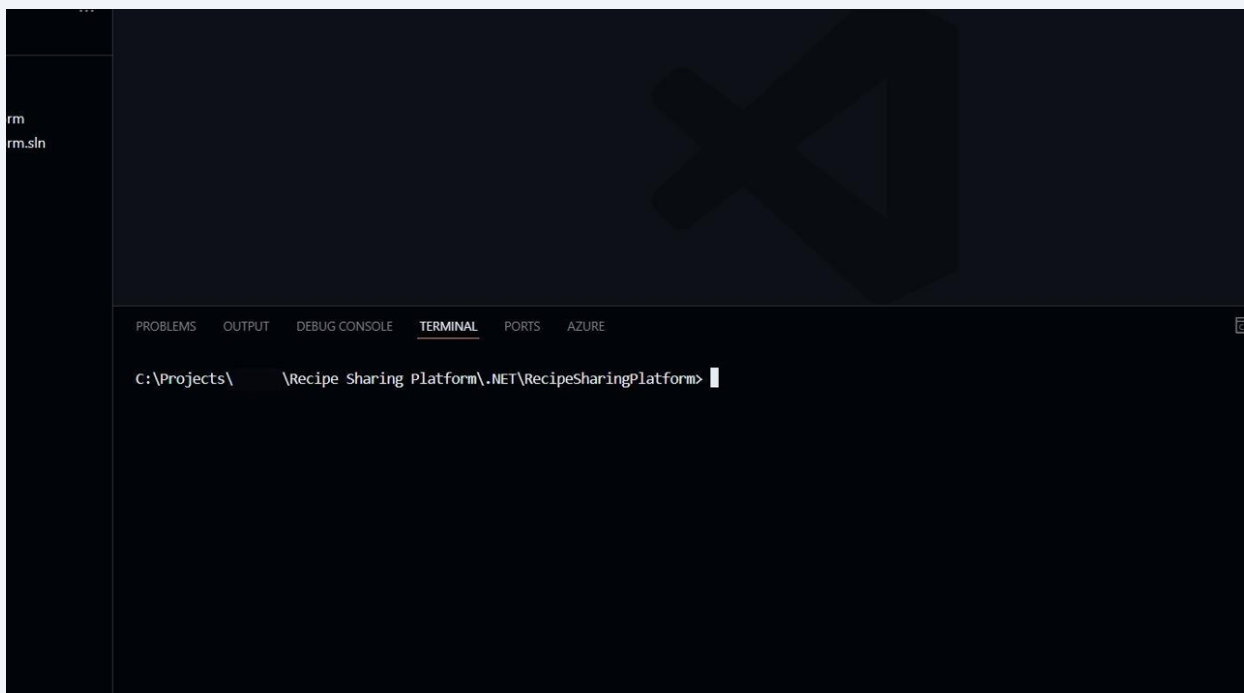# M5 Create unit tests in .NET

1 In this tutorial you are going to create a unit tests for Rest API from "M2 Create your .NET API"

2 Start off by opening project from "M2 Create your .NET API" in VS Code and open terminal


```
PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   AZURE

C:\Projects\       \Recipe Sharing Platform\.NET\RecipeSharingPlatform>
```

3 Type in "dotnet new nunit -n RecipeSharingPlatform.Test"

That will create template for nUnit project with .Net

4 Once created, in your terminal go to the newly created folder by typing "cd RecipeSharingPlatform.Test"
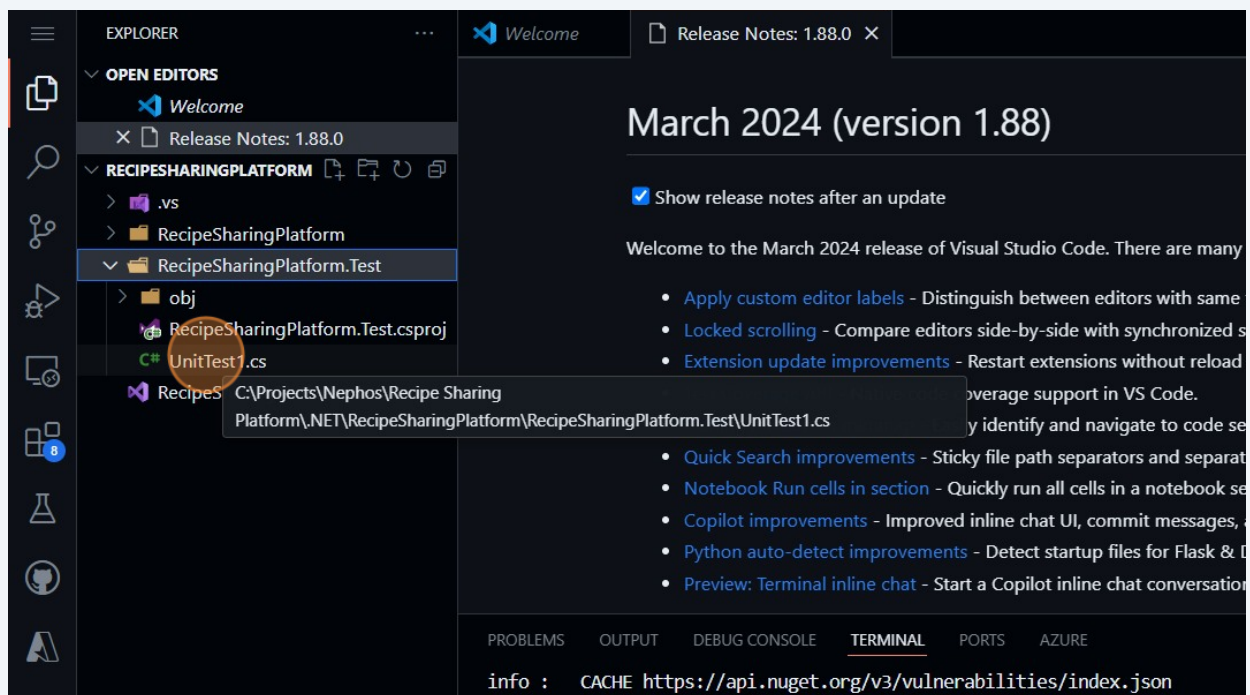
5 To finalize setup, include the RecipeSharingPlatform API reference.
Type in "dotnet add reference ../RecipeSharingPlatform/RecipeSharingPlatform.csproj"

6 Your project structure should look like this :
/RecipeSharingPlatform
....RecipeSharingPlatform (API)
....RecipeSharingPlatform.sln
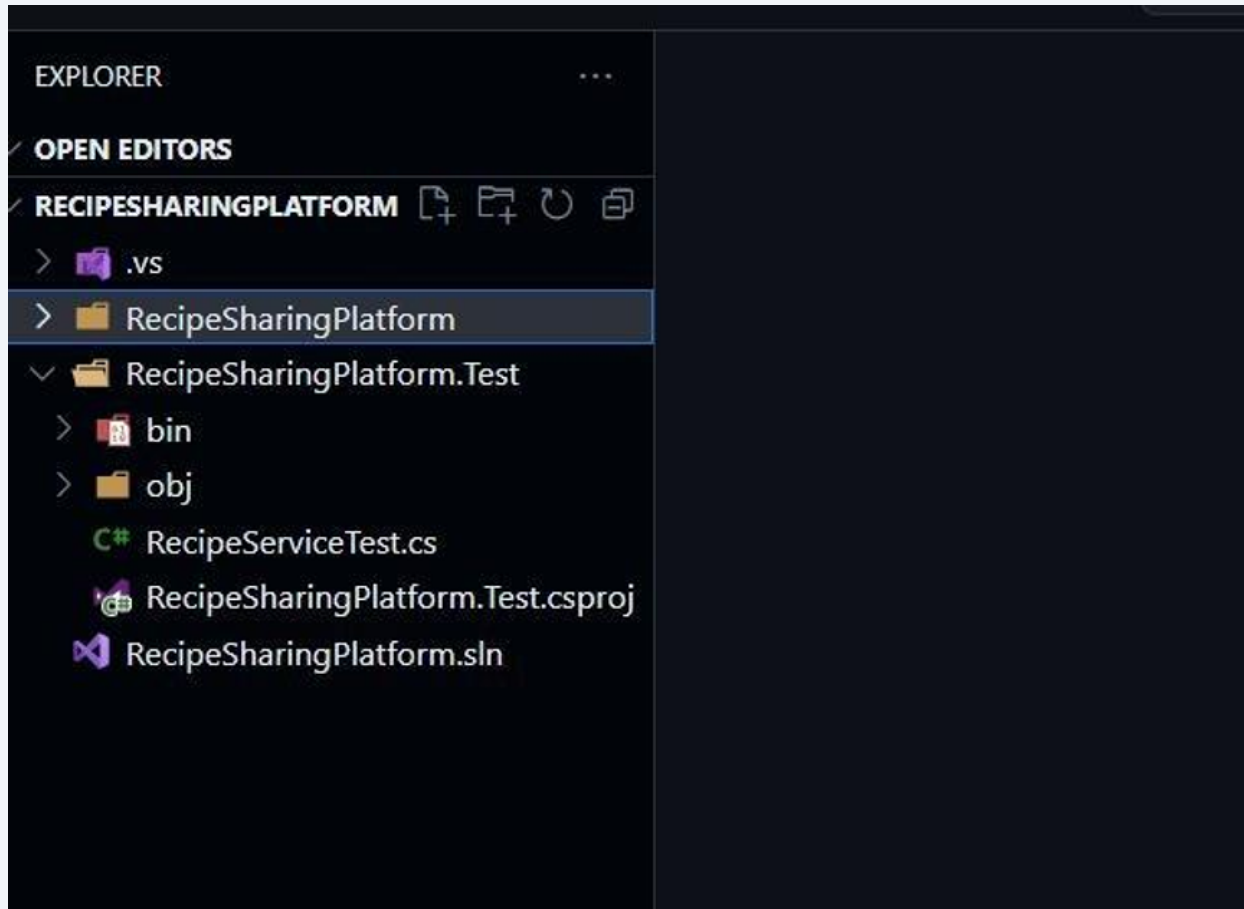....RecipeSharingPlatform.Test (nUnit)

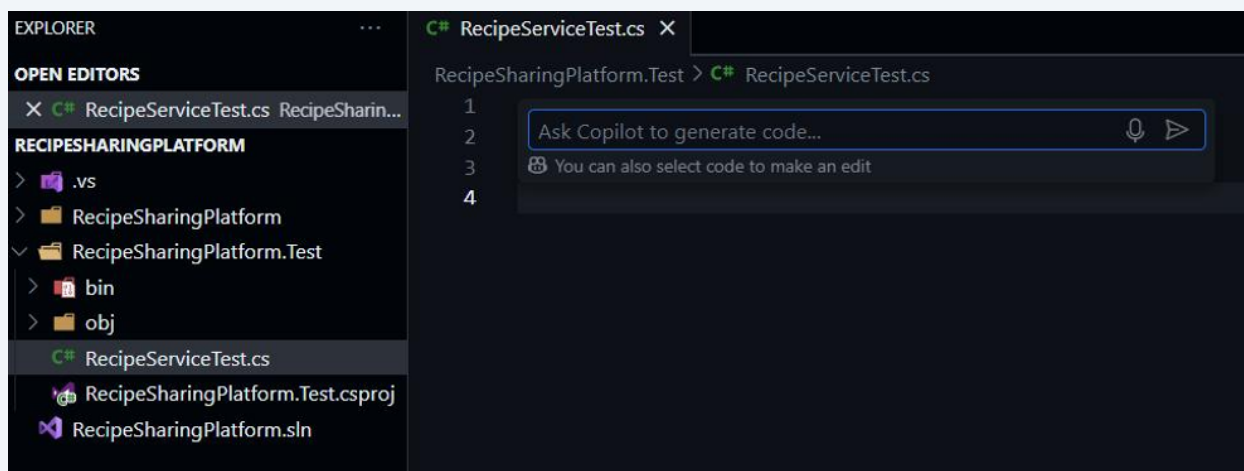**7** Let's explore nUnit project. Expand RecipeSharingPlatform.Test and remove "UnitTest1.cs"

8 Let's write first Unit Test with the assistance of Github Copilot.
Right click on RecipeSharingPlatform.Test choose "New File..." and name it
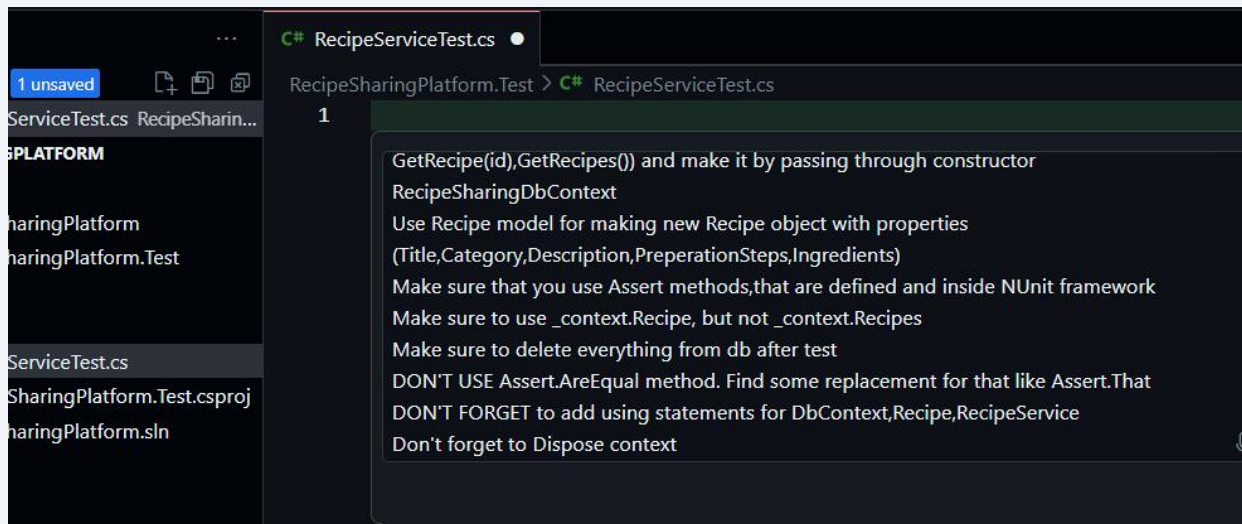"RecipeServiceTest.cs"

9 Open "RecipeServiceTest.cs" and try to invoke Github Copilot Chat by pressing
CTRL + I

10 Pass this prompt to Github Copilot to generate Unit Tests:

Write 2 nUnit test getRecipeById (test do RecipeService returns correct Recipe)
getRecipes methods (test do RecipeService returns all Recipes)
You should create new RecipeSharingDbContext object by passing into
constructor DbContextOption with InMemoryDb
You should create new RecipeService object (method names
GetRecipe(id),GetRecipes()) and make it by passing through constructor
RecipeSharingDbContext
Use Recipe model for making new Recipe object with properties
(Title,Category,Description,PreperationSteps,Ingredients)
Make sure that you use Assert methods,that are defined and inside NUnit
framework
Make sure to use *context.Recipe, but not***context.Recipes**
Make sure to delete everything from db after test
DON'T USE Assert.AreEqual method. Find some replacement for that like
Assert.That
DON'T FORGET to add using statements for DbContext,Recipe,RecipeService
Don't forget to Dispose context

11 GitHub Copilot will generate your class in a blink of an eye. To continue with the code suggested, click "Accept" and save RecipeServiceTest.cs

12 Once done, go back to your terminal, and type in "dotnet test" which should run your tests.

13 Congratulations! You have successfully built your Unit tests with the assistance of GitHub Copilot!

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS    AZURE


C:\Projects\      \Recipe Sharing Platform\.NET\RecipeSharingPlatform\RecipeSharingPlatform.Test> dotnet test
  Determining projects to restore...
  All projects are up-to-date for restore.
  RecipeSharingPlatform -> C:\Projects\Nephos\Recipe Sharing Platform\.NET\RecipeSharingPlatform\RecipeSharingPlatform\bin\Debug\n
  m.dll
  RecipeSharingPlatform.Test -> C:\Projects\Nephos\Recipe Sharing Platform\.NET\RecipeSharingPlatform\RecipeSharingPlatform.Test\b:
  ingPlatform.Test.dll
Test run for C:\Projects\Nephos\Recipe Sharing Platform\.NET\RecipeSharingPlatform\RecipeSharingPlatform.Test\bin\Debug\net8.0\Rec:
 (.NETCoreApp,Version=v8.0)
Microsoft (R) Test Execution Command Line Tool Version 17.9.0 (x64)
Copyright (c) Microsoft Corporation.  All rights reserved.

Starting test execution, please wait...
A total of 1 test files matched the specified pattern.

Passed!  - Failed:     0, Passed:     2, Skipped:     0, Total:     2, Duration: 1 s - RecipeSharingPlatform.Test.dll (net8.0)

C:\Projects\      \Recipe Sharing Platform\.NET\RecipeSharingPlatform\RecipeSharingPlatform.Test>
```