

**TP MODUL 9**  
**API DESIGN DAN CONSTRUCTION USING SWAGGER**



Nama :

Alya Rabani (2311104076)

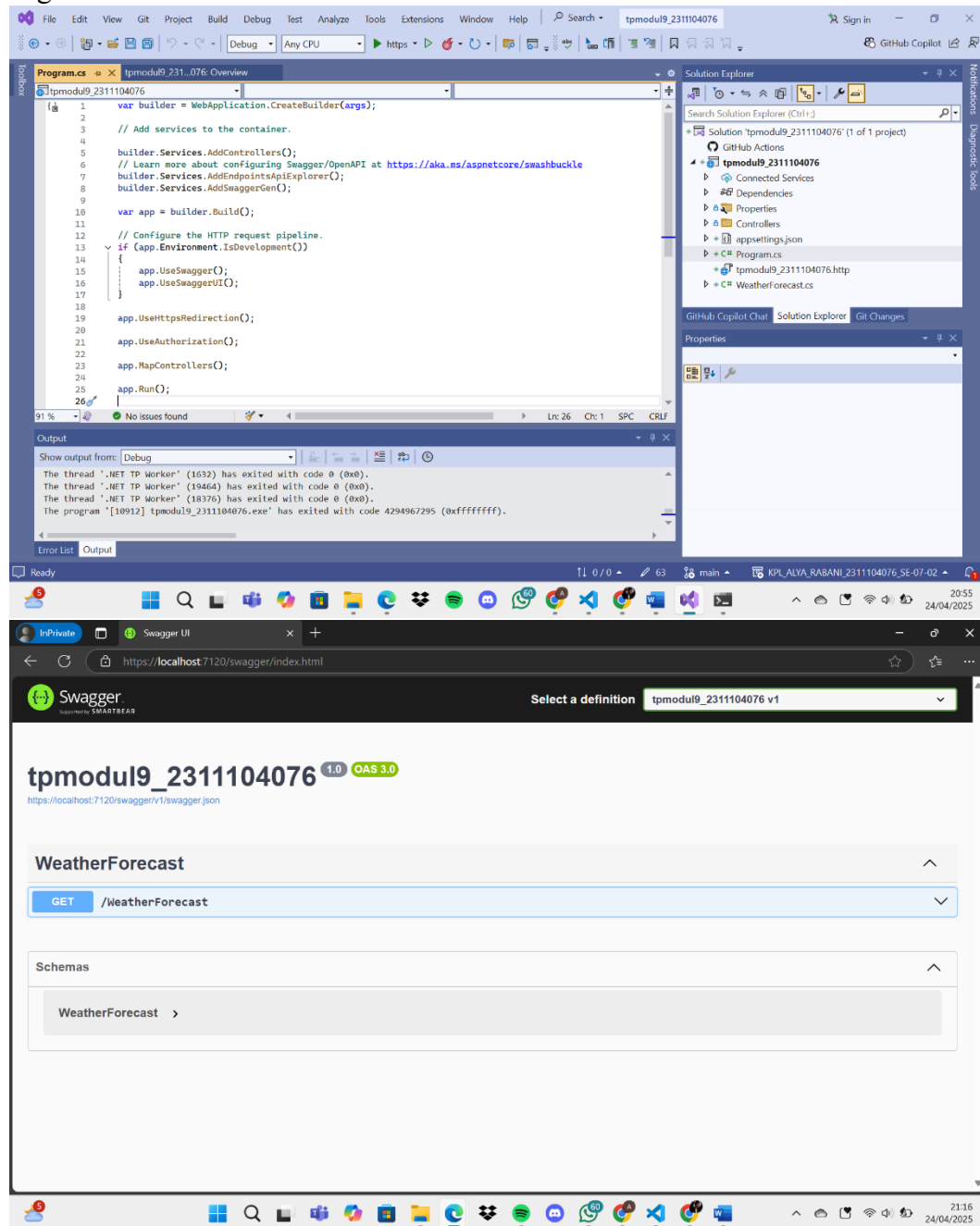
Dosen :

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**PROGRAM STUDI S1 REKAYASA PERANGKAT LUNAK**  
**TELKOM UNIVERSITY PURWOKERTO**  
**2025**

## 1. MEMBUAT PROJECT WEB API

Pertama-tama saat buat project pilih ASP.NET Core Web API kemudian jika masuk ke program dan coba jalankan program akan membawa ke web localhost di Microsoft edge.



## 2. IMPLEMENTASI WEB API

Disini saya buat folder Mahasiswa dan membuat class Mahasiswa.cs

Kode program:

Mahasiswa

namespace tpmodul9\_2311104076.Models

```
{  
    public class Mahasiswa  
    {  
    }  
}
```

```

    public string Nama { get; set; }
    public string Nim { get; set; }

    public Mahasiswa(string nama, string nim)
    {
        Nama = nama;
        Nim = nim;
    }
}
}

```

Lalu, setelah itu pada folder Controller buat class MahasiswaController

Kode program:

MahasiswaController

using Microsoft.AspNetCore.Mvc;

using tpmodul9\_2311104076.Models;

namespace tpmodul9\_2311104076.Controllers

```

{
    [ApiController]
    [Route("api/[controller]")]
    public class MahasiswaController : ControllerBase
    {
        private static List<Mahasiswa> daftarMahasiswa = new List<Mahasiswa>
        {
            new Mahasiswa("Alya Rabani", "2311104076"),
            new Mahasiswa("Dhiemas Tulus Ikshan", "2311104046"),
            new Mahasiswa("Berlian Seva Astryana", "2311104067")
        };

        [HttpGet]
        public IActionResult GetAll()
        {
            return Ok(daftarMahasiswa);
        }

        [HttpGet("{index}")]
        public IActionResult GetByIndex(int index)
        {
            if (index < 0 || index >= daftarMahasiswa.Count)
                return NotFound("Data tidak ditemukan.");

            return Ok(daftarMahasiswa[index]);
        }

        [HttpPost]

```

```

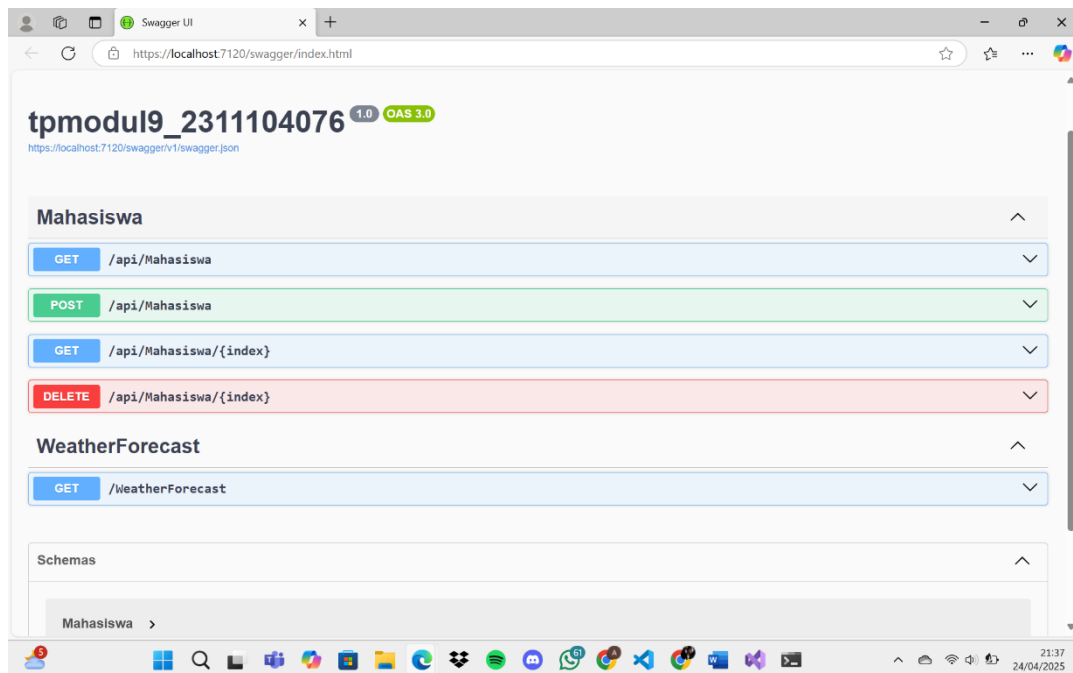
public IActionResult AddMahasiswa([FromBody] Mahasiswa mahasiswa)
{
    daftarMahasiswa.Add(mahasiswa);
    return Ok(daftarMahasiswa);
}

[HttpDelete("{index}")]
public IActionResult DeleteMahasiswa(int index)
{
    if (index < 0 || index >= daftarMahasiswa.Count)
        return NotFound("Data tidak ditemukan.");

    daftarMahasiswa.RemoveAt(index);
    return Ok(daftarMahasiswa);
}
}
}

```

### 3. MENDEMONSTRASI WEB API



Swagger UI

https://localhost:7120/swagger/index.html

```
curl -X 'GET' \
  https://localhost:7120/api/Mahasiswa \
  -H 'accept: */*' \
```

Request URL

https://localhost:7120/api/Mahasiswa

Server response

Code	Details
200	<p>Response body</p> <pre>{   {     "nama": "Alya Rabani",     "nim": "2311104076"   },   {     "nama": "Ohiemas Tulus Ikshan",     "nim": "2311104046"   },   {     "nama": "Berlian Seva Astryana",     "nim": "2311104067"   } }</pre> <p>Response headers</p> <pre>content-type: application/json; charset=utf-8 date: Thu, 24 Apr 2025 14:41:14 GMT server: Kestrel</pre>

Responses

Code	Description	Links
200	OK	No links

Swagger UI

https://localhost:7120/swagger/index.html

```
curl -X 'POST' \
  https://localhost:7120/api/Mahasiswa \
  -H 'accept: */*' \
  -H 'Content-Type: application/json' \
  -d '{
    "nama": "string",
    "nim": "string"
  }'
```

Request URL

https://localhost:7120/api/Mahasiswa

Server response

Code	Details
200	<p>Response body</p> <pre>{   {     "nama": "Alya Rabani",     "nim": "2311104076"   },   {     "nama": "Ohiemas Tulus Ikshan",     "nim": "2311104046"   },   {     "nama": "Berlian Seva Astryana",     "nim": "2311104067"   },   {     "nama": "string",     "nim": "string"   } }</pre> <p>Response headers</p>

Swagger UI

https://localhost:7120/swagger/index.html

Execute Clear

Responses

Curl

```
curl -X 'GET' \
  'https://localhost:7120/api/Mahasiswa/2' \
  -H 'accept: */*'
```

Request URL

https://localhost:7120/api/Mahasiswa/2

Server response

Code	Details
200	<p>Response body</p> <pre>{   "nama": "Berlian Seva Astryana",   "nim": "2311104067" }</pre> <p>Response headers</p> <pre>content-type: application/json; charset=utf-8 date: Thu, 24 Apr 2025 14:43:43 GMT server: Kestrel</pre>

Responses

Code	Description	Links
200	OK	No links

Swagger UI

https://localhost:7120/swagger/index.html

Curl

```
curl -X 'DELETE' \
  'https://localhost:7120/api/Mahasiswa/1' \
  -H 'accept: */*'
```

Request URL

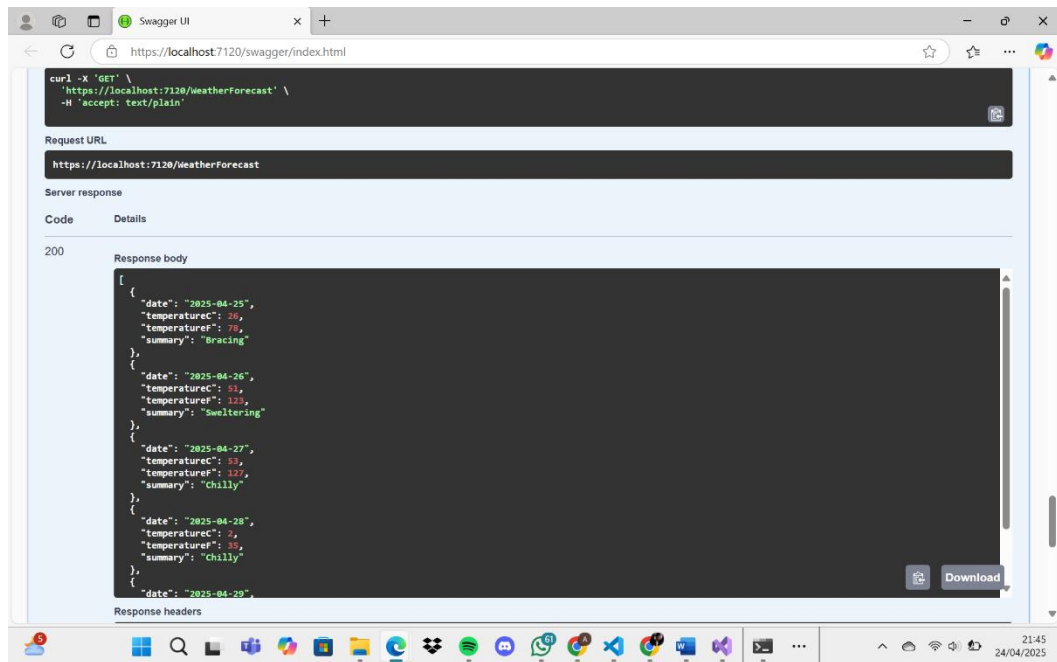
https://localhost:7120/api/Mahasiswa/1

Server response

Code	Details
200	<p>Response body</p> <pre>{   "nama": "Alya Nabani",   "nim": "2311104076" }, {   "nama": "Berlian Seva Astryana",   "nim": "2311104067" }, {   "nama": "string",   "nim": "string" } }</pre> <p>Response headers</p> <pre>content-type: application/json; charset=utf-8 date: Thu, 24 Apr 2025 14:44:26 GMT server: Kestrel</pre>

Responses

Code	Description	Links
200	OK	No links



#### 4. MELAKUKAN COMMIT

```

C:\Windows\system32\cmd.e: X + v

*****
** Visual Studio 2022 Developer Command Prompt v17.13.0
** Copyright (c) 2022 Microsoft Corporation
*****

C:\Users\Lenovo\source\repos\KPL_ALYA_RABANI_2311104076_SE-07-02\09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076>git add .
warning: in the working copy of '09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076\tpmodul9_2311104076\obj\Debug\net8.0\EndpointInfo\tpm
on', LF will be replaced by CRLF the next time Git touches it

C:\Users\Lenovo\source\repos\KPL_ALYA_RABANI_2311104076_SE-07-02\09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076>git commit -m "menamb
"
[main 32792c5] menambahkan API mahasiswa
27 files changed, 294 insertions(+), 6 deletions(-)
create mode 100644 09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076/.vs\tpmodul9_2311104076\FileContentIndex\03deadeb-45db-4ad8-b88b-9
rename 09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076/.vs\tpmodul9_2311104076\FileContentIndex\{535fa330-10ca-4c77-b375-013e2089c401
6ec9-4751-bf9a-16b9cd27e3f5.vsidx} (86%)
create mode 100644 09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076/.vs\tpmodul9_2311104076\FileContentIndex\eb811875-fa18-43c5-b887-4
create mode 100644 09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076\tpmodul9_2311104076\Controllers\MahasiswaController.cs
create mode 100644 09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076\tpmodul9_2311104076\Models\Mahasiswa.cs

C:\Users\Lenovo\source\repos\KPL_ALYA_RABANI_2311104076_SE-07-02\09_API_Design_dan_Construction_Using_Swagger\tpmodul9_2311104076>git push origin main
Enumerating objects: 78, done.
Counting objects: 100% (78/78), done.
Delta compression using up to 12 threads
Compressing objects: 100% (39/39), done.
Writing objects: 100% (44/44), 47.87 KiB | 1.54 MiB/s, done.
Total 44 (delta 17), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (17/17), completed with 15 local objects.
To https://github.com/rabania/alya/KPL_ALYA_RABANI_2311104076_SE-07-02.git
26d8e1f..32792c5 main -> main

```