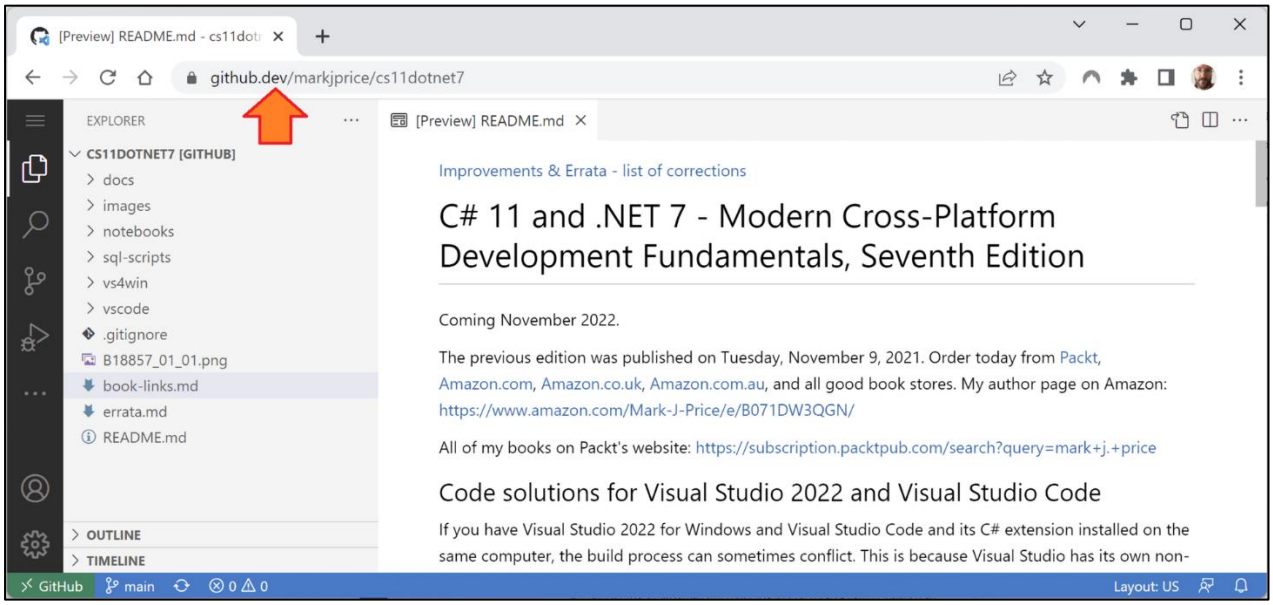
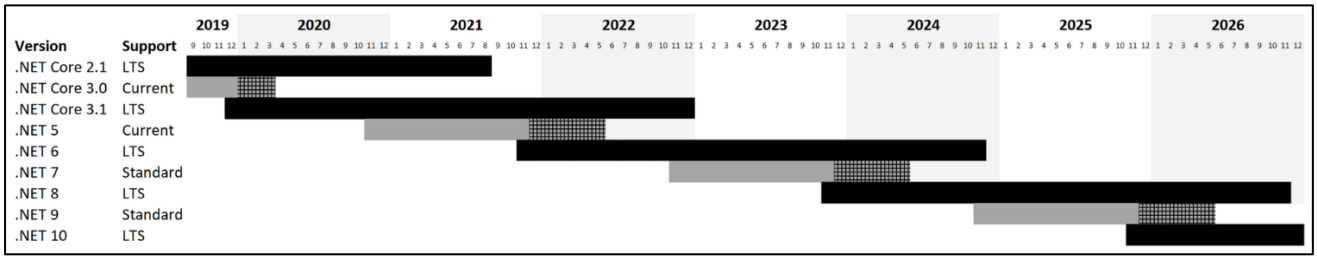
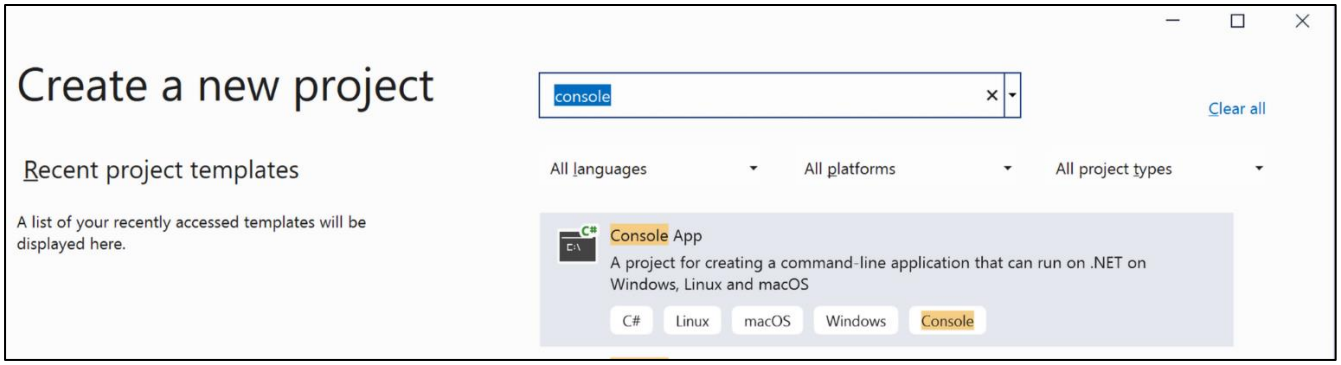
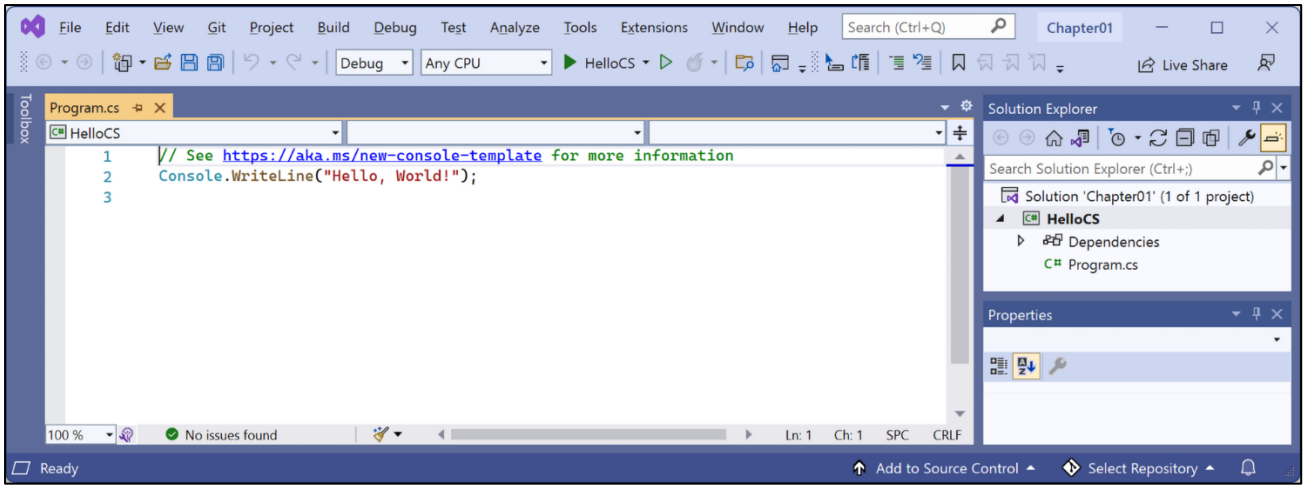
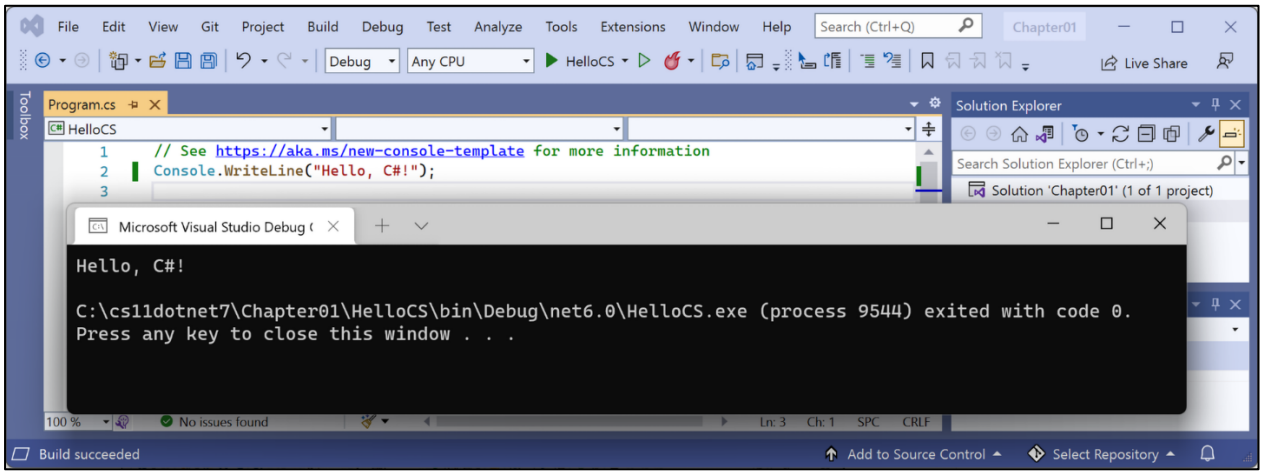
Chapter 1: Hello, C#! Welcome, .NET!

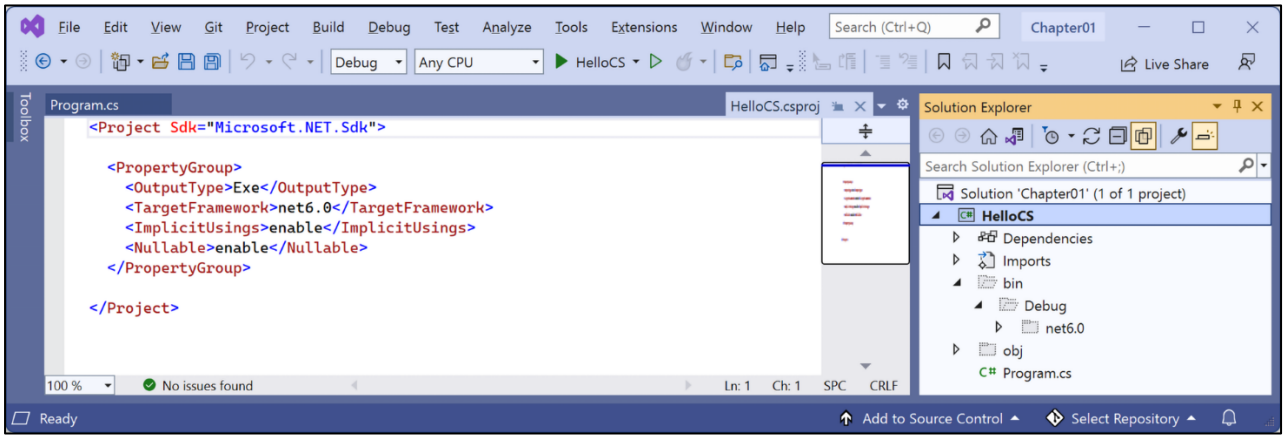


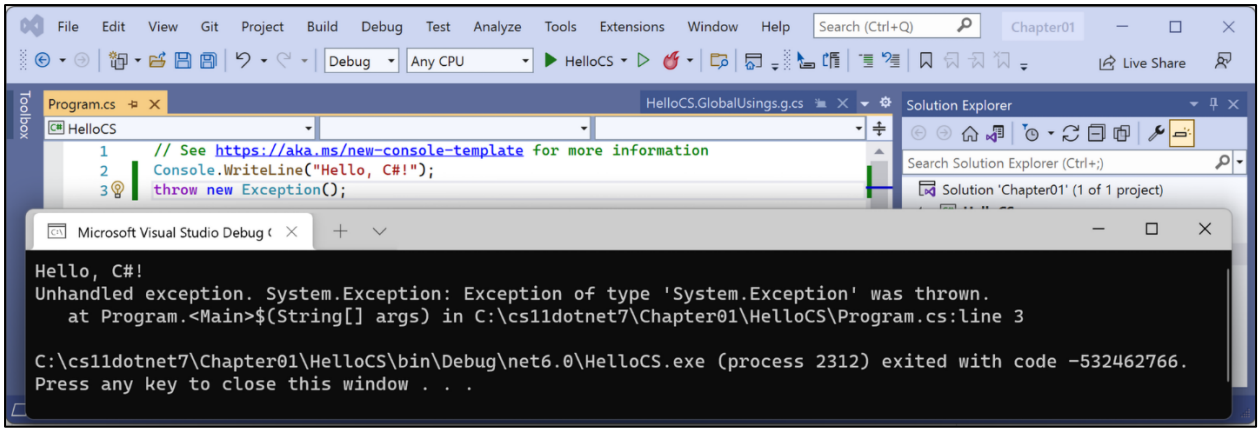


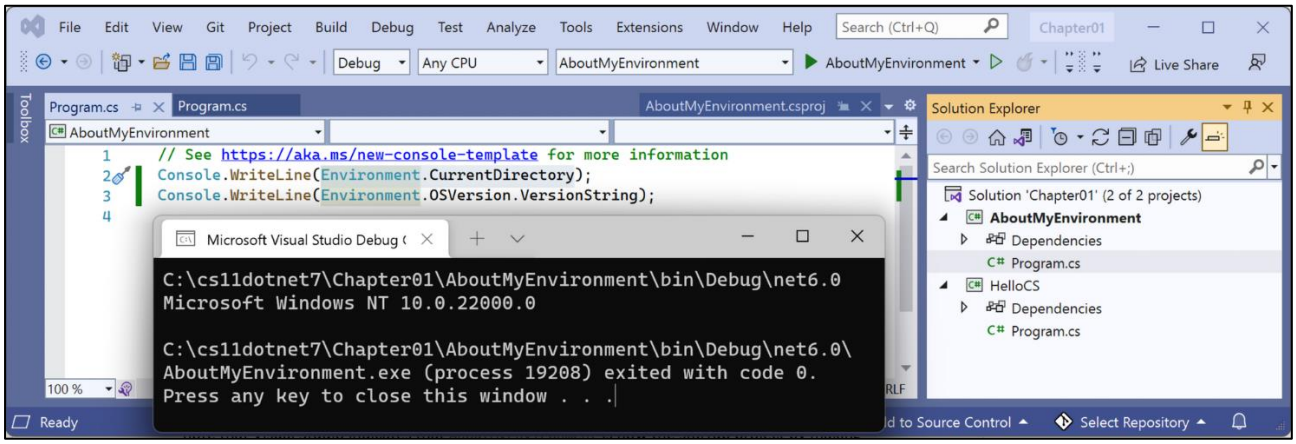


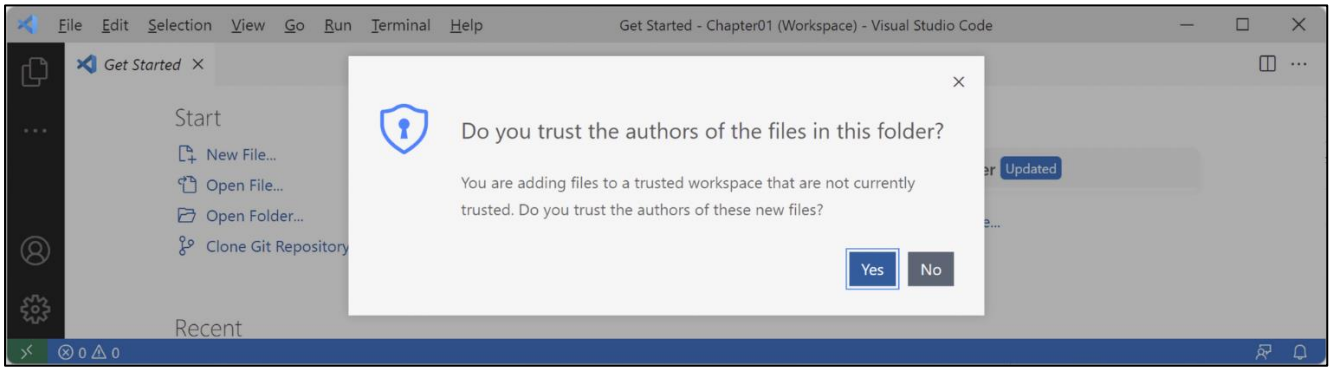

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter01
Debug
Any CPU
HelloCS
Live Share
Program.cs
HelloCS
1 // See https://aka.ms/new-console-template for more information
2 Console.WriteLine("Hello, World!");
3
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter01' (1 of 1 project)
HelloCS
Dependencies
Program.cs
Properties
100 %
No issues found
Ln: 1 Ch: 1 SPC CRLF
Ready
Add to Source Control
Select Repository

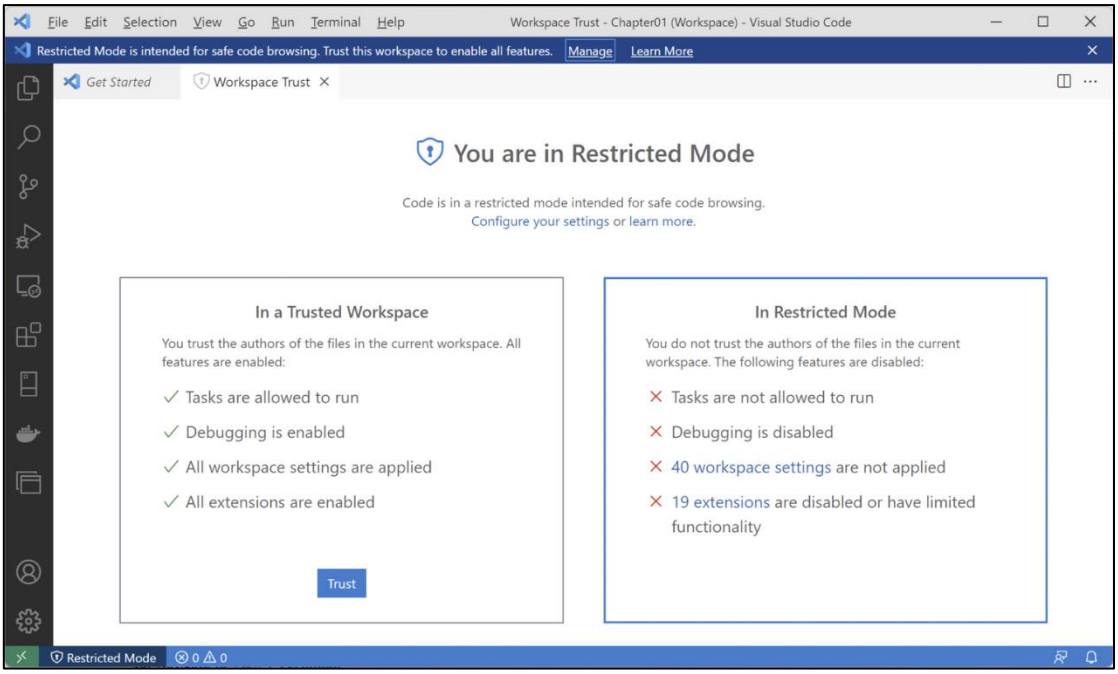

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter01
Debug
Any CPU
HelloCS
Live Share
Program.cs
HelloCS
1 // See https://aka.ms/new-console-template for more information
2 Console.WriteLine("Hello, C#!");
3
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter01' (1 of 1 project)
Microsoft Visual Studio Debug
Hello, C#!
C:\cs11dotnet7\Chapter01\HelloCS\bin\Debug\net6.0\HelloCS.exe (process 9544) exited with code 0.
Press any key to close this window . . .
100 %
No issues found
Ln: 3 Ch: 1 SPC CRLF
Build succeeded
Add to Source Control
Select Repository

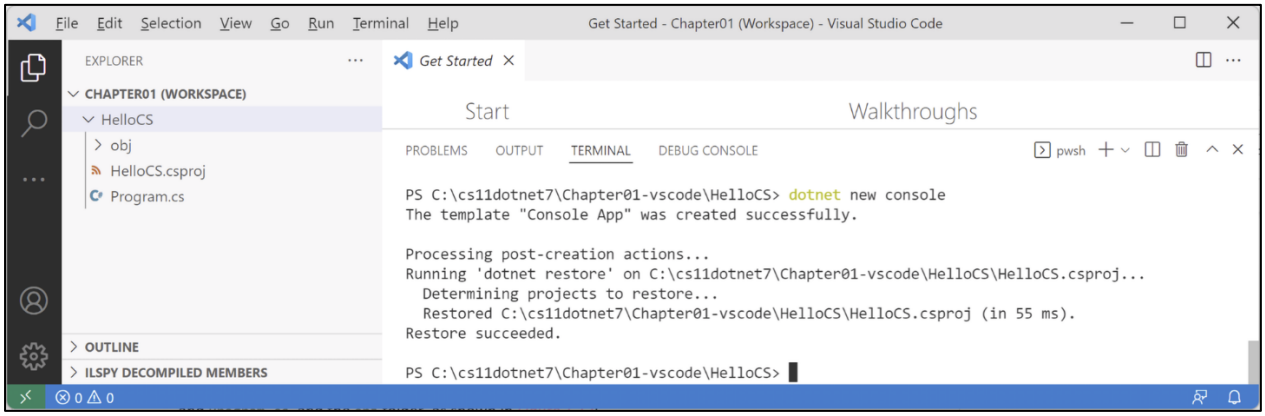

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter01
Debug
Any CPU
HelloCS
Live Share
Program.cs
HelloCS.csproj
<Project Sdk="Microsoft.NET.Sdk">
<PropertyGroup>
<OutputType>Exe</OutputType>
<TargetFramework>net6.0</TargetFramework>
<ImplicitUsings>enable</ImplicitUsings>
<Nullable>enable</Nullable>
</PropertyGroup>
</Project>
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter01' (1 of 1 project)
HelloCS
Dependencies
Imports
bin
Debug
net6.0
obj
Program.cs
100 %
No issues found
Ln: 1 Ch: 1 SPC CRLF
Ready
Add to Source Control
Select Repository

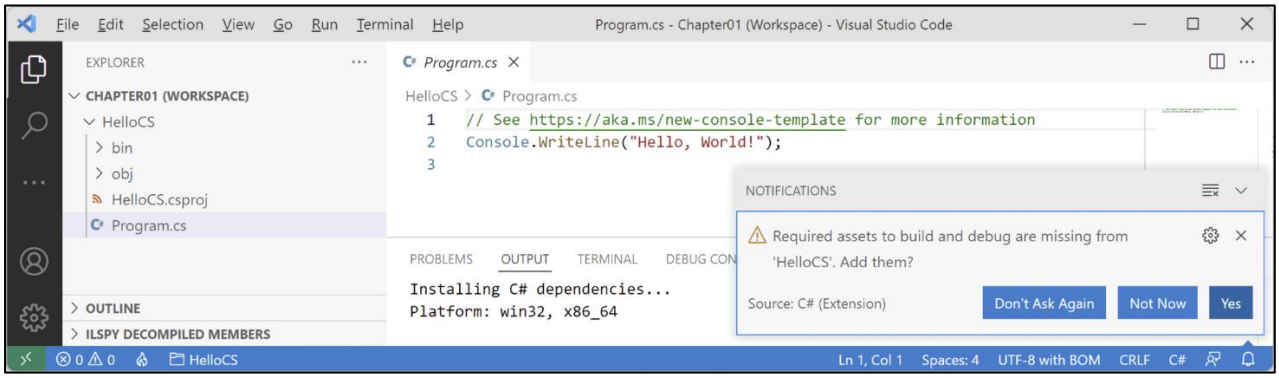

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter01
Debug
Any CPU
HelloCS
Live Share
Program.cs
HelloCS.GlobalUsings.g.cs
Solution Explorer
HelloCS
1 // See https://aka.ms/new-console-template for more information
2 Console.WriteLine("Hello, C#!");
3 throw new Exception();
Search Solution Explorer (Ctrl+;)
Solution 'Chapter01' (1 of 1 project)
Microsoft Visual Studio Debug
Hello, C#!
Unhandled exception. System.Exception: Exception of type 'System.Exception' was thrown.
at Program.<Main>$(String[] args) in C:\cs11dotnet7\Chapter01\HelloCS\Program.cs:line 3
C:\cs11dotnet7\Chapter01\HelloCS\bin\Debug\net6.0\HelloCS.exe (process 2312) exited with code -532462766.
Press any key to close this window . . .

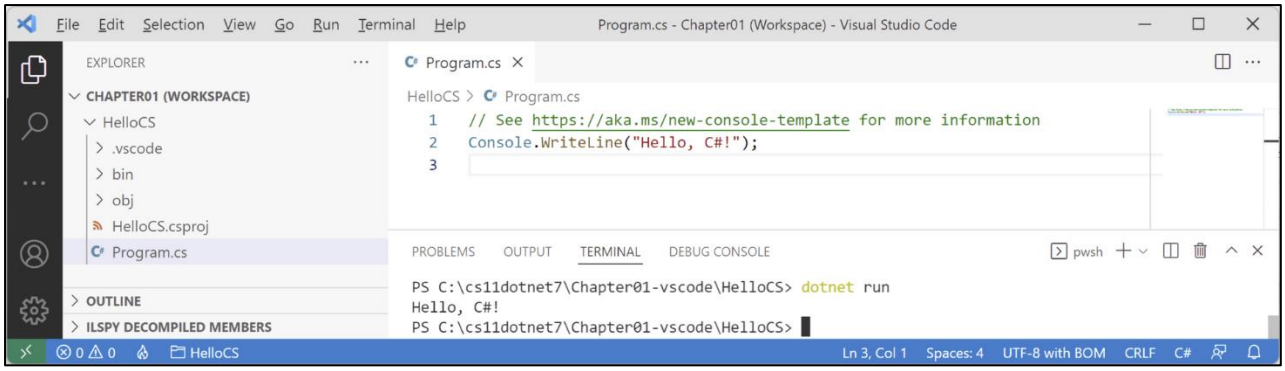

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter01
Debug
Any CPU
AboutMyEnvironment
Live Share
Program.cs
Program.cs
AboutMyEnvironment.csproj
Solution Explorer
AboutMyEnvironment
1 // See https://aka.ms/new-console-template for more information
2 Console.WriteLine(Environment.CurrentDirectory);
3 Console.WriteLine(Environment.OSVersion.VersionString);
4
Search Solution Explorer (Ctrl+;)
Solution 'Chapter01' (2 of 2 projects)
AboutMyEnvironment
Dependencies
Program.cs
HelloCS
Dependencies
Program.cs
Microsoft Visual Studio Debug
C:\cs11dotnet7\Chapter01\AboutMyEnvironment\bin\Debug\net6.0
Microsoft Windows NT 10.0.22000.0
C:\cs11dotnet7\Chapter01\AboutMyEnvironment\bin\Debug\net6.0\
AboutMyEnvironment.exe (process 19208) exited with code 0.
Press any key to close this window . . .
100 %
Ready
Select Repository

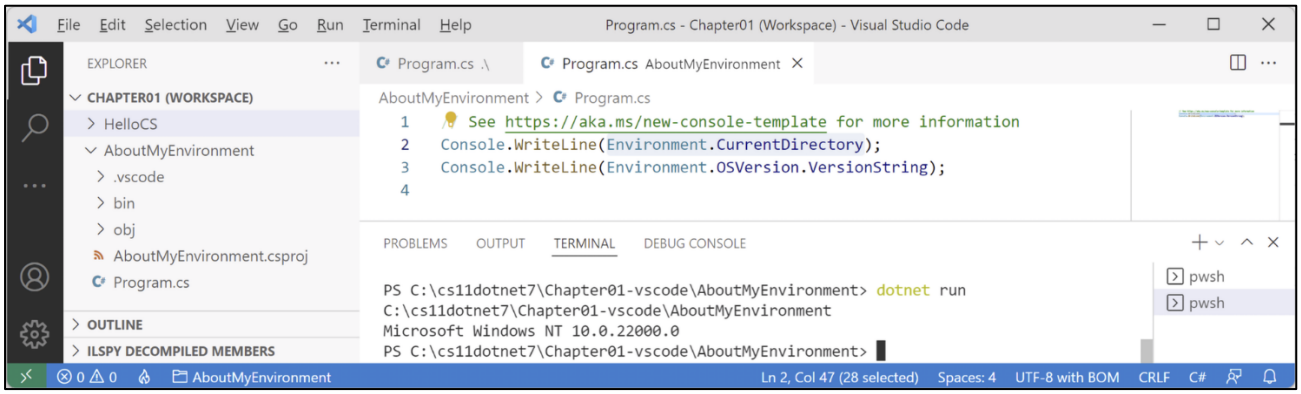

File Edit Selection View Go Run Terminal Help
Get Started - Chapter01 (Workspace) - Visual Studio Code
Get Started
Start
New File...
Open File...
Open Folder...
Clone Git Repository
Recent
Updated
Do you trust the authors of the files in this folder?
You are adding files to a trusted workspace that are not currently trusted. Do you trust the authors of these new files?
Yes
No

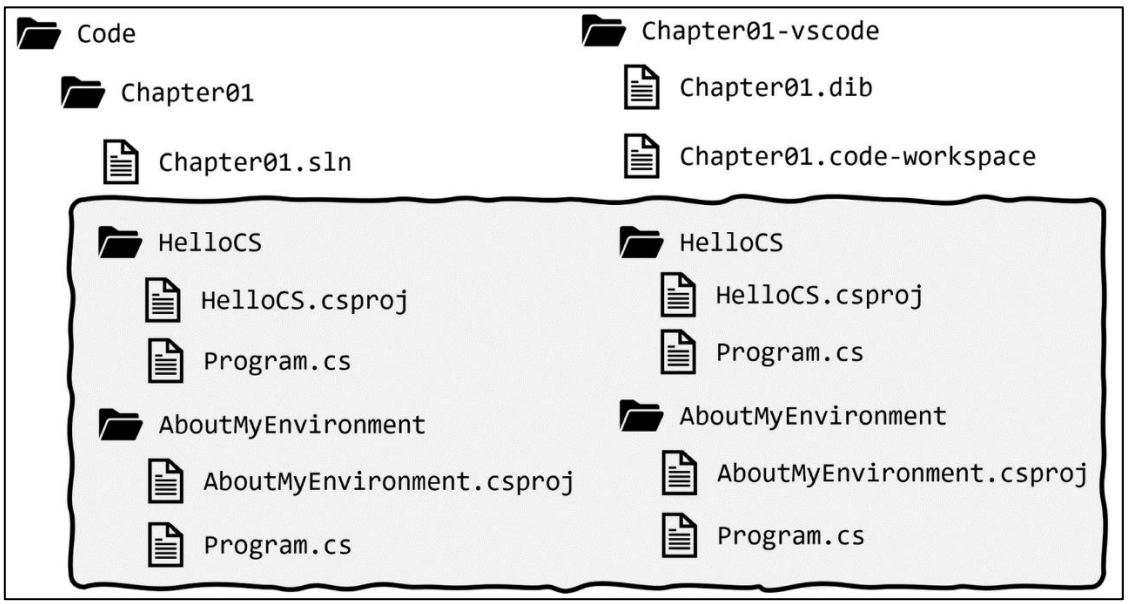

File Edit Selection View Go Run Terminal Help
Workspace Trust - Chapter01 (Workspace) - Visual Studio Code
Restricted Mode is intended for safe code browsing. Trust this workspace to enable all features.
Manage
Learn More
Get Started
Workspace Trust
You are in Restricted Mode
Code is in a restricted mode intended for safe code browsing.
Configure your settings or learn more.
In a Trusted Workspace
You trust the authors of the files in the current workspace. All features are enabled:
Tasks are allowed to run
Debugging is enabled
All workspace settings are applied
All extensions are enabled
Trust
In Restricted Mode
You do not trust the authors of the files in the current workspace. The following features are disabled:
Tasks are not allowed to run
Debugging is disabled
40 workspace settings are not applied
19 extensions are disabled or have limited functionality
Restricted Mode

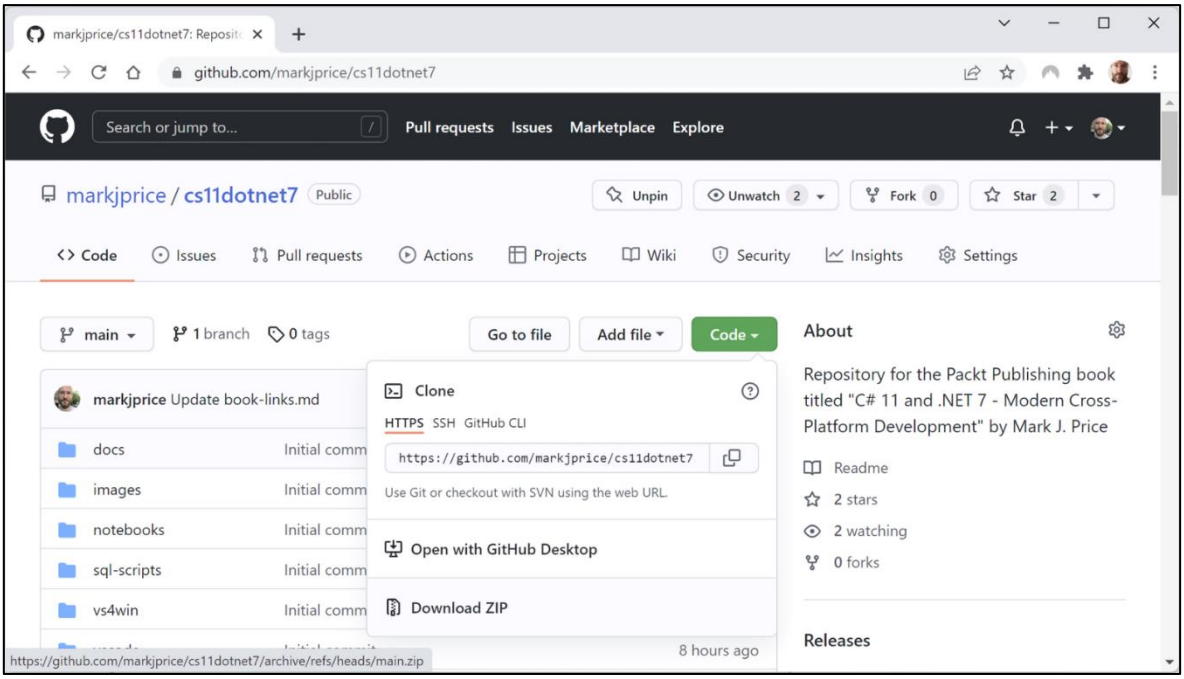

File Edit Selection View Go Run Terminal Help
Get Started - Chapter01 (Workspace) - Visual Studio Code
EXPLORER
CHAPTER01 (WORKSPACE)
HelloCS
obj
HelloCS.csproj
Program.cs
OUTLINE
ILSPY DECOMPILED MEMBERS
Get Started
Start
Walkthroughs
PROBLEMS
OUTPUT
TERMINAL
DEBUG CONSOLE
pwsh
PS C:\cs11dotnet7\Chapter01-vscode\HelloCS> dotnet new console
The template "Console App" was created successfully.
Processing post-creation actions...
Running 'dotnet restore' on C:\cs11dotnet7\Chapter01-vscode\HelloCS\HelloCS.csproj...
Determining projects to restore...
Restored C:\cs11dotnet7\Chapter01-vscode\HelloCS\HelloCS.csproj (in 55 ms).
Restore succeeded.
PS C:\cs11dotnet7\Chapter01-vscode\HelloCS>

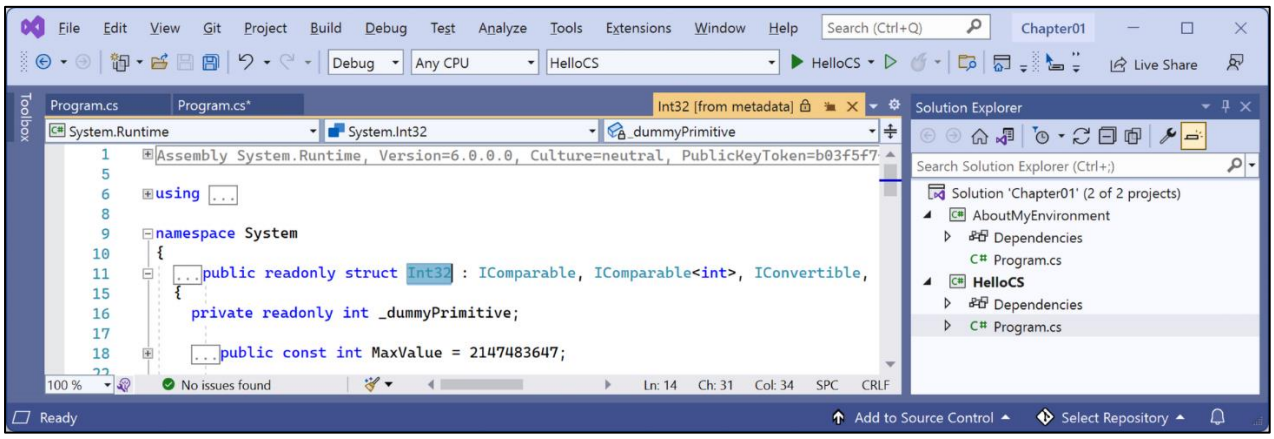

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter01 (Workspace) - Visual Studio Code
EXPLORER
CHAPTER01 (WORKSPACE)
HelloCS
bin
obj
HelloCS.csproj
Program.cs
OUTLINE
ILSPY DECOMPILED MEMBERS
Program.cs
HelloCS > Program.cs
1 // See https://aka.ms/new-console-template for more information
2 Console.WriteLine("Hello, World!");
3
NOTIFICATIONS
Required assets to build and debug are missing from 'HelloCS'. Add them?
Source: C# (Extension)
Don't Ask Again
Not Now
Yes
PROBLEMS
OUTPUT
TERMINAL
Installing C# dependencies...
Platform: win32, x86_64
HelloCS
Ln 1, Col 1
Spaces: 4
UTF-8 with BOM
CRLF
C#

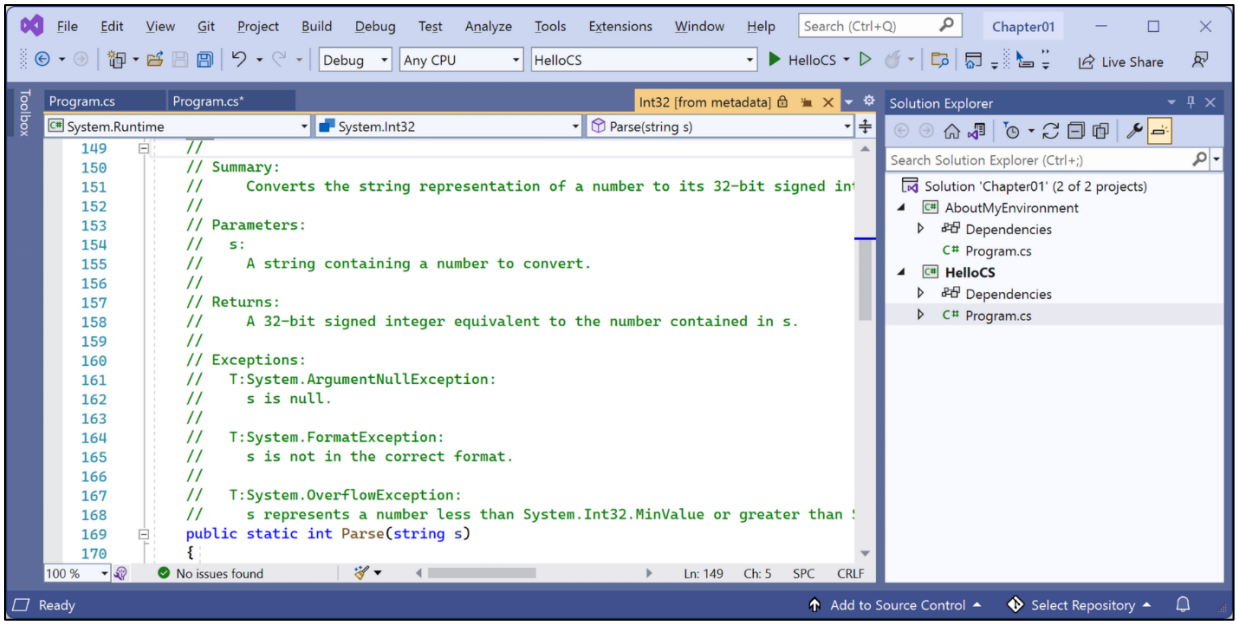

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter01 (Workspace) - Visual Studio Code
EXPLORER
CHAPTER01 (WORKSPACE)
HelloCS
.vscode
bin
obj
HelloCS.csproj
Program.cs
OUTLINE
ILSPY DECOMPILED MEMBERS
Program.cs
HelloCS > Program.cs
1 // See https://aka.ms/new-console-template for more information
2 Console.WriteLine("Hello, C#!");
3
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
pwsh
PS C:\cs11dotnet7\Chapter01-vscode\HelloCS> dotnet run
Hello, C#!
PS C:\cs11dotnet7\Chapter01-vscode\HelloCS>
0 0 HelloCS
Ln 3, Col 1 Spaces: 4 UTF-8 with BOM CRLF C#

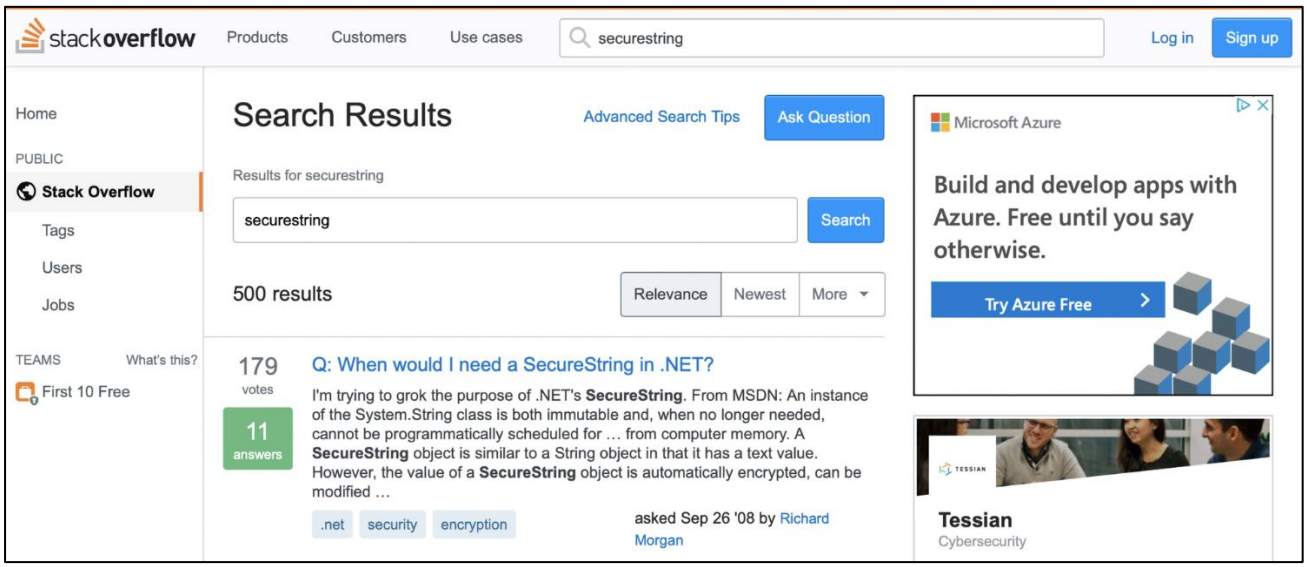

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter01 (Workspace) - Visual Studio Code
EXPLORER
CHAPTER01 (WORKSPACE)
HelloCS
AboutMyEnvironment
.vscode
bin
obj
AboutMyEnvironment.csproj
Program.cs
OUTLINE
ILSPY DECOMPILED MEMBERS
Program.cs .\
Program.cs AboutMyEnvironment
AboutMyEnvironment > Program.cs
1 See https://aka.ms/new-console-template for more information
2 Console.WriteLine(Environment.CurrentDirectory);
3 Console.WriteLine(Environment.OSVersion.VersionString);
4
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
pwsh
pwsh
PS C:\cs11dotnet7\Chapter01-vscode\AboutMyEnvironment> dotnet run
C:\cs11dotnet7\Chapter01-vscode\AboutMyEnvironment
Microsoft Windows NT 10.0.22000.0
PS C:\cs11dotnet7\Chapter01-vscode\AboutMyEnvironment>
0 0 AboutMyEnvironment
Ln 2, Col 47 (28 selected) Spaces: 4 UTF-8 with BOM CRLF C#


Code
Chapter01
Chapter01.sln
HelloCS
HelloCS.csproj
Program.cs
AboutMyEnvironment
AboutMyEnvironment.csproj
Program.cs
Chapter01-vscode
Chapter01.dib
Chapter01.code-workspace
HelloCS
HelloCS.csproj
Program.cs
AboutMyEnvironment
AboutMyEnvironment.csproj
Program.cs


markjprice/cs11dotnet7: Reposit
github.com/markjprice/cs11dotnet7
Search or jump to...
Pull requests
Issues
Marketplace
Explore
markjprice / cs11dotnet7
Public
Unpin
Unwatch 2
Fork 0
Star 2
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
main
1 branch
0 tags
Go to file
Add file
Code
About
Repository for the Packt Publishing book titled "C# 11 and .NET 7 - Modern Cross-Platform Development" by Mark J. Price
markjprice Update book-links.md
docs
images
notebooks
sql-scripts
vs4win
Clone
HTTPS SSH GitHub CLI
https://github.com/markjprice/cs11dotnet7
Use Git or checkout with SVN using the web URL.
Open with GitHub Desktop
Download ZIP
Readme
2 stars
2 watching
0 forks
Releases
8 hours ago
https://github.com/markjprice/cs11dotnet7/archive/refs/heads/main.zip


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter01
Debug
Any CPU
HelloCS
Live Share
Program.cs
Program.cs*
Int32 [from metadata]
System.Runtime
System.Int32
_dummyPrimitive
Assembly System.Runtime, Version=6.0.0.0, Culture=neutral, PublicKeyToken=b03f5f7
using ...
namespace System
{
public readonly struct Int32 : IComparable, IComparable<int>, IConvertible,
{
private readonly int _dummyPrimitive;
public const int MaxValue = 2147483647;
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter01' (2 of 2 projects)
AboutMyEnvironment
Dependencies
Program.cs
HelloCS
Dependencies
Program.cs
100 %
No issues found
Ln: 14
Ch: 31
Col: 34
SPC
CRLF
Ready
Add to Source Control
Select Repository



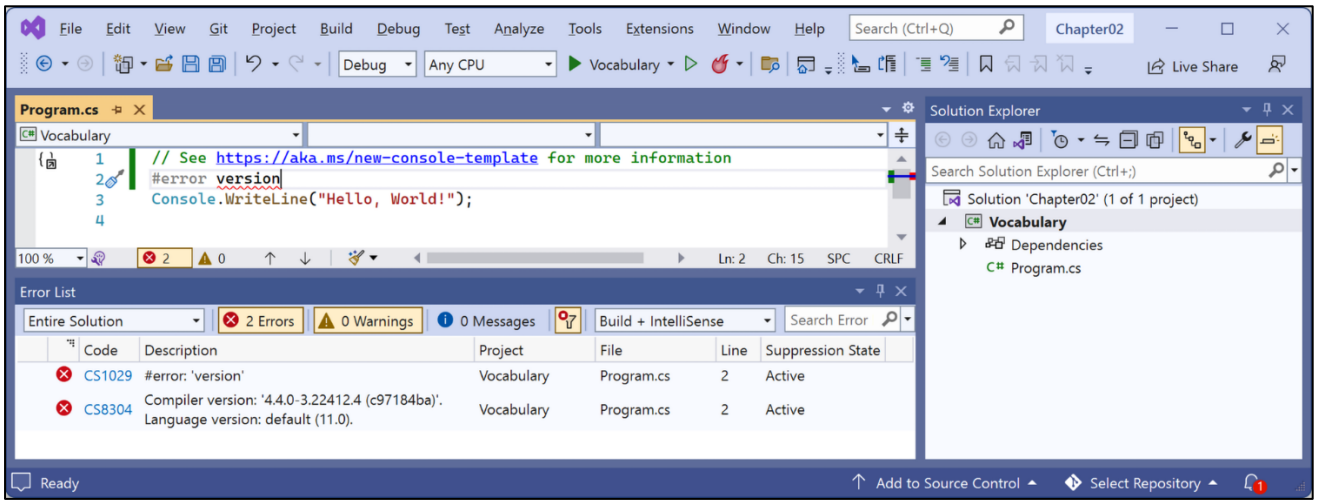


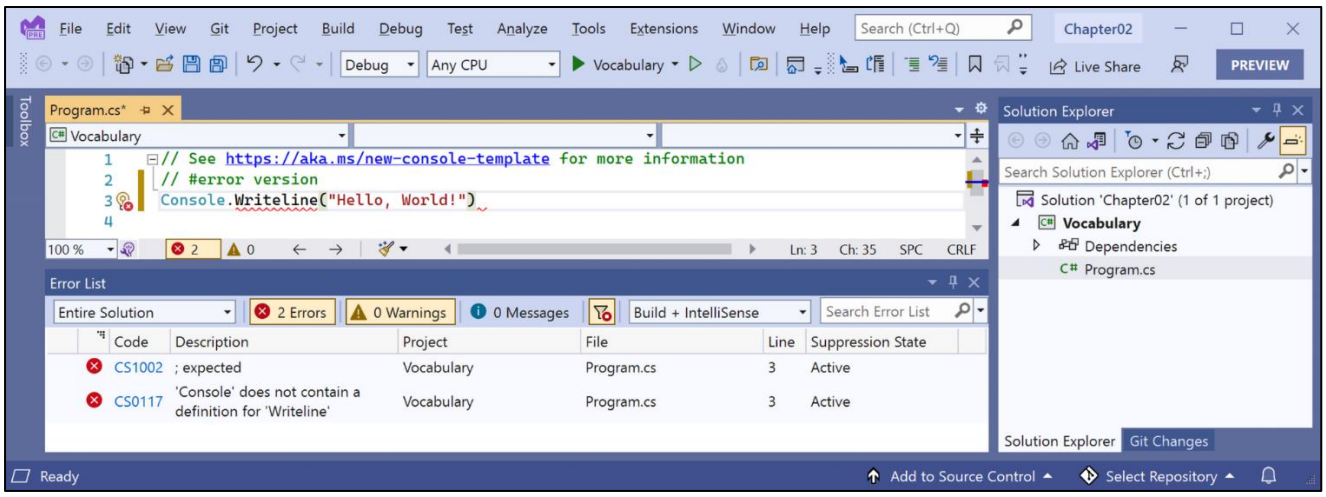
1. **C# language,** including new C# 11 features, object-oriented programming, and debugging and unit testing.
2. **.NET libraries,** including numbers, text, and collections, file I/O, and data with EF Core 7.
3. **Websites and web services** with ASP.NET Core 7 and Blazor.

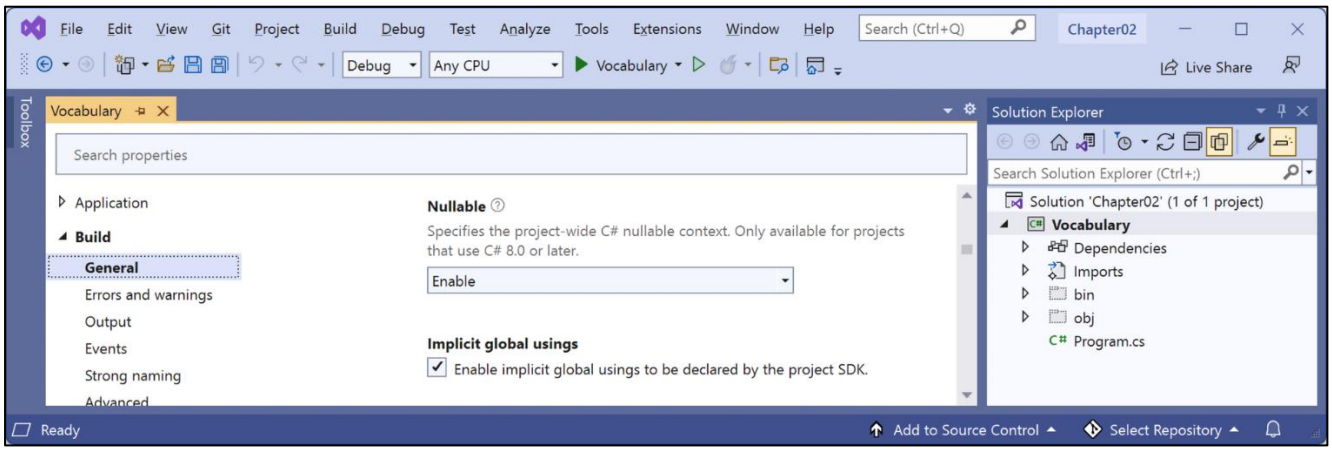
1. **More .NET libraries** like internationalization, multitasking, and security.
2. **More data** with SQL Server and Azure Cosmos DB.
3. **More services** with Minimal Web API, OData, GraphQL, gRPC, SignalR, and Azure Functions.
4. **More graphical user interfaces** with ASP.NET Core MVC, Razor, Blazor, and .NET MAUI.

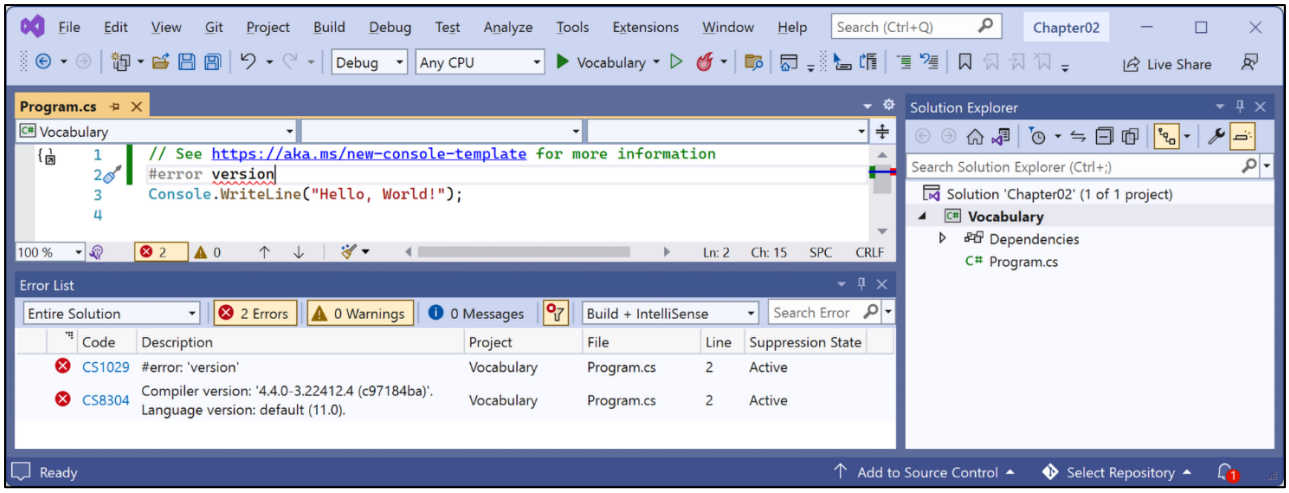
Fundamentals → *Practical Applications*

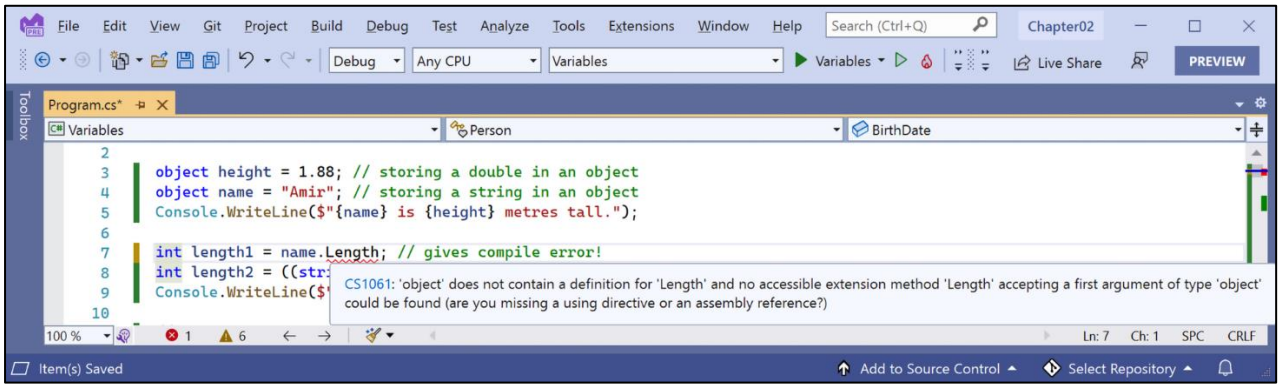
Chapter 2: Speaking C#

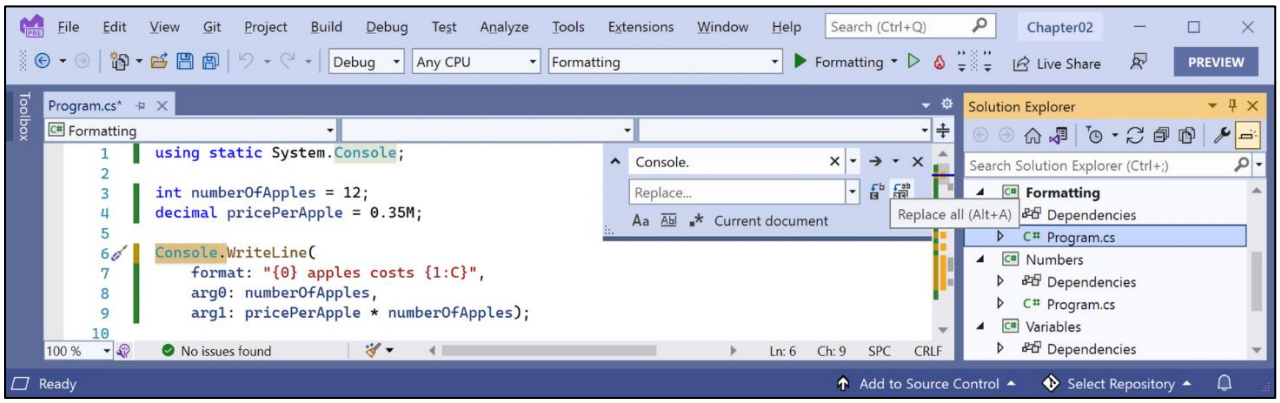


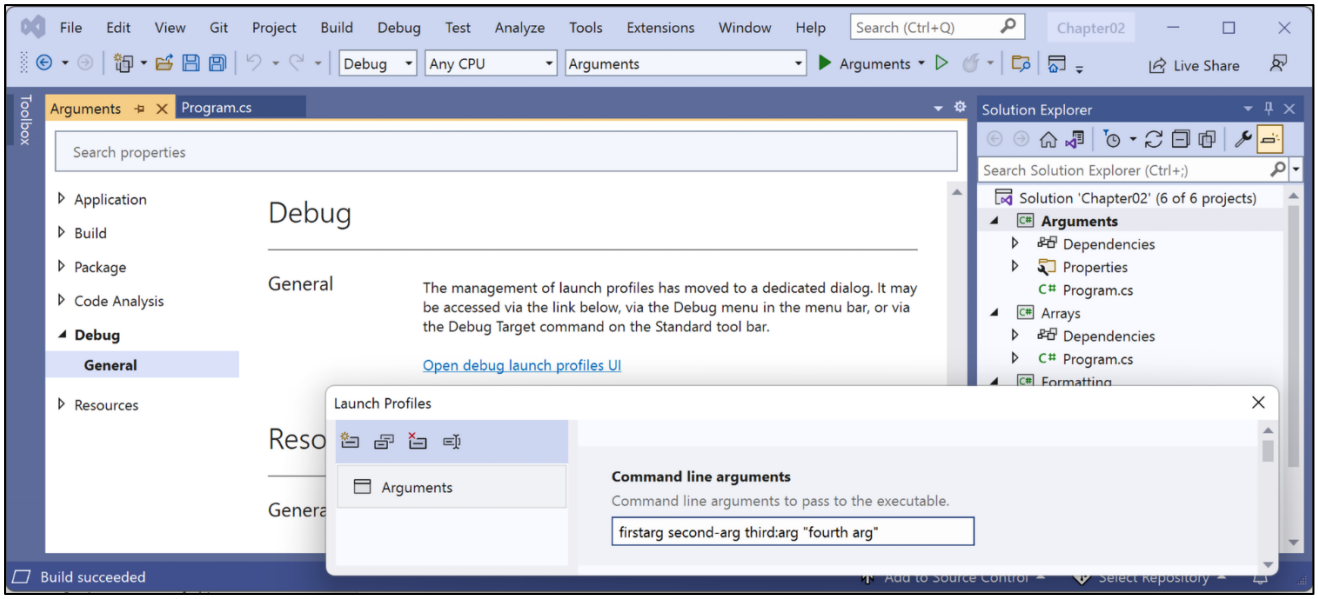


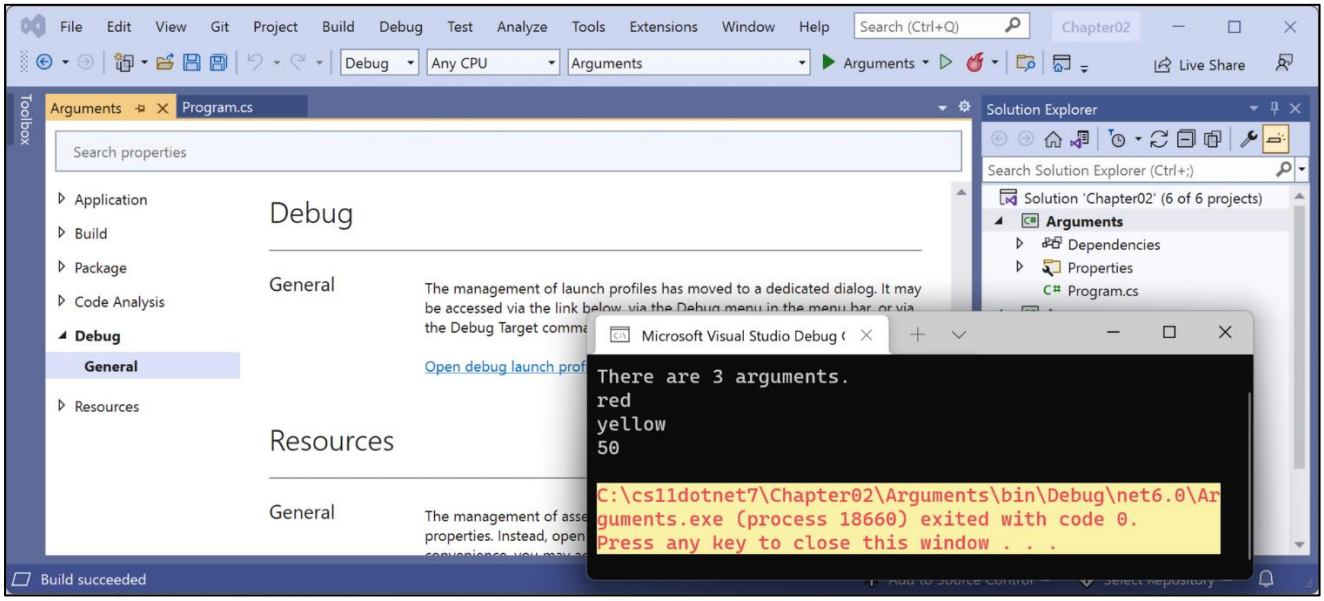


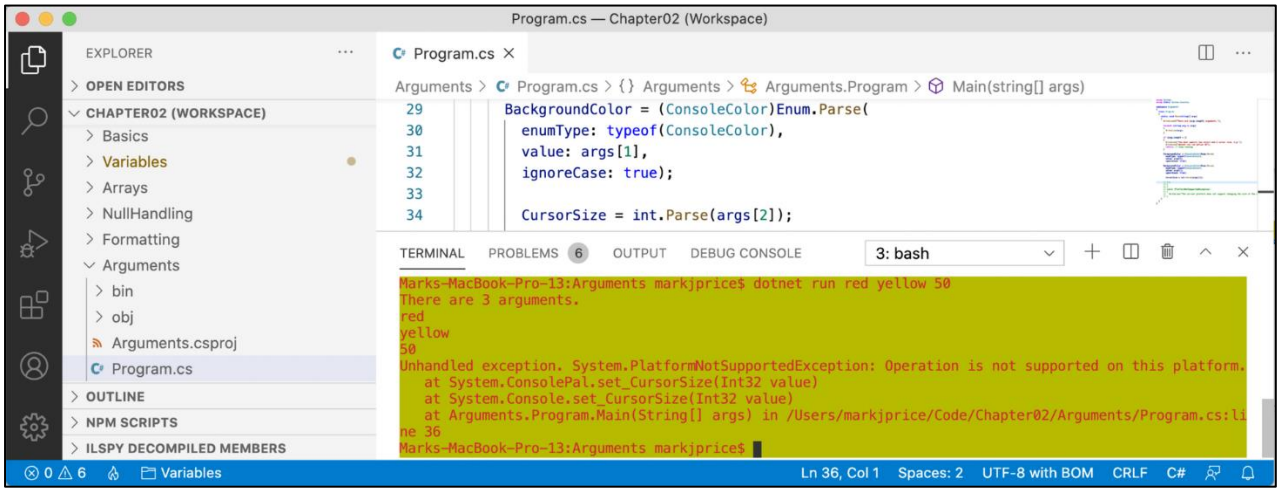

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter02
Debug
Any CPU
Vocabulary
Live Share
Program.cs
Vocabulary
// See https://aka.ms/new-console-template for more information
#error version
Console.WriteLine("Hello, World!");
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter02' (1 of 1 project)
Vocabulary
Dependencies
Program.cs
Error List
Entire Solution
2 Errors
0 Warnings
0 Messages
Build + IntelliSense
Search Error
Code
Description
Project
File
Line
Suppression State
CS1029
#error: 'version'
Vocabulary
Program.cs
2
Active
CS8304
Compiler version: '4.4.0-3.22412.4 (c97184ba)'. Language version: default (11.0).
Vocabulary
Program.cs
2
Active
Ready
Add to Source Control
Select Repository

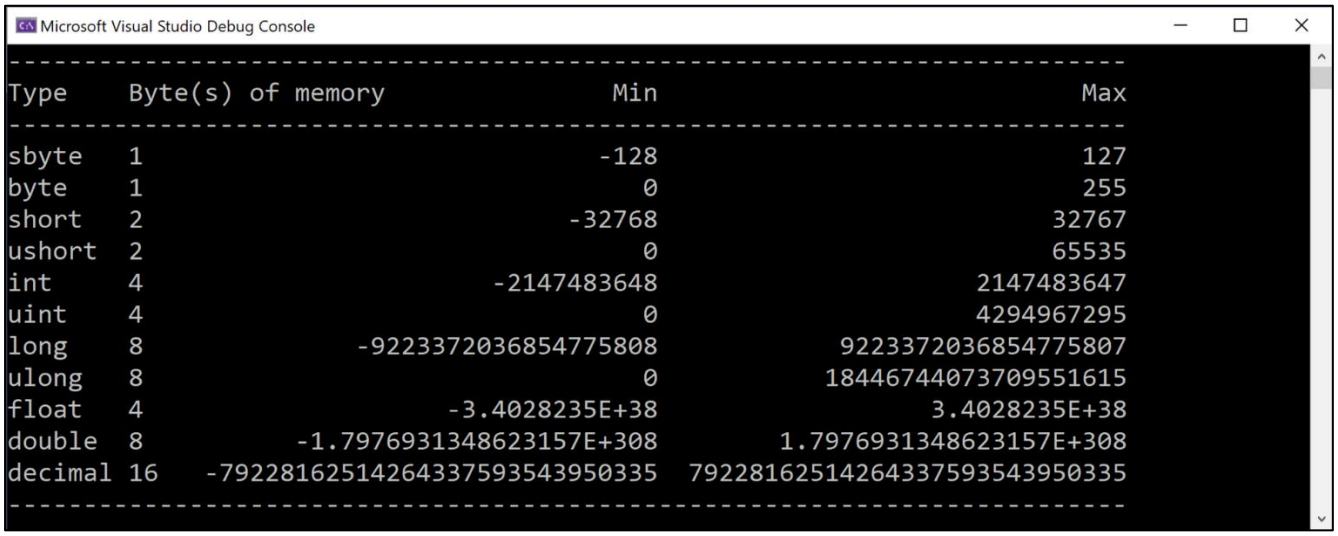

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter02
Debug
Any CPU
Variables
Live Share
PREVIEW
Toolbox
Program.cs*
Variables
Person
BirthDate
object height = 1.88; // storing a double in an object
object name = "Amir"; // storing a string in an object
Console.WriteLine($"{name} is {height} metres tall.");
int length1 = name.Length; // gives compile error!
int length2 = ((str
Console.WriteLine($
CS1061: 'object' does not contain a definition for 'Length' and no accessible extension method 'Length' accepting a first argument of type 'object' could be found (are you missing a using directive or an assembly reference?)
Item(s) Saved
Add to Source Control
Select Repository


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter02
Debug
Any CPU
Formatting
Live Share
PREVIEW
Toolbox
Program.cs*
Formatting
using static System.Console;
int numberOfApples = 12;
decimal pricePerApple = 0.35M;
Console.WriteLine(
format: "{0} apples costs {1:C}",
arg0: numberOfApples,
arg1: pricePerApple * numberOfApples);
Console.
Replace...
Current document
Replace all (Alt+A)
Solution Explorer
Search Solution Explorer (Ctrl+;)
Formatting
Dependencies
Program.cs
Numbers
Dependencies
Program.cs
Variables
Dependencies
No issues found
Ready
Add to Source Control
Select Repository

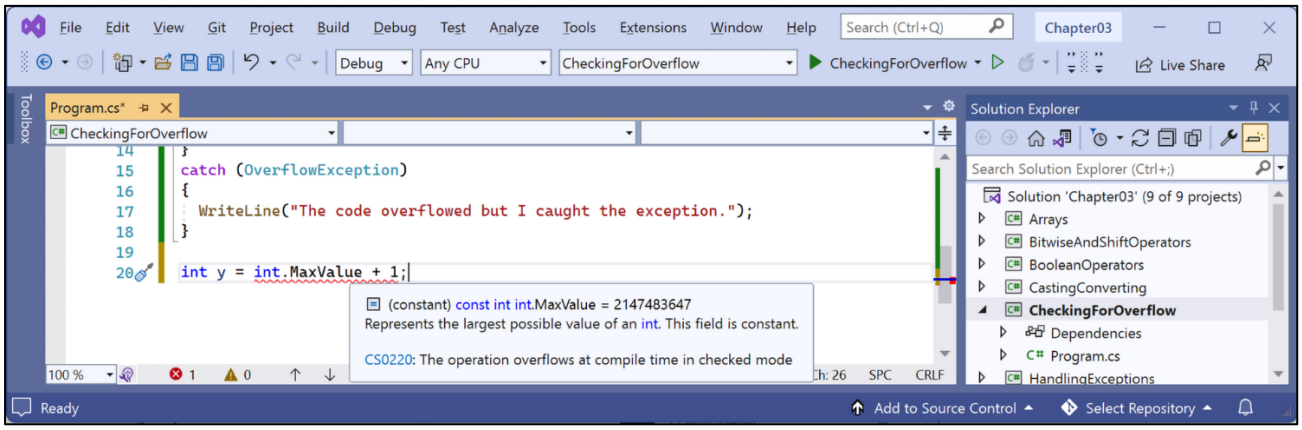

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter02
Debug
Any CPU
Arguments
Live Share
Toolbox
Arguments
Program.cs
Search properties
Application
Build
Package
Code Analysis
Debug
General
Resources
Debug
General
The management of launch profiles has moved to a dedicated dialog. It may be accessed via the link below, via the Debug menu in the menu bar, or via the Debug Target command on the Standard tool bar.
Open debug launch profiles UI
Launch Profiles
Arguments
Command line arguments
Command line arguments to pass to the executable.
firstarg second-arg third:arg "fourth arg"
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter02' (6 of 6 projects)
Arguments
Dependencies
Properties
Program.cs
Arrays
Dependencies
Program.cs
Formatting
Build succeeded

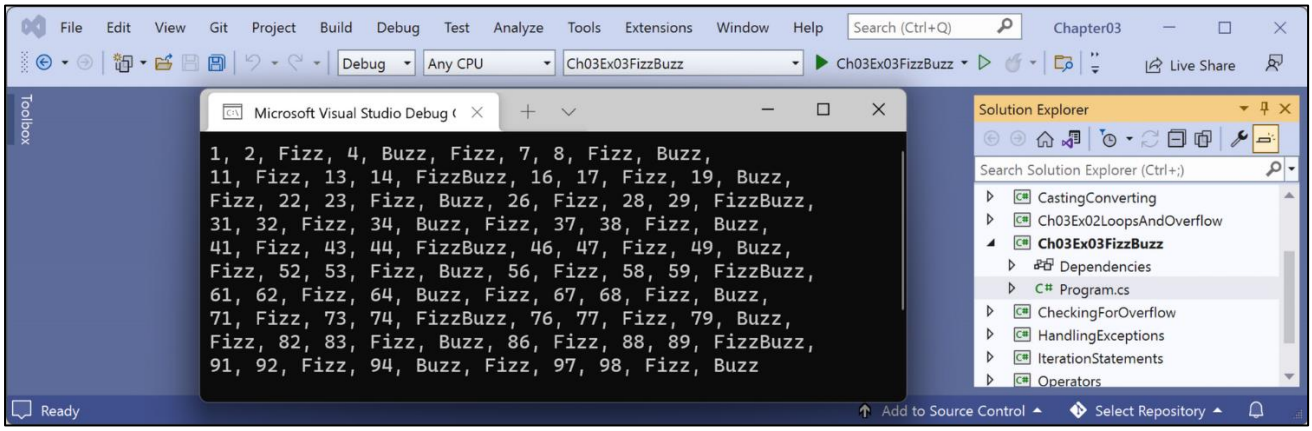

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter02
Debug
Any CPU
Arguments
Live Share
Toolbox
Arguments
Program.cs
Search properties
Application
Build
Package
Code Analysis
Debug
General
Resources
Debug
General
The management of launch profiles has moved to a dedicated dialog. It may be accessed via the link below, via the Debug menu in the menu bar, or via the Debug Target comma
Open debug launch prof
Resources
General
The management of asse
properties. Instead, open
Microsoft Visual Studio Debug (
There are 3 arguments.
red
yellow
50
C:\cs11dotnet7\Chapter02\Arguments\bin\Debug\net6.0\Ar
guments.exe (process 18660) exited with code 0.
Press any key to close this window . . .
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter02' (6 of 6 projects)
Arguments
Dependencies
Properties
Program.cs
Build succeeded


Program.cs — Chapter02 (Workspace)
EXPLORER
OPEN EDITORS
CHAPTER02 (WORKSPACE)
Basics
Variables
Arrays
NullHandling
Formatting
Arguments
bin
obj
Arguments.csproj
Program.cs
OUTLINE
NPM SCRIPTS
ILSPY DECOMPILED MEMBERS
Program.cs
Arguments > Program.cs > { } Arguments > Arguments.Program > Main(string[] args)
29 BackgroundColor = (ConsoleColor)Enum.Parse(
30 enumType: typeof(ConsoleColor),
31 value: args[1],
32 ignoreCase: true);
33
34 CursorSize = int.Parse(args[2]);
TERMINAL
PROBLEMS 6
OUTPUT
DEBUG CONSOLE
3: bash
Marks-MacBook-Pro-13:Arguments markjprice$ dotnet run red yellow 50
There are 3 arguments.
red
yellow
50
Unhandled exception. System.PlatformNotSupportedException: Operation is not supported on this platform.
at System.ConsolePal.set_CursorSize(Int32 value)
at System.Console.set_CursorSize(Int32 value)
at Arguments.Program.Main(String[] args) in /Users/markjprice/Code/Chapter02/Arguments/Program.cs:li
ne 36
Marks-MacBook-Pro-13:Arguments markjprice$
Variables
Ln 36, Col 1
Spaces: 2
UTF-8 with BOM
CRLF
C#

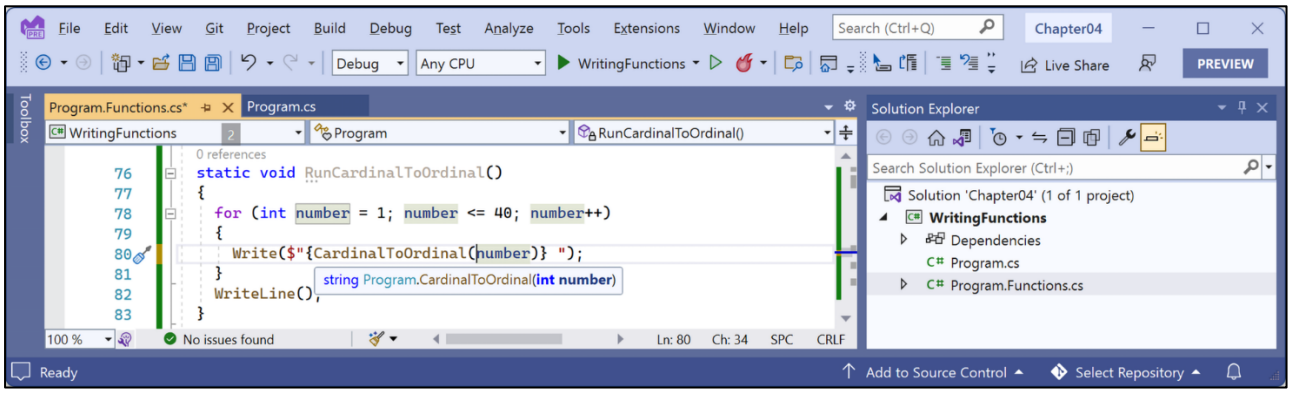

Microsoft Visual Studio Debug Console
Type Byte(s) of memory Min Max
sbyte 1 -128 127
byte 1 0 255
short 2 -32768 32767
ushort 2 0 65535
int 4 -2147483648 2147483647
uint 4 0 4294967295
long 8 -9223372036854775808 9223372036854775807
ulong 8 0 18446744073709551615
float 4 -3.4028235E+38 3.4028235E+38
double 8 -1.7976931348623157E+308 1.7976931348623157E+308
decimal 16 -79228162514264337593543950335 79228162514264337593543950335

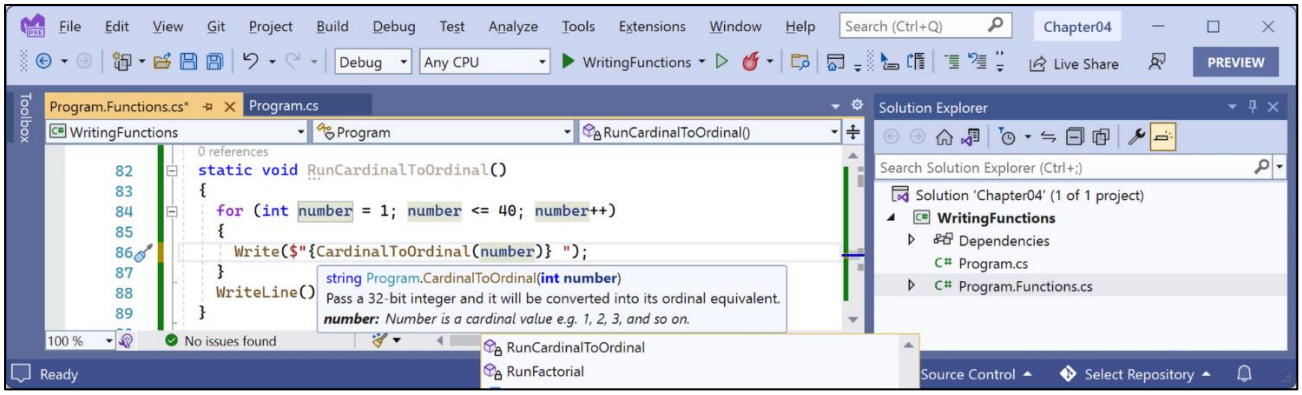
Chapter 3: Controlling Flow, Converting Types, and Handling Exceptions

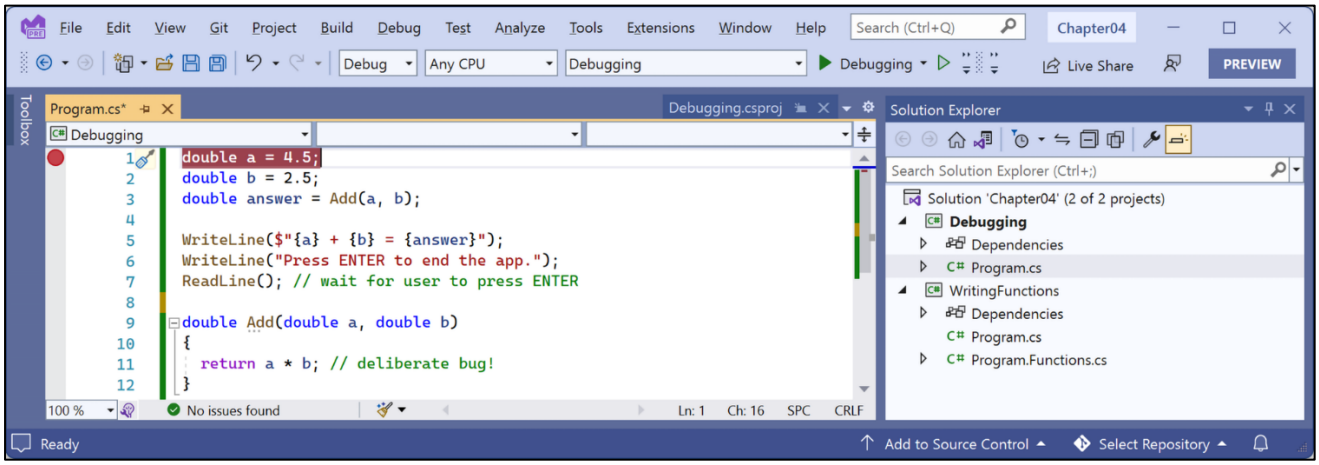


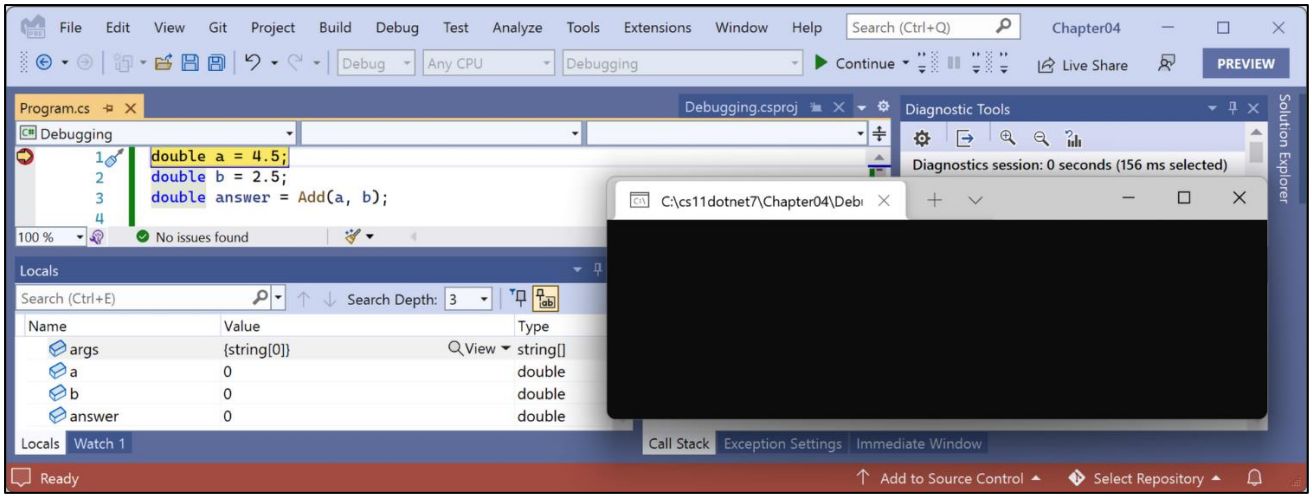


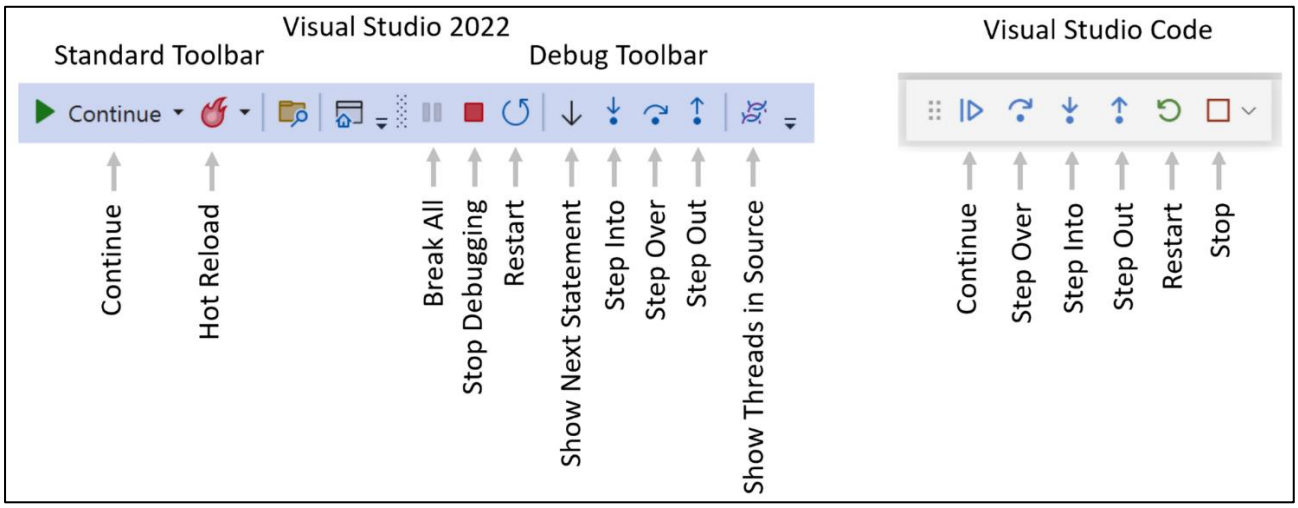
Chapter 4: Writing, Debugging, and Testing Functions

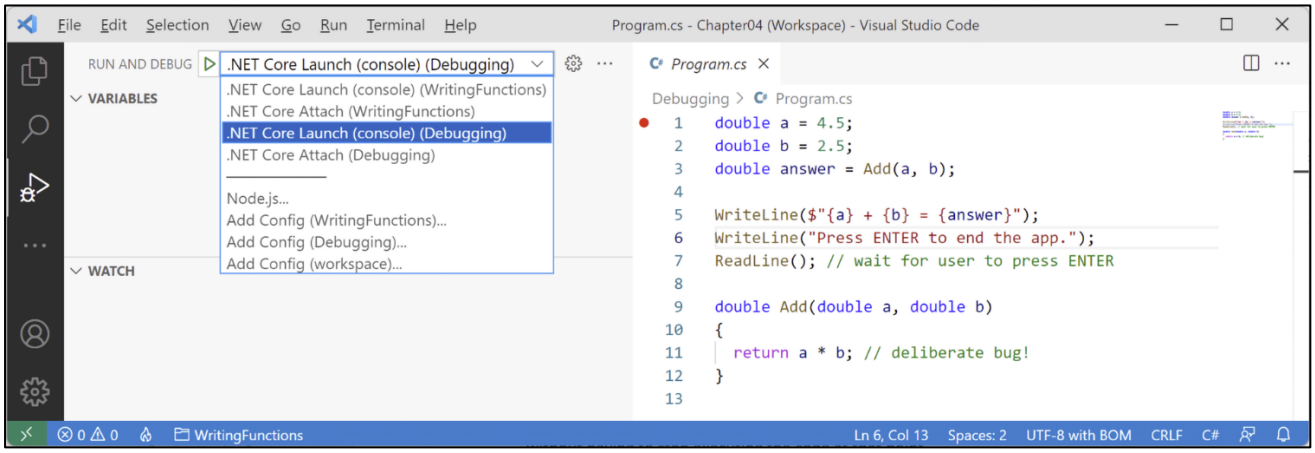


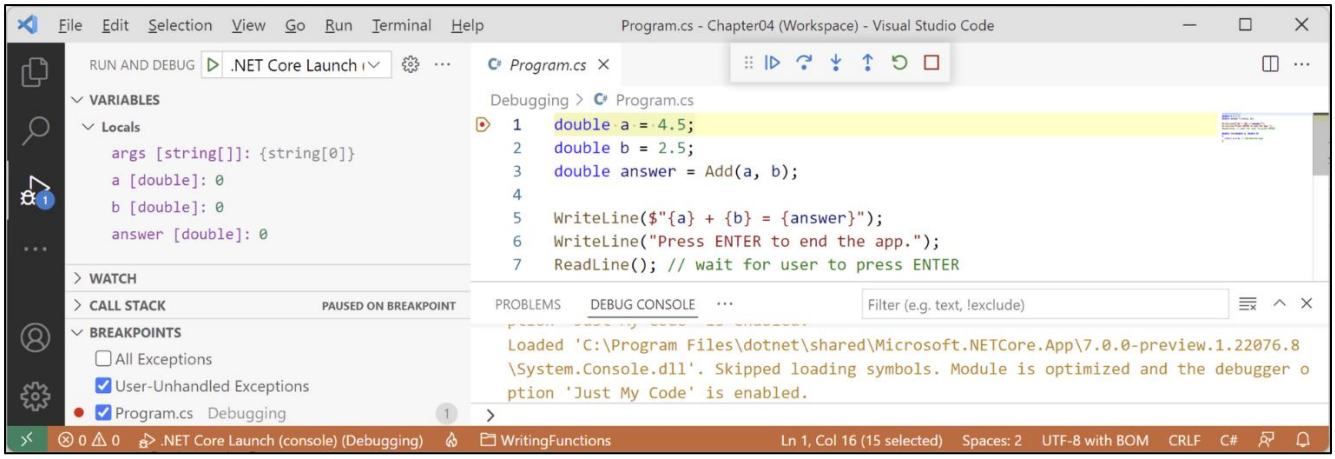


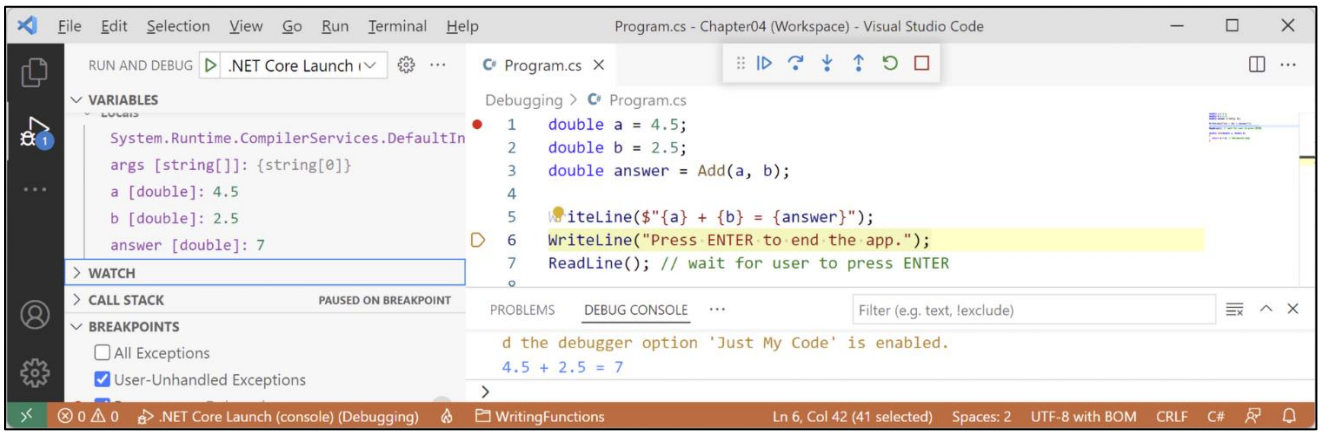


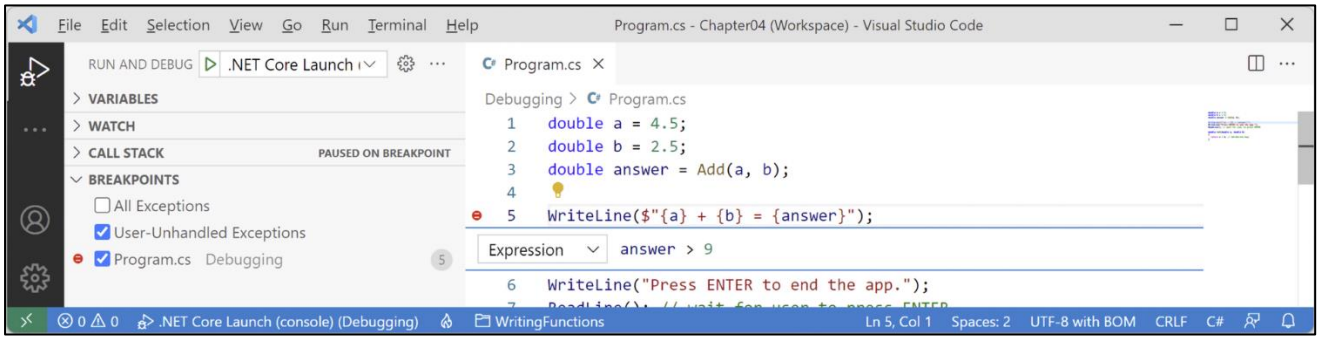

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
Debugging
Continue
Live Share
PREVIEW
Program.cs
Debugging.csproj
Diagnostic Tools
Debugging
double a = 4.5;
double b = 2.5;
double answer = Add(a, b);
Diagnostics session: 0 seconds (156 ms selected)
C:\cs11dotnet7\Chapter04\Debu
100 %
No issues found
Locals
Search (Ctrl+E)
Search Depth: 3
Name
Value
Type
args
{string[0]}
View
string[]
a
0
double
b
0
double
answer
0
double
Locals
Watch 1
Call Stack
Exception Settings
Immediate Window
Solution Explorer
Ready
Add to Source Control
Select Repository

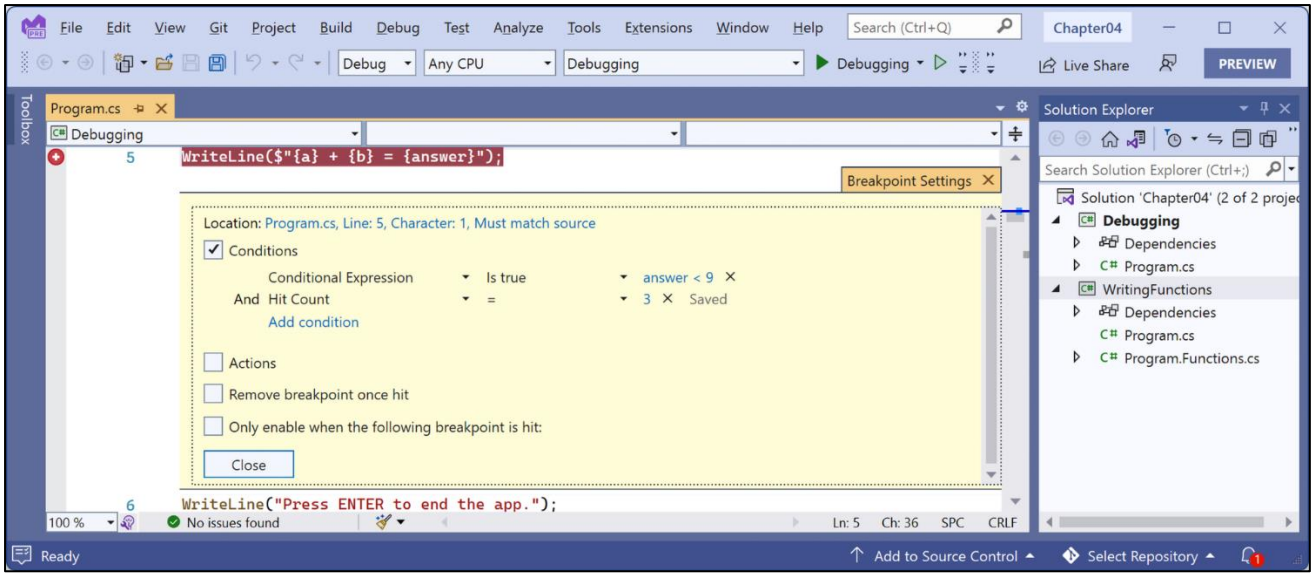

Visual Studio 2022
Standard Toolbar
Debug Toolbar
Visual Studio Code
Continue
Continue
Hot Reload
Break All
Stop Debugging
Restart
Show Next Statement
Step Into
Step Over
Step Out
Show Threads in Source
Continue
Step Over
Step Into
Step Out
Restart
Stop

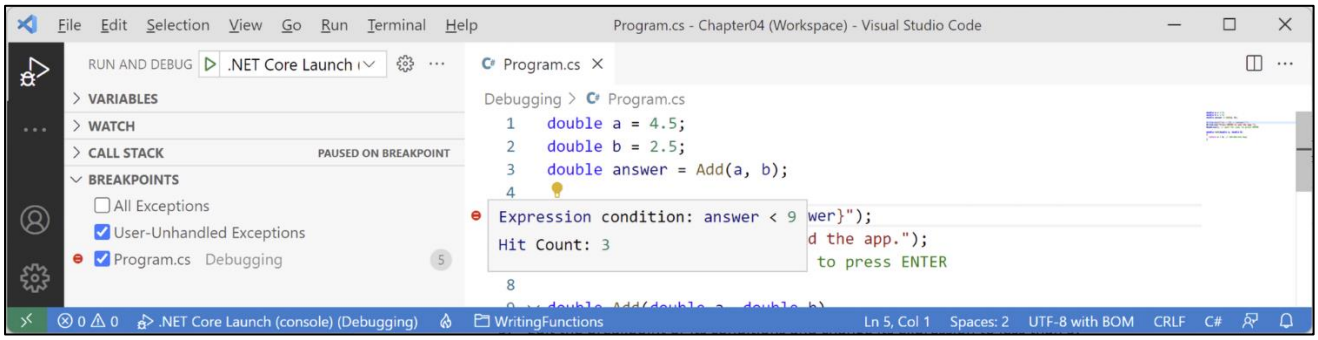

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter04 (Workspace) - Visual Studio Code
RUN AND DEBUG
.NET Core Launch (console) (Debugging)
.NET Core Launch (console) (WritingFunctions)
.NET Core Attach (WritingFunctions)
.NET Core Launch (console) (Debugging)
.NET Core Attach (Debugging)
Node.js...
Add Config (WritingFunctions)...
Add Config (Debugging)...
Add Config (workspace)...
VARIABLES
WATCH
Program.cs
Debugging > Program.cs
1 double a = 4.5;
2 double b = 2.5;
3 double answer = Add(a, b);
4
5 WriteLine($"{a} + {b} = {answer}");
6 WriteLine("Press ENTER to end the app.");
7 ReadLine(); // wait for user to press ENTER
8
9 double Add(double a, double b)
10 {
11 return a * b; // deliberate bug!
12 }
13
WritingFunctions
Ln 6, Col 13
Spaces: 2
UTF-8 with BOM
CRLF
C#

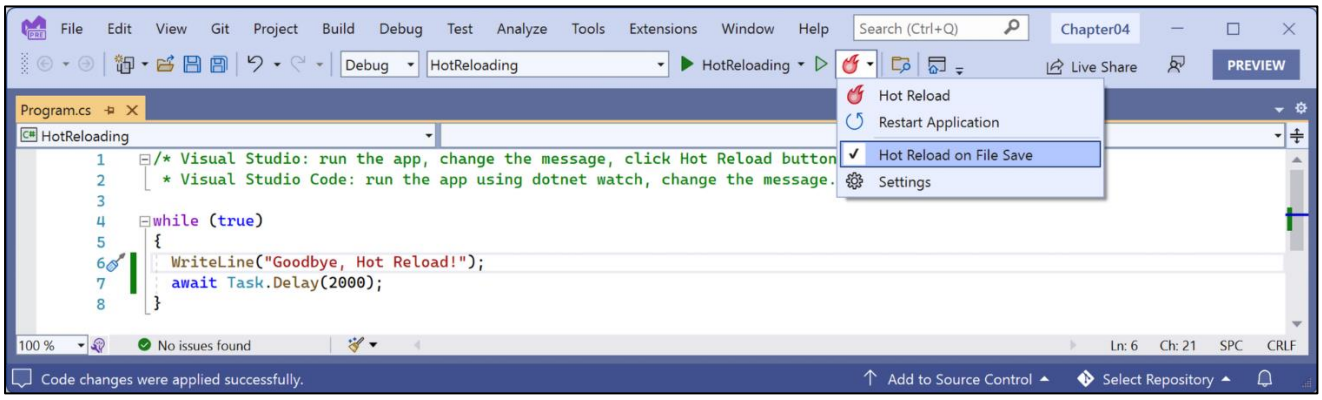

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter04 (Workspace) - Visual Studio Code
RUN AND DEBUG .NET Core Launch
VARIABLES
Locals
args [string[]]: {string[0]}
a [double]: 0
b [double]: 0
answer [double]: 0
WATCH
CALL STACK PAUSED ON BREAKPOINT
BREAKPOINTS
All Exceptions
User-Unhandled Exceptions
Program.cs Debugging
Program.cs
Debugging > Program.cs
1 double a = 4.5;
2 double b = 2.5;
3 double answer = Add(a, b);
4
5 WriteLine($"{a} + {b} = {answer}");
6 WriteLine("Press ENTER to end the app.");
7 ReadLine(); // wait for user to press ENTER
PROBLEMS DEBUG CONSOLE
Filter (e.g. text, !exclude)
Loaded 'C:\Program Files\dotnet\shared\Microsoft.NETCore.App\7.0.0-preview.1.22076.8
\System.Console.dll'. Skipped loading symbols. Module is optimized and the debugger o
ption 'Just My Code' is enabled.
.NET Core Launch (console) (Debugging)
WritingFunctions
Ln 1, Col 16 (15 selected) Spaces: 2 UTF-8 with BOM CRLF C#

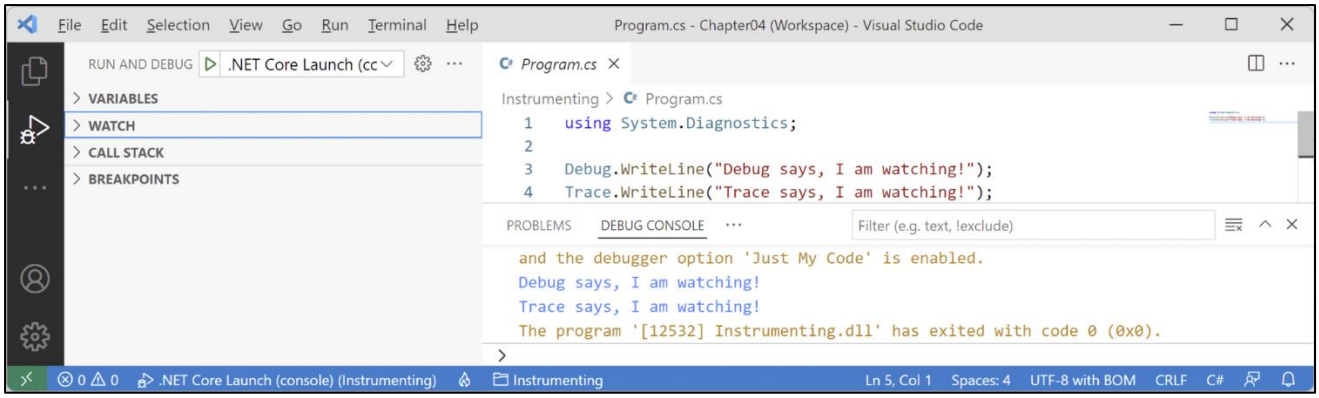

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter04 (Workspace) - Visual Studio Code
RUN AND DEBUG .NET Core Launch
VARIABLES
System.Runtime.CompilerServices.DefaultIn
args [string[]]: {string[0]}
a [double]: 4.5
b [double]: 2.5
answer [double]: 7
WATCH
CALL STACK PAUSED ON BREAKPOINT
BREAKPOINTS
All Exceptions
User-Unhandled Exceptions
Program.cs
Debugging > Program.cs
1 double a = 4.5;
2 double b = 2.5;
3 double answer = Add(a, b);
4
5 iteLine($"{a} + {b} = {answer}");
6 WriteLine("Press ENTER to end the app.");
7 ReadLine(); // wait for user to press ENTER
PROBLEMS DEBUG CONSOLE
Filter (e.g. text, !exclude)
d the debugger option 'Just My Code' is enabled.
4.5 + 2.5 = 7
.NET Core Launch (console) (Debugging)
WritingFunctions
Ln 6, Col 42 (41 selected) Spaces: 2 UTF-8 with BOM CRLF C#

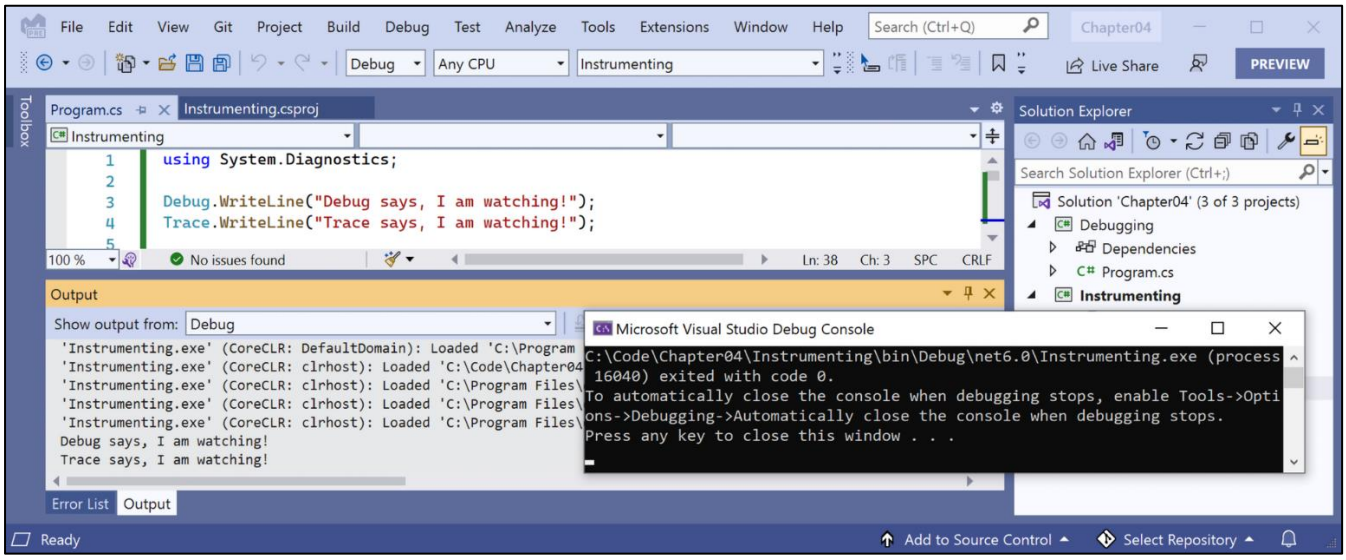

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter04 (Workspace) - Visual Studio Code
RUN AND DEBUG .NET Core Launch
VARIABLES
WATCH
CALL STACK PAUSED ON BREAKPOINT
BREAKPOINTS
All Exceptions
User-Unhandled Exceptions
Program.cs Debugging
Program.cs
Debugging > Program.cs
1 double a = 4.5;
2 double b = 2.5;
3 double answer = Add(a, b);
4
5 WriteLine($"{a} + {b} = {answer}");
Expression answer > 9
6 WriteLine("Press ENTER to end the app.");
.NET Core Launch (console) (Debugging)
WritingFunctions
Ln 5, Col 1 Spaces: 2 UTF-8 with BOM CRLF C#

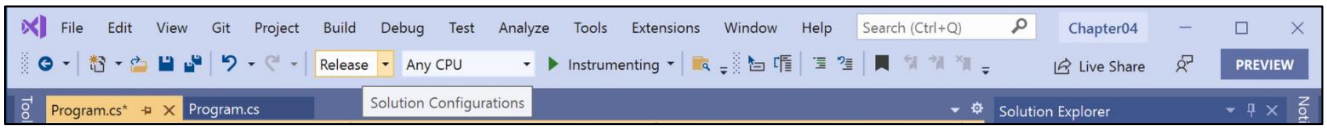

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
Debugging
Live Share
PREVIEW
Program.cs
Debugging
5 WriteLine($"{a} + {b} = {answer}");
Breakpoint Settings
Location: Program.cs, Line: 5, Character: 1, Must match source
Conditions
Conditional Expression Is true answer < 9
And Hit Count = 3 Saved
Add condition
Actions
Remove breakpoint once hit
Only enable when the following breakpoint is hit:
Close
6 WriteLine("Press ENTER to end the app.");
No issues found
Ln: 5 Ch: 36 SPC CRLF
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter04' (2 of 2 proje
Debugging
Dependencies
Program.cs
WritingFunctions
Dependencies
Program.cs
Program.Functions.cs
Ready
Add to Source Control
Select Repository

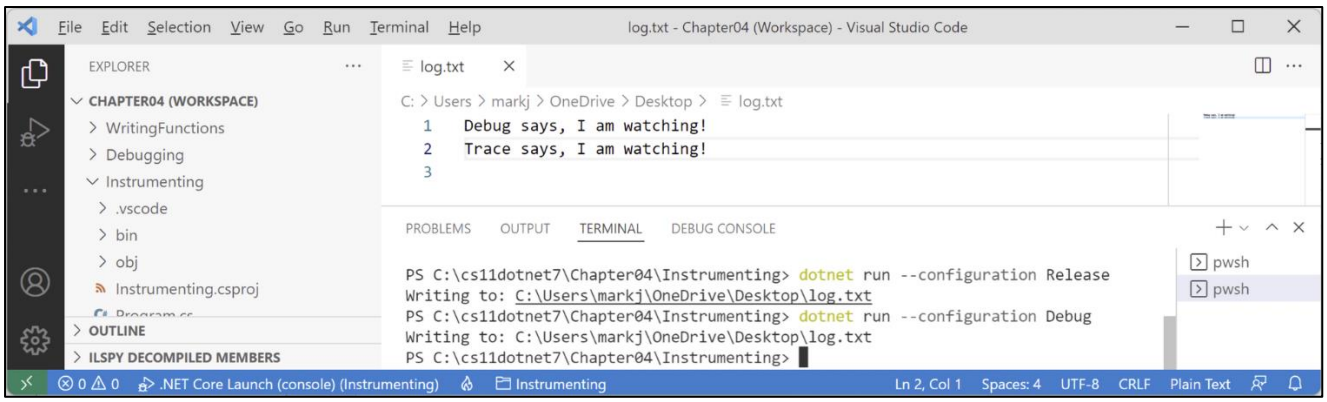

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter04 (Workspace) - Visual Studio Code
RUN AND DEBUG .NET Core Launch
VARIABLES
WATCH
CALL STACK PAUSED ON BREAKPOINT
BREAKPOINTS
All Exceptions
User-Unhandled Exceptions
Program.cs Debugging
Program.cs
Debugging > Program.cs
1 double a = 4.5;
2 double b = 2.5;
3 double answer = Add(a, b);
4
Expression condition: answer < 9
Hit Count: 3
8
.NET Core Launch (console) (Debugging)
WritingFunctions
Ln 5, Col 1 Spaces: 2 UTF-8 with BOM CRLF C#

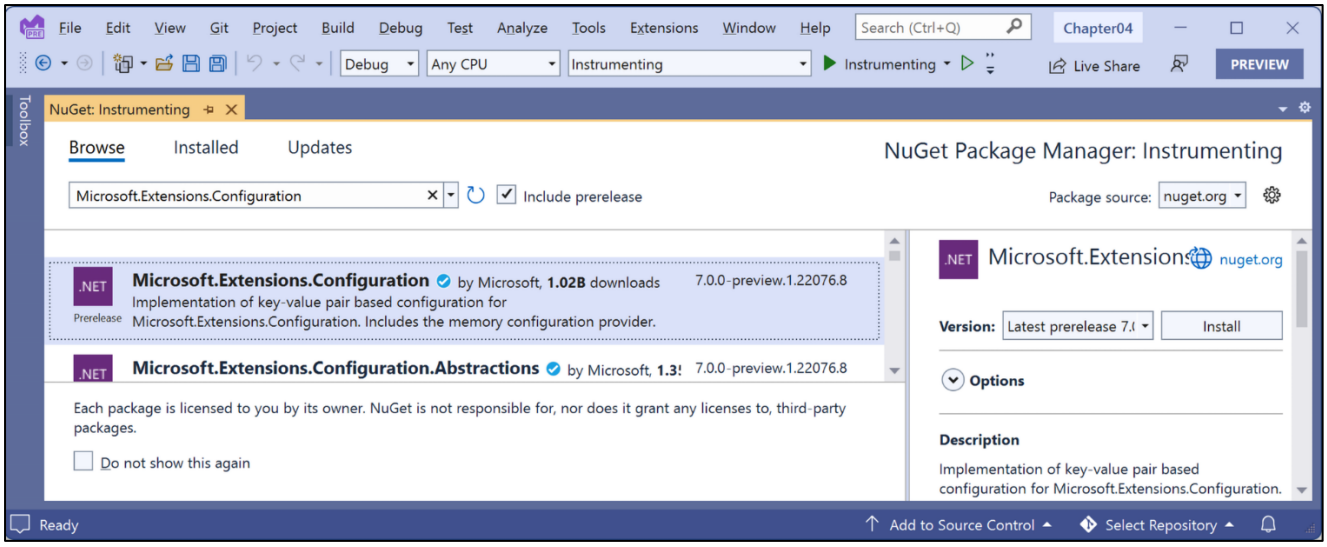

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
HotReloading
HotReloading
Live Share
PREVIEW
Hot Reload
Restart Application
Hot Reload on File Save
Settings
Program.cs
HotReloading
1 /* Visual Studio: run the app, change the message, click Hot Reload button
2 * Visual Studio Code: run the app using dotnet watch, change the message.
3
4 while (true)
5 {
6 WriteLine("Goodbye, Hot Reload!");
7 await Task.Delay(2000);
8 }
No issues found
Ln: 6 Ch: 21 SPC CRLF
Code changes were applied successfully.
Add to Source Control
Select Repository

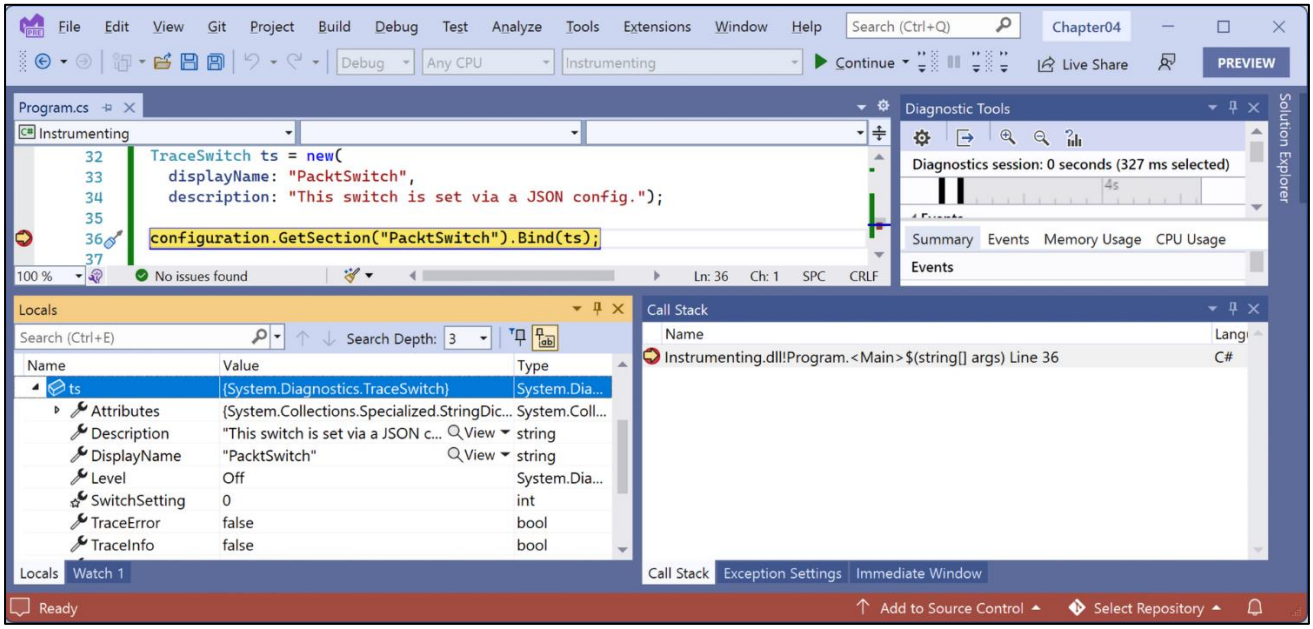

File Edit Selection View Go Run Terminal Help
Program.cs - Chapter04 (Workspace) - Visual Studio Code
RUN AND DEBUG
.NET Core Launch (cc
VARIABLES
WATCH
CALL STACK
BREAKPOINTS
Program.cs
Instrumenting > Program.cs
1 using System.Diagnostics;
2
3 Debug.WriteLine("Debug says, I am watching!");
4 Trace.WriteLine("Trace says, I am watching!");
PROBLEMS
DEBUG CONSOLE
Filter (e.g. text, !exclude)
and the debugger option 'Just My Code' is enabled.
Debug says, I am watching!
Trace says, I am watching!
The program '[12532] Instrumenting.dll' has exited with code 0 (0x0).
.NET Core Launch (console) (Instrumenting)
Instrumenting
Ln 5, Col 1
Spaces: 4
UTF-8 with BOM
CRLF
C#

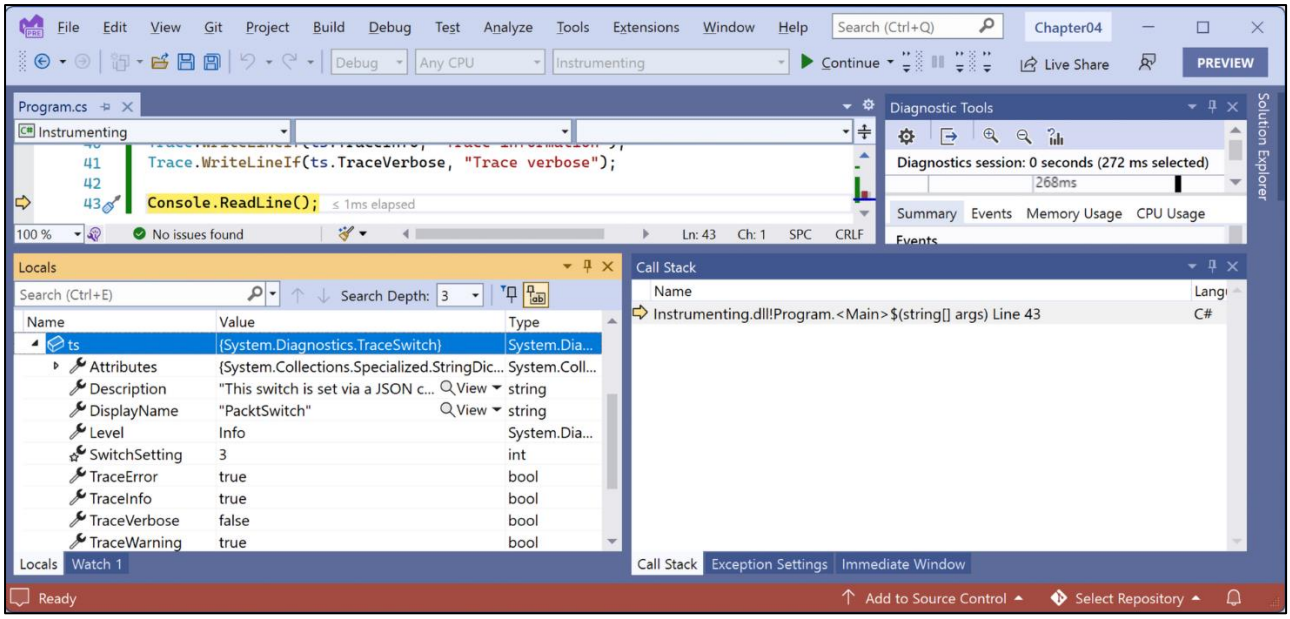

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
Instrumenting
Live Share
PREVIEW
Program.cs
Instrumenting.csproj
Instrumenting
1 using System.Diagnostics;
2
3 Debug.WriteLine("Debug says, I am watching!");
4 Trace.WriteLine("Trace says, I am watching!");
5
100 %
No issues found
Ln: 38 Ch: 3 SPC CRLF
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter04' (3 of 3 projects)
Debugging
Dependencies
Program.cs
Instrumenting
Output
Show output from: Debug
'Instrumenting.exe' (CoreCLR: DefaultDomain): Loaded 'C:\Program
'Instrumenting.exe' (CoreCLR: clrhost): Loaded 'C:\Code\Chapter04
'Instrumenting.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\
'Instrumenting.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\
'Instrumenting.exe' (CoreCLR: clrhost): Loaded 'C:\Program Files\
Debug says, I am watching!
Trace says, I am watching!
Microsoft Visual Studio Debug Console
C:\Code\Chapter04\Instrumenting\bin\Debug\net6.0\Instrumenting.exe (process
16040) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Opti
ons->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
Error List
Output
Ready
Add to Source Control
Select Repository

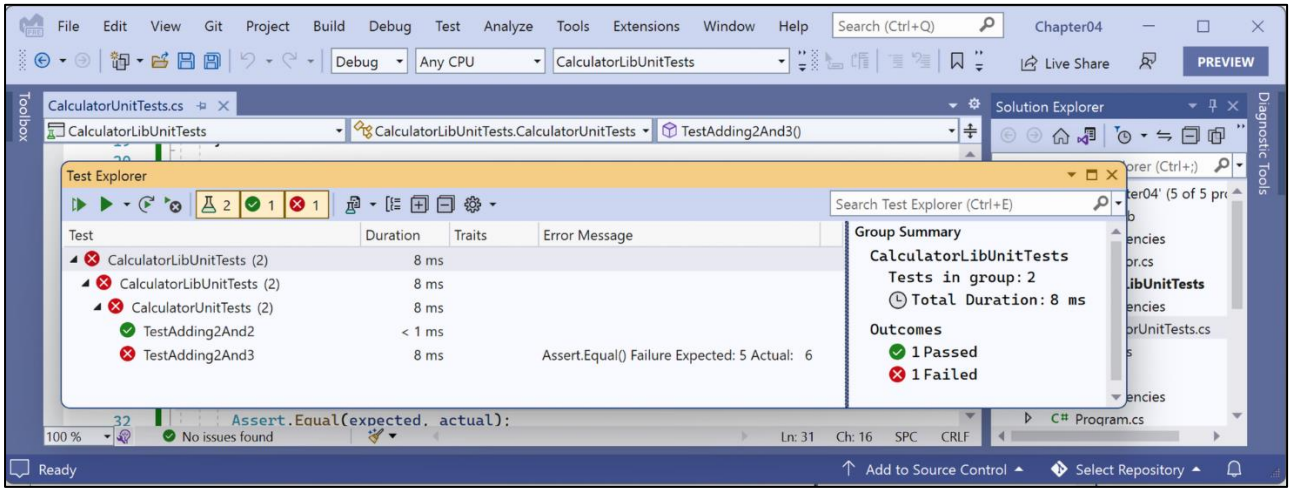

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Release
Any CPU
Instrumenting
Live Share
PREVIEW
Program.cs*
Program.cs
Solution Configurations
Solution Explorer

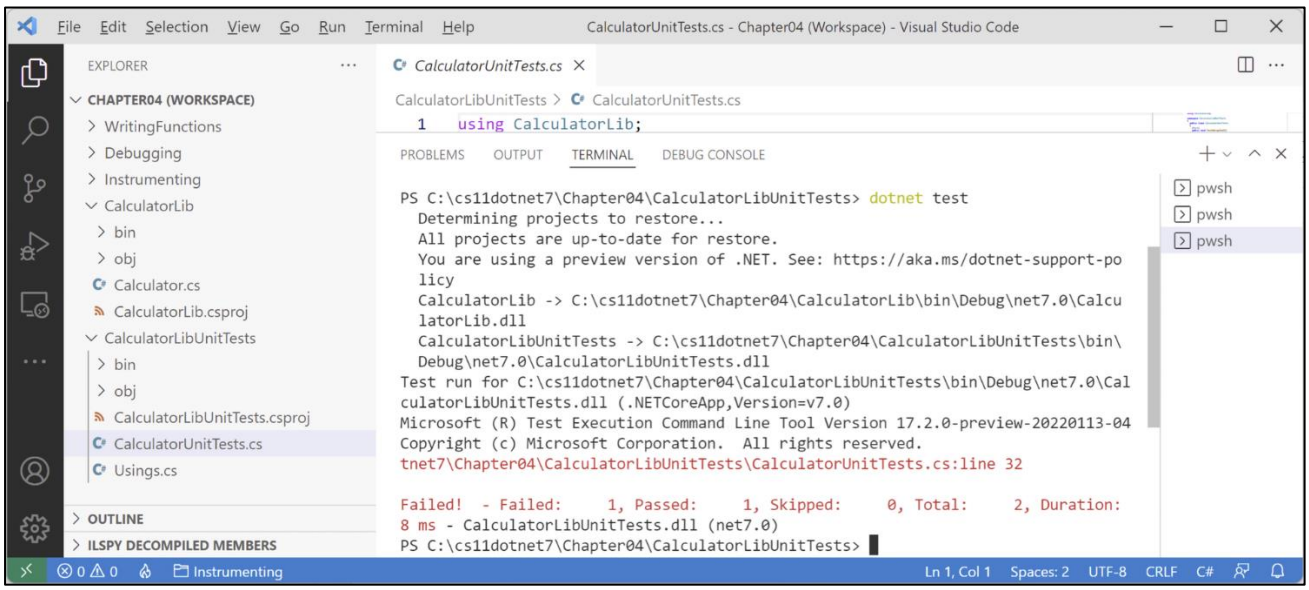

File Edit Selection View Go Run Terminal Help
log.txt - Chapter04 (Workspace) - Visual Studio Code
EXPLORER
CHAPTER04 (WORKSPACE)
WritingFunctions
Debugging
Instrumenting
.vscode
bin
obj
Instrumenting.csproj
OUTLINE
ILSPY DECOMPILED MEMBERS
log.txt
C: > Users > markj > OneDrive > Desktop > log.txt
1 Debug says, I am watching!
2 Trace says, I am watching!
3
PROBLEMS
OUTPUT
TERMINAL
DEBUG CONSOLE
PS C:\cs11dotnet7\Chapter04\Instrumenting> dotnet run --configuration Release
Writing to: C:\Users\markj\OneDrive\Desktop\log.txt
PS C:\cs11dotnet7\Chapter04\Instrumenting> dotnet run --configuration Debug
Writing to: C:\Users\markj\OneDrive\Desktop\log.txt
PS C:\cs11dotnet7\Chapter04\Instrumenting>
pwsh
pwsh
.NET Core Launch (console) (Instrumenting)
Instrumenting
Ln 2, Col 1
Spaces: 4
UTF-8
CRLF
Plain Text

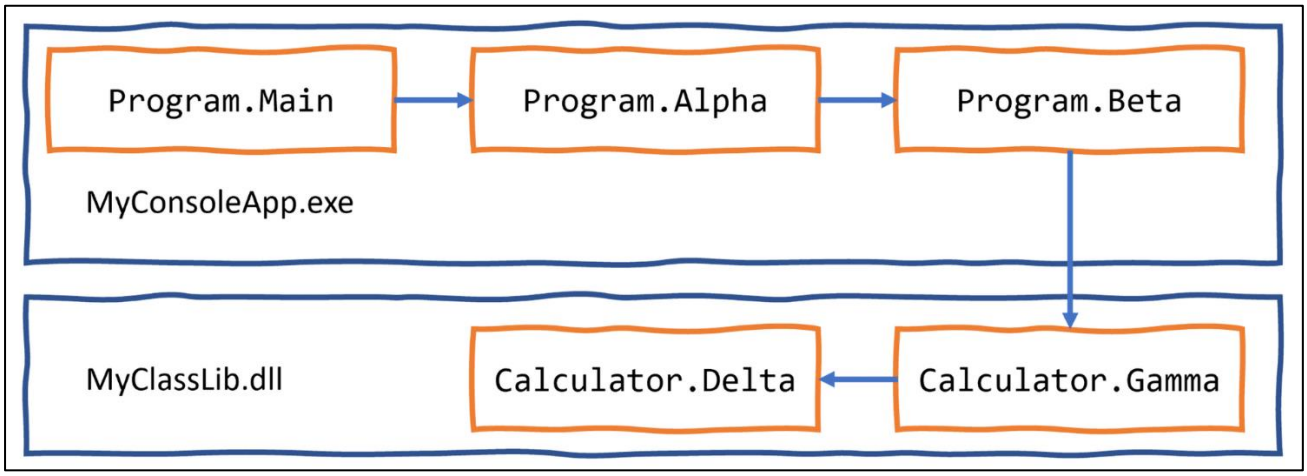

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
Instrumenting
Live Share
PREVIEW
Toolbox
NuGet: Instrumenting
Browse
Installed
Updates
NuGet Package Manager: Instrumenting
Microsoft.Extensions.Configuration
Include prerelease
Package source: nuget.org
Microsoft.Extensions.Configuration by Microsoft, 1.02B downloads
7.0.0-preview.1.22076.8
Prerelease
Implementation of key-value pair based configuration for Microsoft.Extensions.Configuration. Includes the memory configuration provider.
Microsoft.Extensions.Configuration.Abstractions by Microsoft, 1.3!
7.0.0-preview.1.22076.8
Each package is licensed to you by its owner. NuGet is not responsible for, nor does it grant any licenses to, third-party packages.
Do not show this again
Microsoft.Extensions
nuget.org
Version:
Latest prerelease 7.(
Install
Options
Description
Implementation of key-value pair based configuration for Microsoft.Extensions.Configuration.
Ready
Add to Source Control
Select Repository


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
Instrumenting
Continue
Live Share
PREVIEW
Program.cs
Instrumenting
32 TraceSwitch ts = new(
33 displayName: "PacktSwitch",
34 description: "This switch is set via a JSON config.");
35
36 configuration.GetSection("PacktSwitch").Bind(ts);
37
100 %
No issues found
Ln: 36 Ch: 1 SPC CRLF
Diagnostic Tools
Diagnostics session: 0 seconds (327 ms selected)
Summary Events Memory Usage CPU Usage
Events
Solution Explorer
Locals
Search (Ctrl+E)
Search Depth: 3
Name Value Type
ts {System.Diagnostics.TraceSwitch} System.Dia...
Attributes {System.Collections.Specialized.StringDic... System.Coll...
Description "This switch is set via a JSON c... View string
DisplayName "PacktSwitch" View string
Level Off System.Dia...
SwitchSetting 0 int
TraceError false bool
TraceInfo false bool
Locals
Watch 1
Call Stack
Name
Instrumenting.dll!Program.<Main>$(string[] args) Line 36
C#
Call Stack
Exception Settings
Immediate Window
Ready
Add to Source Control
Select Repository

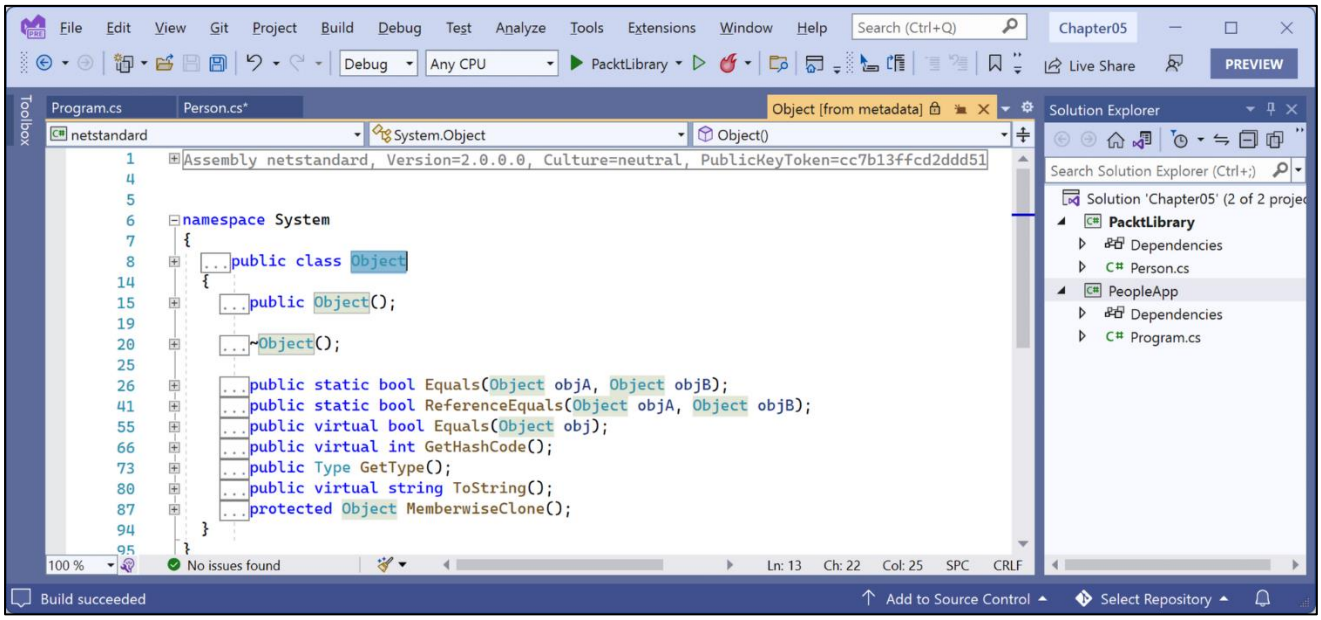

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
Instrumenting
Continue
Live Share
PREVIEW
Program.cs
Instrumenting
41 Trace.WriteLineIf(ts.TraceVerbose, "Trace verbose");
42
43 Console.ReadLine();
≤ 1ms elapsed
100 %
No issues found
Ln: 43 Ch: 1 SPC CRLF
Diagnostic Tools
Diagnostics session: 0 seconds (272 ms selected)
268ms
Summary Events Memory Usage CPU Usage
Events
Solution Explorer
Locals
Search (Ctrl+E)
Search Depth: 3
Name Value Type
ts {System.Diagnostics.TraceSwitch} System.Dia...
Attributes {System.Collections.Specialized.StringDic... System.Coll...
Description "This switch is set via a JSON c... View string
DisplayName "PacktSwitch" View string
Level Info System.Dia...
SwitchSetting 3 int
TraceError true bool
TraceInfo true bool
TraceVerbose false bool
TraceWarning true bool
Locals Watch 1
Call Stack
Name Lang
Instrumenting.dll!Program.<Main>$(string[] args) Line 43 C#
Call Stack Exception Settings Immediate Window
Ready
Add to Source Control
Select Repository

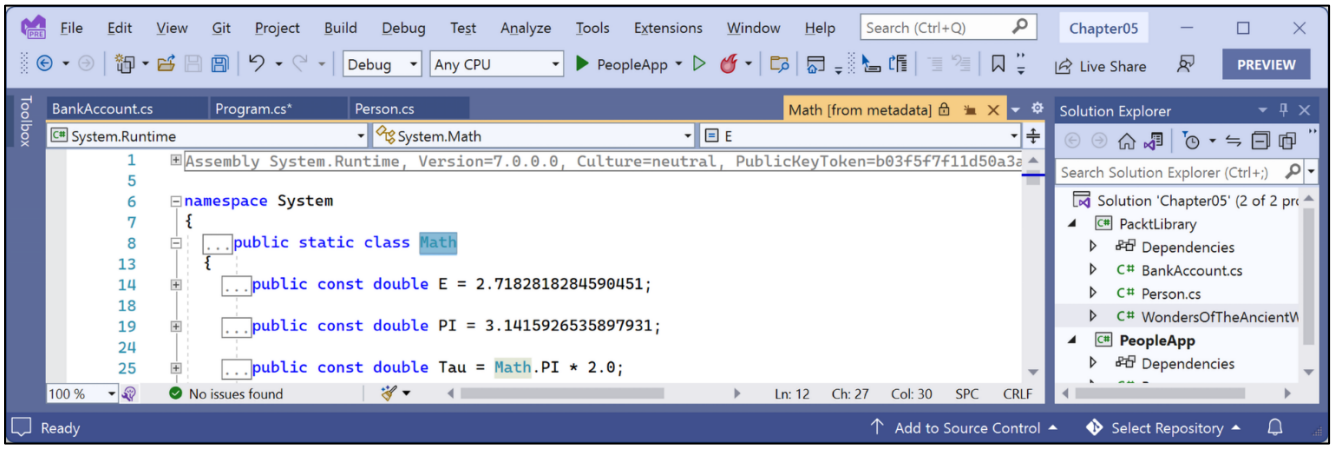

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter04
Debug
Any CPU
CalculatorLibUnitTests
Live Share
PREVIEW
Toolbox
CalculatorUnitTests.cs
CalculatorLibUnitTests
CalculatorLibUnitTests.CalculatorUnitTests
TestAdding2And3()
Test Explorer
Search Test Explorer (Ctrl+E)
Test Duration Traits Error Message
CalculatorLibUnitTests (2) 8 ms
CalculatorLibUnitTests (2) 8 ms
CalculatorUnitTests (2) 8 ms
TestAdding2And2 < 1 ms
TestAdding3 8 ms Assert.Equal() Failure Expected: 5 Actual: 6
Group Summary
CalculatorLibUnitTests
Tests in group: 2
Total Duration: 8 ms
Outcomes
1 Passed
1 Failed
32 Assert.Equal(expected, actual);
100 %
No issues found
Ln: 31 Ch: 16 SPC CRLF
Solution Explorer
Diagnostic Tools
Program.cs
Ready
Add to Source Control
Select Repository

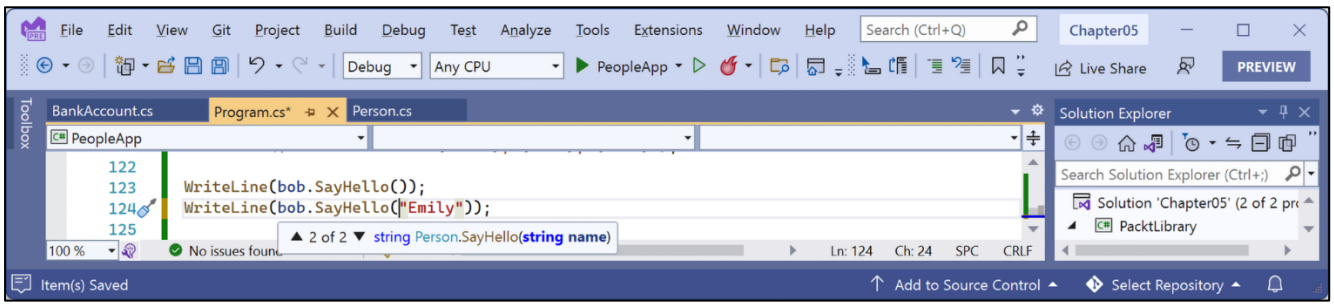

File Edit Selection View Go Run Terminal Help
CalculatorUnitTests.cs - Chapter04 (Workspace) - Visual Studio Code
EXPLORER
CHAPTER04 (WORKSPACE)
WritingFunctions
Debugging
Instrumenting
CalculatorLib
bin
obj
Calculator.cs
CalculatorLib.csproj
CalculatorLibUnitTests
bin
obj
CalculatorLibUnitTests.csproj
CalculatorUnitTests.cs
Usings.cs
OUTLINE
ILSPY DECOMPILED MEMBERS
CalculatorUnitTests.cs
CalculatorLibUnitTests > CalculatorUnitTests.cs
1 using CalculatorLib;
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
PS C:\cs11dotnet7\Chapter04\CalculatorLibUnitTests> dotnet test
Determining projects to restore...
All projects are up-to-date for restore.
You are using a preview version of .NET. See: https://aka.ms/dotnet-support-policy
CalculatorLib -> C:\cs11dotnet7\Chapter04\CalculatorLib\bin\Debug\net7.0\CalculatorLib.dll
CalculatorLibUnitTests -> C:\cs11dotnet7\Chapter04\CalculatorLibUnitTests\bin\Debug\net7.0\CalculatorLibUnitTests.dll
Test run for C:\cs11dotnet7\Chapter04\CalculatorLibUnitTests\bin\Debug\net7.0\CalculatorLibUnitTests.dll (.NETCoreApp,Version=v7.0)
Microsoft (R) Test Execution Command Line Tool Version 17.2.0-preview-20220113-04
Copyright (c) Microsoft Corporation. All rights reserved.
tnet7\Chapter04\CalculatorLibUnitTests\CalculatorUnitTests.cs:line 32
Failed! - Failed: 1, Passed: 1, Skipped: 0, Total: 2, Duration: 8 ms - CalculatorLibUnitTests.dll (net7.0)
PS C:\cs11dotnet7\Chapter04\CalculatorLibUnitTests>
pwsh
pwsh
pwsh
Instrumenting
Ln 1, Col 1 Spaces: 2 UTF-8 CRLF C#

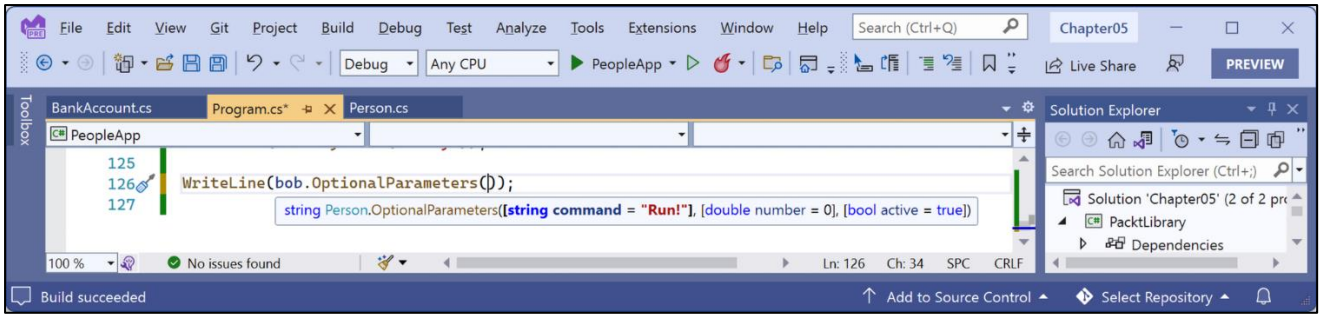

Program.Main
Program.Alpha
Program.Beta
MyConsoleApp.exe
MyClassLib.dll
Calculator.Delta
Calculator.Gamma

Chapter 5: Building Your Own Types with Object-Oriented Programming

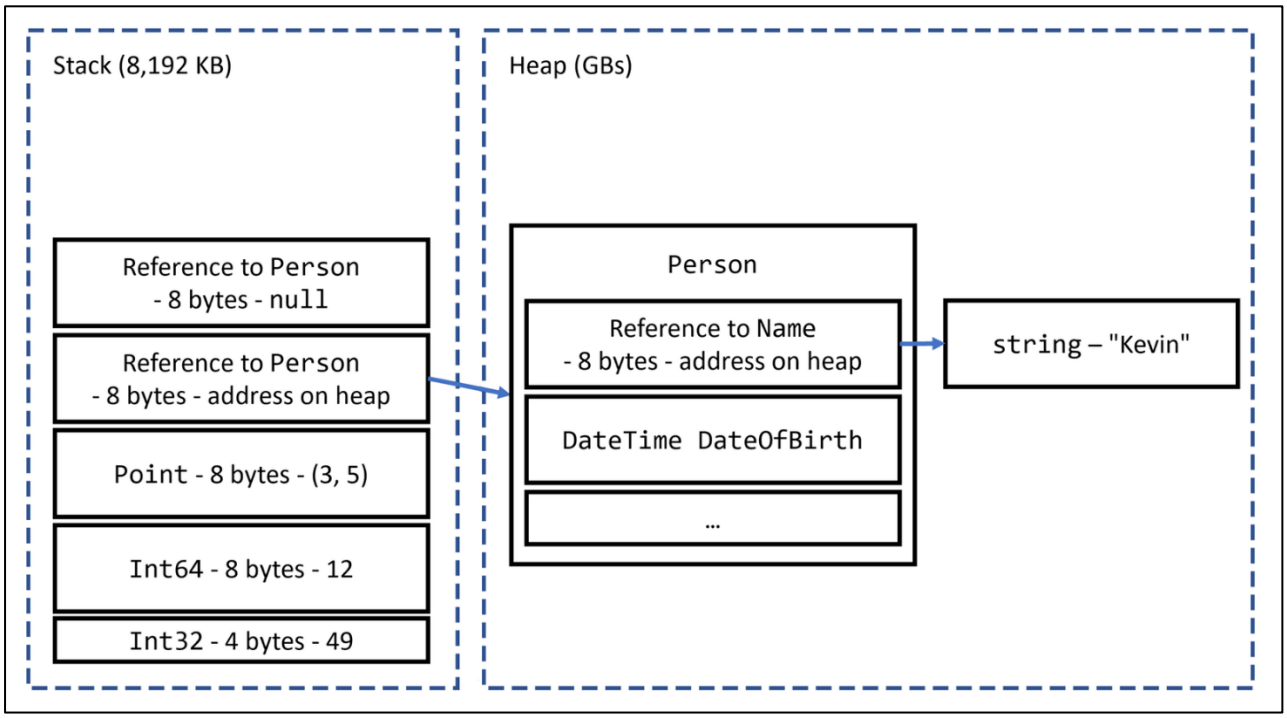


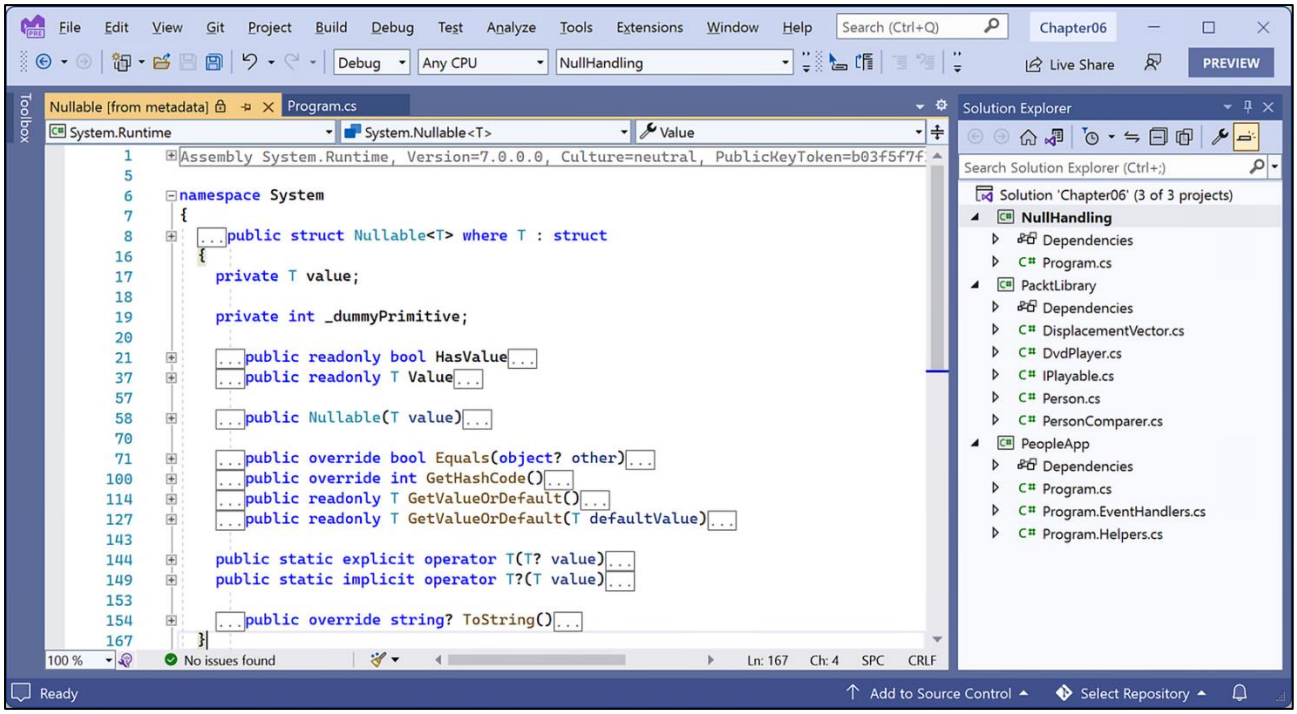


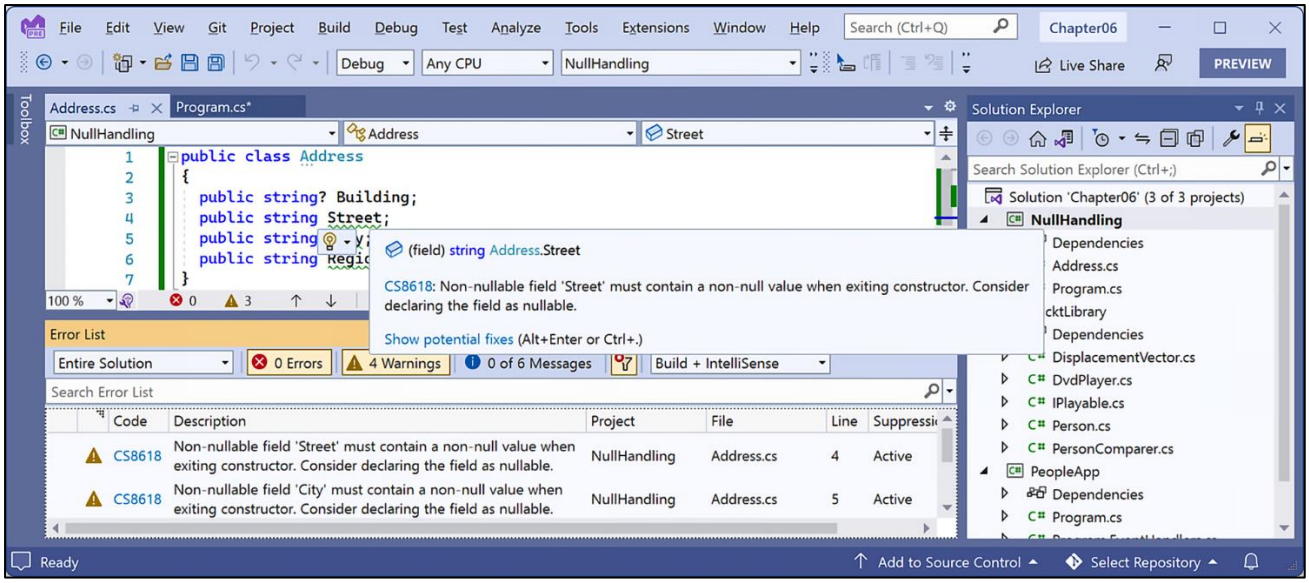


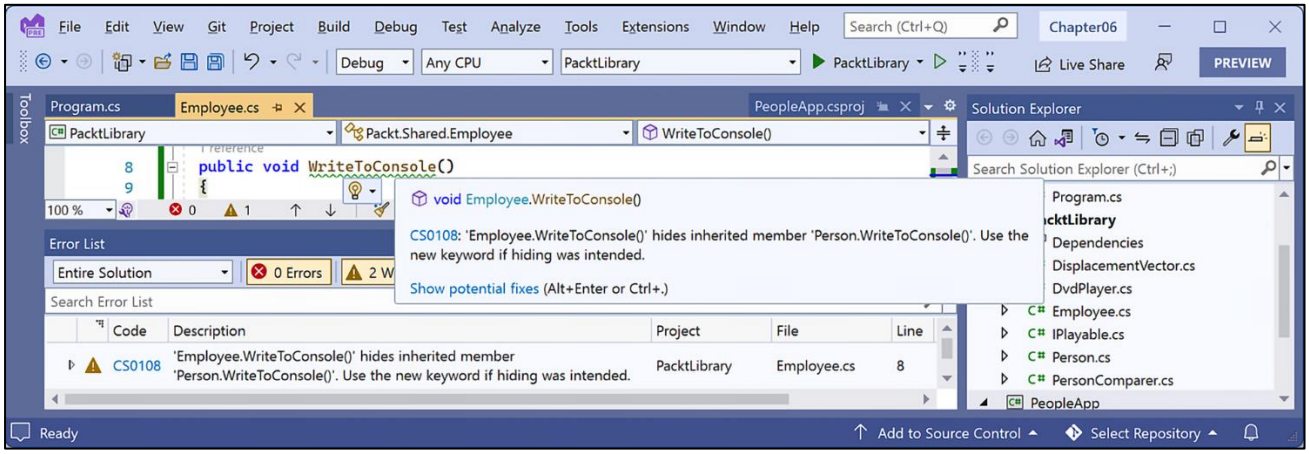

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter05
Debug
Any CPU
PeopleApp
Live Share
PREVIEW
Toolbox
BankAccount.cs
Program.cs*
Person.cs
PeopleApp
125
126
127
WriteLine(bob.OptionalParameters());
string Person.OptionalParameters([string command = "Run!"], [double number = 0], [bool active = true])
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter05' (2 of 2 pr
PacktLibrary
Dependencies
100 %
No issues found
Ln: 126
Ch: 34
SPC
CRLF
Build succeeded
Add to Source Control
Select Repository

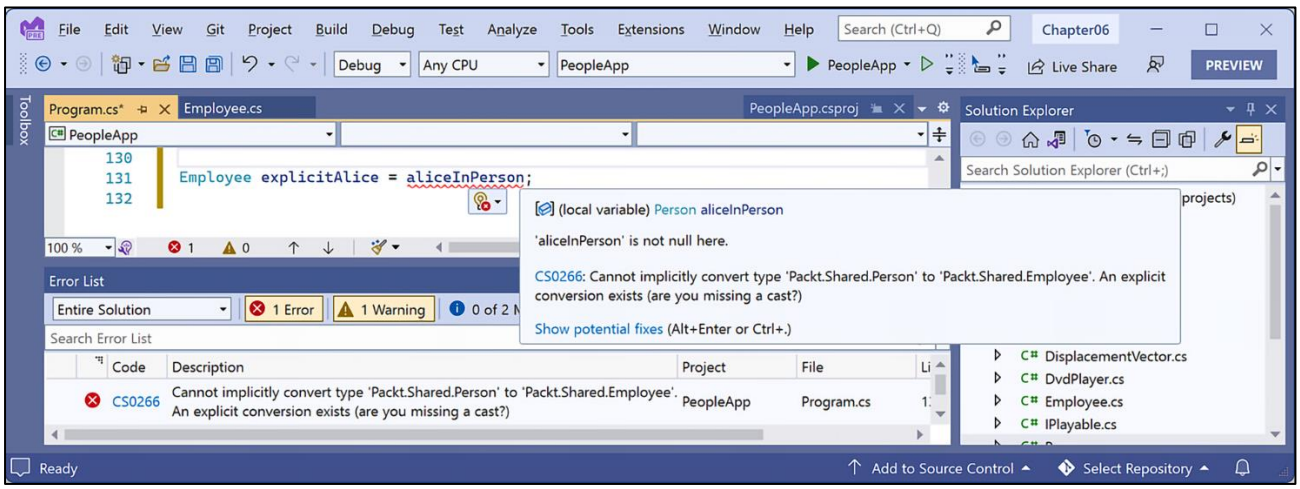
Chapter 6: Implementing Interfaces and Inheriting Classes

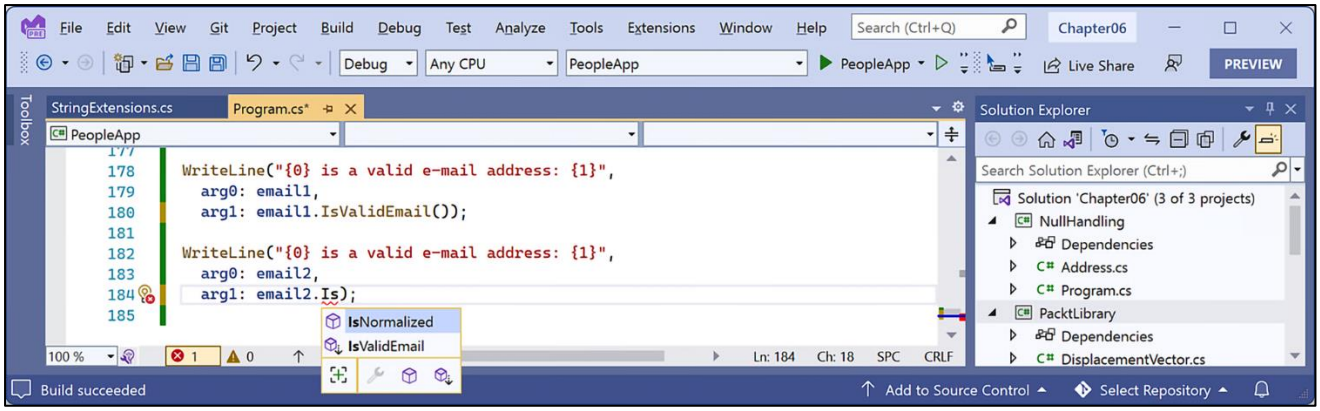


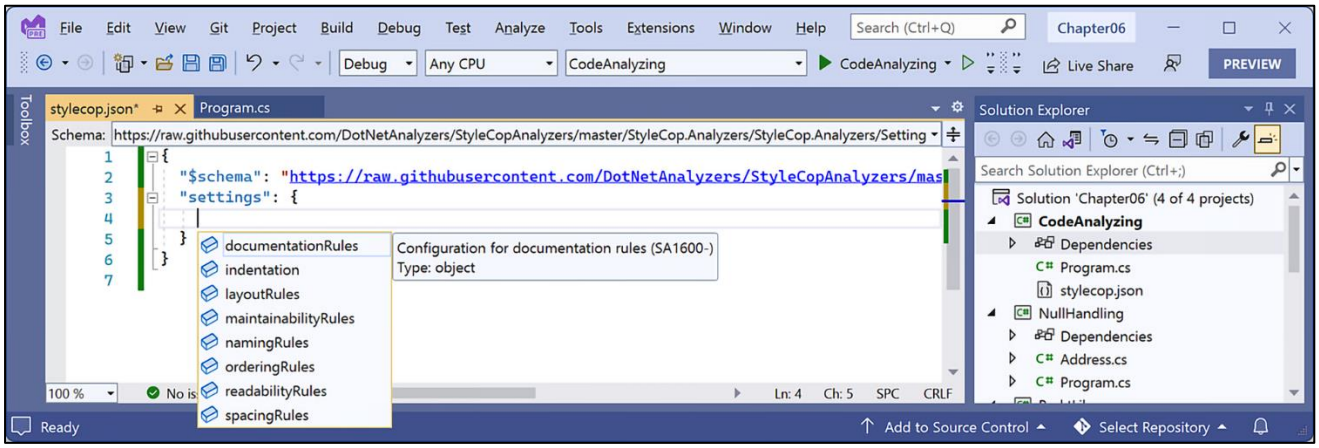


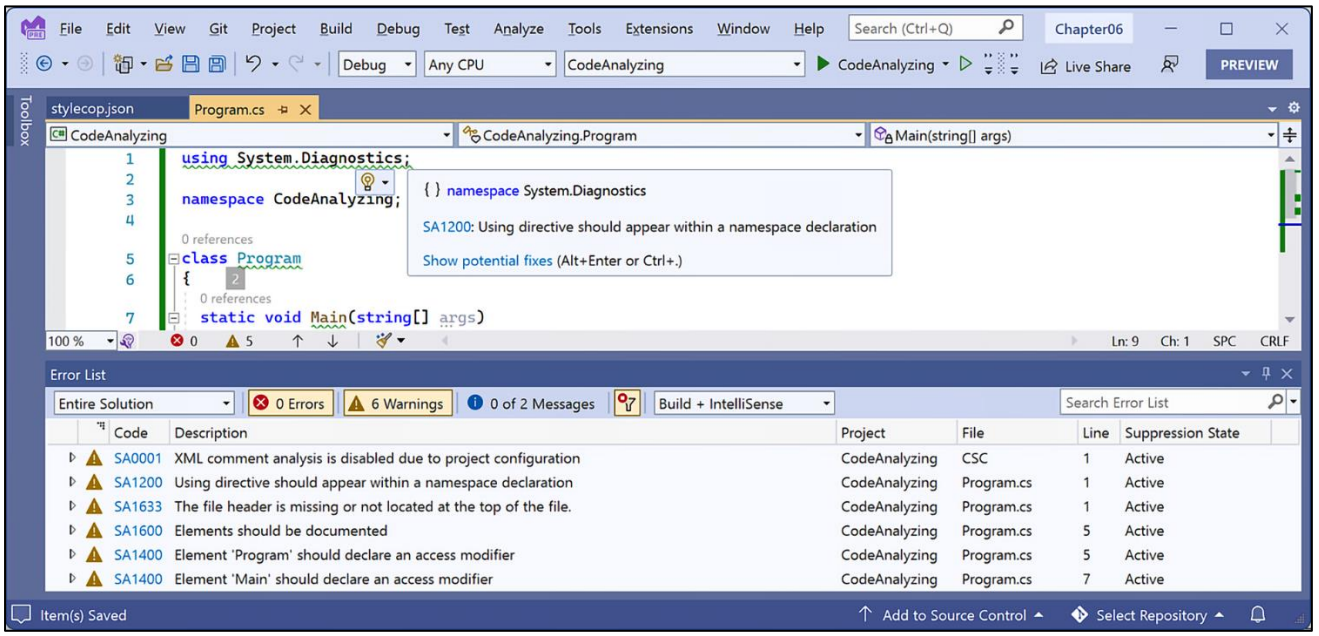

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter06
Debug
Any CPU
NullHandling
Live Share
PREVIEW
Address.cs
Program.cs*
NullHandling
Address
Street
1 public class Address
2 {
3 public string? Building;
4 public string Street;
5 public string y;
6 public string Regic
7 }
(field) string Address.Street
CS8618: Non-nullable field 'Street' must contain a non-null value when exiting constructor. Consider declaring the field as nullable.
Show potential fixes (Alt+Enter or Ctrl+.)
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter06' (3 of 3 projects)
NullHandling
Dependencies
Address.cs
Program.cs
cktLibrary
Dependencies
DisplacementVector.cs
DvdPlayer.cs
IPlayable.cs
Person.cs
PersonComparer.cs
PeopleApp
Dependencies
Program.cs
Error List
Entire Solution
0 Errors
4 Warnings
0 of 6 Messages
Build + IntelliSense
Search Error List
Code Description Project File Line Suppressi
CS8618 Non-nullable field 'Street' must contain a non-null value when exiting constructor. Consider declaring the field as nullable. NullHandling Address.cs 4 Active
CS8618 Non-nullable field 'City' must contain a non-null value when exiting constructor. Consider declaring the field as nullable. NullHandling Address.cs 5 Active
Ready
Add to Source Control
Select Repository


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter06
Debug
Any CPU
PacktLibrary
PacktLibrary
Live Share
PREVIEW
Program.cs
Employee.cs
PeopleApp.csproj
PacktLibrary
Packt.Shared.Employee
WriteToConsole()
1 reference
8 public void WriteToConsole()
9 {
void Employee.WriteToConsole()
CS0108: 'Employee.WriteToConsole()' hides inherited member 'Person.WriteToConsole()'. Use the new keyword if hiding was intended.
Show potential fixes (Alt+Enter or Ctrl+.)
Solution Explorer
Search Solution Explorer (Ctrl+;)
Program.cs
cktLibrary
Dependencies
DisplacementVector.cs
DvdPlayer.cs
Employee.cs
IPlayable.cs
Person.cs
PersonComparer.cs
PeopleApp
Error List
Entire Solution
0 Errors
2 W
Search Error List
Code Description Project File Line
CS0108 'Employee.WriteToConsole()' hides inherited member 'Person.WriteToConsole()'. Use the new keyword if hiding was intended. PacktLibrary Employee.cs 8
Ready
Add to Source Control
Select Repository

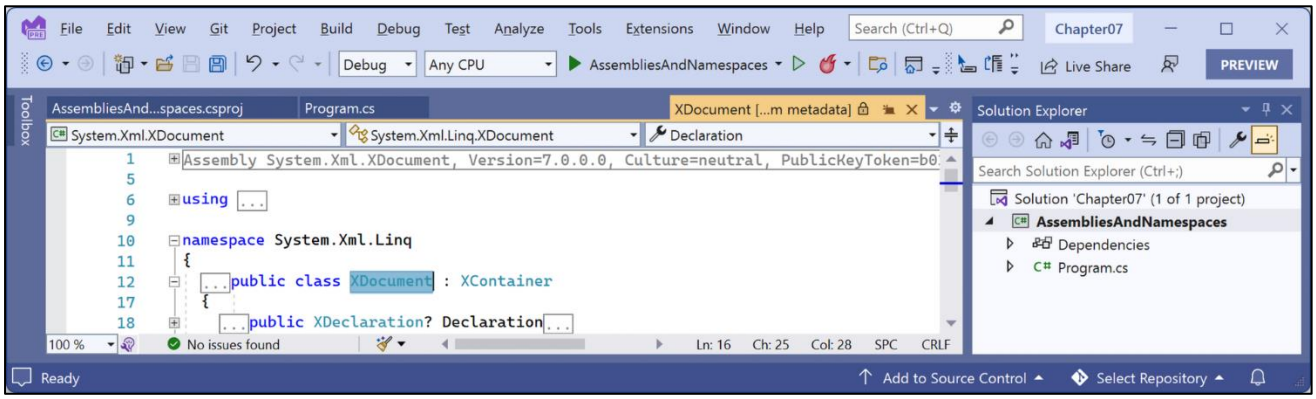

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter06
Debug
Any CPU
PeopleApp
PeopleApp
Live Share
PREVIEW
Program.cs*
Employee.cs
PeopleApp.csproj
PeopleApp
130
131 Employee explicitAlice = aliceInPerson;
132
(local variable) Person aliceInPerson
'aliceInPerson' is not null here.
CS0266: Cannot implicitly convert type 'Packt.Shared.Person' to 'Packt.Shared.Employee'. An explicit conversion exists (are you missing a cast?)
Show potential fixes (Alt+Enter or Ctrl+.)
Solution Explorer
Search Solution Explorer (Ctrl+;)
projects)
DisplacementVector.cs
DvdPlayer.cs
Employee.cs
IPlayable.cs
Error List
Entire Solution
1 Error
1 Warning
0 of 2
Search Error List
Code Description Project File
CS0266 Cannot implicitly convert type 'Packt.Shared.Person' to 'Packt.Shared.Employee'. An explicit conversion exists (are you missing a cast?) PeopleApp Program.cs
Ready
Add to Source Control
Select Repository

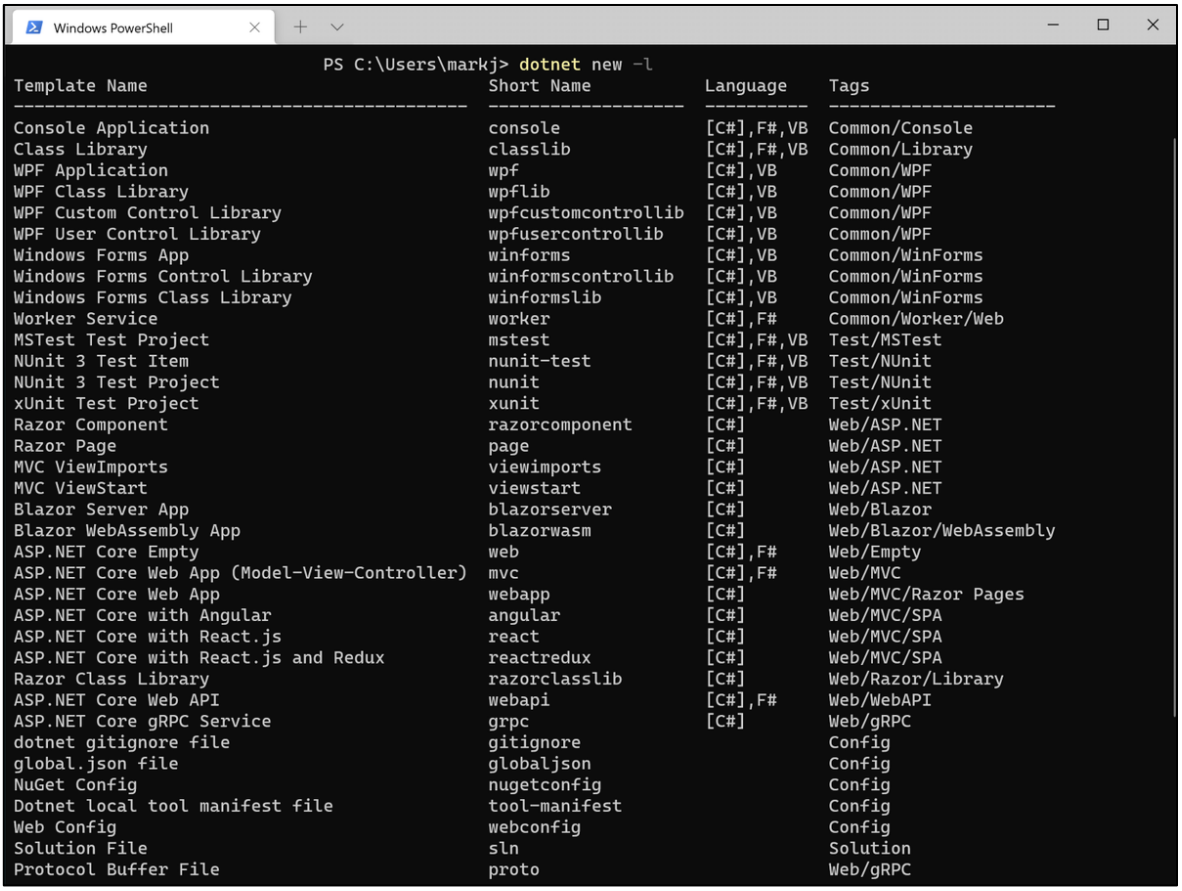

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter06
Debug
Any CPU
PeopleApp
Live Share
PREVIEW
Toolbox
StringExtensions.cs
Program.cs*
PeopleApp
177
178 WriteLine("{0} is a valid e-mail address: {1}",
179 arg0: email1,
180 arg1: email1.IsValidEmail());
181
182 WriteLine("{0} is a valid e-mail address: {1}",
183 arg0: email2,
184 arg1: email2.Is);
185
IsNormalized
IsValidEmail
100 %
1
0
Ln: 184
Ch: 18
SPC
CRLF
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter06' (3 of 3 projects)
NullHandling
Dependencies
Address.cs
Program.cs
PacktLibrary
Dependencies
DisplacementVector.cs
Build succeeded
Add to Source Control
Select Repository

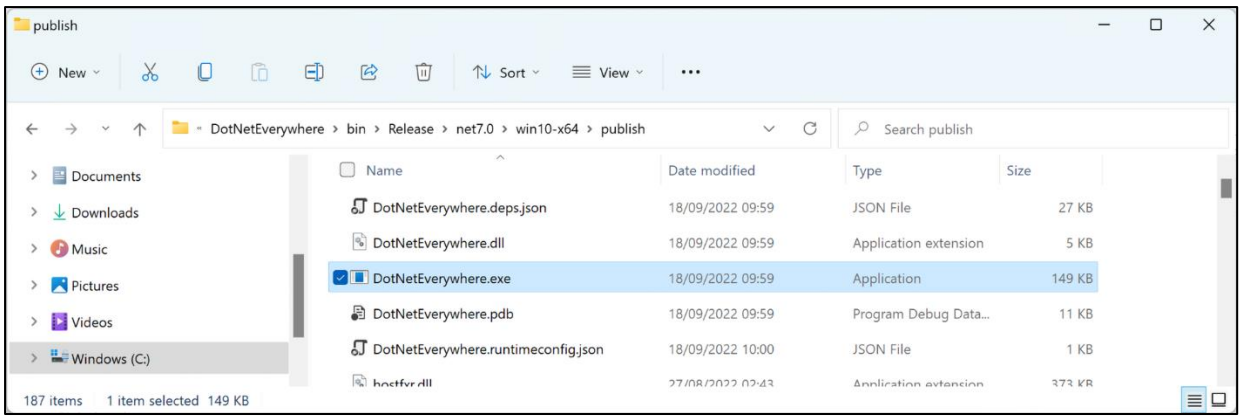

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter06
Debug
Any CPU
CodeAnalyzing
Live Share
PREVIEW
Toolbox
stylecop.json*
Program.cs
Schema: https://raw.githubusercontent.com/DotNetAnalyzers/StyleCopAnalyzers/master/StyleCop.Analyzers/StyleCop.Analyzers/Setting
1 {
2 "$schema": "https://raw.githubusercontent.com/DotNetAnalyzers/StyleCopAnalyzers/mas
3 "settings": {
4
5 }
6 }
7
documentationRules
indentation
layoutRules
maintainabilityRules
namingRules
orderingRules
readabilityRules
spacingRules
Configuration for documentation rules (SA1600-)
Type: object
100 %
Ln: 4
Ch: 5
SPC
CRLF
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Chapter06' (4 of 4 projects)
CodeAnalyzing
Dependencies
Program.cs
stylecop.json
NullHandling
Dependencies
Address.cs
Program.cs
Ready
Add to Source Control
Select Repository

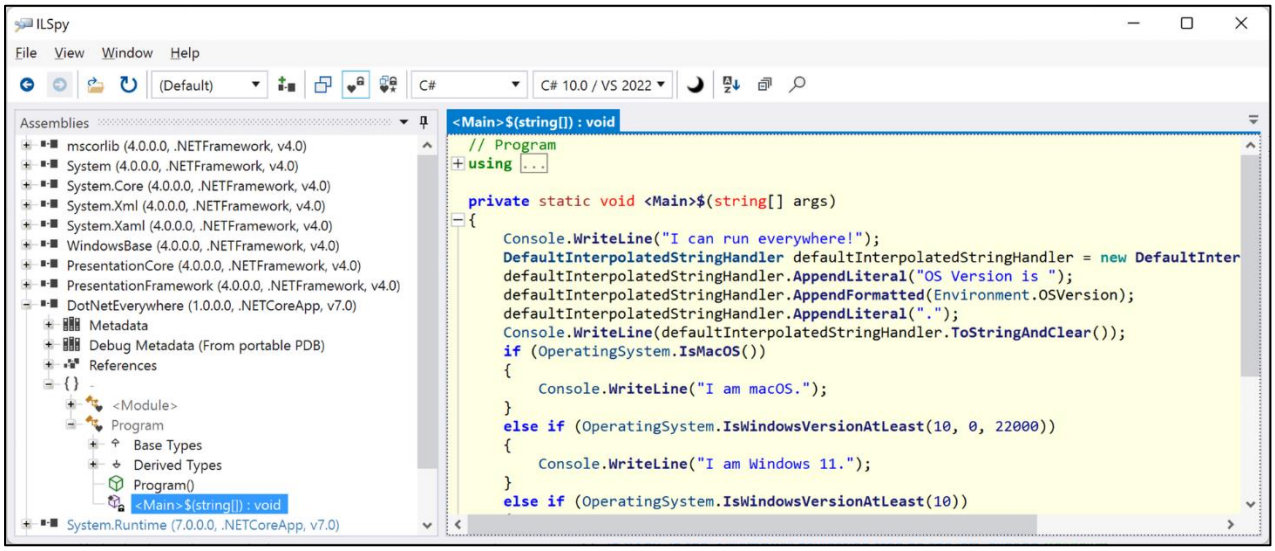

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter06
Debug
Any CPU
CodeAnalyzing
Live Share
PREVIEW
Toolbox
stylecop.json
Program.cs
CodeAnalyzing
CodeAnalyzing.Program
Main(string[] args)
1 using System.Diagnostics;
2
3 namespace CodeAnalyzing;
4
0 references
5 class Program
6 {
2
0 references
7 static void Main(string[] args)
{ } namespace System.Diagnostics
SA1200: Using directive should appear within a namespace declaration
Show potential fixes (Alt+Enter or Ctrl+.)
100 %
0
5
Ln: 9
Ch: 1
SPC
CRLF
Error List
Entire Solution
0 Errors
6 Warnings
0 of 2 Messages
Build + IntelliSense
Search Error List
Code Description Project File Line Suppression State
SA0001 XML comment analysis is disabled due to project configuration CodeAnalyzing CSC 1 Active
SA1200 Using directive should appear within a namespace declaration CodeAnalyzing Program.cs 1 Active
SA1633 The file header is missing or not located at the top of the file. CodeAnalyzing Program.cs 1 Active
SA1600 Elements should be documented CodeAnalyzing Program.cs 5 Active
SA1400 Element 'Program' should declare an access modifier CodeAnalyzing Program.cs 5 Active
SA1400 Element 'Main' should declare an access modifier CodeAnalyzing Program.cs 7 Active
Item(s) Saved
Add to Source Control
Select Repository

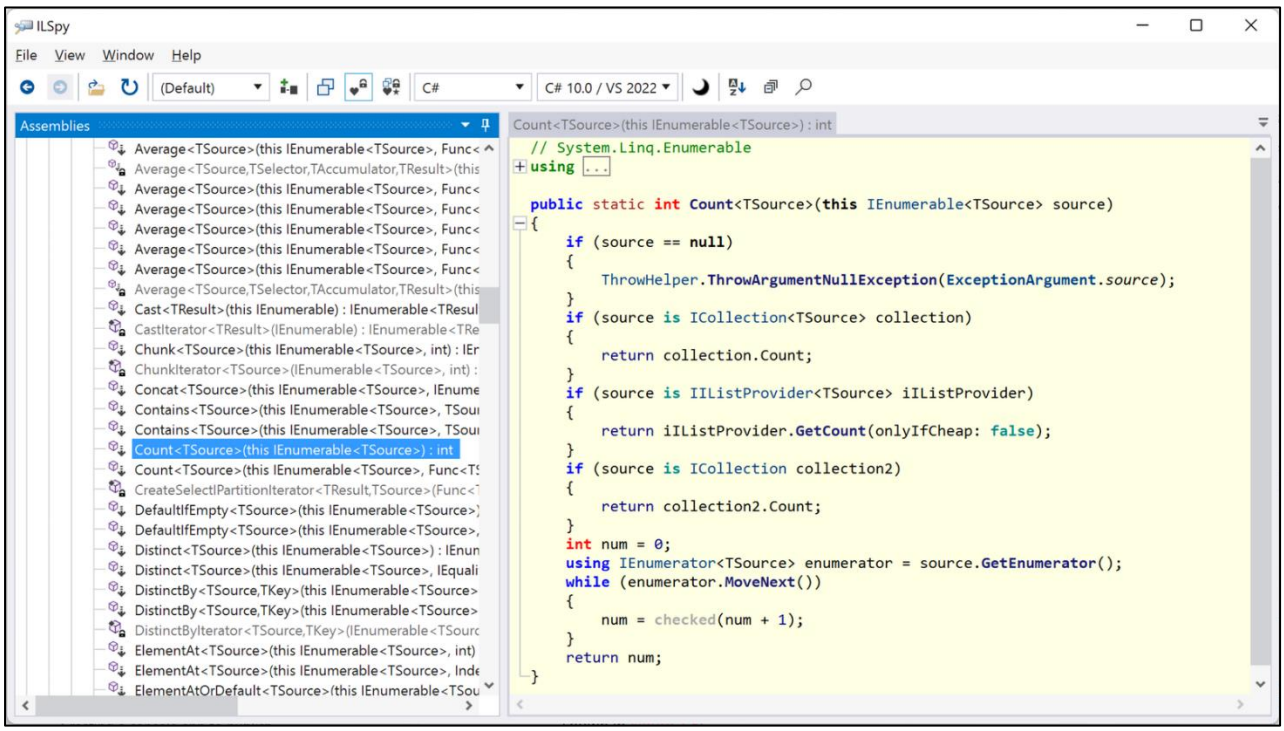
Chapter 7: Packaging and Distributing .NET Types

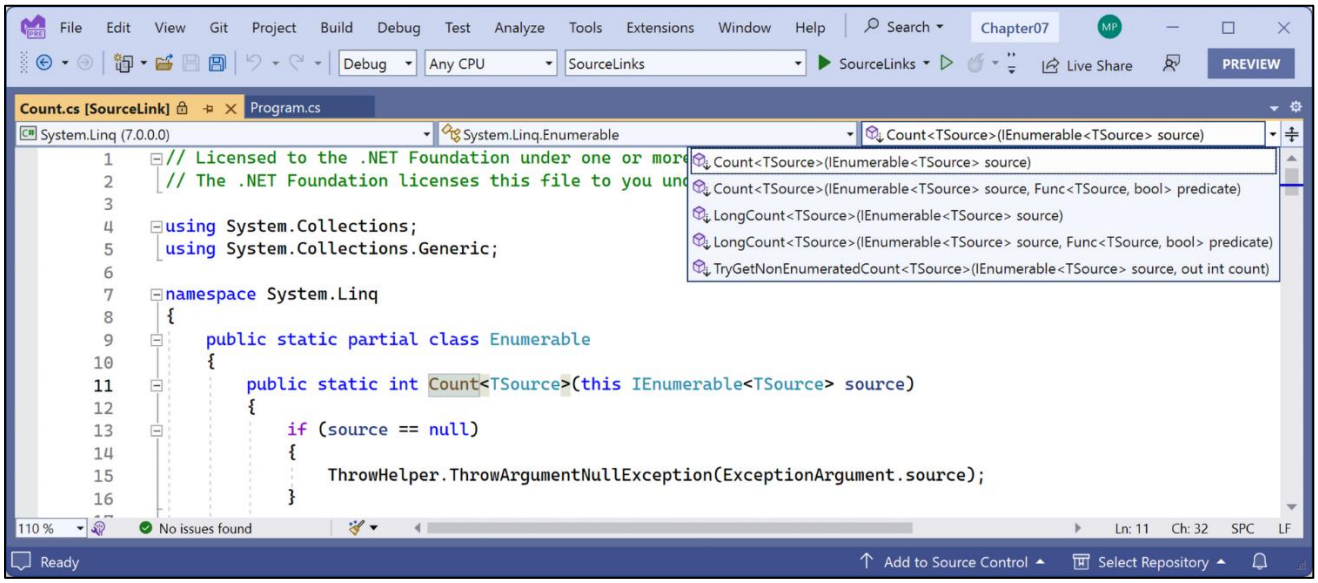


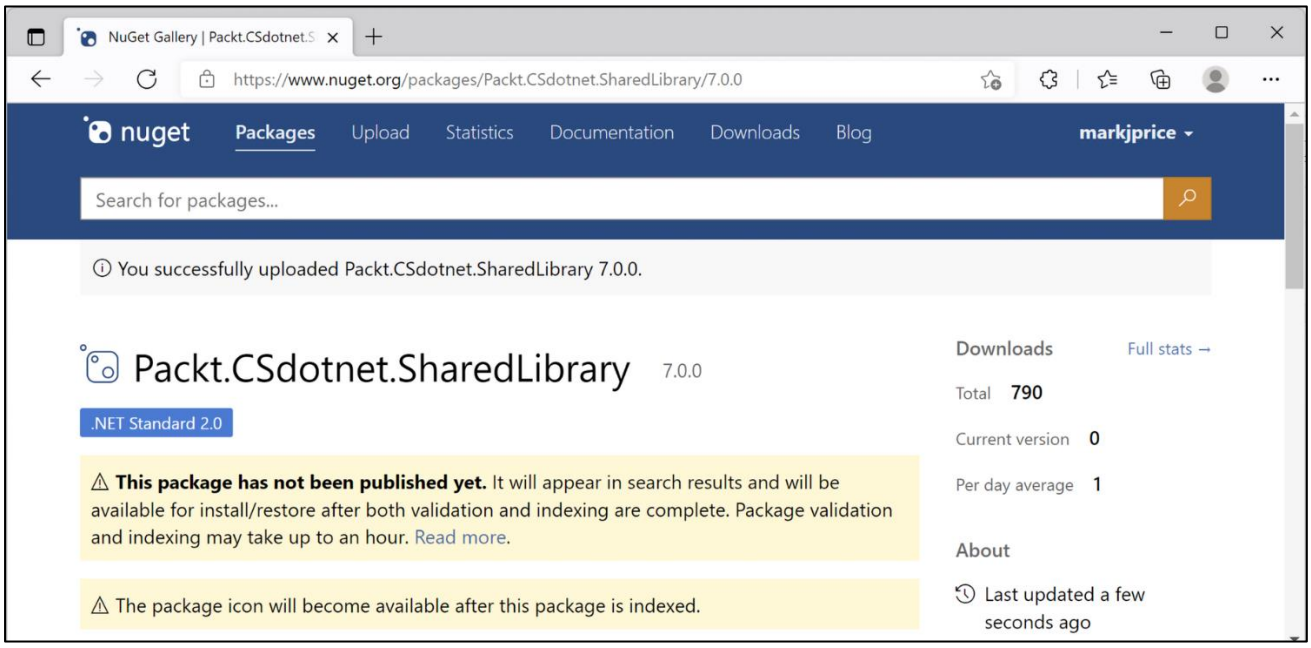


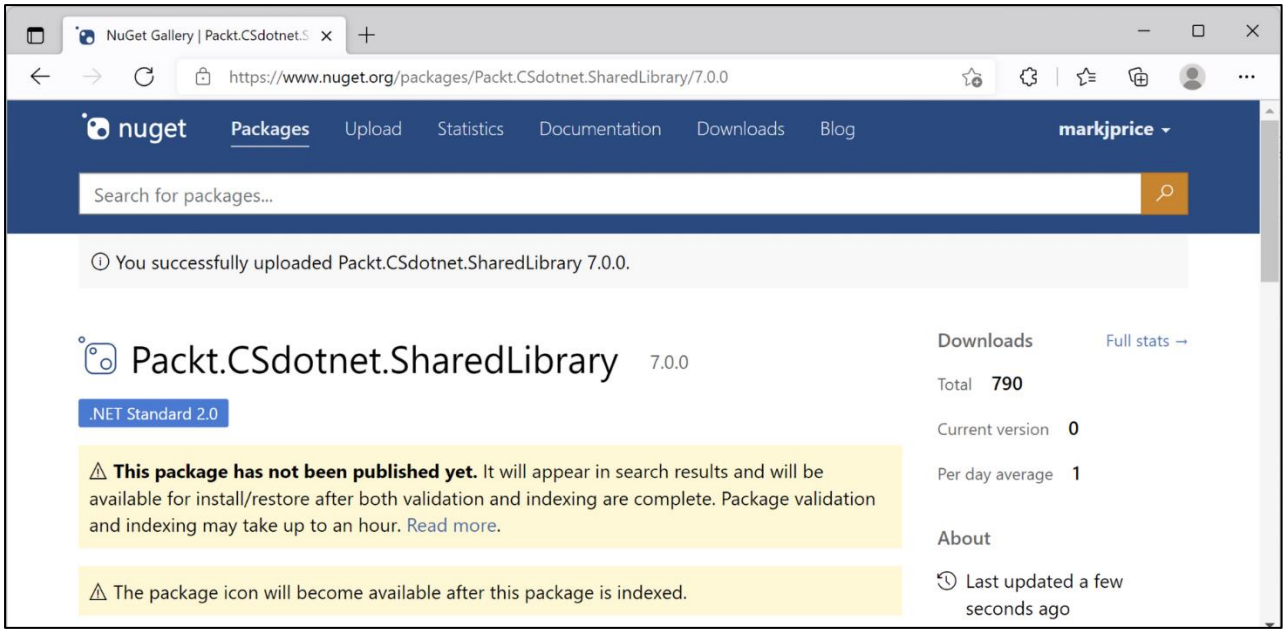

publish
New
Sort
View
DotNetEverywhere › bin › Release › net7.0 › win10-x64 › publish
Search publish
Documents
Downloads
Music
Pictures
Videos
Windows (C:)
Name
Date modified
Type
Size
DotNetEverywhere.deps.json 18/09/2022 09:59 JSON File 27 KB
DotNetEverywhere.dll 18/09/2022 09:59 Application extension 5 KB
DotNetEverywhere.exe 18/09/2022 09:59 Application 149 KB
DotNetEverywhere.pdb 18/09/2022 09:59 Program Debug Data... 11 KB
DotNetEverywhere.runtimeconfig.json 18/09/2022 10:00 JSON File 1 KB
187 items 1 item selected 149 KB

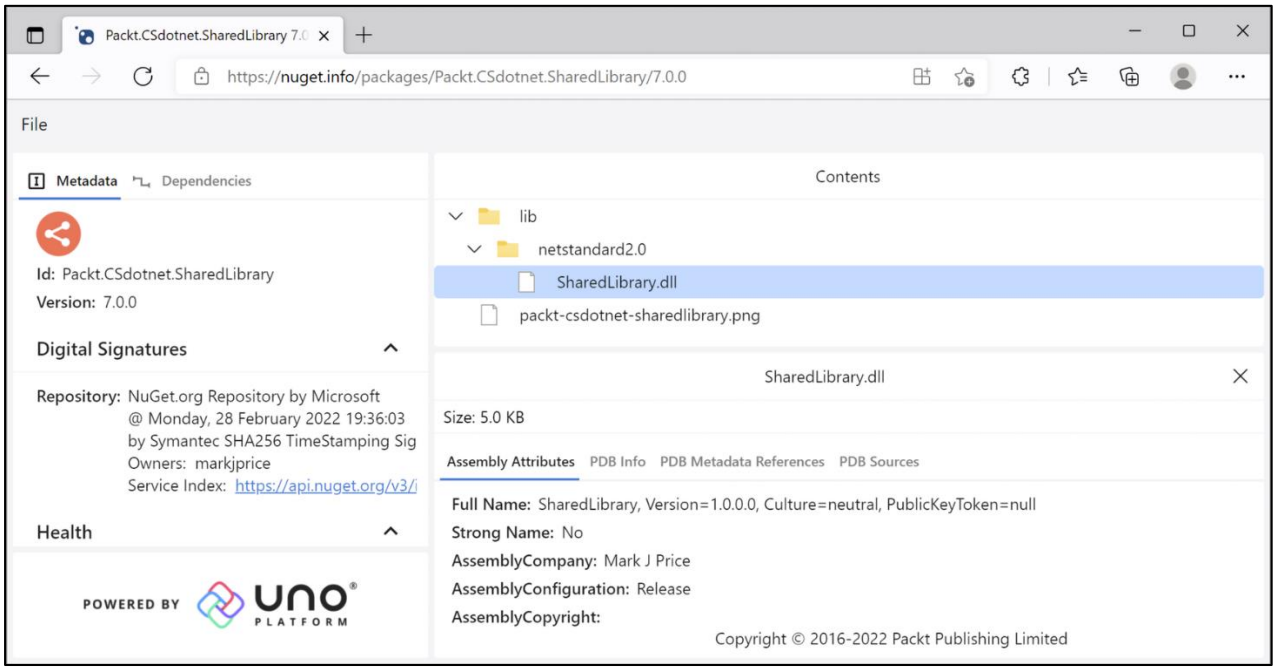

ILSpy
File View Window Help
(Default)
C#
C# 10.0 / VS 2022
Assemblies
mscorlib (4.0.0.0, .NETFramework, v4.0)
System (4.0.0.0, .NETFramework, v4.0)
System.Core (4.0.0.0, .NETFramework, v4.0)
System.Xml (4.0.0.0, .NETFramework, v4.0)
System.Xaml (4.0.0.0, .NETFramework, v4.0)
WindowsBase (4.0.0.0, .NETFramework, v4.0)
PresentationCore (4.0.0.0, .NETFramework, v4.0)
PresentationFramework (4.0.0.0, .NETFramework, v4.0)
DotNetEverywhere (1.0.0.0, .NETCoreApp, v7.0)
Metadata
Debug Metadata (From portable PDB)
References
<Module>
Program
Base Types
Derived Types
Program()
<Main>$(string[]) : void
System.Runtime (7.0.0.0, .NETCoreApp, v7.0)
<Main>$(string[]) : void
// Program
using ...
private static void <Main>$(string[] args)
{
Console.WriteLine("I can run everywhere!");
DefaultInterpolatedStringHandler defaultInterpolatedStringHandler = new DefaultInter
defaultInterpolatedStringHandler.AppendLiteral("OS Version is ");
defaultInterpolatedStringHandler.AppendFormatted(Environment.OSVersion);
defaultInterpolatedStringHandler.AppendLiteral(".");
Console.WriteLine(defaultInterpolatedStringHandler.ToStringAndClear());
if (OperatingSystem.IsMacOS())
{
Console.WriteLine("I am macOS.");
}
else if (OperatingSystem.IsWindowsVersionAtLeast(10, 0, 22000))
{
Console.WriteLine("I am Windows 11.");
}
else if (OperatingSystem.IsWindowsVersionAtLeast(10))


ILSpy
File View Window Help
(Default)
C#
C# 10.0 / VS 2022
Assemblies
Average<TSource>(this IEnumerable<TSource>, Func<
Average<TSource,TSelector,TAccumulator,TResult>(this
Cast<TResult>(this IEnumerable) : IEnumerable<TResul
Chunk<TSource>(this IEnumerable<TSource>, int) : IEr
Concat<TSource>(this IEnumerable<TSource>, IEnume
Contains<TSource>(this IEnumerable<TSource>, TSou
Count<TSource>(this IEnumerable<TSource>) : int
Count<TSource>(this IEnumerable<TSource>, Func<T
DefaultIfEmpty<TSource>(this IEnumerable<TSource>)
Distinct<TSource>(this IEnumerable<TSource>) : IEnun
Distinct<TSource>(this IEnumerable<TSource>, IEquali
DistinctBy<TSource,TKey>(this IEnumerable<TSource>
ElementAt<TSource>(this IEnumerable<TSource>, int)
ElementAtOrDefault<TSource>(this IEnumerable<TSou
Count<TSource>(this IEnumerable<TSource>) : int
// System.Linq.Enumerable
using ...
public static int Count<TSource>(this IEnumerable<TSource> source)
{
if (source == null)
{
ThrowHelper.ThrowArgumentNullException(ExceptionArgument.source);
}
if (source is ICollection<TSource> collection)
{
return collection.Count;
}
if (source is IIListProvider<TSource> iIListProvider)
{
return iIListProvider.GetCount(onlyIfCheap: false);
}
if (source is ICollection collection2)
{
return collection2.Count;
}
int num = 0;
using IEnumerator<TSource> enumerator = source.GetEnumerator();
while (enumerator.MoveNext())
{
num = checked(num + 1);
}
return num;
}

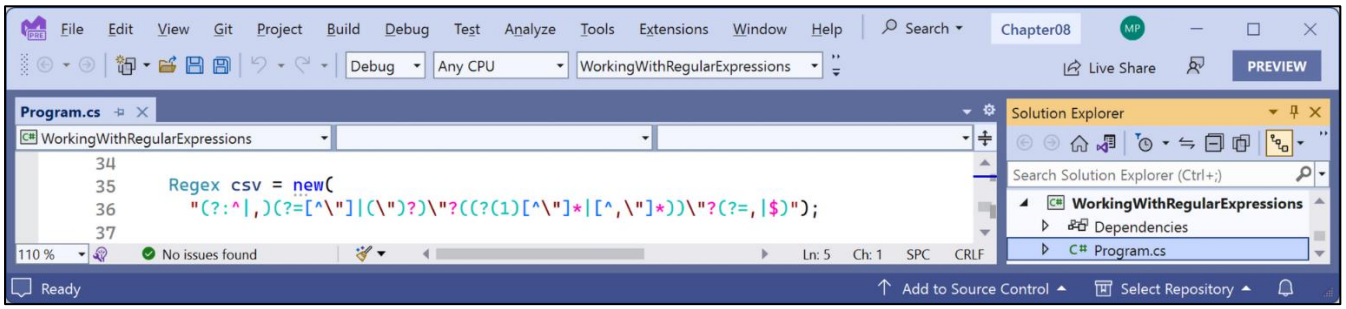

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Chapter07
Debug
Any CPU
SourceLinks
Live Share
PREVIEW
Count.cs [SourceLink]
Program.cs
System.Linq (7.0.0.0)
System.Linq.Enumerable
Count<TSource>(IEnumerable<TSource> source)
Count<TSource>(IEnumerable<TSource> source)
Count<TSource>(IEnumerable<TSource> source, Func<TSource, bool> predicate)
LongCount<TSource>(IEnumerable<TSource> source)
LongCount<TSource>(IEnumerable<TSource> source, Func<TSource, bool> predicate)
TryGetNonEnumeratedCount<TSource>(IEnumerable<TSource> source, out int count)
1 // Licensed to the .NET Foundation under one or more
2 // The .NET Foundation licenses this file to you und
3
4 using System.Collections;
5 using System.Collections.Generic;
6
7 namespace System.Linq
8 {
9 public static partial class Enumerable
10 {
11 public static int Count<TSource>(this IEnumerable<TSource> source)
12 {
13 if (source == null)
14 {
15 ThrowHelper.ThrowArgumentNullException(ExceptionArgument.source);
16 }
110 %
No issues found
Ln: 11
Ch: 32
SPC
LF
Ready
Add to Source Control
Select Repository

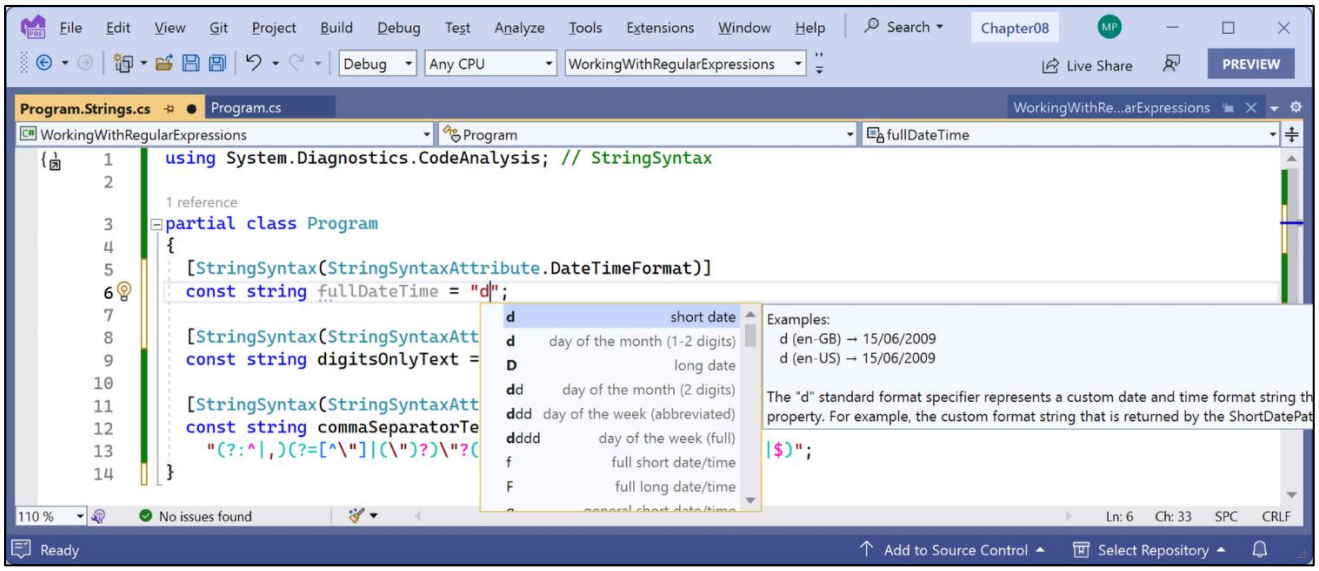

NuGet Gallery | Packt.CSdotnet.S
https://www.nuget.org/packages/Packt.CSdotnet.SharedLibrary/7.0.0
nuget
Packages
Upload
Statistics
Documentation
Downloads
Blog
markjprice
Search for packages...
You successfully uploaded Packt.CSdotnet.SharedLibrary 7.0.0.
Packt.CSdotnet.SharedLibrary
7.0.0
.NET Standard 2.0
This package has not been published yet. It will appear in search results and will be available for install/restore after both validation and indexing are complete. Package validation and indexing may take up to an hour. Read more.
The package icon will become available after this package is indexed.
Downloads
Full stats →
Total 790
Current version 0
Per day average 1
About
Last updated a few seconds ago

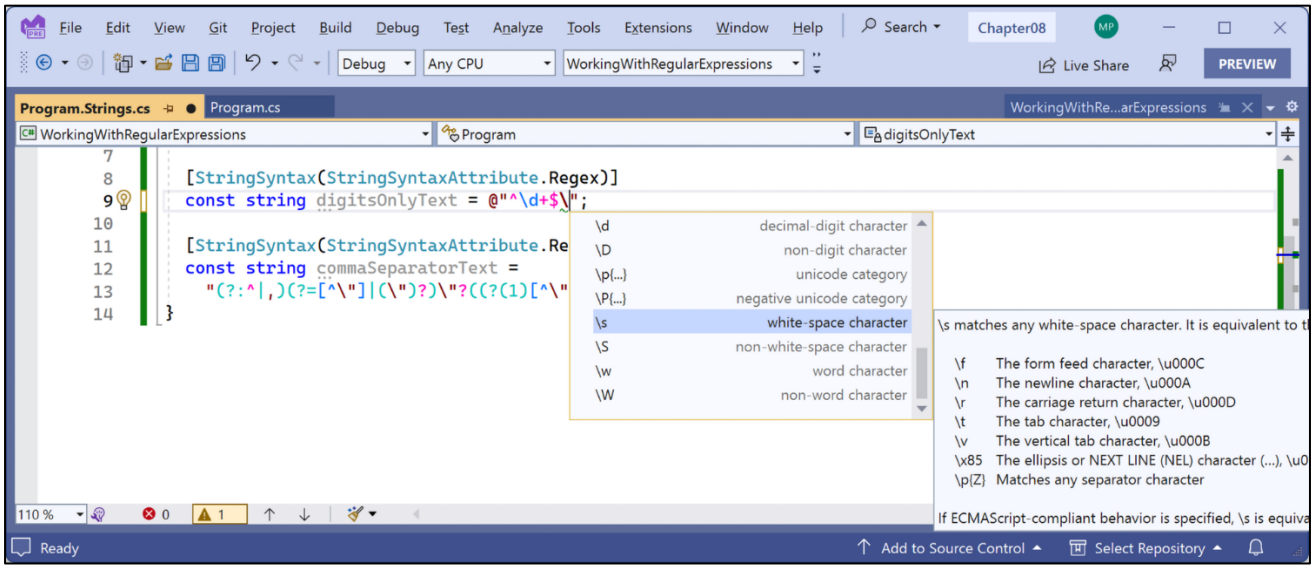

NuGet Gallery | Packt.CSdotnet.S
https://www.nuget.org/packages/Packt.CSdotnet.SharedLibrary/7.0.0
nuget
Packages
Upload
Statistics
Documentation
Downloads
Blog
markjprice
Search for packages...
You successfully uploaded Packt.CSdotnet.SharedLibrary 7.0.0.
Packt.CSdotnet.SharedLibrary
7.0.0
.NET Standard 2.0
This package has not been published yet. It will appear in search results and will be available for install/restore after both validation and indexing are complete. Package validation and indexing may take up to an hour. Read more.
The package icon will become available after this package is indexed.
Downloads
Full stats →
Total 790
Current version 0
Per day average 1
About
Last updated a few seconds ago

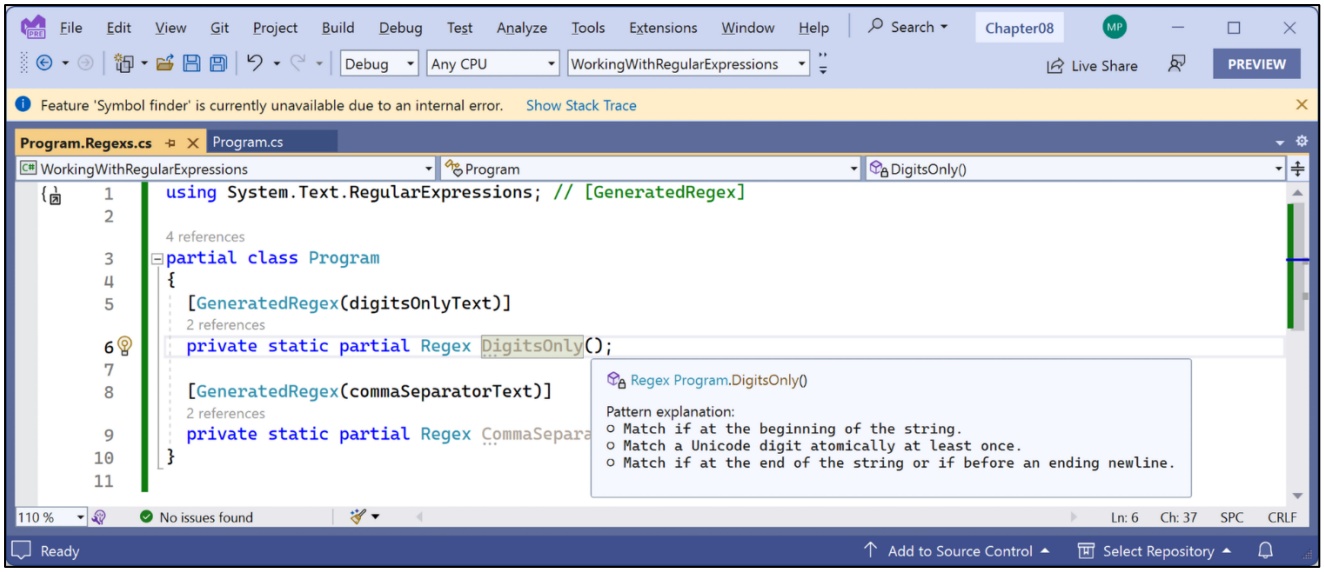

Packt.CSdotnet.SharedLibrary 7.0
https://nuget.info/packages/Packt.CSdotnet.SharedLibrary/7.0.0
File
Metadata
Dependencies
Id: Packt.CSdotnet.SharedLibrary
Version: 7.0.0
Digital Signatures
Repository: NuGet.org Repository by Microsoft
@ Monday, 28 February 2022 19:36:03
by Symantec SHA256 TimeStamping Sig
Owners: markjprice
Service Index: https://api.nuget.org/v3/i
Health
POWERED BY uno PLATFORM
Contents
lib
netstandard2.0
SharedLibrary.dll
packt-csdotnet-sharedlibrary.png
SharedLibrary.dll
Size: 5.0 KB
Assembly Attributes
PDB Info
PDB Metadata References
PDB Sources
Full Name: SharedLibrary, Version=1.0.0.0, Culture=neutral, PublicKeyToken=null
Strong Name: No
AssemblyCompany: Mark J Price
AssemblyConfiguration: Release
AssemblyCopyright:
Copyright © 2016-2022 Packt Publishing Limited

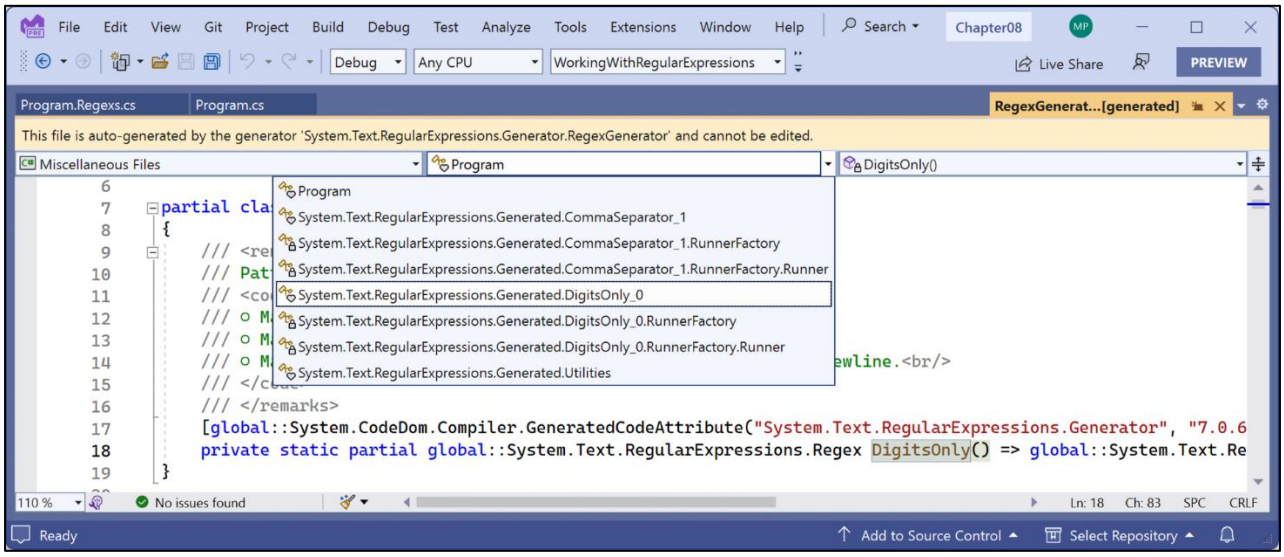
Chapter 8: Working with Common .NET Types



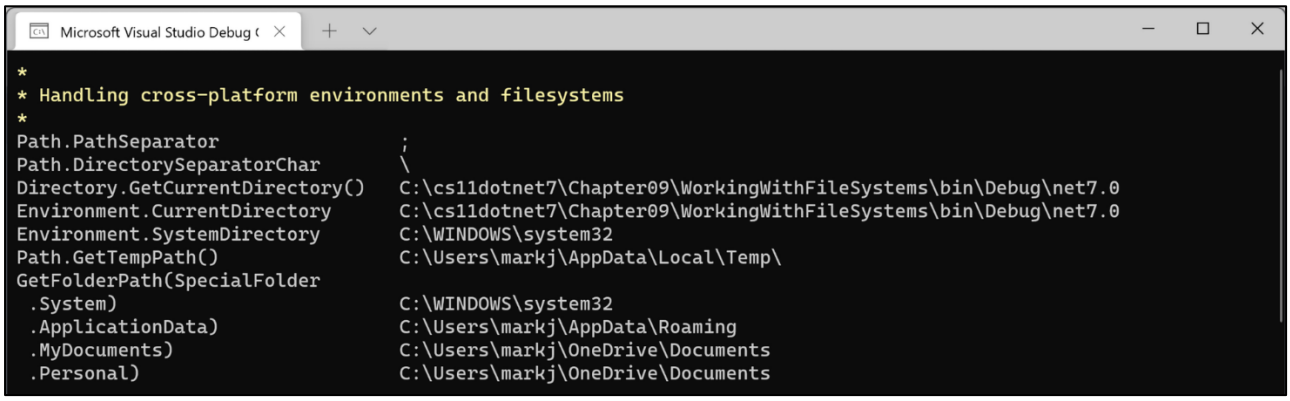


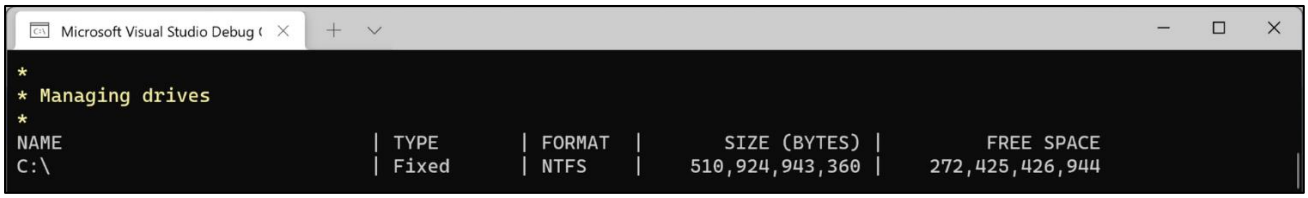


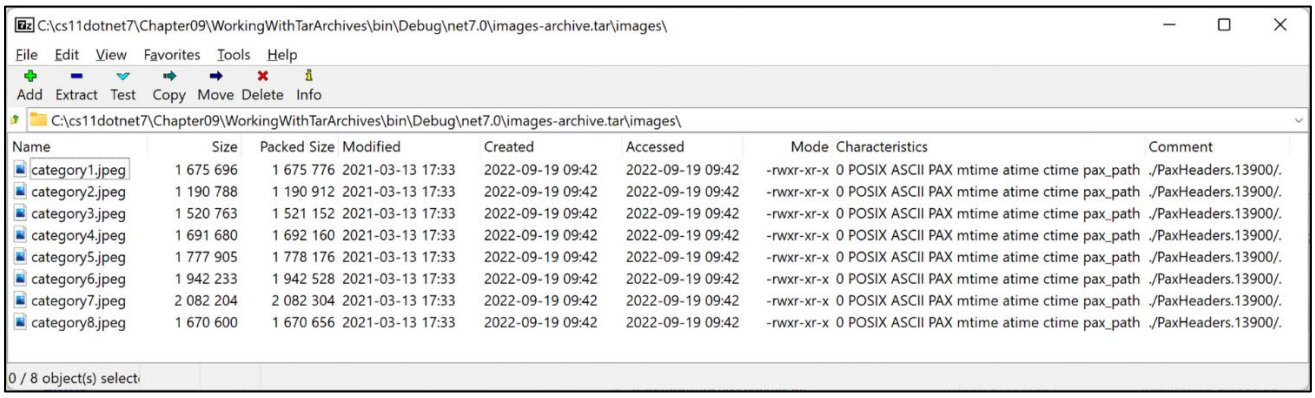

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Chapter08
Debug
Any CPU
WorkingWithRegularExpressions
Live Share
PREVIEW
Feature 'Symbol finder' is currently unavailable due to an internal error.
Show Stack Trace
Program.Regexs.cs
Program.cs
WorkingWithRegularExpressions
Program
DigitsOnly()
using System.Text.RegularExpressions; // [GeneratedRegex]
4 references
partial class Program
{
[GeneratedRegex(digitsOnlyText)]
2 references
private static partial Regex DigitsOnly();
[GeneratedRegex(commaSeparatorText)]
2 references
private static partial Regex CommaSepara
}
Regex Program.DigitsOnly()
Pattern explanation:
Match if at the beginning of the string.
Match a Unicode digit atomically at least once.
Match if at the end of the string or if before an ending newline.
110 %
No issues found
Ln: 6
Ch: 37
SPC
CRLF
Ready
Add to Source Control
Select Repository


File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search
Chapter08
Debug
Any CPU
WorkingWithRegularExpressions
Live Share
PREVIEW
Program.Regexs.cs
Program.cs
RegexGenerat...[generated]
This file is auto-generated by the generator 'System.Text.RegularExpressions.Generator.RegexGenerator' and cannot be edited.
Miscellaneous Files
Program
DigitsOnly()
Program
System.Text.RegularExpressions.Generated.CommaSeparator_1
System.Text.RegularExpressions.Generated.CommaSeparator_1.RunnerFactory
System.Text.RegularExpressions.Generated.CommaSeparator_1.RunnerFactory.Runner
System.Text.RegularExpressions.Generated.DigitsOnly_0
System.Text.RegularExpressions.Generated.DigitsOnly_0.RunnerFactory
System.Text.RegularExpressions.Generated.DigitsOnly_0.RunnerFactory.Runner
System.Text.RegularExpressions.Generated.Utilities
/// </remarks>
[global::System.CodeDom.Compiler.GeneratedCodeAttribute("System.Text.RegularExpressions.Generator", "7.0.6
private static partial global::System.Text.RegularExpressions.Regex DigitsOnly() => global::System.Text.Re
}
110 %
No issues found
Ln: 18
Ch: 83
SPC
CRLF
Ready
Add to Source Control
Select Repository

Chapter 9: Working with Files, Streams, and Serialization

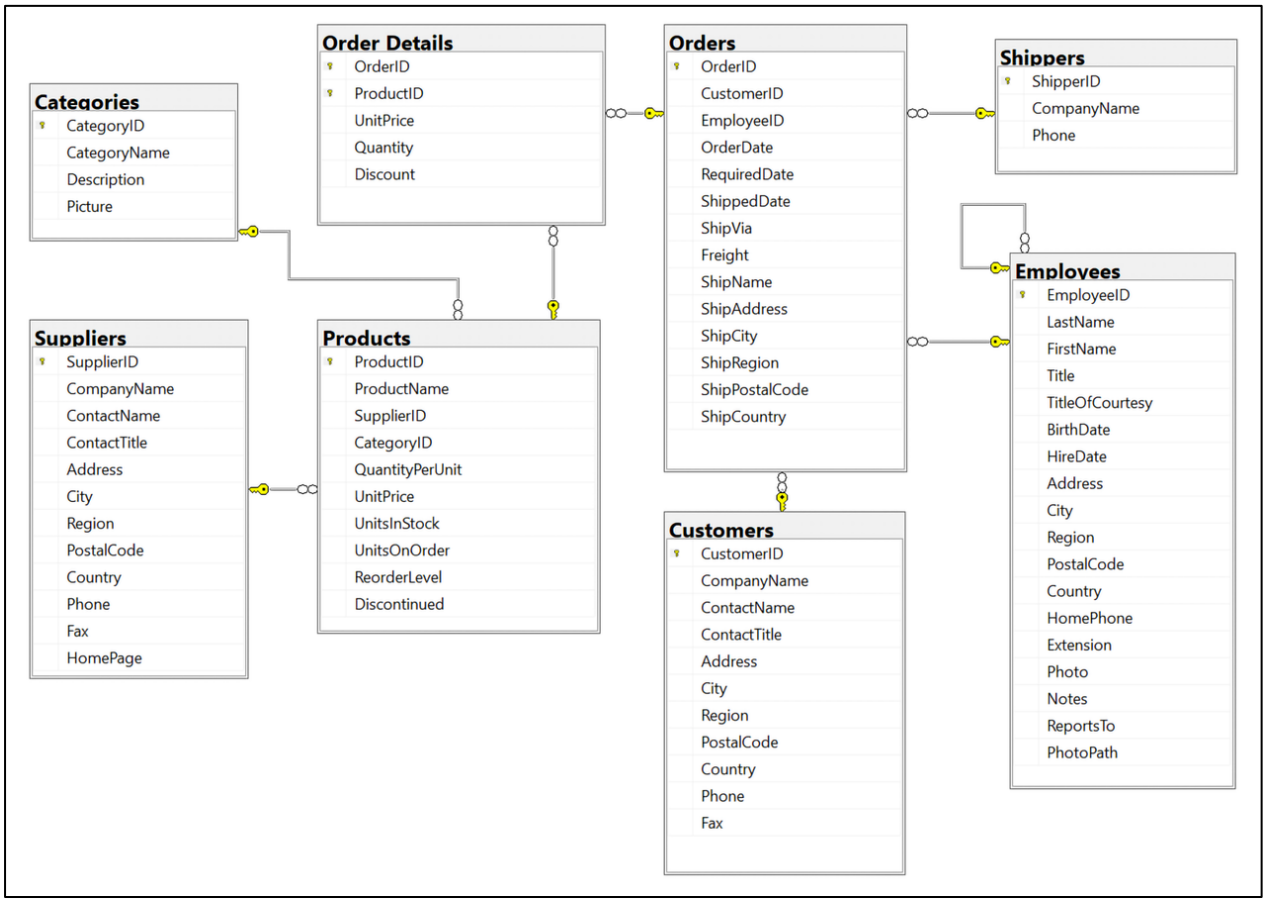


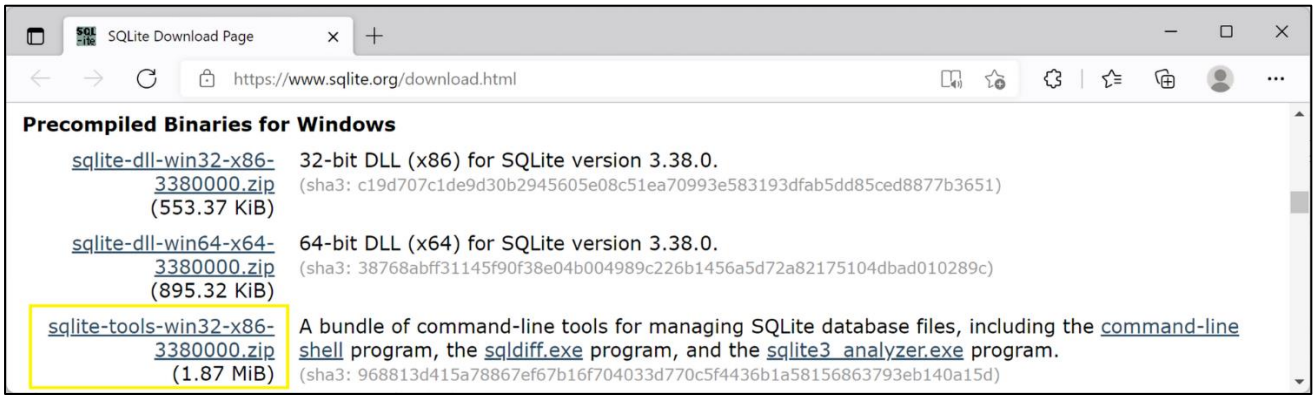


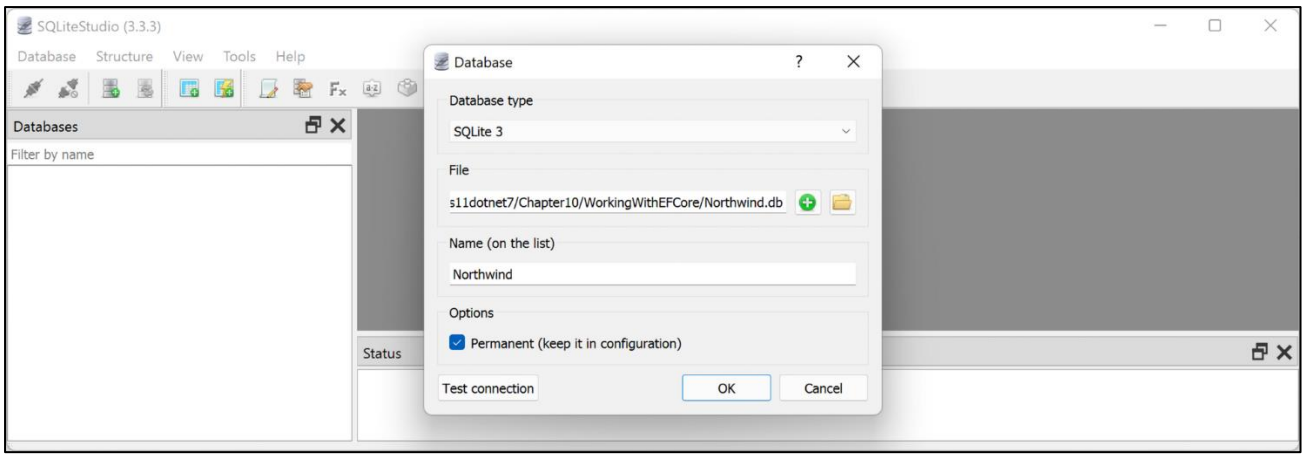


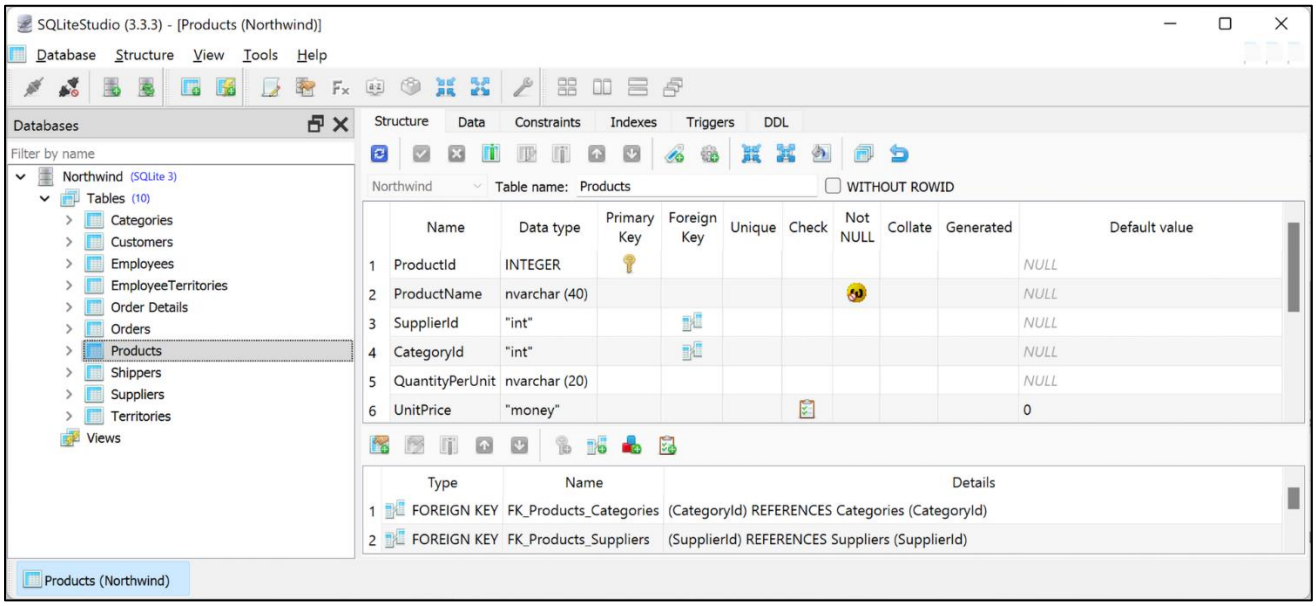
JamesNK commented on 29 Oct 2018
Member
@Thorium Json.NET isn't going away. You aren't losing anything. This is another option for simple and high performance scenarios.
19

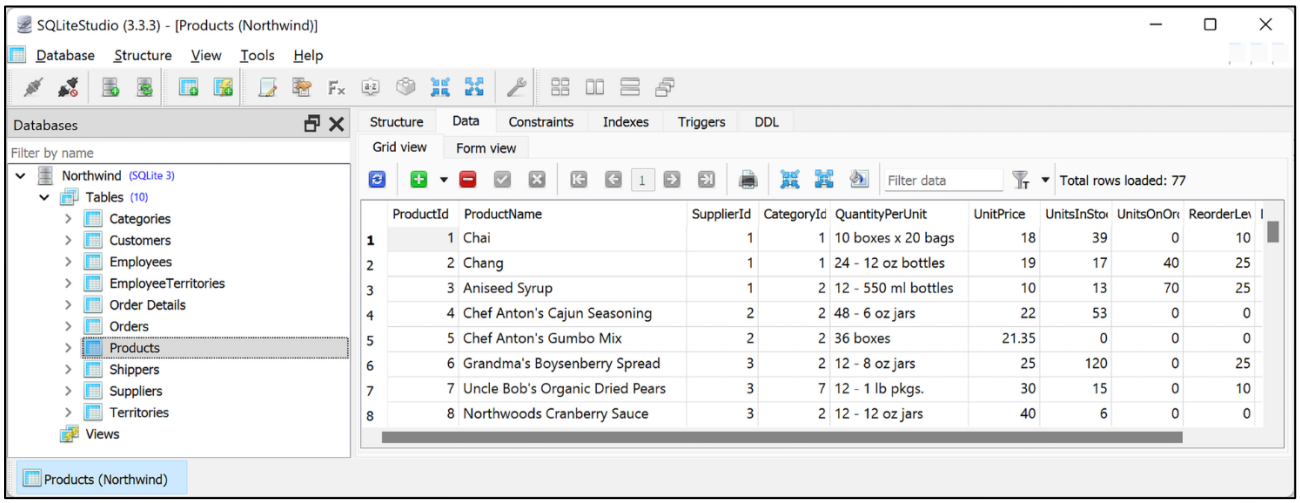
Chapter 10: Working with Data Using Entity Framework Core

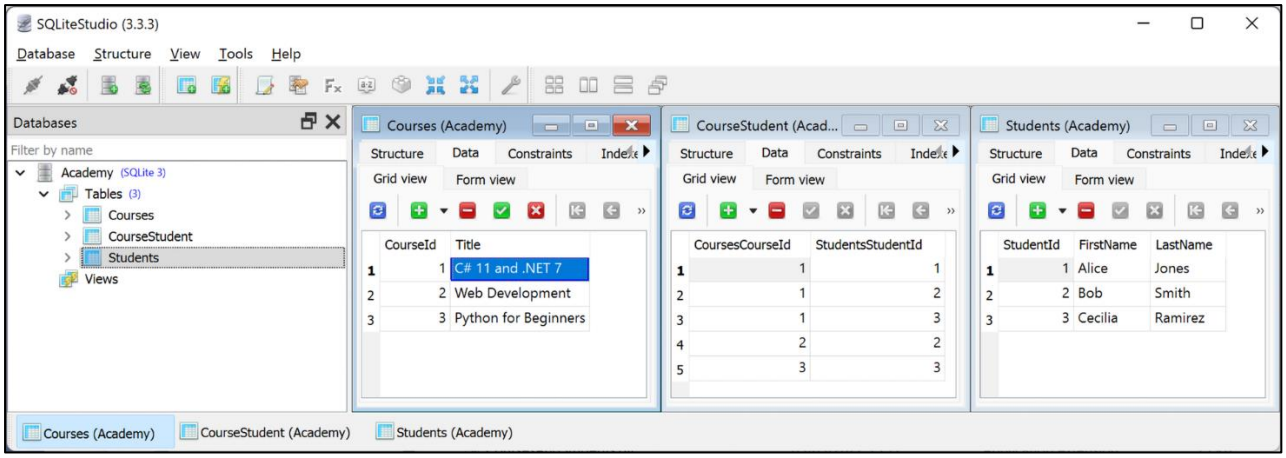




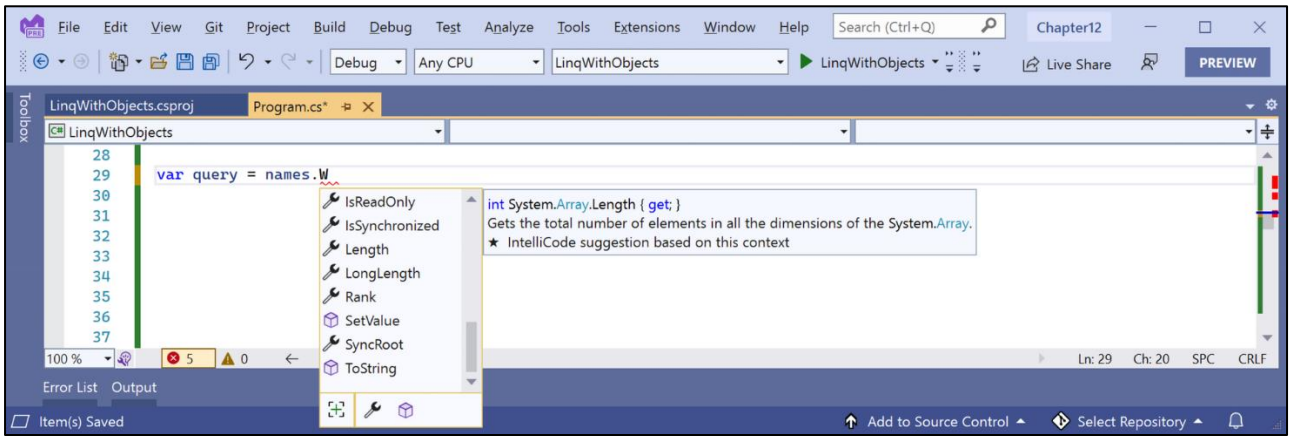

SQLiteStudio (3.3.3)
Database Structure View Tools Help
Databases
Filter by name
Database
Database type
SQLite 3
File
s11dotnet7/Chapter10/WorkingWithEFCore/Northwind.db
Name (on the list)
Northwind
Options
Permanent (keep it in configuration)
Test connection
OK
Cancel
Status

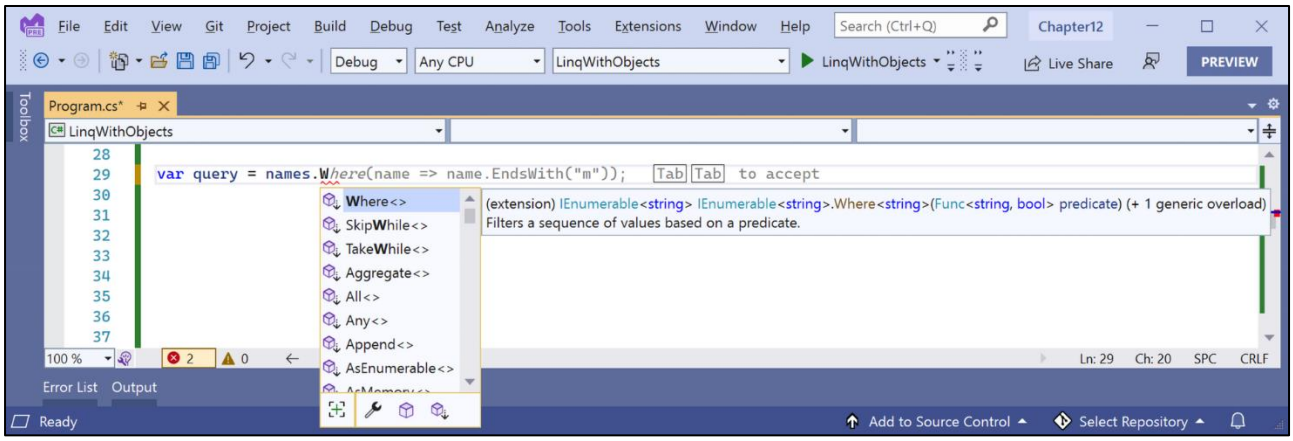

SQLiteStudio (3.3.3) - [Products (Northwind)]
Database Structure View Tools Help
Databases
Filter by name
Northwind (SQLite 3)
Tables (10)
Categories
Customers
Employees
EmployeeTerritories
Order Details
Orders
Products
Shippers
Suppliers
Territories
Views
Structure Data Constraints Indexes Triggers DDL
Northwind
Table name: Products
WITHOUT ROWID
Name Data type Primary Key Foreign Key Unique Check Not NULL Collate Generated Default value
1 ProductId INTEGER NULL
2 ProductName nvarchar (40) NULL
3 SupplierId "int" NULL
4 CategoryId "int" NULL
5 QuantityPerUnit nvarchar (20) NULL
6 UnitPrice "money" 0
Type Name Details
1 FOREIGN KEY FK_Products_Categories (CategoryId) REFERENCES Categories (CategoryId)
2 FOREIGN KEY FK_Products_Suppliers (SupplierId) REFERENCES Suppliers (SupplierId)
Products (Northwind)

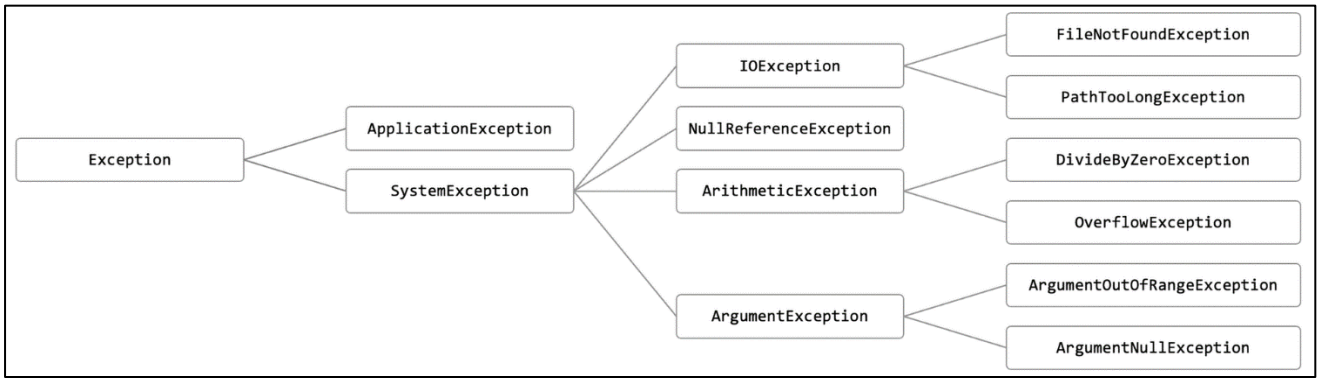

SQLiteStudio (3.3.3) - [Products (Northwind)]
Database Structure View Tools Help
Databases
Filter by name
Northwind (SQLite 3)
Tables (10)
Categories
Customers
Employees
EmployeeTerritories
Order Details
Orders
Products
Shippers
Suppliers
Territories
Views
Structure Data Constraints Indexes Triggers DDL
Grid view Form view
Filter data
Total rows loaded: 77
ProductId ProductName SupplierId CategoryId QuantityPerUnit UnitPrice UnitsInSto UnitsOnOr ReorderLev
1 Chai 1 1 10 boxes x 20 bags 18 39 0 10
2 Chang 1 1 24 - 12 oz bottles 19 17 40 25
3 Aniseed Syrup 1 2 12 - 550 ml bottles 10 13 70 25
4 Chef Anton's Cajun Seasoning 2 2 48 - 6 oz jars 22 53 0 0
5 Chef Anton's Gumbo Mix 2 2 36 boxes 21.35 0 0 0
6 Grandma's Boysenberry Spread 3 2 12 - 8 oz jars 25 120 0 25
7 Uncle Bob's Organic Dried Pears 3 7 12 - 1 lb pkgs. 30 15 0 10
8 Northwoods Cranberry Sauce 3 2 12 - 12 oz jars 40 6 0 0
Products (Northwind)

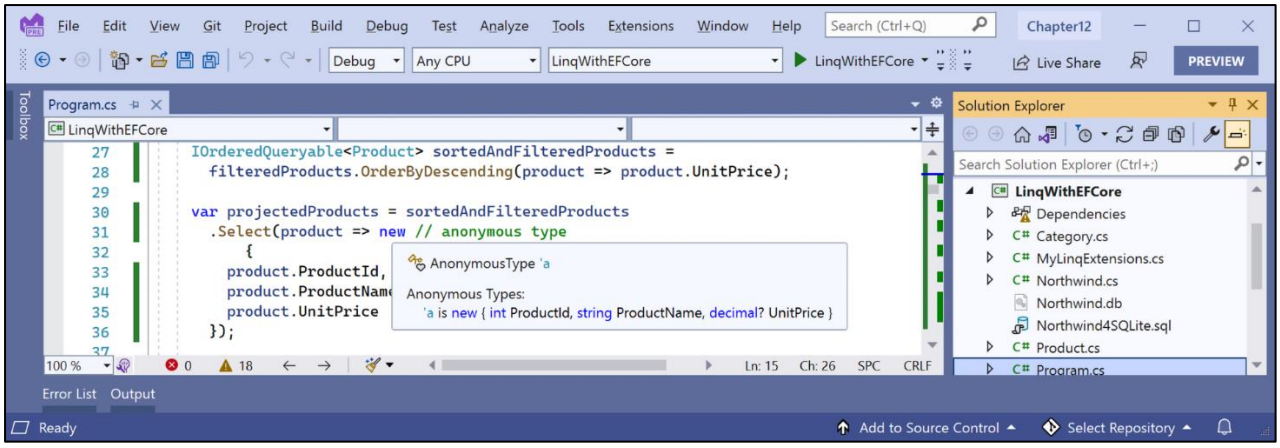

SQLiteStudio (3.3.3)
Database
Structure
View
Tools
Help
Databases
Filter by name
Academy (SQLite 3)
Tables (3)
Courses
CourseStudent
Students
Views
Courses (Academy)
Structure
Data
Constraints
Grid view
Form view
CourseId
Title
1
C# 11 and .NET 7
2
Web Development
3
Python for Beginners
CourseStudent (Acad...
CoursesCourseId
StudentsStudentId
Students (Academy)
StudentId
FirstName
LastName
Alice
Jones
Bob
Smith
Cecilia
Ramirez
Courses (Academy)
CourseStudent (Academy)
Students (Academy)

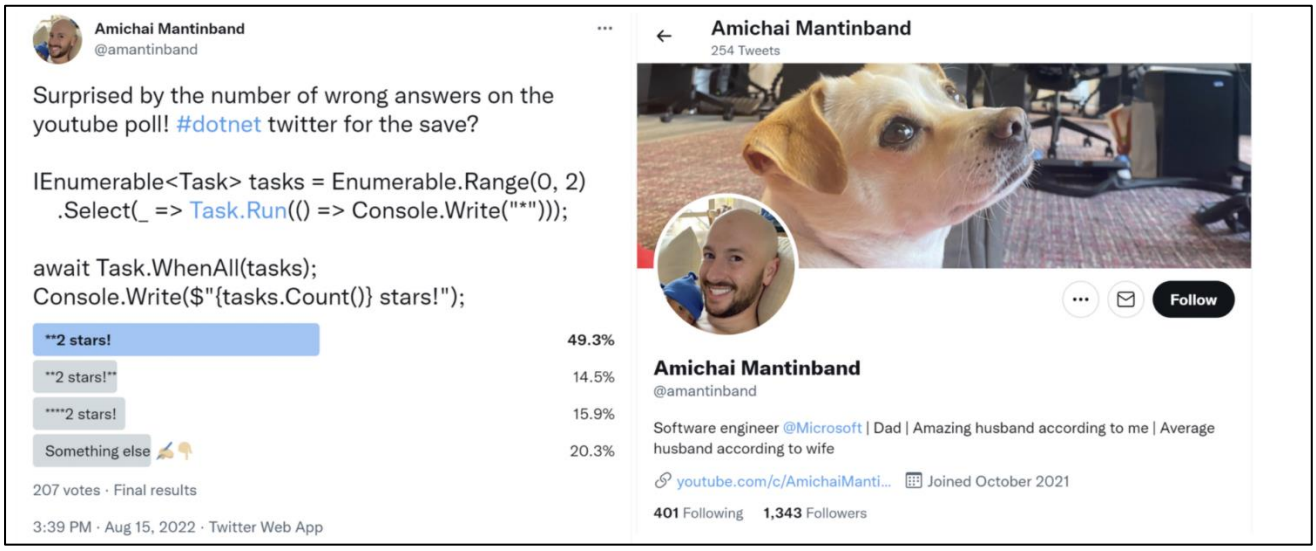
Chapter 11: Querying and Manipulating Data Using LINQ



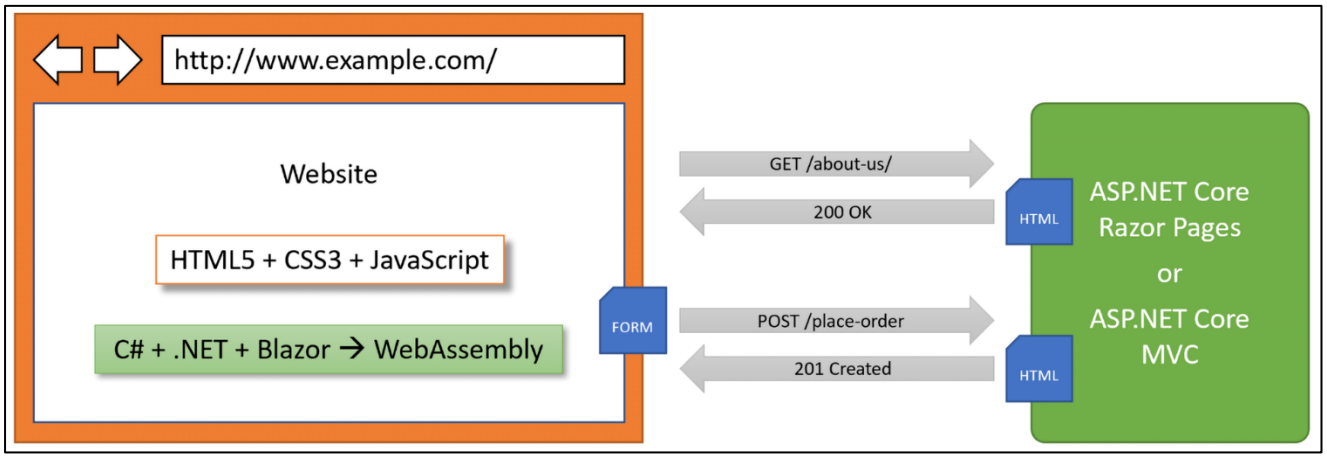


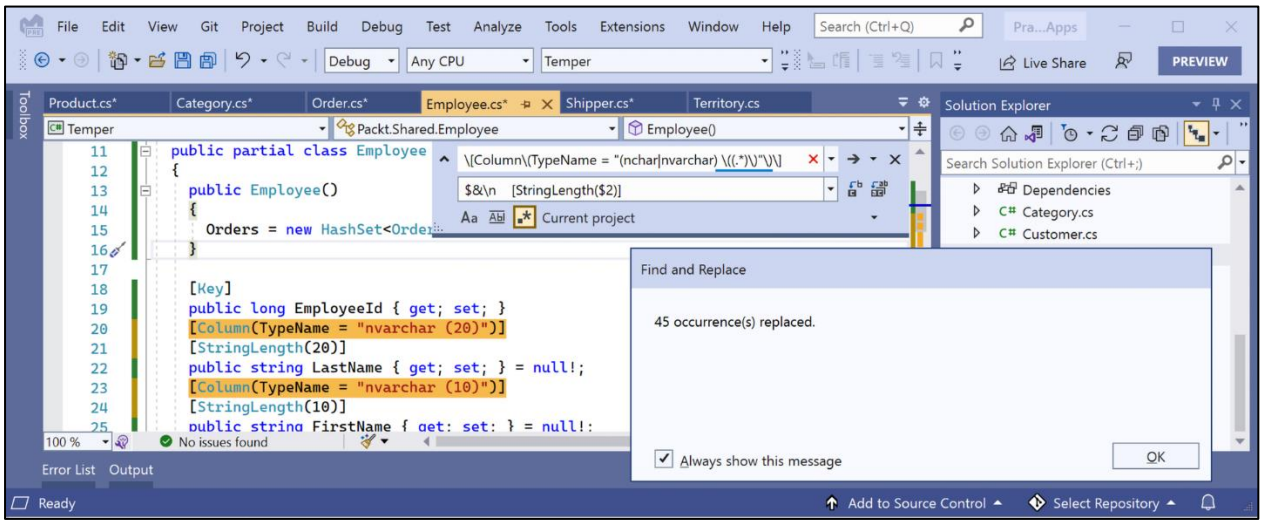


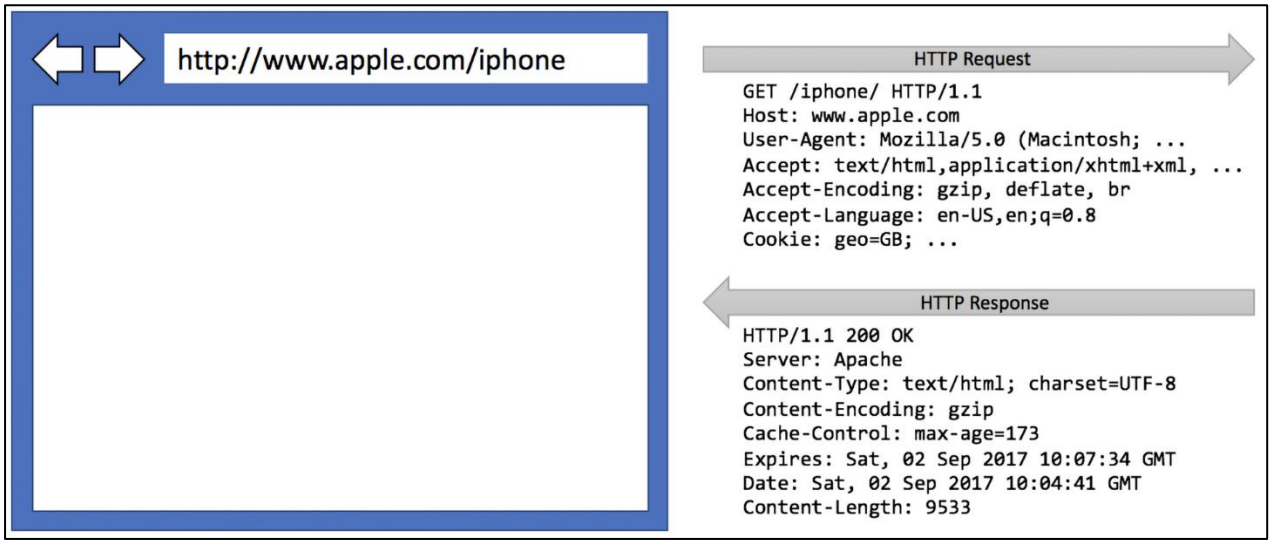

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Chapter12
Debug
Any CPU
LinqWithEFCore
Live Share
PREVIEW
Program.cs
LinqWithEFCore
IOrderedQueryable<Product> sortedAndFilteredProducts =
filteredProducts.OrderByDescending(product => product.UnitPrice);
var projectedProducts = sortedAndFilteredProducts
.Select(product => new // anonymous type
{
product.ProductId,
product.ProductName
product.UnitPrice
});
AnonymousType 'a
Anonymous Types:
'a is new { int ProductId, string ProductName, decimal? UnitPrice }
Solution Explorer
Search Solution Explorer (Ctrl+;)
LinqWithEFCore
Dependencies
Category.cs
MyLinqExtensions.cs
Northwind.cs
Northwind.db
Northwind4SQLite.sql
Product.cs
Program.cs
100 %
0
18
Ln: 15
Ch: 26
SPC
CRLF
Error List
Output
Ready
Add to Source Control
Select Repository

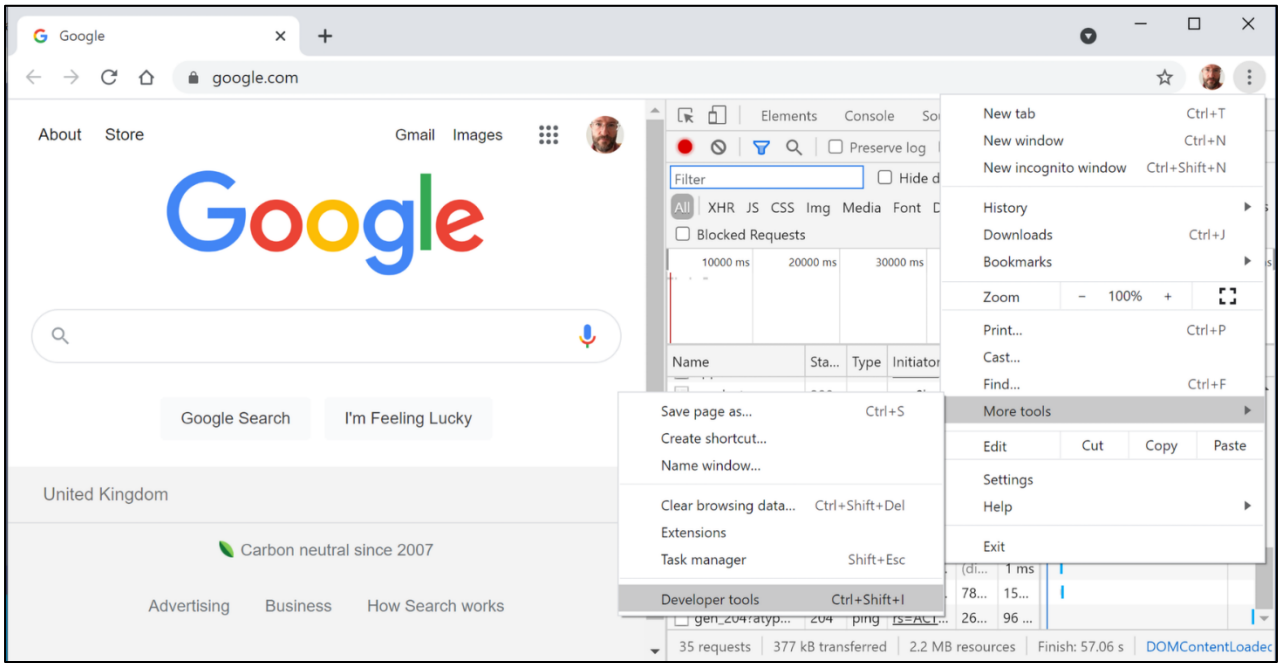

Amichai Mantinband
@amantinband
Surprised by the number of wrong answers on the youtube poll! #dotnet twitter for the save?
IEnumerable<Task> tasks = Enumerable.Range(0, 2)
.Select(_ => Task.Run(() => Console.Write("*")));
await Task.WhenAll(tasks);
Console.Write($"{tasks.Count()} stars!");
**2 stars! 49.3%
2 stars! 14.5%
****2 stars! 15.9%
Something else 20.3%
207 votes · Final results
3:39 PM · Aug 15, 2022 · Twitter Web App
Amichai Mantinband
254 Tweets
Follow
Amichai Mantinband
@amantinband
Software engineer @Microsoft | Dad | Amazing husband according to me | Average husband according to wife
youtube.com/c/AmichaiManti...
Joined October 2021
401 Following
1,343 Followers

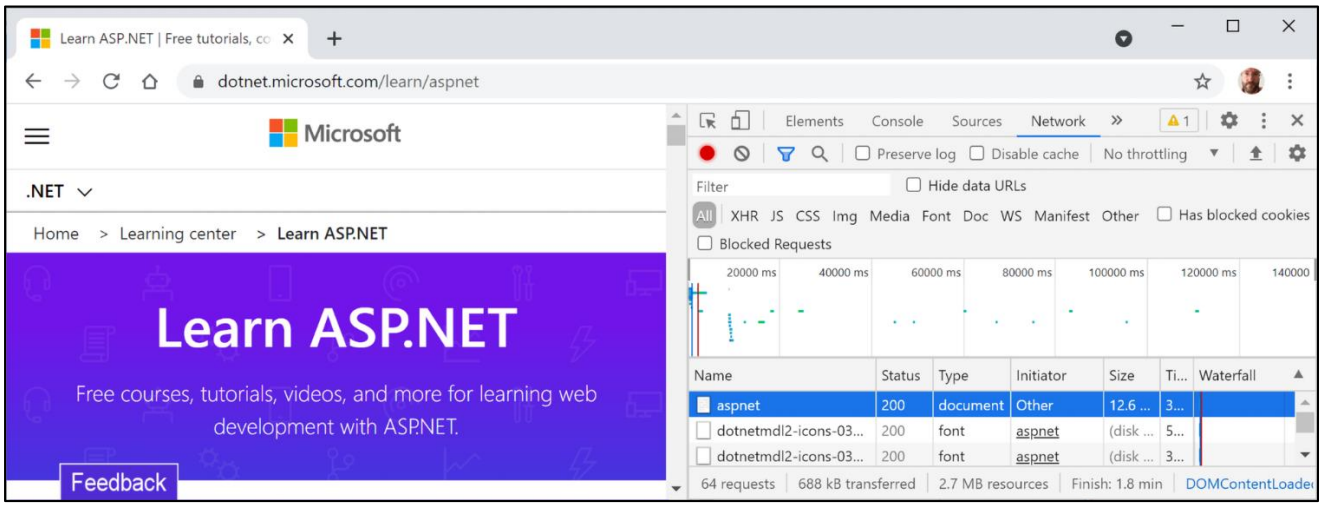
Chapter 12: Introducing Web Development Using ASP.NET Core








Google
google.com
About
Store
Gmail
Images
Google
Google Search
I'm Feeling Lucky
United Kingdom
Carbon neutral since 2007
Advertising
Business
How Search works
Elements
Console
Preserve log
Filter
Hide d
All
XHR
JS
CSS
Img
Media
Font
Blocked Requests
10000 ms
20000 ms
30000 ms
Name
Sta...
Type
Initiator
35 requests
377 kB transferred
2.2 MB resources
Finish: 57.06 s
DOMContentLoaded
New tab Ctrl+T
New window Ctrl+N
New incognito window Ctrl+Shift+N
History
Downloads Ctrl+J
Bookmarks
Zoom − 100% +
Print... Ctrl+P
Cast...
Find... Ctrl+F
More tools
Edit Cut Copy Paste
Settings
Help
Exit
Save page as... Ctrl+S
Create shortcut...
Name window...
Clear browsing data... Ctrl+Shift+Del
Extensions
Task manager Shift+Esc
Developer tools Ctrl+Shift+I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Microsoft
.NET
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Learn ASP.NET
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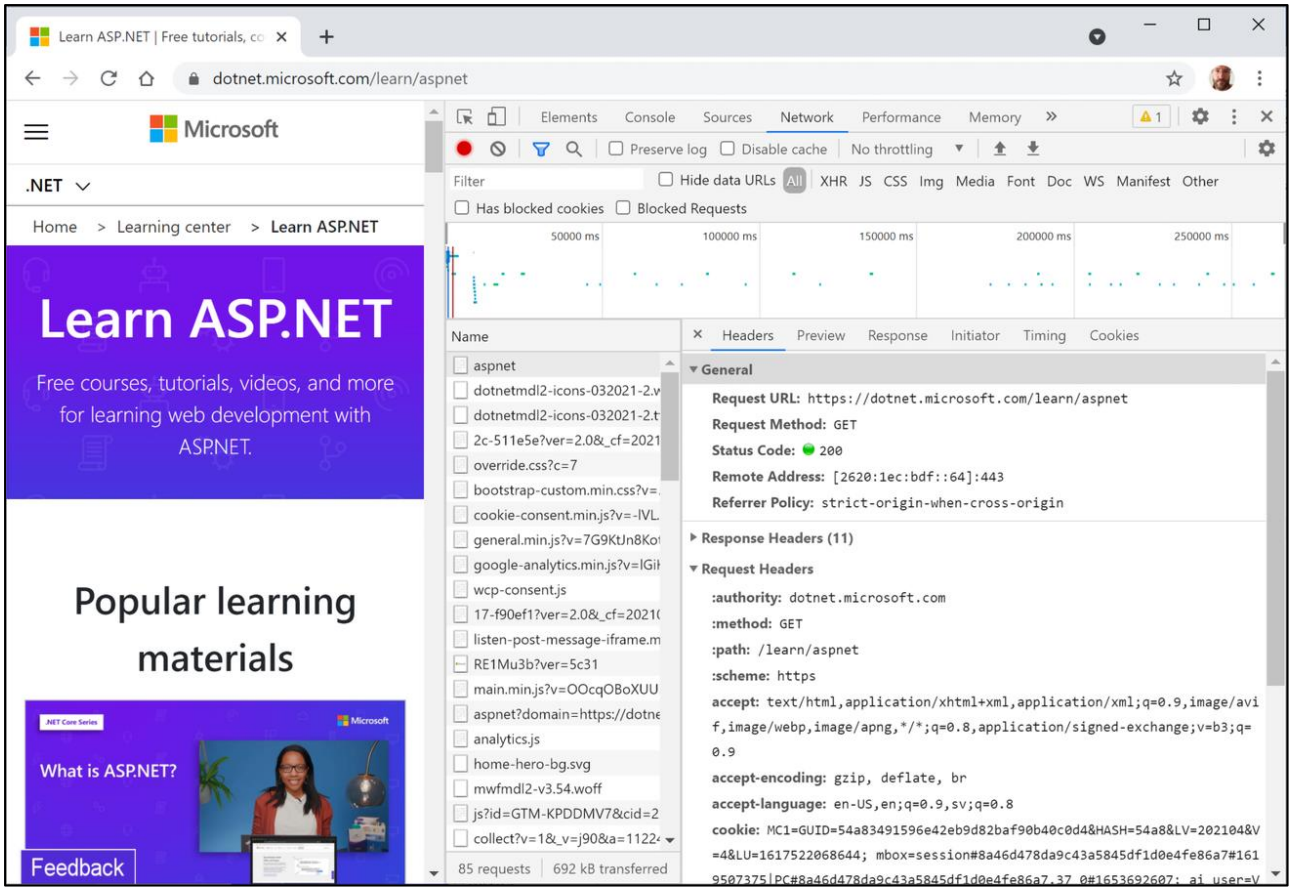
Feedback
Elements
Console
Sources
Network
Preserve log
Disable cache
No throttling
Filter
Hide data URLs
All
XHR JS CSS Img Media Font Doc WS Manifest Other
Has blocked cookies
Blocked Requests
20000 ms
40000 ms
60000 ms
80000 ms
100000 ms
120000 ms
140000
Name
Status
Type
Initiator
Size
Ti...
Waterfall
aspnet 200 document Other 12.6 ... 3...
dotnetmdl2-icons-03... 200 font aspnet (disk ... 5...
dotnetmdl2-icons-03... 200 font aspnet (disk ... 3...
64 requests
688 kB transferred
2.7 MB resources
Finish: 1.8 min
DOMContentLoaded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Microsoft
.NET
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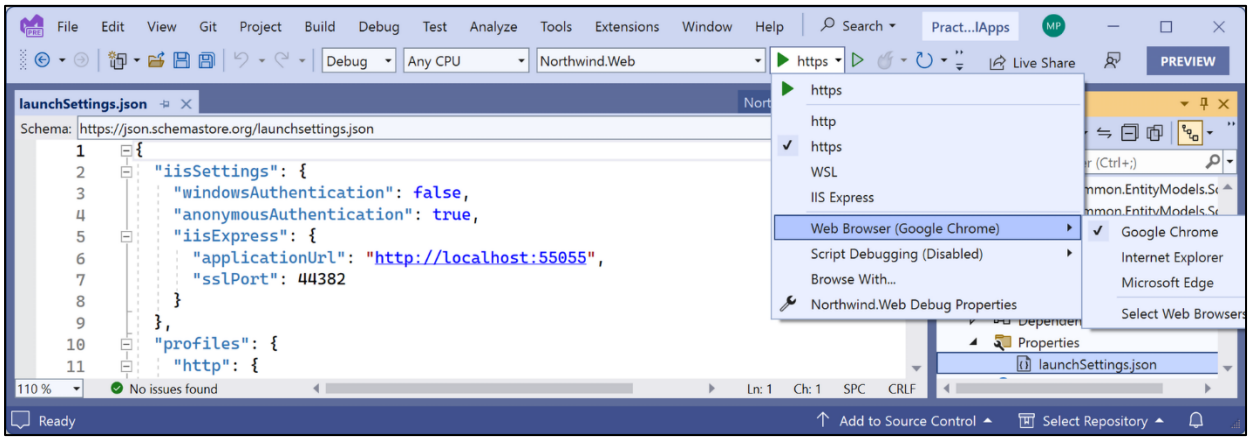
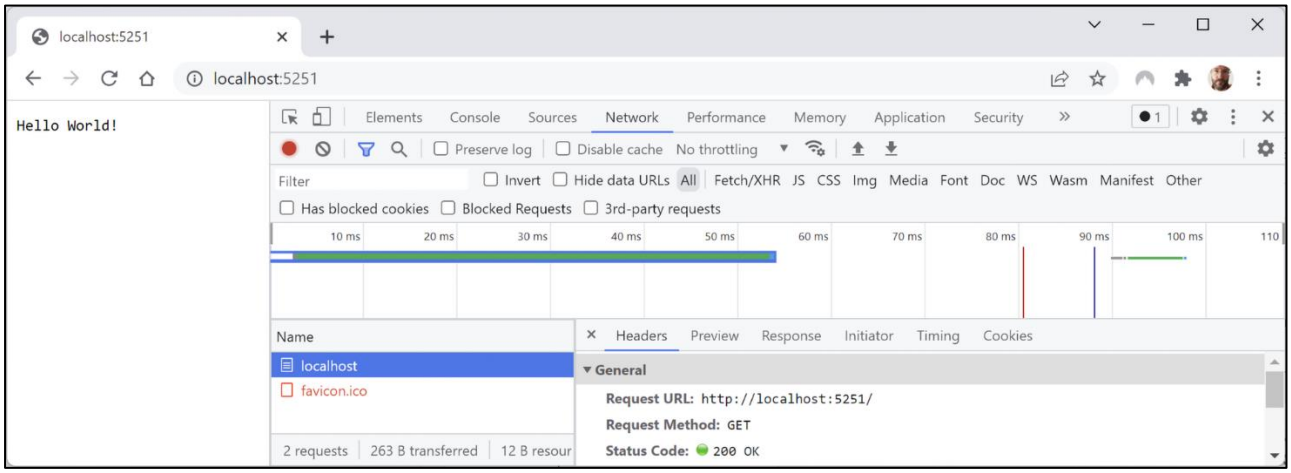
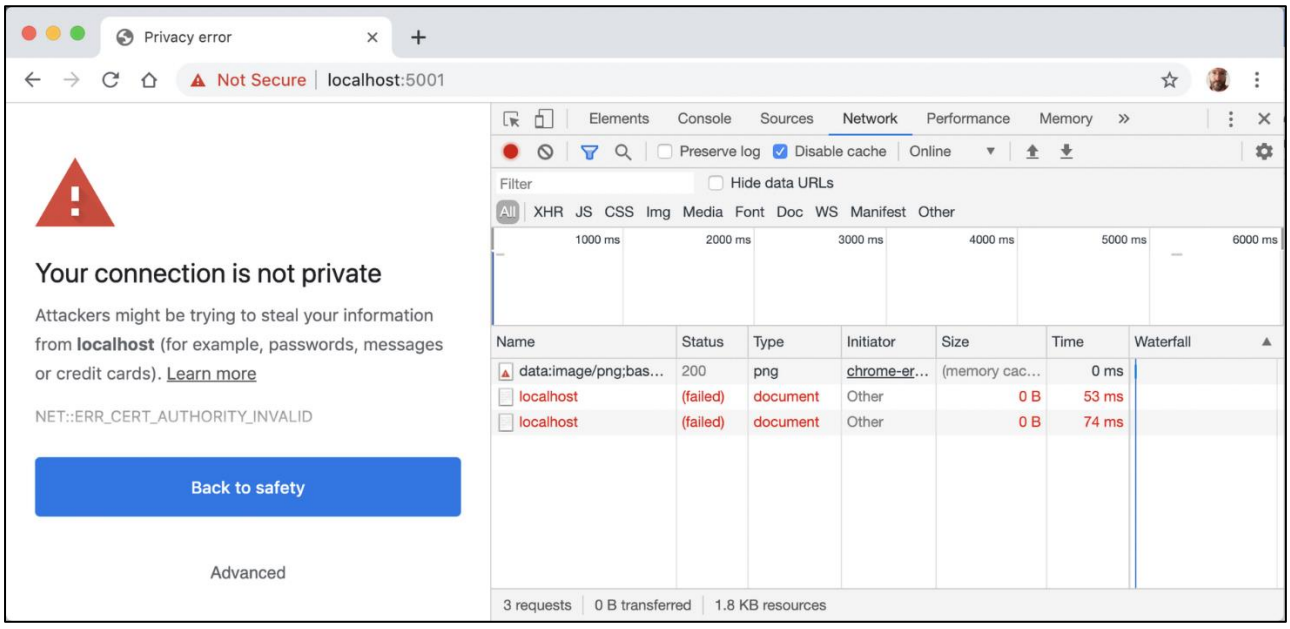
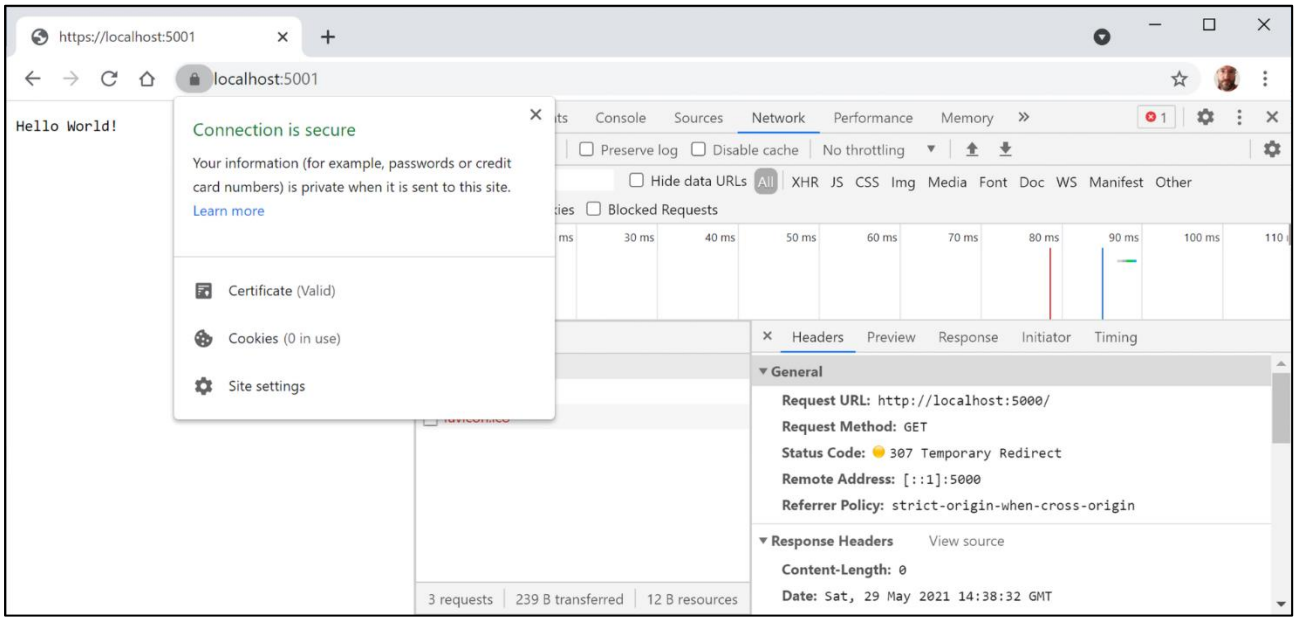
Popular learning materials
What is ASP.NET?
Feedback
Elements Console Sources Network Performance Memory
Preserve log Disable cache No throttling
Filter Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other
Has blocked cookies Blocked Requests
50000 ms 100000 ms 150000 ms 200000 ms 250000 ms
Name
aspnet
dotnetmdl2-icons-032021-2.v
dotnetmdl2-icons-032021-2.t
2c-511e5e?ver=2.0&_cf=2021
override.css?c=7
bootstrap-custom.min.css?v=
cookie-consent.min.js?v=-IVL
general.min.js?v=7G9KtJn8Ko
google-analytics.min.js?v=IGil
wcp-consent.js
17-f90ef1?ver=2.0&_cf=2021(
listen-post-message-iframe.m
RE1Mu3b?ver=5c31
main.min.js?v=OOcqOBoXUU
aspnet?domain=https://dotne
analytics.js
home-hero-bg.svg
mwfmdl2-v3.54.woff
js?id=GTM-KPDDMV7&cid=2
collect?v=1&_v=j90&a=1122
85 requests 692 kB transferred
Headers Preview Response Initiator Timing Cookies
General
Request URL: https://dotnet.microsoft.com/learn/aspnet
Request Method: GET
Status Code: 200
Remote Address: [2620:1ec:bdf::64]:443
Referrer Policy: strict-origin-when-cross-origin
Response Headers (11)
Request Headers
:authority: dotnet.microsoft.com
:method: GET
:path: /learn/aspnet
:scheme: https
accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
accept-encoding: gzip, deflate, br
accept-language: en-US,en;q=0.9,sv;q=0.8
cookie: MC1=GUID=54a83491596e42eb9d82baf90b40c0d4&HASH=54a8&LV=202104&V=4&LU=1617522068644; mbox=session#8a46d478da9c43a5845df1d0e4fe86a7#1619507375|PC#8a46d478da9c43a5845df1d0e4fe86a7.37_0#1653692607; ai_user=V

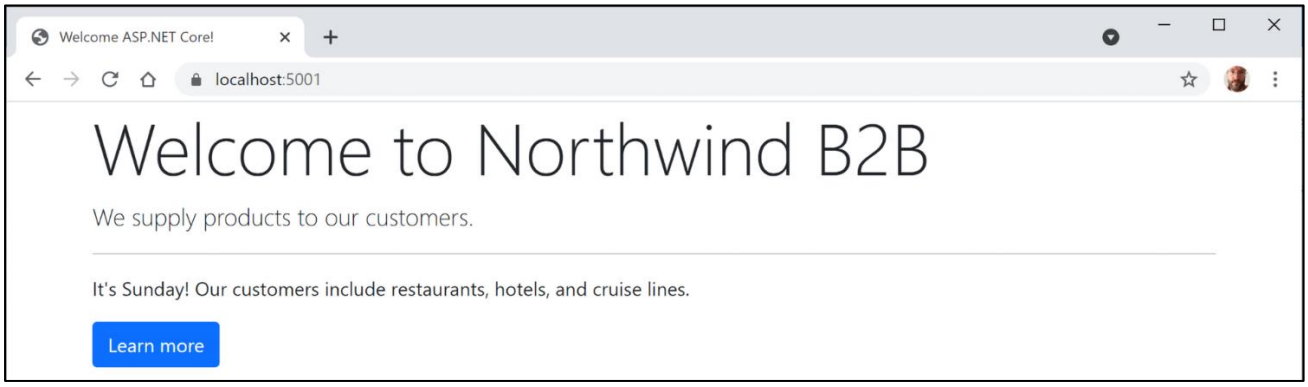
Chapter 13: Building Websites Using ASP.NET Core Razor Pages

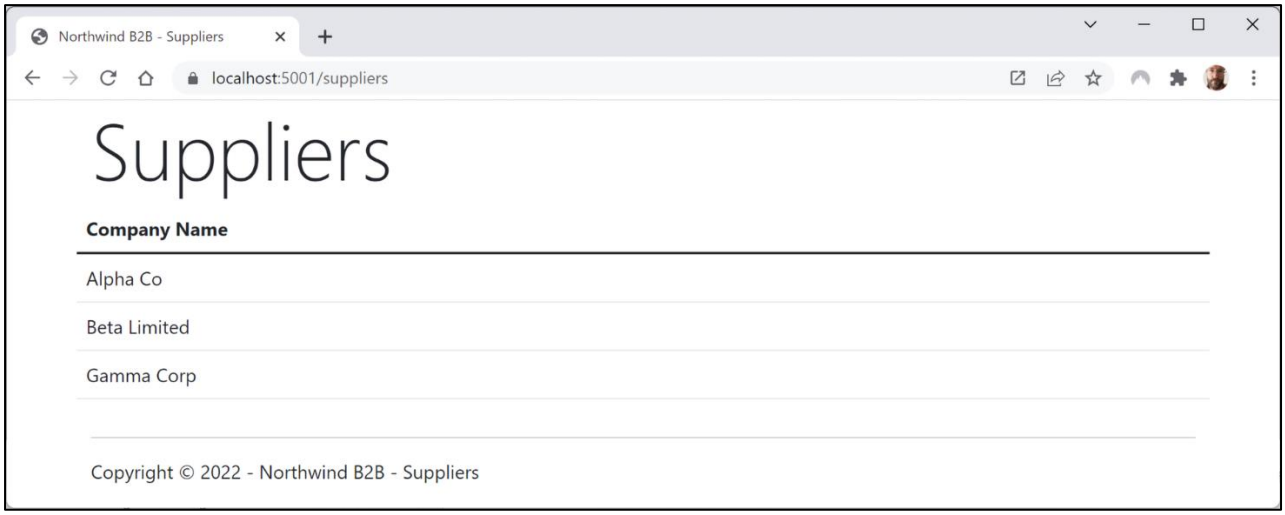


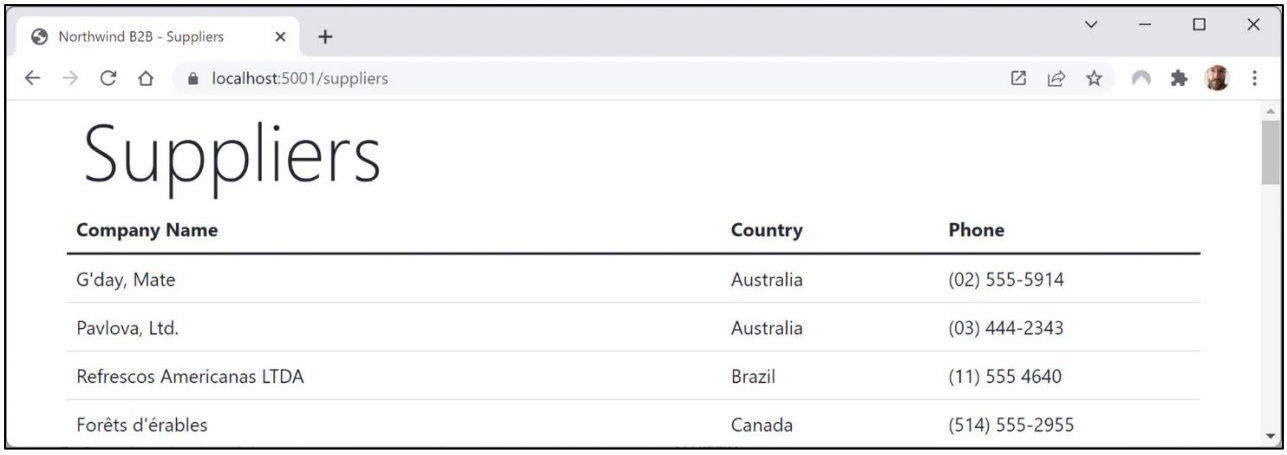


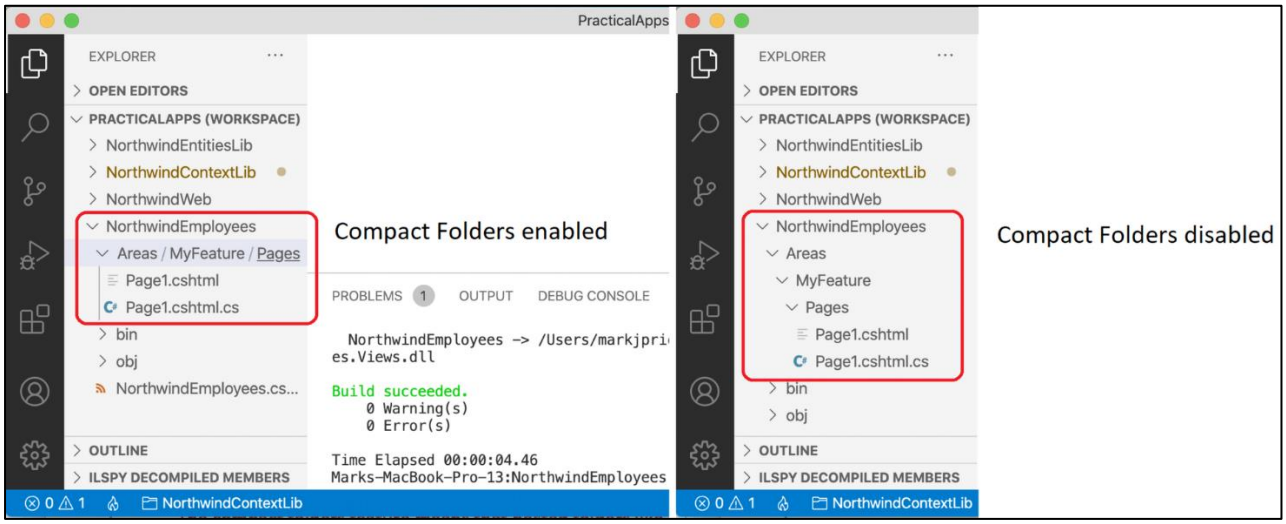


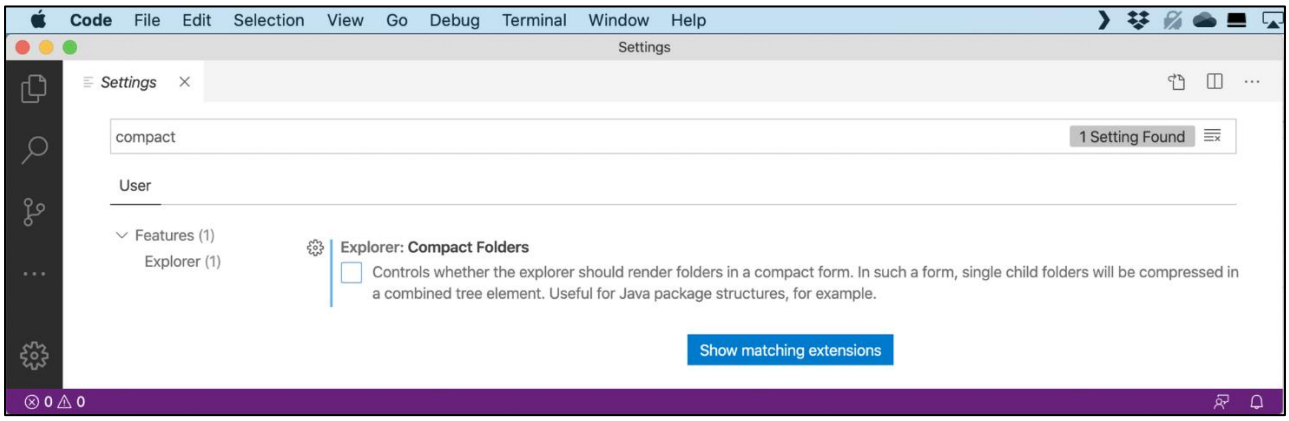

https://localhost:5001
localhost:5001
Hello World!
Connection is secure
Your information (for example, passwords or credit card numbers) is private when it is sent to this site.
Learn more
Certificate (Valid)
Cookies (0 in use)
Site settings
Console
Sources
Network
Performance
Memory
Preserve log
Disable cache
No throttling
Hide data URLs
All
XHR
JS
CSS
Img
Media
Font
Doc
WS
Manifest
Other
Blocked Requests
30 ms
40 ms
50 ms
60 ms
70 ms
80 ms
90 ms
100 ms
Headers
Preview
Response
Initiator
Timing
General
Request URL: http://localhost:5000/
Request Method: GET
Status Code: 307 Temporary Redirect
Remote Address: [::1]:5000
Referrer Policy: strict-origin-when-cross-origin
Response Headers
View source
Content-Length: 0
Date: Sat, 29 May 2021 14:38:32 GMT
3 requests
239 B transferred
12 B resources

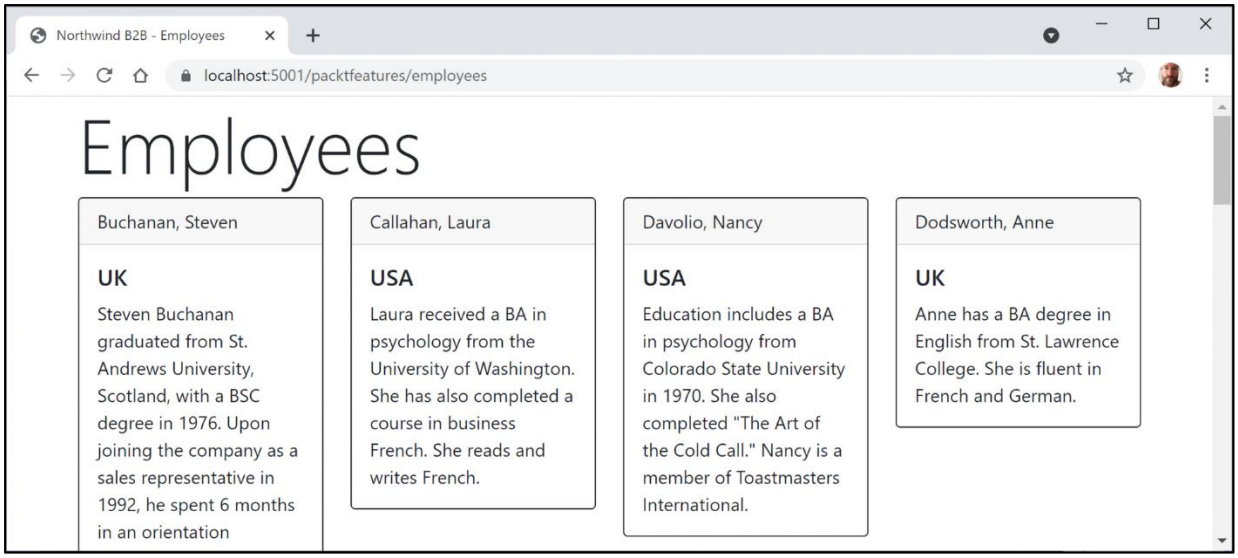

Welcome ASP.NET Core!
localhost:5001
Welcome to Northwind B2B
We supply products to our customers.
It's Sunday! Our customers include restaurants, hotels, and cruise lines.
Learn more

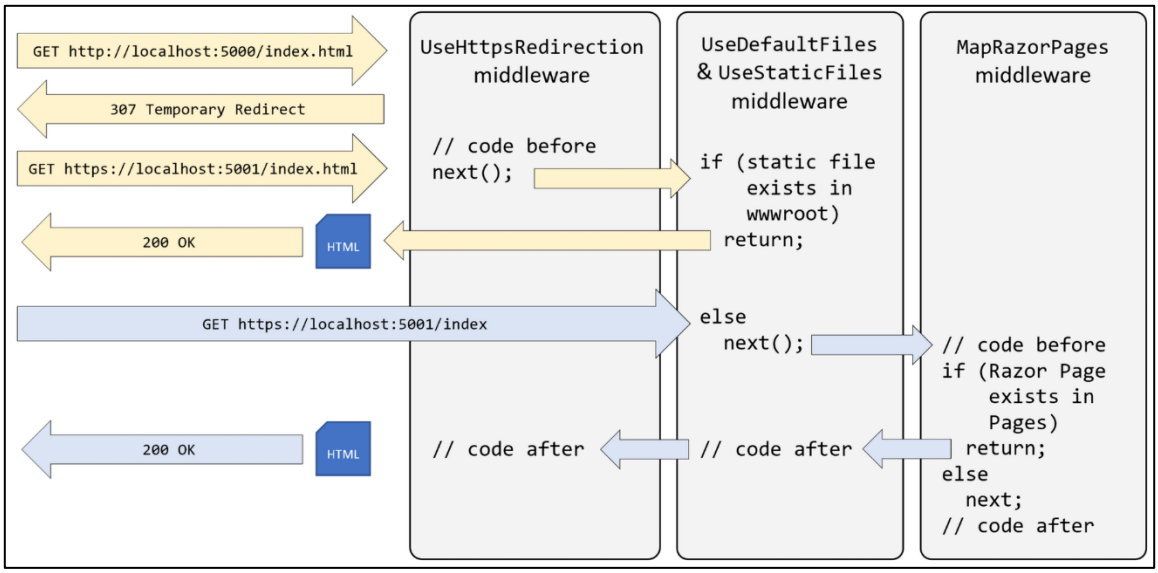

Northwind B2B - Suppliers
localhost:5001/suppliers
Suppliers
Company Name
Alpha Co
Beta Limited
Gamma Corp
Copyright © 2022 - Northwind B2B - Suppliers

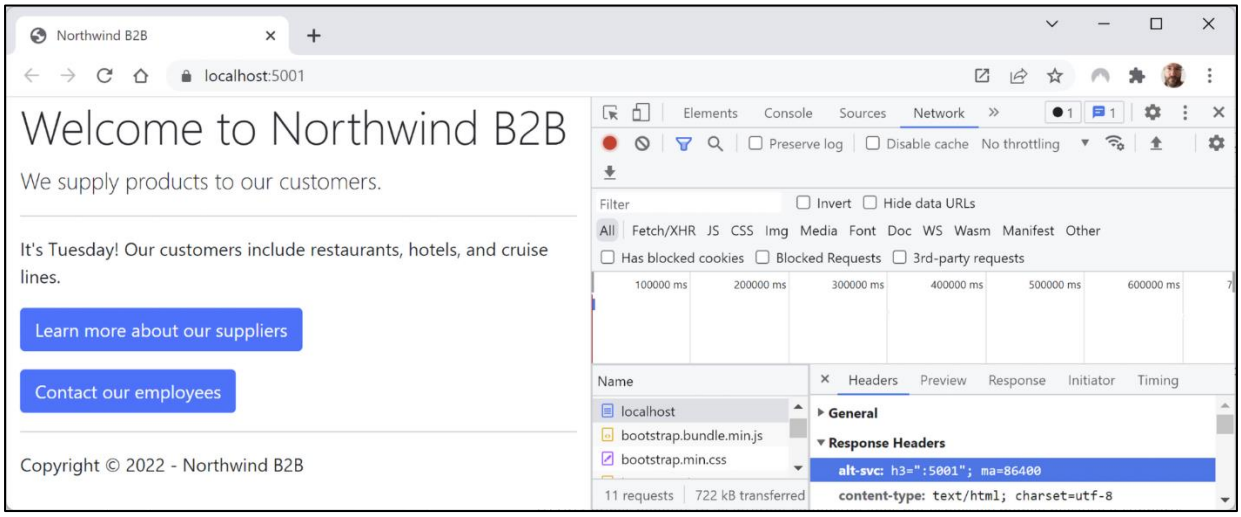

Northwind B2B - Suppliers
localhost:5001/suppliers
Suppliers
Company Name
Country
Phone
G'day, Mate
Australia
(02) 555-5914
Pavlova, Ltd.
Australia
(03) 444-2343
Refrescos Americanas LTDA
Brazil
(11) 555 4640
Forêts d'érables
Canada
(514) 555-2955


PracticalApps
EXPLORER
OPEN EDITORS
PRACTICALAPPS (WORKSPACE)
NorthwindEntitiesLib
NorthwindContextLib
NorthwindWeb
NorthwindEmployees
Areas / MyFeature / Pages
Page1.cshtml
Page1.cshtml.cs
bin
obj
NorthwindEmployees.cs...
OUTLINE
ILSPY DECOMPILED MEMBERS
Compact Folders enabled
PROBLEMS 1
OUTPUT
DEBUG CONSOLE
NorthwindEmployees -> /Users/markjpri
es.Views.dll
Build succeeded.
0 Warning(s)
0 Error(s)
Time Elapsed 00:00:04.46
Marks-MacBook-Pro-13:NorthwindEmployees
0 1
NorthwindContextLib
EXPLORER
OPEN EDITORS
PRACTICALAPPS (WORKSPACE)
NorthwindEntitiesLib
NorthwindContextLib
NorthwindWeb
NorthwindEmployees
Areas
MyFeature
Pages
Page1.cshtml
Page1.cshtml.cs
bin
obj
OUTLINE
ILSPY DECOMPILED MEMBERS
0 1
NorthwindContextLib
Compact Folders disabled

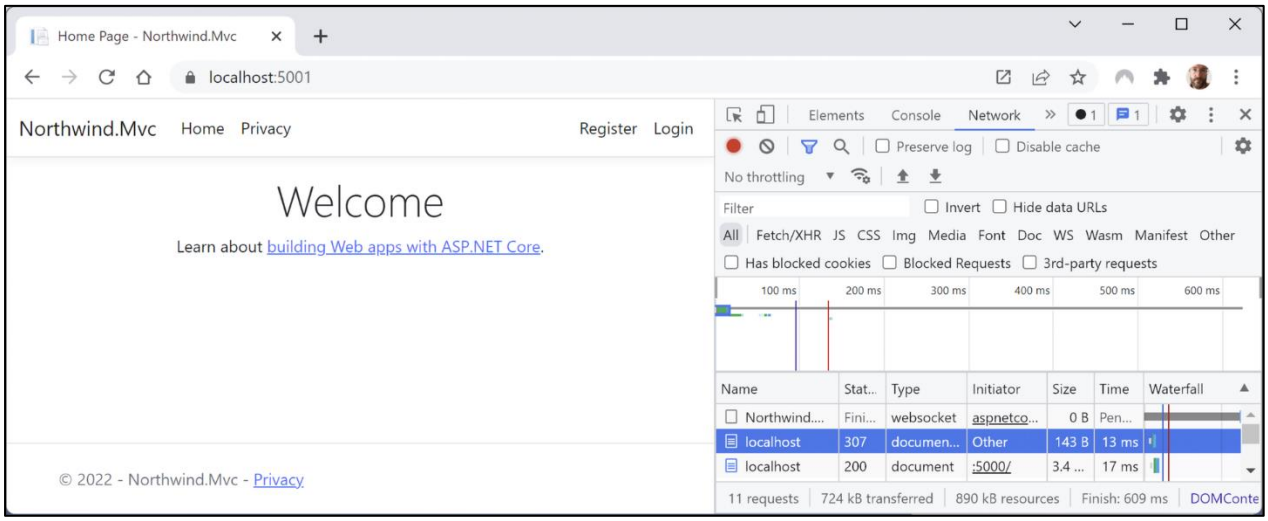

Code File Edit Selection View Go Debug Terminal Window Help
Settings
Settings
compact
1 Setting Found
User
Features (1)
Explorer (1)
Explorer: Compact Folders
Controls whether the explorer should render folders in a compact form. In such a form, single child folders will be compressed in a combined tree element. Useful for Java package structures, for example.
Show matching extensions
0 0

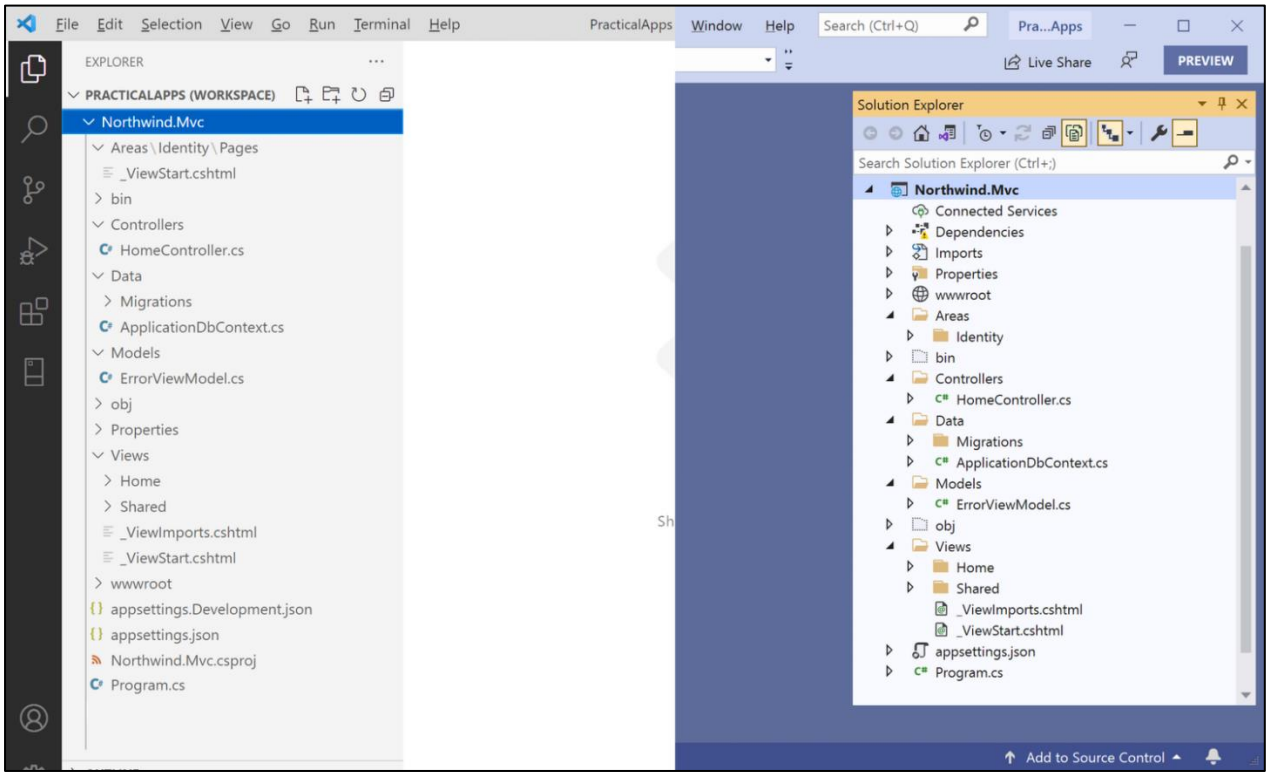

Northwind B2B - Employees
localhost:5001/packtfeatures/employees
Employees
Buchanan, Steven
UK
Steven Buchanan graduated from St. Andrews University, Scotland, with a BSC degree in 1976. Upon joining the company as a sales representative in 1992, he spent 6 months in an orientation
Callahan, Laura
USA
Laura received a BA in psychology from the University of Washington. She has also completed a course in business French. She reads and writes French.
Davolio, Nancy
USA
Education includes a BA in psychology from Colorado State University in 1970. She also completed "The Art of the Cold Call." Nancy is a member of Toastmasters International.
Dodsworth, Anne
UK
Anne has a BA degree in English from St. Lawrence College. She is fluent in French and German.

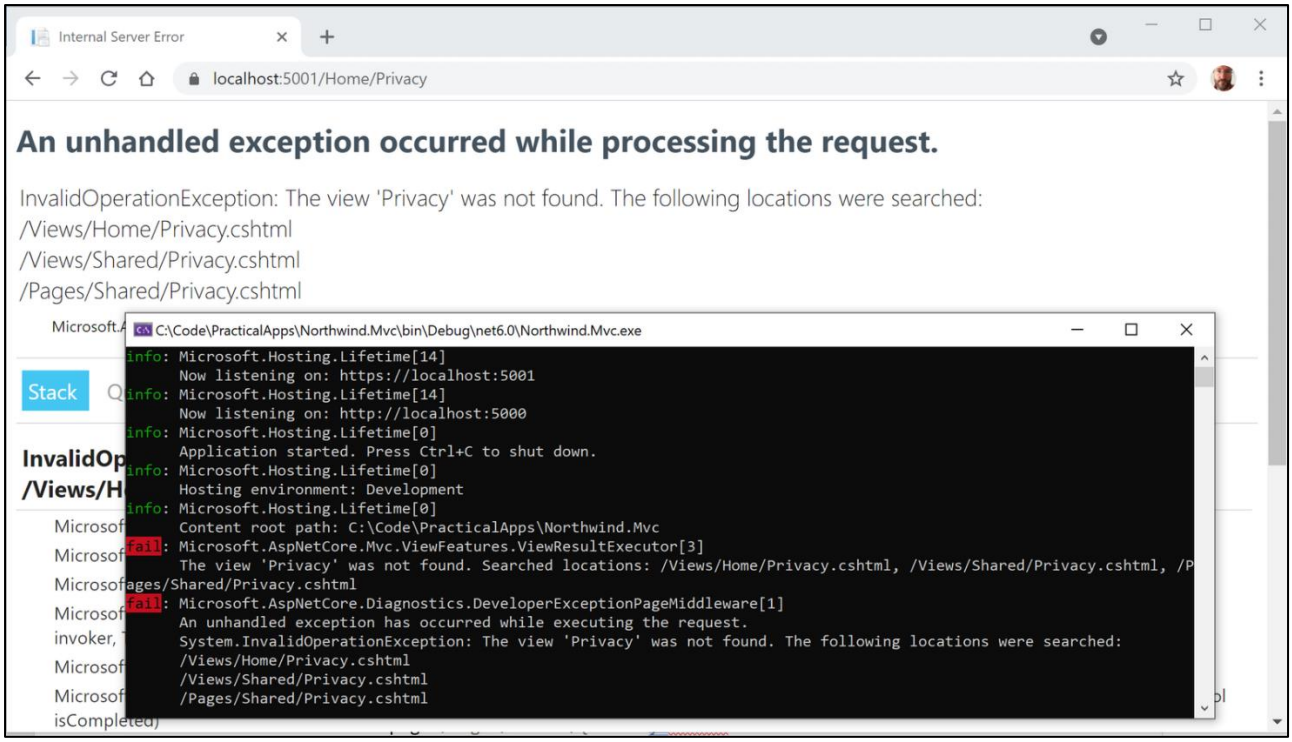

GET http://localhost:5000/index.html
307 Temporary Redirect
GET https://localhost:5001/index.html
200 OK
HTML
GET https://localhost:5001/index
200 OK
HTML
UseHttpsRedirection middleware
// code before next();
// code after
UseDefaultFiles & UseStaticFiles middleware
if (static file exists in wwwroot) return;
else next();
// code after
MapRazorPages middleware
// code before
if (Razor Page exists in Pages) return;
else next;
// code after

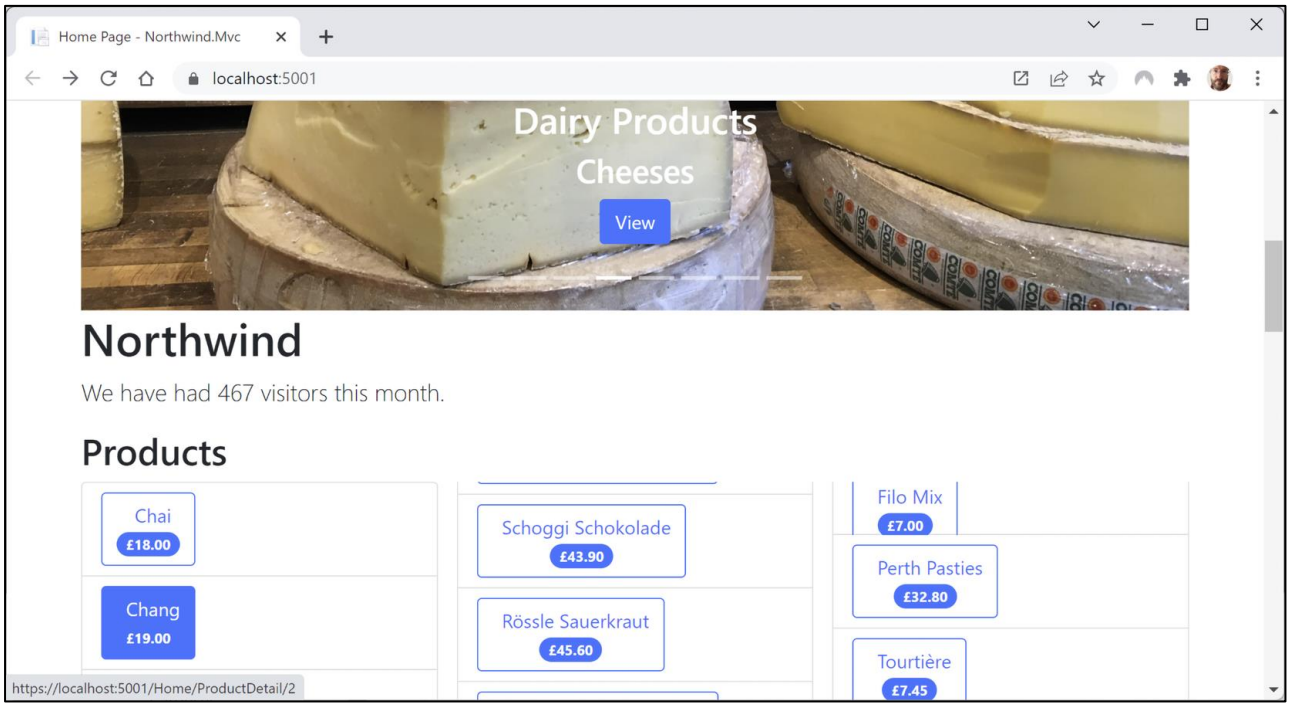

Northwind B2B
localhost:5001
Welcome to Northwind B2B
We supply products to our customers.
It's Tuesday! Our customers include restaurants, hotels, and cruise lines.
Learn more about our suppliers
Contact our employees
Copyright © 2022 - Northwind B2B
Elements
Console
Sources
Network
Preserve log
Disable cache
No throttling
Filter
Invert
Hide data URLs
All
Fetch/XHR
JS
CSS
Img
Media
Font
Doc
WS
Wasm
Manifest
Other
Has blocked cookies
Blocked Requests
3rd-party requests
100000 ms
200000 ms
300000 ms
400000 ms
500000 ms
600000 ms
Name
localhost
bootstrap.bundle.min.js
bootstrap.min.css
Headers
Preview
Response
Initiator
Timing
General
Response Headers
alt-svc: h3=":5001"; ma=86400
content-type: text/html; charset=utf-8
11 requests
722 kB transferred

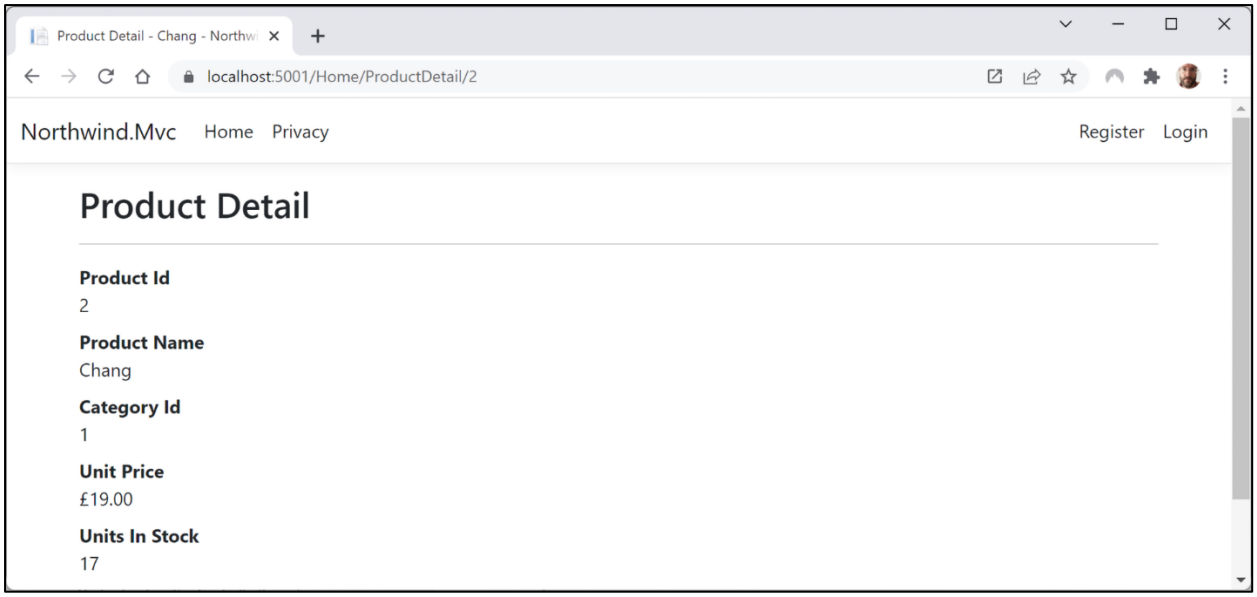
Chapter 14: Building Websites Using the Model-View-Controller Pattern

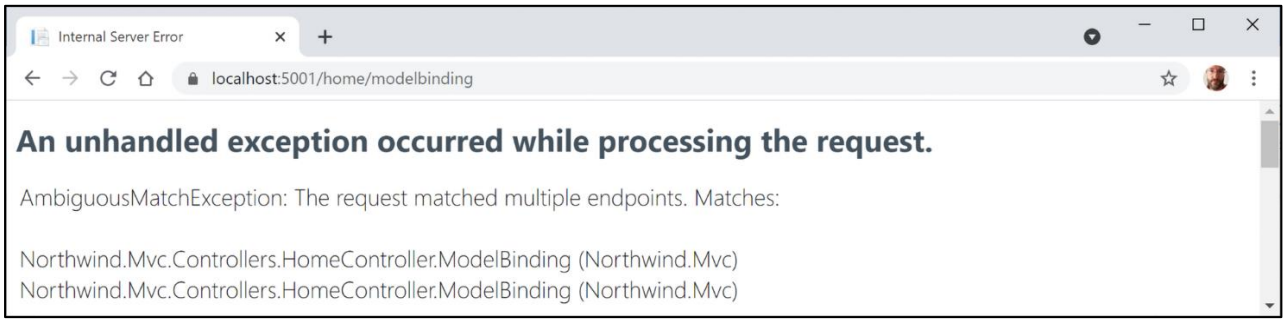


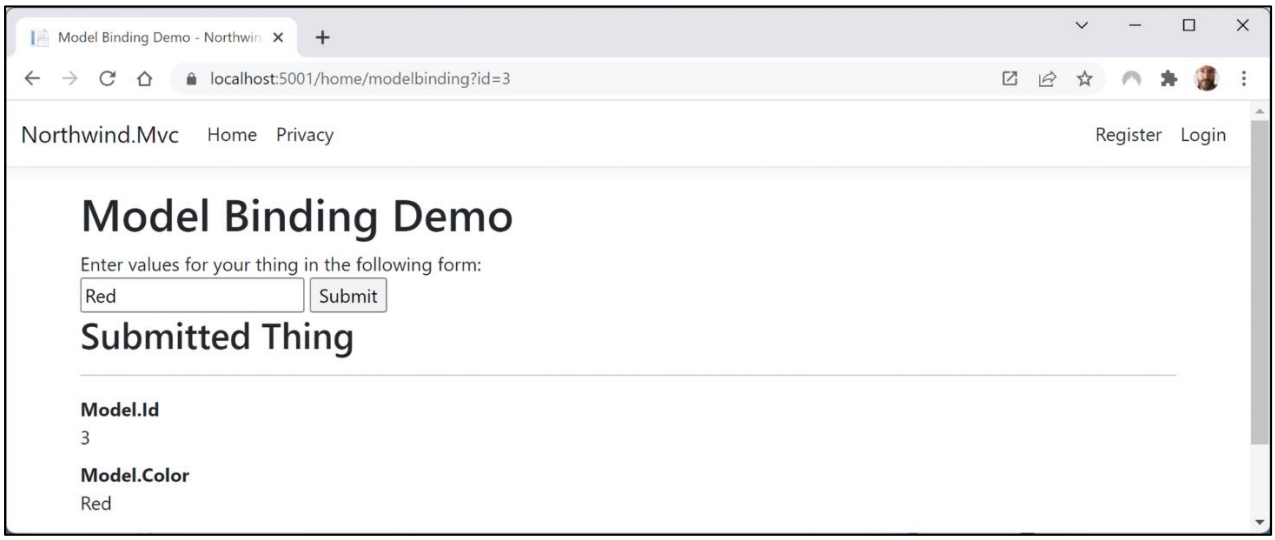



Internal Server Error
localhost:5001/Home/Privacy
An unhandled exception occurred while processing the request.
InvalidOperationException: The view 'Privacy' was not found. The following locations were searched:
/Views/Home/Privacy.cshtml
/Views/Shared/Privacy.cshtml
/Pages/Shared/Privacy.cshtml
C:\Code\PracticalApps\Northwind.Mvc\bin\Debug\net6.0\Northwind.Mvc.exe
info: Microsoft.Hosting.Lifetime[14]
Now listening on: https://localhost:5001
info: Microsoft.Hosting.Lifetime[14]
Now listening on: http://localhost:5000
info: Microsoft.Hosting.Lifetime[0]
Application started. Press Ctrl+C to shut down.
info: Microsoft.Hosting.Lifetime[0]
Hosting environment: Development
info: Microsoft.Hosting.Lifetime[0]
Content root path: C:\Code\PracticalApps\Northwind.Mvc
fail: Microsoft.AspNetCore.Mvc.ViewFeatures.ViewResultExecutor[3]
The view 'Privacy' was not found. Searched locations: /Views/Home/Privacy.cshtml, /Views/Shared/Privacy.cshtml, /P
ages/Shared/Privacy.cshtml
fail: Microsoft.AspNetCore.Diagnostics.DeveloperExceptionPageMiddleware[1]
An unhandled exception has occurred while executing the request.
System.InvalidOperationException: The view 'Privacy' was not found. The following locations were searched:
/Views/Home/Privacy.cshtml
/Views/Shared/Privacy.cshtml
/Pages/Shared/Privacy.cshtml
Stack

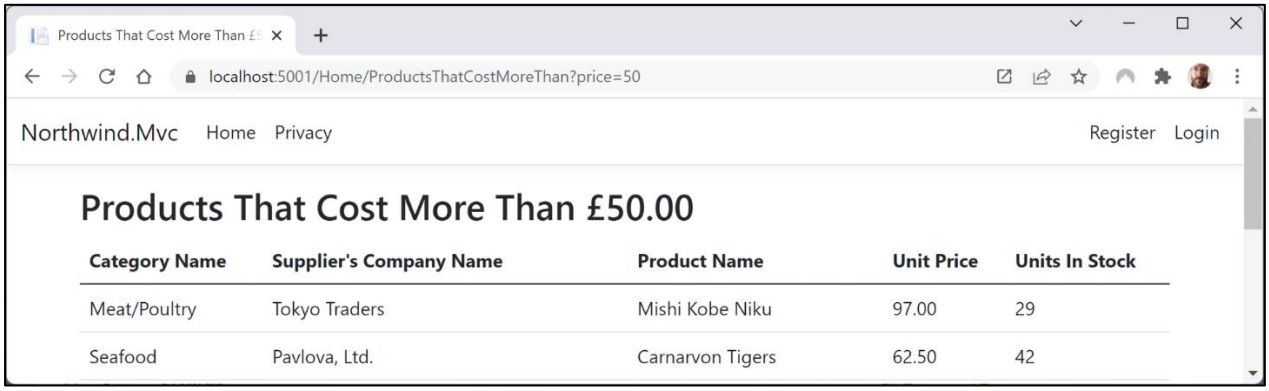

Home Page - Northwind.Mvc
localhost:5001
Dairy Products
Cheeses
View
Northwind
We have had 467 visitors this month.
Products
Chai
£18.00
Chang
£19.00
Schoggi Schokolade
£43.90
Rössle Sauerkraut
£45.60
Filo Mix
£7.00
Perth Pasties
£32.80
Tourtière
£7.45
https://localhost:5001/Home/ProductDetail/2


Product Detail - Chang - Northw
localhost:5001/Home/ProductDetail/2
Northwind.Mvc
Home
Privacy
Register
Login
Product Detail
Product Id
2
Product Name
Chang
Category Id
1
Unit Price
£19.00
Units In Stock
17

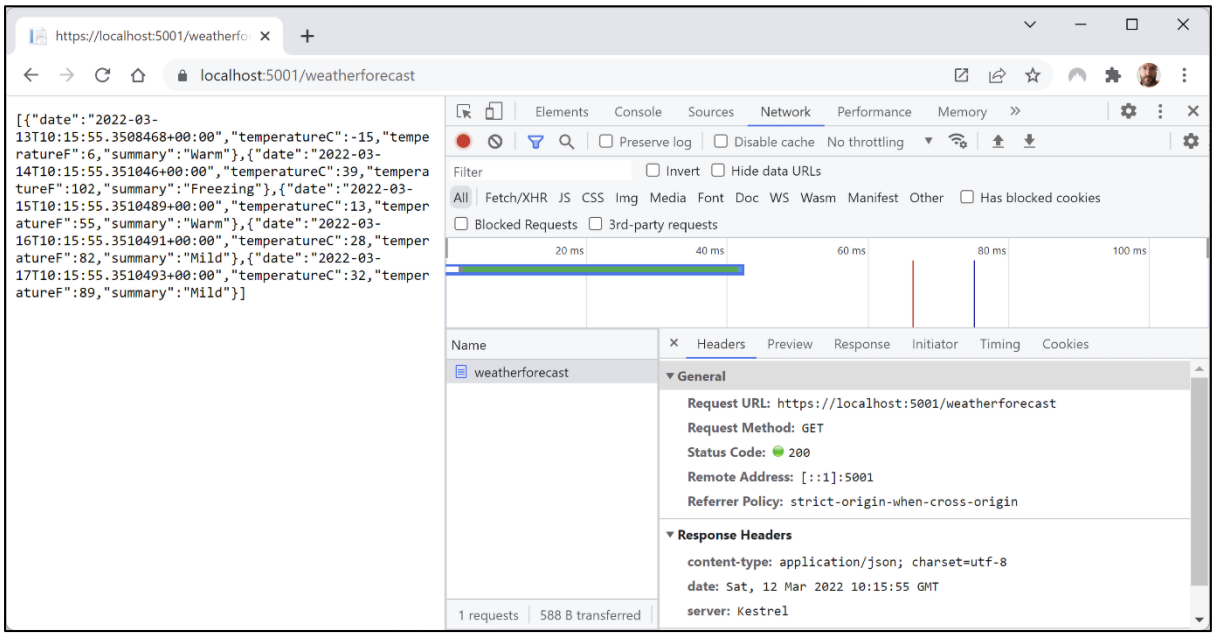

Internal Server Error
localhost:5001/home/modelbinding
An unhandled exception occurred while processing the request.
AmbiguousMatchException: The request matched multiple endpoints. Matches:
Northwind.Mvc.Controllers.HomeController.ModelBinding (Northwind.Mvc)
Northwind.Mvc.Controllers.HomeController.ModelBinding (Northwind.Mvc)

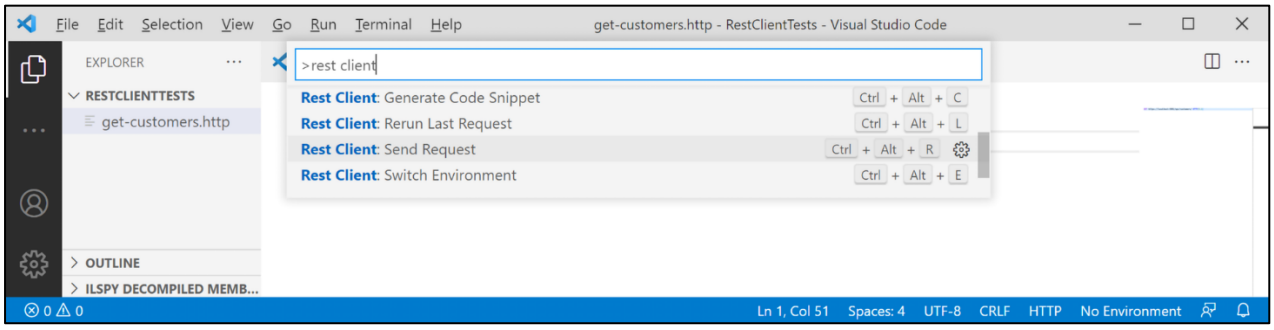

Model Binding Demo - Northwin
localhost:5001/home/modelbinding?id=3
Northwind.Mvc
Home
Privacy
Register
Login
Model Binding Demo
Enter values for your thing in the following form:
Red
Submit
Submitted Thing
Model.Id
3
Model.Color
Red

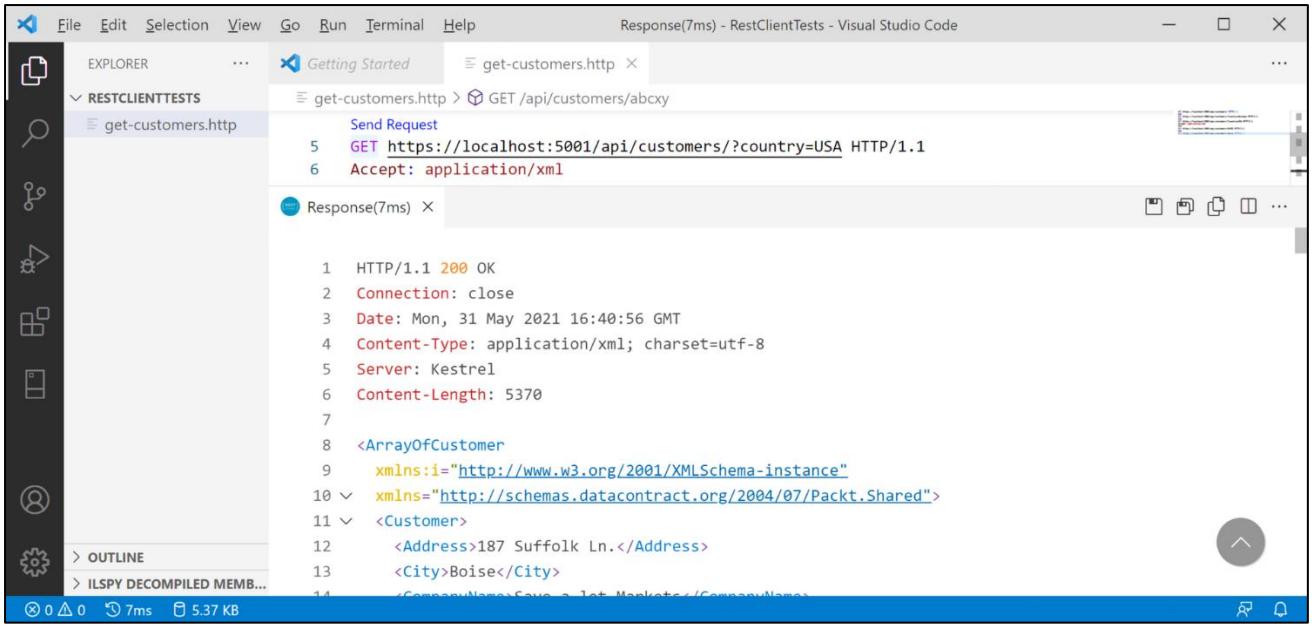
Model Binding Demo - Northwin
localhost:5001/home/modelbinding?id=3
Model.Thing.Id
13
Model.Thing.Color
Model.Thing.Email
testexample.com
The field Id must be between 1 and 10.
The Color field is required.
The Email field is not a valid e-mail address.

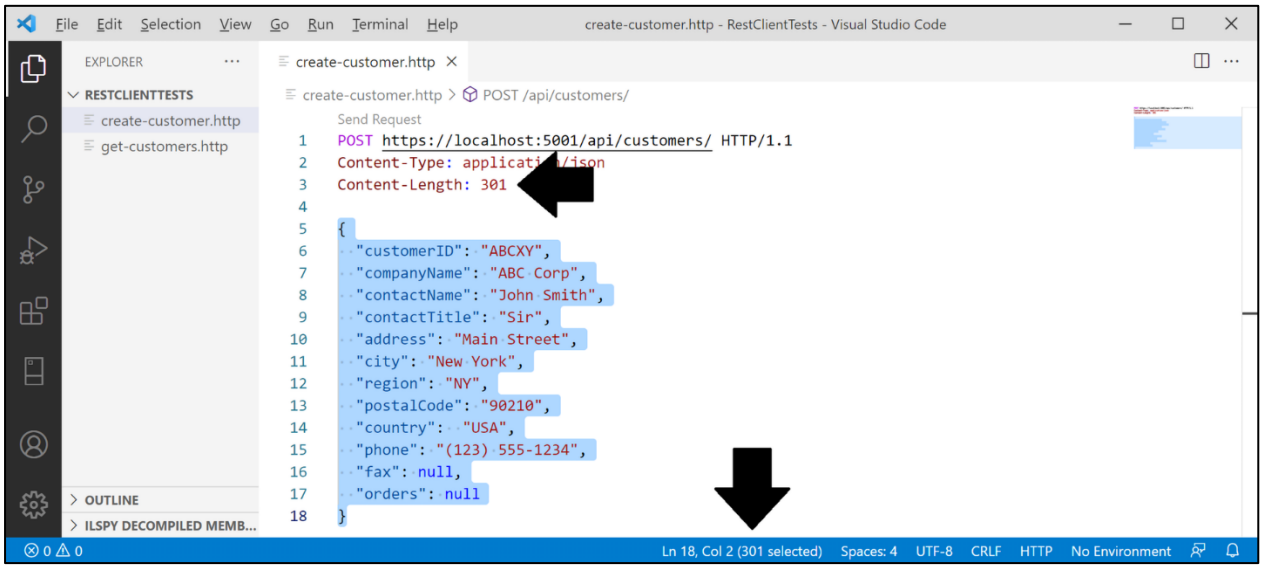

Products That Cost More Than £
localhost:5001/Home/ProductsThatCostMoreThan?price=50
Northwind.Mvc
Home
Privacy
Register
Login
Products That Cost More Than £50.00
Category Name
Supplier's Company Name
Product Name
Unit Price
Units In Stock
Meat/Poultry
Tokyo Traders
Mishi Kobe Niku
97.00
29
Seafood
Pavlova, Ltd.
Carnarvon Tigers
62.50
42

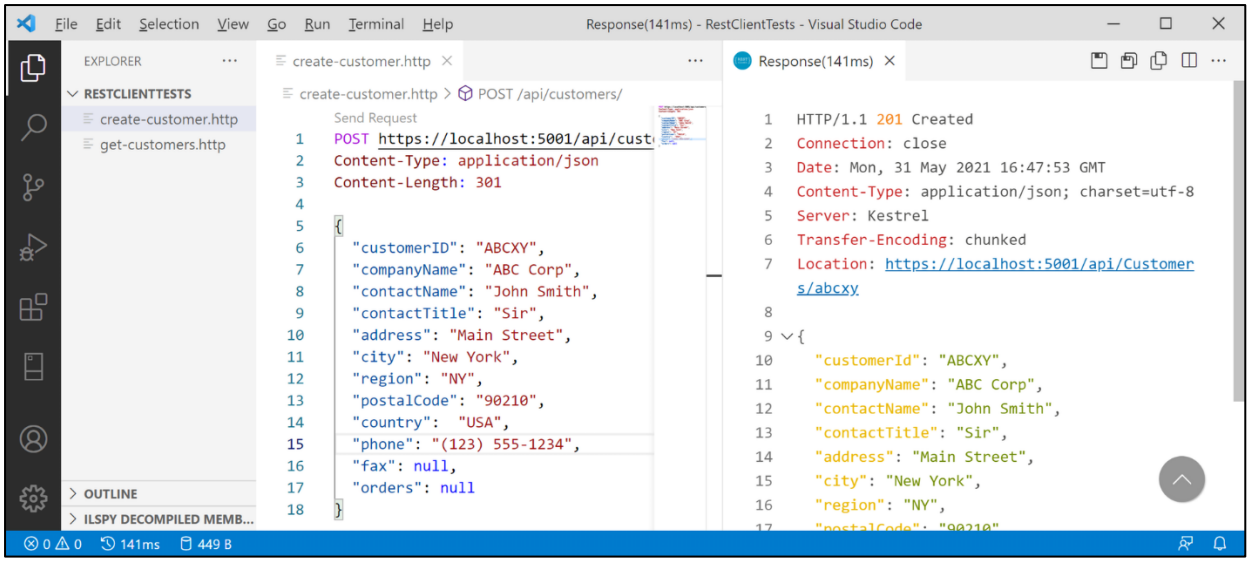
Chapter 15: Building and Consuming Web Services

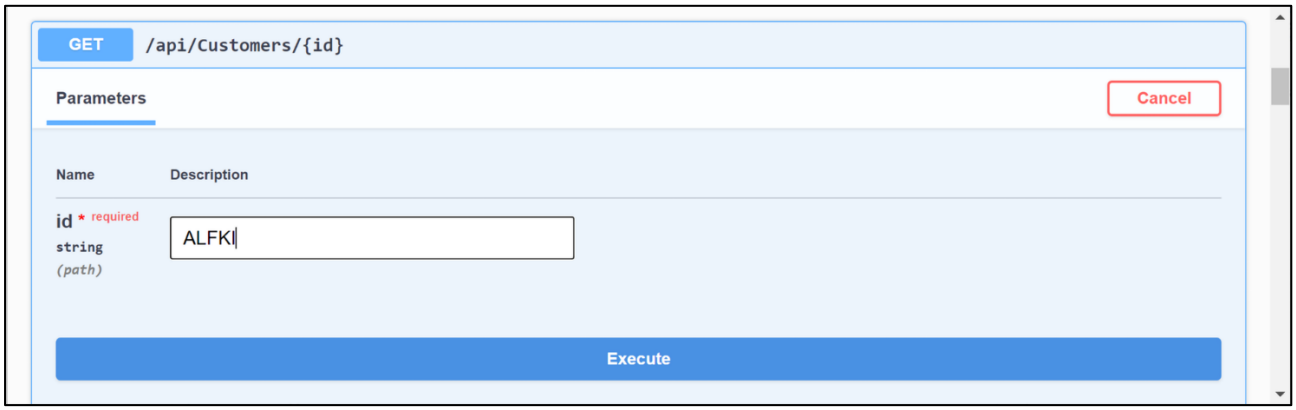


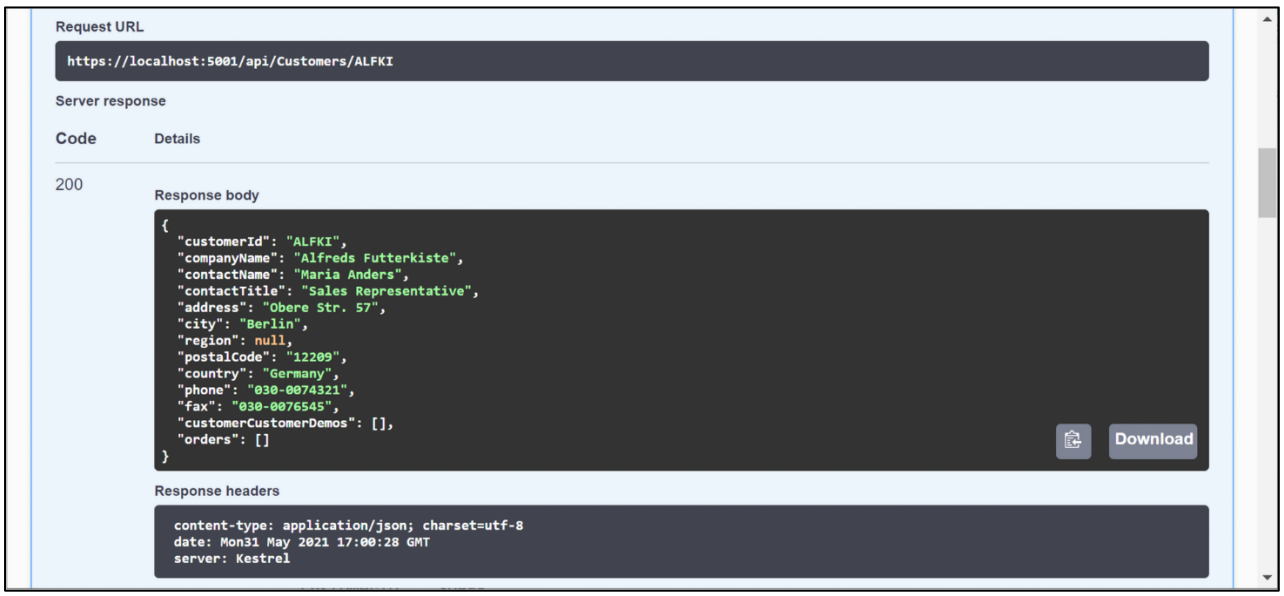



File Edit Selection View Go Run Terminal Help
Response(7ms) - RestClientTests - Visual Studio Code
EXPLORER
RESTCLIENTTESTS
get-customers.http
Getting Started
get-customers.http
get-customers.http > GET /api/customers/abcxy
Send Request
GET https://localhost:5001/api/customers/?country=USA HTTP/1.1
Accept: application/xml
Response(7ms)
HTTP/1.1 200 OK
Connection: close
Date: Mon, 31 May 2021 16:40:56 GMT
Content-Type: application/xml; charset=utf-8
Server: Kestrel
Content-Length: 5370
<ArrayOfCustomer
xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
xmlns="http://schemas.datacontract.org/2004/07/Packt.Shared">
<Customer>
<Address>187 Suffolk Ln.</Address>
<City>Boise</City>
OUTLINE
ILSPY DECOMPILED MEMB...
0 0 7ms 5.37 KB


File Edit Selection View Go Run Terminal Help
create-customer.http - RestClientTests - Visual Studio Code
EXPLORER
RESTCLIENTTESTS
create-customer.http
get-customers.http
create-customer.http
create-customer.http > POST /api/customers/
Send Request
POST https://localhost:5001/api/customers/ HTTP/1.1
Content-Type: application/json
Content-Length: 301
{
"customerID": "ABCXY",
"companyName": "ABC Corp",
"contactName": "John Smith",
"contactTitle": "Sir",
"address": "Main Street",
"city": "New York",
"region": "NY",
"postalCode": "90210",
"country": "USA",
"phone": "(123) 555-1234",
"fax": null,
"orders": null
}
OUTLINE
ILSPY DECOMPILED MEMB...
0 0
Ln 18, Col 2 (301 selected) Spaces: 4 UTF-8 CRLF HTTP No Environment


File Edit Selection View Go Run Terminal Help
Response(141ms) - RestClientTests - Visual Studio Code
EXPLORER
RESTCLIENTTESTS
create-customer.http
get-customers.http
OUTLINE
ILSPY DECOMPILED MEMB...
create-customer.http
create-customer.http > POST /api/customers/
Send Request
POST https://localhost:5001/api/cust
Content-Type: application/json
Content-Length: 301
{
"customerID": "ABCXY",
"companyName": "ABC Corp",
"contactName": "John Smith",
"contactTitle": "Sir",
"address": "Main Street",
"city": "New York",
"region": "NY",
"postalCode": "90210",
"country": "USA",
"phone": "(123) 555-1234",
"fax": null,
"orders": null
}
Response(141ms)
HTTP/1.1 201 Created
Connection: close
Date: Mon, 31 May 2021 16:47:53 GMT
Content-Type: application/json; charset=utf-8
Server: Kestrel
Transfer-Encoding: chunked
Location: https://localhost:5001/api/Customers/abcxy
{
"customerId": "ABCXY",
"companyName": "ABC Corp",
"contactName": "John Smith",
"contactTitle": "Sir",
"address": "Main Street",
"city": "New York",
"region": "NY",
0 0 141ms 449 B


GET
/api/Customers/{id}
Parameters
Cancel
Name
Description
id * required
string
(path)
ALFKI
Execute


Request URL
https://localhost:5001/api/Customers/ALFKI
Server response
Code
Details
200
Response body
{
"customerId": "ALFKI",
"companyName": "Alfreds Futterkiste",
"contactName": "Maria Anders",
"contactTitle": "Sales Representative",
"address": "Obere Str. 57",
"city": "Berlin",
"region": null,
"postalCode": "12209",
"country": "Germany",
"phone": "030-0074321",
"fax": "030-0076545",
"customerCustomerDemos": [],
"orders": []
}
Download
Response headers
content-type: application/json; charset=utf-8
date: Mon31 May 2021 17:00:28 GMT
server: Kestrel

Request URL

```
https://localhost:5001/api/Customers
```

Server response

Code	Details
201	Response body

```
{
  "customerId": "SUPER",
  "companyName": "Super Company",
  "contactName": "Rasmus Ibensen",
  "contactTitle": "Sales Leader",
  "address": "Rotterslef 23",
  "city": "Billund",
  "region": null,
  "postalCode": "4371",
  "country": "Denmark",
  "phone": "31 21 43 21",
  "fax": "31 21 43 22",
  "customerCustomerDemos": [],
  "orders": []
}
```

Download

Response headers

```
content-type: application/json; charset=utf-8
date: Mon31 May 2021 17:02:58 GMT
location: https://localhost:5001/api/Customers/super
server: Kestrel
```

Request URL

```
https://localhost:5001/api/Customers/super
```

Server response

Code	Details
204	Response headers

```
date: Mon31 May 2021 17:06:28 GMT
server: Kestrel
```

Request URL

```
https://localhost:5001/api/Customers/super
```

Server response

Code	Details
404	Error:

Response body

```
{
  "type": "https://tools.ietf.org/html/rfc7231#section-6.5.4",
  "title": "Not Found",
  "status": 404,
  "traceId": "00-220afd91a1f9eb486495666eb3b31554-1cb427958344f3b4-00"
}
```

Download

Request URL

```
https://localhost:5001/api/Customers/bad
```

Server response

Code	Details
400	Error:

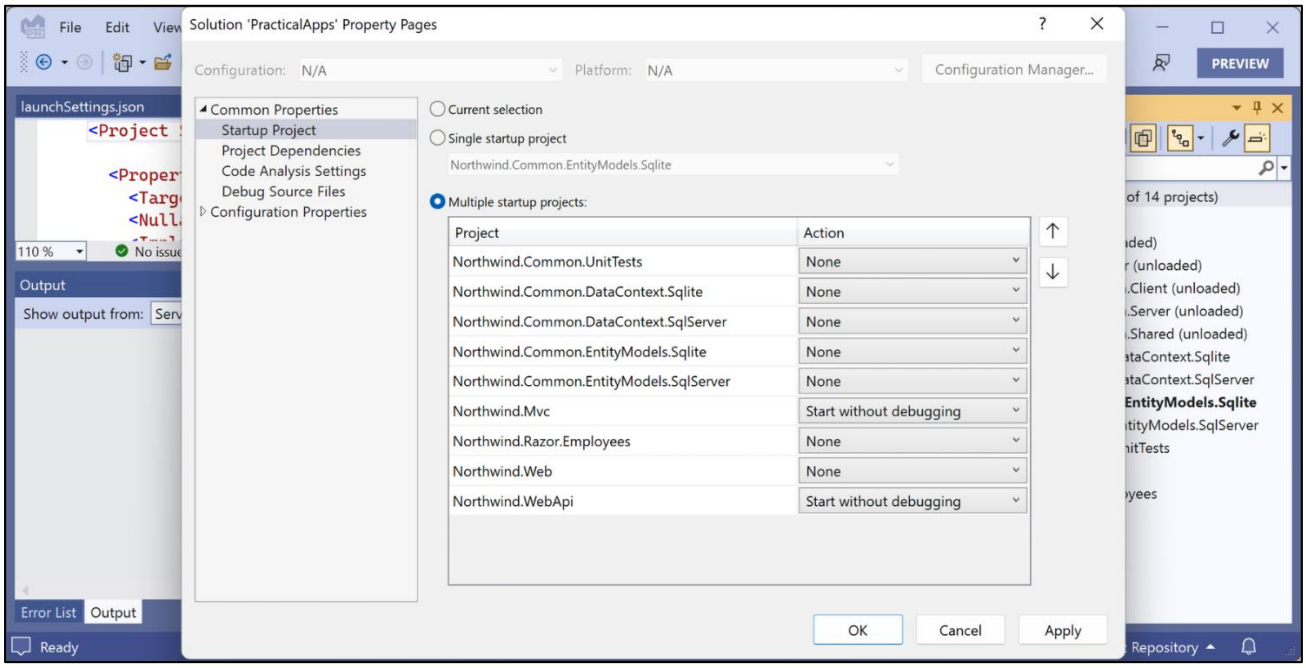
Response body

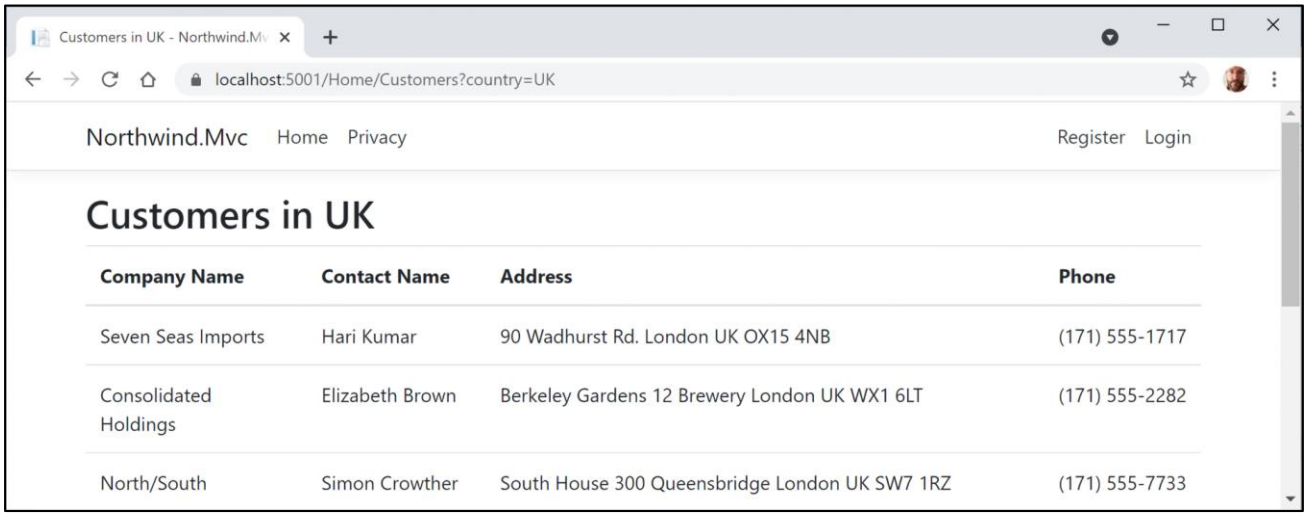
```
{
  "type": "https://localhost:5001/customers/failed-to-delete",
  "title": "Customer ID bad found but failed to delete.",
  "status": 400,
  "detail": "More details like Company Name, Country and so on.",
  "instance": "/api/Customers/bad"
}
```

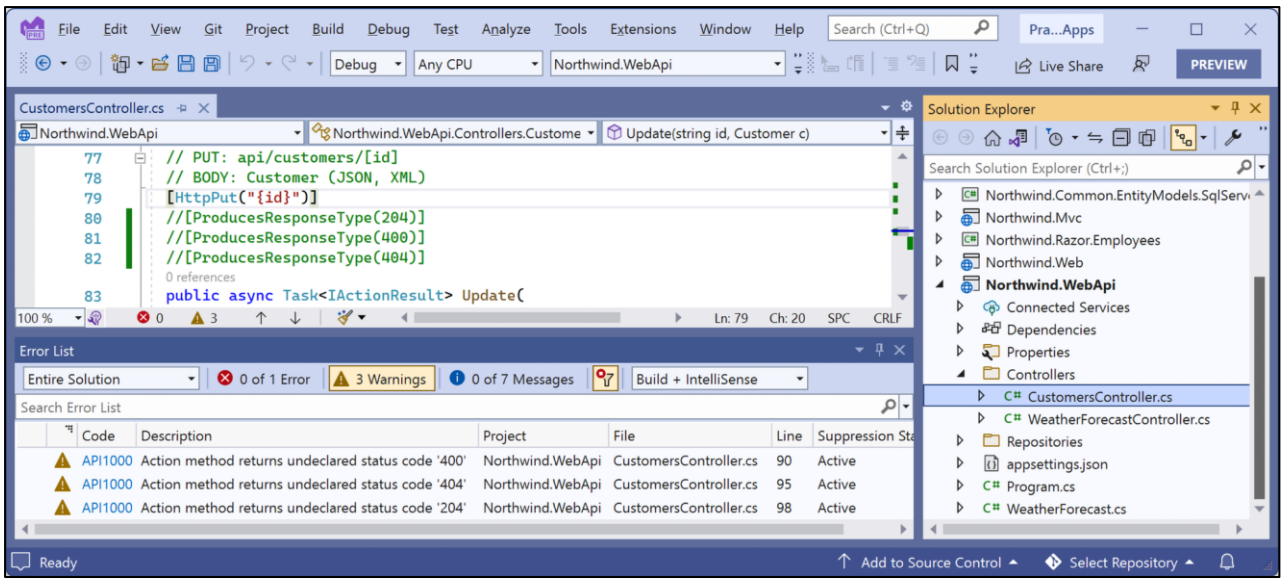
Download

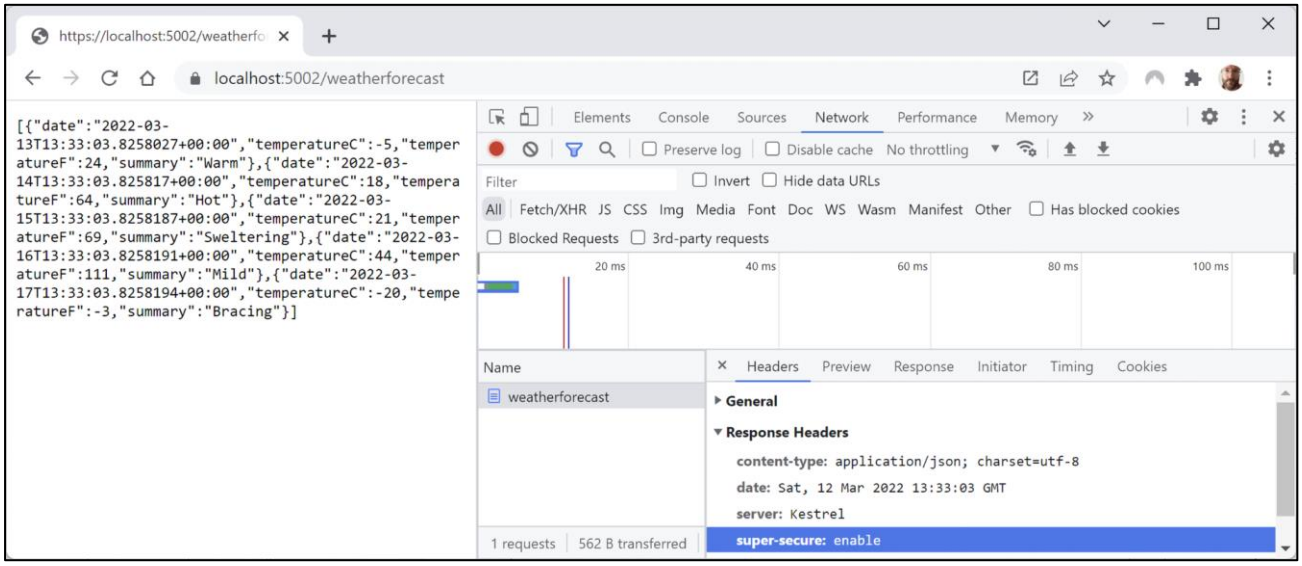
Response headers

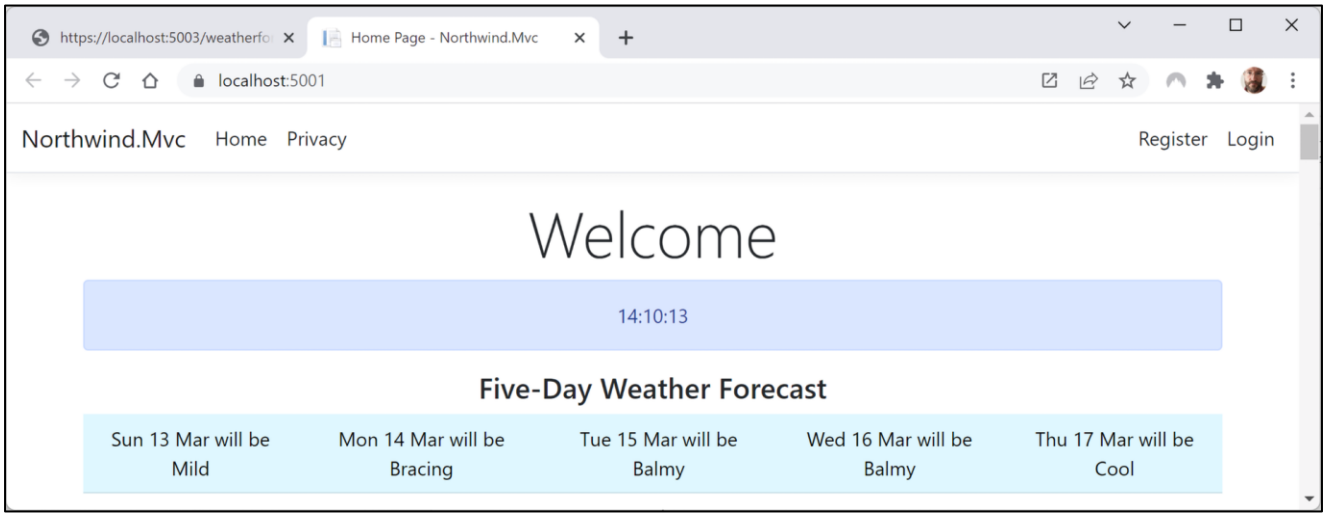
```
content-type: application/problem+json; charset=utf-8
date: Mon31 May 2021 17:08:35 GMT
server: Kestrel
```



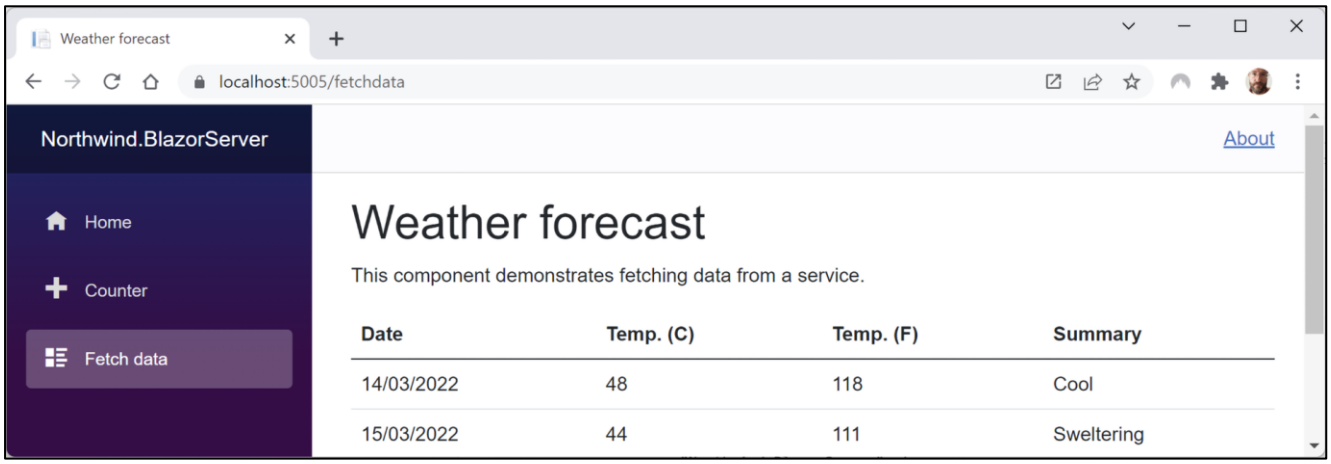


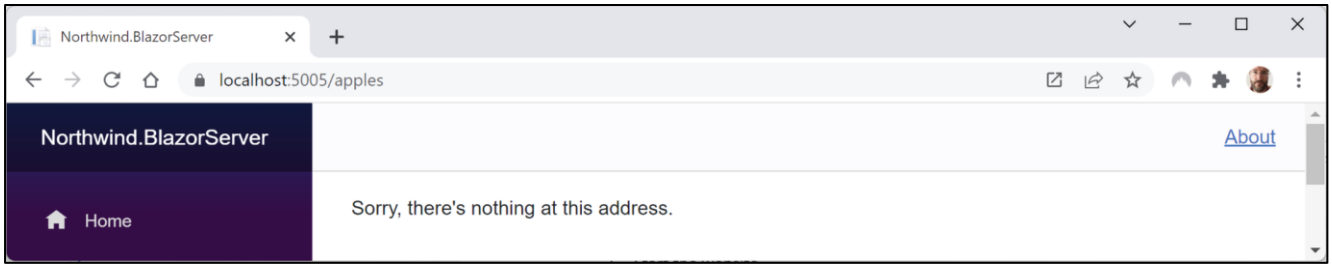

File Edit View Git Project Build Debug Test Analyze Tools Extensions Window Help
Search (Ctrl+Q)
Debug
Any CPU
Northwind.WebApi
Live Share
PREVIEW
CustomersController.cs
Northwind.WebApi
Northwind.WebApi.Controllers.Custome
Update(string id, Customer c)
77 // PUT: api/customers/[id]
78 // BODY: Customer (JSON, XML)
79 [HttpPut("{id}")]
80 //[ProducesResponseType(204)]
81 //[ProducesResponseType(400)]
82 //[ProducesResponseType(404)]
0 references
83 public async Task<IActionResult> Update(
Ln: 79 Ch: 20 SPC CRLF
Solution Explorer
Search Solution Explorer (Ctrl+;)
Northwind.Common.EntityModels.SqlServ
Northwind.Mvc
Northwind.Razor.Employees
Northwind.Web
Northwind.WebApi
Connected Services
Dependencies
Properties
Controllers
CustomersController.cs
WeatherForecastController.cs
Repositories
appsettings.json
Program.cs
WeatherForecast.cs
Error List
Entire Solution
0 of 1 Error
3 Warnings
0 of 7 Messages
Build + IntelliSense
Search Error List
Code Description Project File Line Suppression Sta
API1000 Action method returns undeclared status code '400' Northwind.WebApi CustomersController.cs 90 Active
API1000 Action method returns undeclared status code '404' Northwind.WebApi CustomersController.cs 95 Active
API1000 Action method returns undeclared status code '204' Northwind.WebApi CustomersController.cs 98 Active
Ready
Add to Source Control
Select Repository

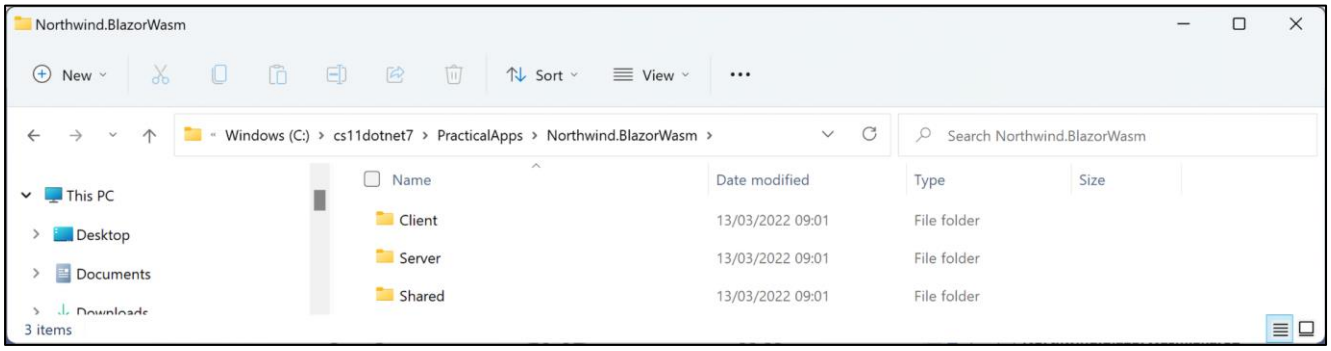

https://localhost:5002/weatherfo
localhost:5002/weatherforecast
[{"date":"2022-03-13T13:33:03.8258027+00:00","temperatureC":-5,"temperatureF":24,"summary":"Warm"},{"date":"2022-03-14T13:33:03.825817+00:00","temperatureC":18,"temperatureF":64,"summary":"Hot"},{"date":"2022-03-15T13:33:03.8258187+00:00","temperatureC":21,"temperatureF":69,"summary":"Sweltering"},{"date":"2022-03-16T13:33:03.8258191+00:00","temperatureC":44,"temperatureF":111,"summary":"Mild"},{"date":"2022-03-17T13:33:03.8258194+00:00","temperatureC":-20,"temperatureF":-3,"summary":"Bracing"}]
Elements Console Sources Network Performance Memory
Preserve log Disable cache No throttling
Filter Invert Hide data URLs
All Fetch/XHR JS CSS Img Media Font Doc WS Wasm Manifest Other Has blocked cookies
Blocked Requests 3rd-party requests
20 ms 40 ms 60 ms 80 ms 100 ms
Name
weatherforecast
Headers Preview Response Initiator Timing Cookies
General
Response Headers
content-type: application/json; charset=utf-8
date: Sat, 12 Mar 2022 13:33:03 GMT
server: Kestrel
super-secure: enable
1 requests 562 B transferred

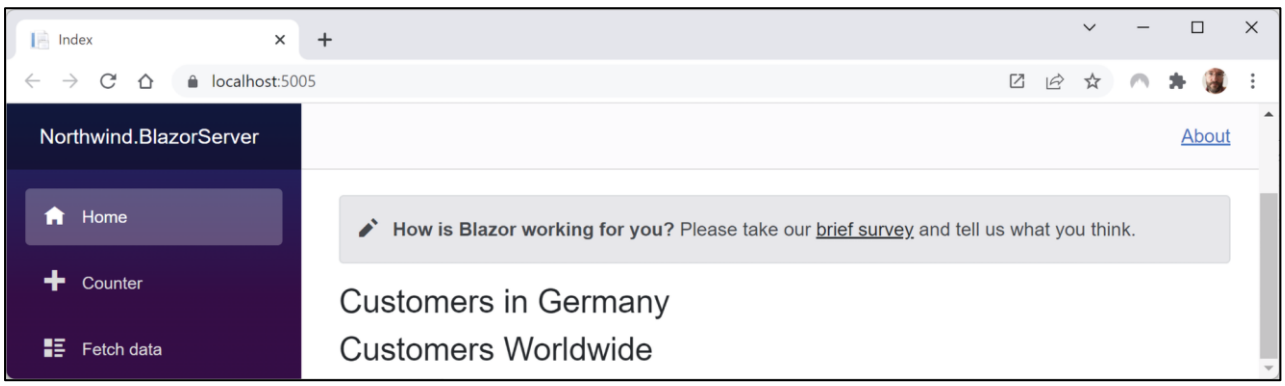

https://localhost:5003/weatherfo
Home Page - Northwind.Mvc
localhost:5001
Northwind.Mvc Home Privacy Register Login
Welcome
14:10:13
Five-Day Weather Forecast
Sun 13 Mar will be Mild
Mon 14 Mar will be Bracing
Tue 15 Mar will be Balmy
Wed 16 Mar will be Balmy
Thu 17 Mar will be Cool

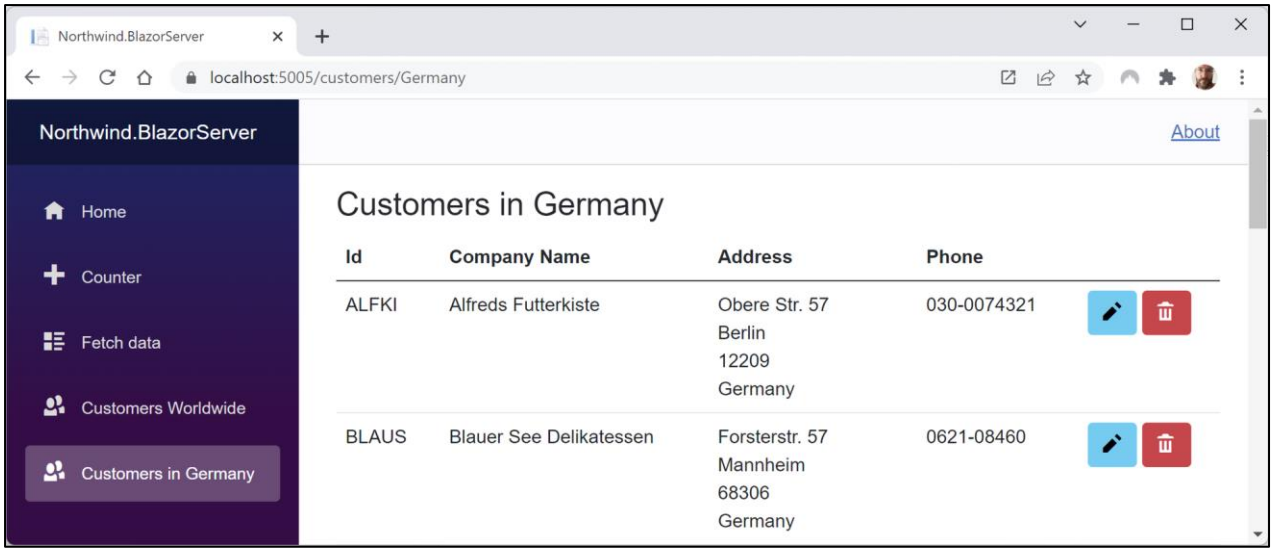
Chapter 16: Building User Interfaces Using Blazor

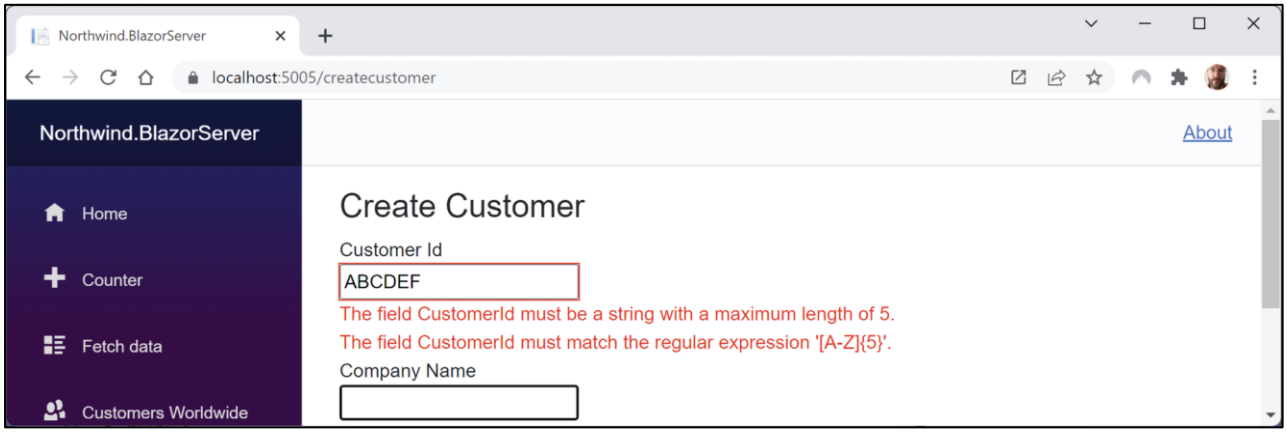


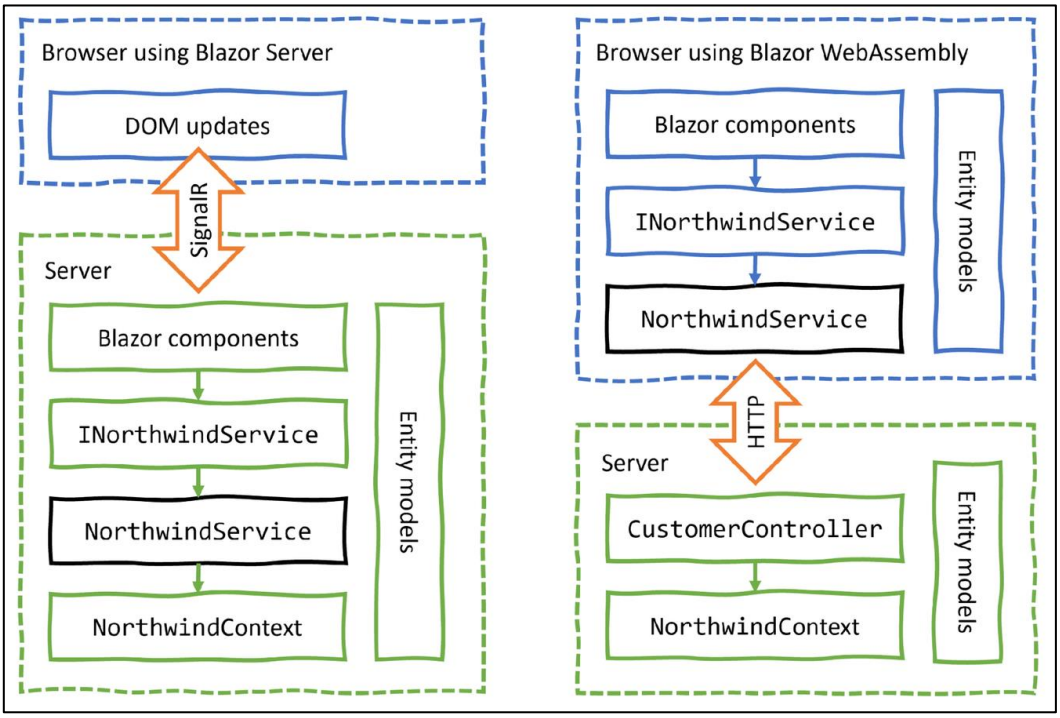


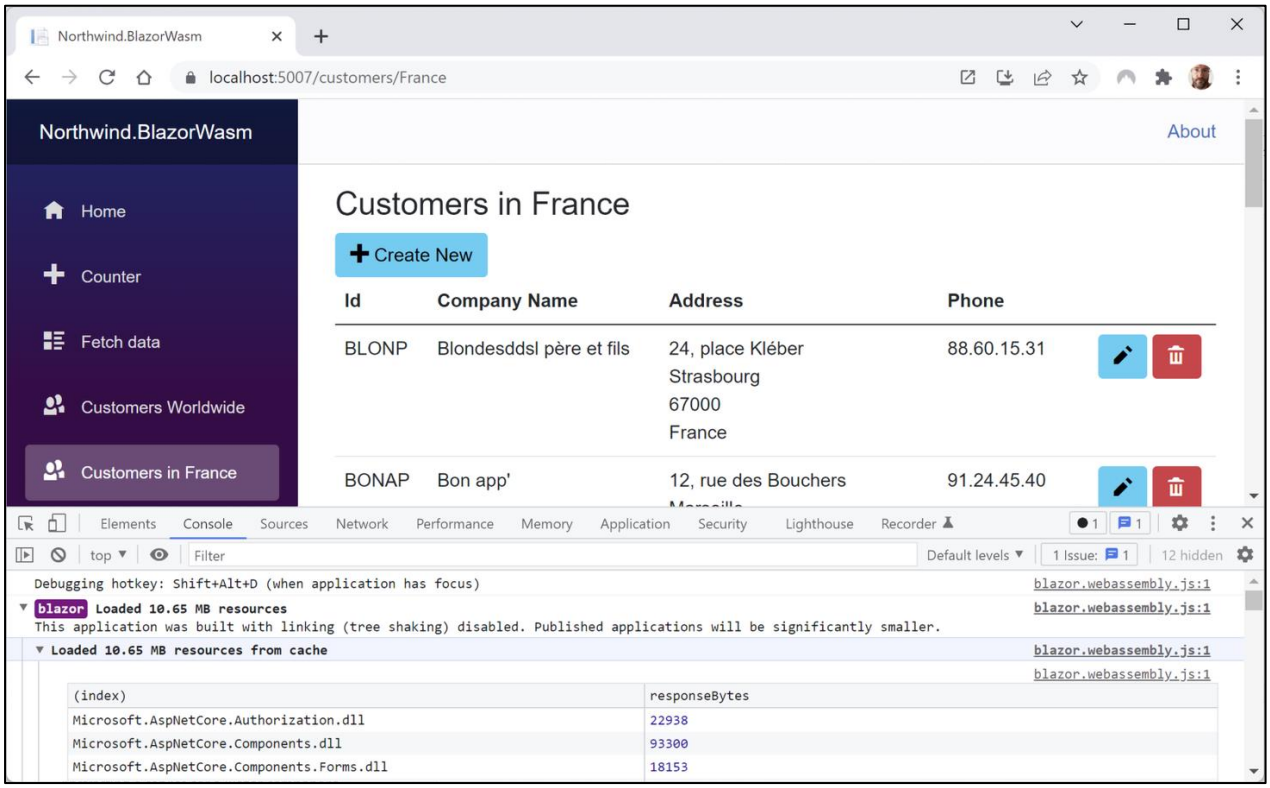


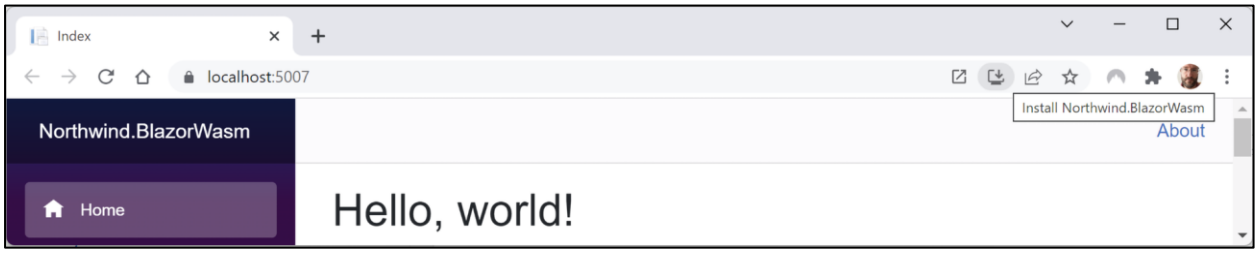


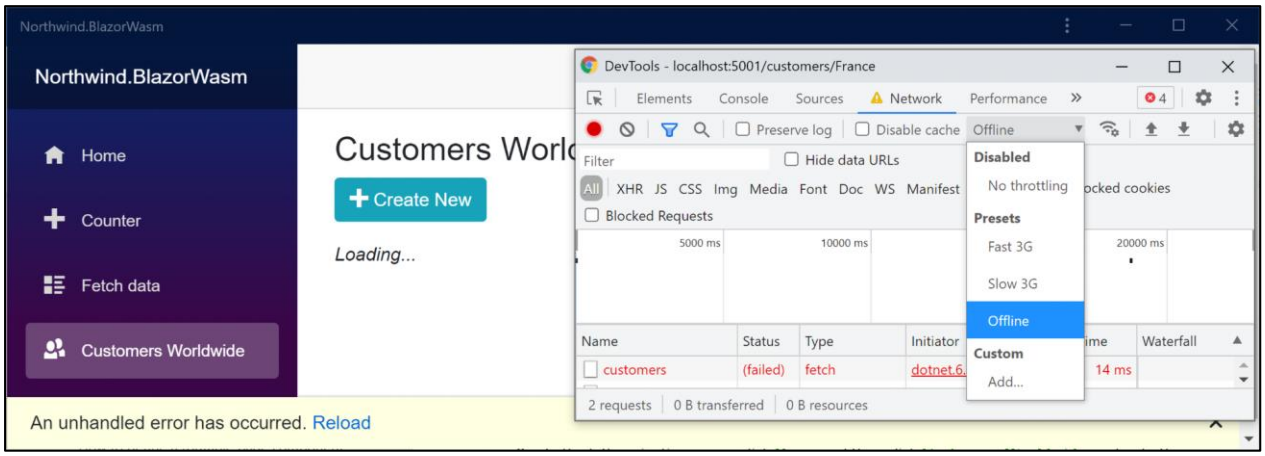

Northwind.BlazorServer
localhost:5005/customers/Germany
Northwind.BlazorServer
About
Home
Counter
Fetch data
Customers Worldwide
Customers in Germany
Customers in Germany
Id
Company Name
Address
Phone
ALFKI
Alfreds Futterkiste
Obere Str. 57
Berlin
12209
Germany
030-0074321
BLAUS
Blauer See Delikatessen
Forsterstr. 57
Mannheim
68306
Germany
0621-08460

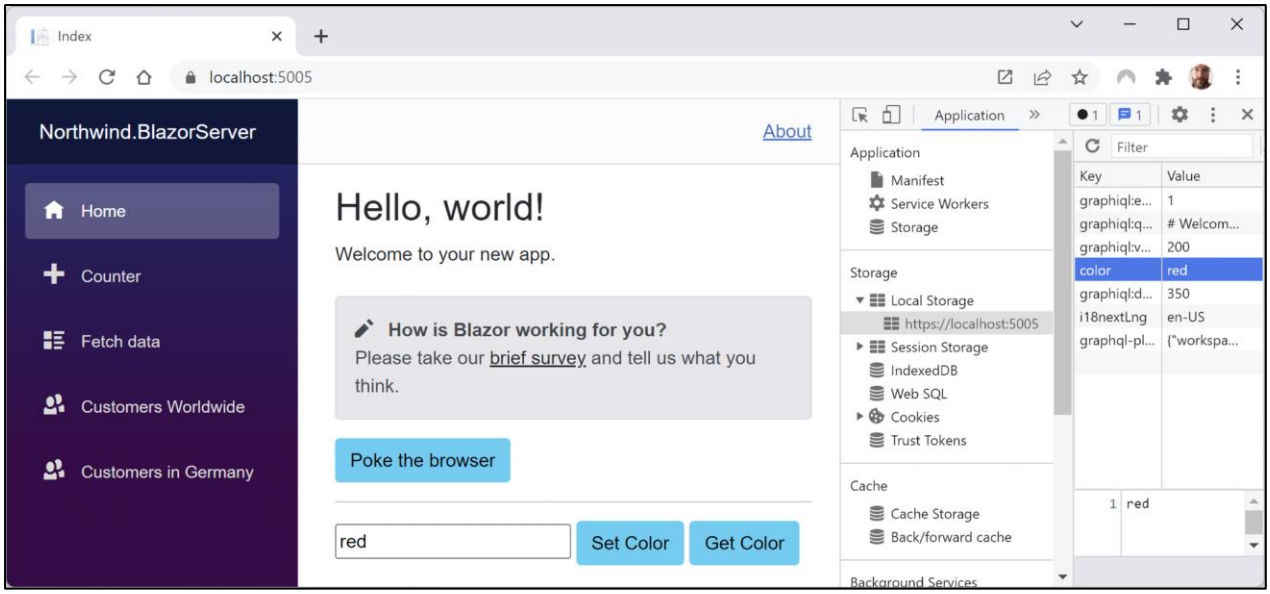

Northwind.BlazorServer
localhost:5005/createcustomer
Northwind.BlazorServer
About
Home
Counter
Fetch data
Customers Worldwide
Create Customer
Customer Id
ABCDEF
The field CustomerId must be a string with a maximum length of 5.
The field CustomerId must match the regular expression '[A-Z]{5}'.
Company Name

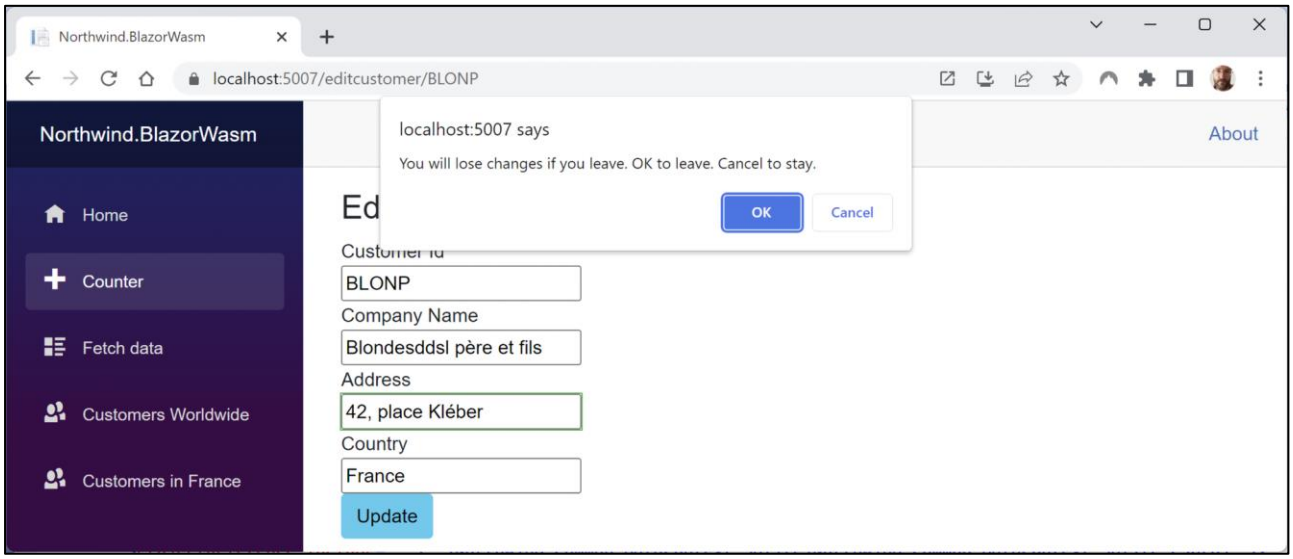
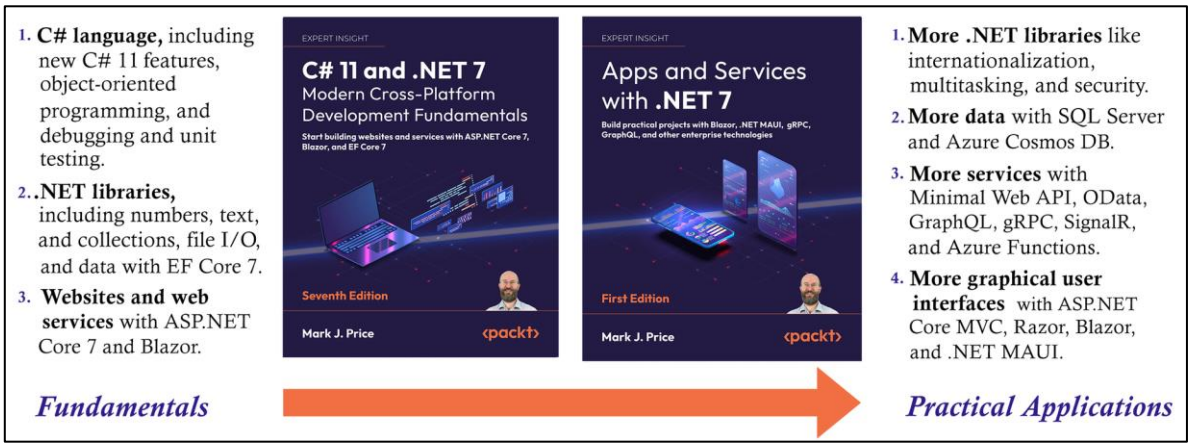
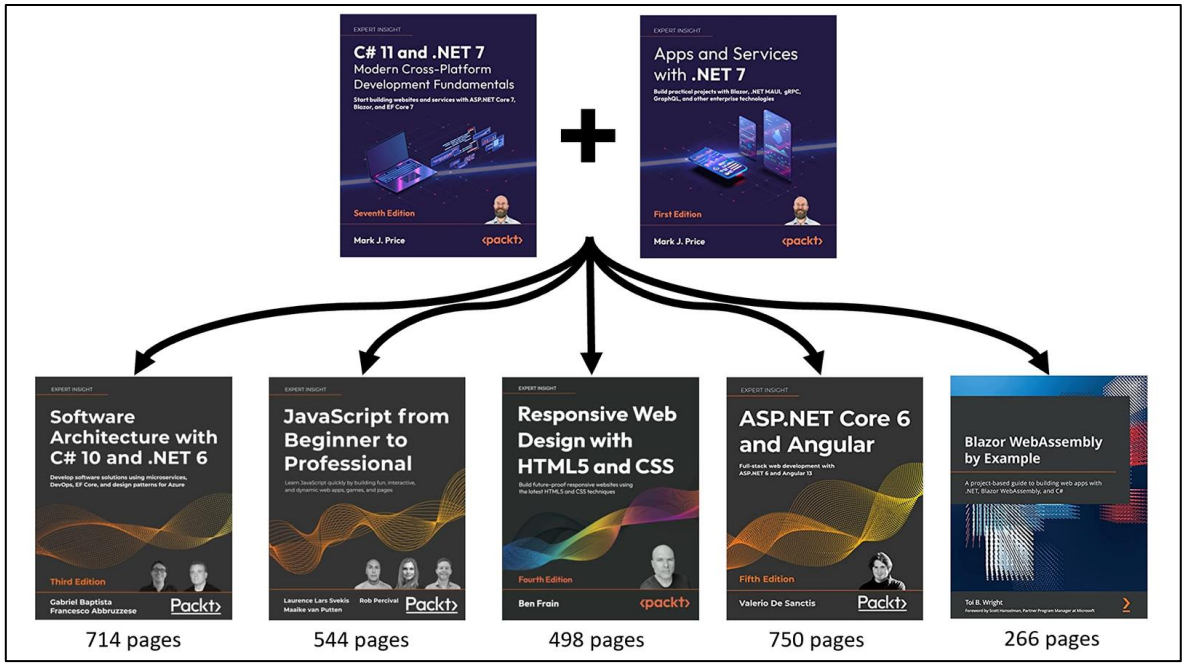

Browser using Blazor Server
DOM updates
SignalR
Server
Blazor components
INorthwindService
NorthwindService
NorthwindContext
Entity models
Browser using Blazor WebAssembly
Blazor components
INorthwindService
NorthwindService
Entity models
HTTP
Server
CustomerController
NorthwindContext
Entity models


Northwind.BlazorWasm
localhost:5007/customers/France
Northwind.BlazorWasm
About
Home
Counter
Fetch data
Customers Worldwide
Customers in France
Customers in France
Create New
Id
Company Name
Address
Phone
BLONP
Blondesddsl père et fils
24, place Kléber
Strasbourg
67000
France
88.60.15.31
BONAP
Bon app'
12, rue des Bouchers
91.24.45.40
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Lighthouse
Recorder
Filter
Default levels
1 Issue:
12 hidden
Debugging hotkey: Shift+Alt+D (when application has focus)
blazor.webassembly.js:1
blazor
Loaded 10.65 MB resources
blazor.webassembly.js:1
This application was built with linking (tree shaking) disabled. Published applications will be significantly smaller.
Loaded 10.65 MB resources from cache
blazor.webassembly.js:1
blazor.webassembly.js:1
(index)
responseBytes
Microsoft.AspNetCore.Authorization.dll
22938
Microsoft.AspNetCore.Components.dll
93300
Microsoft.AspNetCore.Components.Forms.dll
18153


Index
localhost:5007
Install Northwind.BlazorWasm
Northwind.BlazorWasm
About
Home
Hello, world!


Northwind.BlazorWasm
Northwind.BlazorWasm
Home
Counter
Fetch data
Customers Worldwide
Customers Worl
Create New
Loading...
An unhandled error has occurred. Reload
DevTools - localhost:5001/customers/France
Elements
Console
Sources
Network
Performance
Preserve log
Disable cache
Offline
Filter
Hide data URLs
All
XHR
JS
CSS
Img
Media
Font
Doc
WS
Manifest
Blocked Requests
5000 ms
10000 ms
20000 ms
Disabled
No throttling
Presets
Fast 3G
Slow 3G
Offline
Custom
Add...
Name
Status
Type
Initiator
Waterfall
customers
(failed)
fetch
14 ms
2 requests
0 B transferred
0 B resources


Index
localhost:5005
Northwind.BlazorServer
About
Home
Counter
Fetch data
Customers Worldwide
Customers in Germany
Hello, world!
Welcome to your new app.
How is Blazor working for you?
Please take our brief survey and tell us what you think.
Poke the browser
red
Set Color
Get Color
Application
Manifest
Service Workers
Storage
Storage
Local Storage
https://localhost:5005
Session Storage
IndexedDB
Web SQL
Cookies
Trust Tokens
Cache
Cache Storage
Back/forward cache
Background Services
Filter
Key
Value
color
red
1 red


Northwind.BlazorWasm
localhost:5007/editcustomer/BLONP
Northwind.BlazorWasm
About
localhost:5007 says
You will lose changes if you leave. OK to leave. Cancel to stay.
OK
Cancel
Home
Counter
Fetch data
Customers Worldwide
Customers in France
Ed
Customer Id
BLONP
Company Name
Blondesddsl père et fils
Address
42, place Kléber
Country
France
Update

Chapter 17: Epilogue