Membuat

LANGKAH 1: Instal & Siapkan Laragon

1. **Unduh & Install Laragon** dari https://laragon.org
2. Buka Laragon dan klik **Start All** (pastikan Apache & MySQL berjalan)
3. Klik kanan ikon Laragon > **MySQL > MySQL Console**
   - Username: root
   - Password: *(kosong)* → tekan Enter

LANGKAH 2: Buat Database

Di **MySQL Console** Laragon, ketik:

CREATE DATABASE db_sekolah;

USE db_sekolah;

CREATE TABLE siswa (
 id INT AUTO_INCREMENT PRIMARY KEY,
 nama VARCHAR(100),
 nis VARCHAR(20),
 jurusan VARCHAR(50)
);

LANGKAH 3: Buat Struktur Folder di www

1. Buka folder:

   C:\laragon\www

2. Buat folder baru bernama:

   siswa_mvc

3. Di dalam siswa_mvc, buat struktur seperti ini:

```
siswa_mvc/
├── app/
│   ├── config.php
│   ├── models/
│   │   └── Siswa.php
│   ├── controllers/
│   │   └── SiswaController.php
│   └── views/
│       ├── siswa_list.php
│       └── siswa_form.php
├── public/
│   └── index.php
└── .htaccess (opsional)
```

LANGKAH 4: Isi File-File

app/config.php

```php
<?php
$host = "localhost";
$user = "root";
$pass = "";
$dbname = "db_sekolah";

$conn = new mysqli($host, $user, $pass, $dbname);
if ($conn->connect_error) {
    die("Koneksi gagal: " . $conn->connect_error);
}
?>
```

app/models/Siswa.php

```php
<?php
class Siswa {
    private $conn;
    public function __construct($db) {
        $this->conn = $db;
    }

    public function getAll() {
        return $this->conn->query("SELECT * FROM siswa");
    }

    public function getById($id) {
```

```php
        $stmt = $this->conn->prepare("SELECT * FROM siswa WHERE id = ?");
        $stmt->bind_param("i", $id);
        $stmt->execute();
        return $stmt->get_result()->fetch_assoc();
    }

    public function create($data) {
        $stmt = $this->conn->prepare("INSERT INTO siswa (nama, nis, jurusan) VALUES (?, ?, ?)");
        $stmt->bind_param("sss", $data['nama'], $data['nis'], $data['jurusan']);
        return $stmt->execute();
    }

    public function update($id, $data) {
        $stmt = $this->conn->prepare("UPDATE siswa SET nama=?, nis=?, jurusan=? WHERE id=?");
        $stmt->bind_param("sssi", $data['nama'], $data['nis'], $data['jurusan'], $id);
        return $stmt->execute();
    }

    public function delete($id) {
        $stmt = $this->conn->prepare("DELETE FROM siswa WHERE id=?");
        $stmt->bind_param("i", $id);
        return $stmt->execute();
    }
}
?>
```

app/controllers/SiswaController.php

```php
<?php
require_once './app/models/Siswa.php';

class SiswaController {
    private $model;

    public function __construct($conn) {
        $this->model = new Siswa($conn);
    }

    public function viewList() {
        $data = $this->model->getAll();
        include './app/views/siswa_list.php';
    }

    public function viewForm($id = null) {
        $siswa = $id ? $this->model->getById($id) : null;
        include './app/views/siswa_form.php';
    }
```

```php
public function store() {
    $this->model->create($_POST);
    header("Location: index.php?page=siswa&action=list");
}

public function update($id) {
    $this->model->update($id, $_POST);
    header("Location: index.php?page=siswa&action=list");
}

public function delete($id) {
    $this->model->delete($id);
    header("Location: index.php?page=siswa&action=list");
}

// === API JSON ===
public function api($method, $id = null) {
    header('Content-Type: application/json');
    switch ($method) {
        case 'GET':
            if ($id) {
                echo json_encode($this->model->getById($id));
            } else {
                $result = $this->model->getAll();
                $data = [];
                while ($row = $result->fetch_assoc()) {
                    $data[] = $row;
                }
                echo json_encode($data);
            }
            break;

        case 'POST':
            $input = json_decode(file_get_contents("php://input"), true);
            if ($this->model->create($input)) {
                http_response_code(201);
                echo json_encode(["message" => "Data berhasil ditambahkan"]);
            } else {
                http_response_code(400);
                echo json_encode(["error" => "Gagal menambah"]);
            }
            break;

        case 'PUT':
            $input = json_decode(file_get_contents("php://input"), true);
            if ($this->model->update($id, $input)) {
                echo json_encode(["message" => "Data berhasil diupdate"]);
```

```php
            } else {
                http_response_code(400);
                echo json_encode(["error" => "Gagal update"]);
            }
            break;

        case 'DELETE':
            if ($this->model->delete($id)) {
                echo json_encode(["message" => "Data berhasil dihapus"]);
            } else {
                http_response_code(400);
                echo json_encode(["error" => "Gagal hapus"]);
            }
            break;
        }
    }
}
?>
```

app/views/siswa_list.php

```php
<h2>Data Siswa</h2>
<a href="index.php?page=siswa&action=form">+ Tambah Siswa</a>
<table border="1" cellpadding="8">
<tr>
  <th>No</th><th>Nama</th><th>NIS</th><th>Jurusan</th><th>Aksi</th>
</tr>
<?php $no = 1; while($row = $data->fetch_assoc()): ?>
<tr>
  <td><?= $no++ ?></td>
  <td><?= $row['nama'] ?></td>
  <td><?= $row['nis'] ?></td>
  <td><?= $row['jurusan'] ?></td>
  <td>
    <a href="index.php?page=siswa&action=form&id=<?= $row['id'] ?>">Edit</a> |
    <a href="index.php?page=siswa&action=delete&id=<?= $row['id'] ?>" onclick="return
confirm('Hapus?')">Hapus</a>
  </td>
</tr>
<?php endwhile; ?>
</table>
```

app/views/siswa_form.php

```php
<h2><?= $siswa ? 'Edit' : 'Tambah' ?> Siswa</h2>
```

```html
<form method="post" action="index.php?page=siswa&action=<?= $siswa ? 'update&id=' . $siswa['id'] : 'store' ?>">
  <label>Nama:</label><br>
  <input type="text" name="nama" value="<?= $siswa['nama'] ?? '' ?>"><br>
  <label>NIS:</label><br>
  <input type="text" name="nis" value="<?= $siswa['nis'] ?? '' ?>"><br>
  <label>Jurusan:</label><br>
  <input type="text" name="jurusan" value="<?= $siswa['jurusan'] ?? '' ?>"><br>
  <button type="submit">Simpan</button>
</form>
```

public/index.php

```php
<?php
require_once '../app/config.php';
require_once '../app/controllers/SiswaController.php';

$page = $_GET['page'] ?? 'siswa';
$action = $_GET['action'] ?? 'list';
$id = $_GET['id'] ?? null;

$controller = new SiswaController($conn);

if ($page === 'siswa') {
    if ($action === 'list') {
        $controller->viewList();
    } elseif ($action === 'form') {
        $controller->viewForm($id);
    } elseif ($action === 'store') {
        $controller->store();
    } elseif ($action === 'update') {
        $controller->update($id);
    } elseif ($action === 'delete') {
        $controller->delete($id);
    } elseif ($action === 'api') {
        $method = $_SERVER['REQUEST_METHOD'];
        $apiId = $_GET['api_id'] ?? null;
        $controller->api($method, $apiId);
    } else {
        echo "Aksi tidak dikenali.";
    }
} else {
    echo "Halaman tidak dikenali.";
}
?>
```

LANGKAH 5: Uji Aplikasi

Akses dari browser:

http://localhost/siswa_mvc/public/

Akses API (gunakan Postman/Insomnia):

- GET semua:
  http://localhost/siswa_mvc/public/index.php?page=siswa&action=api
- GET by ID:
  http://localhost/siswa_mvc/public/index.php?page=siswa&action=api&api_id=1
- POST, PUT, DELETE juga bisa.