TRIO
MOTION | TECHNOLOGY

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Subject:	Trio Unified API .NET Components - Windows

APPLICATION NOTE

www.triomotion.com

Trio Unified API .NET Components via C# - Windows

How to access controller via C# using Unified API on Windows OS

1. Requirements

   1.1. Windows 10 (recommended)
   1.2. .NET Framework 4.x or .NET 6.0 and above
   1.3. VS Studio 2022
   *1.4.* Trio Unified API

2. Project Setup

   2.1. In this example will create a project in Visual Studio to test individual methods provided in Trio Unified API for .NET.
   2.2. For .NET 6 and above select 'Console App' and .NET Framework 4.x select 'Console App (.NET Framework)'.
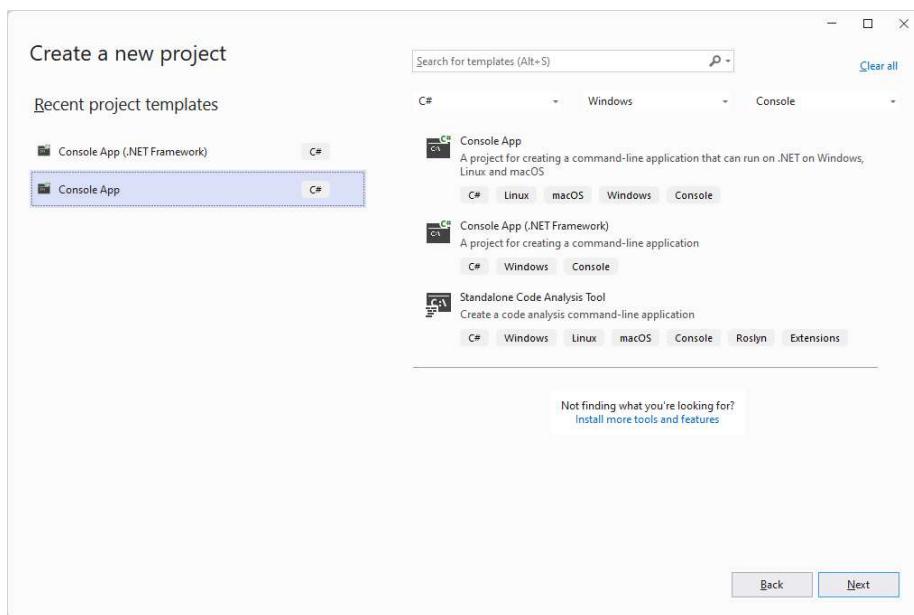
2.3. Create Project with name <UAPI_test_CS> in desired project location and select .NET version to be used.
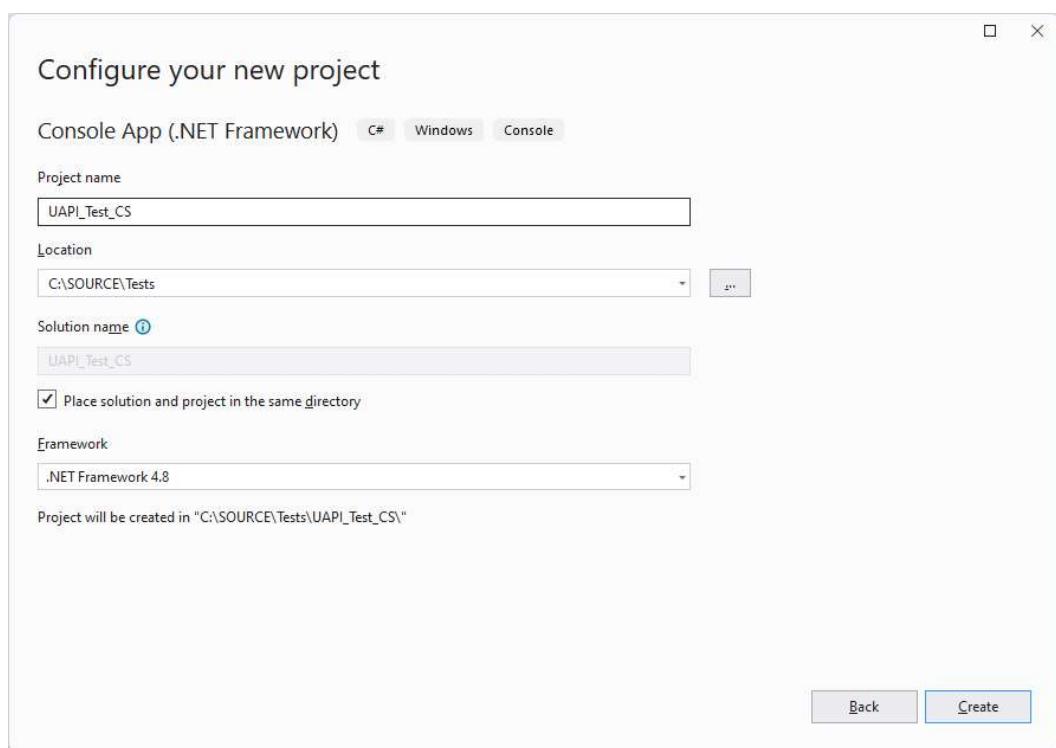
2.4. In Solution Explorer right-click on the project and select "Manage NuGet Packages…".
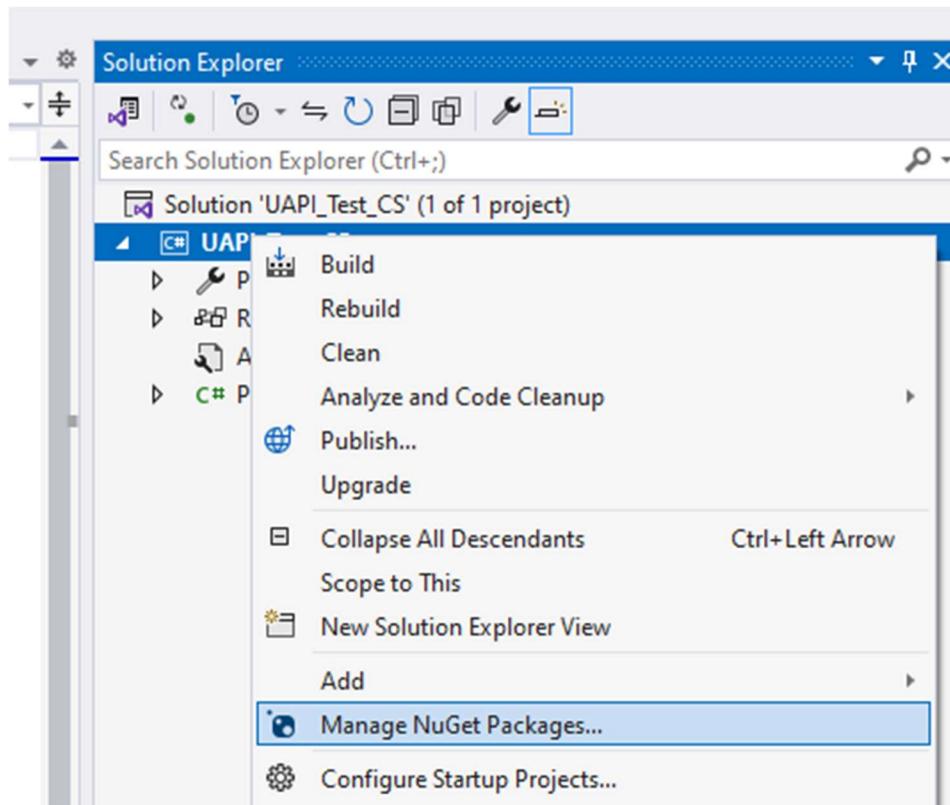
2.5. In NuGet manager window select Browse tab. In search box type Trio_UnifiedApi and optionally click 'Include prerelease' to include pre-release builds of the Trio Unified API. Select the most recent (or desired) version of the API and press 'Install'.
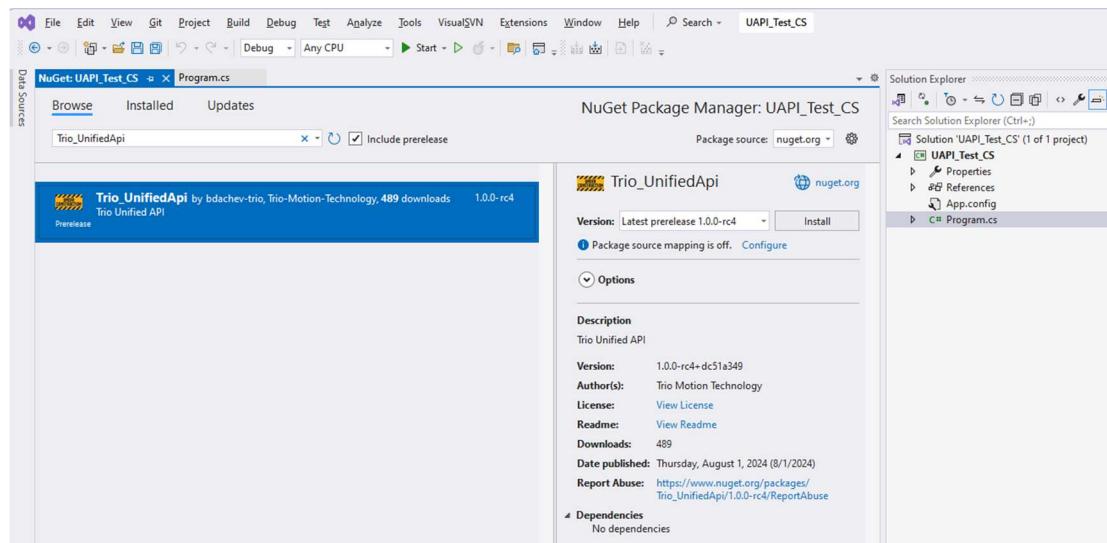
3. Example code in <program.cs> file.

```csharp
using System;
using System.Threading;
using TrioMotion.UnifiedApi;

class Sample : IDisposable
{
    ITrioConnection _connection;

    public Sample(string mcIP)
    {
        _connection = TrioConnectionFactory.CreateConnectionTCP(mcIP);
        _connection.ConnectionEvent += ConnectionCallback;
    }
    ~Sample()
    {
        Dispose();
    }

    public void Dispose()
    {
        var connection = Interlocked.Exchange(ref _connection, null);
        connection?.Dispose();
    }

    public void Execute()
    {
        var conn = _connection;
        if (conn == null)
            throw new TrioConnectionException(ErrorCode.ConnectionContext);
        // Connect to MC
        conn.OpenConnection();
        // Write VR value
        conn.SetVrValue(100, 1.25);
        // Disconnect from MC
        conn.CloseConnection();
    }

    void ConnectionCallback(EventType event_type, long int_value, string str_value)
    {
        switch (event_type)
        {
            case EventType.Error:
                Console.WriteLine($"Error {int_value} occurred: {str_value}");
                break;

            case EventType.Message:
                Console.WriteLine($"Msg: {str_value}");
                break;
        }
    }
}

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

```csharp
        {
            Console.WriteLine("Trio Motion Unified C# API Example");

            // MC IP can be passed as first argument
            // if missing use default 192.168.0.250
            var mcIP = args.Length < 1 ? "192.168.0.250" : args[0];

            try
            {
                // Create Sample instance
                using (var sample = new Sample(mcIP))
                {
                    // Execute sample
                    sample.Execute();
                }
            }
            catch (TrioConnectionException e)
            {
                Console.WriteLine($"Destroy context failed: {e.ErrorCode}:");
                Console.WriteLine();
                Console.WriteLine(e.ToString());
            }
        }
    }
```