Harry's notes for software development

Table of Contents

1		Micro	oservices	. 1
_	1.1			
_		_	Definition	
2		GitH	ub related	1
	2.1	1	Git clone	. 1
	2.2	2	Create gitignore for .NET	. 2
3		API (.NET)	3
	3.1	1	Create API	3
4		Cont	roller – .NET for API	4
	4.1	1	What make the controller to be a controller	4
	4.2	2	What make an end point to be an end point	5
	4.3	3	Handling return of status codes	5
	4.4	4	Document the return status of end point in Swagger	5
5		Visua	al Studio Code	5
	5.1	1	Suggested Setting on VS Code	5
	5.2	2	If not .vscode folder generated	5
6		Dotn	et CLI commands	. 5
7		Item	s is being Looked for solutions	. 6

1 Microservices

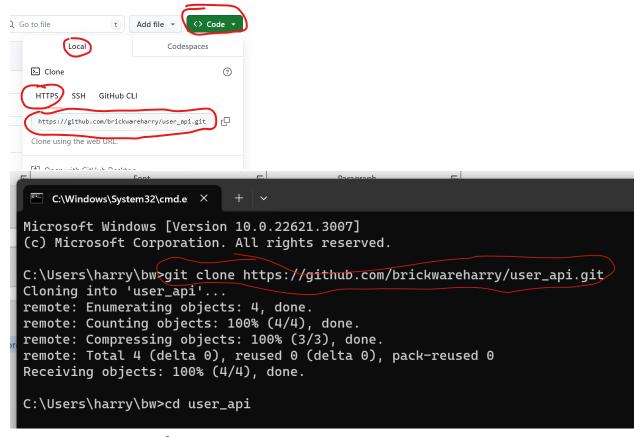
1.1 Definition

Microservices have the architectural style that structures an application as a collection of independently deployable services that are modeled around a business domain and are usually owned by a small team.

2 GitHub related

2.1 Git clone

git clone << URL of git repository, see screenshot below>>



2.2 Create gitignore for .NET

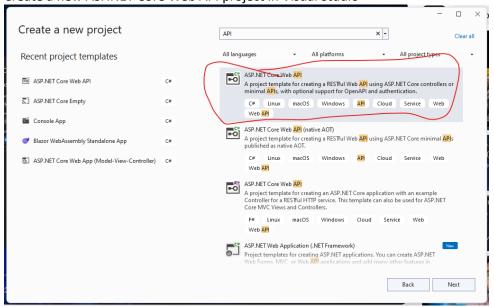
Give command "dotnet new gitignore" in the Command Prompt of the local repository, see screenshot below

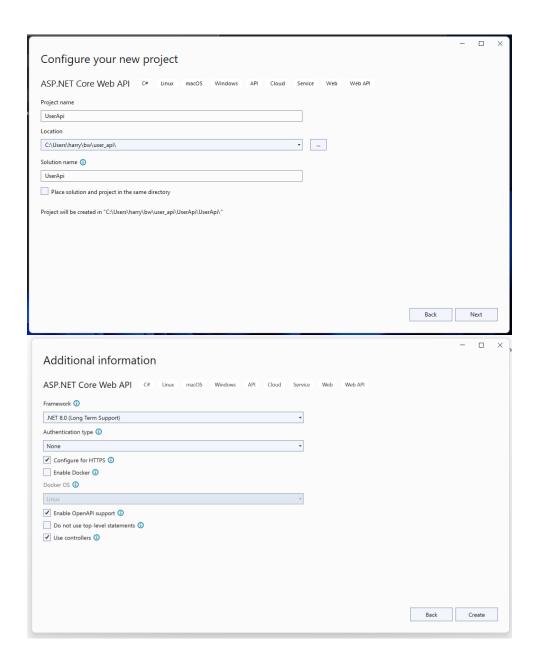
```
C:\Windows\System32\cmd.e: X
Directory of C:\Users\harry\bw\user_api
02/10/2024 05:33 PM
                        <DIR>
02/10/2024
            05:33 PM
                        <DIR>
02/10/2024
            05:33 PM
                                  1,086 LICENSE
02/10/2024
            05:33 PM
                                     36 README.md
               2 File(s)
                                   1,122 bytes
               2 Dir(s)
                         722,844,930,048 bytes free
C:\Users\harry\bw\user_api>dotnet new gitignore
The template "dotnet gitignore file" was created successfully.
```

3 API (.NET)

3.1 Create API

Create a new ASP.NET Core Web API project in Visual Studio





4 Controller – .NET for API

4.1 What make the controller to be a controller

- Has a suffix of Controller in the name of the class and file
 - Example: UserApiController
- Derive from the ControllerBase class under namespace of Microsoft.AspNetCore. Mvc
 - Example: public class UserApiController: ControllerBase
 - A using statement is needed below:
 - Example: using Microsoft.AspNetCore.Mvc;
- Need a controller attribute placed above the class
 - Example: [ApiController]

- Need a route attribute placed above the class
 - Example: [Route("api/UserApi")] or [Route("api/[Controller]")]

4.2 What make an end point to be an end point

- Need a verb attribute place above the function of the end point
 - Example: [HttpGet] or [HttpGet("{id:int}")]

4.3 Handling return of status codes

- Return type at the function of the end point should be ActionResult<return type of object>, e.g.
 ActionResult<UserDto> and ActionResult<IEnumerable<UserDto>>
- Verification of the return value can specify the return status, e.g.:
 - o If(id == 0){return BadRequest()};
 - o If(user == null){return NotFound()};
 - return Ok();

4.4 Document the return status of end point in Swagger

- Attributes [ProducesResponseType(status code)] are needed for documenting the status above the function of end point, e.g.
 - [ProducesResponseType(200)] or [ProducesResponseType(StatusCodes.Status200OK)]
 - o [ProducesResponseType(400)] or
 - [ProducesResponseType(StatusCodes.Status400BadRequest)]
 - [ProducesResponseType(404)] or [ProducesResponseType(StatusCodes.Status404NotFound)]

5 Visual Studio Code

5.1 Suggested Setting on VS Code

- File -> Auto Save
- File -> Preferences -> Settings -> Text Editor -> Formatting -> Format On Save
- File -> Preferences -> Settings -> Search(place open brace on new line)-> JavaScript Place
 Open Brace on New Line For Control Blocks
- File -> Preferences -> Settings -> Search(place open brace on new line)-> JavaScript Place
 Open Brace on New Line For Functions
- File -> Preferences -> Settings -> Search(place open brace on new line)-> TypeScript Place
 Open Brace on New Line For Control Blocks
- File -> Preferences -> Settings -> Search(place open brace on new line)-> TypeScript Place
 Open Brace on New Line For Functions

5.2 If not .vscode folder generated

- Generate the .vscode folder manually by opening your Command Palette (CTRL + SHIFT + P) and then select .NET: Generate Assets For Build And Debug.
- The .vscode folder has launch.json and tasks.json

6 Dotnet CLI commands

- dotnet new –list
 - o list all the template projects which can be built
- dotnet new webapi -n <<pre>roject name>> -controllers
 - o create an webapi project with the given project name

- dotnet new console –name <<pre><<pre>project name>>
 - o this creates an project with the name and also create a new folder holding the project
 - o if –name <<pre>roject name>> is not provided, the project will be created in current folder and the folder name will be the project name
 - --use-program-main for not using top level statement (i.e. there is static void Main(string[] args) in program.cs)
- 7 Items is being Looked for solutions