WebAPI2CLI

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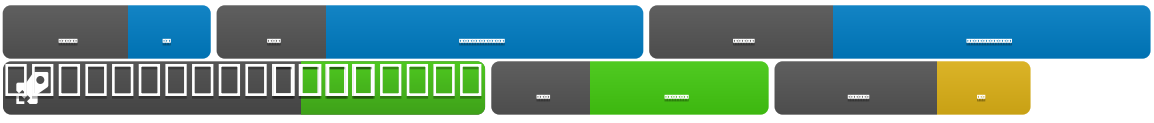
Execute ASP.NET Core WebAPI from Command Line



Why

What if, instead of running the WebAPI (or just the site) and waiting for commands from the user, you want also to execute from the command line some controllers actions ?

This project let's you do that by enabling the command line with

< myexe >.exe --CLI_ENABLED=1 --CLI_Commands=" ... "

The command names are in a *cli.txt* file that can be generated with

< myexe >.exe --CLI_ENABLED=1 --CLI_HELP=1

How to use (for .NET Core 3.1)

Step 0 : install into your ASP.NET Core Web

Install the package https://www.nuget.org/packages/ExtensionNetCore3

Modify your ASP.NET Core as below:

```
public void ConfigureServices(IServiceCollection services)
{
    services.AddCLI();
//your code omitted
}
public void Configure(IApplicationBuilder app, IWebHostEnvironment env)
{
    app.UseCLI();
//your code omitted
}
```

And that is all modifications that you need to do for the source code.

Step 1 - find and save the definition of the commands, i.e. WebAPI endpoints

First, you must generate the definition of the commands. For this, we take the OPEN API (swagger) approach.

For this, after you compile the project, you will run your .exe program with arguments:

< myexe >.exe --CLI_ENABLED=1 --CLI_HELP=1

(or make this from *Visual Studio, Project, Properties, Debug*)

This will generate a *cli.txt* file with all definitions of the WebAPI. (if your API does not appear, check if you have *ApiController* defined)

Open your *cli.txt* file and modify the names of the commands as you wish (also , the arguments)

Copy this *cli.txt* in your solution and be sure that is copied with the exe (in Visual Studio right click the file, properties, Build Action = Content, CopyToOutputDirectory = Copy if newer)

Step 2 - run the commands

Ensure that the file is near your exe WebAPI.

Run the exe with the following:

< myexe >.exe --CLI_ENABLED=1 --CLI_Commands="your first command,your second command, and enumerate all commands"

The program will run the commands and output the result.

More details here(including a demo)

https://ignatandrei.github.io/WebAPI2CLI/

If you want a demo

If you have Win10 x64

Go to https://dev.azure.com/ignatandrei0674/WebAPI2CLI/_build?definitionId=7&_a=summary

Click on the latest job.

Click on artifacts.

See drop1 . In the right of drop1 , you can download the drop1 folder.

Unzip the drop1 (you will need the cli.txt that contains the WebAPI definitions)

Inside drop1 , you will find TestWebAPISite.exe

Run TestWebAPISite.exe and browse to http://localhost:5000/swagger

Close TestWebAPISite.exe command prompt.

Now run

TestWebAPISite.exe --CLI_Enabled=1 --CLI_COMMANDS="GetMathId_Http,WeatherGet"

(ensure the cli.txt is near to TestWebAPISite.exe)

If you have another operating system than Win10-x64 and want a demo

It is easy to make a demo for you. Modify the .csproj and the yml file in azure. Or make an issue at https://github.com/ignatandrei/webAPI2CLI/issues and I will do it for you.

Could I see an example of the output ?

Of course. Every build in AzureDevOps has a last step , runningADemo. See https://dev.azure.com/ignatandrei0674/WebAPI2CLI/_build?definitionId=7&_a=summary

Could you put here the output ?

Yes. This is the output of

TestWebAPISite.exe --CLI_ENABLED=1 --CLI_Commands="GetMathId_Http,MathPOST"

See *Result* variable

1. 2020-03-10T19:03:39.2929915Z ExtensionNetCore3 version:1.2020.10310.11900
2. 2020-03-10T19:03:40.0045036Z info: Microsoft.Hosting.Lifetime[0]
3. 2020-03-10T19:03:40.0046360Z Now listening on: http://localhost:5000
4. 2020-03-10T19:03:40.0047178Z info: Microsoft.Hosting.Lifetime[0]
5. 2020-03-10T19:03:40.0047815Z Now listening on: https://localhost:5001
6. 2020-03-10T19:03:40.0048438Z info: Microsoft.Hosting.Lifetime[0]
7. 2020-03-10T19:03:40.0049078Z Application started. Press Ctrl+C to shut down.
8. 2020-03-10T19:03:40.0049702Z info: Microsoft.Hosting.Lifetime[0]
9. 2020-03-10T19:03:40.0050292Z Hosting environment: Production
10. 2020-03-10T19:03:40.0050877Z info: Microsoft.Hosting.Lifetime[0]
11. 2020-03-10T19:03:40.0051895Z Content root path: D:\a\1\a
12. 2020-03-10T19:03:44.6267548Z CLIExecute version:1.2020.10310.11900
13. 2020-03-10T19:03:45.4122334Z *executing GetMathId_Http*
14. 2020-03-10T19:03:46.0585725Z {
15. 2020-03-10T19:03:46.0586788Z "Command": {
16. 2020-03-10T19:03:46.0587511Z "NameCommand": "GetMathId_Http",
17. 2020-03-10T19:03:46.0588202Z "Host": "http://localhost:5000",
18. 2020-03-10T19:03:46.0588851Z "RelativeRequestUrl": "api/MathAdd/5",
19. 2020-03-10T19:03:46.0589427Z "Verb": "GET"
20. 2020-03-10T19:03:46.0589936Z },
21. 2020-03-10T19:03:46.0590434Z "StatusCode": 200,
22. 2020-03-10T19:03:46.0590955Z "*Result*": "value5"
23. 2020-03-10T19:03:46.0591452Z }
24. 2020-03-10T19:03:46.0591977Z executing *MathPOST*
25. 2020-03-10T19:03:46.1304847Z {
26. 2020-03-10T19:03:46.1306343Z "Command": {
27. 2020-03-10T19:03:46.1307062Z "NameCommand": "MathPOST",
28. 2020-03-10T19:03:46.1307766Z "Host": "http://localhost:5000",
29. 2020-03-10T19:03:46.1308471Z "RelativeRequestUrl": "api/MathAdd",
30. 2020-03-10T19:03:46.1309710Z "Verb": "POST"
31. 2020-03-10T19:03:46.1310813Z },
32. 2020-03-10T19:03:46.1311457Z "StatusCode": 200,
33. 2020-03-10T19:03:46.1312079Z "Result": ""
34. 2020-03-10T19:03:46.1312652Z }

F.A.Q.

I want to contribute . Where is the code ?

All code source is at https://github.com/ignatandrei/WebAPI2CLI/

Please see issues tab if you want to know what needs development .

Will my WebAPI work as before?

The software takes care about

--CLI_ENABLED=1

If you do not have this command, your website runs as before

I want to run as a CLI and then use the WebAPI as before. Could I do that?

Yes. Use

< myexe >.exe --CLI_ENABLED=1 --CLI_Commands="your first command,your second command" --CLI_STAY=1

I found a bug / I need a feature . Where can I report ?

You can report problems at https://github.com/ignatandrei/WebAPI2CLI/issues

Where can I download this document ?

There is a PDF at https://ignatandrei.github.io/WebAPI2CLI/Web2CLI.pdf