

Introduction to HTML & CSS

Elements, attributes, values and Hello World!

Unit 1
Lesson 2

- Welcome to our second lesson for the course
Introduction to HTML & CSS

Last Lesson

- Networks
- The Internet
- The World Wide Web
- WWW History
- File Management



- In our last class we learned that networks are made up of connected devices sharing information.
- We also learned that the Internet is a global network of networks and that The Internet and the WWW are not the same thing.
- We learned that the WWW is an information space on the Internet.
- And in our lab time we learned a little about the history of the WWW
- and we also had a review of file management in Windows 10 and how important that is to web developers.

This Lesson

- Core Web Languages
- HTML
- Elements and Tags
- Attributes and Values
- Hello World!



- Today we'll look at the languages we will be learning in this course.
- We'll define HTML and
- learn about elements and tags.
- We'll learn about attributes and values
- Then in our lab time we'll put this all together and write our first web page titled, Hello World.

Core Technologies of WWW:

- HTML, Cascading Style Sheets (CSS) and JavaScript are foundation technologies of WWW.
- HTML provides the structure for web pages.
- Cascading Style Sheets (CSS) defines the look and layout of a web page's content.
- JavaScript can affect the behavior and content of web pages.

➤ HTML, Cascading Style Sheets (CSS) and JavaScript are the cornerstone technologies of WWW for displaying web pages.

➤ HTML provides the building blocks or structure for the content on web pages. HTML is the Web's core language for displaying content for everyone to use anywhere.

➤ Cascading Style Sheets (CSS) defines the look and layout of a web page's content.

CSS is designed to enable the separation of content or subject matter, which is displayed by HTML and the presentation of that content which is the job of CSS and includes things like layout, colors, and fonts

CSS is also a language.

➤ JavaScript can affect the behavior and content of web pages.

In this course will concentrate on HTML and CSS.

What is HTML?

- Hypertext Markup Language
- Hypertext can link resources
- Markup language for creating web pages and web applications.
- Called a markup language because it "marks-up" plain text.

➤ HTML or Hypertext Markup Language is one of several markup languages and is the main language for creating web pages.

Hypertext is able to link documents and other resources using hyperlinks to connect these resources or objects by clicking, key strokes or touch screens.

➤ The term markup evolved from the "marking up" of paper manuscripts which is like the revision instructions done by editors.

You could say, as a developer that you are marking up content for a web browser to display.

➤ Called a markup language because it "marks-up" plain text to with formatting information. HTML is not a programming language and writing HTML and CSS does not make you a programmer. But HTML and CSS are code and writing them does make you a coder and a web developer.

Who Defines HTML?

- The W3C (World Wide Web Consortium)



- WHATWG (Web Hypertext Application Technology Working Group)



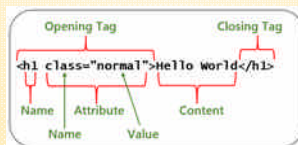
World Wide Web Consortium and the **Web Hypertext Application Technology Working Group** are groups of scientists, programmers and academics from several different countries that define the standards for the WWW. This PowerPoint will be available from the course website so bookmark these two sites and use them during this course.

What are web pages?

- Web pages are text documents formatted using HTML.
- Websites are usually multiple web pages with a common theme.
- HTML = content surrounded by elements.
- Quickly you will progress.

- Web pages are plain text files saved with the file extension .html. This causes the document to open in a web browser. As we previously discussed when we open your web page for editing, we will open it in a code or text editor.
- Websites are made up of files and folders. The root directory or main folder usually has a file in it named index.html or default.html. This is the homepage of a website. There are many types of web pages other than HTML, such as PHP: Hypertext Preprocessor pages, Active Server pages and many others. They all produce HTML in one form or another. But by far, HTML is the dominant form of web page language on the WWW.
- HTML pages are made up of text content surrounded by HTML elements. We'll learn more about elements in a moment.
- I think you will be amazed at how quickly during the course, you will be able to write stylish web pages and even publish a website with just a few key HTML elements.

Anatomy of an HTML Element



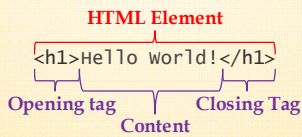
Here is the anatomy of an HTML element. The black text above is what you will actually type. We'll break it down item by item, but it is included here for reference.

What an Element does

- HTML elements describe the structure and content of a web page.
- The end user sees the content, but not the tags (HTML).
- The element is defined by the type of opening and closing tags.

- HTML elements describe the structure and content of a web page. Each element renders or displays its content according to its name or type
- The end user sees the content, but not the tags that contain the content.
- The element is defined by the type of its opening and closing tags.

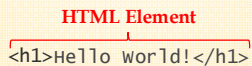
Let's Break it Down!



Elements are made up of opening and closing tags with content (plain text), between them.

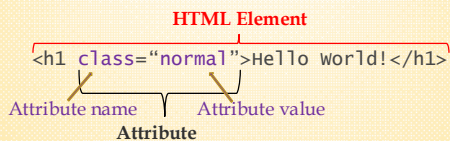
- Here we have an HTML element.
- Elements have an opening tag and a closing tag and content in between them.
- Tags begin with a less than < sign and end with a greater than > sign.
- The opening tag's name follows the first < sign.
- Closing tags contain a forward slash / before the tag name.
- The example above is a 1st level heading element because it begins with an "h1" tag.

Attributes



- This is the h1 element we just used.
- The opening tag of an element may also contain one or more **attributes**.
Attributes give additional information about the element.

Attributes: Break Down!



- Here is the element with the attribute. The attribute goes right after the name.
 - **Attributes** consist of a **name** and a **value**. The name, value pair are separated by an = sign.
 - The value is enclosed in quotation marks. Name, value pairs are used often in programming languages to define items in your program.
- We'll learn more about attributes as we go along.

What is Hello World?

- Famous computer program.
- First example of programming.
- First used to demonstrate C.
- Here we go!



- The Hello World! Program is probably the most famous computer program ever written.
- It has been used as the first example for programmers in nearly every programming language.
- First referenced in the 1970s it has been used millions of times.
- So Writing your first HTML page using Hello World! Is a time honored practice of coders and programmers.

Hello World in HTML5!

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>
  <body>
    <h1>Hello world!</h1>
    <p>This is my first web page.</p>
    <!--This is a comment-->
  </body>
</html>
```

Here is the Hello World! HTML page. It consists of 12 lines of HTML. We will use indentation using the tab key for formatting, which helps our code to be readable. Very quickly I am going to go thru it step by step. Don't worry if you miss something, because we'll cover everything in depth during our lab time.

Let's Break it Down

```
<!DOCTYPE html>
```

Always start with the `<!DOCTYPE>` declaration. This tells the browser the version of HTML. The `<!DOCTYPE>` required by HTML5 documents is much shorter than older versions. This element is called an "empty" or "self-closing" element. It does not have a corresponding closing tag. There are several empty tags in HTML.

Older Doctypes!

➤HTML 4.01 looked like this:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD
XHTML 1.0 Frameset//EN"
http://www.w3.org/TR/xhtml1/DTD/xhtm
l1-frameset.dtd>
```

Aren't we glad we're not using the doctype statement for HTML 4.01?

Let's Break it Down

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

```
</html>
```

An HTML file always opens with `<html>` and closes with `</html>`. All the document's tags are nested in the HTML tags. **Nested** elements are elements inside of another element's tags. The **lang** attribute's value tells the browser the page content is in English.

Let's Break it Down

```
<!DOCTYPE html>
<html lang="en">
  <head>

  </head>

</html>
```

➤ Next is the head area. The information nested in the <head> tags is not visible on the web page.

Let's Break it Down

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>

</html>
```

➤ Meta tag information is for the browser. Meta tags contain information for the browser, search engines and robots.

➤ Charset attribute specifies the character encoding. Unicode Transformation Format (UTF) The goal is for browsers and web pages to be able to display any character set from any language on Earth.

➤ We will always use UTF-8.

➤ There are often multiple META tags.

➤ The <title> element is used by the browser and shows the page title on the browser window's tab.

The head area can contain much more information which we will learn later.

Let's Break it Down

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>
  <body>

  </body>
</html>
```

➤ The body element does just what it sounds like, it contains the body content of the page.

➤ Everything the user sees in a browser window is in between or nested in the <body> tags.

Let's Break it Down

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>
  <body>
    <h1>Hello world!</h1>

  </body>
</html>
```

➤ The contents of this h1 tag will be visible on the web page.

➤ The first level heading is usually large, bold print such as a main headline in a newspaper.

Let's Break it Down

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>
  <body>
    <h1>Hello world!</h1>
    <p>This is my first web page.</p>
  </body>
</html>
```

- <p> is a paragraph tag.
- The paragraph tag is one of the main content holders in HTML.

Let's Break it Down

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>
  <body>
    <h1>Hello world!</h1>
    <p>This is my first web page.</p>
    <!--This is a comment-->
  </body>
</html>
```

- Our last element for today is the comment tag. This is also an empty tag that opens with the <!-- and then the contents are the text, in this case "This is a comment" and closes with -->
- Comments are visible in the HTML but do not show on the web page. Comments allow programmers to insert instructions or explanations about their code that other programmers can read or even as personal reminders.

Hello World in HTML5!

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Hello world!</title>
  </head>
  <body>
    <h1>Hello world!</h1>
    <p>This is my first web page.</p>
    <!--This is a comment-->
  </body>
</html>
```

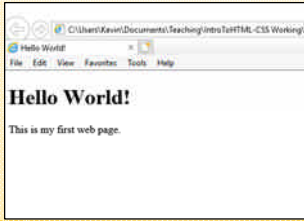
- Use lowercase (The W3C recommends lowercase for HTML.)
- Indent nested elements (Makes code easier to read and troubleshoot.)

Hello World – Step by Step

1. Go to the folder we previously created.
2. Right-click inside the class folder and create a new text document. (Name it **helloworld.html**)
3. Right-click on the helloworld.html file and choose Open With. (Open it with Notepad.exe)
4. Follow the PowerPoint notes and write your Hello World web page.
5. Save it and double-click to test it in a browser.

- Here are the steps for creating this webpage. Use this PowerPoint and your HTML5 SparkChart to write the code.
- I'll be moving around the lab to help and answer questions.

Finished Hello World!



This is the finished page which I will check at the end of lab. You will be graded on your code writing and formatting. And I will be looking to make sure the page title, heading and paragraph are all on your web page. Please remember: Do not copy and paste. The more code you type, the better you'll get at coding. Like any language; the more you do it, the more you get it.

Going Further

➤ https://www.w3.org/wiki/The_web_standards_model_-_HTML_CSS_and_JavaScript



➤ <https://www.w3.org/TR/html5/introduction.html#a-quick-introduction-to-html>

Here are two more very helpful websites to bookmark and use.

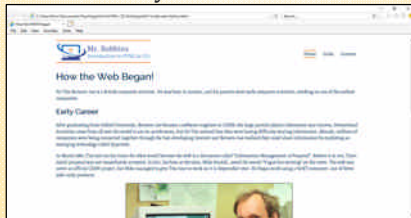
I want to end this presentation with this.

History of the WWW



Remember in the first lesson we looked at some history of the WWW. This is a plain text file on the history of the WWW. After this beginning today writing the Hello World! Web page, our next little project in the very next lesson will be adding a few HTML elements and some beginning CSS to turn this unformatted text into this: Next slide.

History of the WWW



This nice little three page website on that history. This website, which you will make, will include a logo, a menu, some images, and other content.

By taking our first simple steps in HTML and CSS we will build on these building blocks. We're going to move way beyond this point in this course and learn to add video, audio and animations and create much more sophisticated web pages.

What's Next?

- Add new HTML5 elements
- Create our course template
- Create our history web site
- Build on this foundation
- This is just the beginning
- Let's start coding!



- In our next lesson we will add new HTML5 document structure elements
- We'll create the template we will use for the rest of the course.
- We'll create our WWW history web site.
- By building on this simple foundation, your web pages will quickly become richer and much more stylish.
- This is just the beginning! But it is the beginning of your transition from being a WWW consumer, to becoming a WWW creator.
- Let's get to our lab now and start coding!