Introduction to Web Development Environment

Objectives:

- Understand the client–server model

- Set up the development environment

- Create and preview a simple web page

- Understand how to upload files to a server

Introduction   Theory   Setup   Hands-On   Wrap-Up

Introduction

Welcome & Session Goals

- Introduce the course and objectives
- Discuss how websites work
- Explain assessment overview

Activity: Icebreaker

"What's your favorite website and why?"

Take a moment to think about the websites you use most often and what makes them effective or enjoyable.

Theory Input

Key Concepts

Client–Server Model

Browser (Client) requests data from **Server**.
Server responds with web content.

HTTP vs HTTPS

Protocols for data transfer:

- **HTTP** - HyperText Transfer Protocol
- **HTTPS** - Secure version with SSL certificate

Domains & Hosting

Domain = Website name (e.g., example.com)
Hosting = Where your website files live on a server

FTP (File Transfer Protocol)

Used to upload files from your local machine to a web server.

Client–Server Interaction

1 Browser sends HTTP request

2 Server processes and responds

3 Browser renders the webpage

Practical Setup (30 min)

Step 1: Install VS Code

1 Go to https://code.visualstudio.com

2 Download and install the appropriate version for your OS

Step 2: Create Folder Structure

```
WebProject/
└── index.html
```

Step 3: Open Project in VS Code

1   Click **File → Open Folder**

2   Select `WebProject`

Step 4: Install Live Server Extension

1   Click on **Extensions** icon (or Ctrl+Shift+X)

2   Search for **"Live Server"**

3   Click **Install**

Create Sample HTML File

index.html

```
<!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 Website</h1>
  <p>This is a sample HTML file.</p>
</body>
</html>
```

Hands-On Activities

Task 1: Create Hello World Page

- Edit the `<h1>` tag to say: **"Hello World!"**
- Save the file (Ctrl+S or Cmd+S)

Task 2: Preview Locally

- Right-click on `index.html`
- Select **"Open with Live Server"**
- Observe the URL: `http://127.0.0.1:5500/index.html`

Task 3: Add Content

Add this paragraph to your HTML body:

```
<p>Today I learned how websites are created!</p>
```

Add Image Example

1   Create a folder called `images/` inside your project

2   Add an image file to the folder

3   Reference it in your HTML:

```
<img src="images/sample.jpg" alt="Sample Image">
```

Note: Discuss relative paths and file organization. The path must match your folder structure exactly!

Demonstrate Upload

Options for publishing your website:

- FTP client (FileZilla) - traditional method
- Free hosting platforms:
  - GitHub Pages

- Netlify

Concept: Drag and drop files to publish your site to the internet!

Troubleshooting Tips

Common Issues and Solutions

- **Page not loading?** → Check file name and extension (.html)
- **Image missing?** → Check the path and folder name carefully
- **Live Server not opening?** → Ensure the extension is properly installed
- **Changes not showing?** → Try refreshing the browser (F5)

Wrap-Up (15 min)

Recap: What We Learned Today

- Client-server model and how the web works
- Difference between HTTP and HTTPS
- Setting up a proper folder structure
- HTML basics and document structure
- Local preview using Live Server
- How to organize files and use relative paths

Activity

- Add more text content to your page (at least 3 paragraphs)
- Add at least one image with proper alt text
- Read the MDN article: **HTML Basics**
- Experiment with different HTML tags (try headings h2-h6)

Questions & Answers

Any questions about today's lesson?
Feel free to reach out or explore the resources provided!

Next Lesson: Introduction to CSS Styling