

Week One

Date: 22-03-2025

Module 1

Introduction to Web Development & HTML Basic

What is HTML?

HTML (Hyper Text Markup Language) is the most basic building block of the web. It defines the meaning and structure of web content. Other technologies beside HTML are generally used to describe a web page's appearance/presentation (CSS) or functionally/behaviour (JavaScript)

STRUCTURE OF AN HTML DOCUMENT

- `<!DOCTYPE html>`
- `<html>`
- `<head>`
- `<body>`

```
<!DOCTYPE html>

<html>

  <head>

    <title> Title Here</title>

  </head>

  <body>

    Web Page Content Goes Here.

  </body>

</html>
```

Explanation

- `<!DOCTYPE html>`: Declares the document type.**
- `<html>`: The root element.**
- `<head>`: Contains meta-information (title, links, scripts).**
- `<title>`: Sets the title of the webpage.**
- `<body>`: Contains the visible content.**

Basic HTML Elements

Headings, Paragraphs, and Text Formatting:

`<h1>Heading 1</h1>`

`<h2>Heading 2</h2>`

`<p>This is a paragraph. Bold text and italic text. </p>`

`<h1>` to `<h6>`: Headings (largest to smallest).

`<p>`: Paragraphs.

``: Bold text.

``: Italic text.

Head Tags

`<title>`

`<meta>`

`<script>`

`<style>`

Content Tags

`<h1>` to `<h6>`

``

``

`<div>`

List Tags

``

``

``

Important Tags

Empty Tags

`
`

`<hr>`

``

`<input>`

`<link>`

`<meta>`

Lists

- **Ordered List**
- **Unordered List**

Ordered List

```
<ol>

  <li>First item</li>

  <li>Second item</li>

</ol>
```

Unordered List

```
<ul>

  <li>First item</li>

  <li>Second item</li>

</ul>
```

Explanation

```
<!DOCTYPE html>: Declares the document type.

<html>: The root element.

<head>: Contains meta-information (title, links, scripts).

<title>: Sets the title of the webpage.

<body>: Contains the visible content.
```

Links, Images, and Buttons:

Link

- `Visit Example`
- `Open in new tab`
- `Send Email`
- `Jump to Section 1`

href=>Hypertext Reference

Images

```

```

```

```

Src => External/internal resource / source url

Button

```
<button>Submit</button>
```

Block and Inline Elements

- Block Elements

```
<div>This is a block element. </div>
```

```
<article>This is a block element. </article>
```

```
<section>This is a block element. </section>
```

```
<header>This is a block element. </header>
```

```
<footer>This is a block element. </footer>
```

- Inline Elements

```
<span>This is a inline element. </span>
```

```
<a href="#">This is a inline element. </a>
```

```
<strong>This is a inline element. </strong>
```

```
<em>This is a inline element. </em>
```

Week Two

Date: 25-03-2025 To 29-03-2025

Module 2

HTML Forms, Tables & Semantic Elements

HTML Forms

1. Introduction to Forms

- Forms are used to collect user input and send it to a server for processing.
- Basic Structure:

```
<form action="submit.php" method="POST">  
  
  <!-- Input fields go here -->  
  
</form>
```

2. Input Fields and Labels

- Text Fields:

```
<label for="name">Name:</label>  
  
<input type="text" id="name" name="name" placeholder="Enter your name">
```

- Password Field:

```
<label for="name">Name:</label>  
  
<input type="text" id="name" name="name" placeholder="Enter your name">
```

3. Checkboxes and Radio Buttons

- Checkbox (Multiple Selections):

```
<label>

<input type="checkbox" name="subscribe" value="yes"> Subscribe to newsletter

</label>
```

- Radio Buttons (Single Selection):

```
<p>Gender:</p>

<label>

  <input type="radio" name="gender" value="male"> Male

</label>

<label>

  <input type="radio" name="gender" value="female"> Female

</label>
```

4. Dropdown

- Create a dropdown menu:

```
<label for="country">Country:</label>

<select id="country" name="country">

  <option value="usa">USA</option>

  <option value="canada">Canada</option>

  <option value="uk">UK</option>

</select>
```

5. Submit Button and Form Submission

- **Submit Button:** Sends form data to the server.

```
<button type="submit">Submit</button>
```

- **Action Attribute:** Specifies where the form data is sent.

```
<form action="submit.php" method="POST">
```

METHOD ATTRIBUTE:

- **GET:** SENDS DATA IN THE URL (LESS SECURE, GOOD FOR SEARCH QUERIES).
- **POST:** SENDS DATA IN THE BODY (MORE SECURE, USED FOR SENSITIVE INFO).

HTML Chapter: Video, Audio, Embed, and Tables

Video in HTML

HTML allows embedding videos using the ``<video>`` tag. The ``<video>`` element supports multiple formats such as MP4, WebM, and Ogg.

1.1 Syntax

```
<video width="600" controls>

  <source src="video.mp4" type="video/mp4">

  <source src="video.webm" type="video/webm">

  Your browser does not support the video tag.

</video>
```

1.2 Attributes

- **controls:** Displays video controls (play, pause, volume, etc.).
- **autoplay:** Starts playing automatically when the page loads.
- **loop:** Repeats the video continuously.
- **muted:** Mutes the video by default.
- **poster:** Specifies an image to display before the video starts playing.

1.3 Exercises

1. Create a simple HTML page that embeds a video using the ``<video>`` tag.
2. Add multiple source files to ensure browser compatibility.
3. Use the ``autoplay`` and ``muted`` attributes and observe their behavior.
4. Apply the ``poster`` attribute with an image before the video plays.
5. Embed a video and style it with CSS for responsiveness.

2. Audio in HTML

HTML allows embedding audio using the ``<audio>`` tag, similar to the ``<video>`` tag.

2.1 Syntax

```
<audio controls>

<source src="audio.mp3" type="audio/mpeg">

<source src="audio.ogg" type="audio/ogg">

Your browser does not support the audio element.

</audio>
```

2.2 Attributes

1. **controls:** Adds play, pause, and volume controls.
2. **autoplay:** Plays audio automatically.
3. **loop:** Loops the audio after it ends.
4. **muted:** Mutes the audio by default.

2.3 Exercises

1. Embed an audio file using the ``<audio>`` tag.
2. Add multiple source formats for compatibility.
3. Use the ``loop`` attribute and test the looping behavior.
4. Create an audio player with CSS styling.
5. Combine audio and video elements on a single webpage.

3. Embed in HTML

The ``<embed>`` tag is used to integrate external content such as PDFs, videos, and applications.

3.1 Syntax

```
<embed src="document.pdf" width="600" height="400" type="application/pdf">
```

3.2 Common Uses

- Embedding YouTube videos
- Displaying PDFs
- Integrating external applications

3.3 Exercises

1. Embed a PDF file using the ``<embed>`` tag.
2. Embed a YouTube video using an ``<iframe>``.
3. Embed an external interactive map.
4. Experiment with different ``width`` and ``height`` attributes.
5. Create a webpage with both embedded video and a document.

4. HTML Tables

Tables are used to organize data into rows and columns.

4.1 Basic Table Structure

```
<table border="1">

  <tr>

    <th>Name</th>

    <th>Age</th>

    <th>City</th>

  </tr>

  <tr>

    <td>Alice</td>

    <td>25</td>

    <td>New York</td>

  </tr>

</table>
```

4.2 Adding Borders, Padding, and Spacing

```
<style>

table {

    border-collapse: collapse;

    width: 100%;

}

th, td {

    border: 1px solid black;

    padding: 10px;

    text-align: left;

}

</style>
```

4.3 Merging Cells with `rowspan` and `colspan`

```
<table border="1">

<tr>

    <th colspan="2">Full Name</th>

    <th>Age</th>

</tr>

<tr>

    <td>John</td>

    <td>Doe</td>

    <td>30</td>

</tr>

</table>
```

4.4 Exercises

1. Create a basic table with 3 columns and 3 rows.
2. Add borders, padding, and spacing to a table.
3. Use `colspan` to merge header cells.
4. Use `rowspan` to merge row cells.
5. Design a responsive table using CSS.