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TLV Coding Bootcamp

<Welcome to our>
</COURSE: HTML5>



Developers.Institute

Intense, career-oriented courses

What Will be Covered?

— — —

- HTML Overview
- File Structure
- Tags
- Elements
- Attributes
- Practical Exercises

What is HTML?

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- HTML (HyperText Markup Language) is a computer language developed by British physicist Tim Berners-Lee in 1990 for creating websites and web applications.
- Code written in the HTML language translates into a beautiful, well-formatted text or a combination of text and media when viewed through a browser.

HTML File Structure

A HTML file is a text file with the `.html` extension.

The code in the file needs to start with `<!DOCTYPE html>`.

An HTML element is defined by a start tag and an end tag, with the content inserted between:

```
<element-type>My content</element-type>
```

Notice how a tag is closed with the `/`

Some tags don't need to be closed, they're called **orphan tags**

HTML File Structure

- The html code is separated in two big parts, the `<head>` and the `<body>`.
- The body is the visible part of the html code, while the head is here to add some config to the file.
- Before content is added, most HTML files basically look like this:

```
<!DOCTYPE html>
<html>
<head>
  <title>Title of the document</title>
</head>

<body>
  The content of the document.....
</body>

</html>
```

HTML Tags

When it comes to HTML, tags make the difference between whether your document is displayed as ordinary text or 'transformed text'. This 'transformed text' is a code that can display a series of things (hyperlinks, images, media, or other methods of formatting).

Let's take a look at the sentence "He is a boy" as an example:

The `` tag is used to make text bold HTML.

In raw HTML we have `He is a boy` which the browser then translates to: **He is a boy**

Italics

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“He is a boy” could also come out italicized.

This is achieved using the `<i></i>` tag.

We have: `<i>He is a boy</i>` which then comes out as *He is a boy*.

Hyperlinks

The `<href>` tag is used to make hyperlinks in HTML.

Example:

[Developers Institute](https://developers.institute)

In raw HTML we have: `Developers Institute`

HTML Tags

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- Tags are practically the building block of HTML – you can't do HTML without tags! If you're stuck on which tag to use, remember that google is your best friend!
- Almost every open tag must be closed , but there are a few exceptions (ie
)
- Tags are contained in less than ("<") and greater than (">") angle bracket. Closing tags contain a trailing slash that becomes before the name of the tag being closed. Example of an open tag: . Example of a closed tag .
- Every HTML file begins with the opening tag <html> and ends with the closing tag </html>. The first line of the HTML file should declare the type of document so that the browser knows what HTML flavor you use. This is why you see HTML pages start with "<!DOCTYPE html>" before the HTML code begins.

Introduction to Elements

In HTML, an “element” consists of the opening and closing tag as well as the content between the tags.

In the “He is a boy” (in bold) example, we have this in HTML: `He is a boy`. The text “He is a boy” is surrounded by an open and closed tag. Everything, including the opening tag, the content and the close tag is an element.

When a tag is opened, content is introduced and the tag is closed, we have an element.

An element could be in a basic form or in a complex form. Why? Because anything in between an open tag and a closed tag as well as those tags is an element. It means that we can have elements within an element. In our current example, “he is a boy” (`He is a boy`) is an element.

You will notice that we said earlier that the HTML documents contain the tag before the content begins. The content could include hundreds of different elements, but all these elements are part of the “body” element (since the body element is open, contains content and is then closed).

Introduction to Attributes

While HTML documents basically use tags for everything, we sometimes want to communicate additional information inside an element. In this case, we use an **attribute**. The attribute is used to define the characteristics of an element and it's used inside the opening tag of the element. Attributes are made up of a name and a value.

Note that the value of an attribute is placed inside a quotation mark using the format

```
<tag attribute="value">Your Text</tag> .
```

Example

```
<p align="center">He is a boy</p>
```

In this example, we are instructing that “He is a boy” is aligned in the center of the document.

Headings

There are six heading tags in HTML: `<h1>` to `<h6>`, with the `<h1>` tag indicating the most important heading and the `<h6>` tag indicating the least important heading.

```
<h1>h1 heading</h1>
```

```
<h2>h2 heading</h2>
```

```
<h3>h3 heading</h3>
```

```
<h4>h4 heading</h4>
```

```
<h5>h5 heading</h5>
```

```
<h6>h6 heading</h6>
```

Paragraphs

— — —

Paragraphs can be created with the `<p>` tag.

```
<p>This is your first paragraph.</p>
```

```
<p>This is your second paragraph, and you will be creating many more  
paragraphs.</p>
```

Keep in mind that writing in HTML is very different from writing in pure text. Therefore, if you break up text inside HTML without starting a new paragraph, it won't really matter when the text is displayed by the browser. Instead, you want to use a line break, which is represented by the `
` tag.

Break Tag

— — —

```
<p>This is a new paragraph.  
And I want to use a number of new lines.  
So I'm breaking it up.</p>
```

Prints: This is a new paragraph. And I want to use a number of new lines. So I'm breaking it up.

```
<p>This is a new paragraph.<br>And I want to use a number of new lines.<br>So I'm  
breaking it up.</p>
```

Prints:

This is a new paragraph.

And I want to use a number of new lines.

So I'm breaking it up.

*Note that the line break (`
`) tag is an empty tag, so you don't have to close it.

More Tags

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- `<hr>` tag creates a horizontal line
 - Does not require a closing tag
- `<u>He is a boy</u>` comes out as He is a boy
- `_{He is a boy}` comes out as _{He is a boy}
- `^{He is a boy}` comes out as ^{He is a boy}

Exercise

Create a structured html file as explained above.

Write the first section of your CV: Include your name, job title, contact info and relevant skills. Style this small text with paragraph, headings, italic and bold characters.

```
<!DOCTYPE html>
<html>
<head>
  <title>Sample CV</title>
</head>
<body>

  <h1>Mitchell Neides</h1>
  <h4>mitch.neides@gmail.com<br>123-4567890</h4>

  <h3>Full Stack Software Developer</h3>

  <h4>Relevant Skills:</h4>

  <p>HTML, CSS, Javascript, Python</p>

</body>
</html>
```

Mitchell Neides

mitch.neides@gmail.com

123-4567890

Full Stack Software Developer

Relevant Skills:

HTML, CSS, Javascript, Python

Ordered and Unordered Lists

— — —

Ordered List:

1. HTML
2. CSS
3. Bootstrap

Unordered List:

- HTML
- CSS
- Bootstrap

Ordered and Unordered Lists

— — —

Ordered List:

```
<ol>  
  
  <li>Item 1</li>  
  
  <li>Item 2</li>  
  
  <li>Item 3</li>  
  
</ol>
```

Unordered List:

```
<ul>  
  
  <li>Item 1</li>  
  
  <li>Item 2</li>  
  
  <li>Item 3</li>  
  
</ul>
```

The `` tag is used to indicate each item on the list. When making a list, you can use the `` tag to indicate an ordered list (“o” = ordered and “l” = list) or the `` tag to indicate an unordered list (“u” = unordered and “l” = list).

Nested lists

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We can also have nested lists or a list within a list.

Example

- Item 1
 - Item 1 nested
 - Item 2 nested
 - Item 3 nested
- Item 2
- Item 3

This can be created with:

```
<ul>  
  <li>Item 1  
    <ul>  
      <li>Item 1 nested</li>  
      <li>Item 2 nested</li>  
      <li>Item 3 nested</li>  
    </ul>  
  </li>  
  <li>Item 2</li>  
  <li>Item 3</li>  
</ul>
```

Updating our Exercise

```
<h1>Mitchell Neides</h1>
<h4>mitch.neides@gmail.com<br>123-4567890</h4>

<h3>Full Stack Software Developer</h3>

<h4>Relevant Skills:</h4>
<ul>
  <li>HTML</li>
  <li>CSS</li>
  <li>Javascript</li>
  <li>Python</li>
    <ul>
      <li>Python 2</li>
      <li>Python 3</li>
    </ul>
  <li>Java</li>
</ul>
```

Mitchell Neides

mitch.neides@gmail.com
123-4567890

Full Stack Software Developer

Relevant Skills:

- HTML
- CSS
- Javascript
- Python
 - Python 2
 - Python 3
- Java

Hyperlinking

— — —

The web is one massively interconnected network of pages. If you create a website – whether internally or externally, or both – you will have to link to other pages. A link to an internal page on your website, or to an external page on the web, is called a hyperlink. While people usually link a text, any HTML element – an image, for example – can be linked.

The `<a>` tag is used to define links in HTML, while the “href” attribute is used to specify the destination of a link. The link is then put into a quote after the “equal to” sign before the tag is closed.

Example

```
<a href="https://websitesetup.org">YOUR LINK TEXT HERE</a>
```

Will come out as [YOUR LINK TEXT HERE](https://websitesetup.org)

Hyperlinking - Local Files

Now, assume you are linking to a local file in which you have all your HTML pages in the same folder. In this case you don't have to include a website URL. Just add the file path. For example, if linking to a file titled about-page.html, your hyperlink becomes:

```
<a href="about-page.html">YOUR LINK TEXT HERE</a>
```

Which links to the about-page.html file.

If the HTML file you want to link to is local but in a folder different from the main folder, you simply specify the file path. For example, if the file is in the "files" folder under the main document where your current document is, your hyperlink goes something like this:

```
<a href="files/about-page.html">YOUR LINK TEXT HERE</a>
```

Hyperlinking Attributes

You might want to specify how you want the link to be opened. For example, you may want to open in a new window/tab. You will use target attribute for that.

Example

```
<a href="about-page.html" target="_blank">YOUR LINK TEXT HERE</a>
```

Specifies that the link should be opened in a new tab.

```
<a href="about-page.html" target="_self">YOUR LINK TEXT HERE</a>
```

Specifies that the link should be opened in the same tab.

Images

Images are added to an HTML document with the `` tag. The `` tag is an empty tag, so it doesn't need to be closed.

Example

```

```

This is a basic example of telling the browser to display an image titled “heisaboy.jpg” pulled from the same directory as the HTML document. The “alt” attribute tells the browser to show a text (known as an “alternative text”) called “He is a boy” if for some reason the browser or internet settings prevents the browser from displaying images. If you want to pull an image in another directory, or on an external site, the full address/path should be specified.

Images Continued

Going beyond the basics, we could also use other attributes to better customize the image. For example, the “style” attribute can be used to specify the width, the height or both.

Example

```

```

Exercise

Work on the html file you previously created

Make ordered and unordered lists of your skills ... Don't forget to style it a bit

Create links (that open in a new tab) to your LinkedIn/social media profile

Add an image to your page (bonus: add 2 - 1 linked to an image from the internet and 1 image stored locally on your computer)

Tables

As you get deeper into HTML, you will want to learn various ways to present information in a more organized way. One such way is through the use of tables.

Tables are created with the `<table>` tag. Each header in a table is specified with the `<th>` (“table header”) tag while each row is specified with the `<tr>` (“table row”) tag. The table data is then indicated with the `<td>` tag.

```
<table>
  <tr>
    <th>Table Header 1</th>
    <th>Table Header 2</th>
    <th>Table Header 3</th>
  </tr>
  <tr>
    <td>Input 1 under header 1</td>
    <td>Input 1 under header 2</td>
    <td>Input 1 under header 3</td>
  </tr>
  <tr>
    <td>Input 2 under header 1</td>
    <td>Input 2 under header 2</td>
    <td>Input 2 under header 3</td>
  </tr>
  <tr>
    <td>Input 3 under header 1</td>
    <td>Input 3 under header 2</td>
    <td>Input 3 under header 3</td>
  </tr>
</table>
```

Table Header 1

Table Header 2

Table Header 3

Input 1 under header 1 Input 1 under header 2 Input 1 under header 3

Input 2 under header 1 Input 2 under header 2 Input 2 under header 3

Input 3 under header 1 Input 2 under header 2 Input 3 under header 3

Note that the table still needs some styling work to look nice and clear. For this we'll need to use CSS, which we'll get into in our next lesson.

Comments in HTML

— — —

When doing any form of coding, it is important to learn how to include comments in your code. Comments are used to make your code more organized. You can include a reminder to yourself or a note to others to make things easier.

Initially, it might not seem important, but when you start writing hundreds or thousands of lines of code, and when things seem to start to get complicated, comments will come in handy.

Comments won't be shown to the viewer by the browser. Remember that they can be seen in the source code.

Comments can also be used anywhere in the code. They won't change the function of your code in any way.

Comments Continued

Example

```
<!-- This is a comment used to indicate information I want to remember, or that I  
want others to take note of, when looking at this code in the future -->
```

It is also worth noting that, especially when debugging, you can comment out lines of code. This way, the code remains in the document but does not function since you have commented it.

Exercise

You just decided to open a restaurant and you need to make a menu for your website. Let's use our new skills to do this ourselves and save some money!

Try to make it look as nice and professional as possible using as much of the elements that we learned today as you can.

You are encouraged to go above and beyond, but you must include at minimum:

- A big header for your restaurant title
- A couple sentences underneath as a greeting/explanation to your restaurant theme (which tag would you use for this?)
- A table for your menu items with at least 3 columns (dish name, description, price)
- At least 1 picture

Don't worry about the styling yet, we'll get to that later.

Forms

HTML Forms are required to collect different kinds of user inputs, such as contact details like name, email address, phone numbers, or details like credit card information, etc.

You can see HTML forms on (almost) every web site, like the “sign in” section.

Here is a simple form example:

```
<form>
  <label>Username: <input type="text"></label><br>
  <label>Password: <input type="password"></label><br>
  <input type="submit" value="Submit">
</form>
```

Username:

Password:

Forms Continued

To define a form, use the `<form></form>` element.

The `<input>` tag allows you to specify various types of user input fields, depending on the `type` attribute. An input element can be of type:

- text field
- password field
- checkbox
- radio button
- submit button
- reset button
- file select box

And a lot more !

Exercise

— — —

If someone wants to place an order from our restaurant for delivery, we need a way to know where to bring it to them...

So, let's create a form!

Get creative, but make sure your form includes at least fields such as:

- Name (first and last)
- Phone number
- Address
- Try using radio buttons (ex: "Will you need silverware?" section where the user can select yes/no)
- Submit button

Challenge: Can you put this form on a new page and create a link on your menu that accesses it?

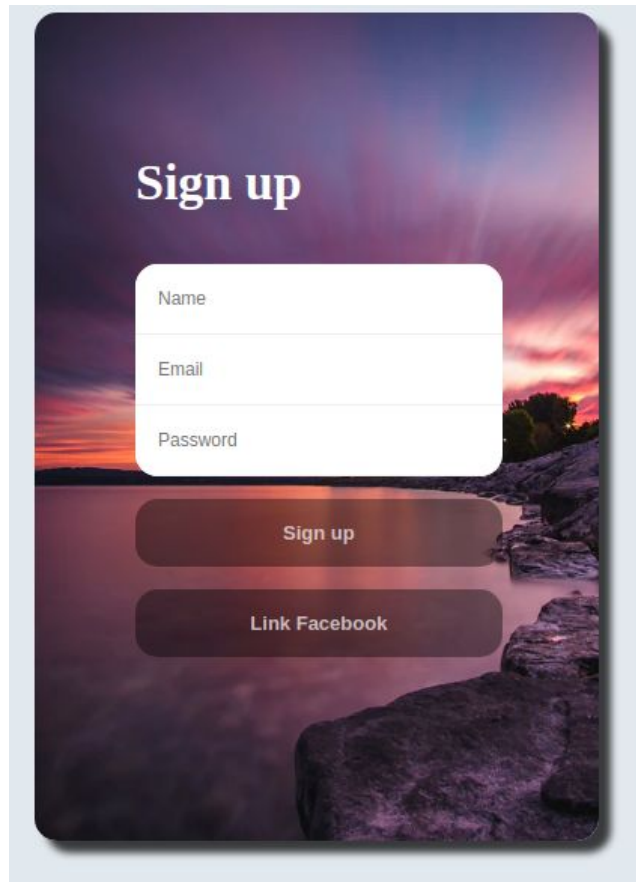
Teaser

Going from this:

Sign up

<input type="text" value="Name"/>	<input type="text" value="Email"/>	<input type="text" value="Password"/>
<input type="button" value="Sign up"/>	<input type="button" value="Link Facebook"/>	

To this:

A modern, visually appealing sign-up form. The background is a vibrant sunset over a body of water with rocks in the foreground. The form is a white rounded rectangle with three input fields labeled 'Name', 'Email', and 'Password'. Below the fields are two dark, rounded buttons labeled 'Sign up' and 'Link Facebook'. The overall aesthetic is clean and professional.

Sign up

Conclusion

— — —

- Though these are just the basics, we learned a lot today!
- Now have the tools to build the foundation of any website.
- Practice, practice, practice!
- Resource: <https://www.w3schools.com/html/>
- Next class: Styling with CSS