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JURNAL MODUL 9

1. MEMBUAT PROJECT WEB API

Berhubung cara membuat project web api berbeda-beda untuk setiap bahasa pemrograman, langkah-

langkah berikut hanya berlaku apabila dilakukan dengan menggunakan .NET dan Visual Studio. Untuk

IDE dan bahasa pemrograman lain, yang terpenting adalah nama project yang dibuat yaitu "modul8_NIM".

A. Buka visual studio yang sudah terinstall dengan ASP.NET dan .NET 5.0 SDK atau setelahnya

B. Pilih New Project dan kemudian pilih ASP.NET Core Web API atau API (pastikan opsi 'Enable OpenAPI support' tercentang).

C. Pastikan untuk memilih .NET versi 5.0 atau yang lebih baru.

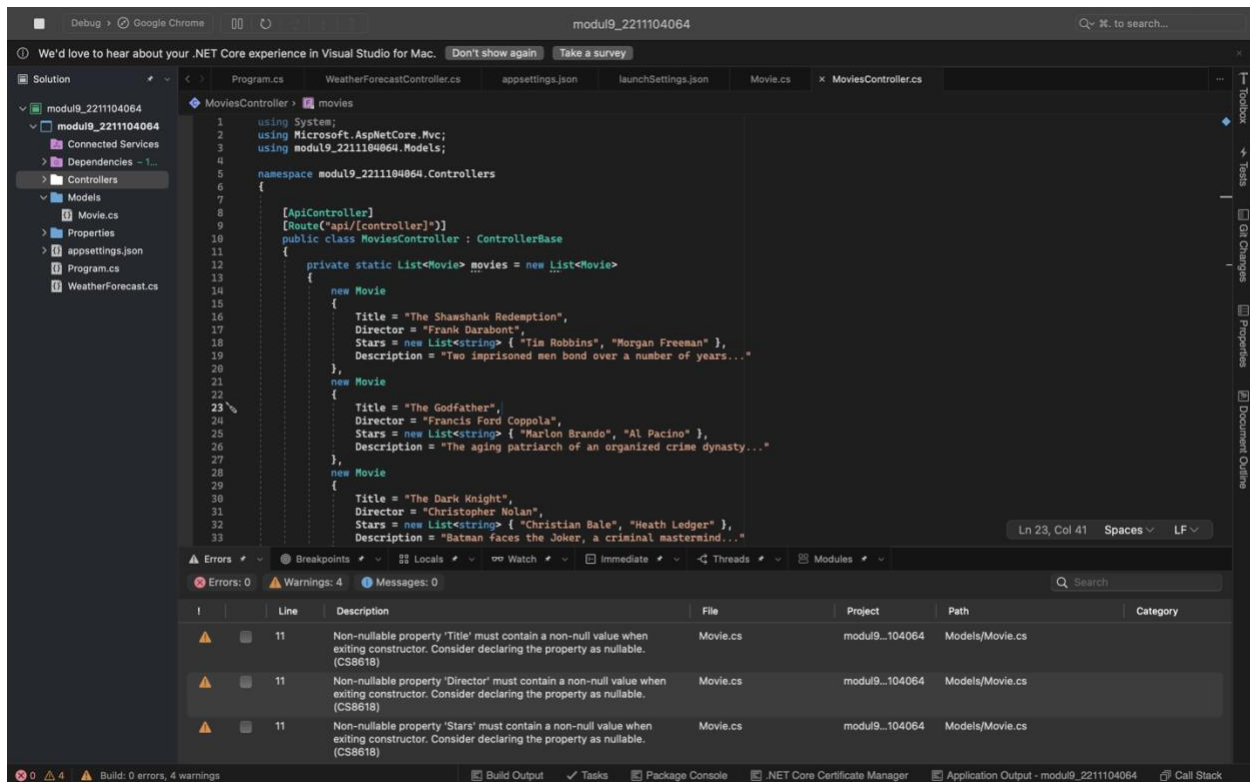
D. Masukkan nama projek "modul9_NIM".

E. Langkah-langkah yang disertai gambar dapat dilihat pada link berikut ini (cukup dilihat pada bagian "Create a Web API project"):

<https://docs.microsoft.com/en-us/aspnet/core/tutorials/min-web-api?view=aspnetcore-6.0&tabs=visual-studio>

F. Setelah project tersebut selesai dibuat, coba run programnya, dan tunggu sampai program selesai di-compile.

BUKTI Pengerjaan

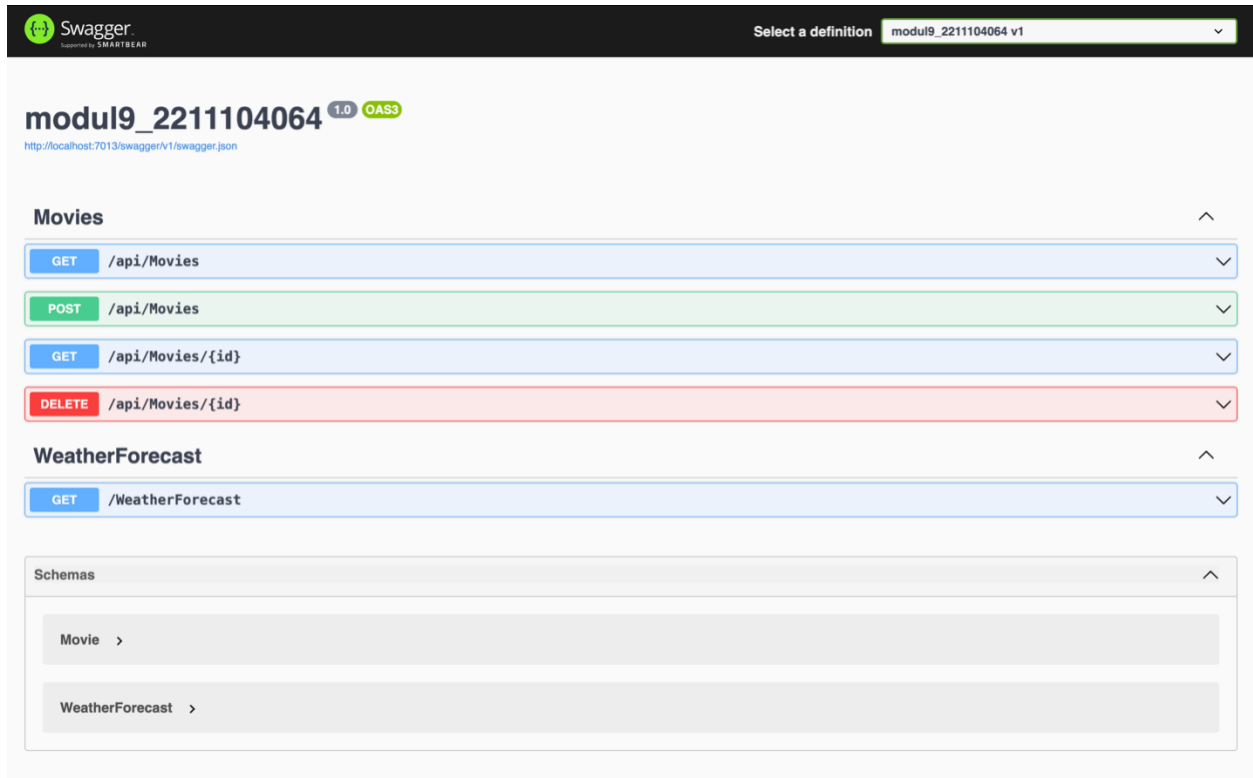


2. IMPLEMENTASI WEB API

Dari master/main branch dan class utama, buatlah program/aplikasi web API dari spesifikasi sebagai berikut ini:

A. API yang dibuat menggunakan data dari kelas Movie.

Movie
+ Title : string
+ Director : string
+ Stars : List<string>
+ Description: string
+ Movie()



The image shows the Swagger UI for an API named 'modul9_2211104064' with version '1.0' and 'OAS3' specification. The URL is 'http://localhost:7013/swagger/v1/swagger.json'. The interface lists two API groups: 'Movies' and 'WeatherForecast'. The 'Movies' group contains four endpoints: GET /api/Movies, POST /api/Movies, GET /api/Movies/{id}, and DELETE /api/Movies/{id}. The 'WeatherForecast' group contains one endpoint: GET /WeatherForecast. Below the endpoints, there is a 'Schemas' section showing two schemas: 'Movie' and 'WeatherForecast'.

Movie.cs

```
using System;
namespace modul9_2211104064.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() { }
    }
}
```

B. API yang dibuat mempunyai lokasi sebagai berikut '/api/Movies, URL domain boleh dari port mana saja (port bebas). Dengan menggunakan swagger API tersebut dapat menerima RESTful API dengan metoda sebagai berikut (halaman swagger dapat diakses pada

<https://localhost:<PORT>/swagger/index.html>):

Movies		^
GET	/api/Movies	▼
POST	/api/Movies	▼
GET	/api/Movies/{id}	▼
DELETE	/api/Movies/{id}	▼

- i. GET /api/Movies: mengembalikan output berupa list/array dari semua objek Movies
- ii. GET /api/Movies/{id}: mengembalikan output berupa objek Movie untuk index “id”
- iii. POST /api/Movies: menambahkan objek Movie baru
- iv. DELETE /api/Movies/{id}: menghapus objek Movie pada index “id”


C. Secara default, program yang dibuat memiliki list film yang berasal dari TOP 3 film IMDB dari link: https://www.imdb.com/search/title/?groups=top_100&sort=user_rating,desc

D. Implementasi yang dibuat tidak menggunakan database, cukup disimpan sebagai suatu variable, dan gunakan “static” di variable tersebut yang menyimpan list/array dari objekobjek

Movie.

E. Dalam pembuatan program/aplikasi ini, anda dapat mengasumsikan bahwa input dari user

selalu benar dan sesuai dengan tipe data yang diharapkan.

 Swagger
Powered by SMARTBEAR

Select a definition modul9_2211104064 v1

modul9_2211104064 1.0 OAS3
http://localhost:7013/swagger/v1/swagger.json

Movies

GET

/api/Movies

⌵

POST

/api/Movies

⌵

GET

/api/Movies/{id}

⌵

DELETE

/api/Movies/{id}

⌵

WeatherForecast

GET

/WeatherForecast

⌵

Schemas

Movie >

WeatherForecast >

3. MENDEMONSTRASI WEB API

Beberapa skenario yang harus dicoba untuk memastikan jika program telah berjalan dengan baik. Buatlah dokumen yang berisi semua screenshot dari hasil uji coba scenario yang disebutkan pada list berikut ini:

A.Mencoba “GET /api/Movies” saat baru dijalankan yang mengeluarkan list film dari TOP 3 IMDB seperti pada tampilan berikut pada saat dicoba dengan menekan tombol “Try it out” dan tombol “Execute”

<http://localhost:7013/swagger/v1/swagger.json>

 \wedge \wedge

Cancel

Execute

Media type

text/plain

Controls Accept header.

Example Value	Schema
---------------	--------

```
[
  {
    "title": "string",
    "director": "string",
    "stars": [
      "string"
    ],
    "description": "string"
  }
]
```

Execute

Clear

```
Curl
curl -X 'GET' \
'http://localhost:7013/api/Movies' \
-H 'accept: text/plain'
```

Request URL

```
http://localhost:7013/api/Movies
```

Server response

Code	Details
------	---------

200

Response body

```
{
  "title": "The Shawshank Redemption",
  "director": "Frank Darabont",
  "stars": [
    "Tim Robbins",
    "Morgan Freeman"
  ],
  "description": "Two imprisoned men bond over a number of years..."
},
{
  "title": "The Godfather",
  "director": "Francis Ford Coppola",
  "stars": [
    "Marlon Brando",
    "Al Pacino"
  ],
  "description": "The aging patriarch of an organized crime dynasty..."
},
{
  "title": "The Dark Knight",
  "director": "Christopher Nolan",
  "stars": [
    "Christian Bale",
    "Heath Ledger"
  ]
}
```

Response headers

content-type: application/icom; charset=utf-8

B. Menambahkan Movie baru yaitu urutan ke-4 pada TOP IMDB list dengan memanggil API pada bagian “POST /api/Movies”

Swagger UI interface showing the API definition for the POST /api/Movies endpoint.

modul9_2211104064 1.0 OAS3

http://localhost:7013/swagger/v1/swagger.json

Movies

GET /api/Movies

POST /api/Movies

Parameters

No parameters

Request body

application/json

```
{
  "title": "12 Angry Men",
  "director": "Sidney Lumet",
  "stars": ["Henry Fonda", "Lee J. Cobb"],
  "description": "A jury holdout attempts to prevent a miscarriage of justice..."
}
```

Execute Clear

Swagger UI interface showing the execution of the POST /api/Movies endpoint and the resulting response.

No parameters

Execute Clear

Responses

Curl

```
curl -X 'GET' \
  'http://localhost:7013/api/Movies' \
  -H 'accept: text/plain'
```

Request URL

http://localhost:7013/api/Movies

Server response

Code	Details
200	<p>Response body</p> <pre>{ "title": "The Godfather", "director": "Francis Ford Coppola", "stars": ["Marlon Brando", "Al Pacino"], "description": "The aging patriarch of an organized crime dynasty..." }, { "title": "The Dark Knight", "director": "Christopher Nolan", "stars": ["Christian Bale", "Heath Ledger"], "description": "Batman faces the Joker, a criminal mastermind..." }, { "title": "12 Angry Men", "director": "Sidney Lumet", "stars": ["Henry Fonda", "Lee J. Cobb"], "description": "A jury holdout attempts to prevent a miscarriage of justice..." }]</pre> <p>Download</p> <p>Response headers</p> <pre>Content-Type: application/json; charset=utf-8</pre>

C. Cek list/array dari semua Movie lagi dengan “GET /api/Movies”, pastikan Movie yang baru ditambahkan sebelumnya sudah ada:

No parameters

Execute Clear

Responses

Curl

```
curl -X 'GET' \
  'http://localhost:7013/api/Movies' \
  -H 'accept: text/plain'
```

Request URL

http://localhost:7013/api/Movies

Server response

Code Details

200

Response body

```
{
  "stars": [
    "Marlon Brando",
    "Al Pacino"
  ],
  "description": "The aging patriarch of an organized crime dynasty..."
},
{
  "title": "The Dark Knight",
  "director": "Christopher Nolan",
  "stars": [
    "Christian Bale",
    "Heath Ledger"
  ],
  "description": "Batman faces the Joker, a criminal mastermind..."
},
{
  "title": "12 Angry Men",
  "director": "Sidney Lumet",
  "stars": [
    "Henry Fonda",
    "Lee J. Cobb"
  ],
  "description": "A jury holdout attempts to prevent a miscarriage of justice..."
}
]
```

Response headers

content-type: application/json; charset=utf-8

D. Mencoba meminta Movie dengan index 3, “GET /api/Movies/3” yang seharusnya mengembalikan Movie yang baru saja ditambah:

POST /api/Movies

GET /api/Movies/{id}

Parameters

Cancel

Name	Description
id required integer(\$int32) (path)	<input type="text" value="3"/>

Execute

Responses

Code	Description	Links
200	Success Media type <div>text/plain</div> Controls Accept header. Example Value Schema <pre>{ "title": "string", "director": "string", "stars": ["string"], "description": "string" }</pre>	No links

DELETE /api/Movies/{id}

Request URL

http://localhost:7013/api/Movies/3

Server response

Code	Details
200	Response body <pre>{ "title": "12 Angry Men", "director": "Sidney Lumet", "stars": ["Henry Fonda", "Lee J. Cobb"], "description": "A jury holdout attempts to prevent a miscarriage of justice..." }</pre> <div>Download</div> Response headers <pre>content-type: application/json; charset=utf-8 date: Thu, 12 Jun 2025 17:52:07 GMT server: Kestrel transfer-encoding: chunked</pre>

Responses

Code	Description	Links
200	Success Media type <div>text/plain</div> Controls Accept header. Example Value Schema <pre>{ "title": "string", "director": "string", "stars": ["string"], "description": "string" }</pre>	No links

DELETE /api/Movies/{id}

E. Menghapus objek Movie dengan index ke-1 dengan “DELETE /api/Movies/1”

Movies

GET

/api/Movies

POST

/api/Movies

GET

/api/Movies/{id}

DELETE

/api/Movies/{id}

Parameters

Name

Description

id required

integer(\$int32)

(path)

1

Execute

Responses

Code	Description	Links
200	Success	No links

WeatherForecast

GET

/WeatherForecast

DELETE

/api/Movies/{id}

Parameters

Name

Description

id required

integer(\$int32)

(path)

1

Execute

Clear

Responses

Curl

curl -X 'DELETE' \

'http://localhost:7013/api/Movies/1' \

-H 'accept: */*'

Request URL

http://localhost:7013/api/Movies/1

Server response

Code

Details

204

Undocumented

Response headers

date: Thu, 12 Jun 2025 17:53:22 GMT

server: Kestrel

Responses

Code	Description	Links
200	Success	No links

F. Cek list/array dari semua Movie sekali lagi dengan “GET /api/Movies”, film dengan ranking

kedua “Godfather” sudah tidak ada di list:

Execute

Clear

Responses

Curl

```
curl -X 'GET' \
'http://localhost:7013/api/Movies' \
-H 'accept: text/plain'
```

Request URL

```
http://localhost:7013/api/Movies
```

Server response

Code

Details

200

Response body

```
"title": "The Shawshank Redemption",
"director": "Frank Darabont",
"stars": [
  "Tim Robbins",
  "Morgan Freeman"
],
"description": "Two imprisoned men bond over a number of years..."
},
{
  "title": "The Dark Knight",
  "director": "Christopher Nolan",
  "stars": [
    "Christian Bale",
    "Heath Ledger"
  ],
  "description": "Batman faces the Joker, a criminal mastermind..."
},
{
  "title": "12 Angry Men",
  "director": "Sidney Lumet",
  "stars": [
    "Henry Fonda",
    "Lee J. Cobb"
  ],
  "description": "A jury holdout attempts to prevent a miscarriage of justice..."
}
```

Download

Response headers

```
content-type: application/json; charset=utf-8
date: Thu, 12 Jun 2025 17:54:35 GMT
server: Kestrel
transfer-encoding: chunked
```