development local Server with live reload feature for static & dynamic pages

[Install](#) ⚙️

# Using the browser developer tools

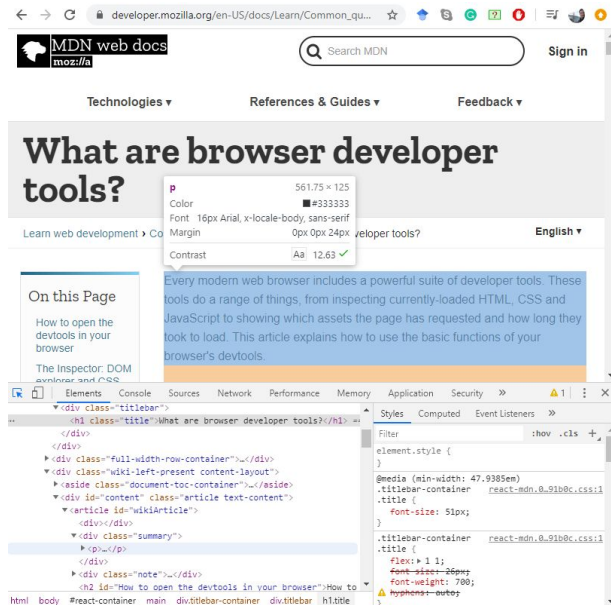
Every modern web browser includes a suite of **developer tools**. These tools do a range of things, from inspecting currently-loaded HTML, CSS and JavaScript to showing which assets the page has requested and how long they took to load.

How to enable it?

- All major browsers: type in the keyboard: Ctrl + Shift + I
- Except:
  - Internet Explorer and Edge: F12
  - macOS: ⌘ + ⌥ + I

The developer tools include the **inspector**. This tool shows how the HTML on your page looks at runtime and its corresponding styling (CSS).

It also allows you to instantly modify the HTML and CSS and see the results of your changes reflected live in the browser viewport (the user's visible area of a web page).



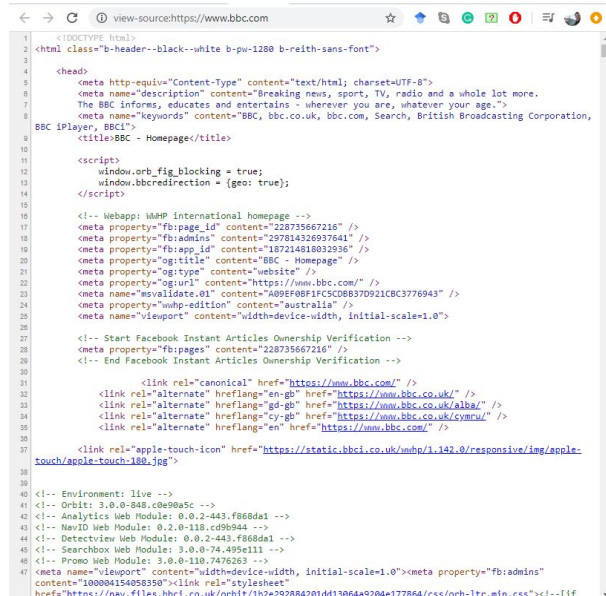


# Using the browser developer tools

In addition to the developer tools, you can also access the entire HTML code or source code of a web page by pressing **Ctrl + U**.

Alternatively, you can try to right-click on a blank part of the web page and select “View source” from the pop-up menu that appears.

Web pages nowadays can be very complex and have hundreds or more lines in their source code. For this reason, inspecting the source code using the developer tools is more common.



```
1 <!DOCTYPE html>
2 <html class="b-header--black--white b-pw-1280 b-reith-sans-font">
3
4 <head>
5   <meta http-equiv="Content-Type" content="text/html; charset=utf-8">
6   <meta name="description" content="Breaking news, sport, TV, radio and a whole lot more.
7     The BBC informs, educates and entertains - wherever you are, whatever your age.">
8   <meta name="keywords" content="BBC, bbc.co.uk, bbc.com, Search, British Broadcasting Corporation,
9     BBC iPlayer, BBC1">
10  <title>BBC - Homepage</title>
11
12  <script>
13    window.fbq.blocking = true;
14    window.bbc redirection = {geo: true};
15  </script>
16
17  <!-- Webapp: WHP International homepage -->
18  <meta property="fb:page_id" content="228735667216" />
19  <meta property="fb:admins" content="297814326937641" />
20  <meta property="fb:app_id" content="187214818032936" />
21  <meta property="og:title" content="BBC - Homepage" />
22  <meta property="og:type" content="website" />
23  <meta property="og:url" content="https://www.bbc.com/" />
24  <meta name="msvalidate.01" content="A09F08F1FC5D8B37D921C8C3776943" />
25  <meta property="wamp-edition" content="australia" />
26  <meta name="viewport" content="width=device-width, initial-scale=1.0">
27
28  <!-- Start Facebook Instant Articles Ownership Verification -->
29  <meta property="fb:pages" content="228735667216" />
30  <!-- End Facebook Instant Articles Ownership Verification -->
31
32  <link rel="canonical" href="https://www.bbc.com/" />
33  <link rel="alternate" hreflang="en-gb" href="https://www.bbc.co.uk/" />
34  <link rel="alternate" hreflang="gd-gb" href="https://www.bbc.co.uk/alba/" />
35  <link rel="alternate" hreflang="cy-gb" href="https://www.bbc.co.uk/cymru/" />
36  <link rel="alternate" hreflang="en" href="https://www.bbc.com/" />
37
38  <link rel="apple-touch-icon" href="https://static.bbci.co.uk/wamp/1.142.0/responsive/img/apple-
39    touch/apple-touch-180.jpg">
40
41  <!-- Environment: live -->
42  <!-- Orbit: 3.0.0-848.c0e905c -->
43  <!-- Analytics Web Module: 0.0.2-443.f868da1 -->
44  <!-- NavID Web Module: 0.2.0-118.cd9b944 -->
45  <!-- Detectview Web Module: 0.0.2-443.f868da1 -->
46  <!-- Searchbox Web Module: 3.0.0-74.495e111 -->
47  <!-- Prom Web Module: 3.0.0-110.7476263 -->
48  <meta name="viewport" content="width=device-width, initial-scale=1.0"><meta property="fb:admins"
49    content="10000415405550"><link rel="stylesheet"
50    href="https://nav.files.bbci.co.uk/orbit/1b2e29284201d13064e9204e177864/css/orb-ltr_min.css"><!--[[if
```

# Exercise: Creating a HTML document

In this exercise, you will create an HTML document from scratch with the basic HTML tags required by every HTML document.