1. What is HTML?

The main building block of the World Wide Web is HTML (HyperText Markup Language), which is also the default markup language used to create web pages and Web applications. Consider HTML like the skeleton or structural support of a website; it lays out what the content is and gives the bare bones layout of what could be interpreted by the browsers and represented to the user.

HTML is not a programming language; it's a markup language that uses a system of "tags" to define the structure and meaning of content. Its name itself hints at what it is used to do: HyperText signifies the mutually distributed associations among content because of links, Markup signifies the tags that annotate content to provide it semantic meaning, and Language signifies the uniform character that browsers comprehend to display web pages.

2. Role of HTML

➢ The roles of HTML are:

- The layout of the page (e.g., header, navigation, content, footer).
- The types of content (text, images, videos, forms, links).
- The semantic meaning of each section makes it accessible to search engines and assistive technologies.

➢ In the absence of HTML, nothing would give a browser details on how a webpage was to be presented.

3. How does HTML work?

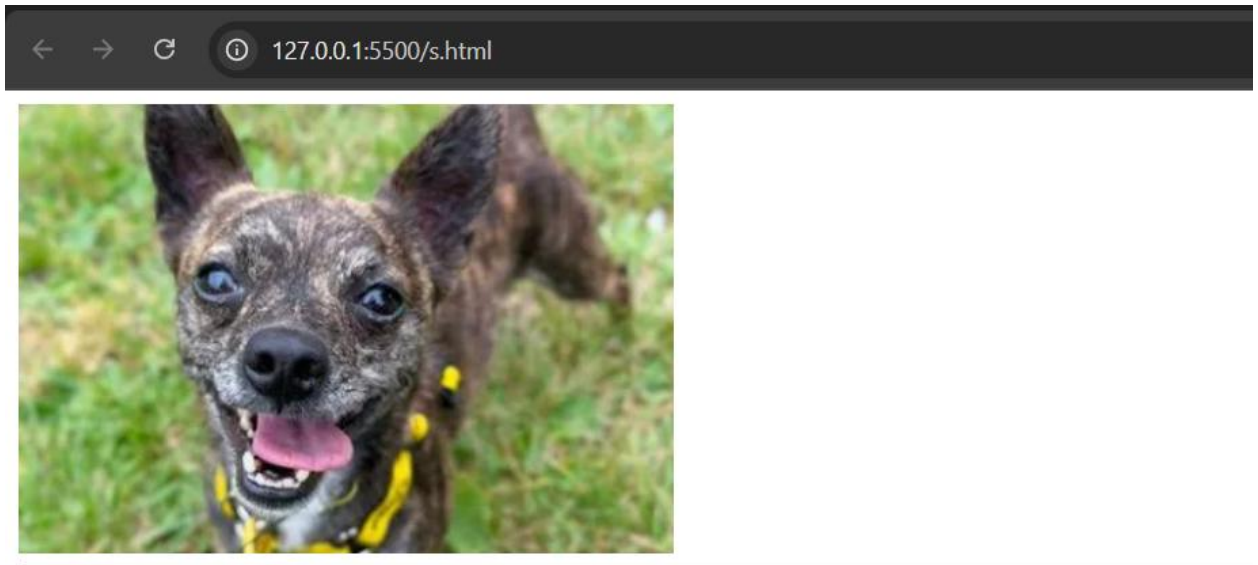➢ HTML consists of elements written inside tags. For example:

```
1   <p>
2   |     Hello World!
3   </p>
```

```
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```

Hello World!

> Elements used in the above example are:
>   1. <p> is the opening tag.
>   2. "Hello World!" is the content.
>   3. </p> is the closing tag.

> Some elements don't need closing tags, such as <img>, <br>, and <hr>. For example:

```
1   <img src="dog.jpg">
2   <br>
3   <hr>
```

4. Structure of HTML

```
s.html >  html
 1   <!DOCTYPE html>
 2   <html lang="en">
 3   <head>
 4       <meta charset="UTF-8">
 5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
 6       <title>Structure of HTMl</title>
 7   </head>
 8   <body>
 9
10   </body>
11   </html>
```

❖ Explanation of tags:
- <! DOCTYPE html> - Declares the version.
- <html>- Root element.
- <head> - Contain metadata.
- <body> - Visible content goes here.

5. Key Elements of HTML

- Headings: <h1> to <h6>

```
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Structure of HTMl</title>
7   </head>
8   <body>
9       <!--Headings-->
10      <h1>This is h1</h1>
11      <h2>This is h2</h2>
12      <h3>This is h3</h3>
13      <h4>This is h4</h4>
14      <h5>This is h5</h5>
15      <h6>This is h6</h6>
16  </body>
17  </html>
```
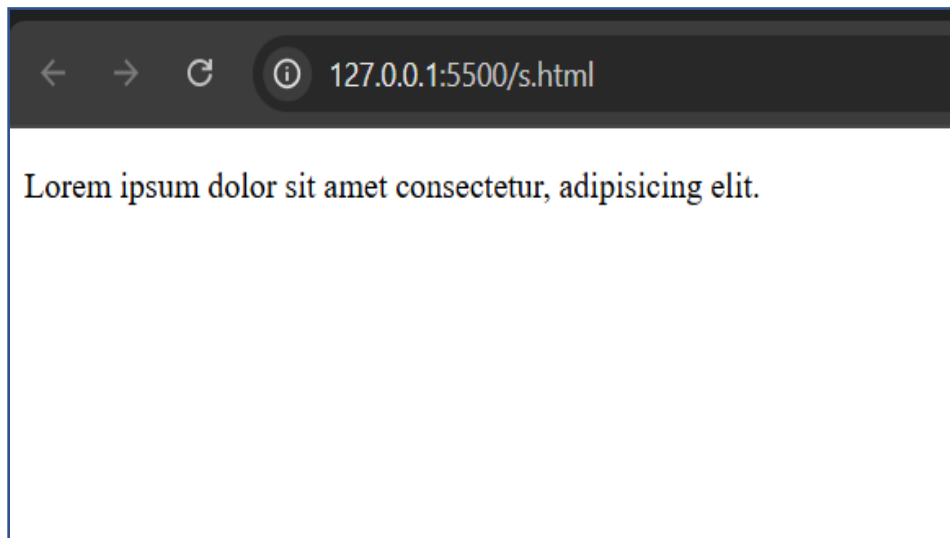
This is h1

This is h2

This is h3

This is h4

This is h5

This is h6

- Paragraphs: <p>

```
s.html > ⊘ html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Structure of HTMl</title>
7   </head>
8   <body>
9       <!--Paragraphs-->
10      <p>Lorem ipsum dolor sit amet consectetur, adipisicing elit.</p>
11  </body>
12  </html>
```
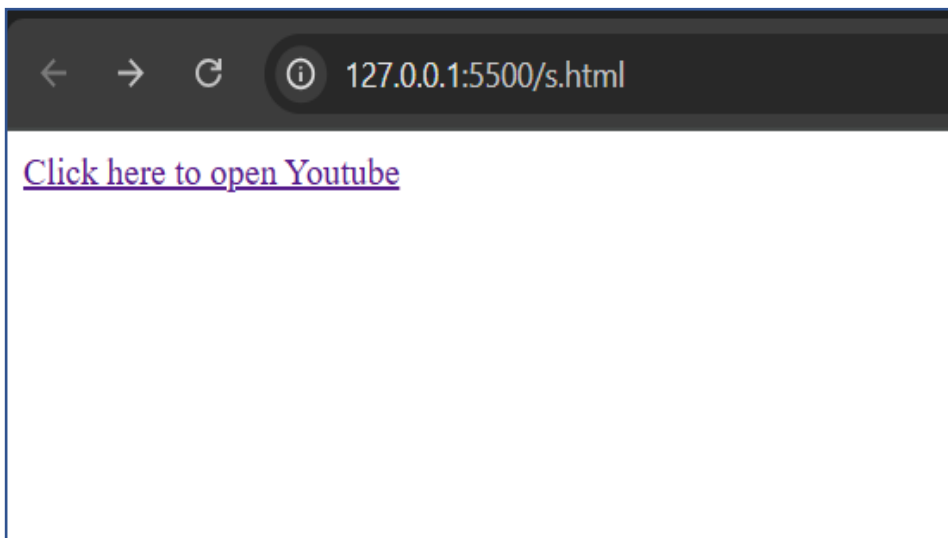
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Lorem ipsum dolor sit amet consectetur, adipisicing elit.

- Links: Youtube

```html
s.html > ∅ html
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Structure of HTMl</title>
7   </head>
8   <body>
9       <!--Links-->
10      <a href="https://www.youtube.com/">Click here to open Youtube</a>
11  </body>
12  </html>
```
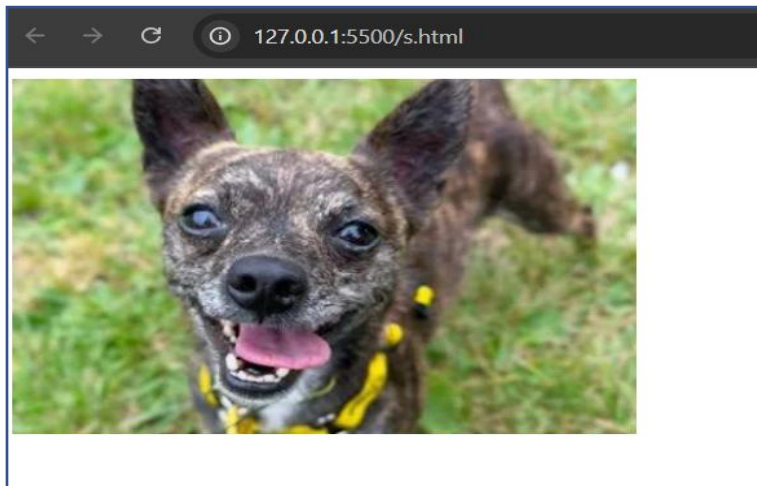
```
←  →  C   ⓘ  127.0.0.1:5500/s.html
```

Click here to open Youtube

- Images: <img src="#">

```html
s.html > ∅ html > ∅ body > ∅ img
1   <!DOCTYPE html>
2   <html lang="en">
3   <head>
4       <meta charset="UTF-8">
5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
6       <title>Structure of HTMl</title>
7   </head>
8   <body>
9       <!--Images-->
10  ✦   <img src="dog.jpg">
11  </body>
12  </html>
```
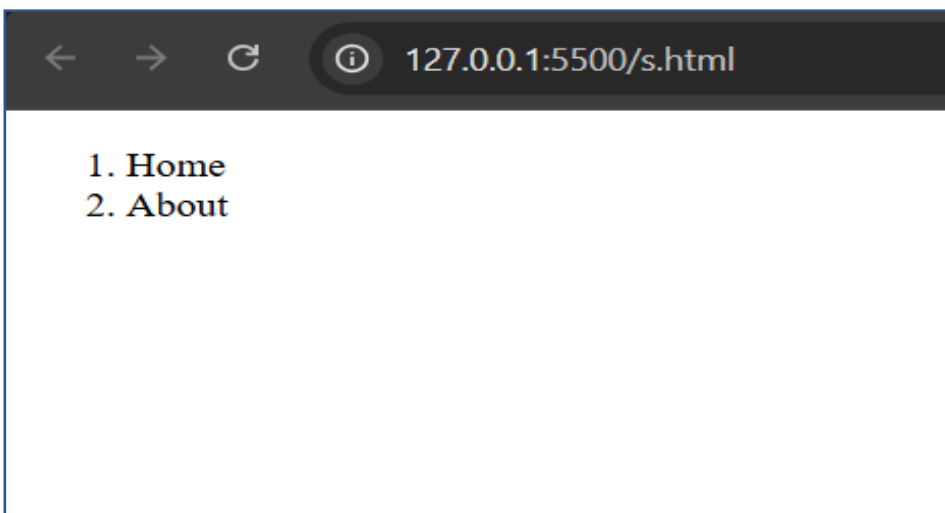
- Lists:
  a. Ordered List: Home

```html
s.html > ⊗ html
1    <!DOCTYPE html>
2    <html lang="en">
3    <head>
4        <meta charset="UTF-8">
5        <meta name="viewport" content="width=device-width, initial-scale=1.0">
6        <title>Structure of HTMl</title>
7    </head>
8    <body>
9        <!--Ordered List-->
10       <ol>
11           <li>Home</li>
12           <li>About</li>
13       </ol>
14   </body>
15   </html>
```
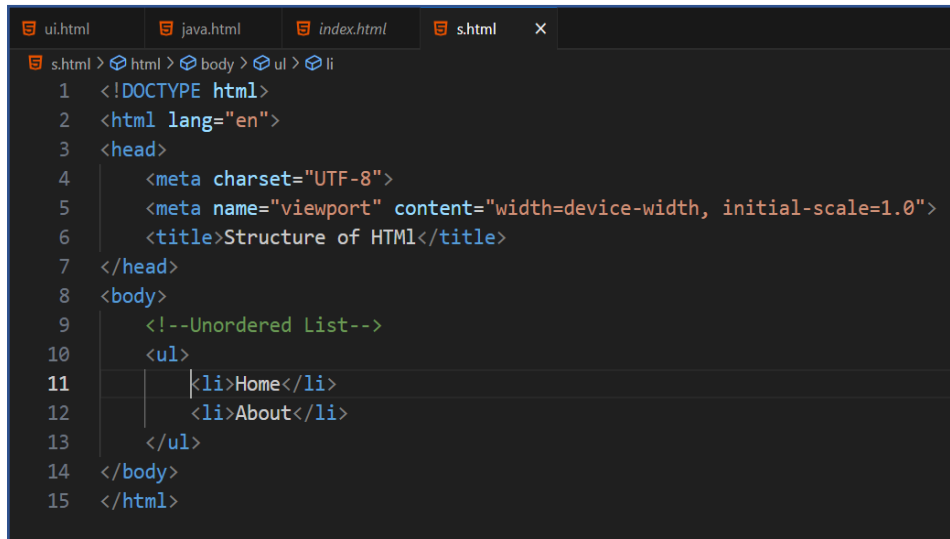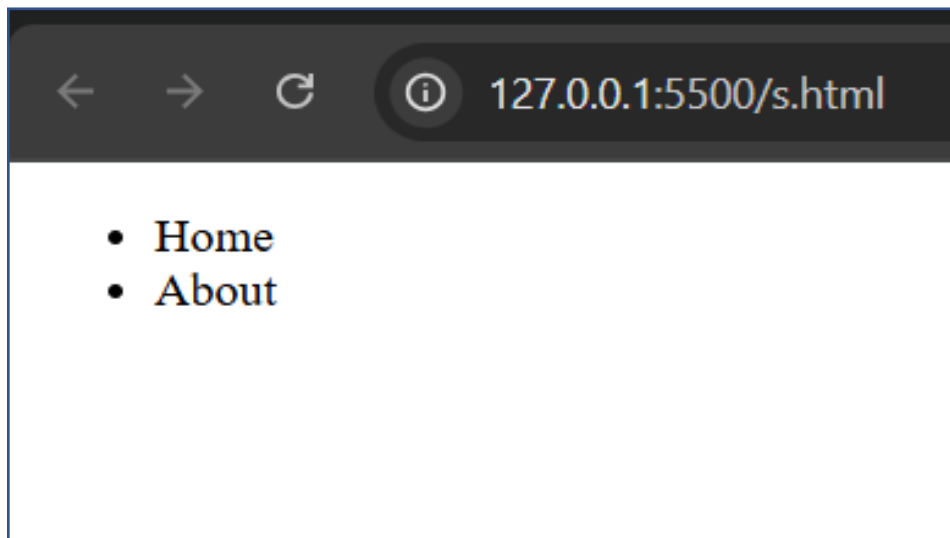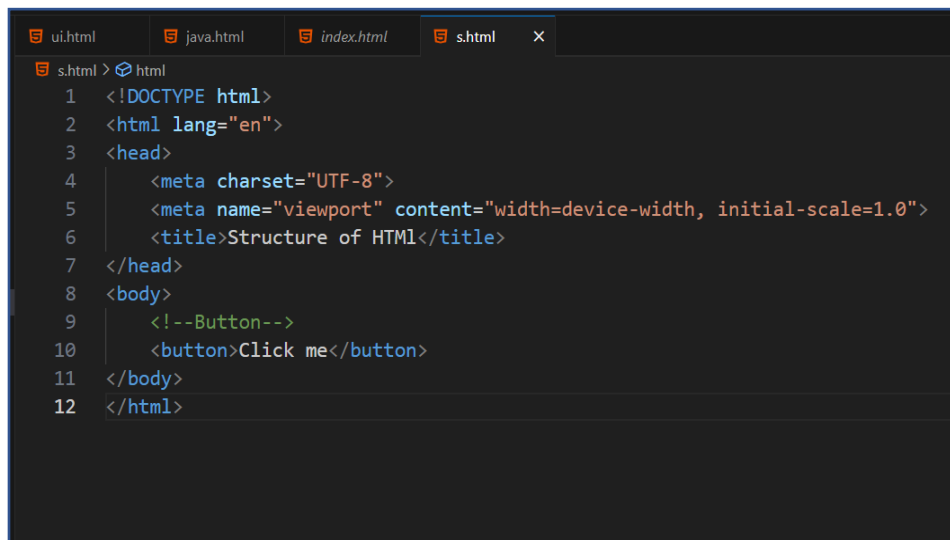

1. Home
2. About

b. Unordered List: About

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Structure of HTMl</title>
</head>
<body>
    <!--Unordered List-->
    <ul>
        <li>Home</li>
        <li>About</li>
    </ul>
</body>
</html>
```

127.0.0.1:5500/s.html

- Home
- About

• Button: <button>Click me</button>

```
ui.html        java.html       index.html       s.html       ✕
s.html > ⊘ html
   1   <!DOCTYPE html>
   2   <html lang="en">
   3   <head>
   4       <meta charset="UTF-8">
   5       <meta name="viewport" content="width=device-width, initial-scale=1.0">
   6       <title>Structure of HTMl</title>
   7   </head>
   8   <body>
   9       <!--Button-->
  10       <button>Click me</button>
  11   </body>
  12   </html>
```
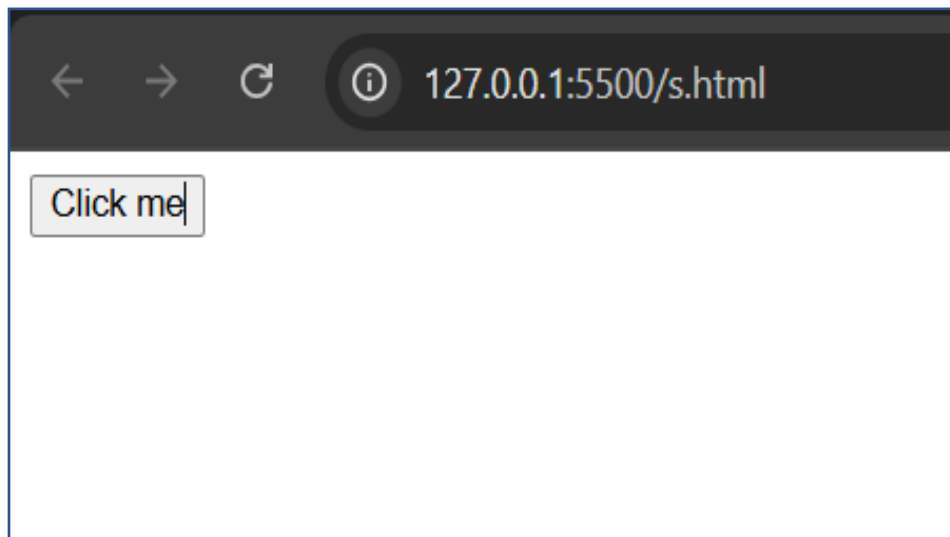
```
←   →   C   ⓘ  127.0.0.1:5500/s.html

Click me
```

6. Importance of HTML

- Principles of web development: All Web pages begin with HTML.
- Accessibility: Proper HTML makes sites usable for screen readers.
- Search Engine Optimization (SEO): Search engines use HTML tags to understand content.
- Compatibility: HTML is supported by every browser.

7. Creating Portfolio using HTML only

```
2   <html lang="en">
3   <head>
16  </head>
17  <body>
18      <h1>Sijan Gupta</h2>
19      <p>Full-Stack Developer | Designer |Problem Solver</p>
20      <a href="">About</a> |
21      <a href="">Skills</a> |
22      <a href="">Experience</a> |
23      <a href="">Projects</a> |
24      <a href="">Education</a> |
25      <a href="">Contact</a>
26
27      <h2>About Me</h2>
28      <p>I am a passionate web developer with 2+ years of experience creating responsive websites and ap
29
30      <h2>Skills</h2>
31      <ul>
32          <li>HTML5, CSS3, JavaScript (ES6+)</li>
33          <li>React.js, Vue.js</li>
34          <li>Node.js, Express.js</li>
35          <li>REST API, GraphQL</li>
36          <li>MySQL, MongoDB</li>
37          <li>Git, GitHub, Docker</li>
38      </ul>
39
40      <h2>Experience</h2>
41      <p class="p1">Senior Web Developer - ABC Company (2021-Present)</p>
42      <p>Developed modern web applications using React and Node.js, optimized performance, and led a tea
43      <p class="p1">Frontend Developer - XYZ Solutions (2018-2021)</p>
44      <p>Built responsive interfaces, integrated APIs, and collaborated with designers to enhance user e
45
```

```
41      <p class="p1">Senior Web Developer - ABC Company (2021-Present)</p>
42      <p>Developed modern web applications using React and Node.js, optimized performance, and led a tea
43      <p class="p1">Frontend Developer - XYZ Solutions (2018-2021)</p>
44      <p>Built responsive interfaces, integrated APIs, and collaborated with designers to enhance user e
45
46      <h2>Projects</h2>
47      <p class="p1">Portfolio Website</p>
48      <p>A personal portfolio showcasing projects and skills.</p>
49      <p class="p1">E-commerce Web App</p>
50      <p>Full-stack shopping application with payment integration and admin dashboard.</p>
51      <p class="p1">Chat Application</p>
52      <p>Real-time chat application built with WebSocket and Node.js.</p>
53
54      <h2>Education</h2>
55      <p class="p1">Bachelor of Computer Science</p>
56      <p>ABC University (2022-2025)</p>
57
58      <h2>Testimonials</h2>
59      <p class="p2">"Sijan is a fantastic developer who delivers projects on time and exceeds expectatio
60      <p class="p2">"A true professional with an eye for detail and great communication skills." – Clien
61
62      <h2>Contact</h2>
63      <p>Email: <a href="">sijan@example.com</a></p>
64      <p>Phone: +123 456 7890</p>
65      <p>LinkedIn: <a href="">linkedin.com/in/sijan</a></p>
66      <p>GitHub: <a href="">github.com/sijan</a></p>
67      <p>© 2025 Sijan Gupta. All rights reserved.</p>
68  </body>
69  </html>
```

Output:

Sijan Gupta

Full-Stack Developer | Designer |Problem Solver

About | Skills | Experience | Projects | Education | Contact

About Me

I am a passionate web developer with 2+ years of experience creating responsive websites and applications. My focus is on clean code, great performance, and a seamless user experience.

Skills

- HTML5, CSS3, JavaScript (ES6+)
- React.js, Vue.js
- Node.js, Express.js
- REST API, GraphQL
- MySQL, MongoDB
- Git, GitHub, Docker

Experience

Senior Web Developer - ABC Company (2021-Present)

Developed modern web applications using React and Node.js, optimized performance, and led a team of junior developers.

Frontend Developer - XYZ Solutions (2018-2021)

Built responsive interfaces, integrated APIs, and collaborated with designers to enhance user experience.

Projects

Portfolio Website

A personal portfolio showcasing projects and skills.

E-commerce Web App

Full-stack shopping application with payment integration and admin dashboard.

127.0.0.1:5500/portfolio.html

Frontend Developer - XYZ Solutions (2018-2021)

Built responsive interfaces, integrated APIs, and collaborated with designers to enhance user experience.

Projects

Portfolio Website

A personal portfolio showcasing projects and skills.

E-commerce Web App

Full-stack shopping application with payment integration and admin dashboard.

Chat Application

Real-time chat application built with WebSocket and Node.js.

Education

Bachelor of Computer Science

ABC University (2022-2025)

Testimonials

> "Sijan is a fantastic developer who delivers projects on time and exceeds expectations." — Client A

> "A true professional with an eye for detail and great communication skills." — Client B

Contact

Email: sijan@example.com

Phone: +123 456 7890

LinkedIn: linkedin.com/in/sijan

GitHub: github.com/sijan