

HTML Complete Notes:

Introduction to Web Development Basics

HTML (HyperText Markup Language) is the foundation of every website. It defines the structure and content of a webpage. By using HTML tags properly, we can organize content and build the skeleton of any website.

But HTML alone is not enough to make a website attractive or interactive. That's where **CSS** and **JavaScript** come in.

Why Do We Need CSS and JavaScript?

- **HTML** gives us the basic layout – think of it as the *barebones structure* of a webpage.
- **CSS (Cascading Style Sheets)** adds *styling* to that structure – colors, spacing, fonts, layouts, and more.
- **JavaScript** brings *interactivity and logic* – it allows the page to respond to user actions like clicks, hovers, or form submissions.

Real-Life Analogy

- **HTML** = The car's metal body – structure without looks or behavior
- **CSS** = The paint, design, and decorations – makes it look great
- **JavaScript** = The engine and controls – makes it move and respond

What You'll Learn

In this course, we'll start by learning how to use HTML to build solid page layouts. Then, we'll bring them to life with CSS and make them interactive using JavaScript.

CHAPTER -1 (Creating Our First Website)

We begin building a website by creating a file named `index.html`.

- `index.html` is a **special default file**.
When someone visits a domain (like `www.example.com`), this file is automatically served by the web server.
- HTML files generally use the **.html** extension, though **.htm** also works.

Basic Structure of an HTML Page

- Here's what a simple HTML page looks like:

```
<!DOCTYPE html> <!-- Tells the browser this is an HTML5 document -->
```

```
<html> <!-- Root element of the HTML document -->

<head> <!-- Contains metadata like title, links to CSS, etc. -->

  <title>My First Webpage</title> <!-- The title shown in the browser tab -->

</head>


<body> <!-- All visible content of the webpage goes here -->

  <h1>Hello, World!</h1>

  <p>This is my first webpage.</p>

</body>

</html>
```

HTML Tags & Elements

- An **HTML tag** is like a container that can hold content or other tags.
- Most elements follow this structure:
`<start-tag> content </end-tag>`
Example: `<p>This is a paragraph.</p>`
- Some elements don't need a closing tag and are called **empty elements**, like:
`
` for line break, `<hr>` for horizontal line, `` for image.

Parent-Child Relationship

- `<html>` is the **parent** of both `<head>` and `<body>`.
- `<head>` and `<body>` are **children** of the `<html>` tag.

This nesting structure helps the browser understand how to render the page.

Comments in HTML

- HTML comments are **not displayed** on the webpage.
- They are used to document code, leave notes, or temporarily hide code.
- Syntax:

```
<!-- This is a comment -->
```

Case Sensitivity in HTML

- HTML is **not case-sensitive**.
- `<H1>` and `<h1>` are considered the **same** tag.
- However, best practice is to use **lowercase** for all tags to maintain readability and consistency.

You can explore the HTML of any website using:

- **Right-click → Inspect Element**
- **Right-click → View Page Source**

CHAPTER -2 (Basic HTML tags)

Where Do We Add HTML Elements?

We add HTML elements **inside the <body> tag** to define the visible content and layout of the webpage.

What is an HTML Element?

An **HTML element** includes:

- A **start tag**
- Optional **content**
- An **end tag**

`<p>This is a paragraph.</p>`

Some tags like `
` do **not** need a closing tag. These are called **empty elements**.

HTML Attributes

- **Attributes** provide additional information about HTML elements.
- They are always defined **inside the opening tag**.
- Most attributes are written in **key="value"** format.

`Visit Site`

- You can use either **single** (' ') or **double** (" ") quotes around attribute values.

Commonly Used HTML Tags

Heading Tags (<h1> to <h6>)

Used to define headings.

`<h1>` is the largest and `<h6>` is the smallest.

`<h1>Main Heading</h1>`

`<h2>Sub Heading</h2>`

Paragraph Tag (<p>)

Used to define blocks of text.

<p>This is a paragraph of text.</p>

Anchor Tag (<a>)

Used to create hyperlinks.

Click Here

Image Tag ()

Used to display images. It's an **empty tag**.

Text Formatting Tags

- **Bold:** or
- **Italic:** <i> or
- **Underline:** <u>

Bold Text

<i>Italic Text</i>

<u>Underlined Text</u>

Line Break Tag (
)

Inserts a line break (empty tag).

Line 1
Line 2

Horizontal Rule (<hr>)

Creates a horizontal line (empty tag).

<hr>

Small Text (<small>)

Displays text in a smaller font.

<small>This is small text</small>

Subscript and Superscript

- **Subscript:** <sub>
Example: H₂O
- **Superscript:** <sup>
Example: x²

Preformatted Text (<pre>)

Displays text exactly as written (with spaces and line breaks).

```
<pre>
```

This is

preformatted text

```
</pre>
```

CHAPTER -3(Creating a page layout)

Why Use the Right Tags?

Using the **right HTML tags in the right place** improves:

- Page layout and readability
- SEO (Search Engine Optimization) – better indexing by search engines
- Accessibility and user experience

Common Semantic Structure Tags

These tags help structure your page clearly:

Tag	Purpose
<header>	Top section of a page (e.g., logo, navigation)
<main>	Main content area of the page
<footer>	Bottom section (e.g., copyright, contact links)

Inside the <main> tag, we can use:

Tag	Meaning
<section>	Defines a section of related content
<article>	Independent content that makes sense on its own (e.g., a blog post)
<aside>	Extra info not part of the main content (e.g., sidebars, ads)

Note: Using these tags is not strictly required, but it creates **well-structured, SEO-friendly, and readable** layouts.

The Anchor (<a>) Tag – Adding Links

- The <a> tag is used to create **hyperlinks**.
- It needs an **href (hyper reference)** attribute to define the destination.

```
<a href="https://example.com">Visit Website</a>
```

You can place almost **any content inside** an anchor tag: text, images, headings, etc.

```
<a href="about.html"><h2>About Us</h2></a>
```

```
<a href="profile.html"></a>
```

Important:

If you're linking to a file or page in a **different folder**, make sure the path is correct.

Example:

href="pages/about.html" — This means the file is inside the pages folder.

The <div> Tag – Block Container

- The <div> tag is a **block-level** container used to group other elements.
- Commonly used for layout and styling.

```
<div class="card">
```

```
<h2>Title</h2>
```

```
<p>Description goes here.</p>
```

```
</div>
```

Think of <div> as a **box** to group and style content.

The Tag – Inline Container

- The tag is an **inline-level** container used to style parts of text without breaking the line.

Use when you want to apply styling to just a **part of a line or word**.

CHAPTER -4 (Lists, Tables and Forms)

Lists in HTML

Lists are used to display related items in a structured format.

Unordered List ()

- Used when the order of items **does not matter**
- Each item is wrapped in (list item)

```
<ul>
```

```
<li>Home</li>
<li>About</li>
<li>Contact</li>
</ul>
```

Ordered List ()

- Used when the order **does matter**

```
<ol>
  <li>Phone</li>
  <li>PC</li>
  <li>Laptop</li>
</ol>
```

Tables in HTML

Tables are used to **display data in rows and columns**.

```
<table>
  <caption>Device List</caption> <!-- Table Title -->
  <thead>
    <tr>
      <th>Name</th>
      <th>Price</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Laptop</td>
      <td>500</td>
    </tr>
    <tr>
      <td>Phone</td>
      <td>300</td>
    </tr>
```

</tbody>

</table>

Table Tags Explained:

Tag	Description
<table>	Main container for the table
<tr>	Table row
<td>	Table data (cell)
<th>	Table header (bold and centered by default)
<caption>	Title for the table (placed at the top)
<thead>	Wraps the header section of the table
<tbody>	Wraps the main data section
colspan	Merges cells across columns
<th colspan="3">Product Info</th>	

HTML Forms

Forms are used to **collect input from users**.

<form action="/action.php">

<!-- form elements go here -->

</form>

Form Attributes:

- **action:** URL where the form data is sent (usually to the backend server)
- **method:** (optional) GET or POST

Common Form Elements

Element	Description
<input>	Basic input field (text, radio, checkbox, file, etc.)
<label>	Defines a label for an input field
<textarea>	Multi-line text input
<select>	Dropdown menu
<option>	Options inside a <select>

Element	Description
<code><button></code>	Clickable button (can submit a form)
<code><input type="submit"></code>	Submits the form

Examples

Input Example:

```
<label for="name">Name:</label>
<input type="text" id="name" name="username">
```

Textarea Example:

```
<label for="message">Message:</label>
<textarea id="message" name="message" rows="4" cols="30"></textarea>
```

Dropdown Example:

```
<label for="device">Choose a device:</label>
<select id="device" name="device">
  <option value="laptop">Laptop</option>
  <option value="phone">Phone</option>
</select>
```

Checkbox and Radio:

```
<input type="checkbox" id="subscribe"> Subscribe
<input type="radio" name="gender" value="male"> Male
<input type="radio" name="gender" value="female"> Female
```

Note:

You don't need to memorize every tag.

With regular practice and real projects, you will naturally remember the commonly used ones!

Embedding Videos with the `<video>` Tag

The `<video>` tag is used to **embed and play video files** in HTML.

Basic Syntax:

```
<video src="video.mp4" controls>
```

Your browser does not support the video tag.

</video>

Common Attributes:

Attribute	Description
src	Source of the video file
controls	Adds play, pause, volume controls
width	Sets width of the video
height	Sets height of the video
autoplay	Automatically starts the video
loop	Replays the video in a loop

<video src="sample.mp4" width="500" height="300" controls autoplay loop>

Your browser does not support this video format.

</video>

CHAPTER -5 (Embedding Videos and External)

Embedding Webpages using <iframe>

The <iframe> tag is used to **embed another webpage or content inside your current page** — like videos, maps, or entire websites.

Basic Syntax:

<iframe src="https://example.com" width="600" height="400">

Your browser doesn't support iframes.

</iframe>

Example: Embedding a YouTube Video

<iframe width="560" height="315"

src="https://www.youtube.com/embed/VIDEO_ID"

frameborder="0" allowfullscreen>

</iframe>

Use Cases:

- Embedding YouTube videos
- Embedding Google Maps
- Showing external websites or pages inside your own