

TUGAS JURNAL

KONSTRUKSI PERANGKAT LUNAK

MODUL 9

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OLEH:

TIURMA GRACE ANGELINA – 2311104042

S1-SE07-02

Dosen:

YIS

Prodi S1 Rekaya Perangkat Lunak

Direktorat Kampus Purwokerto

1. MELAKUKAN GIT COMMIT PADA PROJECT YANG DIBUAT

```
*** Visual Studio 2022 Developer Command Prompt vi7.13.0

*** Visual Studio 2022 Developer Command Prompt vi7.13.0

*** ClyparyluSER/source/repos/kPL_TiurmoGraceA_2311104042_SISE-07-02\09_API_Design_dan_Construction_Using_Swagger\timod9_2311104042/sgit add tjmod9_2311104042

**ClyparyluSER/source/repos/kPL_TiurmoGraceA_2311104042_SISE-07-02\09_API_Design_dan_Construction_Using_Swagger\timod9_2311104042/sgit commit -m "up .gitignore" [asis 364fex] up .gitignore strate mode 100044 09_API_Design_dan_Construction_Using_Swagger/timod9_2311104042/timod9_2311104042/signore create mode 100044 09_API_Design_dan_Construction_Using_Swagger/timod9_2311104042/timod9_2311104042/program_cs create mode 100044 09_API_Design_dan_Construction_Using_Swagger/timod9_2311104042/timod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/sinod9_2311104042/si
```

2. IMPLEMENTASI WEB API

Code class class yg ditambahkan:

1. class Movie.cs di folder Models:

```
namespace tjmod9_2311104042.Models
{
    public class Movie
    {
        public string Title { get; set; }
        public string Director { get; set; }
        public List<string> Stars { get; set; }
        public string Description { get; set; }

        public Movie()
        {
            Stars = new List<string>();
        }
    }
}
```

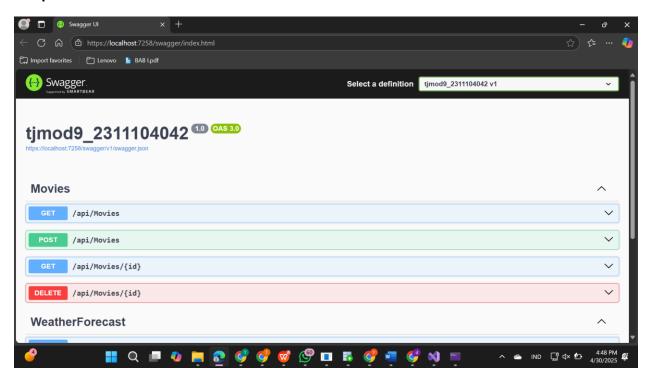
2. class MoviesController.cs di folder Controllers:

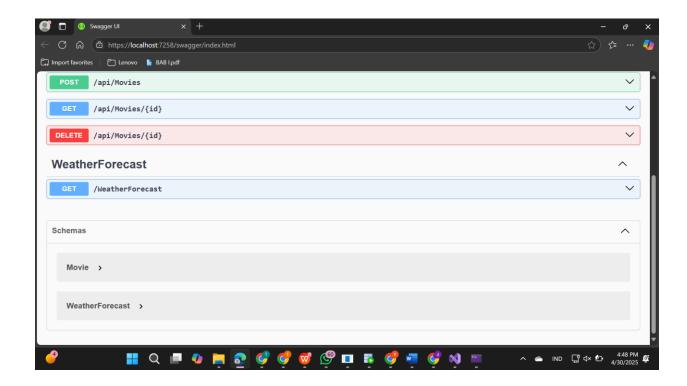
```
using Microsoft.AspNetCore.Mvc;
using tjmod9_2311104042.Models;
namespace tjmod9_2311104042.Controllers
{
```

```
[ApiController]
    [Route("api/[controller]")]
    public class MoviesController : ControllerBase
        private static List<Movie> movies = new List<Movie>
            new Movie {
                Title = "The Shawshank Redemption",
                Director = "Frank Darabont",
                Stars = new List<string>{"Tim Robbins",
"MorganFreeman"},
                      Description = "Two imprisoned men bond over
      anumber of years, finding solace and eventual redemption through
      cts of common decency."
            },
            new Movie {
                Title = "The Godfather",
                Director = "Francis Ford Coppola",
                Stars = new List<string>{"Marlon Brando", "Al Pacino"},
                Description = "An organized crime dynasty's
agingpatriarch transfers control of his clandestine empire to his
relutant son."
            },
            new Movie {
                Title = "The Dark Knight",
                Director = "Christopher Nolan",
                Stars = new List<string>{"Christian Bale",
"HeathLedger"},
                Description = "When the menace known as the Joker
emerges, he wreaks havoc and chaos on the people of Gotham."
        };
        [HttpGet]
        public ActionResult<List<Movie>> GetMovies()
            return Ok(movies);
        }
        [HttpGet("{id}")]
        public ActionResult<Movie> GetMovie(int id)
            if (id < 0 || id >= movies.Count)
                return NotFound();
            return Ok(movies[id]);
        }
        [HttpPost]
        public ActionResult<Movie> CreateMovie(Movie newMovie)
            movies.Add(newMovie);
            return Ok(newMovie);
        }
        [HttpDelete("{id}")]
        public IActionResult DeleteMovie(int id)
```

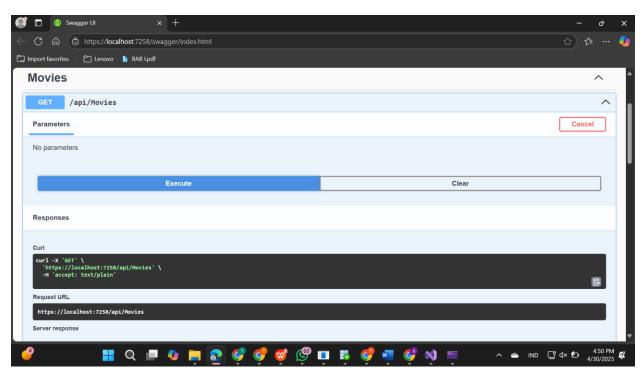
Output:

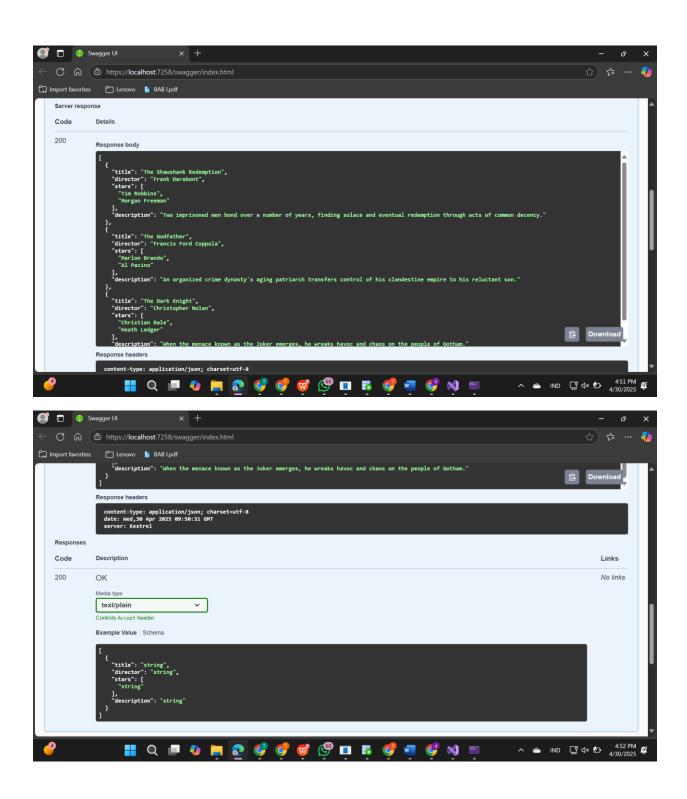
Tampilan Awal



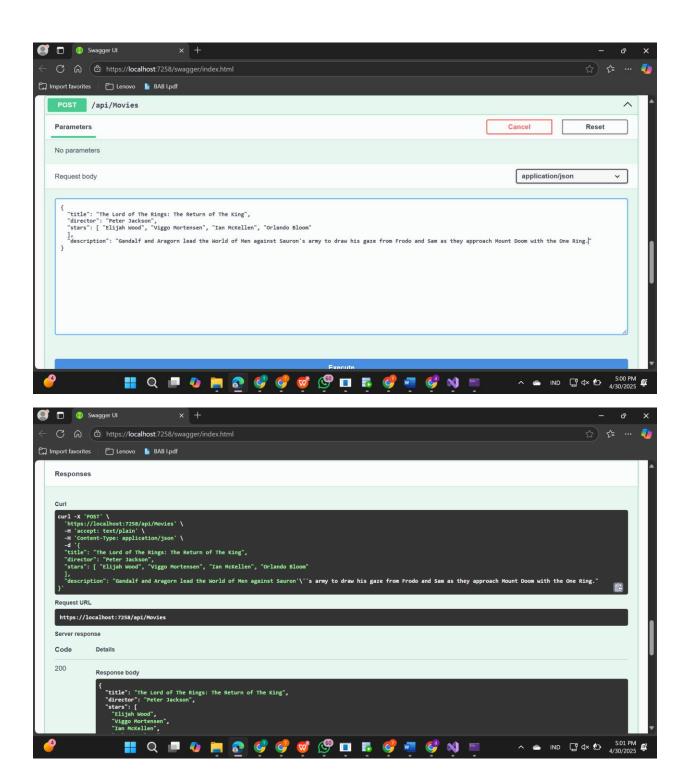


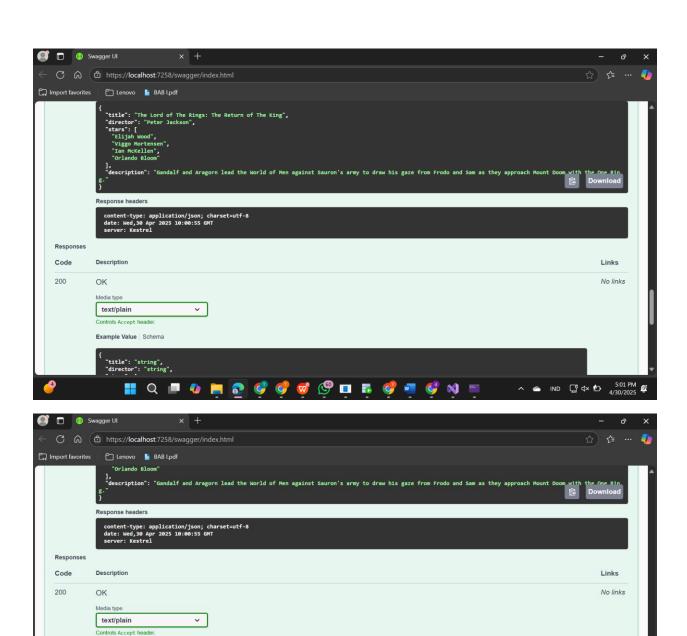
GET /api/Movies





POST /api/Movies

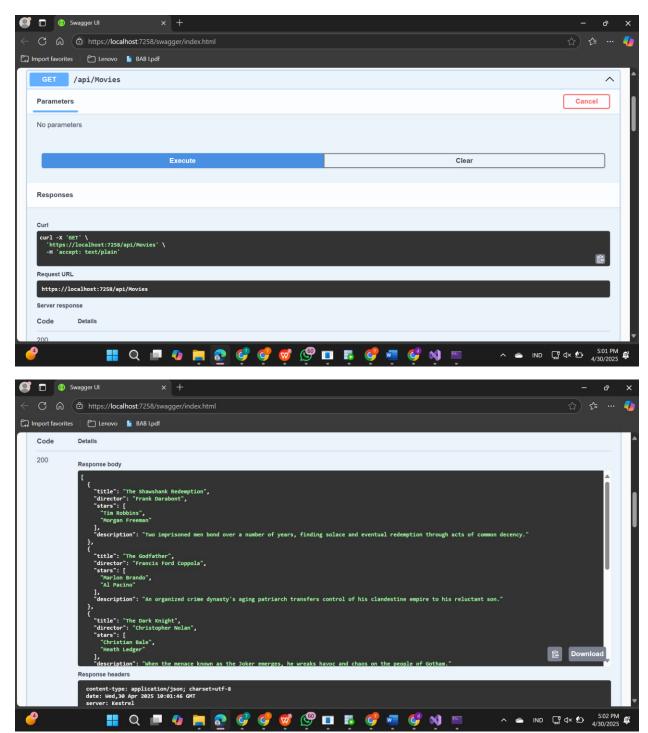


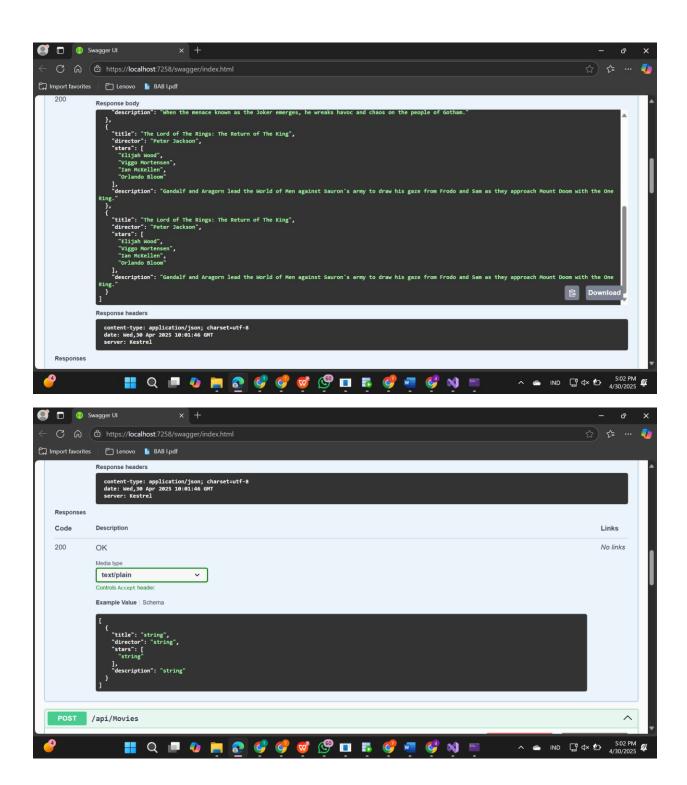


Example Value | Schema

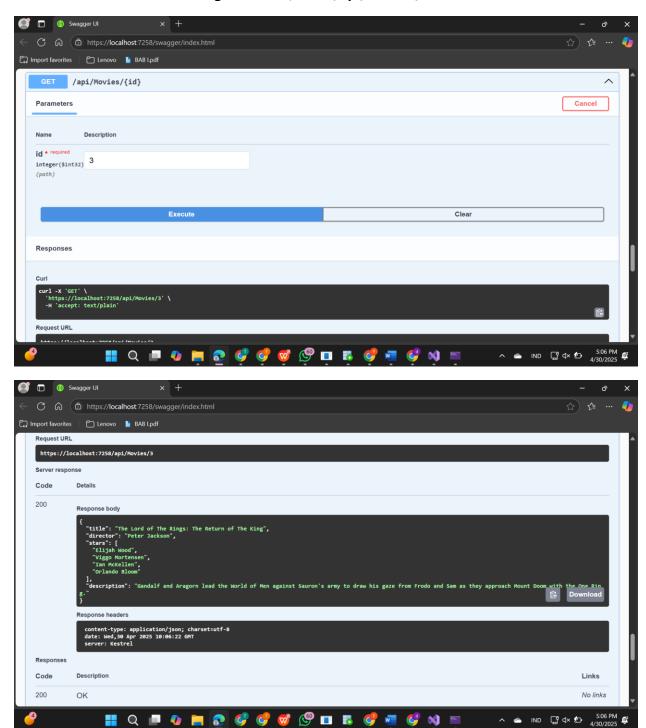
"title": "string",
"director": "string",
"stars": [
"string"
],
"description": "string"

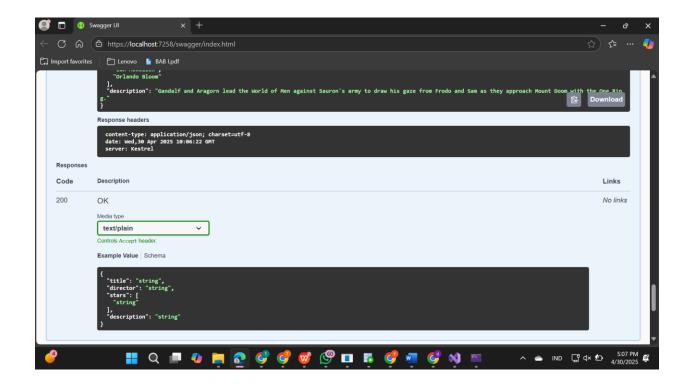
Cek list/array dari semua Movie lagi dengan "GET /api/Movies"



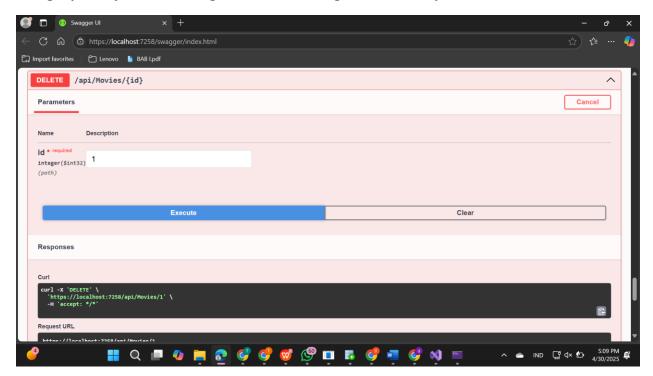


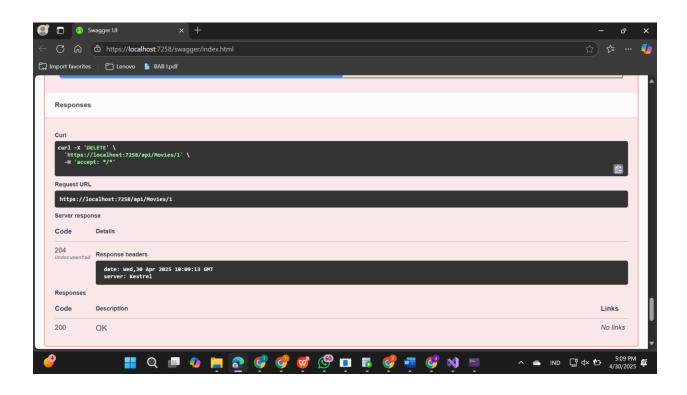
Mencoba meminta Movie dengan index 3, "GET /api/Movies/3

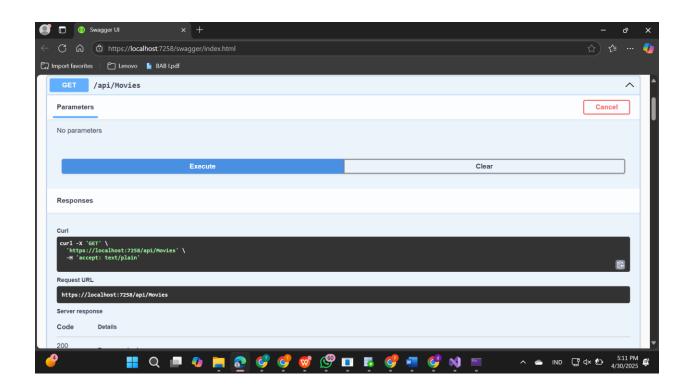


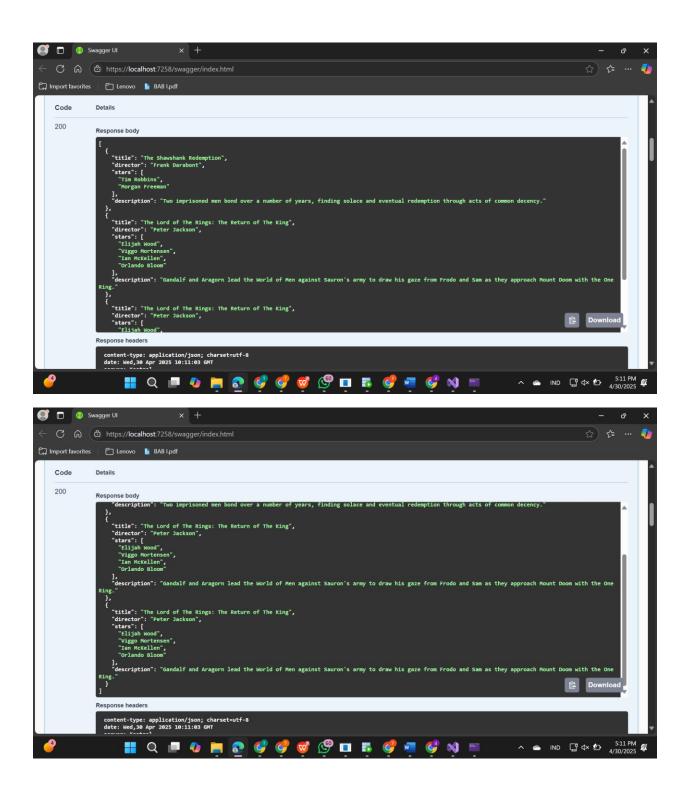


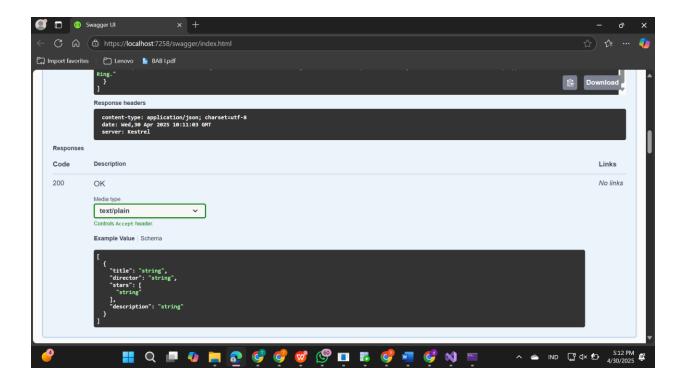
Menghapus objek Movie dengan index ke-1 dengan "DELETE /api/Movies/1











Penjelasan Singkat Kode Implementasi

- 1. Class Movie (Models/Movie.cs)
 - Kelas ini mewakili struktur data untuk sebuah Movie.
 - Properti yang dimiliki:
 - Title (judul film)
 - Director (sutradara film)
 - Stars (list nama-nama aktor)
 - Description (deskripsi singkat film)
 - Konstruktor Movie() menginisialisasi list Stars agar tidak null.
- 2. Class MoviesController (Controllers/MoviesController.cs)
 - Controller ini menangani 4 endpoint API sesuai tugas:
 - GET /api/Movies → Mengembalikan semua daftar movie.
 - GET /api/Movies/{id} → Mengambil movie berdasarkan index id.
 - POST /api/Movies → Menambah movie baru ke dalam list.

- DELETE /api/Movies/{id} → Menghapus movie berdasarkan index id.
- Data movie disimpan di dalam variable static List<Movie> movies, jadi data tersimpan di memori dan tidak menggunakan database.
- Saat aplikasi dijalankan, sudah otomatis memiliki 3 movie default yaitu:
 - The Shawshank Redemption
 - The Godfather
 - The Dark Knight

3. Cara Kerja Endpoint:

- o GET /api/Movies: Mengembalikan semua movie dalam list.
- GET /api/Movies/{id}: Mengecek apakah id valid, lalu mengembalikan movie dengan index tersebut.
- POST /api/Movies: Menerima data movie baru dari user dan menambahkannya ke list.
- **DELETE /api/Movies/{id}: Menghapus movie berdasarkan** *id* **jika ditemukan.**

```
1. Penjelasan Movie.cs (Model)
public class Movie
{
   public string Title { get; set; }
   public string Director { get; set; }
   public List<string> Stars { get; set; }
   public string Description { get; set; }
   public Movie()
   {
      Stars = new List<string>();
}
```

```
}
```

- Title, Director, Description: Properti bertipe string untuk menyimpan informasi film.
- Stars: Bertipe List<string>, menyimpan daftar nama-nama pemeran dalam film.
- Konstruktor Movie(): Menginisialisasi Stars sebagai list kosong agar siap diisi data aktor.
- 2. Penjelasan MoviesController.cs (Controller)
- a) Deklarasi List Static

b) Endpoint GET All Movies

```
private static List<Movie> movies = new List<Movie> { ... };
```

- Ini adalah *list static* yang menyimpan semua data movie.
- Static artinya data ini disimpan di memori selama aplikasi berjalan, bukan di database.
- Awalnya, list ini berisi 3 film default (TOP 3 IMDB).

```
[HttpGet]
public ActionResult<List<Movie>> GetMovies()
{
   return Ok(movies);
```

- Mengembalikan seluruh daftar movie dalam bentuk array/list.
- Diakses lewat URL: GET /api/Movies.
- c) Endpoint GET Movie by ID

```
[HttpGet("{id}")]
```

}

public ActionResult<Movie> GetMovie(int id)

```
{
  if (id < 0 | | id >= movies.Count)
  {
    return NotFound();
  }
  return Ok(movies[id]);
}
   • Mengambil 1 movie berdasarkan index id yang dikirim di URL.

    Cek apakah id valid:

    Jika tidak valid → kembalikan status 404 Not Found.

          o Jika valid → kembalikan data movie dengan index itu.
     Diakses lewat URL: GET /api/Movies/{id}.
d) Endpoint POST (Tambah Movie Baru)
[HttpPost]
public ActionResult<Movie> CreateMovie(Movie newMovie)
{
  movies.Add(newMovie);
  return Ok(newMovie);
}
```

- Menerima data movie baru dari user (dalam format JSON).
- Menambahkannya ke list movies.
- Kembalikan movie yang baru ditambahkan sebagai konfirmasi.
- Diakses lewat URL: POST /api/Movies.

e) Endpoint DELETE Movie by ID

```
[HttpDelete("{id}")]
public IActionResult DeleteMovie(int id)
{
   if (id < 0 | | id >= movies.Count)
   {
      return NotFound();
   }
   movies.RemoveAt(id);
   return NoContent();
}
```

- Menghapus movie berdasarkan index id di URL.
- Jika id invalid → kembalikan 404 Not Found.
- Jika valid → hapus movie dan kembalikan 204 No Content (berarti berhasil tanpa isi).

3. MELAKUKAN COMMIT

