

Front-End Development

Labo 1 – Basic HTML

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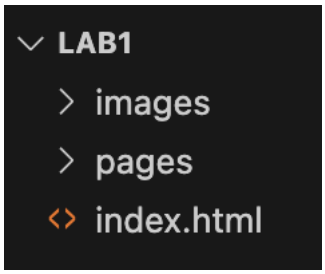
1 Introduction

Documentation	Course material available on Toledo: slides and code examples.
Objective	To provide an initial immersion into HTML. You will learn how to create a simple webpage, organise files into directories, work with relative paths, and validate your code according to W3C standards.
Learning Outcomes	By the end of this lab, you should be able to: • Correctly establish the fundamental structure of an HTML document. • Structure text using headings, paragraphs, and lists. • Insert images with the appropriate attributes. • Navigate between multiple pages using hyperlinks. • Employ a basic project structure with subdirectories. • Explain the distinction between absolute and relative paths and implement relative paths correctly. • Validate your HTML code against web standards and understand the relevance of accessibility. • Display data within a table. • Create a form with a variety of field types. • Insert symbols using the correct HTML character entities.

2 Setting Up the Structure

1. Create a project folder for this lab, for instance lab1/
2. Open this folder in VS Code.
3. Within this folder, create:
    - a file named `index.html`
    - a folder called `images/`
    - a folder called `pages/`

Your folder structure should resemble the following:





Why is the advantage of organising all files and folders within a single root directory?

3 Your first webpage

Open `index.html` and insert the basic HTML template:

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Lab 1</title>
  </head>
  <body>
    <h1>Front-end Development</h1>
  </body>
</html>
```

Open the file in a web browser.



Which tag contains the content displayed in the browser?



Where is the text in the `<title>`-tag displayed?



Every modification requires reloading the page. The VS Code extension "Live Server" can automate this process, a feature known as "live reload".



You may also use Emmet in VS Code to generate HTML rapidly. For instance, typing ! followed by the Tab key in a new HTML file will create a complete skeleton with the essential tags.

3.1 Adding Content

Place your name within the <h1> tag.
Add a paragraph <p> introducing yourself briefly.
Highlight certain words using <b> and <i>.
Include several additional paragraphs.
Optionally, insert subheadings (<h2>, <h3>, etc.).



What is the purpose of the different heading levels (h1–h6)?



All these tags are container tags, enclosing content and providing semantic meaning. They open with <…> and close with </…>, eg. <h1>Hello</h1>

Create an unordered list <ul> of your hobbies or interests:

```
<ul>
    <li>Soccer</li>
    <li>Tennis</li>
    <li>Cycling</li>
</ul>
```



What is the function of the `<li>`-tag?



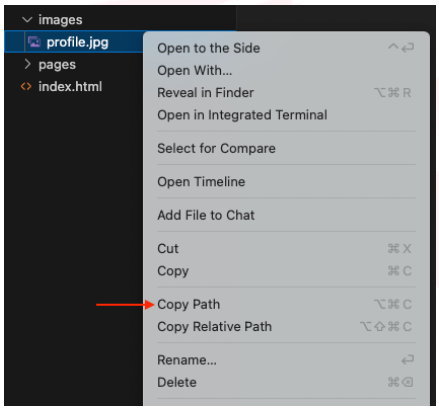
What happens if the `<ul>` tag is replaced by `<ol>`?

3.2 Images: Absolute vs Relative Paths

Place an image `profile.jpg` in the `images/` folder.
Add the image to your page using an absolute path.

Eg. on Windows C:/Users/me/Desktop/lab1/images/profile.jpg

Trouble finding a good profile picture?
[You can download a placeholder here]




```
<img src="C:/Users/me/Desktop/lab1/images/profile.jpg">
```

Ensure the file extension (.png, .jpg, .gif, etc.) matches the actual file type.

View the page in your browser. Does the path function correctly?
Now imagine copying the lab1/ project folder to a classmate's computer.

Will this absolute path still function? Why (not)?

Correct the image by using a **relative path**:

```
<img src="images/profile.jpg">
```

Test again. Note that this relative path will always work as long as the folder structure remains unchanged.

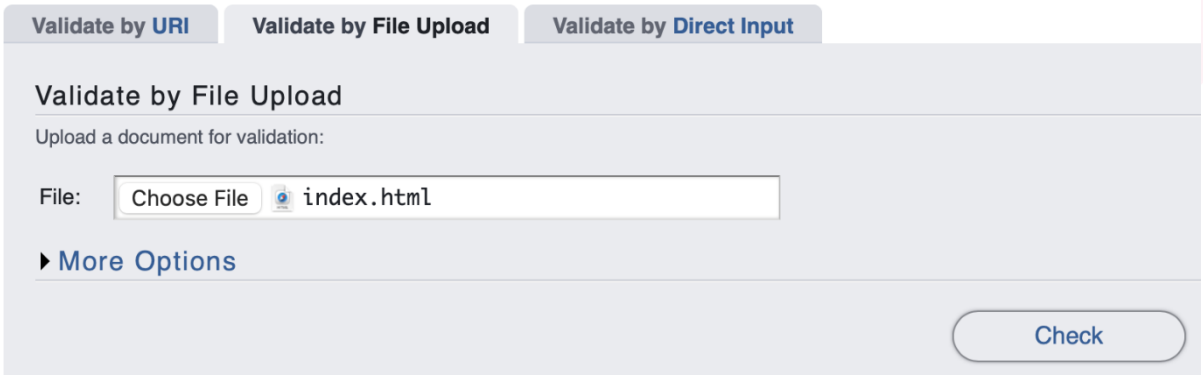
What are the primary advantages of relative paths?

The `<img>` element is a **void element** (self-closing), meaning it does not enclose content and cannot contain nested elements.

4 Validation

Access the W3C Validator.

Upload your index.html file or copy/paste the code (Direct Input).



Click “Check” and review the validation results.

What error messages do you encounter?

Add the lang attribute to the <html> tag:

```
<html lang="en">
```

Omitting the lang attribute does not trigger a validation error but instead produces a warning. Why is it still advisable to include it?

Add an alt attribute to your <img> tag:

```
<img src="images/profile.jpg" alt="my profile picture">
```

Why is the `alt` attribute mandatory according to W3C standards?

5 HTML semantic tags

Include semantic tags such as:
`<header>, <main>, <footer>, <nav>, <article>, <section>, <aside>`



Do you notice any visual change in the browser after adding these tags? Why or why not?



What is the purpose of these semantic tags?

Add an `<aside>` containing your contact information (e.g., UCLL email)

Include a `<footer>` with copyright © 2025 – your name.
lookup: https://www.w3schools.com/html/html_entities.asp



How should you insert the copyright symbol in HTML?

5.1 A Second Page

Create `reviews.html` in the `pages` folder, including a title and paragraph different from the first page.
Add a link in `index.html`:

```
<a href="pages/reviews.html">My Reviews</a>
```

In `reviews.html`, link back to `index.html`:

```
<a href="../index.html">Home</a>
```



What does ../ signify in a path?

6 Tables

6.1 Reviews table

Add a table in index.html displaying reviews of your favourite books, films, or series:

The table should look similar to the example below

Book	Review
The Hobbit	An imaginative adventure with fascinating characters
Harry Potter and the Sorcerer's Stone	A adventurous story full of magic and friendship
To Kill a Mockingbird	A thoughtful novel exploring justice and empathy

Use this HTML-structure, adapt the content to your favourite books, films or series

```
<table>
  <tr>
    <th>Book</th>
    <th>Review</th>
  </tr>
  <tr>
    <td>The Hobbit</td>
    <td>An imaginative adventure with fascinating characters</td>
  </tr>
  <tr>
    <td>Harry Potter and the Sorcerer's Stone</td>
    <td>A adventurous story full of magic and friendship</td>
  </tr>
  <tr>
    <td>To Kill a Mockingbird</td>
    <td>A thoughtful novel exploring justice and empathy</td>
  </tr>
</table>
```

Add a row between row 2 and 3.
Insert a “Score” column with values from 1 to 5.



What is the purpose of each tag?

`tr`

`th`

`td`

6.2 Validating Your Entire Site

1. Visit the W3C Validator.
2. Validate both `index.html` and `pages/reviews.html`.
3. Correct all errors and warnings.



What have you learned from validating your pages?



Why is it beneficial to validate your HTML even if the page displays correctly in the browser?

7 Forms

Add a form to the index page, placing it within the `<aside>` created previously.

```
<form>
  <label for="fname">First name:</label>
  <input type="text" id="fname" name="fname" value="John"><br>
  <label for="lname">Last name:</label>
  <input type="text" id="lname" name="lname" value="Doe"><br>
  <label for="message">Message:</label>
  <textarea id="message" name="message">Write your message here...
  </textarea>
</form>
```



What is the purpose of the `for`-attribute on the `label` element? Why is it needed?

Change one of the input elements' type attribute to "checkbox".



What visual change occurs?



What are the different types an input field can be set to?

8 Next Steps

Experiment further with HTML. Additional tags to explore include:

- Expand your tables: https://www.w3schools.com/html/html_tables.asp
- Incorporate multimedia: <video>, <audio>
- Explore: <dl>, <figcaption>, <figure>

9 Submitting Your ZIP File

1. Rename the main folder from lab1 to `firstname_lastname_lab1` (e.g., `Doe_John_lab1`).
2. Compress the folder into a ZIP file using Windows Explorer or Finder (Mac). Do not use .gzip, .7zip, or .rar!
3. Upload the resulting file `firstname_lastname_lab1.zip` to the Toledo assignment.

10 Reflection



Which aspects did you find most challenging? What remains unclear?



What do you anticipate learning when CSS is introduced?