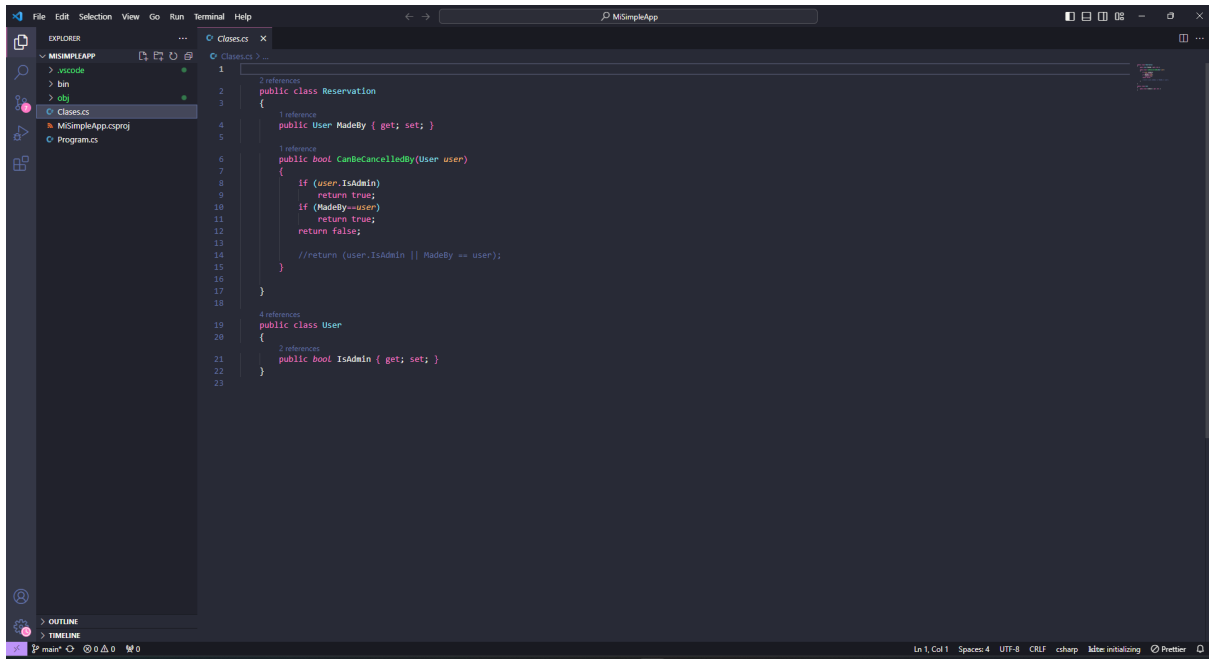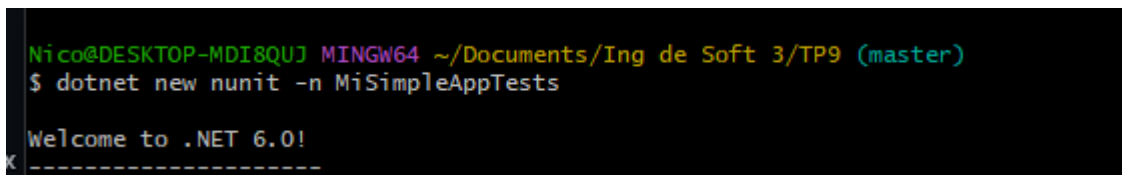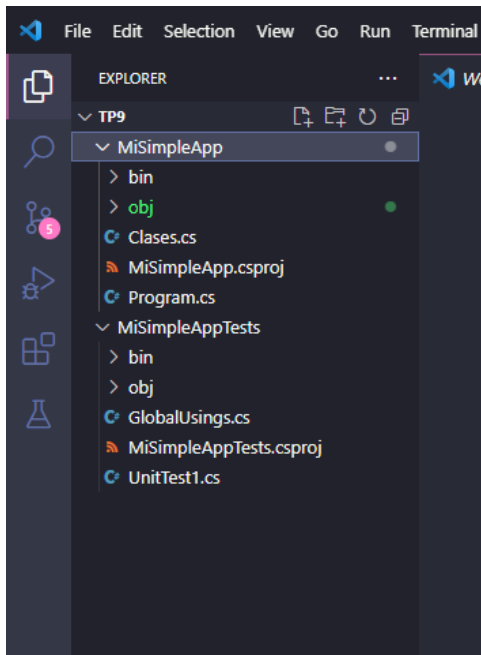# Ingeniera de Software 3

TP 9: Pruebas unitarias

1- Clonamos el codigo al directorio y lo abrimos con VS Code

2- Instalamos NUnit e instalamos los paquetes
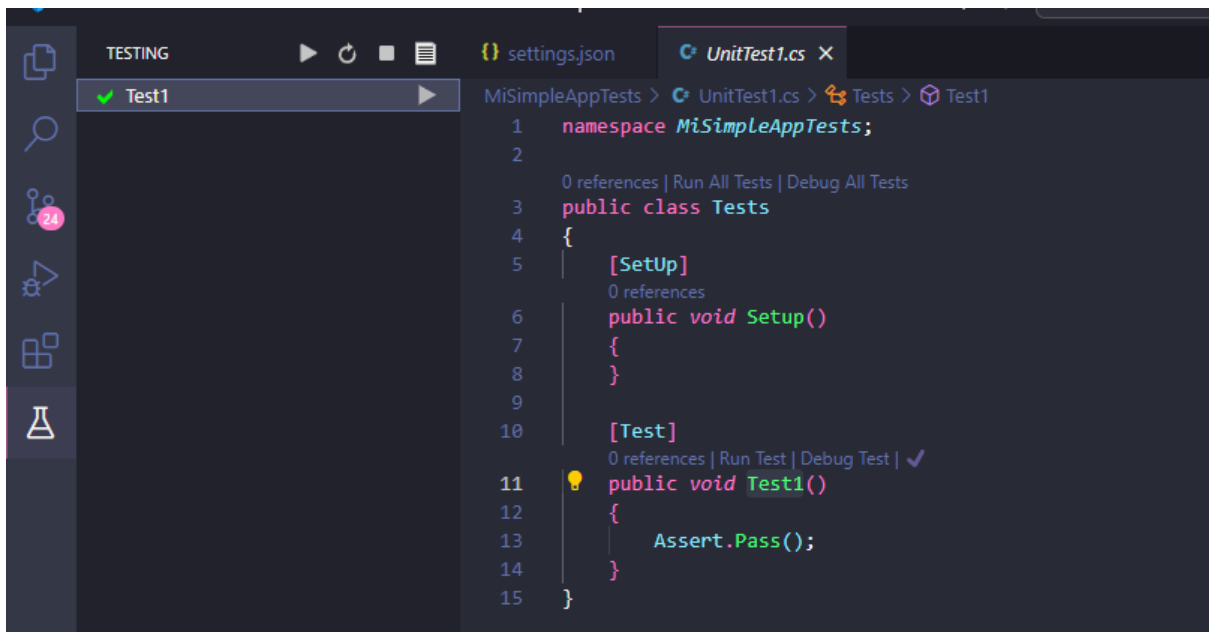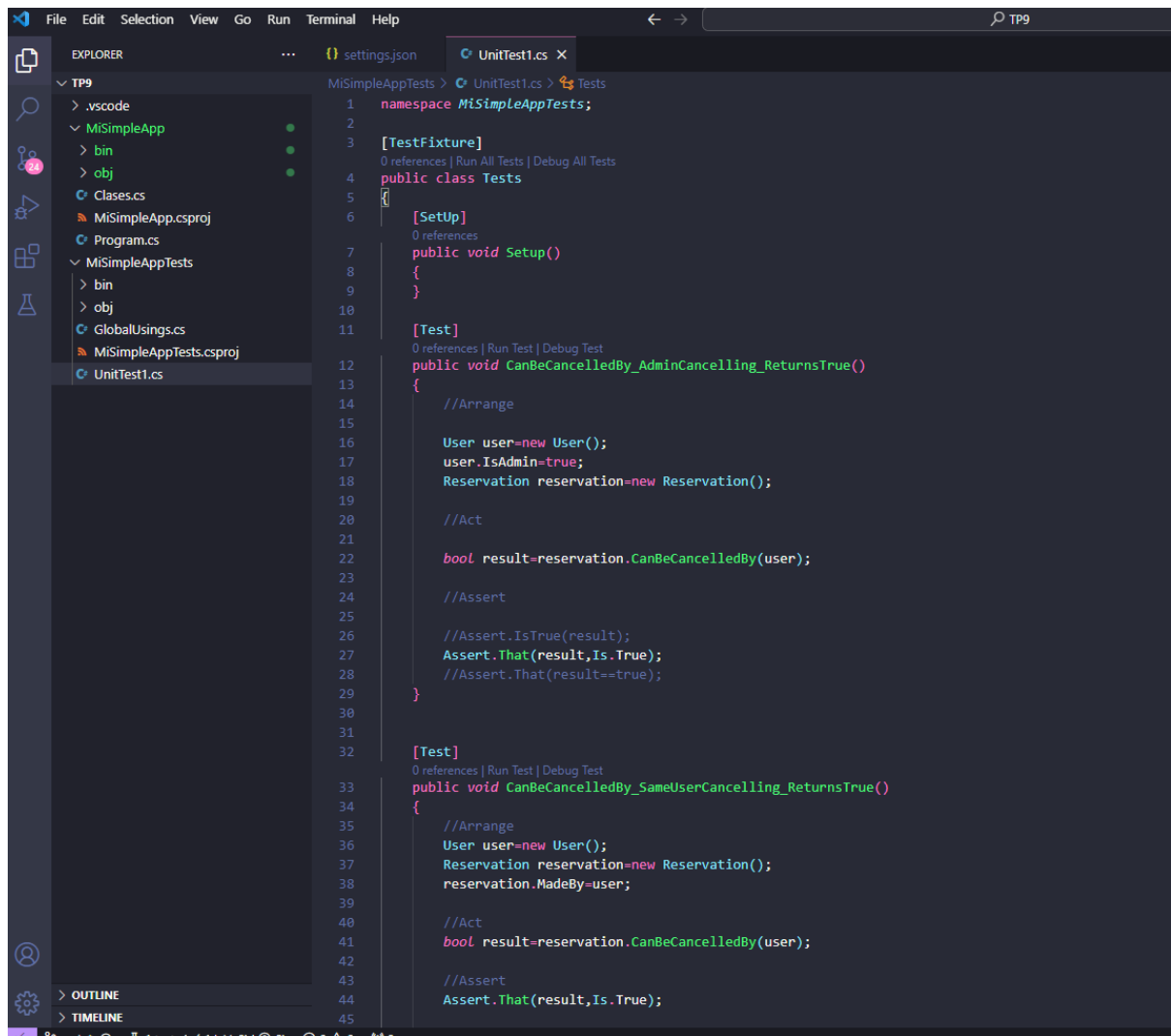
3- Modificamos el .json

4- Ahora podemos correr el test

5- Ahora modificamos el archivo UnitTest1.cs con el codigo en la pagina

6- Ejecutamos los test:

7- Modificamos el archivo Clase.cs y cambiamos de true a false

Y ahora la primera prueba da error
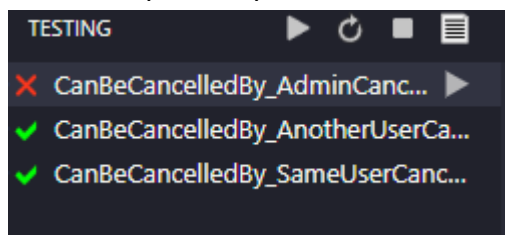
8- Modificamos nueva mente el archivo comentando y descomentando algunas partes

```csharp
                                                     {} settings.json        C  UnitTest1.cs 1        C  Clases.cs 1, M  ✕

MiSimpleApp >  C  Clases.cs  >  🡒 Reservation  >  ⬡ CanBeCancelledBy
   1
                    8 references
   2           public class Reservation
   3           {
                    3 references
   4               public User MadeBy { get; set; }
   5
                    4 references
   6               public bool CanBeCancelledBy(User user)
   7               {
   8                   // if (user.IsAdmin)
   9                   //     return true;
  10                   // if (MadeBy==user)
  11                   //     return true;
  12                   // return false;
  13
  14         💡          return (user.IsAdmin || MadeBy == user);
  15               }
  16
  17           }
  18
                    12 references
  19           public class User
  20           {
                    3 references
  21               public bool IsAdmin { get; set; }
  22           }
  23
```

9- Ahora corremos el test desde la linea de comando con "dotnet test"

```
 MINGW64:/C/Users/Nico/Documents/Ing de Soft 3/TP9/MiSimpleAppTests               □    ✕

$ dotnet test
  Determining projects to restore...
  Restored C:\Users\Nico\Documents\Ing de Soft 3\TP9\MiSimpleApp\MiSimpleApp.csp
roj (in 132 ms).
  Restored C:\Users\Nico\Documents\Ing de Soft 3\TP9\MiSimpleAppTests\MiSimpleAp
pTests.csproj (in 262 ms).
C:\Users\Nico\Documents\Ing de Soft 3\TP9\MiSimpleApp\Clases.cs(4,21): warning C
S8618: Non-nullable property 'MadeBy' must contain a non-null value when exiting
 constructor. Consider declaring the property as nullable. [C:\Users\Nico\Docume
nts\Ing de Soft 3\TP9\MiSimpleApp\MiSimpleApp.csproj]
  MiSimpleApp -> C:\Users\Nico\Documents\Ing de Soft 3\TP9\MiSimpleApp\bin\Debug
\net7.0\MiSimpleApp.dll
  MiSimpleAppTests -> C:\Users\Nico\Documents\Ing de Soft 3\TP9\MiSimpleAppTests
\bin\Debug\net7.0\MiSimpleAppTests.dll
Test run for C:\Users\Nico\Documents\Ing de Soft 3\TP9\MiSimpleAppTests\bin\Debu
g\net7.0\MiSimpleAppTests.dll (.NETCoreApp,Version=v7.0)
Microsoft (R) Test Execution Command Line Tool Version 17.7.1 (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:     3, Skipped:     0, Total:     3, Duration:
 33 ms - MiSimpleAppTests.dll (net7.0)
```

Parte 6:

6.1- Clonamos MySimpleWebApi y creamos el proyecto de pruebas:

6.2- Modificamos el codigo y corremos el test
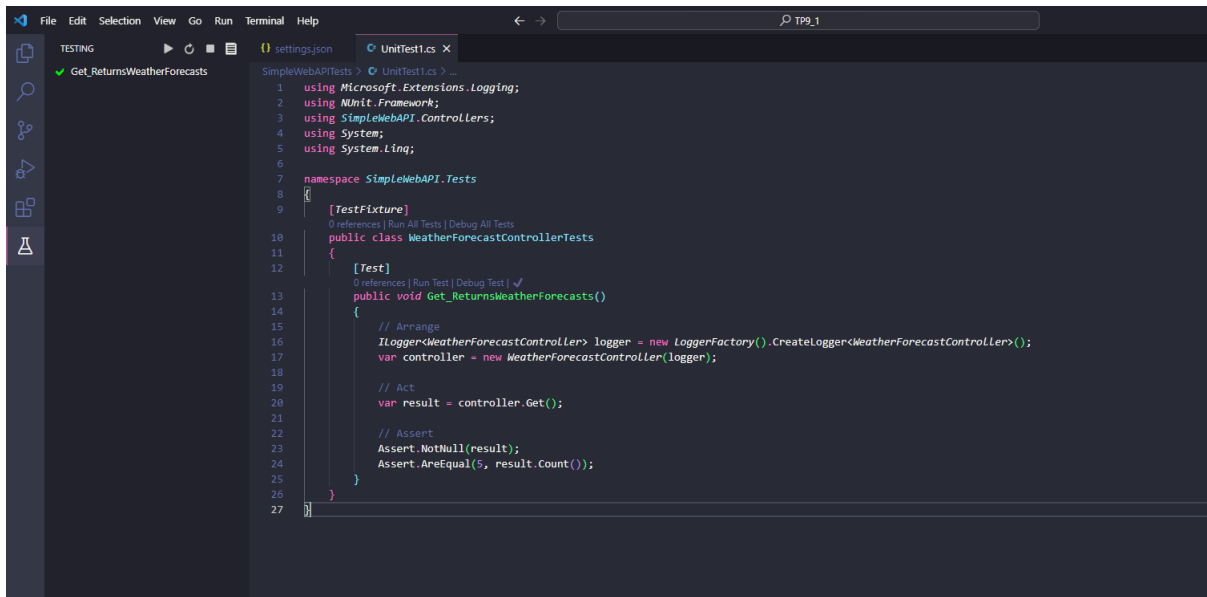
8.1- Clonamos la repo y ejecutamos la API
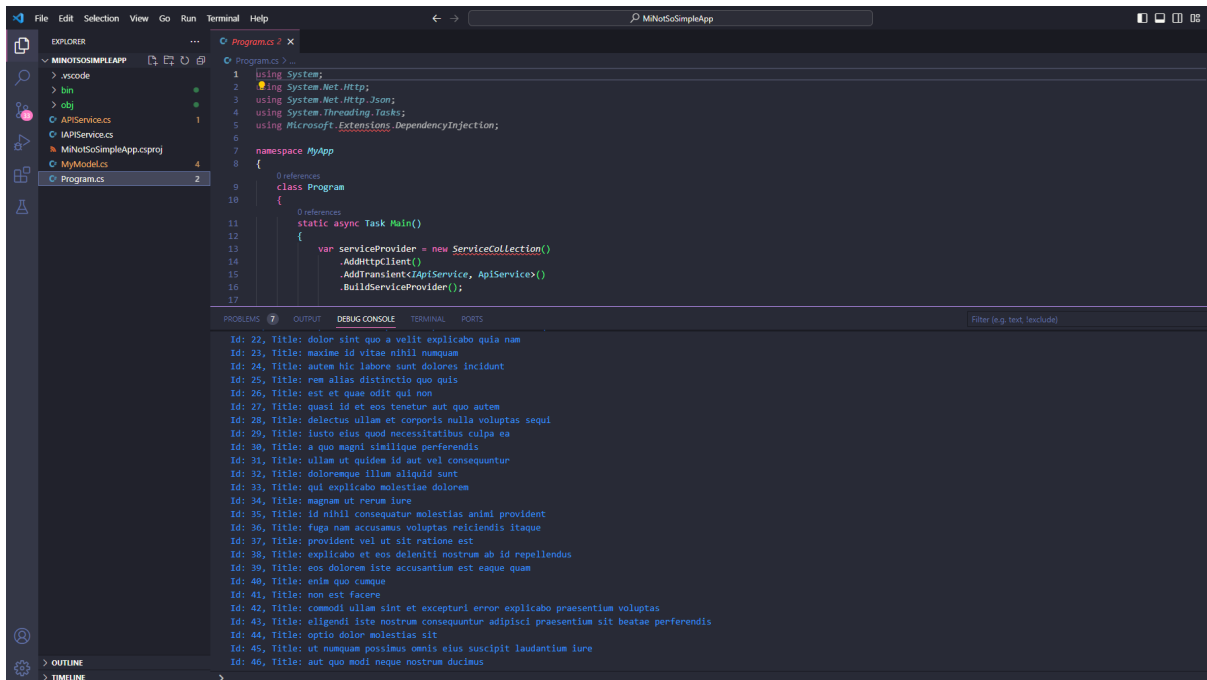
Primero creo un servicio que implementa el servicio IAPI Service y despues llamamos a una fuente de datos externa. Vamos a llenar la variable MyModels con los datos de los Posts y los va a ir escribiendo en consola.

El servicio externo de la APi es: https://jsonplaceholder.typicode.com/posts/

Creamos el proyecto NUnit y configuramos.
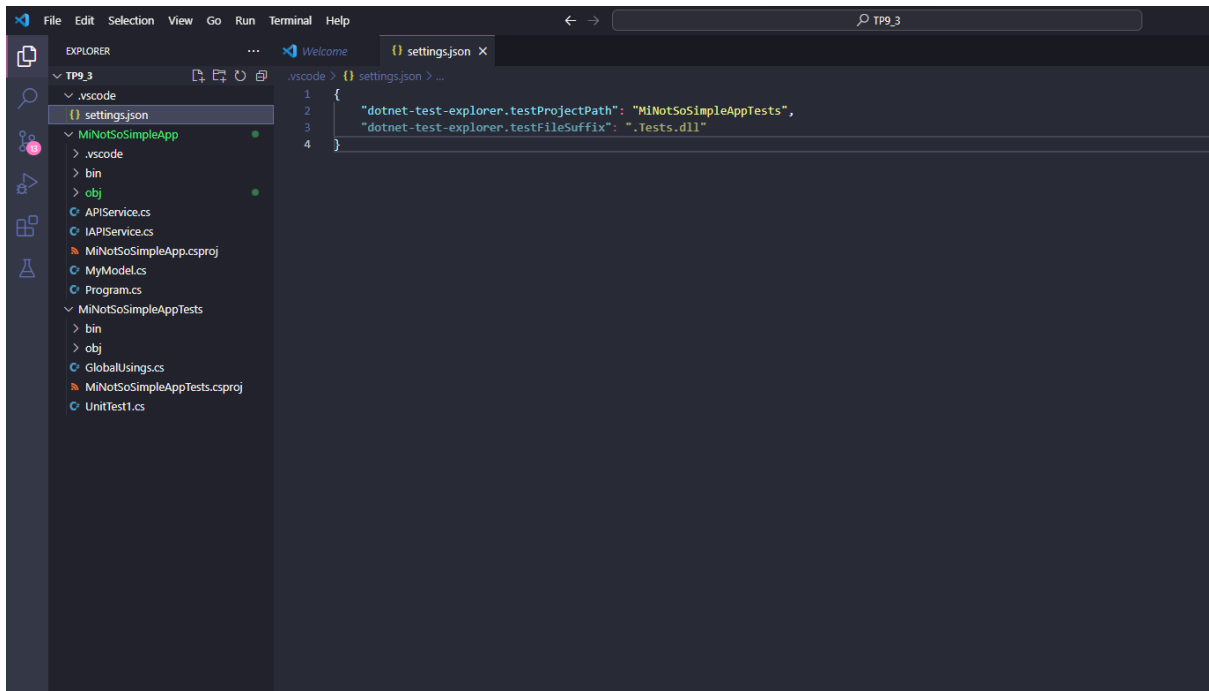
8.4- Modificamos el codigo Test1 y corremos el Test:
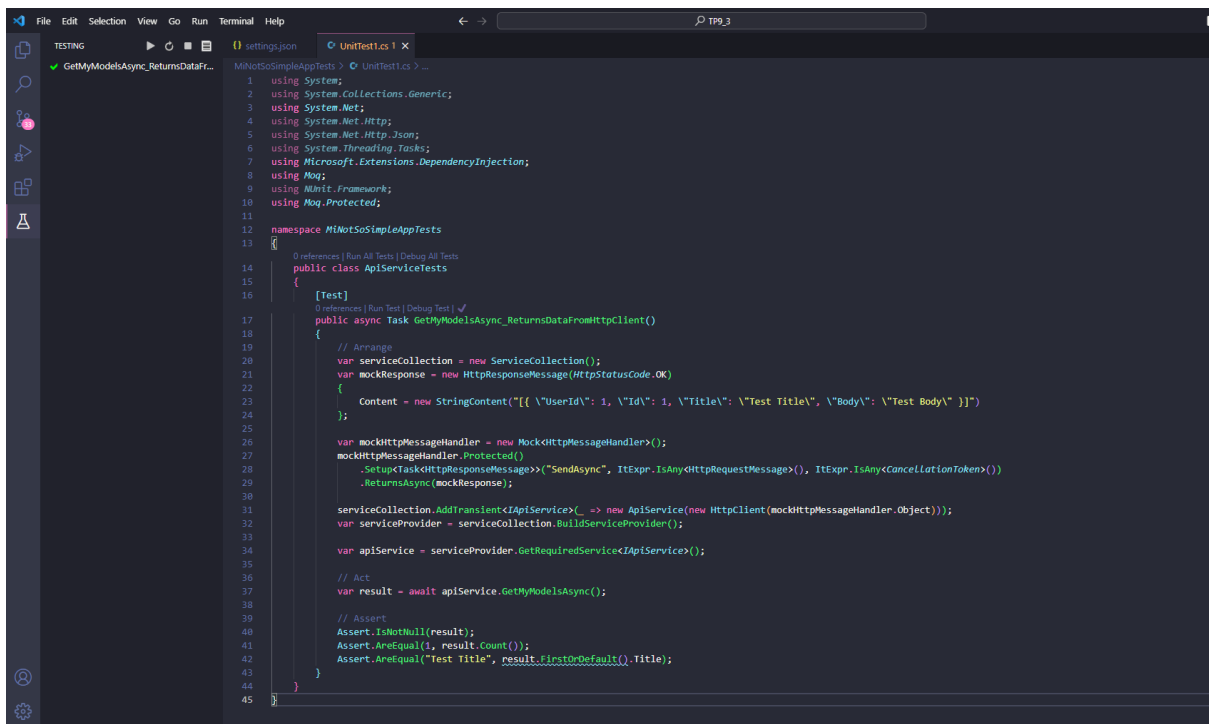

Y por linea de comando:

```
Nico@DESKTOP-MDI8QUJ MINGW64 ~/Documents/Ing de Soft 3/TP9_3/MiNotSoSimpleAppTests (maste
r)
$ dotnet test
  Determining projects to restore...
  Restored C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\MiNotSoSimpl
eAppTests.csproj (in 411 ms).
  Restored C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleApp\MiNotSoSimpleApp.
csproj (in 411 ms).
C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleApp\MyModel.cs(8,19): warning CS
8618: Non-nullable property 'Title' must contain a non-null value when exiting constructo
r. Consider declaring the property as nullable. [C:\Users\Nico\Documents\Ing de Soft 3\TP
9_3\MiNotSoSimpleApp\MiNotSoSimpleApp.csproj]
C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleApp\MyModel.cs(9,19): warning CS
8618: Non-nullable property 'Body' must contain a non-null value when exiting constructor
. Consider declaring the property as nullable. [C:\Users\Nico\Documents\Ing de Soft 3\TP9
_3\MiNotSoSimpleApp\MiNotSoSimpleApp.csproj]
C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleApp\APIService.cs(18,16): warnin
g CS8603: Possible null reference return. [C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\Mi
NotSoSimpleApp\MiNotSoSimpleApp.csproj]
  MiNotSoSimpleApp -> C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleApp\bin\De
bug\net7.0\MiNotSoSimpleApp.dll
C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\UnitTest1.cs(42,43): wa
rning CS8602: Dereference of a possibly null reference. [C:\Users\Nico\Documents\Ing de S
oft 3\TP9_3\MiNotSoSimpleAppTests\MiNotSoSimpleAppTests.csproj]
C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\UnitTest1.cs(41,13): wa
rning NUnit2005: Consider using the constraint model, Assert.That(actual, Is.EqualTo(expe
cted)), instead of the classic model, Assert.AreEqual(expected, actual) (https://github.c
om/nunit/nunit.analyzers/tree/master/documentation/NUnit2005.md) [C:\Users\Nico\Documents
\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\MiNotSoSimpleAppTests.csproj]
C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\UnitTest1.cs(42,13): wa
rning NUnit2005: Consider using the constraint model, Assert.That(actual, Is.EqualTo(expe
cted)), instead of the classic model, Assert.AreEqual(expected, actual) (https://github.c
om/nunit/nunit.analyzers/tree/master/documentation/NUnit2005.md) [C:\Users\Nico\Documents
\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\MiNotSoSimpleAppTests.csproj]
  MiNotSoSimpleAppTests -> C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTe
sts\bin\Debug\net7.0\MiNotSoSimpleAppTests.dll
Test run for C:\Users\Nico\Documents\Ing de Soft 3\TP9_3\MiNotSoSimpleAppTests\bin\Debug\
net7.0\MiNotSoSimpleAppTests.dll (.NETCoreApp,Version=v7.0)
Microsoft (R) Test Execution Command Line Tool Version 17.7.1 (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:     1, Skipped:     0, Total:     1, Duration: 184 ms -
  MiNotSoSimpleAppTests.dll (net7.0)
```

8-5: Ahora lo hago fallar modificando el valor de Assert.AreEqual = 1 a 2

8.6 -