

QA

# **WEB Development Fundamentals –HTML and CSS**

**Exercise Guide**



# **Web Fundamentals - HTML Quick Labs**

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# Quick Labs Environment Set-Up

1. Open VSCode.
2. Using **File → Open**, navigate to the **Quick Labs** folder and click **Open**. This will give you access to all of the Quick Lab files and solutions needed to complete the Quick Labs.
3. At the bottom of the **VSCode** window, you should see a **Go Live** icon. Click on this will launch **live-server** for the currently selected file or folder. If a folder is selected, this will be shown in your browser and you will be able to navigate here. If a file is selected, the browser will attempt to display the file.

# Quick Lab 1 - Structural HTML

## Objectives

Use structural elements appropriately

## Activity

1. Open the file `index.html` from the `QuickLabs/01_StructuralHTML/starter` folder using `live-server` (*Please see step 3 of setting up the environment for help on this*).
2. Replace any element with an appropriate structural element.
3. Once you have finished, check your outline matches the one below by testing the HTML structure on the website:

<https://gsnedders.html5.org/outliner/>

1. My Blog Posts
  1. Latest Post
    1. My HTML5 Blog
    1. HTML5 Musings

*This is the end of Quick Lab 1*

# Quick Lab 2 – Hyperlinks

## Objectives

Use hyperlinks to create links between pages and actions

## Activity

1. Open the file `index.html` from the `QuickLabs/02_Hyperlinks/starter` folder using `live-server` (*Please see step 3 of setting up the environment for help on this*).
2. Create a new file in the same folder called `courses.html`.
3. In this file, skeleton an HTML page and then insert the text provided in `courses.txt` into the body.
4. Create a link from `index.html` to `courses.html` and vice versa. Check that these links work.
5. Add a *link to send an email* to the webmaster at the bottom of `index.html` and put this footer on the courses page too.

*This is the end of Quick Lab 2*

# Quick Lab 3 – Images

## Objectives

Insert images into pages

## Activity

1. Open the file `team.html` from the `QuickLabs/03_Images/starter` folder using `live-server` (*Please see step 3 of setting up the environment for help on this*).
2. Locate the comments and insert the image in place of the comment.
3. The image `theTeam` causes the horizontal scroll bar to appear. Make this disappear by adding an appropriate attribute to the image.

*This is the end of Quick Lab 3*

# Quick Lab 4 – Tables

## Objectives

Create a table to contain data with appropriate tagging

## Activity

1. Open the file `index.html` from the `QuickLabs/04_Tables/starter` folder using `live-server` (*Please see step 3 of setting up the environment for help on this*).
2. First, orientate yourself with the code. You'll see the course content within the `html` file, but it has no markup to describe how it should be laid out – so as you can imagine, the page is a bit of a mess.
3. The first step is to add our `<table>` tags around the data we want tabulated.
4. Now, break up the content into its logical rows using the `<tr>` tag you've learnt about already. You may be able to see what data should be on each row – but if not, ask your instructor for some guidance.
5. Finally, you want to now split each row into its various 'columns' by wrapping each piece of data in `<td>` tags.

So, we've gone from an illegible string of data to a highly structured, coherent table. For a bit of polish, let's tidy our code up a bit.

6. Without headings, our table is ambiguous. So, before the first row, add in another row and create a header for each column using the `<th>` element.
7. It is best practice to wrap your table headers in a `<thead>` element. It not only provides some syntactic sugar but also enables things such as scrolling table bodies separately from the headers, and when printing long tables that may span several pages the header information can be repeated on the page break. Add this element.
8. Add `<tbody>` tags around the table content.
9. Add a **footer** to the table with some content that indicates that all prices are inclusive of VAT.
10. Finally, we would rather our heading 'A sample of our courses' was tied to the data it is actually representing. For this we use the `<caption>` element which needs to be the first child of the `<table>` element. Your page should look something like this:

## QA



A sample of our course

Course Title	Subject Area	Length	Cost
AWS Technical Essentials	Technical IT	1 day	£495
Configuring and Deploying a Private Cloud	Technical IT	5 days	£2066
PRINCE2 Foundation	Project Management	2 days	£898
Brilliant Virtual Delivery	Leadership & Management	2 days	£1362

All prices inclusive of VAT

*This is the end of Quick Lab 4*

# Quick Lab 5 – Forms

## Objectives

To be able to create a form with several different input types

## Activity

1. Open the file **registration.html** from the **QuickLabs/05\_Forms/starter** folder using **live-server** (*Please see step 3 of setting up the environment for help on this*).
  2. Create a **form** where you currently see the `<!-- insert form here-->`
  3. Create the first **fieldset** and give it a legend with "Your Details" as the text
  4. Using **<label>** and **<input type="text">** elements, add user input fields for:
    - First name
    - Surname
    - Position / Role
  5. There are some pre-made styles for us to utilise. Wrap everything within this **fieldset** in an **unordered list** and wrap each **label/input pair** in a **list item**. You'll see the styling impact that has on our form.
  6. Add the attribute **autofocus** to the 'first name' field, save the file, and test it in your browser.
  7. Create a new **fieldset** at the bottom of the form with a **submit** button.
  8. Inside the *first* **fieldset** create a *new list item* and within it add a *label/input pair* with a **name**, **id**, and **type** of "email".
  9. Add a **placeholder** attribute with a value of "you@domain.com" and a **required** attribute.
  10. Repeat once more adding an **input** of type **tel** with a **name** and **id** of **phone**, making it mandatory and add a placeholder with a value of "Eg. +447500000000".
  11. Create a new **fieldset** for "Course Details" before the **fieldset** which contains the **submit** button.
  12. Using the *same list structure* in the *previous fieldset*, create a **select** element which has the following **options**:
    - Programming with JavaScript
    - Developing Web Applications using HTML5
    - Developing Responsive Websites

- Leveraging the Power of jQuery
13. Add a *suitable* input for "Number of delegates"
  14. Finally, create an input with an id, name, and type of "date"
  15. Test your form in multiple browsers. You may find that some elements render slightly differently in different browsers - you should find a date picker UI in those browsers that support the date input type, and a text field in those that don't.

*This is the end of Quick Lab 5*

# **Web Fundamentals - HTML Quick Labs**

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# Quick Labs Environment Set-Up

1. Open **VSCODE**.
2. Using **File → Open**, navigate to the **Quick Labs** folder and click **Open**. This will give you access to all of the Quick Lab files and solutions needed to complete the Quick Labs.
3. At the bottom of the **VSCODE** window, you should see a **Go Live** icon. Click on this will launch **live-server** for the currently selected file or folder. If a folder is selected, this will be shown in your browser, and you will be able to navigate here. If a file is selected, the browser will attempt to display the file.

# Quick Lab 6 - CSS Selectors

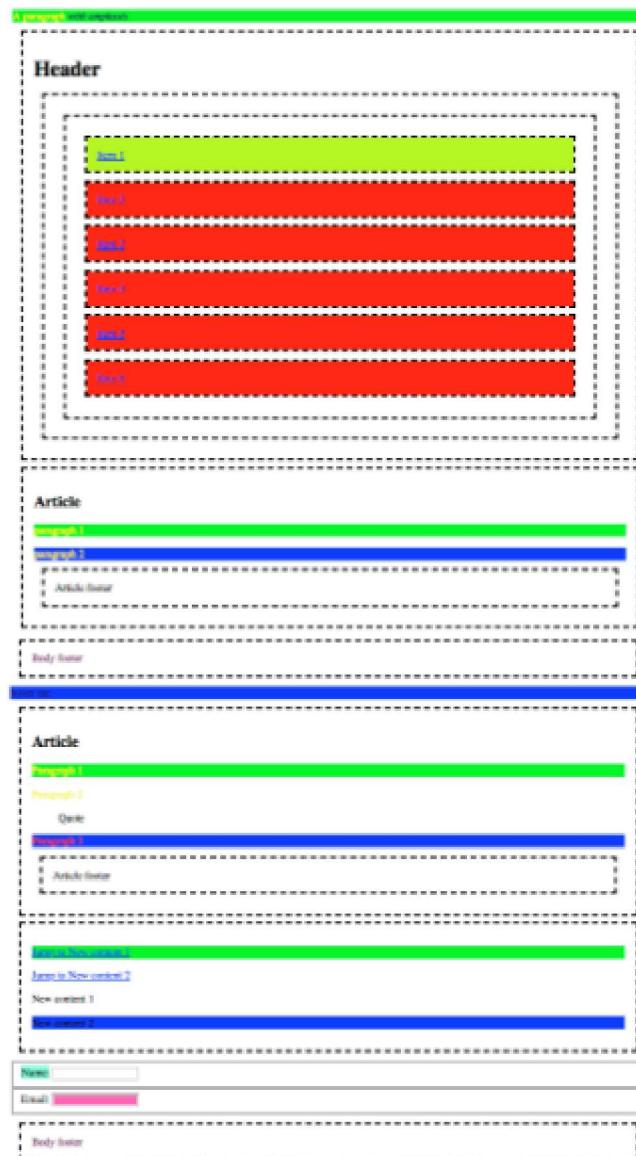
## Objectives

- Use CSS selectors to apply styling to particular elements

## Activity

1. Open the file **index.html** from the **QuickLabs/06\_Selectors/starter** folder using **live-server** (*Please see step 3 of setting up the environment for help on this.*)
2. Apply an appropriate selector for the element(s) specified in the comment to the styling rule before it on each line.
3. When you have completed the first set of list-item styling check the output.
4. Your finished product should look like the image below. Inspect elements to find out what happened to styles that are not shown...

### A heading



This is the end of Quick Lab 6

# Quick Lab 7 - Text, Colours and Sizing

## Objectives

- Experiment with adding colours and sizing to text and other elements

## Activity

- Open the file **index.html** from the **QuickLabs/07\_TextColourSizing/starter** folder using **live-server** (*Please see step 3 of setting up the environment for help on this*).
- Apply these styling rules to the text:

Element	Styles
h1 inside a header	<ul style="list-style-type: none"><li>A shadow that is hotpink, set 5px horizontal and 3px vertical</li><li>Text colour set to darkblue</li><li>A font family of Helvetica</li><li>A background colour set to grey of 200, 200, 200, 1 on the rgba scale</li><li>A font size of point 48</li><li>Centre the display of the text</li></ul>
h1	<ul style="list-style-type: none"><li>A font family of Arial</li><li>A font size set to 2 x the relative (em)</li></ul>
A p with a class of first	<ul style="list-style-type: none"><li>Indent the text by 30 pixels</li><li>Set the colour to be red with half transparency</li></ul> <p>Make the text fill the row (i.e., justify)</p>
h2 and h3	<ul style="list-style-type: none"><li>Align the text to the right</li><li>Use the Courier New font</li><li>Have a background of a mid-grey with half transparency</li></ul>
A p with an id of highlightme	<ul style="list-style-type: none"><li>Set the background with a Hue of 45, a Saturation of 100% and a Lightness of 50%. It should be half transparent too</li><li>Space the lines by 30px</li><li>Occupy 50% of the available width</li></ul>
A p directly inside a footer	<ul style="list-style-type: none"><li>A background colour of hotpink (set as a HSLA value)</li><li>Use any sans-serif font</li><li>Centre the text</li><li>Make the text uppercase</li></ul>

Your finished product should look like the image below.

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*This is the end of Quick Lab 7*

# Quick Lab 8 - Images and Backgrounds

## Objectives

- Format images on pages
- Use CSS to add background images to elements on pages

## Activity

1. Open the file **team.html** from the **QuickLabs/08\_ImagesBackgrounds/starter** folder using **live-server** (*Please see step 3 of setting up the environment for help on this.*)
2. Add a CSS rule that makes the image occupy 50% of the available space.
3. Apply an image background to the **div** with an **id** of **hasBackground**. It should
  - o Use the image named **pexels-photo-370799.jpg**:
4. Experiment with the **repeat** and **position** attributes;

*This is the end of Quick Lab 8*

# Quick Lab 9 - Positioning Elements

## Objectives

- Use floats, clears and other positioning and sizing properties to lay out a page

## Activity

1. Open the file **index.html** from the **QuickLabs/09\_PositioningElements/starter** folder using **live-server** (*Please see step 3 of setting up the environment for help on this*).
2. Turn the left-hand image into the right-hand image:

### Positioning Elements

[Link](#) [Link](#) [Link](#)

#### Column

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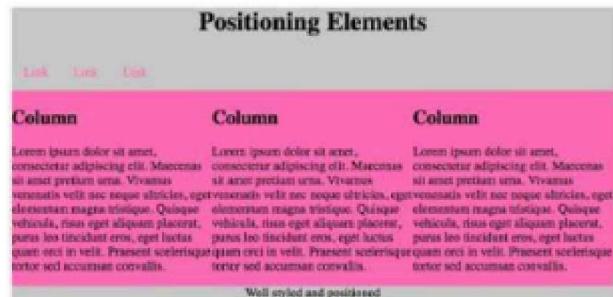
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Well styled and positioned



3. Guidance on CSS rules to create:

Element or group	Items to set	Values to use
Elements of type header and footer	background-colour text-align clear	rgba(200, 200, 200, 1) center both
Elements of type nav	width height	100% 46px
Links in a nav	float display color text-align padding text-decoration	Left block hsla(300, 100%, 71%, 1) center 14px, 16px none
Hovered links in a nav	background-color color	hsla(300, 100%, 71%, 1) black
Element with id of row	clear	both
Elements with class of column	float width background-color	left 33.33% hsla(300, 100%, 71%, 1)

This is the end of Quick Lab 9

# Quick Lab 10 – Tables

## Objectives

- To be able to format a table using CSS

## Activity

1. Open the file **index.html** from the **QuickLabs/10\_CSSTables/starter** folder using **live-server**(*Please see step 3 of setting up the environment for help on this*).
2. Format the table so that it looks like the image below:

Name	Country	Date of Birth
Loretta Silva	Anguilla	8/11/1985
Joel Montgomery	Nigeria	1/1/1966
Joel Brady	South Georgia & South Sandwich Islands	11/29/1960
Brent Kim	Sudan	7/21/1971
Marie Abbott	Ecuador	10/27/1967
Alvin Carter	Aland Islands	1/8/1977
Hilda Carter	Colombia	8/18/1959
Jason Cohen	Ecuador	5/12/1953
Clara Jensen	South Sudan	2/2/1986
Hallie Fields	Jordan	3/24/1960

3. Ensure that the table has a hover property that highlights each row as the mouse pointer is over it as shown:

Name	Country	Date of Birth
Loretta Silva	Anguilla	8/11/1985
Joel Montgomery	Nigeria	1/1/1966
Joel Brady	South Georgia & South Sandwich Islands	11/29/1960
Brent Kim	Sudan	7/21/1971
Marie Abbott	Ecuador	10/27/1967
Alvin Carter	Aland Islands	1/8/1977
Hilda Carter	Colombia	8/18/1959
Jason Cohen	Ecuador	5/12/1953
Clara Jensen	South Sudan	2/2/1986
Hallie Fields	Jordan	3/24/1960

4. The following information may help:

<b>Element or group</b>	<b>Items to set</b>	<b>Values to use</b>
Element of type table	font-family border-collapse width	'Segoe UI', Tahoma, Geneva, Verdana, sans-serif collapse 100%
Elements of type th and tr	border text-align	1px solid hsla(0, 0%, 17%, 1) left
Elements of type th	padding background-color color	15px 10px hsla(330, 100%, 71%, 1) hsla(0, 0%, 17%, 1)
Even tr elements	background-color	hsla(0, 0%, 74%, 0.2)
Hovered tr elements	background-color	hsla(330, 100%, 71%, 0.5)

*This is the end of Quick Lab 10*

# **Web Fundamentals - RWD Quick Labs**

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# Quick Labs Environment Set-Up

1. Open VSCode.
2. Using **File → Open**, navigate to the **Quick Labs** folder and click **Open**. This will give you access to all of the Quick Lab files and solutions needed to complete the Quick Labs.
3. At the bottom of the **VSCode** window, you should see a **Go Live** icon. Click on this will launch **live-server** for the currently selected file or folder. If a folder is selected, this will be shown in your browser, and you will be able to navigate here. If a file is selected, the browser will attempt to display the file.

# Quick Lab 11 - Media Queries

## Objectives

- Use media queries to change the layout on screen dependent on its size

## Activity

1. Open the files `index.html` from the `QuickLabs/11_MediaQueries/starter` folder in the browser using `live-server` (*Please see step 3 of setting up the environment for help on this*).
2. In `mediaqueries.css`, add a media query that:
  - o Detects if the minimum width of the screen is 794 pixels
  - o Sets the `body` to have properties of:
    - background with HSLA values of 240, 100%, 50% and 0.2
    - margins top and bottom of 25px
    - margins left and right of 6%
  - o Sets the `figure` to have properties of:
    - float to be left
    - width to be 40%
    - right margin to be 4.5%
3. Add a second media query that:
  - o Sets the `body` to have properties of:
    - background with HSLA values of 120, 100%, 50% and 0.2
    - margins top and bottom of 25px
    - margins left and right of 10%
    - a maximum width of 1130px
  - o Sets the `figure` to have properties of:
    - width of 28%
    - right margin to be 2.5%
4. Check the output in the browser - everything does not work as it should... Can you work out what is missing from the `index.html <head>`? Think VP!

*This is the end of Quick Lab 11*

# Quick Lab 12 – Grids

## Objectives

- To apply classes to HTML to utilise a Grid layout

## Activity

1. Open the files **index.html** from the **QuickLabs/12\_Grids/starter** folder in the browser using **live-server** (*Please see step 3 of setting up the environment for help on this.*)
2. Open **grids.css** and examine the style rules that have been placed in the file already.
3. You should apply the appropriate CSS classes to the elements in the HTML to make your page (when full screen) look like the image below:



For reference, the menu links are 1/4 of the screen.

4. Once you have succeeded, experiment using the other col-X settings.

*This is the end of Quick Lab 12*

# Quick Lab 13 - Flex Box

## Objectives

- To examine some of flexbox's properties and values

## Activity

1. Open the files `index.html` from the `QuickLabs/12_Grids/starter` folder in the browser using `live-server` (*Please see step 3 of setting up the environment for help on this.*). Have a look at the output.
2. Examine the CSS classes that are applied to the 3 `<ul>` tags - you should notice that each has a `flex-container` class and then another.
3. In `flexbox.css` create a rule for the `flex-container` class that has:
  - o `padding` and `margin` set to 0;
  - o `list-style` set to `none`;
  - o A `border` that is a `solid` line of `1px` coloured `silver`;
  - o `display` set to `flex`.
4. Create a rule for the `nowrap` class that has `flex-wrap` set to `nowrap`.
5. Create a rule for the `wrap` class that has `flex-wrap` set to `wrap`.
6. Create a rule for the `wrap-reverse` class that has `flex-wrap` set to `wrap-reverse`.

Save the file and check the output and that it responds appropriately when you shrink/expand the size of the available screen.

7. Create a rule for the `direction` class that has `flex-direction` set to `column`.

Again, save and check the output - *the 4th set of blocks should have been affected.*

8. Change the `flex-direction` for the direction class to `row`.
9. Add a rule for the `justify` class and set `justify-content` to `center`.

Again, save and check the output - *the 4th set of blocks should have been affected.*

Experiment with any of the flex properties by adding properties to the classes. Note that some properties will not affect elements with particular others applied to them.

*This is the end of Quick Lab 13*

# Quick Lab 14 - Responsive Images

## Objectives

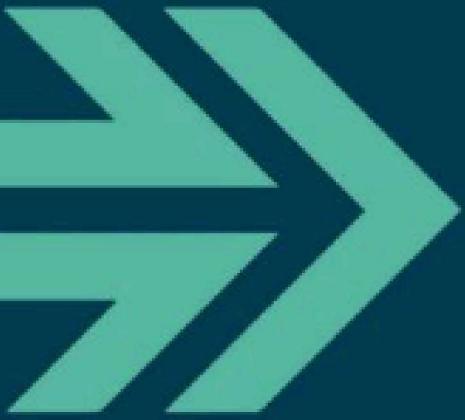
- To be able to use the `srcset` attribute with images.
- To use the `<source>` element and `sizes` attributes for responsive images

## Activity

1. Open the files `index.html` from the `QuickLabs/11_MediaQueries/starter` folder in the browser using `live-server` (*Please see step 3 of setting up the environment for help on this*).
2. In the first `<article>`, add an `<img>` that:
  - o Initially uses the image "`baboon1x.jpg`" as its `src`;
  - o Has an `alt` of "Baboon";
  - o Has a `srcset` set to "`baboon1x.jpg 1x, baboon2x.jpg 2x`".
3. Save the file and view in the browser - the *1x image* should be shown
4. Use the *Device Selector* in the *Developer Tools* and **reload** the page. This should change the image to the *2x image*.
5. In the second `<article>`, add a `<picture>`. It should have child elements of:
  - o `<source>` with a `media` attribute set to a "`(min-width:1024px)`" and a `srcset` of "`kitten-large.png`";
  - o `<source>` with a `media` attribute set to a "`(min-width: 667px)`" and a `srcset` of "`kitten-medium.png`";
  - o `<img>` with a `src` of "`kitten-small.png`" and `alt` of "Cute Kitten".
6. Save the file and view in the browser. Changing the width of the device through the *Device Selector* being set to *Responsive* should change the image as the width is increased or decreased.
7. In the third `<article>`, add an `<img>` with attributes set to:
  - o `src` of "`small.jpg`";
  - o `alt` of "Cute Kitten";
  - o `sizes` set to "`50vw`";
  - o `srcset` of "`kitten-small.png 500w, kitten-medium.png 1000w, kitten-large.png 1500w`".
8. Save the file and change the Responsive width of the Device Selector to be around 400 pixels.
9. Refresh the page and note that the `kitten-small.png` image is shown.
10. Increase the width of the available screen and note that the image changes to the larger ones as breakpoints are hit.

11. Once the **kitten-large.png** image is shown, *refresh* the page again.
12. Decrease the width of the available screen and note that the image *DOES NOT* change.

*This is the end of Quick Lab 14*



**FANCY A CHAT?**  
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V1.0