# Day 12

## "Web Development + Security"

### Semantic tags:

**What are Semantic tags in HTML?**

Semantic tags in HTML are elements that clearly describe their meaning and role in the structure of a webpage, making the content more understandable for both browsers and developers. Unlike generic <div> or <span> tags, semantic tags like <header>, <footer>, <article>, <section>, <nav>, and <main> convey the purpose of the content they enclose. This improves readability of the code, enhances SEO (search engine optimization), and helps assistive technologies (like screen readers) provide better accessibility.

A basic example:

```
index.html > html > body > header > nav
E:\FullStackDevelopment\Day11-20\Day12\index.html
 3      <head>
 7      </head>
 8      <body>
 9          <!--Semantic Tags example-->
10          <header>
11              <h1>Welcome to My Website</h1>
12              <nav>
13                  <ul>
14                      <li><a href="#home">Home</a></li>
15                      <li><a href="#about">About</a></li>
16                      <li><a href="#services">Services</a></li>
17                      <li><a href="#contact">Contact</a></li>
18                  </ul>
19              </nav>
20          </header>
21      </body>
22  </html>
```
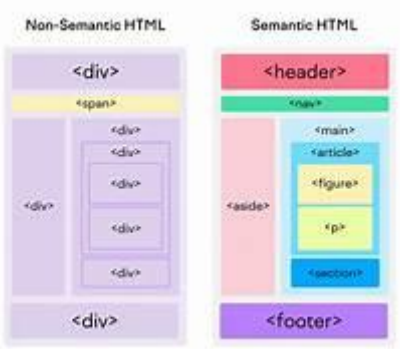
**What are Non-Semantic tags in HTML?**

Non-semantic HTML refers to elements that do not convey any specific meaning or purpose about the content they contain. Tags like <div> and <span> are non-semantic because they are used mainly for layout or styling and do not describe what kind of information is inside them. For example, a <div> could hold anything — text, images, or links — without indicating whether it's a header, article, or navigation section. Non-semantic elements are useful for structuring a webpage, but they don't improve readability, accessibility, or SEO the way semantic tags do.

A basic example:

```html
index.html > html > body > div.header
 2    <html lang="en">
 8    <body>
22        <!--Non-semantic tags example-->
23        <div class="header">
24            <h1>Welcome to My Website</h1>
25            <div class="nav">
26                <ul>
27                    <li><a href="#home">Home</a></li>
28                    <li><a href="#about">About</a></li>
29                    <li><a href="#services">Services</a></li>
30                    <li><a href="#contact">Contact</a></li>
31                </ul>
32            </div>
33        </div>
34    </body>
35    </html>
```

| Feature | Semantic Tags | Non-Semantic Tags |
|---|---|---|
| Meaning | Clearly describe the purpose or meaning of the content (e.g., <header>, <article>, <footer>) | Do not provide any meaning or context about the content (e.g., <div>, <span>) |
| Readability & Accessibility | Easier for developers and assistive technologies (like screen readers) to understand | Harder to interpret without additional information or CSS classes |
| SEO Benefit | Helps search engines better understand the page structure and content | Provides little to no help for SEO or content structure |



Note: Semantic HTML doesn't directly prevent attacks, but it makes web code cleaner, more maintainable, easier to secure, and harder to exploit — a key part of good cybersecurity hygiene.