

HTTP (HyperText Transfer Protocol)

Protokol komunikasi antara browser (client) dan web server.

Bersifat stateless (setiap permintaan berdiri sendiri).

Versi:

- HTTP/1.1, HTTP/2 (cepat dan mendukung multiplexing),
- HTTP/3 (standar terbaru).
- HTTPS: HTTP + SSL/TLS (lebih aman).

Metode:

- 1) GET: ambil data,
- 2) POST: kirim data,
- 3) PUT, PATCH: ubah data,
- 4) DELETE: hapus data

Status code:

- 1) 200 OK: sukses,
- 2) 301: redirect,
- 3) 404: tidak ditemukan,
- 4) 500: error server

Header: seperti Content-Type, Authorization, Cache-Control.

Cookie & Session: simpan data pengguna.

Teknologi terkait: WebSocket, REST API, OAuth, DNS, TCP/IP.

HTML (HyperText Markup Language)

Struktur dasar halaman web, dibentuk dari tag seperti <html>, <body>, <h1>, <p>.

Form HTML:

```
html
Copy code
<form method="POST" action="/proses">
  <input type="text" name="nama">
  <button type="submit">Kirim</button>
</form>
```

Input: text, password, checkbox, radio, file, date, select/dropdown.

Multimedia: , <video>, <audio>.

Link: Klik.

Semantic HTML: <header>, <nav>, <section>, membantu SEO & aksesibilitas.

Responsive: gunakan viewport dan satuan %, vw, vh.

CSS (Cascading Style Sheets)

Mengatur tampilan elemen HTML: warna, font, layout.

Penulisan:

- 1) Internal: dalam tag <style>,
- 2) External: file .css,
- 3) Inline: langsung di elemen (tidak disarankan)

Selector:

- 1) Tag: h1 {},
- 2) Class: .judul {},
- 3) ID: #utama {}

Box model: margin, border, padding, content.

Layout:

- 1) Flexbox: untuk 1 dimensi,
- 2) Grid: untuk 2 dimensi

Position: static, relative, absolute, fixed, sticky

Media Query: responsif untuk berbagai ukuran layar.

JavaScript

a. Dasar JavaScript

Digunakan untuk membuat halaman web interaktif.

Tipe data: string, number, boolean, array, object.

Struktur kontrol: if, for, while, switch.

Variabel: let, const, var (hindari var karena scope-nya membingungkan).

- Fungsi:

javascript

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```
function sapa(nama) {  
    alert("Halo " + nama);  
}
```

- Event: onclick, onchange, onsubmit, dsb.

b. OOP (Object-Oriented Programming)

JavaScript mendukung class & object.

javascript

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```
class Mahasiswa {  
    constructor(nama) {  
        this.nama = nama;  
    }  
  
    perkenalan() {  
        return "Halo, saya " + this.nama;  
    }  
}
```

```
const mhs = new Mahasiswa("Ayu");  
console.log(mhs.perkenalan());
```

c. Standard Library

Math: Math.random(), Math.floor()

Date: new Date(), getFullYear()

JSON: JSON.stringify(obj), JSON.parse(str)

Array: map, filter, reduce, push, pop, forEach

String: split, slice, toUpperCase, includes

Bootstrap

<https://getbootstrap.com/docs/5.3/getting-started/introduction/>

Fitur Utama:

Grid system: 12 kolom menggunakan container, row, col-md-6, dll.

Komponen siap pakai:

- Tombol: <button class="btn btn-primary">Klik</button>
- Form, Card, Navbar, Alert, Modal

Utilities:

- Spasi: m-3, p-2
- Warna: bg-primary, text-white
- Teks: text-center, fw-bold, fst-italic

Responsif: class breakpoint (sm, md, lg, xl, xxl)

PHP, Bootstrap, MySQL

<https://www.petanikode.com/php-login-register/>

a. PHP Dasar

Digunakan di server untuk memproses form, login, register, dsb.

Ditulis di dalam <?php ... ?>.

b. Koneksi MySQL

php

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```
$conn = mysqli_connect("localhost", "root", "", "nama_database");
```

c. Login (berdasarkan Petani Kode)

- Form login: HTML + Bootstrap
- Ambil data: \$_POST['email']
- Query:

php

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```
$query = "SELECT * FROM users WHERE email='$email'";
```

- Cek password:

php

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```
password_verify($input, $hash_dari_db);
```

- Set session:

php

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```
$_SESSION["user"] = $data_user;
```

d. Integrasi dengan Bootstrap

Gunakan class seperti form-control, btn, alert agar tampilan rapi.

Contoh tombol:

html

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```
<button class="btn btn-success">Login</button>
```