

CF:G INTRODUCTION TO WEB DEVELOPMENT

Week 1 - HTML

WELCOME!

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- How the courses will be run
- What we will learn on this course
 - HTML
 - CSS
 - UX - User Experience
 - GitHub, repositories and versions control
 - Twitter Bootstrap
 - Javascript and JQuery
- Introducing our instructors
- Introduce yourself! What's your favourite cheese, and why?

INSTALLATIONS

INSTALLATIONS




- Check that you have the following on your computer
 - The text editing programme called 'Atom' [<https://atom.io/>]
 - The web browser 'Google Chrome' [<https://www.google.com/chrome/browser/desktop/index.html>]
 - **This version** of the GitHub desktop client application (NB: use this link - do not google GitHub desktop and use that link! [<https://github-windows.s3.amazonaws.com/GitHubSetup.exe>])
- Register yourself for a 'GitHub' account
 - Go to <https://github.com>
- Download your course documents (PDF format) onto your desktop

**If you don't have any of the above or having any issues,
just let your instructor know!**

INTRODUCTION TO CODING

WHAT IS CODING?

- Creating a website landing page using HTML / CSS
 - HTML - a 'markup' language
 - CSS- a 'stylesheet' language
- Where JavaScript comes in
 - JavaScript - a programming' language
- Front end vs back end web development

HTML <i>HyperText Markup Language</i>	CSS <i>Cascading Style Sheets</i>	JavaScript
		
a markup language	a stylesheet language	a programming language
Describes the structure of web pages.	Describes the presentation of web pages, including colors, layout, and fonts.	Allows user interactivity, and enables web pages to be dynamic.
HTML documents are described by HTML tags , and each tag describes different element.	It enables responsive design ; for one to adapt the presentation to different types of devices.	(Usually without needing to reload the page)
		*It is a type of programming language, scripting .

A helpful analogy: HTML is for saying "there's a box on the page", CSS says "that box is pink" and JavaScript is for saying "when you click on that box, an alert will pop up!"

There are no secrets in HTML, CSS or JS

Find out using Google Chrome Dev Tools

TASK - HACK THE BBC!

- Demonstration of the Web Dev tools in Chrome
- go to <http://www.bbc.co.uk> in Chrome
- Making changes to the HTML and CSS code of a web page:
how does it work?

GETTING GOING & HTML

GETTING GOING & HTML

- What is the internet and how does it work?
- How does the web work?
- What makes a website?

WHAT IS THE INTERNET AND HOW DOES IT WORK?

Internet

HARDWARE

- A large network
- A lot of computers connected to each other
- **servers**

Web

SOFTWARE

- The system you use to access the internet
- Browser, email, instant messaging, ...
- **clients**

HOW DOES THE INTERNET WORK?

server

The computers
holding web pages,
sites and applications

requests



respond



clients

The software on
computers people use
to access the web

Desktop computer, laptop,
phone, ...

THE ANATOMY OF AN URL

http://www.website.com/page



protocol

how to fetch the
information

host

where to fetch
it from

data

what to fetch

URL AND IP

212.58.244.23

http://www.bbc.co.uk/

TWO TYPES OF WEBSITE

Static

- Pre-prepared
- Always same

Dynamic

- Generated on the fly
- Pulls data from a database

E.g. facebook.com

PUTTING UP A WEBSITE

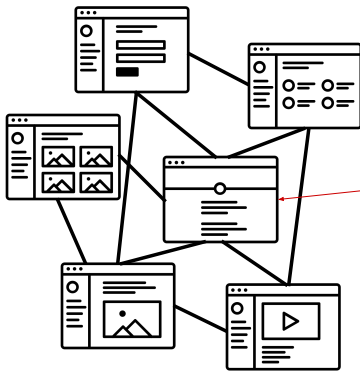
Hosting

A server to host your website

Domain

A domain name to point towards

CHAPTER 3: WHAT MAKES A WEBSITE



Website

- A collection of linked web pages
- The home page is **index.html**

Icons by KAPKLAM from the Noun Project

THE WEBSITE FOLDER

Every website needs an **index.html** file. This is the home page of your website.

Organise your asset files into folders. This will make it easier to locate them.

website-folder

```
--- index.html
--- page.html
--- images
    --- picture.jpg
--- css
    --- style.css
--- js
    --- script.js
```

Try and stick to folder & file names without spaces

Other pages on your website will have **.html** as the extension

THE COMPONENTS OF A WEB PAGE

HTML	words	the backbone
CSS	style	how it looks
JavaScript	scripts	how it interacts
Images, video, audio, etc.	media	entertainment

INSTRUCTOR DEMONSTRATION

Let's take a look at how this works in a real example.

Demonstration

Open up the following code pen

<https://codepen.io/dianaklee/pen/PPoEoe>

- See how the CSS and JavaScript affect the HTML.
- Place the CSS in comments so that HTML is unstyled.
- Switch the CSS back on to show the difference between having custom CSS and no CSS.
- Finally hover over the main header to show the effect of the JavaScript.

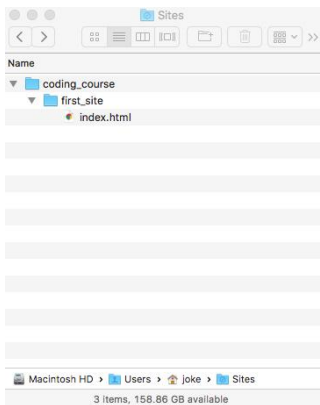
HYPER TEXT MARKUP
LANGUAGE OR
"HTML"

CREATING A BASIC HTML PAGE

All you need is:

- A text editor
- A web browser

TASK: CREATE A CODING_COURSE FOLDER



```
<h1>Hello World</h1>
```

HTML BASICS "The HTML DOM"

```
<!DOCTYPE html>  
<html>  
  <head>  
    <title>Page title</title>  
    ...  
  </head>  
  <body>  
    ...  
  </body>  
</html>
```

The version of HTML you are using

The beginning of the HTML document

The brains of the website

The visible part of the website in the browser

The end of the HTML document

HTML ELEMENTS

```
<h1>Hello world</h1>  

```

OPEN AND CLOSE ELEMENTS

<tag> .. stuff .. **</tag>**

↑
Opening tag

↑
Closing tag

```
<h1>Hello world</h1>
<h2>Sub title</h2>
<p>A paragraph of text. With several sentences if you want.</p>
<p>This is <strong>bold text</strong> and this will be <em>italic
text</em>.</p>
<div>
  <p>A division.</p>
</div>
```

ALL-IN-ONE ELEMENTS

<tag attribute="value" **>**

↑
The tag
opens
here

↑
The content of the
element is
contained in an
attribute

↑
The tag
closes
here

```

```

ATTRIBUTES

`<tag attribute="value" >`

No spaces on
either side of
the = sign

Quote marks
surrounding the
value of the
attribute

```
<div class="info-section">

<a href="http://google.com">
```

GOOD CODE PRACTICE

- Always indent nested code.
- The last tag you opened is the first tag you close.

VALID CODE

```
<div>
  <h1>Hello world</h1>
  <p>
    <em>I <strong>really</strong>
    mean that</em>
  </p>

  <div>
    <h2>A subtitle</h2>
    <p>A few sentences to go with
    the subtitle. About nothing
    in
    particular, just making up
    the
    numbers.</p>
  </div>
</div>
```


DEMO - HTML Page

<https://codepen.io/dianaklee/pen/rOMzNj>

TASK- write some HTML code

https://github.com/code61/learning_html

MARKDOWN CHEATSHEET

Headers

An <h1> tag

An <h2> tag

An <h6> tag

Unordered lists

- Item 1

- Item 2

Ordered lists

1. Item 1

2. Item 2

Emphasis

*This text will be
italic*

**This text will be
bold**

Table

Column title	Column title
Row cell	Row cell
Row cell	Row cell

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TASKS

1. Go to the github repository for this session: https://github.com/code61/learning_html
2. Download the code into your `coding_course` folder (by clicking 'Download ZIP' in the bottom right)
3. Open the whole folder in your text editor
4. Open the file `example.html` in Chrome and look around with the developer tools
5. Open the file `notes.html` in your text editor.
6. Change `notes.html` into valid html so that it looks like `notes_solution.jpg`

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HOMEWORK

Task: Finish the HTML exercise from the last section.

Preparation for next time

Task:

1. Complete the whole of Project 2 on the [General Assembly Dash](#) site.
2. What is CSS? Get ready for the next class by watching [this fun video](#).
3. (Optional) Do the projects from the [Codecademy Web Track](#) Sections 4, 5 & 6.

Make a start on your own site

Task:

Use what you've learnt from the HTML exercise and the Dash projects to improve your `first_site/index.html`. Maybe add some content about yourself.

Don't worry if it doesn't look great yet - we'll be working on it more in the next few weeks. Just make sure it says something more than 'Hello'!

EXTRA RESOURCES

[This video](#) talks about how the Internet works in 5 minutes

[A summary](#) of the different components of the Internet

[File organising](#) for your website

[Introduction to servers](#) by Eli the Tech Guy

An article from Mozilla's Developer Guides: [Introduction to HTML](#)

[W3 Schools HTML Tutorial](#)

[HTML Terms Glossary](#)

[HTML DOM](#)

[Web Monkey HTML Cheatsheet](#)

[Simple HTML Guide Cheatsheet](#)

[A HTML Validator that checks your HTML code](#)

VIEWING AND INTERACTING WITH CODE ON JUST ABOUT ANY WEB PAGE

There are no secrets in HTML, CSS or JavaScript. If there's a part of a webpage that you like, it's easy to find out how it is coded and use the technique yourself

- In Chrome click **More Tools > Developer tools**. This will show you the raw HTML but isn't the easiest thing to look at
- These tools are the best way to investigate a web page. Over the course you will use them on your own pages, especially to troubleshoot

Task:

1. Open any website in Google Chrome, or the [Code First: Girls](#) website
2. View the page source by doing one of the following:
 - On the web page: Right click > Inspect
3. Open the developer tools by doing one of the following:
 - In the browser: More tools > Developer tools
4. Highlight text in the HTML panel to change it to whatever you want
5. Make other changes as suggested by your instructors - have fun!

EDITING A LIVE WEBSITE - TASK

- Try changing some of the CSS on the right hand side. To undo any changes just refresh the page.
- Have a look on the **Resources** tab. See if you can find the CSS, javascript and image files used on this page.
- Visit a few of your favourite websites and repeat this process.