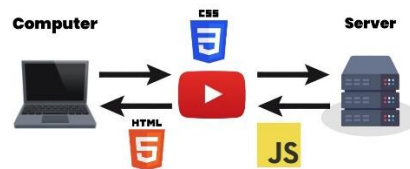# Day 1

"Web Development + Security"

Websites:

How Do Websites Work

How Websites work?

1. **User Request (Browser → Server)**
   - You type a web address (URL) into your browser or click a link.
   - The browser sends a request to a web server using HTTP/HTTPS.

2. **DNS Resolution**

   - The domain name (like google.com) is translated into an IP address using the Domain Name System (DNS) so your browser knows which server to contact.

3. **Server Response**

   - The web server receives the request and sends back the website's data (usually HTML, CSS, JavaScript, images, etc.).

4. **Browser Rendering**
   - The browser reads the HTML and builds a DOM (Document Object Model).
   - CSS styles are applied.
   - JavaScript adds interactivity.
   - Together, they render the page you see.

5. **User Interaction**
   - When you click, type, or scroll, the browser may send more requests to the server (for new data, images, API calls, etc.).

What is backend?

The backend is the hidden part of a website that handles data, logic, and server communication. It connects the frontend (what users see) with the database and processes requests to deliver the right results.

What is frontend?

The frontend is the part of a website or app that users see and interact with directly. It includes the layout, design, buttons, text, images, and overall user experience, built mainly with HTML, CSS, and JavaScript.

Note: Frontend is easier to attack, but backend attacks are more dangerous because they can compromise the whole system.