

HTML Media & Modern Tags

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1. Working with Images

The `` tag is used to embed images. It is a self-closing (void) tag, meaning it doesn't need a closing tag.

Essential Attributes:

- `src` : The path to the image (local file path or online URL).
- `alt` : Alternate text shown if the image fails to load (Crucial for Accessibility and SEO).
- `width / height` : Defines the dimensions of the image in pixels.
- `loading="lazy"` : Optimizes performance by loading images only when the user scrolls near them.

Code Syntax:

```
<!-- Basic Image -->
![Hero Banner](banner.jpg)
```

2. Embedding Audio

The `<audio>` tag allows you to play sound files directly in the browser.

Note: You must include the `controls` attribute. Without it, the user will see nothing on the screen because there is no default interface.

Syntax:

```
<!-- Simple Method -->
<audio src="music.mp3" controls></audio>

<!-- Professional Method (With Fallback) -->
<audio controls>
    <source src="music.mp3" type="audio/mp3">
    <source src="music.ogg" type="audio/ogg">
        Your browser does not support the audio element.
</audio>
```

3. Embedding Video

The `<video>` tag is used for video playback. Like audio, it requires the `controls` attribute for user interaction.

Key Attributes:

- `controls` : Displays play, pause, and volume buttons.
- `autoplay` : Starts the video automatically (Note: Browsers often block this unless the video is muted).
- `muted` : Mutes the audio by default.
- `loop` : Repeats the video after it finishes.
- `poster` : Displays a thumbnail image before the video plays.

Syntax:

```
<!-- Video with thumbnail and controls -->  
<video src="tutorial.mp4" poster="thumbnail.jpg" controls width="500"></vi  
  
<!-- Autoplay Background Video (Muted is required) -->  
<video src="bg-video.mp4" autoplay muted loop></video>
```

4. Iframes & YouTube Integration

The `<iframe>` (Inline Frame) tag is used to embed another HTML page or external content within your current page.

Common Uses:

- Embedding Google Maps.
- Embedding YouTube videos.
- Displaying external documents.

How to Embed YouTube Videos Correctly:

Directly copying the browser URL will NOT work. You must use the "Embed" URL format.

Wrong: `youtube.com/watch?v=VIDEO_ID`

Right: `youtube.com/embed/VIDEO_ID`

```
<iframe  
width="560"  
height="315"  
src="https://www.youtube.com/embed/fb4rgYbi84c"  
title="YouTube video player"  
frameborder="0"
```

```
allowfullscreen>
</iframe>
```

5. Modern Semantic Tags

Semantic tags give meaning to your code structure. Instead of using `<div>` for everything, use tags that describe what the content is.

- `<header>` : Top section of a page or container.
- `<nav>` : Container for navigation links.
- `<main>` : The primary content of the page.
- `<section>` : Thematic grouping of content (e.g., "Services", "About Us").
- `<article>` : Independent content (e.g., a blog post).
- `<aside>` : Sidebar or related content.
- `<footer>` : Bottom section containing copyright or contact info.

Example Structure:

```
<body>
  <header>
    <nav> ...Menu... </nav>
  </header>

  <main>
    <section id="about"> ...About... </section>
    <section id="contact"> ...Contact... </section>
  </main>

  <footer> © 2024 Saurabh Sir </footer>
</body>
```

6. Internal Linking (Bookmarks)

This technique allows users to jump to specific sections on the same page.

Step 1: Assign a unique `id` to the section.

```
<section id="python-course">  
    <h2>Python Course Details</h2>  
</section>
```

Step 2: Create a link targeting that ID using the hash (`#`) symbol.

```
<a href="#python-course">Go to Python Course</a>
```