

HTML & CSS *for* Web Development

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Introduction

Welcome!

In this session we shall cover the essentials of HTML and CSS. The goal is to provide participants with the fundamental knowledge in WEB technologies required to support them in their web application development journey.

We begin with HTML, the standard language of the web; and then proceed through to CSS, the standard web presentational tool.

Introduction To HTML

HTML is the standard and the most widely used language for publishing web pages.

- **HTML** stands for Hypertext Markup Language
- **Hypertext**: Hypertext is a text with references to other text or material. It allows extensive cross-referencing between related sections of text and associated graphic material
- **Markup Language**: This is a system which specifies codes for formatting both the layout and style within a text file in a way that is syntactically distinguishable from the text. The code used to define elements within the document are called **Tags**.
- HTML documents are also called web pages
- HTML documents are read and displayed by **Browsers**

HTML Tags

- HTML tags are keywords surrounded by **angle brackets** `<...>`
- They are the main instructional codes
- They usually come in pairs with an **opening tag** and a **closing tag**
- **Example:** `<tag_name> </tag_name>` or `<tag_name />`

Types of HTML Tags

There are two types, namely:

- **Container Tags:** e.g. `<html> ... </html>`
- **Non Container (Empty) Tags:** `
`, ``, `<input>`

HTML Elements

An HTML element is everything from the start/opening tag to the end/closing tag. Specifically, this includes:

- **The opening and closing tags**
- **The Content** in the case of container tags
- **Required/Optional Attributes**

E.g.: `< img src = " logo.jpg" width = " 200" height = " 200" >`
`< p >`Never thought programming could be made so simple`< /p >`


Block and Inline Elements

- **Block Elements:** They are displayed vertically.
E.g. `< p > ... < /p >`, `< div > ... < /div >`
- **Inline Elements:** They are displayed horizontally.
E.g. `< a href = " #" > Link < /a >`, `< span > .. < /span >`

HTML Attributes

- Attributes are features of HTML tags which provide additional information about the HTML tags. They serve to extend the capabilities of the tags
- They are always defined in the opening tag (in the case of container tags) and appear in the body of empty tags.
- They come in name - value pairs
- Some are tag specific
- These four attributes, **style**, **title**, **class** and **id** are common to most HTML tags

Attributes



```
<h2 class = " welcome" style = " color:red" >  
  Welcome to code-s!  
</h2>
```


HTML Document Structure

Every basic web page or HTML document must define the following:

- **Document Type Declaration**
- **HTML container**
- **Head Section**
- **Body Section**

Below is an illustration

```
<!DOCTYPE html>
<html>
  <head>
    <title>.....</title>
  </head>
  <body>
    <!-- this is where you place the content you want to display -->
  </body>
</html>
```

Rules and Conventions

HTML is a loosely typed and very much forgiving language. It does not implement any strict and fast rules. However, the following are worthy of note.

- HTML files are saved with the extension **.html**
- HTML is not case sensitive
- HTML does not recognize white space
- Though HTML tags and attributes are case insensitive, it is often recommended that they are typed in lowercase letters.
- It is also recommended to use lowercase attribute names and attribute values
- Empty tags need not be closed
- HTML elements/tags can be nested (i.e. Placing one tag inside another tag)

Comments In HTML

A comment is any part of the HTML document which is not interpreted by the browser. It is usually inserted in the HTML code to make it more readable and understandable. Comments are ignored by the browser and are not displayed.

Comments are declared like this:

```
<!-- commented text -->
```

The words **commented text** will not appear in the browser window when the webpage is loaded.

COMMON HTML TAGS

The following tags are basic and you'll find yourself using most of them frequently

Name	Structure	Use
Headers	<code><h<i>i</i>>...</h<i>i</i>></code> where $i = 1, 2, \dots, 6$	Define document headings
Paragraph	<code><p>...</p></code>	Defines a paragraph
Line Break	<code>< br ></code> or <code>
</code>	Inserts a new line
Pre-formatted	<code><pre>...</pre></code>	Displays text exactly as shown in HTML source file
Center	<code><center>...</center></code>	Centers content
Horizontal Rule	<code><hr></code> or <code><hr /></code>	Inserts a horizontal line across page to indicate break between sections

Name	Structure	Use
Bold	<code>...</code>	Makes text bold face
Underline	<code><u>...</u></code>	Underlines text
Italic	<code><i>...</i></code>	Applies italic text property
Emphasis	<code>...</code>	Usually displays text in italics
Anchor	<code>...</code>	For creating hyperlinks
Image	<code></code>	Inserts images
Division	<code><div>...</div></code>	Contains block content
Span	<code>...</code>	Contains in-line content
List	<code>...</code>	Used with either the order or numbered list tag to create list of items

Name	Structure	Use
Table	<code>< table>...</table></code>	Used with other tags to create tables
Table head	<code>< th>...</th></code>	Creates table headings
Table data	<code>< td>...</td></code>	Creates table cells
Form	<code>< form>...</form></code>	Creates user forms
Input	<code>< input></code>	Creates form controls

Name	Structure	Use
Ordered List	<code>...</code>	Surrounds the list tag to create numbered list
Unordered List	<code>...</code>	Surrounds the list tag to create bulleted list
Definition Term	<code><dt>...</dt></code>	Specifies the term to be defined
Definition	<code><dd>...</dd></code>	Specifies the actual definition
Def. List	<code><dl>...</dl></code>	Used around <code><dt>...</dt></code> and <code><dd>...</dd></code> to create a list of definitions
Table	<code>< table>...</table></code>	Used with other tags to create tables
Table head	<code>< th>...</th></code>	Creates table headings
Table data	<code>< td>...</td></code>	Creates table cells

Creating Links

- **Absolute Referencing**

Links to external files/pages

E.g. `Click Here `

- **Relative Referencing**

Links to files/pages within your project

E.g. `Register `

- **Embedded Referencing**

Creates links within the same page or document

E.g. **Step 1:** Name the target/section of the page you want to link to

`SECTION `

Step 2: Next create the hyperlink/clicking hot spot

` click here to go to SECTION `

Inserting Images

Inside the **src** attribute, specify the full path to the image resource including the image name with the extension. Common extensions are jpeg(.jpg), .png, and .gif

- When image is in the same location as the html file
`< img src="background.jpg" width="1000" height="600" >`
- When image is in a folder one level above the html file
`< img src="images/background.jpg" width="1000" height="600" >`

Creating Lists

• Ordered lists

```
<ol>  
  <li>Apples</li>  
  <li>Mangoes</li>  
</ol>
```

• Unordered lists

```
<ul>  
  <li>Books</li>  
  <li>Pencils</li>  
  <li>Erasers</li>  
</ul>
```

• Definition lists

```
<dl>  
  <dt>Apples</dt>  
  <dd>They are fresh fruits</dd>  
</dl>
```

Reading Assignment

Creating Tables

Creating Forms

Activity 1

Let's practice!

Create an HTML document or a web page with the following instructions:

- Publish a few description about yourself including a 220 by 200 sized photograph.
- Create a list of schools you have attended
- Create a list of your favourite subjects or courses over the years of your education
- Create a definition list of your favourite five words
- Mark out the individual sections of the web page with appropriate headings
- Again, use appropriate tags to make the individual sections of your web page stand out clearly from each other

Activity 1

Continuation

- The content of your web page should be enough to make the page scrollable in the browser. Add additional content of your choice if necessary
- Create embedded links to help visitors quickly access the top and bottom sections of your web page. You can consider the labels **TOP** and **BOTTOM** as the clicking hot spots.