

- WAMP is more suited for windows users, providing a straight forward setup and integration for local.

4. You are developing a web application that involves detailed interactions between clients and servers using HTTP. Your task is to ensure that the application can handle various HTTP requests and response messages correctly. Additionally, you need to understand and message common HTTP response status codes to effectively troubleshoot and handle different scenarios. Explain the structure of an HTTP request message and an HTTP response message.

Structure of an HTTP Request message:

1. Request Line: specifies the action to be performed. Common methods include,

- * GET
- * POST
- * PUT
- * DELETE
- * HEAD

Example:-

Get /index.html HTTP/1.1.

2. Headers: There are key-value pairs that provide additional information about the request. Common headers include,

- * HOST
- * USER-AGENT
- * ACCEPT
- * CONTENT-TYPE

External CSS

- * Authorization.

Example:-

Host : www.example.com

User-Agent : Mozilla/5.0 (Windows NT 10.0; Win64; X64)

Accept : text/html.

3. Blank Line : A single blank line indicates the end of the headers section.

4. message Body : contains the data being sent to the server such as form data in a POST request.

Example:-

username = john doe & password = secure password

Structure of an HTTP Response message:-

1. Status Line : The first line of the response, containing:

- * HTTP version

- * Status code.

- * Reason phrase.

Example:-

HTTP/1.1 200 OK

2. Headers : like in the request message headers in the response provide additional information about the server and the content being returned. Common response headers include.

Response header

Border - Bottom: width

* content-type

* content-length

* set-cookie

* cache-control

Example:

Content-type: text/html

content-length: 138

Common HTTP Response Status codes

Understanding HTTP status codes is essential for effective troubleshooting and managing different scenarios in your application.

* 1xx informational: Request received, continuing process.
→ 100 continue.

* 2xx success: The action was successfully received, understood, and accepted.
→ 200 OK
→ 201 created

* 3xx Redirection: further action needs to be taken to complete the request.

→ 301 moved permanently

→ 302 found

* 4xx Client error: The request contains bad syntax

or cannot be fulfilled

→ 400 Bad Request

→ 401 Unauthorized

→ 403 forbidden

Extrem

=> you NOT found

* 5xx Server error: The server failed to fulfill a valid request

=> 500 Internal Server Error

=> 502 Bad Gateway

=> 503 Service Unavailable

Conclusion:

Understanding the structure of HTTP request and response messages is crucial for handling client-server interactions effectively.

5 you are tasked with creating a simple multi-page website for a small business that includes a home page, an about page, and a contact page. To client wants the site to have a cohesive design with appealing visual elements. You need to apply various CSS styling techniques, including color schemes, typography and layout adjustments to enhance the overall look and feel of the site.

Step 1: Set up the HTML structure.

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width,
initial-scale=1.0">
    <title>Small Business - Home </title>
    <link rel="stylesheet" href="styles.css">
  </head>
```

```
<body>
  <header>
    <h1> welcome to our small business </h1>
  <nav>
    <ul>
      <li><a href = "index.html"> Home </a></li>
      <li><a href = "about.html"> About </a></li>
    </ul>
  </nav>
  </header>
  <main>
    <section class = "hero">
      <h2> your trusted partner </h2>
      <p> providing quality services and products to our
        community. </p>
    </section>
  </main>
  <footer>
    <p> © Copy, 2024 Small Business. All Rights Reserved </p>
  </footer>
</body>
</html>
```

Step 2:- Create a CSS Style Sheet

```
/* BASIC Reset */
* {
  margin: 0;
  padding: 0;
  box-sizing: border-box;
```

External CSS

```
body {  
    font-family: 'Arial', sans-serif;  
    line-height: 1.6;  
    background-color: #f4f4f4;  
    color: #333;  
    padding: 20px;  
}
```

```
header {  
    background-color: #4CAF50;  
    color: white;  
    padding: 10px 0;  
    text-align: center;  
}
```

```
header h1 {  
    margin-bottom: 10px;  
}
```

```
nav ul {  
    list-style: none;  
    padding: 0;  
}
```

```
nav ul li {  
    display: inline;  
    margin: 0 10px;  
}
```

```
nav ul li a {  
    color: white;  
    text-decoration: none;  
    font-weight: bold  
}
```

```
nav ul li a:hover {  
    text-decoration: underline;  
}
```

```
3  
main {  
    margin: 20px 0;
```

```
3  
.nav {  
    background-color: #e2e2e2;  
    padding: 20px;  
    border-radius: 5px;  
    text-align: center;
```

```
3  
.nav h2 {  
    color: #4CAF50;
```

```
3  
.about {  
    background-color: #ffffff;
```

```
3  
    padding: 20px;  
    border-radius: 5px;
```

```
3  
.contact-form {  
    background-color: #ffffff;
```

```
3  
    padding: 20px;  
    border-radius: 5px;
```

```
3  
    max-width: 600px;
```

```
3  
    margin: 0 auto;
```

```
3  
.contact-form h2 {  
    color: #4CAF50;
```

```
3  
    margin-bottom: 20px;
```

```
3
```

External CSS

```
* contact-form label {  
    display: block;  
    margin: 10px 0 5px;  
    font-weight: bold;  
}
```

```
* contact-form input,  
* contact-form textarea {  
    width: 100%;  
    padding: 10px;  
    border: 1px solid #ccc;  
    border-radius: 5px;  
    margin-bottom: 20px;  
}
```

```
contact-form button: hover {  
    background-color: #45a0ea;  
}
```

```
footer {  
    text-align: center;  
    margin-top: 20px;  
    color: #777;  
}
```

Step 3: Explanation of the CSS styling techniques.

* Global styles

* Header and navigation

* main content

* form styling

* footer

Conclusion:

This multi-page website structure, combined with cohesive styling, creates a consistent and appealing user experience. The design emphasizes clarity, easy navigation and a professional look that aligns with the small business's branding needs.