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Kelas:SE-07-02

Jurnal Modul 7

Link Github:

https://github.com/faishalstwn

-Jurnal7_1_23111066

```
using System.Collections.Generic;
using System.IO;
using System.Text.Json;
using System.Text.Json.Serialization;

namespace Modul7_Faishal
{
    2 references
    public class Address
    {
        [JsonPropertyName("streetAddress")]
        1 reference
        public string StreetAddress { get; set; } = string.Empty;

        [JsonPropertyName("city")]
        1 reference
        public string City { get; set; } = string.Empty;

        [JsonPropertyName("state")]
        1 reference
        public string State { get; set; } = string.Empty;
    }

    2 references
    public class Course
    {
        [JsonPropertyName("code")]
        1 reference
        public string Code { get; set; } = string.Empty;

        [JsonPropertyName("name")]
        1 reference
        public string Name { get; set; } = string.Empty;
    }

    2 references
    public class DataMahasiswa
    {
        [JsonPropertyName("firstName")]
        1 reference
        public string FirstName { get; set; } = string.Empty;

        [JsonPropertyName("lastName")]
        1 reference
        public string LastName { get; set; } = string.Empty;

        [JsonPropertyName("gender")]
        1 reference
        public string Gender { get; set; } = string.Empty;

        [JsonPropertyName("age")]
        1 reference
        public int Age { get; set; }

        [JsonPropertyName("address")]
```

```
        [JsonPropertyName("courses")]
        1 reference
        public List<Course> Courses { get; set; } = new List<Course>();

        1 reference
        public void ReadJSON()
        {
            try
            {
                string json = File.ReadAllText("jurnal7_1_2311104066.json");

                var options = new JsonSerializerOptions
                {
                    PropertyNameCaseInsensitive = true
                };

                var data = JsonSerializer.Deserialize<DataMahasiswa>(json, options);

                if (data != null)
                {
                    Console.WriteLine($"Nama: {data.FirstName} {data.LastName}");
                    Console.WriteLine($"Gender: {data.Gender}, Umur: {data.Age}");
                    Console.WriteLine($"Alamat: {data.Address.StreetAddress}, {data.Address.City}, {data.Address.State}");
                    Console.WriteLine("\nMata Kuliah:");
                    foreach (var course in data.Courses)
                    {
                        Console.WriteLine($"- {course.Code}: {course.Name}");
                    }
                }
                else
                {
                    Console.WriteLine("Gagal mendeserialize JSON.");
                }
            }
            catch (Exception ex)
            {
                Console.WriteLine($"Terjadi kesalahan saat membaca JSON: {ex.Message}");
            }
        }
    }

    0 references
    public class Program
    {
        0 references
        public static void Main(string[] args)
        {
            var mahasiswa = new DataMahasiswa();
            mahasiswa.ReadJSON();
        }
    }
}
```

Class Addres

```
public class Address
{
    [JsonPropertyName("streetAddress")]
    1 reference
    public string StreetAddress { get; set; } = string.Empty;

    [JsonPropertyName("city")]
    1 reference
    public string City { get; set; } = string.Empty;

    [JsonPropertyName("state")]
    1 reference
    public string State { get; set; } = string.Empty;
}
```

Mewakili Alamat Mahasiswa:

- StreetAddress → Nama jalan
- City → Kota
- State → Provinsi atau negara bagian

Atribut [JsonPropertyName] dipakai agar properti class cocok dengan nama field di JSON.

Class Course

```
public class Course
{
    [JsonPropertyName("code")]
    1 reference
    public string Code { get; set; } = string.Empty;

    [JsonPropertyName("name")]
    1 reference
    public string Name { get; set; } = string.Empty;
}
```

Mewakili data mata kuliah:

- Code → Kode MK
- Name → Nama mata kuliah

Class Data Mahasiswa

```
public class DataMahasiswa
{
    [JsonPropertyName("firstName")]
    1 reference
    public string FirstName { get; set; } = string.Empty;

    [JsonPropertyName("lastName")]
    1 reference
    public string LastName { get; set; } = string.Empty;

    [JsonPropertyName("gender")]
    1 reference
    public string Gender { get; set; } = string.Empty;

    [JsonPropertyName("age")]
    1 reference
    public int Age { get; set; }

    [JsonPropertyName("address")]
    3 references
    public Address Address { get; set; } = new Address();

    [JsonPropertyName("courses")]
    1 reference
    public List<Course> Courses { get; set; } = new List<Course>();
```

Mewakili objek mahasiswa:

- FirstName, LastName → Nama mahasiswa
- Gender, Age → Jenis kelamin dan umur
- Address → Objek Address

- Courses → List dari objek Course

Method ReadJSON()

```
public void ReadJSON()
{
    try
    {
        string json = File.ReadAllText("jurnal7_1_2311104066.json");

        var options = new JsonSerializerOptions
        {
            PropertyNameCaseInsensitive = true
        };

        var data = JsonSerializer.Deserialize<DataMahasiswa>(json, options);

        if (data != null)
        {
            Console.WriteLine($"Nama: {data.FirstName} {data.LastName}");
            Console.WriteLine($"Gender: {data.Gender}, Umur: {data.Age}");
            Console.WriteLine($"Alamat: {data.Address.StreetAddress}, {data.Address.City}, {data.Address.State}");
            Console.WriteLine("\nMata Kuliah:");
            foreach (var course in data.Courses)
            {
                Console.WriteLine($"- {course.Code}: {course.Name}");
            }
        }
        else
        {
            Console.WriteLine("Gagal mendeserialize JSON.");
        }
    }
    catch (Exception ex)
    {
        Console.WriteLine($"Terjadi kesalahan saat membaca JSON: {ex.Message}");
    }
}
```

Ini method utama untuk:

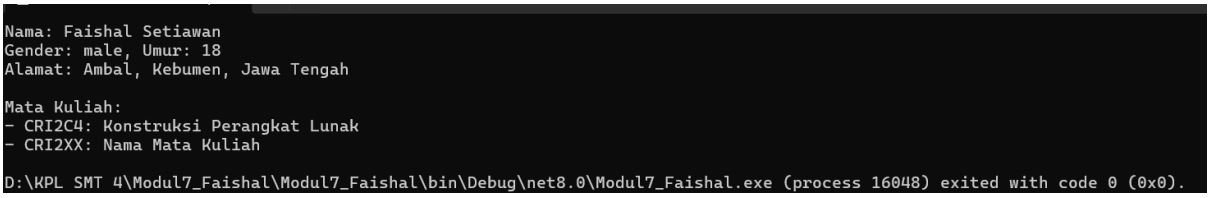
- Baca file jurnal7_1_2311104066.json
- Deserialize JSON ke objek DataMahasiswa
- Tampilkan data mahasiswa ke console

Class Program dan Method Main()

```
0 references
public class Program
{
    0 references
    public static void Main(string[] args)
    {
        var mahasiswa = new DataMahasiswa();
        mahasiswa.ReadJSON();
    }
}
```

- Membuat objek DataMahasiswa
- Memanggil ReadJSON() untuk baca dan tampilkan data dari file JSON

Output:



-Jurnal7_2_2311104066

Class Program Dan Method Main()

```
public class Program
{
    0 references
    public static void Main(string[] args)
    {
```

class utama yang akan dijalankan oleh program dan entry point program

JSON Data

```
string json = @"
```

Data JSON Disimpan dalam bentuk String

Isi JSON-nya adalah array members yang berisi beberapa object anggota tim dengan properti:

- firstName
- lastName
- gender

- age

- nim

JsonSerializerOptions

```
var options = new JsonSerializerOptions
{
    PropertyNameCaseInsensitive = true
};
```

Membuat deserialisasi pada nama property

Deserialisasi JSON ke Objek C#

```
TeamData? teamData = JsonSerializer.Deserialize<TeamData>(json, options);
```

mengubah data JSON menjadi objek TeamData.

Menampilkan data ke console

```
if (teamData?.Members != null)
{
    foreach (var member in teamData.Members)
    {
        Console.WriteLine(member);
    }
}
```

Cek apakah data berhasil di baca
Kode Console.WriteLine(member); secara otomatis akan memanggil method ToString() dari objek TeamMember.

Output:

```
Faishal Setiawan (male, 18 y/o) - NIM: 2311104066
Kafka putra riyadi (male, 19 y/o) - NIM: 2311104041
Naura Aisha Zahira (female, 19 y/o) - NIM: 2311104078
Ahmad Al-Farizi (male, 20 y/o) - NIM: 2311104054
Ganes Gemi Putra (male, 20 y/o) - NIM: 2311104075

D:\KPL SMT 4\Modul7_Faishal\TeamMembers_2311104066\TeamMembers_2311104066\bin\Debug\net8.0\TeamMembers_2311104066.exe (p
rocess 20072) exited with code 0 (0x0).
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the consc
le when debugging stops.
Press any key to close this window . . .
```

-Jurnal7_3_2311104066

Kelas Program

```
0 references
public class Program
{
    0 references
    public static void Main(string[] args)
    {
        Glossary.ReadJSON();
    }
}
```

- Titik masuk program (Main method).

- Memanggil method ReadJSON() dari class Glossary untuk membaca dan memproses file JSON.

  Kelas Glossary

```
public class Glossary
{
    [JsonPropertyName("glossary")]
    2 references
    public GlossaryContent? GlossaryContent { get; set; }

    1 reference
    public static void ReadJSON()
    {
```

- Properti GlossaryContent digunakan untuk merepresentasikan node JSON bernama glossary.
- Method ReadJSON() membaca file JSON dan menampilkan informasi dari dalamnya.

  Kelas GlossaryContent

```
1 reference
public class GlossaryContent
{
    0 references
    public string? Title { get; set; }

    [JsonPropertyName("GlossDiv")]
    2 references
    public GlossDiv? GlossDiv { get; set; }
}
```

- Merepresentasikan node "glossary" dari JSON.
- Properti Title biasanya untuk judul glossary secara umum.
- GlossDiv adalah bagian dalam glossary, di-mapping dengan atribut [JsonPropertyName("GlossDiv")].

  Kelas GlossEntry

```
public class GlossEntry
{
    1 reference
    public string? ID { get; set; }
    0 references
    public string? SortAs { get; set; }
    1 reference
    public string? GlossTerm { get; set; }
    1 reference
    public string? Acronym { get; set; }
    1 reference
    public string? Abbrev { get; set; }

    [JsonPropertyName("GlossDef")]
    2 references
    public GlossDef? GlossDef { get; set; }

    1 reference
    public string? GlossSee { get; set; }
}
```

Isi utama dari sebuah istilah di kamus (glossary entry).

Output:

```
eading file from: D:\KPL SMT 4\Modul7_Faishal\GlossaryItem_2311104066\GlossaryItem_2311104066\bin\Debug\net8.0\jurnal7_
_2311104066.json
lossEntry ID   : SGML
lossTerm       : Standard Generalized Markup Language
cronym         : SGML
bbreviation    : ISO 8879:1986
lossSee        : markup
efinition      : A meta-markup language, used to create markup languages such as DocBook.
lossSeeAlso    : GML, XML

:\KPL SMT 4\Modul7_Faishal\GlossaryItem_2311104066\GlossaryItem_2311104066\bin\Debug\net8.0\GlossaryItem_2311104066.exe
(process 19748) exited with code 0 (0x0).
```