APL64 CPC WebServer with an HTML Browser-based GUI

Contents

Overview

In this example an APL64 cross-platform component (CPC) is used to support a web server. A browser-based client GUI is also illustrated.

An APL64 CPC exposes one or more APL64 programmer-developed public functions. The APL64 CPC in this example exposes two APL64 programmer-developed public functions.

The web server is created using open source .Net technology, which is available for the Windows, Linux, Android and iOS environments. The programming code behind the server connects the APL64 CPC public functions to the server using C# Razor technology.

The browser-based GUI client uses the html programming language. Learn more about html here.

Technology used in this example uses: APL64 and the open-source technology of .Net, C#, Html, and ASP.Net.Razor. The example illustrates the application development using Visual Studio 2022. No cost versions of Visual Studio are also available: Visual Studio Code and Visual Studio Community Version.

Download the Source Code

The complete source code for this example may be downloaded here:

http://apl2000.com/APL64/UserDocumentation/APL64CpcServerWithBrowserGui.zip

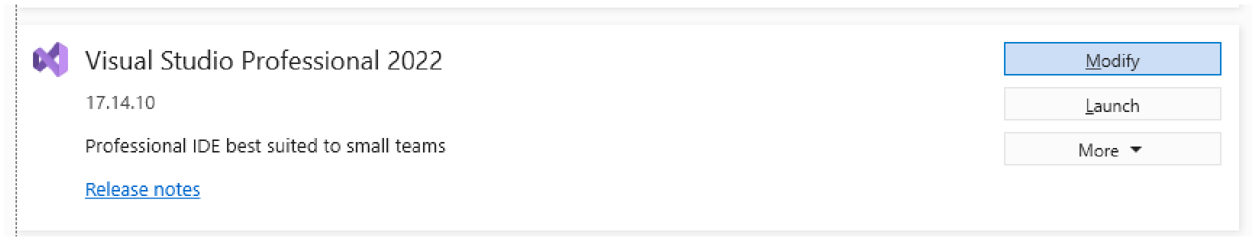
After downloading the source code, unzip the solution folder to the c:\ drive, and follow the instructions in this document. Some steps in the document have already been applied to the downloaded source code. To run this example application, it is necessary to build the APL64 CPC using APL64 Developer version.

Create the Visual Studio Solution

Visual Studio is available in several versions. Obtain the no-cost Visual Studio Community Version here.

Check the Visual Studio 2022 Project Templates

In VS2022 check that the ‘ASP.NET Core Wsb App (Razor Pages) project template is available. If this template is not available, close VS2022 and open Visual Studio Installer. In VSInstaller, select the modify option for VS2022.

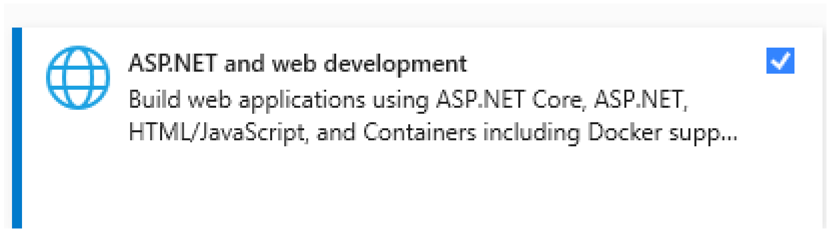

Visual Studio Professional 2022

17.14.10

Professional IDE best suited to small teams

Release notes

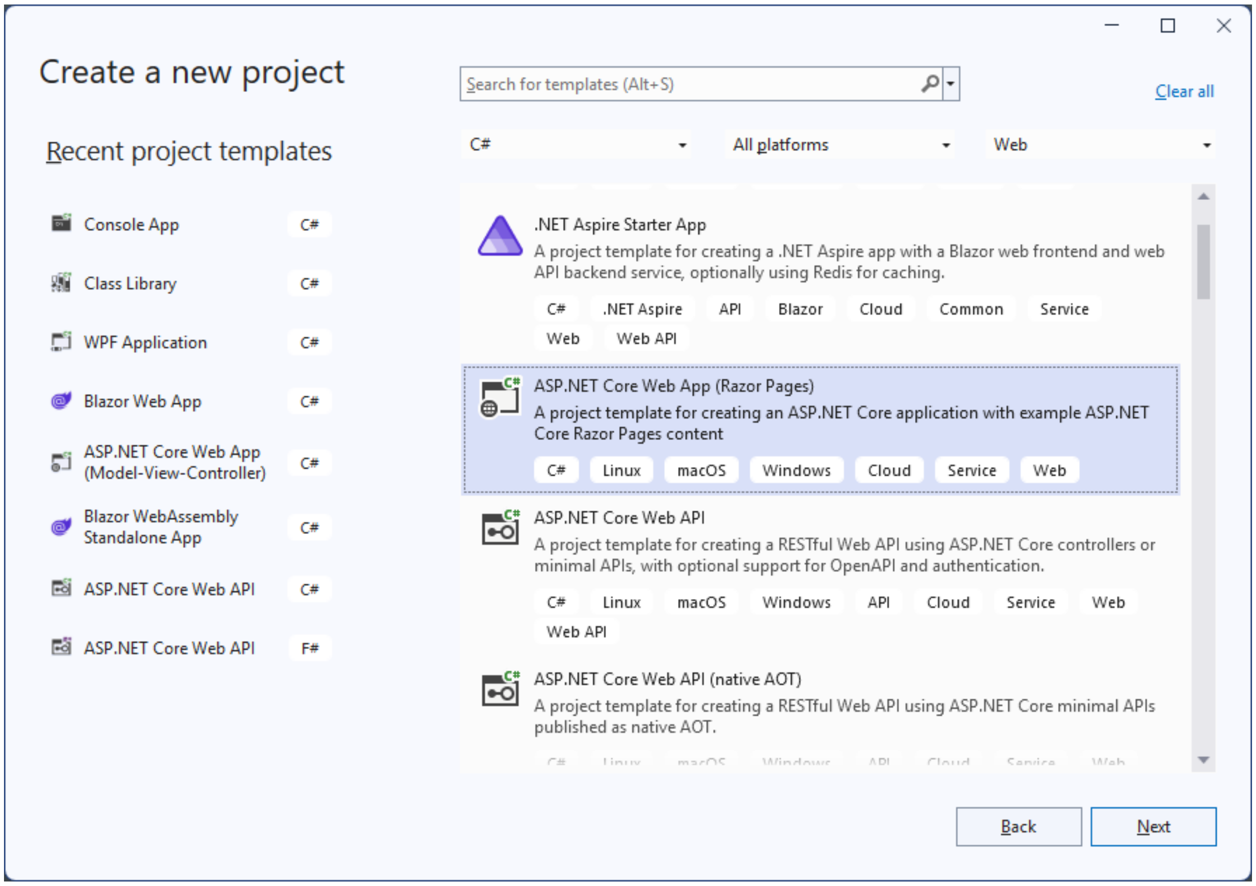
In VSInstaller check the ASP.Net and web development workload:


ASP.NET and web development

Build web applications using ASP.NET Core, ASP.NET, HTML/JavaScript, and Containers including Docker supp...

Click the VSInstaller Modify button to update VS2022 to the latest version and obtain the latest web templates.

Create a new Project by Selecting the Project Template


Create a new project

Search for templates (Alt+S)

Clear all

C# | All platforms | Web

Recent project templates

Console App	C#
Class Library	C#
WPF Application	C#
Blazor Web App	C#
ASP.NET Core Web App (Model-View-Controller)	C#
Blazor WebAssembly Standalone App	C#
ASP.NET Core Web API	C#
ASP.NET Core Web API	F#

.NET Aspire Starter App

A project template for creating a .NET Aspire app with a Blazor web frontend and web API backend service, optionally using Redis for caching.

C# .NET Aspire API Blazor Cloud Common Service Web Web API

ASP.NET Core Web App (Razor Pages)

A project template for creating an ASP.NET Core application with example ASP.NET Core Razor Pages content

C# Linux macOS Windows Cloud Service Web

ASP.NET Core Web API

A project template for creating a RESTful Web API using ASP.NET Core controllers or minimal APIs, with optional support for OpenAPI and authentication.

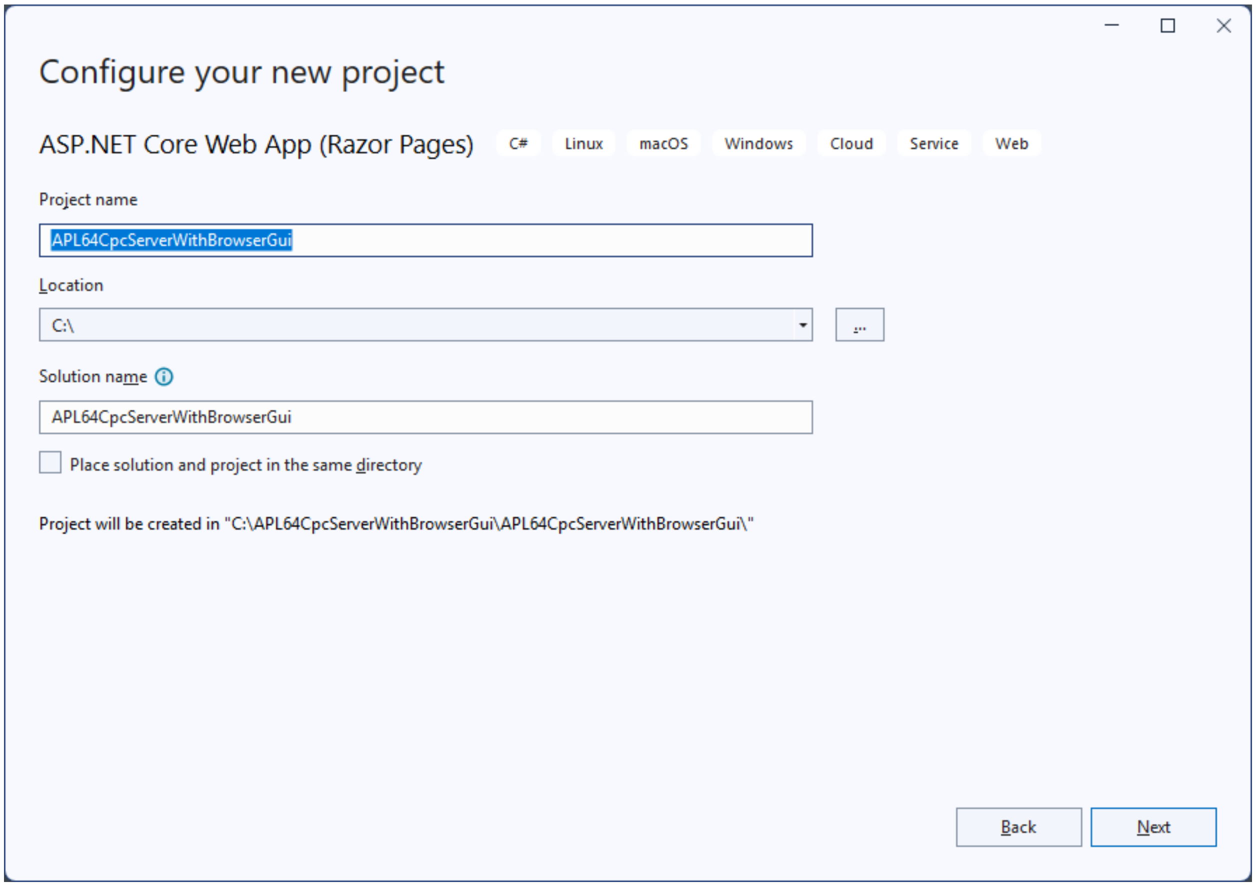
C# Linux macOS Windows API Cloud Service Web Web API

ASP.NET Core Web API (native AOT)

A project template for creating a RESTful Web API using ASP.NET Core minimal APIs published as native AOT.

C# Linux macOS Windows API Cloud Service Web

Specify the Solution Name and Local Repository



Configure your new project

ASP.NET Core Web App (Razor Pages)

Project name: APL64CpcServerWithBrowserGui

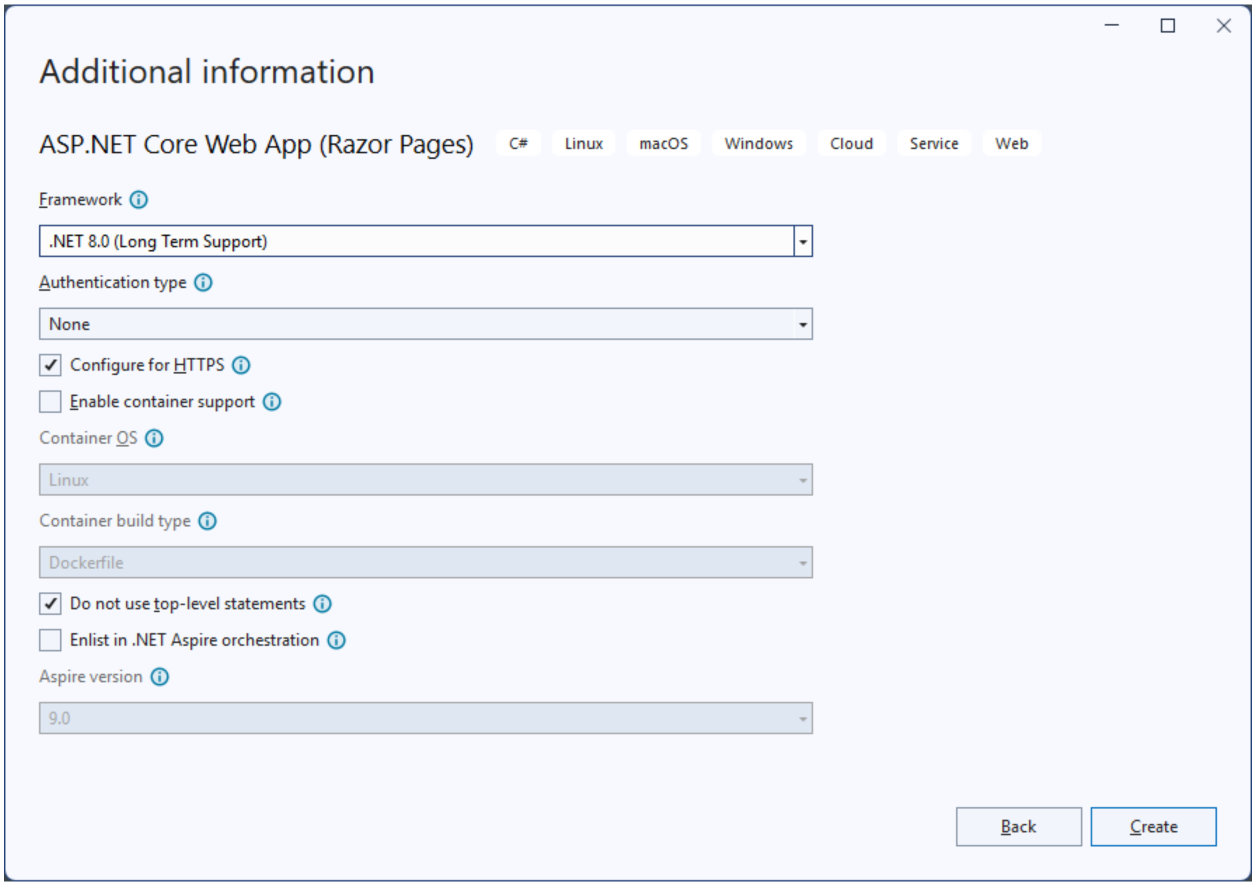
Location: C:\

Solution name: APL64CpcServerWithBrowserGui

[ ] Place solution and project in the same directory

Project will be created in "C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\"

Complete the Additional Project Information



Additional information

ASP.NET Core Web App (Razor Pages) C# Linux macOS Windows Cloud Service Web

Framework: .NET 8.0 (Long Term Support)

Authentication type: None

[✓] Configure for HTTPS

[ ] Enable container support

Container OS: Linux

Container build type: Dockerfile

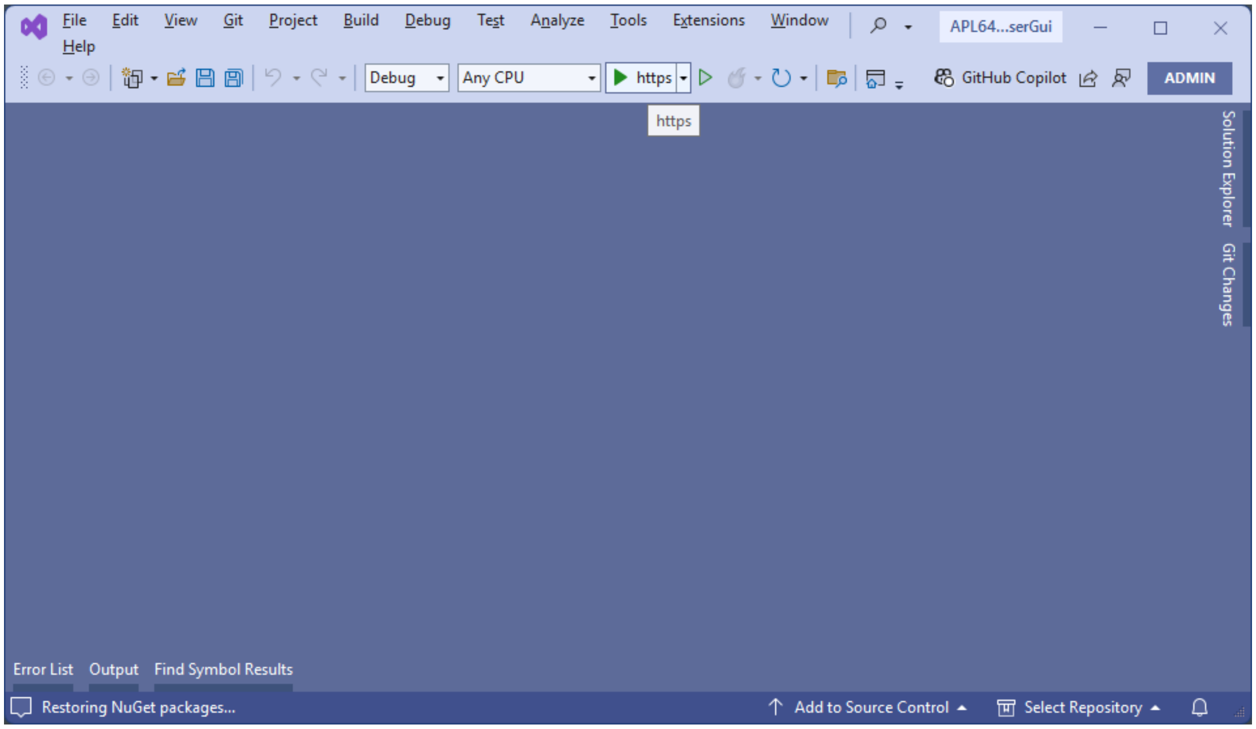
[✓] Do not use top-level statements

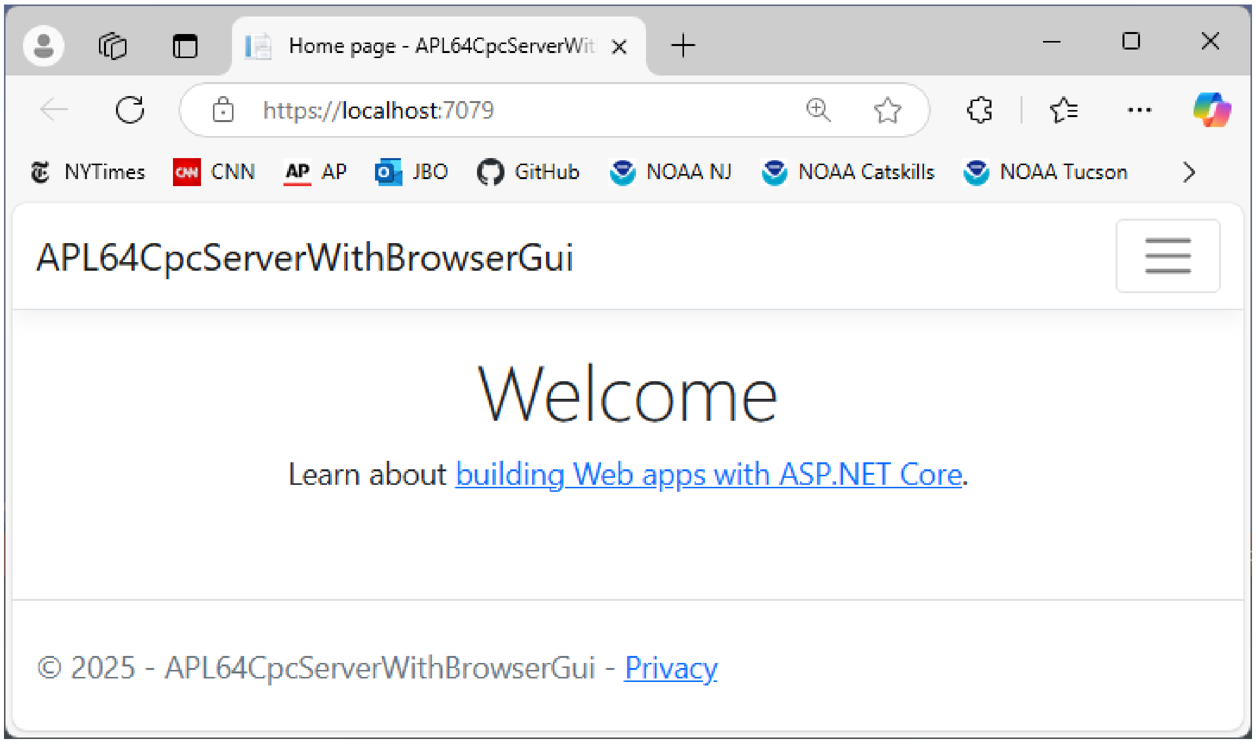
[ ] Enlist in .NET Aspire orchestration

Aspire version: 9.0

Run the Project

Click F5 to run the project in debug mode:





APL64CpcServerWithBrowserGui

Welcome

Learn about building Web apps with ASP.NET Core.

© 2025 - APL64CpcServerWithBrowserGui - Privacy

To learn more, click the building Web apps with ASP.NET Core link.

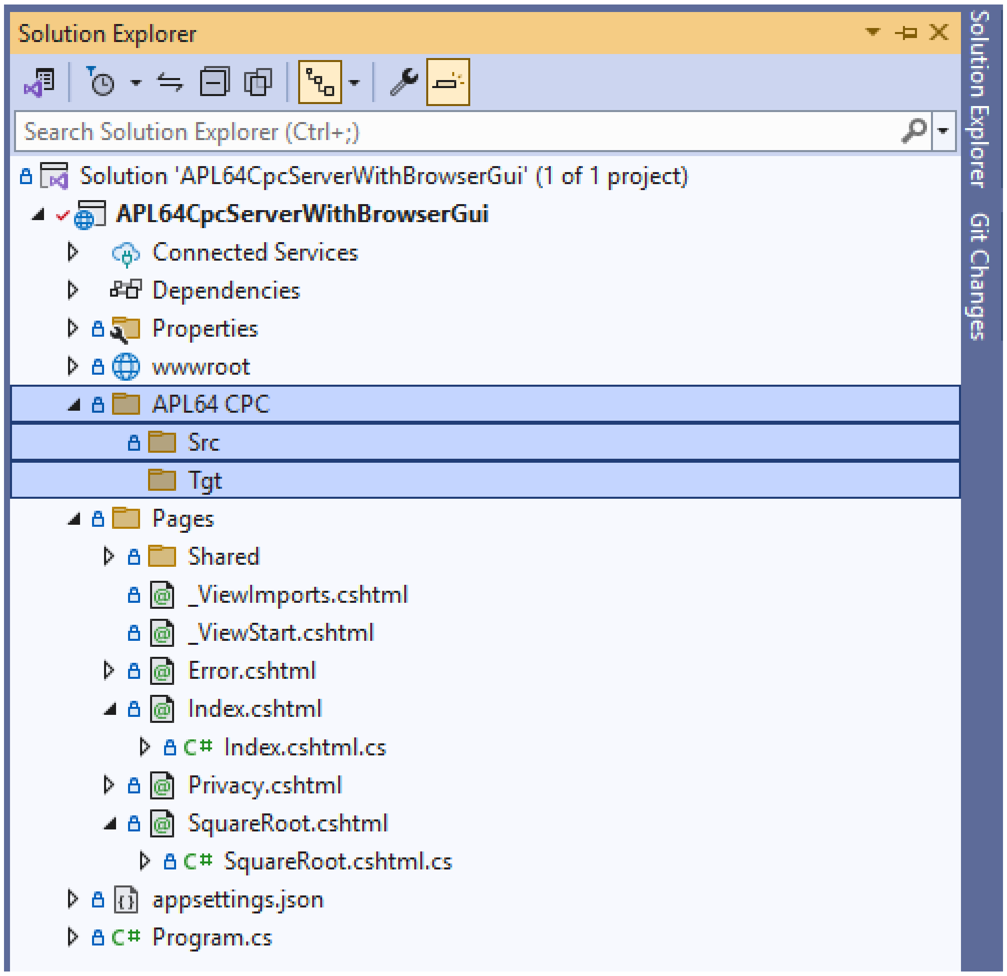
Stop Running the Project

Click Shift+F5 to stop debugging the project.

Create the APL64 CPC

Add Solution Folders for the APL64 CPC

In the Visual Studio Solution Explorer create the APL64CPC folder and the Src and Tgt sub-folders.



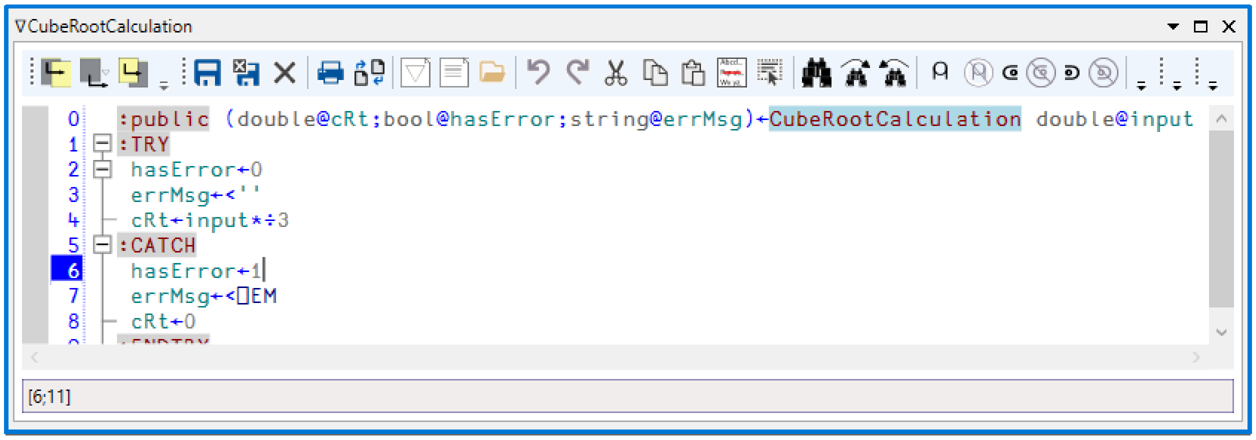
```
Solution 'APL64CpcServerWithBrowserGui' (1 of 1 project)
  APL64CpcServerWithBrowserGui
    Connected Services
    Dependencies
    Properties
    wwwroot
    APL64 CPC
      Src
      Tgt
    Pages
      Shared
      _ViewImports.cshtml
      _ViewStart.cshtml
      Error.cshtml
      Index.cshtml
        Index.cshtml.cs
      Privacy.cshtml
      SquareRoot.cshtml
        SquareRoot.cshtml.cs
    appsettings.json
    Program.cs
```

In APL64 Create the Functions

Two public functions are created to be run behind the server to support the calculations request by the browser-based client.

```
:public (double@cRt;bool@hasError;string@errMsg)←CubeRootCalculation double@input
:TRY
 hasError←0
 errMsg←<''
 cRt←input*÷3
:CATCH
 hasError←1
 errMsg←<⎕EM
 cRt←0
```

```
:ENDTRY
```

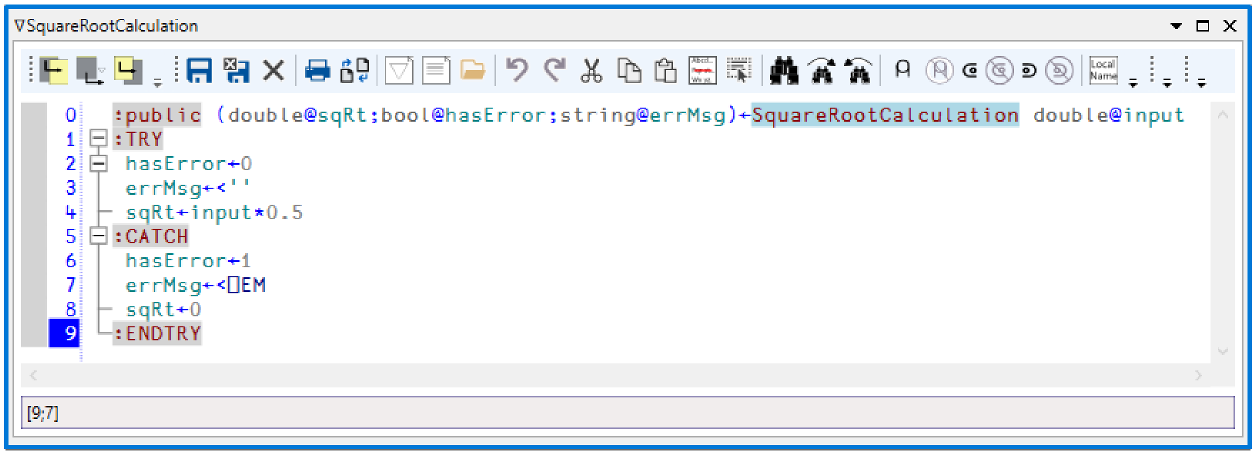


∇CubeRootCalculation

```
:public (double@cRt;bool@hasError;string@errMsg)←CubeRootCalculation double@input
:TRY
 hasError←0
 errMsg←<''
 cRt←input*÷3
:CATCH
 hasError←1
 errMsg←<⎕EM
 cRt←0
```

[6;11]

```
:public (double@sqRt;bool@hasError;string@errMsg)←SquareRootCalculation double@input
:TRY
 hasError←0
 errMsg←<''
 cRt←input*÷0.5
:CATCH
 hasError←1
 errMsg←<⎕EM
 cRt←0
:ENDTRY
```

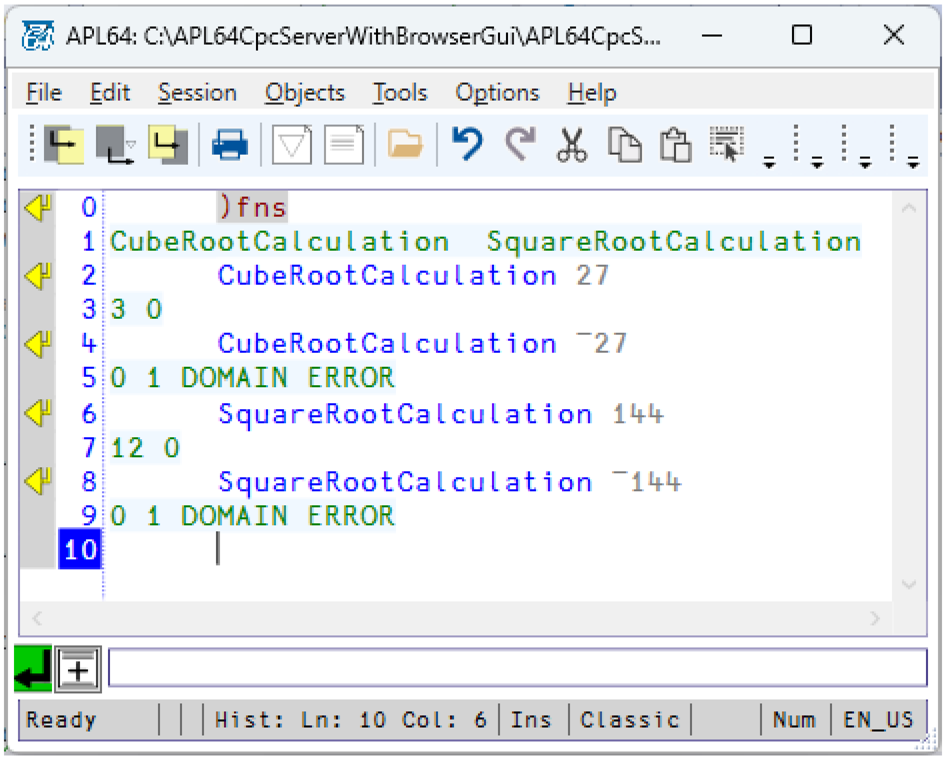


∇SquareRootCalculation

```
:public (double@sqRt;bool@hasError;string@errMsg)←SquareRootCalculation double@input
:TRY
 hasError←0
 errMsg←<''
 sqRt←input*0.5
:CATCH
 hasError←1
 errMsg←<⎕EM
 sqRt←0
:ENDTRY
```

[9;7]

Test the Functions In APL64



APL64: C:\APL64CpcServerWithBrowserGui\APL64CpcS...

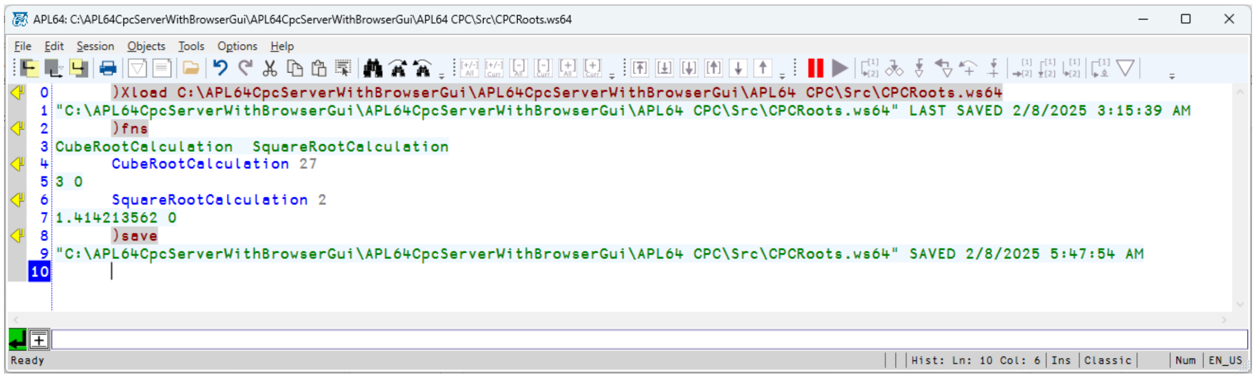
```
      )fns
CubeRootCalculation  SquareRootCalculation
      CubeRootCalculation 27
3 0
      CubeRootCalculation ¯27
0 1 DOMAIN ERROR
      SquareRootCalculation 144
12 0
      SquareRootCalculation ¯144
0 1 DOMAIN ERROR
```

Ready | Hist: Ln: 10 Col: 6 | Ins | Classic | Num | EN_US

Save the Workspace to the Src folder in the Visual Studio Project

Folder: C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src

Workspace Name: CPCRoots.ws64

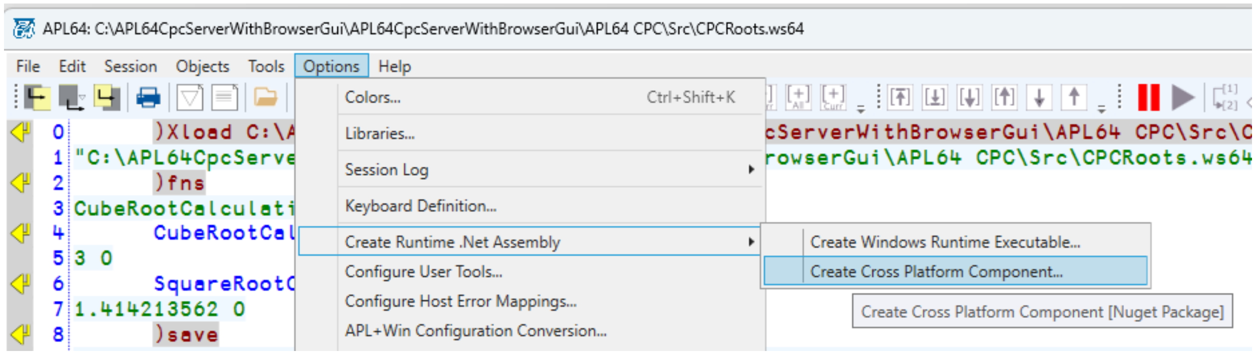


APL64: C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64

```
      )Xload C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64
"C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64" LAST SAVED 2/8/2025 3:15:39 AM
      )fns
CubeRootCalculation  SquareRootCalculation
      CubeRootCalculation 27
3 0
      SquareRootCalculation 2
1.414213562 0
      )save
"C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64" SAVED 2/8/2025 5:47:54 AM
```

Ready | Hist: Ln: 10 Col: 6 | Ins | Classic | Num | EN_US

Use the CPC Creation Dialog


APL64: C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64
File
Edit
Session
Objects
Tools
Options
Help
Colors... Ctrl+Shift+K
Libraries...
Session Log
Keyboard Definition...
Create Runtime .Net Assembly
Configure User Tools...
Configure Host Error Mappings...
APL+Win Configuration Conversion...
Create Windows Runtime Executable...
Create Cross Platform Component...
Create Cross Platform Component [Nuget Package]

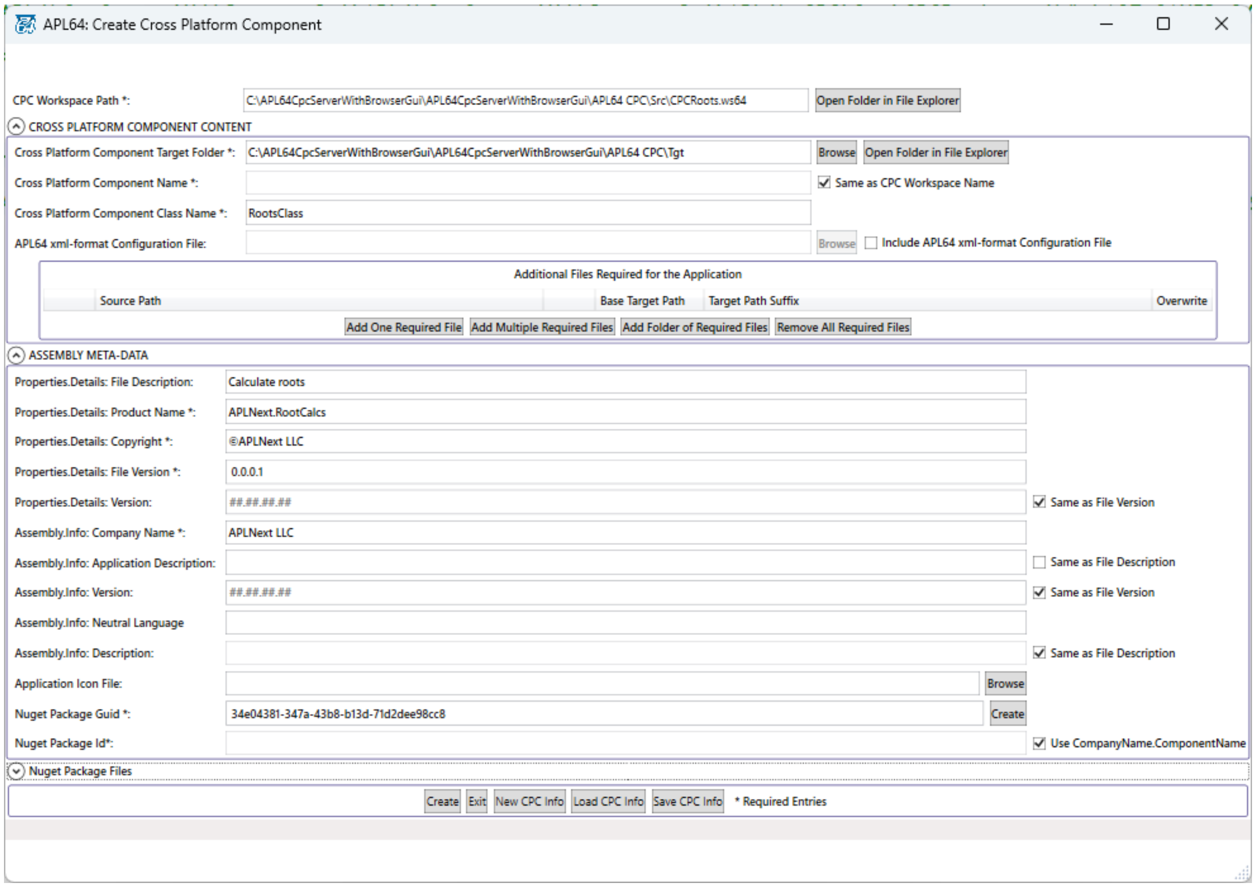
```
      )Xload C:\A                    cServerWithBrowserGui\APL64 CPC\Src\C
"C:\APL64CpcServe                    rowserGui\APL64 CPC\Src\CPCRoots.ws64
      )fns
CubeRootCalculati
      CubeRootCal
3 0
      SquareRootC
1.414213562 0
      )save
```

Complete the Dialog Entries

The downloaded source code Src folder in the Visual Studio solution includes the entries for this dialog. Click the 'Load CPC Info' and browse to import the information to the dialog:

Folder: C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src

File Name: CPCRoots.cpci


APL64: Create Cross Platform Component
Open Folder in File Explorer
Browse
Additional Files Required for the Application
Source Path
Base Target Path
Target Path Suffix
Overwrite
Add One Required File
Add Multiple Required Files
Add Folder of Required Files
Remove All Required Files
Browse
Create
Nuget Package Files
Create
Exit
New CPC Info
Load CPC Info
Save CPC Info
* Required Entries

CPC Workspace Path *: C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64

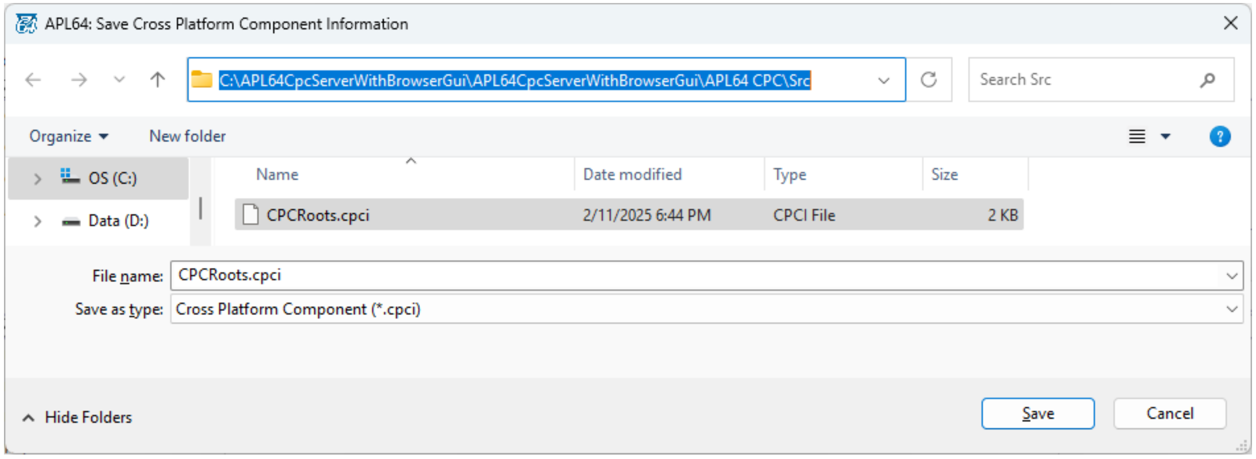
CROSS PLATFORM COMPONENT CONTENT

Cross Platform Component Target Folder *:	C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Tgt	
Cross Platform Component Name *:		✓ Same as CPC Workspace Name
Cross Platform Component Class Name *:	RootsClass	
APL64 xml-format Configuration File:		☐ Include APL64 xml-format Configuration File

ASSEMBLY META-DATA

Properties.Details: File Description:	Calculate roots	
Properties.Details: Product Name *:	APLNext.RootCalcs	
Properties.Details: Copyright *:	©APLNext LLC	
Properties.Details: File Version *:	0.0.0.1	
Properties.Details: Version:	##.##.##.##	✓ Same as File Version
Assembly.Info: Company Name *:	APLNext LLC	
Assembly.Info: Application Description:		☐ Same as File Description
Assembly.Info: Version:	##.##.##.##	✓ Same as File Version
Assembly.Info: Neutral Language		
Assembly.Info: Description:		✓ Same as File Description
Application Icon File:		
Nuget Package Guid *:	34e04381-347a-43b8-b13d-71d2dee98cc8	
Nuget Package Id*:		✓ Use CompanyName.ComponentName

After completing the CPC creation dialog entry fields, click the ‘Save CPC Info’ button to save the xml-format file containing these entries to the source folder for subsequent use if the project needs updating:



APL64: Save Cross Platform Component Information

C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src

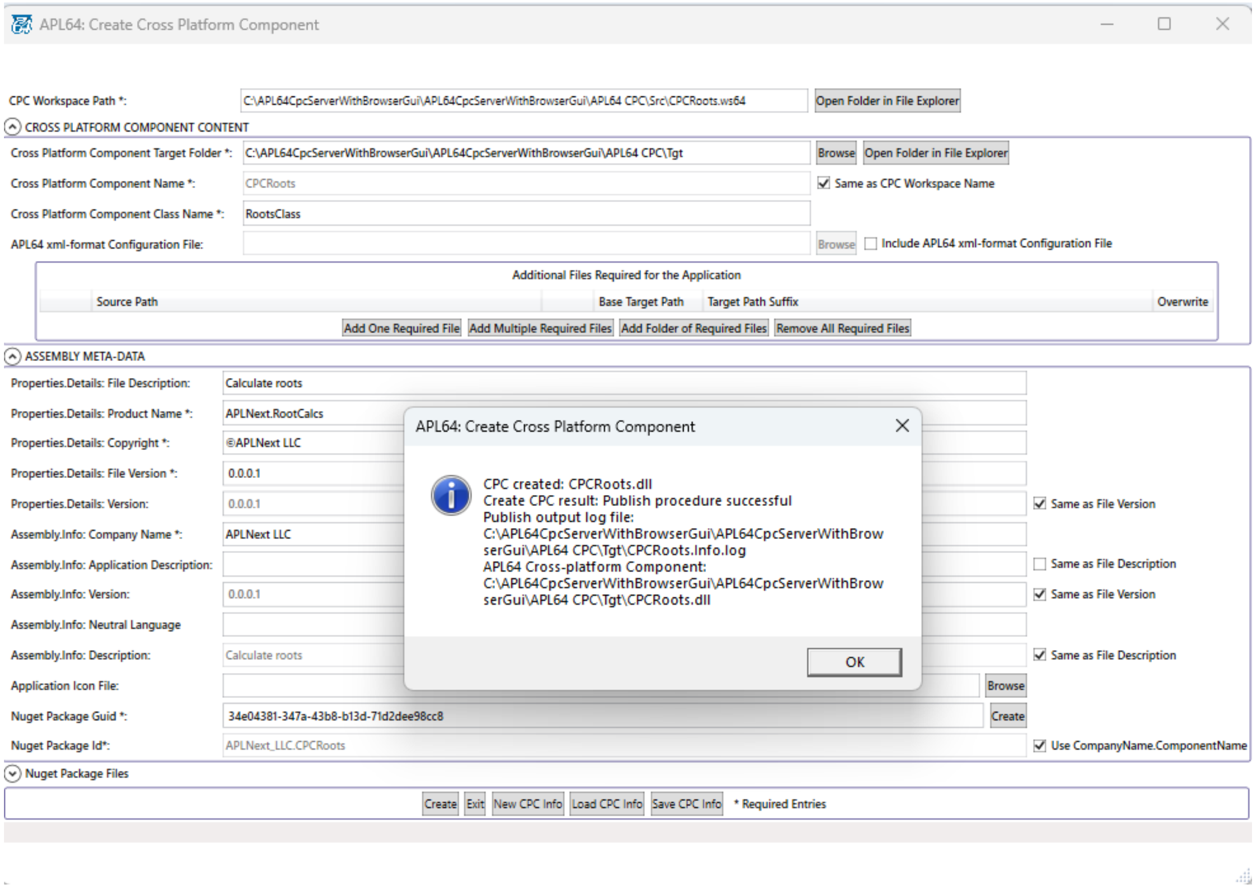
Name	Date modified	Type	Size
CPCRoots.cpci	2/11/2025 6:44 PM	CPCI File	2 KB

File name: CPCRoots.cpci

Save as type: Cross Platform Component (*.cpci)

Click the ‘Create’ Button

Click the ‘Create’ button to create the CPC Nuget package in the Tgt folder of the Visual Studio project.



APL64: Create Cross Platform Component

CPC Workspace Path *:	C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Src\CPCRoots.ws64

CROSS PLATFORM COMPONENT CONTENT

Cross Platform Component Target Folder *:	C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrowserGui\APL64 CPC\Tgt	
Cross Platform Component Name *:	CPCRoots	✓ Same as CPC Workspace Name
Cross Platform Component Class Name *:	RootsClass	
APL64 xml-format Configuration File:		☐ Include APL64 xml-format Configuration File

Additional Files Required for the Application

Source Path	Base Target Path	Target Path Suffix	Overwrite

ASSEMBLY META-DATA

Properties.Details: File Description:	Calculate roots	
Properties.Details: Product Name *:	APLNext.RootCalcs	
Properties.Details: Copyright *:	©APLNext LLC	
Properties.Details: File Version *:	0.0.0.1	
Properties.Details: Version:	0.0.0.1	✓ Same as File Version
Assembly.Info: Company Name *:	APLNext LLC	
Assembly.Info: Application Description:		☐ Same as File Description
Assembly.Info: Version:	0.0.0.1	✓ Same as File Version
Assembly.Info: Neutral Language		
Assembly.Info: Description:	Calculate roots	✓ Same as File Description
Application Icon File:		
Nuget Package Guid *:	34e04381-347a-43b8-b13d-71d2dee98cc8	
Nuget Package Id*:	APLNext_LLC.CPCRoots	✓ Use CompanyName.ComponentName

Nuget Package Files

* Required Entries

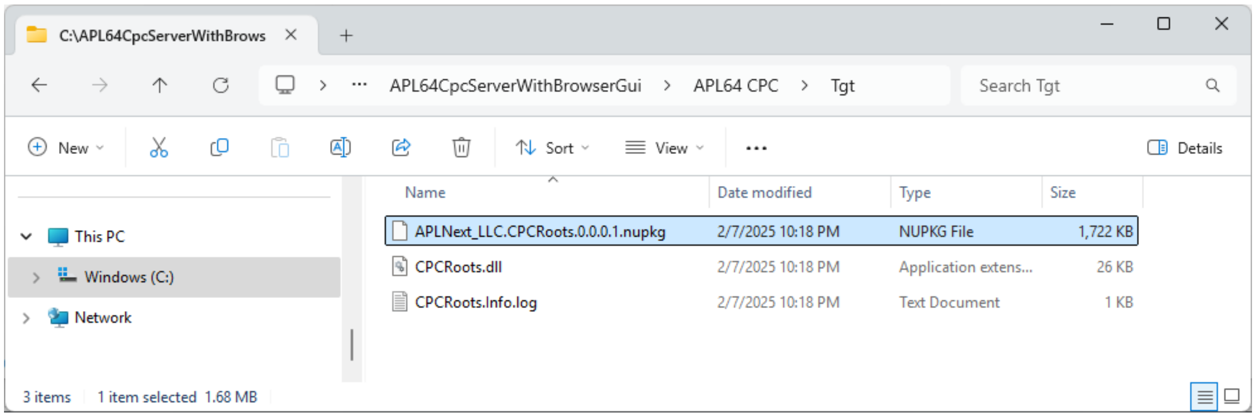
APL64: Create Cross Platform Component

```
CPC created: CPCRoots.dll
Create CPC result: Publish procedure successful
Publish output log file:
C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrow
serGui\APL64 CPC\Tgt\CPCRoots.Info.log
APL64 Cross-platform Component:
C:\APL64CpcServerWithBrowserGui\APL64CpcServerWithBrow
serGui\APL64 CPC\Tgt\CPCRoots.dll
```

Open Folder in File Explorer
Browse
Add One Required File
Add Multiple Required Files
Add Folder of Required Files
Remove All Required Files
Create
Exit
New CPC Info
Load CPC Info
Save CPC Info
OK

Publish the APL64 CPC Nuget Package

Copy Nuget package from the Tgt folder:

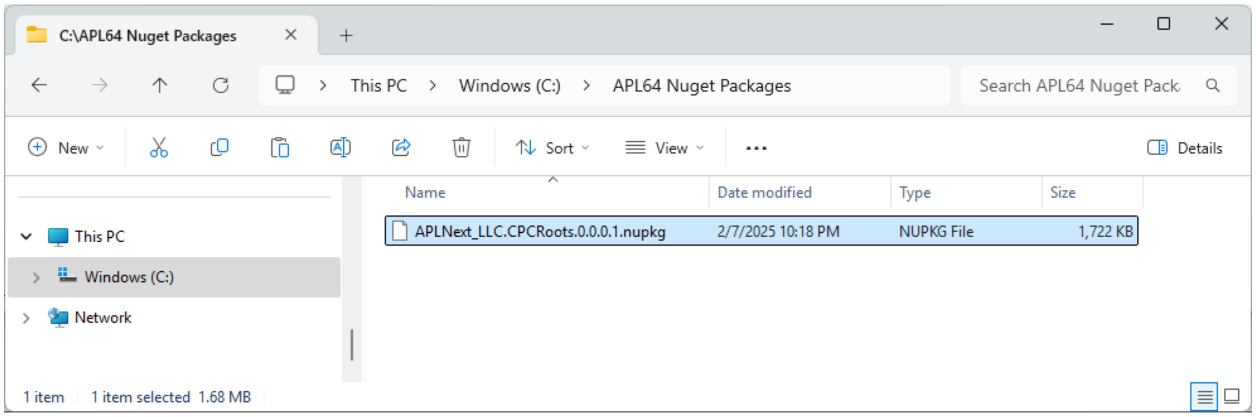


C:\APL64CpcServerWithBrows
APL64CpcServerWithBrowserGui > APL64 CPC > Tgt
Search Tgt
New
Sort
View
Details
This PC
Windows (C:)
Network

Name	Date modified	Type	Size
APLNext_LLC.CPCRoots.0.0.0.1.nupkg	2/7/2025 10:18 PM	NUPKG File	1,722 KB
CPCRoots.dll	2/7/2025 10:18 PM	Application extens...	26 KB
CPCRoots.Info.log	2/7/2025 10:18 PM	Text Document	1 KB

3 items 1 item selected 1.68 MB

Paste Nuget package into the publish folder:

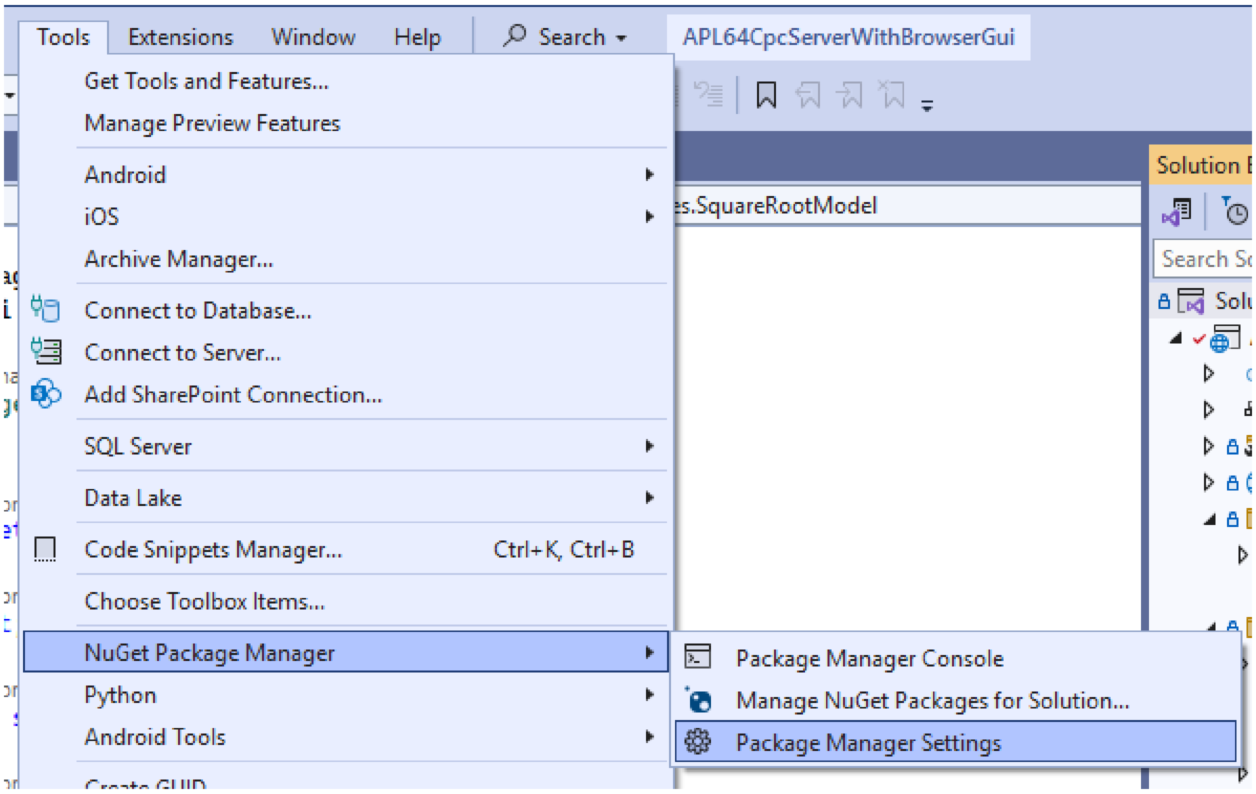


Name	Date modified	Type	Size
APLNext_LLC.CPCRoots.0.0.0.1.nupkg	2/7/2025 10:18 PM	NUPKG File	1,722 KB

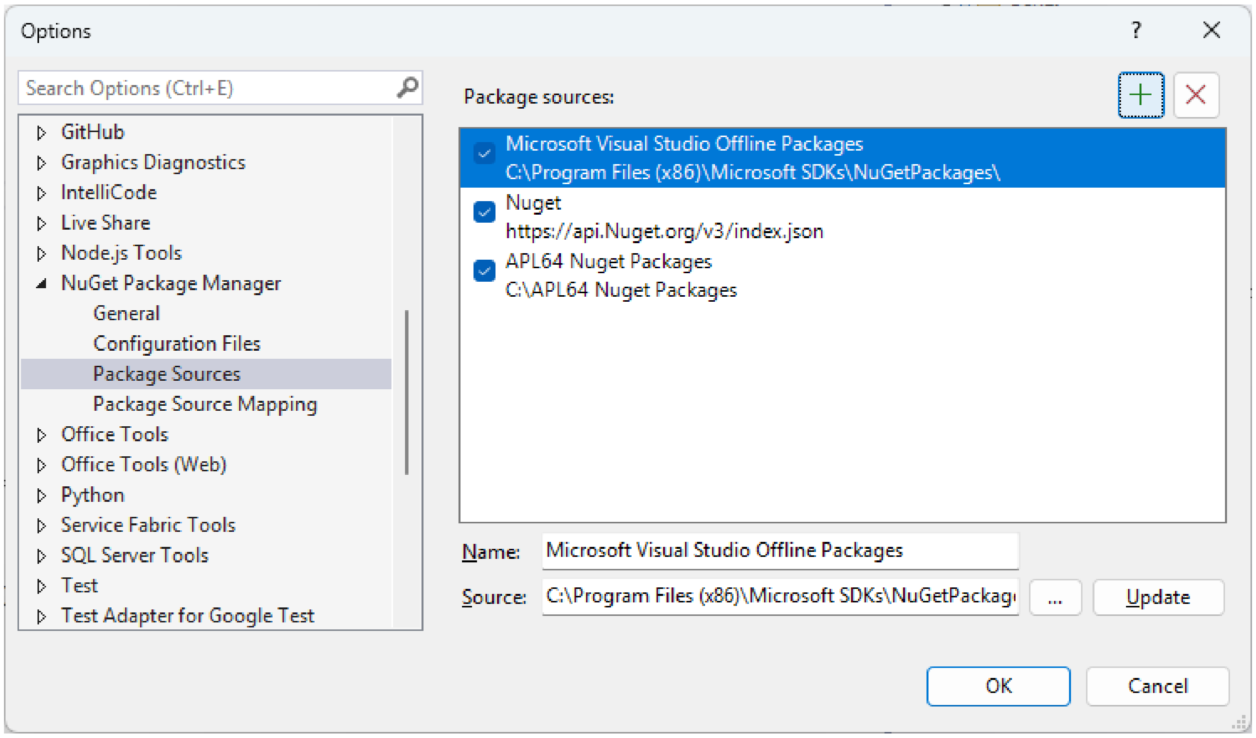
1 item 1 item selected 1.68 MB

Set Up the Visual Studio Package Sources

Use **Tools | NuGet Package Manager | Package Manager Settings | Package Sources** in Visual Studio to include the ‘APL64 Nuget Packages’ folder in the available packages sources:



In the Package Sources dialog, click the '+' button to add the APL64 Nuget Packages folder to the sources:

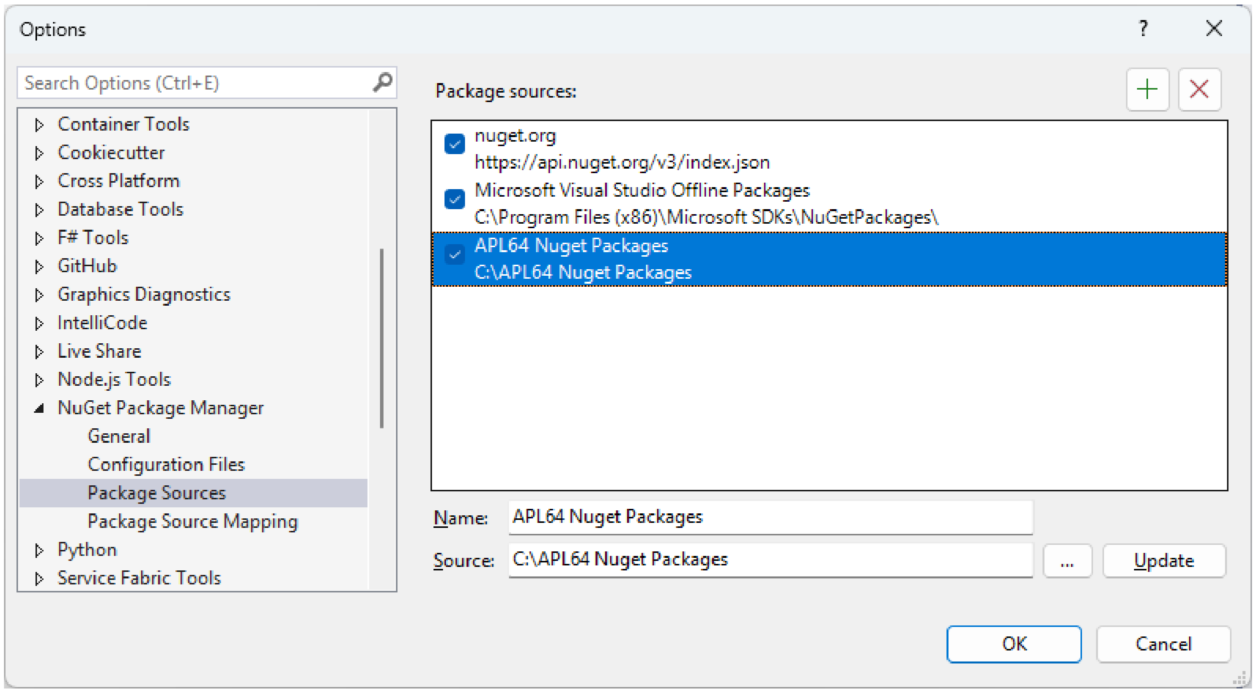


Package sources:

- [✓] Microsoft Visual Studio Offline Packages
  C:\Program Files (x86)\Microsoft SDKs\NuGetPackages\
- [✓] Nuget
  https://api.Nuget.org/v3/index.json
- [✓] APL64 Nuget Packages
  C:\APL64 Nuget Packages

Name: Microsoft Visual Studio Offline Packages

Source: C:\Program Files (x86)\Microsoft SDKs\NuGetPackag



Package sources:

- ✓ nuget.org
  https://api.nuget.org/v3/index.json
- ✓ Microsoft Visual Studio Offline Packages
  C:\Program Files (x86)\Microsoft SDKs\NuGetPackages\
- ✓ APL64 Nuget Packages
  C:\APL64 Nuget Packages

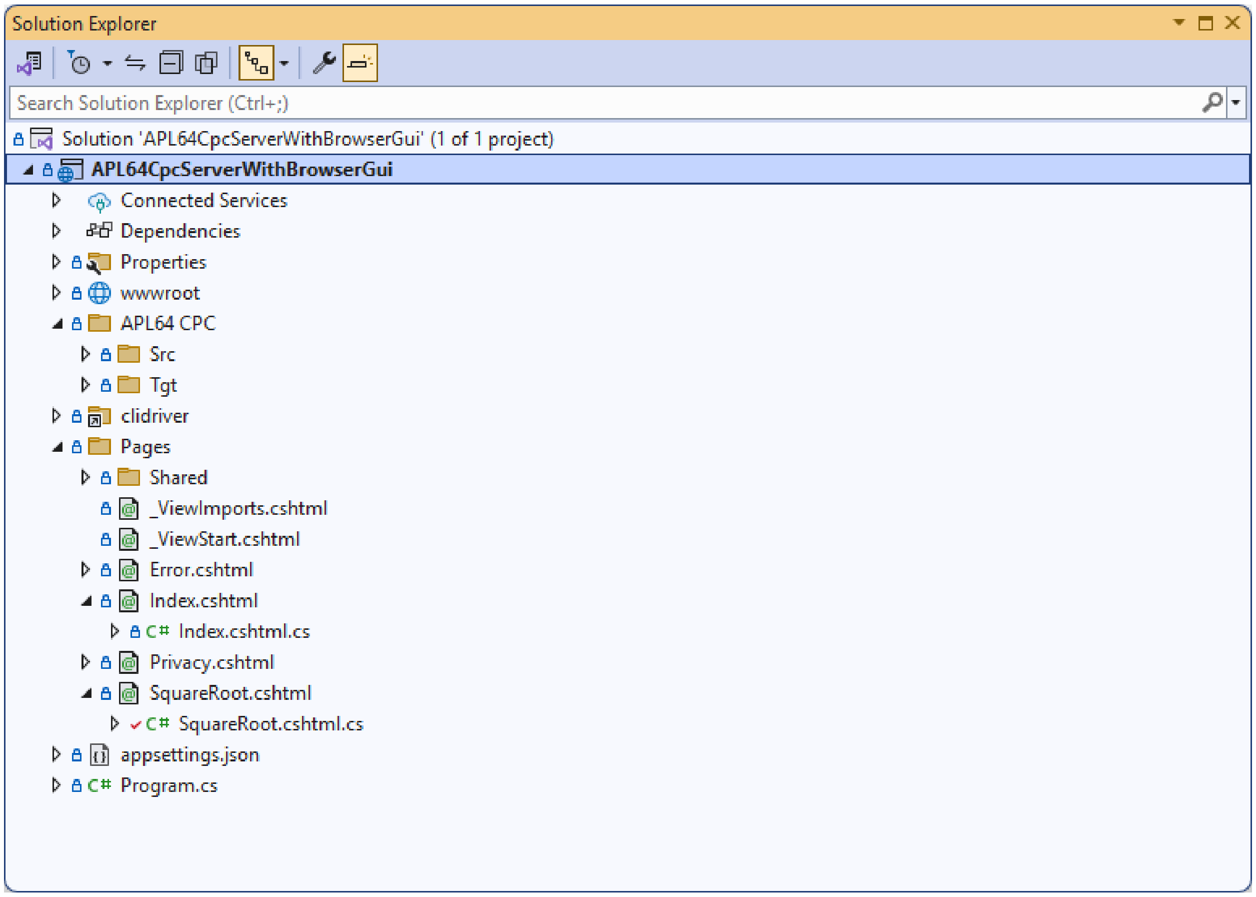
Name: APL64 Nuget Packages

Source: C:\APL64 Nuget Packages

Modify the Project Source Code

Add the CPC Nuget Package to the Project

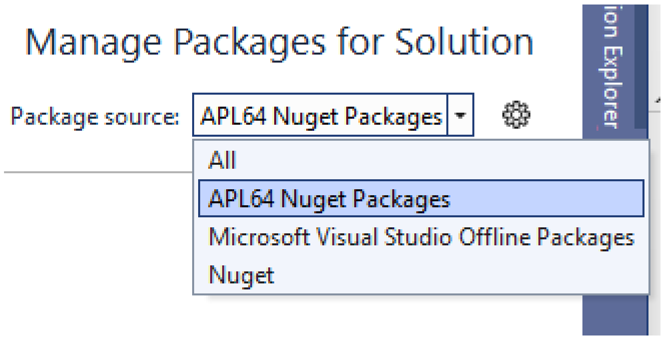
In the Solution Explorer select the ‘APL64CpcServerWithBrowserGui’ (top node):


Solution Explorer

Search Solution Explorer (Ctrl+;)

```
Solution 'APL64CpcServerWithBrowserGui' (1 of 1 project)
  APL64CpcServerWithBrowserGui
    Connected Services
    Dependencies
    Properties
    wwwroot
    APL64 CPC
      Src
      Tgt
    clidriver
    Pages
      Shared
      _ViewImports.cshtml
      _ViewStart.cshtml
      Error.cshtml
      Index.cshtml
        Index.cshtml.cs
      Privacy.cshtml
      SquareRoot.cshtml
        SquareRoot.cshtml.cs
    appsettings.json
    Program.cs
```

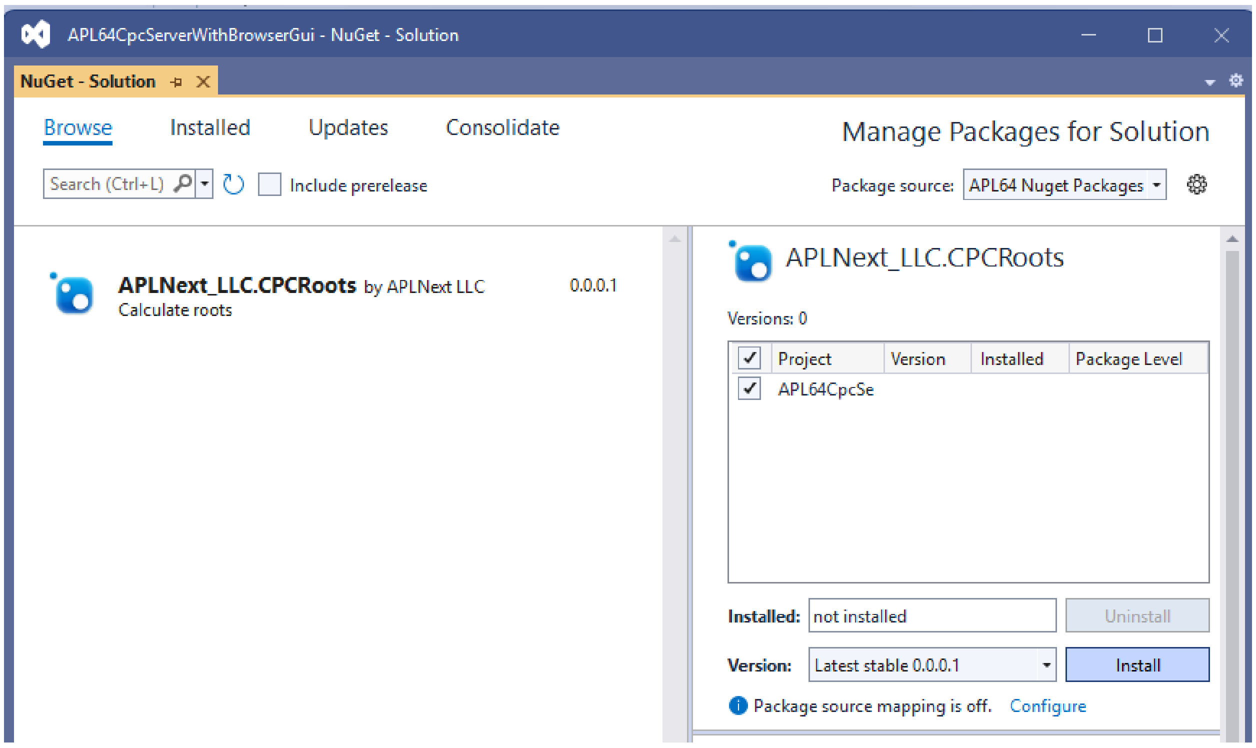
Use the **Tools | Nuget Package Manager | Manage Nuget Packages for the Solution** dialog to install the AP64 CPC Nuget package to the solution. The Package source combobox item for the APL64 Nuget Packages should be selected:


Manage Packages for Solution

Package source: APL64 Nuget Packages

- All
- APL64 Nuget Packages
- Microsoft Visual Studio Offline Packages
- Nuget

Browse to the APL64 Nuget package to install into the project:



APL64CpcServerWithBrowserGui - NuGet - Solution

NuGet - Solution

Browse Installed Updates Consolidate

Manage Packages for Solution

Search (Ctrl+L) ☐ Include prerelease

Package source: APL64 Nuget Packages

APLNext_LLC.CPCRoots by APLNext LLC 0.0.0.1
Calculate roots

APLNext_LLC.CPCRoots

Versions: 0

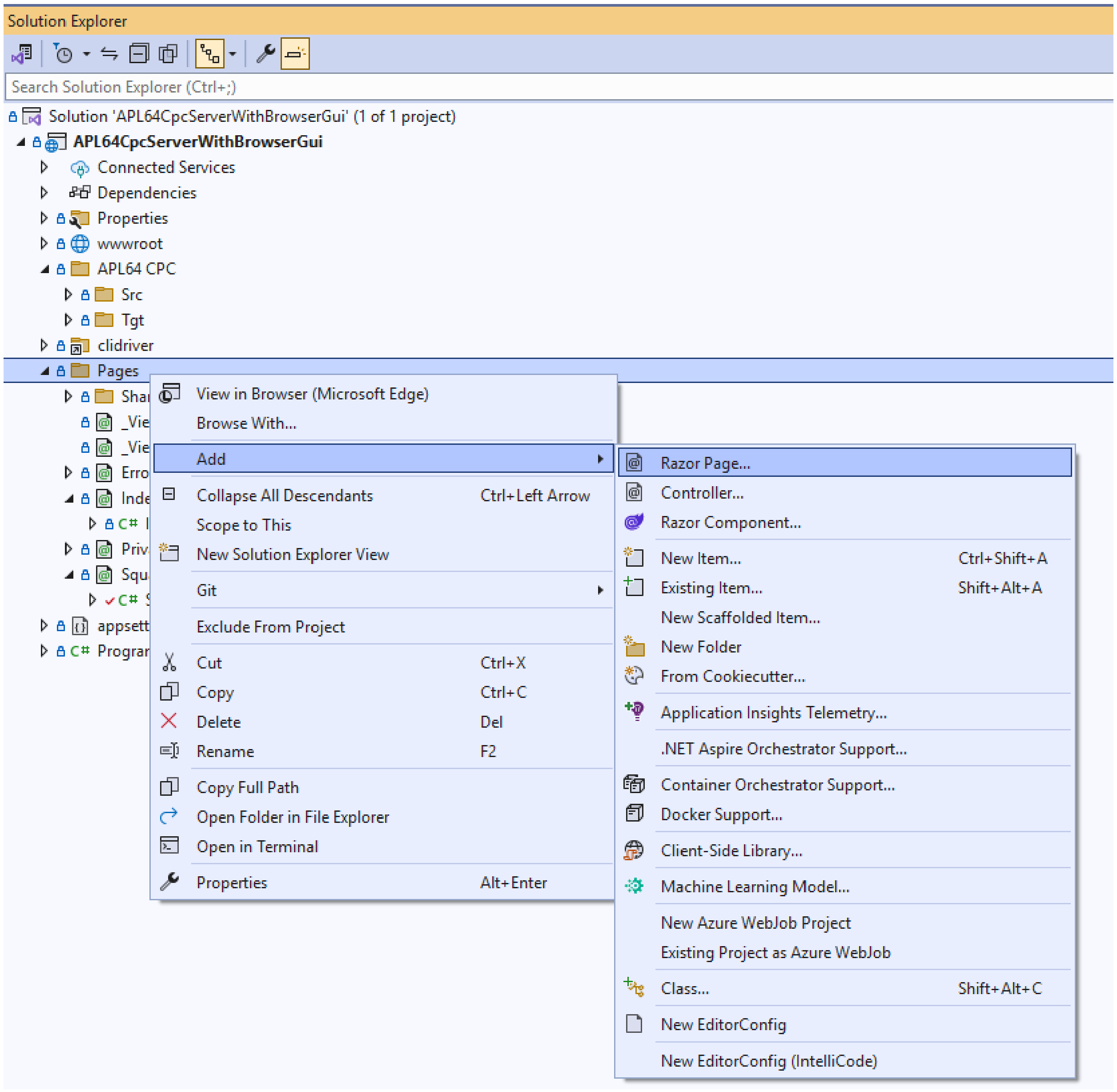
✓	Project	Version	Installed	Package Level
✓	APL64CpcSe			

Installed: not installed Uninstall

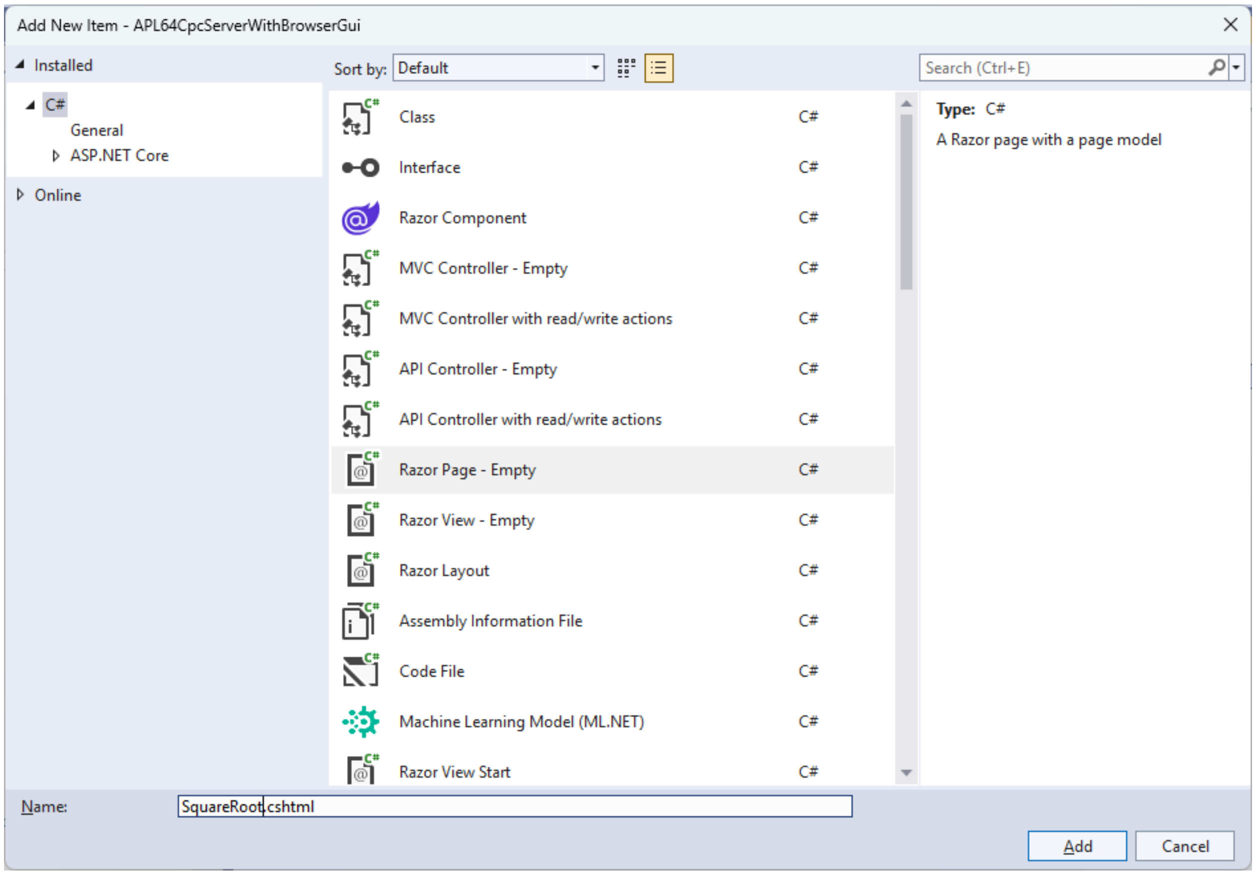
Version: Latest stable 0.0.0.1 Install

Package source mapping is off. Configure

Add the SquareRoot Razor page to the Pages Folder



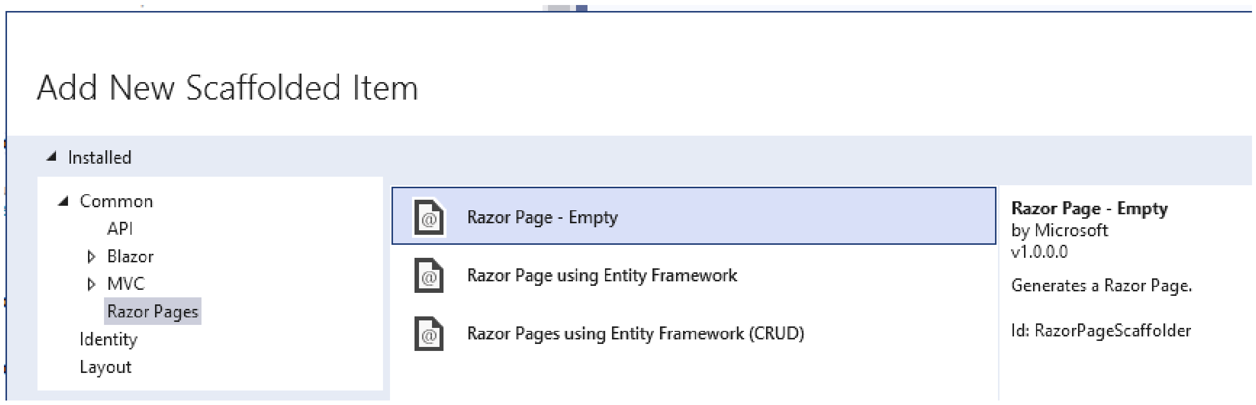
Add the 'Razor Page – Empty' template and name it SquareRoot.cshtml:


Add New Item - APL64CpcServerWithBrowserGui

Class	C#
Interface	C#
Razor Component	C#
MVC Controller - Empty	C#
MVC Controller with read/write actions	C#
API Controller - Empty	C#
API Controller with read/write actions	C#
Razor Page - Empty	C#
Razor View - Empty	C#
Razor Layout	C#
Assembly Information File	C#
Code File	C#
Machine Learning Model (ML.NET)	C#
Razor View Start	C#

Type: C#
A Razor page with a page model

Name: SquareRoot.cshtml


Add New Scaffolded Item

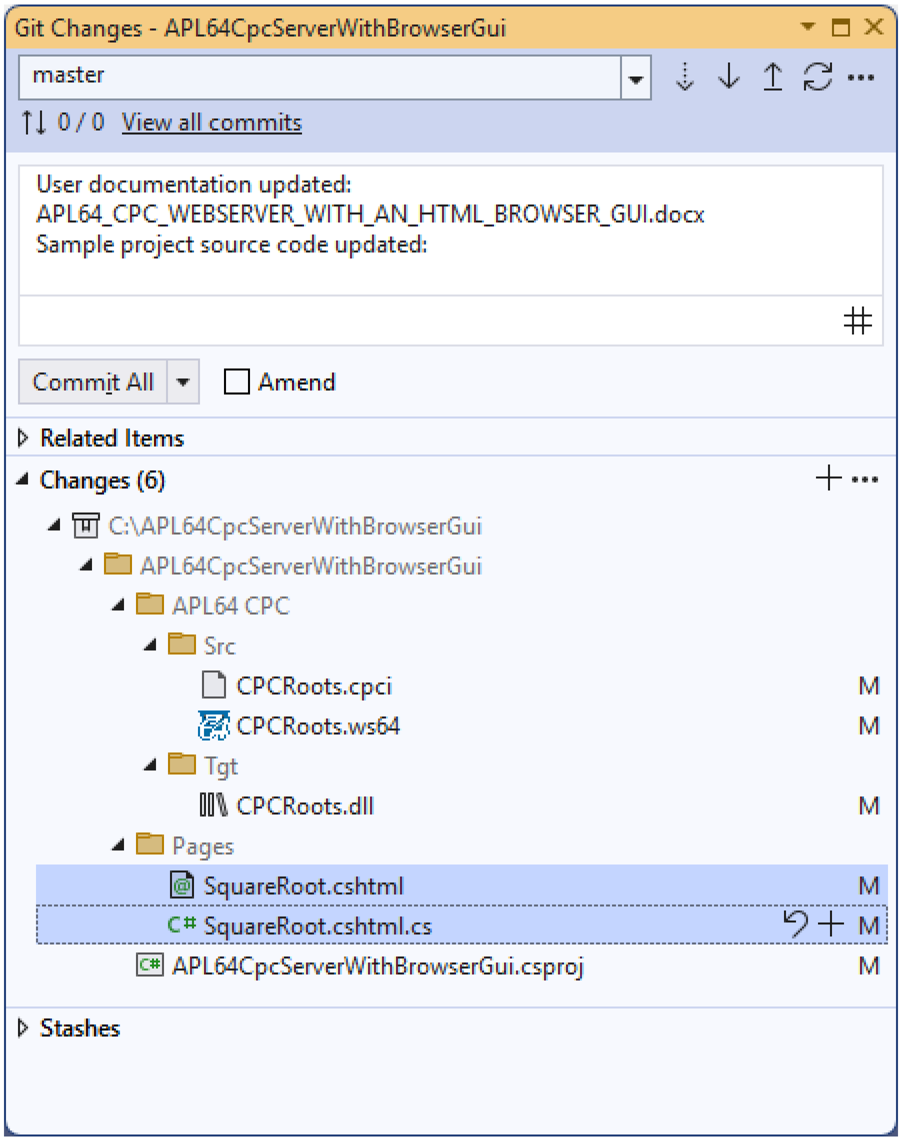
Razor Page - Empty

Razor Page using Entity Framework

Razor Pages using Entity Framework (CRUD)

Razor Page - Empty
by Microsoft
v1.0.0.0
Generates a Razor Page.

Id: RazorPageScaffolder


Git Changes - APL64CpcServerWithBrowserGui

master

0 / 0 View all commits

User documentation updated:
APL64_CPC_WEBSERVER_WITH_AN_HTML_BROWSER_GUI.docx
Sample project source code updated:

Commit All ▾ ☐ Amend

Related Items

Changes (6)

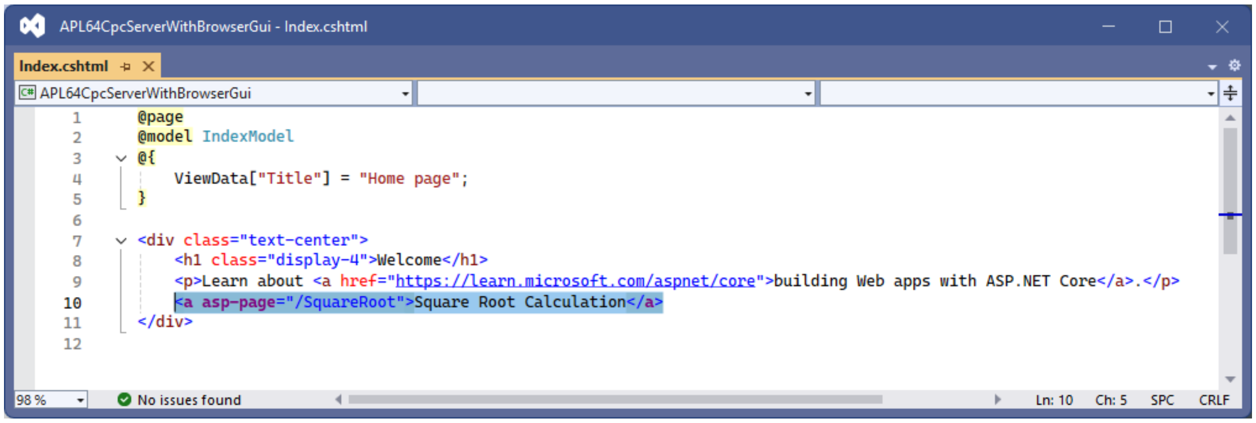
```
C:\APL64CpcServerWithBrowserGui
  APL64CpcServerWithBrowserGui
    APL64 CPC
      Src
        CPCRoots.cpci                          M
        CPCRoots.ws64                          M
      Tgt
        CPCRoots.dll                           M
    Pages
      SquareRoot.cshtml                        M
      SquareRoot.cshtml.cs                     M
    APL64CpcServerWithBrowserGui.csproj        M
```

Stashes

Add the SquareRoot Razor Page Link to the Main Page

Edit the Index.cshtml page and add the SquareRoot page to the code:

```
<a asp-page="/SquareRoot">Square Root Calculation</a>
```

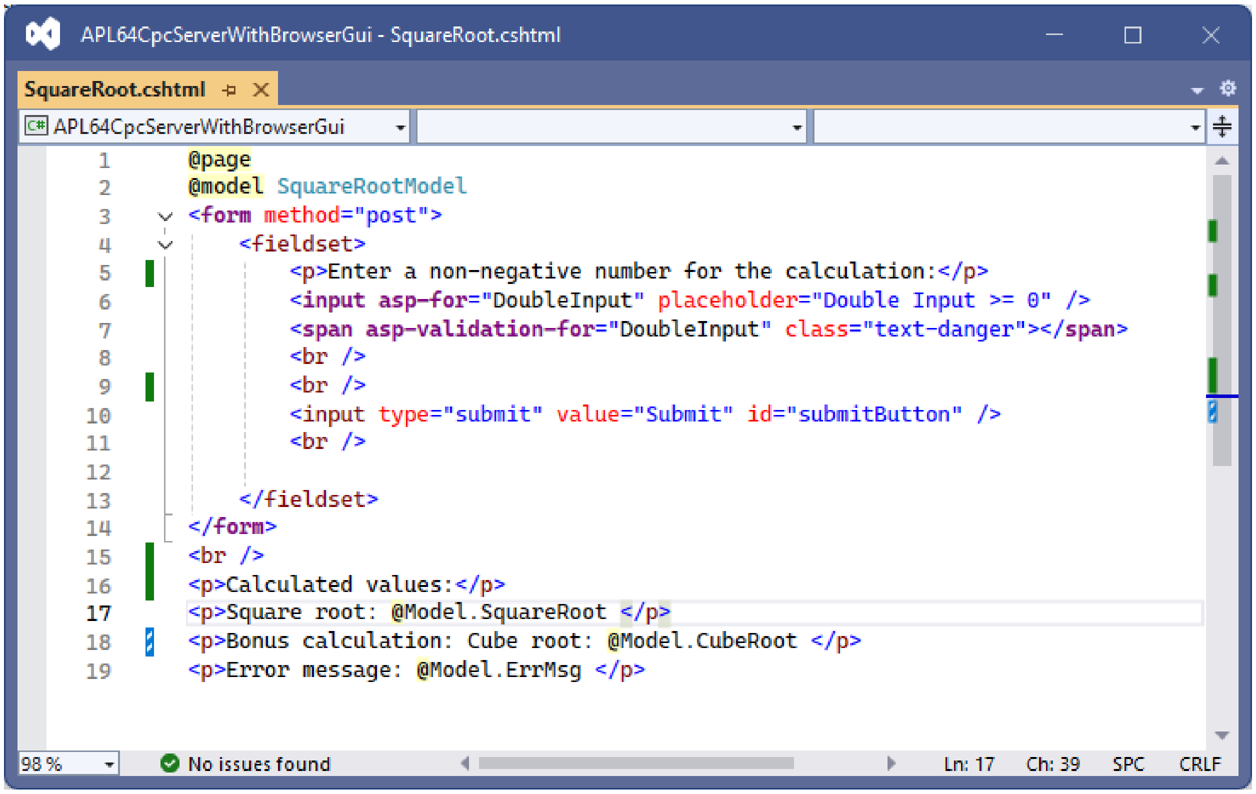

APL64CpcServerWithBrowserGui - Index.cshtml

```
@page
@model IndexModel
@{
    ViewData["Title"] = "Home page";
}

<div class="text-center">
    <h1 class="display-4">Welcome</h1>
    <p>Learn about <a href="https://learn.microsoft.com/aspnet/core">building Web apps with ASP.NET Core</a>.</p>
    <a asp-page="/SquareRoot">Square Root Calculation</a>
</div>

```

Add the Html to the SquareRoot Page

Replace the SquareRoot.cshtml source code with:

```
@page
@model SquareRootModel
<form method="post">
  <fieldset>
    <p>Enter a non-negative number for the calculation:</p>
    <input asp-for="DoubleInput" placeholder="Double Input >= 0" />
    <span asp-validation-for="DoubleInput" class="text-danger"></span>
    <br />
    <br />
    <input type="submit" value="Submit" id="submitButton" />
    <br />

  </fieldset>
</form>
<br />
<p>Calculated values:</p>
<p>Square root: @Model.SquareRoot </p>
<p>Bonus calculation: Cube root: @Model.CubeRoot </p>
<p>Error message: @Model.ErrMsg </p>
```


APL64CpcServerWithBrowserGui - SquareRoot.cshtml
SquareRoot.cshtml
APL64CpcServerWithBrowserGui

```
@page
@model SquareRootModel
<form method="post">
    <fieldset>
        <p>Enter a non-negative number for the calculation:</p>
        <input asp-for="DoubleInput" placeholder="Double Input >= 0" />
        <span asp-validation-for="DoubleInput" class="text-danger"></span>
        <br />
        <br />
        <input type="submit" value="Submit" id="submitButton" />
        <br />

    </fieldset>
</form>
<br />
<p>Calculated values:</p>
<p>Square root: @Model.SquareRoot </p>
<p>Bonus calculation: Cube root: @Model.CubeRoot </p>
<p>Error message: @Model.ErrMsg </p>
```

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SPC
CRLF

A .Net Razor page includes two code files:

- The html-format web page code file, with extension '.cshtml', contains html program code and identifiers which enable binding between the variables in the html code, e.g. @Model.SquareRoot, and C# code in the second Razor page code file which sets the variable values.
- The C# code file, with extension '.cshtml.cs', which creates values bound to the variables in the first Razor page code file. The C# in this file can transparently utilize the APL64 programmer-developed public functions exposed by the APL64 CPC Nuget package.

The user input 'DoubleInput' variable value is requested by the HTML 'input' control

The calculated results are shown by the @Model.SquareRoot, @Model.CubeRoot and @Model.ErrMsg variables.

Add the C# and APL64 CPC Code to the SquareRoot Page

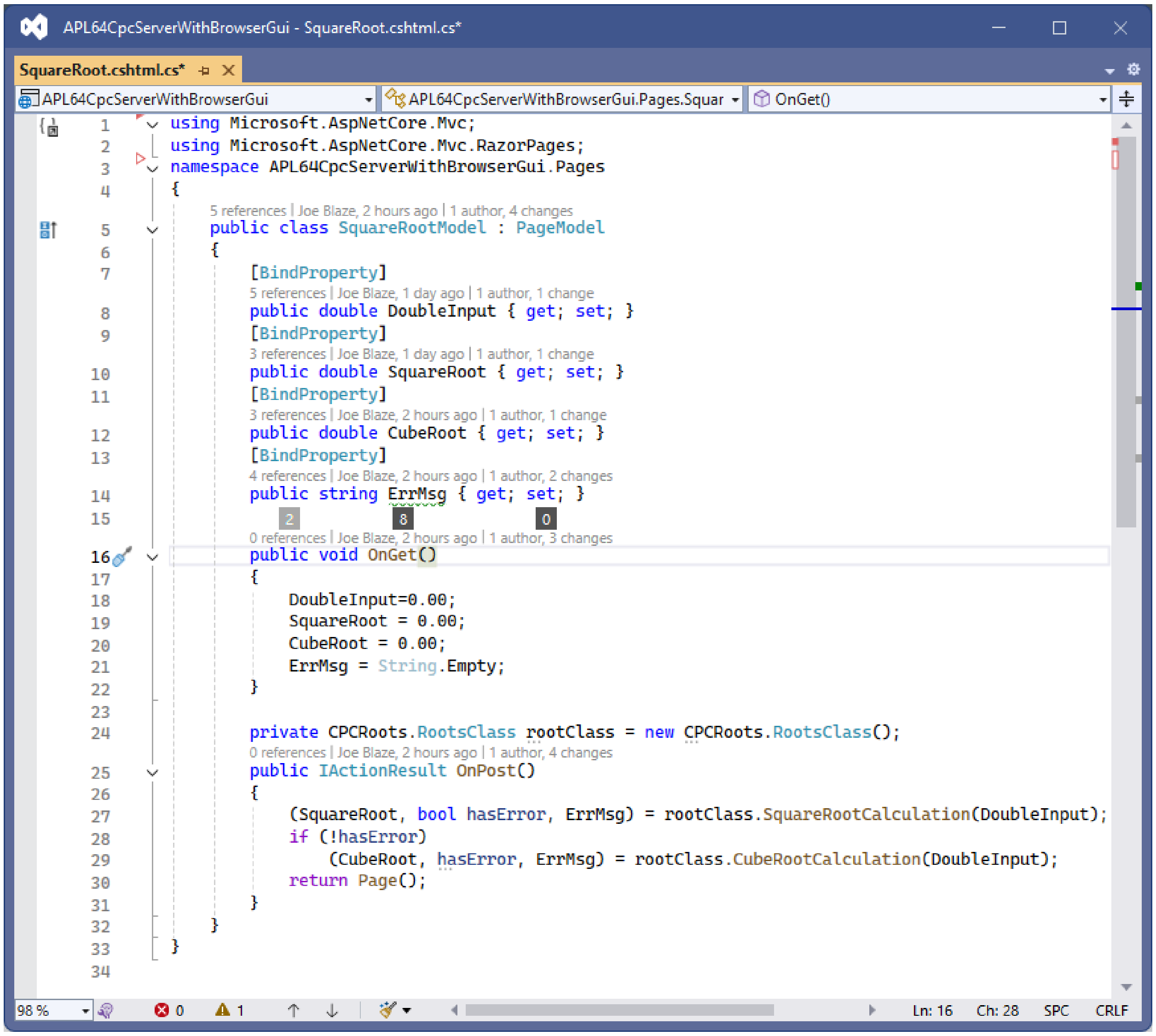
Replace the SquareRoot.cshtml.cs source code with:

```
using Microsoft.AspNetCore.Mvc;
using Microsoft.AspNetCore.Mvc.RazorPages;
namespace APL64CpcServerWithBrowserGui.Pages
{
  public class SquareRootModel : PageModel
  {
    [BindProperty]
```

```
        public double DoubleInput { get; set; }
        [BindProperty]
        public double SquareRoot { get; set; }
        [BindProperty]
        public double CubeRoot { get; set; }
        [BindProperty]
        public string ErrMsg { get; set; }

        public void OnGet()
        {
            DoubleInput=0.00;
            SquareRoot = 0.00;
            CubeRoot = 0.00;
            ErrMsg = String.Empty;
        }

        private CPCRoots.RootsClass rootClass = new CPCRoots.RootsClass();
        public IActionResult OnPost()
        {
            (SquareRoot, bool hasError, ErrMsg) = rootClass.SquareRootCalculation(DoubleInput);
            if (!hasError)
                (CubeRoot, hasError, ErrMsg) = rootClass.CubeRootCalculation(DoubleInput);
            return Page();
        }
    }
}
```


APL64CpcServerWithBrowserGui - SquareRoot.cshtml.cs*

SquareRoot.cshtml.cs*

```
using Microsoft.AspNetCore.Mvc;
using Microsoft.AspNetCore.Mvc.RazorPages;
namespace APL64CpcServerWithBrowserGui.Pages
{
    5 references | Joe Blaze, 2 hours ago | 1 author, 4 changes
    public class SquareRootModel : PageModel
    {
        [BindProperty]
        5 references | Joe Blaze, 1 day ago | 1 author, 1 change
        public double DoubleInput { get; set; }
        [BindProperty]
        3 references | Joe Blaze, 1 day ago | 1 author, 1 change
        public double SquareRoot { get; set; }
        [BindProperty]
        3 references | Joe Blaze, 2 hours ago | 1 author, 1 change
        public double CubeRoot { get; set; }
        [BindProperty]
        4 references | Joe Blaze, 2 hours ago | 1 author, 2 changes
        public string ErrMsg { get; set; }

        0 references | Joe Blaze, 2 hours ago | 1 author, 3 changes
        public void OnGet()
        {
            DoubleInput=0.00;
            SquareRoot = 0.00;
            CubeRoot = 0.00;
            ErrMsg = String.Empty;
        }

        private CPCRoots.RootsClass rootClass = new CPCRoots.RootsClass();
        0 references | Joe Blaze, 2 hours ago | 1 author, 4 changes
        public IActionResult OnPost()
        {
            (SquareRoot, bool hasError, ErrMsg) = rootClass.SquareRootCalculation(DoubleInput);
            if (!hasError)
                (CubeRoot, hasError, ErrMsg) = rootClass.CubeRootCalculation(DoubleInput);
            return Page();
        }
    }
}
```

98 % ✖ 0 ⚠ 1 Ln: 16 Ch: 28 SPC CRLF

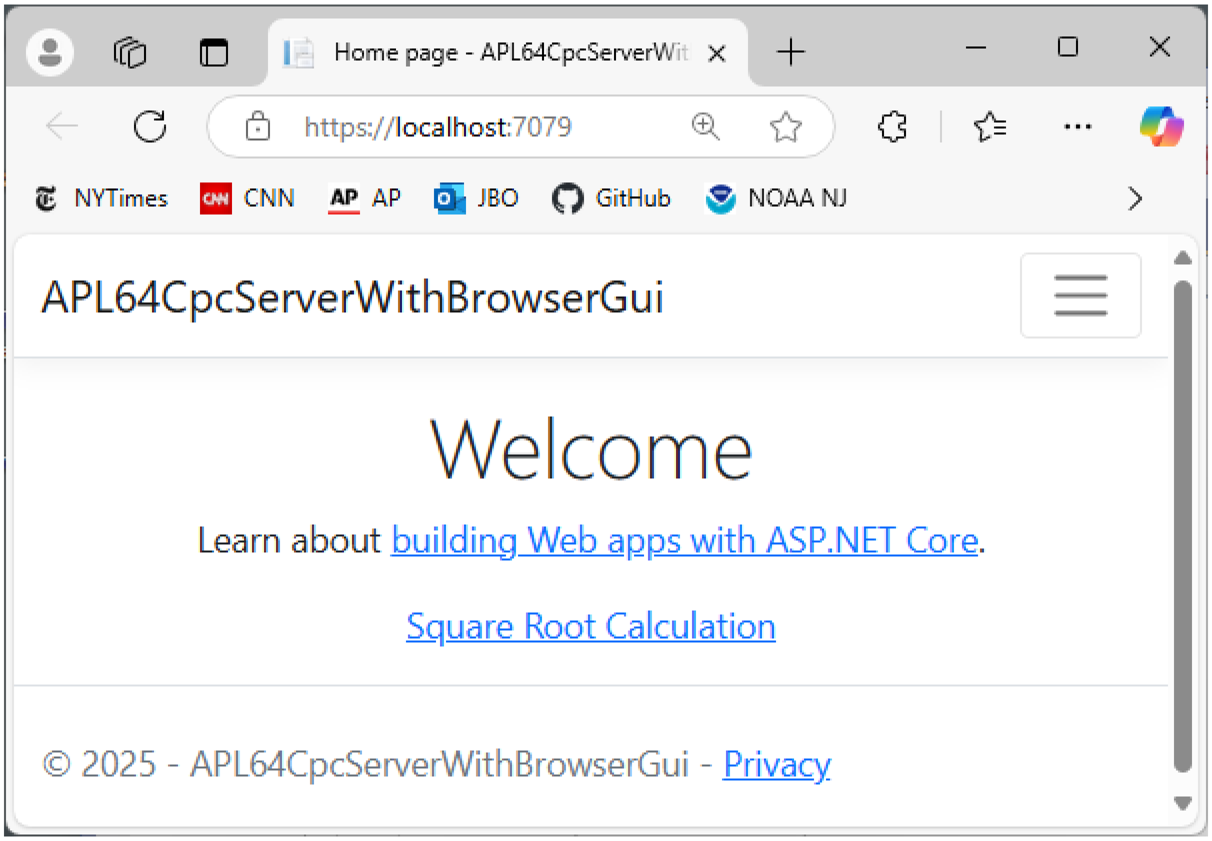
The input and output variables are defined as .Net properties: DoubleInput, SquareRoot, CubeRoot and ErrMsg.

An instance of the APL64 CPCRoots.RootsClass is created.

Once the input is entered into the cshtml web page, and the end user clicks the ‘Submit’ button, the user-entered information is transmitted to the server. On the server, the OnPost() method runs which uses the APL64 CPC to complete the calculations. The result variables, SquareRoot, CubeRoot, and ErrMsg are bound to the web page within the end user’s browser.

Run the APL64 CPC-based Application

Click the F5 key in Visual Studio to display the application home page in the browser:



APL64CpcServerWithBrowserGui

Welcome

Learn about building Web apps with ASP.NET Core.

Square Root Calculation

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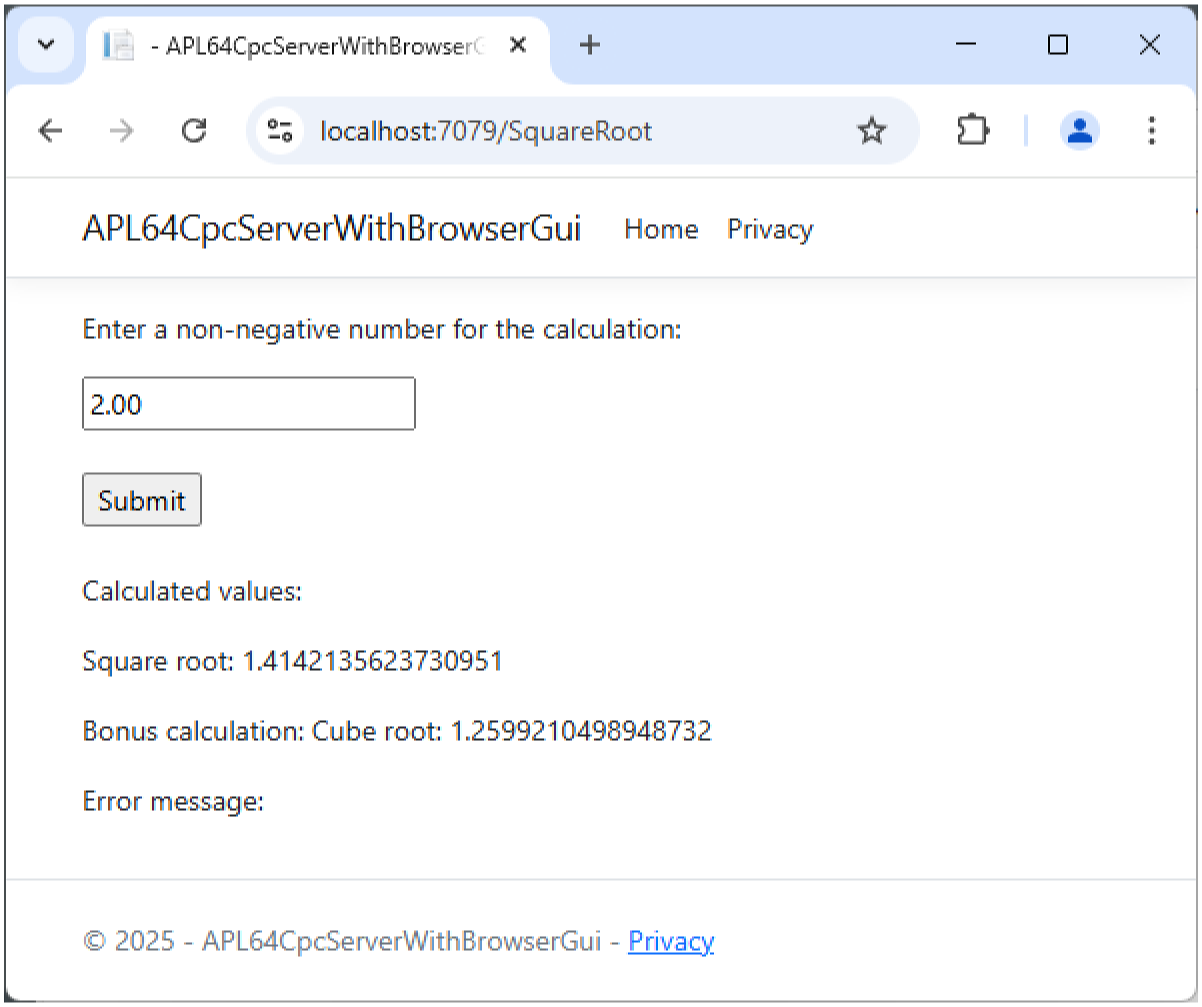
Click the 'Square Root Calculation' link in the home page to present the user input page. Enter a Value in the input field and click the 'Submit' button to see the results in the updated page:


- APL64CpcServerWithBrowserG
localhost:7079/SquareRoot
APL64CpcServerWithBrowserGui
Home
Privacy
Submit

Enter a non-negative number for the calculation:

2.00

Calculated values:

Square root: 1.4142135623730951

Bonus calculation: Cube root: 1.2599210498948732

Error message:

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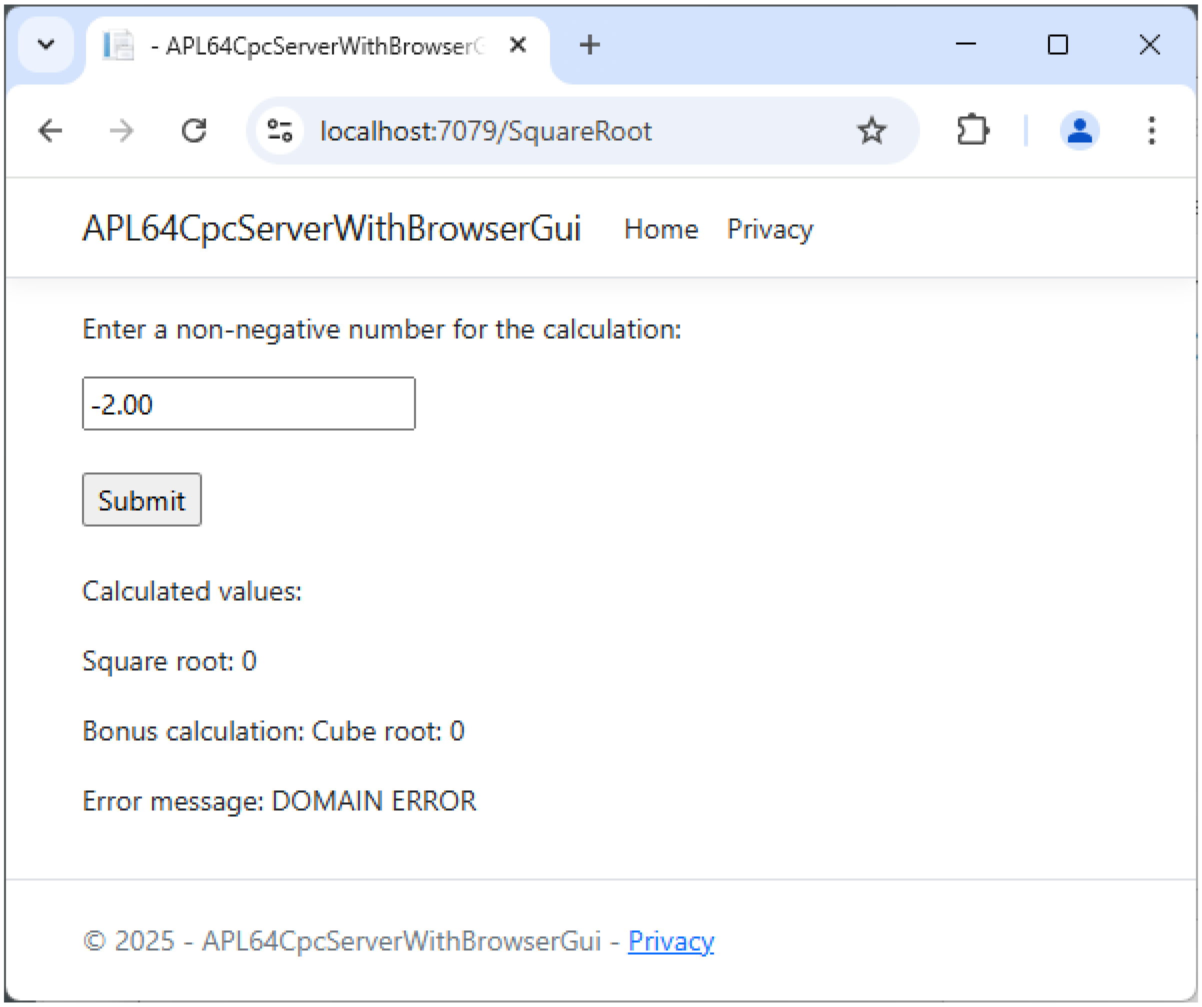
Enter a negative value and click the 'Submit' button to observe the exception message:


- APL64CpcServerWithBrowserG
localhost:7079/SquareRoot
APL64CpcServerWithBrowserGui
Home
Privacy
Submit

Enter a non-negative number for the calculation:

-2.00

Calculated values:

Square root: 0

Bonus calculation: Cube root: 0

Error message: DOMAIN ERROR

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Contact the APL64 Developers

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