

Web Programming : HTML

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1. Structure of an HTML Document

- An HTML (HyperText Markup Language) document defines the **structure and layout** of a webpage. HTML is not a programming language — it's a **markup language** that uses tags to describe elements like text, images, and links.
- Every HTML file follows a standard structure so browsers (like Chrome, Edge, or Firefox) can interpret and display it correctly.

Basic HTML Document Structure

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>My First Web Page</title>
  </head>
  <body>
    <h1>Welcome to My Page!</h1>
    <p>This is my first paragraph.</p>
  </body>
</html>
```

2. Common HTML Tags

HTML tags define the **building blocks** of your webpage. Tags are usually written in pairs: an **opening tag** (e.g., `<p>`) and a **closing tag** (e.g., `</p>`).

Headings (`<h1>` – `<h6>`)

Headings define titles or subtitles.

```
<h1>Main Title</h1>  
<h2>Section Heading</h2>  
<h3>Subsection Heading</h3>
```

- `<h1>` is the most important, `<h6>` is the least.
- Use them **hierarchically** — one `<h1>` per page is ideal for accessibility and SEO.

Paragraphs (<p>)

Used to display blocks of text.

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

Paragraphs automatically include margin space for readability.

Lists

Lists organize information clearly.

Unordered List (bulleted):

```
<ul>  
  <li>Apples</li>  
  <li>Bananas</li>  
</ul>
```

Ordered List (numbered):

```
<ol>  
  <li>First Step</li>  
  <li>Second Step</li>  
</ol>
```

Images ()

Displays pictures.

```

```

- `src`: path or URL to the image.
- `alt`: alternative text shown if the image cannot load — also read by screen readers.

Accessibility note: Always use descriptive `alt` text.

3. Semantic HTML

- Semantic HTML introduces **meaningful tags** that describe the role of content rather than just its appearance.
- Before HTML5, developers used non-semantic tags like `<div>` everywhere, which made structure unclear. Semantic tags make the HTML **easier to read, improve accessibility, and help search engines understand content**.

Common Semantic Elements

```
<header>
  <h1>My Blog</h1>
  <nav>
    <a href="#home">Home</a>
    <a href="#articles">Articles</a>
  </nav>
</header>

<main>
  <section id="articles">
    <h2>Recent Posts</h2>
    <article>
      <h3>Learning HTML</h3>
      <p>HTML gives structure to web content...</p>
    </article>
  </section>
</main>

<footer>
  <p>&copy; 2025 My Blog. All rights reserved.</p>
</footer>
```

Explanation of Key Semantic Tags

- `<header>` — Top area of a page or section, often contains a title, logo, or navigation bar.
- `<nav>` — Specifically contains navigation links.
- `<main>` — Represents the main content unique to the page.
- `<section>` — Groups related content into logical sections (e.g., an “About” or “Services” section).
- `<article>` — Self-contained piece of content like a news article or blog post.
- `<footer>` — Bottom section, usually for contact info, copyright, or site links.
- `<aside>` — For sidebars, advertisements, or additional context.

Why Use Semantic HTML?

1. **Accessibility:** Screen readers can navigate the page more easily.
2. **SEO Benefits:** Search engines can better index your content.
3. **Maintainability:** The structure is clearer for other developers.

Visit to know more details : <https://www.youtube.com/watch?v=20SHvU2PKsM>

Bonus: Best Practices

- Always use **semantic** elements where possible.
- Keep indentation consistent — it improves readability.
- Validate HTML using the **W3C Markup Validation Service**.
- Use **meaningful attribute names** and **accessible labels**.
- Always provide **alt text** for images.

Q & A

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