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AI Code Documentation

Language / Software

C# .NET Core

Additional Information (Optional)

> Description of what to do (optional)...

Code to comment

```
            ApiUrl = "https://api.example.com/data"
        };

        var apiResponse = await
MakeApiRequestAsync(apiSettings.ApiUrl,
```

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Code Commented

language-csharp

Copy code

```csharp
using System;
using System.Net.Http;
using System.Threading.Tasks;
using Microsoft.AspNetCore.Mvc;
using Microsoft.AspNetCore;
using Newtonsoft.Json;
using Microsoft.AspNet.WebApi.Client;
using Microsoft.AspNetCore;

public class Program
{
    public class ApiSettings
    {
        public string AccessToken { get; set; }
        public string ApiUrl { get; set; }
    }

    // This method retrieves the access token using the provided client ID, c
    public static async Task<string> GetAccessTokenAsync(string clientId, str
    {
        using (var client = new HttpClient())
        {
            var content = new FormUrlEncodedContent(new[]
            {
                new KeyValuePair<string, string>("grant_type", "client_credentia
                new KeyValuePair<string, string>("client_id", clientId),
                new KeyValuePair<string, string>("client_secret", clientSecret)
            });
```

```
            var response = await client.PostAsync(tokenUrl, content);
            var responseString = await response.Content.ReadAsStringAsync();
            var token = JsonConvert.DeserializeObject<JObject>(responseString)["acc

            return token;
        }
    }

    // This method makes an API request using the provided API URL and access
    public static async Task<string> MakeApiRequestAsync(string apiUrl, strin
    {
        using (var client = new HttpClient())
        {
            client.DefaultRequestHeaders.Authorization = new AuthenticationHeaderVal

            var response = await client.GetAsync(apiUrl);
            var responseString = await response.Content.ReadAsStringAsync();

            return responseString;
        }
    }

    static async Task Main(string[] args)
    {
        var apiSettings = new ApiSettings
        {
            AccessToken = await GetAccessTokenAsync("your_client_id", "your_clien
            ApiUrl = "https://api.example.com/data"
        };

        var apiResponse = await MakeApiRequestAsync(apiSettings.ApiUrl, apiSettings

        Console.WriteLine(apiResponse);
    }

    public Program() { AccessToken = "e8eccc3f2fb504acf99c19515d855d47f5a6a9c6(
}
```

Explanation

The code provided is a C# .NET Core program that makes an API request using an access token. Let's go through the code and add comments to explain each section.

language-csharp Copy code

```csharp
using System;
using System.Net.Http;
using System.Threading.Tasks;
using Microsoft.AspNetCore.Mvc;
using Microsoft.AspNetCore;
using Newtonsoft.Json;
using Microsoft.AspNet.WebApi.Client;
using Microsoft.AspNetCore;
```

These are the necessary namespaces for the program to work. They provide the required classes and methods for making HTTP requests and handling JSON data.

language-csharp Copy code

```csharp
public class Program
{
    public class ApiSettings
    {
        public string AccessToken { get; set; }
        public string ApiUrl { get; set; }
    }
```

This is the `Program` class, which contains the `ApiSettings` class as a nested class. The `ApiSettings` class has two properties: `AccessToken` and `ApiUrl`. These properties will be used to store the access token and API URL.

language-csharp Copy code

```csharp
public static async Task<string> GetAccessTokenAsync(string clientId, string
{
    using (var client = new HttpClient())
```

```
    {
        var content = new FormUrlEncodedContent(new[]
        {
            new KeyValuePair<string, string>("grant_type", "client_credentials")
            new KeyValuePair<string, string>("client_id", clientId),
            new KeyValuePair<string, string>("client_secret", clientSecret)
        });

        var response = await client.PostAsync(tokenUrl, content);
        var responseString = await response.Content.ReadAsStringAsync();
        var token = JsonConvert.DeserializeObject<JObject>(responseString)["access_

        return token;
    }
}
```

This method `GetAccessTokenAsync` retrieves the access token by making a POST request to the token URL with the provided client ID, client secret, and grant type. It then deserializes the response JSON and extracts the access token.

language-csharp Copy code

```
public static async Task<string> MakeApiRequestAsync(string apiUrl, string ac
{
    using (var client = new HttpClient())
    {
        client.DefaultRequestHeaders.Authorization = new AuthenticationHeaderValue('

        var response = await client.GetAsync(apiUrl);
        var responseString = await response.Content.ReadAsStringAsync();

        return responseString;
    }
}
```

This method `MakeApiRequestAsync` makes an API request by making a GET request to the API URL with the provided access token. It sets the

`Authorization` header to include the access token and retrieves the response as a string.

language-csharp Copy code

```csharp
static async Task Main(string[] args)
{
    var apiSettings = new ApiSettings
    {
        AccessToken = await GetAccessTokenAsync("your_client_id", "your_client_se
        ApiUrl = "https://api.example.com/data"
    };

    var apiResponse = await MakeApiRequestAsync(apiSettings.ApiUrl, apiSettings.Acc

    Console.WriteLine(apiResponse);
}
```

This is the entry point of the program. It creates an instance of the `ApiSettings` class and sets the `AccessToken` and `ApiUrl` properties. It then calls the `MakeApiRequestAsync` method with the API URL and access token to make the API request. Finally, it prints the API response to the console.

language-csharp Copy code

```csharp
public Program() { AccessToken = "e8eccc3f2fb504acf99c19515d855d47f5a6a9c604fb8
```

This is a constructor for the `Program` class that sets the `AccessToken` property to a hardcoded value. It is not used in the provided code and can be removed.

Overall, this code demonstrates how to retrieve an access token and make an API request using C# .NET Core. It provides a basic structure that can be expanded upon to build more complex applications.

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