

Lesson:

HTML5



Topics Covered

- Introduction to HTML5
- Features of HTML5
- Introduction to semantic tags (nav, header, section, footer, main..)
- Benefits of using semantic tags

Introduction to HTML5

HTML was initially introduced in late 1991, and since then HTML has undergone many changes. The first version of HTML was written by Tim Berners-Lee in 1993. Since then, there have been many different versions of **HTML**. The most widely used version throughout the 2000s was **HTML 4.01**, which became an official standard in December 1999.

In 2014 **HTML 5** was published as a W3C recommendation, with the formation of the Web Hypertext Application Technology Working Group (**WHATWG**). The goal of the WHATWG was to create a new version of HTML that would meet the needs of modern web applications.

Features of HTML5

Some of the main features of HTML5 are as follows -

- **Improved Multimedia support** - HTML5 allows for integrating multimedia elements such as `<audio>` and `<video>` directly into web pages without the need for plugins like Flash.
- **Canvas element** - HTML5 introduced the `<canvas>` element, allowing dynamic, interactive graphics to be created and manipulated within a web page.
- **Geolocation API** is an API for obtaining the user's location, enabling web applications to offer location-based services.

Example: Get the user's current location.

```
<body>
  <script>
    if ("geolocation" in navigator) {
      navigator.geolocation.getCurrentPosition((position) => {
        console.log(
          `User current coordinates la=${position.coords.latitude},
          lo=${position.coords.longitude}`
        );
      });
    } else {
      console.log("geolocation is not available");
    }
  </script>
</body>
```

One popup will appear, asking the browser to know your location.

Browser Output

```
User current coordinates la=13.0541276, lo=77.7566411
```

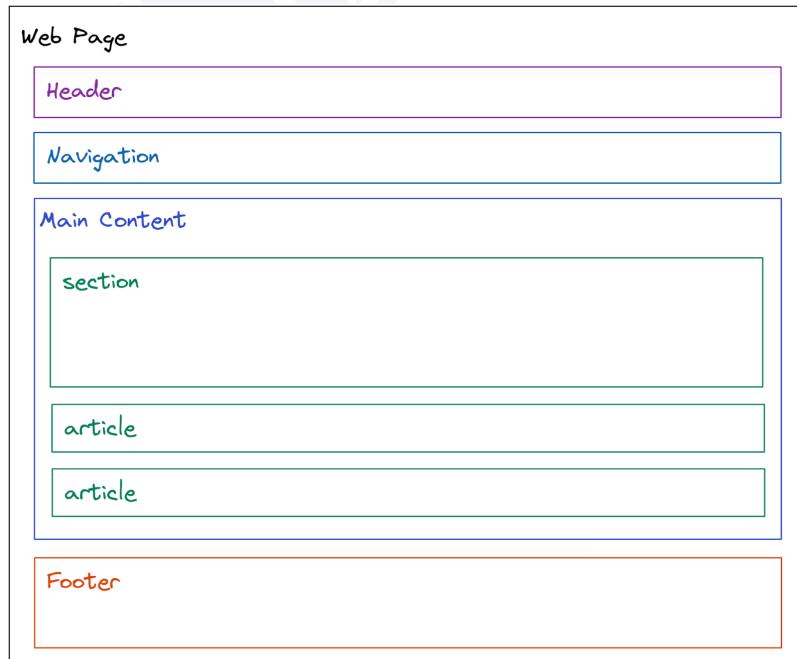
- **Local Storage** - HTML5 introduced the localStorage API, which allows for the storage of data on the user's device, improving performance and reducing the need for round-trips to the server.
- **New Structural Elements** - HTML5 introduced new semantic elements such as `<header>`, `<footer>`, `<nav>`, and `<article>`, etc. that make it easier to structure and organize content on a web page.
- **Form Improvements** - HTML5 introduced several improvements to forms, including new input types like `date`, `time`, and `color`, as well as new attributes such as `required` and `autofocus`.
- **Accessibility improvements** - HTML5 provides better support for accessibility, including the ability to provide alternative text for images and improved support for screen readers.

Introduction to semantic tags

Semantic tags are HTML tags that give **meaning to the content** of a web page beyond just its presentation. They provide information about the structure and meaning of the content, making it easier for **search engines**, **screen readers**, and other tools to understand the page and its content.

To understand semantics, we will build a web page using newly introduced structural-semantic elements in HTML.

See below web page structure,



Unlike traditional HTML tags, semantic tags focus on the meaning of the content, rather than on the visual appearance. Like in the above example, the **<header>** tag is a semantic tag indicating that the header section of a page begins, while the **<article>** tag indicates that the enclosed content is an **independent piece** of content that can stand alone, and so on.

Let's code a web page, using all common semantic tags to define a common web page structure.

```

<body>
    ←!— Header →
    <header>
        <h1>Semantic HTML Tags</h1>
        <nav>
            <ul>
                <li><a href="#">Home</a></li>
                <li><a href="#">About Us</a></li>
                <li><a href="#">Services</a></li>
                <li><a href="#">Contact Us</a></li>
            </ul>
        </nav>
    </header>
    ←!— Main content →
    <main>
        ←!— Article →
        <article>
            <h2>What are Semantic HTML Tags?</h2>

            <p>
                Semantic HTML tags are tags that give meaning to the content they surround. They provide information about the structure and meaning of the content on a web page, making it easier for search engines, screen readers, and other tools to understand the page and its content.
            </p>
        </article>

        ←!— Section →
        <section>
            <h2>Semantic Tags</h2>
            <ul>
                <li>header: Indicates the beginning of a header section</li>
                <li>nav: Defines a section of navigation links</li>
                <li>
                    article: Indicates an independent, self-contained piece of content
                </li>
                <li>
                    footer: Defines a footer section at the end of a page or article
                </li>
            </ul>
        </section>
    </main>

```

```

<!-- Footer -->
<footer>
  <p>&copy; 2023 Example Company. All rights reserved.</p>
</footer>
</body>

```

In the above example, we've used many semantic tags, such as **<header>**, **<nav>**, **<main>**, **<article>**, **<footer>**, **<h1>**, **<p>** to provide additional information about the structure and meaning of the content on the page.

These tags make the code more readable and easier to understand, both for humans and for web browsers and other tools that might be parsing the HTML.

In the below table, we have shown some semantic tags in HTML with their semantics.

Sr.no	Tags	Semantics
1	<aside>	Defines content aside from the page content.
2	<details>	Defines additional details that the user can view or hide
3	<figure>	Specifies self-contained content, like illustrations, Diagrams, photos, code listings, etc
4	<footer>	Defines a footer for a document or section
5	<header>	Specifies a header for a document or section
6	<main>	Specifies the main content of document
7	<section>	Defines a section in document
8	<nav>	Defines navigation links
9	<article>	Defines an article
10	<h1>	Defines a Heading
11	<p>	Defines a paragraph

Browser output -

Semantic HTML Tags

- [Home](#)
- [About Us](#)
- [Services](#)
- [Contact Us](#)

What are Semantic HTML Tags?

Semantic HTML tags are tags that give meaning to the content they surround. They provide information about the structure and meaning of the content on a web page, making it easier for search engines, screen readers, and other tools to understand the page and its content.

Semantic Tags

- header: Indicates the beginning of a header section
- nav: Defines a section of navigation links
- article: Indicates an independent, self-contained piece of content
- footer: Defines a footer section at the end of a page or article

Benefits of using semantic tags

- By using Semantic tags in our code, we can **provide additional information** about that document by defining the layout and sections of the webpage.
- Semantic elements are of great help to people using screen readers. The additional information provided by semantic tags **helps screen readers** understand the content better and help them to determine the different sections within a page more efficiently.
- HTML Semantic tags help the browser determine the purpose of the page and its content. Semantic tags also help in **Search Engine Optimization** as they help browsers interpret the content more easily by making content more adaptive.