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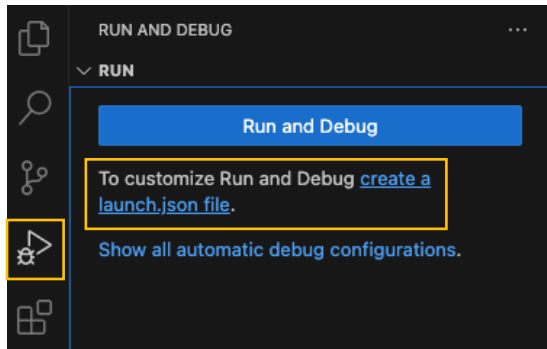
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Demo: Debugging

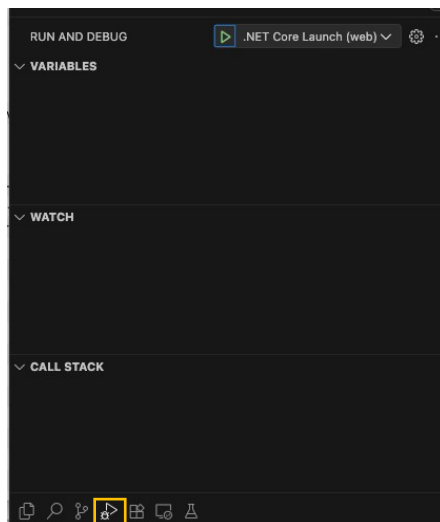
Author: Baifan Zhou

Configure debugging

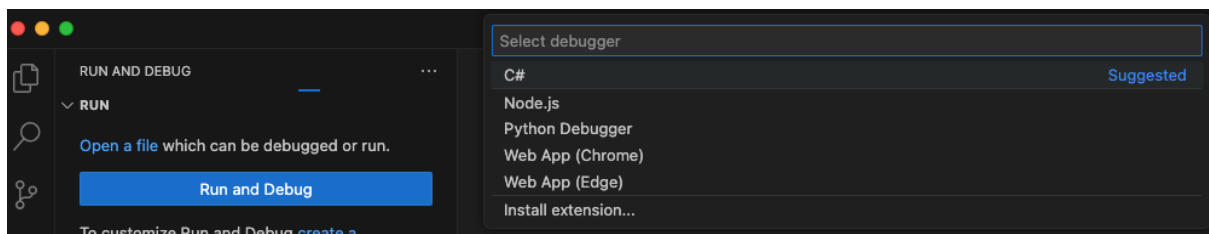
Click the debugging tab, then click `create a launch.json file`



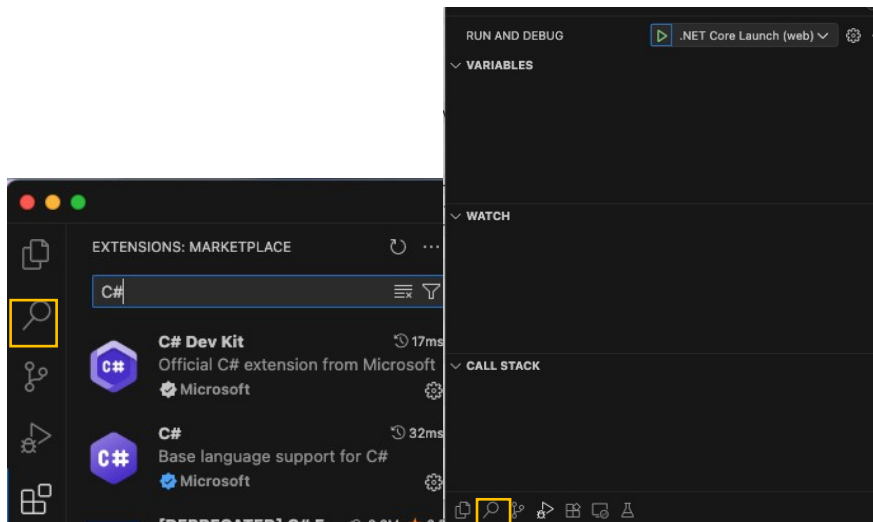
In some versions of VS Code, the tab switching may be below:



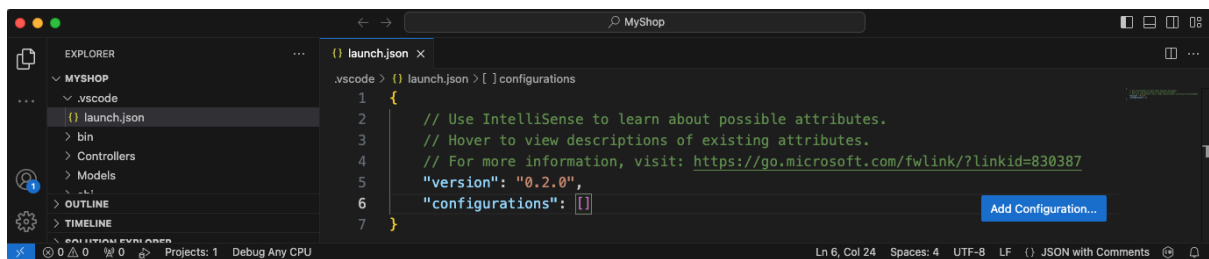
Select C# as the debugger



If you don't see C#, then you need to install some C# extensions.
Click the extension tab, search for C#, install C#, C# Dev Kit.

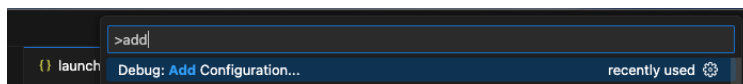


After selecting C# as the debugger, you will see that “launch.json” is created under a folder named “.vscode”

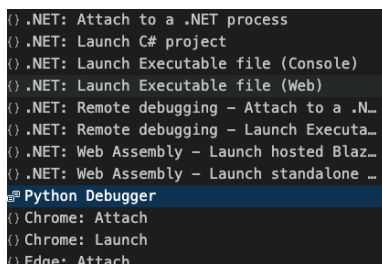


Click the “Add Configuration...” button on bottom right.

You can also type “>add” in the search bar, and select “Debug: Add Configuration...”



Scroll up or down to select “.NET: Launch Executable file (Web):



The launch.json is then changed to:

```
1 {
2   // Use IntelliSense to learn about possible attributes.
3   // Hover to view descriptions of existing attributes.
4   // For more information, visit: https://go.microsoft.com/fwlink/?linkid=830387
5   "version": "0.2.0",
6   "configurations": [
7     {
8       "name": ".NET Core Launch (web)",
9       "type": "coreclr",
10      "request": "launch",
11      "preLaunchTask": "build",
12      "program": "${workspaceFolder}/bin/Debug/<target-framework>/<project-name>.dll",
13      "args": [],
14      "cwd": "${workspaceFolder}",
15      "stopAtEntry": false,
16      "serverReadyAction": {
17        "action": "openExternally",
18        "pattern": "\\bNow listening on:\\s+(https?://\\S+)"
19      },
20      "env": {
21        "ASPNETCORE_ENVIRONMENT": "Development"
22      },
23      "sourceFileMap": {
24        "/Views": "${workspaceFolder}/Views"
25      }
26    }
27 ]
28 }
```

Change the launch.json to the following

```
1 {
2   // Use IntelliSense to learn about possible attributes.
3   // Hover to view descriptions of existing attributes.
4   // For more information, visit: https://go.microsoft.com/fwlink/?linkid=830387
5   "version": "0.2.0",
6   "configurations": [
7     {
8       "name": ".NET Core Launch (web)",
9       "type": "coreclr",
10      "request": "launch",
11      "preLaunchTask": "build",
12      "program": "${workspaceFolder}/bin/Debug/net8.0/MyShop.dll",
13      "args": [],
14      "cwd": "${workspaceFolder}",
15      "stopAtEntry": false,
16      "serverReadyAction": {
17        "action": "openExternally",
18        "pattern": "\\bNow listening on:\\s+(http?://\\S+)",
19        "uriFormat": "%s/item/table"
20      },
21      "env": {
22        "ASPNETCORE_ENVIRONMENT": "Development"
23      },
24      "sourceFileMap": {
25        "/Views": "${workspaceFolder}/Views"
26      }
27    }
28 ]
29 }
```

Note:

Line 12: change the "program: path to the debug path

Line 18: change https to http to avoid security warning from some browsers

Line 19: browser will go to [homeURL]/item/table directly during debugging

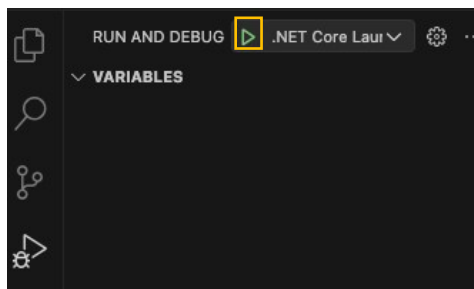
Create a new file "tasks.json" under the folder ".vscode" and change it to the following code:

```

tasks.json x
.vscode > {} tasks.json > ...
1 {
2   "version": "2.0.0",
3   "tasks": [
4     {
5       "label": "build",
6       "command": "dotnet",
7       "type": "process",
8       "args": [
9         "build",
10        "${workspaceFolder}/MyShop.csproj"
11      ],
12      "problemMatcher": "$msCompile"
13    }
14  ]
15 }

```

Now go to the debug tab and click the button “Run and debug”



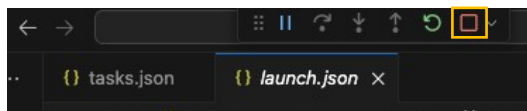
Your default browser will open automatically and go to [HomeURL/item/table]



List of Shop Items

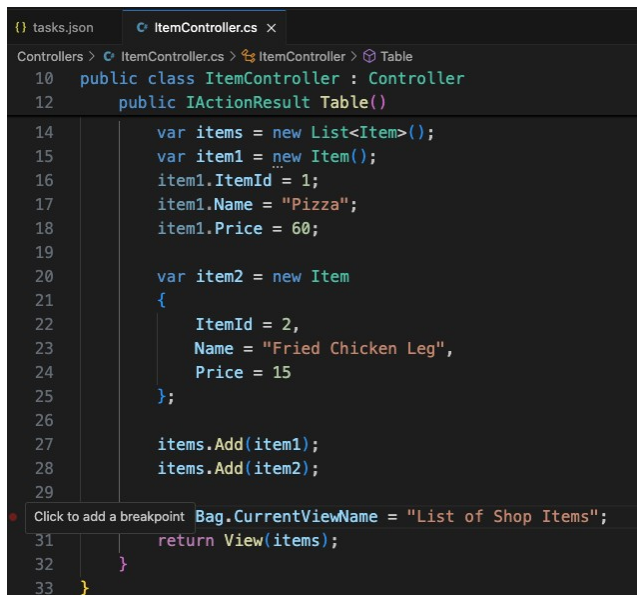
Id	Name	Price	Description
1	Pizza	60.00 NOK	
2	Fried Chicken Leg	15.00 NOK	

Click the disconnect button to stop debugging.

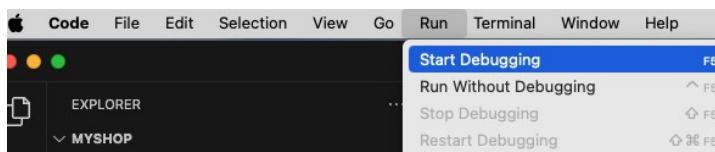


VSCode Debugging and Breakpoints

Adding breakpoints: Go to the line where you want to a breakpoint, click the red dot before the line

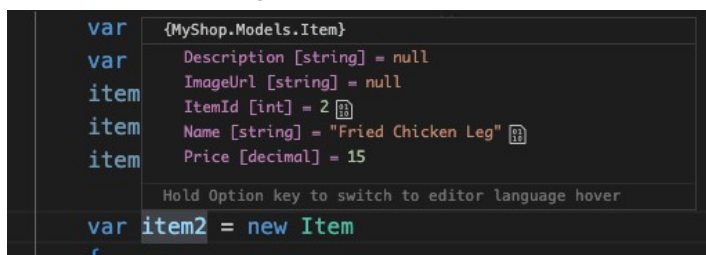


Click Run -> Start Debugging, alternatively using short cut (F5), or go to the debug tab and click the run button

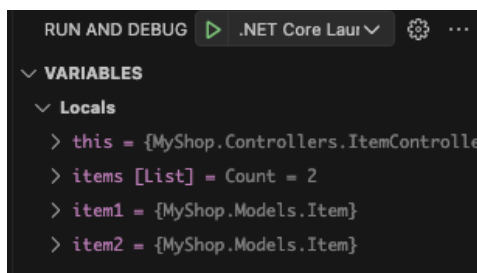


Now the program halts at the breakpoint

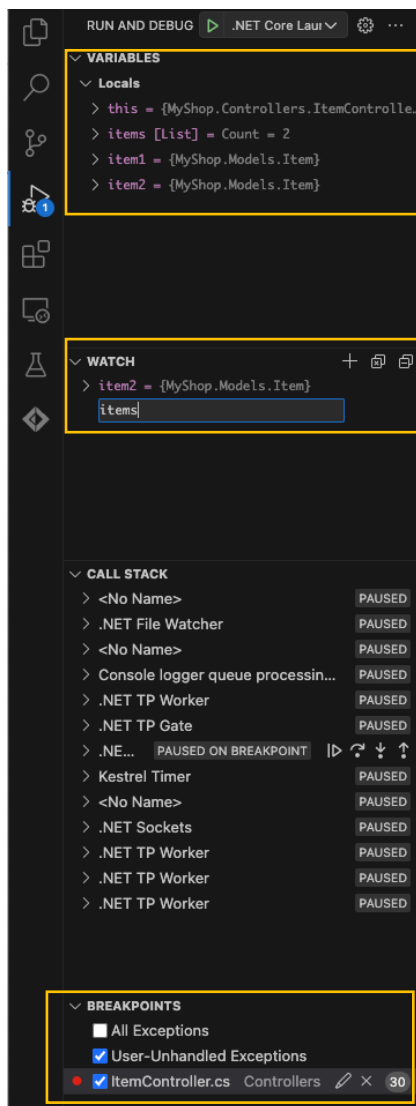
Method 1: Hovering over some variables, you will see their values, e.g.,:



Method 2: Use the variables explorer in the debug tab



Method 3: Use Watch in the debug tab. In Watch you can type the variable names that you want to watch



In Breakpoints (bottom) you can manage your breakpoints, toggle breakpoints.

Read more on debugging with VSCode

<https://code.visualstudio.com/docs/editor/debugging>

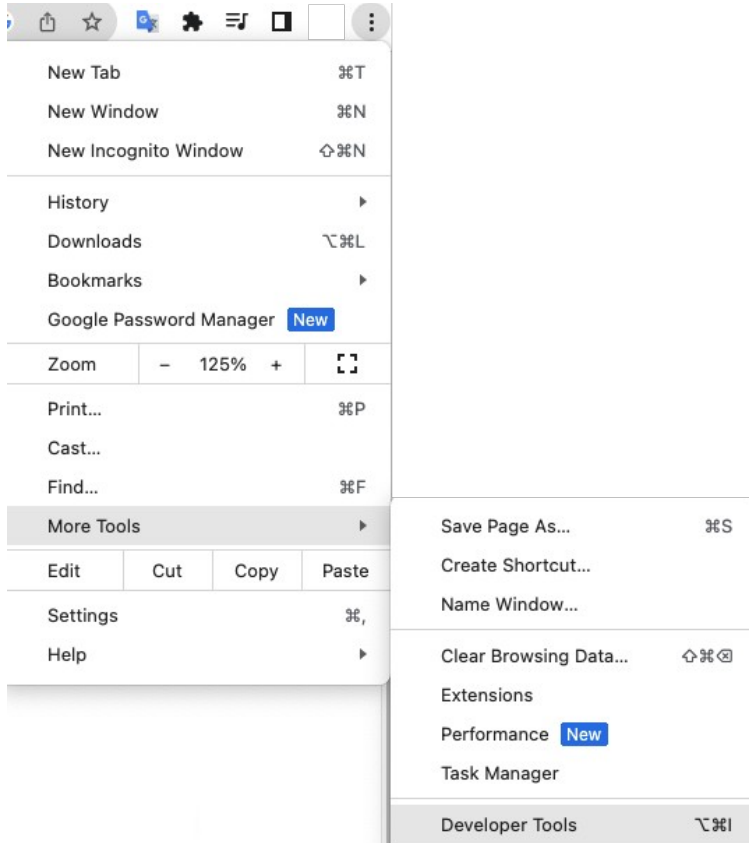
Use these buttons to navigate in the code



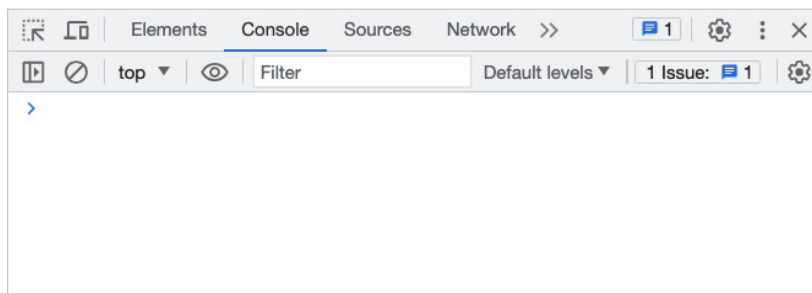
Browser Debug Console

Run the project

Go to the browser menu -> More Tools -> Developer Tools, or press F12, or press Option + ⌘ + J (on macOS), or Shift + CTRL + J (on Windows/Linux).



We now do not have any errors.



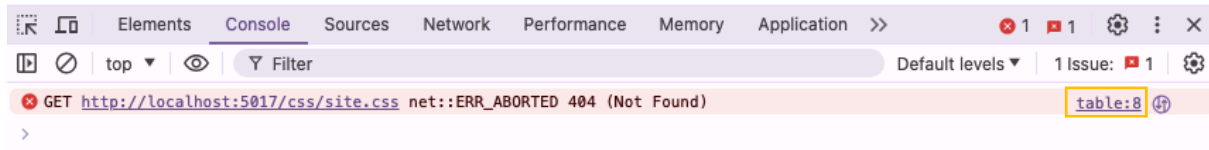
To manually add an error, we can e.g., add a file reference that does not exist into the "Table.cshtml". Add `<link href="/css/site.css" rel="stylesheet" />` in Line 9.

```
7 <meta name="viewport" content="width=device-width" />
8 <link rel="stylesheet" href="//netdna.bootstrapcdn.com/bootstrap/3.0.3/css/
  bootstrap.min.css">
9 <link href="/css/site.css" rel="stylesheet" />
10 <title>My Shop</title>
```

Now restart debugging by clicking



Go to the browser console and you will see the error. You can click the error position on the right-hand side to find the error position.



After clicking table:8 we go to Sources and find the error position in the source code

