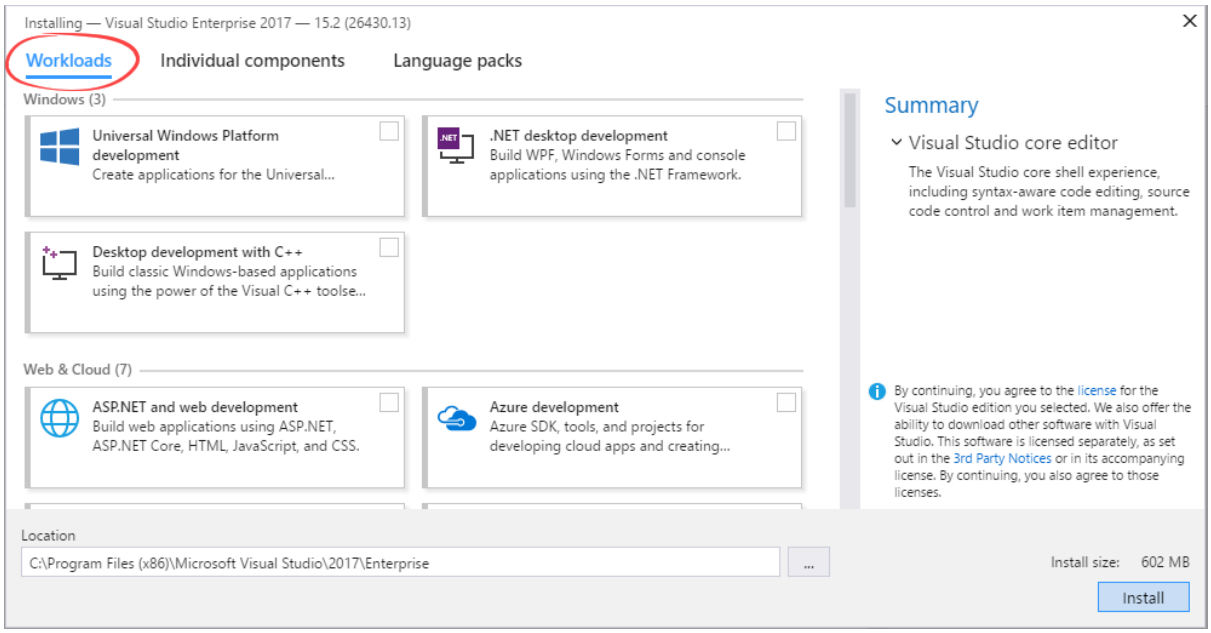
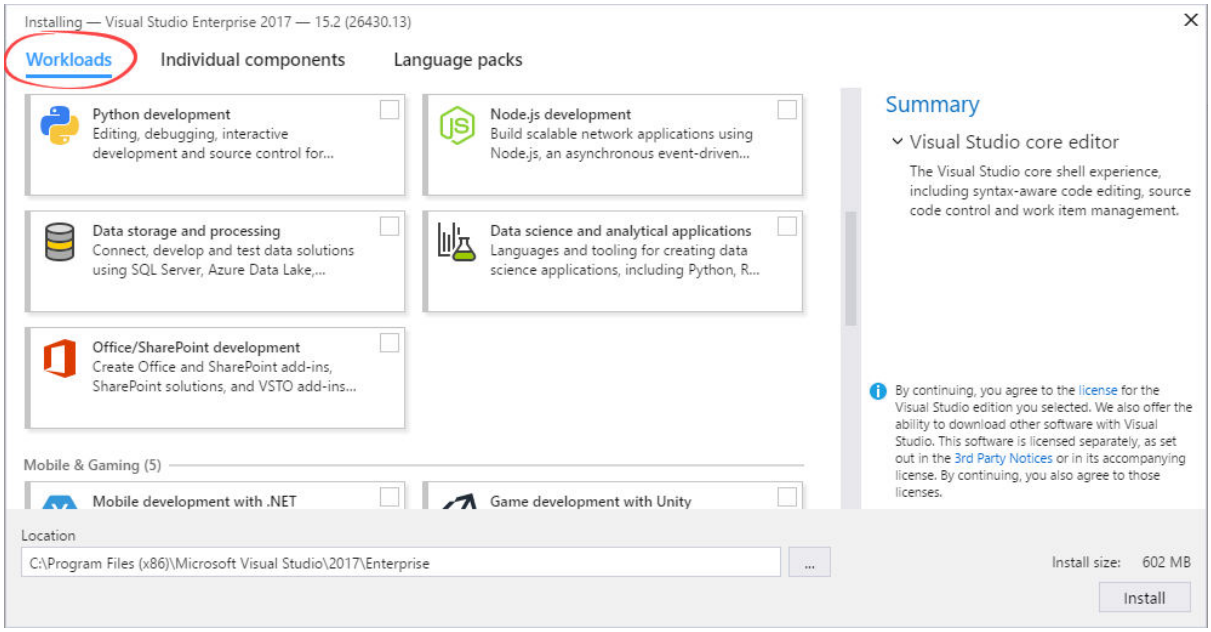
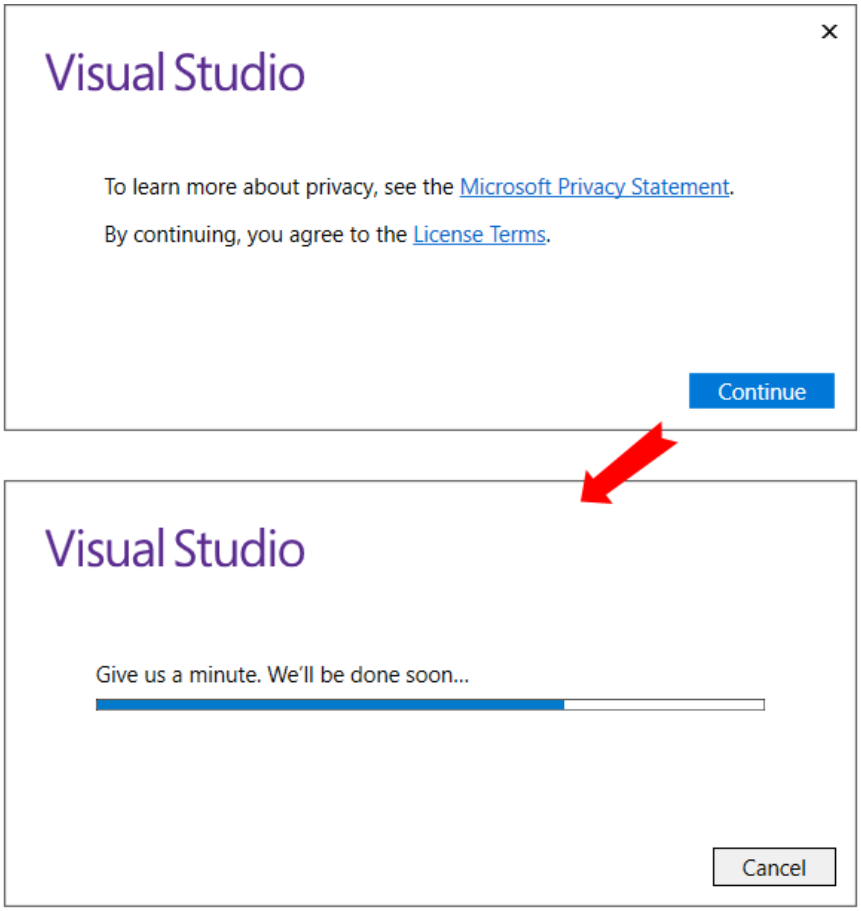
Chapter 1: What is New in Visual Studio 2017 IDE?



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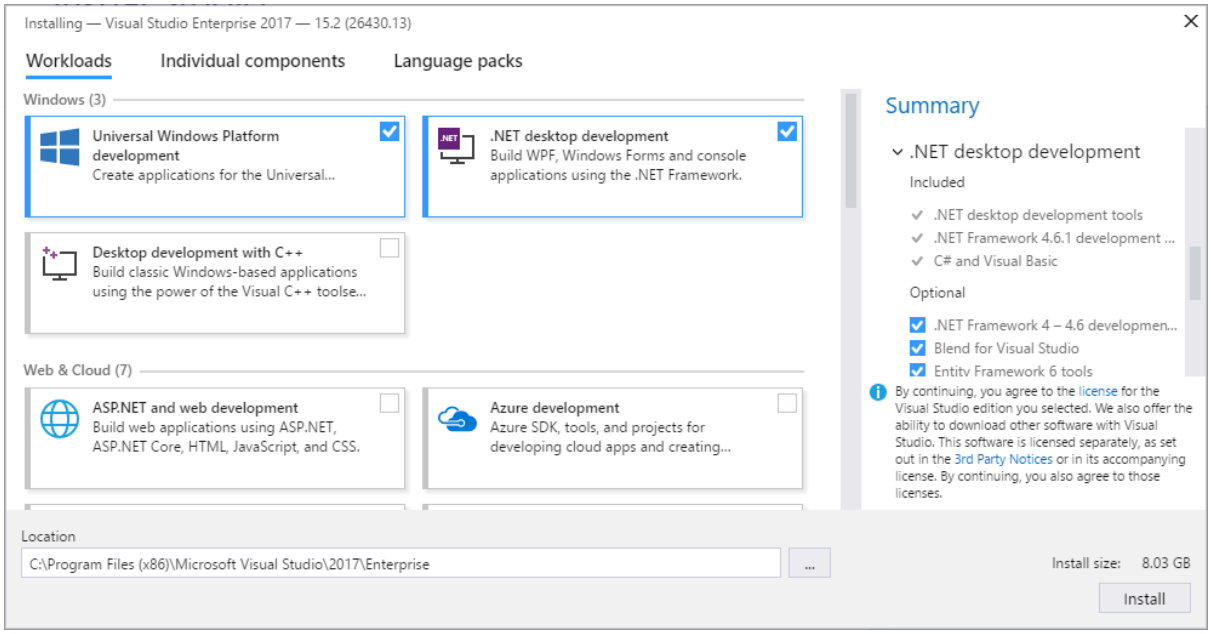
Installing — Visual Studio Enterprise 2017 — 15.2 (26430.13)
Workloads
Individual components
Language packs
Windows (3)
Universal Windows Platform development
Create applications for the Universal...
.NET desktop development
Build WPF, Windows Forms and console applications using the .NET Framework.
Desktop development with C++
Build classic Windows-based applications using the power of the Visual C++ toolse...
Web & Cloud (7)
ASP.NET and web development
Build web applications using ASP.NET, ASP.NET Core, HTML, JavaScript, and CSS.
Azure development
Azure SDK, tools, and projects for developing cloud apps and creating...
Summary
.NET desktop development
Included
.NET desktop development tools
.NET Framework 4.6.1 development ...
C# and Visual Basic
Optional
.NET Framework 4 – 4.6 developmen...
Blend for Visual Studio
Entity Framework 6 tools
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Location
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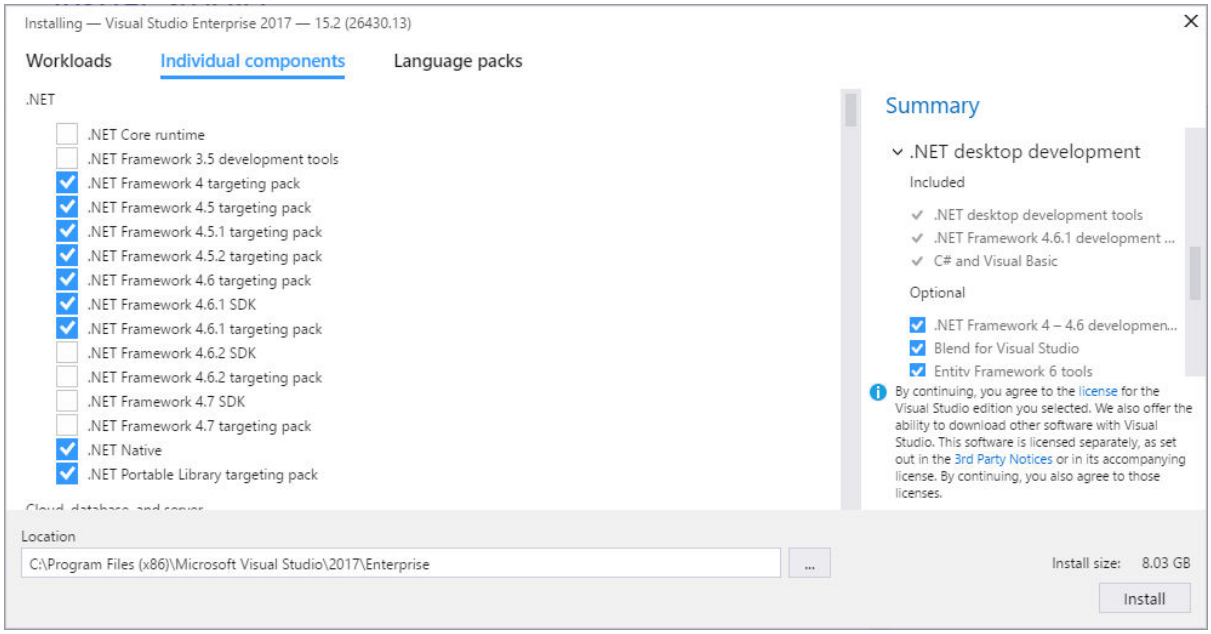
...
Install size: 8.03 GB
Install


Installing — Visual Studio Enterprise 2017 — 15.2 (26430.13)
Workloads
Individual components
Language packs
.NET
.NET Core runtime
.NET Framework 3.5 development tools
.NET Framework 4 targeting pack
.NET Framework 4.5 targeting pack
.NET Framework 4.5.1 targeting pack
.NET Framework 4.5.2 targeting pack
.NET Framework 4.6 targeting pack
.NET Framework 4.6.1 SDK
.NET Framework 4.6.1 targeting pack
.NET Framework 4.6.2 SDK
.NET Framework 4.6.2 targeting pack
.NET Framework 4.7 SDK
.NET Framework 4.7 targeting pack
.NET Native
.NET Portable Library targeting pack
Summary
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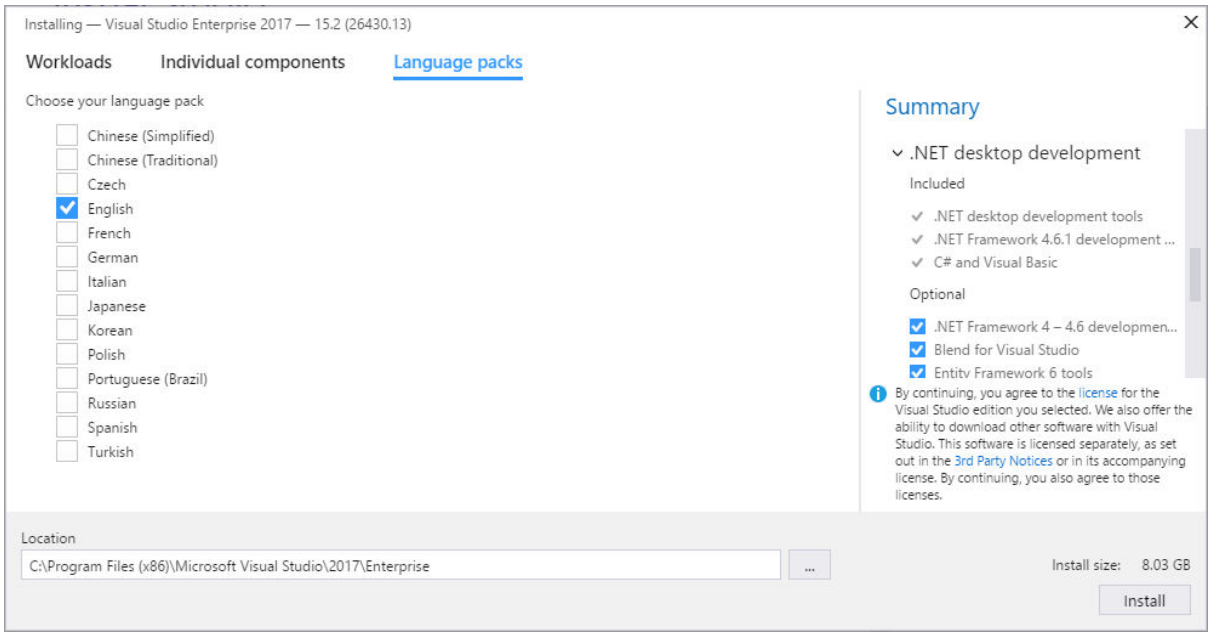
Installing — Visual Studio Enterprise 2017 — 15.2 (26430.13)
Workloads
Individual components
Language packs
Choose your language pack
Chinese (Simplified)
Chinese (Traditional)
Czech
English
French
German
Italian
Japanese
Korean
Polish
Portuguese (Brazil)
Russian
Spanish
Turkish
Summary
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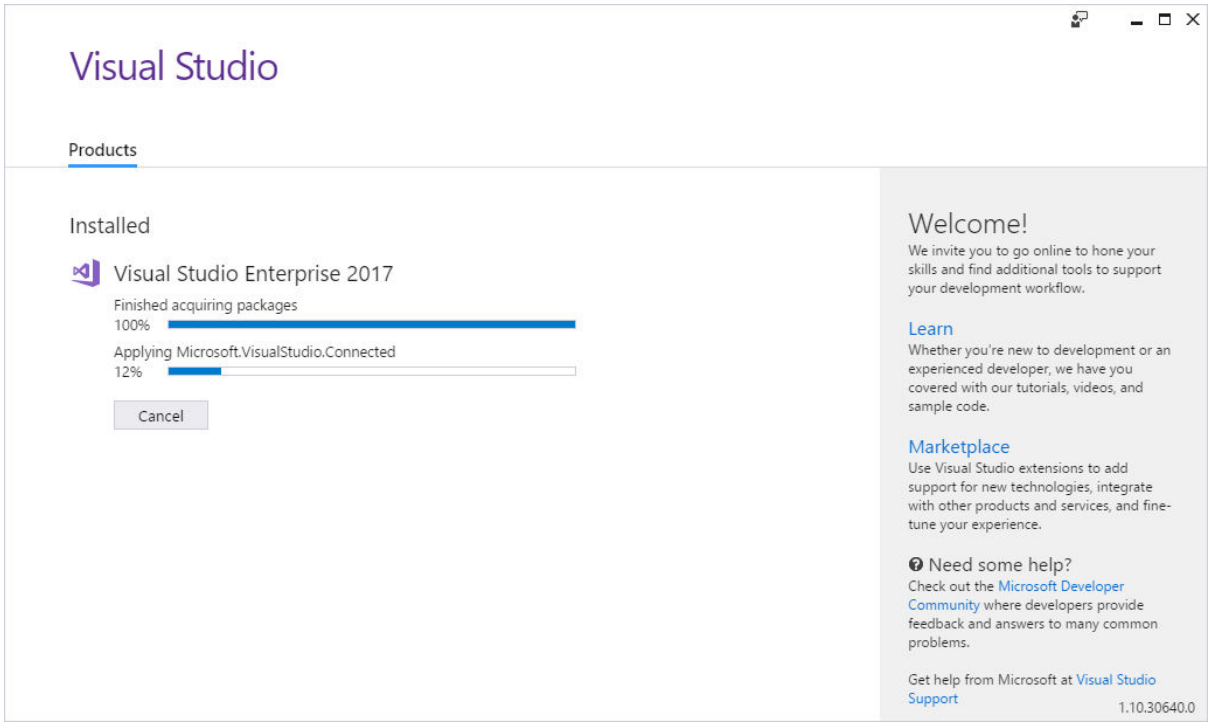
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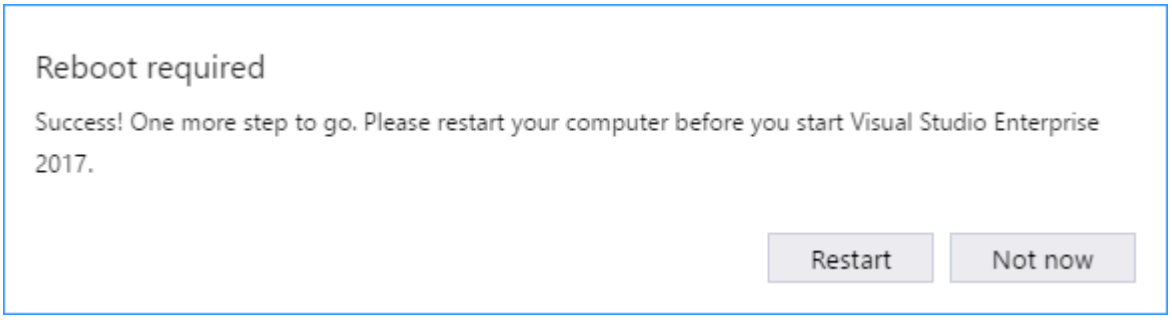
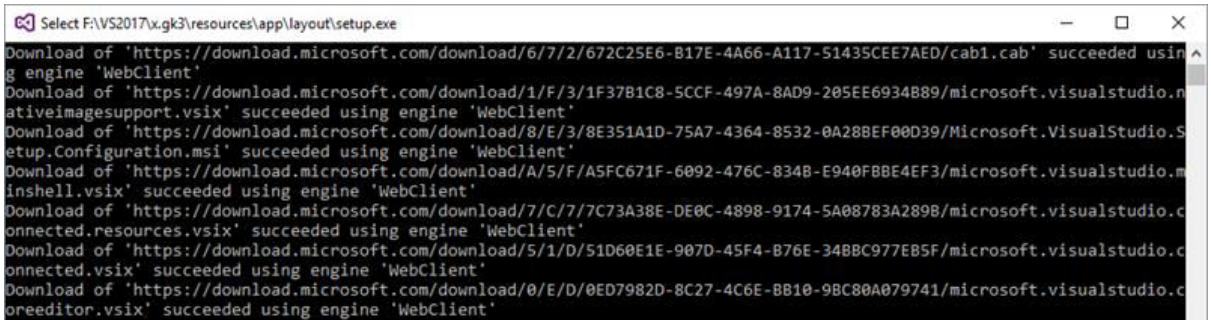

Reboot required
Success! One more step to go. Please restart your computer before you start Visual Studio Enterprise 2017.
Restart
Not now


Select F:\VS2017\x.gk3\resources\app\layout\setup.exe
Download of 'https://download.microsoft.com/download/6/7/2/672C25E6-B17E-4A66-A117-51435CEE7AED/cab1.cab' succeeded using engine 'WebClient'
Download of 'https://download.microsoft.com/download/1/F/3/1F37B1C8-5CCF-497A-8AD9-205EE6934B89/microsoft.visualstudio.nativeimagesupport.vsix' succeeded using engine 'WebClient'
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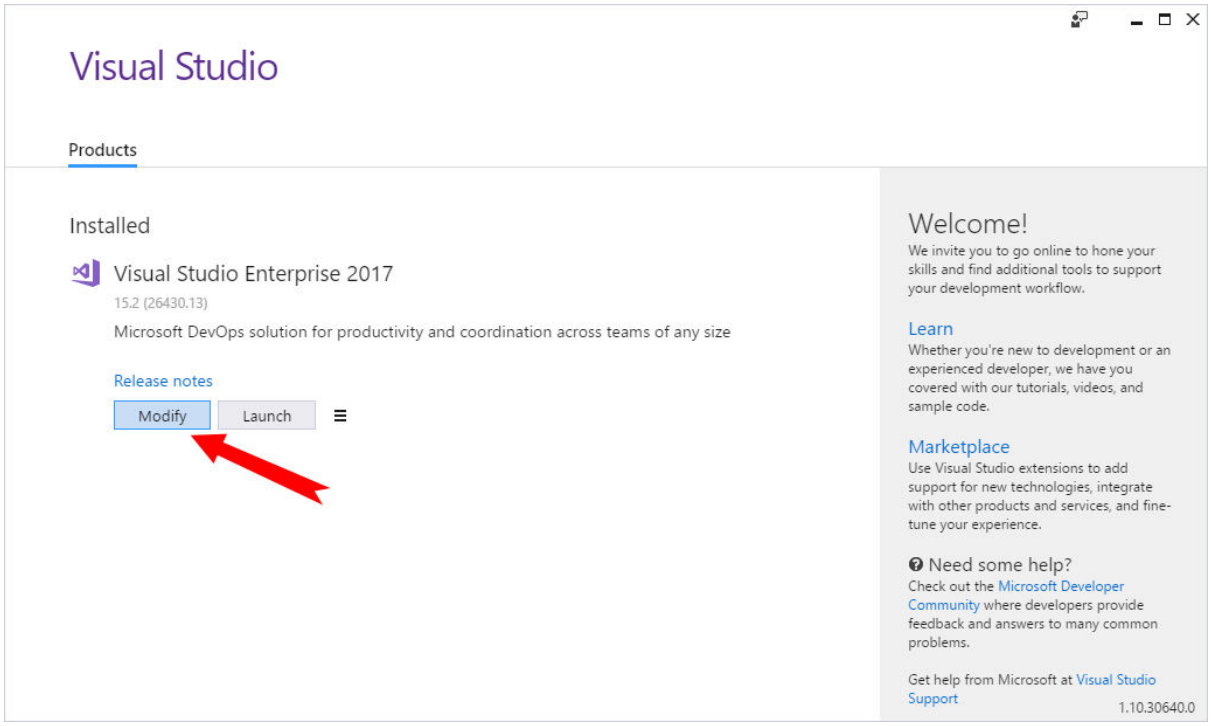
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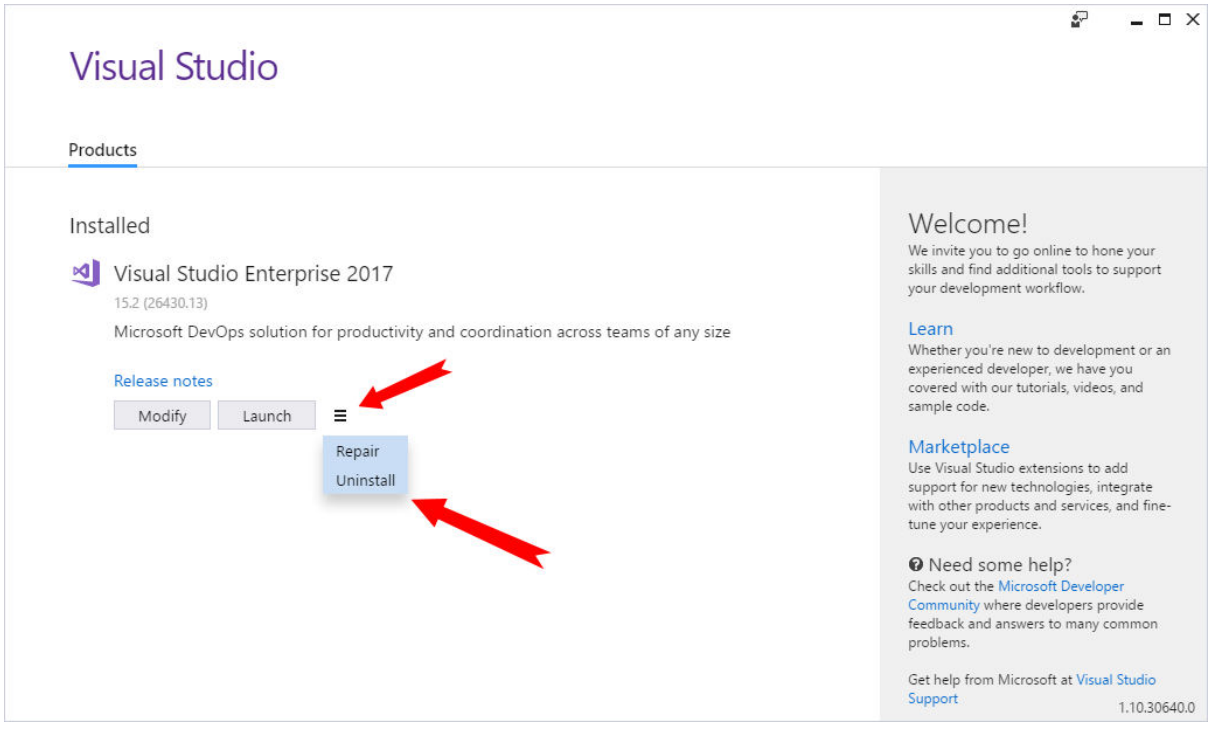
Visual Studio
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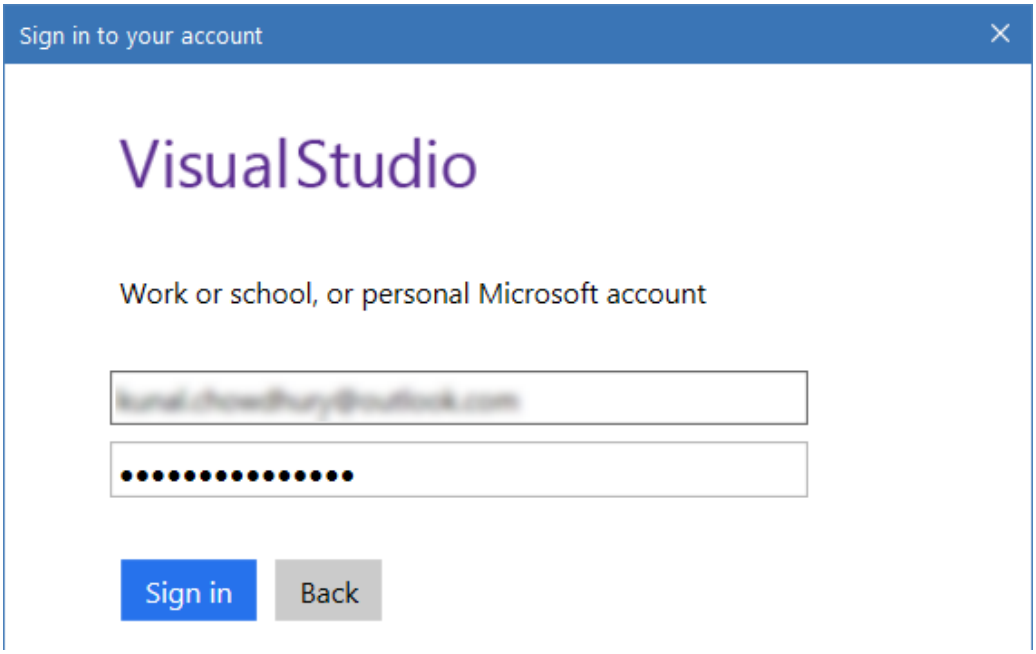
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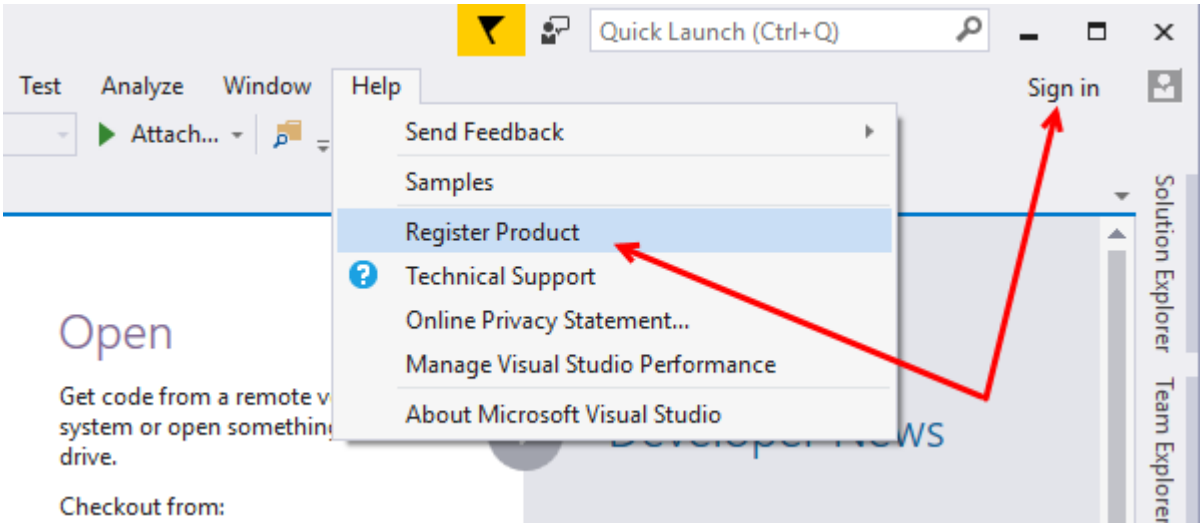
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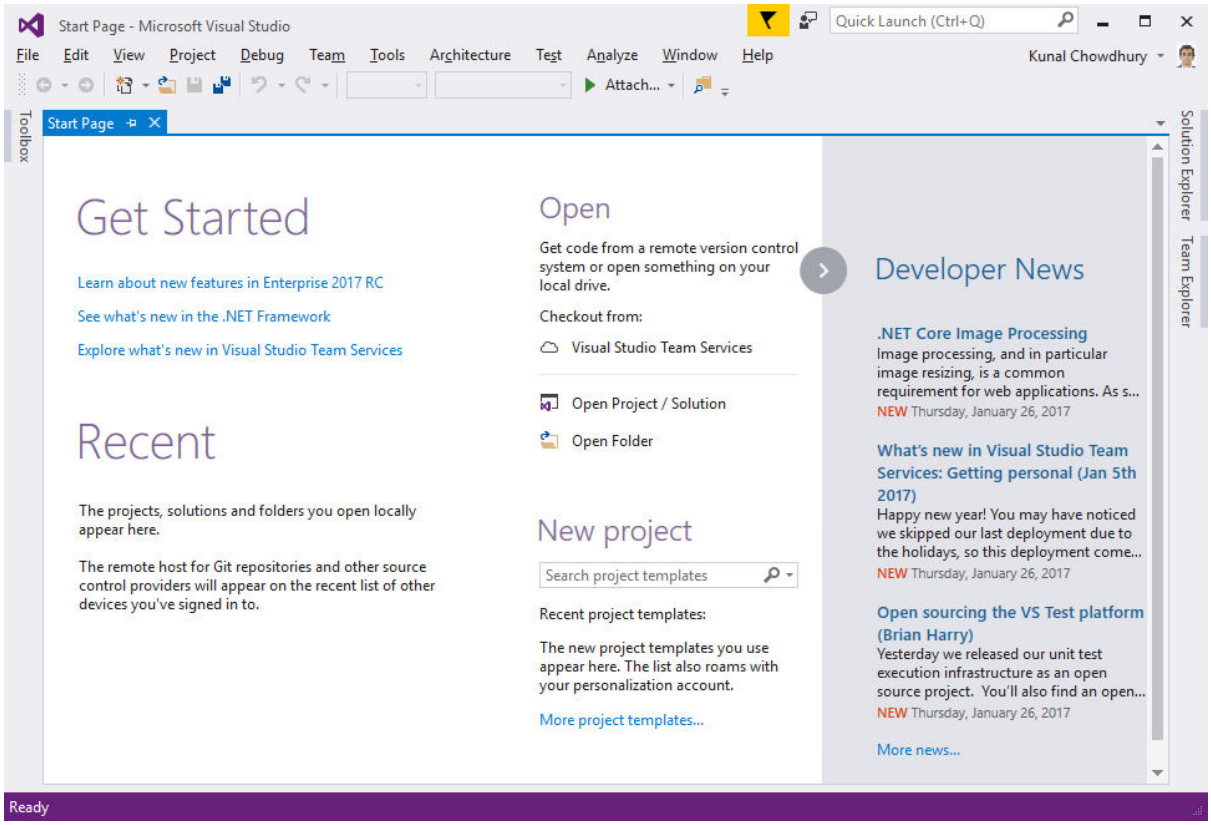
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File Edit View Project Debug Team Tools Architecture Test Analyze Window Help
Kunal Chowdhury
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Start Page
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Team Explorer
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.NET Core Image Processing
Image processing, and in particular image resizing, is a common requirement for web applications. As s...
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What's new in Visual Studio Team Services: Getting personal (Jan 5th 2017)
Happy new year! You may have noticed we skipped our last deployment due to the holidays, so this deployment come...
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Open sourcing the VS Test platform (Brian Harry)
Yesterday we released our unit test execution infrastructure as an open source project. You'll also find an open...
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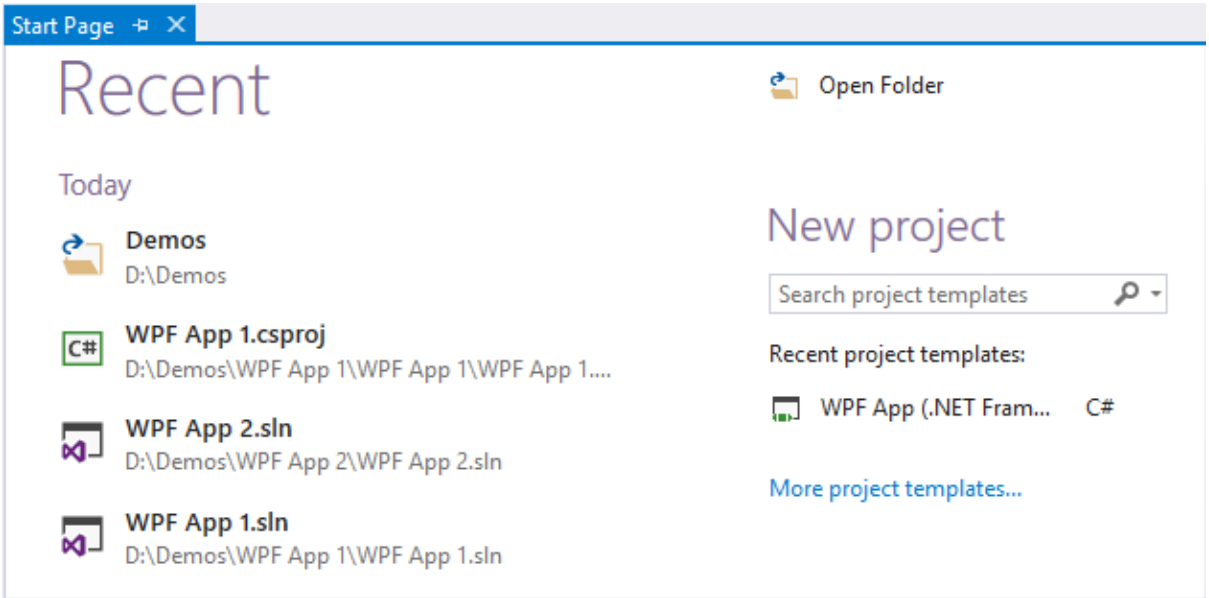
More news...
Ready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Recent
Today
Demos
D:\Demos
WPF App 1.csproj
D:\Demos\WPF App 1\WPF App 1\WPF App 1....
WPF App 2.sln
D:\Demos\WPF App 2\WPF App 2.sln
WPF App 1.sln
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Open Folder
New project
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WPF App (.NET Fram... C#
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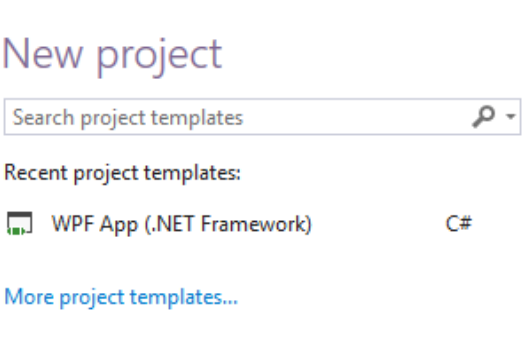
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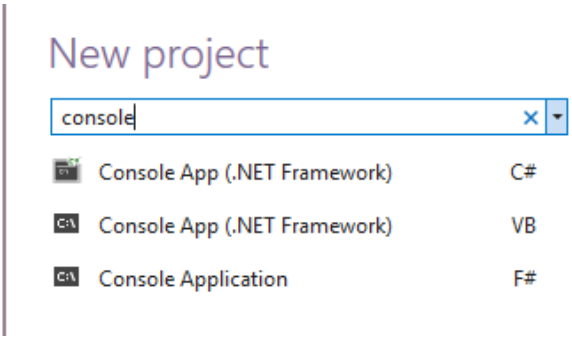
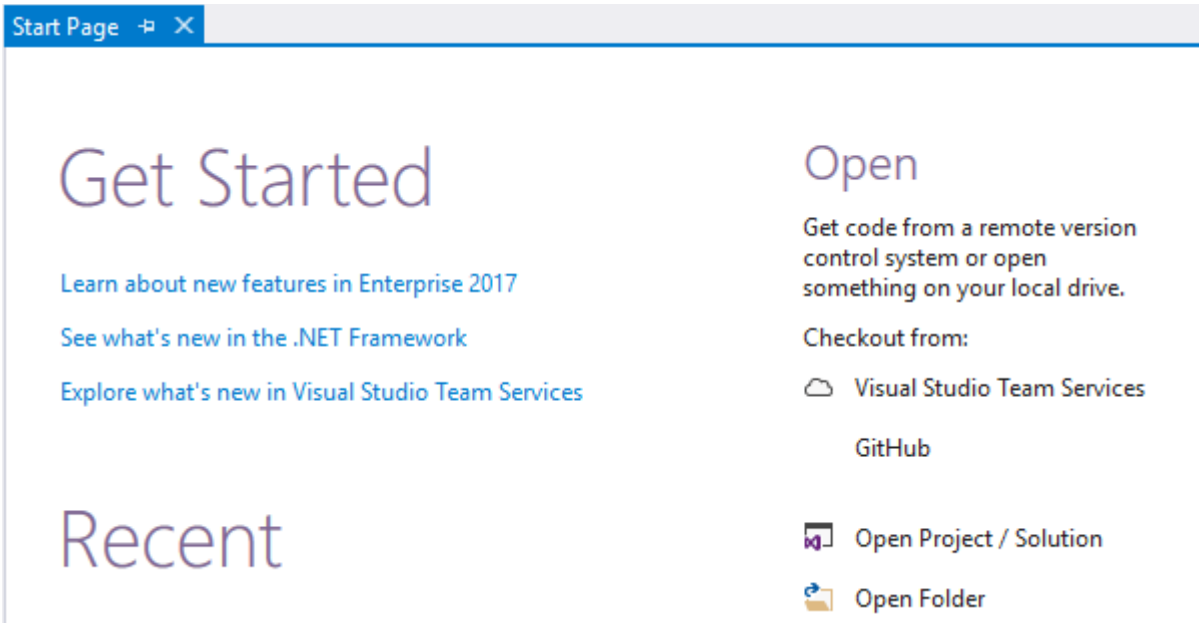
WPF App (.NET Framework) C#
More project templates...


New project
console
Console App (.NET Framework) C#
Console App (.NET Framework) VB
Console Application F#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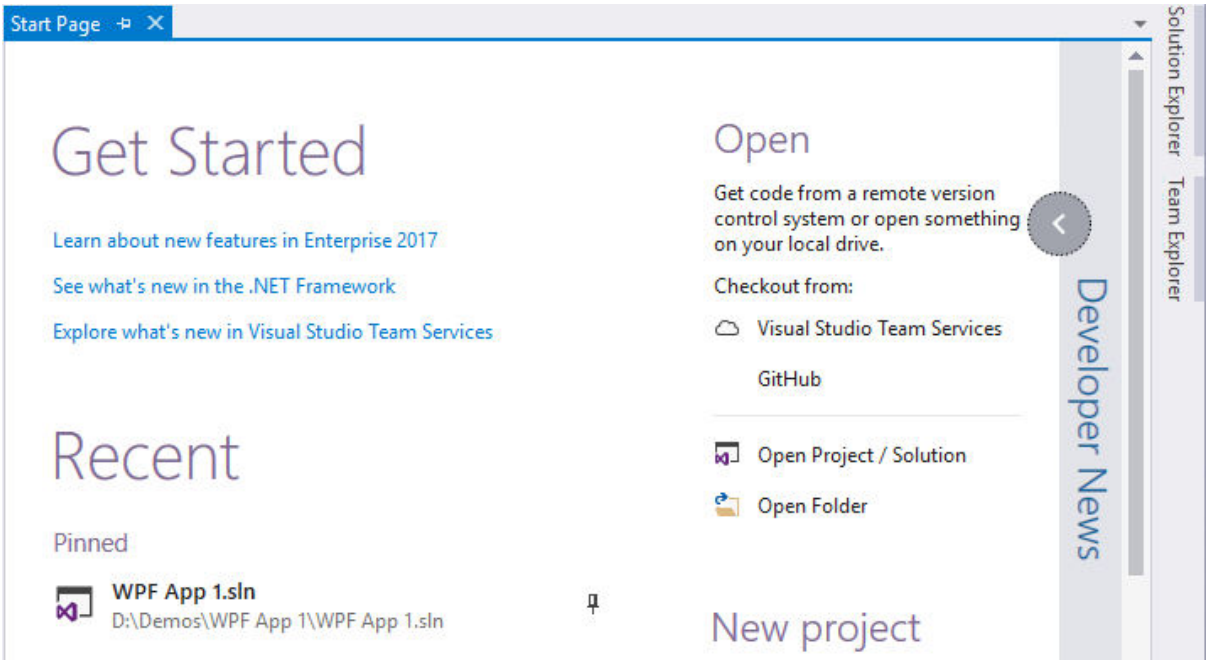
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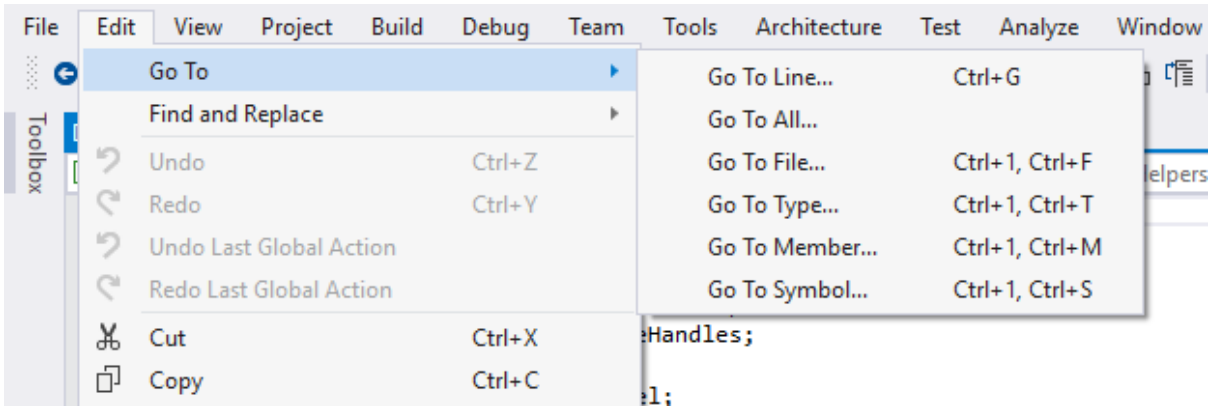
File
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Team
Tools
Architecture
Test
Analyze
Window
Toolbox
Go To
Find and Replace
Undo Ctrl+Z
Redo Ctrl+Y
Undo Last Global Action
Redo Last Global Action
Cut Ctrl+X
Copy Ctrl+C
Go To Line... Ctrl+G
Go To All...
Go To File... Ctrl+1, Ctrl+F
Go To Type... Ctrl+1, Ctrl+T
Go To Member... Ctrl+1, Ctrl+M
Go To Symbol... Ctrl+1, Ctrl+S
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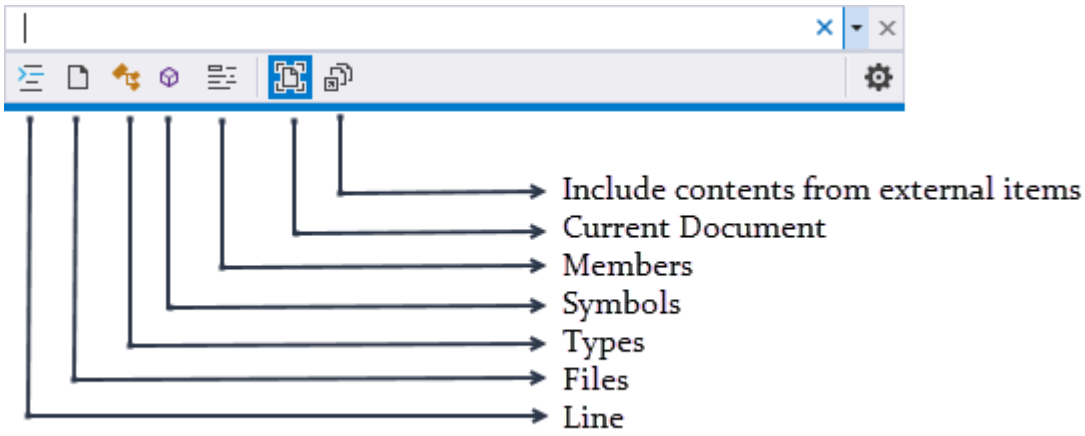
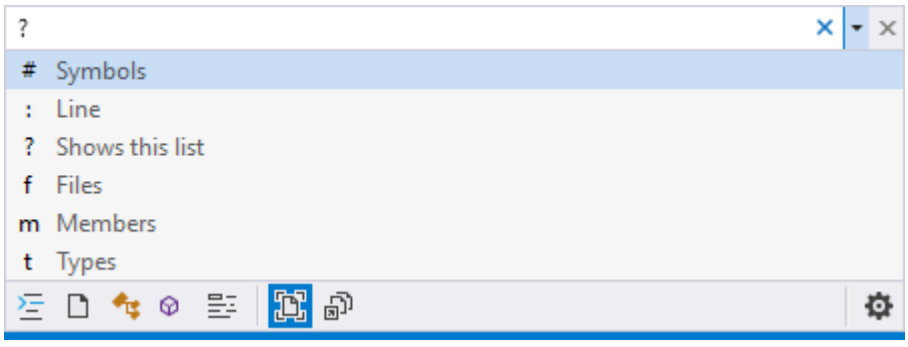

Include contents from external items
Current Document
Members
Symbols
Types
Files
Line


?
Symbols
: Line
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f Files
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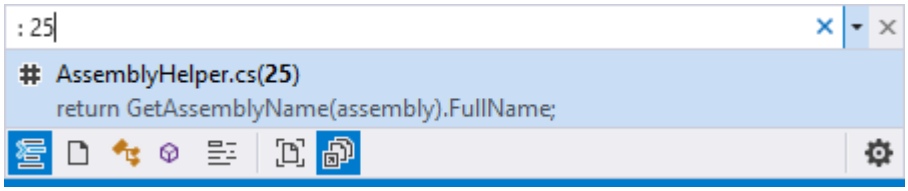
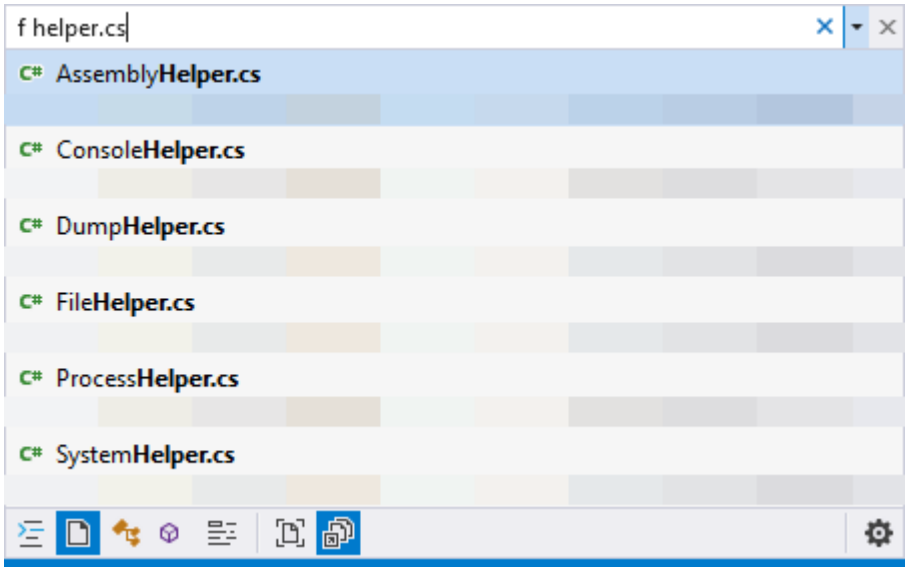
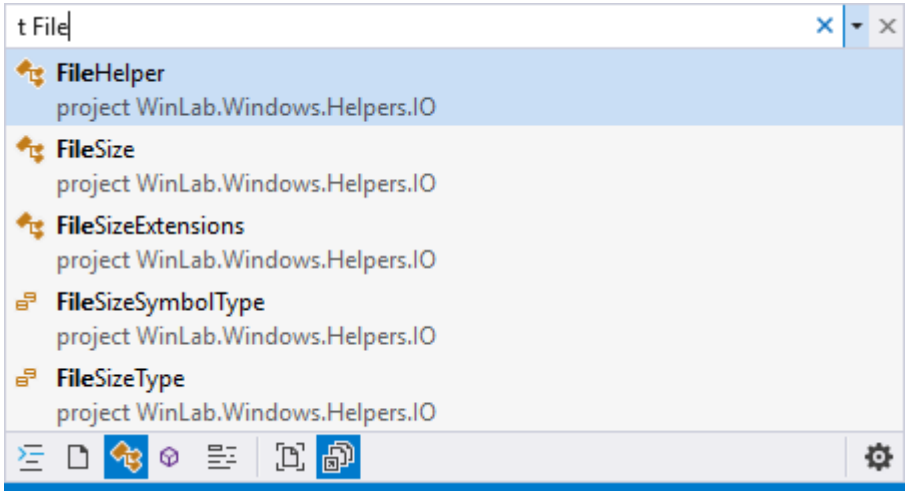
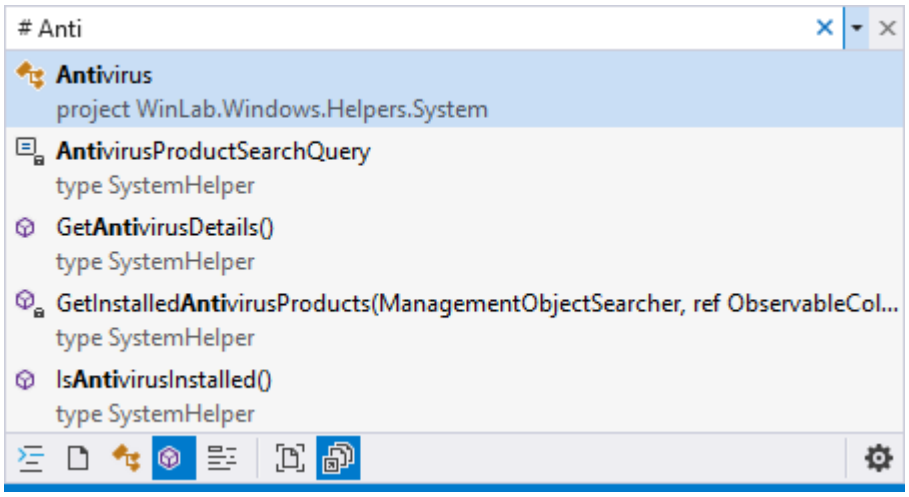
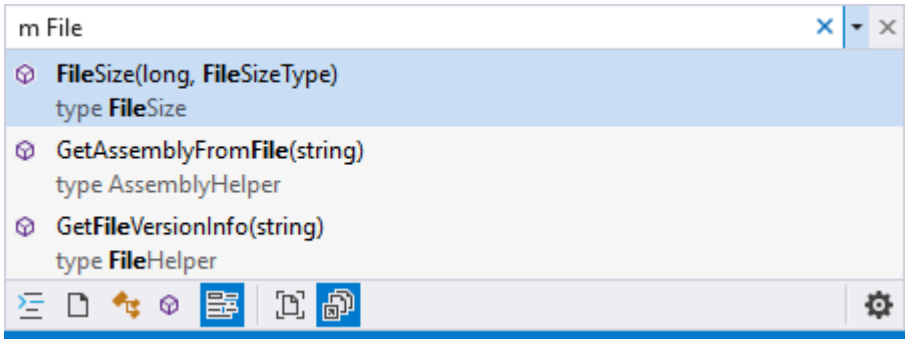
t Types

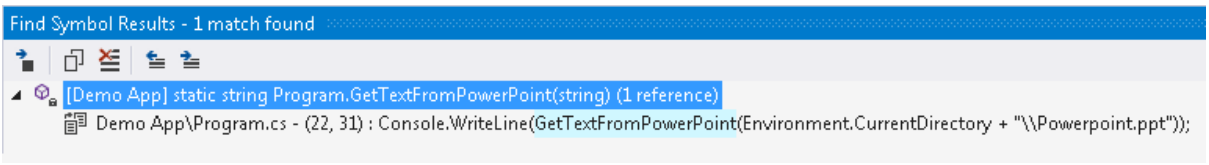

: 25
# AssemblyHelper.cs(25)
return GetAssemblyName(assembly).FullName;

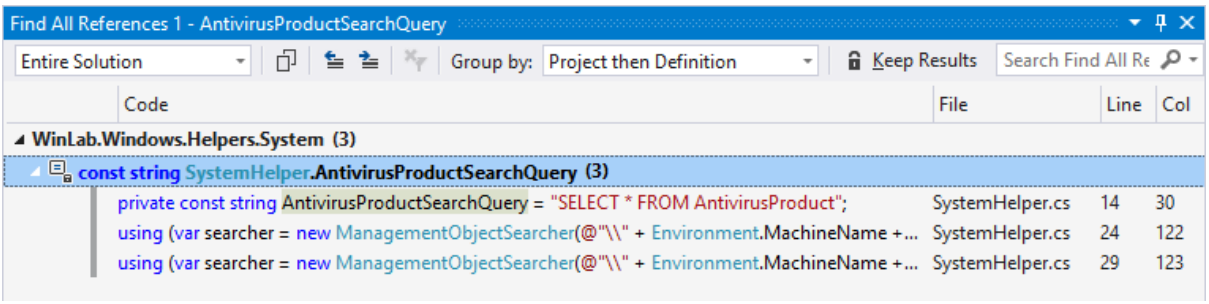

f helper.cs
AssemblyHelper.cs
ConsoleHelper.cs
DumpHelper.cs
FileHelper.cs
ProcessHelper.cs
SystemHelper.cs

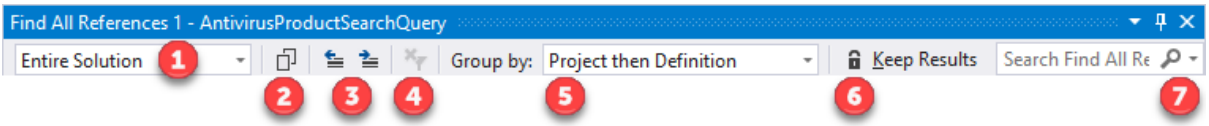

t File
FileHelper
project WinLab.Windows.Helpers.IO
FileSize
project WinLab.Windows.Helpers.IO
FileSizeExtensions
project WinLab.Windows.Helpers.IO
FileSizeSymbolType
project WinLab.Windows.Helpers.IO
FileSizeType
project WinLab.Windows.Helpers.IO


Anti
Antivirus
project WinLab.Windows.Helpers.System
AntivirusProductSearchQuery
type SystemHelper
GetAntivirusDetails()
type SystemHelper
GetInstalledAntivirusProducts(ManagementObjectSearcher, ref ObservableCol...
type SystemHelper
IsAntivirusInstalled()
type SystemHelper


m File
FileSize(long, FileSizeType)
type FileSize
GetAssemblyFromFile(string)
type AssemblyHelper
GetFileVersionInfo(string)
type FileHelper


Find Symbol Results - 1 match found
[Demo App] static string Program.GetTextFromPowerPoint(string) (1 reference)
Demo App\Program.cs - (22, 31) : Console.WriteLine(GetTextFromPowerPoint(Environment.CurrentDirectory + "\\Powerpoint.ppt"));


Find All References 1 - AntivirusProductSearchQuery
Entire Solution
Group by:
Project then Definition
Keep Results
Search Find All Re
Code
File
Line
Col
WinLab.Windows.Helpers.System (3)
const string SystemHelper.AntivirusProductSearchQuery (3)
private const string AntivirusProductSearchQuery = "SELECT * FROM AntivirusProduct"; SystemHelper.cs 14 30
using (var searcher = new ManagementObjectSearcher(@"\\" + Environment.MachineName +... SystemHelper.cs 24 122
using (var searcher = new ManagementObjectSearcher(@"\\" + Environment.MachineName +... SystemHelper.cs 29 123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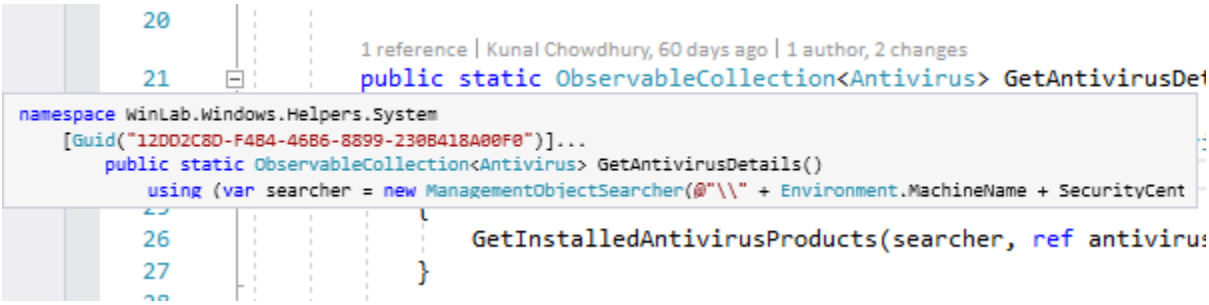
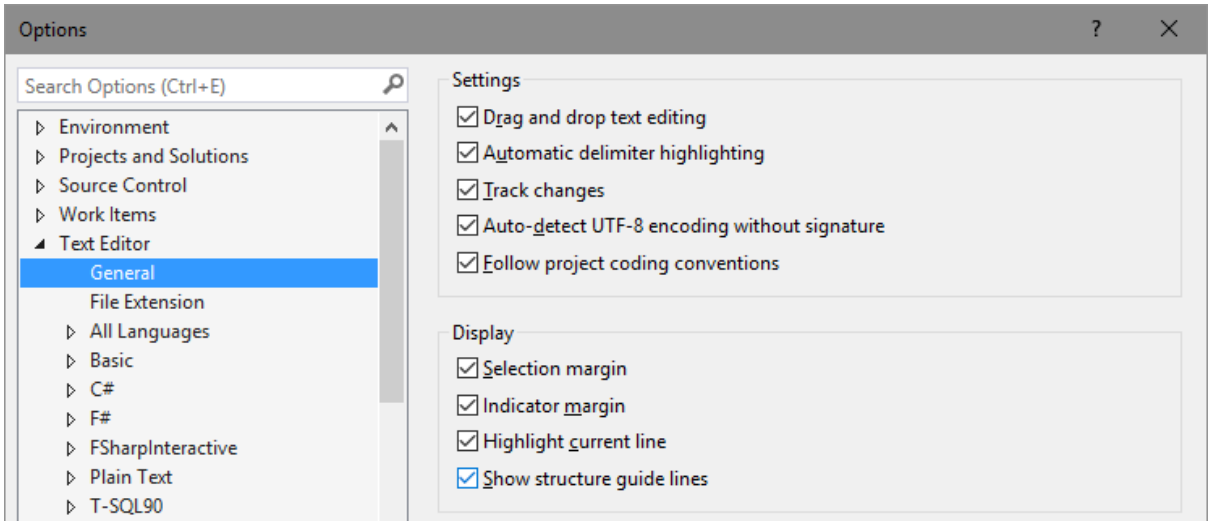
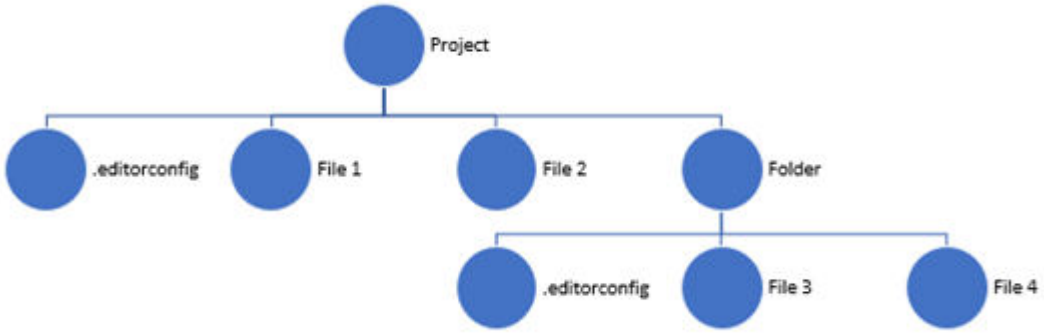
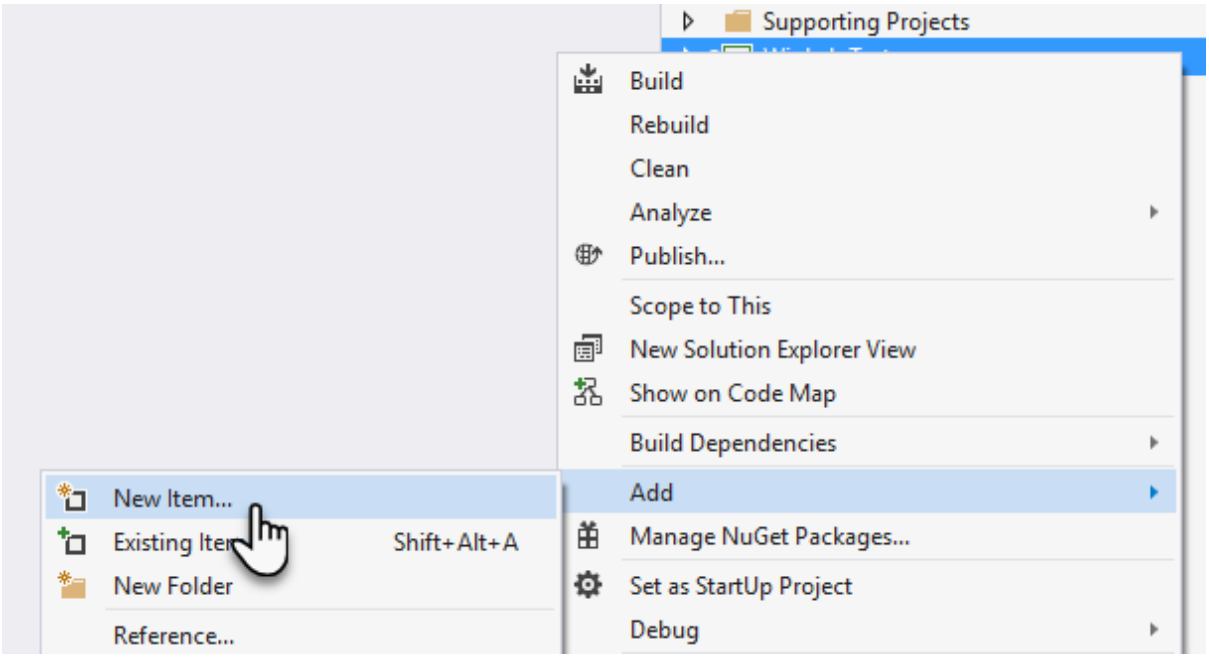
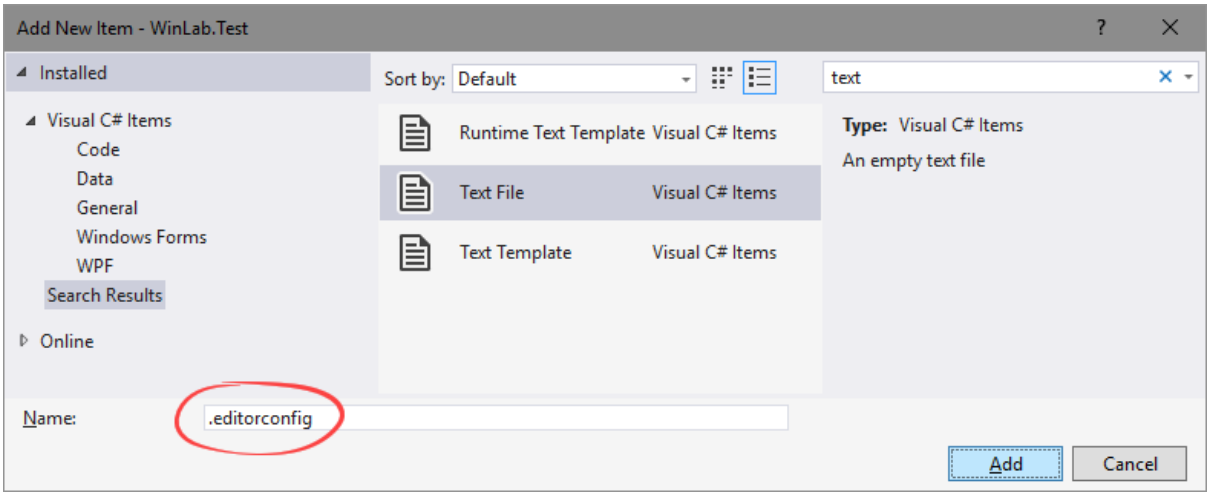
Search Find All Re
7

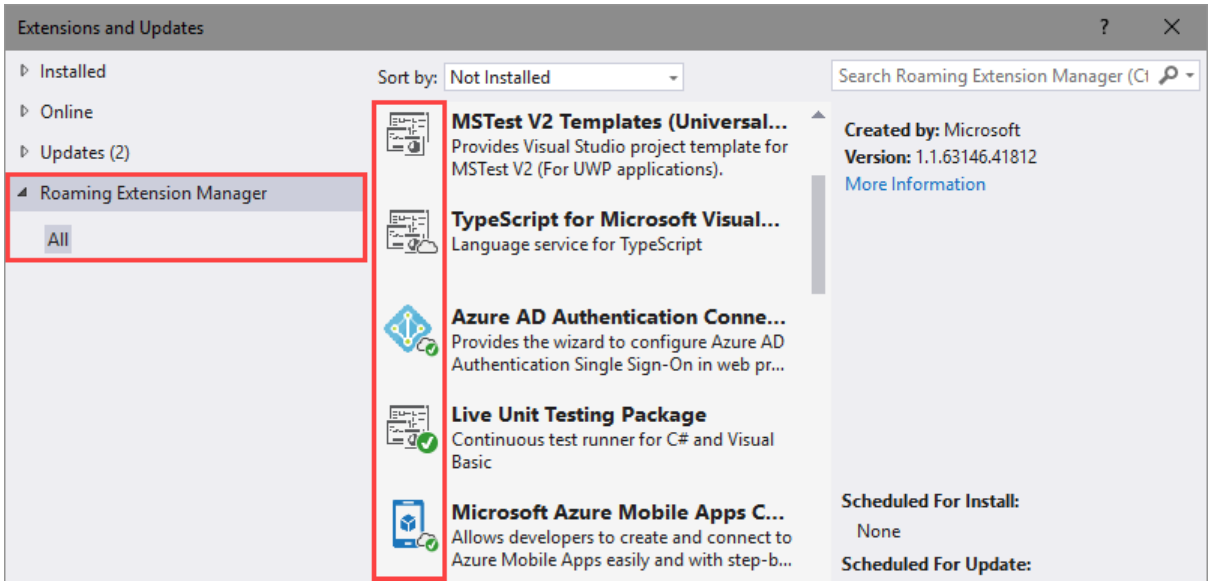

20
1 reference | Kunal Chowdhury, 60 days ago | 1 author, 2 changes
21
public static ObservableCollection<Antivirus> GetAntivirusDet
namespace WinLab.Windows.Helpers.System
[Guid("12DD2C8D-F4B4-46B6-8899-230B418A00F0")]...
public static ObservableCollection<Antivirus> GetAntivirusDetails()
using (var searcher = new ManagementObjectSearcher(@"\\" + Environment.MachineName + SecurityCent
26
GetInstalledAntivirusProducts(searcher, ref antivirus
27
}

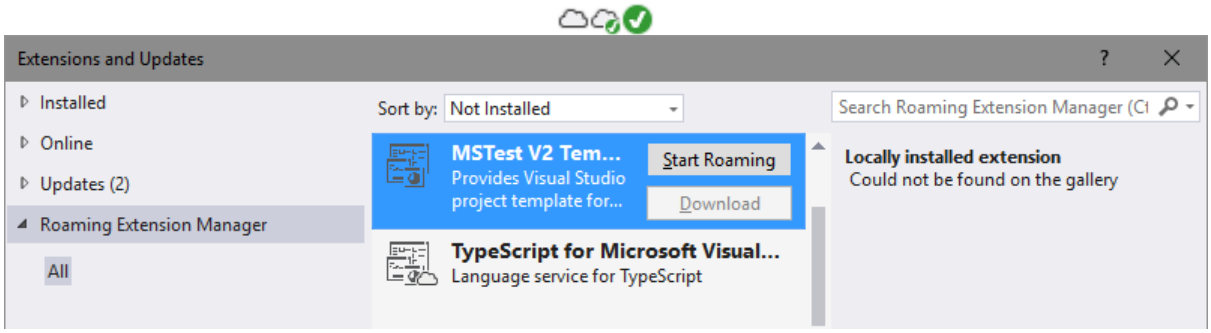

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
General
File Extension
All Languages
Basic
C#
F#
FSharpInteractive
Plain Text
T-SQL90
Settings
Drag and drop text editing
Automatic delimiter highlighting
Track changes
Auto-detect UTF-8 encoding without signature
Follow project coding conventions
Display
Selection margin
Indicator margin
Highlight current line
Show structure guide lines

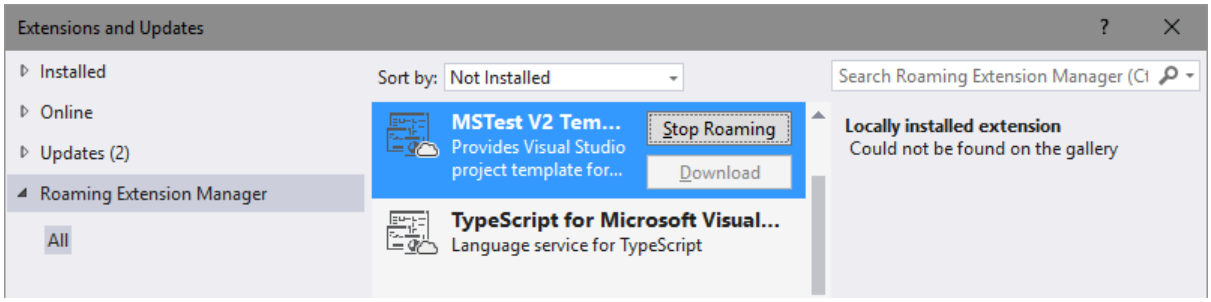

Project
.editorconfig
File 1
File 2
Folder
.editorconfig
File 3
File 4

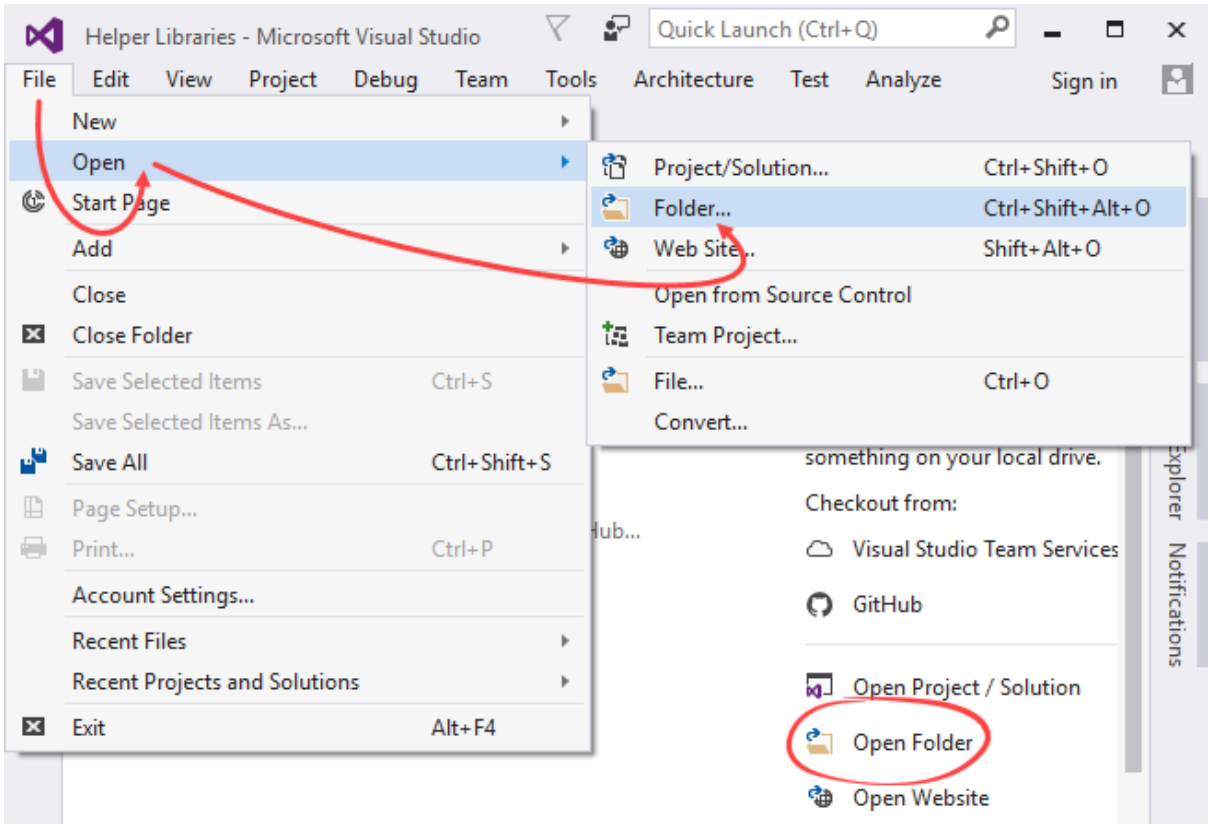

Supporting Projects
Build
Rebuild
Clean
Analyze
Publish...
Scope to This
New Solution Explorer View
Show on Code Map
Build Dependencies
Add
Manage NuGet Packages...
Set as StartUp Project
Debug
New Item...
Existing Item...
Shift+Alt+A
New Folder
Reference...

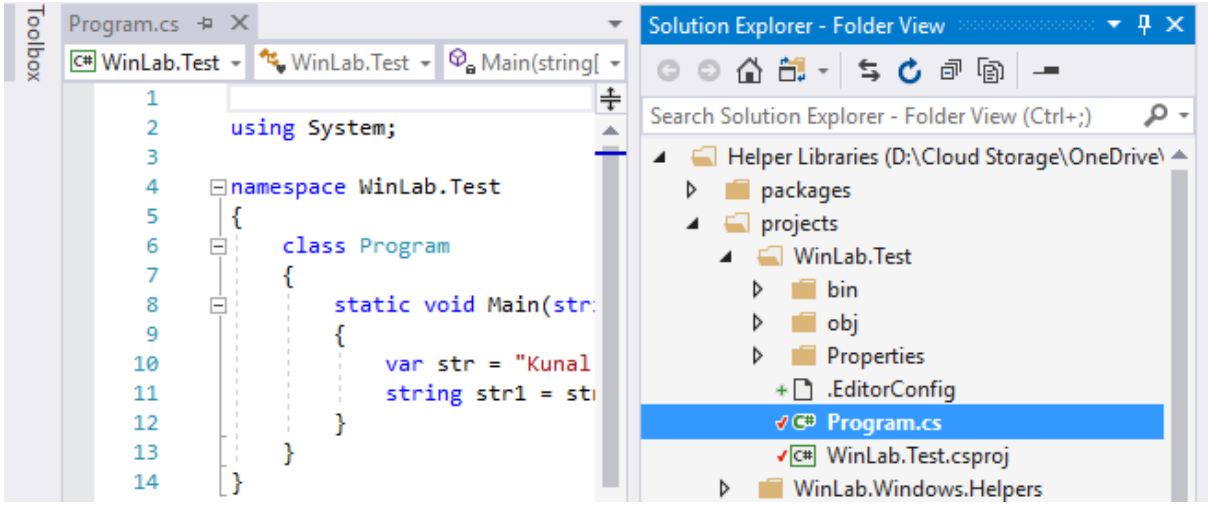

Add New Item - WinLab.Test
Installed
Visual C# Items
Code
Data
General
Windows Forms
WPF
Search Results
Online
Sort by: Default
text
Runtime Text Template Visual C# Items
Text File Visual C# Items
Text Template Visual C# Items
Type: Visual C# Items
An empty text file
Name: .editorconfig
Add
Cancel

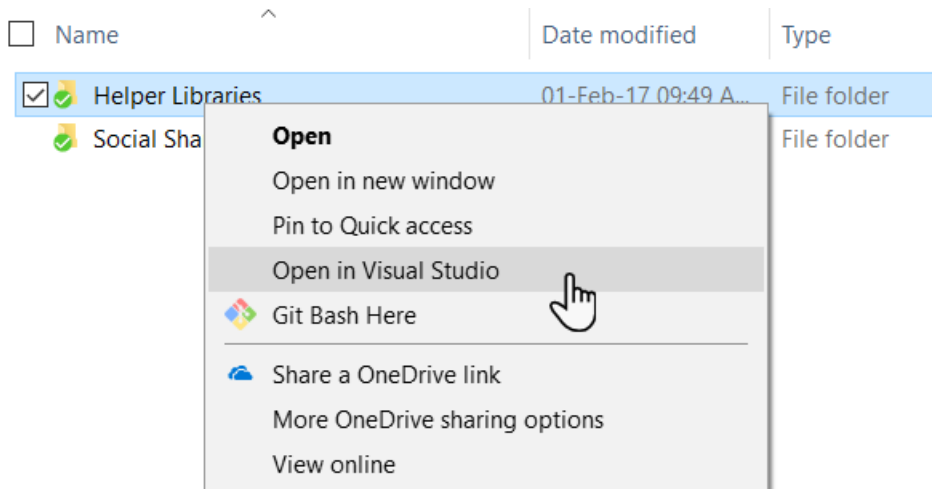

Extensions and Updates
Installed
Online
Updates (2)
Roaming Extension Manager
All
Sort by:
Not Installed
Search Roaming Extension Manager (Ct
MSTest V2 Templates (Universal...
Provides Visual Studio project template for MSTest V2 (For UWP applications).
TypeScript for Microsoft Visual...
Language service for TypeScript
Azure AD Authentication Conne...
Provides the wizard to configure Azure AD Authentication Single Sign-On in web pr...
Live Unit Testing Package
Continuous test runner for C# and Visual Basic
Microsoft Azure Mobile Apps C...
Allows developers to create and connect to Azure Mobile Apps easily and with step-b...
Created by: Microsoft
Version: 1.1.63146.41812
More Information
Scheduled For Install:
None
Scheduled For Update:

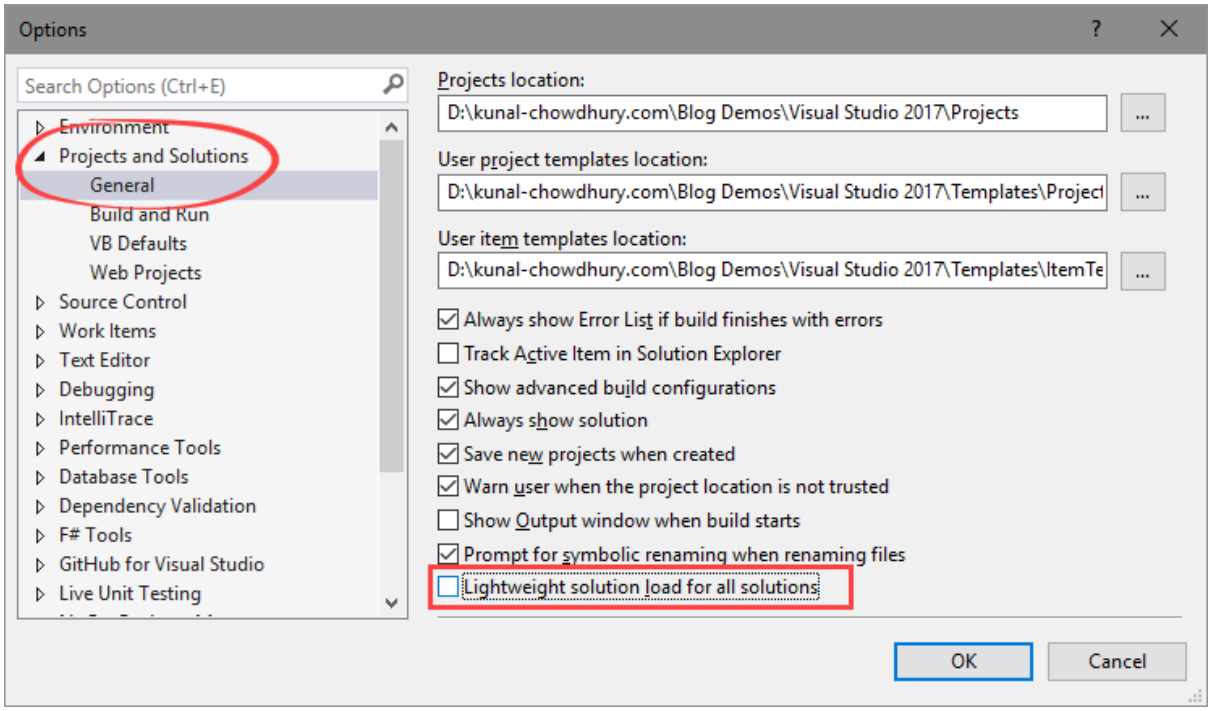

Extensions and Updates
Installed
Online
Updates (2)
Roaming Extension Manager
All
Sort by:
Not Installed
Search Roaming Extension Manager (Ct
MSTest V2 Tem...
Provides Visual Studio project template for...
Start Roaming
Download
TypeScript for Microsoft Visual...
Language service for TypeScript
Locally installed extension
Could not be found on the gallery

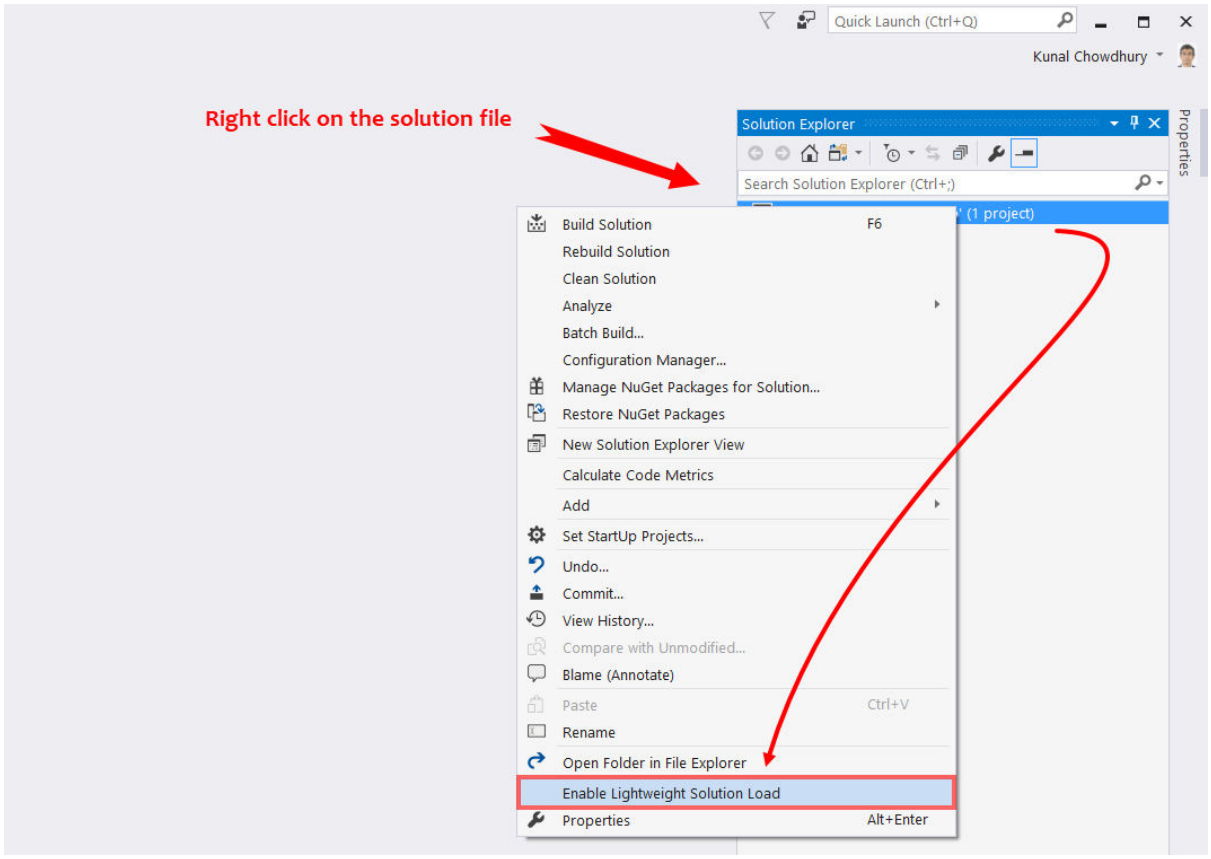

Extensions and Updates
Installed
Online
Updates (2)
Roaming Extension Manager
All
Sort by:
Not Installed
Search Roaming Extension Manager (Ct
MSTest V2 Tem...
Provides Visual Studio project template for...
Stop Roaming
Download
TypeScript for Microsoft Visual...
Language service for TypeScript
Locally installed extension
Could not be found on the gallery

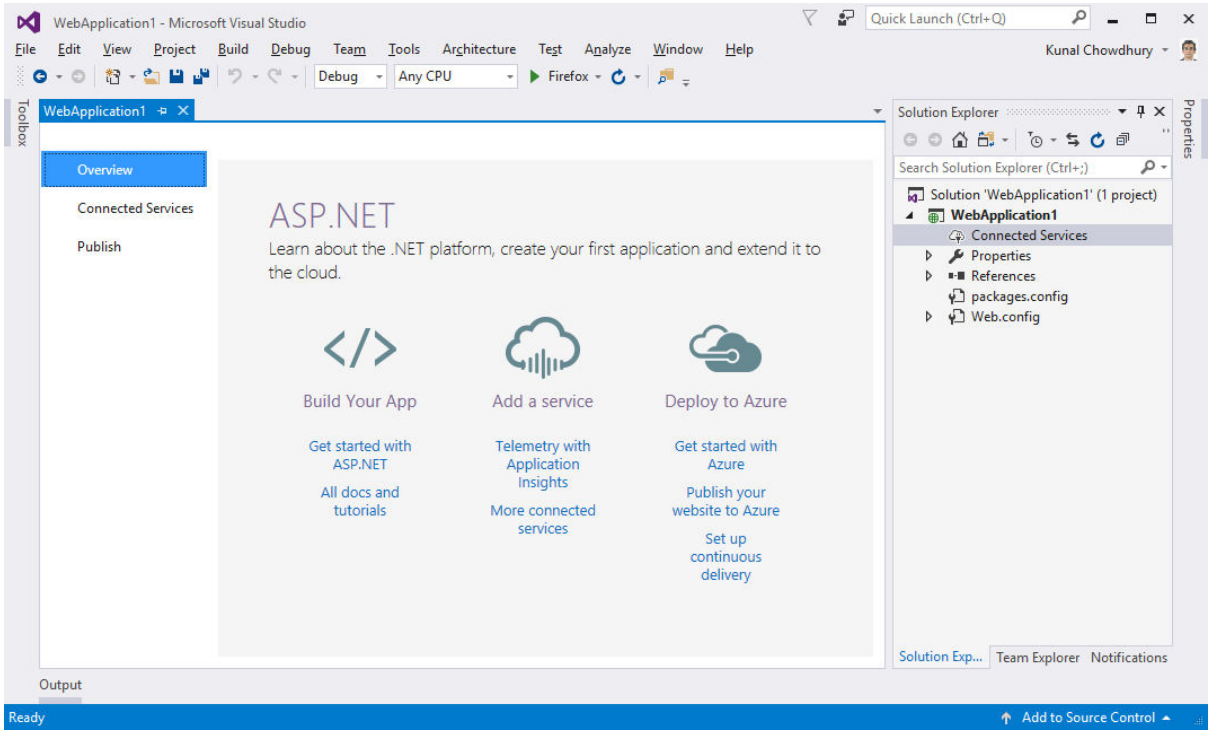

Helper Libraries - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File
Edit
View
Project
Debug
Team
Tools
Architecture
Test
Analyze
Sign in
New
Open
Start Page
Add
Close
Close Folder
Save Selected Items Ctrl+S
Save Selected Items As...
Save All Ctrl+Shift+S
Page Setup...
Print... Ctrl+P
Account Settings...
Recent Files
Recent Projects and Solutions
Exit Alt+F4
Project/Solution... Ctrl+Shift+O
Folder... Ctrl+Shift+Alt+O
Web Site... Shift+Alt+O
Open from Source Control
Team Project...
File... Ctrl+O
Convert...
something on your local drive.
Checkout from:
Visual Studio Team Services
GitHub
Open Project / Solution
Open Folder
Open Website
Notifications

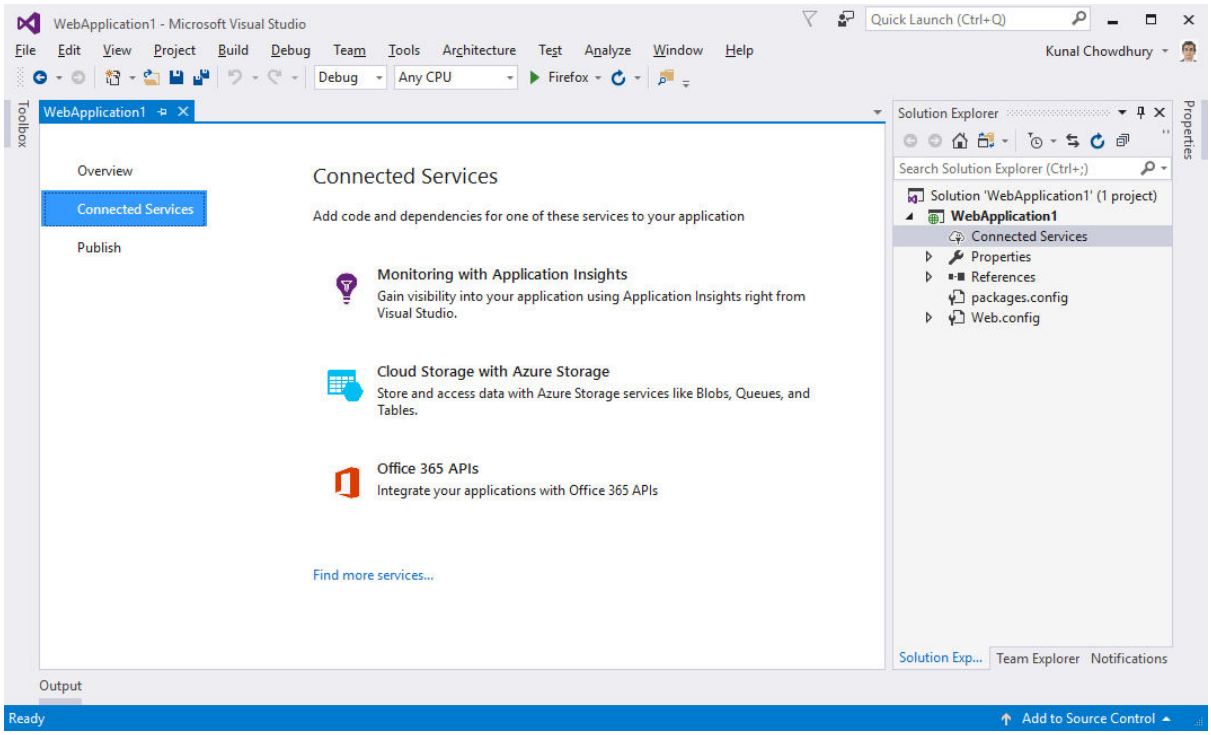

Toolbox
Program.cs
WinLab.Test
WinLab.Test
Main(string[
using System;
namespace WinLab.Test
{
class Program
{
static void Main(str
{
var str = "Kunal
string str1 = st
}
}
}
Solution Explorer - Folder View
Search Solution Explorer - Folder View (Ctrl+;)
Helper Libraries (D:\Cloud Storage\OneDrive\
packages
projects
WinLab.Test
bin
obj
Properties
.EditorConfig
Program.cs
WinLab.Test.csproj
WinLab.Windows.Helpers

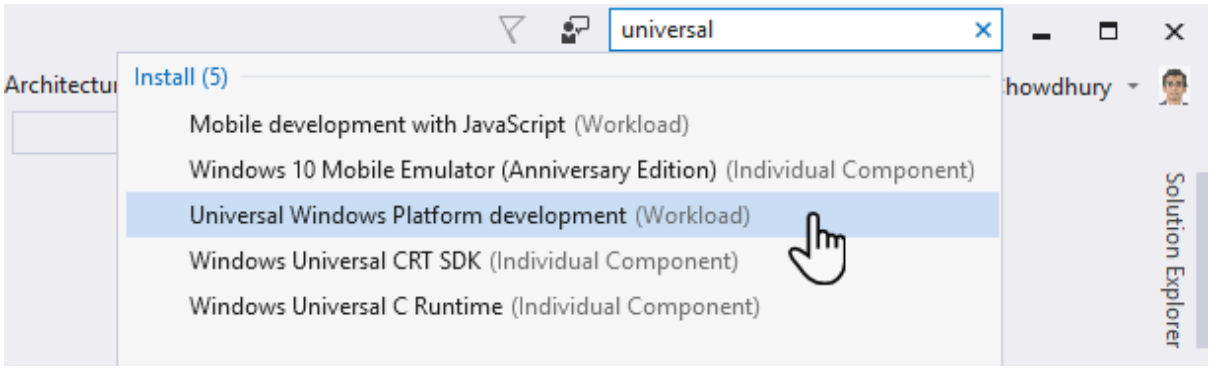

Name
Date modified
Type
Helper Libraries
01-Feb-17 09:49 A...
File folder
Social Sha
File folder
Open
Open in new window
Pin to Quick access
Open in Visual Studio
Git Bash Here
Share a OneDrive link
More OneDrive sharing options
View online

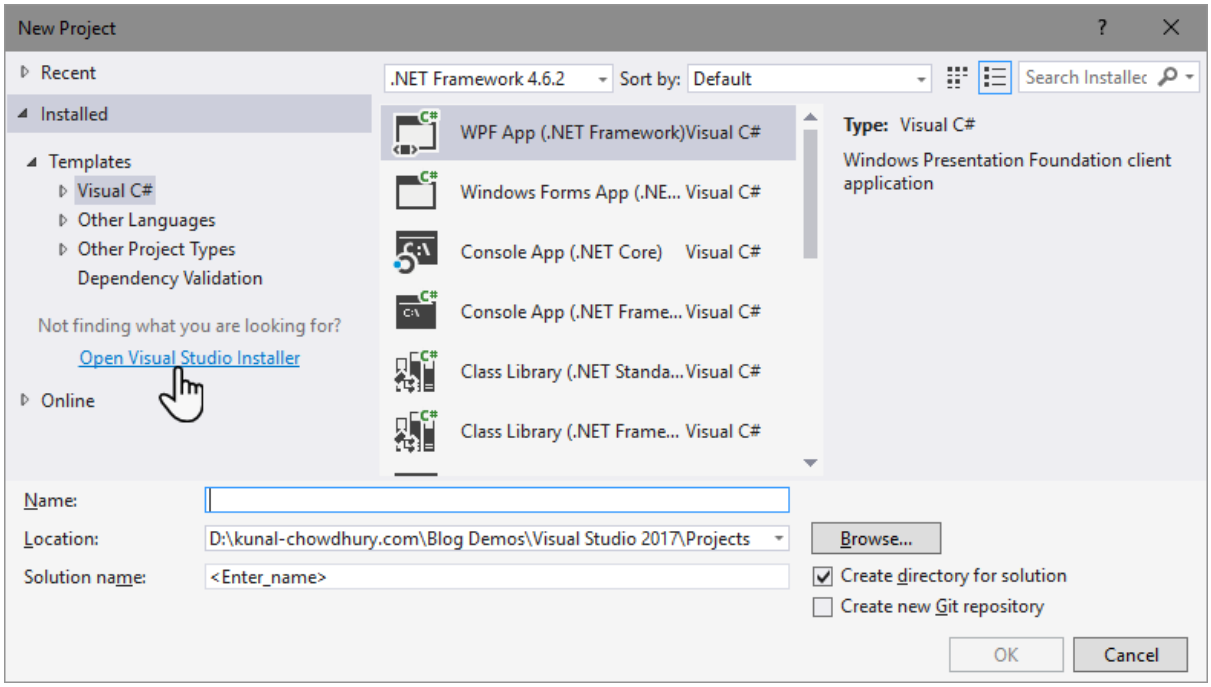

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
General
Build and Run
VB Defaults
Web Projects
Source Control
Work Items
Text Editor
Debugging
IntelliTrace
Performance Tools
Database Tools
Dependency Validation
F# Tools
GitHub for Visual Studio
Live Unit Testing
Projects location:
D:\kunal-chowdhury.com\Blog Demos\Visual Studio 2017\Projects
User project templates location:
D:\kunal-chowdhury.com\Blog Demos\Visual Studio 2017\Templates\Project
User item templates location:
D:\kunal-chowdhury.com\Blog Demos\Visual Studio 2017\Templates\ItemTe
Always show Error List if build finishes with errors
Track Active Item in Solution Explorer
Show advanced build configurations
Always show solution
Save new projects when created
Warn user when the project location is not trusted
Show Output window when build starts
Prompt for symbolic renaming when renaming files
Lightweight solution load for all solutions
OK
Cancel


Quick Launch (Ctrl+Q)
Kunal Chowdhury
Right click on the solution file
Solution Explorer
Search Solution Explorer (Ctrl+;)
(1 project)
Properties
Build Solution F6
Rebuild Solution
Clean Solution
Analyze
Batch Build...
Configuration Manager...
Manage NuGet Packages for Solution...
Restore NuGet Packages
New Solution Explorer View
Calculate Code Metrics
Add
Set StartUp Projects...
Undo...
Commit...
View History...
Compare with Unmodified...
Blame (Annotate)
Paste Ctrl+V
Rename
Open Folder in File Explorer
Enable Lightweight Solution Load
Properties Alt+Enter


WebApplication1 - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Architecture Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Firefox
Toolbox
WebApplication1
Overview
Connected Services
Publish
ASP.NET
Learn about the .NET platform, create your first application and extend it to the cloud.
Build Your App
Get started with ASP.NET
All docs and tutorials
Add a service
Telemetry with Application Insights
More connected services
Deploy to Azure
Get started with Azure
Publish your website to Azure
Set up continuous delivery
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WebApplication1' (1 project)
WebApplication1
Connected Services
Properties
References
packages.config
Web.config
Properties
Solution Exp...
Team Explorer
Notifications
Output
Ready
Add to Source Control

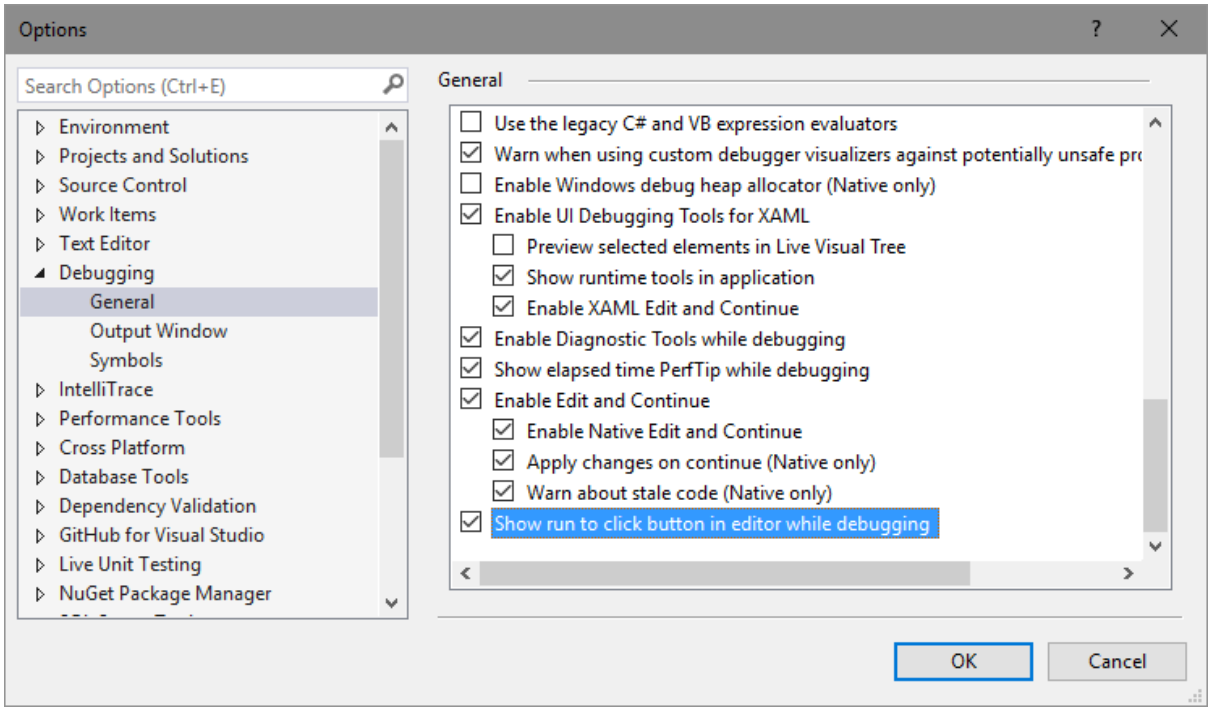

WebApplication1 - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Architecture Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Firefox
Toolbox
WebApplication1
Overview
Connected Services
Publish
Connected Services
Add code and dependencies for one of these services to your application
Monitoring with Application Insights
Gain visibility into your application using Application Insights right from Visual Studio.
Cloud Storage with Azure Storage
Store and access data with Azure Storage services like Blobs, Queues, and Tables.
Office 365 APIs
Integrate your applications with Office 365 APIs
Find more services...
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WebApplication1' (1 project)
WebApplication1
Connected Services
Properties
References
packages.config
Web.config
Properties
Solution Exp...
Team Explorer
Notifications
Output
Ready
Add to Source Control

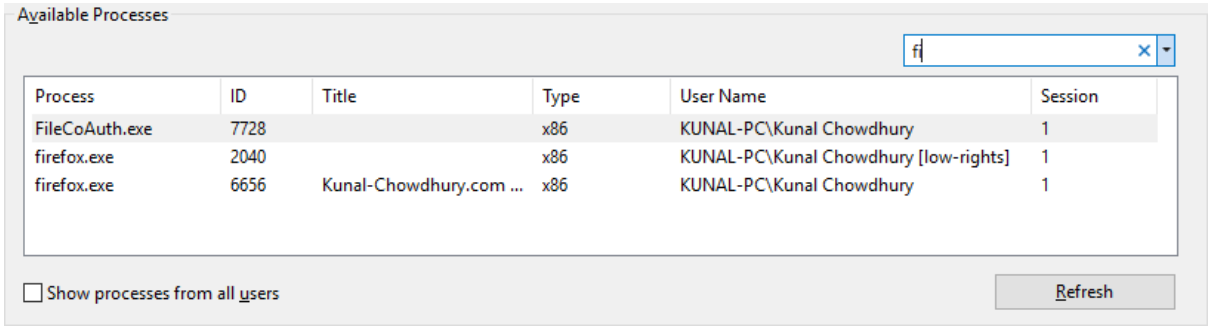

universal
Architectu
howdhury
Install (5)
Mobile development with JavaScript (Workload)
Windows 10 Mobile Emulator (Anniversary Edition) (Individual Component)
Universal Windows Platform development (Workload)
Windows Universal CRT SDK (Individual Component)
Windows Universal C Runtime (Individual Component)
Solution Explorer

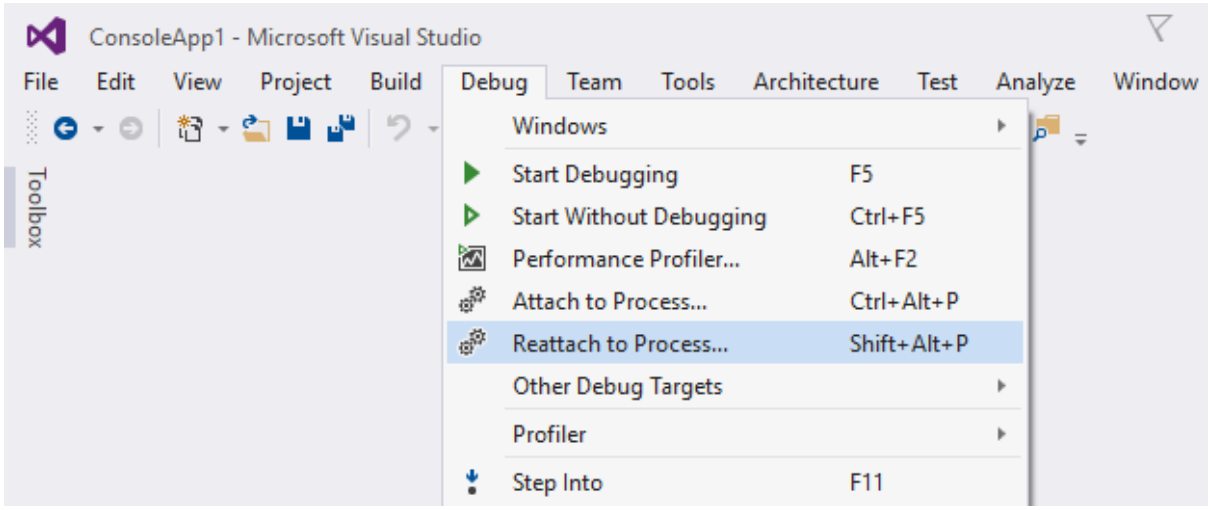



```
0 references
class Program
{
    0 references
    static void Main(string[] args)
    {
        if(SystemHelper.IsAntivirusAvailable())
        {
            var antivirusDetails = SystemHelper.GetAntivirusDetails();
            foreach (var antivirus in antivirusDetails)
            {
                Console.WriteLine(antivirus.DisplayName);
            }
        }
    }
}
```

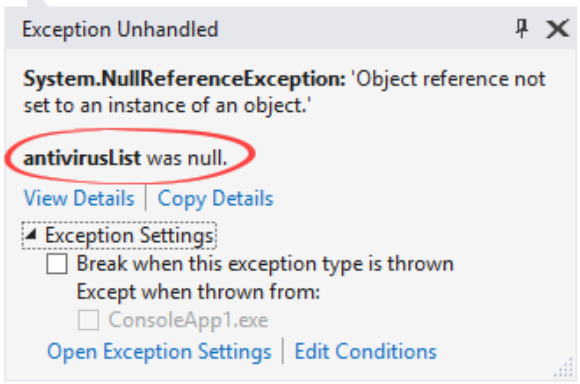
Run execution to here

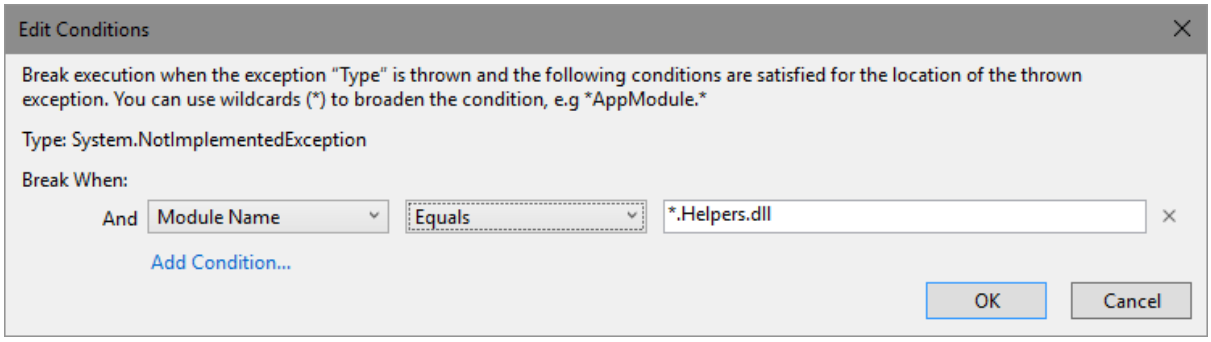

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
Debugging
General
Output Window
Symbols
IntelliTrace
Performance Tools
Cross Platform
Database Tools
Dependency Validation
GitHub for Visual Studio
Live Unit Testing
NuGet Package Manager
General
Use the legacy C# and VB expression evaluators
Warn when using custom debugger visualizers against potentially unsafe pr
Enable Windows debug heap allocator (Native only)
Enable UI Debugging Tools for XAML
Preview selected elements in Live Visual Tree
Show runtime tools in application
Enable XAML Edit and Continue
Enable Diagnostic Tools while debugging
Show elapsed time PerfTip while debugging
Enable Edit and Continue
Enable Native Edit and Continue
Apply changes on continue (Native only)
Warn about stale code (Native only)
Show run to click button in editor while debugging
OK
Cancel

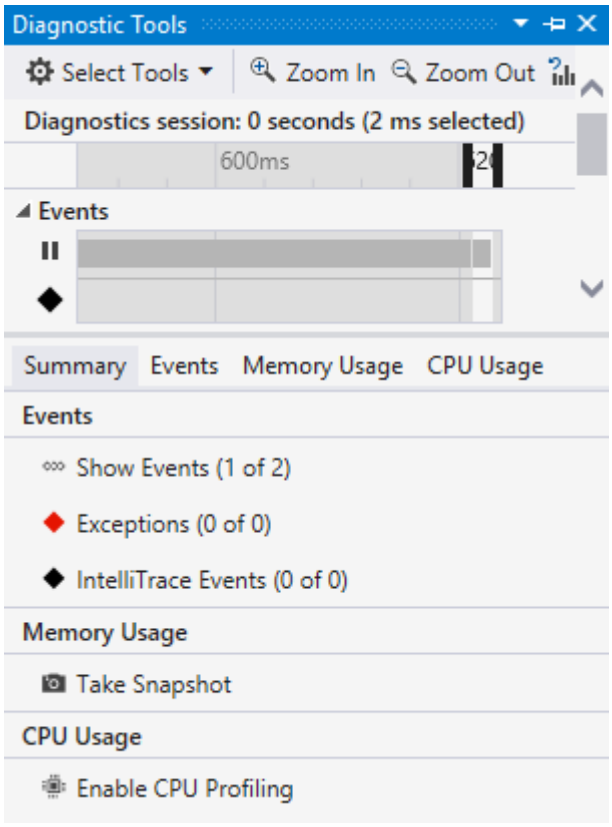

Available Processes
fi
Process
ID
Title
Type
User Name
Session
FileCoAuth.exe
7728
x86
KUNAL-PC\Kunal Chowdhury
1
firefox.exe
2040
x86
KUNAL-PC\Kunal Chowdhury [low-rights]
1
firefox.exe
6656
Kunal-Chowdhury.com ...
x86
KUNAL-PC\Kunal Chowdhury
1
Show processes from all users
Refresh

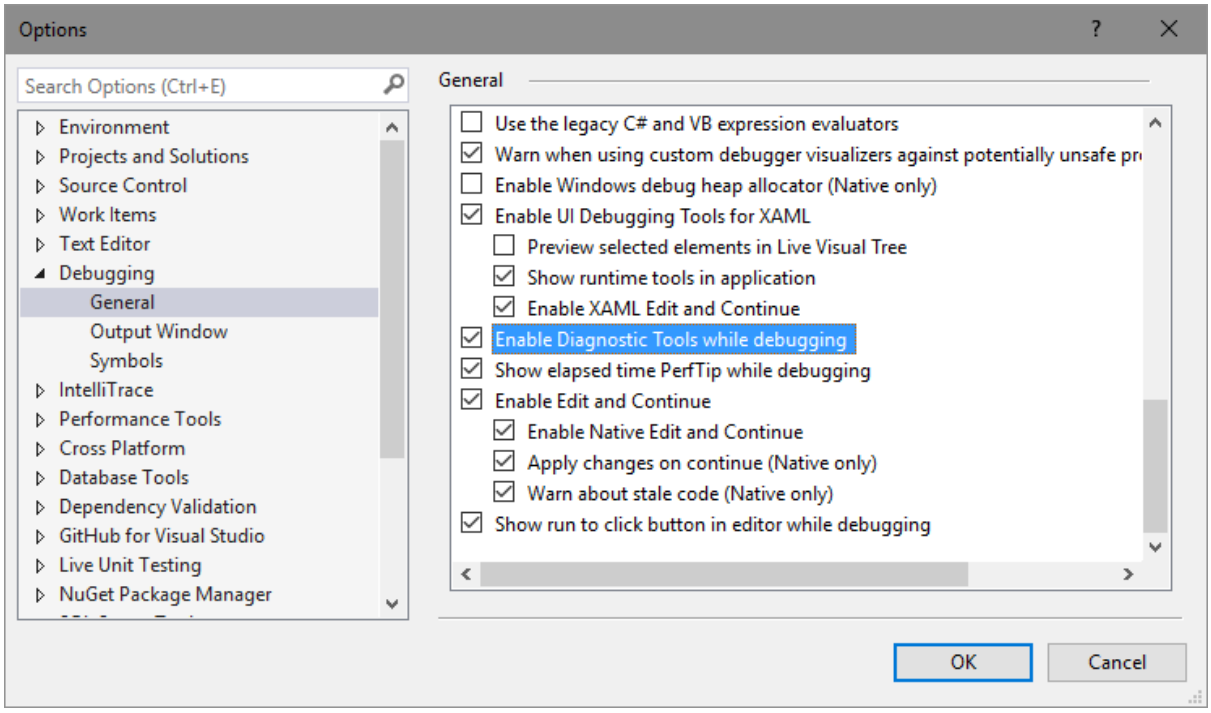

ConsoleApp1 - Microsoft Visual Studio
File
Edit
View
Project
Build
Debug
Team
Tools
Architecture
Test
Analyze
Window
Toolbox
Windows
Start Debugging F5
Start Without Debugging Ctrl+F5
Performance Profiler... Alt+F2
Attach to Process... Ctrl+Alt+P
Reattach to Process... Shift+Alt+P
Other Debug Targets
Profiler
Step Into F11

```
return (antivirusList as List<AntiVirus>).Count;
```

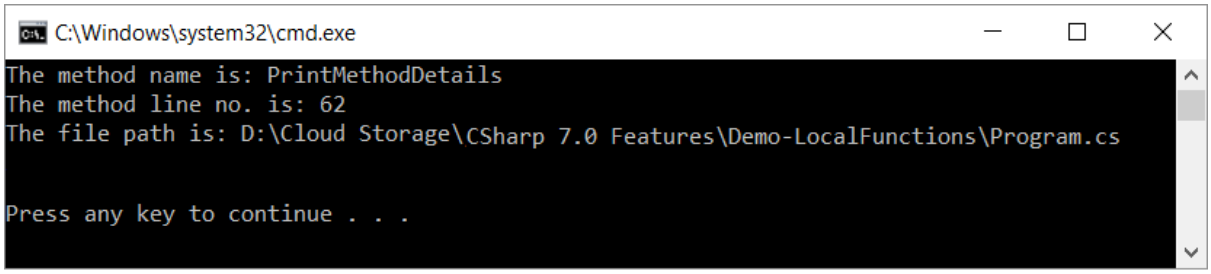






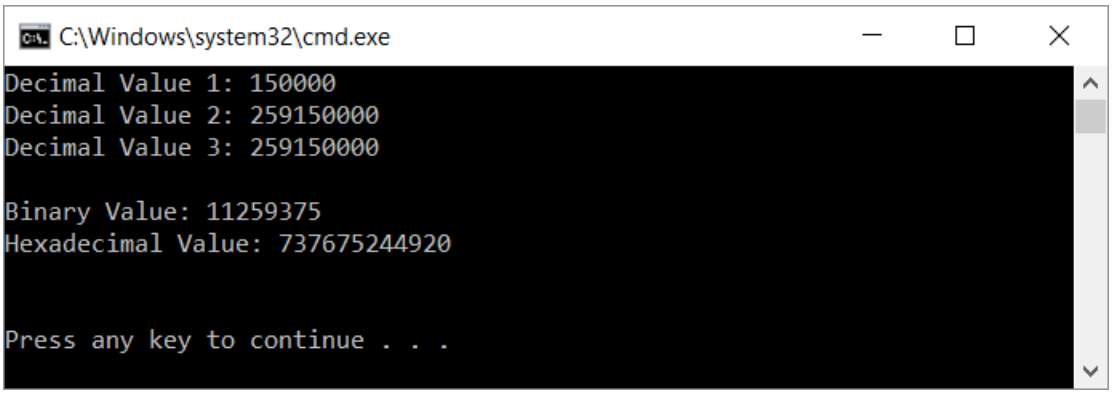


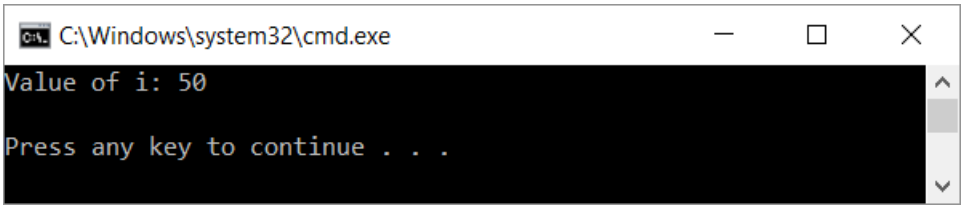
Chapter 2: What is New in C# 7.0?


C:\Windows\system32\cmd.exe
The method name is: PrintMethodDetails
The method line no. is: 62
The file path is: D:\Cloud Storage\CSharp 7.0 Features\Demo-LocalFunctions\Program.cs
Press any key to continue . . .

C:\Windows\system32\cmd.exe
Print from local function
Press any key to continue . . .

C:\Windows\system32\cmd.exe
Height:950 Width:5046
Press any key to continue . . .

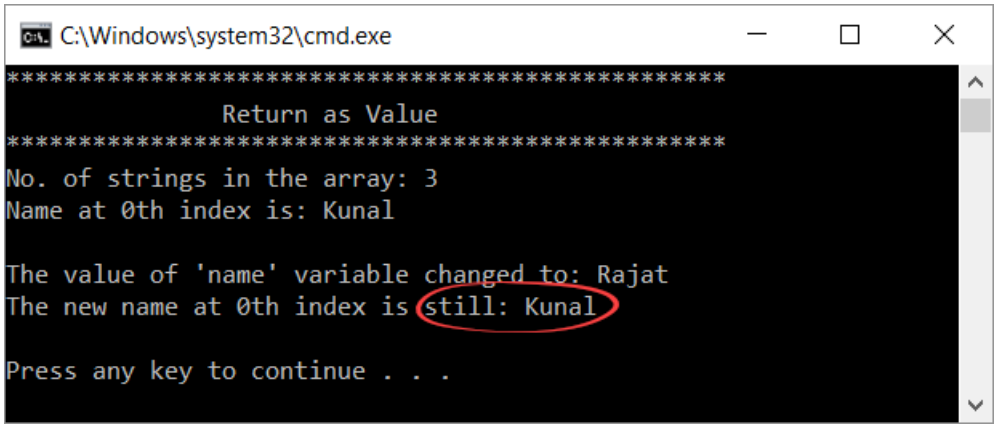

C:\Windows\system32\cmd.exe
Decimal Value 1: 150000
Decimal Value 2: 259150000
Decimal Value 3: 259150000
Binary Value: 11259375
Hexadecimal Value: 737675244920
Press any key to continue . . .


C:\Windows\system32\cmd.exe
Value of i: 50
Press any key to continue . . .

```
case Customer c when (c.IsPremium):
    Console.WriteLine($"{c.Firstname} is a Premium Customer");
    break;

case Customer c:
    Console.WriteLine($"{c.Firstname} is a Customer");
    break;
```

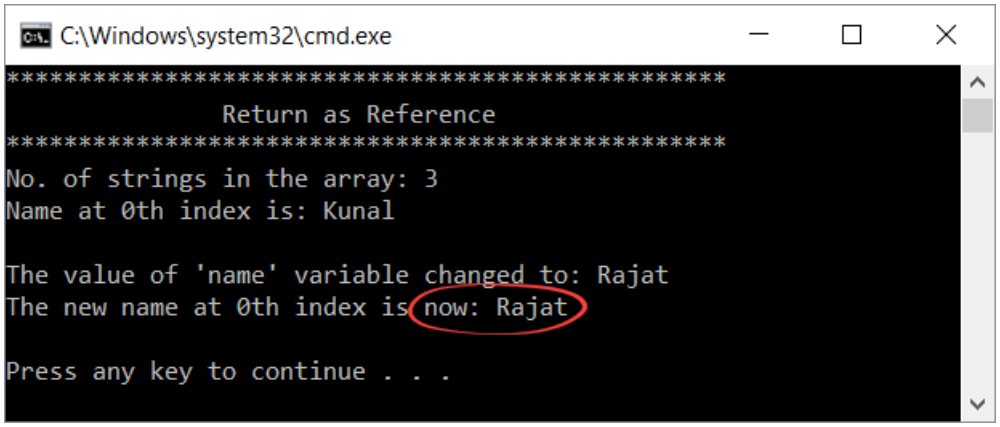
```
case Customer c:
    Console.WriteLine($"{c.Firstname} is a Customer");
    break;

case Customer c when (c.IsPremium):
    Con                                                    omer");
    bre
    class Packtpub.KunalChowdhury.Demos.Customer
    The switch case has already been handled by a previous case.

default
    Console.WriteLine($"{person.Firstname} is a Person");
    break;
```

```
case Customer c:
    Console.WriteLine($"{c.Firstname} is a Customer");
    break;

case Customer c when (c.IsPremium):
    index++;
    Cons                                    name} is a Premium Customer");
    breal
    (local variable) int index
    Unreachable code detected

default:
    Console.WriteLine($"{person.Firstname} is a Person");
    break;
```

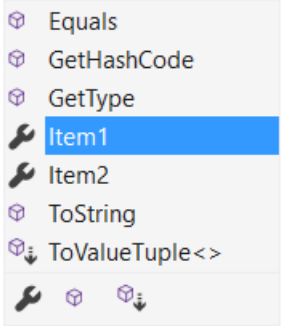


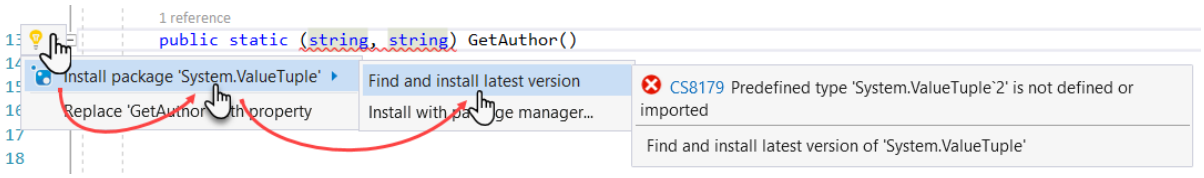

```
public static ref string GetAsReference(string[] names, int index, ref int count)
{
    count = names.Length;
    return ref names[index];
}

ref string name = ref GetAsReference(names, index, ref count);
```

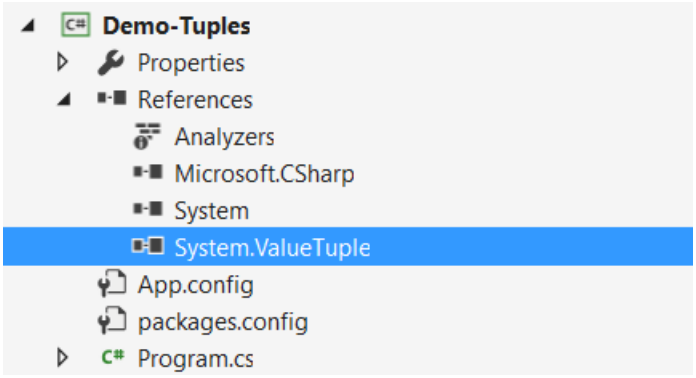
Store by reference in local variable



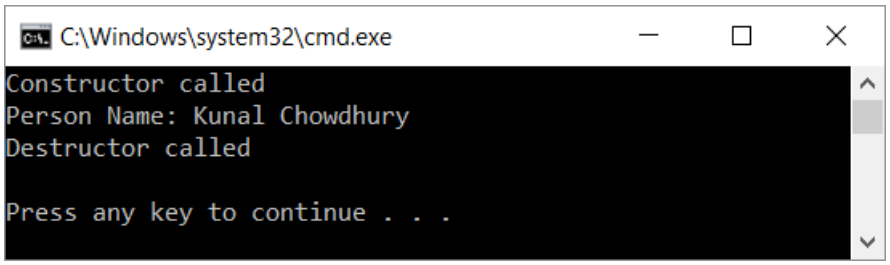

```
var authorDetails = GetAuthor();
Console.WriteLine(authorDetails.Item1 + authorDetails.Item2);
```

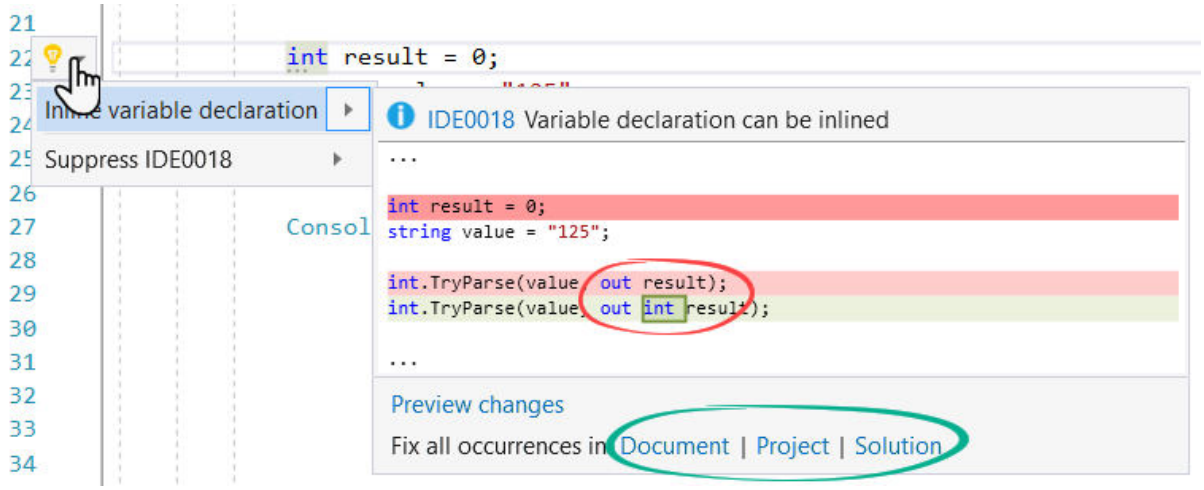


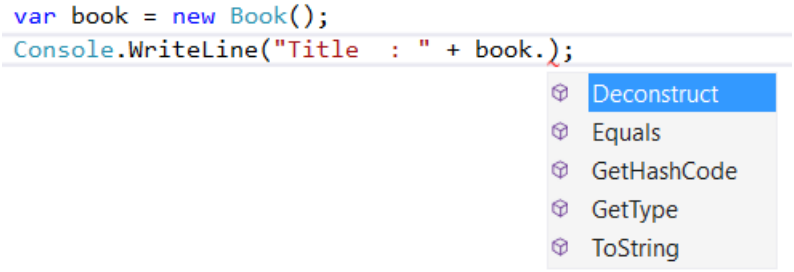

1 reference
public static (string, string) GetAuthor()
Install package 'System.ValueTuple'
Find and install latest version
Install with package manager...
CS8179 Predefined type 'System.ValueTuple`2' is not defined or imported
Find and install latest version of 'System.ValueTuple'

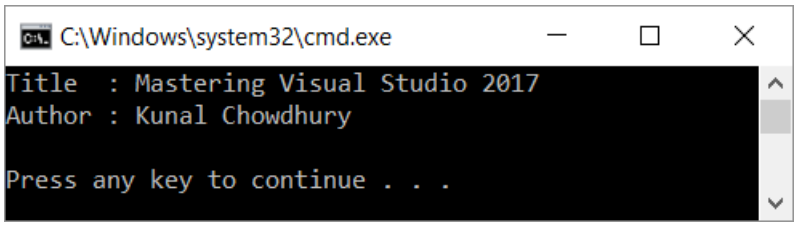

Demo-Tuples
Properties
References
Analyzers
Microsoft.CSharp
System
System.ValueTuple
App.config
packages.config
Program.cs

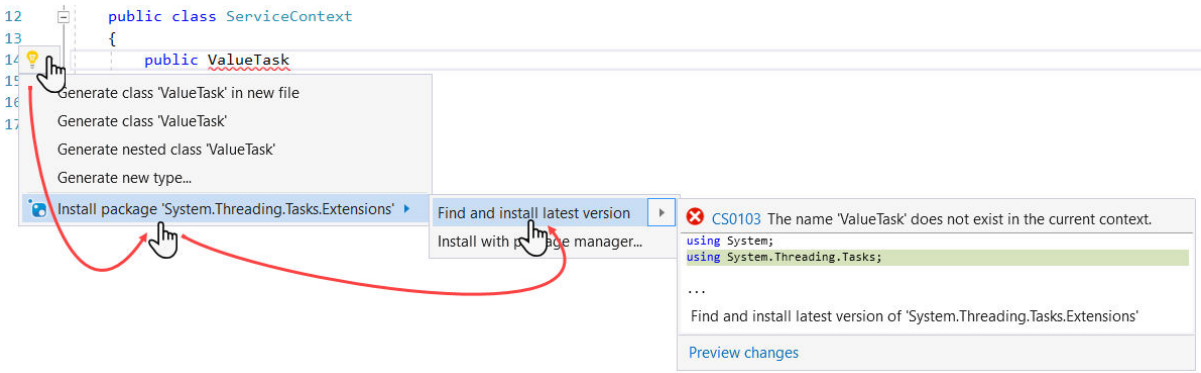
var authorDetails = GetAuthor();
Console.WriteLine(authorDetails.Item1 + authorDetails.Item2);
Use explicitly provided tuple name
Suppress IDE0032
IDE0032 Prefer explicitly provided tuple element name
var authorDetails = GetAuthor();
Console.WriteLine(authorDetails.Item1 + authorDetails.Item2);
Console.WriteLine(authorDetails.AuthorName + authorDetails.Item2);
Preview changes
Fix all occurrences in: Document | Project | Solution

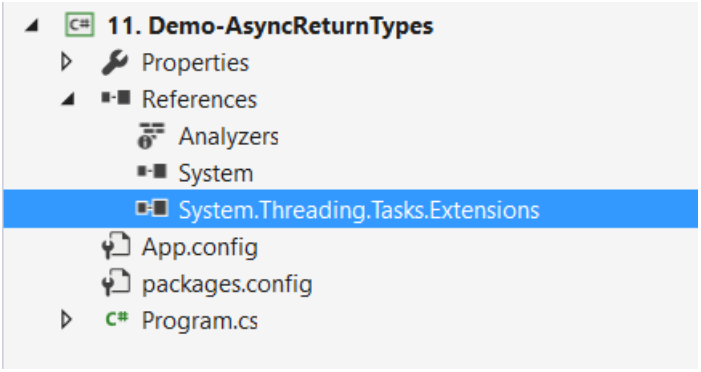

C:\Windows\system32\cmd.exe
Constructor called
Person Name: Kunal Chowdhury
Destructor called
Press any key to continue . . .


int result = 0;
Inline variable declaration
Suppress IDE0018
IDE0018 Variable declaration can be inlined
...
int result = 0;
string value = "125";
int.TryParse(value, out result);
int.TryParse(value, out int result);
...
Preview changes
Fix all occurrences in Document | Project | Solution

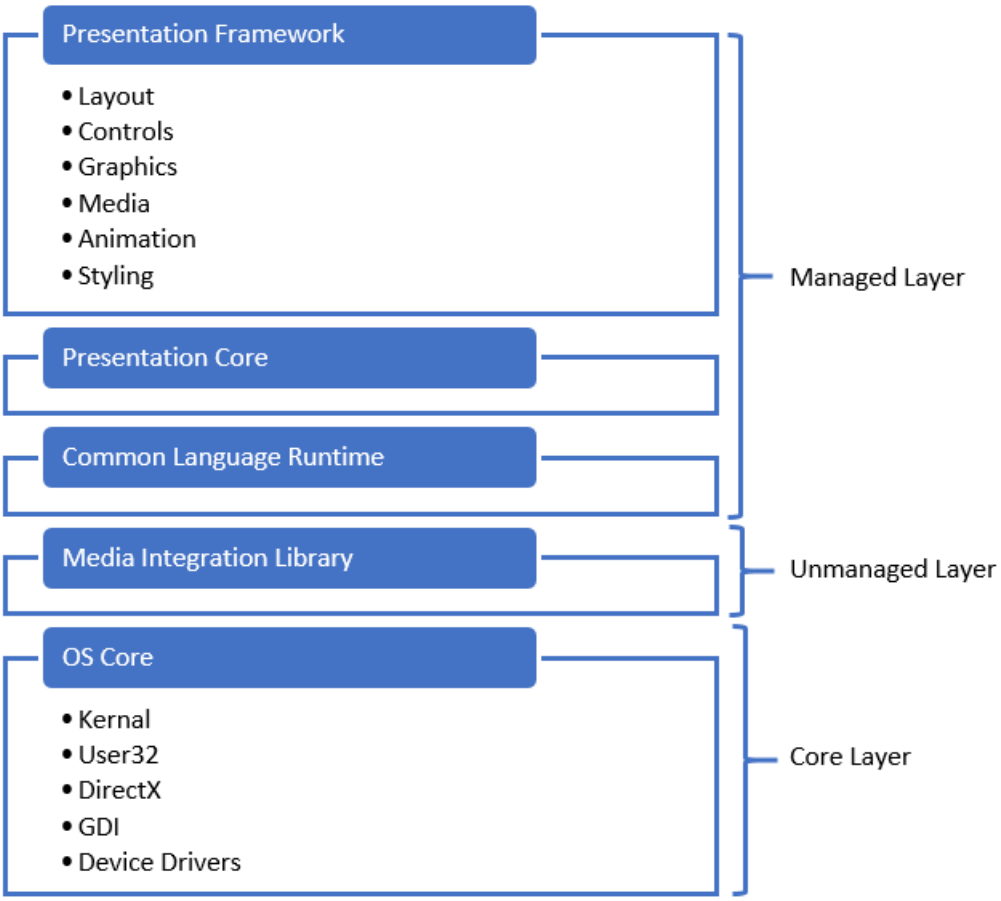

var book = new Book();
Console.WriteLine("Title : " + book.);
Deconstruct
Equals
GetHashCode
GetType
ToString

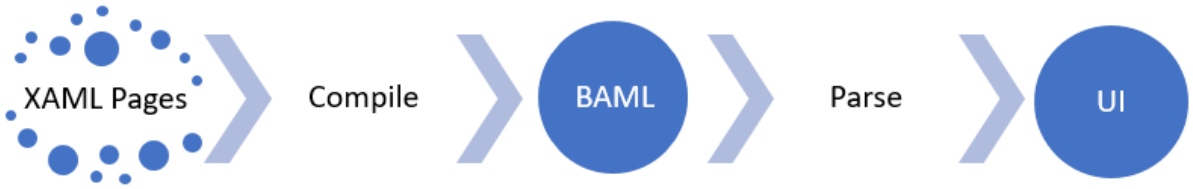

C:\Windows\system32\cmd.exe
Title : Mastering Visual Studio 2017
Author : Kunal Chowdhury
Press any key to continue . . .


public class ServiceContext
{
public ValueTask
Generate class 'ValueTask' in new file
Generate class 'ValueTask'
Generate nested class 'ValueTask'
Generate new type...
Install package 'System.Threading.Tasks.Extensions'
Find and install latest version
CS0103 The name 'ValueTask' does not exist in the current context.
using System;
using System.Threading.Tasks;
...
Find and install latest version of 'System.Threading.Tasks.Extensions'
Preview changes



Chapter 3: Building Applications for Windows Using XAML Tools



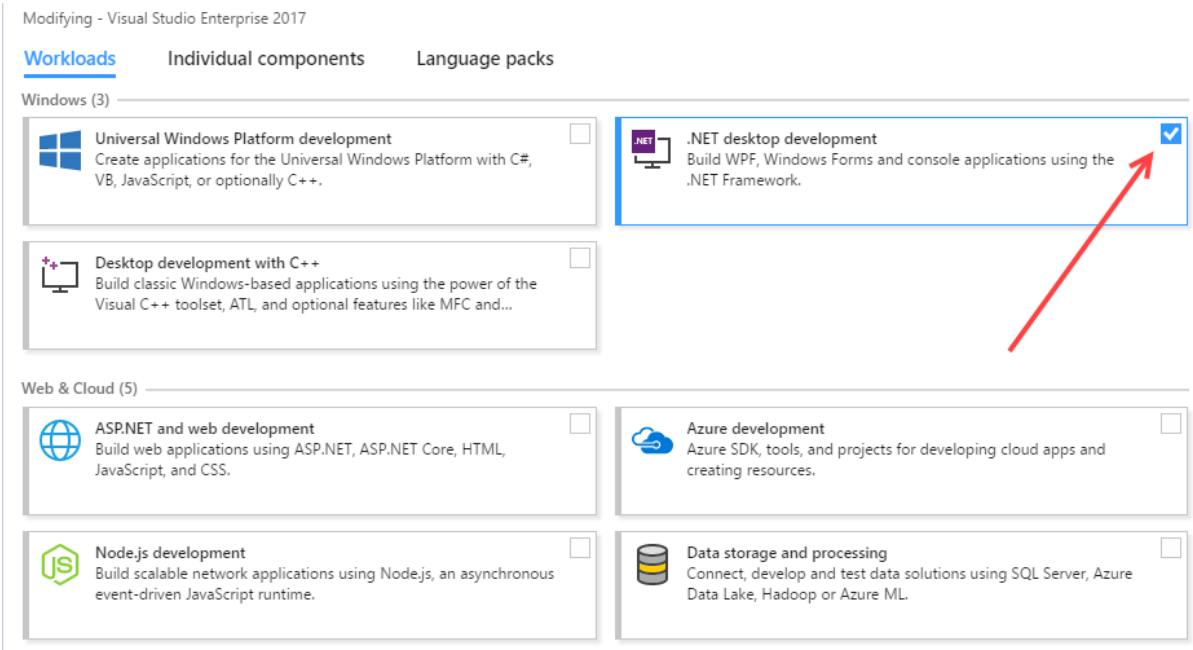


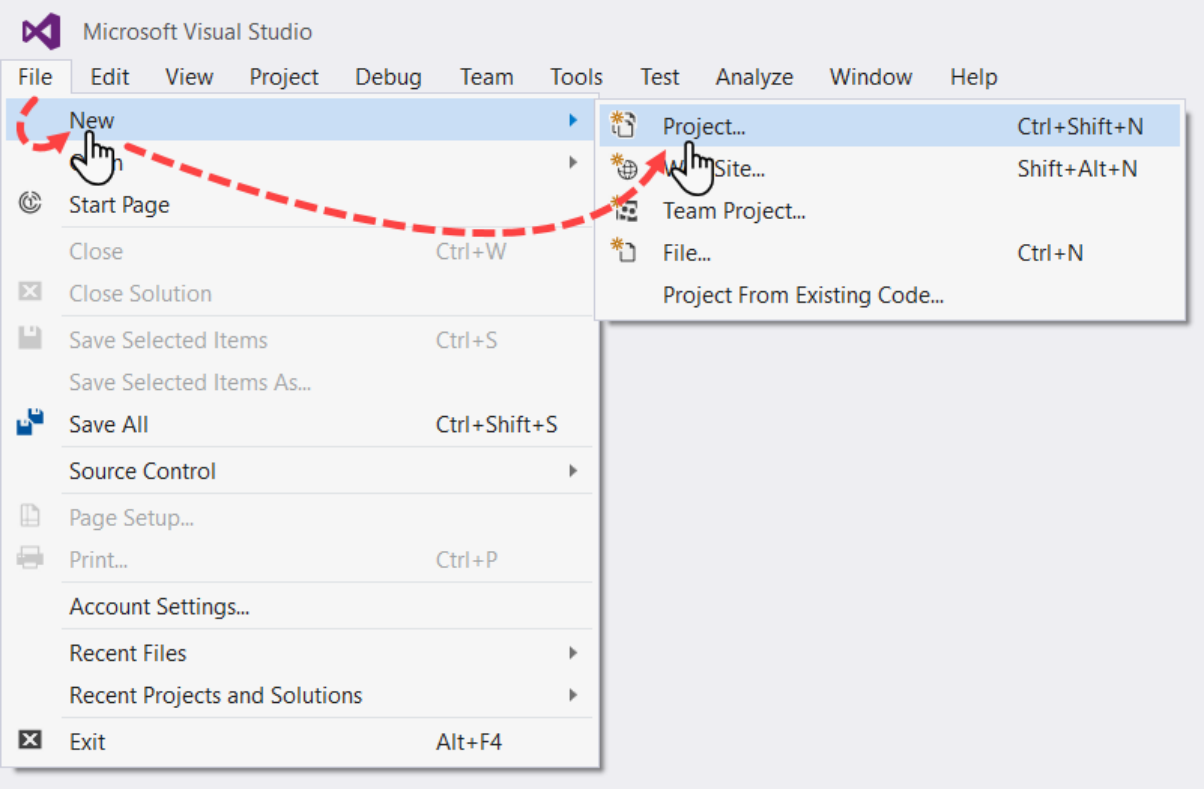

```
<Button>
    Click
    <Button.Content>this</Button.Content>
    content
</Button>
```

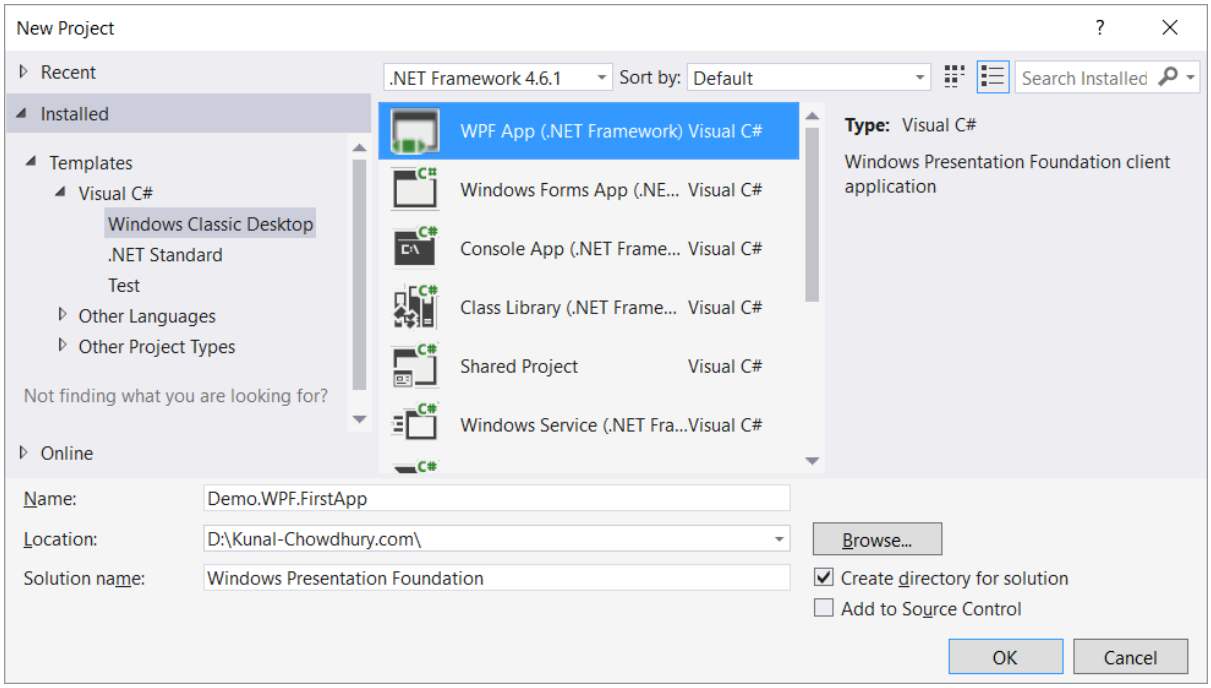
```
<Button>
    <Button.Content>Click Here</Button.Content>
    <Button.Content>Click Here too</Button.Content>
</Button>
```

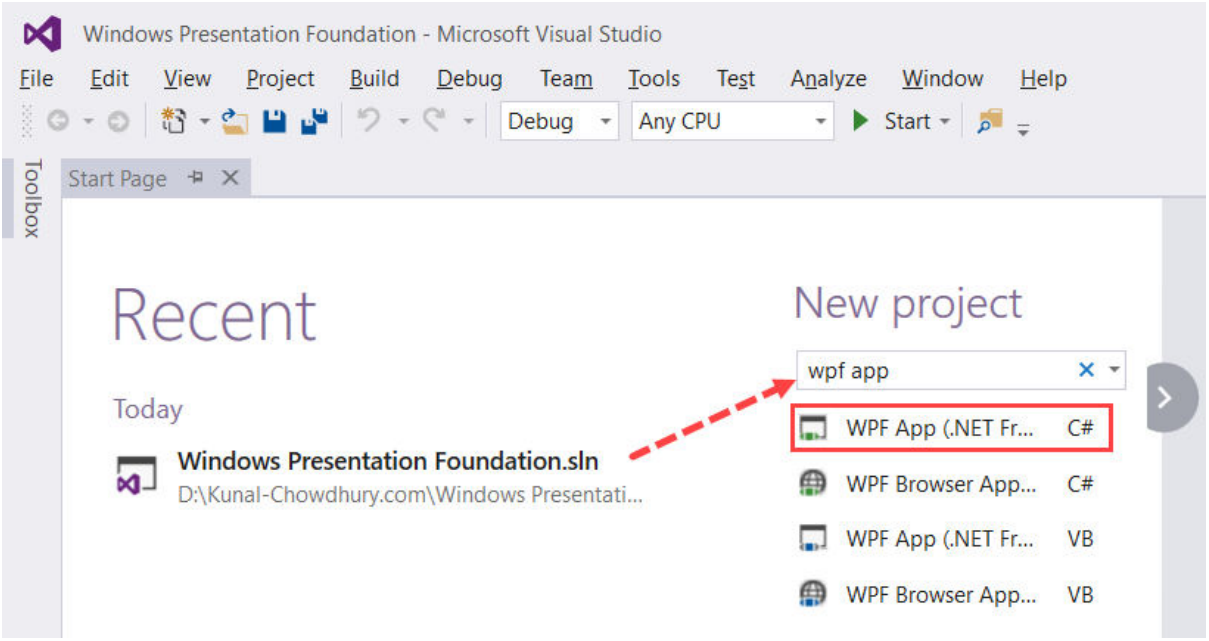
```
1  <Window x:Class="Demo_Basic.MainWindow"
2          xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
3          xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
4          Title="MainWindow" Height="350" Width="525">
5      <Grid>
6
7      </Grid>
8  </Window>
```

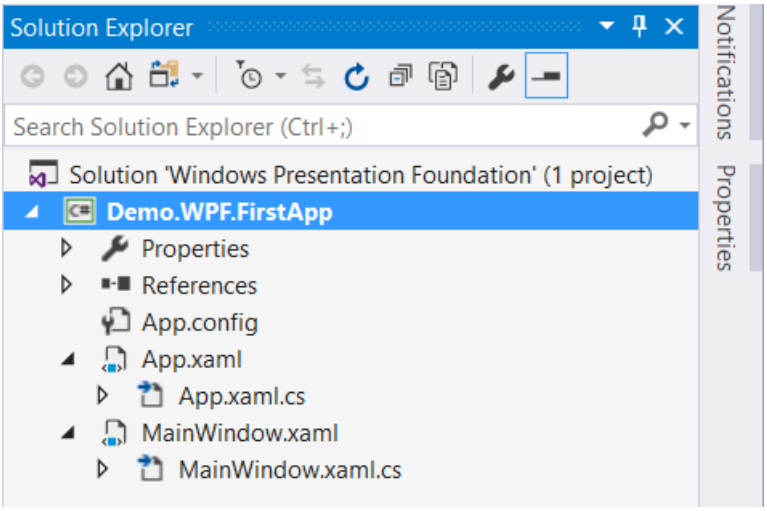
```
        [System.Diagnostics.DebuggerNonUserCodeAttribute()]
        [System.CodeDom.Compiler.GeneratedCodeAttribute("PresentationBuildTasks", "4.0.0.0")]
        public void InitializeComponent()
        {
            if (_contentLoaded)
            {
                return;
            }
            _contentLoaded = true;
            System.Uri resourceLocater = new System.Uri("/Demo-Basic;component/mainwindow.xaml",
                                                        System.UriKind.Relative);

#line 1 "..\..\MainWindow.xaml"
            System.Windows.Application.LoadComponent(this, resourceLocater);

#line default
#line hidden
        }
```

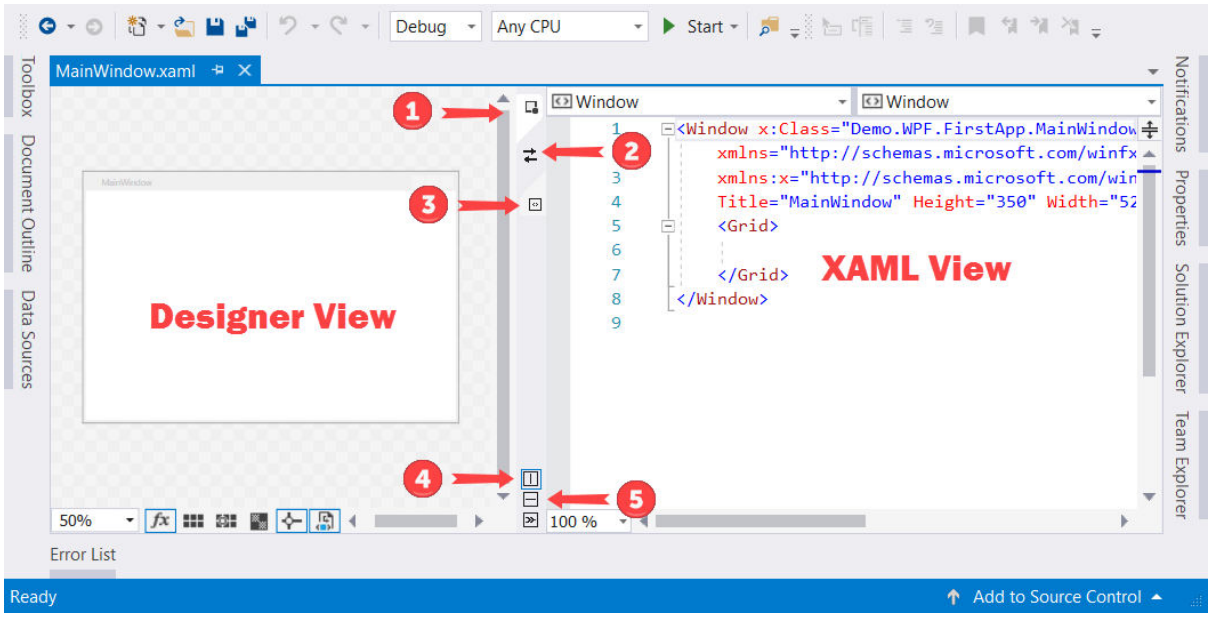


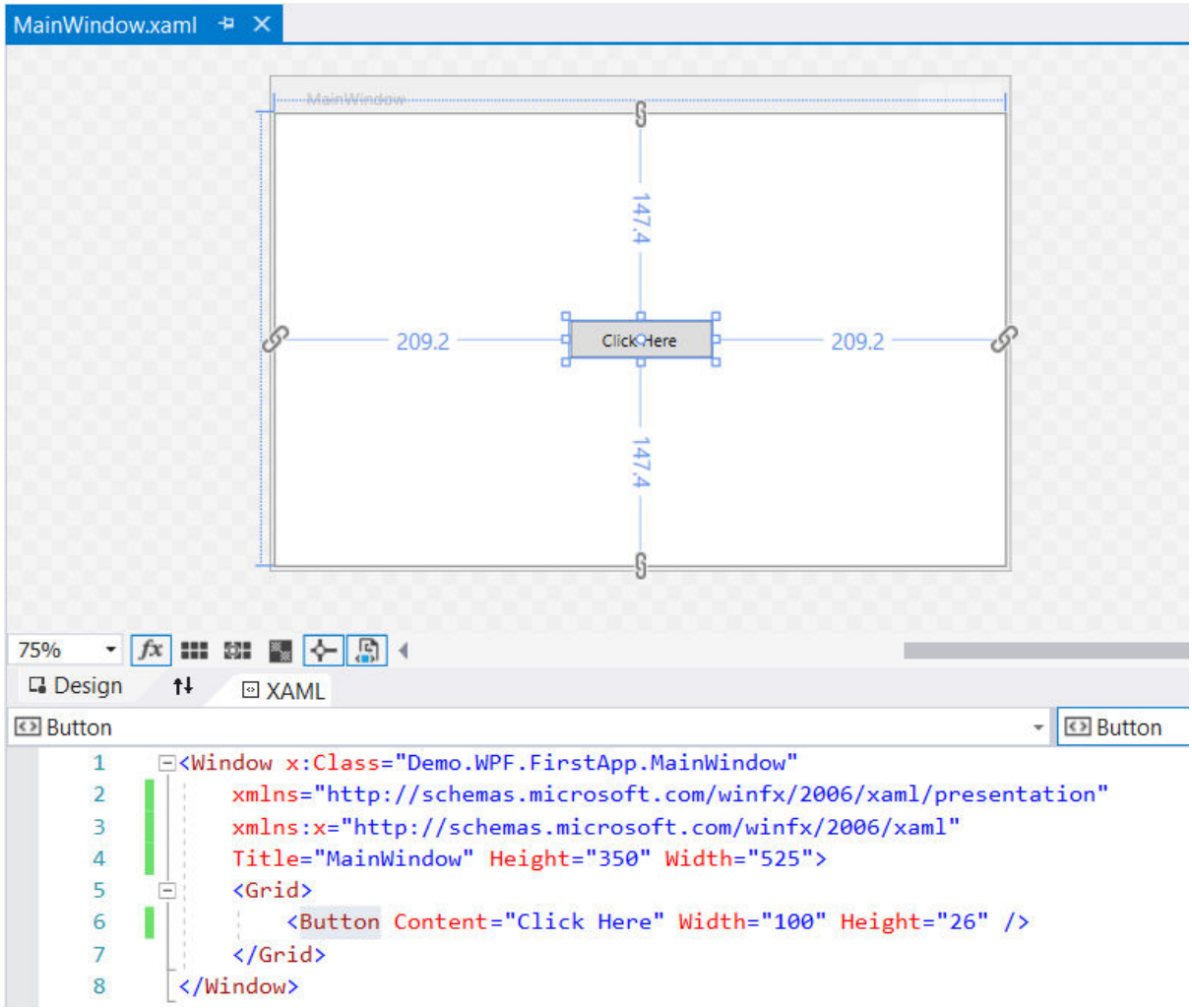

Microsoft Visual Studio
File
Edit
View
Project
Debug
Team
Tools
Test
Analyze
Window
Help
New
Start Page
Close
Ctrl+W
Close Solution
Save Selected Items
Ctrl+S
Save Selected Items As...
Save All
Ctrl+Shift+S
Source Control
Page Setup...
Print...
Ctrl+P
Account Settings...
Recent Files
Recent Projects and Solutions
Exit
Alt+F4
Project...
Ctrl+Shift+N
Site...
Shift+Alt+N
Team Project...
File...
Ctrl+N
Project From Existing Code...


New Project
Recent
Installed
Templates
Visual C#
Windows Classic Desktop
.NET Standard
Test
Other Languages
Other Project Types
Not finding what you are looking for?
Online
.NET Framework 4.6.1
Sort by:
Default
Search Installed
WPF App (.NET Framework) Visual C#
Windows Forms App (.NE... Visual C#
Console App (.NET Frame... Visual C#
Class Library (.NET Frame... Visual C#
Shared Project Visual C#
Windows Service (.NET Fra... Visual C#
Type: Visual C#
Windows Presentation Foundation client application
Name:
Demo.WPF.FirstApp
Location:
D:\Kunal-Chowdhury.com\
Solution name:
Windows Presentation Foundation
Browse...
Create directory for solution
Add to Source Control
OK
Cancel

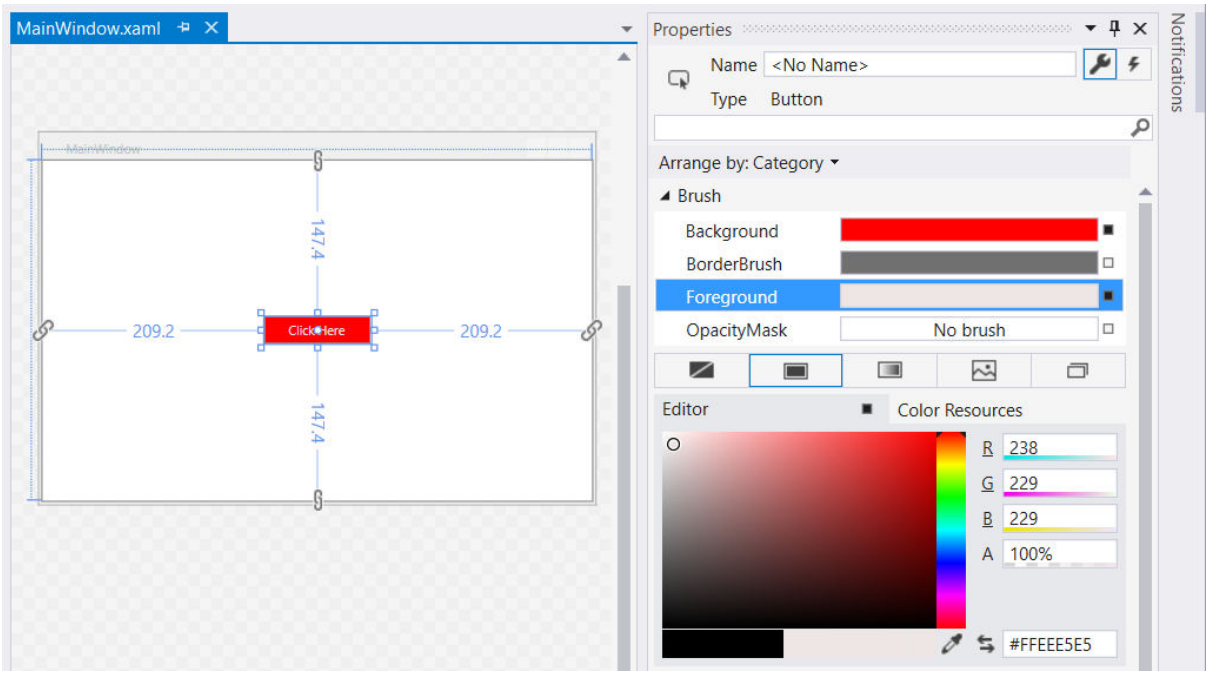

Windows Presentation Foundation - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug
Any CPU
Start
Toolbox
Start Page
Recent
Today
Windows Presentation Foundation.sln
D:\Kunal-Chowdhury.com\Windows Presentati...
New project
wpf app
WPF App (.NET Fr... C#
WPF Browser App... C#
WPF App (.NET Fr... VB
WPF Browser App... VB

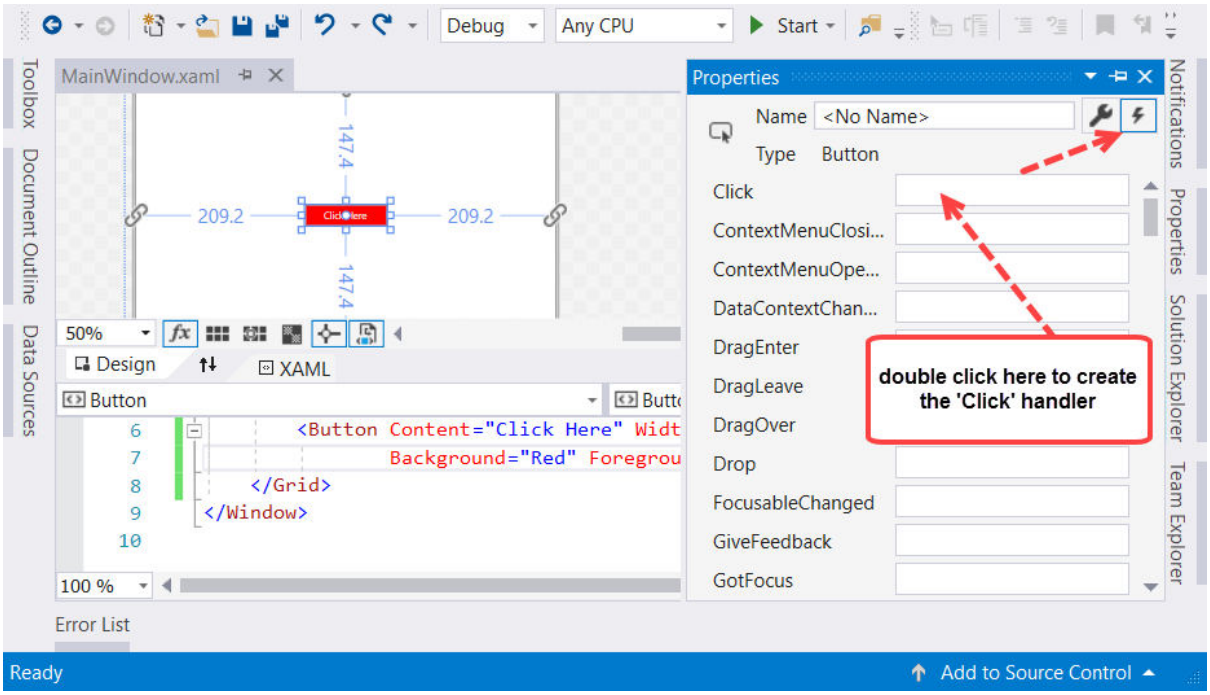

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Windows Presentation Foundation' (1 project)
Demo.WPF.FirstApp
Properties
References
App.config
App.xaml
App.xaml.cs
MainWindow.xaml
MainWindow.xaml.cs
Notifications
Properties

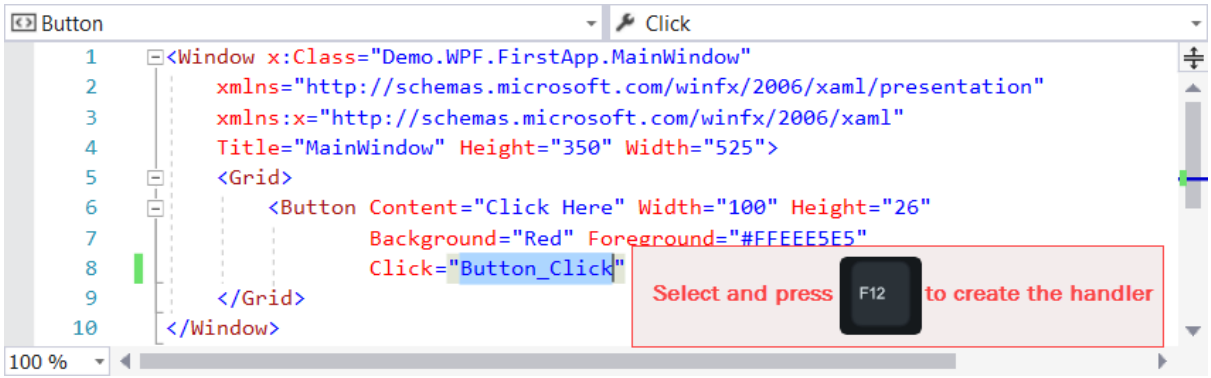


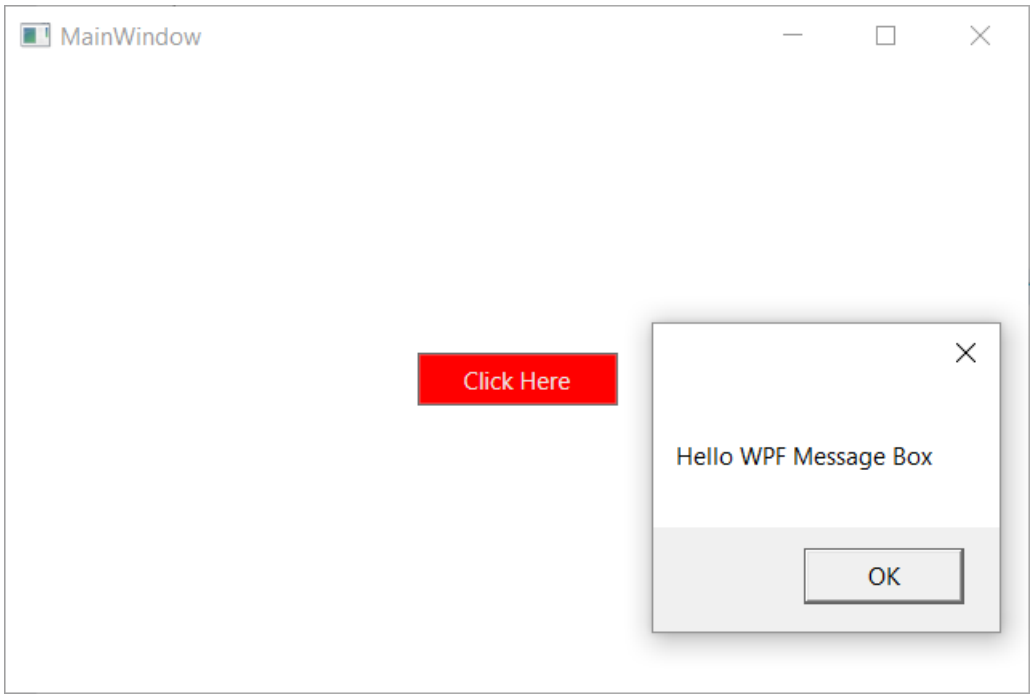


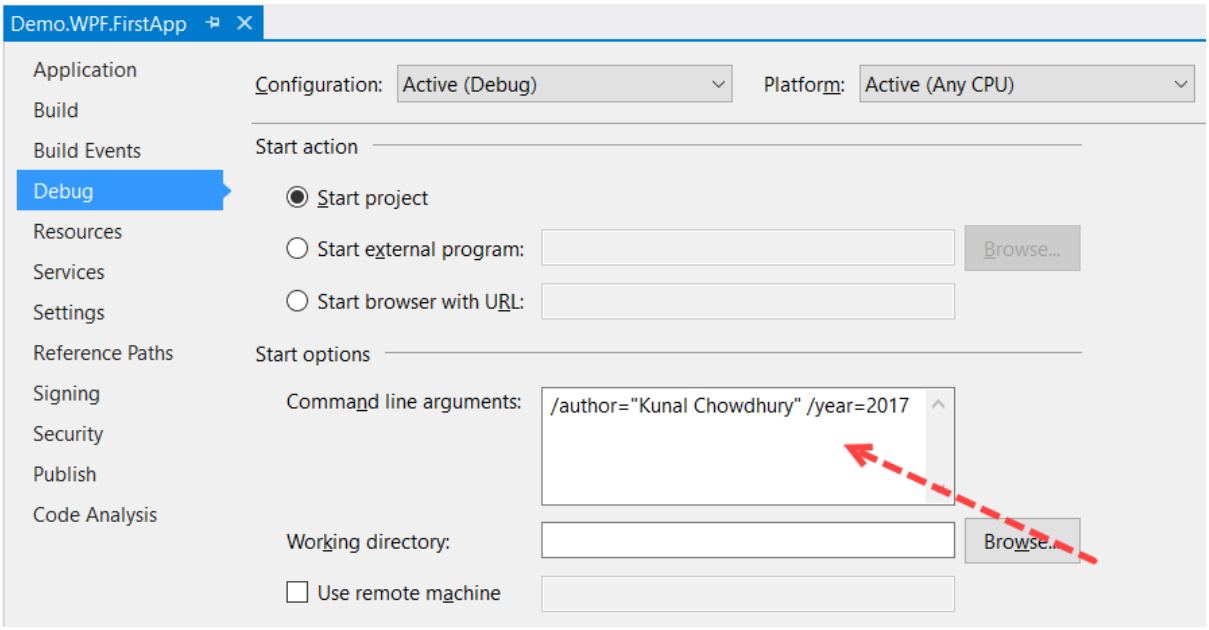

```
<Window x:Class="Demo.WPF.FirstApp.MainWindow"
    xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
    xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
    Title="MainWindow" Height="350" Width="525">
    <Grid>
        <Button Content="Click Here" Width="100" Height="26" />
    </Grid>
</Window>
```

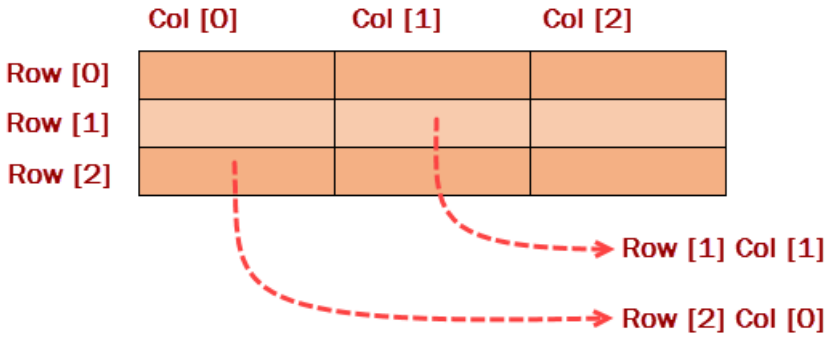

MainWindow.xaml
Properties
Name <No Name>
Type Button
Arrange by: Category
Brush
Background
BorderBrush
Foreground
OpacityMask
No brush
Editor
Color Resources
R 238
G 229
B 229
A 100%
#FFEEE5E5
Notifications
147.4
209.2
Click Here
209.2
147.4


Debug
Any CPU
Start
MainWindow.xaml
Properties
Name <No Name>
Type Button
Click
ContextMenuClosi...
ContextMenuOpe...
DataContextChan...
DragEnter
DragLeave
DragOver
Drop
FocusableChanged
GiveFeedback
GotFocus
double click here to create the 'Click' handler
Design
XAML
Button
<Button Content="Click Here" Widt
Background="Red" Foregrou
</Grid>
</Window>
Error List
Ready
Add to Source Control
Toolbox
Document Outline
Data Sources
Notifications
Properties
Solution Explorer
Team Explorer

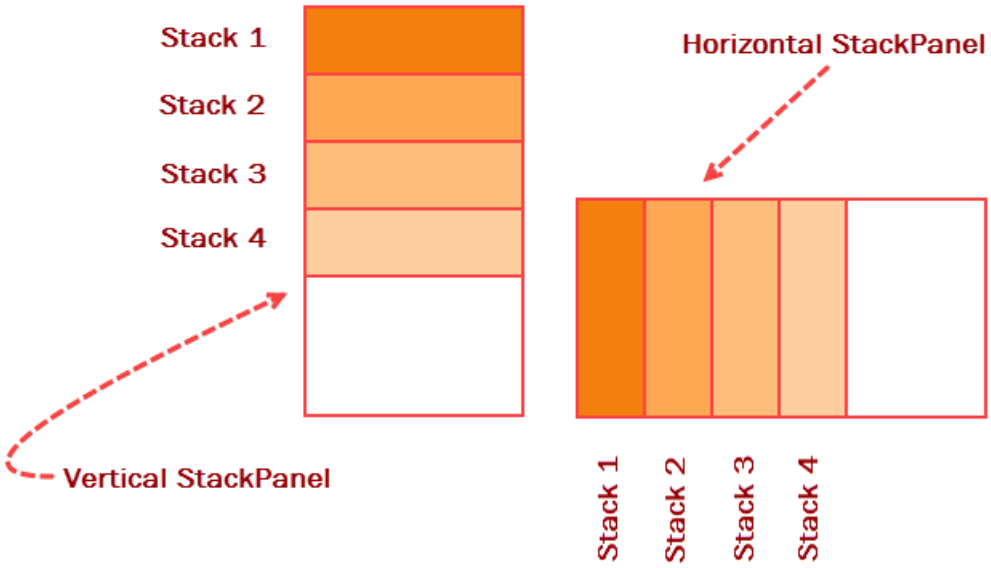

Button
Click
1 <Window x:Class="Demo.WPF.FirstApp.MainWindow"
2 xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
3 xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
4 Title="MainWindow" Height="350" Width="525">
5 <Grid>
6 <Button Content="Click Here" Width="100" Height="26"
7 Background="Red" Foreground="#FFEEE5E5"
8 Click="Button_Click"
9 </Grid>
10 </Window>
Select and press F12 to create the handler
100 %

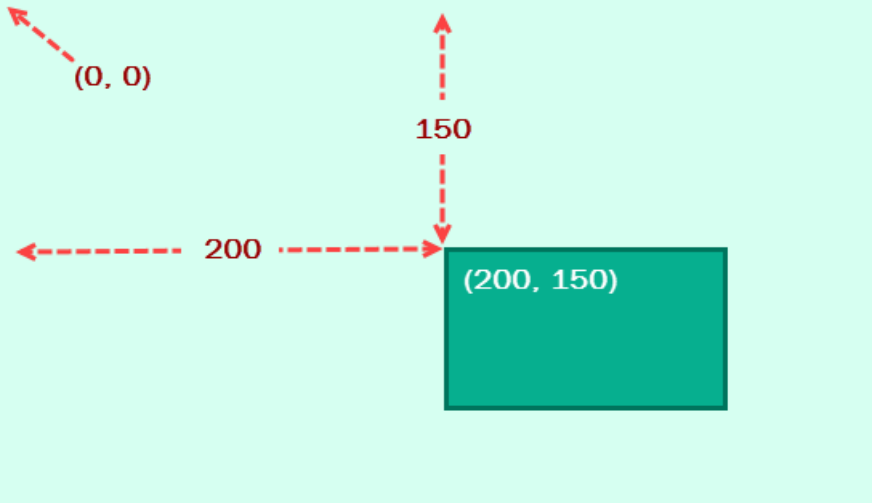

MainWindow
Click Here
Hello WPF Message Box
OK


Demo.WPF.FirstApp
Application
Build
Build Events
Debug
Resources
Services
Settings
Reference Paths
Signing
Security
Publish
Code Analysis
Configuration: Active (Debug)
Platform: Active (Any CPU)
Start action
Start project
Start external program:
Browse...
Start browser with URL:
Start options
Command line arguments:
/author="Kunal Chowdhury" /year=2017
Working directory:
Browse...
Use remote machine

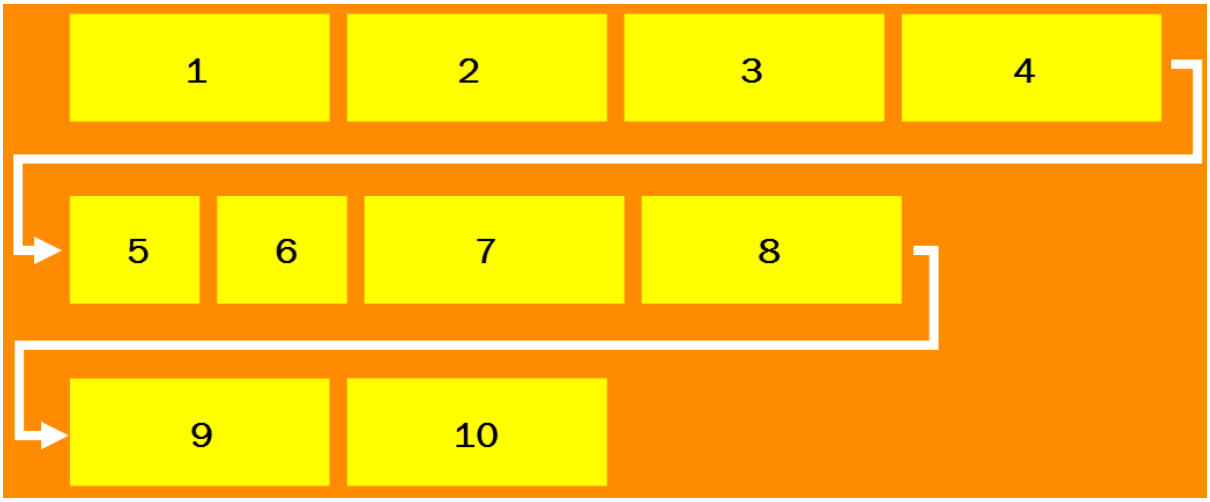

Col [0]
Col [1]
Col [2]
Row [0]
Row [1]
Row [2]
Row [1] Col [1]
Row [2] Col [0]

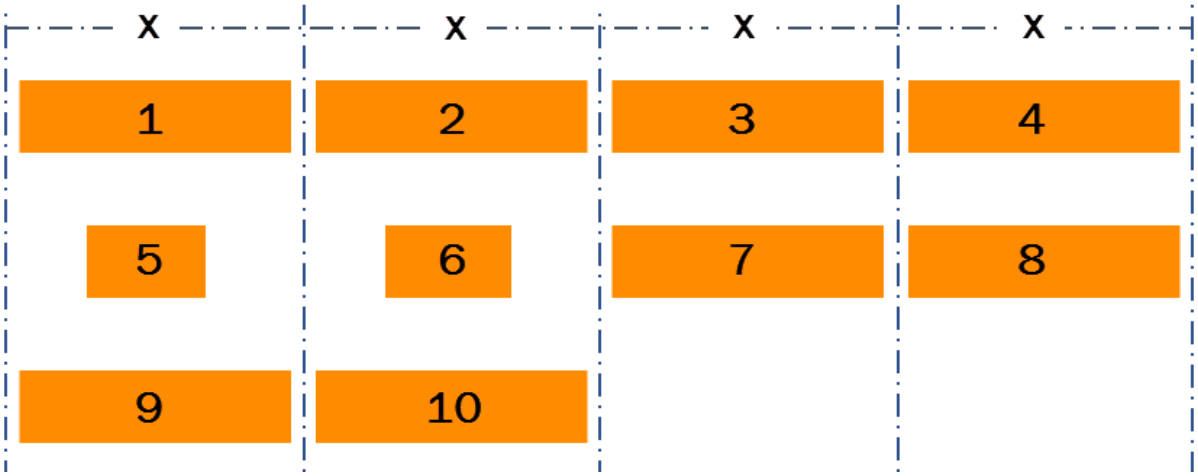
```xaml
<Grid>
    <Grid.RowDefinitions>
        <RowDefinition Height="Auto"/>   <!-- auto layout based on content -->
        <RowDefinition Height="Auto"/>   <!-- auto layout based on content -->
        <RowDefinition Height="*"/>      <!-- take entire available space -->
        <RowDefinition Height="30"/>     <!-- take only 30px height -->
    </Grid.RowDefinitions>
    <Grid.ColumnDefinitions>
        <ColumnDefinition Width="Auto"/> <!-- auto layout based on content -->
        <ColumnDefinition Width="20"/>   <!-- take only 20px width -->
        <ColumnDefinition Width="*"/>    <!-- take entire available space -->
    </Grid.ColumnDefinitions>

    <!-- First Row -->
    <TextBlock Text="First Name" Grid.Row="0" Grid.Column="0"/>
    <TextBlock Text=":" Grid.Row="0" Grid.Column="1"/>
    <TextBox Grid.Row="0" Grid.Column="2"/>

    <!-- Second Row -->
    <TextBlock Text="Last Name" Grid.Row="1" Grid.Column="0"/>
    <TextBlock Text=":" Grid.Row="1" Grid.Column="1"/>
    <TextBox Grid.Row="1" Grid.Column="2"/>


</Grid>
```

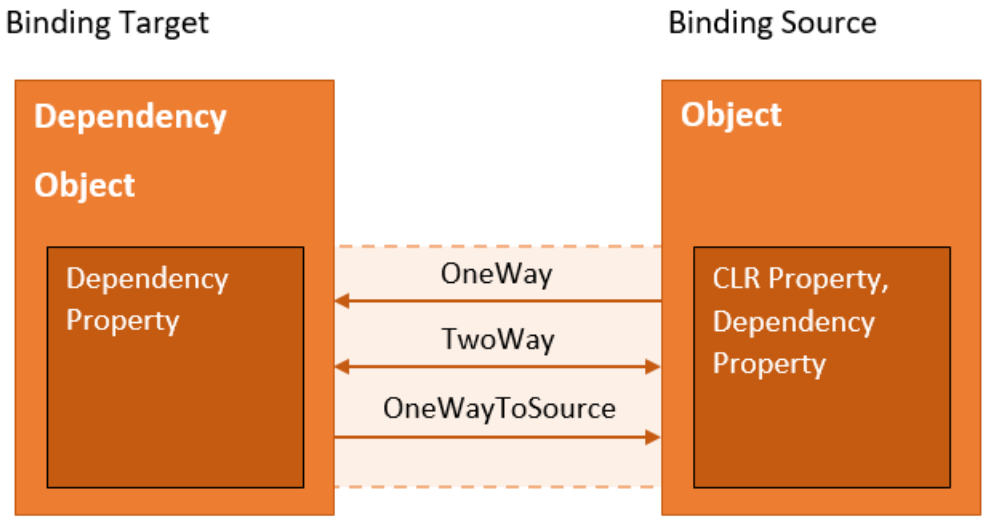


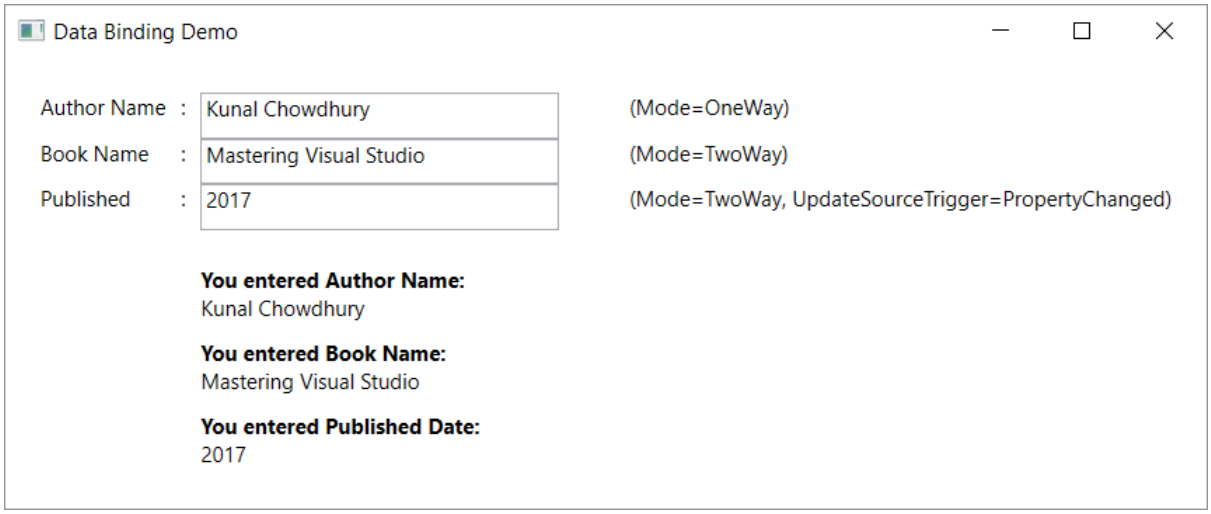

(0, 0)
150
200
(200, 150)

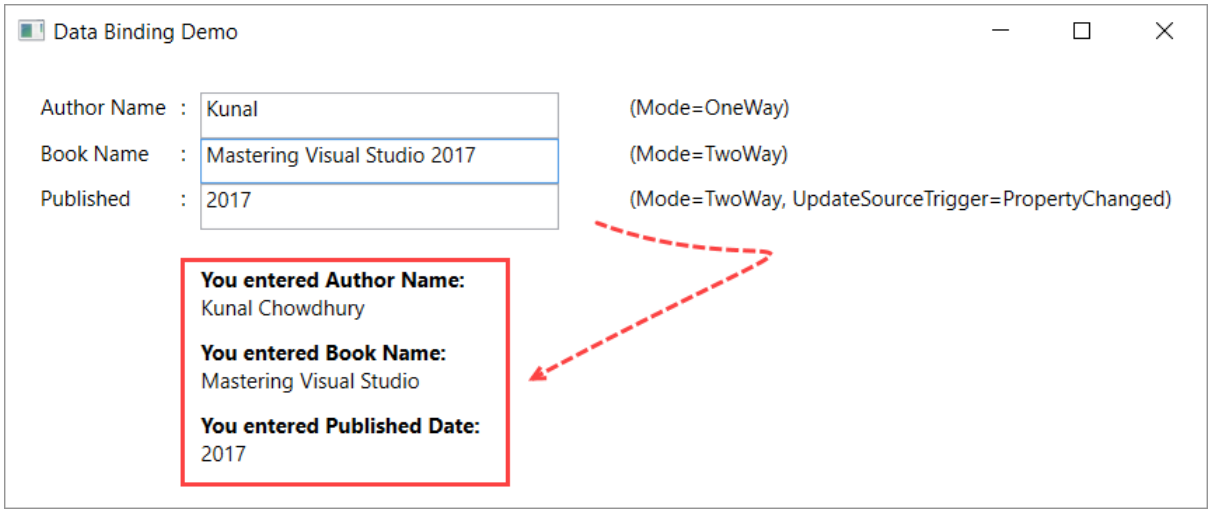
Top Docking
Left Docking
No Docking
Right Docking
Bottom Docking

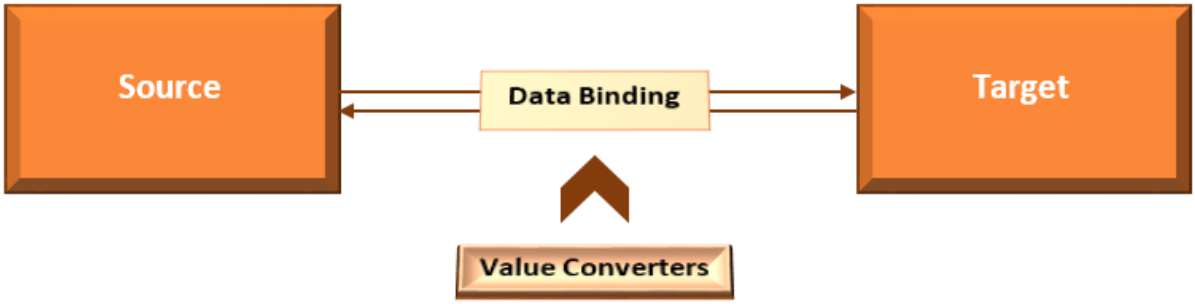

1
2
3
4
5
6
7
8
9
10

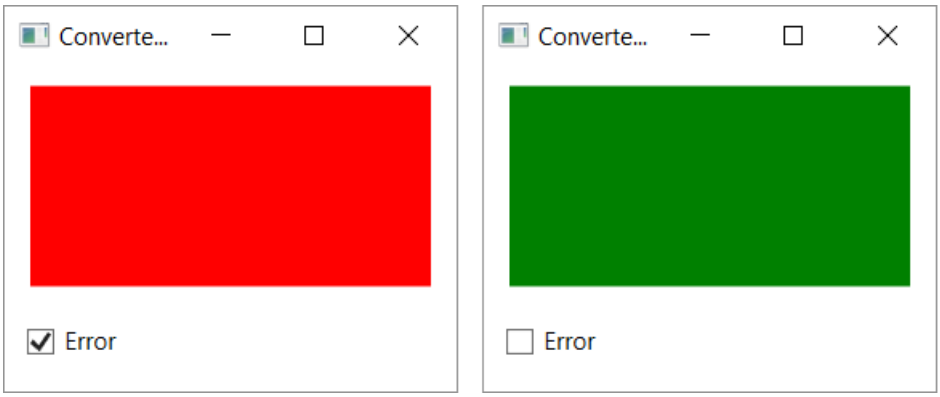

X
X
X
X
1
2
3
4
5
6
7
8
9
10

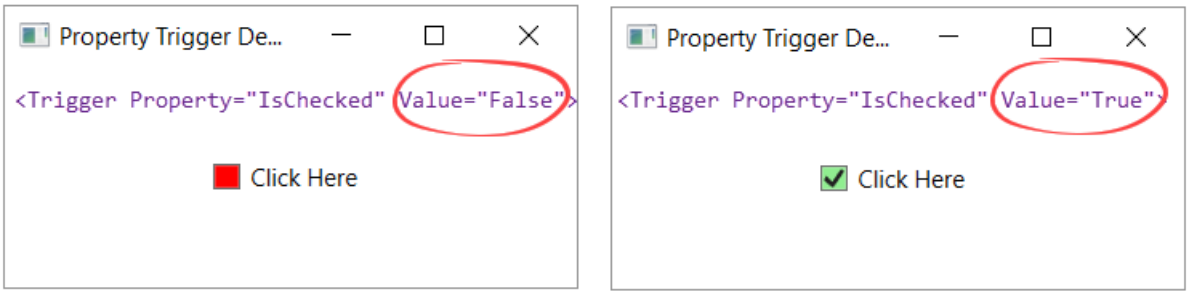

Binding Target
Binding Source
Dependency Object
Dependency Property
OneWay
TwoWay
OneWayToSource
Object
CLR Property, Dependency Property

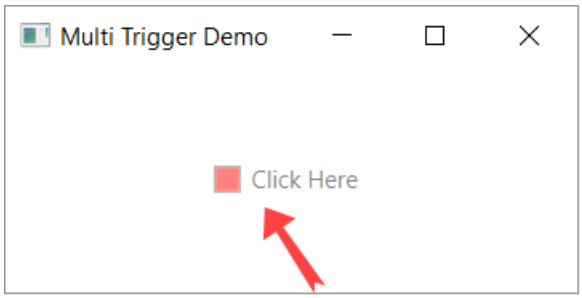

Data Binding Demo
Author Name :
Kunal Chowdhury
(Mode=OneWay)
Book Name :
Mastering Visual Studio
(Mode=TwoWay)
Published :
2017
(Mode=TwoWay, UpdateSourceTrigger=PropertyChanged)
You entered Author Name:
Kunal Chowdhury
You entered Book Name:
Mastering Visual Studio
You entered Published Date:
2017

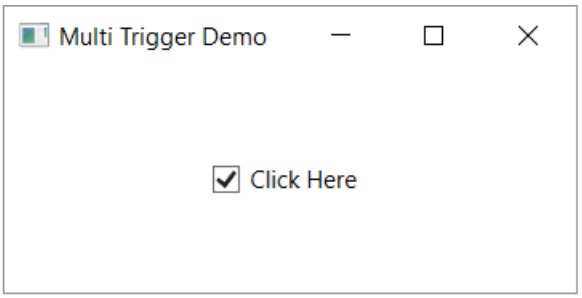

Data Binding Demo
Author Name :
Kunal
(Mode=OneWay)
Book Name :
Mastering Visual Studio 2017
(Mode=TwoWay)
Published :
2017
(Mode=TwoWay, UpdateSourceTrigger=PropertyChanged)
You entered Author Name:
Kunal Chowdhury
You entered Book Name:
Mastering Visual Studio
You entered Published Date:
2017


Source
Data Binding
Target
Value Converters

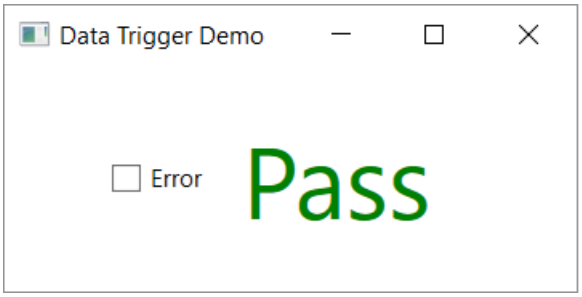

Converte...
Error
Converte...
Error

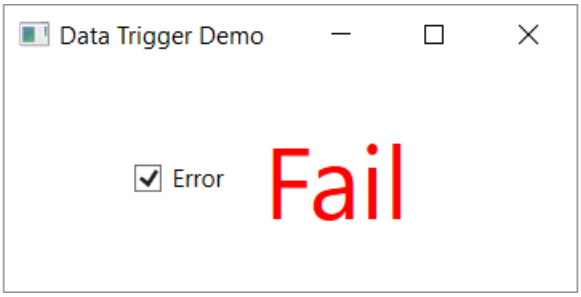

Property Trigger De...
<Trigger Property="IsChecked" Value="False">
Click Here
Property Trigger De...
<Trigger Property="IsChecked" Value="True">
Click Here

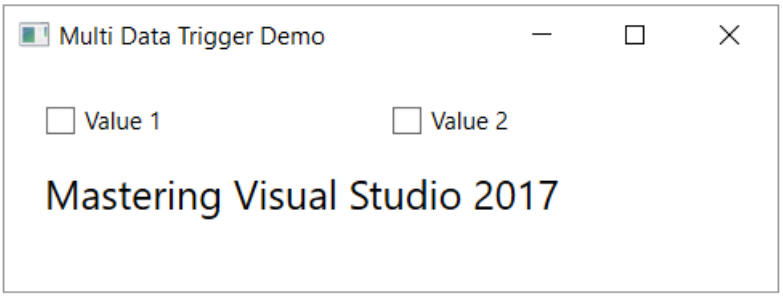


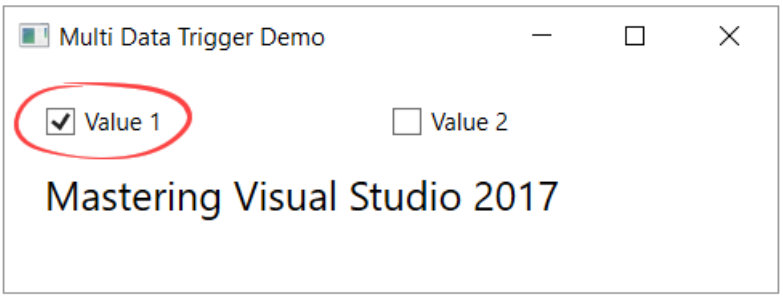


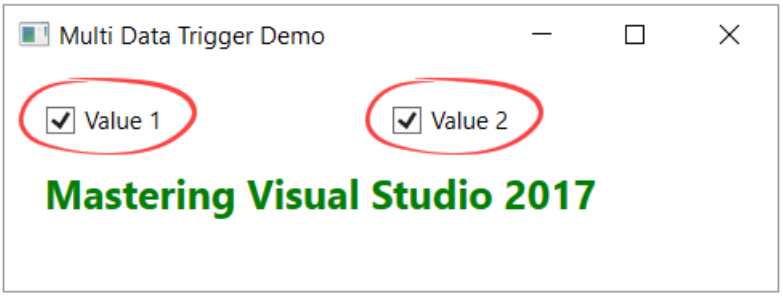

```
Foreground = "Red", Opacity = 50%
```



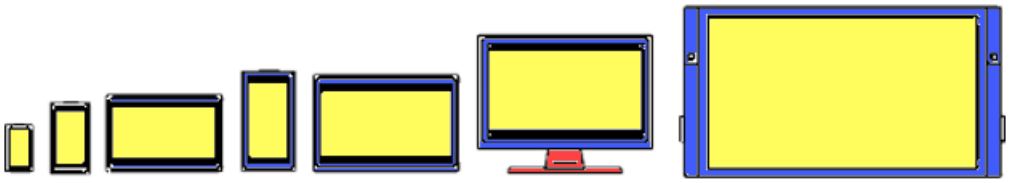


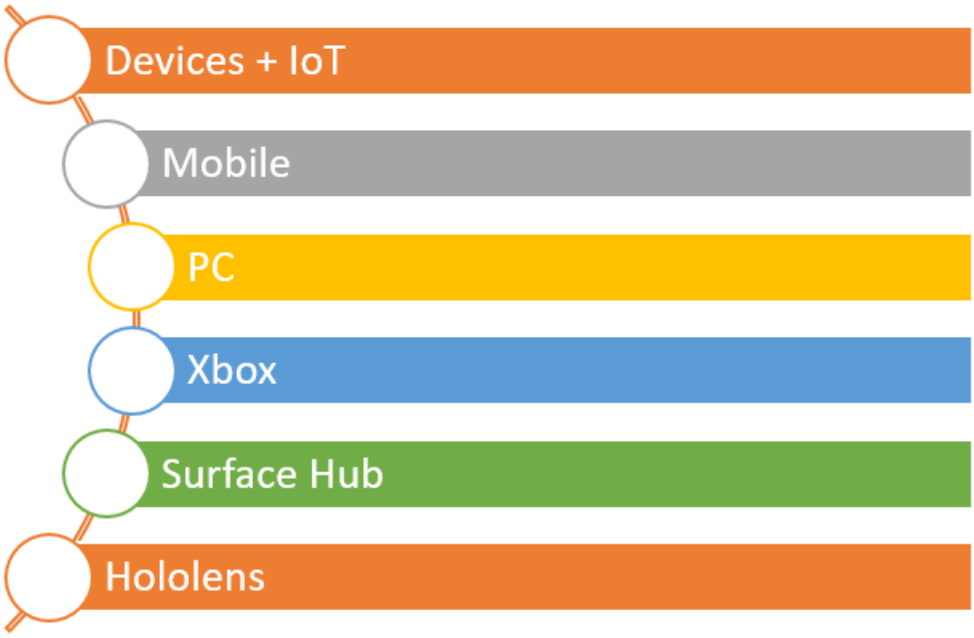


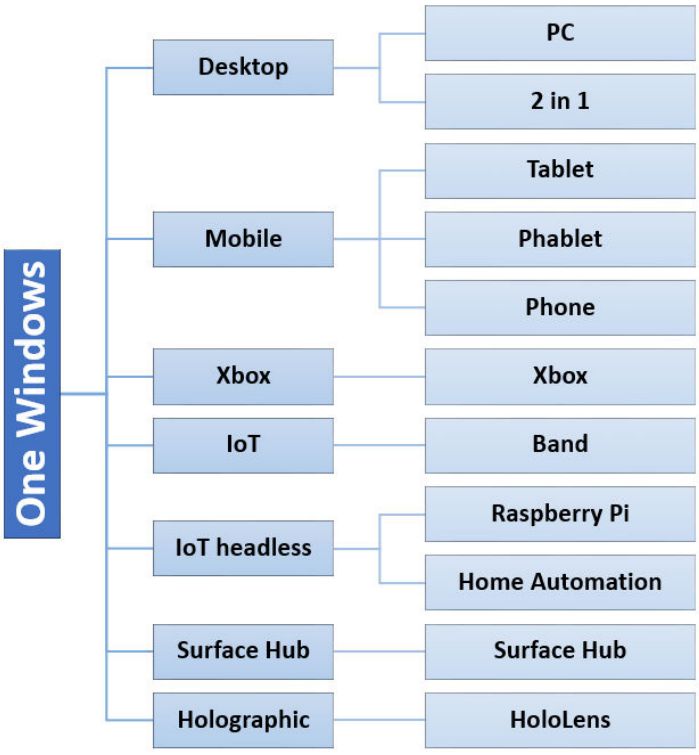


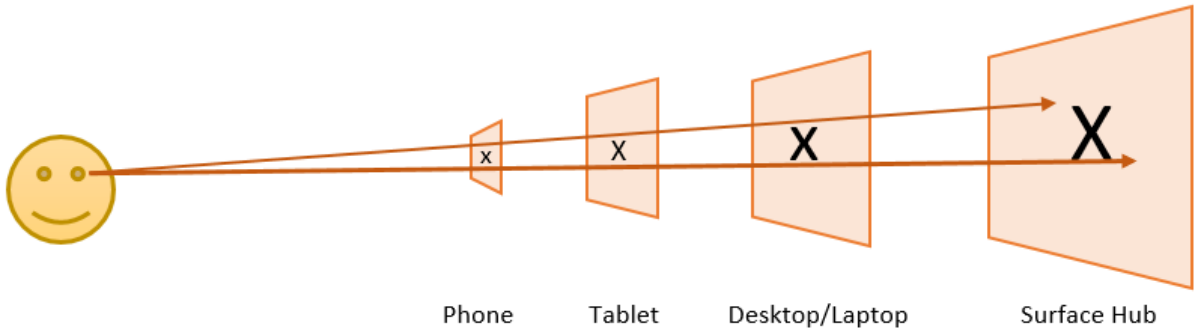


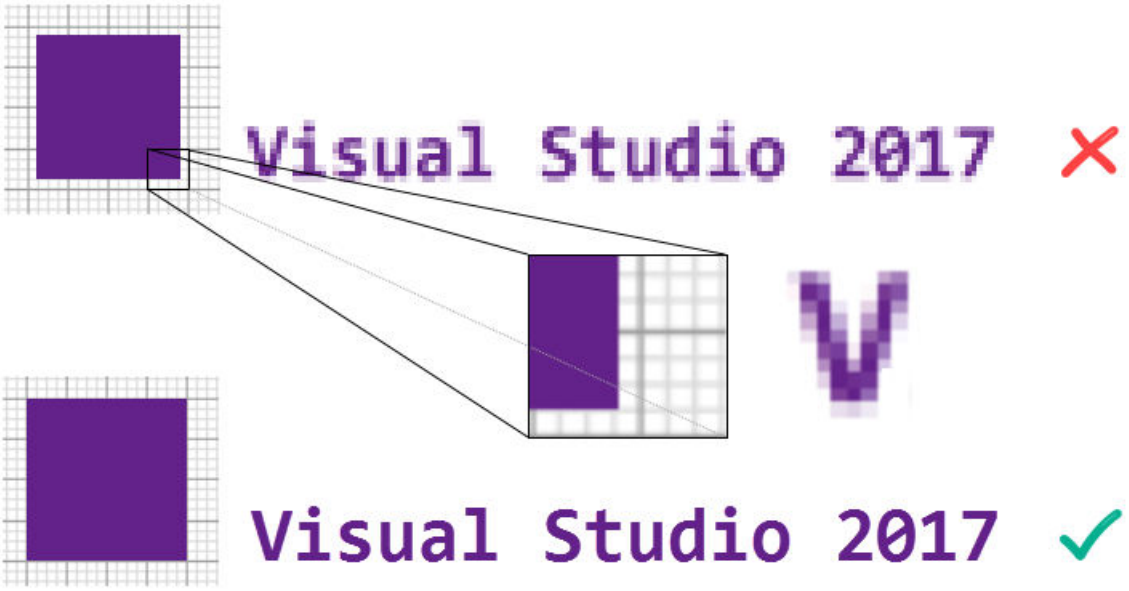
Chapter 4: Building Applications for Windows 10 Using UWP Tools



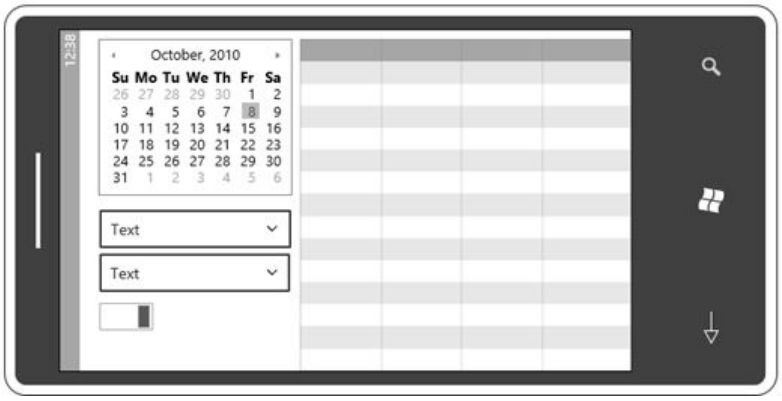

Devices + IoT
Mobile
PC
Xbox
Surface Hub
Hololens

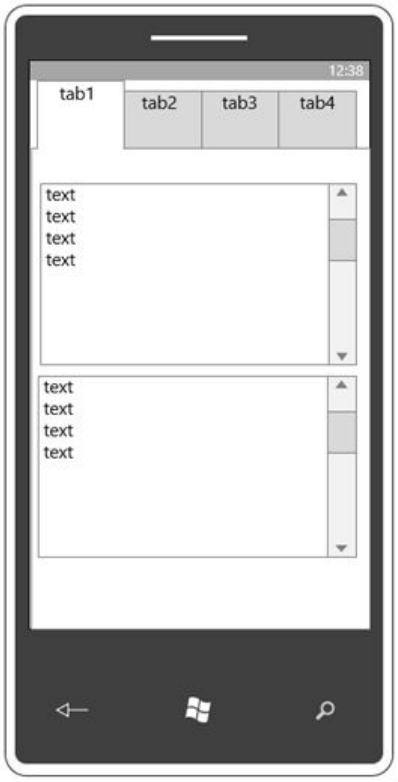

One Windows
Desktop
PC
2 in 1
Mobile
Tablet
Phablet
Phone
Xbox
Xbox
IoT
Band
IoT headless
Raspberry Pi
Home Automation
Surface Hub
Surface Hub
Holographic
HoloLens

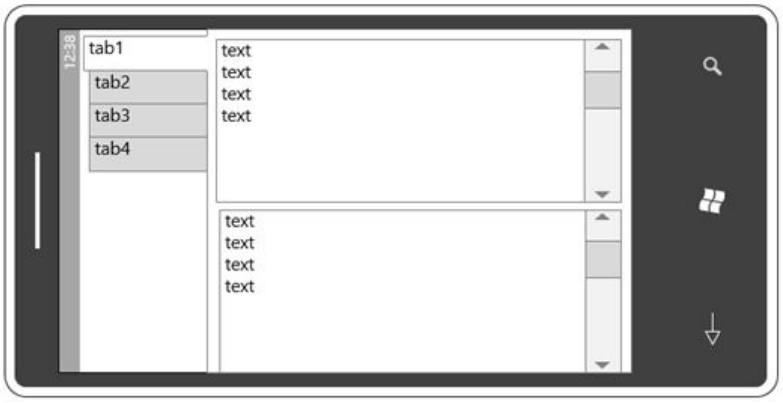

x
X
X
X
Phone
Tablet
Desktop/Laptop
Surface Hub


Visual Studio 2017
Visual Studio 2017

12:38
October, 2010
Su Mo Tu We Th Fr Sa
26 27 28 29 30 1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31 1 2 3 4 5 6
Text
Text


12:38
October, 2010
Su Mo Tu We Th Fr Sa
26 27 28 29 30 1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31 1 2 3 4 5 6
Text
Text

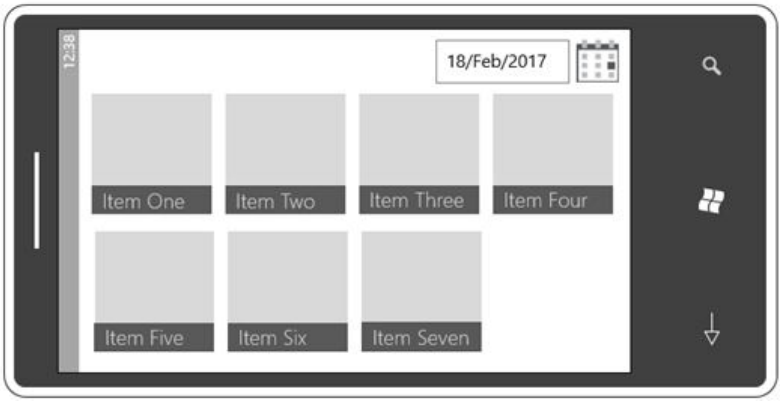

12:38
tab1
tab2
tab3
tab4
text
text
text
text
text
text
text
text

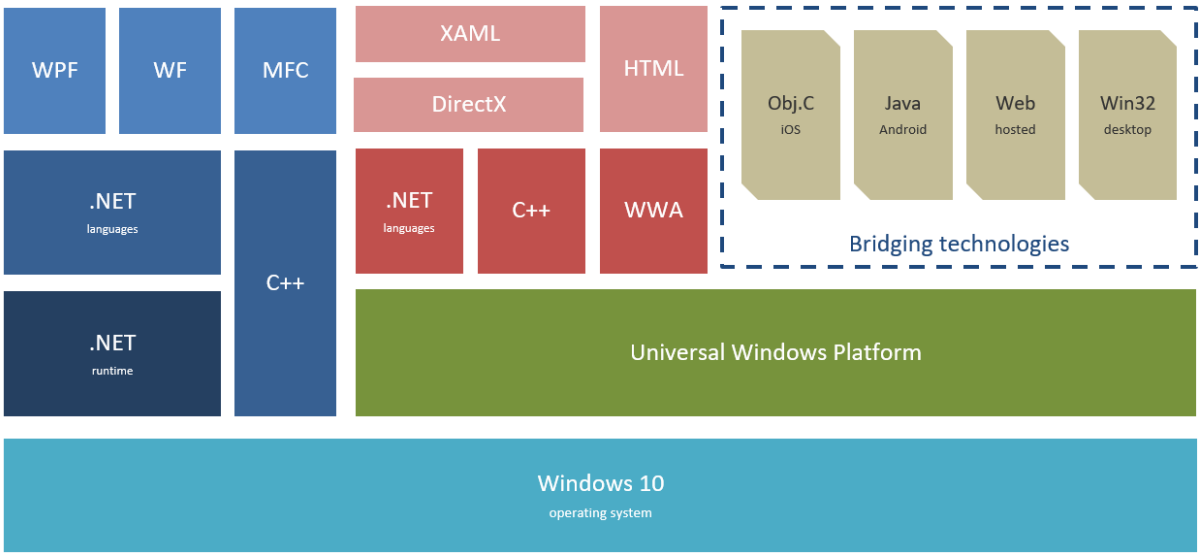

12:38
tab1
tab2
tab3
tab4
text
text
text
text
text
text
text
text

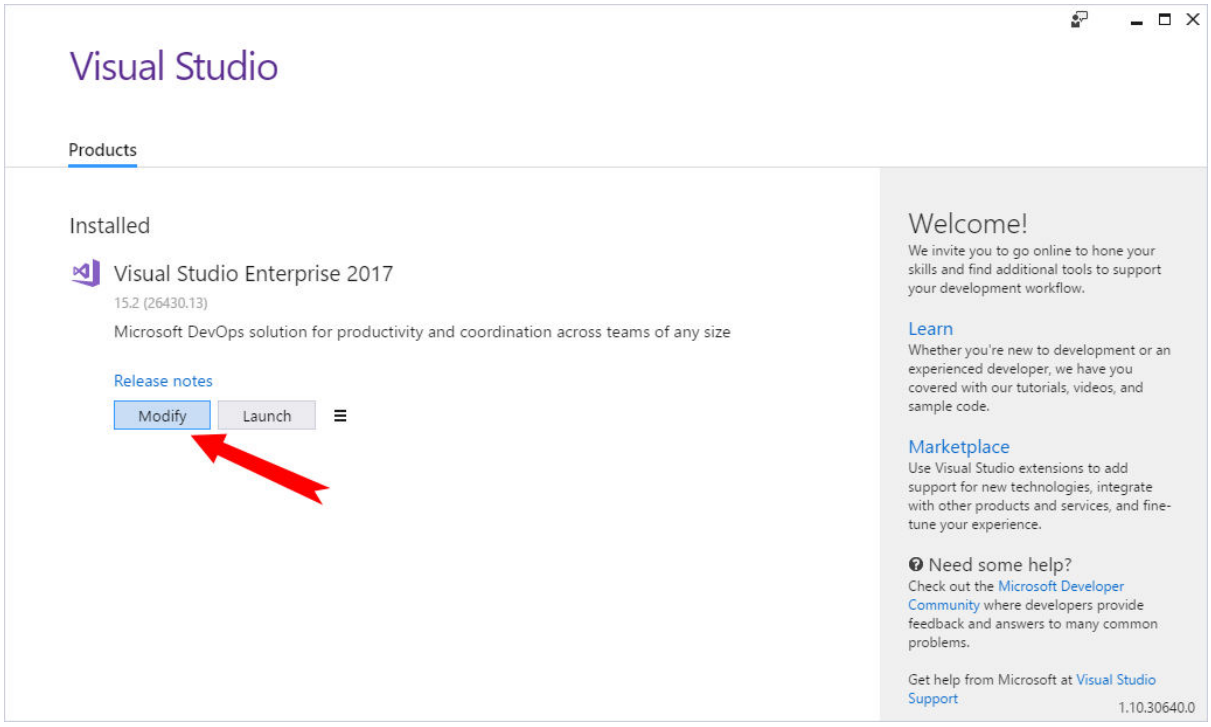
12:38

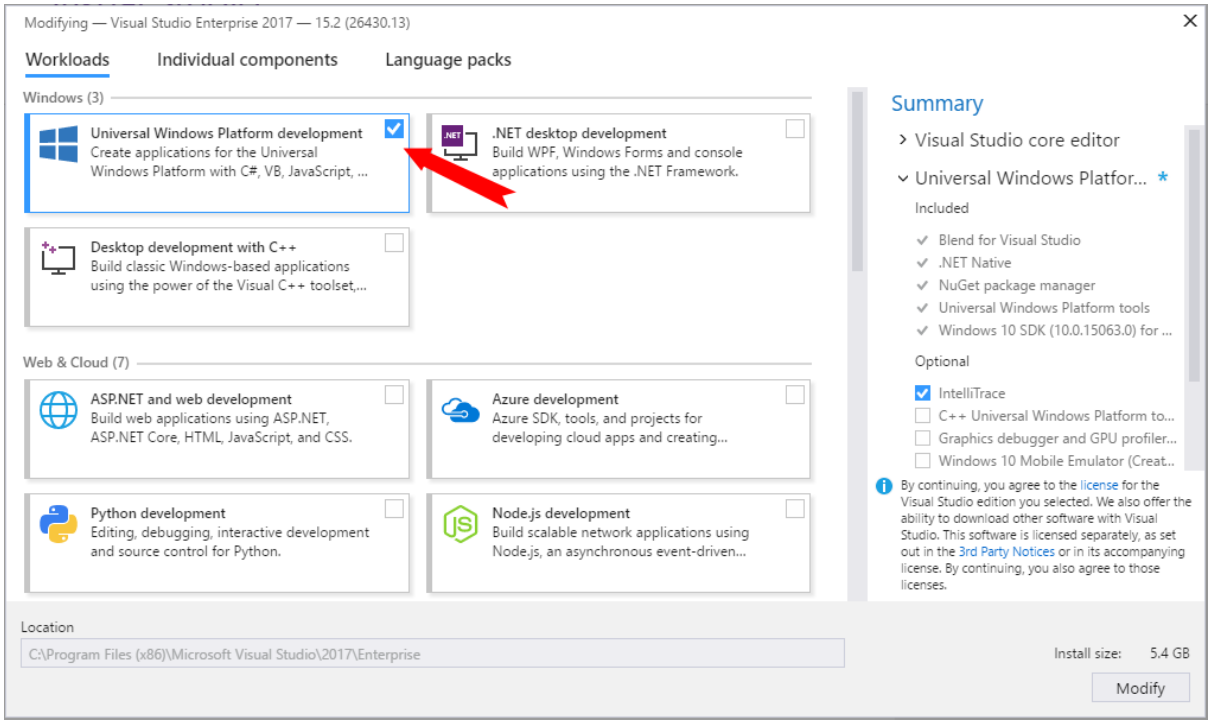
12:38

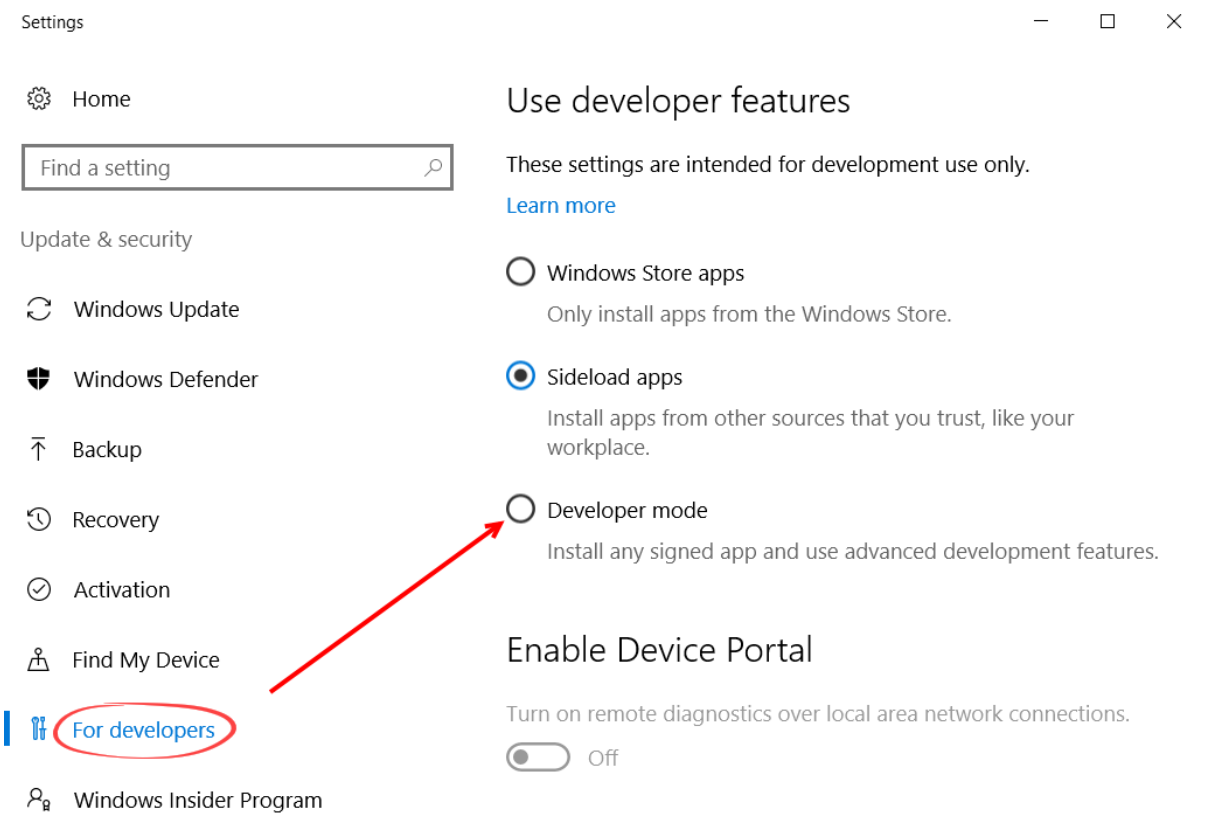
12:38
October, 2010
Su Mo Tu We Th Fr Sa
26 27 28 29 30 1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31 1 2 3 4 5 6
Item One
Item Two
Item Three
Item Four
Item Five
Item Six
Item Seven

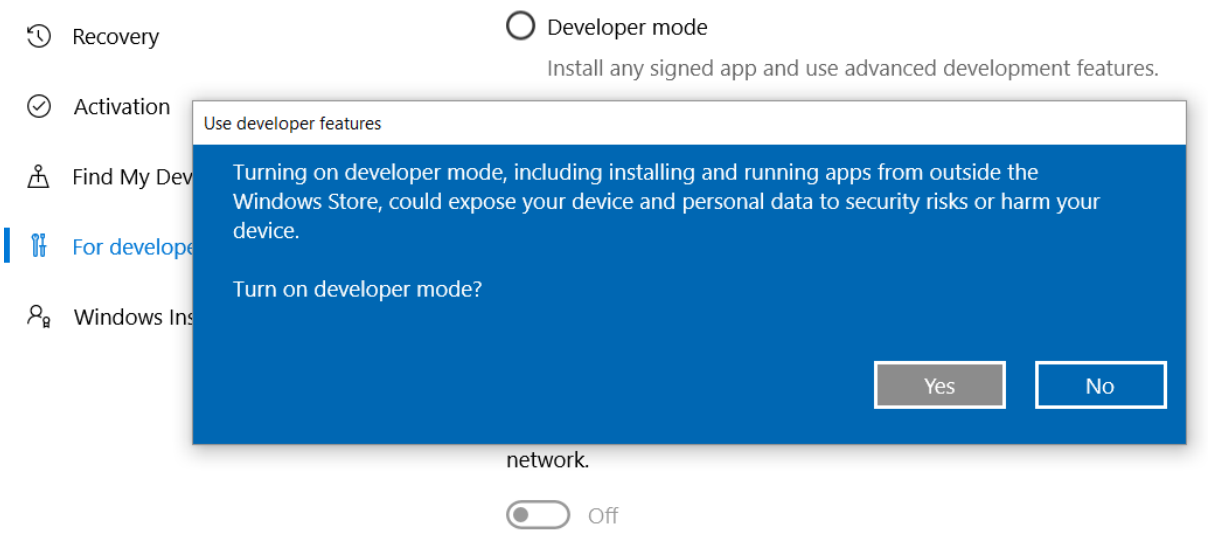

12:38
18/Feb/2017
Item One
Item Two
Item Three
Item Four
Item Five
Item Six
Item Seven

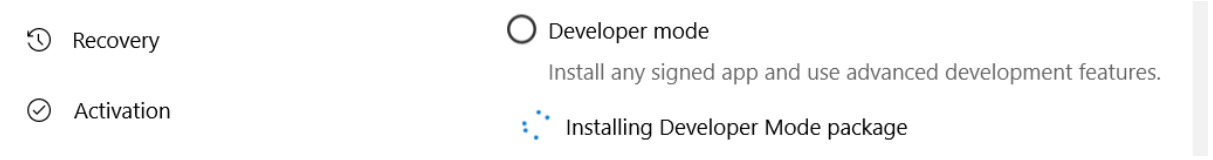

WPF
WF
MFC
XAML
DirectX
HTML
Obj.C
iOS
Java
Android
Web
hosted
Win32
desktop
.NET
languages
C++
.NET
languages
C++
WWA
Bridging technologies
.NET
runtime
Universal Windows Platform
Windows 10
operating system

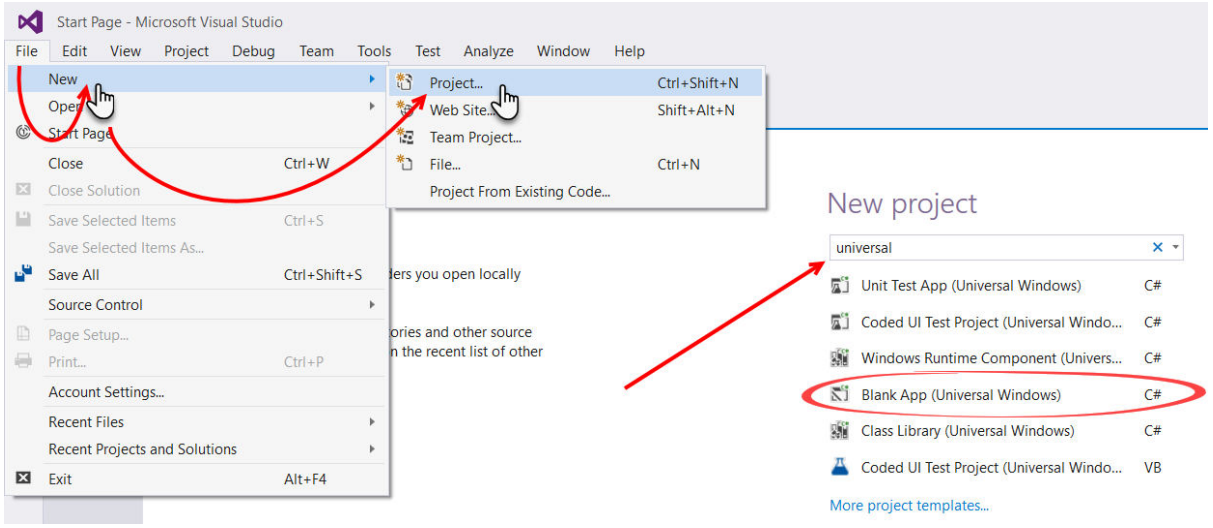

Visual Studio
Products
Installed
Visual Studio Enterprise 2017
15.2 (26430.13)
Microsoft DevOps solution for productivity and coordination across teams of any size
Release notes
Modify
Launch
Welcome!
We invite you to go online to hone your skills and find additional tools to support your development workflow.
Learn
Whether you're new to development or an experienced developer, we have you covered with our tutorials, videos, and sample code.
Marketplace
Use Visual Studio extensions to add support for new technologies, integrate with other products and services, and fine-tune your experience.
Need some help?
Check out the Microsoft Developer Community where developers provide feedback and answers to many common problems.
Get help from Microsoft at Visual Studio Support
1.10.30640.0

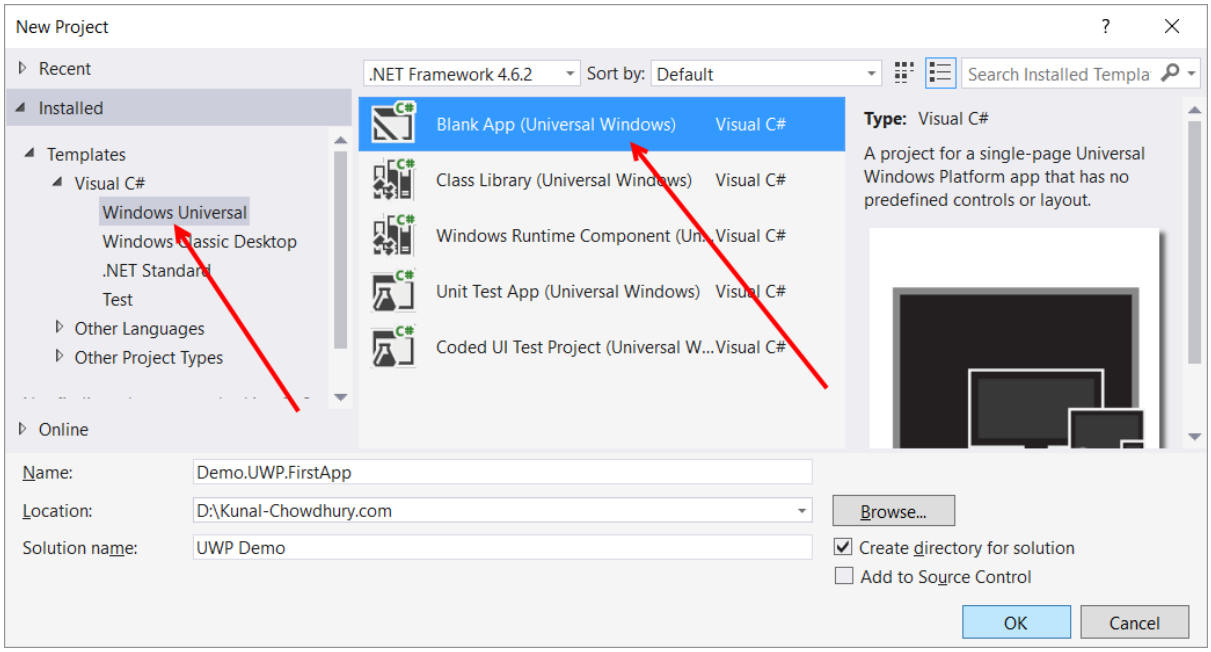

Modifying — Visual Studio Enterprise 2017 — 15.2 (26430.13)
Workloads
Individual components
Language packs
Windows (3)
Universal Windows Platform development
Create applications for the Universal Windows Platform with C#, VB, JavaScript, ...
.NET desktop development
Build WPF, Windows Forms and console applications using the .NET Framework.
Desktop development with C++
Build classic Windows-based applications using the power of the Visual C++ toolset,...
Web & Cloud (7)
ASP.NET and web development
Build web applications using ASP.NET, ASP.NET Core, HTML, JavaScript, and CSS.
Azure development
Azure SDK, tools, and projects for developing cloud apps and creating...
Python development
Editing, debugging, interactive development and source control for Python.
Node.js development
Build scalable network applications using Node.js, an asynchronous event-driven...
Summary
Visual Studio core editor
Universal Windows Platfor... *
Included
Blend for Visual Studio
.NET Native
NuGet package manager
Universal Windows Platform tools
Windows 10 SDK (10.0.15063.0) for ...
Optional
IntelliTrace
C++ Universal Windows Platform to...
Graphics debugger and GPU profiler...
Windows 10 Mobile Emulator (Creat...
By continuing, you agree to the license for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio. This software is licensed separately, as set out in the 3rd Party Notices or in its accompanying license. By continuing, you also agree to those licenses.
Location
C:\Program Files (x86)\Microsoft Visual Studio\2017\Enterprise
Install size: 5.4 GB
Modify

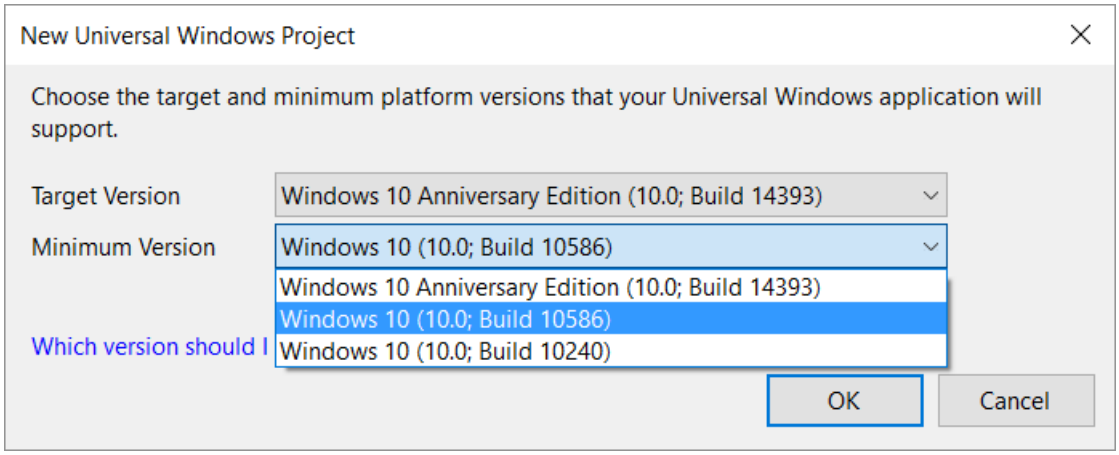

Settings
Home
Find a setting
Update & security
Windows Update
Windows Defender
Backup
Recovery
Activation
Find My Device
For developers
Windows Insider Program
Use developer features
These settings are intended for development use only.
Learn more
Windows Store apps
Only install apps from the Windows Store.
Sideload apps
Install apps from other sources that you trust, like your workplace.
Developer mode
Install any signed app and use advanced development features.
Enable Device Portal
Turn on remote diagnostics over local area network connections.
Off

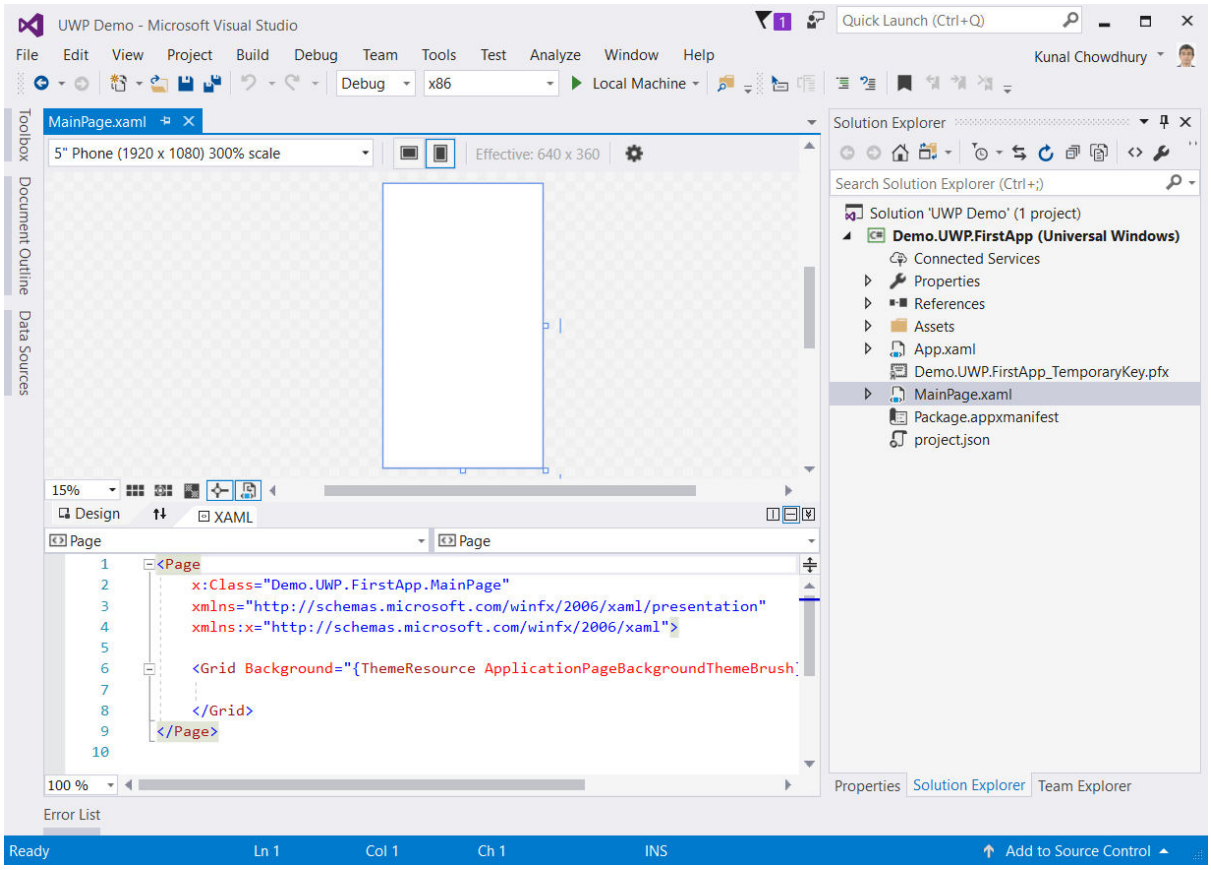

Recovery
Activation
Find My Dev
For develope
Windows Ins
Developer mode
Install any signed app and use advanced development features.
Use developer features
Turning on developer mode, including installing and running apps from outside the Windows Store, could expose your device and personal data to security risks or harm your device.
Turn on developer mode?
Yes
No
network.
Off

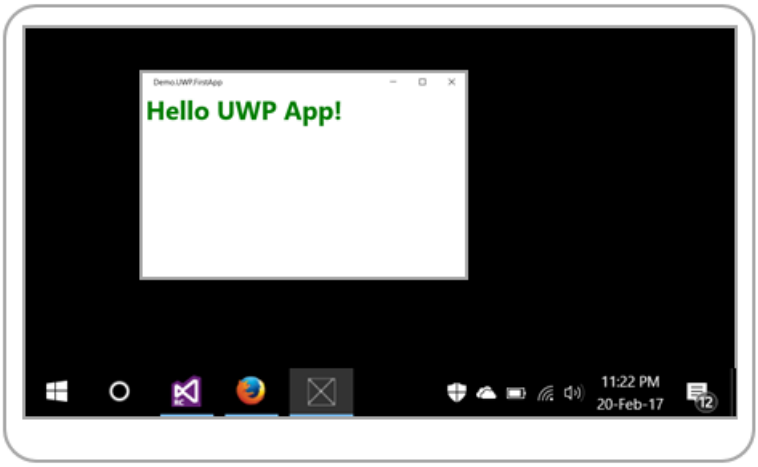

Recovery
Activation
Developer mode
Install any signed app and use advanced development features.
Installing Developer Mode package

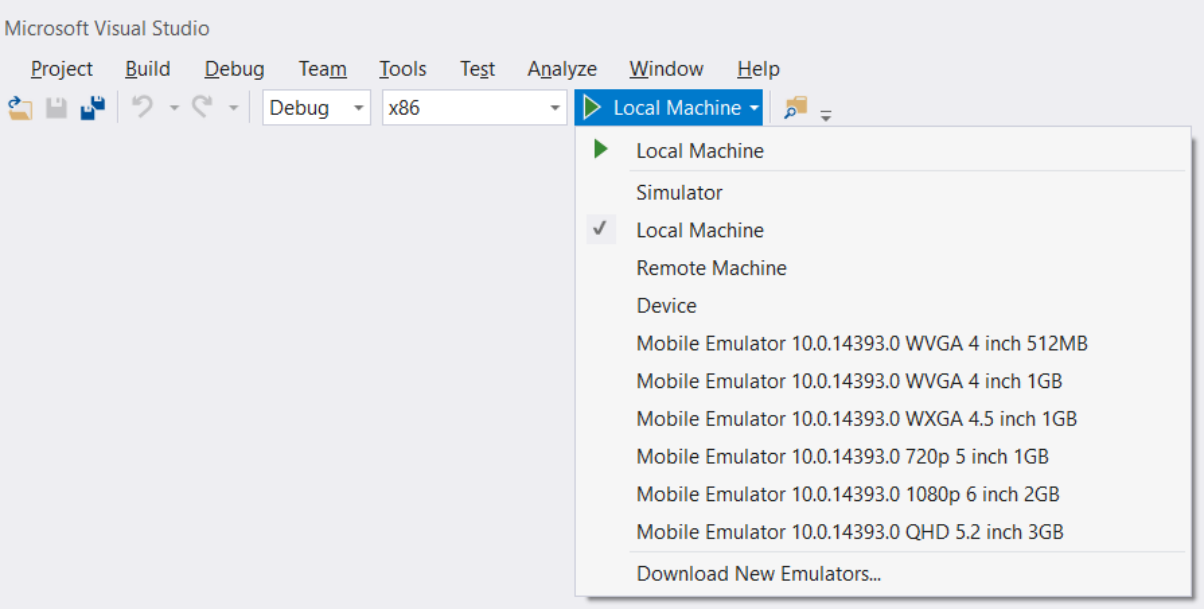

Start Page - Microsoft Visual Studio
File Edit View Project Debug Team Tools Test Analyze Window Help
New
Open
Start Page
Close Ctrl+W
Close Solution
Save Selected Items Ctrl+S
Save Selected Items As...
Save All Ctrl+Shift+S
Source Control
Page Setup...
Print... Ctrl+P
Account Settings...
Recent Files
Recent Projects and Solutions
Exit Alt+F4
Project... Ctrl+Shift+N
Web Site... Shift+Alt+N
Team Project...
File... Ctrl+N
Project From Existing Code...
New project
universal
Unit Test App (Universal Windows) C#
Coded UI Test Project (Universal Windo... C#
Windows Runtime Component (Univers... C#
Blank App (Universal Windows) C#
Class Library (Universal Windows) C#
Coded UI Test Project (Universal Windo... VB
More project templates...

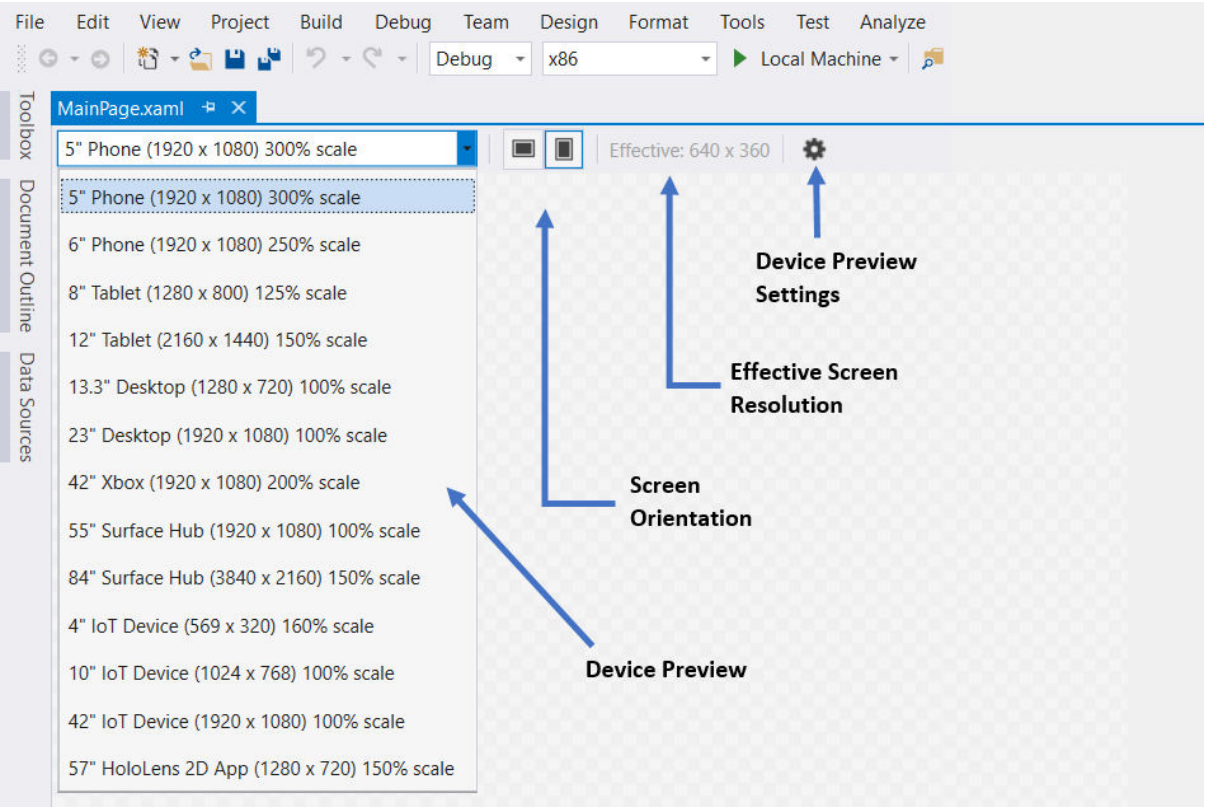

New Project
Recent
Installed
Templates
Visual C#
Windows Universal
Windows Classic Desktop
.NET Standard
Test
Other Languages
Other Project Types
Online
.NET Framework 4.6.2
Sort by:
Default
Search Installed Templa
Blank App (Universal Windows) Visual C#
Class Library (Universal Windows) Visual C#
Windows Runtime Component (Un... Visual C#
Unit Test App (Universal Windows) Visual C#
Coded UI Test Project (Universal W... Visual C#
Type: Visual C#
A project for a single-page Universal Windows Platform app that has no predefined controls or layout.
Name:
Demo.UWP.FirstApp
Location:
D:\Kunal-Chowdhury.com
Browse...
Solution name:
UWP Demo
Create directory for solution
Add to Source Control
OK
Cancel

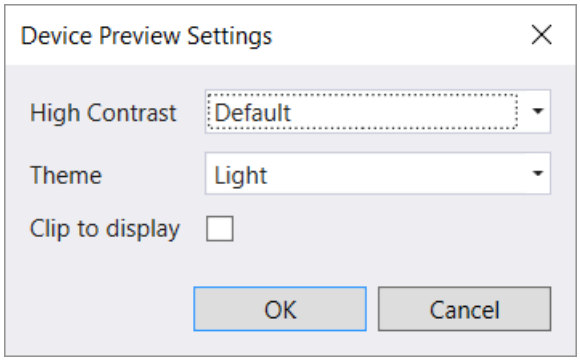

New Universal Windows Project
Choose the target and minimum platform versions that your Universal Windows application will support.
Target Version
Windows 10 Anniversary Edition (10.0; Build 14393)
Minimum Version
Windows 10 (10.0; Build 10586)
Windows 10 Anniversary Edition (10.0; Build 14393)
Windows 10 (10.0; Build 10586)
Windows 10 (10.0; Build 10240)
Which version should I
OK
Cancel

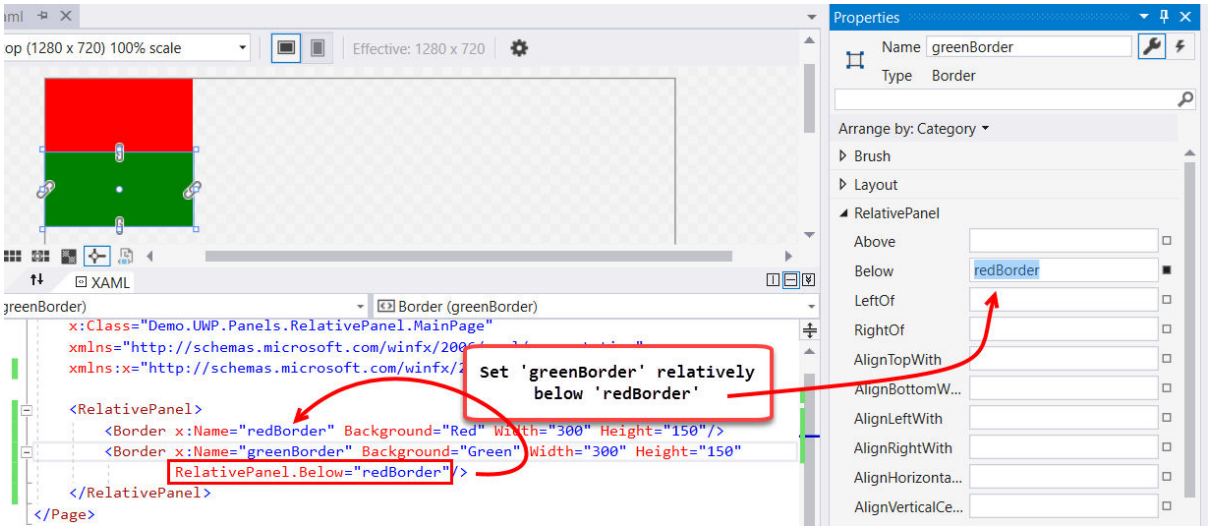

UWP Demo - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
x86
Local Machine
MainPage.xaml
5" Phone (1920 x 1080) 300% scale
Effective: 640 x 360
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'UWP Demo' (1 project)
Demo.UWP.FirstApp (Universal Windows)
Connected Services
Properties
References
Assets
App.xaml
Demo.UWP.FirstApp_TemporaryKey.pfx
MainPage.xaml
Package.appxmanifest
project.json
Design
XAML
Page
Page
<Page
x:Class="Demo.UWP.FirstApp.MainPage"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml">
<Grid Background="{ThemeResource ApplicationPageBackgroundThemeBrush
</Grid>
</Page>
Properties
Solution Explorer
Team Explorer
Error List
Ready
Ln 1
Col 1
Ch 1
INS
Add to Source Control

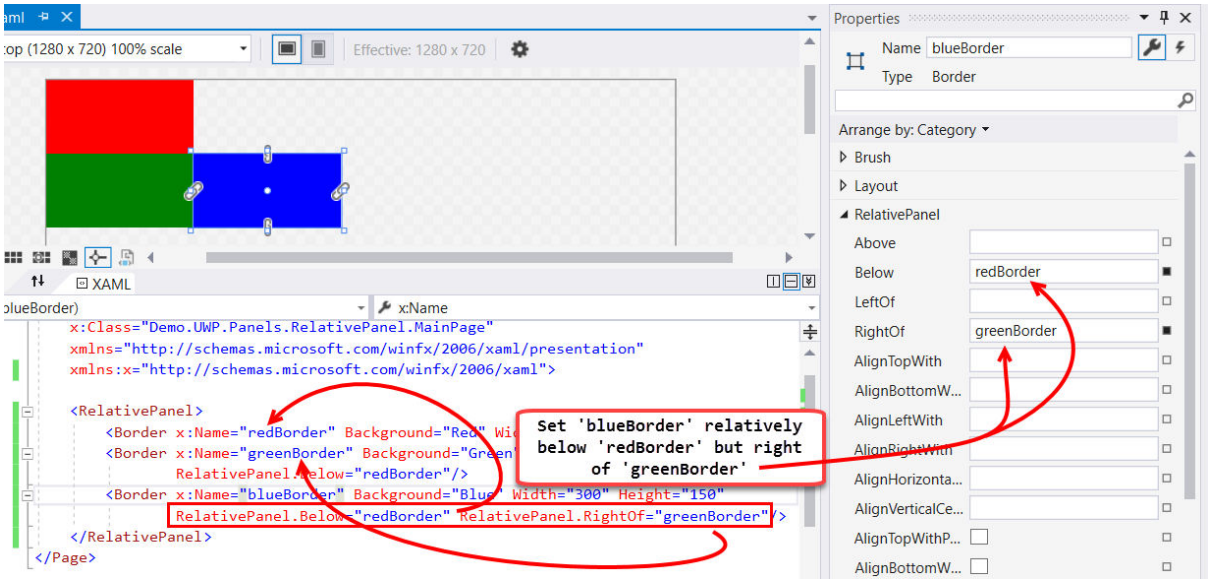

Hello UWP App!
11:22 PM
20-Feb-17

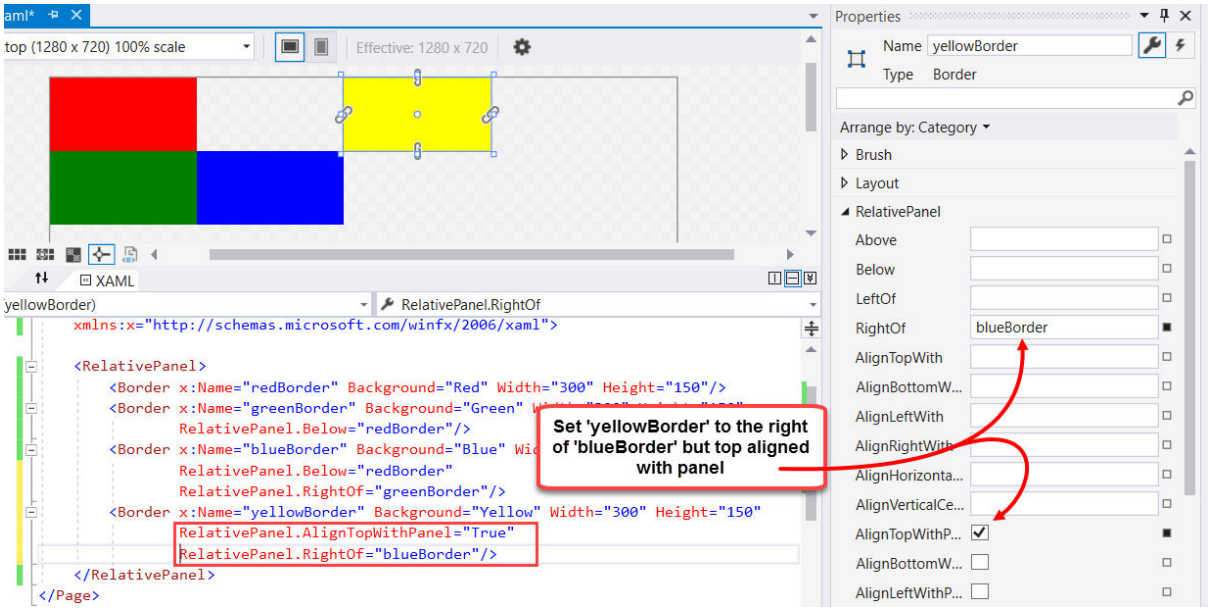

Microsoft Visual Studio
Project Build Debug Team Tools Test Analyze Window Help
Debug
x86
Local Machine
Local Machine
Simulator
Local Machine
Remote Machine
Device
Mobile Emulator 10.0.14393.0 WVGA 4 inch 512MB
Mobile Emulator 10.0.14393.0 WVGA 4 inch 1GB
Mobile Emulator 10.0.14393.0 WXGA 4.5 inch 1GB
Mobile Emulator 10.0.14393.0 720p 5 inch 1GB
Mobile Emulator 10.0.14393.0 1080p 6 inch 2GB
Mobile Emulator 10.0.14393.0 QHD 5.2 inch 3GB
Download New Emulators...

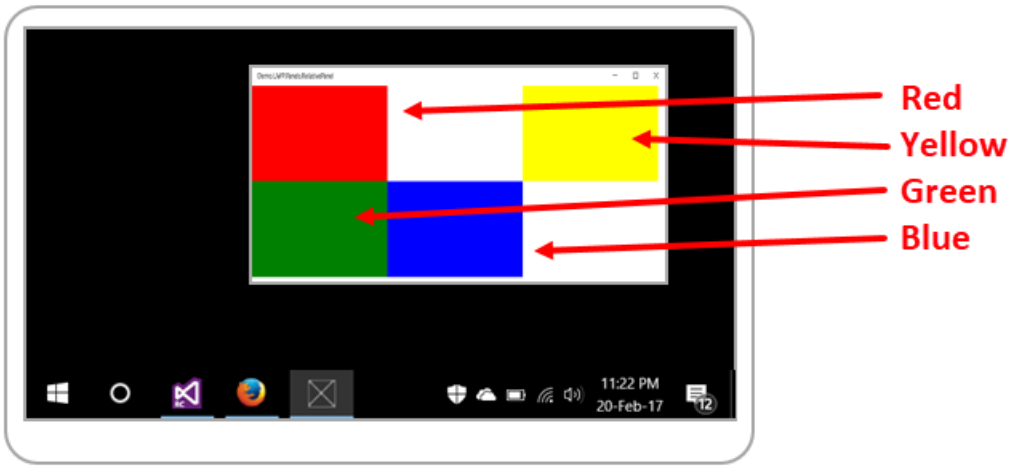

File Edit View Project Build Debug Team Design Format Tools Test Analyze
Debug
x86
Local Machine
Toolbox
Document Outline
Data Sources
MainPage.xaml
5" Phone (1920 x 1080) 300% scale
Effective: 640 x 360
5" Phone (1920 x 1080) 300% scale
6" Phone (1920 x 1080) 250% scale
8" Tablet (1280 x 800) 125% scale
12" Tablet (2160 x 1440) 150% scale
13.3" Desktop (1280 x 720) 100% scale
23" Desktop (1920 x 1080) 100% scale
42" Xbox (1920 x 1080) 200% scale
55" Surface Hub (1920 x 1080) 100% scale
84" Surface Hub (3840 x 2160) 150% scale
4" IoT Device (569 x 320) 160% scale
10" IoT Device (1024 x 768) 100% scale
42" IoT Device (1920 x 1080) 100% scale
57" HoloLens 2D App (1280 x 720) 150% scale
Device Preview Settings
Effective Screen Resolution
Screen Orientation
Device Preview

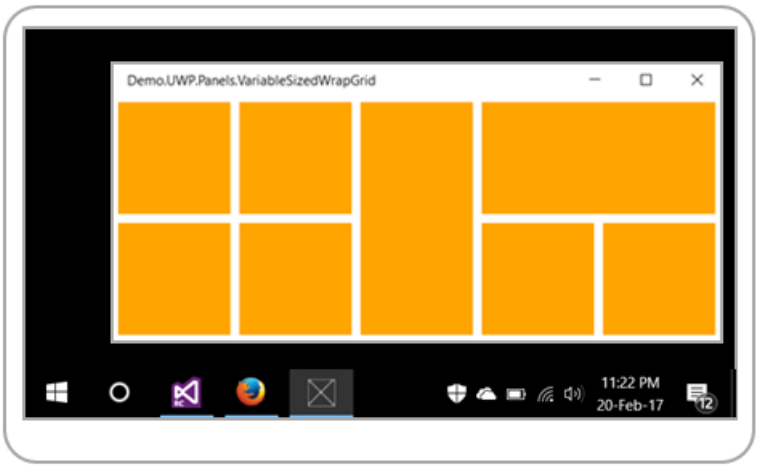

Device Preview Settings
High Contrast
Default
Theme
Light
Clip to display
OK
Cancel

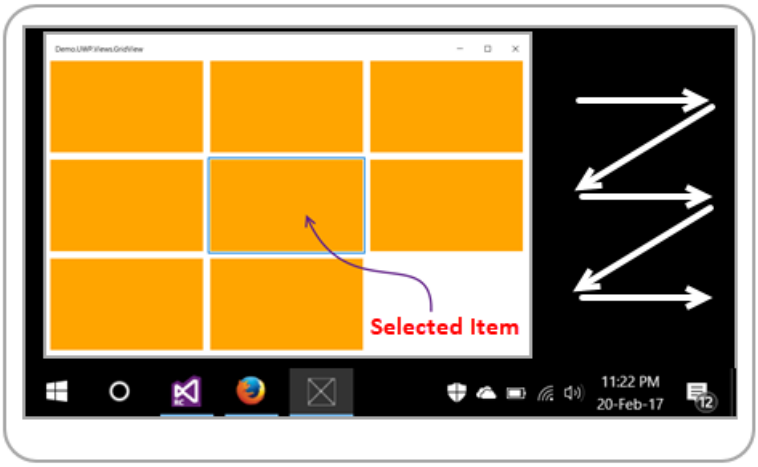

Properties
Name greenBorder
Type Border
Arrange by: Category
Brush
Layout
RelativePanel
Above
Below redBorder
LeftOf
RightOf
AlignTopWith
AlignBottomW...
AlignLeftWith
AlignRightWith
AlignHorizonta...
AlignVerticalCe...
Effective: 1280 x 720
XAML
Border (greenBorder)
x:Class="Demo.UWP.Panels.RelativePanel.MainPage"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
<RelativePanel>
<Border x:Name="redBorder" Background="Red" Width="300" Height="150"/>
<Border x:Name="greenBorder" Background="Green" Width="300" Height="150"
RelativePanel.Below="redBorder"/>
</RelativePanel>
</Page>
Set 'greenBorder' relatively below 'redBorder'

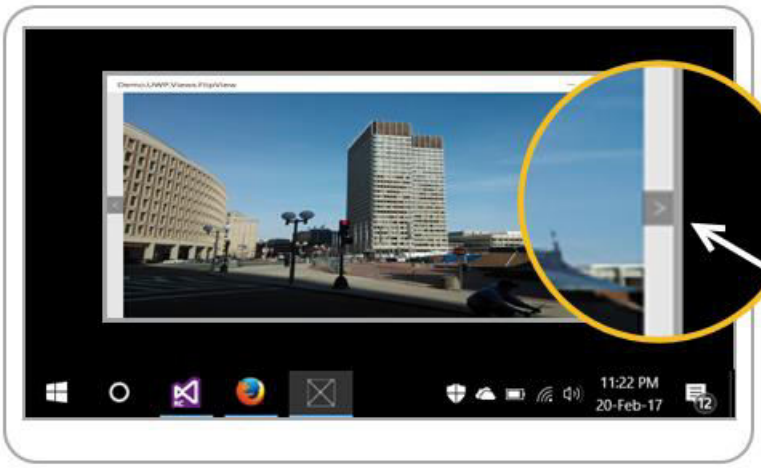

Properties
Name blueBorder
Type Border
Arrange by: Category
Brush
Layout
RelativePanel
Above
Below redBorder
LeftOf
RightOf greenBorder
AlignTopWith
AlignBottomW...
AlignLeftWith
AlignRightWith
AlignHorizonta...
AlignVerticalCe...
AlignTopWithP...
AlignBottomW...
Effective: 1280 x 720
XAML
x:Name
x:Class="Demo.UWP.Panels.RelativePanel.MainPage"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml">
<RelativePanel>
<Border x:Name="redBorder" Background="Red"
<Border x:Name="greenBorder" Background="Green"
RelativePanel.Below="redBorder"/>
<Border x:Name="blueBorder" Background="Blue" Width="300" Height="150"
RelativePanel.Below="redBorder" RelativePanel.RightOf="greenBorder"/>
</RelativePanel>
</Page>
Set 'blueBorder' relatively below 'redBorder' but right of 'greenBorder'


aml*
top (1280 x 720) 100% scale
Effective: 1280 x 720
XAML
yellowBorder)
RelativePanel.RightOf
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml">
<RelativePanel>
<Border x:Name="redBorder" Background="Red" Width="300" Height="150"/>
<Border x:Name="greenBorder" Background="Green"
RelativePanel.Below="redBorder"/>
<Border x:Name="blueBorder" Background="Blue"
RelativePanel.Below="redBorder"
RelativePanel.RightOf="greenBorder"/>
<Border x:Name="yellowBorder" Background="Yellow" Width="300" Height="150"
RelativePanel.AlignTopWithPanel="True"
RelativePanel.RightOf="blueBorder"/>
</RelativePanel>
</Page>
Set 'yellowBorder' to the right of 'blueBorder' but top aligned with panel
Properties
Name yellowBorder
Type Border
Arrange by: Category
Brush
Layout
RelativePanel
Above
Below
LeftOf
RightOf
blueBorder
AlignTopWith
AlignBottomW...
AlignLeftWith
AlignRightWith
AlignHorizonta...
AlignVerticalCe...
AlignTopWithP...
AlignBottomW...
AlignLeftWithP...

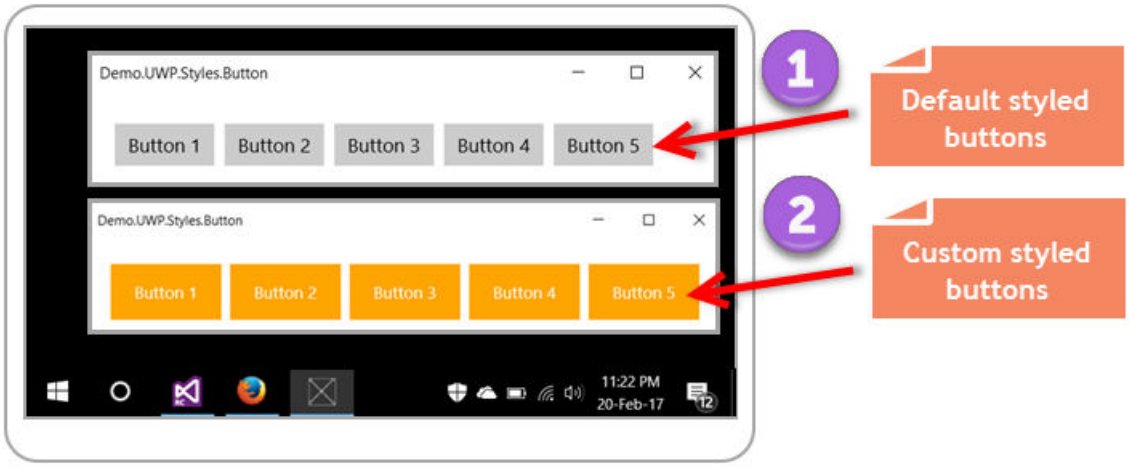

Red
Yellow
Green
Blue
11:22 PM
20-Feb-17

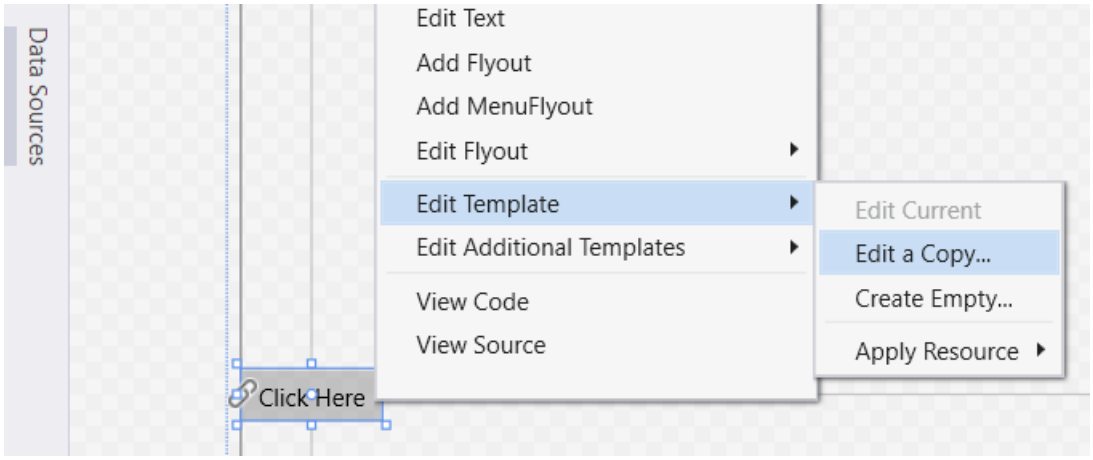

Demo.UWP.Panels.VariableSizedWrapGrid
11:22 PM
20-Feb-17

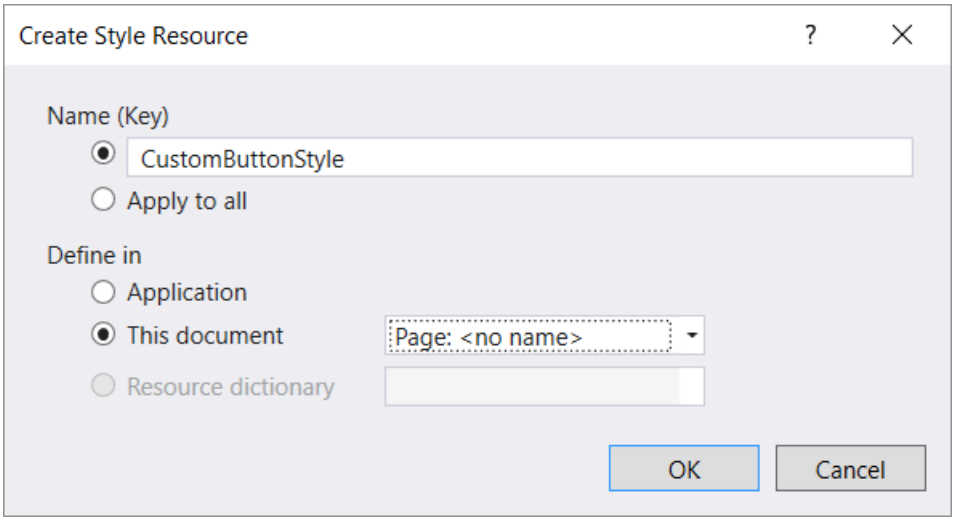


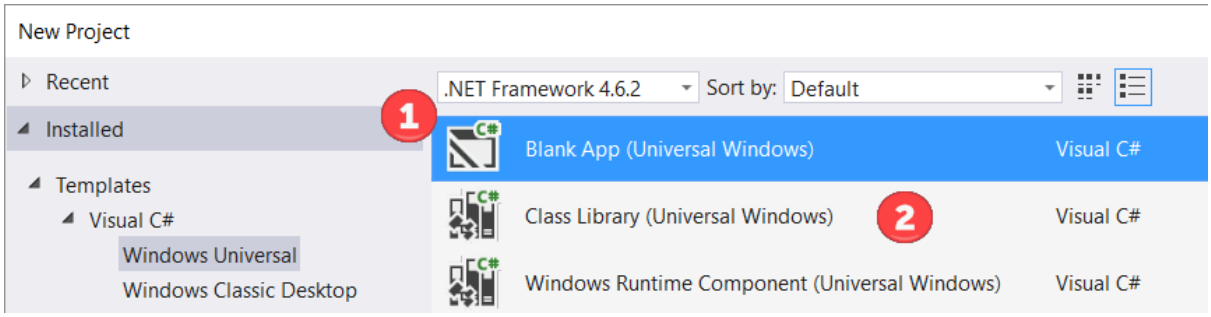


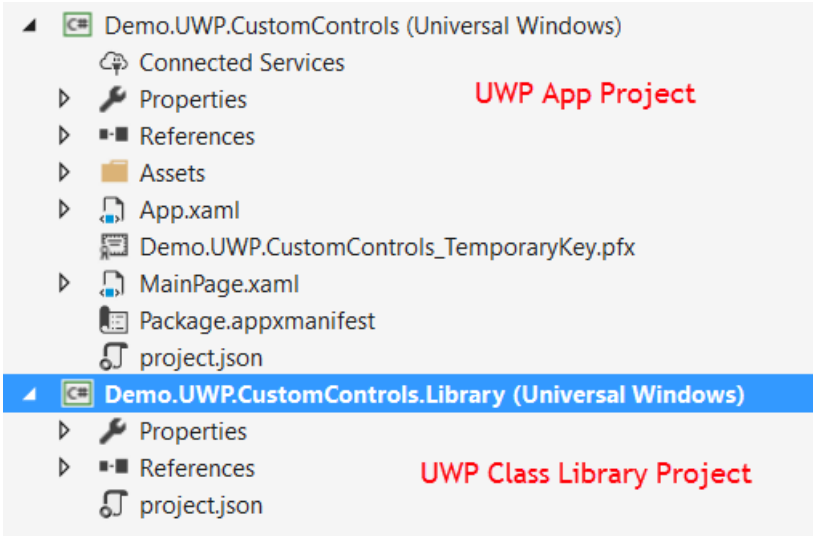
Arrowheads to flip one view item to another

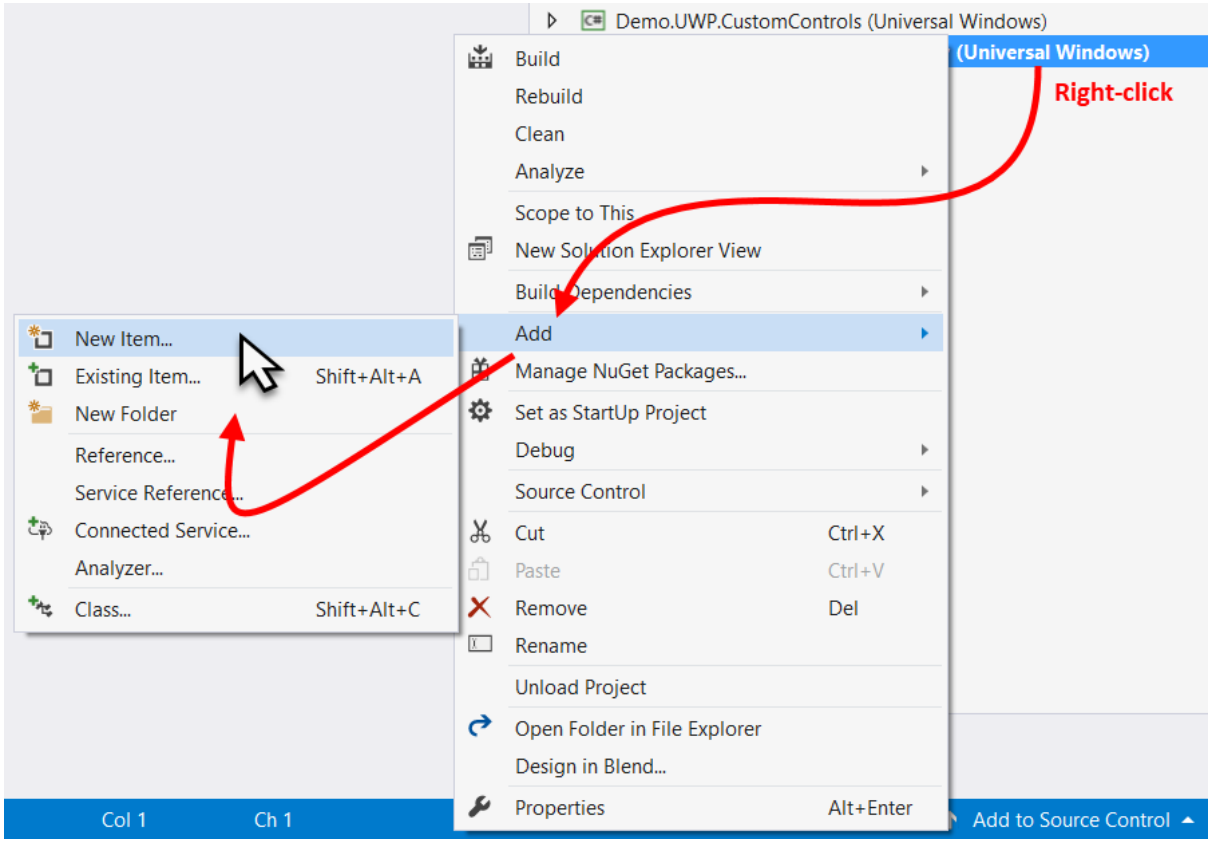

Demo.UWP.Styles.Button
Button 1
Button 2
Button 3
Button 4
Button 5
Demo.UWP.Styles.Button
Button 1
Button 2
Button 3
Button 4
Button 5
11:22 PM
20-Feb-17
1
Default styled buttons
2
Custom styled buttons

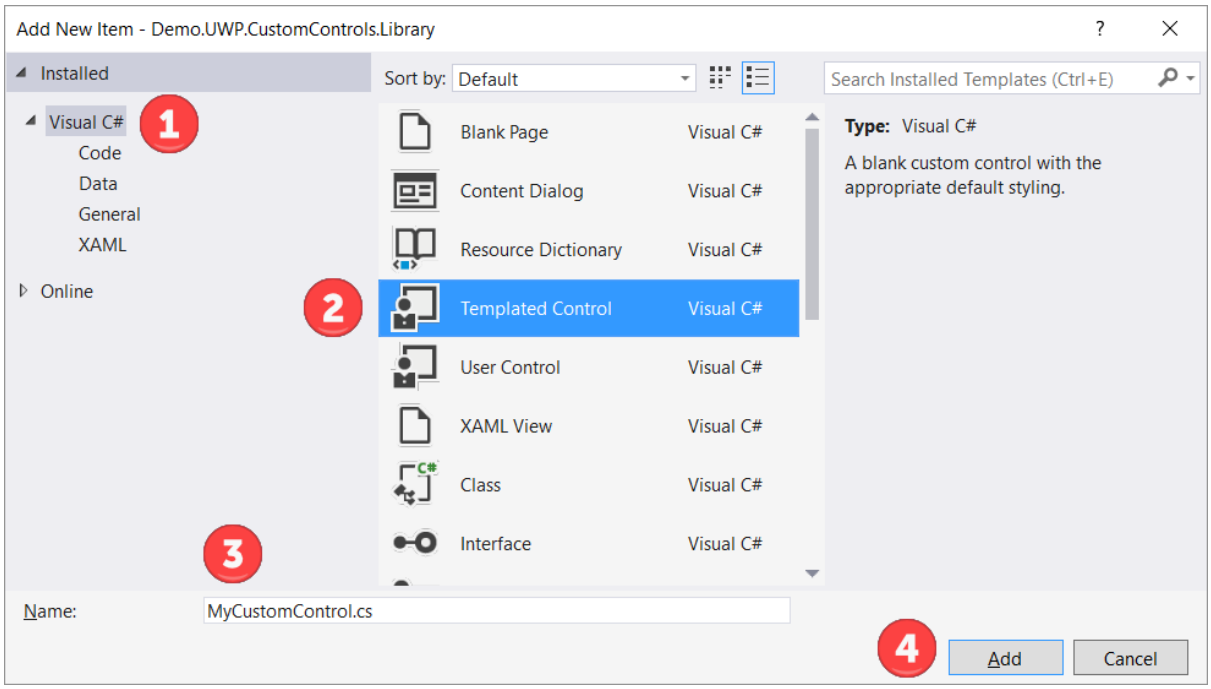

Data Sources
Edit Text
Add Flyout
Add MenuFlyout
Edit Flyout
Edit Template
Edit Additional Templates
View Code
View Source
Edit Current
Edit a Copy...
Create Empty...
Apply Resource
Click Here

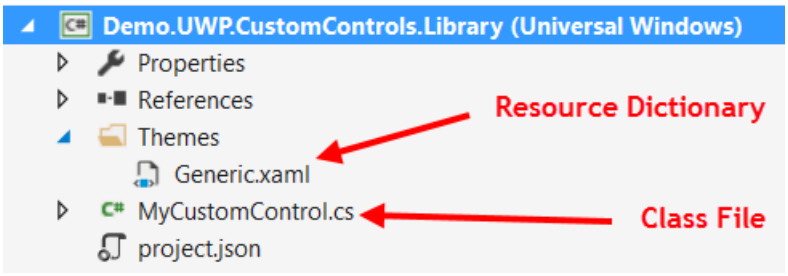

Create Style Resource
Name (Key)
CustomButtonStyle
Apply to all
Define in
Application
This document
Page: <no name>
Resource dictionary
OK
Cancel

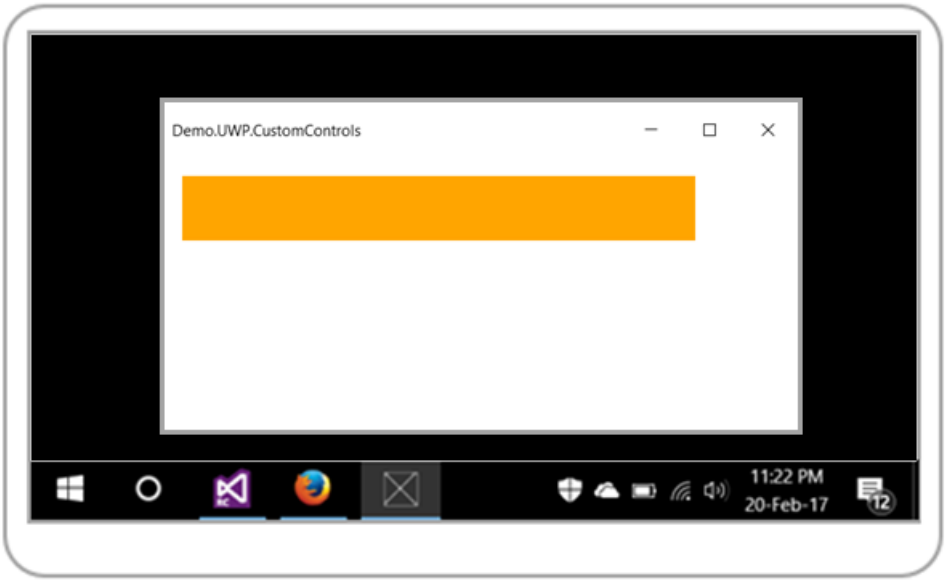

New Project
Recent
Installed
Templates
Visual C#
Windows Universal
Windows Classic Desktop
.NET Framework 4.6.2
Sort by:
Default
1
Blank App (Universal Windows)
Visual C#
Class Library (Universal Windows)
2
Visual C#
Windows Runtime Component (Universal Windows)
Visual C#

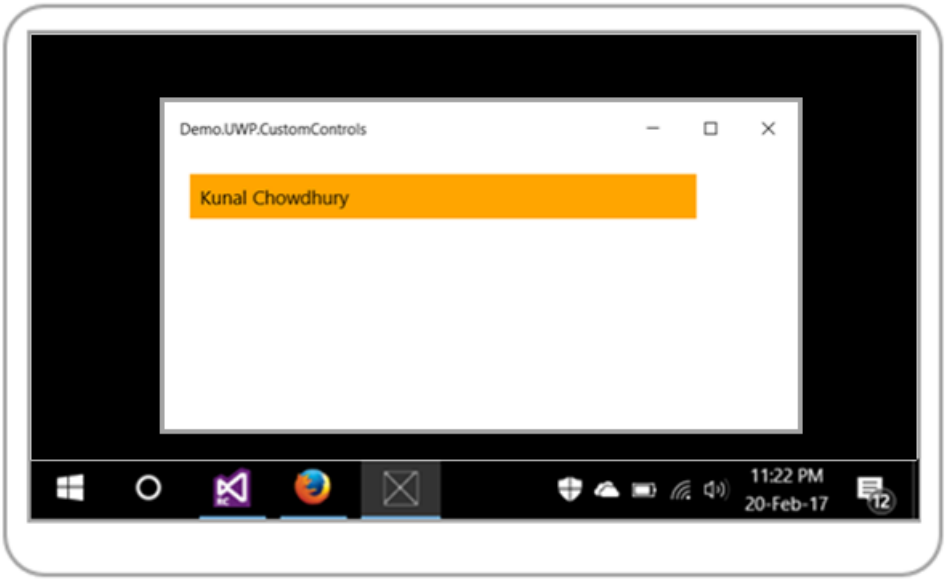

Demo.UWP.CustomControls (Universal Windows)
Connected Services
Properties
References
Assets
App.xaml
Demo.UWP.CustomControls_TemporaryKey.pfx
MainPage.xaml
Package.appxmanifest
project.json
UWP App Project
Demo.UWP.CustomControls.Library (Universal Windows)
Properties
References
project.json
UWP Class Library Project

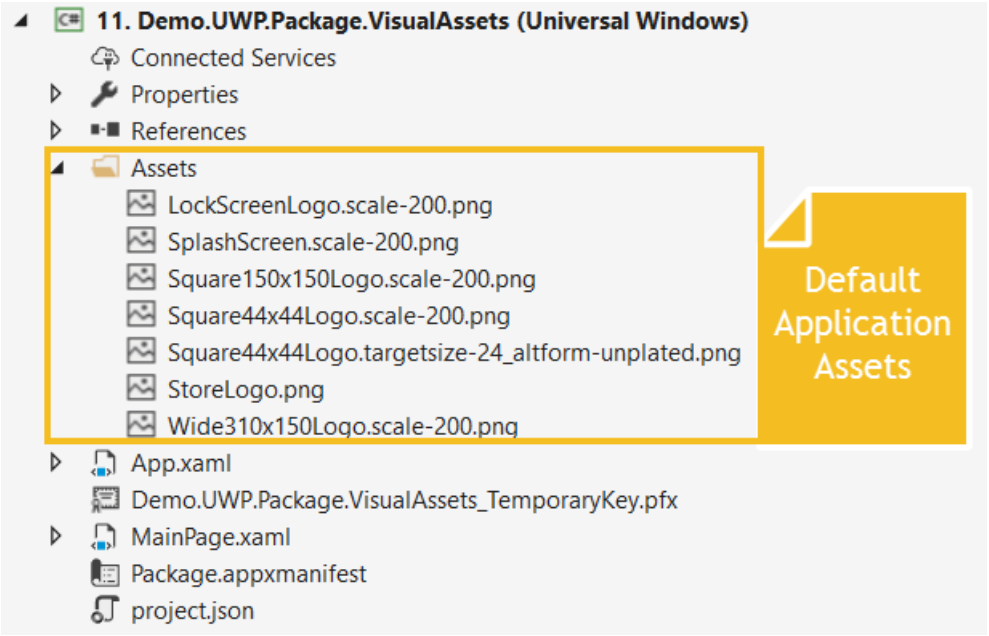

Demo.UWP.CustomControls (Universal Windows)
(Universal Windows)
Right-click
Build
Rebuild
Clean
Analyze
Scope to This
New Solution Explorer View
Build Dependencies
Add
Manage NuGet Packages...
Set as StartUp Project
Debug
Source Control
Cut Ctrl+X
Paste Ctrl+V
Remove Del
Rename
Unload Project
Open Folder in File Explorer
Design in Blend...
Properties Alt+Enter
New Item...
Existing Item... Shift+Alt+A
New Folder
Reference...
Service Reference...
Connected Service...
Analyzer...
Class... Shift+Alt+C
Col 1
Ch 1
Add to Source Control

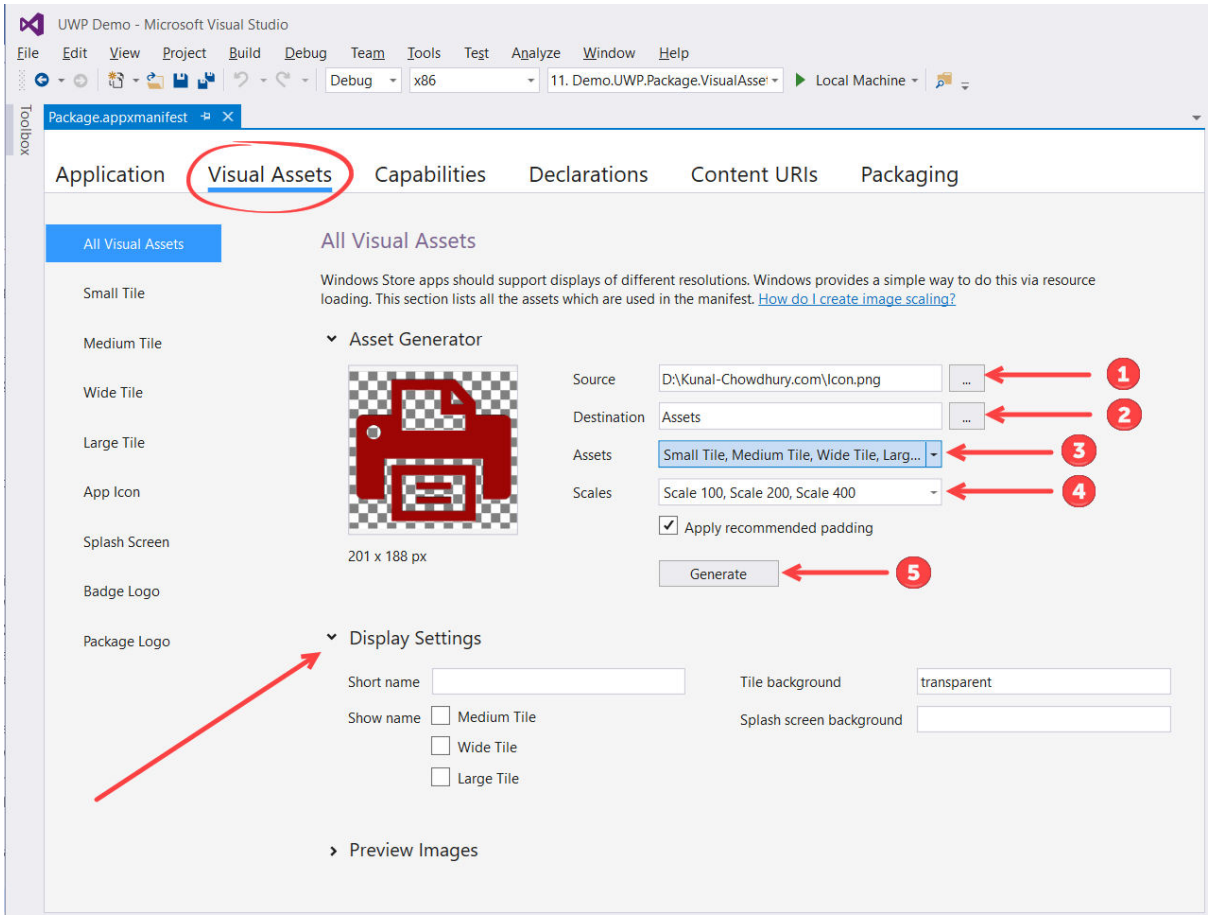

Add New Item - Demo.UWP.CustomControls.Library
Installed
Visual C#
Code
Data
General
XAML
Online
Sort by: Default
Search Installed Templates (Ctrl+E)
Blank Page Visual C#
Content Dialog Visual C#
Resource Dictionary Visual C#
Templated Control Visual C#
User Control Visual C#
XAML View Visual C#
Class Visual C#
Interface Visual C#
Type: Visual C#
A blank custom control with the appropriate default styling.
1
2
3
4
Name:
MyCustomControl.cs
Add
Cancel

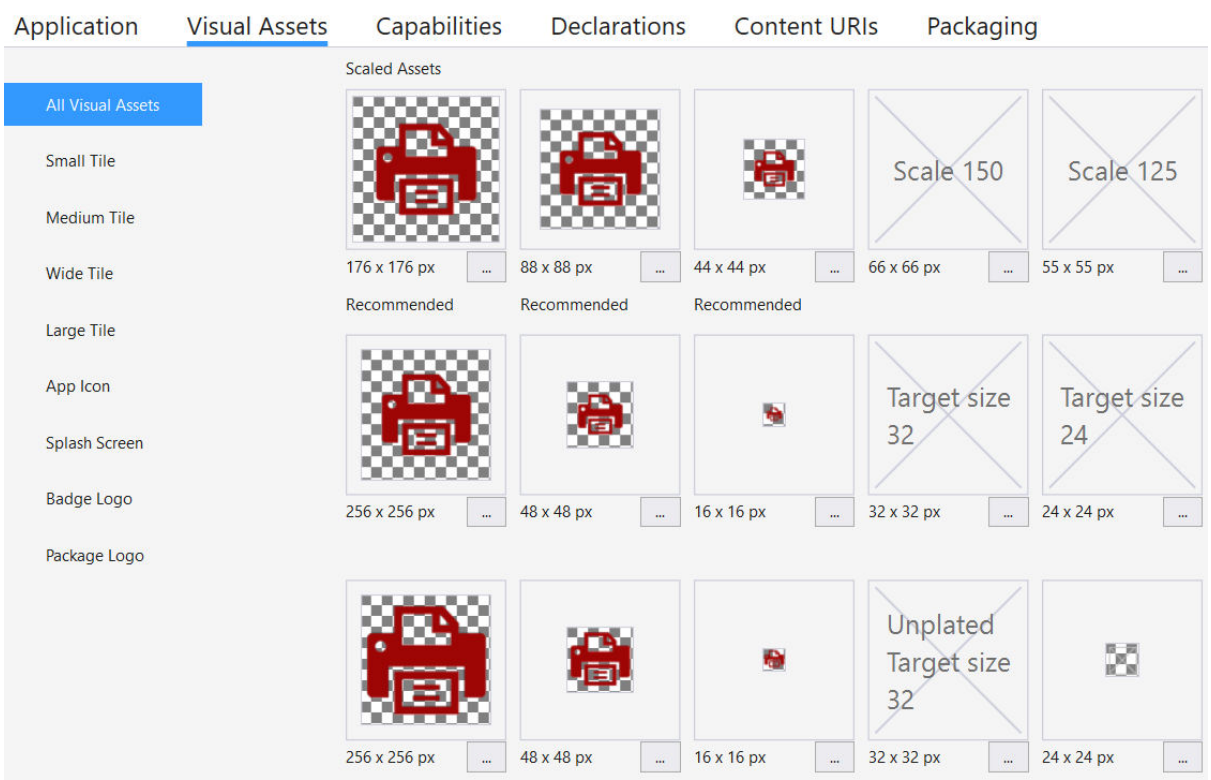

Demo.UWP.CustomControls.Library (Universal Windows)
Properties
References
Themes
Generic.xaml
MyCustomControl.cs
project.json
Resource Dictionary
Class File

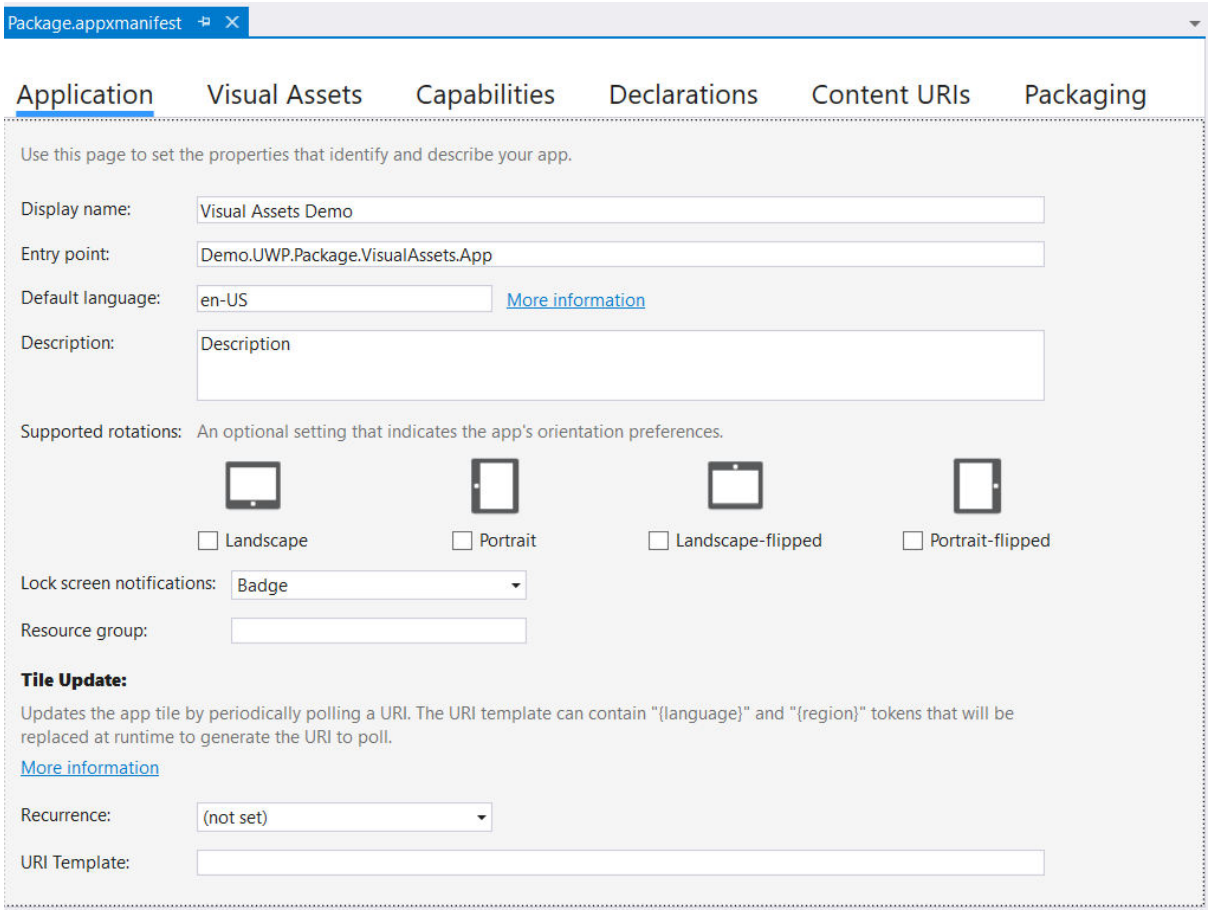

Demo.UWP.CustomControls
11:22 PM
20-Feb-17

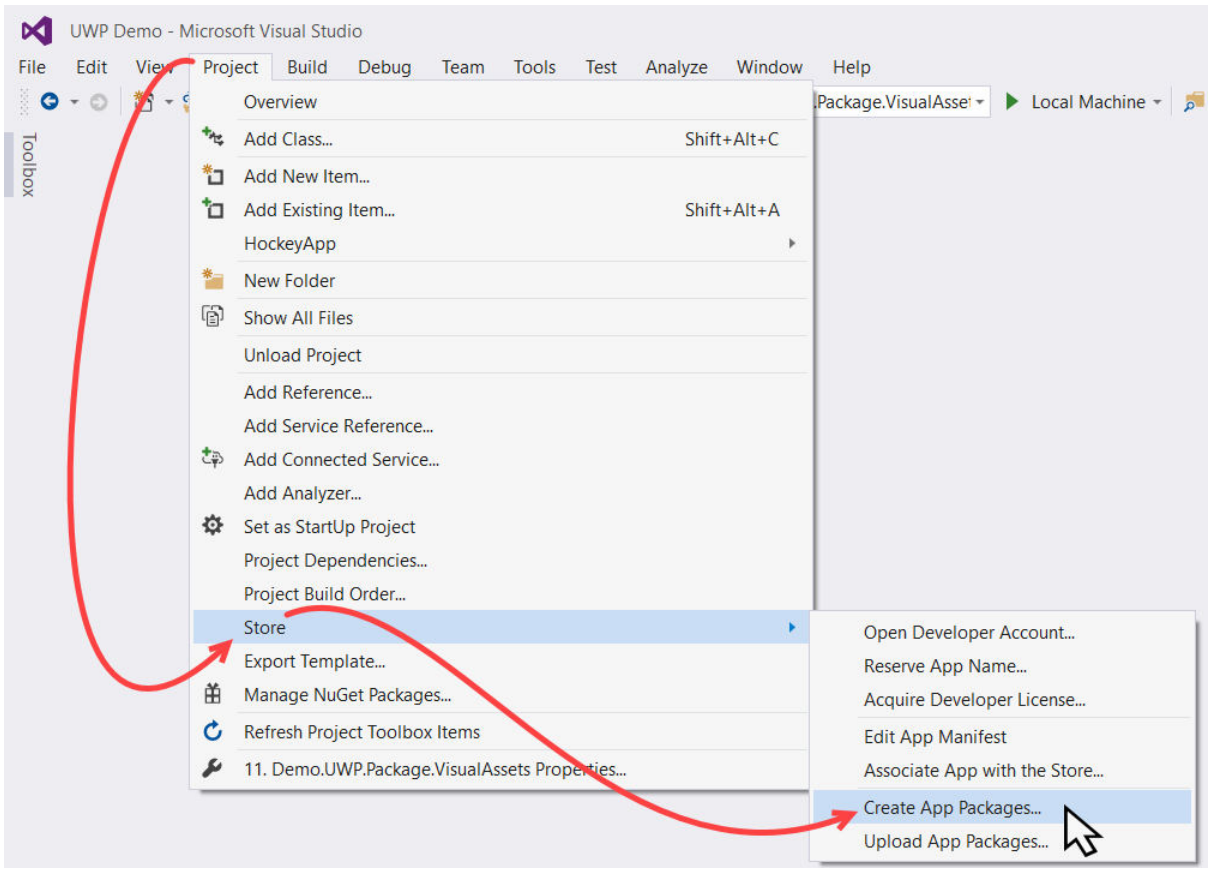

Demo.UWP.CustomControls
Kunal Chowdhury
11:22 PM
20-Feb-17

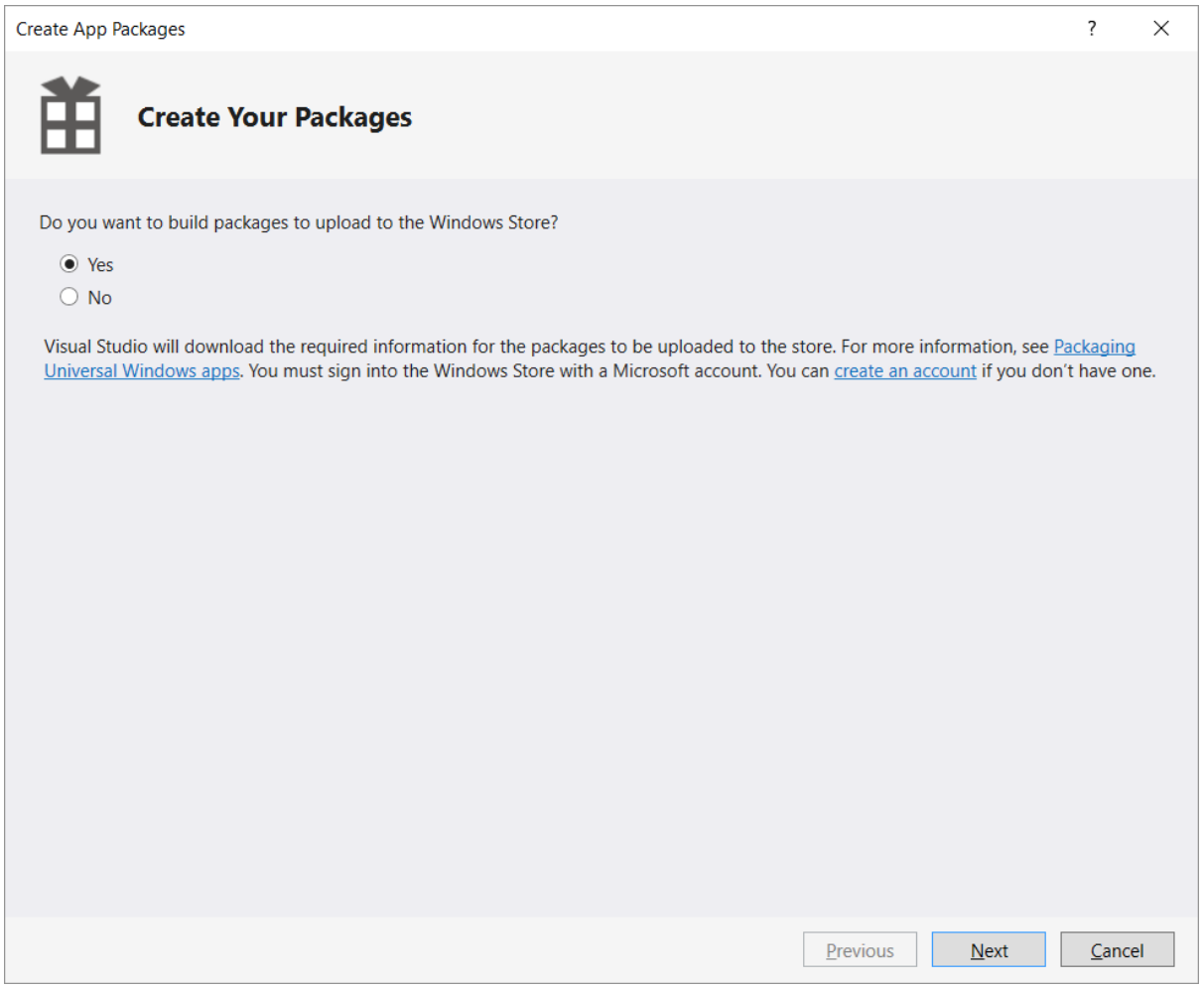

11. Demo.UWP.Package.VisualAssets (Universal Windows)
Connected Services
Properties
References
Assets
LockScreenLogo.scale-200.png
SplashScreen.scale-200.png
Square150x150Logo.scale-200.png
Square44x44Logo.scale-200.png
Square44x44Logo.targetsize-24_altform-unplated.png
StoreLogo.png
Wide310x150Logo.scale-200.png
App.xaml
Demo.UWP.Package.VisualAssets_TemporaryKey.pfx
MainPage.xaml
Package.appxmanifest
project.json
Default Application Assets

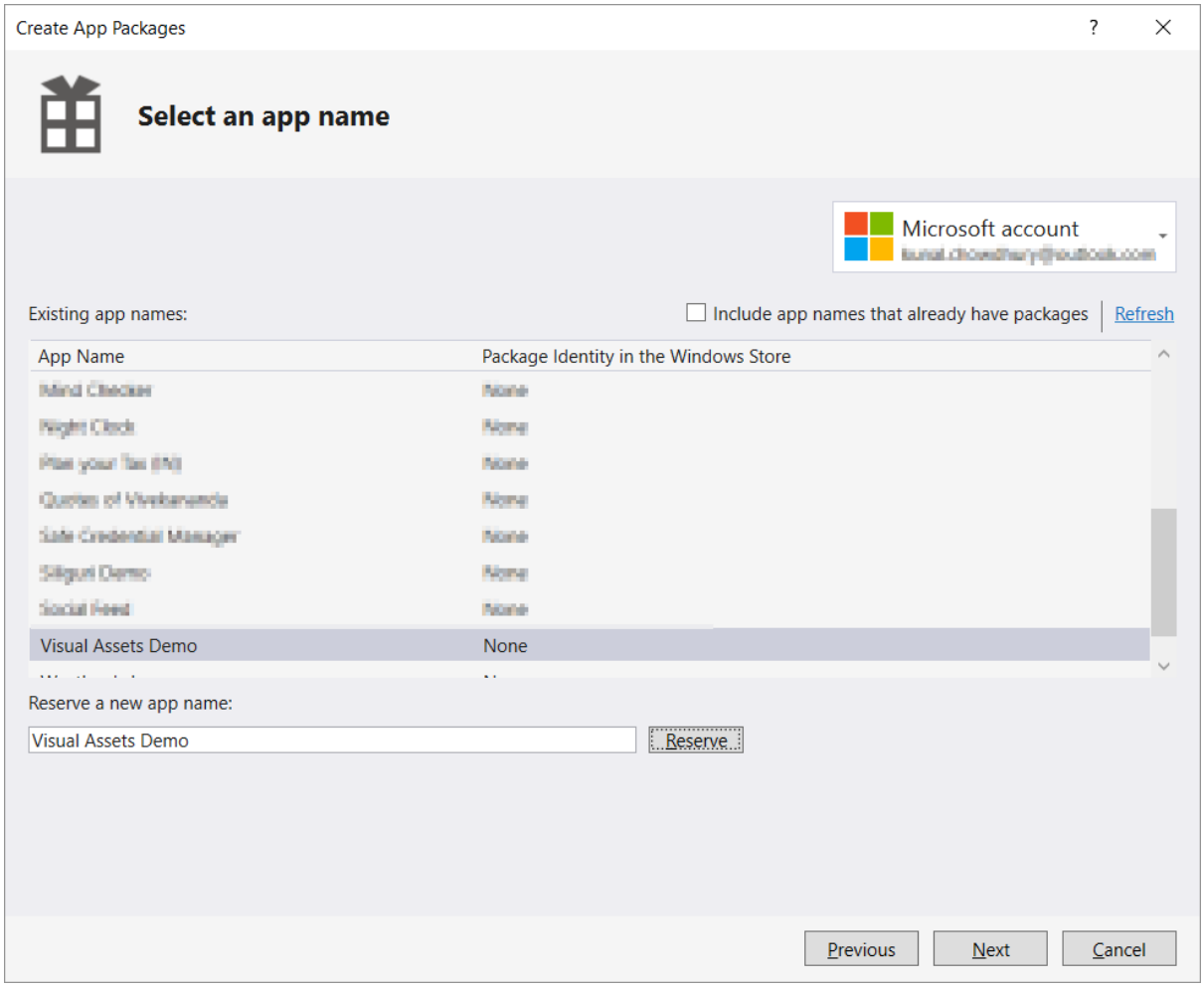

UWP Demo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug x86 11. Demo.UWP.Package.VisualAsse Local Machine
Toolbox
Package.appxmanifest
Application Visual Assets Capabilities Declarations Content URIs Packaging
All Visual Assets
Small Tile
Medium Tile
Wide Tile
Large Tile
App Icon
Splash Screen
Badge Logo
Package Logo
All Visual Assets
Windows Store apps should support displays of different resolutions. Windows provides a simple way to do this via resource loading. This section lists all the assets which are used in the manifest. How do I create image scaling?
Asset Generator
201 x 188 px
Source D:\Kunal-Chowdhury.com\Icon.png
Destination Assets
Assets Small Tile, Medium Tile, Wide Tile, Larg...
Scales Scale 100, Scale 200, Scale 400
Apply recommended padding
Generate
1
2
3
4
5
Display Settings
Short name
Show name Medium Tile
Wide Tile
Large Tile
Tile background transparent
Splash screen background
Preview Images

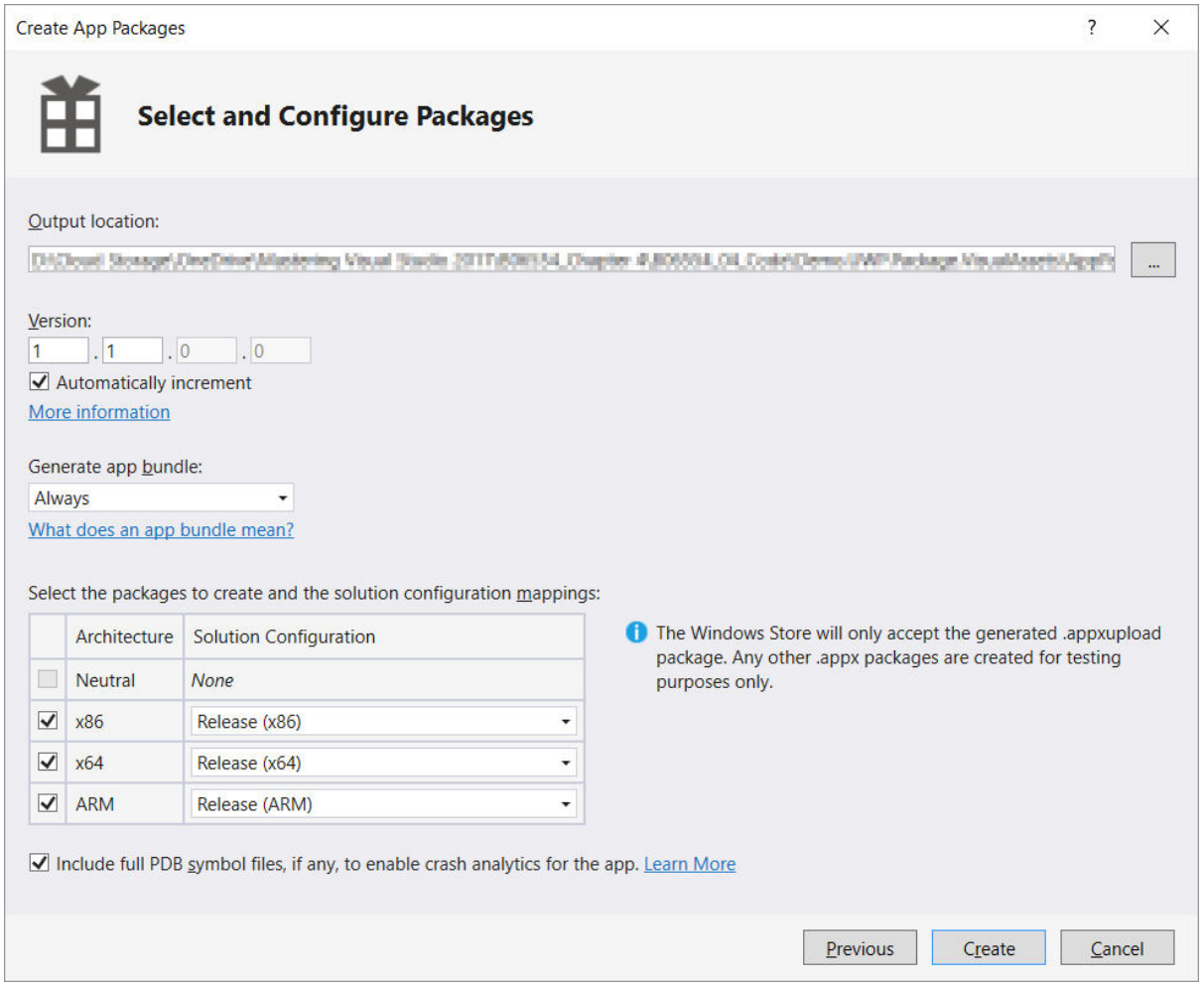

Application Visual Assets Capabilities Declarations Content URIs Packaging
All Visual Assets
Small Tile
Medium Tile
Wide Tile
Large Tile
App Icon
Splash Screen
Badge Logo
Package Logo
Scaled Assets
176 x 176 px
88 x 88 px
44 x 44 px
66 x 66 px
55 x 55 px
Recommended
Recommended
Recommended
Scale 150
Scale 125
256 x 256 px
48 x 48 px
16 x 16 px
32 x 32 px
24 x 24 px
Target size 32
Target size 24
256 x 256 px
48 x 48 px
16 x 16 px
32 x 32 px
24 x 24 px
Unplated Target size 32

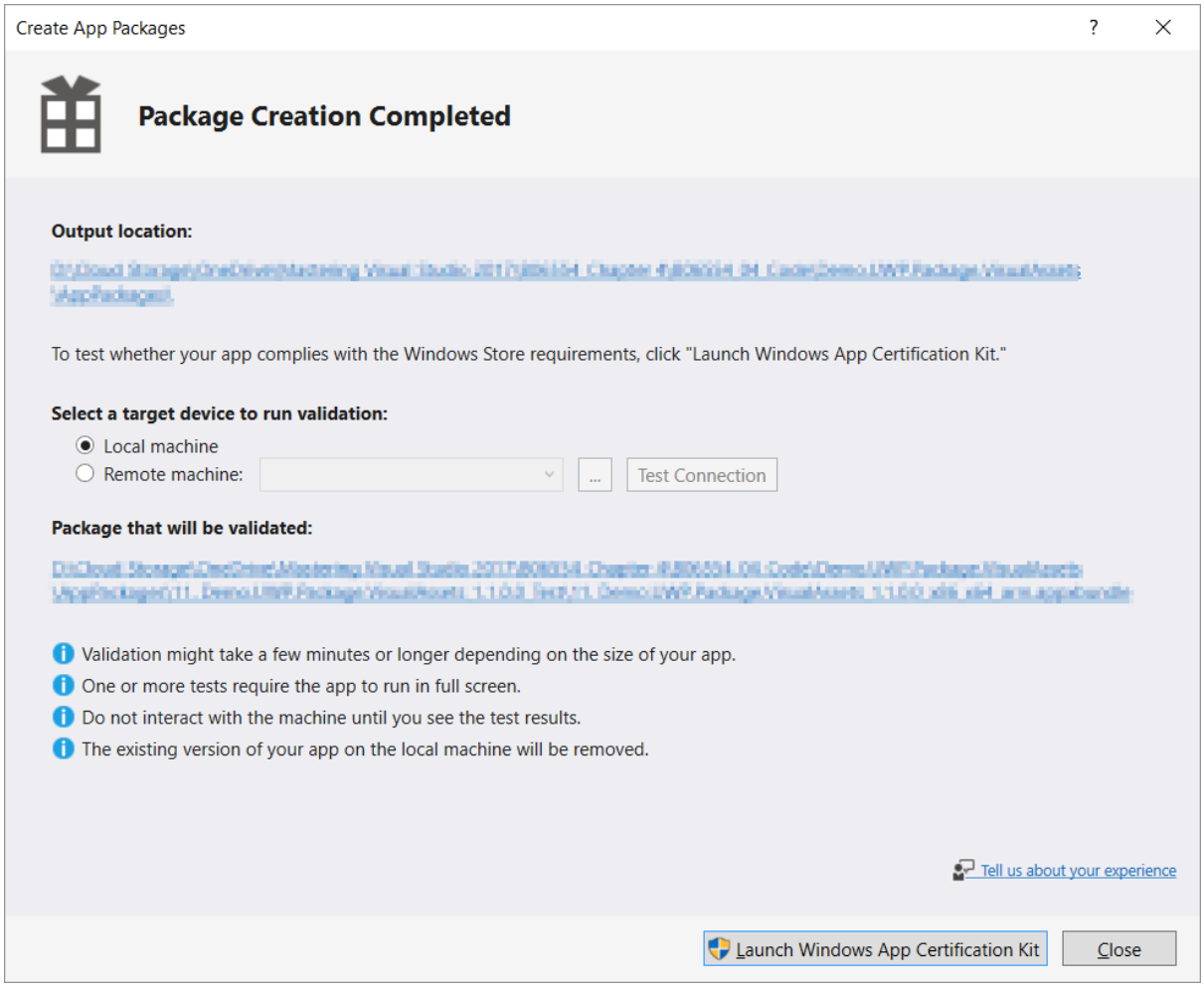

Package.appxmanifest
Application
Visual Assets
Capabilities
Declarations
Content URIs
Packaging
Use this page to set the properties that identify and describe your app.
Display name:
Visual Assets Demo
Entry point:
Demo.UWP.Package.VisualAssets.App
Default language:
en-US
More information
Description:
Description
Supported rotations:
An optional setting that indicates the app's orientation preferences.
Landscape
Portrait
Landscape-flipped
Portrait-flipped
Lock screen notifications:
Badge
Resource group:
Tile Update:
Updates the app tile by periodically polling a URI. The URI template can contain "{language}" and "{region}" tokens that will be replaced at runtime to generate the URI to poll.
More information
Recurrence:
(not set)
URI Template:

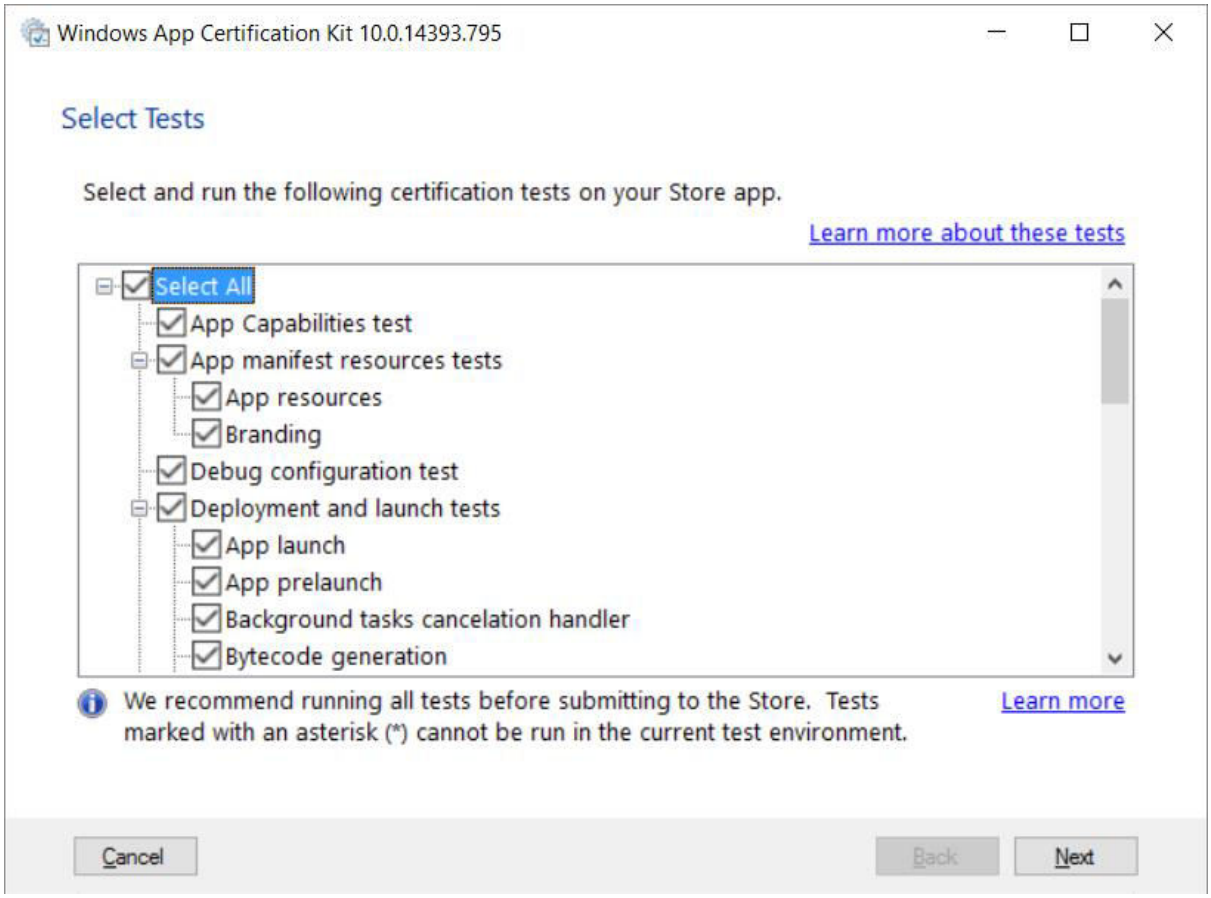

UWP Demo - Microsoft Visual Studio
File
Edit
View
Project
Build
Debug
Team
Tools
Test
Analyze
Window
Help
Local Machine
Toolbox
Overview
Add Class...
Shift+Alt+C
Add New Item...
Add Existing Item...
Shift+Alt+A
HockeyApp
New Folder
Show All Files
Unload Project
Add Reference...
Add Service Reference...
Add Connected Service...
Add Analyzer...
Set as StartUp Project
Project Dependencies...
Project Build Order...
Store
Export Template...
Manage NuGet Packages...
Refresh Project Toolbox Items
11. Demo.UWP.Package.VisualAssets Properties...
Open Developer Account...
Reserve App Name...
Acquire Developer License...
Edit App Manifest
Associate App with the Store...
Create App Packages...
Upload App Packages...


Create App Packages
Create Your Packages
Do you want to build packages to upload to the Windows Store?
Yes
No
Visual Studio will download the required information for the packages to be uploaded to the store. For more information, see Packaging Universal Windows apps. You must sign into the Windows Store with a Microsoft account. You can create an account if you don't have one.
Previous
Next
Cancel

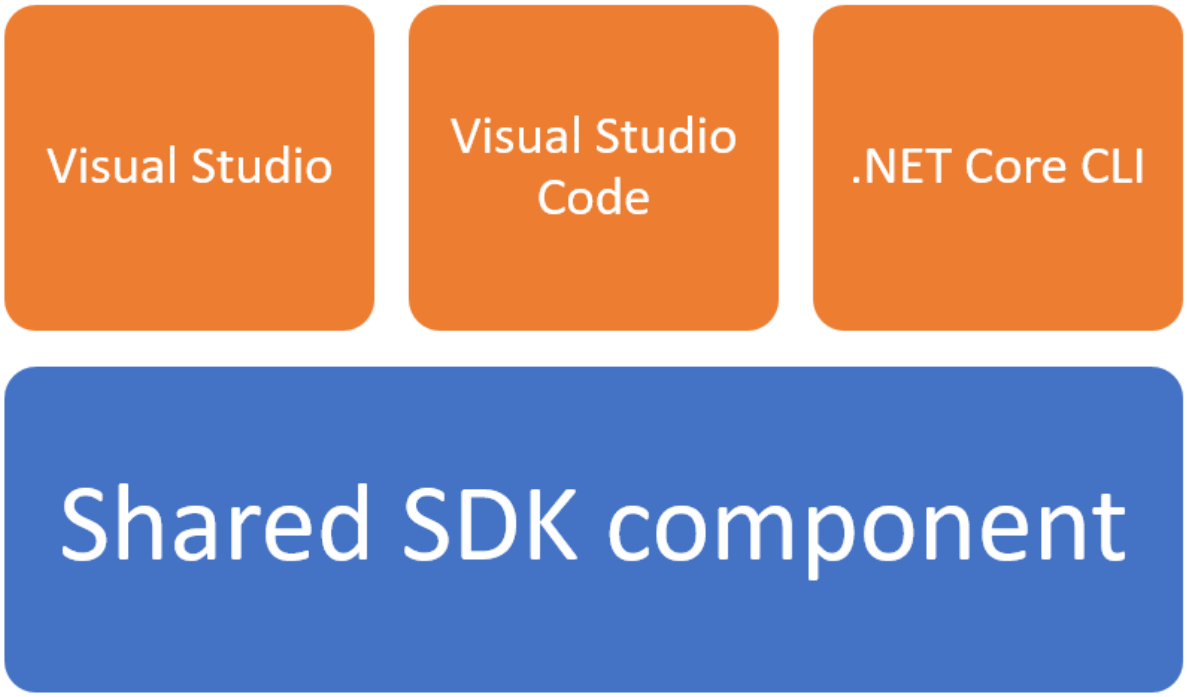

Create App Packages
Select an app name
Microsoft account
Existing app names:
Include app names that already have packages
Refresh
App Name
Package Identity in the Windows Store
Visual Assets Demo
None
Reserve a new app name:
Visual Assets Demo
Reserve
Previous
Next
Cancel

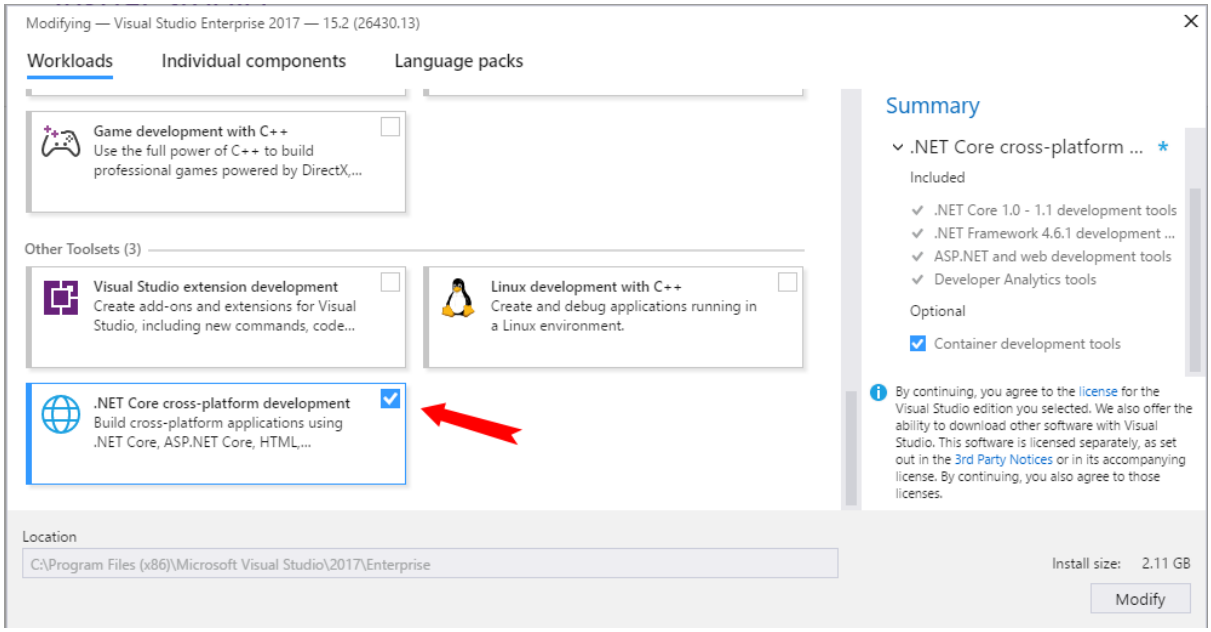

Create App Packages
Select and Configure Packages
Output location:
...
Version:
1 . 1 . 0 . 0
Automatically increment
More information
Generate app bundle:
Always
What does an app bundle mean?
Select the packages to create and the solution configuration mappings:
Architecture
Solution Configuration
Neutral
None
x86
Release (x86)
x64
Release (x64)
ARM
Release (ARM)
The Windows Store will only accept the generated .appxupload package. Any other .appx packages are created for testing purposes only.
Include full PDB symbol files, if any, to enable crash analytics for the app. Learn More
Previous
Create
Cancel

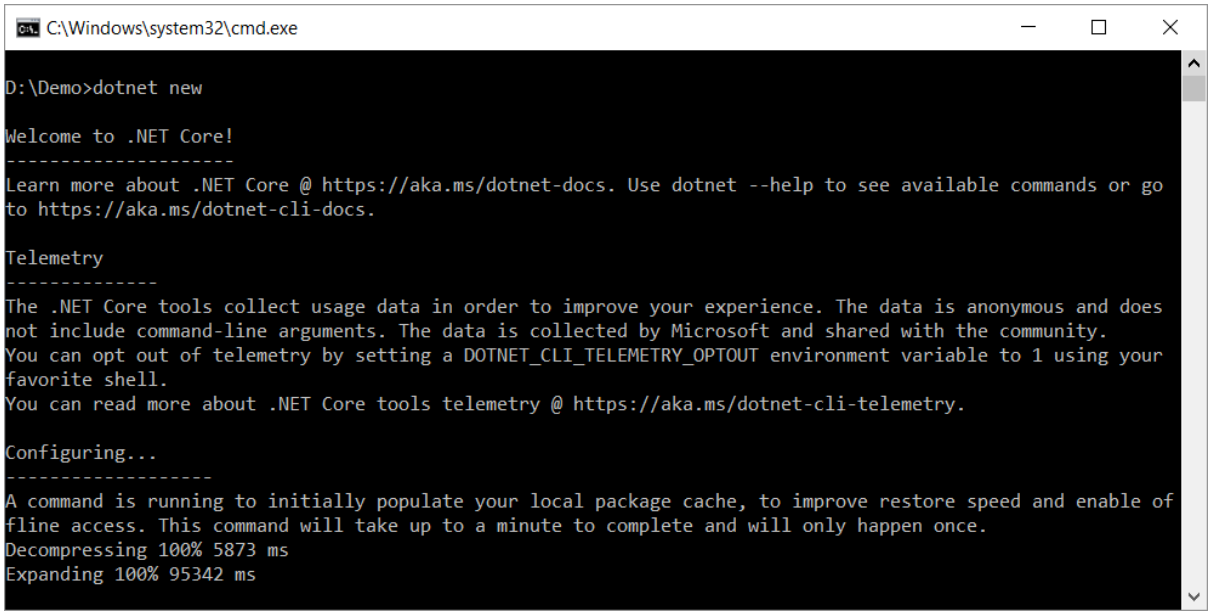

Create App Packages
Package Creation Completed
Output location:
To test whether your app complies with the Windows Store requirements, click "Launch Windows App Certification Kit."
Select a target device to run validation:
Local machine
Remote machine:
...
Test Connection
Package that will be validated:
Validation might take a few minutes or longer depending on the size of your app.
One or more tests require the app to run in full screen.
Do not interact with the machine until you see the test results.
The existing version of your app on the local machine will be removed.
Tell us about your experience
Launch Windows App Certification Kit
Close



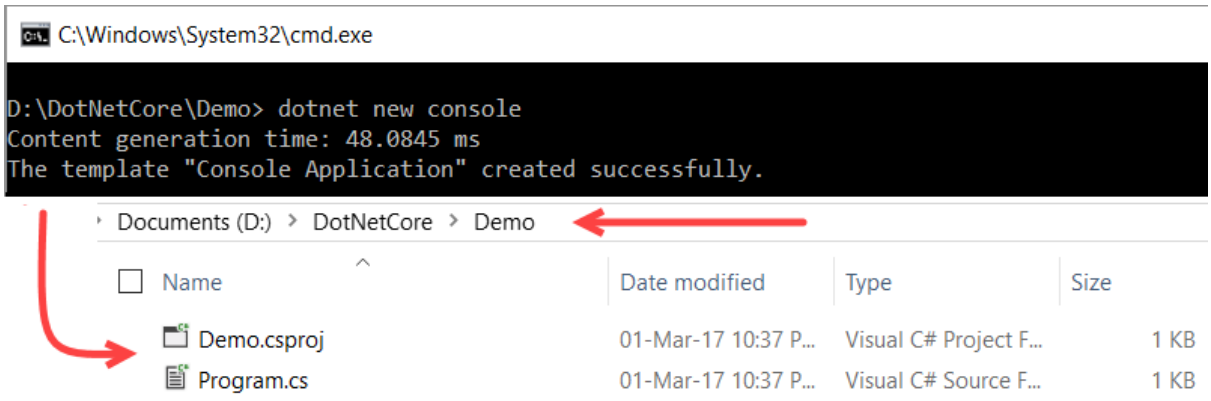
Chapter 5: Building Applications with .NET Core

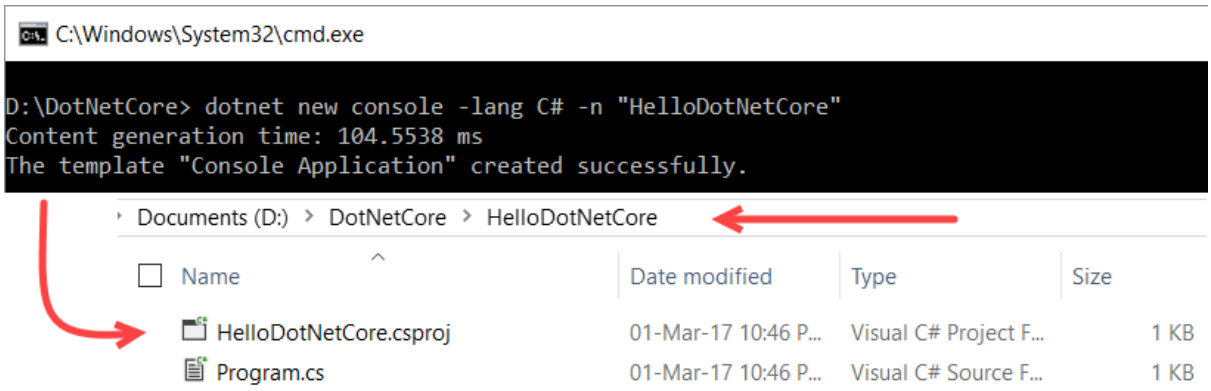


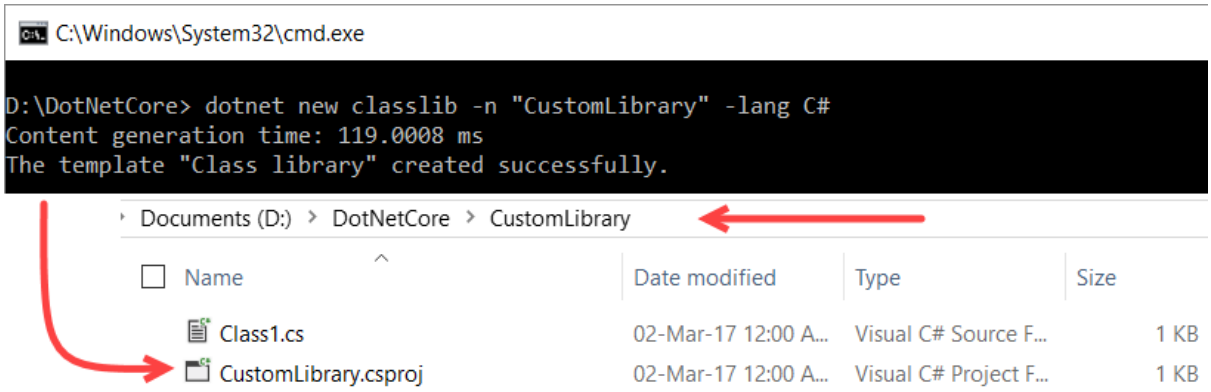


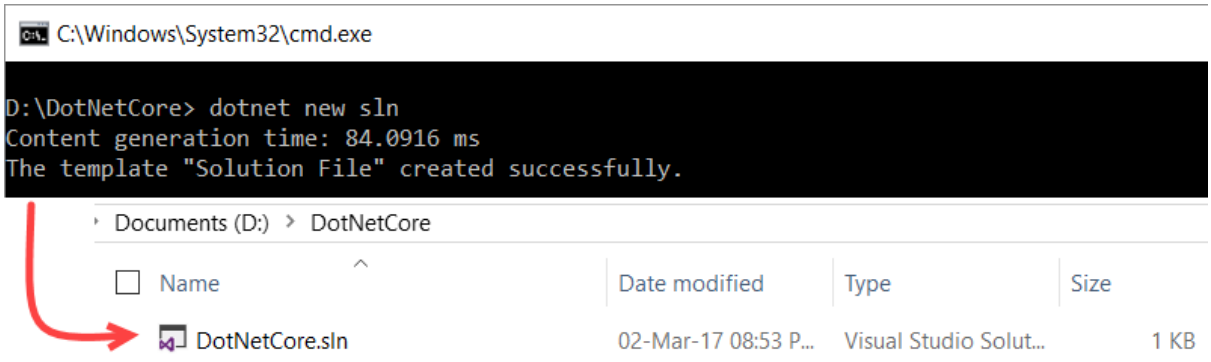


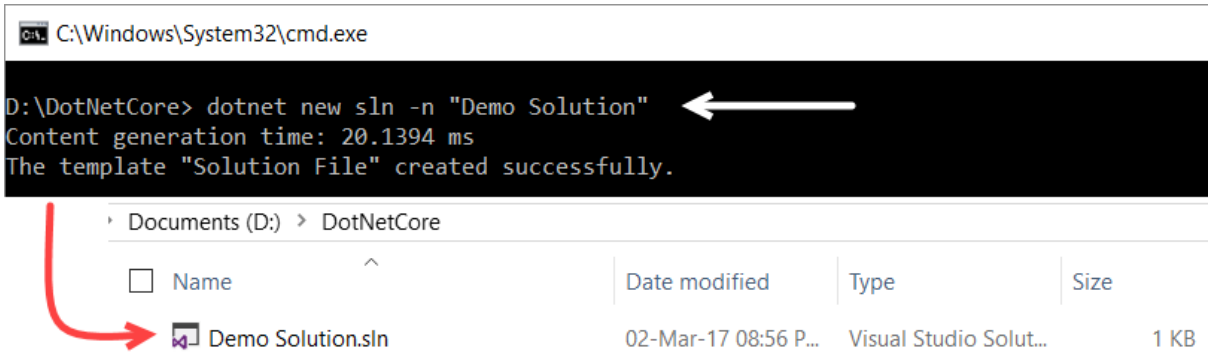

```
Templates                                         Short Name      Language
----------------------------------------------------------------------------
Console Application                               console         [C#], F#
Class library                                     classlib        [C#], F#
Unit Test Project                                 mstest          [C#], F#
xUnit Test Project                                xunit           [C#], F#
Empty ASP.NET Core Web Application                web             [C#]
MVC ASP.NET Core Web Application                  mvc             [C#], F#
Web API ASP.NET Core Web Application              webapi          [C#]
Solution File                                     sln
```

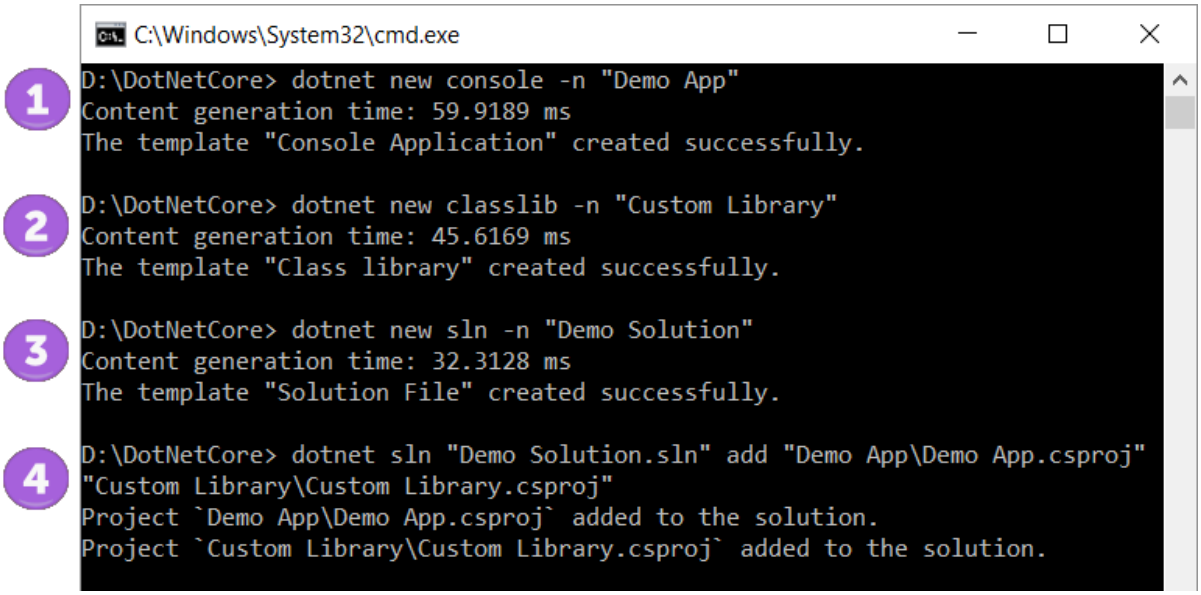

C:\Windows\System32\cmd.exe
D:\DotNetCore\Demo> dotnet new console
Content generation time: 48.0845 ms
The template "Console Application" created successfully.
Documents (D:) › DotNetCore › Demo
Name
Date modified
Type
Size
Demo.csproj
01-Mar-17 10:37 P...
Visual C# Project F...
1 KB
Program.cs
01-Mar-17 10:37 P...
Visual C# Source F...
1 KB

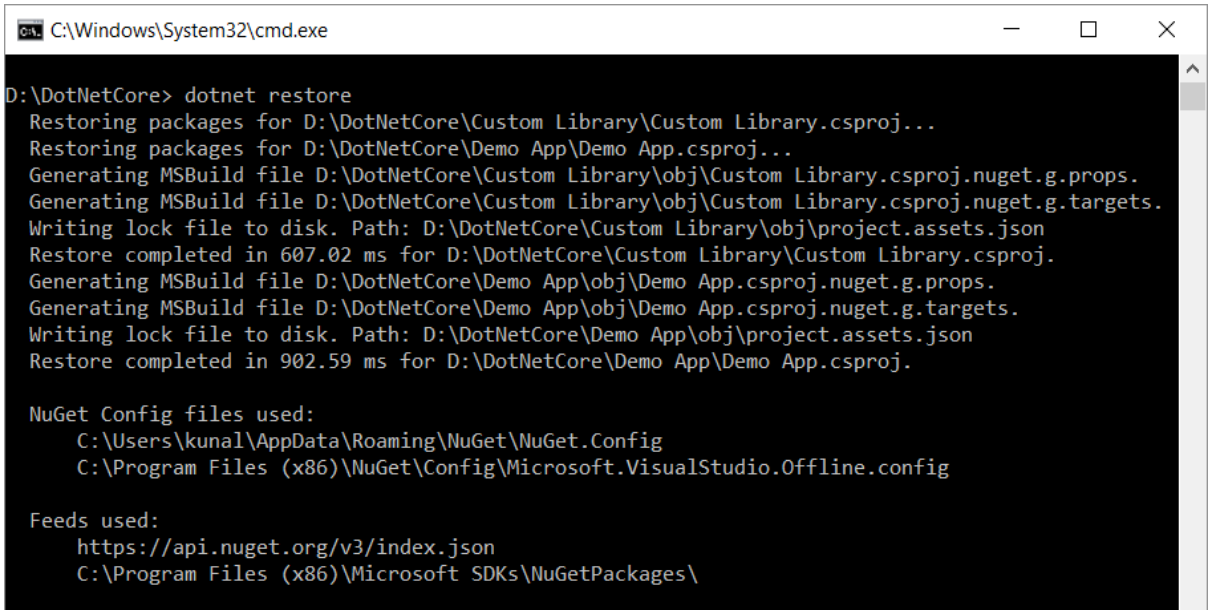

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet new console -lang C# -n "HelloDotNetCore"
Content generation time: 104.5538 ms
The template "Console Application" created successfully.
Documents (D:) › DotNetCore › HelloDotNetCore
Name
Date modified
Type
Size
HelloDotNetCore.csproj
01-Mar-17 10:46 P...
Visual C# Project F...
1 KB
Program.cs
01-Mar-17 10:46 P...
Visual C# Source F...
1 KB

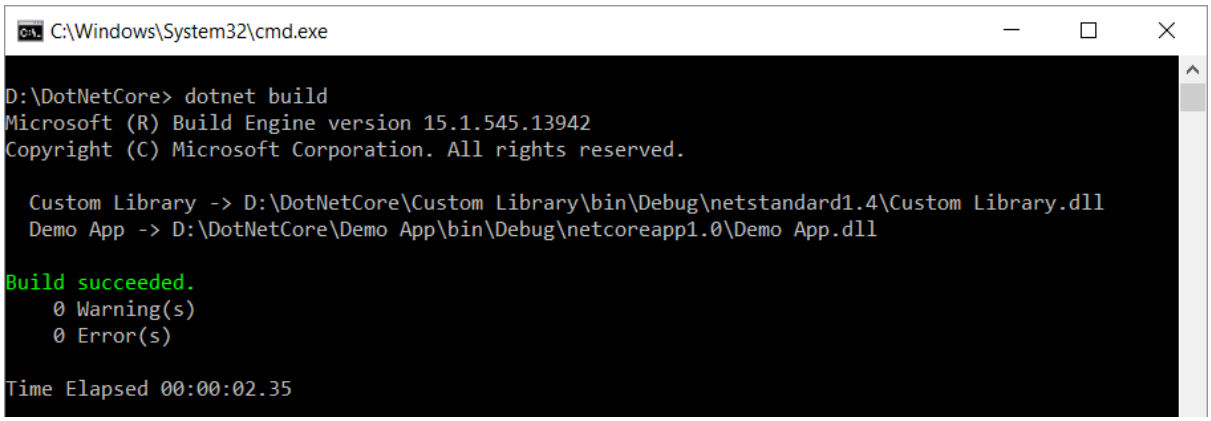

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet new classlib -n "CustomLibrary" -lang C#
Content generation time: 119.0008 ms
The template "Class library" created successfully.
Documents (D:) › DotNetCore › CustomLibrary
Name
Date modified
Type
Size
Class1.cs
02-Mar-17 12:00 A...
Visual C# Source F...
1 KB
CustomLibrary.csproj
02-Mar-17 12:00 A...
Visual C# Project F...
1 KB

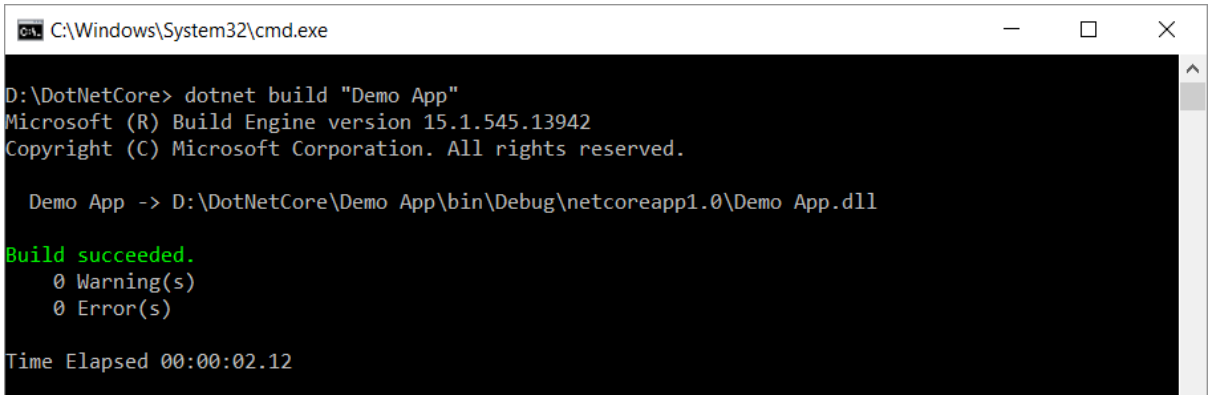

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet new sln
Content generation time: 84.0916 ms
The template "Solution File" created successfully.
Documents (D:) > DotNetCore
Name
Date modified
Type
Size
DotNetCore.sln
02-Mar-17 08:53 P...
Visual Studio Solut...
1 KB

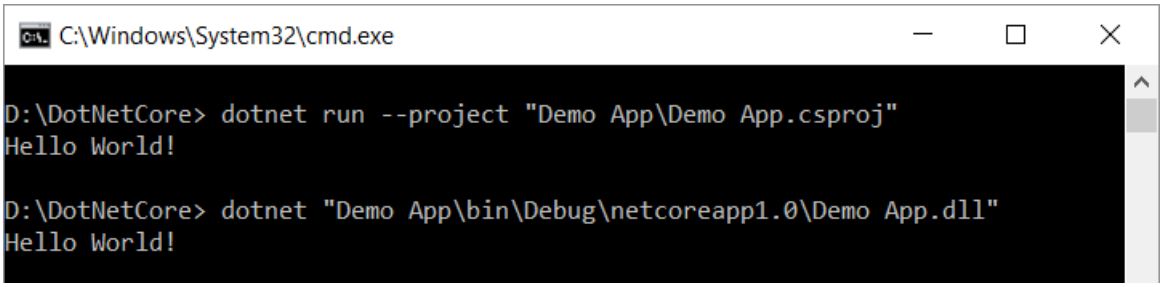

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet new sln -n "Demo Solution"
Content generation time: 20.1394 ms
The template "Solution File" created successfully.
Documents (D:) > DotNetCore
Name
Date modified
Type
Size
Demo Solution.sln
02-Mar-17 08:56 P...
Visual Studio Solut...
1 KB

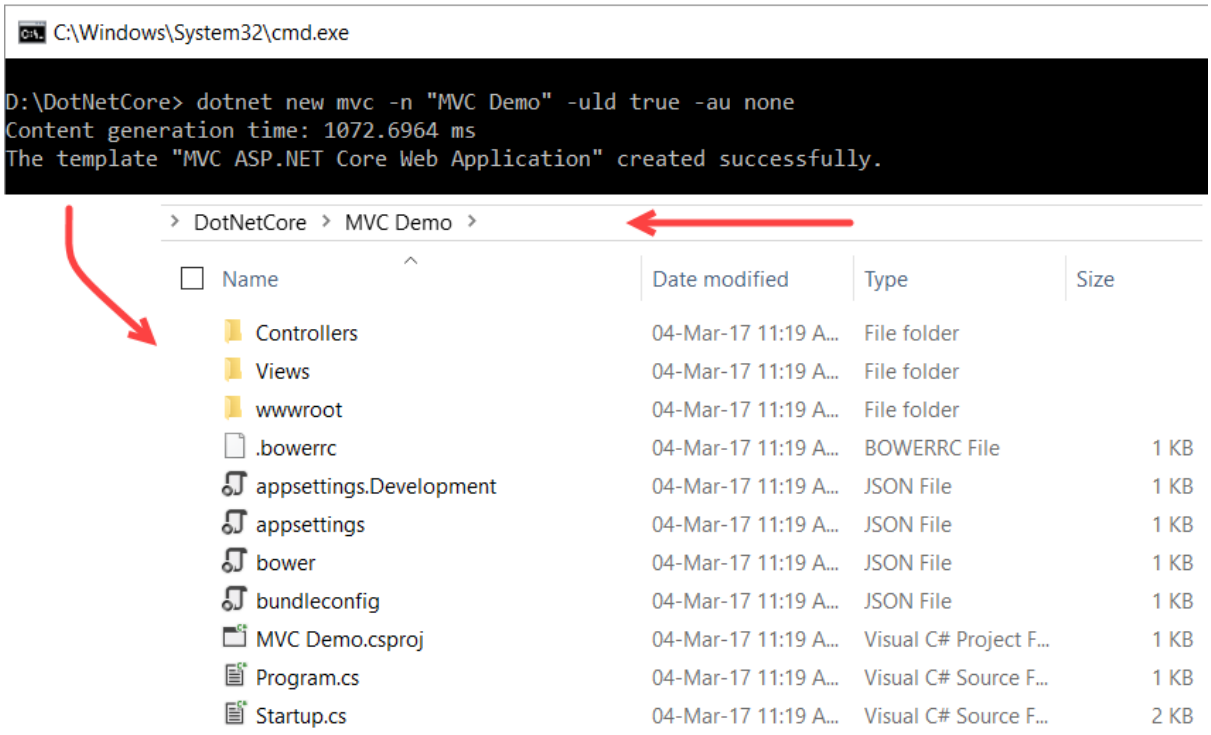

C:\Windows\System32\cmd.exe
1
D:\DotNetCore> dotnet new console -n "Demo App"
Content generation time: 59.9189 ms
The template "Console Application" created successfully.
2
D:\DotNetCore> dotnet new classlib -n "Custom Library"
Content generation time: 45.6169 ms
The template "Class library" created successfully.
3
D:\DotNetCore> dotnet new sln -n "Demo Solution"
Content generation time: 32.3128 ms
The template "Solution File" created successfully.
4
D:\DotNetCore> dotnet sln "Demo Solution.sln" add "Demo App\Demo App.csproj"
"Custom Library\Custom Library.csproj"
Project `Demo App\Demo App.csproj` added to the solution.
Project `Custom Library\Custom Library.csproj` added to the solution.

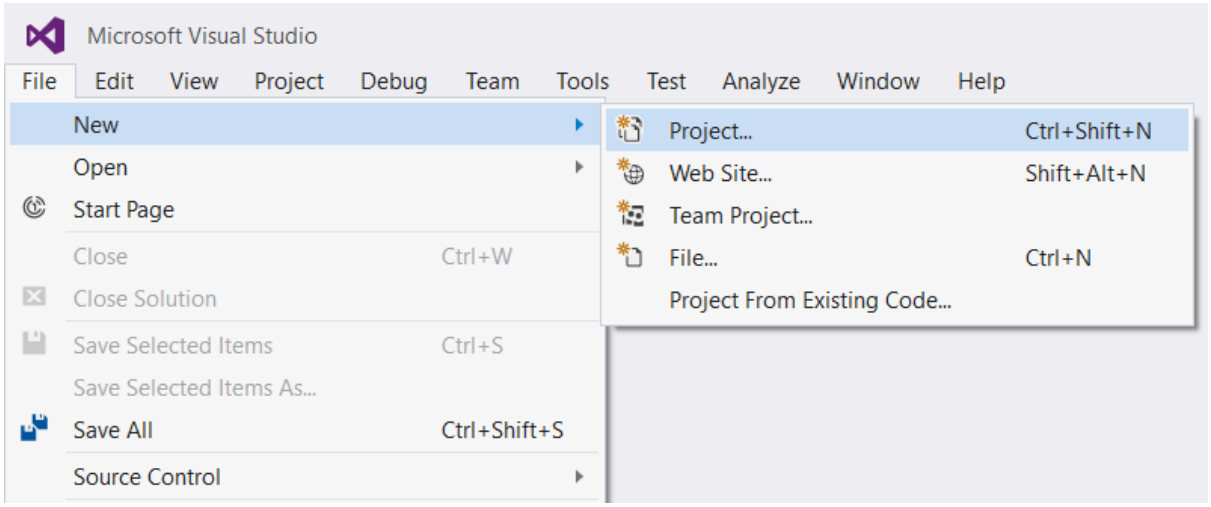

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet restore
Restoring packages for D:\DotNetCore\Custom Library\Custom Library.csproj...
Restoring packages for D:\DotNetCore\Demo App\Demo App.csproj...
Generating MSBuild file D:\DotNetCore\Custom Library\obj\Custom Library.csproj.nuget.g.props.
Generating MSBuild file D:\DotNetCore\Custom Library\obj\Custom Library.csproj.nuget.g.targets.
Writing lock file to disk. Path: D:\DotNetCore\Custom Library\obj\project.assets.json
Restore completed in 607.02 ms for D:\DotNetCore\Custom Library\Custom Library.csproj.
Generating MSBuild file D:\DotNetCore\Demo App\obj\Demo App.csproj.nuget.g.props.
Generating MSBuild file D:\DotNetCore\Demo App\obj\Demo App.csproj.nuget.g.targets.
Writing lock file to disk. Path: D:\DotNetCore\Demo App\obj\project.assets.json
Restore completed in 902.59 ms for D:\DotNetCore\Demo App\Demo App.csproj.
NuGet Config files used:
C:\Users\kunal\AppData\Roaming\NuGet\NuGet.Config
C:\Program Files (x86)\NuGet\Config\Microsoft.VisualStudio.Offline.config
Feeds used:
https://api.nuget.org/v3/index.json
C:\Program Files (x86)\Microsoft SDKs\NuGetPackages\

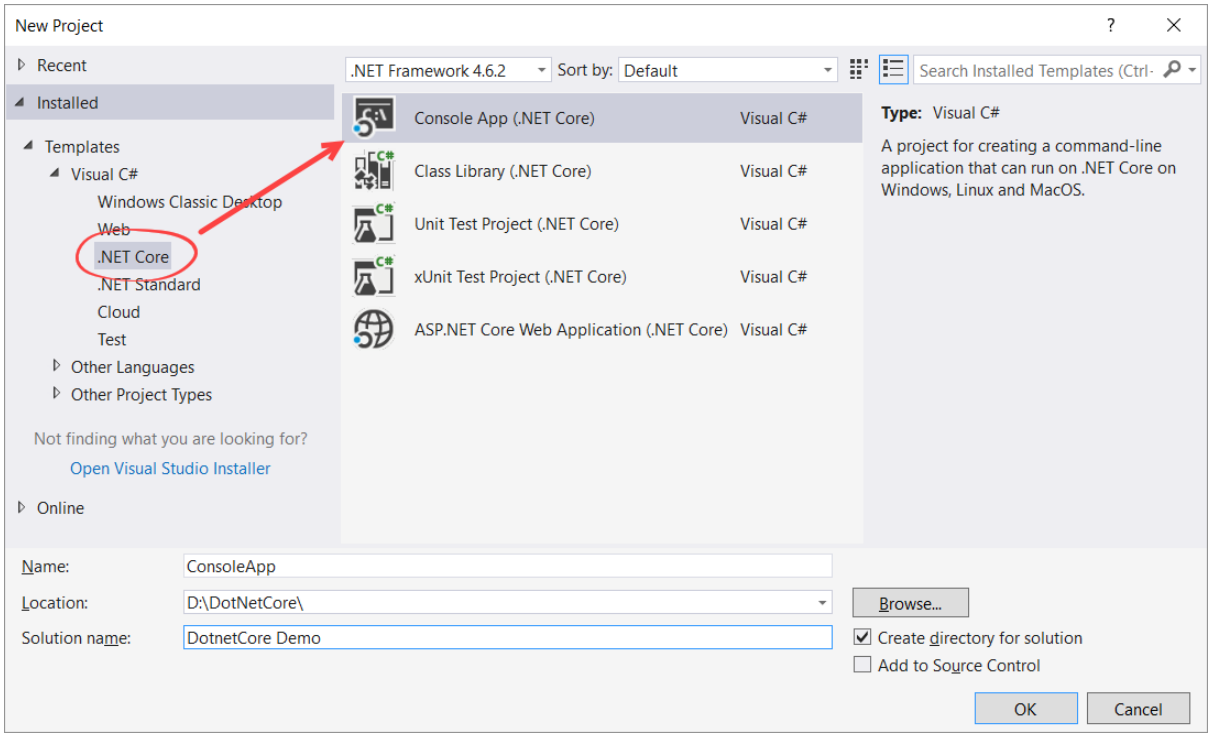

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet build
Microsoft (R) Build Engine version 15.1.545.13942
Copyright (C) Microsoft Corporation. All rights reserved.
Custom Library -> D:\DotNetCore\Custom Library\bin\Debug\netstandard1.4\Custom Library.dll
Demo App -> D:\DotNetCore\Demo App\bin\Debug\netcoreapp1.0\Demo App.dll
Build succeeded.
0 Warning(s)
0 Error(s)
Time Elapsed 00:00:02.35

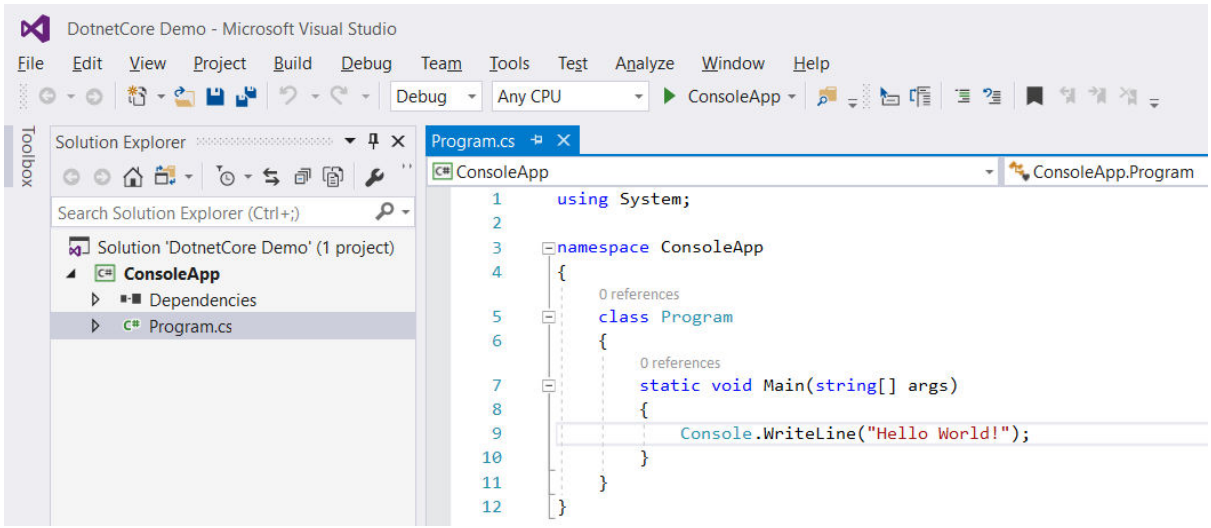

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet build "Demo App"
Microsoft (R) Build Engine version 15.1.545.13942
Copyright (C) Microsoft Corporation. All rights reserved.
Demo App -> D:\DotNetCore\Demo App\bin\Debug\netcoreapp1.0\Demo App.dll
Build succeeded.
0 Warning(s)
0 Error(s)
Time Elapsed 00:00:02.12

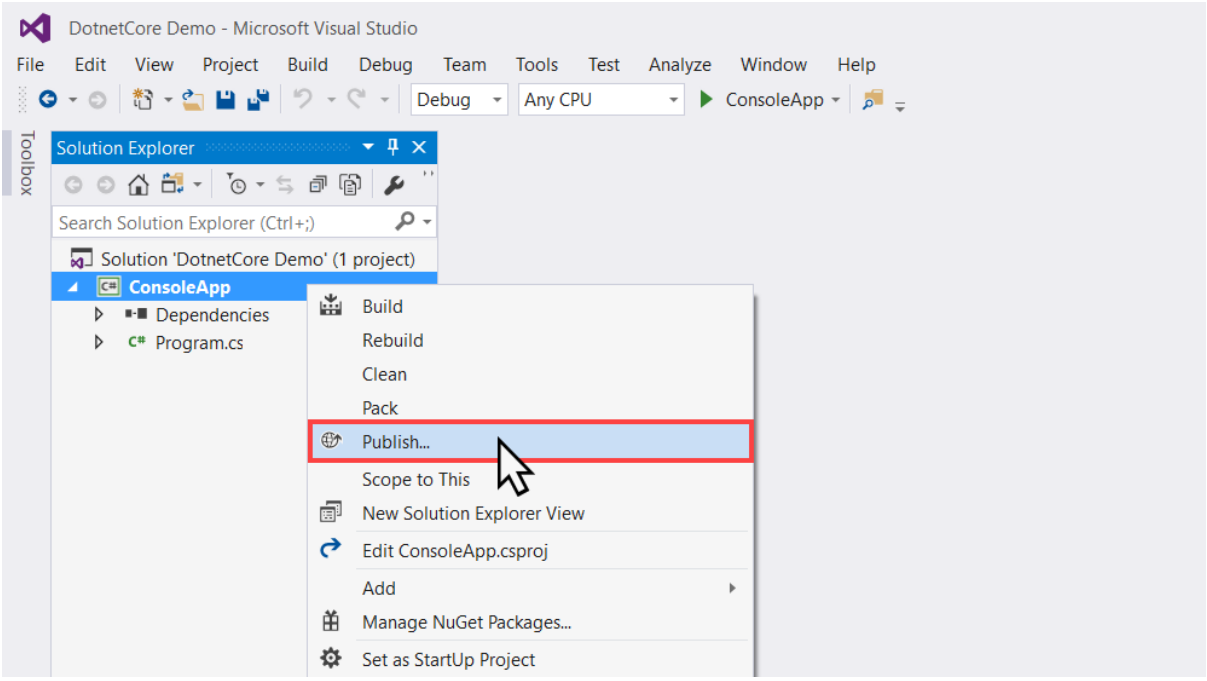

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet run --project "Demo App\Demo App.csproj"
Hello World!
D:\DotNetCore> dotnet "Demo App\bin\Debug\netcoreapp1.0\Demo App.dll"
Hello World!

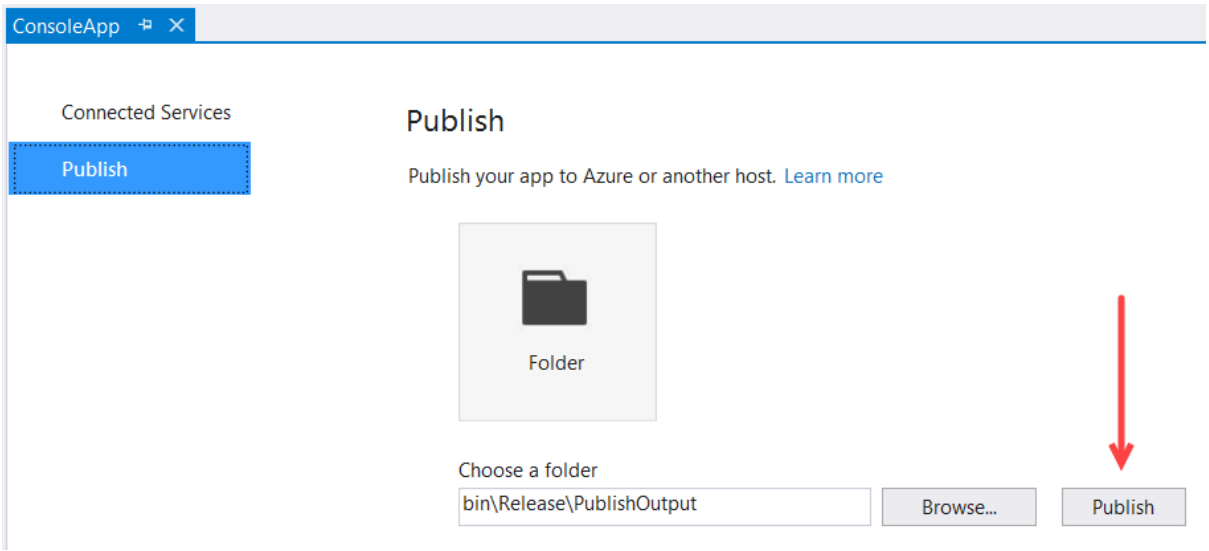

C:\Windows\System32\cmd.exe
D:\DotNetCore> dotnet new mvc -n "MVC Demo" -uld true -au none
Content generation time: 1072.6964 ms
The template "MVC ASP.NET Core Web Application" created successfully.
DotNetCore › MVC Demo ›
Name
Date modified
Type
Size
Controllers 04-Mar-17 11:19 A... File folder
Views 04-Mar-17 11:19 A... File folder
wwwroot 04-Mar-17 11:19 A... File folder
.bowerrc 04-Mar-17 11:19 A... BOWERRC File 1 KB
appsettings.Development 04-Mar-17 11:19 A... JSON File 1 KB
appsettings 04-Mar-17 11:19 A... JSON File 1 KB
bower 04-Mar-17 11:19 A... JSON File 1 KB
bundleconfig 04-Mar-17 11:19 A... JSON File 1 KB
MVC Demo.csproj 04-Mar-17 11:19 A... Visual C# Project F... 1 KB
Program.cs 04-Mar-17 11:19 A... Visual C# Source F... 1 KB
Startup.cs 04-Mar-17 11:19 A... Visual C# Source F... 2 KB

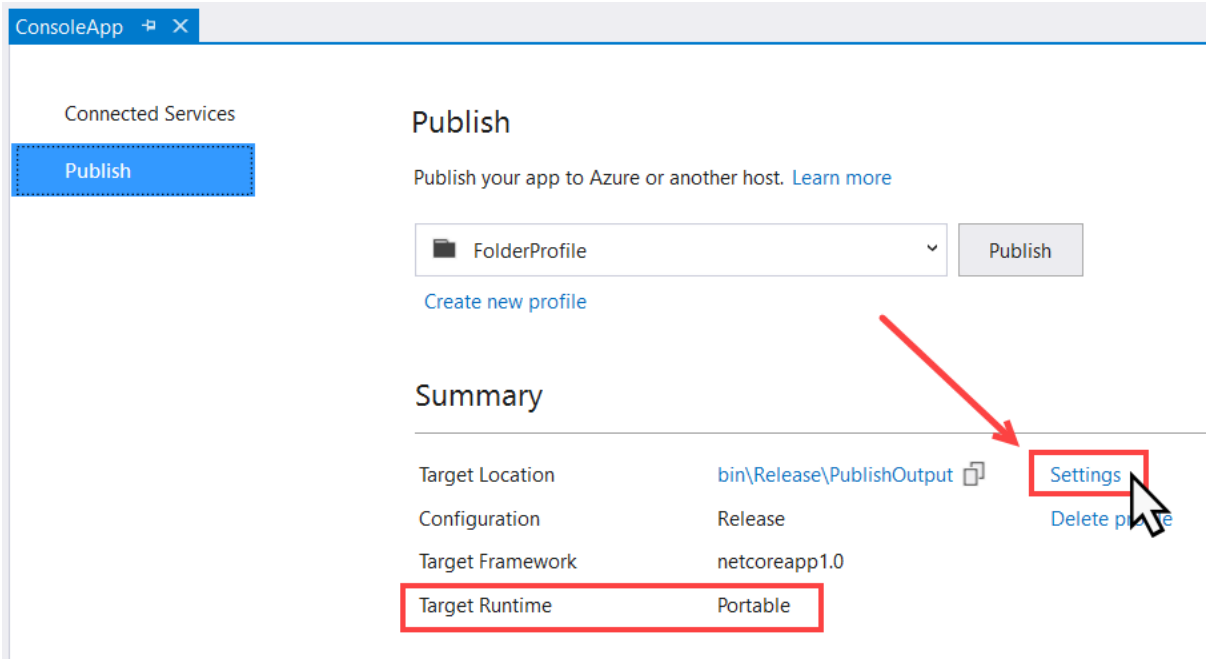

Microsoft Visual Studio
File Edit View Project Debug Team Tools Test Analyze Window Help
New
Open
Start Page
Close Ctrl+W
Close Solution
Save Selected Items Ctrl+S
Save Selected Items As...
Save All Ctrl+Shift+S
Source Control
Project... Ctrl+Shift+N
Web Site... Shift+Alt+N
Team Project...
File... Ctrl+N
Project From Existing Code...

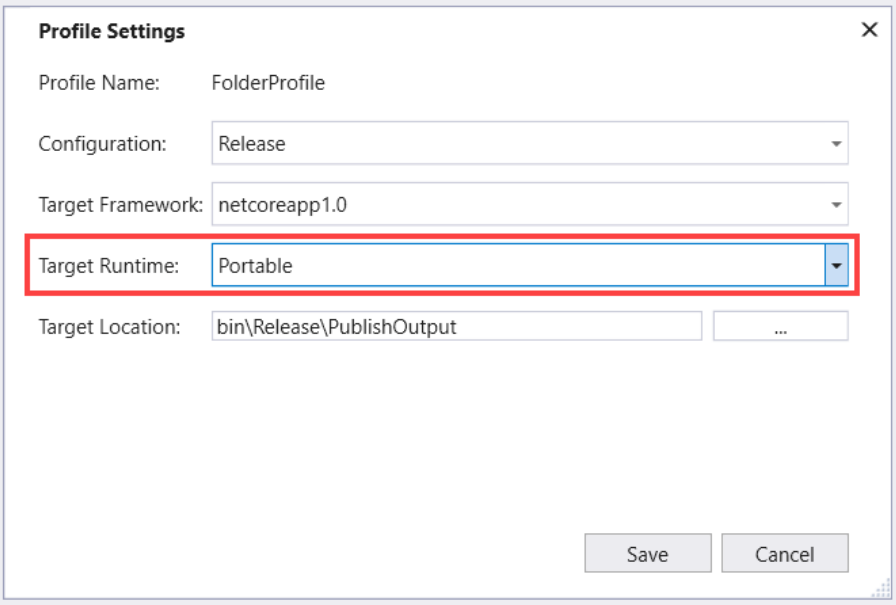

New Project
Recent
Installed
Templates
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
Other Languages
Other Project Types
Not finding what you are looking for?
Open Visual Studio Installer
Online
.NET Framework 4.6.2
Sort by: Default
Search Installed Templates (Ctrl·
Console App (.NET Core) Visual C#
Class Library (.NET Core) Visual C#
Unit Test Project (.NET Core) Visual C#
xUnit Test Project (.NET Core) Visual C#
ASP.NET Core Web Application (.NET Core) Visual C#
Type: Visual C#
A project for creating a command-line application that can run on .NET Core on Windows, Linux and MacOS.
Name: ConsoleApp
Location: D:\DotNetCore\
Solution name: DotnetCore Demo
Browse...
Create directory for solution
Add to Source Control
OK
Cancel

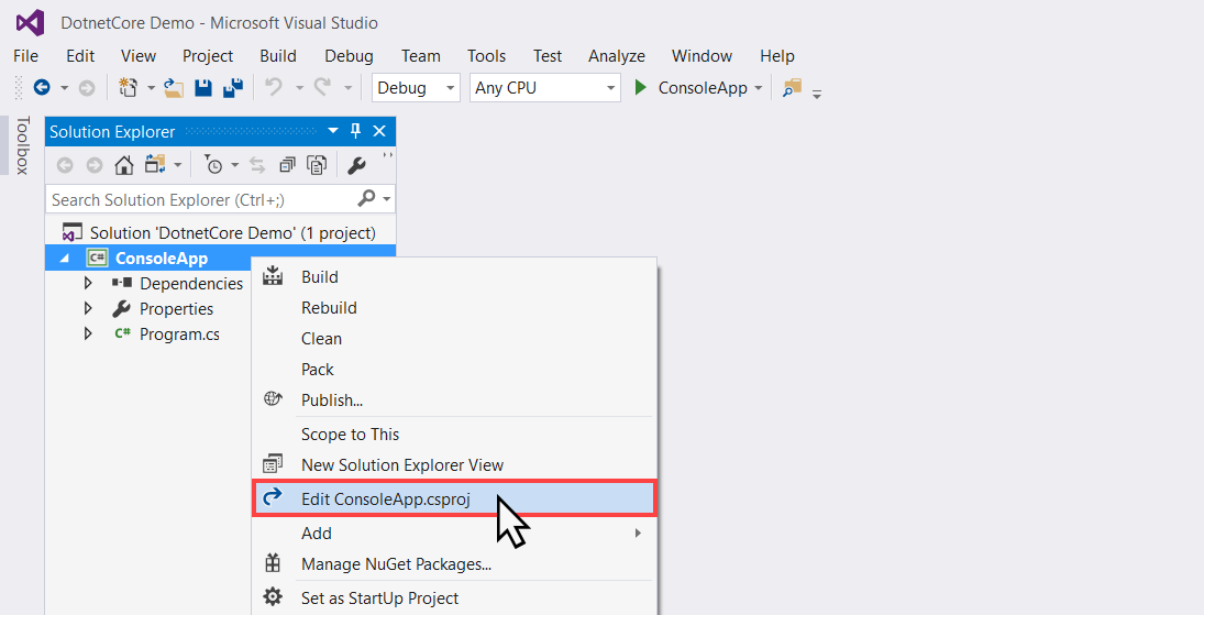

DotnetCore Demo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug
Any CPU
ConsoleApp
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'DotnetCore Demo' (1 project)
ConsoleApp
Dependencies
Program.cs
Program.cs
ConsoleApp
ConsoleApp.Program
1 using System;
2
3 namespace ConsoleApp
4 {
0 references
5 class Program
6 {
0 references
7 static void Main(string[] args)
8 {
9 Console.WriteLine("Hello World!");
10 }
11 }
12 }

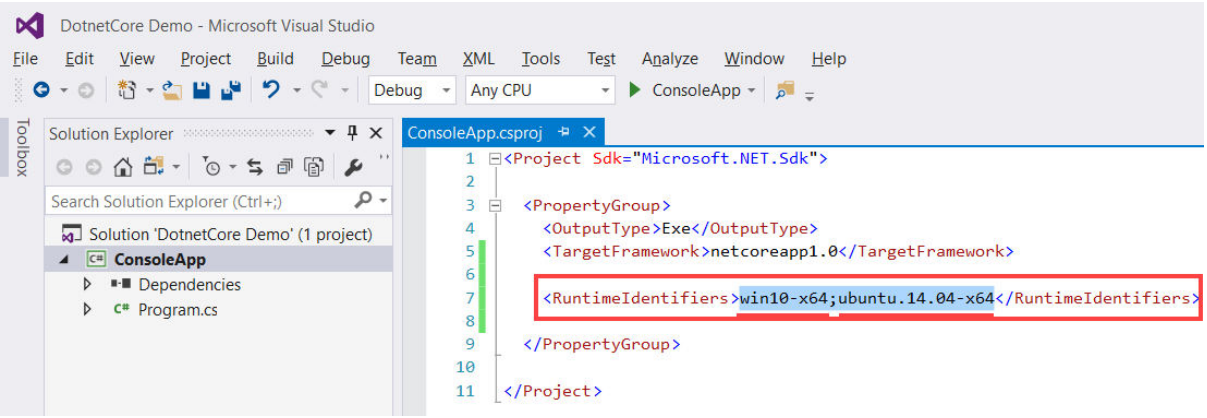

DotnetCore Demo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug
Any CPU
ConsoleApp
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'DotnetCore Demo' (1 project)
ConsoleApp
Dependencies
Program.cs
Build
Rebuild
Clean
Pack
Publish...
Scope to This
New Solution Explorer View
Edit ConsoleApp.csproj
Add
Manage NuGet Packages...
Set as StartUp Project

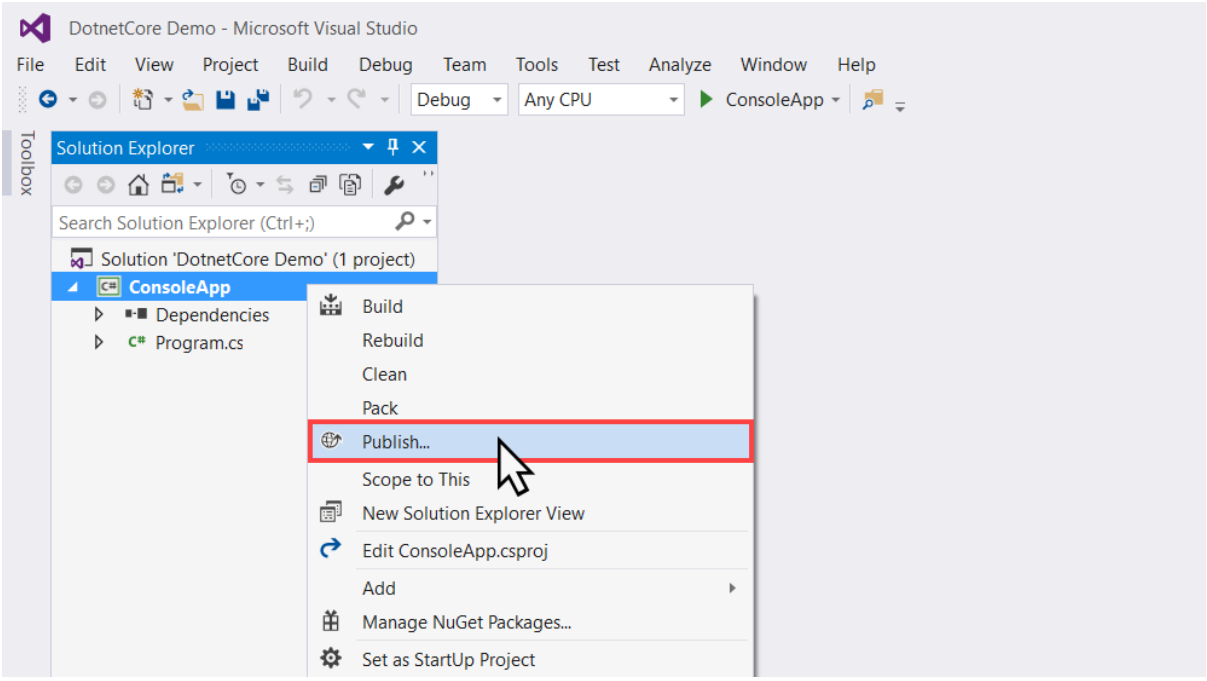

ConsoleApp
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
Folder
Choose a folder
bin\Release\PublishOutput
Browse...
Publish


ConsoleApp
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
FolderProfile
Publish
Create new profile
Summary
Target Location
bin\Release\PublishOutput
Settings
Configuration
Release
Target Framework
netcoreapp1.0
Target Runtime
Portable


Profile Settings
Profile Name:
FolderProfile
Configuration:
Release
Target Framework:
netcoreapp1.0
Target Runtime:
Portable
Target Location:
bin\Release\PublishOutput
...
Save
Cancel


DotnetCore Demo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug
Any CPU
ConsoleApp
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'DotnetCore Demo' (1 project)
ConsoleApp
Dependencies
Properties
Program.cs
Build
Rebuild
Clean
Pack
Publish...
Scope to This
New Solution Explorer View
Edit ConsoleApp.csproj
Add
Manage NuGet Packages...
Set as StartUp Project


DotnetCore Demo - Microsoft Visual Studio
File Edit View Project Build Debug Team XML Tools Test Analyze Window Help
Debug
Any CPU
ConsoleApp
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'DotnetCore Demo' (1 project)
ConsoleApp
Dependencies
Program.cs
ConsoleApp.csproj
1 <Project Sdk="Microsoft.NET.Sdk">
2
3 <PropertyGroup>
4 <OutputType>Exe</OutputType>
5 <TargetFramework>netcoreapp1.0</TargetFramework>
6
7 <RuntimeIdentifiers>win10-x64;ubuntu.14.04-x64</RuntimeIdentifiers>
8
9 </PropertyGroup>
10
11 </Project>


DotnetCore Demo - Microsoft Visual Studio
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Toolbox
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Add
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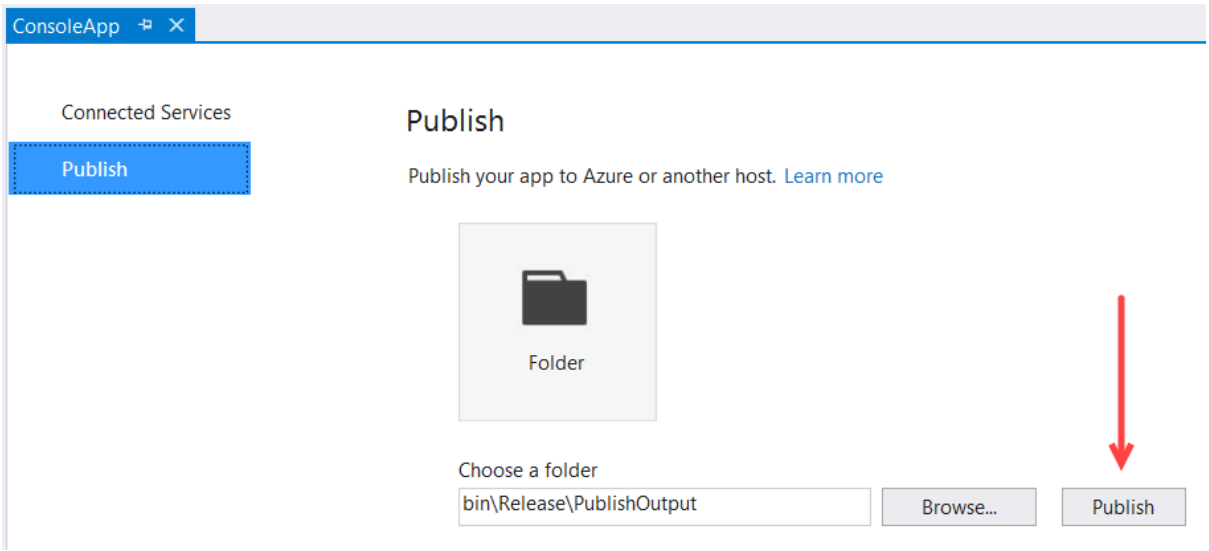
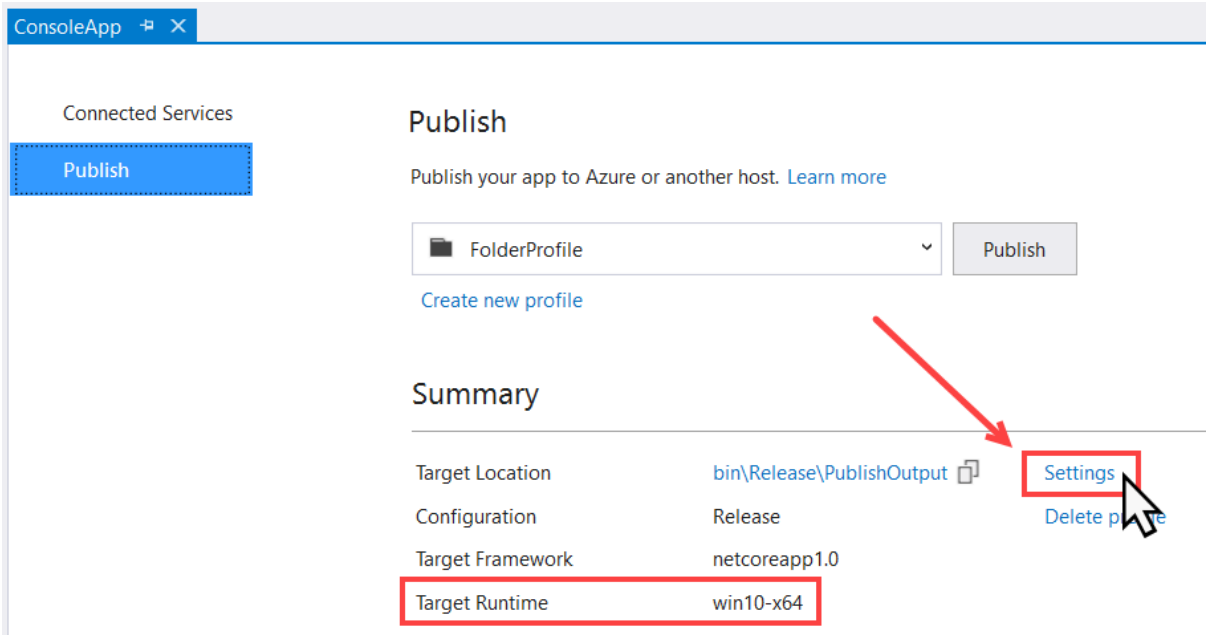
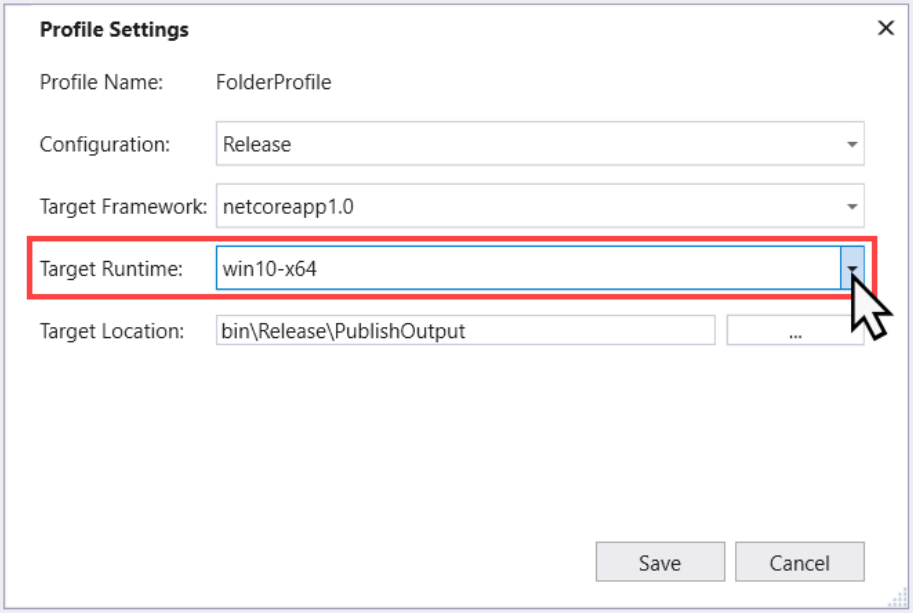
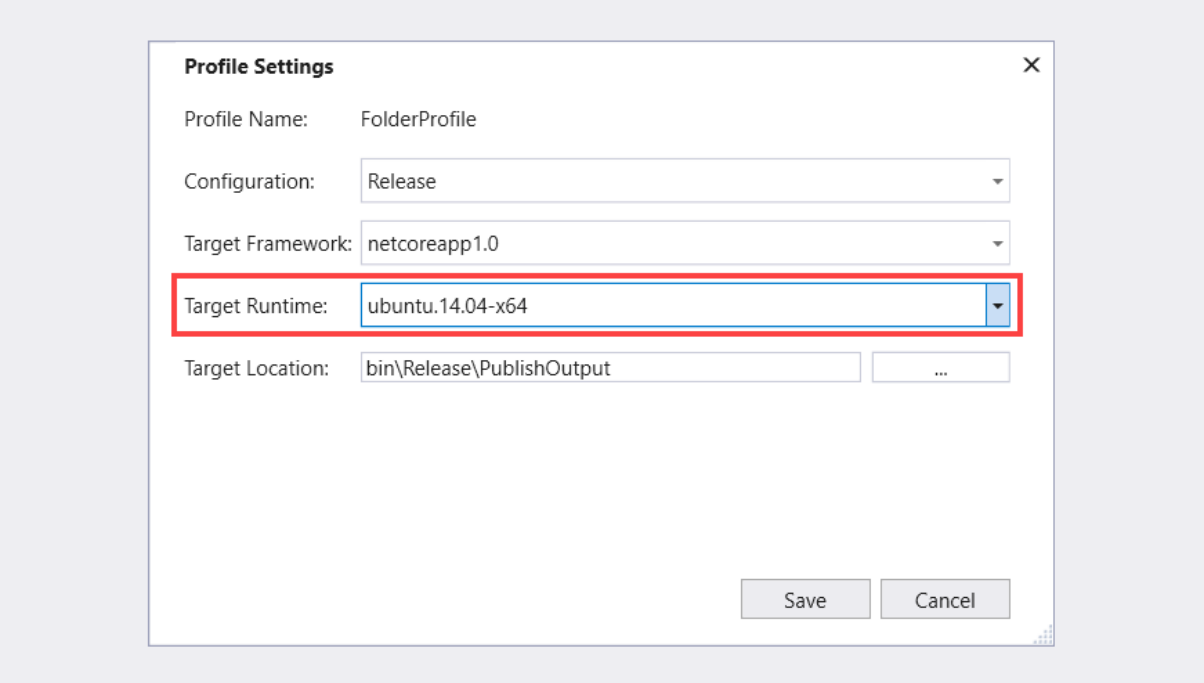
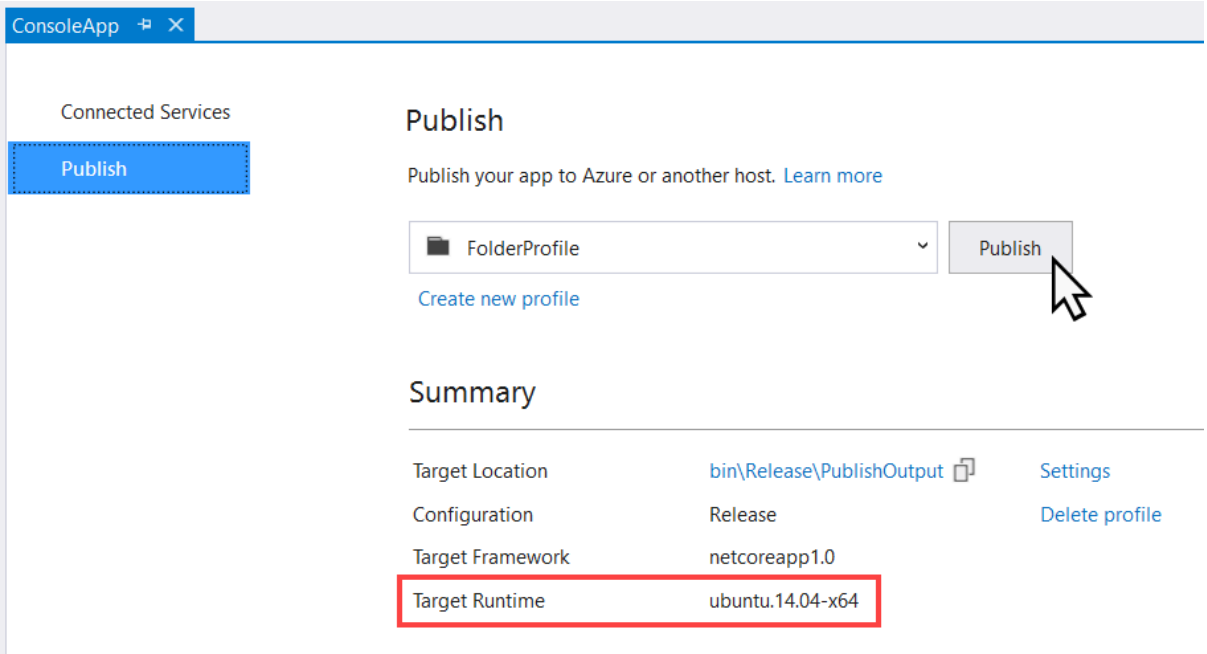
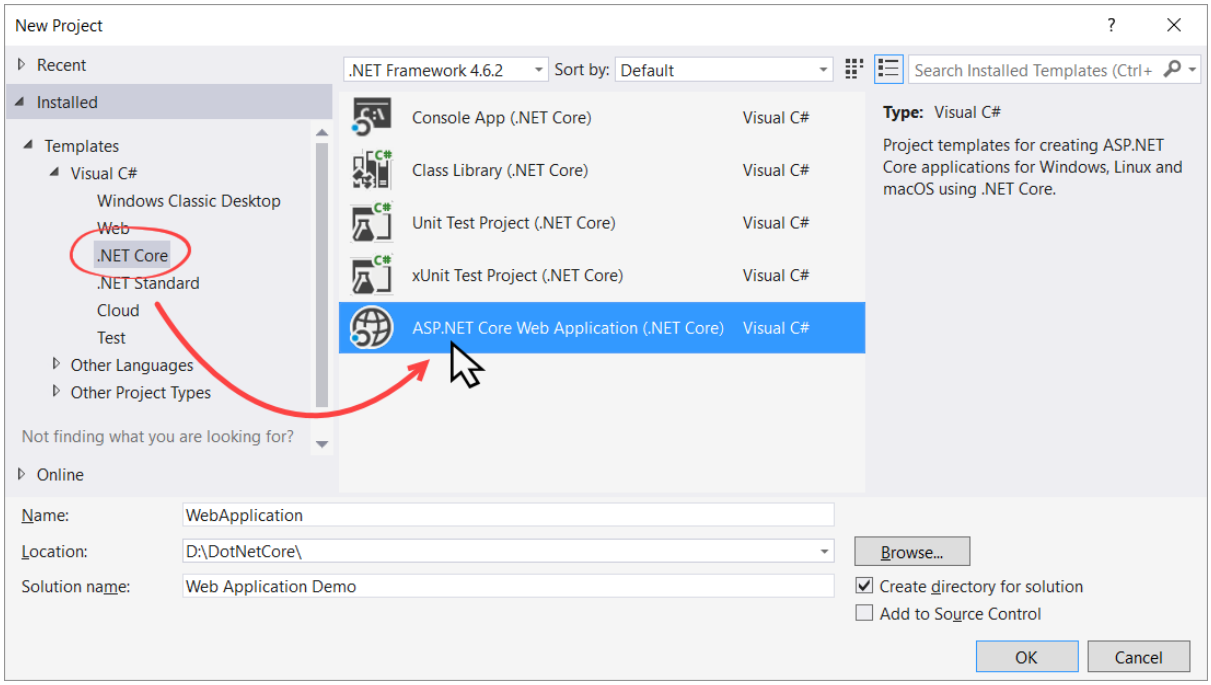

ConsoleApp
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
Folder
Choose a folder
bin\Release\PublishOutput
Browse...
Publish

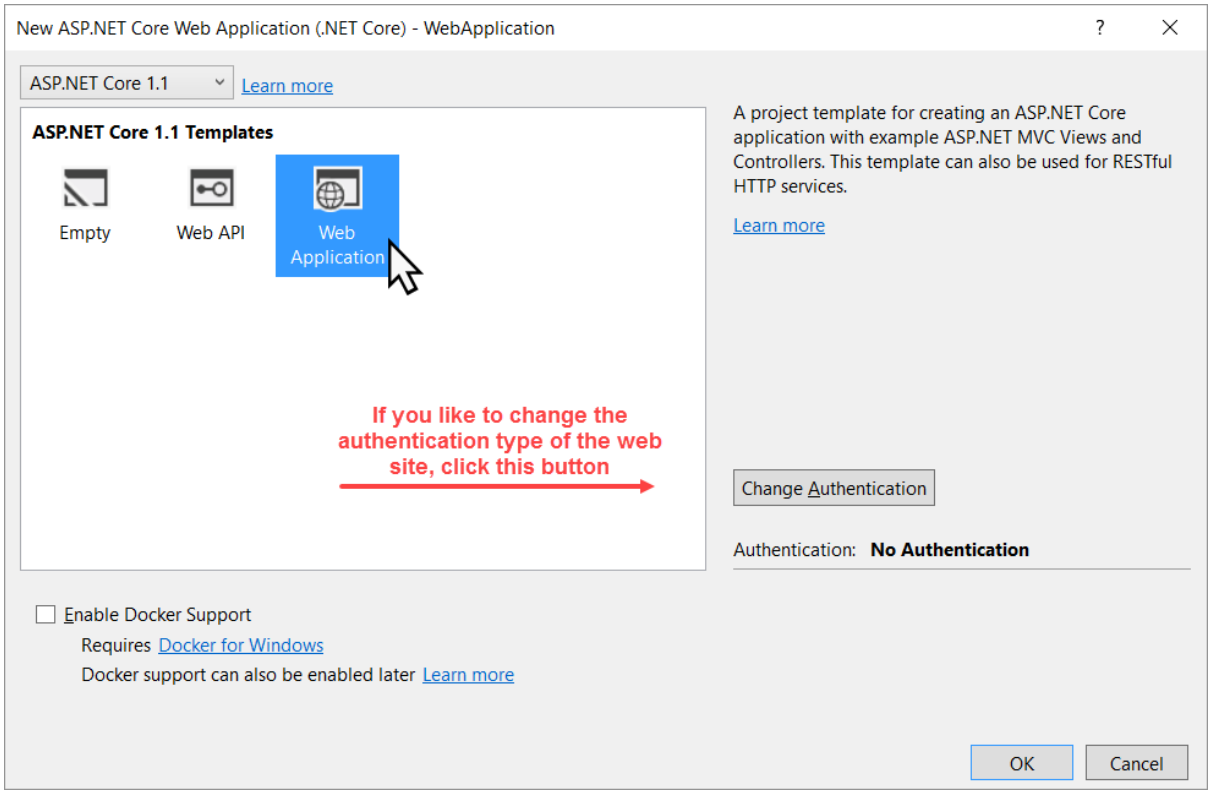

ConsoleApp
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
FolderProfile
Publish
Create new profile
Summary
Target Location
bin\Release\PublishOutput
Settings
Configuration
Release
Target Framework
netcoreapp1.0
Target Runtime
win10-x64

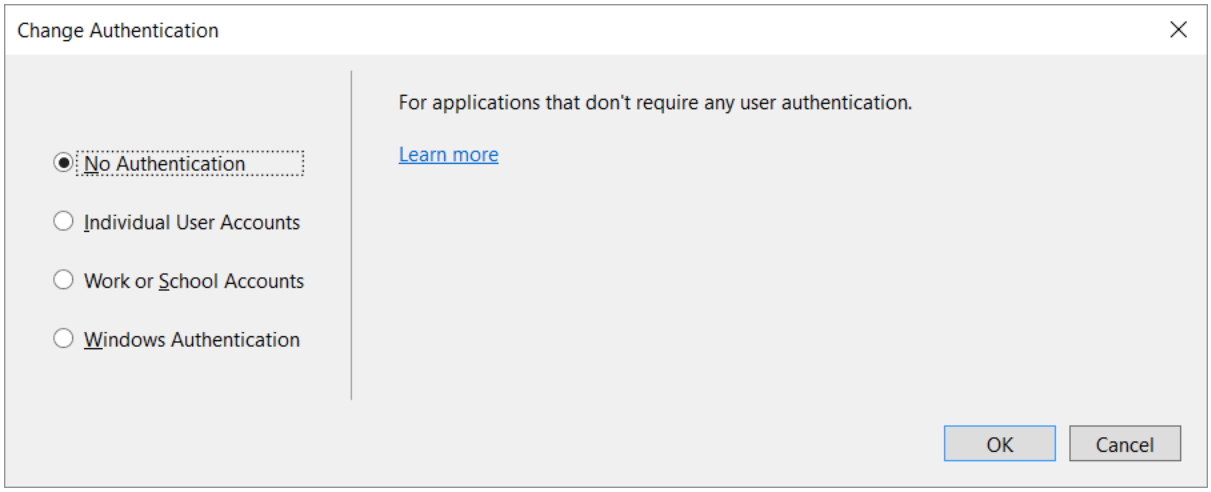

Profile Settings
Profile Name:
FolderProfile
Configuration:
Release
Target Framework:
netcoreapp1.0
Target Runtime:
win10-x64
Target Location:
bin\Release\PublishOutput
...
Save
Cancel

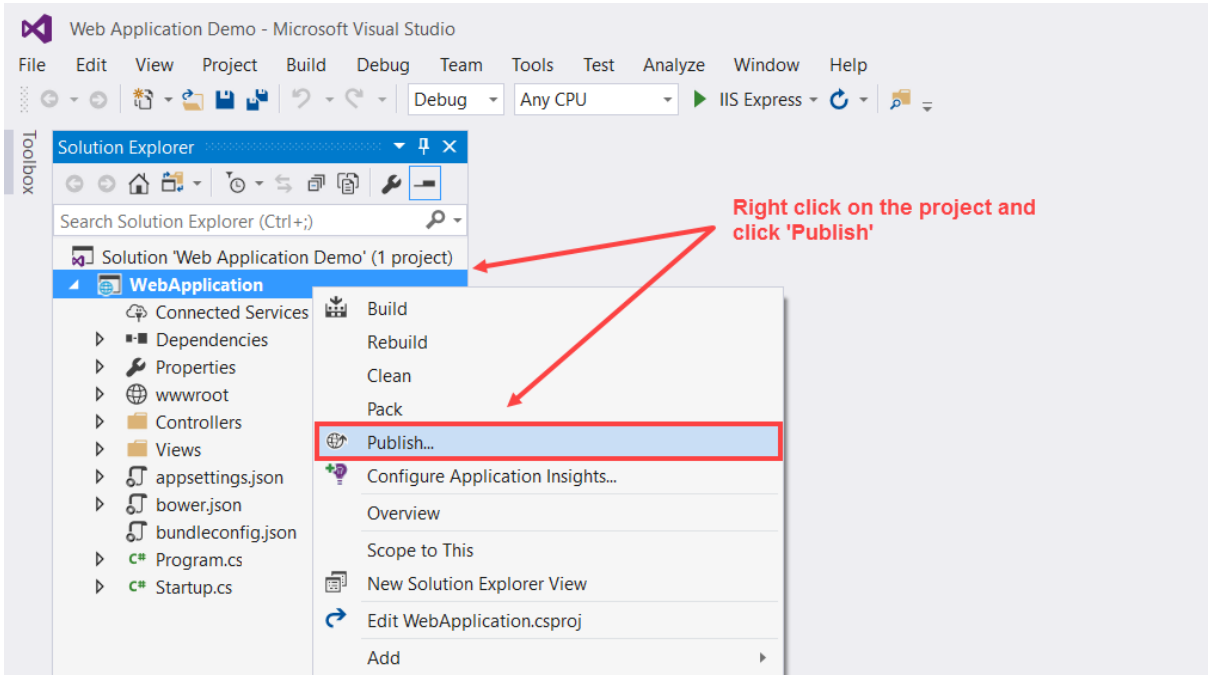

Profile Settings
Profile Name:
FolderProfile
Configuration:
Release
Target Framework:
netcoreapp1.0
Target Runtime:
ubuntu.14.04-x64
Target Location:
bin\Release\PublishOutput
...
Save
Cancel

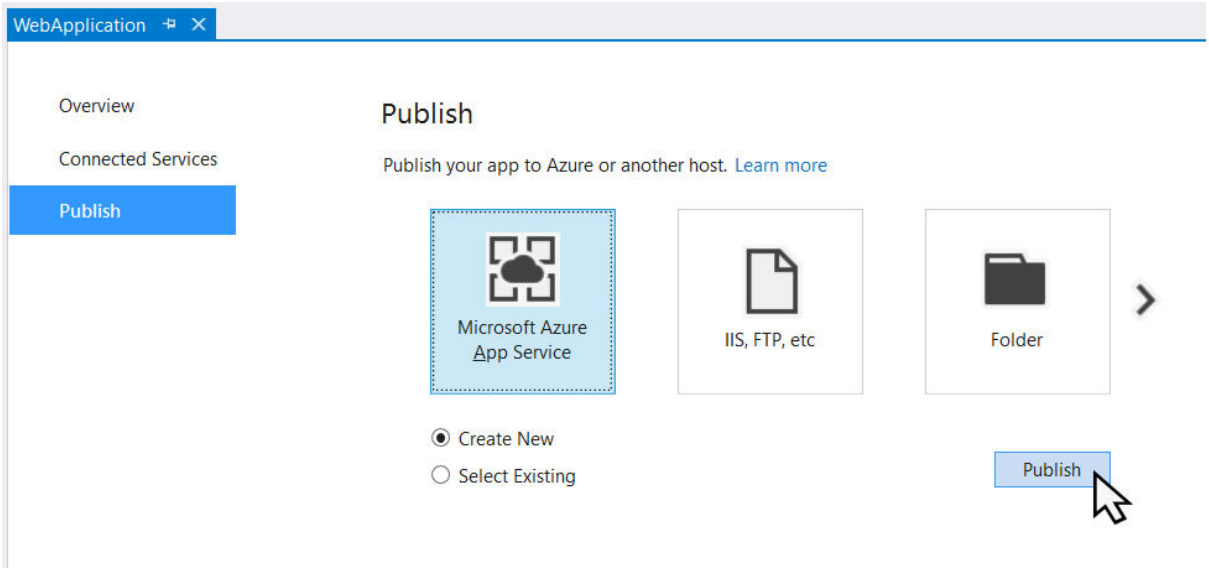

ConsoleApp
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
FolderProfile
Publish
Create new profile
Summary
Target Location
bin\Release\PublishOutput
Settings
Configuration
Release
Delete profile
Target Framework
netcoreapp1.0
Target Runtime
ubuntu.14.04-x64

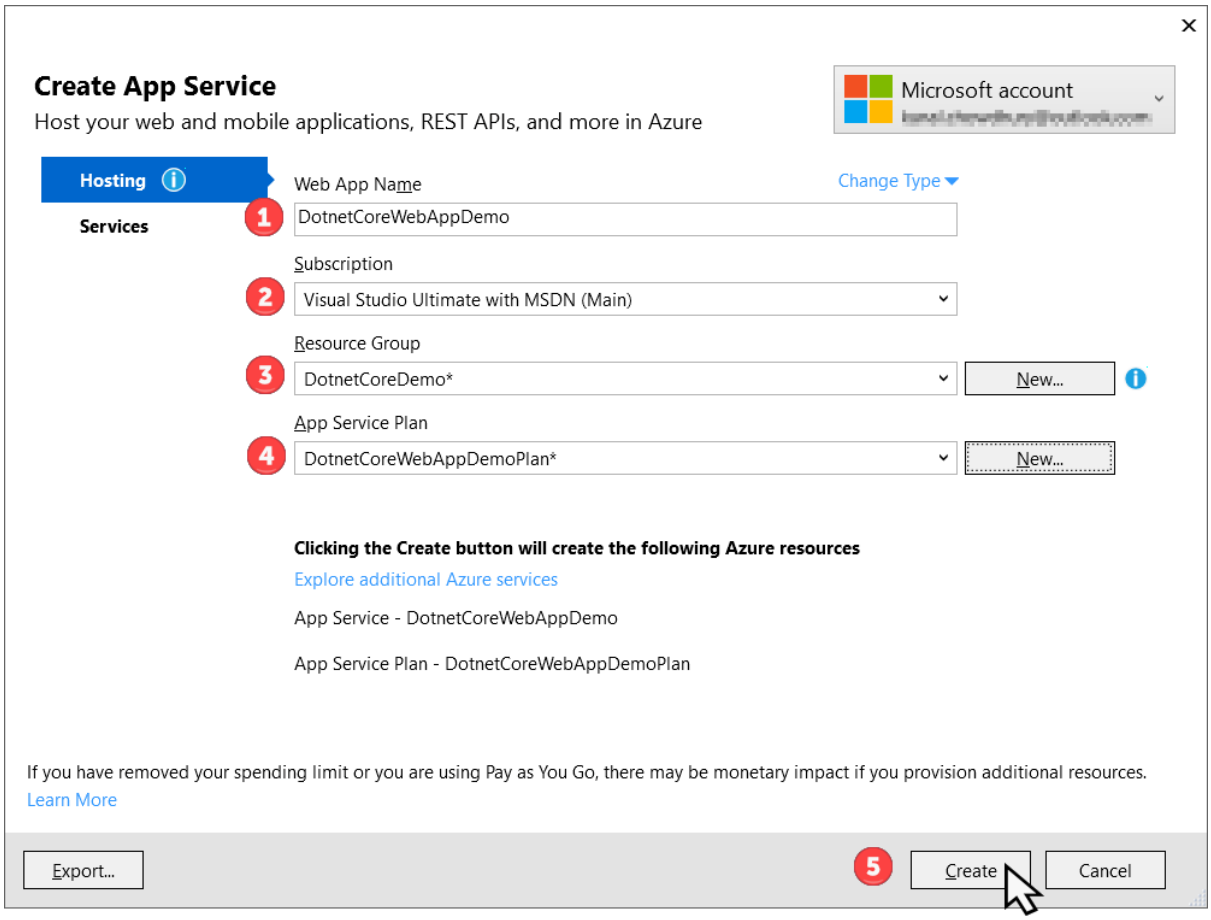

New Project
Recent
Installed
Templates
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
Other Languages
Other Project Types
Not finding what you are looking for?
Online
.NET Framework 4.6.2
Sort by: Default
Search Installed Templates (Ctrl+
Console App (.NET Core) Visual C#
Class Library (.NET Core) Visual C#
Unit Test Project (.NET Core) Visual C#
xUnit Test Project (.NET Core) Visual C#
ASP.NET Core Web Application (.NET Core) Visual C#
Type: Visual C#
Project templates for creating ASP.NET Core applications for Windows, Linux and macOS using .NET Core.
Name: WebApplication
Location: D:\DotNetCore\
Solution name: Web Application Demo
Browse...
Create directory for solution
Add to Source Control
OK
Cancel

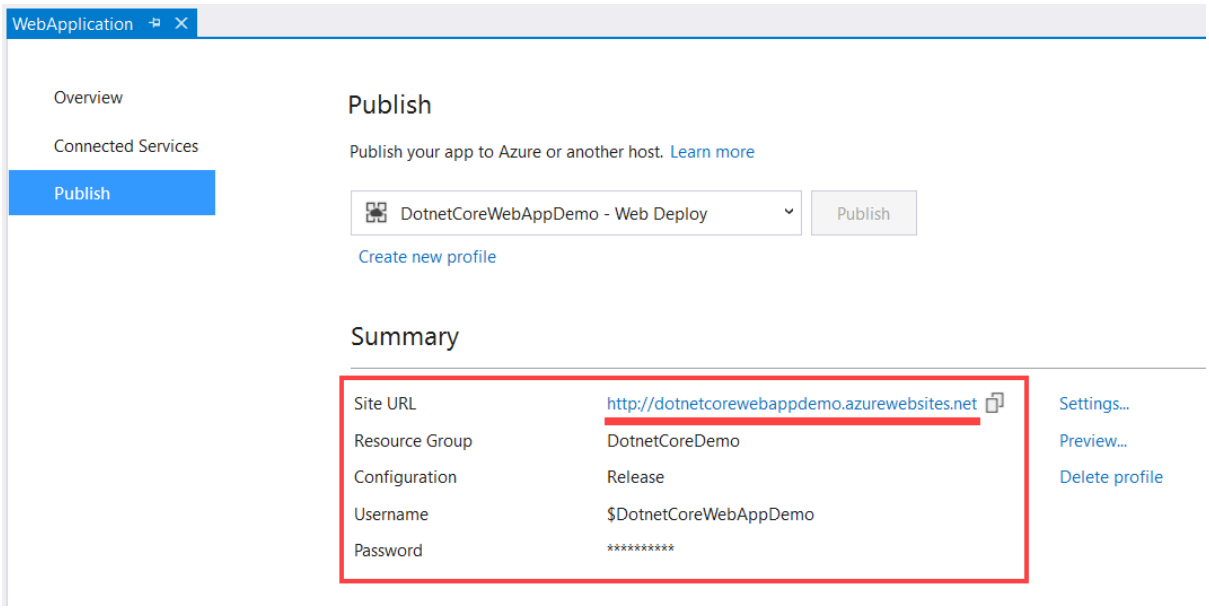

New ASP.NET Core Web Application (.NET Core) - WebApplication
ASP.NET Core 1.1
Learn more
ASP.NET Core 1.1 Templates
Empty
Web API
Web Application
If you like to change the authentication type of the web site, click this button
A project template for creating an ASP.NET Core application with example ASP.NET MVC Views and Controllers. This template can also be used for RESTful HTTP services.
Learn more
Change Authentication
Authentication: No Authentication
Enable Docker Support
Requires Docker for Windows
Docker support can also be enabled later Learn more
OK
Cancel

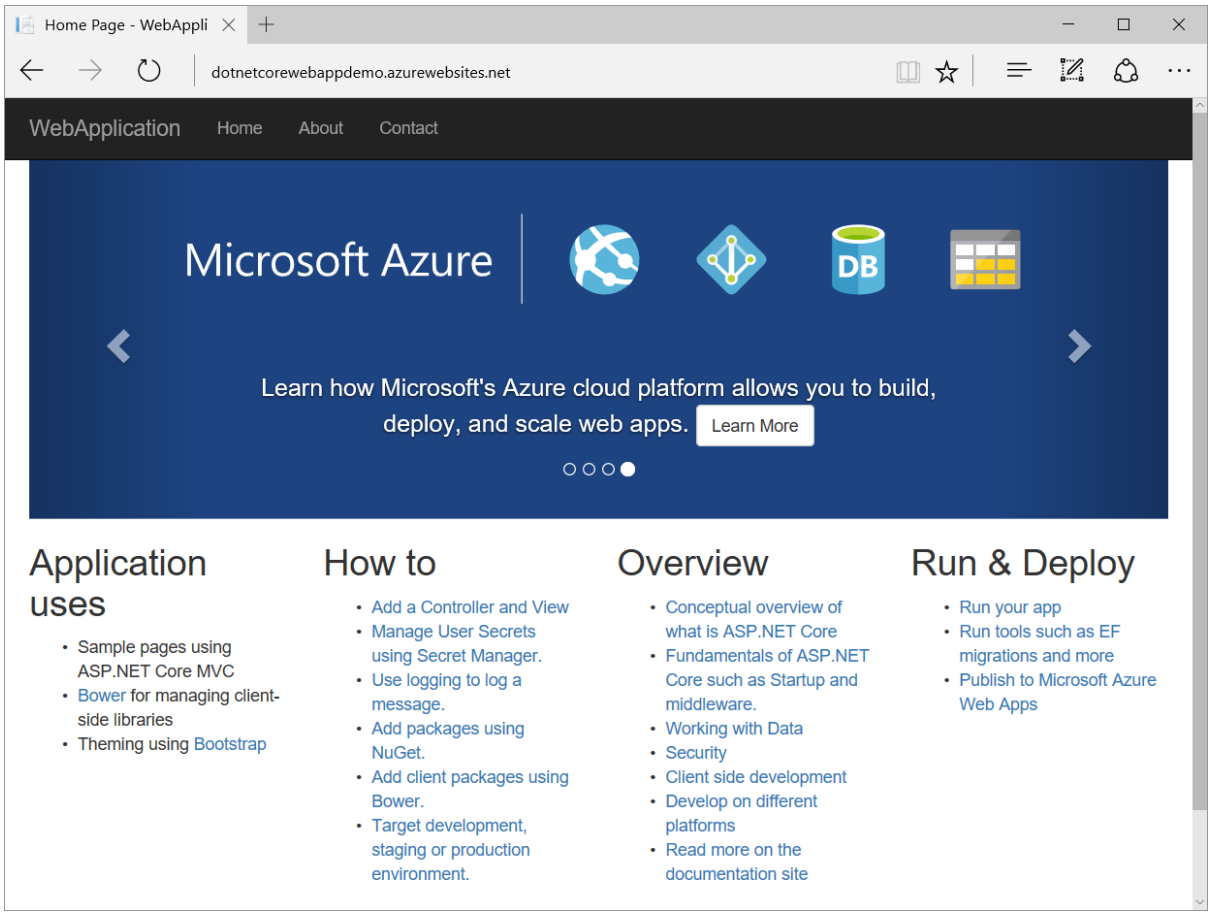

Change Authentication
No Authentication
Individual User Accounts
Work or School Accounts
Windows Authentication
For applications that don't require any user authentication.
Learn more
OK
Cancel

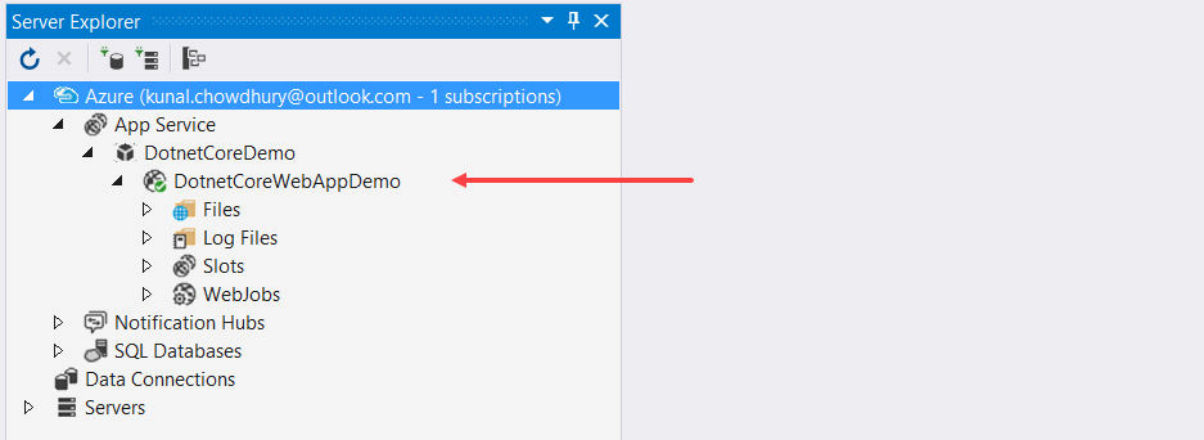

Web Application Demo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug
Any CPU
IIS Express
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Web Application Demo' (1 project)
WebApplication
Connected Services
Dependencies
Properties
wwwroot
Controllers
Views
appsettings.json
bower.json
bundleconfig.json
Program.cs
Startup.cs
Build
Rebuild
Clean
Pack
Publish...
Configure Application Insights...
Overview
Scope to This
New Solution Explorer View
Edit WebApplication.csproj
Add
Right click on the project and click 'Publish'


WebApplication
Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
Microsoft Azure App Service
IIS, FTP, etc
Folder
Create New
Select Existing
Publish

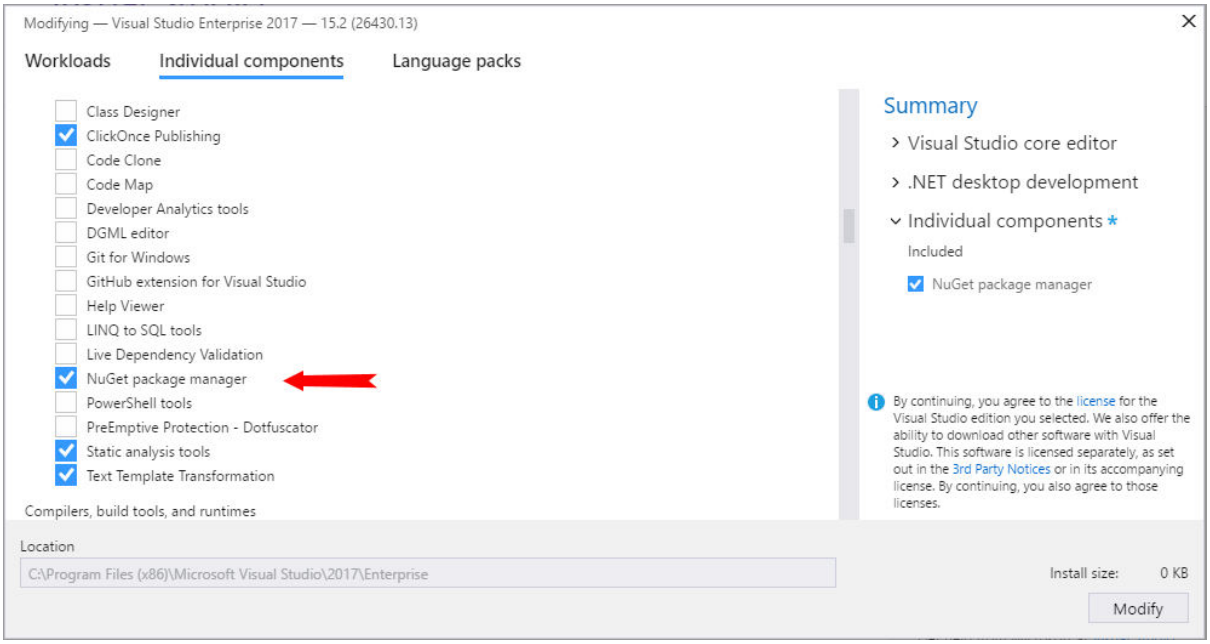

Create App Service
Host your web and mobile applications, REST APIs, and more in Azure
Microsoft account
Hosting
Services
Web App Name
Change Type
1
DotnetCoreWebAppDemo
Subscription
2
Visual Studio Ultimate with MSDN (Main)
Resource Group
3
DotnetCoreDemo*
New...
App Service Plan
4
DotnetCoreWebAppDemoPlan*
New...
Clicking the Create button will create the following Azure resources
Explore additional Azure services
App Service - DotnetCoreWebAppDemo
App Service Plan - DotnetCoreWebAppDemoPlan
If you have removed your spending limit or you are using Pay as You Go, there may be monetary impact if you provision additional resources.
Learn More
Export...
5
Create
Cancel

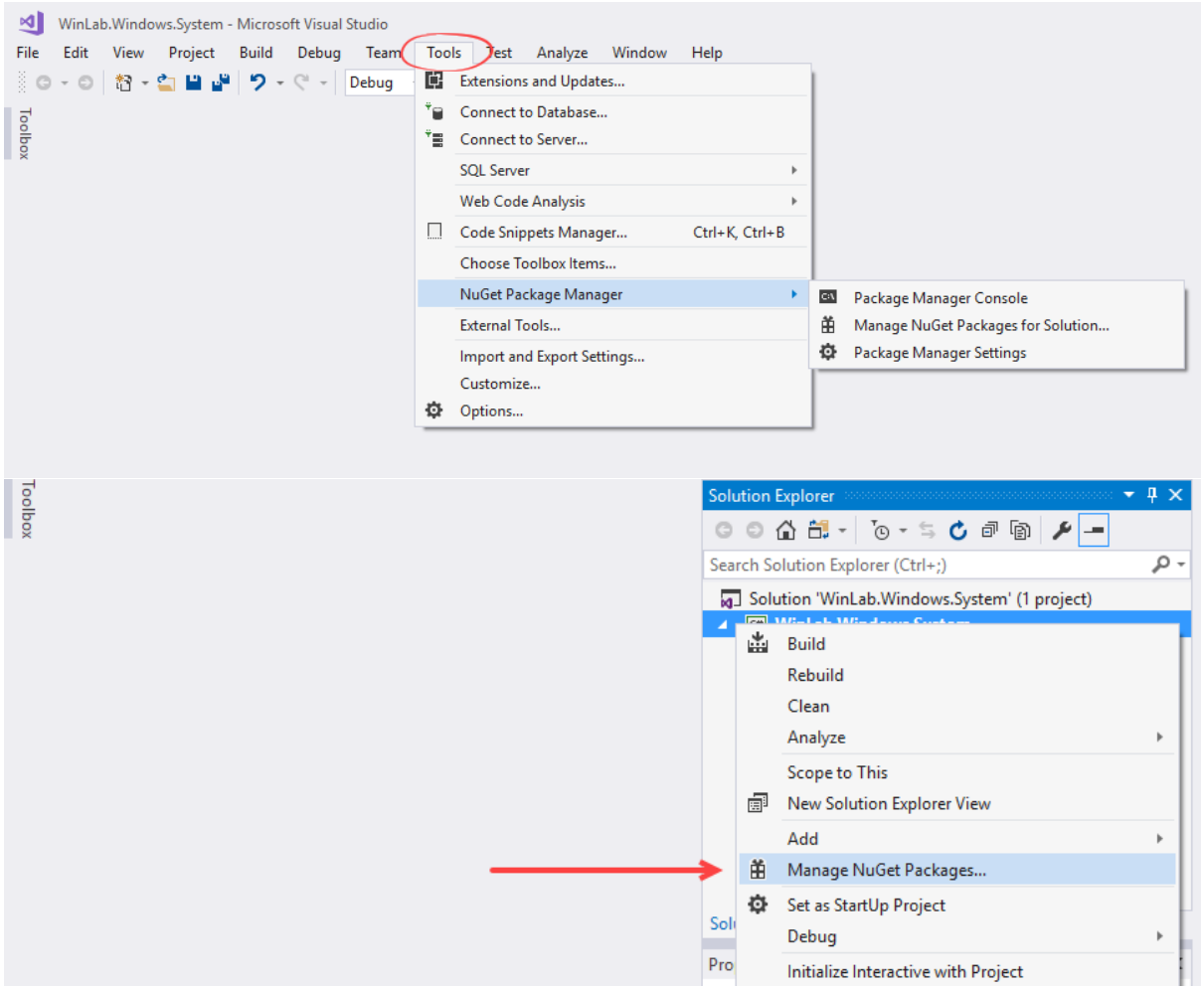

WebApplication
Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
DotnetCoreWebAppDemo - Web Deploy
Publish
Create new profile
Summary
Site URL
http://dotnetcorewebappdemo.azurewebsites.net
Resource Group
DotnetCoreDemo
Configuration
Release
Username
$DotnetCoreWebAppDemo
Password
****
Settings...
Preview...
Delete profile

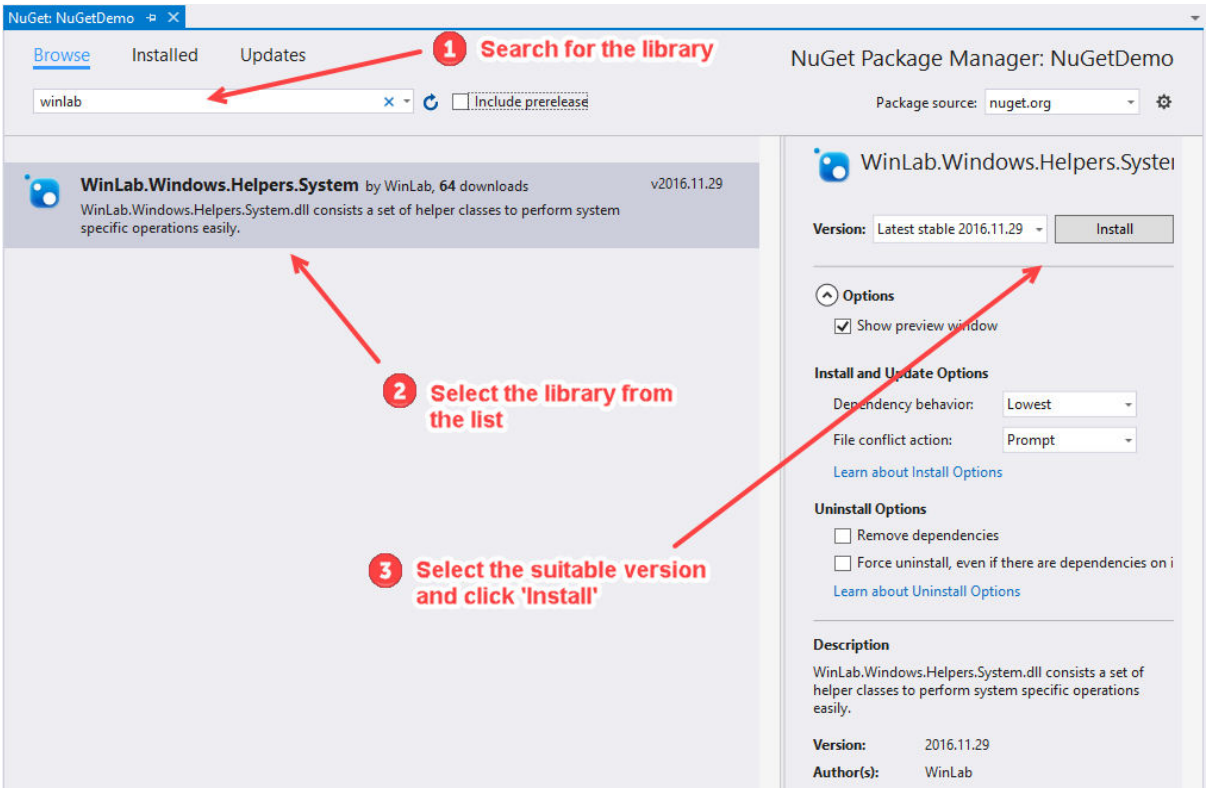

Home Page - WebAppli
dotnetcorewebappdemo.azurewebsites.net
WebApplication
Home
About
Contact
Microsoft Azure
DB
Learn how Microsoft's Azure cloud platform allows you to build, deploy, and scale web apps.
Learn More
Application uses
Sample pages using ASP.NET Core MVC
Bower for managing client-side libraries
Theming using Bootstrap
How to
Add a Controller and View
Manage User Secrets using Secret Manager.
Use logging to log a message.
Add packages using NuGet.
Add client packages using Bower.
Target development, staging or production environment.
Overview
Conceptual overview of what is ASP.NET Core
Fundamentals of ASP.NET Core such as Startup and middleware.
Working with Data
Security
Client side development
Develop on different platforms
Read more on the documentation site
Run & Deploy
Run your app
Run tools such as EF migrations and more
Publish to Microsoft Azure Web Apps

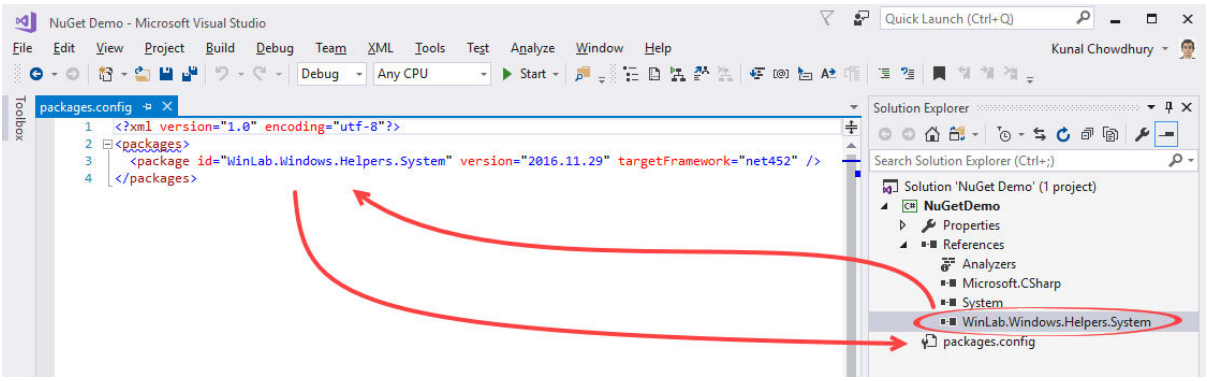


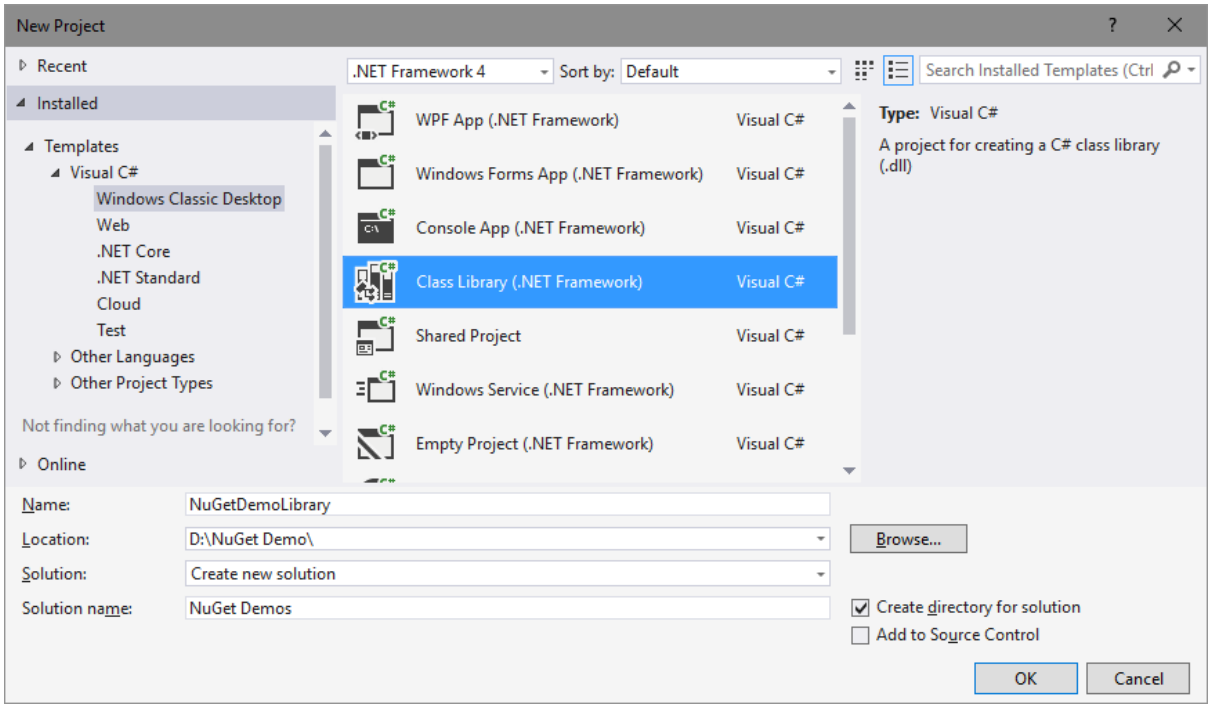
Chapter 6: Managing NuGet Packages

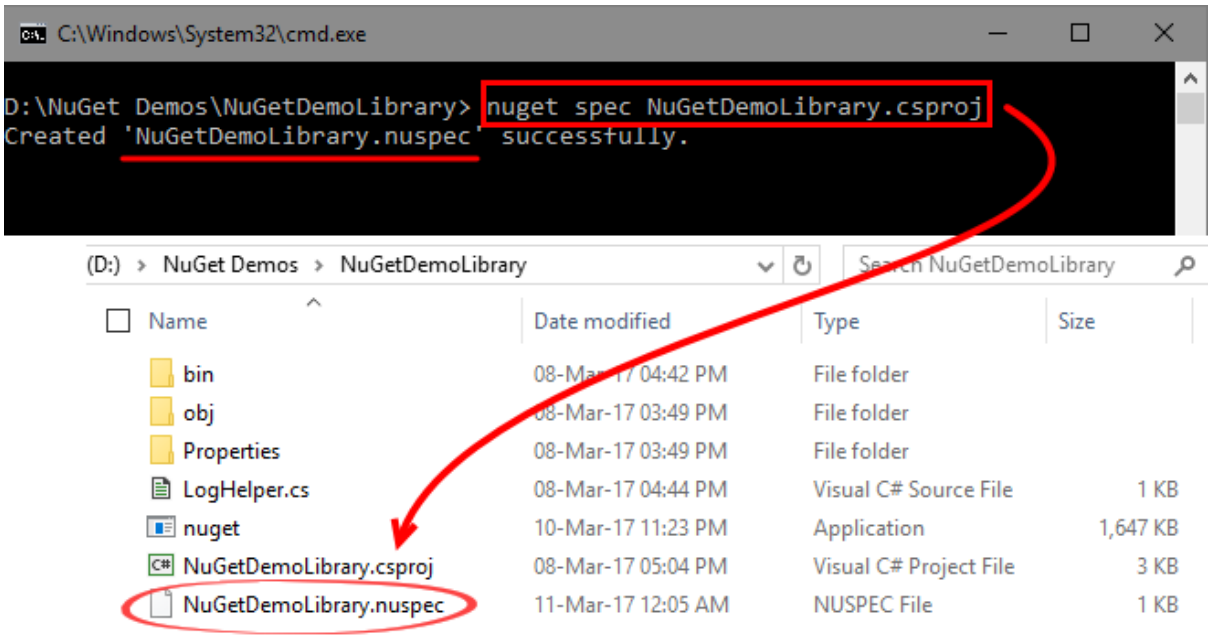



WinLab.Windows.System - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Debug
Toolbox
Extensions and Updates...
Connect to Database...
Connect to Server...
SQL Server
Web Code Analysis
Code Snippets Manager... Ctrl+K, Ctrl+B
Choose Toolbox Items...
NuGet Package Manager
External Tools...
Import and Export Settings...
Customize...
Options...
Package Manager Console
Manage NuGet Packages for Solution...
Package Manager Settings
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WinLab.Windows.System' (1 project)
Build
Rebuild
Clean
Analyze
Scope to This
New Solution Explorer View
Add
Manage NuGet Packages...
Set as StartUp Project
Debug
Initialize Interactive with Project


NuGet: NuGetDemo
Browse
Installed
Updates
1 Search for the library
NuGet Package Manager: NuGetDemo
winlab
Include prerelease
Package source: nuget.org
WinLab.Windows.Helpers.System by WinLab, 64 downloads
v2016.11.29
WinLab.Windows.Helpers.System.dll consists a set of helper classes to perform system specific operations easily.
WinLab.Windows.Helpers.Syste
Version: Latest stable 2016.11.29
Install
Options
Show preview window
Install and Update Options
Dependency behavior: Lowest
File conflict action: Prompt
Learn about Install Options
Uninstall Options
Remove dependencies
Force uninstall, even if there are dependencies on i
Learn about Uninstall Options
2 Select the library from the list
3 Select the suitable version and click 'Install'
Description
WinLab.Windows.Helpers.System.dll consists a set of helper classes to perform system specific operations easily.
Version: 2016.11.29
Author(s): WinLab


NuGet Demo - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team XML Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Start
Toolbox
packages.config
<?xml version="1.0" encoding="utf-8"?>
<packages>
<package id="WinLab.Windows.Helpers.System" version="2016.11.29" targetFramework="net452" />
</packages>
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'NuGet Demo' (1 project)
NuGetDemo
Properties
References
Analyzers
Microsoft.CSharp
System
WinLab.Windows.Helpers.System
packages.config


New Project
Recent
Installed
Templates
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
Other Languages
Other Project Types
Not finding what you are looking for?
Online
.NET Framework 4
Sort by: Default
Search Installed Templates (Ctrl
WPF App (.NET Framework) Visual C#
Windows Forms App (.NET Framework) Visual C#
Console App (.NET Framework) Visual C#
Class Library (.NET Framework) Visual C#
Shared Project Visual C#
Windows Service (.NET Framework) Visual C#
Empty Project (.NET Framework) Visual C#
Type: Visual C#
A project for creating a C# class library (.dll)
Name: NuGetDemoLibrary
Location: D:\NuGet Demo\
Solution: Create new solution
Solution name: NuGet Demos
Browse...
Create directory for solution
Add to Source Control
OK
Cancel

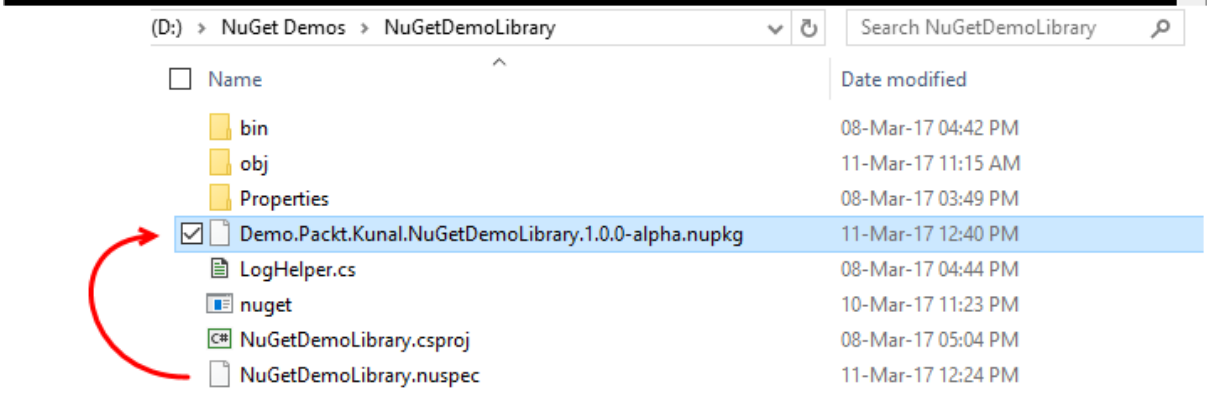

C:\Windows\System32\cmd.exe
D:\NuGet Demos\NuGetDemoLibrary> nuget spec NuGetDemoLibrary.csproj
Created 'NuGetDemoLibrary.nuspec' successfully.
(D:) › NuGet Demos › NuGetDemoLibrary
Search NuGetDemoLibrary
Name
Date modified
Type
Size
bin 08-Mar-17 04:42 PM File folder
obj 08-Mar-17 03:49 PM File folder
Properties 08-Mar-17 03:49 PM File folder
LogHelper.cs 08-Mar-17 04:44 PM Visual C# Source File 1 KB
nuget 10-Mar-17 11:23 PM Application 1,647 KB
NuGetDemoLibrary.csproj 08-Mar-17 05:04 PM Visual C# Project File 3 KB
NuGetDemoLibrary.nuspec 11-Mar-17 12:05 AM NUSPEC File 1 KB

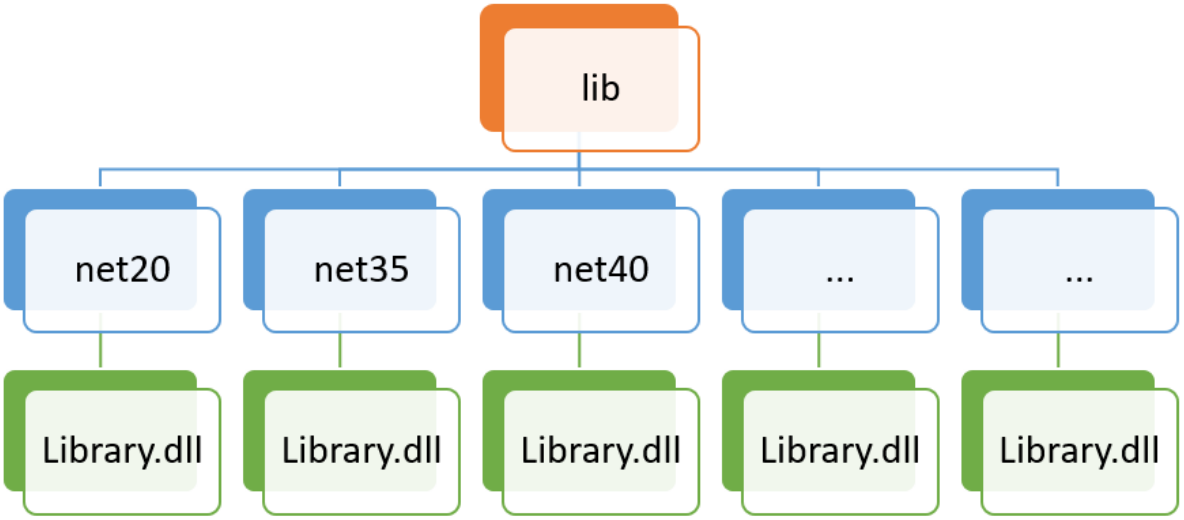
```
<?xml version="1.0"?>
<package >
  <metadata>
    <id>$id$</id>
    <version>$version$</version>
    <title>$title$</title>
    <authors>$author$</authors>
    <owners>$author$</owners>
    <licenseUrl>http://LICENSE_URL_HERE_OR_DELETE_THIS_LINE</licenseUrl>
    <projectUrl>http://PROJECT_URL_HERE_OR_DELETE_THIS_LINE</projectUrl>
    <iconUrl>http://ICON_URL_HERE_OR_DELETE_THIS_LINE</iconUrl>
    <requireLicenseAcceptance>false</requireLicenseAcceptance>
    <description>$description$</description>
    <releaseNotes>Summary of changes made in this release of the package.</releaseNotes>
    <copyright>Copyright 2017</copyright>
    <tags>Tag1 Tag2</tags>
  </metadata>
</package>
```

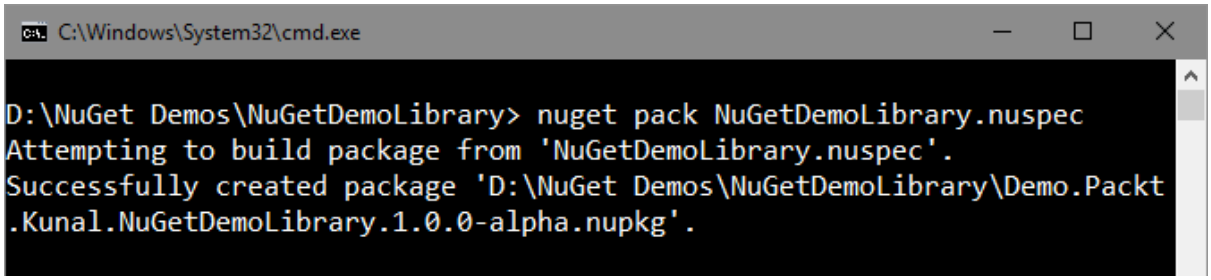
Must be unique, globally in NuGet Store

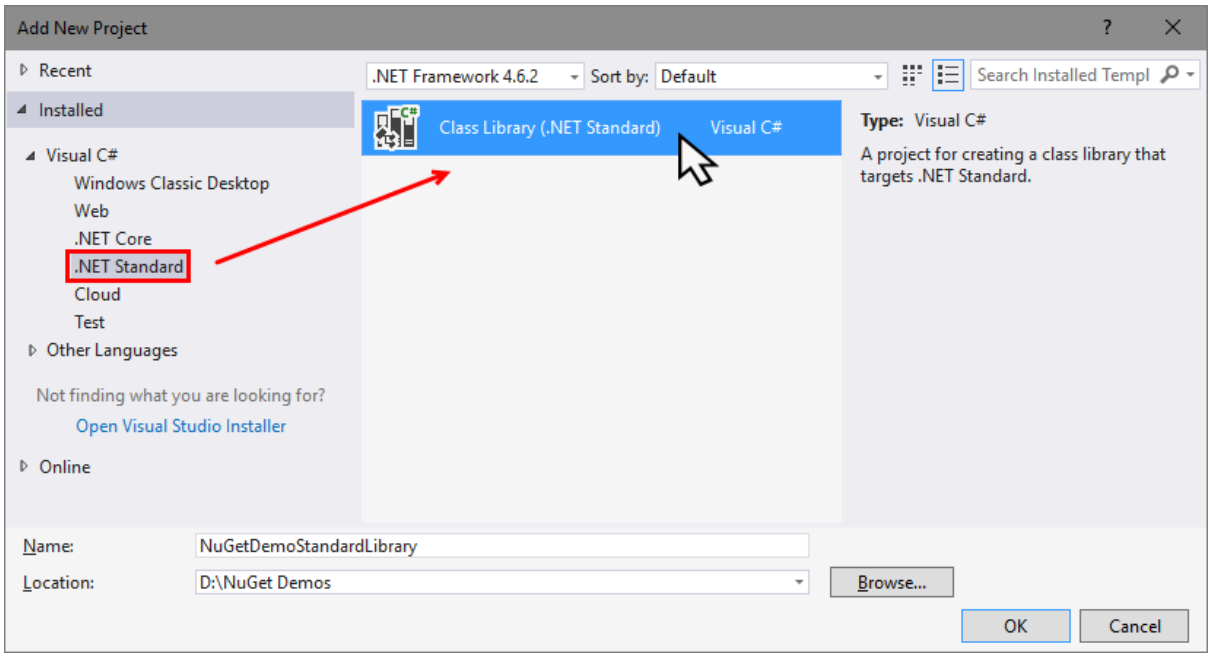
optional

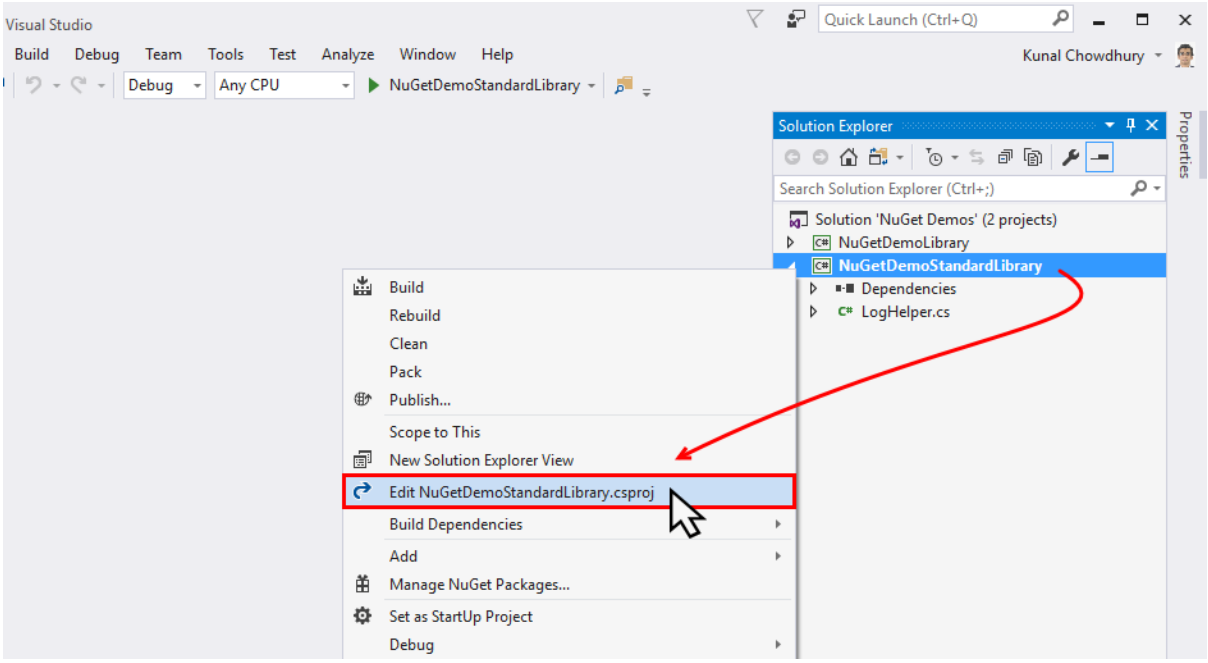
```
C:\Windows\System32\cmd.exe

D:\NuGet Demos\NuGetDemoLibrary> nuget pack NuGetDemoLibrary.nuspec
Attempting to build package from 'NuGetDemoLibrary.nuspec'.
Successfully created package 'D:\NuGet Demos\NuGetDemoLibrary\Demo.Packt.Kuna
l.NuGetDemoLibrary.1.0.0-alpha.nupkg'.

WARNING: 1 issue(s) found with package 'Demo.Packt.Kunal.NuGetDemoLibrary'.

Issue: Assembly not inside a framework folder.
Description: The assembly 'lib\NuGetDemoLibrary.dll' is placed directly under
 'lib' folder. It is recommended that assemblies be placed inside a framework
-specific folder.
Solution: Move it into a framework-specific folder. If this assembly is targe
ted for multiple frameworks, ignore this warning.
```




lib
net20
net35
net40
...
...
Library.dll
Library.dll
Library.dll
Library.dll
Library.dll

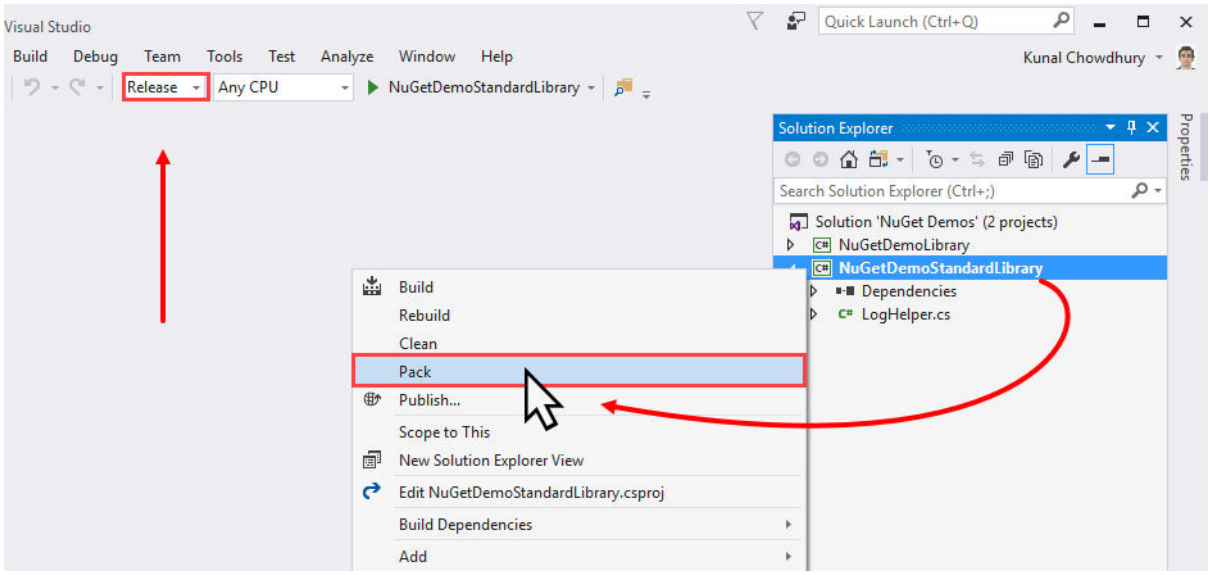

C:\Windows\System32\cmd.exe
D:\NuGet Demos\NuGetDemoLibrary> nuget pack NuGetDemoLibrary.nuspec
Attempting to build package from 'NuGetDemoLibrary.nuspec'.
Successfully created package 'D:\NuGet Demos\NuGetDemoLibrary\Demo.Packt
.Kunal.NuGetDemoLibrary.1.0.0-alpha.nupkg'.

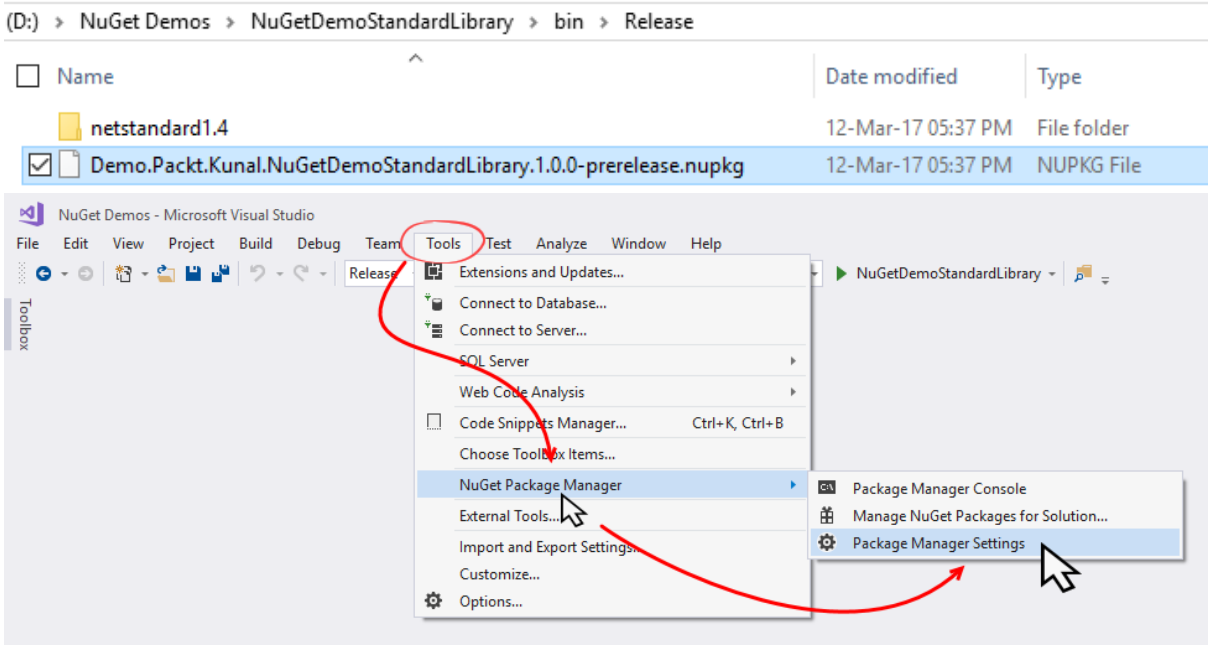

Add New Project
Recent
Installed
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
Other Languages
Not finding what you are looking for?
Open Visual Studio Installer
Online
.NET Framework 4.6.2
Sort by:
Default
Search Installed Templ
Class Library (.NET Standard)
Visual C#
Type: Visual C#
A project for creating a class library that targets .NET Standard.
Name:
NuGetDemoStandardLibrary
Location:
D:\NuGet Demos
Browse...
OK
Cancel

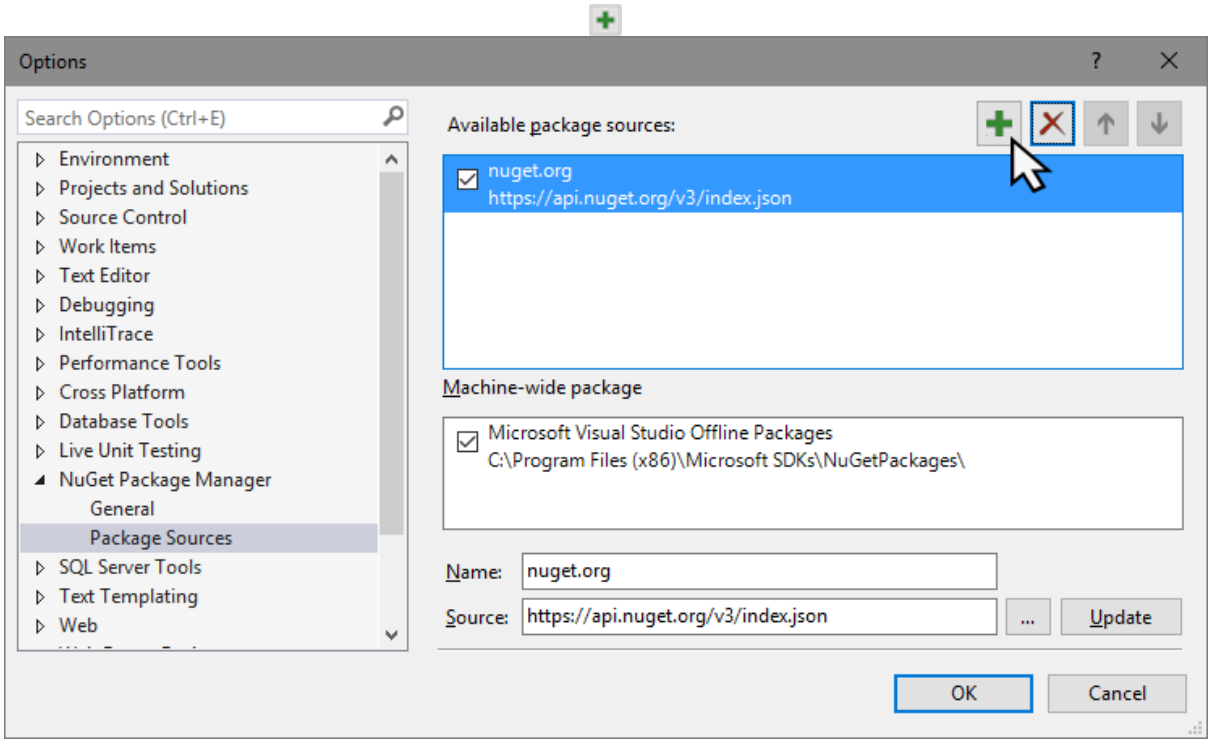


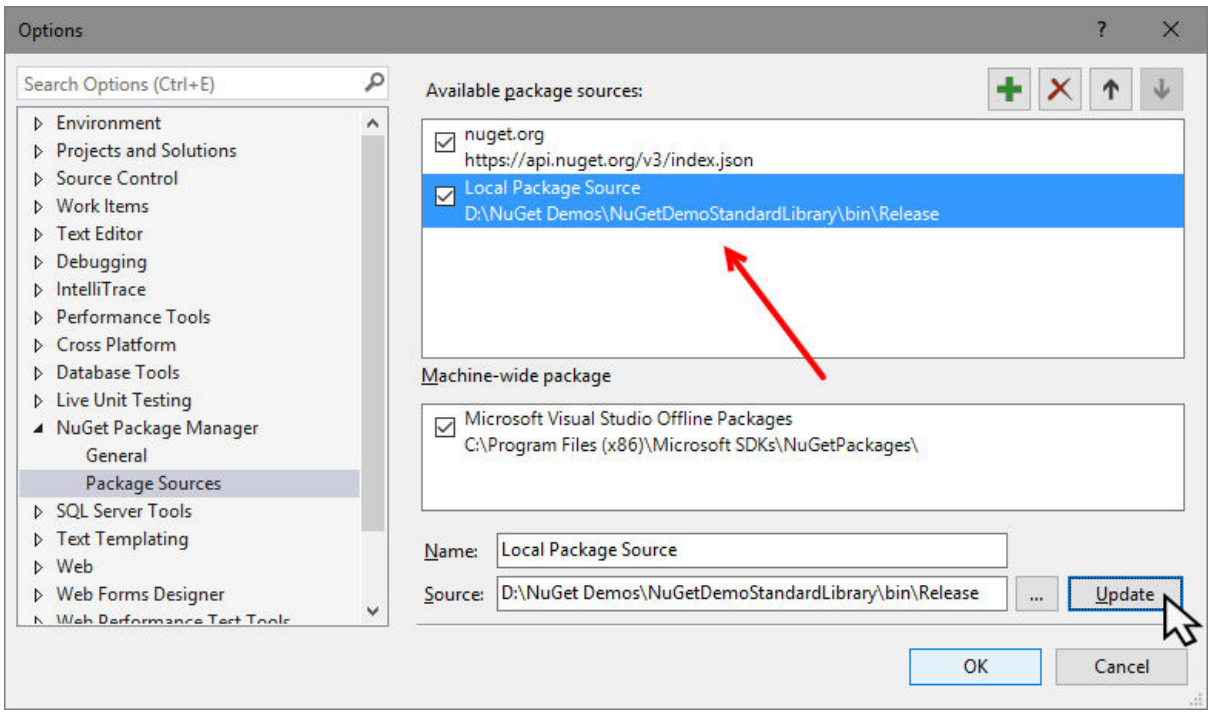
NuGetDemoStandardLibrary.csproj

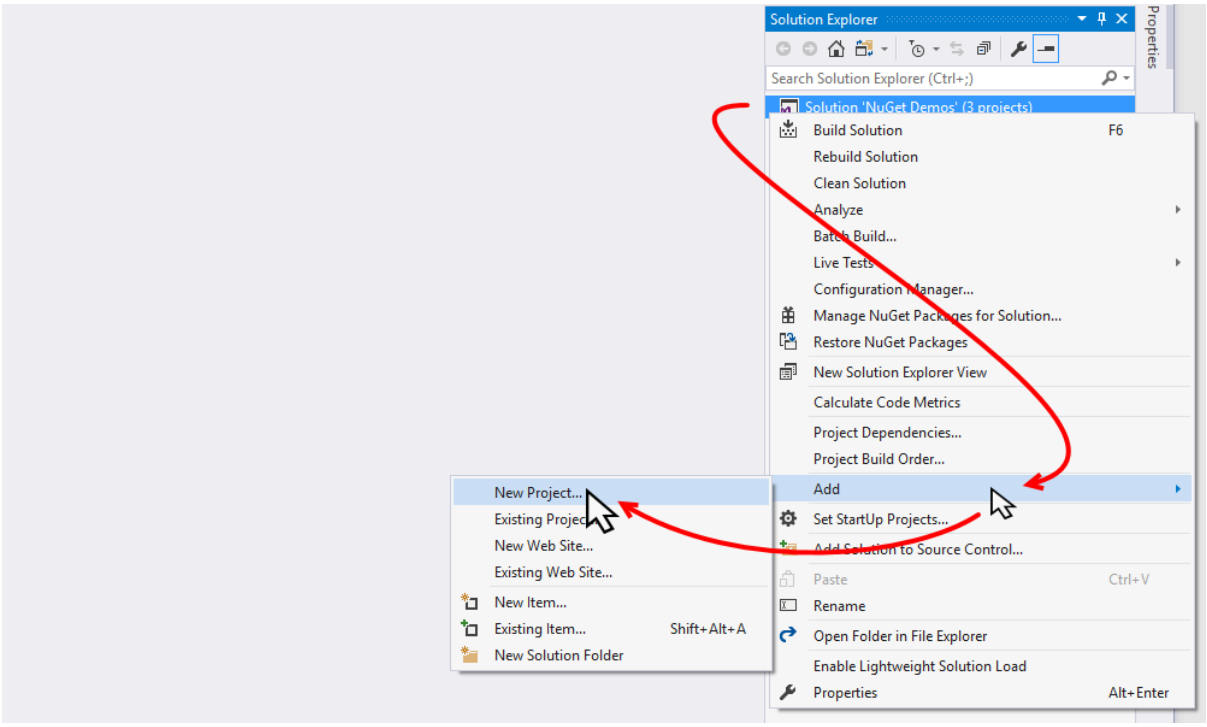
```
1  <Project Sdk="Microsoft.NET.Sdk">
2
3    <PropertyGroup>
4      <TargetFramework>netstandard1.4</TargetFramework>
5
6      <PackageId>Demo.Packt.Kunal.NuGetDemoStandardLibrary</PackageId>
7      <PackageVersion>1.0.0-prerelease</PackageVersion>
8      <Authors>Kunal Chowdhury</Authors>
9      <Description>Demo Library</Description>
10     <PackageReleaseNotes>Change 1, Change 2, ...</PackageReleaseNotes>
11     <Copyright>Copyright 2017 (c) All rights reserved.</Copyright>
12     <PackageTags>Tag1 Tag2</PackageTags>
13
14   </PropertyGroup>
15
16 </Project>
17
```

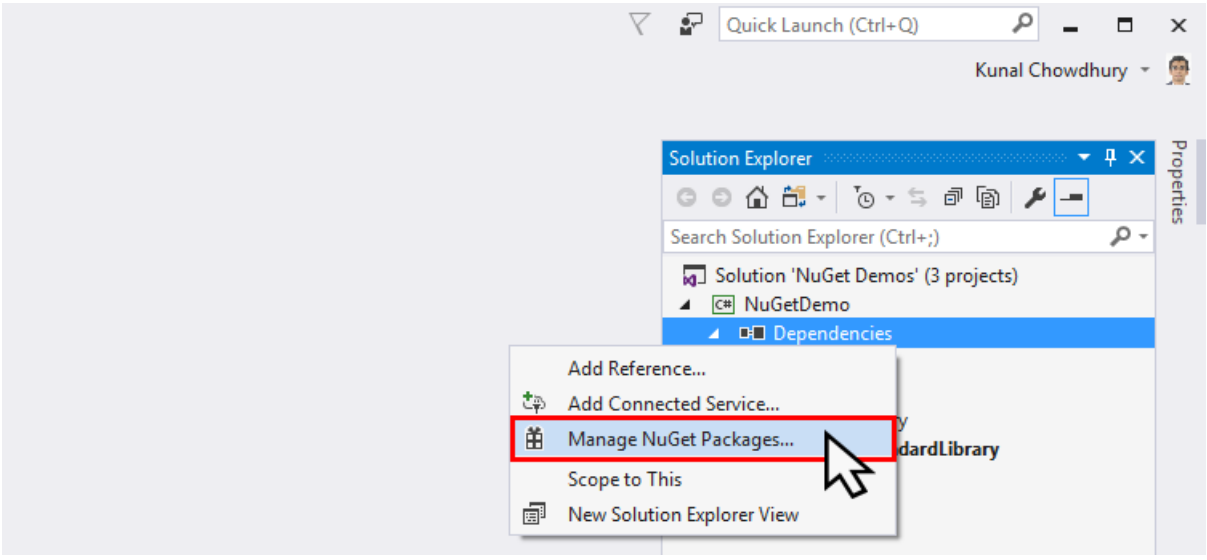

Visual Studio
Quick Launch (Ctrl+Q)
Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Release
Any CPU
NuGetDemoStandardLibrary
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'NuGet Demos' (2 projects)
NuGetDemoLibrary
NuGetDemoStandardLibrary
Dependencies
LogHelper.cs
Properties
Build
Rebuild
Clean
Pack
Publish...
Scope to This
New Solution Explorer View
Edit NuGetDemoStandardLibrary.csproj
Build Dependencies
Add

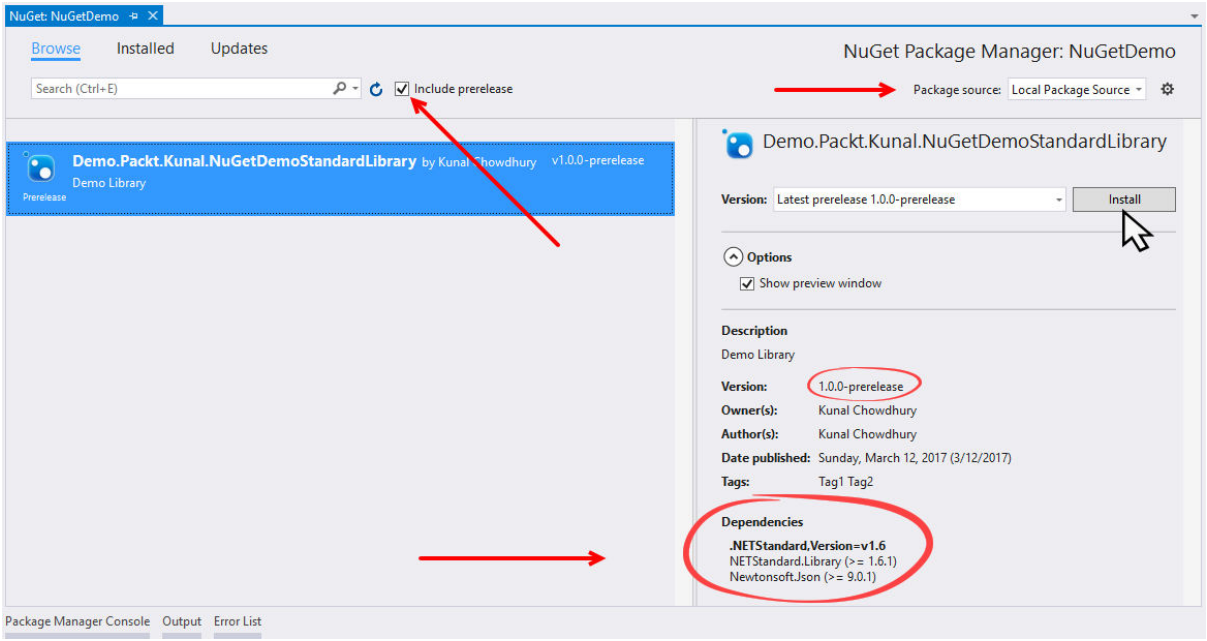

(D:) › NuGet Demos › NuGetDemoStandardLibrary › bin › Release
Name
Date modified
Type
netstandard1.4
12-Mar-17 05:37 PM
File folder
Demo.Packt.Kunal.NuGetDemoStandardLibrary.1.0.0-prerelease.nupkg
12-Mar-17 05:37 PM
NUPKG File
NuGet Demos - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Release
NuGetDemoStandardLibrary
Toolbox
Extensions and Updates...
Connect to Database...
Connect to Server...
SQL Server
Web Code Analysis
Code Snippets Manager... Ctrl+K, Ctrl+B
Choose Toolbox Items...
NuGet Package Manager
External Tools...
Import and Export Settings...
Customize...
Options...
Package Manager Console
Manage NuGet Packages for Solution...
Package Manager Settings

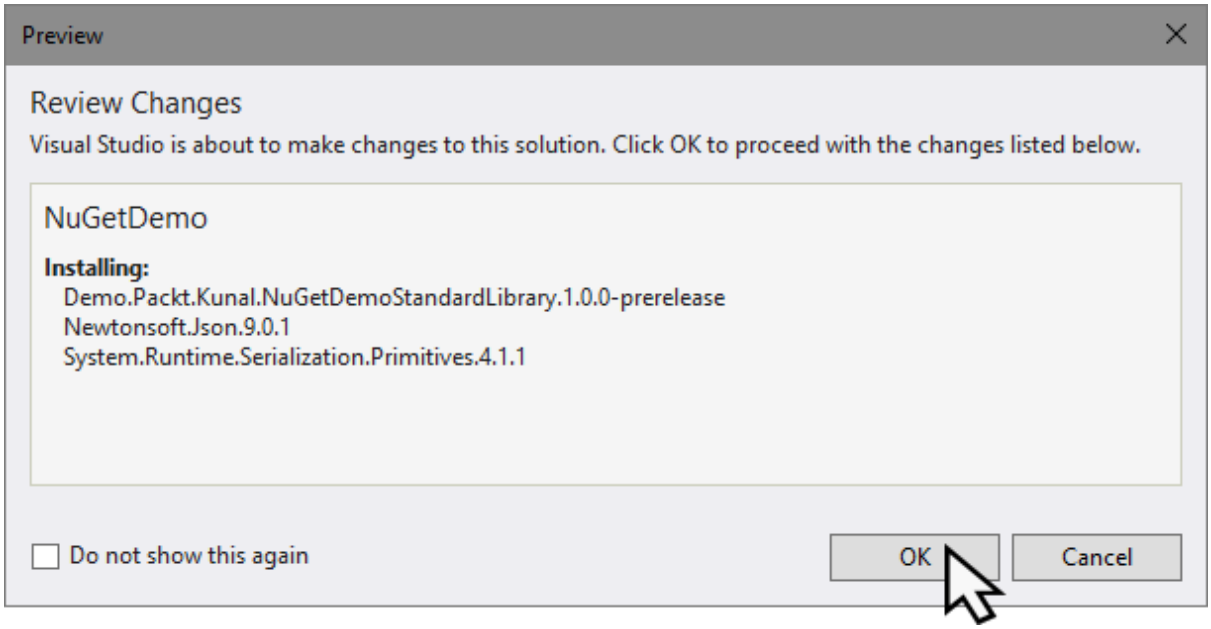

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
Debugging
IntelliTrace
Performance Tools
Cross Platform
Database Tools
Live Unit Testing
NuGet Package Manager
General
Package Sources
SQL Server Tools
Text Templating
Web
Available package sources:
nuget.org
https://api.nuget.org/v3/index.json
Machine-wide package
Microsoft Visual Studio Offline Packages
C:\Program Files (x86)\Microsoft SDKs\NuGetPackages\
Name:
nuget.org
Source:
https://api.nuget.org/v3/index.json
...
Update
OK
Cancel

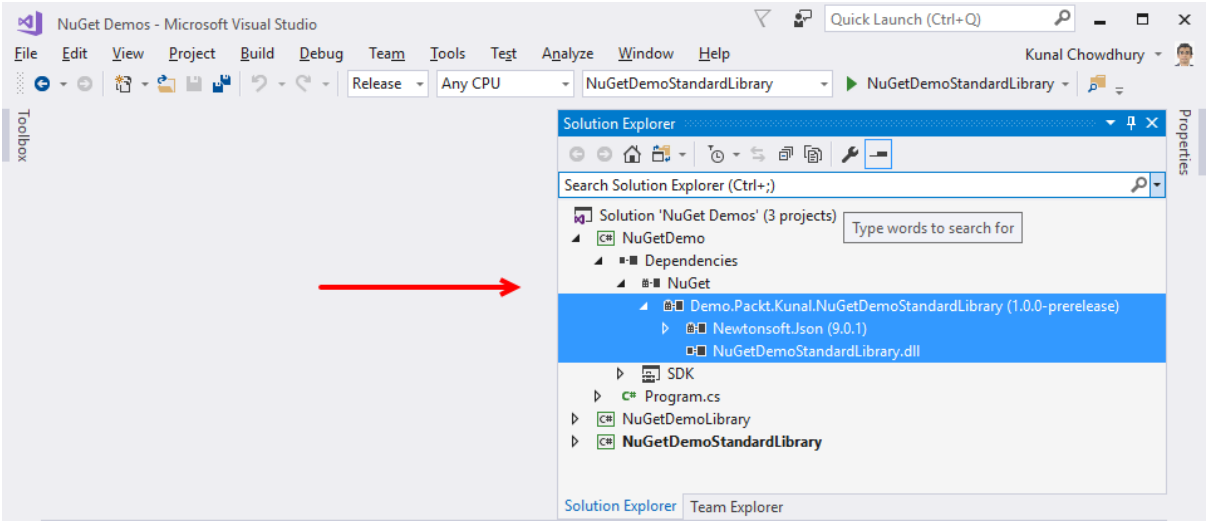

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
Debugging
IntelliTrace
Performance Tools
Cross Platform
Database Tools
Live Unit Testing
NuGet Package Manager
General
Package Sources
SQL Server Tools
Text Templating
Web
Web Forms Designer
Available package sources:
nuget.org
https://api.nuget.org/v3/index.json
Local Package Source
D:\NuGet Demos\NuGetDemoStandardLibrary\bin\Release
Machine-wide package
Microsoft Visual Studio Offline Packages
C:\Program Files (x86)\Microsoft SDKs\NuGetPackages\
Name:
Local Package Source
Source:
D:\NuGet Demos\NuGetDemoStandardLibrary\bin\Release
...
Update
OK
Cancel

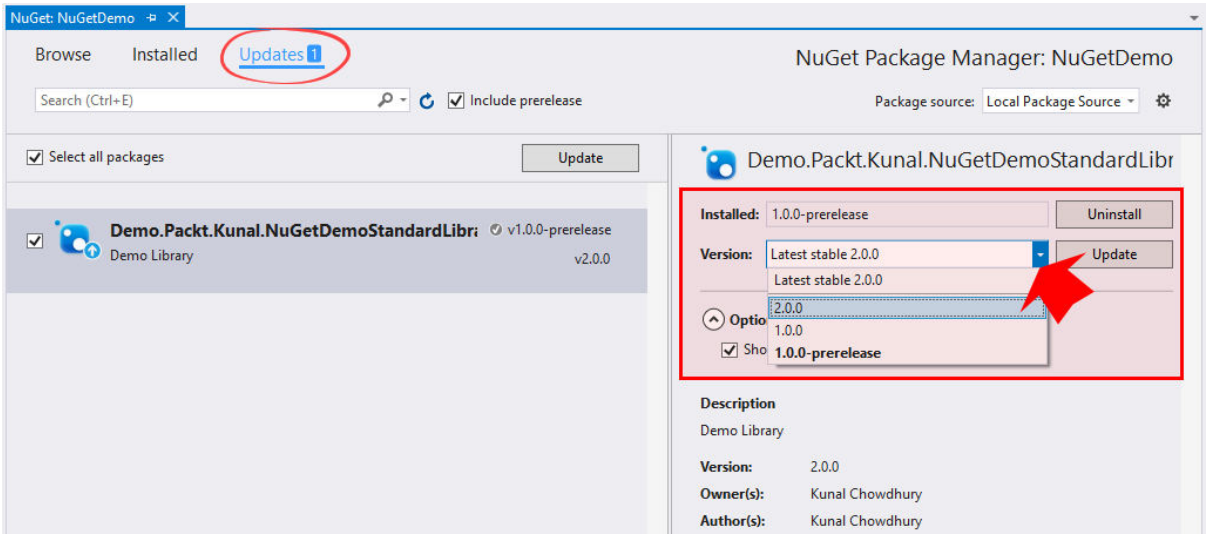

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'NuGet Demos' (3 projects)
Build Solution F6
Rebuild Solution
Clean Solution
Analyze
Batch Build...
Live Tests
Configuration Manager...
Manage NuGet Packages for Solution...
Restore NuGet Packages
New Solution Explorer View
Calculate Code Metrics
Project Dependencies...
Project Build Order...
Add
Set StartUp Projects...
Add Solution to Source Control...
Paste Ctrl+V
Rename
Open Folder in File Explorer
Enable Lightweight Solution Load
Properties Alt+Enter
New Project...
Existing Project...
New Web Site...
Existing Web Site...
New Item...
Existing Item... Shift+Alt+A
New Solution Folder
Properties

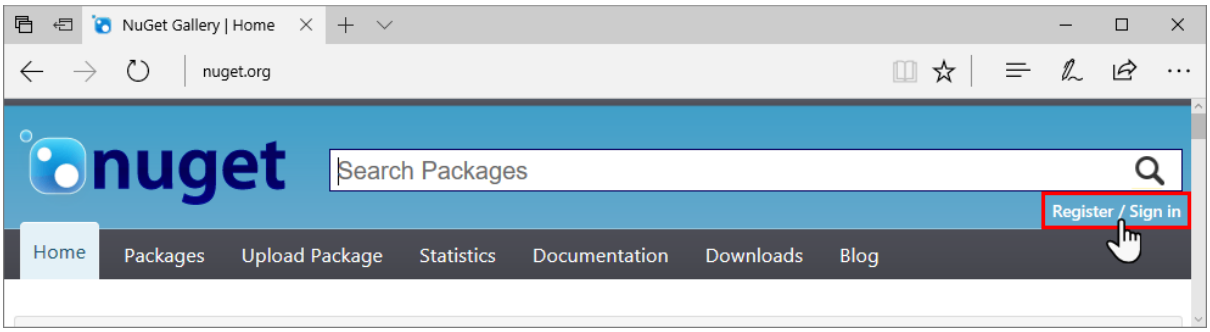

Quick Launch (Ctrl+Q)
Kunal Chowdhury
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'NuGet Demos' (3 projects)
NuGetDemo
Dependencies
Add Reference...
Add Connected Service...
Manage NuGet Packages...
Scope to This
New Solution Explorer View
Properties

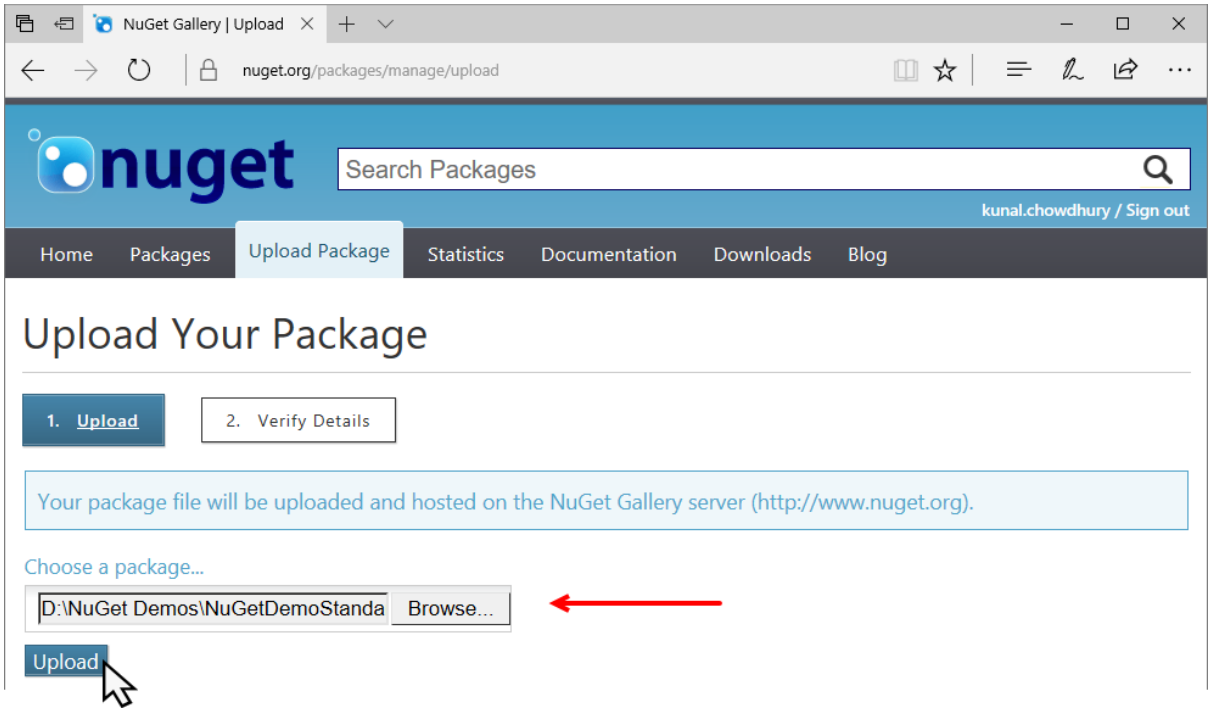

NuGet: NuGetDemo
Browse
Installed
Updates
NuGet Package Manager: NuGetDemo
Search (Ctrl+E)
Include prerelease
Package source:
Local Package Source
Demo.Packt.Kunal.NuGetDemoStandardLibrary by Kunal Chowdhury v1.0.0-prerelease
Demo Library
Prerelease
Demo.Packt.Kunal.NuGetDemoStandardLibrary
Version:
Latest prerelease 1.0.0-prerelease
Install
Options
Show preview window
Description
Demo Library
Version:
1.0.0-prerelease
Owner(s):
Kunal Chowdhury
Author(s):
Kunal Chowdhury
Date published:
Sunday, March 12, 2017 (3/12/2017)
Tags:
Tag1 Tag2
Dependencies
.NETStandard,Version=v1.6
NETStandard.Library (>= 1.6.1)
Newtonsoft.Json (>= 9.0.1)
Package Manager Console
Output
Error List


Preview
Review Changes
Visual Studio is about to make changes to this solution. Click OK to proceed with the changes listed below.
NuGetDemo
Installing:
Demo.Packt.Kunal.NuGetDemoStandardLibrary.1.0.0-prerelease
Newtonsoft.Json.9.0.1
System.Runtime.Serialization.Primitives.4.1.1
Do not show this again
OK
Cancel


NuGet Demos - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Release
Any CPU
NuGetDemoStandardLibrary
Toolbox
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'NuGet Demos' (3 projects)
Type words to search for
NuGetDemo
Dependencies
NuGet
Demo.Packt.Kunal.NuGetDemoStandardLibrary (1.0.0-prerelease)
Newtonsoft.Json (9.0.1)
NuGetDemoStandardLibrary.dll
SDK
Program.cs
NuGetDemoLibrary
NuGetDemoStandardLibrary
Solution Explorer
Team Explorer
Properties


NuGet: NuGetDemo
Browse
Installed
Updates 1
NuGet Package Manager: NuGetDemo
Search (Ctrl+E)
Include prerelease
Package source:
Local Package Source
Select all packages
Update
Demo.Packt.Kunal.NuGetDemoStandardLibr
Demo.Packt.Kunal.NuGetDemoStandardLibr
v1.0.0-prerelease
Demo Library
v2.0.0
Installed:
1.0.0-prerelease
Uninstall
Version:
Latest stable 2.0.0
Update
Latest stable 2.0.0
2.0.0
1.0.0
1.0.0-prerelease
Description
Demo Library
Version:
2.0.0
Owner(s):
Kunal Chowdhury
Author(s):
Kunal Chowdhury


NuGet Gallery | Home
nuget.org
nuget
Search Packages
Register / Sign in
Home
Packages
Upload Package
Statistics
Documentation
Downloads
Blog



This is a prerelease version of Demo.Packt.Kunal.NuGetDemoStandardLibrary.

This package has not been indexed yet. It will appear in search results and will be available for install/restore after indexing is completed.

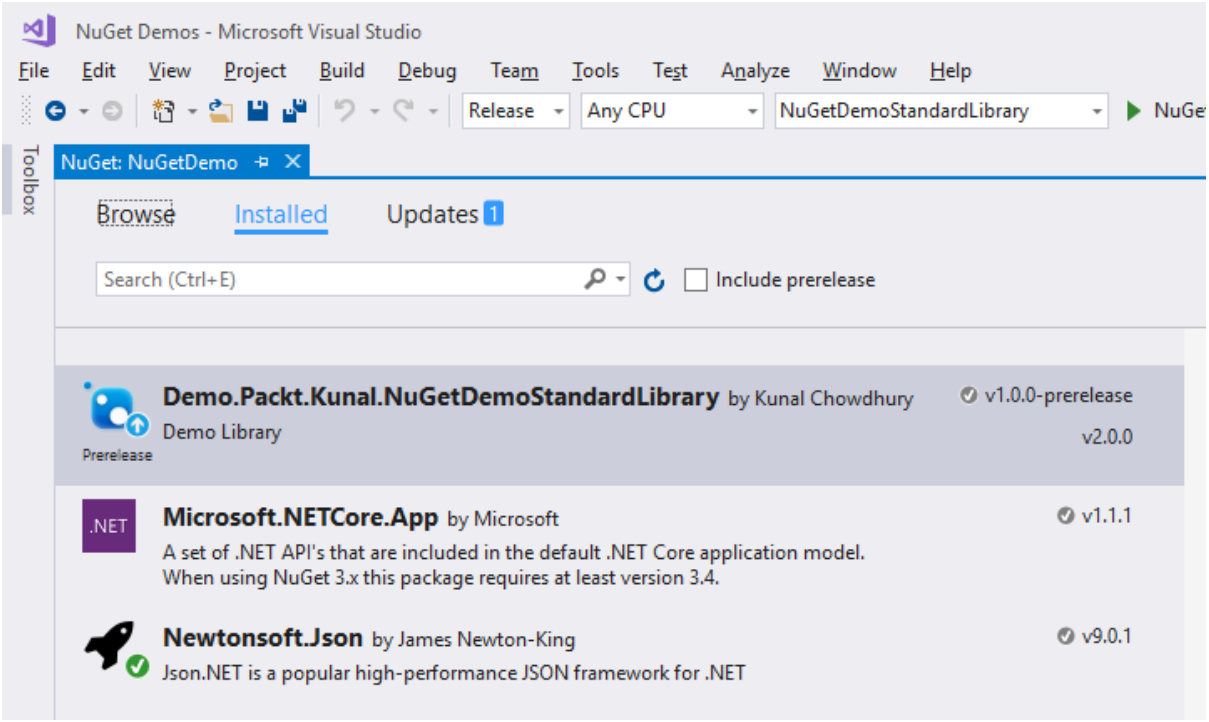
Demo.Packt.Kunal.NuGetDemoStandardLib...

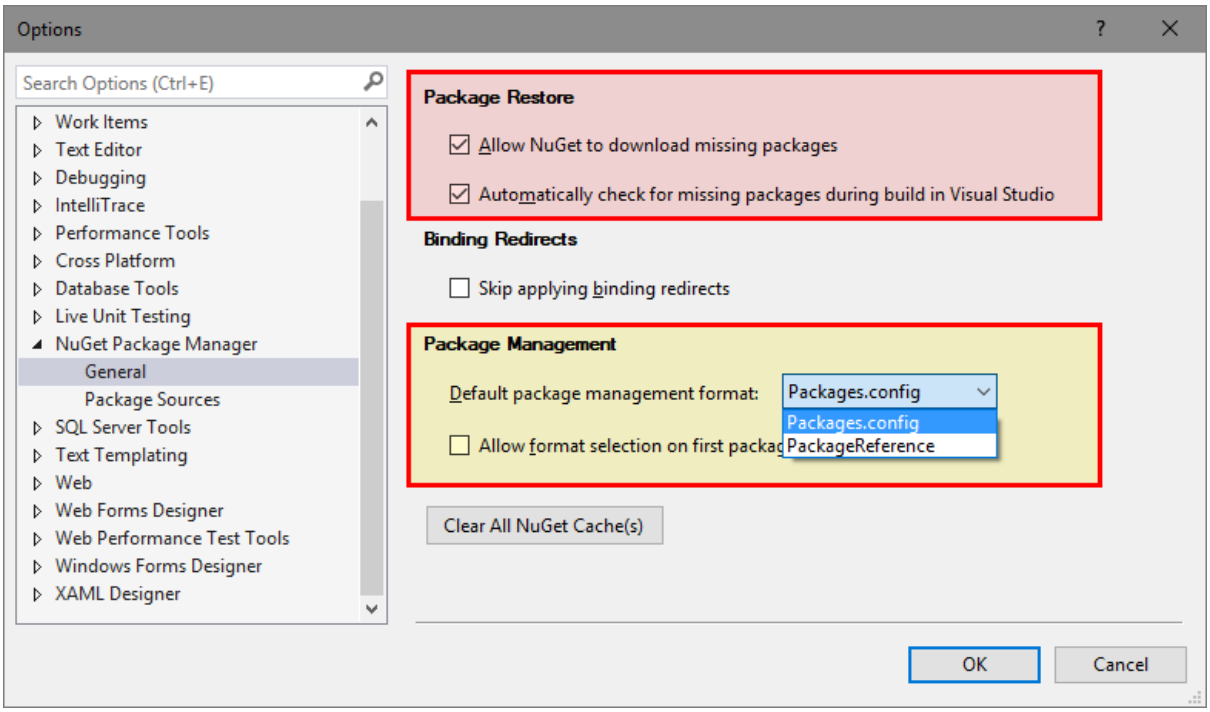
1.0.0-prerelease

Demo Library

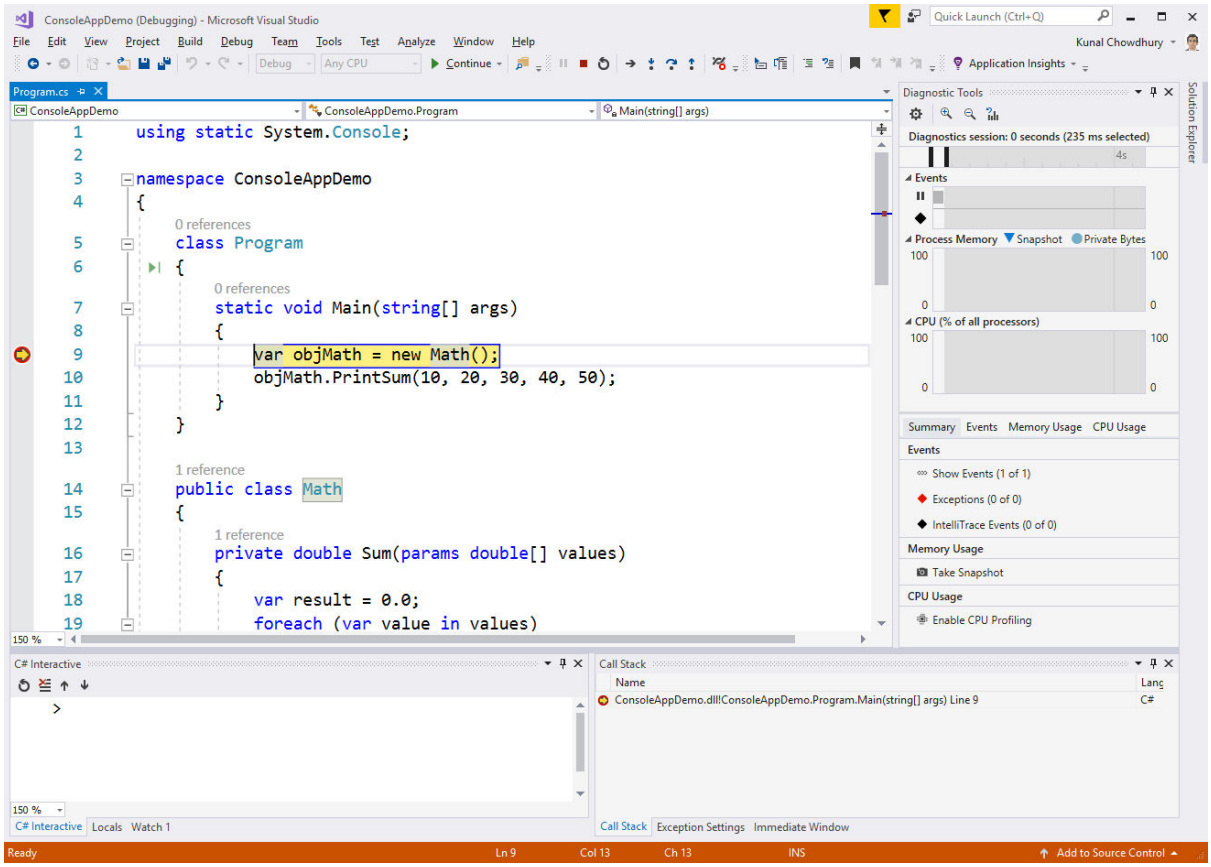
To install Demo.Packt.Kunal.NuGetDemoStandardLibrary, run the following command in the Package Manager Console

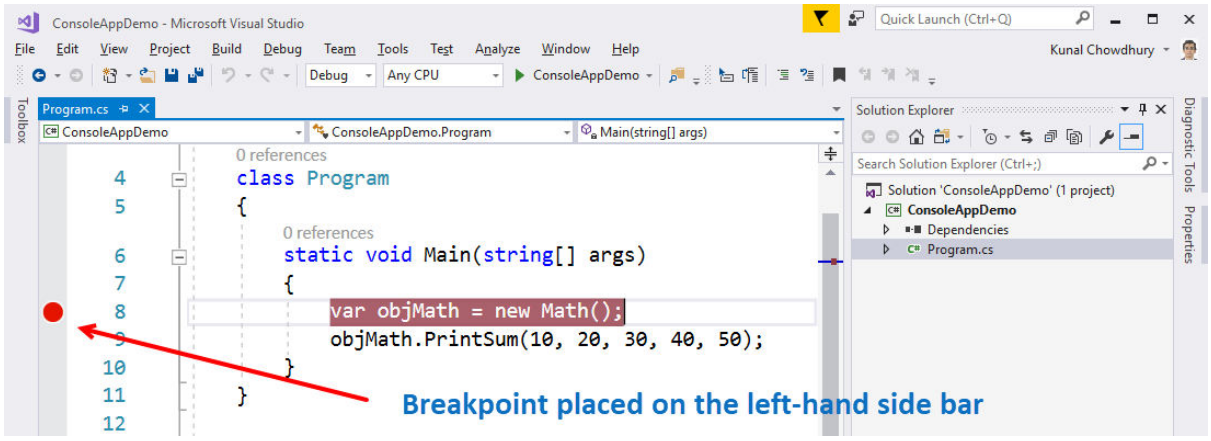
```
PM> Install-Package
Demo.Packt.Kunal.NuGetDemoStandardLibrary -Pre
```

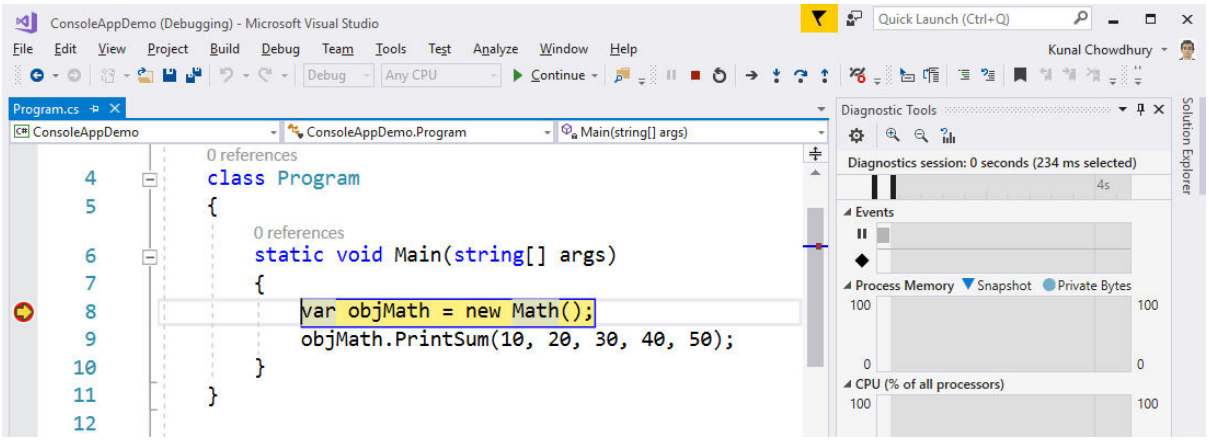

NuGet Demos - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Release
Any CPU
NuGetDemoStandardLibrary
Toolbox
NuGet: NuGetDemo
Browse
Installed
Updates 1
Search (Ctrl+E)
Include prerelease
Demo.Packt.Kunal.NuGetDemoStandardLibrary by Kunal Chowdhury
Demo Library
Prerelease
v1.0.0-prerelease
v2.0.0
Microsoft.NETCore.App by Microsoft
A set of .NET API's that are included in the default .NET Core application model.
When using NuGet 3.x this package requires at least version 3.4.
v1.1.1
Newtonsoft.Json by James Newton-King
Json.NET is a popular high-performance JSON framework for .NET
v9.0.1

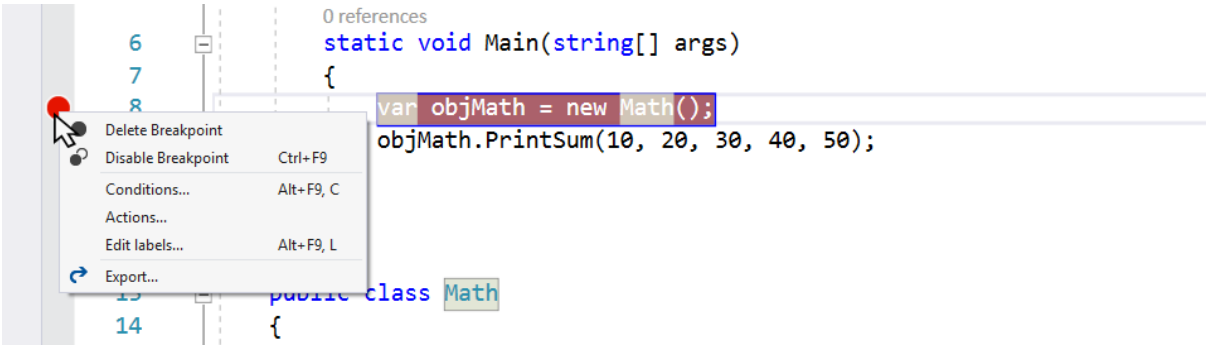

Options
Search Options (Ctrl+E)
Work Items
Text Editor
Debugging
IntelliTrace
Performance Tools
Cross Platform
Database Tools
Live Unit Testing
NuGet Package Manager
General
Package Sources
SQL Server Tools
Text Templating
Web
Web Forms Designer
Web Performance Test Tools
Windows Forms Designer
XAML Designer
Package Restore
Allow NuGet to download missing packages
Automatically check for missing packages during build in Visual Studio
Binding Redirects
Skip applying binding redirects
Package Management
Default package management format:
Packages.config
Packages.config
PackageReference
Allow format selection on first packag
Clear All NuGet Cache(s)
OK
Cancel

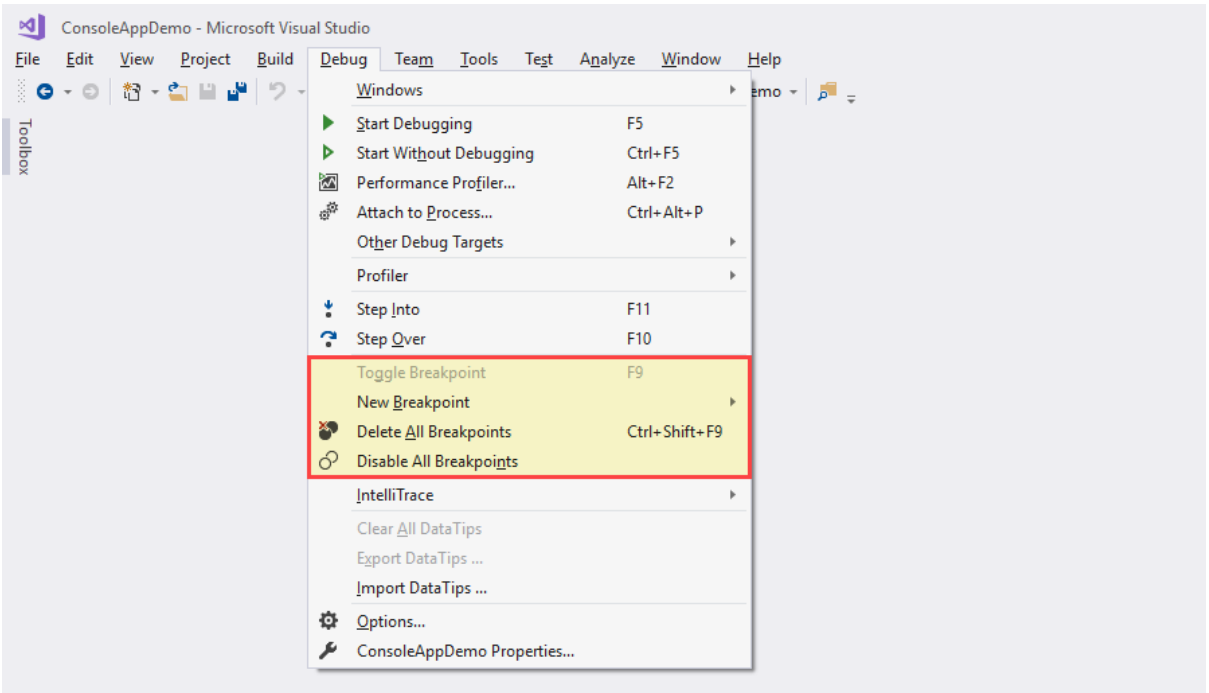
Chapter 7: Debugging Applications with Visual Studio 2017

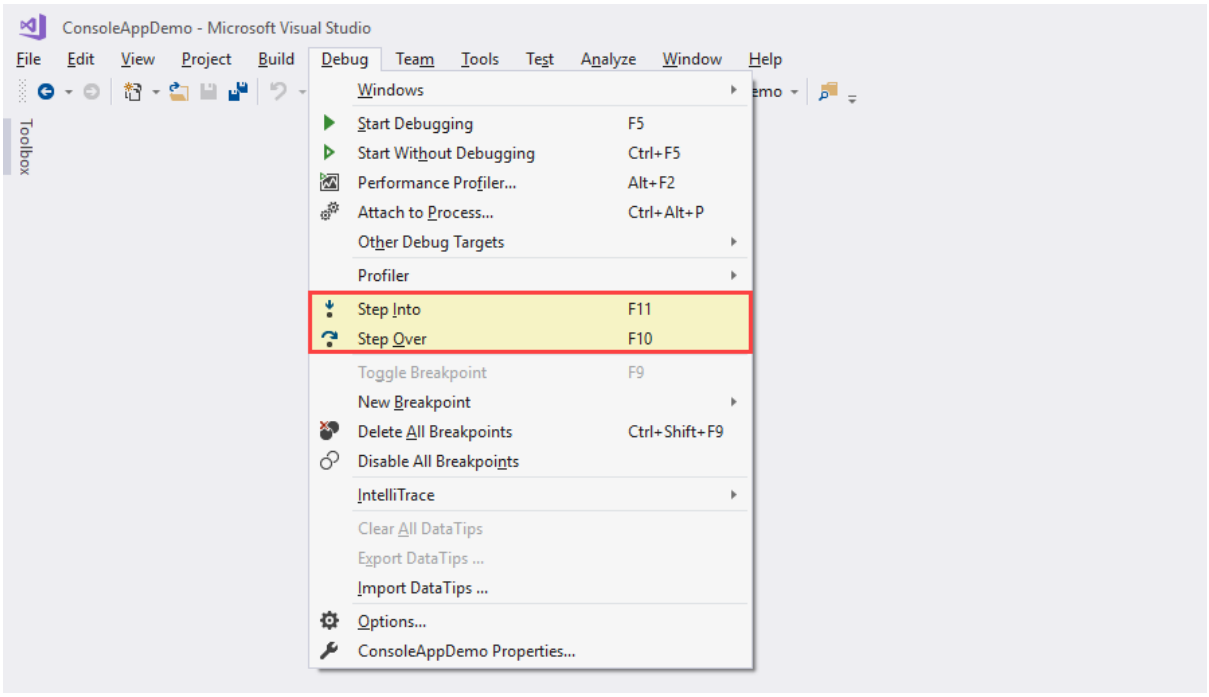


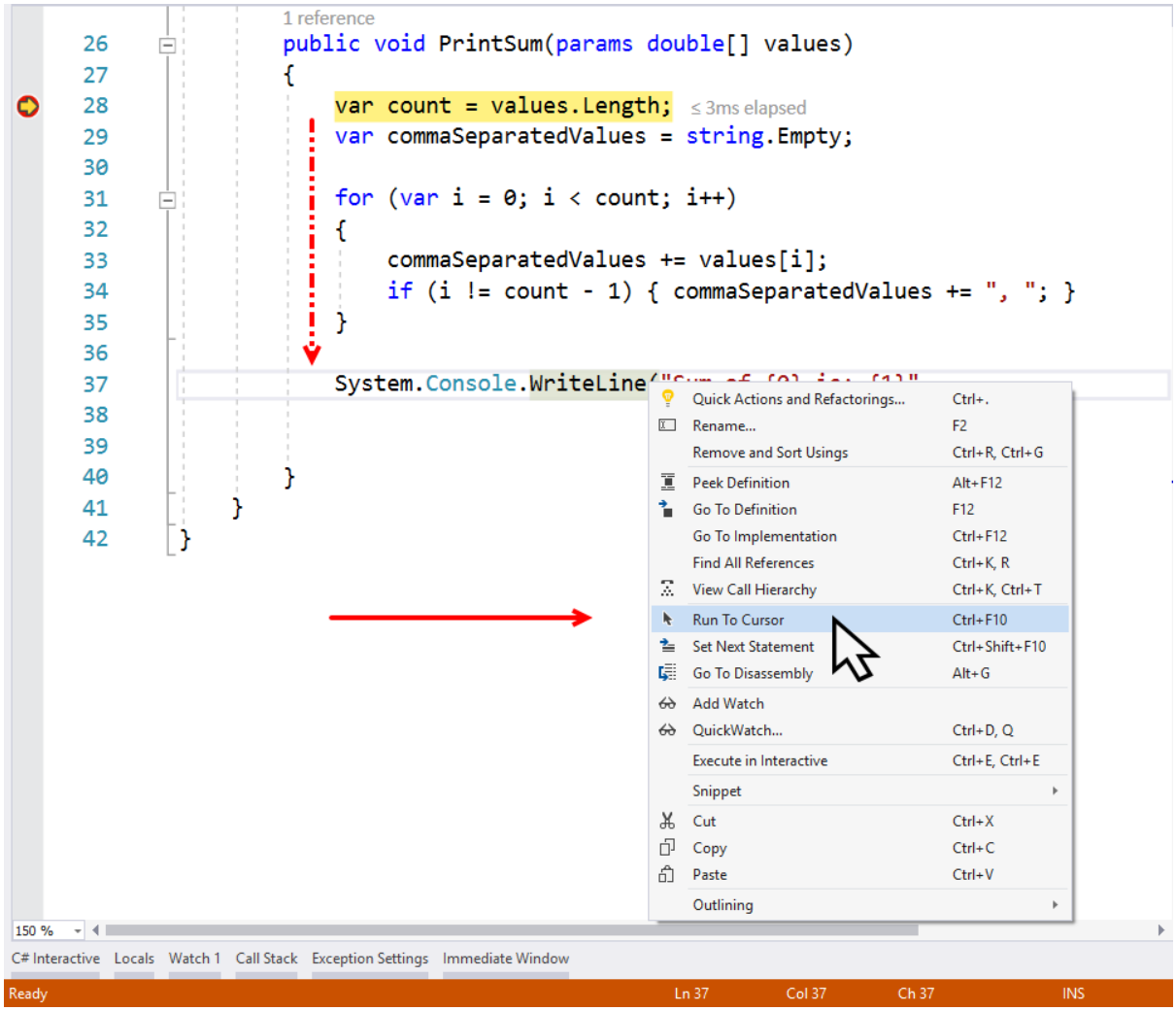


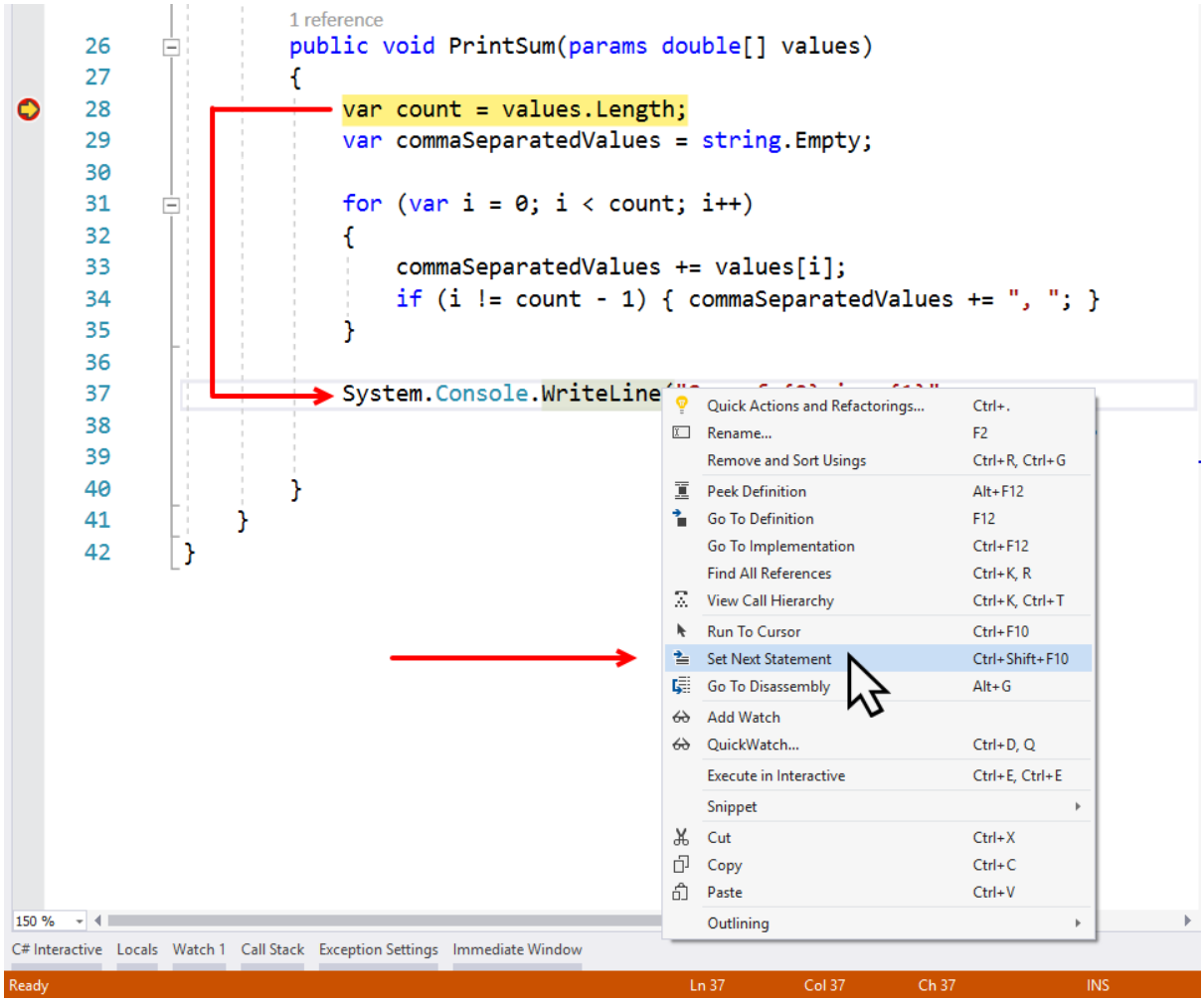

ConsoleAppDemo (Debugging) - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Continue
Quick Launch (Ctrl+Q)
Program.cs
ConsoleAppDemo
ConsoleAppDemo.Program
Main(string[] args)
0 references
class Program
{
0 references
static void Main(string[] args)
{
var objMath = new Math();
objMath.PrintSum(10, 20, 30, 40, 50);
}
}
Diagnostic Tools
Diagnostics session: 0 seconds (234 ms selected)
Events
Process Memory
Snapshot
Private Bytes
CPU (% of all processors)
Solution Explorer

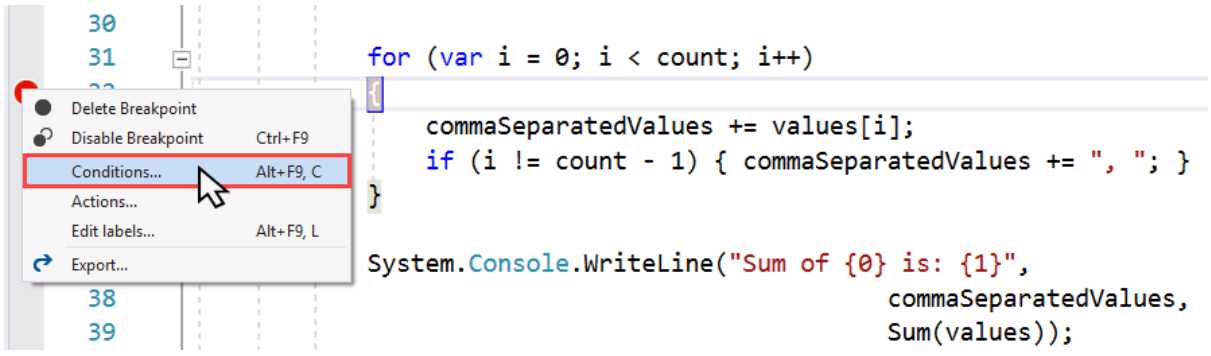

0 references
static void Main(string[] args)
{
var objMath = new Math();
objMath.PrintSum(10, 20, 30, 40, 50);
Delete Breakpoint
Disable Breakpoint Ctrl+F9
Conditions... Alt+F9, C
Actions...
Edit labels... Alt+F9, L
Export...
class Math
{

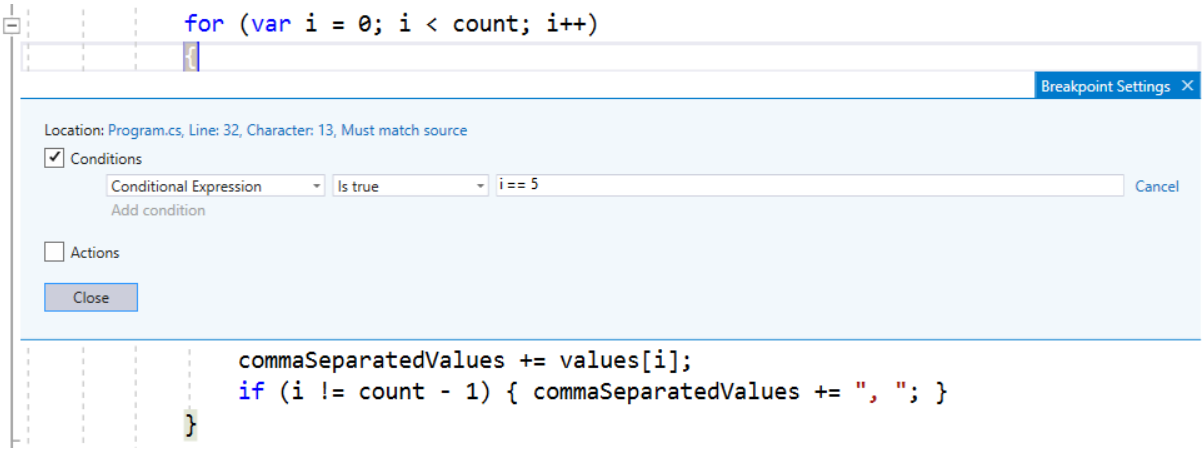

ConsoleAppDemo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Toolbox
Windows
Start Debugging F5
Start Without Debugging Ctrl+F5
Performance Profiler... Alt+F2
Attach to Process... Ctrl+Alt+P
Other Debug Targets
Profiler
Step Into F11
Step Over F10
Toggle Breakpoint F9
New Breakpoint
Delete All Breakpoints Ctrl+Shift+F9
Disable All Breakpoints
IntelliTrace
Clear All DataTips
Export DataTips ...
Import DataTips ...
Options...
ConsoleAppDemo Properties...

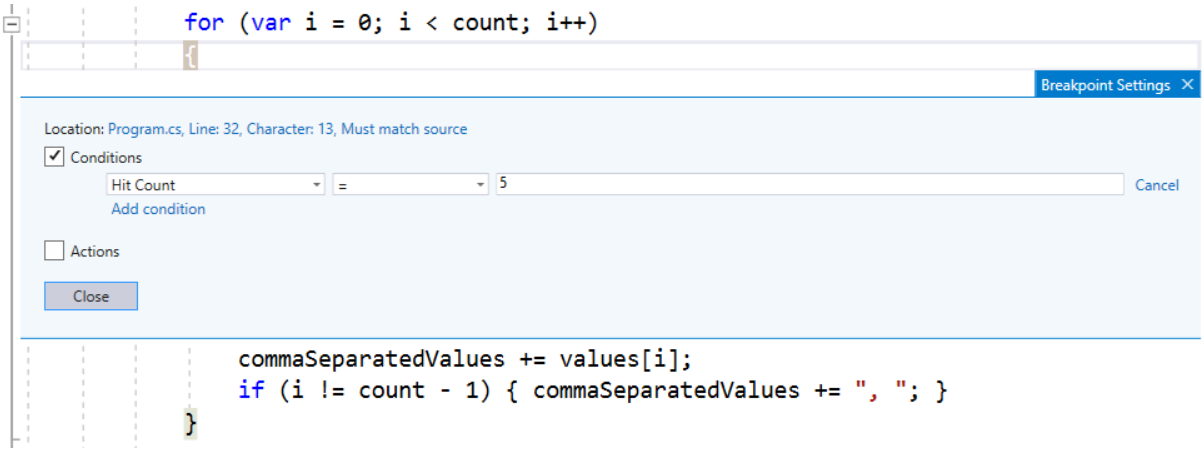

ConsoleAppDemo - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Toolbox
Windows
Start Debugging F5
Start Without Debugging Ctrl+F5
Performance Profiler... Alt+F2
Attach to Process... Ctrl+Alt+P
Other Debug Targets
Profiler
Step Into F11
Step Over F10
Toggle Breakpoint F9
New Breakpoint
Delete All Breakpoints Ctrl+Shift+F9
Disable All Breakpoints
IntelliTrace
Clear All DataTips
Export DataTips ...
Import DataTips ...
Options...
ConsoleAppDemo Properties...

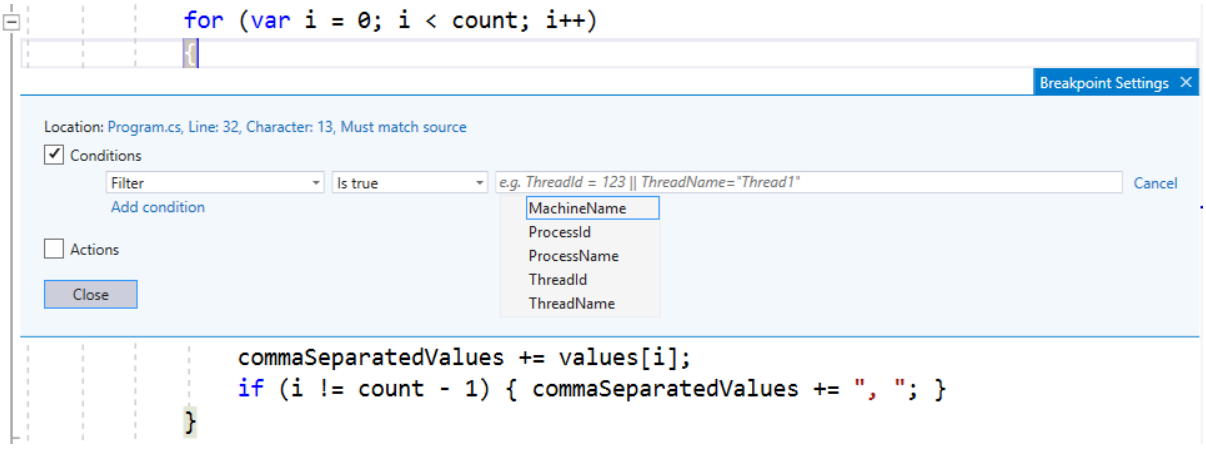

1 reference
public void PrintSum(params double[] values)
{
var count = values.Length; ≤ 3ms elapsed
var commaSeparatedValues = string.Empty;
for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
System.Console.WriteLine
}
}
}
Quick Actions and Refactorings... Ctrl+.
Rename... F2
Remove and Sort Usings Ctrl+R, Ctrl+G
Peek Definition Alt+F12
Go To Definition F12
Go To Implementation Ctrl+F12
Find All References Ctrl+K, R
View Call Hierarchy Ctrl+K, Ctrl+T
Run To Cursor Ctrl+F10
Set Next Statement Ctrl+Shift+F10
Go To Disassembly Alt+G
Add Watch
QuickWatch... Ctrl+D, Q
Execute in Interactive Ctrl+E, Ctrl+E
Snippet
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Outlining
150 %
C# Interactive
Locals
Watch 1
Call Stack
Exception Settings
Immediate Window
Ready
Ln 37
Col 37
Ch 37
INS

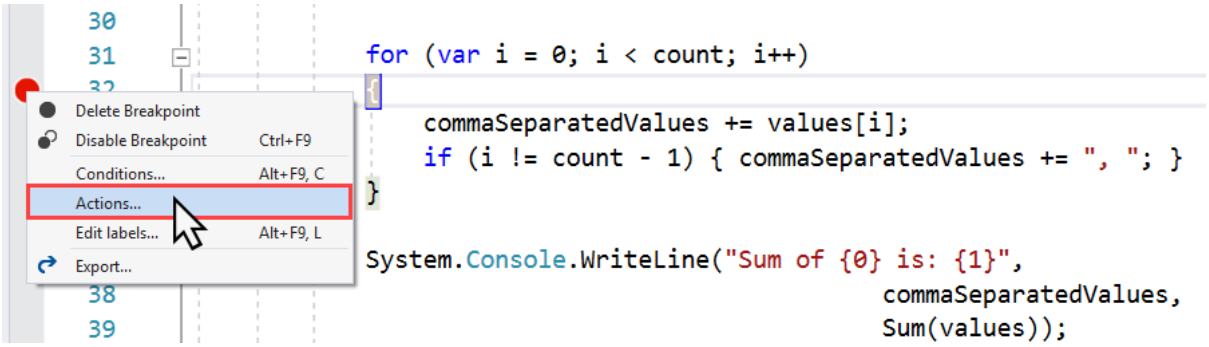

1 reference
public void PrintSum(params double[] values)
{
var count = values.Length;
var commaSeparatedValues = string.Empty;
for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
System.Console.WriteLine
}
}
}
Quick Actions and Refactorings... Ctrl+.
Rename... F2
Remove and Sort Usings Ctrl+R, Ctrl+G
Peek Definition Alt+F12
Go To Definition F12
Go To Implementation Ctrl+F12
Find All References Ctrl+K, R
View Call Hierarchy Ctrl+K, Ctrl+T
Run To Cursor Ctrl+F10
Set Next Statement Ctrl+Shift+F10
Go To Disassembly Alt+G
Add Watch
QuickWatch... Ctrl+D, Q
Execute in Interactive Ctrl+E, Ctrl+E
Snippet
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Outlining
150 %
C# Interactive Locals Watch 1 Call Stack Exception Settings Immediate Window
Ready Ln 37 Col 37 Ch 37 INS

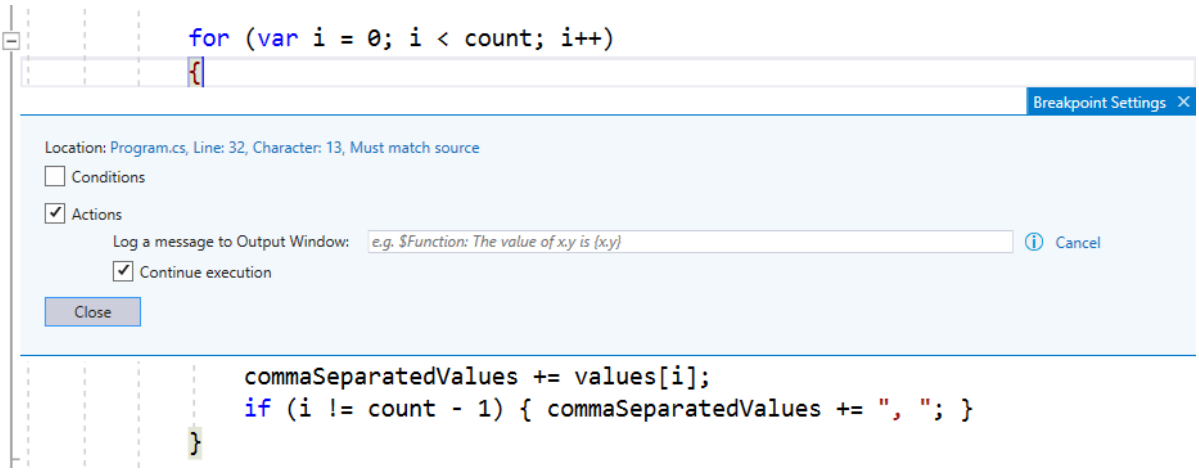

for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
System.Console.WriteLine("Sum of {0} is: {1}",
commaSeparatedValues,
Sum(values));
Delete Breakpoint
Disable Breakpoint Ctrl+F9
Conditions... Alt+F9, C
Actions...
Edit labels... Alt+F9, L
Export...

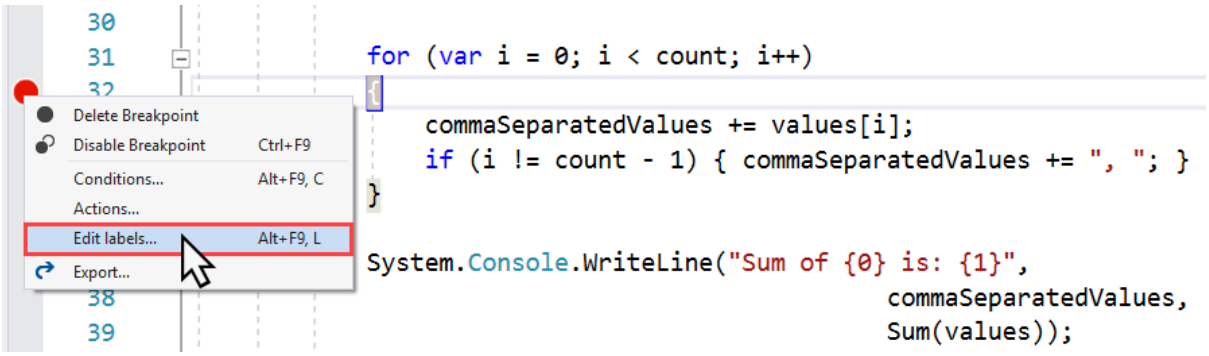

for (var i = 0; i < count; i++)
{
Breakpoint Settings
Location: Program.cs, Line: 32, Character: 13, Must match source
Conditions
Conditional Expression
Is true
i == 5
Cancel
Add condition
Actions
Close
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}

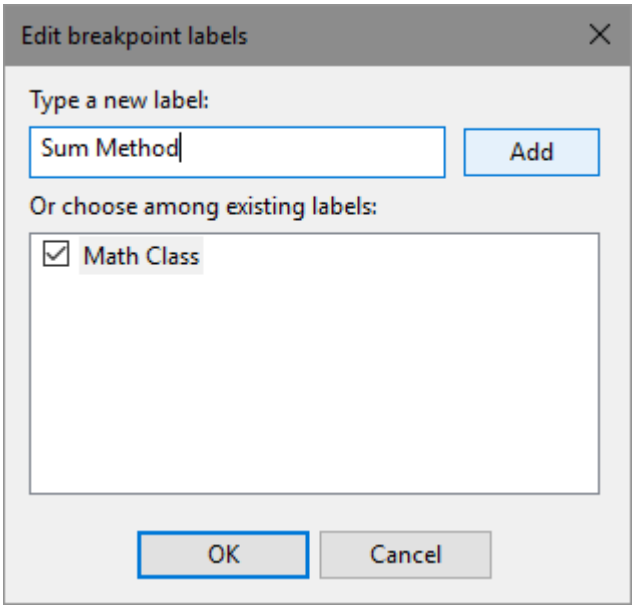

for (var i = 0; i < count; i++)
{
Breakpoint Settings
Location: Program.cs, Line: 32, Character: 13, Must match source
Conditions
Hit Count
=
5
Cancel
Add condition
Actions
Close
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}

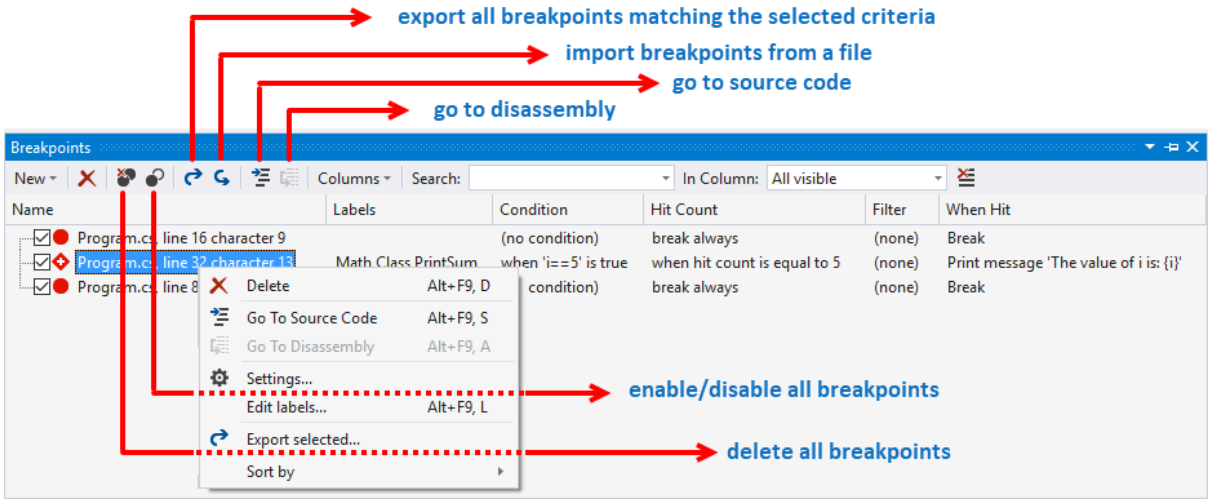

for (var i = 0; i < count; i++)
{
Breakpoint Settings
Location: Program.cs, Line: 32, Character: 13, Must match source
Conditions
Filter
Is true
e.g. ThreadId = 123 || ThreadName="Thread1"
Cancel
Add condition
MachineName
ProcessId
ProcessName
ThreadId
ThreadName
Actions
Close
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}

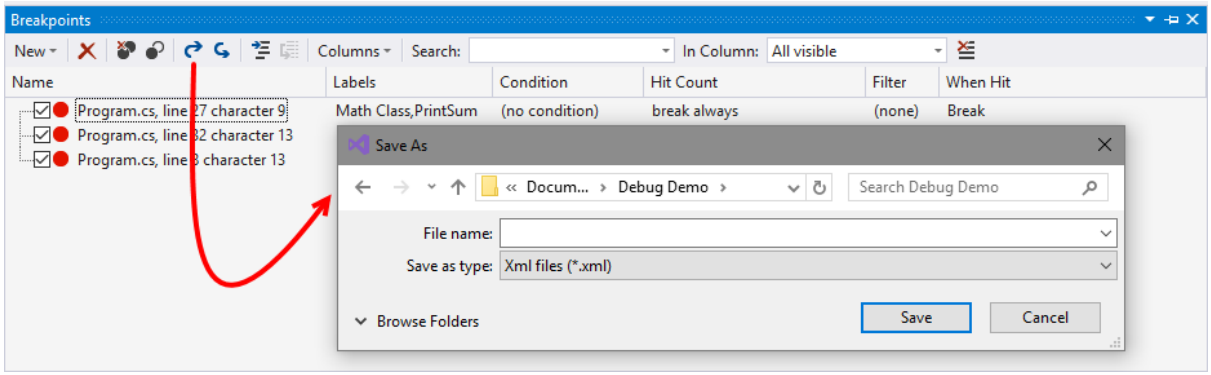

30
31
for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
System.Console.WriteLine("Sum of {0} is: {1}",
commaSeparatedValues,
Sum(values));
Delete Breakpoint
Disable Breakpoint Ctrl+F9
Conditions... Alt+F9, C
Actions...
Edit labels... Alt+F9, L
Export...
38
39

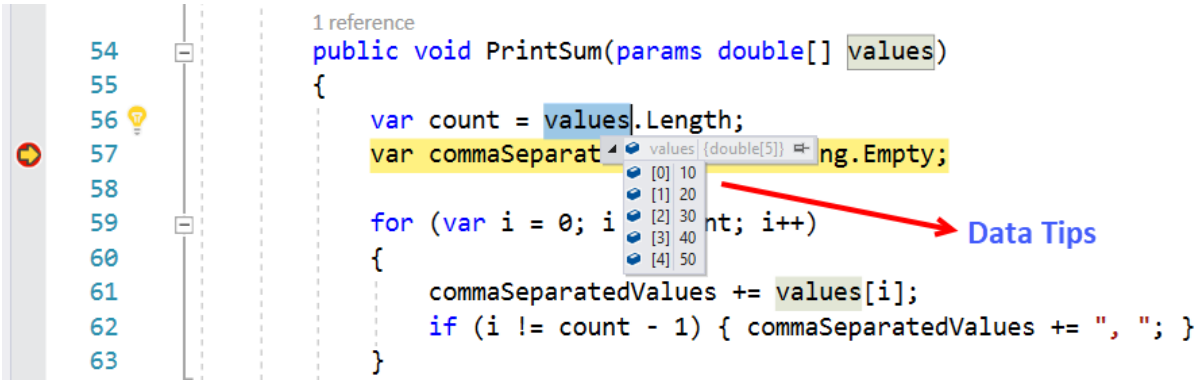

for (var i = 0; i < count; i++)
{
Breakpoint Settings
Location: Program.cs, Line: 32, Character: 13, Must match source
Conditions
Actions
Log a message to Output Window:
e.g. $Function: The value of x.y is {x.y}
Cancel
Continue execution
Close
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}

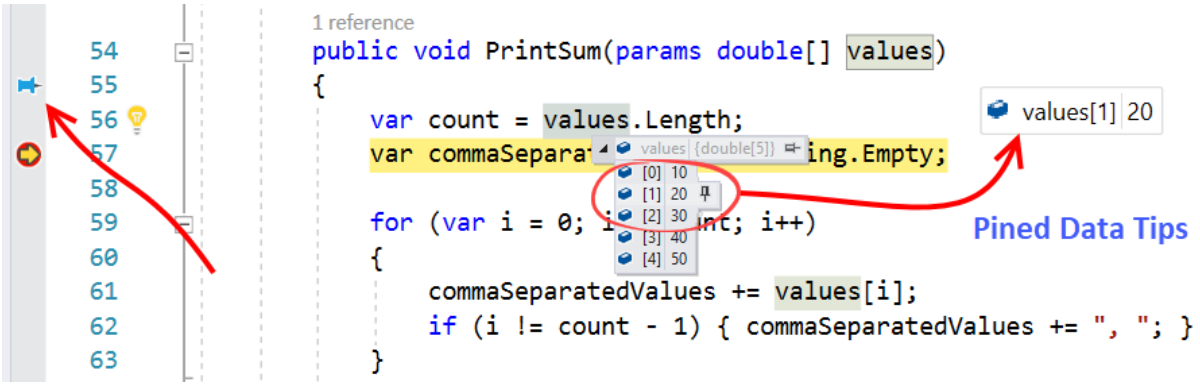

30
31
for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
System.Console.WriteLine("Sum of {0} is: {1}",
commaSeparatedValues,
Sum(values));
Delete Breakpoint
Disable Breakpoint Ctrl+F9
Conditions... Alt+F9, C
Actions...
Edit labels... Alt+F9, L
Export...
38
39

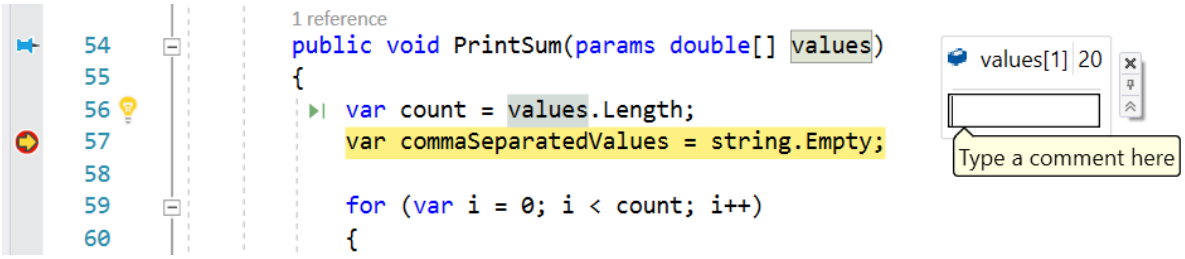

Edit breakpoint labels
Type a new label:
Sum Method
Add
Or choose among existing labels:
Math Class
OK
Cancel

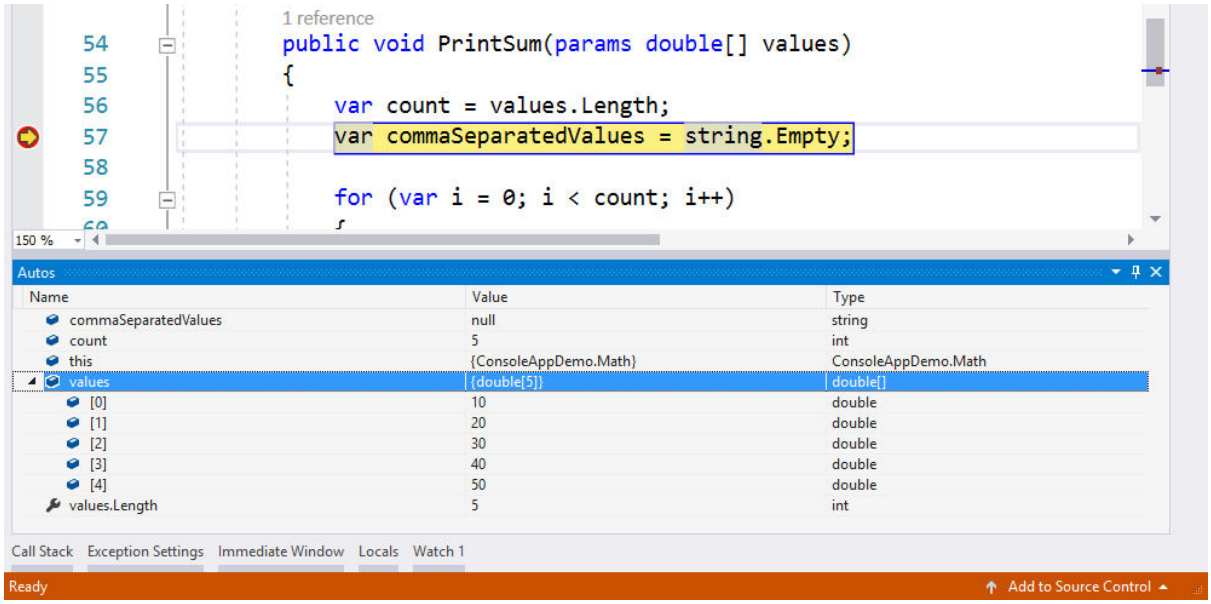

export all breakpoints matching the selected criteria
import breakpoints from a file
go to source code
go to disassembly
Breakpoints
New
Columns
Search:
In Column:
All visible
Name
Labels
Condition
Hit Count
Filter
When Hit
Program.cs, line 16 character 9
(no condition)
break always
(none)
Break
Math Class.PrintSum
when 'i==5' is true
when hit count is equal to 5
(none)
Print message 'The value of i is: {i}'
condition)
break always
(none)
Break
Delete
Alt+F9, D
Go To Source Code
Alt+F9, S
Go To Disassembly
Alt+F9, A
Settings...
Edit labels...
Alt+F9, L
Export selected...
Sort by
enable/disable all breakpoints
delete all breakpoints

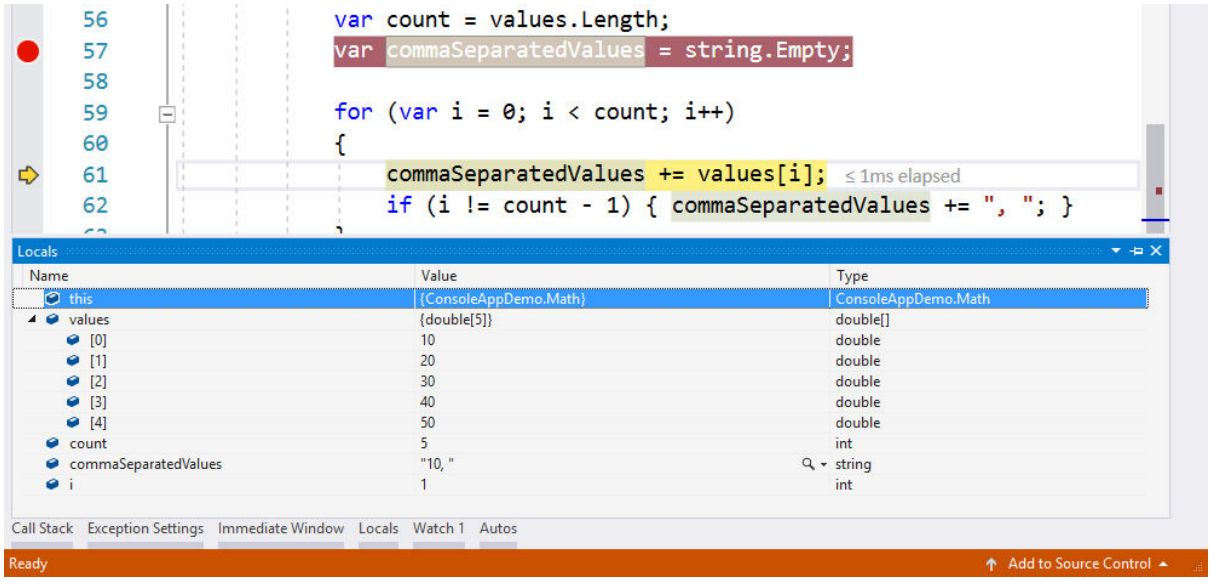

Breakpoints
New
Columns
Search:
In Column:
All visible
Name
Labels
Condition
Hit Count
Filter
When Hit
Program.cs, line 27 character 9
Math Class,PrintSum
(no condition)
break always
(none)
Break
Program.cs, line 32 character 13
Program.cs, line 8 character 13
Save As
Docum...
Debug Demo
Search Debug Demo
File name:
Save as type:
Xml files (*.xml)
Browse Folders
Save
Cancel

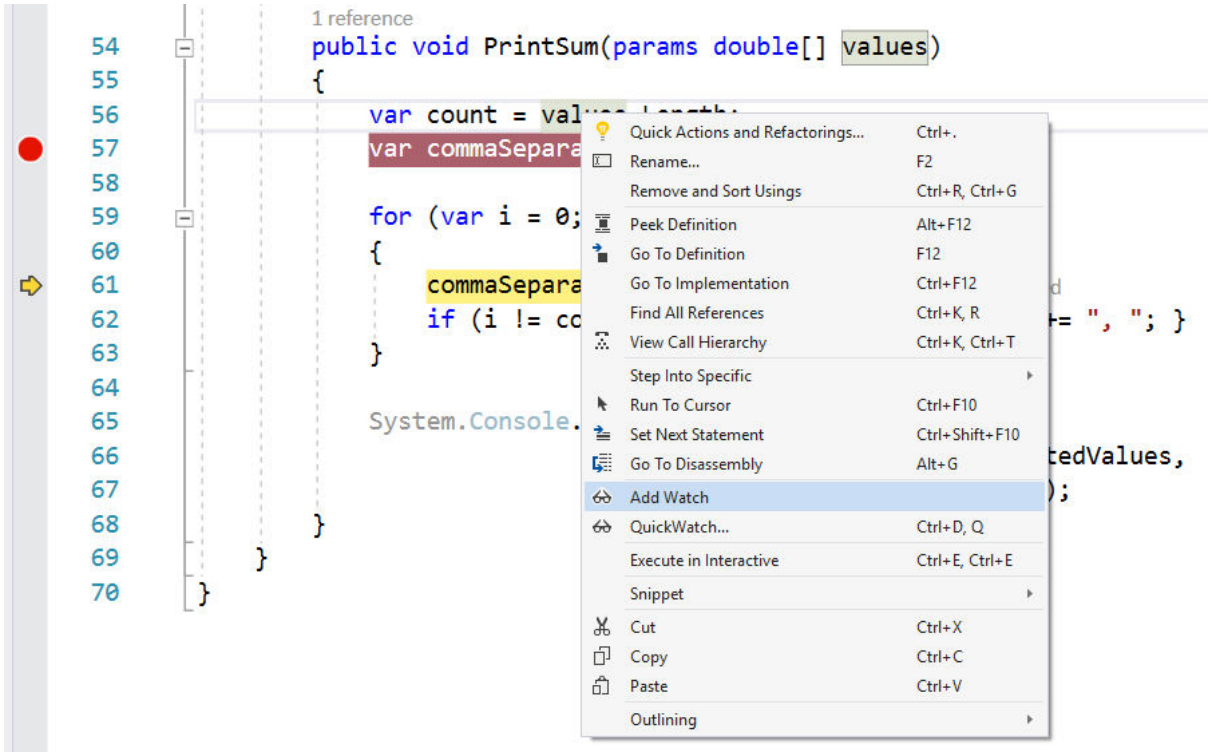

1 reference
public void PrintSum(params double[] values)
{
var count = values.Length;
var commaSeparat
values {double[5]}
[0] 10
[1] 20
[2] 30
[3] 40
[4] 50
ng.Empty;
for (var i = 0; i
nt; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
Data Tips

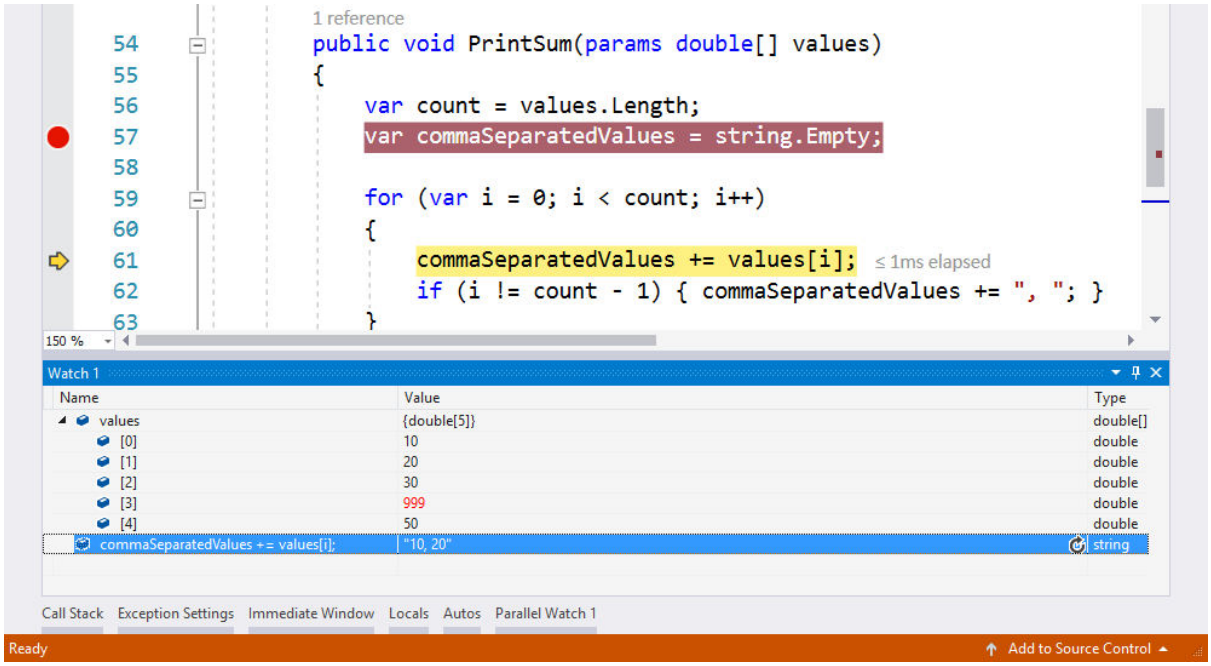

1 reference
public void PrintSum(params double[] values)
{
var count = values.Length;
var commaSepara
values {double[5]}
[0] 10
[1] 20
[2] 30
[3] 40
[4] 50
ing.Empty;
for (var i = 0;
nt; i++)
{
commaSeparatedValues += values[i];
if (i != count - 1) { commaSeparatedValues += ", "; }
}
values[1] 20
Pined Data Tips

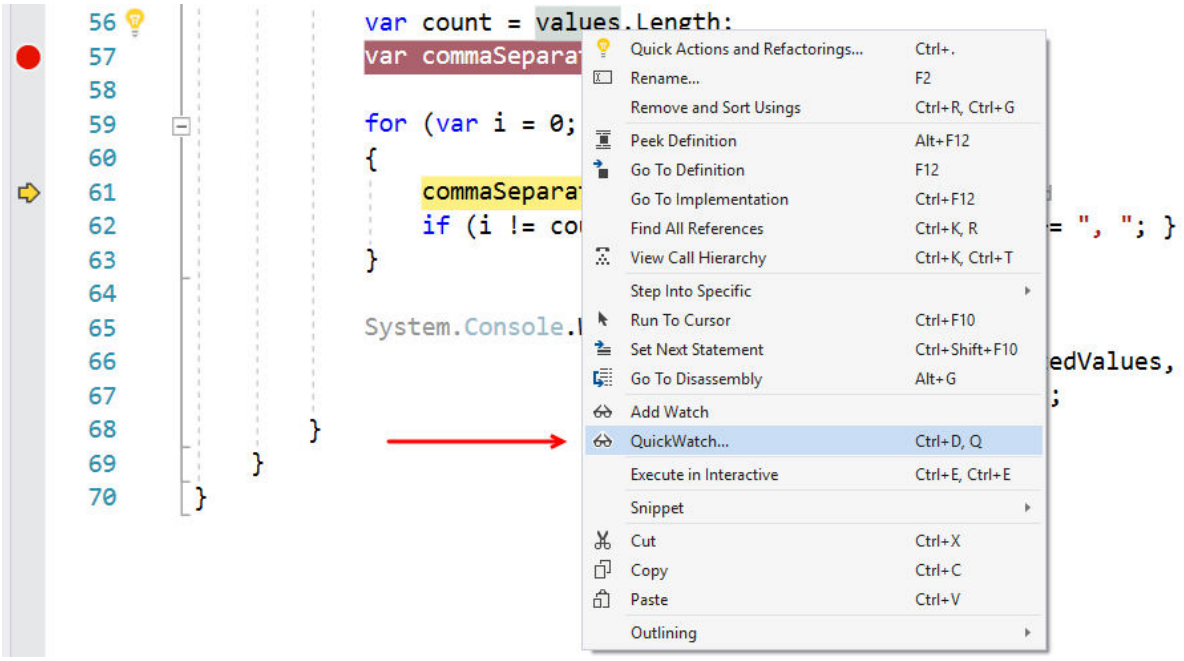

1 reference
public void PrintSum(params double[] values)
{
var count = values.Length;
var commaSeparatedValues = string.Empty;
for (var i = 0; i < count; i++)
{
values[1] 20
Type a comment here

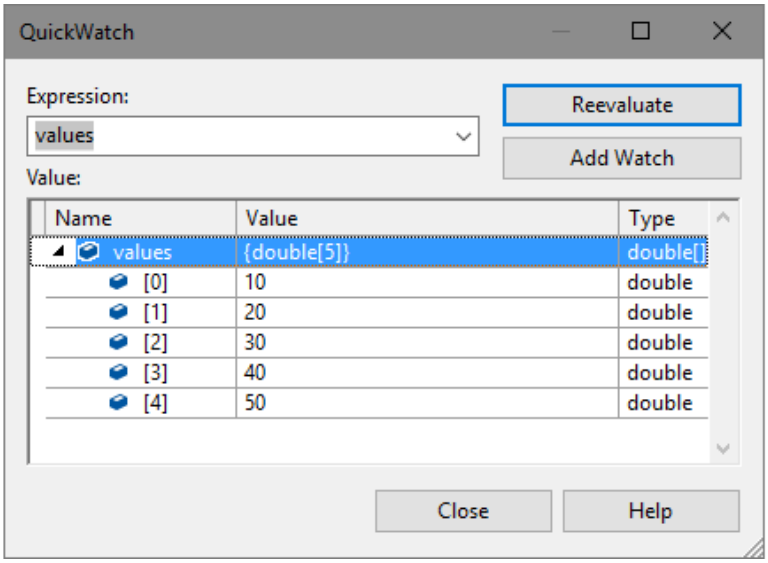

1 reference
54 public void PrintSum(params double[] values)
55 {
56 var count = values.Length;
57 var commaSeparatedValues = string.Empty;
58
59 for (var i = 0; i < count; i++)
150 %
Autos
Name Value Type
commaSeparatedValues null string
count 5 int
this {ConsoleAppDemo.Math} ConsoleAppDemo.Math
values {double[5]} double[]
[0] 10 double
[1] 20 double
[2] 30 double
[3] 40 double
[4] 50 double
values.Length 5 int
Call Stack Exception Settings Immediate Window Locals Watch 1
Ready
Add to Source Control

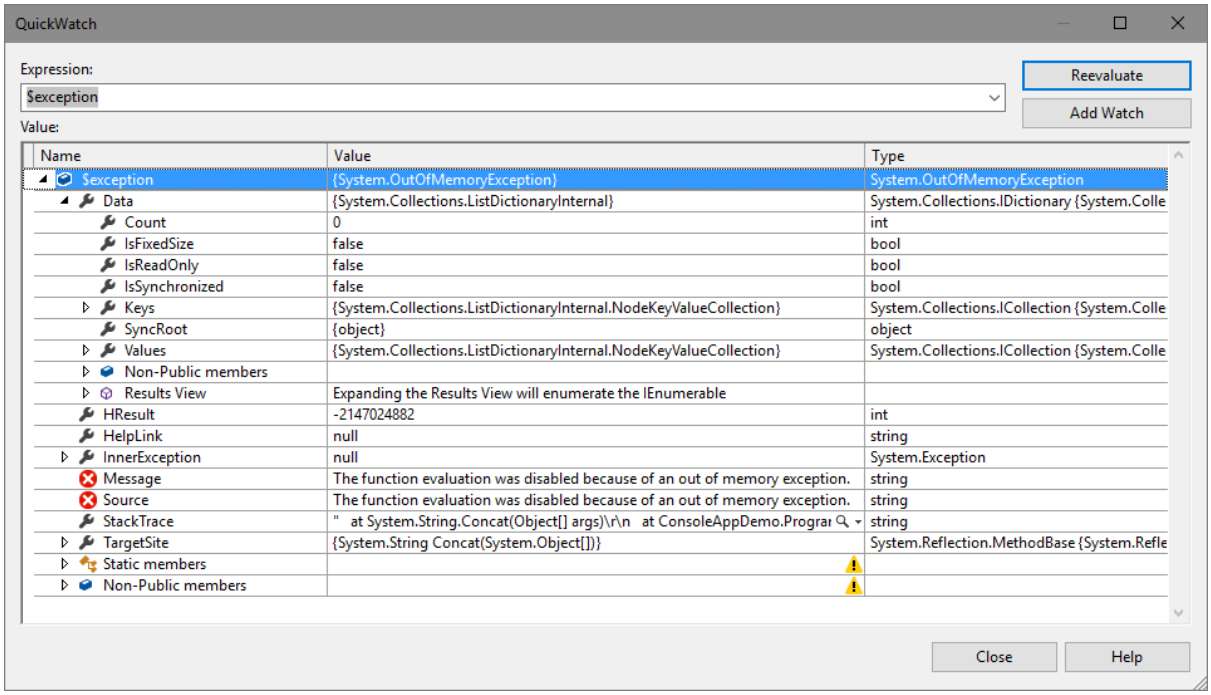

56 var count = values.Length;
57 var commaSeparatedValues = string.Empty;
58
59 for (var i = 0; i < count; i++)
60 {
61 commaSeparatedValues += values[i]; ≤ 1ms elapsed
62 if (i != count - 1) { commaSeparatedValues += ", "; }
Locals
Name Value Type
this {ConsoleAppDemo.Math} ConsoleAppDemo.Math
values {double[5]} double[]
[0] 10 double
[1] 20 double
[2] 30 double
[3] 40 double
[4] 50 double
count 5 int
commaSeparatedValues "10, " string
i 1 int
Call Stack Exception Settings Immediate Window Locals Watch 1 Autos
Ready
Add to Source Control

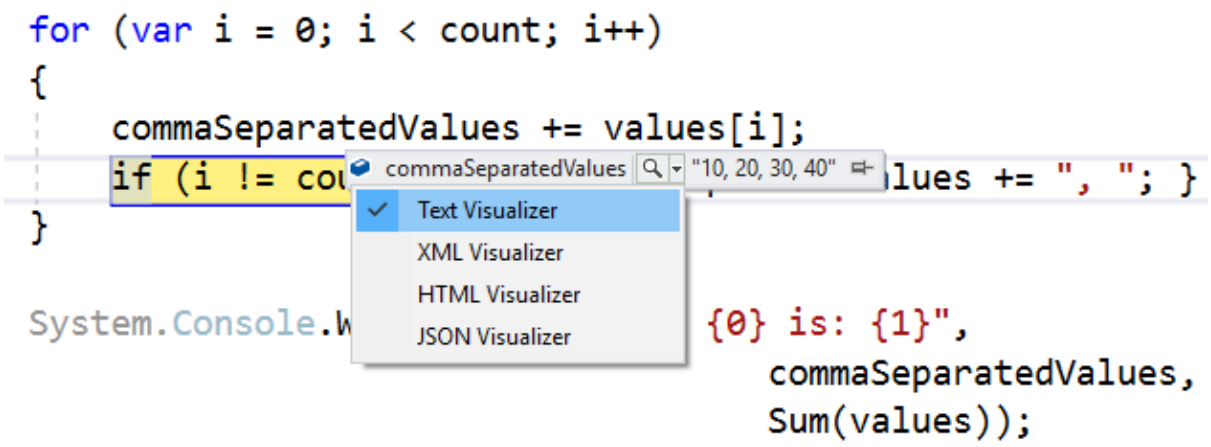

1 reference
public void PrintSum(params double[] values)
{
var count = val
var commaSepara
for (var i = 0;
{
commaSepara
if (i != co
}
System.Console.
}
}
}
Quick Actions and Refactorings... Ctrl+.
Rename... F2
Remove and Sort Usings Ctrl+R, Ctrl+G
Peek Definition Alt+F12
Go To Definition F12
Go To Implementation Ctrl+F12
Find All References Ctrl+K, R
View Call Hierarchy Ctrl+K, Ctrl+T
Step Into Specific
Run To Cursor Ctrl+F10
Set Next Statement Ctrl+Shift+F10
Go To Disassembly Alt+G
Add Watch
QuickWatch... Ctrl+D, Q
Execute in Interactive Ctrl+E, Ctrl+E
Snippet
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Outlining

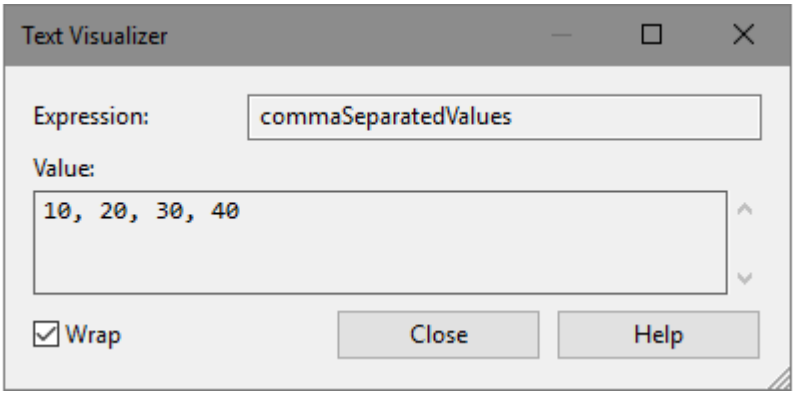

1 reference
public void PrintSum(params double[] values)
{
var count = values.Length;
var commaSeparatedValues = string.Empty;
for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i]; ≤ 1ms elapsed
if (i != count - 1) { commaSeparatedValues += ", "; }
}
150 %
Watch 1
Name
Value
Type
values
{double[5]}
double[]
[0]
10
double
[1]
20
double
[2]
30
double
[3]
999
double
[4]
50
double
commaSeparatedValues += values[i];
"10, 20"
string
Call Stack
Exception Settings
Immediate Window
Locals
Autos
Parallel Watch 1
Ready
Add to Source Control

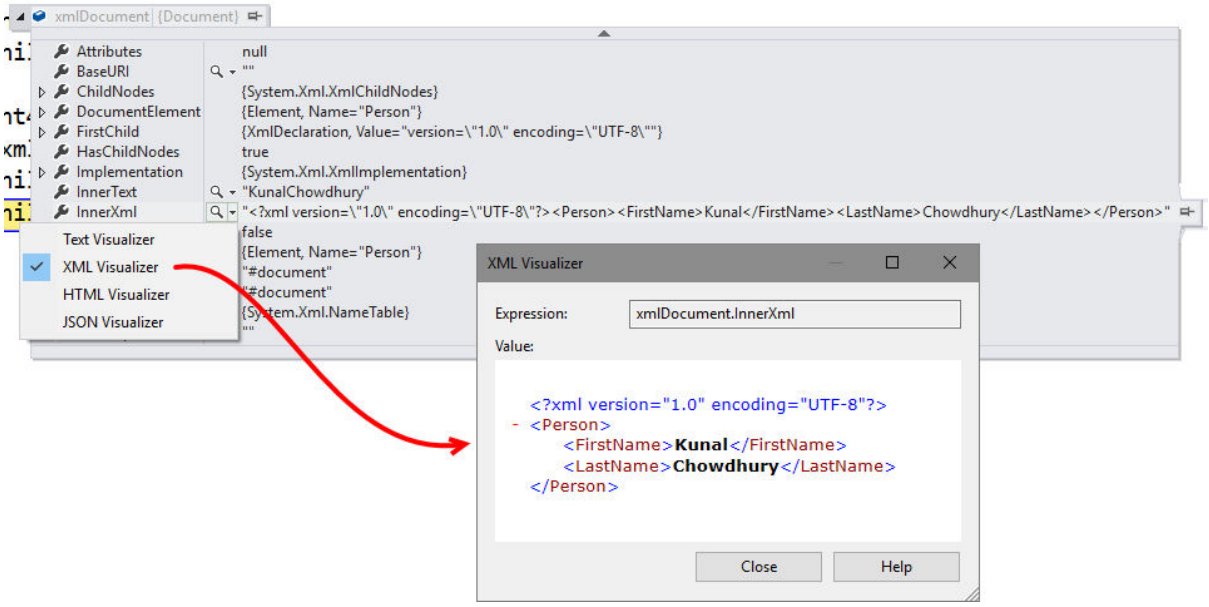

var count = values.Length;
var commaSepara
for (var i = 0;
{
commaSepara
if (i != co
}
System.Console.
}
}
}
= ", "; }
edValues,
;
Quick Actions and Refactorings... Ctrl+.
Rename... F2
Remove and Sort Usings Ctrl+R, Ctrl+G
Peek Definition Alt+F12
Go To Definition F12
Go To Implementation Ctrl+F12
Find All References Ctrl+K, R
View Call Hierarchy Ctrl+K, Ctrl+T
Step Into Specific
Run To Cursor Ctrl+F10
Set Next Statement Ctrl+Shift+F10
Go To Disassembly Alt+G
Add Watch
QuickWatch... Ctrl+D, Q
Execute in Interactive Ctrl+E, Ctrl+E
Snippet
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Outlining

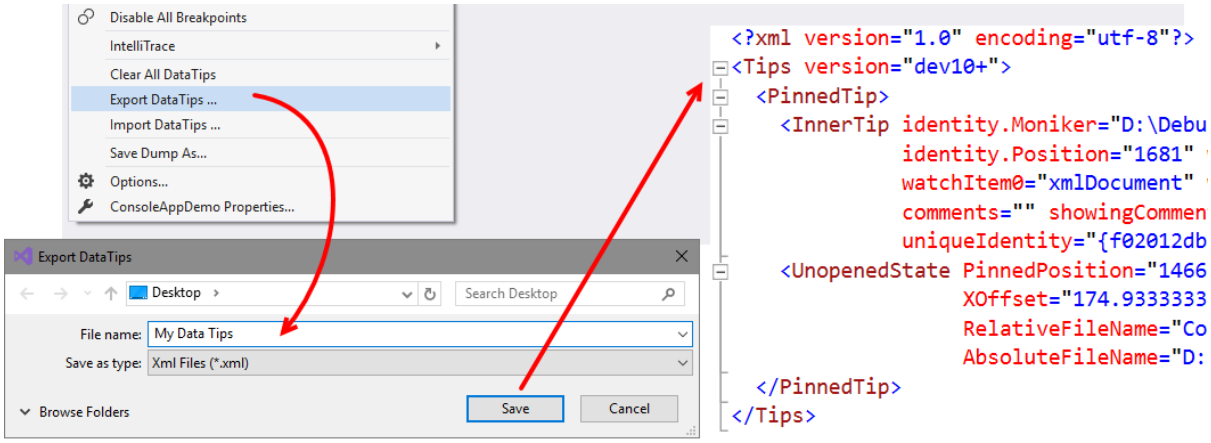

QuickWatch
Expression:
values
Reevaluate
Add Watch
Value:
Name
Value
Type
values
{double[5]}
double[]
[0]
10
double
[1]
20
double
[2]
30
double
[3]
40
double
[4]
50
double
Close
Help


QuickWatch
Expression:
$exception
Reevaluate
Add Watch
Value:
Name
Value
Type
$exception
{System.OutOfMemoryException}
System.OutOfMemoryException
Data
{System.Collections.ListDictionaryInternal}
System.Collections.IDictionary {System.Colle
Count
0
int
IsFixedSize
false
bool
IsReadOnly
false
bool
IsSynchronized
false
bool
Keys
{System.Collections.ListDictionaryInternal.NodeKeyValueCollection}
System.Collections.ICollection {System.Colle
SyncRoot
{object}
object
Values
{System.Collections.ListDictionaryInternal.NodeKeyValueCollection}
System.Collections.ICollection {System.Colle
Non-Public members
Results View
Expanding the Results View will enumerate the IEnumerable
HResult
-2147024882
int
HelpLink
null
string
InnerException
null
System.Exception
Message
The function evaluation was disabled because of an out of memory exception.
string
Source
The function evaluation was disabled because of an out of memory exception.
string
StackTrace
" at System.String.Concat(Object[] args)\r\n at ConsoleAppDemo.Prograı
string
TargetSite
{System.String Concat(System.Object[])}
System.Reflection.MethodBase {System.Refle
Static members
Non-Public members
Close
Help

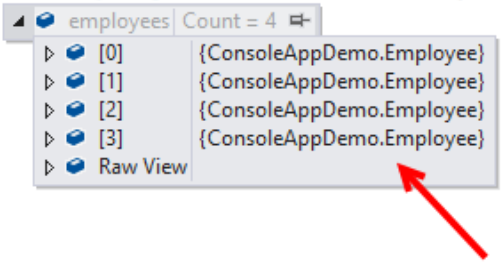

for (var i = 0; i < count; i++)
{
commaSeparatedValues += values[i];
if (i != cou
commaSeparatedValues
"10, 20, 30, 40"
lues += ", "; }
}
Text Visualizer
XML Visualizer
HTML Visualizer
JSON Visualizer
System.Console.W
{0} is: {1}",
commaSeparatedValues,
Sum(values));


Text Visualizer
Expression:
commaSeparatedValues
Value:
10, 20, 30, 40
Wrap
Close
Help



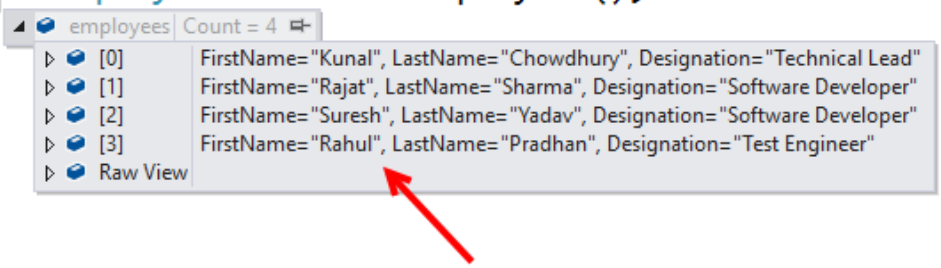


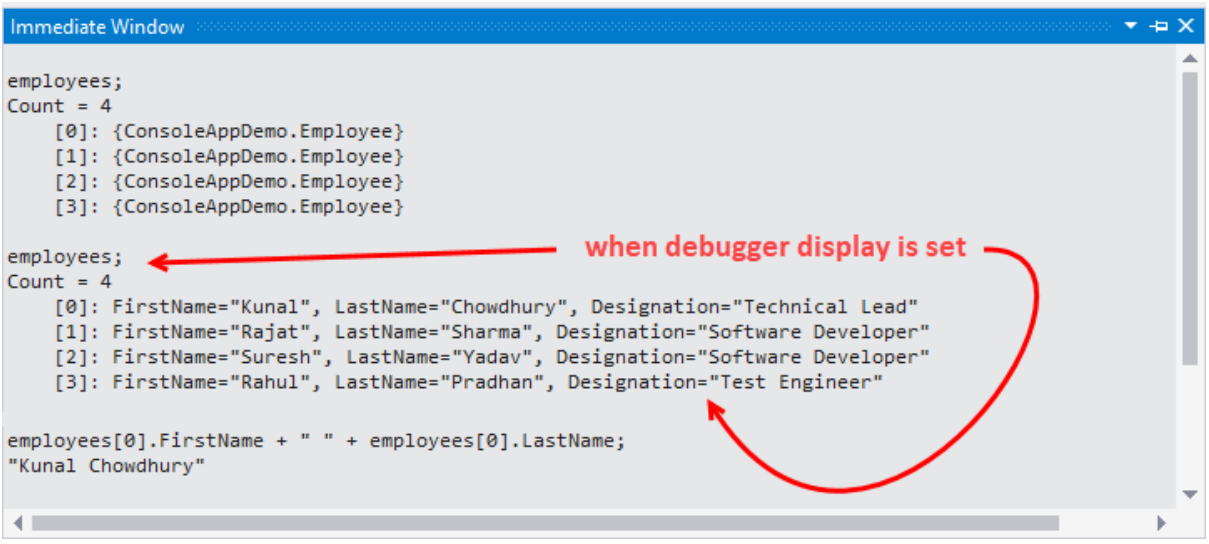

```
var employees = EmployeeContext.GetEmployees();
```

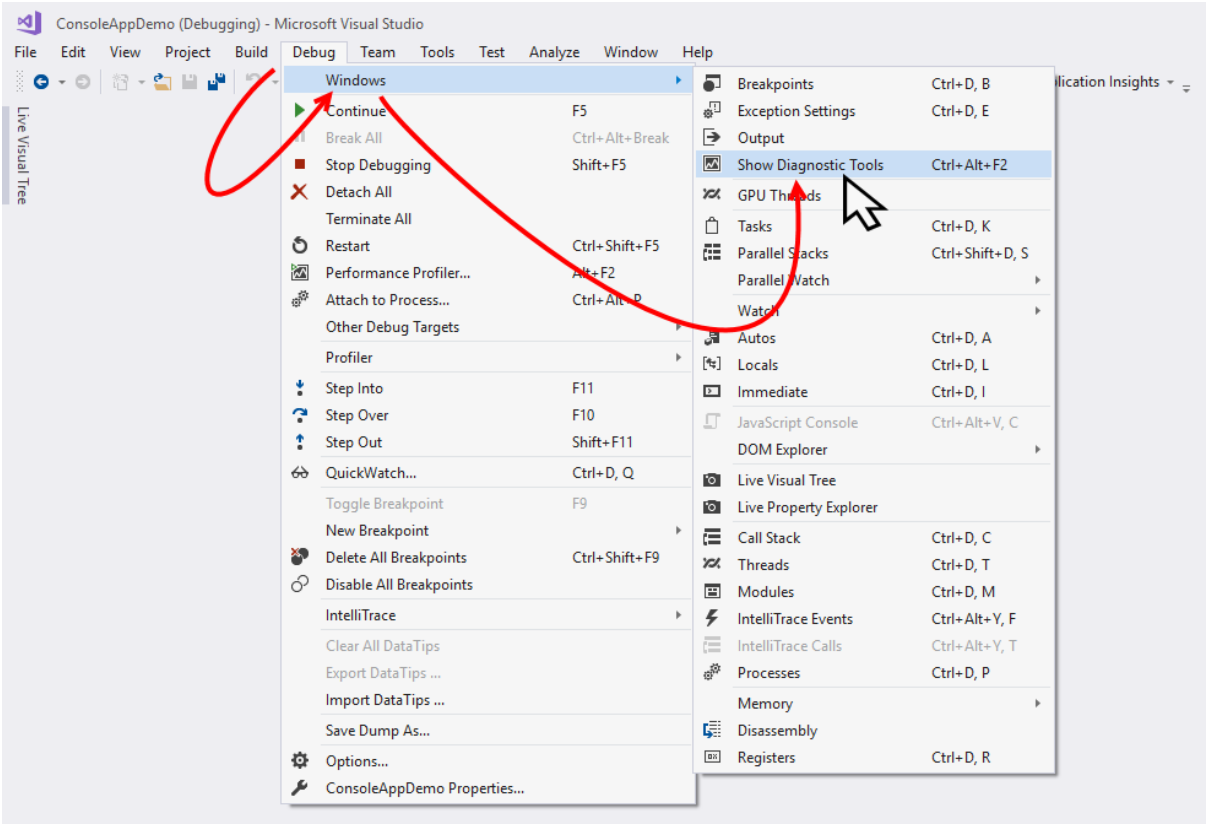


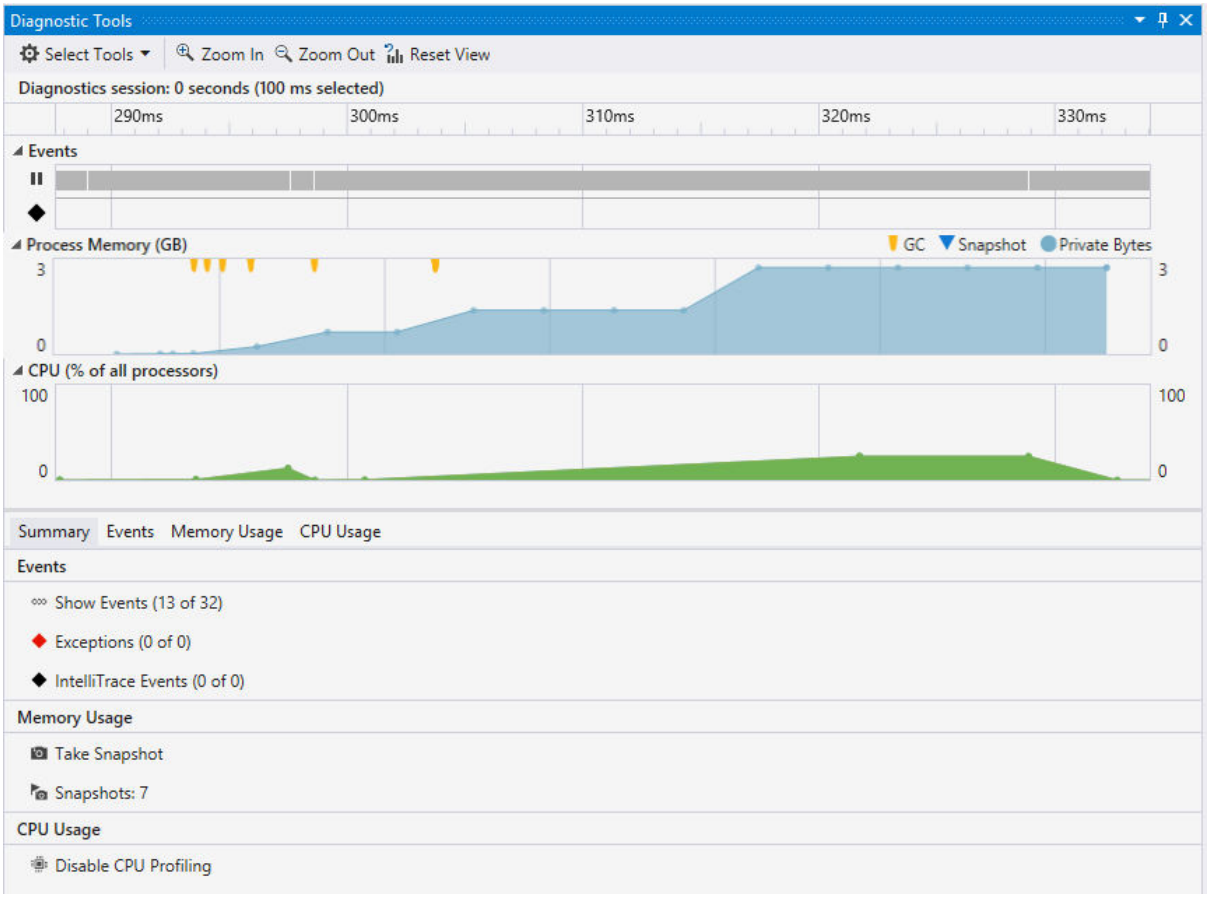
```
[DebuggerDisplay("FirstName={FirstName}, LastName={LastName}, Designation={Designation}")]
public class Employee
{
    public string FirstName { get; set; }
    public string LastName { get; set; }
    public string Designation { get; set; }
}
```

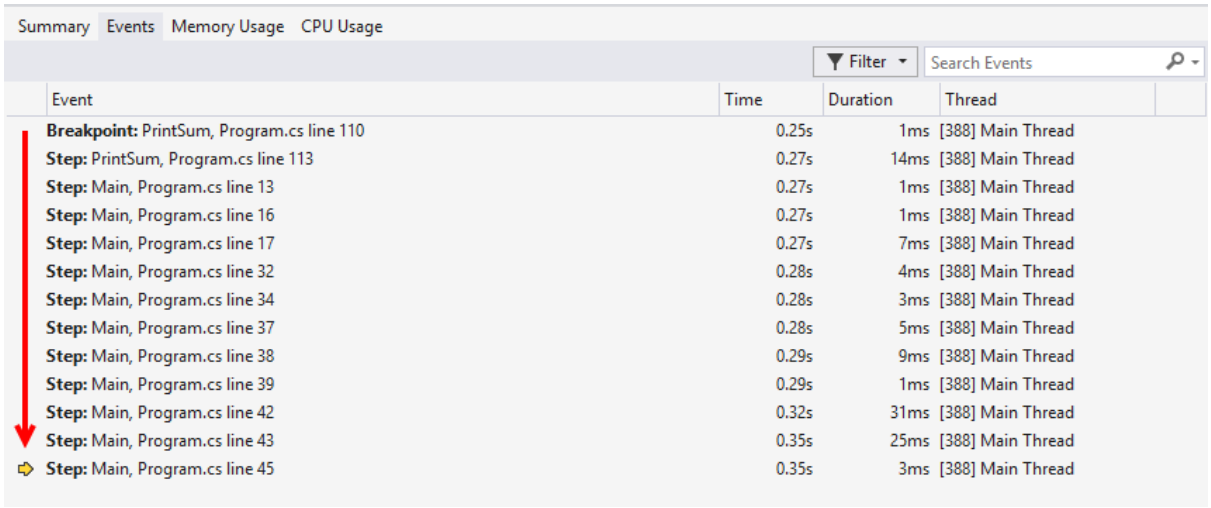
```
var employees = EmployeeContext.GetEmployees();
```

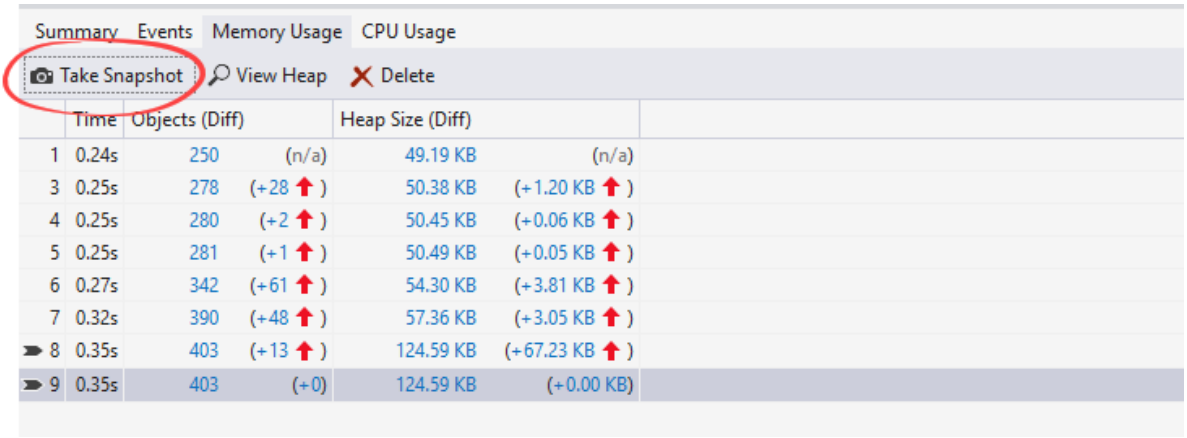


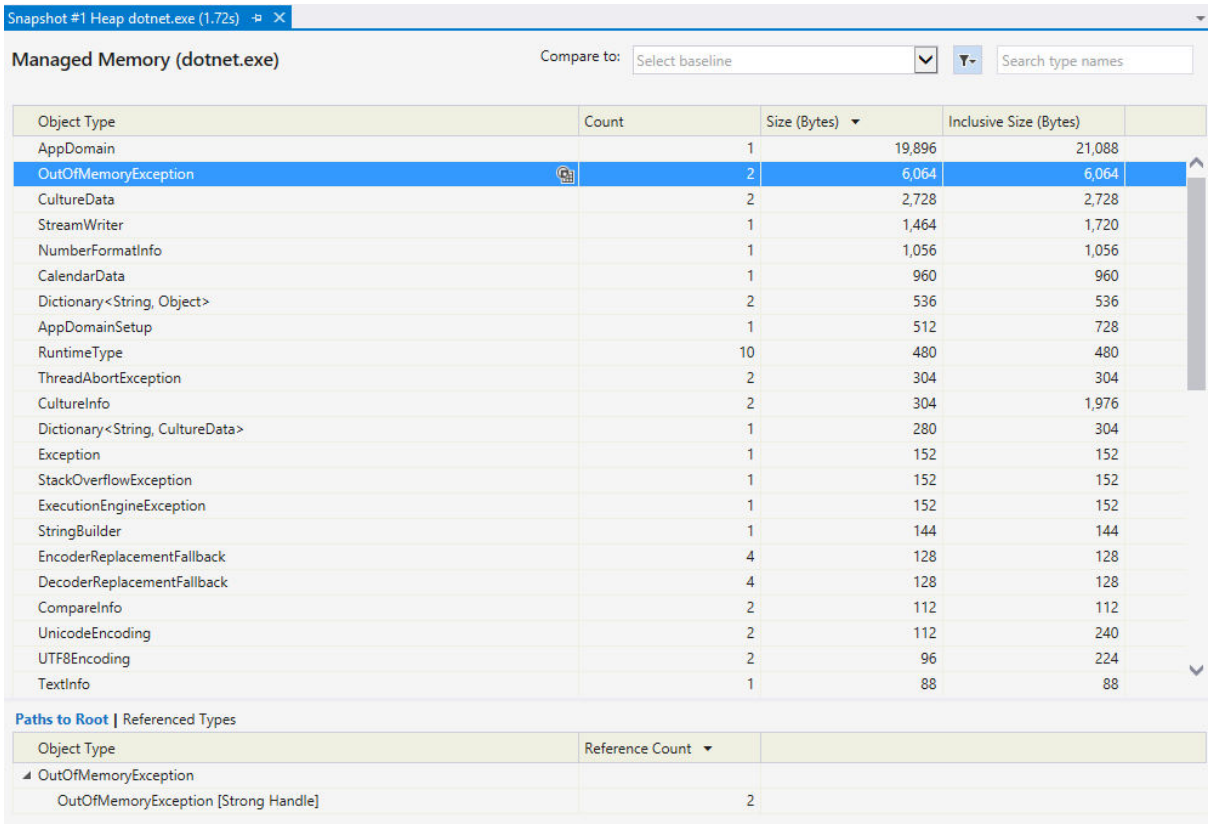


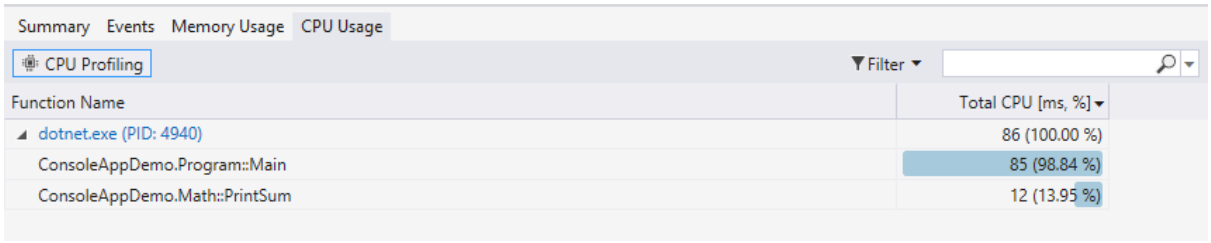

ConsoleAppDemo (Debugging) - Microsoft Visual Studio
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Live Visual Tree
Windows
Continue F5
Break All Ctrl+Alt+Break
Stop Debugging Shift+F5
Detach All
Terminate All
Restart Ctrl+Shift+F5
Performance Profiler... Alt+F2
Attach to Process... Ctrl+Alt+P
Other Debug Targets
Profiler
Step Into F11
Step Over F10
Step Out Shift+F11
QuickWatch... Ctrl+D, Q
Toggle Breakpoint F9
New Breakpoint
Delete All Breakpoints Ctrl+Shift+F9
Disable All Breakpoints
IntelliTrace
Clear All DataTips
Export DataTips ...
Import DataTips ...
Save Dump As...
Options...
ConsoleAppDemo Properties...
Breakpoints Ctrl+D, B
Exception Settings Ctrl+D, E
Output
Show Diagnostic Tools Ctrl+Alt+F2
GPU Threads
Tasks Ctrl+D, K
Parallel Stacks Ctrl+Shift+D, S
Parallel Watch
Watch
Autos Ctrl+D, A
Locals Ctrl+D, L
Immediate Ctrl+D, I
JavaScript Console Ctrl+Alt+V, C
DOM Explorer
Live Visual Tree
Live Property Explorer
Call Stack Ctrl+D, C
Threads Ctrl+D, T
Modules Ctrl+D, M
IntelliTrace Events Ctrl+Alt+Y, F
IntelliTrace Calls Ctrl+Alt+Y, T
Processes Ctrl+D, P
Memory
Disassembly
Registers Ctrl+D, R

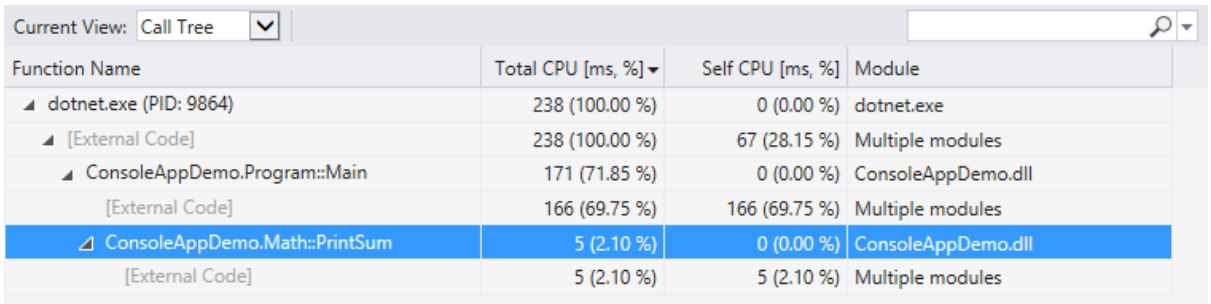

Diagnostic Tools
Select Tools
Zoom In
Zoom Out
Reset View
Diagnostics session: 0 seconds (100 ms selected)
290ms
300ms
310ms
320ms
330ms
Events
Process Memory (GB)
GC
Snapshot
Private Bytes
3
0
CPU (% of all processors)
100
0
Summary
Events
Memory Usage
CPU Usage
Events
Show Events (13 of 32)
Exceptions (0 of 0)
IntelliTrace Events (0 of 0)
Memory Usage
Take Snapshot
Snapshots: 7
CPU Usage
Disable CPU Profiling

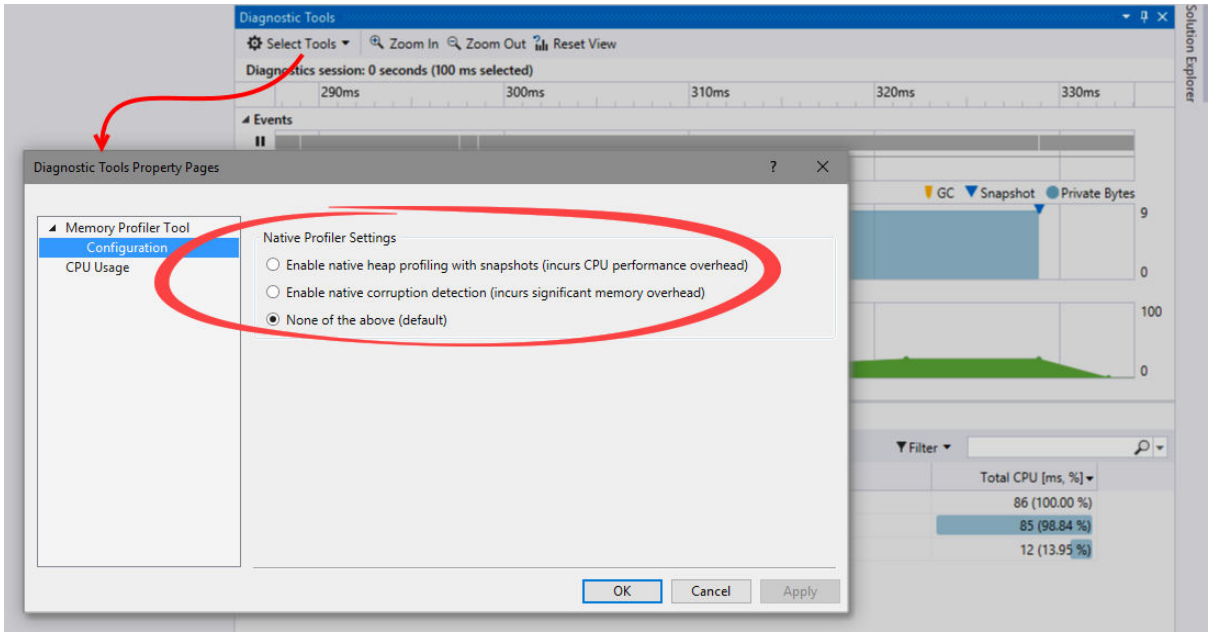

Summary
Events
Memory Usage
CPU Usage
Filter
Search Events
Event
Time
Duration
Thread
Breakpoint: PrintSum, Program.cs line 110 0.25s 1ms [388] Main Thread
Step: PrintSum, Program.cs line 113 0.27s 14ms [388] Main Thread
Step: Main, Program.cs line 13 0.27s 1ms [388] Main Thread
Step: Main, Program.cs line 16 0.27s 1ms [388] Main Thread
Step: Main, Program.cs line 17 0.27s 7ms [388] Main Thread
Step: Main, Program.cs line 32 0.28s 4ms [388] Main Thread
Step: Main, Program.cs line 34 0.28s 3ms [388] Main Thread
Step: Main, Program.cs line 37 0.28s 5ms [388] Main Thread
Step: Main, Program.cs line 38 0.29s 9ms [388] Main Thread
Step: Main, Program.cs line 39 0.29s 1ms [388] Main Thread
Step: Main, Program.cs line 42 0.32s 31ms [388] Main Thread
Step: Main, Program.cs line 43 0.35s 25ms [388] Main Thread
Step: Main, Program.cs line 45 0.35s 3ms [388] Main Thread


Summary
Events
Memory Usage
CPU Usage
Take Snapshot
View Heap
Delete
Time
Objects (Diff)
Heap Size (Diff)
1 0.24s 250 (n/a) 49.19 KB (n/a)
3 0.25s 278 (+28) 50.38 KB (+1.20 KB)
4 0.25s 280 (+2) 50.45 KB (+0.06 KB)
5 0.25s 281 (+1) 50.49 KB (+0.05 KB)
6 0.27s 342 (+61) 54.30 KB (+3.81 KB)
7 0.32s 390 (+48) 57.36 KB (+3.05 KB)
8 0.35s 403 (+13) 124.59 KB (+67.23 KB)
9 0.35s 403 (+0) 124.59 KB (+0.00 KB)

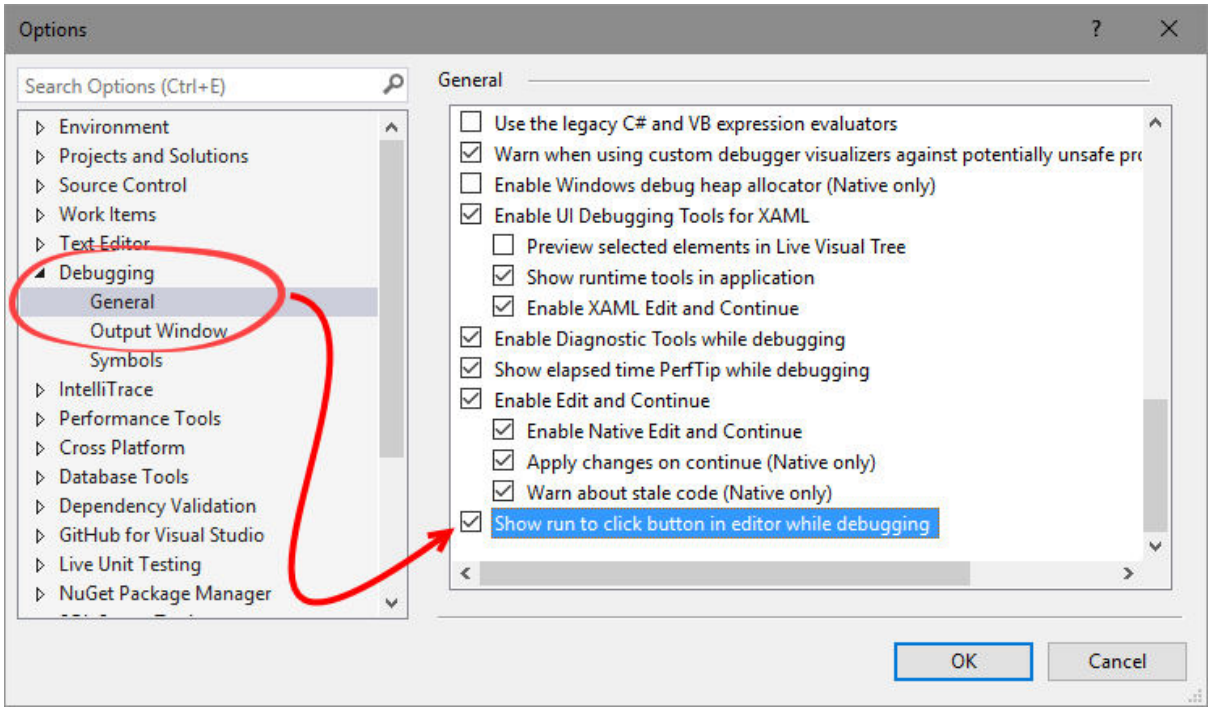

Snapshot #1 Heap dotnet.exe (1.72s)
Managed Memory (dotnet.exe)
Compare to:
Select baseline
Search type names
Object Type
Count
Size (Bytes)
Inclusive Size (Bytes)
AppDomain 1 19,896 21,088
OutOfMemoryException 2 6,064 6,064
CultureData 2 2,728 2,728
StreamWriter 1 1,464 1,720
NumberFormatInfo 1 1,056 1,056
CalendarData 1 960 960
Dictionary<String, Object> 2 536 536
AppDomainSetup 1 512 728
RuntimeType 10 480 480
ThreadAbortException 2 304 304
CultureInfo 2 304 1,976
Dictionary<String, CultureData> 1 280 304
Exception 1 152 152
StackOverflowException 1 152 152
ExecutionEngineException 1 152 152
StringBuilder 1 144 144
EncoderReplacementFallback 4 128 128
DecoderReplacementFallback 4 128 128
CompareInfo 2 112 112
UnicodeEncoding 2 112 240
UTF8Encoding 2 96 224
TextInfo 1 88 88
Paths to Root | Referenced Types
Object Type
Reference Count
OutOfMemoryException
OutOfMemoryException [Strong Handle] 2

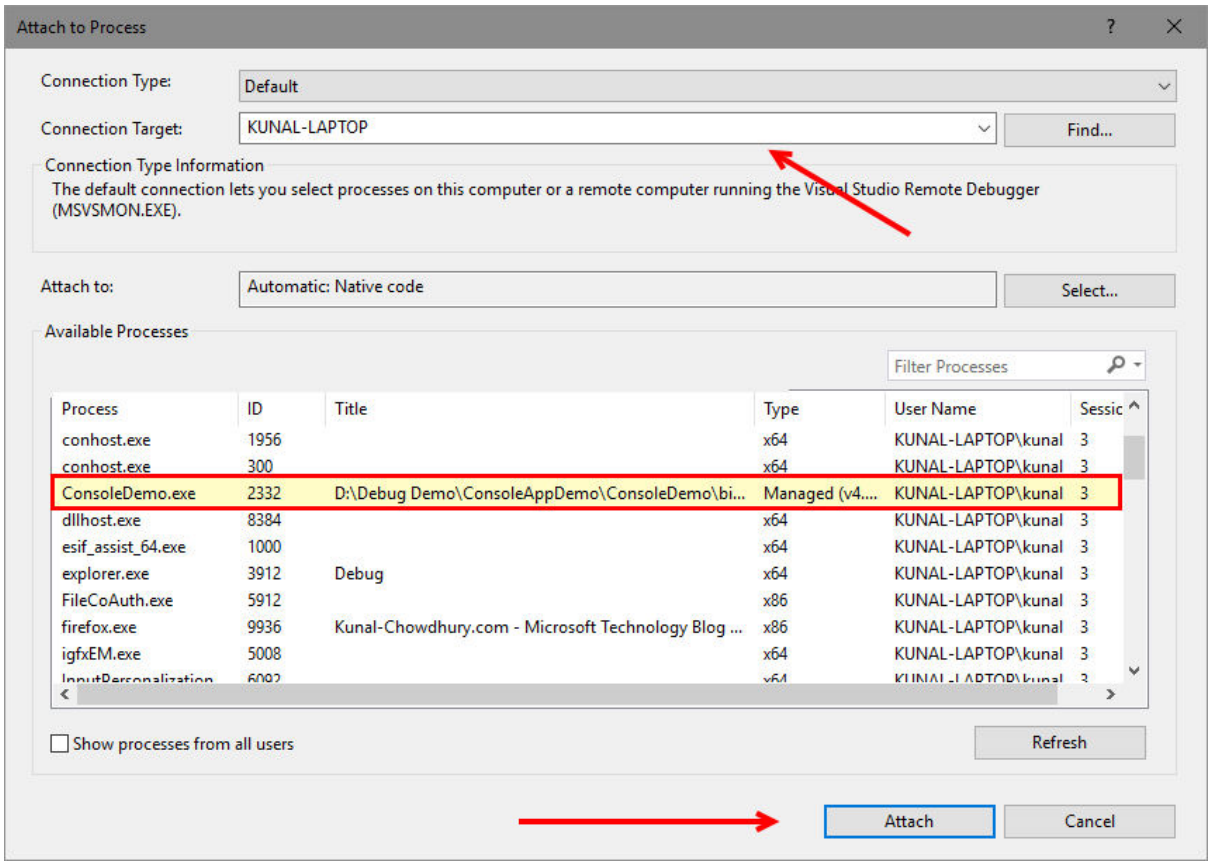

Summary
Events
Memory Usage
CPU Usage
CPU Profiling
Filter
Function Name
Total CPU [ms, %]
dotnet.exe (PID: 4940) 86 (100.00 %)
ConsoleAppDemo.Program::Main 85 (98.84 %)
ConsoleAppDemo.Math::PrintSum 12 (13.95 %)

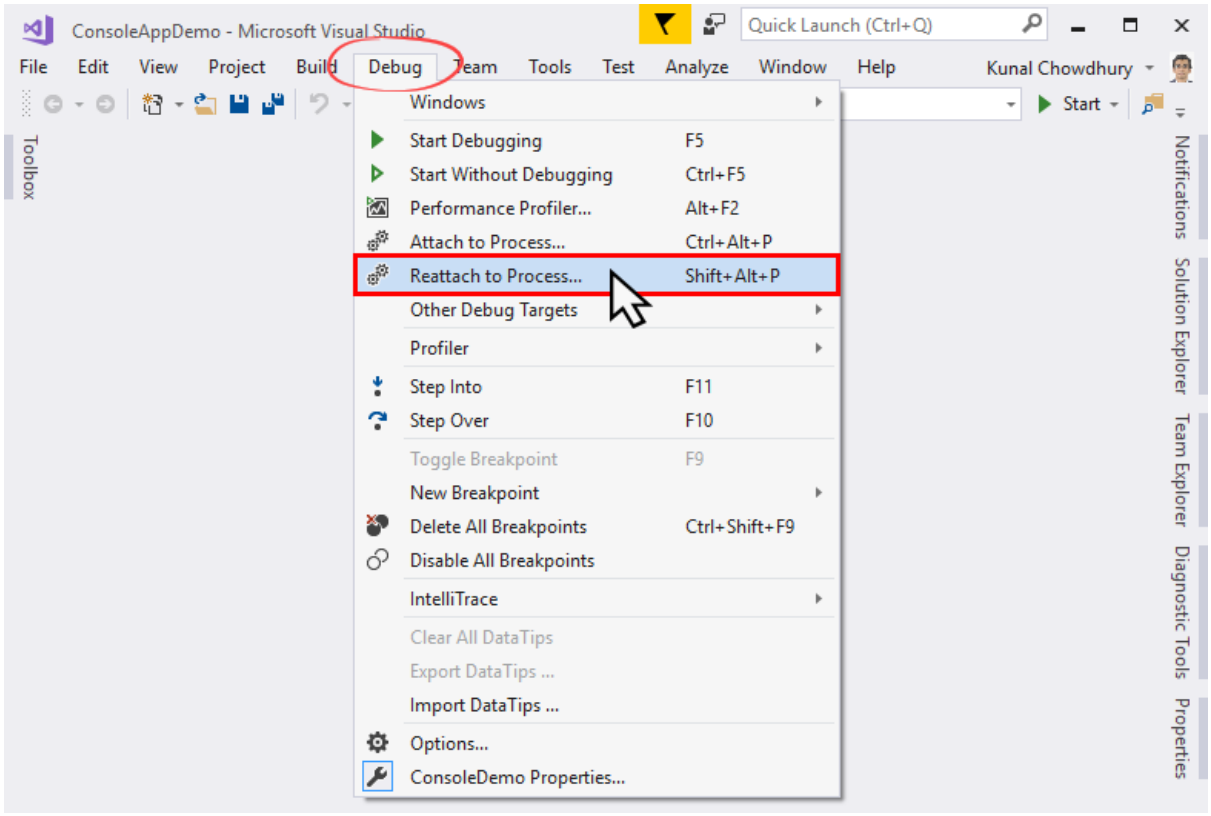

Current View:
Call Tree
Function Name
Total CPU [ms, %]
Self CPU [ms, %]
Module
dotnet.exe (PID: 9864) 238 (100.00 %) 0 (0.00 %) dotnet.exe
[External Code] 238 (100.00 %) 67 (28.15 %) Multiple modules
ConsoleAppDemo.Program::Main 171 (71.85 %) 0 (0.00 %) ConsoleAppDemo.dll
[External Code] 166 (69.75 %) 166 (69.75 %) Multiple modules
ConsoleAppDemo.Math::PrintSum 5 (2.10 %) 0 (0.00 %) ConsoleAppDemo.dll
[External Code] 5 (2.10 %) 5 (2.10 %) Multiple modules

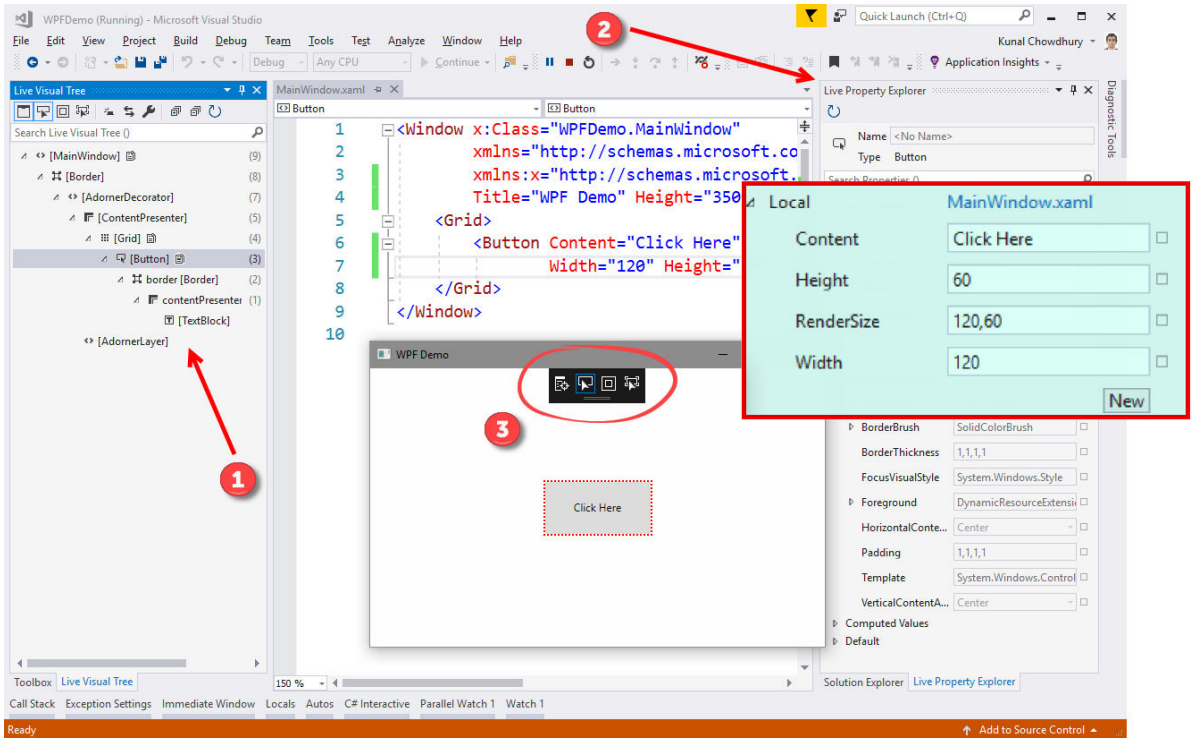


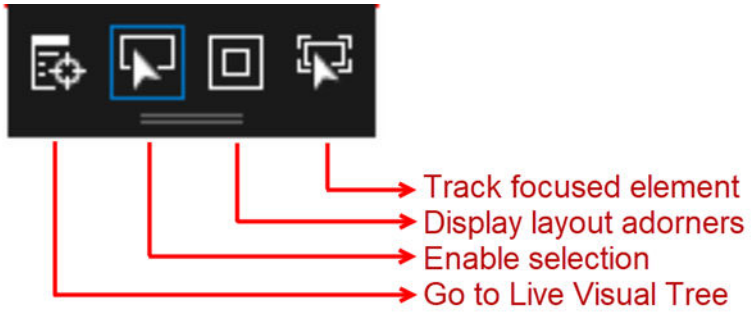

```
18
19      XmlDocument xmlDocument = new XmlDocument();
20
21      XmlDeclaration xmlDeclaration = xmlDocument.CreateXmlDeclaration("1.0", "UTF-8", null);
22      XmlElement root = xmlDocument.DocumentElement;
23      xmlDocument.InsertBefore(xmlDeclaration, root);
24
25      XmlElement element1 = xmlDocument.CreateElement(string.Empty, "Person", string.Empty);
26      xmlDocument.AppendChild(element1);
27
28      XmlElement element2 = xmlDocument.CreateElement(string.Empty, "FirstName", string.Empty);
29      element2.AppendChild(xmlDocument.CreateTextNode("Kunal"));
30      element1.AppendChild(element2);
31
32      XmlElement element3 = xmlDocument.CreateElement(string.Empty, "LastName", string.Empty);
33      XmlText text1 = xmlDocument.CreateTextNode("Chowdhury");
34      element3.AppendChild(text1);
35      element1.AppendChild(element3);
36
```

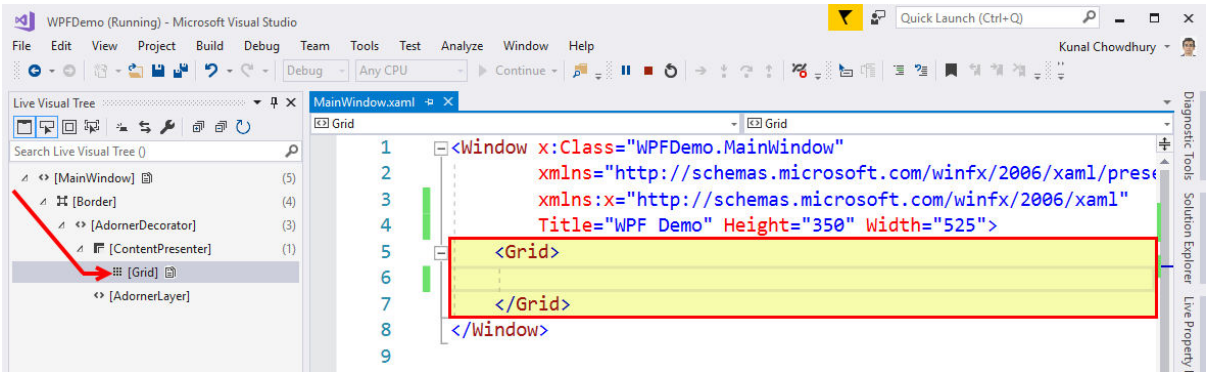

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
Debugging
General
Output Window
Symbols
IntelliTrace
Performance Tools
Cross Platform
Database Tools
Dependency Validation
GitHub for Visual Studio
Live Unit Testing
NuGet Package Manager
General
Use the legacy C# and VB expression evaluators
Warn when using custom debugger visualizers against potentially unsafe pr
Enable Windows debug heap allocator (Native only)
Enable UI Debugging Tools for XAML
Preview selected elements in Live Visual Tree
Show runtime tools in application
Enable XAML Edit and Continue
Enable Diagnostic Tools while debugging
Show elapsed time PerfTip while debugging
Enable Edit and Continue
Enable Native Edit and Continue
Apply changes on continue (Native only)
Warn about stale code (Native only)
Show run to click button in editor while debugging
OK
Cancel

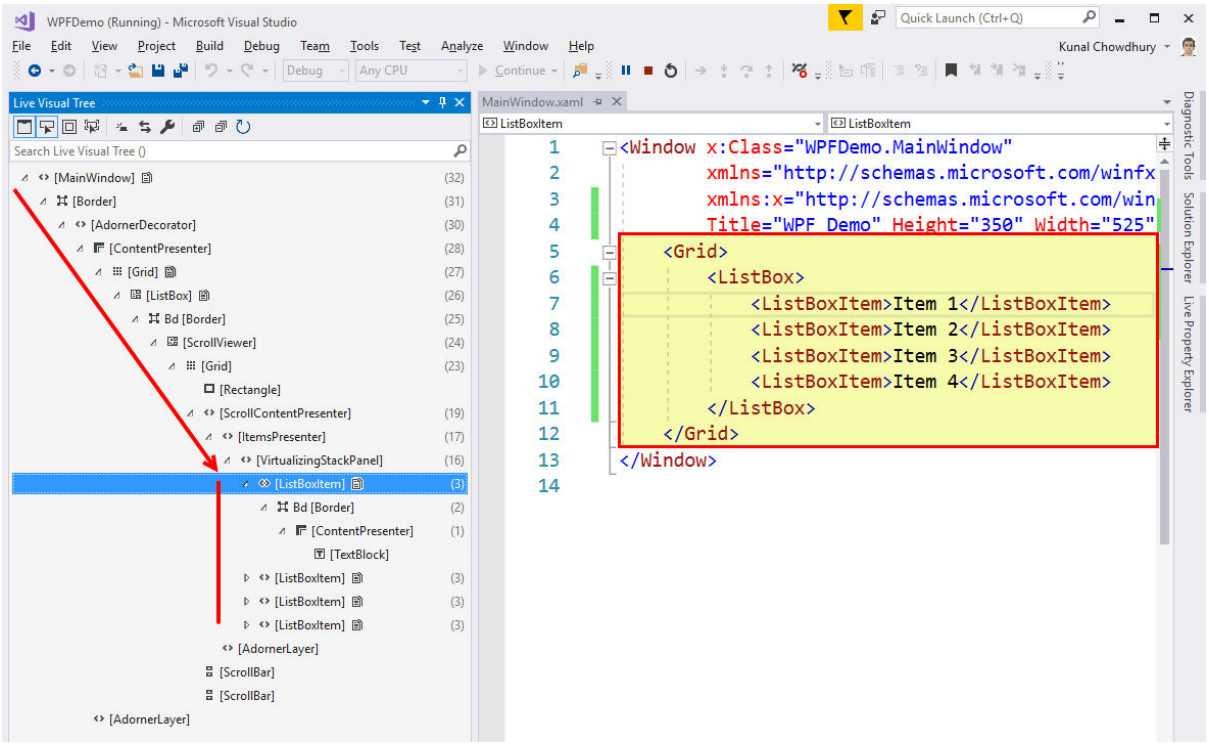

Attach to Process
Connection Type:
Default
Connection Target:
KUNAL-LAPTOP
Find...
Connection Type Information
The default connection lets you select processes on this computer or a remote computer running the Visual Studio Remote Debugger (MSVSMON.EXE).
Attach to:
Automatic: Native code
Select...
Available Processes
Filter Processes
Process
ID
Title
Type
User Name
Sessic
conhost.exe 1956 x64 KUNAL-LAPTOP\kunal 3
conhost.exe 300 x64 KUNAL-LAPTOP\kunal 3
ConsoleDemo.exe 2332 D:\Debug Demo\ConsoleAppDemo\ConsoleDemo\bi... Managed (v4.... KUNAL-LAPTOP\kunal 3
dllhost.exe 8384 x64 KUNAL-LAPTOP\kunal 3
esif_assist_64.exe 1000 x64 KUNAL-LAPTOP\kunal 3
explorer.exe 3912 Debug x64 KUNAL-LAPTOP\kunal 3
FileCoAuth.exe 5912 x86 KUNAL-LAPTOP\kunal 3
firefox.exe 9936 Kunal-Chowdhury.com - Microsoft Technology Blog ... x86 KUNAL-LAPTOP\kunal 3
igfxEM.exe 5008 x64 KUNAL-LAPTOP\kunal 3
Show processes from all users
Refresh
Attach
Cancel

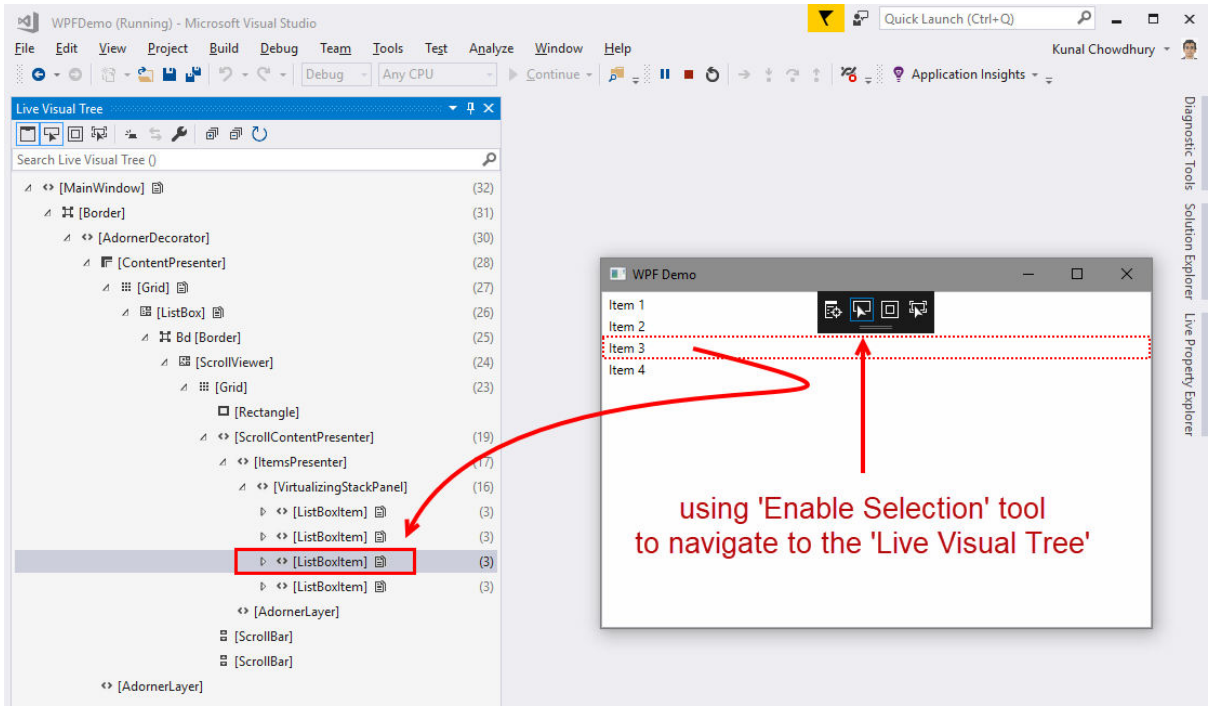

ConsoleAppDemo - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Start
Toolbox
Windows
Start Debugging F5
Start Without Debugging Ctrl+F5
Performance Profiler... Alt+F2
Attach to Process... Ctrl+Alt+P
Reattach to Process... Shift+Alt+P
Other Debug Targets
Profiler
Step Into F11
Step Over F10
Toggle Breakpoint F9
New Breakpoint
Delete All Breakpoints Ctrl+Shift+F9
Disable All Breakpoints
IntelliTrace
Clear All DataTips
Export DataTips ...
Import DataTips ...
Options...
ConsoleDemo Properties...
Notifications
Solution Explorer
Team Explorer
Diagnostic Tools
Properties

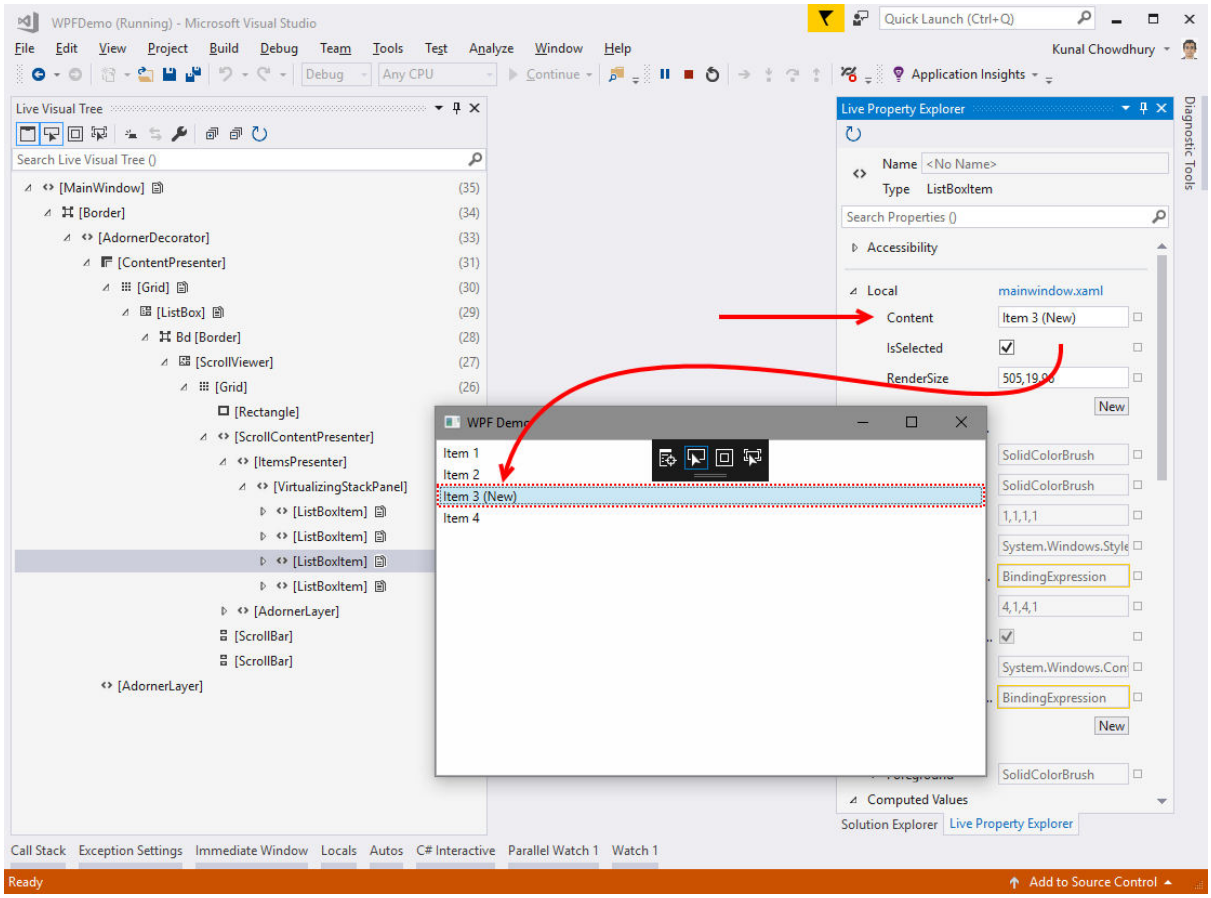

WPFDemo (Running) - Microsoft Visual Studio
Live Visual Tree
MainWindow.xaml
Live Property Explorer
Local
MainWindow.xaml
Content
Click Here
Height
60
RenderSize
120,60
Width
120
New
WPF Demo
Click Here
1
2
3

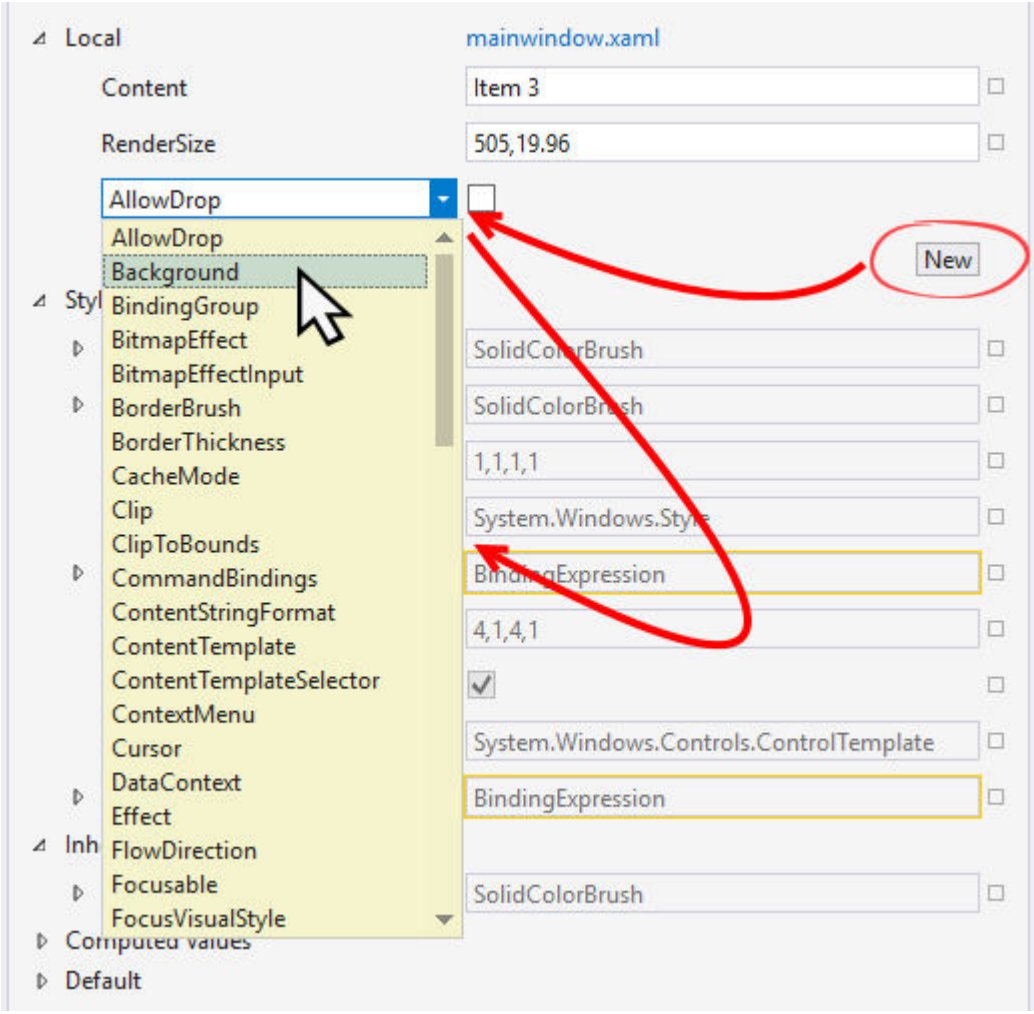

Track focused element
Display layout adorners
Enable selection
Go to Live Visual Tree

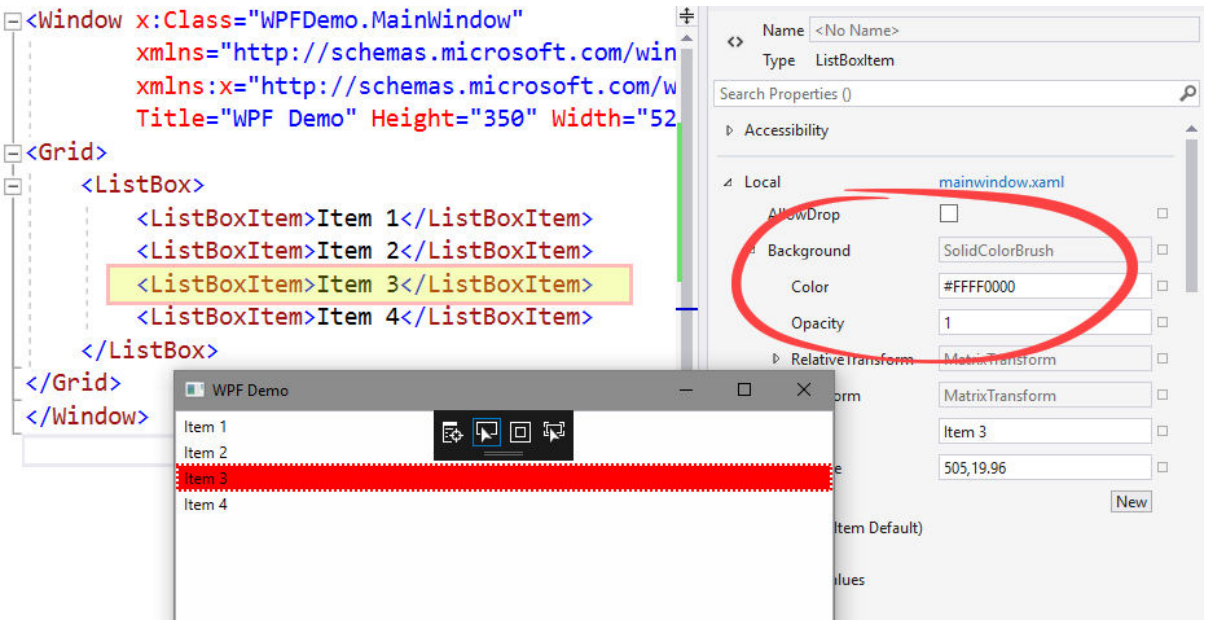

WPFDemo (Running) - Microsoft Visual Studio
Live Visual Tree
MainWindow.xaml
[MainWindow] (5)
[Border] (4)
[AdornerDecorator] (3)
[ContentPresenter] (1)
[Grid]
[AdornerLayer]
<Window x:Class="WPFDemo.MainWindow"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/pres
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
Title="WPF Demo" Height="350" Width="525">
<Grid>
</Grid>
</Window>

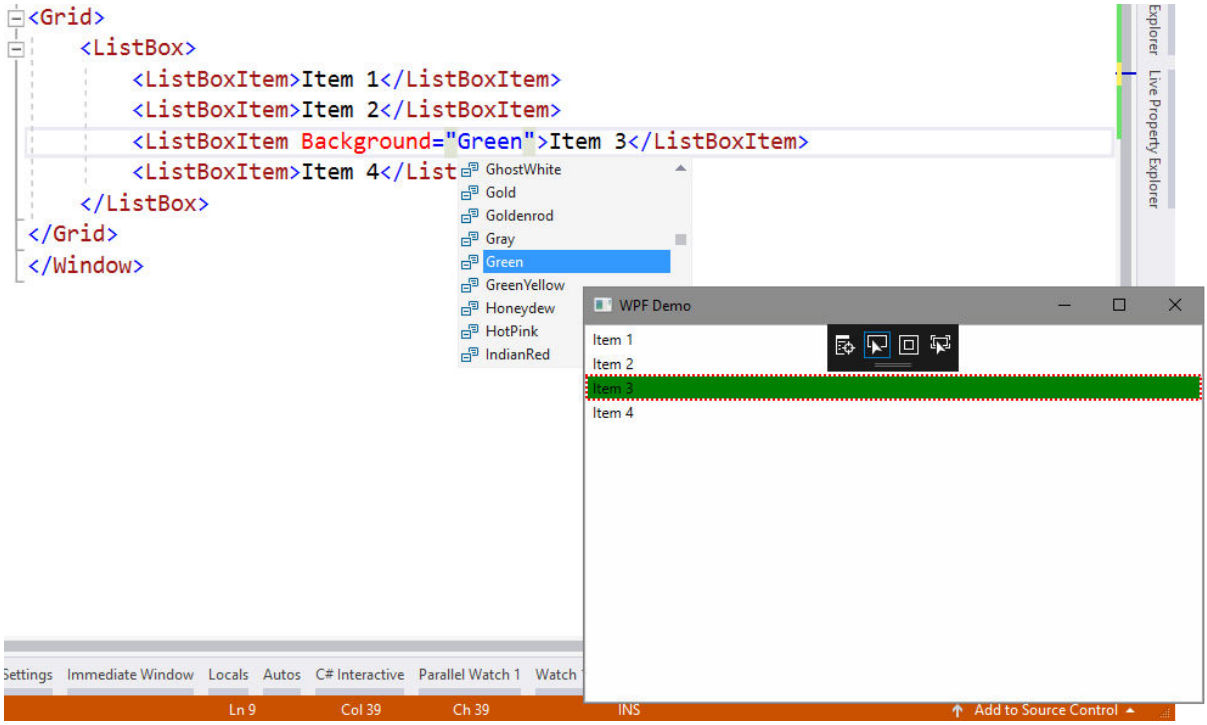

WPFDemo (Running) - Microsoft Visual Studio
Live Visual Tree
MainWindow.xaml
[MainWindow] (32)
[Border] (31)
[AdornerDecorator] (30)
[ContentPresenter] (28)
[Grid] (27)
[ListBox] (26)
Bd [Border] (25)
[ScrollViewer] (24)
[Grid] (23)
[Rectangle]
[ScrollContentPresenter] (19)
[ItemsPresenter] (17)
[VirtualizingStackPanel] (16)
[ListBoxItem] (3)
Bd [Border] (2)
[ContentPresenter] (1)
[TextBlock]
[ListBoxItem] (3)
[ListBoxItem] (3)
[ListBoxItem] (3)
[AdornerLayer]
[ScrollBar]
[ScrollBar]
[AdornerLayer]
<Window x:Class="WPFDemo.MainWindow"
xmlns="http://schemas.microsoft.com/winfx
xmlns:x="http://schemas.microsoft.com/win
Title="WPF Demo" Height="350" Width="525"
<Grid>
<ListBox>
<ListBoxItem>Item 1</ListBoxItem>
<ListBoxItem>Item 2</ListBoxItem>
<ListBoxItem>Item 3</ListBoxItem>
<ListBoxItem>Item 4</ListBoxItem>
</ListBox>
</Grid>
</Window>

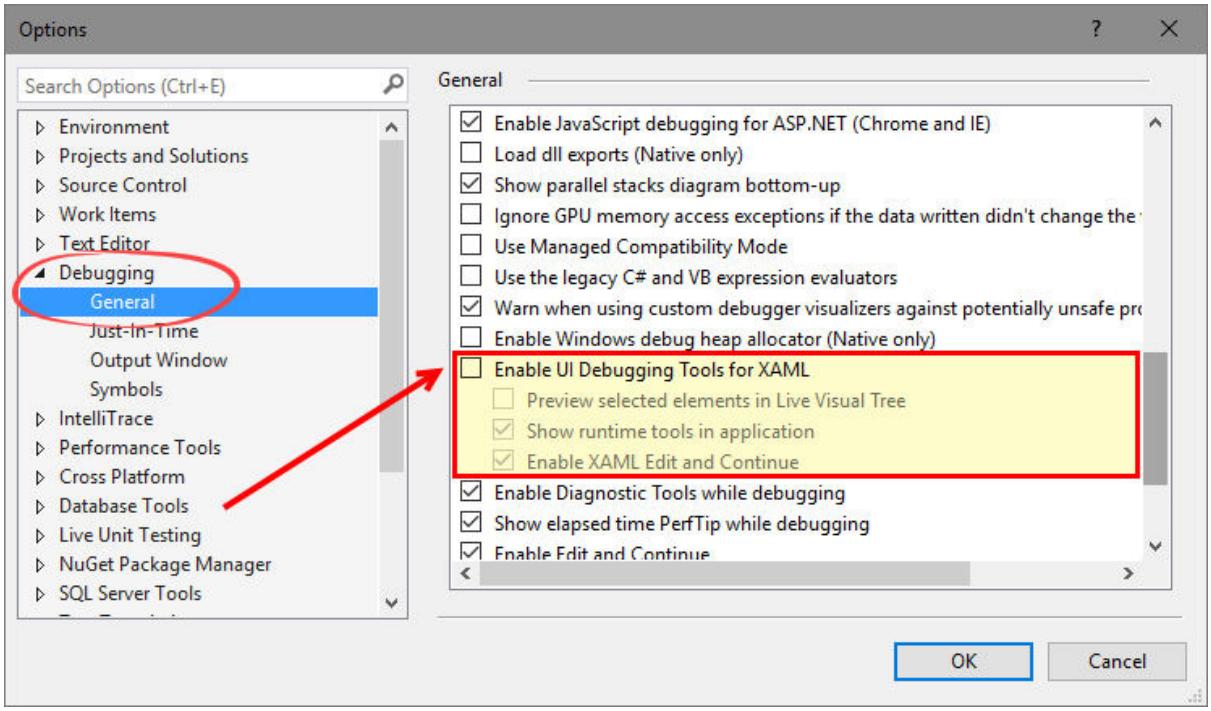

WPFDemo (Running) - Microsoft Visual Studio
Live Visual Tree
[MainWindow]
[Border]
[AdornerDecorator]
[ContentPresenter]
[Grid]
[ListBox]
Bd [Border]
[ScrollViewer]
[Grid]
[Rectangle]
[ScrollContentPresenter]
[ItemsPresenter]
[VirtualizingStackPanel]
[ListBoxItem]
[ListBoxItem]
[ListBoxItem]
[ListBoxItem]
[AdornerLayer]
[ScrollBar]
[ScrollBar]
[AdornerLayer]
WPF Demo
Item 1
Item 2
Item 3
Item 4
using 'Enable Selection' tool
to navigate to the 'Live Visual Tree'


WPFDemo (Running) - Microsoft Visual Studio
Live Visual Tree
Live Property Explorer
Name
Type ListBoxItem
Content
Item 3 (New)
IsSelected
RenderSize
WPF Demo
Item 1
Item 2
Item 3 (New)
Item 4
Call Stack
Exception Settings
Immediate Window
Locals
Autos
C# Interactive
Parallel Watch 1
Watch 1
Ready
Add to Source Control


Local
mainwindow.xaml
Content
Item 3
RenderSize
505,19.96
AllowDrop
AllowDrop
Background
BindingGroup
BitmapEffect
BitmapEffectInput
BorderBrush
BorderThickness
CacheMode
Clip
ClipToBounds
CommandBindings
ContentStringFormat
ContentTemplate
ContentTemplateSelector
ContextMenu
Cursor
DataContext
Effect
FlowDirection
Focusable
FocusVisualStyle
New
SolidColorBrush
1,1,1,1
4,1,4,1
System.Windows.Controls.ControlTemplate
BindingExpression
Default

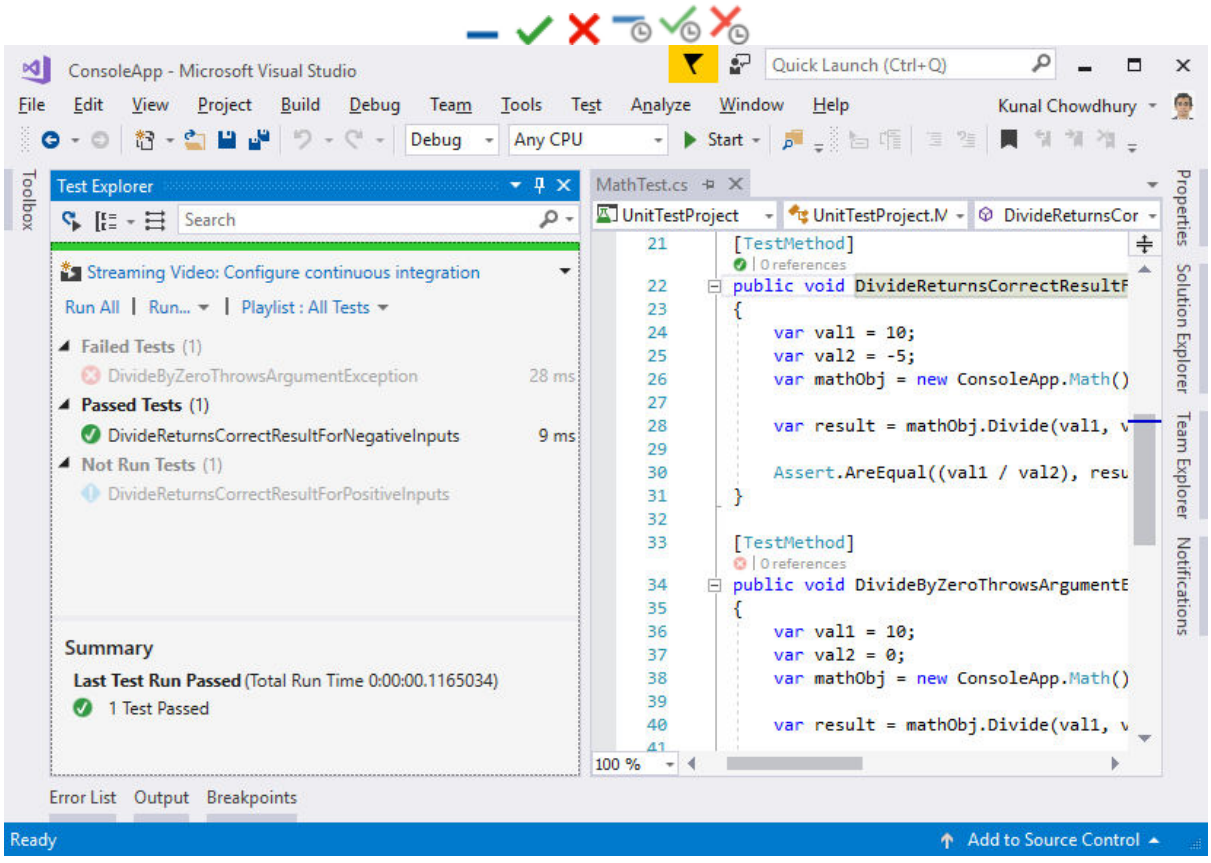

<Window x:Class="WPFDemo.MainWindow"
xmlns="http://schemas.microsoft.com/win
xmlns:x="http://schemas.microsoft.com/w
Title="WPF Demo" Height="350" Width="52
<Grid>
<ListBox>
<ListBoxItem>Item 1</ListBoxItem>
<ListBoxItem>Item 2</ListBoxItem>
<ListBoxItem>Item 3</ListBoxItem>
<ListBoxItem>Item 4</ListBoxItem>
</ListBox>
</Grid>
</Window>
WPF Demo
Item 1
Item 2
Item 3
Item 4
Name <No Name>
Type ListBoxItem
Search Properties ()
Accessibility
Local
mainwindow.xaml
Background
SolidColorBrush
Color
#FFFF0000
Opacity
1
MatrixTransform
Item 3
505,19.96
New

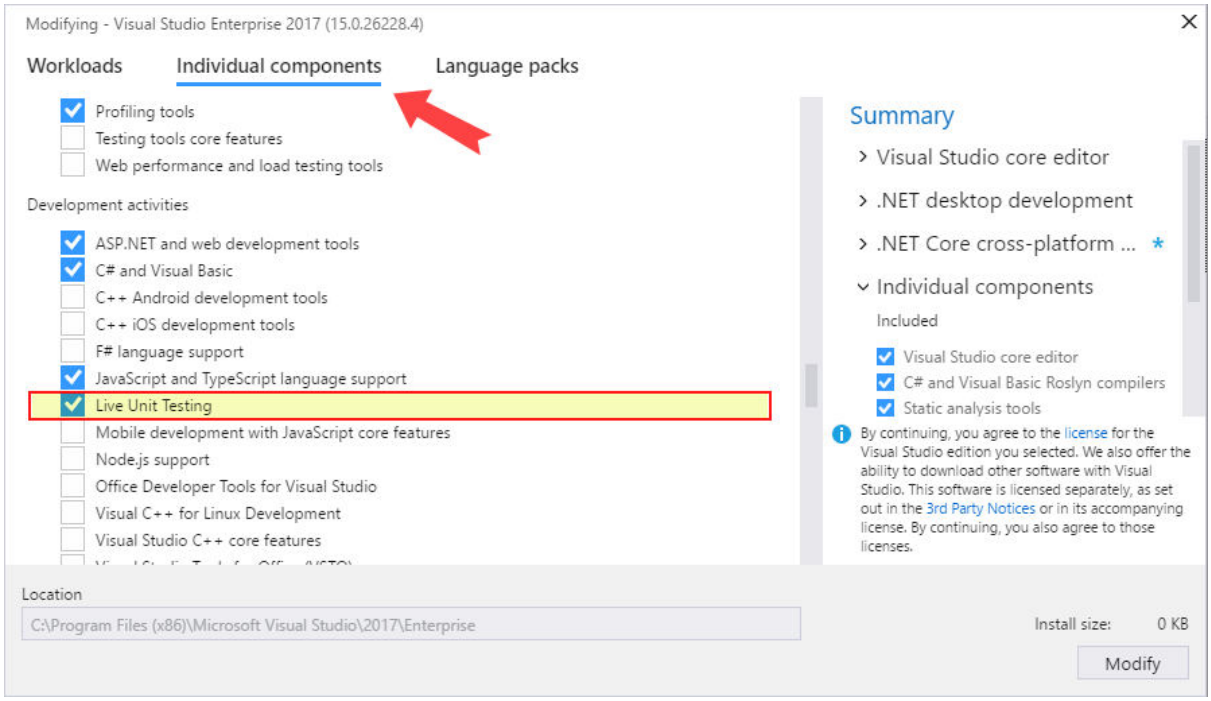


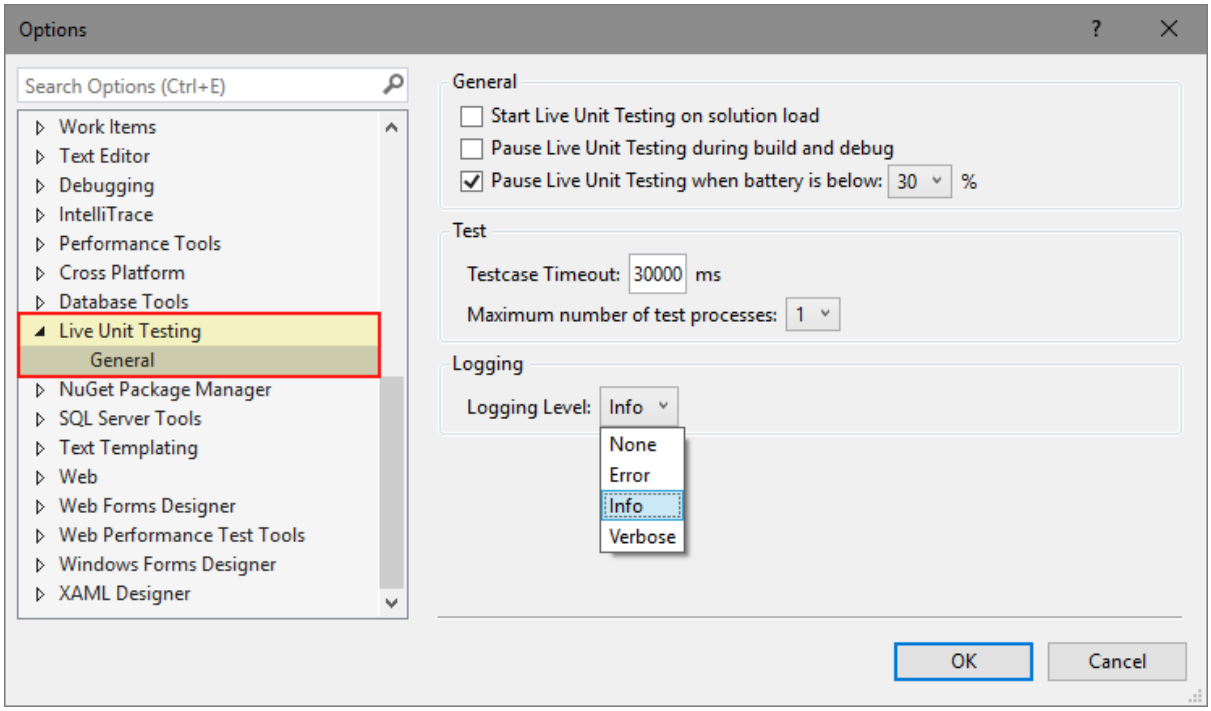


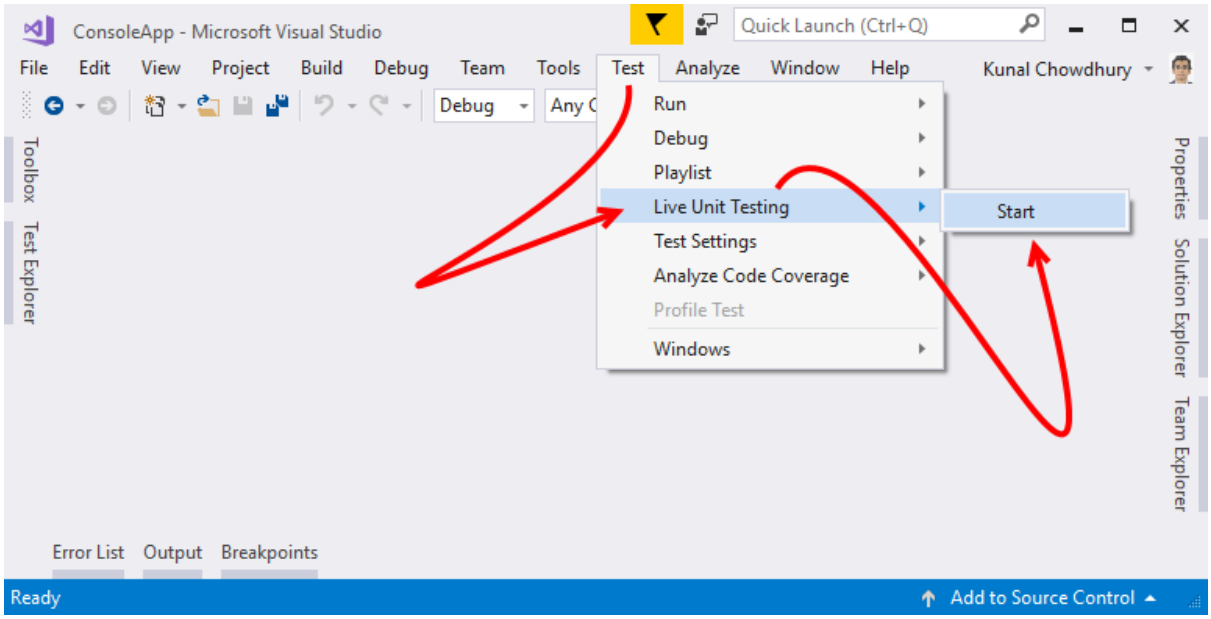
Chapter 8: Live Unit Testing with Visual Studio 2017

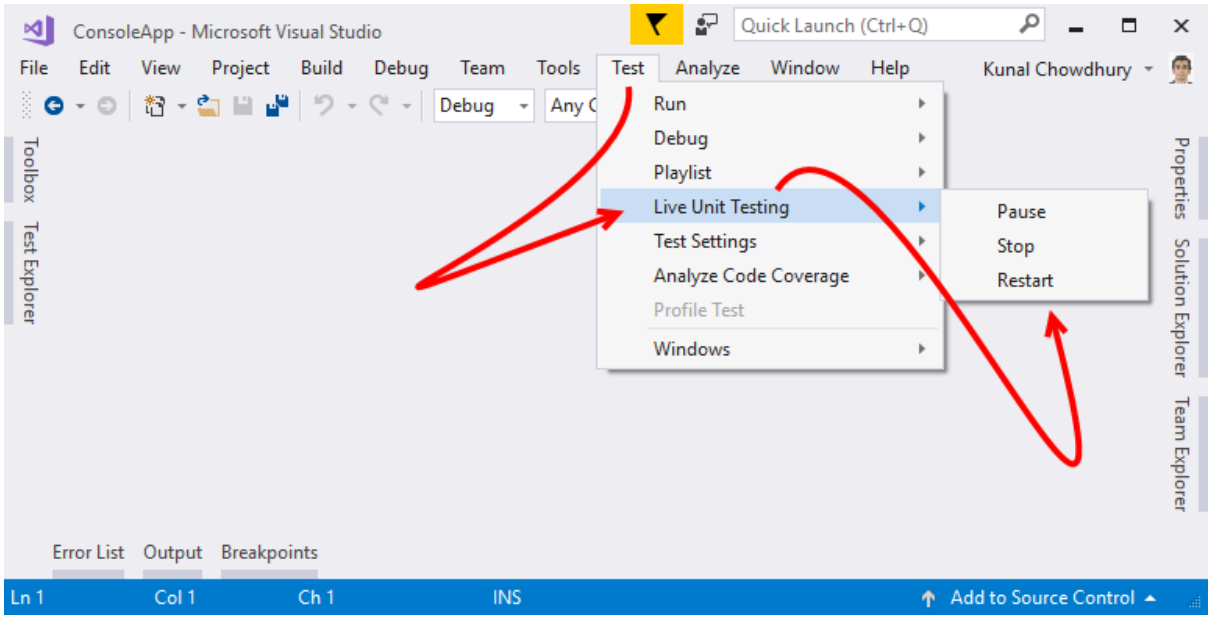
```
2 references
public class Math
{
    3 references | 1/2 passing
    public int Divide(int val1, int val2)
    {
        if (val2 == 0) { throw new ArgumentException(); }

        return val1 / val2;
    }
}
}
```

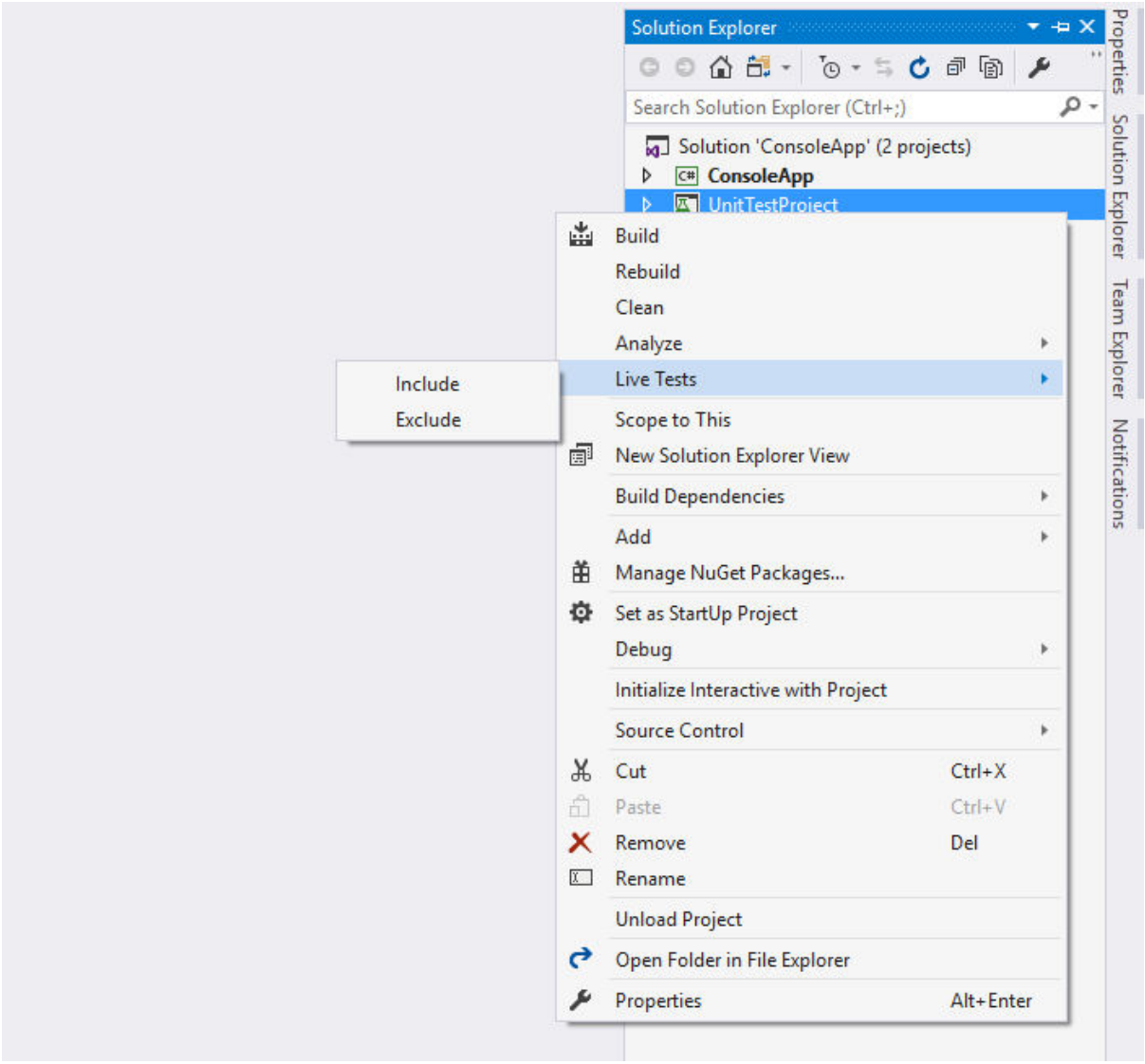


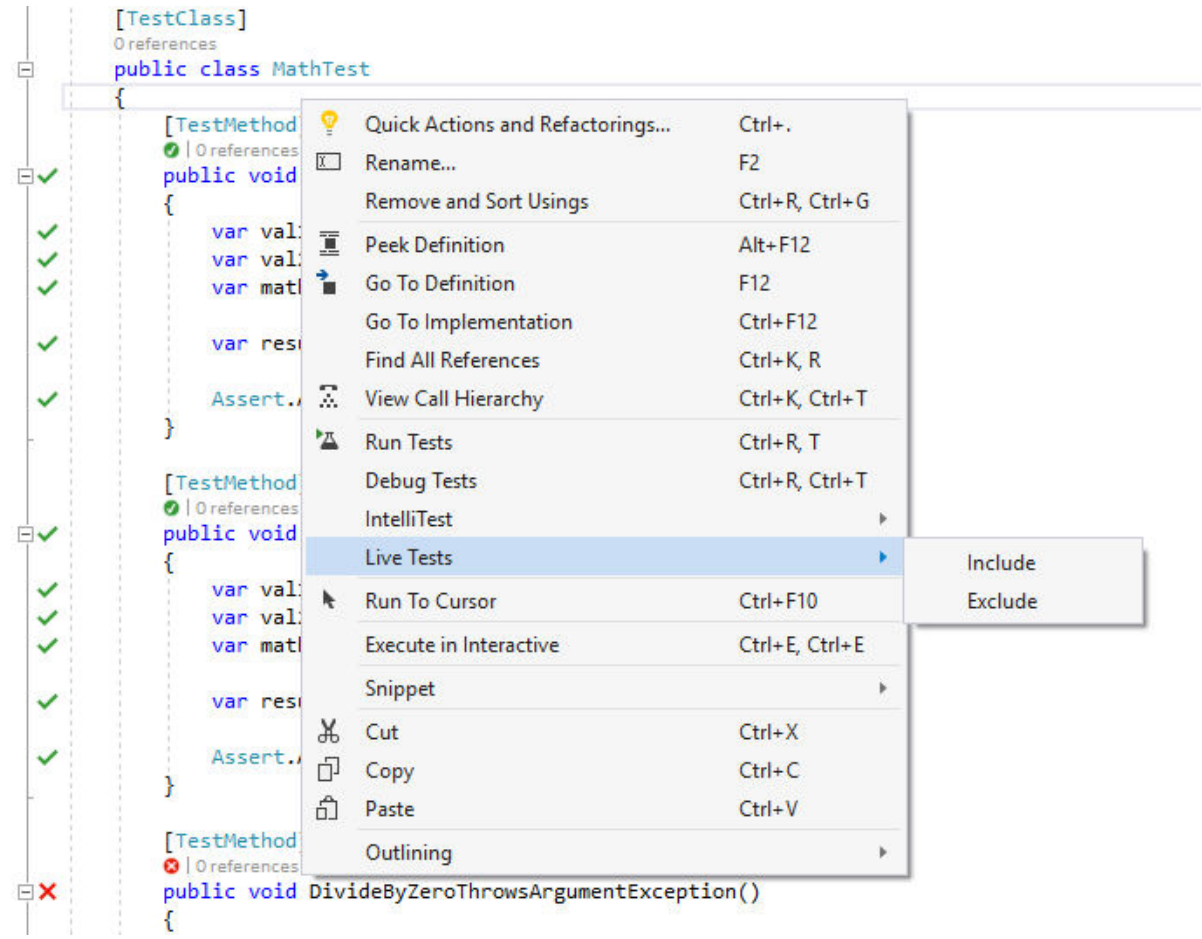

Modifying - Visual Studio Enterprise 2017 (15.0.26228.4)
Workloads
Individual components
Language packs
Profiling tools
Testing tools core features
Web performance and load testing tools
Development activities
ASP.NET and web development tools
C# and Visual Basic
C++ Android development tools
C++ iOS development tools
F# language support
JavaScript and TypeScript language support
Live Unit Testing
Mobile development with JavaScript core features
Node.js support
Office Developer Tools for Visual Studio
Visual C++ for Linux Development
Visual Studio C++ core features
Summary
Visual Studio core editor
.NET desktop development
.NET Core cross-platform ...
Individual components
Included
Visual Studio core editor
C# and Visual Basic Roslyn compilers
Static analysis tools
By continuing, you agree to the license for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio. This software is licensed separately, as set out in the 3rd Party Notices or in its accompanying license. By continuing, you also agree to those licenses.
Location
C:\Program Files (x86)\Microsoft Visual Studio\2017\Enterprise
Install size:
0 KB
Modify

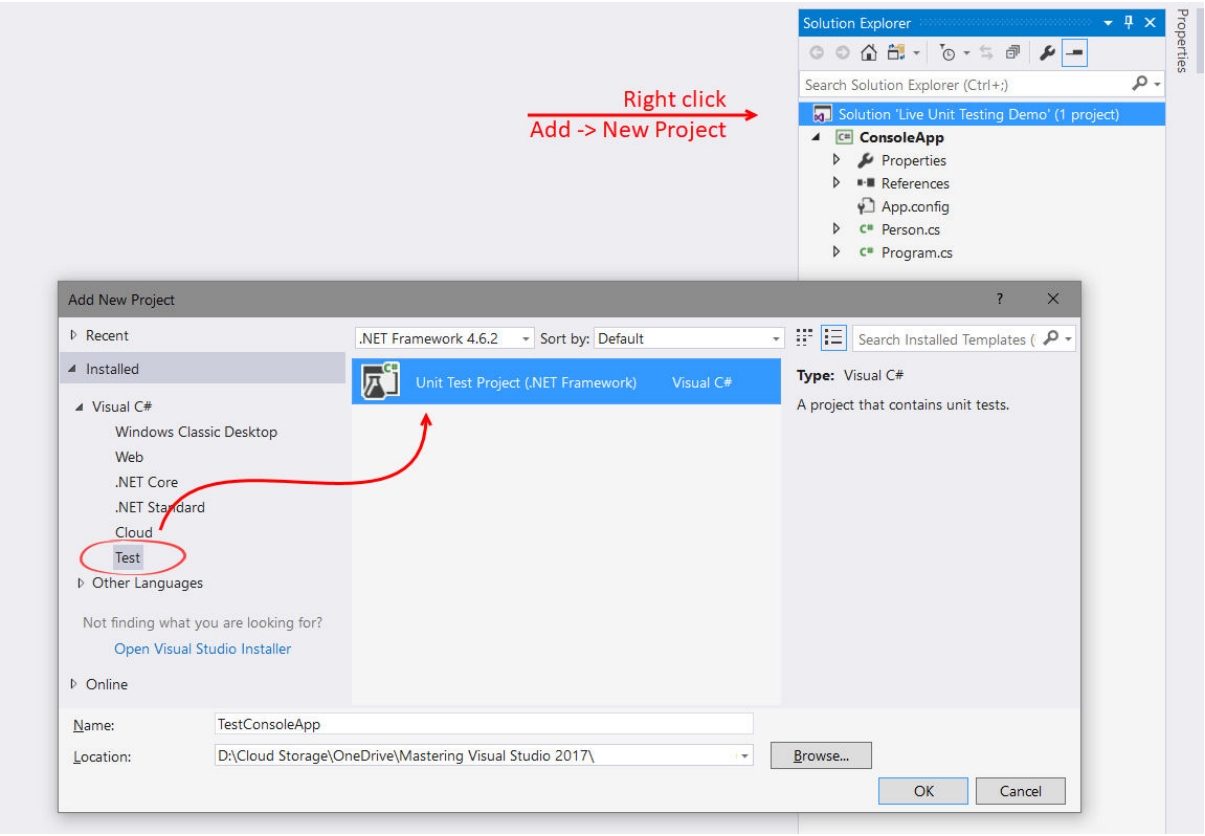

Options
Search Options (Ctrl+E)
Work Items
Text Editor
Debugging
IntelliTrace
Performance Tools
Cross Platform
Database Tools
Live Unit Testing
General
NuGet Package Manager
SQL Server Tools
Text Templating
Web
Web Forms Designer
Web Performance Test Tools
Windows Forms Designer
XAML Designer
General
Start Live Unit Testing on solution load
Pause Live Unit Testing during build and debug
Pause Live Unit Testing when battery is below: 30 %
Test
Testcase Timeout: 30000 ms
Maximum number of test processes: 1
Logging
Logging Level: Info
None
Error
Info
Verbose
OK
Cancel

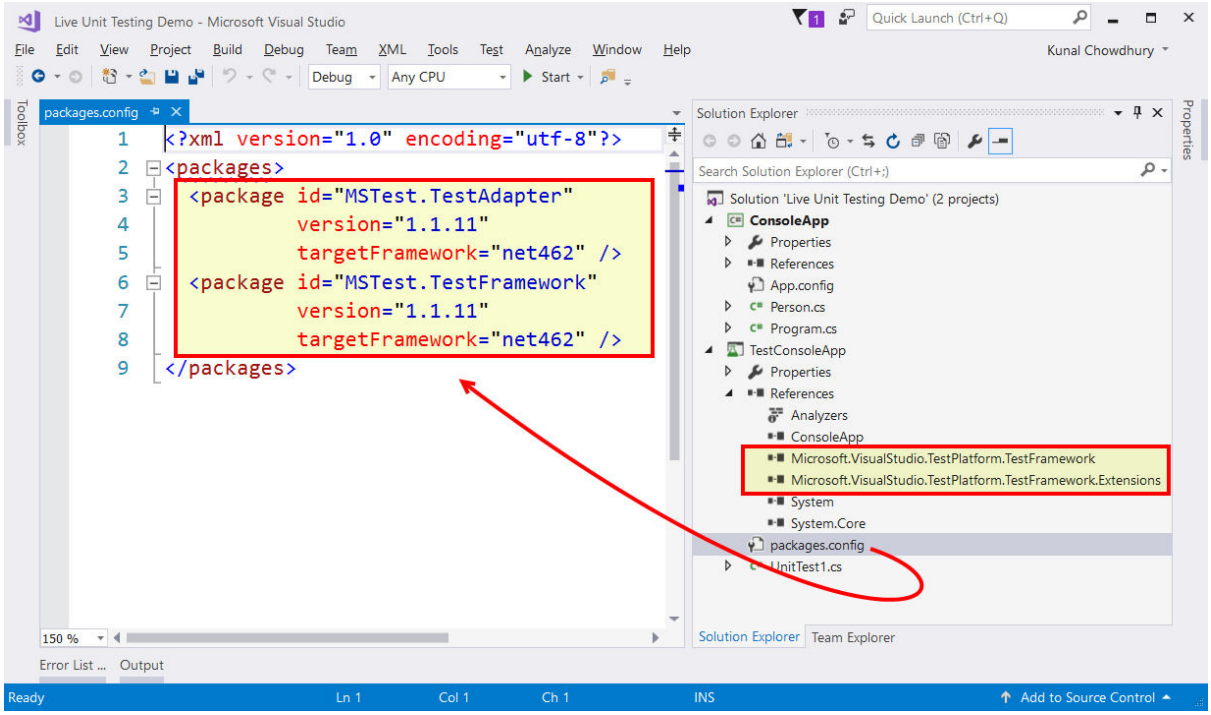

ConsoleApp - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Run
Debug
Playlist
Live Unit Testing
Test Settings
Analyze Code Coverage
Profile Test
Windows
Start
Toolbox
Test Explorer
Properties
Solution Explorer
Team Explorer
Error List
Output
Breakpoints
Ready
Add to Source Control


ConsoleApp - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Run
Debug
Playlist
Live Unit Testing
Test Settings
Analyze Code Coverage
Profile Test
Windows
Pause
Stop
Restart
Toolbox
Test Explorer
Properties
Solution Explorer
Team Explorer
Error List
Output
Breakpoints
Ln 1
Col 1
Ch 1
INS
Add to Source Control


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ConsoleApp' (2 projects)
ConsoleApp
UnitTestProject
Build
Rebuild
Clean
Analyze
Live Tests
Include
Exclude
Scope to This
New Solution Explorer View
Build Dependencies
Add
Manage NuGet Packages...
Set as StartUp Project
Debug
Initialize Interactive with Project
Source Control
Cut Ctrl+X
Paste Ctrl+V
Remove Del
Rename
Unload Project
Open Folder in File Explorer
Properties Alt+Enter
Properties
Solution Explorer
Team Explorer
Notifications


[TestClass]
0 references
public class MathTest
{
[TestMethod]
0 references
public void
{
var val
var val
var mat
var res
Assert.
}
[TestMethod]
0 references
public void
{
var val
var val
var mat
var res
Assert.
}
[TestMethod]
0 references
public void DivideByZeroThrowsArgumentException()
{
Quick Actions and Refactorings... Ctrl+.
Rename... F2
Remove and Sort Usings Ctrl+R, Ctrl+G
Peek Definition Alt+F12
Go To Definition F12
Go To Implementation Ctrl+F12
Find All References Ctrl+K, R
View Call Hierarchy Ctrl+K, Ctrl+T
Run Tests Ctrl+R, T
Debug Tests Ctrl+R, Ctrl+T
IntelliTest
Live Tests
Include
Exclude
Run To Cursor Ctrl+F10
Execute in Interactive Ctrl+E, Ctrl+E
Snippet
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Outlining


Right click
Add -> New Project
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Live Unit Testing Demo' (1 project)
ConsoleApp
Properties
References
App.config
Person.cs
Program.cs
Properties
Add New Project
Recent
Installed
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
Other Languages
Not finding what you are looking for?
Open Visual Studio Installer
Online
.NET Framework 4.6.2
Sort by: Default
Search Installed Templates (
Unit Test Project (.NET Framework) Visual C#
Type: Visual C#
A project that contains unit tests.
Name: TestConsoleApp
Location: D:\Cloud Storage\OneDrive\Mastering Visual Studio 2017\
Browse...
OK
Cancel




```
6       [TestClass]
        0 references
7       public class UnitTest1
8       {
9           [TestMethod]
            0 references
10          public void TestTwoInstanceOfPersonInstancesAreNotEqual()
11          {
12              var person1 = new Person();
13              var person2 = new Person();
14
15              var status = person1 == person2;
16
17              Assert.IsFalse(status);
18          }
19
20          [TestMethod]
            0 references
21          public void TestAssigningOneObjectToAnotherReferencesSameObject()
22          {
23              var person1 = new Person();
24              var person2 = person1;
25
26              var status = person1 == person2;
27
28              Assert.IsTrue(status);
29          }
```

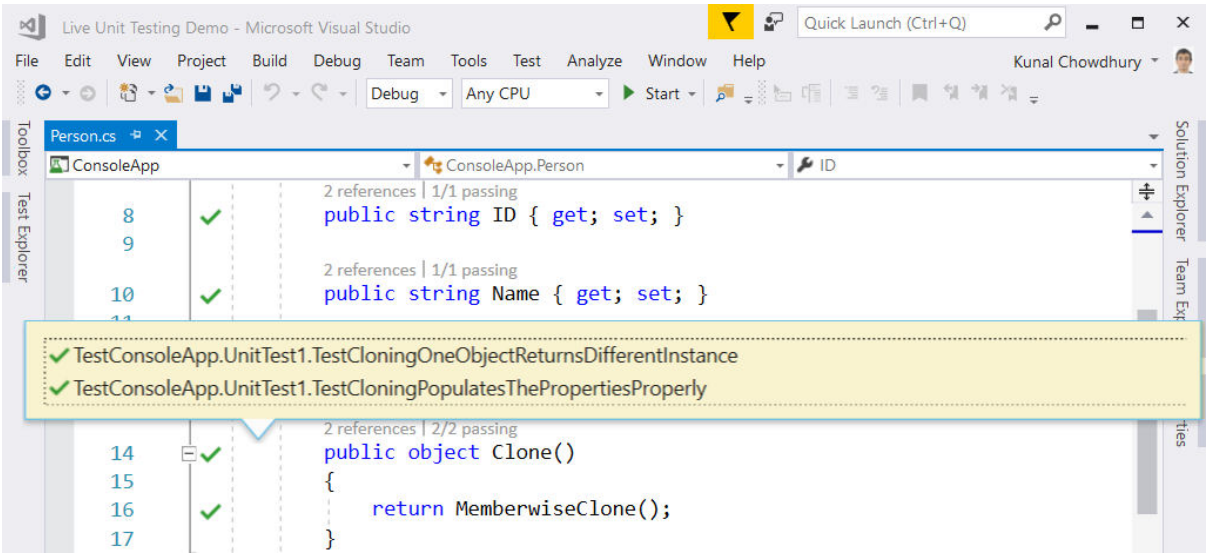
```
30
31      [TestMethod]
        0 references
32      public void TestCloningOneObjectReturnsDifferentInstance()
33      {
34          var person1 = new Person();
35          var person2 = (Person)person1.Clone();
36
37          var status = person1 == person2;
38
39          Assert.IsFalse(status);
40      }
41
42      [TestMethod]
        0 references
43      public void TestCloningPopulatesThePropertiesProperly()
44      {
45          var person1 = new Person();
46          var person2 = (Person)person1.Clone();
47
48          var status = person1 == person2;
49
50          Assert.IsFalse(status);
51          Assert.AreEqual(person1.ID, person2.ID);
52          Assert.AreEqual(person1.Name, person2.Name);
53          Assert.AreEqual(person1.Address, person2.Address);
54      }
```

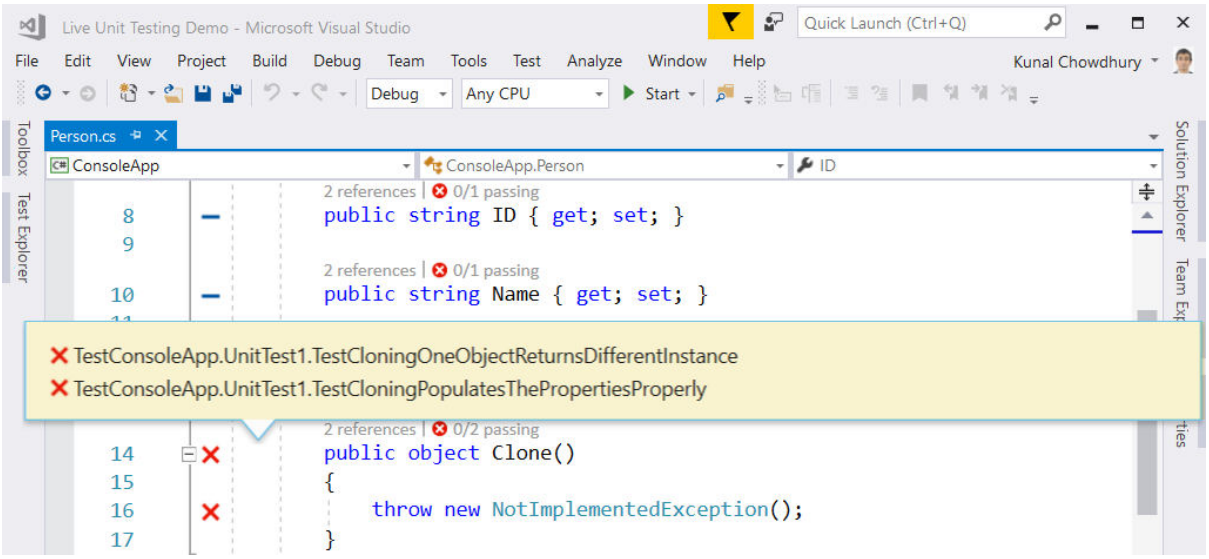
Exception at this line

```
7 references
public class Person : ICloneable
{
    2 references | 0/1 passing
    public string ID { get; set; }

    2 references | 0/1 passing
    public string Name { get; set; }

    2 references | 0/1 passing
    public string Address { get; set; }

    2 references | 0/2 passing
    public object Clone()
    {
        throw new NotImplementedException();
    }
}
```

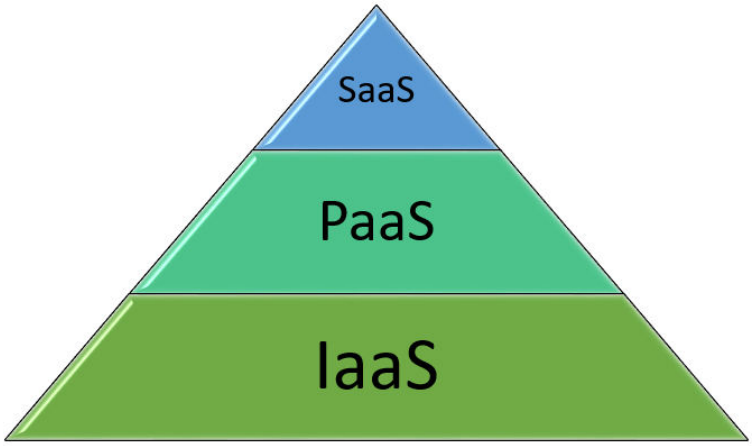
```
7 references
public class Person : ICloneable
{
    2 references | 1/1 passing
    public string ID { get; set; }

    2 references | 1/1 passing
    public string Name { get; set; }

    2 references | 1/1 passing
    public string Address { get; set; }

    2 references | 2/2 passing
    public object Clone()
    {
        return MemberwiseClone();
    }
}
```

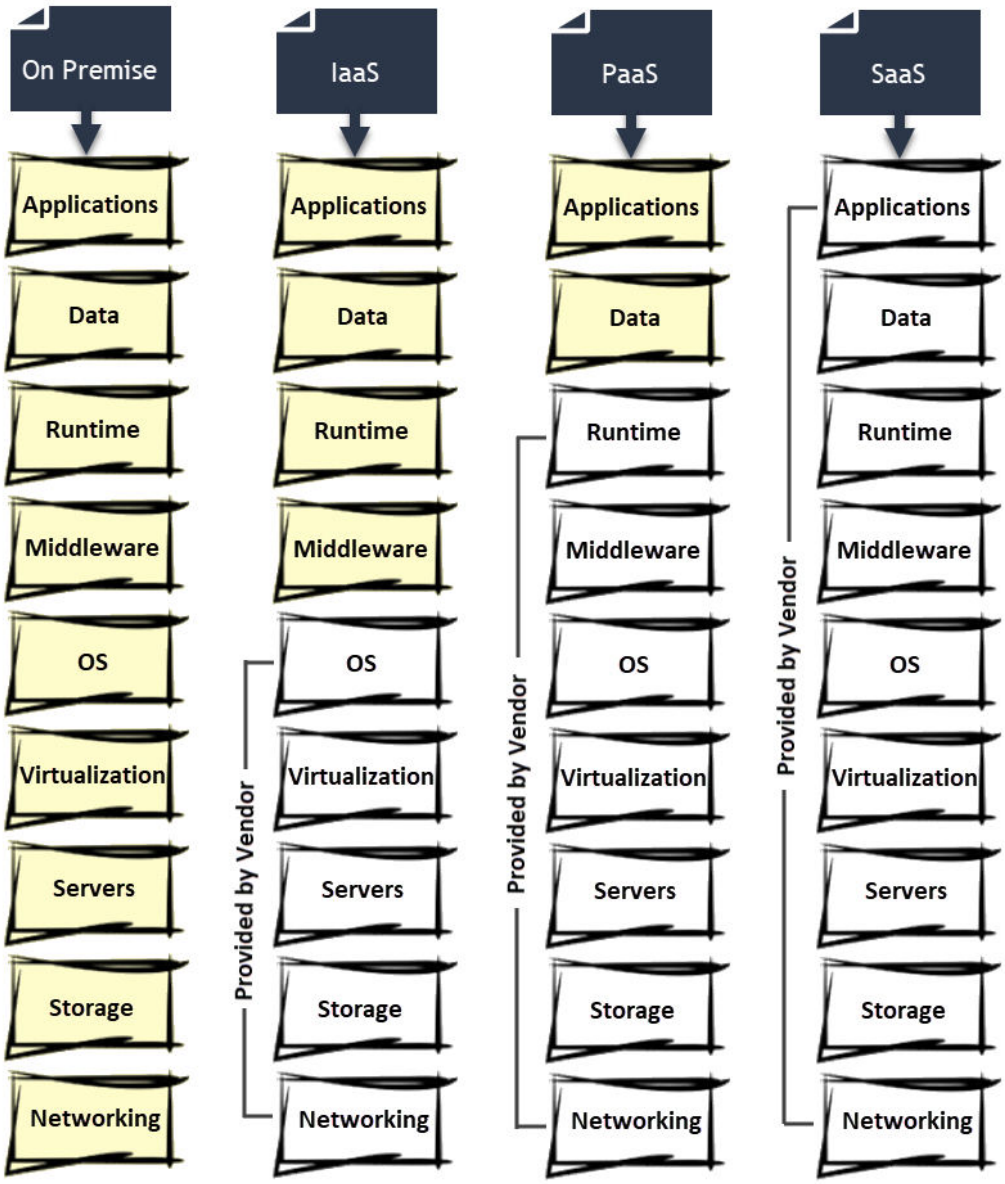
```
31      [TestMethod]
        0 references
32      public void TestCloningOneObjectReturnsDifferentInstance()
33      {
34          var person1 = new Person();
35          var person2 = (Person)person1.Clone();
36
37          var status = person1 == person2;
38
39          Assert.IsFalse(status);
40      }
41
42      [TestMethod]
        0 references
43      public void TestCloningPopulatesThePropertiesProperly()
44      {
45          var person1 = new Person();
46          var person2 = (Person)person1.Clone();
47
48          var status = person1 == person2;
49
50          Assert.IsFalse(status);
51          Assert.AreEqual(person1.ID, person2.ID);
52          Assert.AreEqual(person1.Name, person2.Name);
53          Assert.AreEqual(person1.Address, person2.Address);
54      }
```

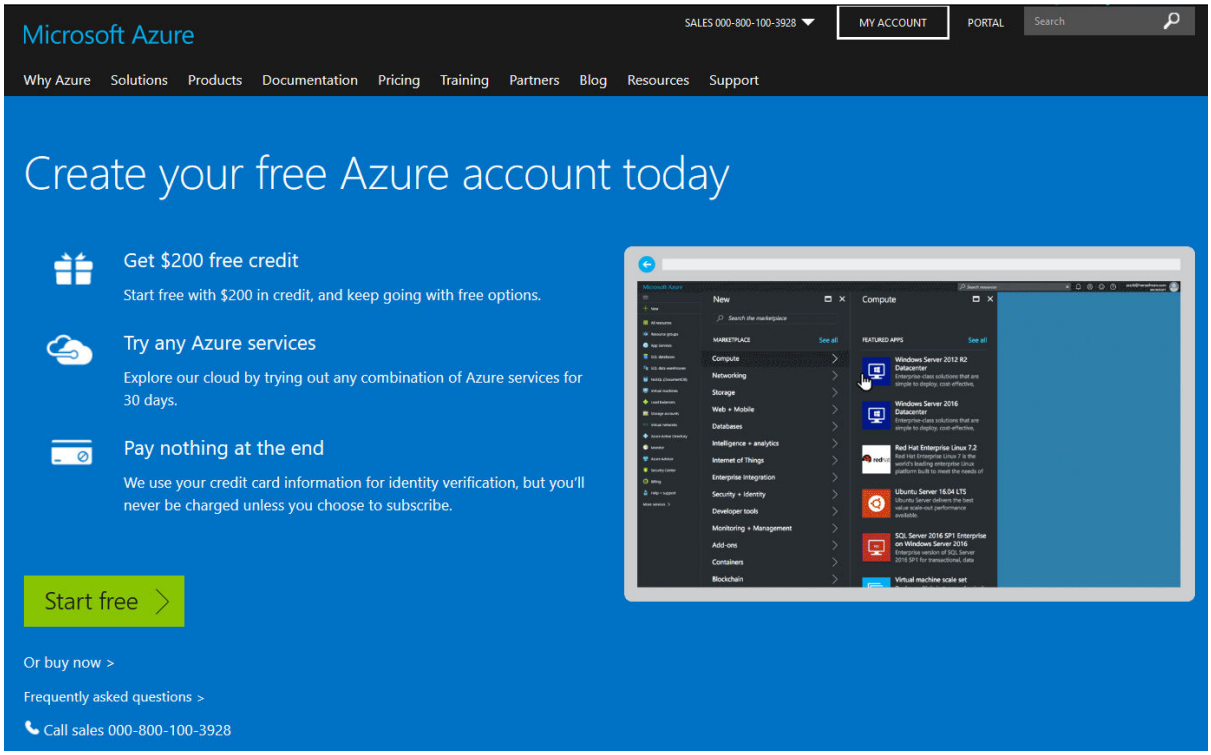

Live Unit Testing Demo - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Start
Person.cs
ConsoleApp
ConsoleApp.Person
ID
2 references | 1/1 passing
8 public string ID { get; set; }
9
2 references | 1/1 passing
10 public string Name { get; set; }
TestConsoleApp.UnitTest1.TestCloningOneObjectReturnsDifferentInstance
TestConsoleApp.UnitTest1.TestCloningPopulatesThePropertiesProperly
2 references | 2/2 passing
14 public object Clone()
15 {
16 return MemberwiseClone();
17 }
Toolbox
Test Explorer
Solution Explorer
Team Explorer


Live Unit Testing Demo - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Start
Person.cs
ConsoleApp
ConsoleApp.Person
ID
2 references | 0/1 passing
8 public string ID { get; set; }
9
2 references | 0/1 passing
10 public string Name { get; set; }
TestConsoleApp.UnitTest1.TestCloningOneObjectReturnsDifferentInstance
TestConsoleApp.UnitTest1.TestCloningPopulatesThePropertiesProperly
2 references | 0/2 passing
14 public object Clone()
15 {
16 throw new NotImplementedException();
17 }
Toolbox
Test Explorer
Solution Explorer
Team Explorer

Chapter 9: Accelerate Cloud Development with Microsoft Azure




On Premise
Applications
Data
Runtime
Middleware
OS
Virtualization
Servers
Storage
Networking
IaaS
Applications
Data
Runtime
Middleware
OS
Virtualization
Servers
Storage
Networking
Provided by Vendor
PaaS
Applications
Data
Runtime
Middleware
OS
Virtualization
Servers
Storage
Networking
Provided by Vendor
SaaS
Applications
Data
Runtime
Middleware
OS
Virtualization
Servers
Storage
Networking
Provided by Vendor


Microsoft Azure
SALES 000-800-100-3928
MY ACCOUNT
PORTAL
Search
Why Azure
Solutions
Products
Documentation
Pricing
Training
Partners
Blog
Resources
Support
Create your free Azure account today
Get $200 free credit
Start free with $200 in credit, and keep going with free options.
Try any Azure services
Explore our cloud by trying out any combination of Azure services for 30 days.
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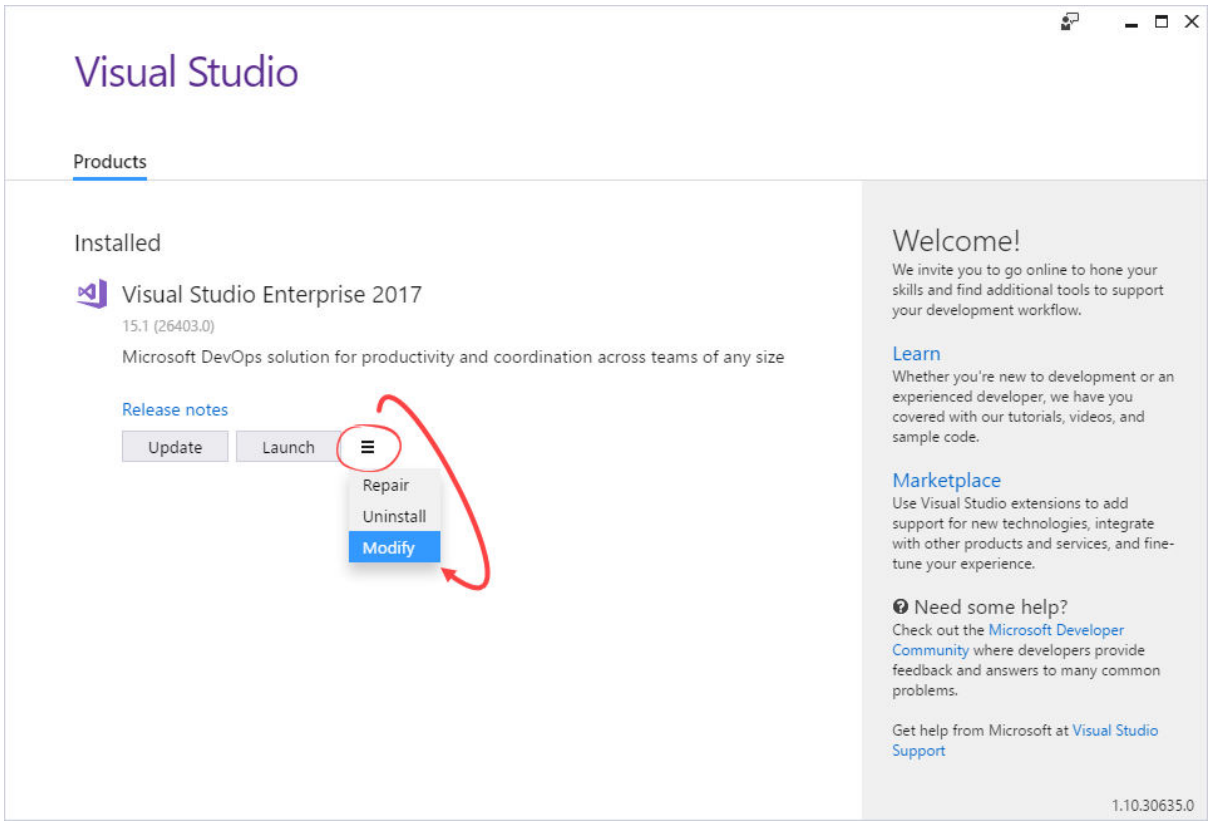
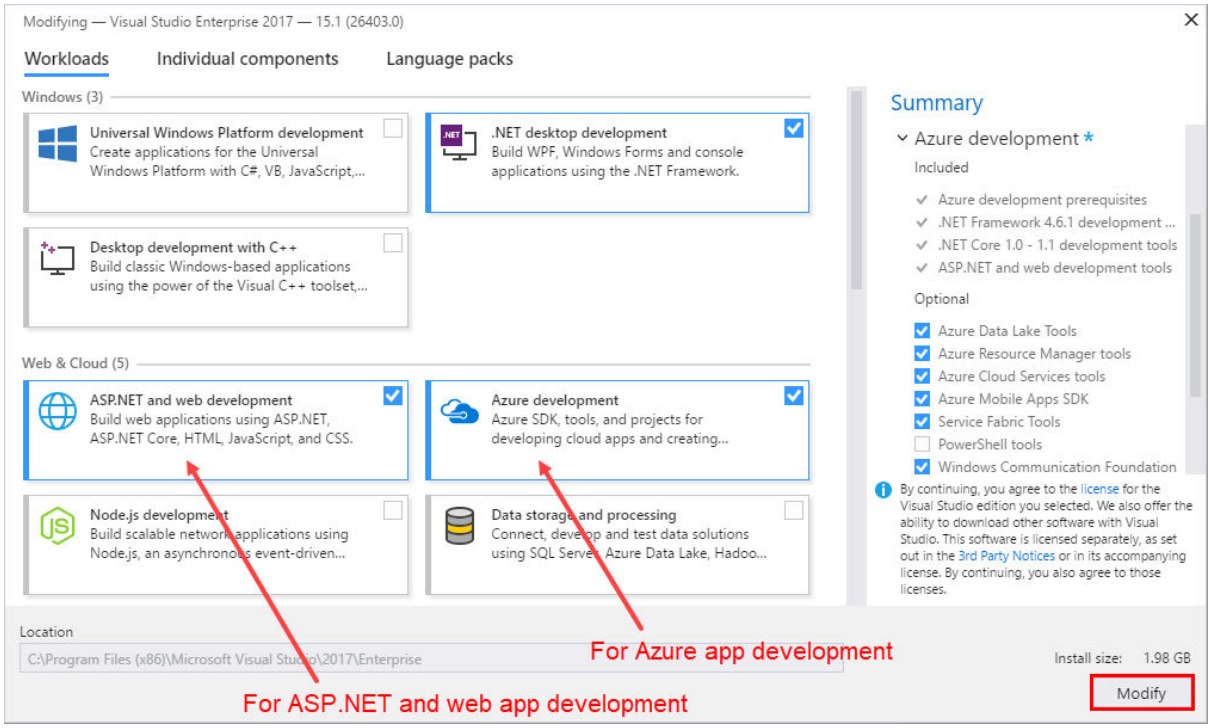
Or buy now >
Frequently asked questions >
Call sales 000-800-100-3928


Visual Studio
Products
Installed
Visual Studio Enterprise 2017
15.1 (26403.0)
Microsoft DevOps solution for productivity and coordination across teams of any size
Release notes
Update
Launch
Repair
Uninstall
Modify
Welcome!
We invite you to go online to hone your skills and find additional tools to support your development workflow.
Learn
Whether you're new to development or an experienced developer, we have you covered with our tutorials, videos, and sample code.
Marketplace
Use Visual Studio extensions to add support for new technologies, integrate with other products and services, and fine-tune your experience.
Need some help?
Check out the Microsoft Developer Community where developers provide feedback and answers to many common problems.
Get help from Microsoft at Visual Studio Support
1.10.30635.0


Modifying — Visual Studio Enterprise 2017 — 15.1 (26403.0)
Workloads
Individual components
Language packs
Windows (3)
Universal Windows Platform development
Create applications for the Universal Windows Platform with C#, VB, JavaScript,...
.NET desktop development
Build WPF, Windows Forms and console applications using the .NET Framework.
Desktop development with C++
Build classic Windows-based applications using the power of the Visual C++ toolset,...
Web & Cloud (5)
ASP.NET and web development
Build web applications using ASP.NET, ASP.NET Core, HTML, JavaScript, and CSS.
Azure development
Azure SDK, tools, and projects for developing cloud apps and creating...
Node.js development
Build scalable network applications using Node.js, an asynchronous event-driven...
Data storage and processing
Connect, develop and test data solutions using SQL Server, Azure Data Lake, Hadoo...
Summary
Azure development *
Included
Azure development prerequisites
.NET Framework 4.6.1 development ...
.NET Core 1.0 - 1.1 development tools
ASP.NET and web development tools
Optional
Azure Data Lake Tools
Azure Resource Manager tools
Azure Cloud Services tools
Azure Mobile Apps SDK
Service Fabric Tools
PowerShell tools
Windows Communication Foundation
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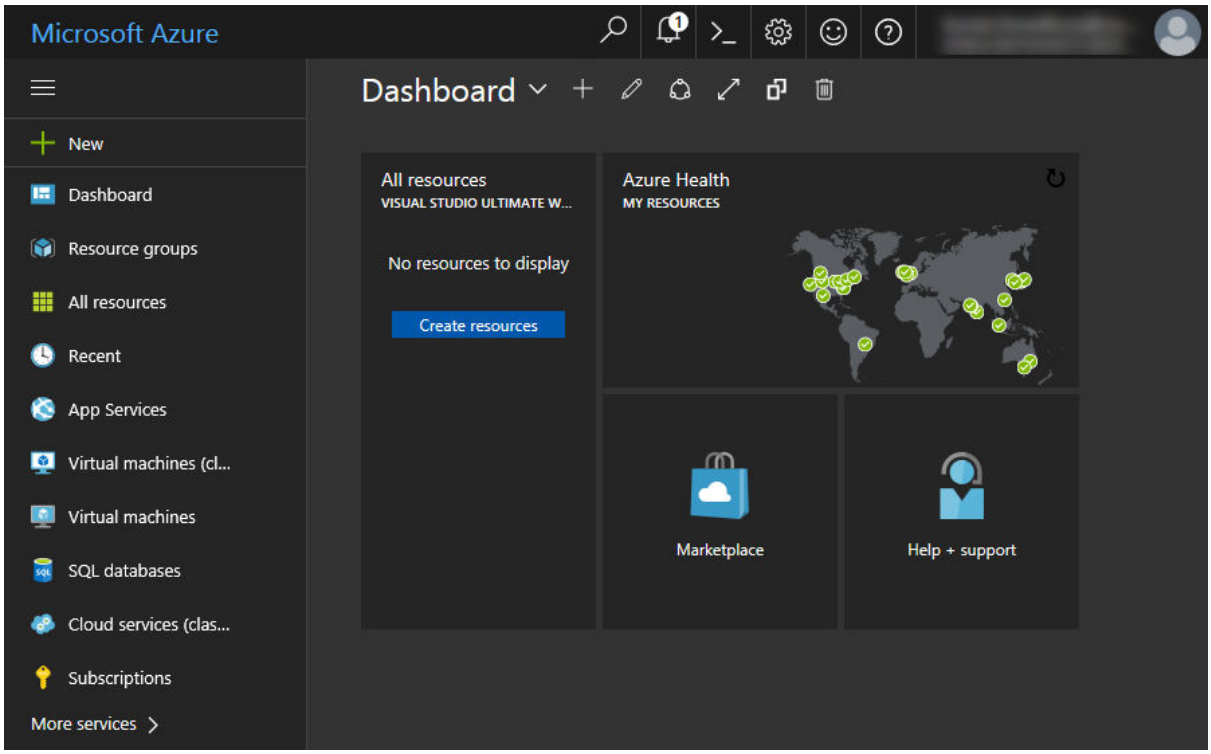
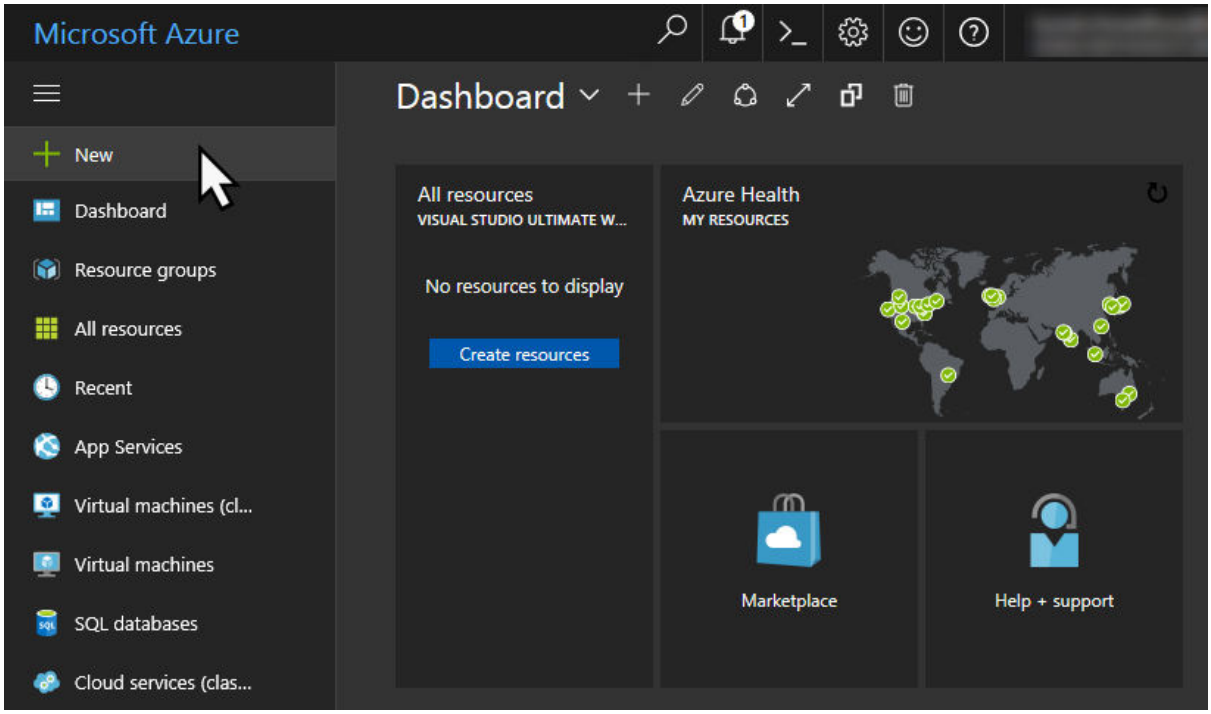
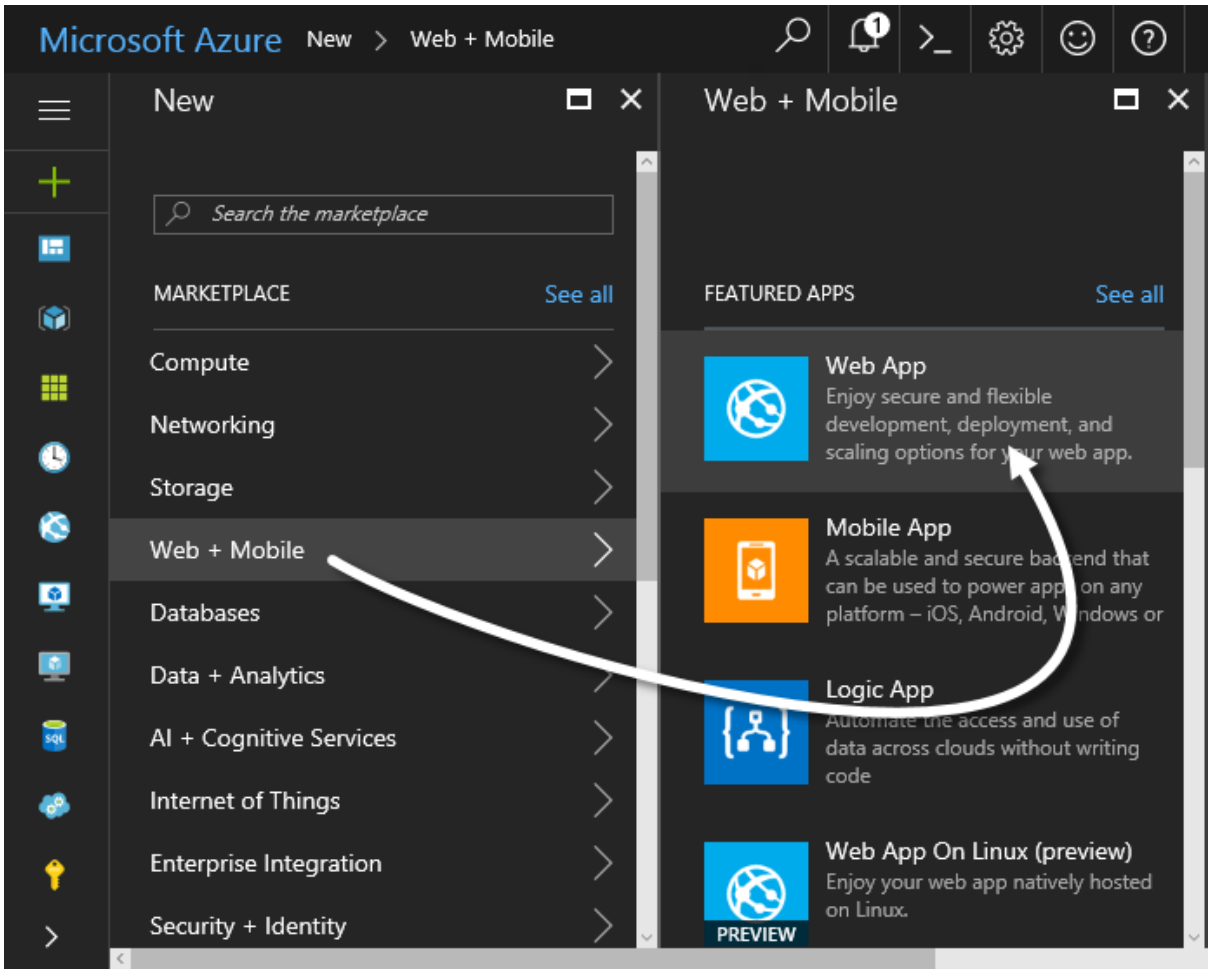
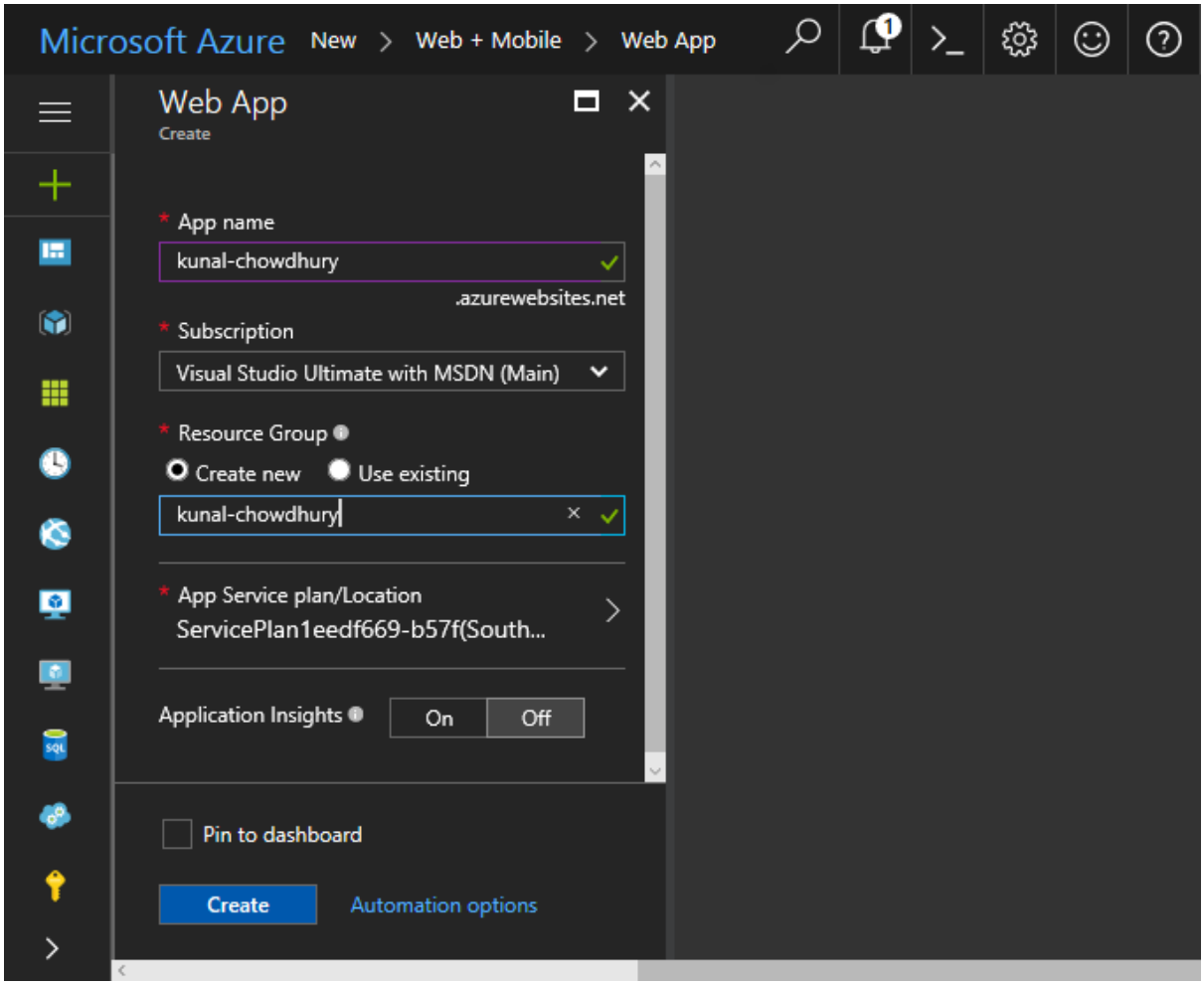
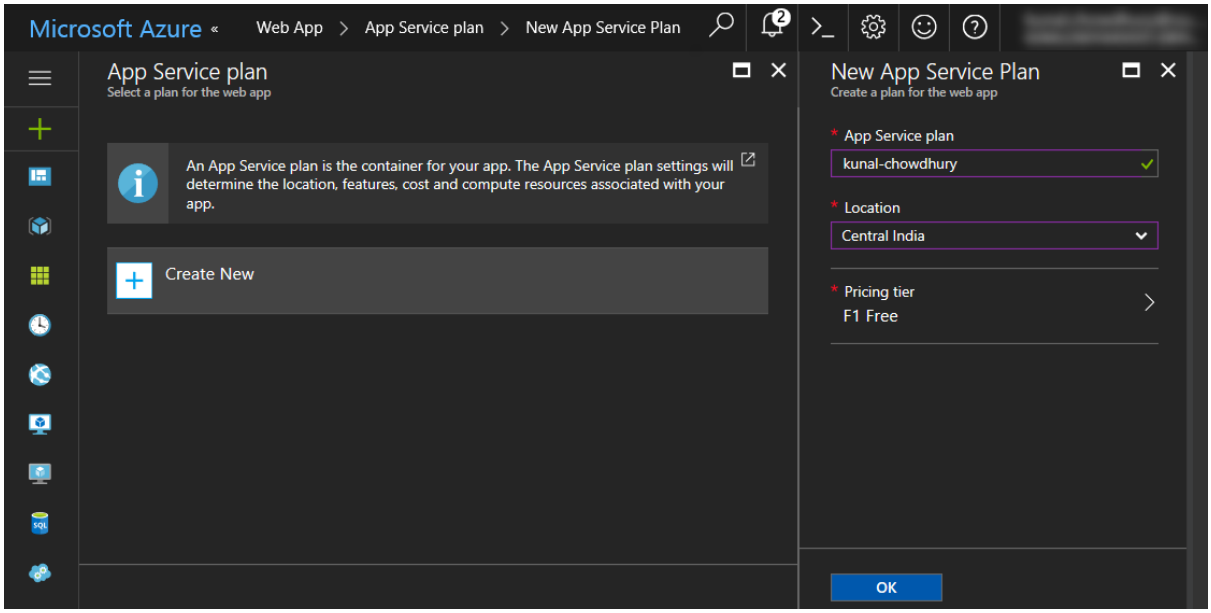
Location
C:\Program Files (x86)\Microsoft Visual Studio\2017\Enterprise
Install size: 1.98 GB
Modify
For Azure app development
For ASP.NET and web app development

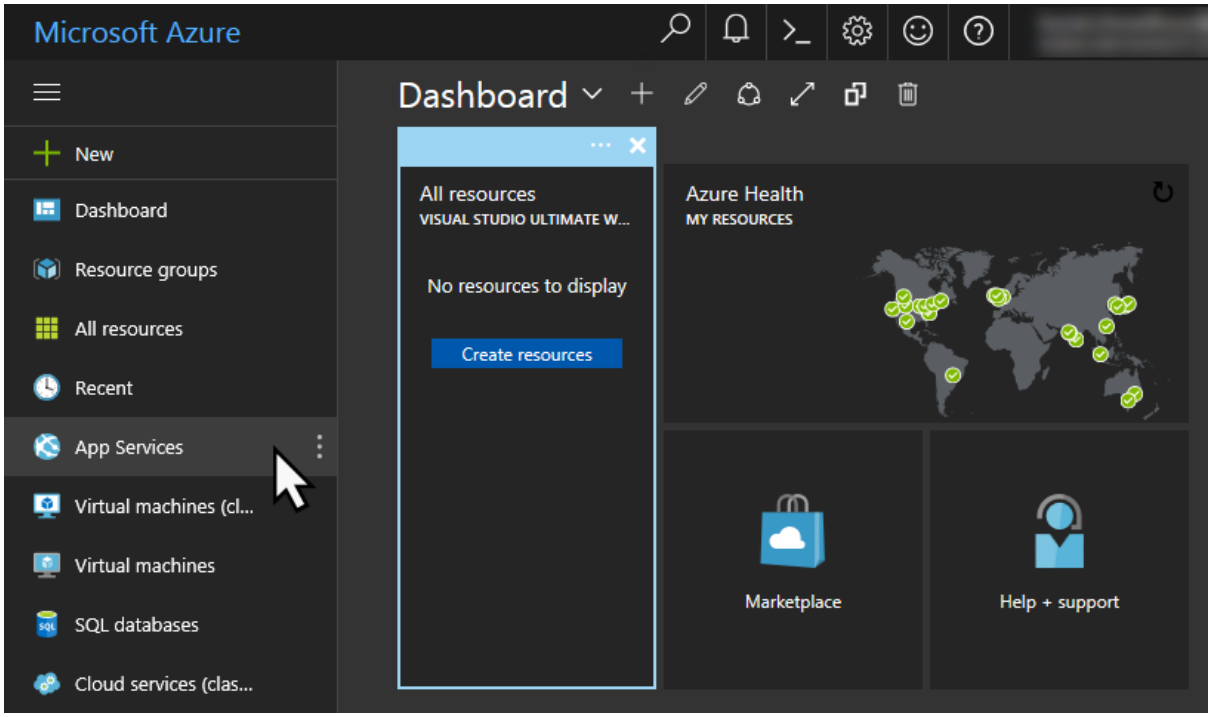

Microsoft Azure
Dashboard
New
Dashboard
Resource groups
All resources
Recent
App Services
Virtual machines (cl...
Virtual machines
SQL databases
Cloud services (clas...
Subscriptions
More services
All resources
VISUAL STUDIO ULTIMATE W...
No resources to display
Create resources
Azure Health
MY RESOURCES
Marketplace
Help + support

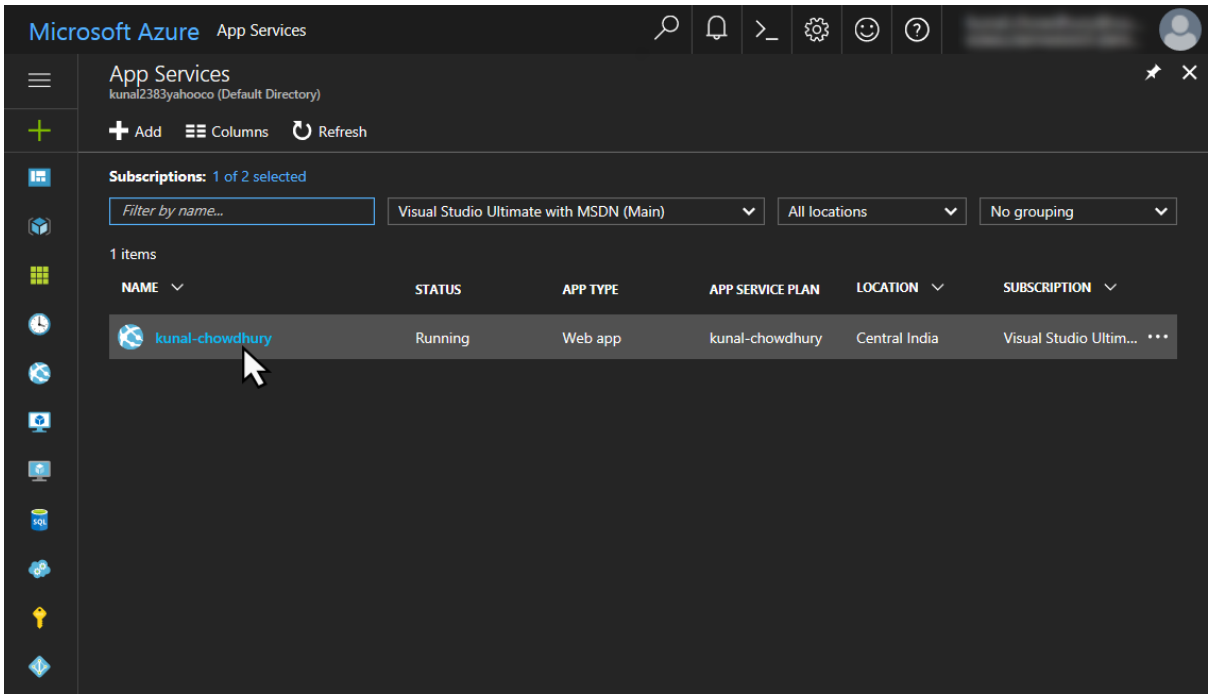

Microsoft Azure
Dashboard
New
Dashboard
Resource groups
All resources
Recent
App Services
Virtual machines (cl...
Virtual machines
SQL databases
Cloud services (clas...
All resources
VISUAL STUDIO ULTIMATE W...
No resources to display
Create resources
Azure Health
MY RESOURCES
Marketplace
Help + support

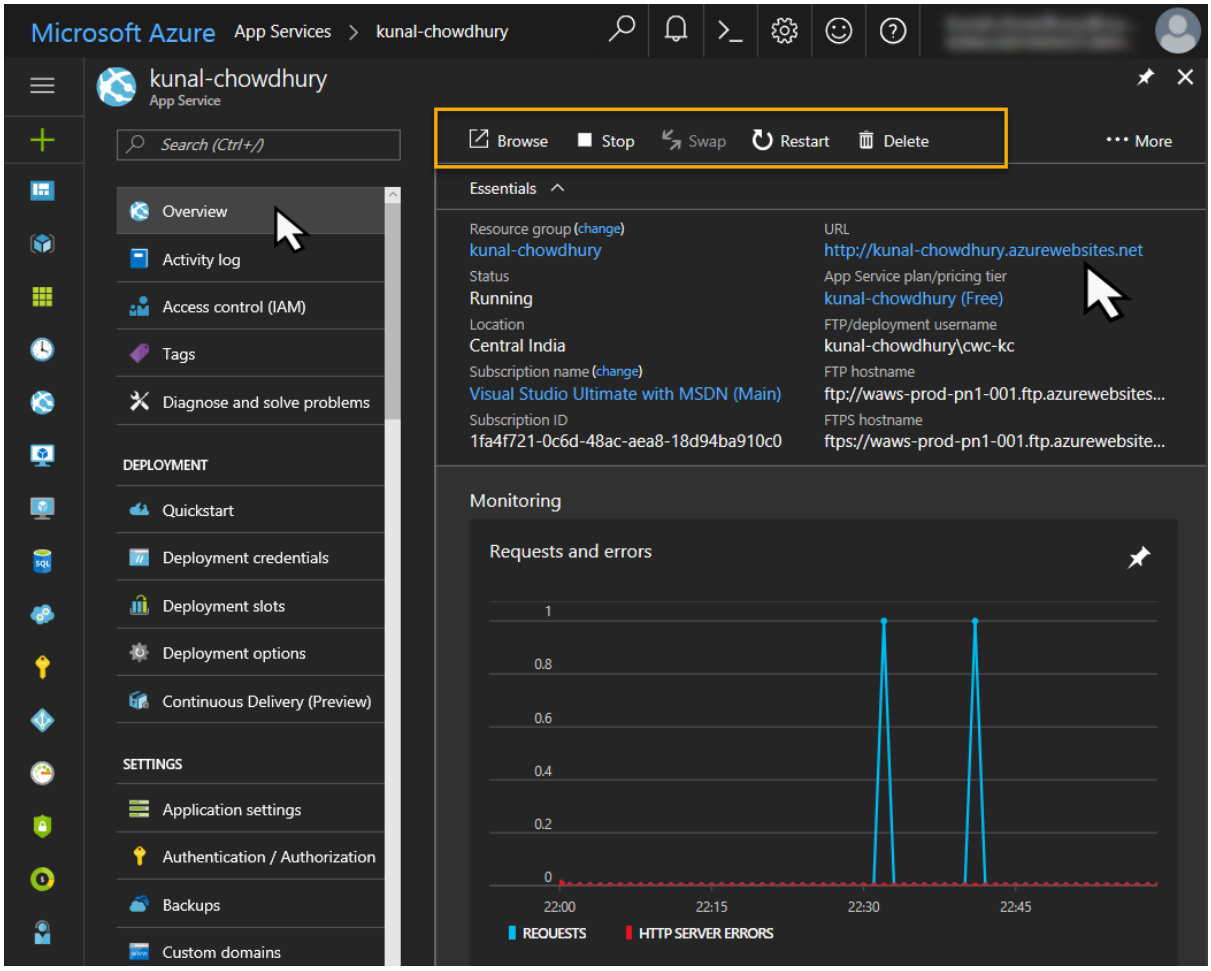

Microsoft Azure
New
Web + Mobile
New
Search the marketplace
MARKETPLACE
See all
Compute
Networking
Storage
Web + Mobile
Databases
Data + Analytics
AI + Cognitive Services
Internet of Things
Enterprise Integration
Security + Identity
Web + Mobile
FEATURED APPS
See all
Web App
Enjoy secure and flexible development, deployment, and scaling options for your web app.
Mobile App
A scalable and secure backend that can be used to power apps on any platform – iOS, Android, Windows or
Logic App
Automate the access and use of data across clouds without writing code
Web App On Linux (preview)
Enjoy your web app natively hosted on Linux.
PREVIEW

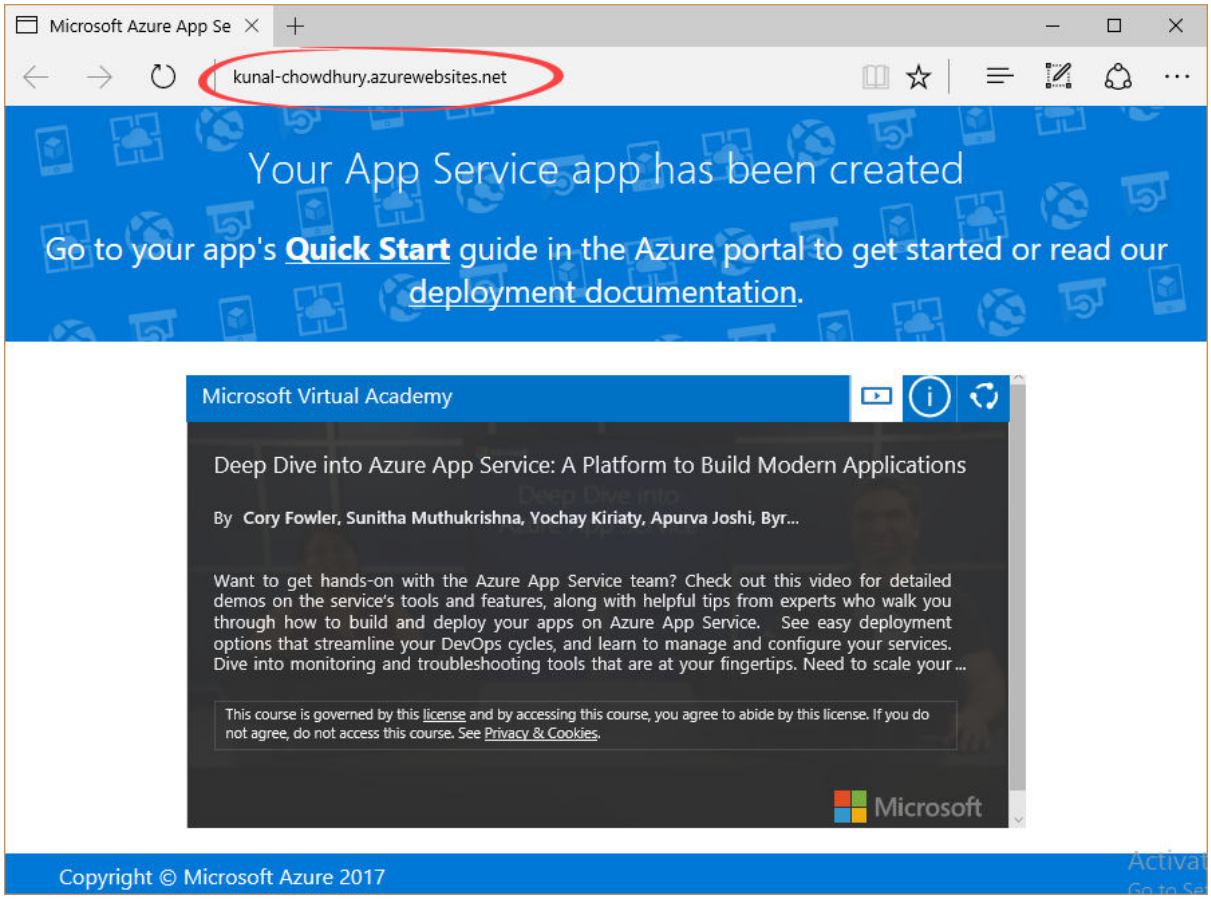

Microsoft Azure
New
Web + Mobile
Web App
Web App
Create
App name
kunal-chowdhury
.azurewebsites.net
Subscription
Visual Studio Ultimate with MSDN (Main)
Resource Group
Create new
Use existing
kunal-chowdhury
App Service plan/Location
ServicePlan1eedf669-b57f(South...
Application Insights
On
Off
Pin to dashboard
Create
Automation options

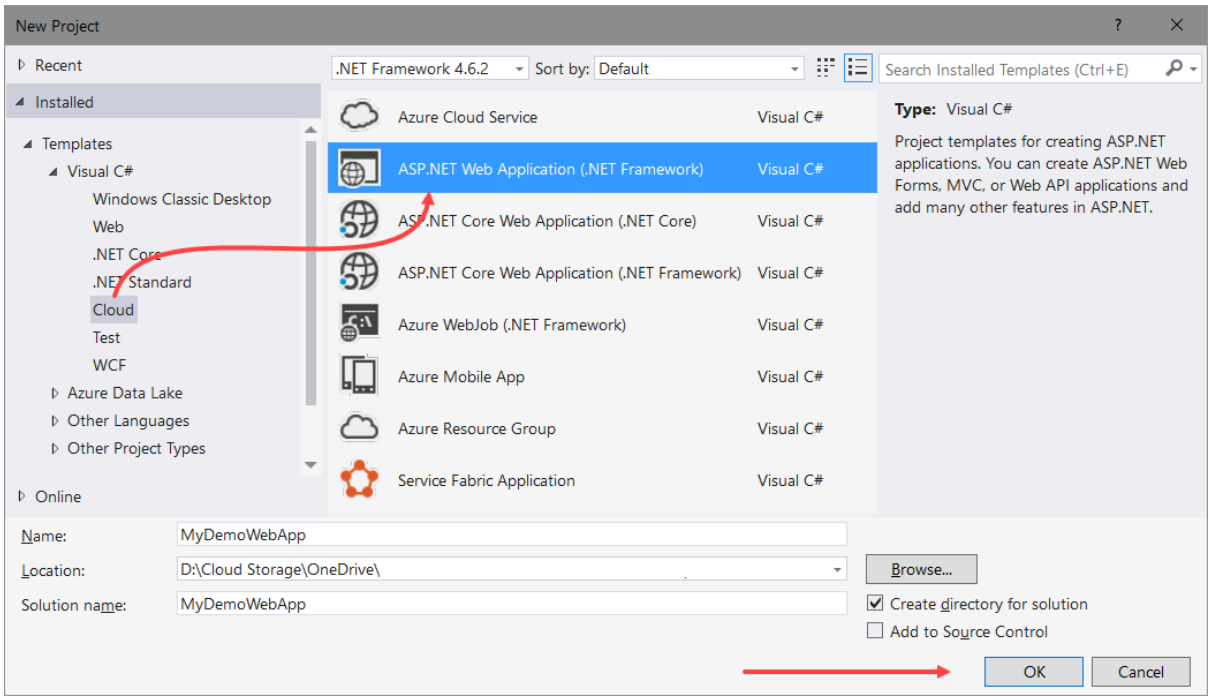

Microsoft Azure
Web App
App Service plan
New App Service Plan
App Service plan
Select a plan for the web app
An App Service plan is the container for your app. The App Service plan settings will determine the location, features, cost and compute resources associated with your app.
Create New
New App Service Plan
Create a plan for the web app
App Service plan
kunal-chowdhury
Location
Central India
Pricing tier
F1 Free
OK

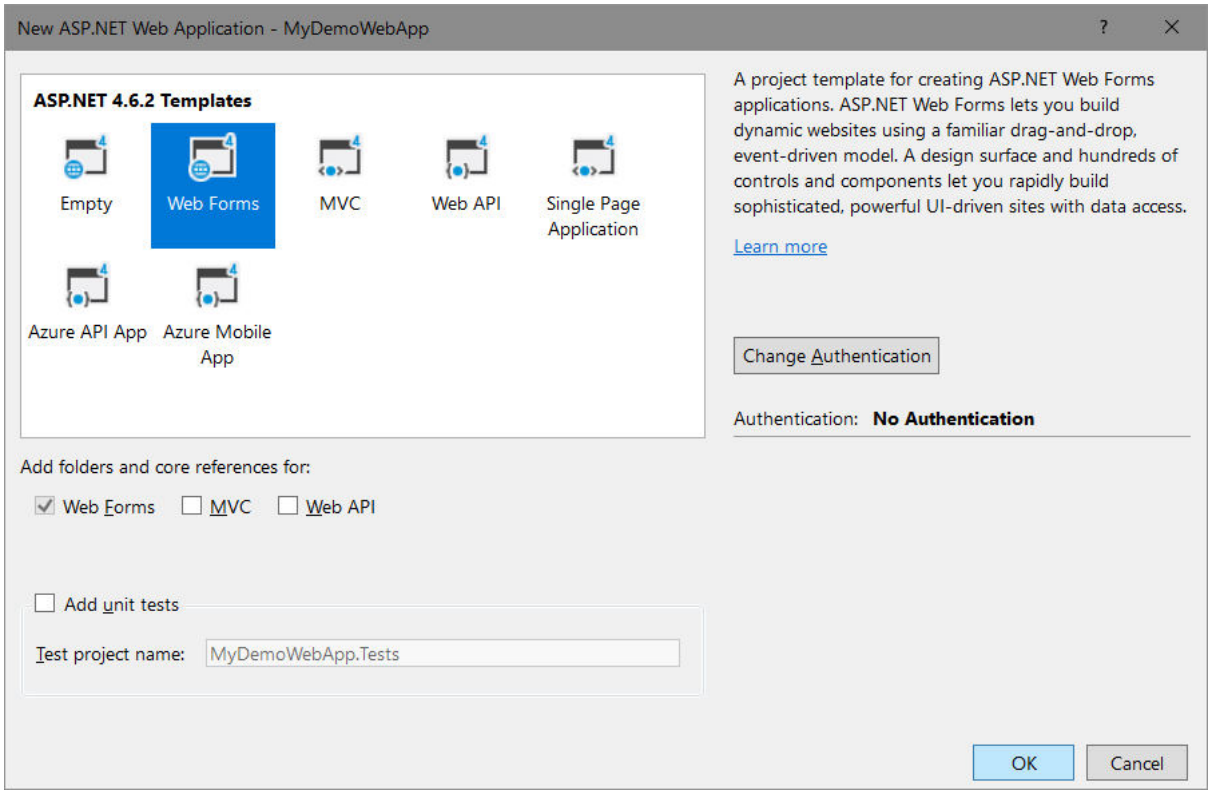

Microsoft Azure
Dashboard
New
Dashboard
Resource groups
All resources
Recent
App Services
Virtual machines (cl...
Virtual machines
SQL databases
Cloud services (clas...
All resources
VISUAL STUDIO ULTIMATE W...
No resources to display
Create resources
Azure Health
MY RESOURCES
Marketplace
Help + support

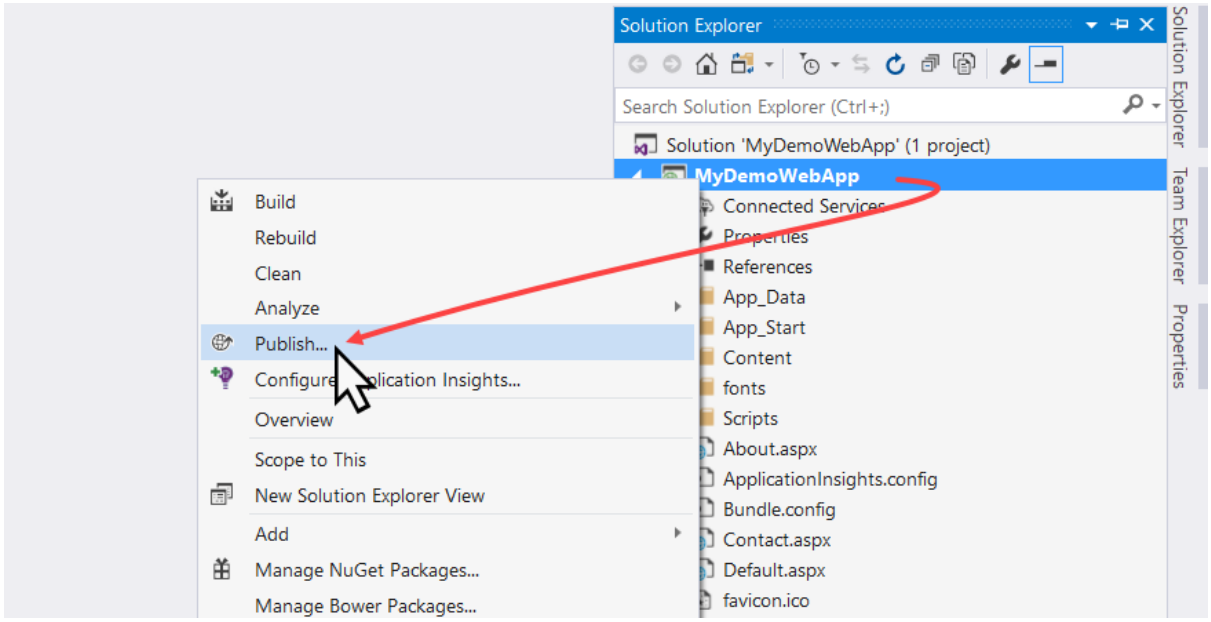

Microsoft Azure
App Services
App Services
kunal2383yahooco (Default Directory)
Add
Columns
Refresh
Subscriptions: 1 of 2 selected
Filter by name...
Visual Studio Ultimate with MSDN (Main)
All locations
No grouping
1 items
NAME
STATUS
APP TYPE
APP SERVICE PLAN
LOCATION
SUBSCRIPTION
kunal-chowdhury
Running
Web app
kunal-chowdhury
Central India
Visual Studio Ultim...

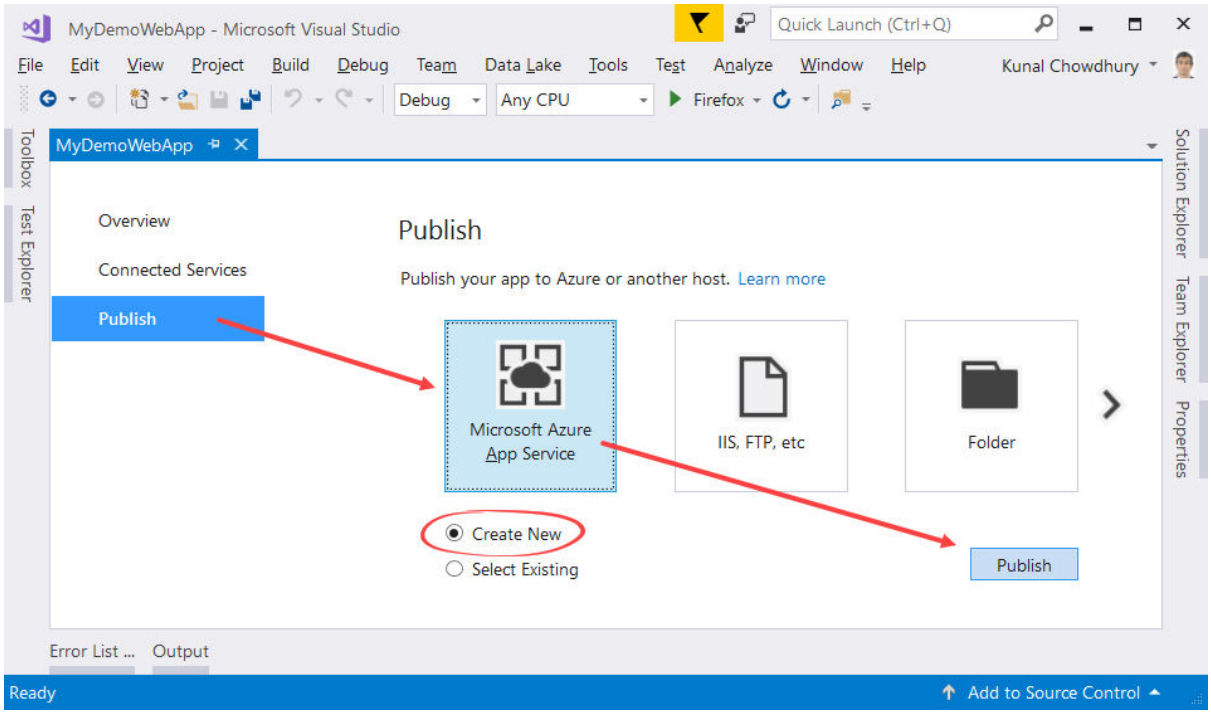

Microsoft Azure
App Services
kunal-chowdhury
kunal-chowdhury
App Service
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
DEPLOYMENT
Quickstart
Deployment credentials
Deployment slots
Deployment options
Continuous Delivery (Preview)
SETTINGS
Application settings
Authentication / Authorization
Backups
Custom domains
Browse
Stop
Swap
Restart
Delete
More
Essentials
Resource group (change)
kunal-chowdhury
Status
Running
Location
Central India
Subscription name (change)
Visual Studio Ultimate with MSDN (Main)
Subscription ID
1fa4f721-0c6d-48ac-aea8-18d94ba910c0
URL
http://kunal-chowdhury.azurewebsites.net
App Service plan/pricing tier
kunal-chowdhury (Free)
FTP/deployment username
kunal-chowdhury\cwc-kc
FTP hostname
ftp://waws-prod-pn1-001.ftp.azurewebsites...
FTPS hostname
ftps://waws-prod-pn1-001.ftp.azurewebsite...
Monitoring
Requests and errors
1
0.8
0.6
0.4
0.2
0
22:00
22:15
22:30
22:45
REQUESTS
HTTP SERVER ERRORS

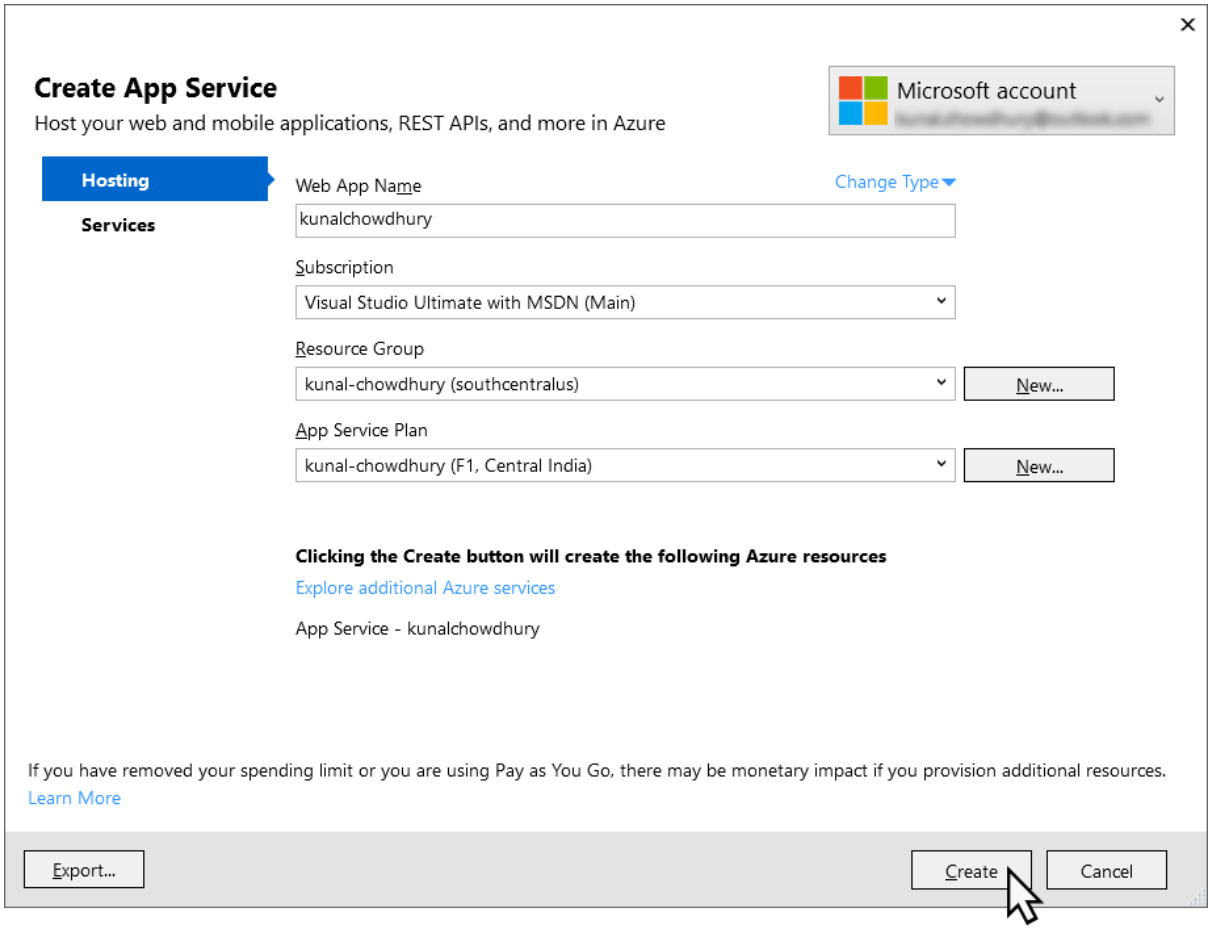

Microsoft Azure App Se
kunal-chowdhury.azurewebsites.net
Your App Service app has been created
Go to your app's Quick Start guide in the Azure portal to get started or read our deployment documentation.
Microsoft Virtual Academy
Deep Dive into Azure App Service: A Platform to Build Modern Applications
By Cory Fowler, Sunitha Muthukrishna, Yochay Kiriaty, Apurva Joshi, Byr...
Want to get hands-on with the Azure App Service team? Check out this video for detailed demos on the service's tools and features, along with helpful tips from experts who walk you through how to build and deploy your apps on Azure App Service. See easy deployment options that streamline your DevOps cycles, and learn to manage and configure your services. Dive into monitoring and troubleshooting tools that are at your fingertips. Need to scale your ...
This course is governed by this license and by accessing this course, you agree to abide by this license. If you do not agree, do not access this course. See Privacy & Cookies.
Microsoft
Copyright © Microsoft Azure 2017

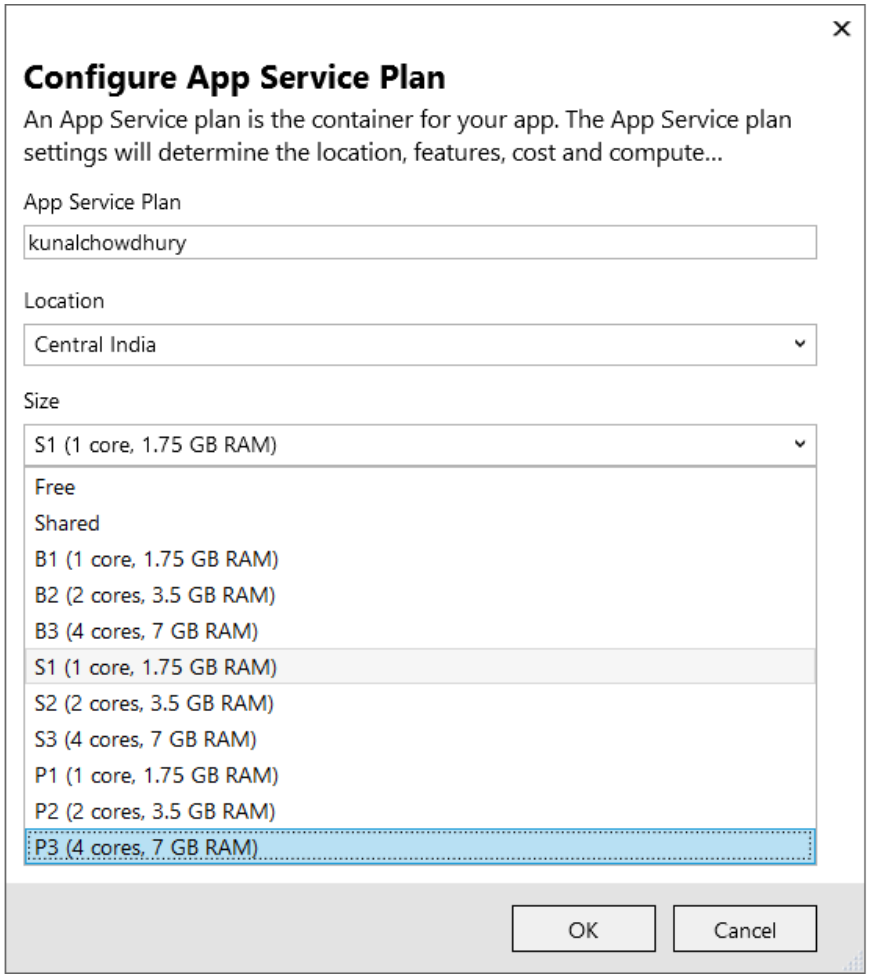

New Project
Recent
Installed
Templates
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
WCF
Azure Data Lake
Other Languages
Other Project Types
Online
.NET Framework 4.6.2
Sort by: Default
Search Installed Templates (Ctrl+E)
Azure Cloud Service Visual C#
ASP.NET Web Application (.NET Framework) Visual C#
ASP.NET Core Web Application (.NET Core) Visual C#
ASP.NET Core Web Application (.NET Framework) Visual C#
Azure WebJob (.NET Framework) Visual C#
Azure Mobile App Visual C#
Azure Resource Group Visual C#
Service Fabric Application Visual C#
Type: Visual C#
Project templates for creating ASP.NET applications. You can create ASP.NET Web Forms, MVC, or Web API applications and add many other features in ASP.NET.
Name: MyDemoWebApp
Location: D:\Cloud Storage\OneDrive\
Solution name: MyDemoWebApp
Browse...
Create directory for solution
Add to Source Control
OK
Cancel

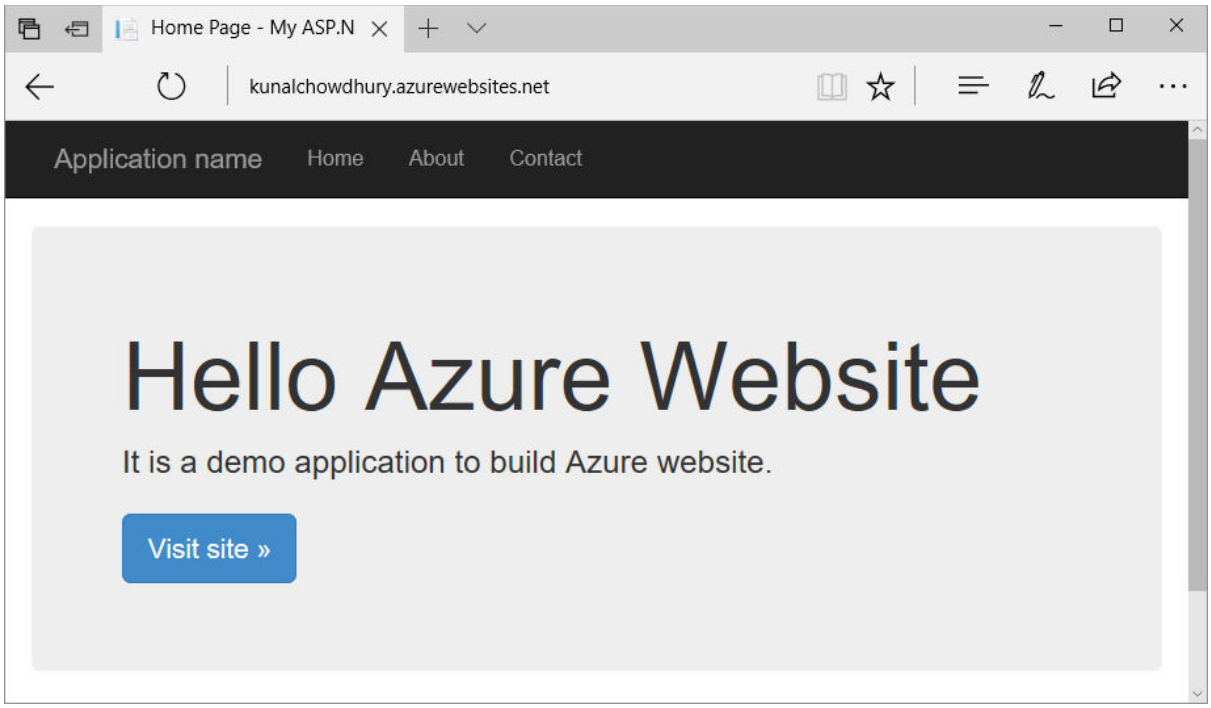

New ASP.NET Web Application - MyDemoWebApp
ASP.NET 4.6.2 Templates
Empty
Web Forms
MVC
Web API
Single Page Application
Azure API App
Azure Mobile App
A project template for creating ASP.NET Web Forms applications. ASP.NET Web Forms lets you build dynamic websites using a familiar drag-and-drop, event-driven model. A design surface and hundreds of controls and components let you rapidly build sophisticated, powerful UI-driven sites with data access.
Learn more
Change Authentication
Authentication: No Authentication
Add folders and core references for:
Web Forms
MVC
Web API
Add unit tests
Test project name: MyDemoWebApp.Tests
OK
Cancel

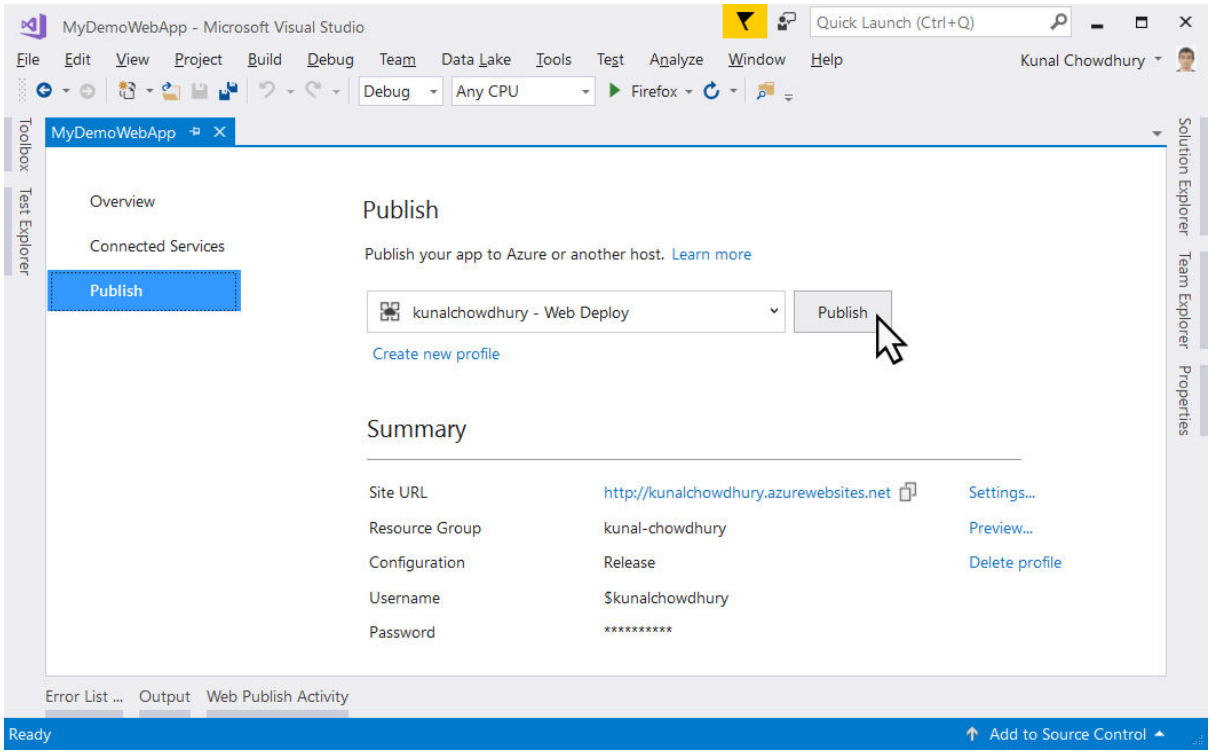

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'MyDemoWebApp' (1 project)
MyDemoWebApp
Connected Services
Properties
References
App_Data
App_Start
Content
fonts
Scripts
About.aspx
ApplicationInsights.config
Bundle.config
Contact.aspx
Default.aspx
favicon.ico
Build
Rebuild
Clean
Analyze
Publish...
Configure Application Insights...
Overview
Scope to This
New Solution Explorer View
Add
Manage NuGet Packages...
Manage Bower Packages...
Solution Explorer
Team Explorer
Properties

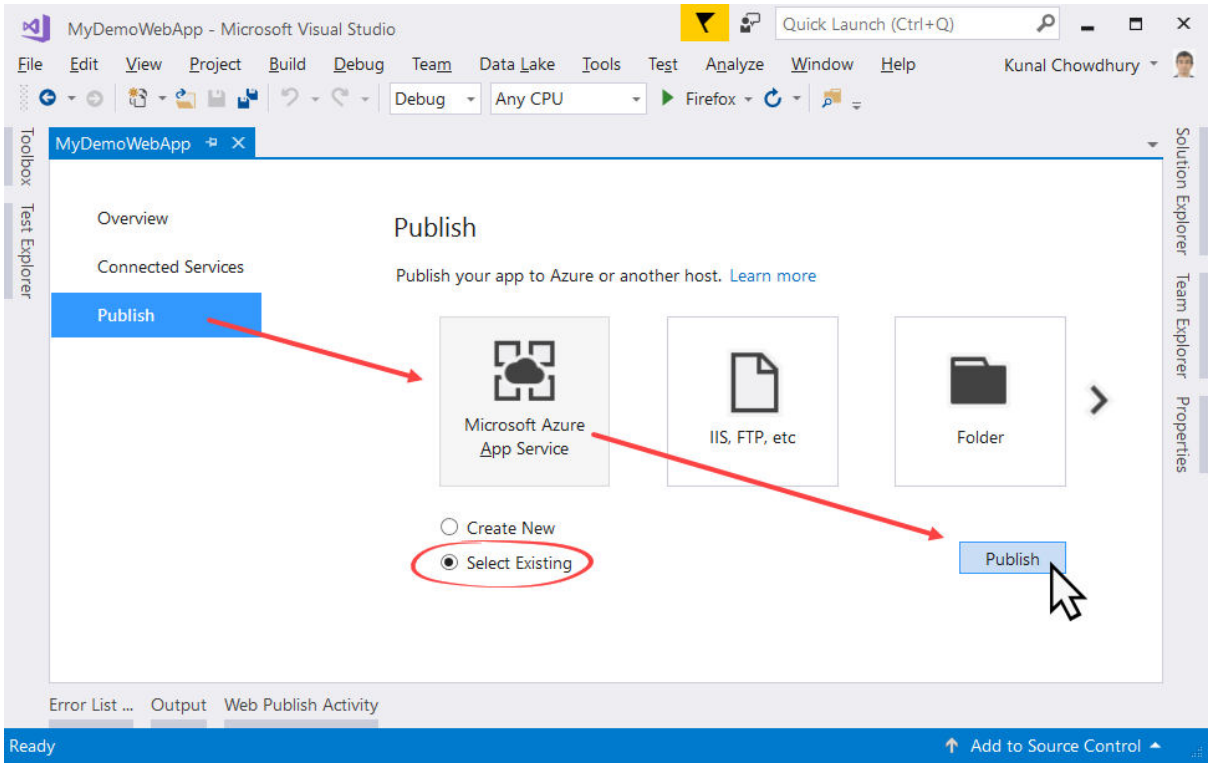

MyDemoWebApp - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Data Lake Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Firefox
Toolbox
Test Explorer
MyDemoWebApp
Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
Microsoft Azure App Service
IIS, FTP, etc
Folder
Create New
Select Existing
Publish
Solution Explorer
Team Explorer
Properties
Error List ...
Output
Ready
Add to Source Control

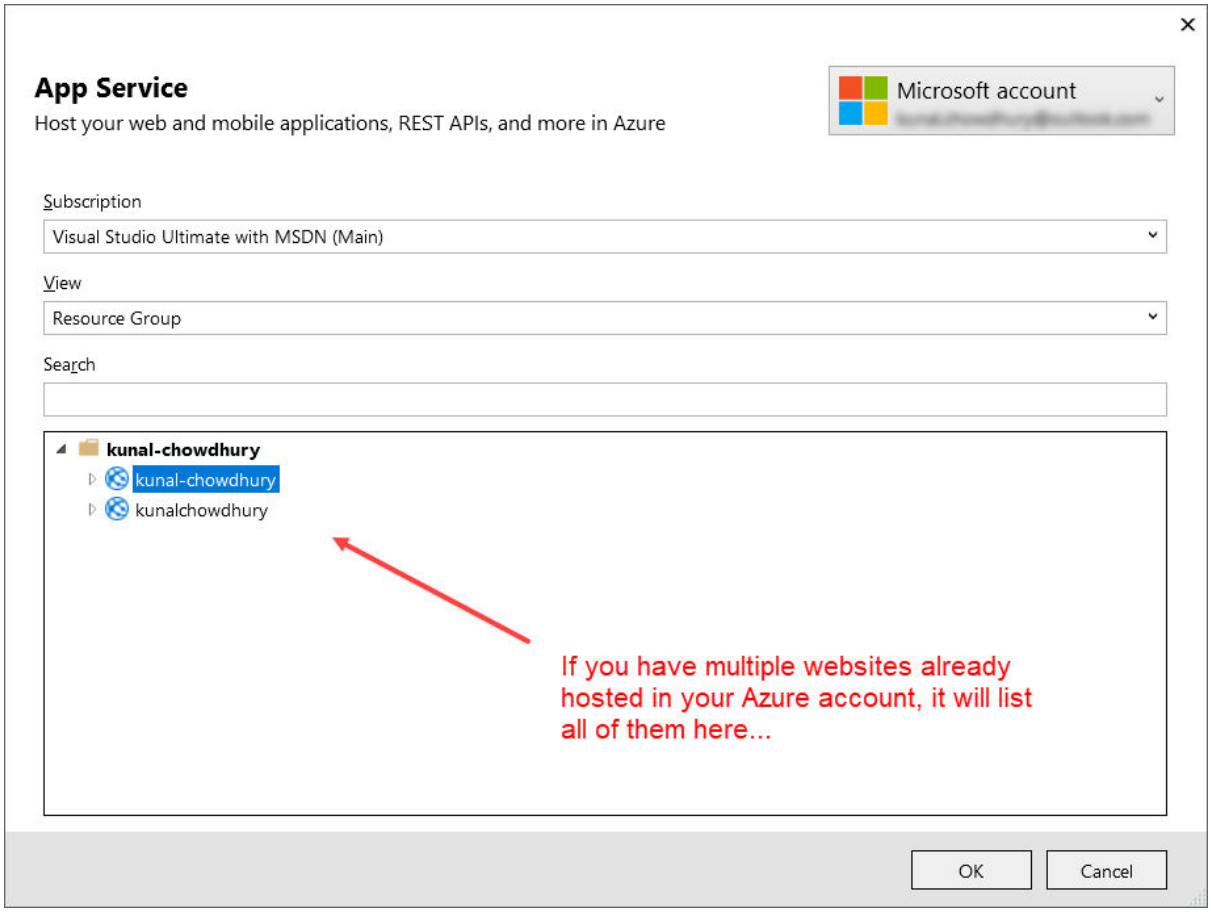

Create App Service
Host your web and mobile applications, REST APIs, and more in Azure
Microsoft account
Hosting
Services
Web App Name
Change Type
kunalchowdhury
Subscription
Visual Studio Ultimate with MSDN (Main)
Resource Group
kunal-chowdhury (southcentralus)
New...
App Service Plan
kunal-chowdhury (F1, Central India)
New...
Clicking the Create button will create the following Azure resources
Explore additional Azure services
App Service - kunalchowdhury
If you have removed your spending limit or you are using Pay as You Go, there may be monetary impact if you provision additional resources.
Learn More
Export...
Create
Cancel

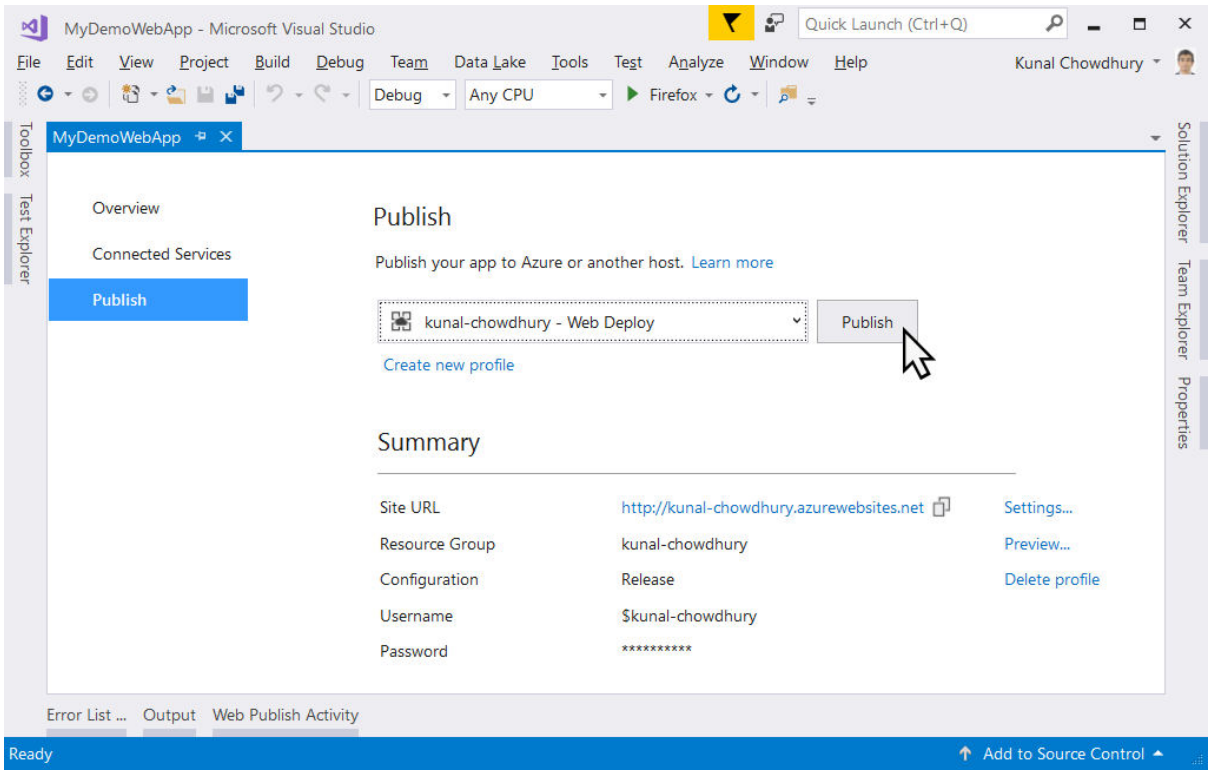

Configure App Service Plan
An App Service plan is the container for your app. The App Service plan settings will determine the location, features, cost and compute...
App Service Plan
kunalchowdhury
Location
Central India
Size
S1 (1 core, 1.75 GB RAM)
Free
Shared
B1 (1 core, 1.75 GB RAM)
B2 (2 cores, 3.5 GB RAM)
B3 (4 cores, 7 GB RAM)
S1 (1 core, 1.75 GB RAM)
S2 (2 cores, 3.5 GB RAM)
S3 (4 cores, 7 GB RAM)
P1 (1 core, 1.75 GB RAM)
P2 (2 cores, 3.5 GB RAM)
P3 (4 cores, 7 GB RAM)
OK
Cancel

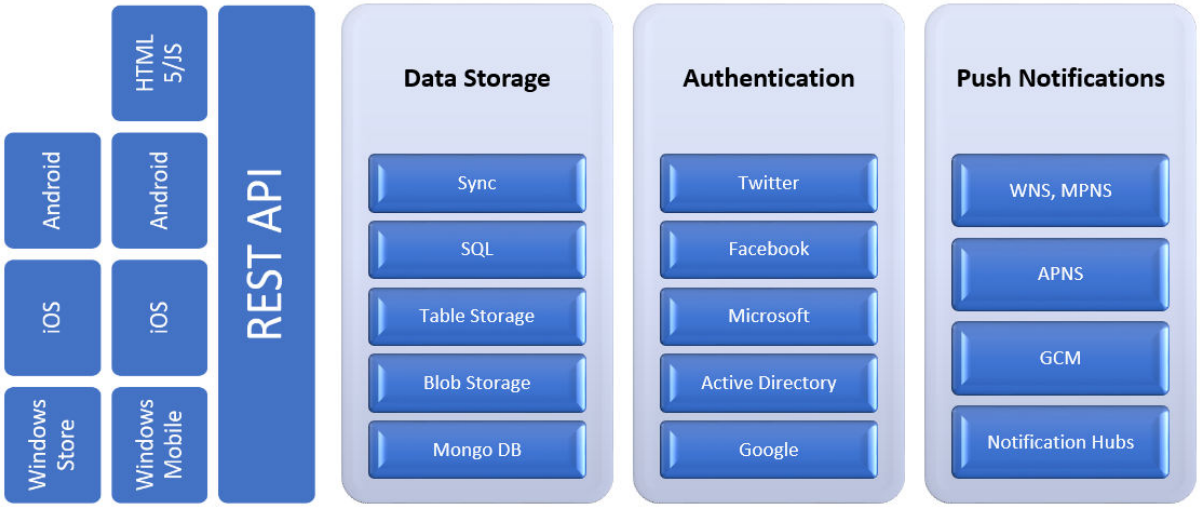

Home Page - My ASP.N
kunalchowdhury.azurewebsites.net
Application name
Home
About
Contact
Hello Azure Website
It is a demo application to build Azure website.
Visit site »

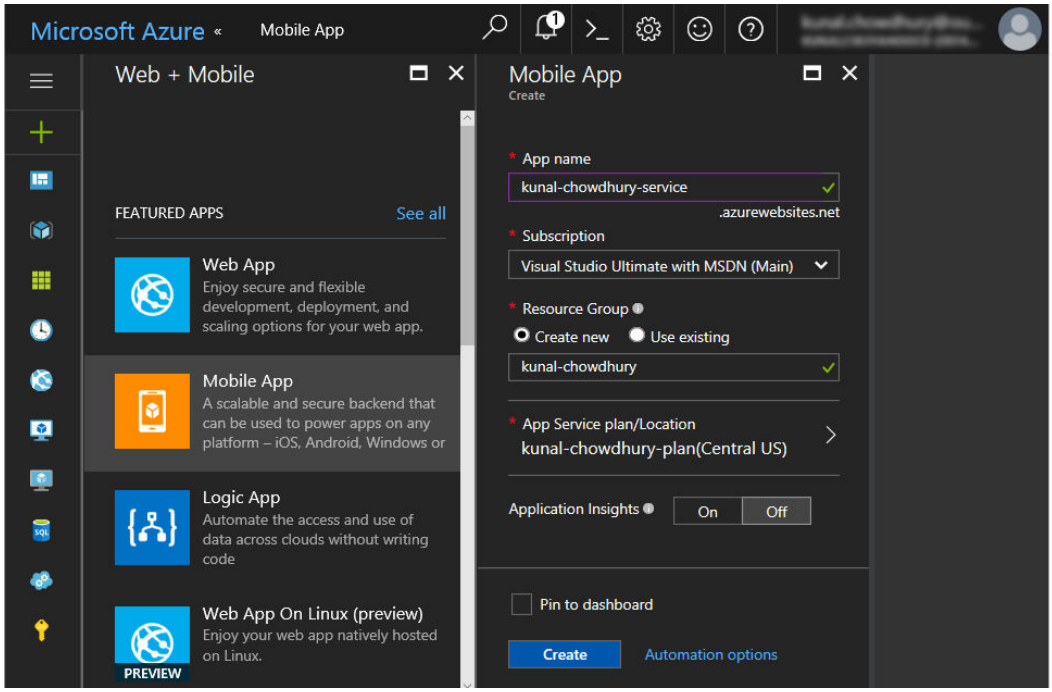

MyDemoWebApp - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Data Lake Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Firefox
MyDemoWebApp
Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
kunalchowdhury - Web Deploy
Publish
Create new profile
Summary
Site URL
http://kunalchowdhury.azurewebsites.net
Settings...
Resource Group
kunal-chowdhury
Preview...
Configuration
Release
Delete profile
Username
$kunalchowdhury
Password
****
Error List ...
Output
Web Publish Activity
Ready
Add to Source Control
Toolbox
Test Explorer
Solution Explorer
Team Explorer
Properties

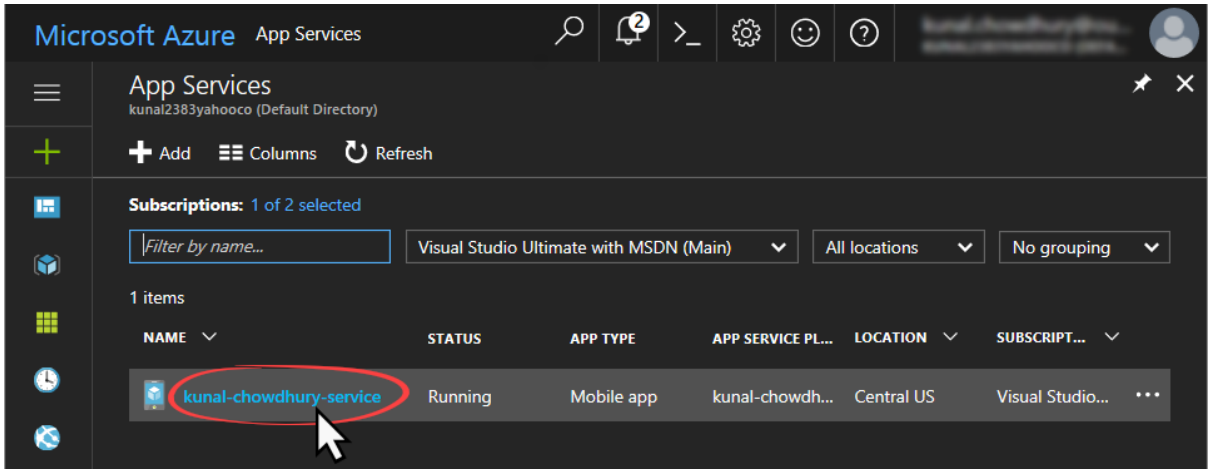

MyDemoWebApp - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Data Lake Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Firefox
MyDemoWebApp
Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
Microsoft Azure App Service
IIS, FTP, etc
Folder
Create New
Select Existing
Publish
Error List ...
Output
Web Publish Activity
Ready
Add to Source Control
Toolbox
Test Explorer
Solution Explorer
Team Explorer
Properties

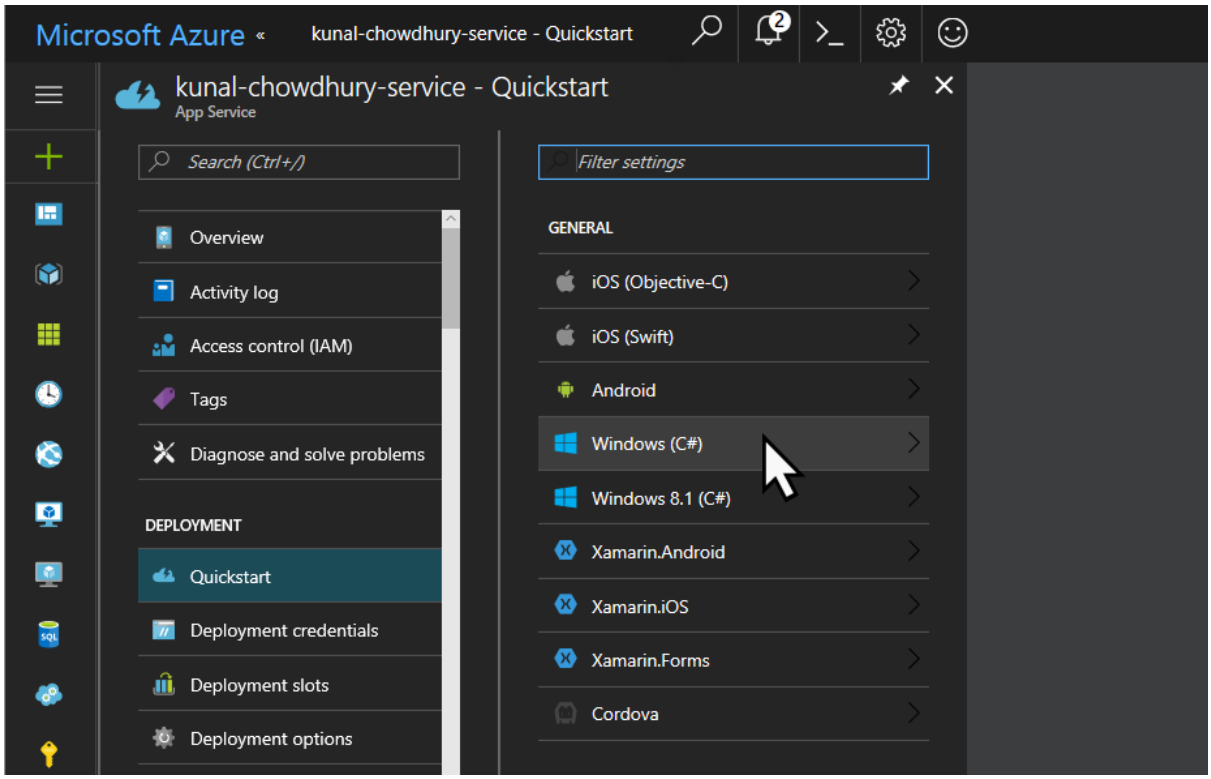

App Service
Host your web and mobile applications, REST APIs, and more in Azure
Microsoft account
Subscription
Visual Studio Ultimate with MSDN (Main)
View
Resource Group
Search
kunal-chowdhury
kunal-chowdhury
kunalchowdhury
If you have multiple websites already hosted in your Azure account, it will list all of them here...
OK
Cancel

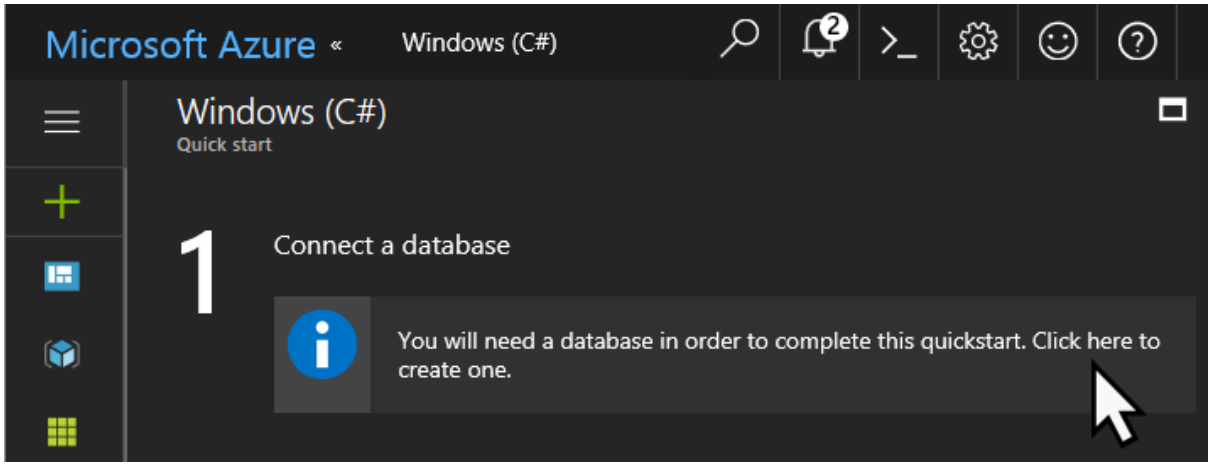

MyDemoWebApp - Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Data Lake Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Firefox
MyDemoWebApp
Overview
Connected Services
Publish
Publish
Publish your app to Azure or another host. Learn more
kunal-chowdhury - Web Deploy
Publish
Create new profile
Summary
Site URL http://kunal-chowdhury.azurewebsites.net Settings...
Resource Group kunal-chowdhury Preview...
Configuration Release Delete profile
Username $kunal-chowdhury
Password **********
Error List ... Output Web Publish Activity
Ready
Add to Source Control
Toolbox
Test Explorer
Solution Explorer
Team Explorer
Properties

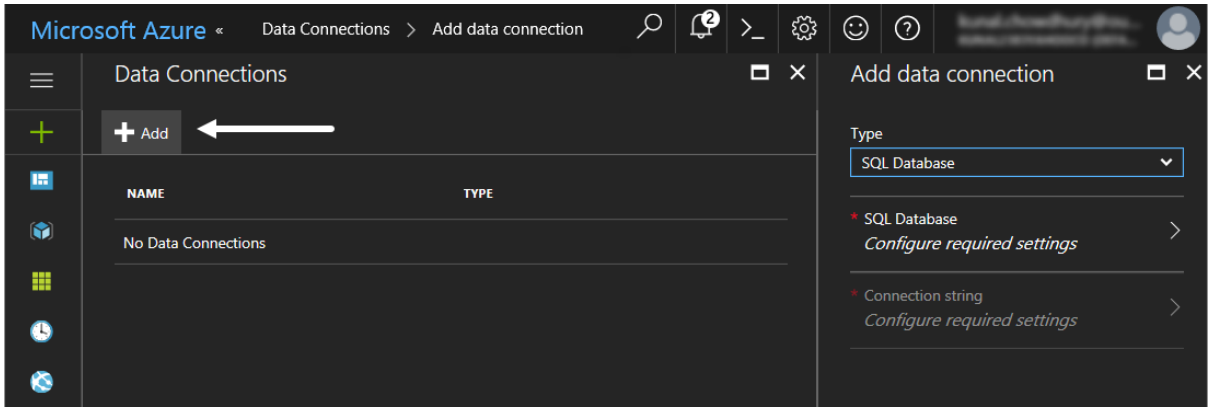

HTML 5/JS
Android
Android
iOS
iOS
Windows Store
Windows Mobile
REST API
Data Storage
Sync
SQL
Table Storage
Blob Storage
Mongo DB
Authentication
Twitter
Facebook
Microsoft
Active Directory
Google
Push Notifications
WNS, MPNS
APNS
GCM
Notification Hubs

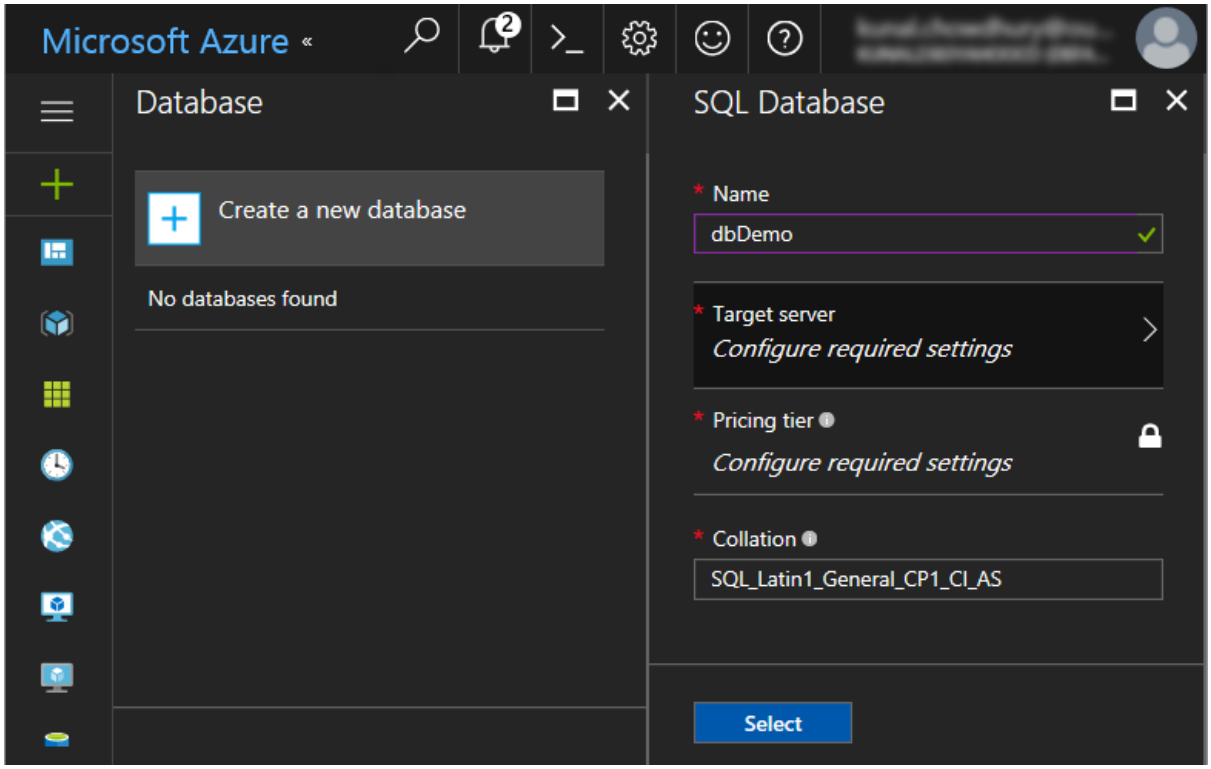

Microsoft Azure « Mobile App
Web + Mobile
FEATURED APPS
See all
Web App
Enjoy secure and flexible development, deployment, and scaling options for your web app.
Mobile App
A scalable and secure backend that can be used to power apps on any platform – iOS, Android, Windows or
Logic App
Automate the access and use of data across clouds without writing code
Web App On Linux (preview)
Enjoy your web app natively hosted on Linux.
PREVIEW
Mobile App
Create
App name
kunal-chowdhury-service
.azurewebsites.net
Subscription
Visual Studio Ultimate with MSDN (Main)
Resource Group
Create new
Use existing
kunal-chowdhury
App Service plan/Location
kunal-chowdhury-plan(Central US)
Application Insights
On
Off
Pin to dashboard
Create
Automation options

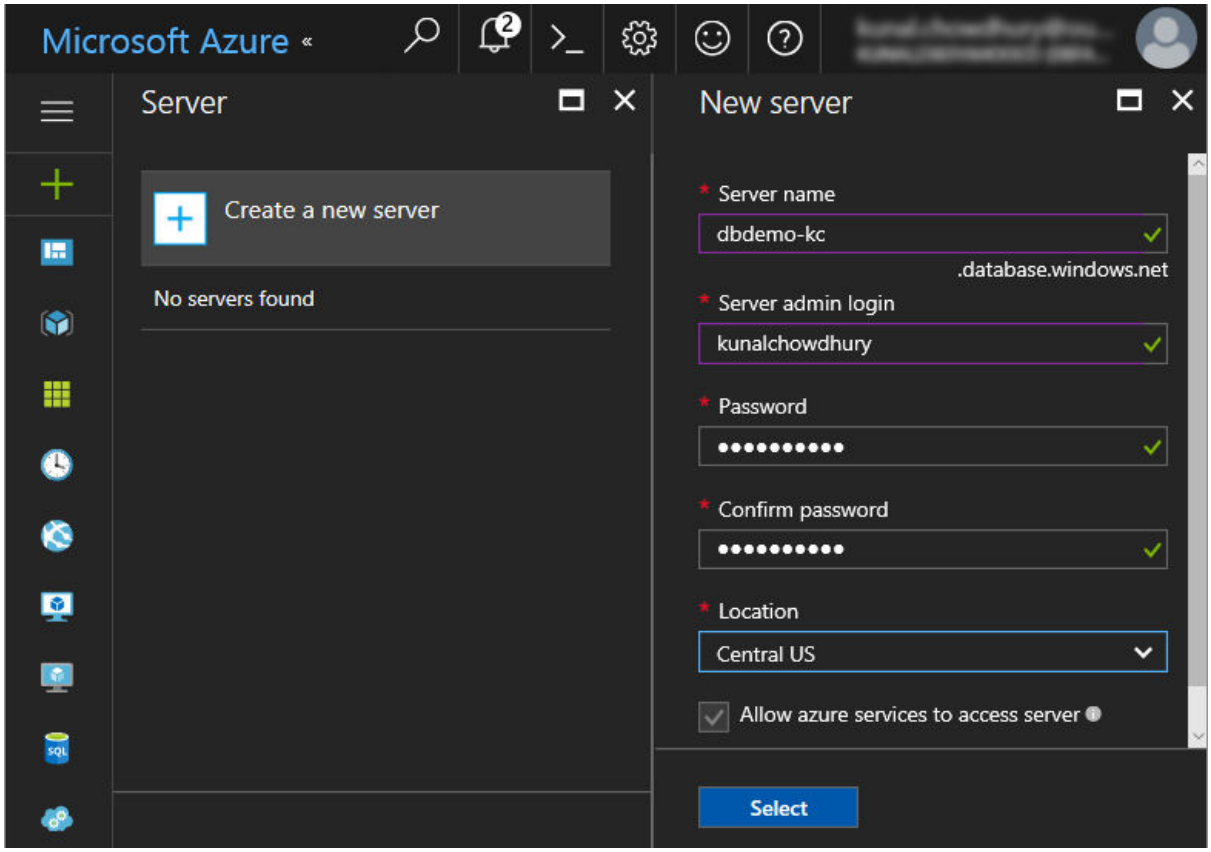

Microsoft Azure App Services
App Services
kunal2383yahooco (Default Directory)
Add
Columns
Refresh
Subscriptions: 1 of 2 selected
Filter by name...
Visual Studio Ultimate with MSDN (Main)
All locations
No grouping
1 items
NAME
STATUS
APP TYPE
APP SERVICE PL...
LOCATION
SUBSCRIPT...
kunal-chowdhury-service
Running
Mobile app
kunal-chowdh...
Central US
Visual Studio...

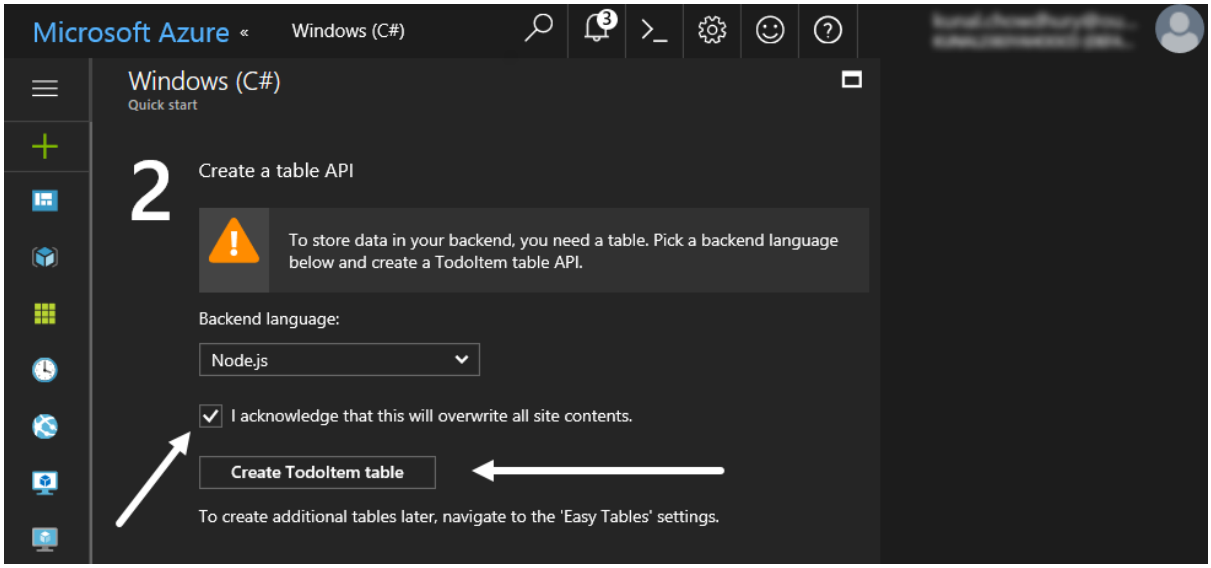

Microsoft Azure «
kunal-chowdhury-service - Quickstart
kunal-chowdhury-service - Quickstart
App Service
Search (Ctrl+/)
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
DEPLOYMENT
Quickstart
Deployment credentials
Deployment slots
Deployment options
Filter settings
GENERAL
iOS (Objective-C)
iOS (Swift)
Android
Windows (C#)
Windows 8.1 (C#)
Xamarin.Android
Xamarin.iOS
Xamarin.Forms
Cordova

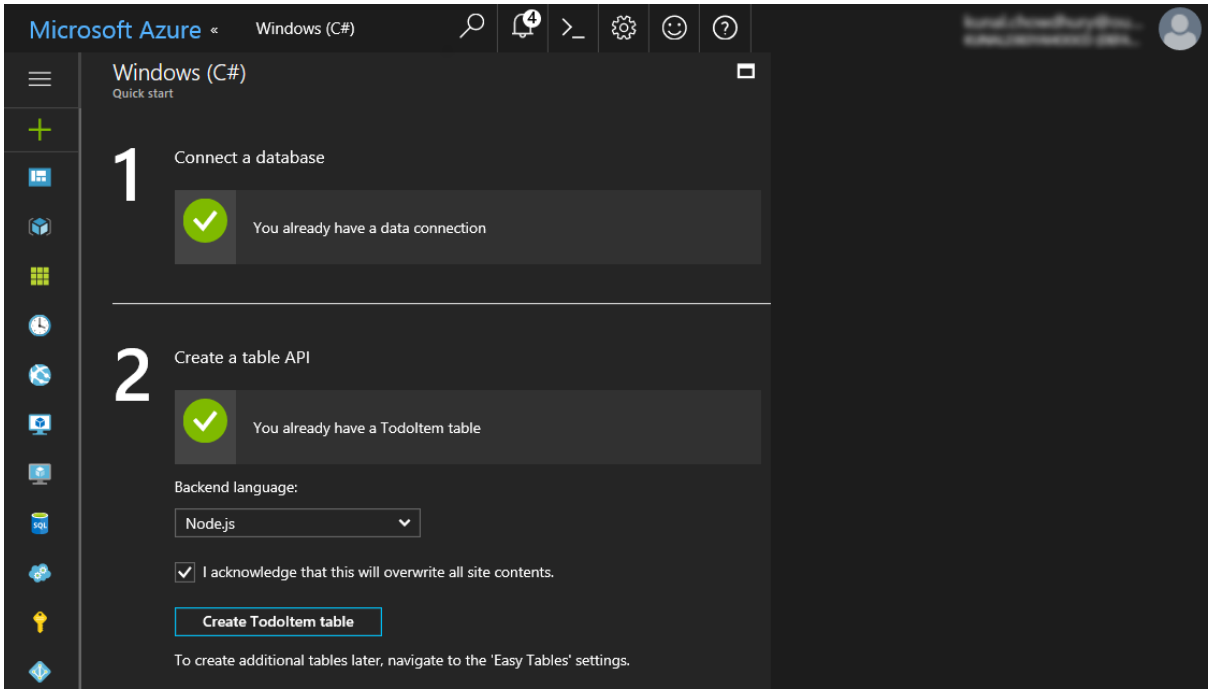

Microsoft Azure «
Windows (C#)
Windows (C#)
Quick start
1
Connect a database
You will need a database in order to complete this quickstart. Click here to create one.

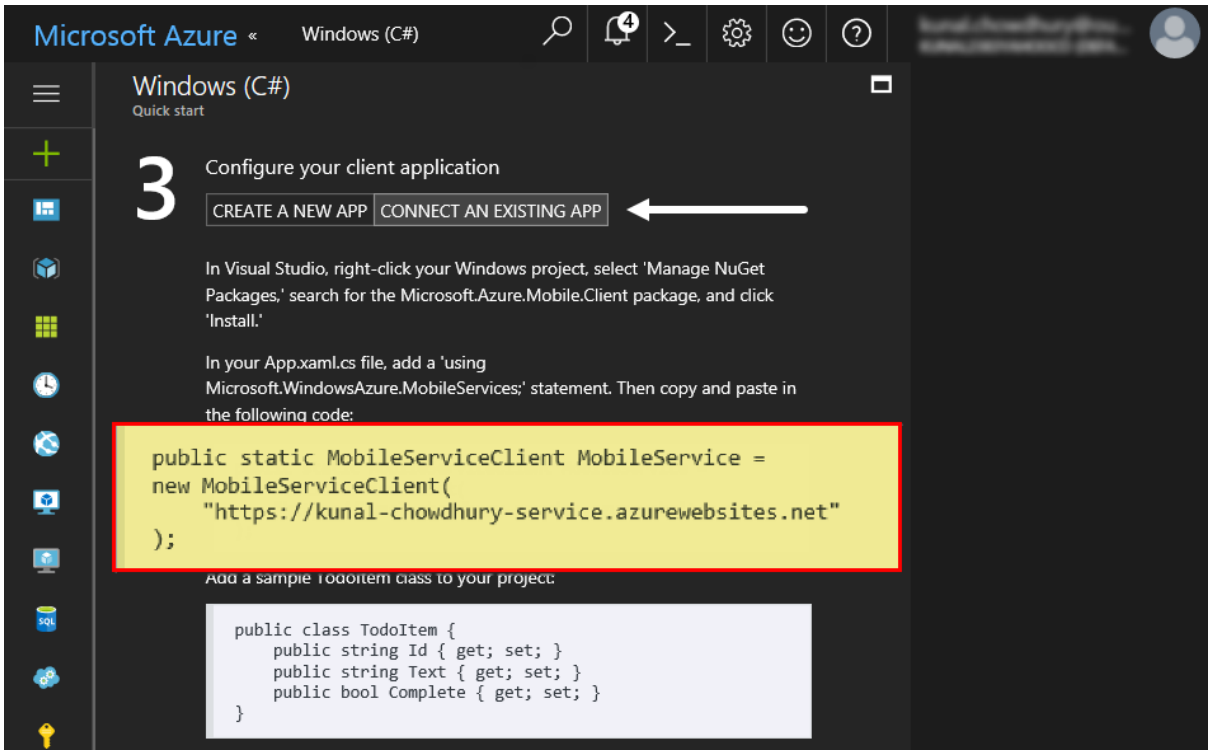

Microsoft Azure «
Data Connections
Add data connection
Data Connections
Add
NAME
TYPE
No Data Connections
Add data connection
Type
SQL Database
SQL Database
Configure required settings
Connection string
Configure required settings

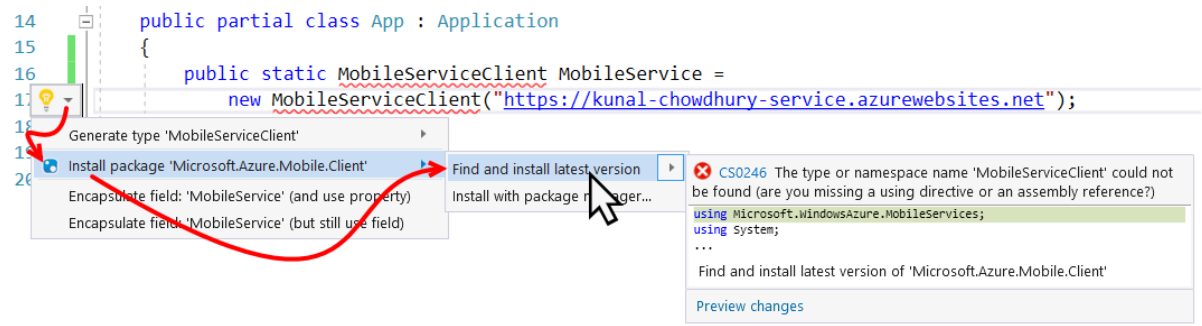

Microsoft Azure «
Database
Create a new database
No databases found
SQL Database
Name
dbDemo
Target server
Configure required settings
Pricing tier
Configure required settings
Collation
SQL_Latin1_General_CP1_CI_AS
Select

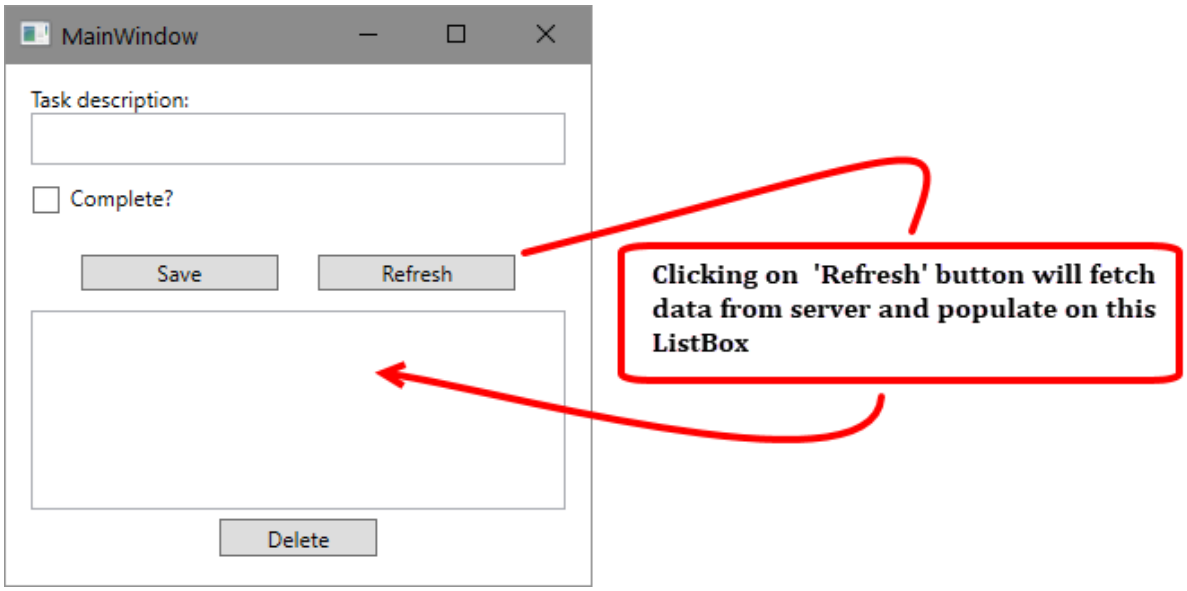

Microsoft Azure «
Server
Create a new server
No servers found
New server
* Server name
dbdemo-kc
.database.windows.net
* Server admin login
kunalchowdhury
* Password
* Confirm password
* Location
Central US
Allow azure services to access server
Select

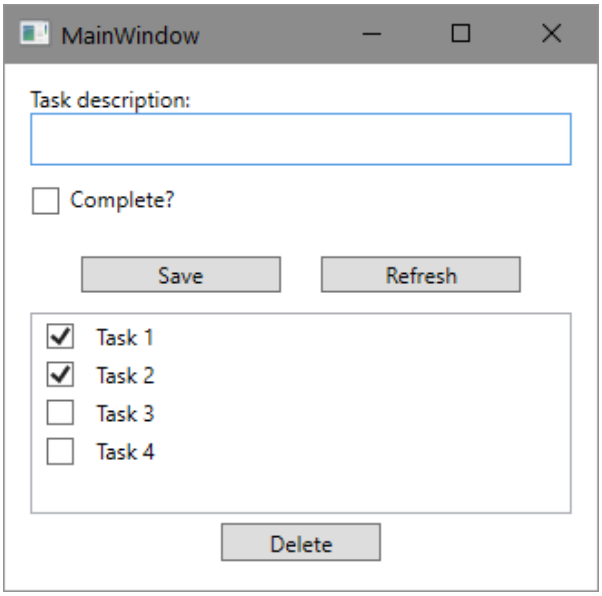

Microsoft Azure «
Windows (C#)
Windows (C#)
Quick start
2
Create a table API
To store data in your backend, you need a table. Pick a backend language below and create a TodoItem table API.
Backend language:
Node.js
I acknowledge that this will overwrite all site contents.
Create TodoItem table
To create additional tables later, navigate to the 'Easy Tables' settings.

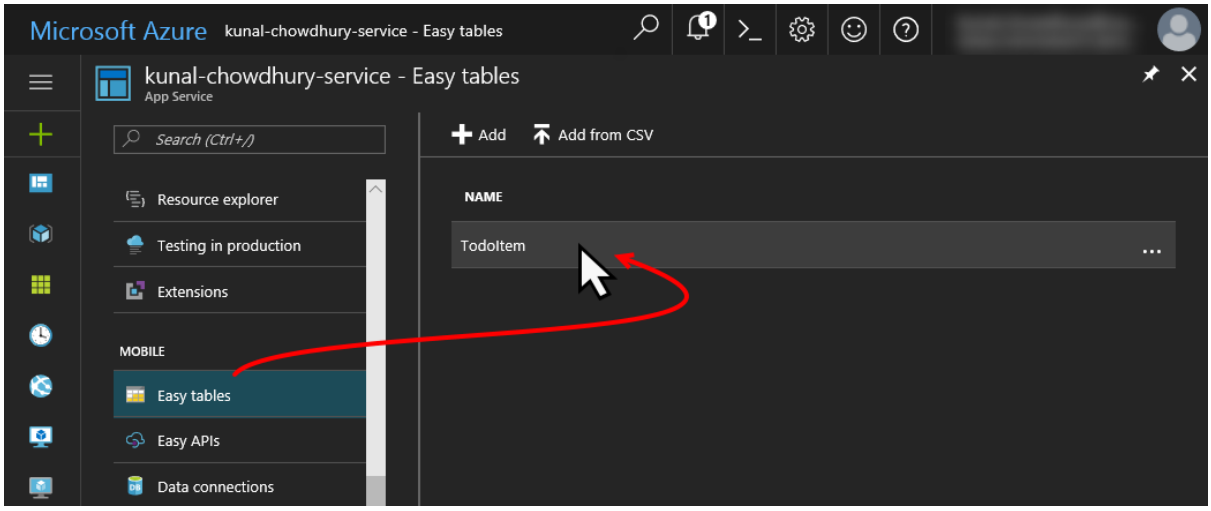

Microsoft Azure «
Windows (C#)
Windows (C#)
Quick start
1
Connect a database
You already have a data connection
2
Create a table API
You already have a TodoItem table
Backend language:
Node.js
I acknowledge that this will overwrite all site contents.
Create TodoItem table
To create additional tables later, navigate to the 'Easy Tables' settings.

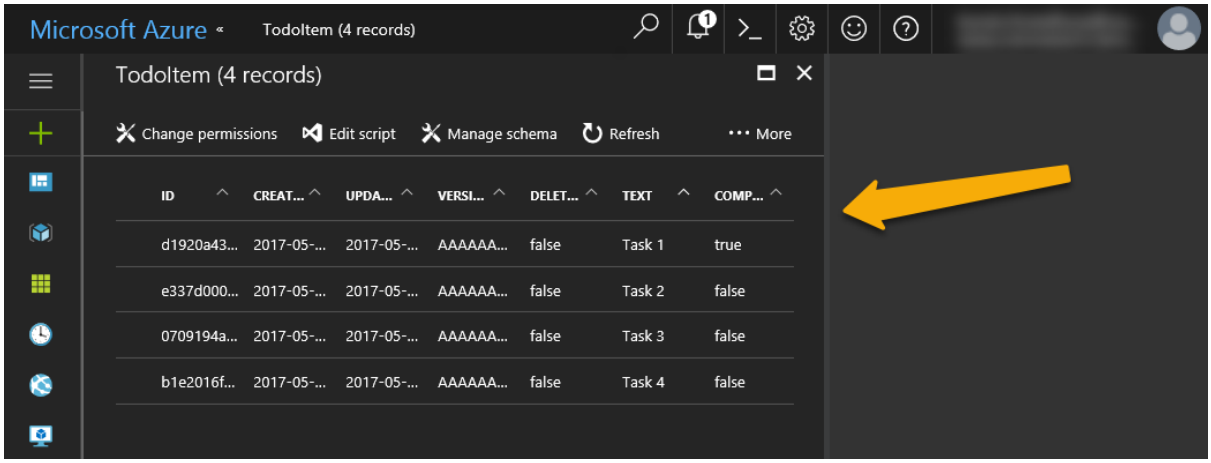

Microsoft Azure «
Windows (C#)
Windows (C#)
Quick start
3
Configure your client application
CREATE A NEW APP
CONNECT AN EXISTING APP
In Visual Studio, right-click your Windows project, select 'Manage NuGet Packages,' search for the Microsoft.Azure.Mobile.Client package, and click 'Install.'
In your App.xaml.cs file, add a 'using Microsoft.WindowsAzure.MobileServices;' statement. Then copy and paste in the following code:
public static MobileServiceClient MobileService =
new MobileServiceClient(
"https://kunal-chowdhury-service.azurewebsites.net"
);
Add a sample TodoItem class to your project:
public class TodoItem {
public string Id { get; set; }
public string Text { get; set; }
public bool Complete { get; set; }
}

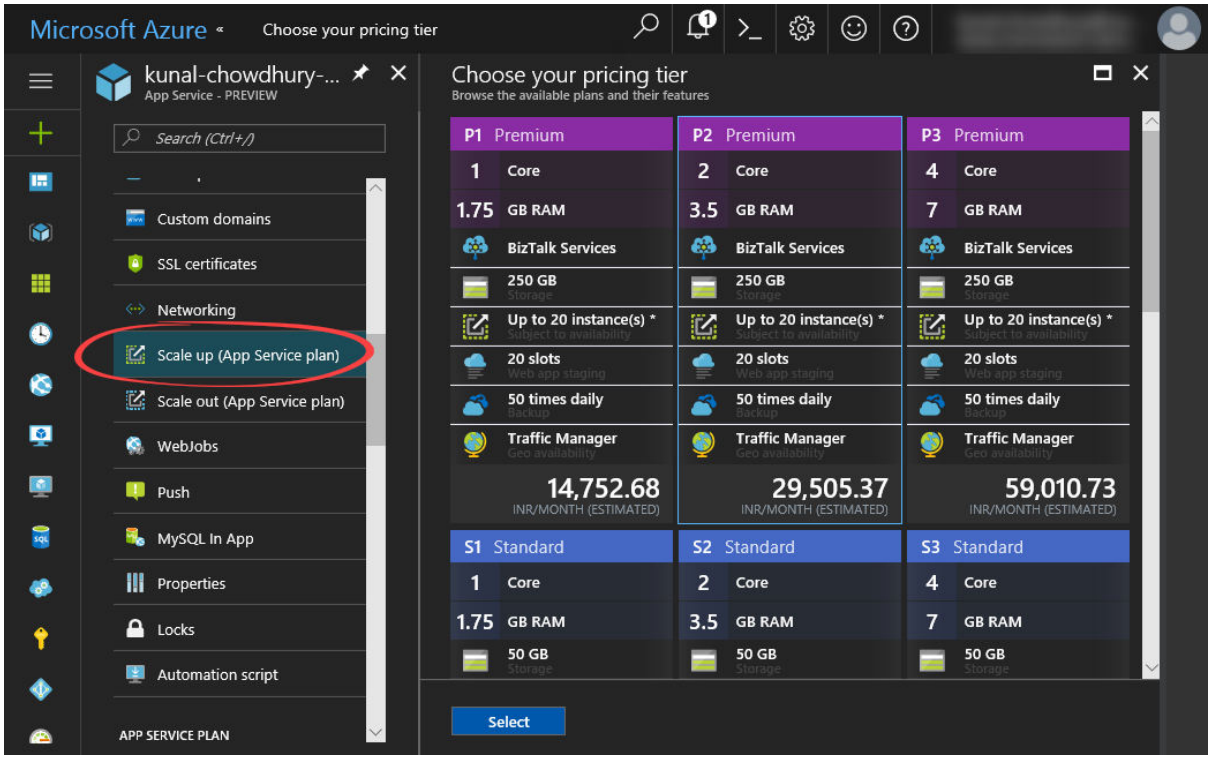

public partial class App : Application
{
public static MobileServiceClient MobileService =
new MobileServiceClient("https://kunal-chowdhury-service.azurewebsites.net");
Generate type 'MobileServiceClient'
Install package 'Microsoft.Azure.Mobile.Client'
Encapsulate field: 'MobileService' (and use property)
Encapsulate field: 'MobileService' (but still use field)
Find and install latest version
Install with package manager...
CS0246 The type or namespace name 'MobileServiceClient' could not be found (are you missing a using directive or an assembly reference?)
using Microsoft.WindowsAzure.MobileServices;
using System;
...
Find and install latest version of 'Microsoft.Azure.Mobile.Client'
Preview changes

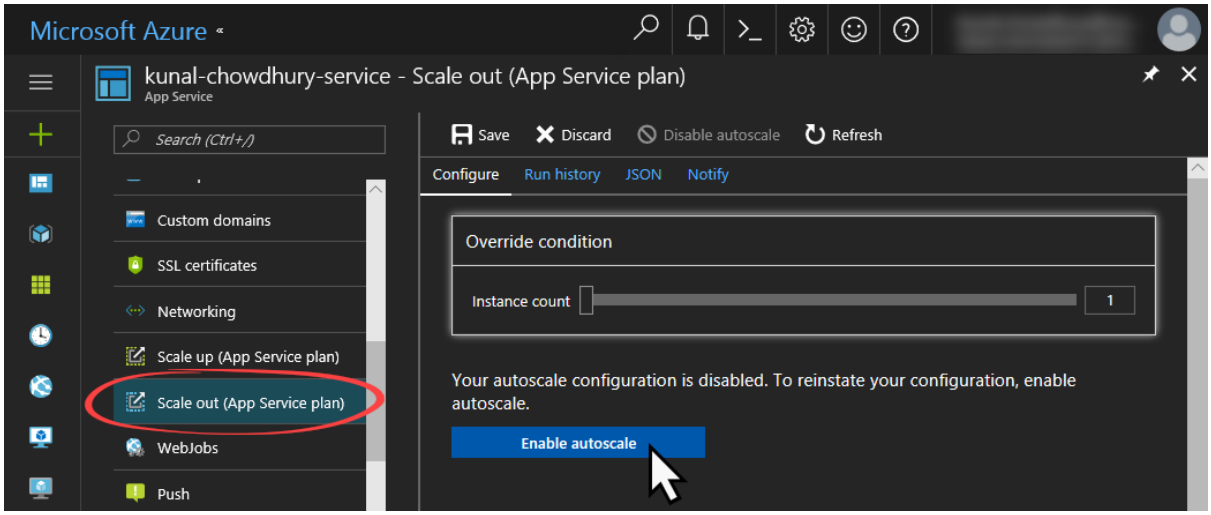

MainWindow
Task description:
Complete?
Save
Refresh
Delete
Clicking on 'Refresh' button will fetch data from server and populate on this ListBox

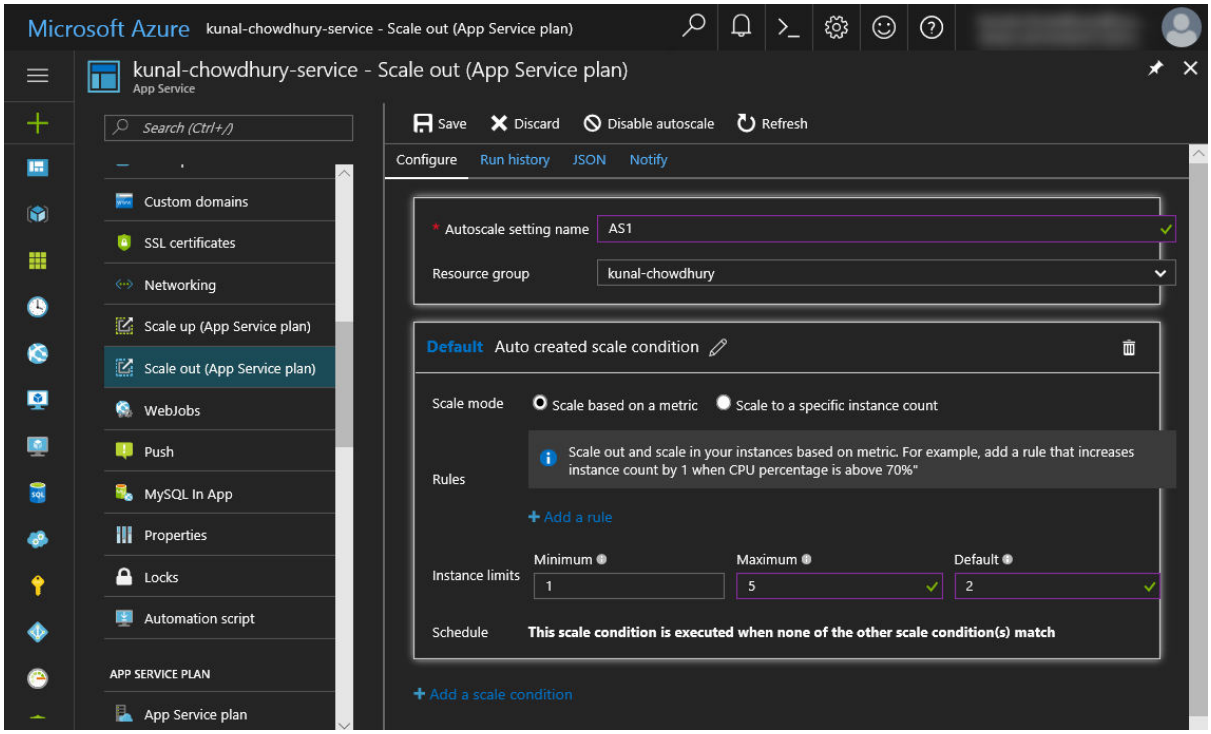

MainWindow
Task description:
Complete?
Save
Refresh
Task 1
Task 2
Task 3
Task 4
Delete


Microsoft Azure
kunal-chowdhury-service - Easy tables
kunal-chowdhury-service - Easy tables
App Service
Search (Ctrl+/)
Resource explorer
Testing in production
Extensions
MOBILE
Easy tables
Easy APIs
Data connections
Add
Add from CSV
NAME
TodoItem

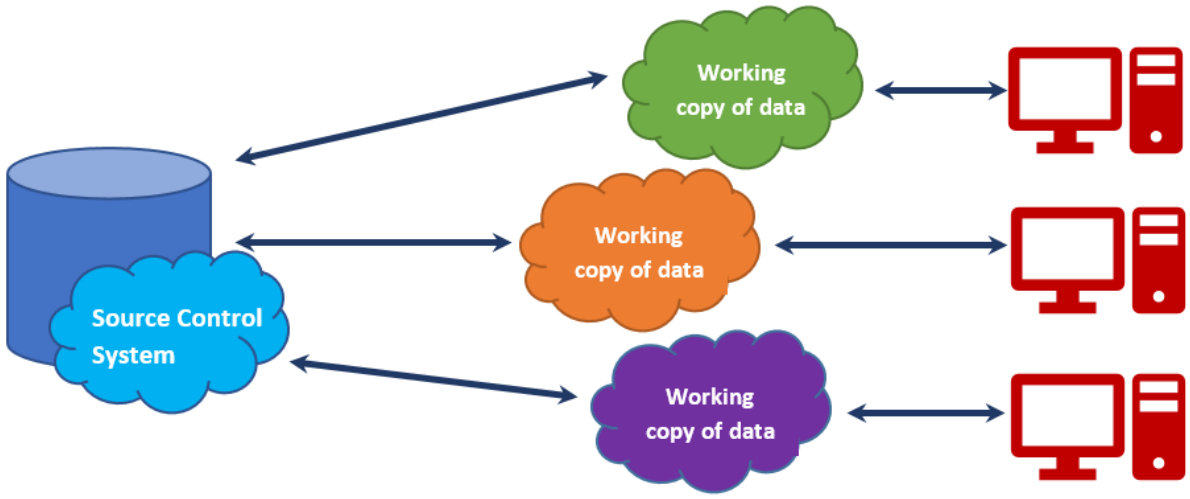

Microsoft Azure
TodoItem (4 records)
TodoItem (4 records)
Change permissions
Edit script
Manage schema
Refresh
More
ID
CREAT...
UPDA...
VERSI...
DELET...
TEXT
COMP...
d1920a43... 2017-05-... 2017-05-... AAAAAA... false Task 1 true
e337d000... 2017-05-... 2017-05-... AAAAAA... false Task 2 false
0709194a... 2017-05-... 2017-05-... AAAAAA... false Task 3 false
b1e2016f... 2017-05-... 2017-05-... AAAAAA... false Task 4 false

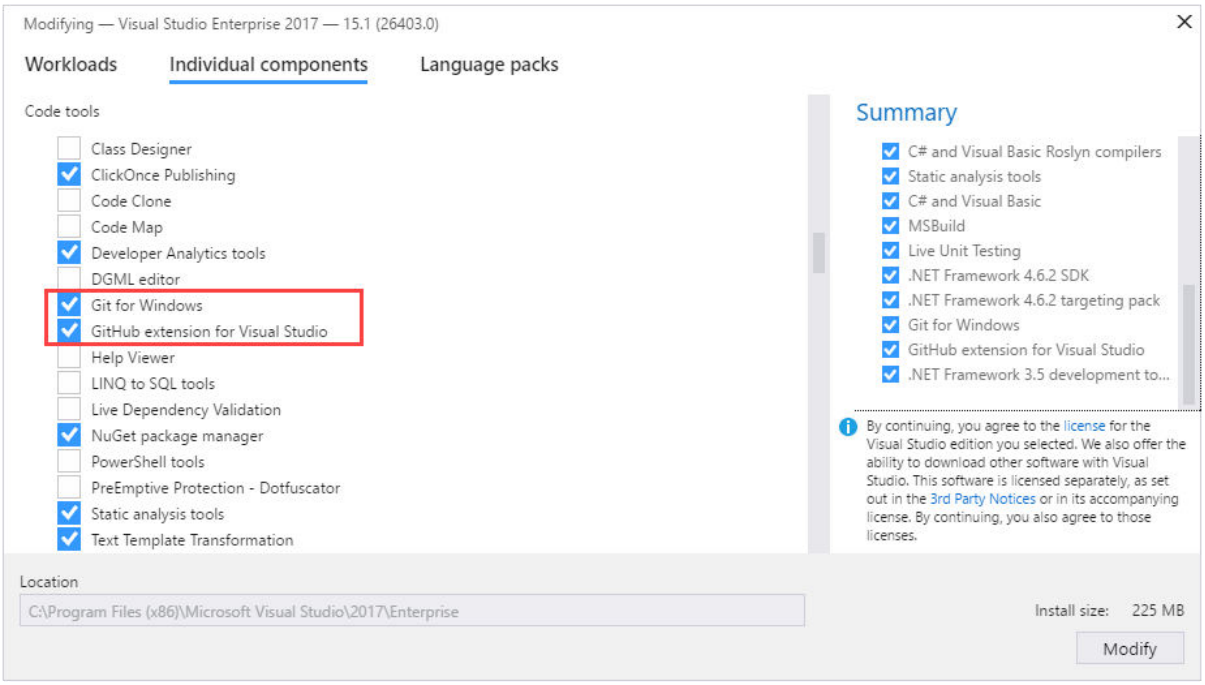

Microsoft Azure
Choose your pricing tier
kunal-chowdhury-...
App Service - PREVIEW
Search (Ctrl+/)
Custom domains
SSL certificates
Networking
Scale up (App Service plan)
Scale out (App Service plan)
WebJobs
Push
MySQL In App
Properties
Locks
Automation script
APP SERVICE PLAN
Choose your pricing tier
Browse the available plans and their features
P1 Premium
1 Core
1.75 GB RAM
BizTalk Services
250 GB Storage
Up to 20 instance(s) *
20 slots
50 times daily
Traffic Manager
14,752.68
INR/MONTH (ESTIMATED)
P2 Premium
2 Core
3.5 GB RAM
BizTalk Services
250 GB Storage
Up to 20 instance(s) *
20 slots
50 times daily
Traffic Manager
29,505.37
INR/MONTH (ESTIMATED)
P3 Premium
4 Core
7 GB RAM
BizTalk Services
250 GB Storage
Up to 20 instance(s) *
20 slots
50 times daily
Traffic Manager
59,010.73
INR/MONTH (ESTIMATED)
S1 Standard
1 Core
1.75 GB RAM
50 GB Storage
S2 Standard
2 Core
3.5 GB RAM
50 GB Storage
S3 Standard
4 Core
7 GB RAM
50 GB Storage
Select

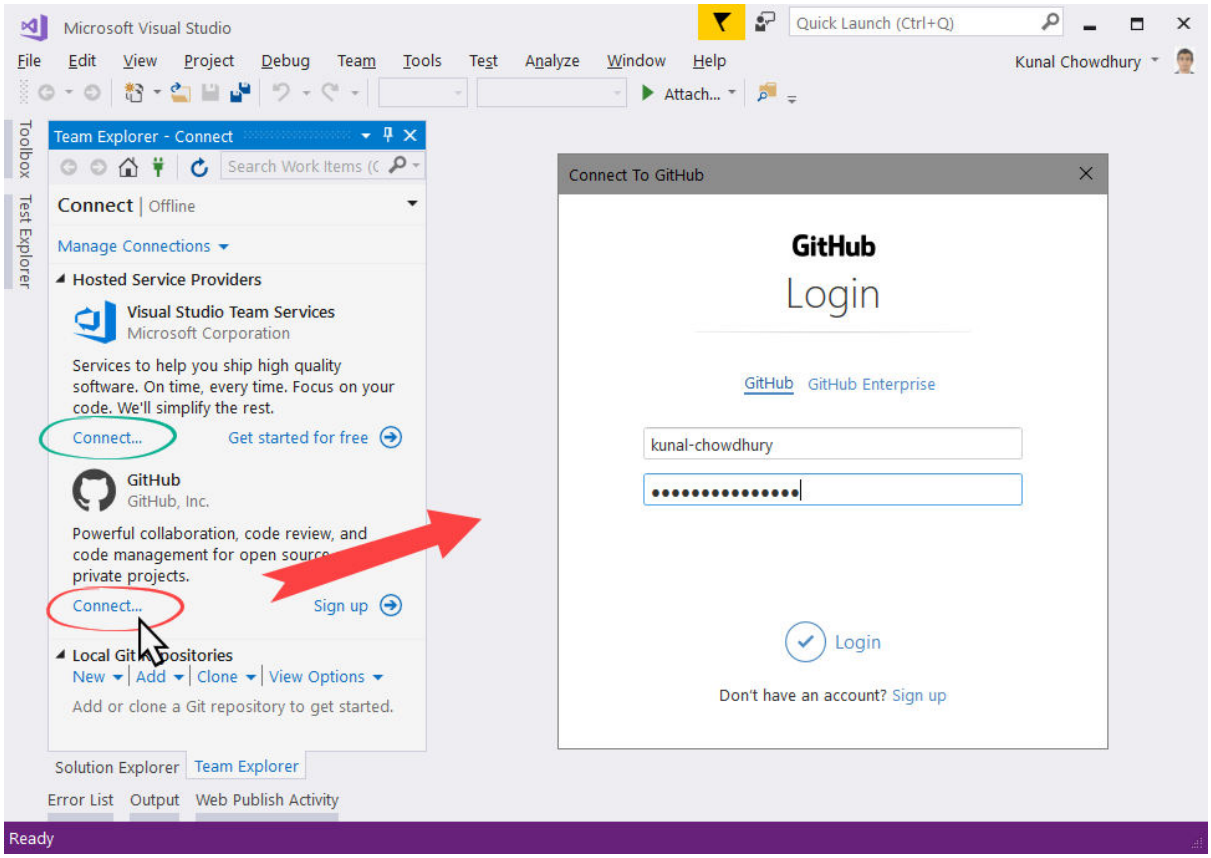

Microsoft Azure
kunal-chowdhury-service - Scale out (App Service plan)
App Service
Search (Ctrl+/)
Custom domains
SSL certificates
Networking
Scale up (App Service plan)
Scale out (App Service plan)
WebJobs
Push
Save
Discard
Disable autoscale
Refresh
Configure
Run history
JSON
Notify
Override condition
Instance count
1
Your autoscale configuration is disabled. To reinstate your configuration, enable autoscale.
Enable autoscale

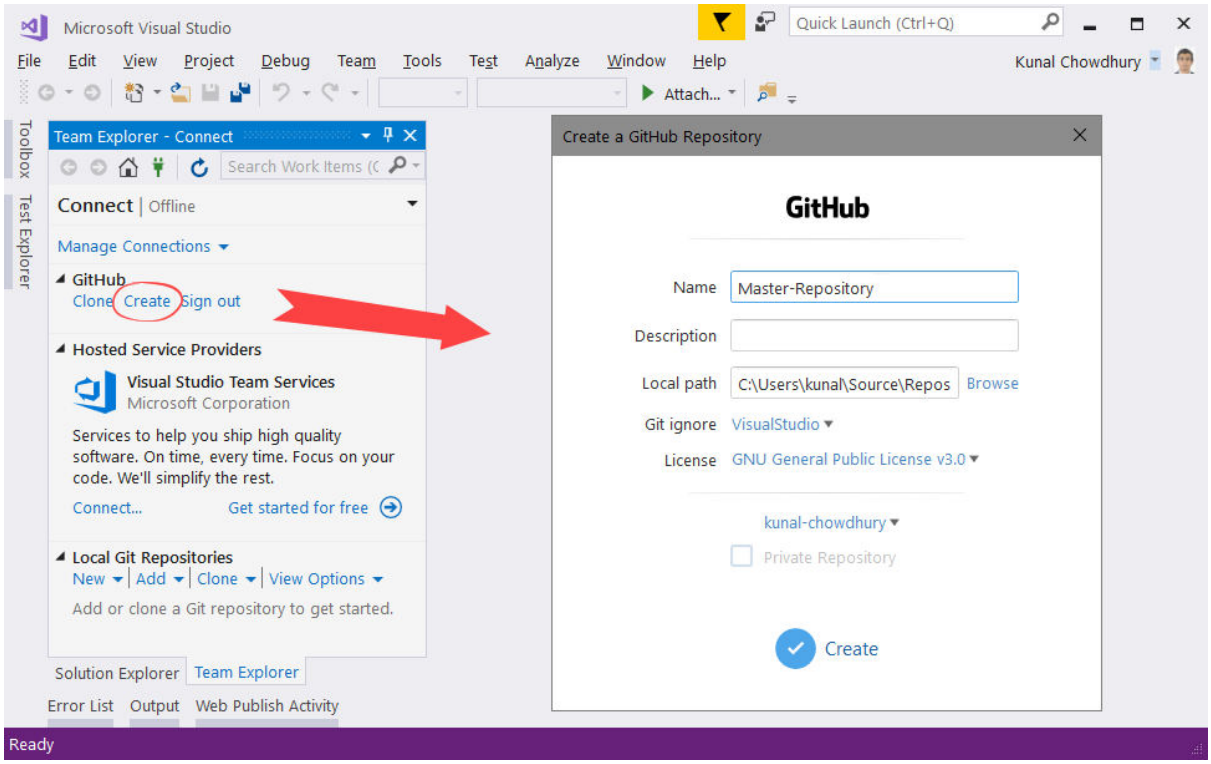


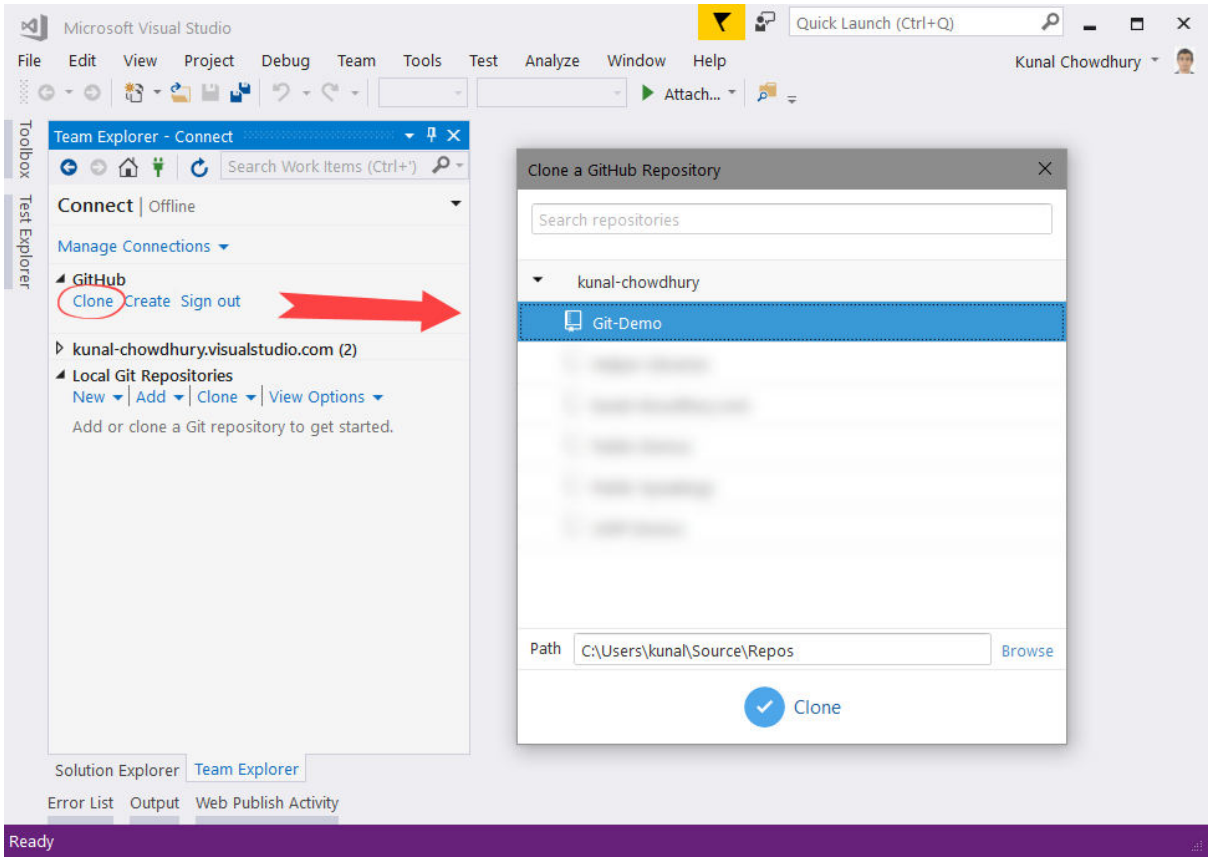
Chapter 10: Working with Source Controls

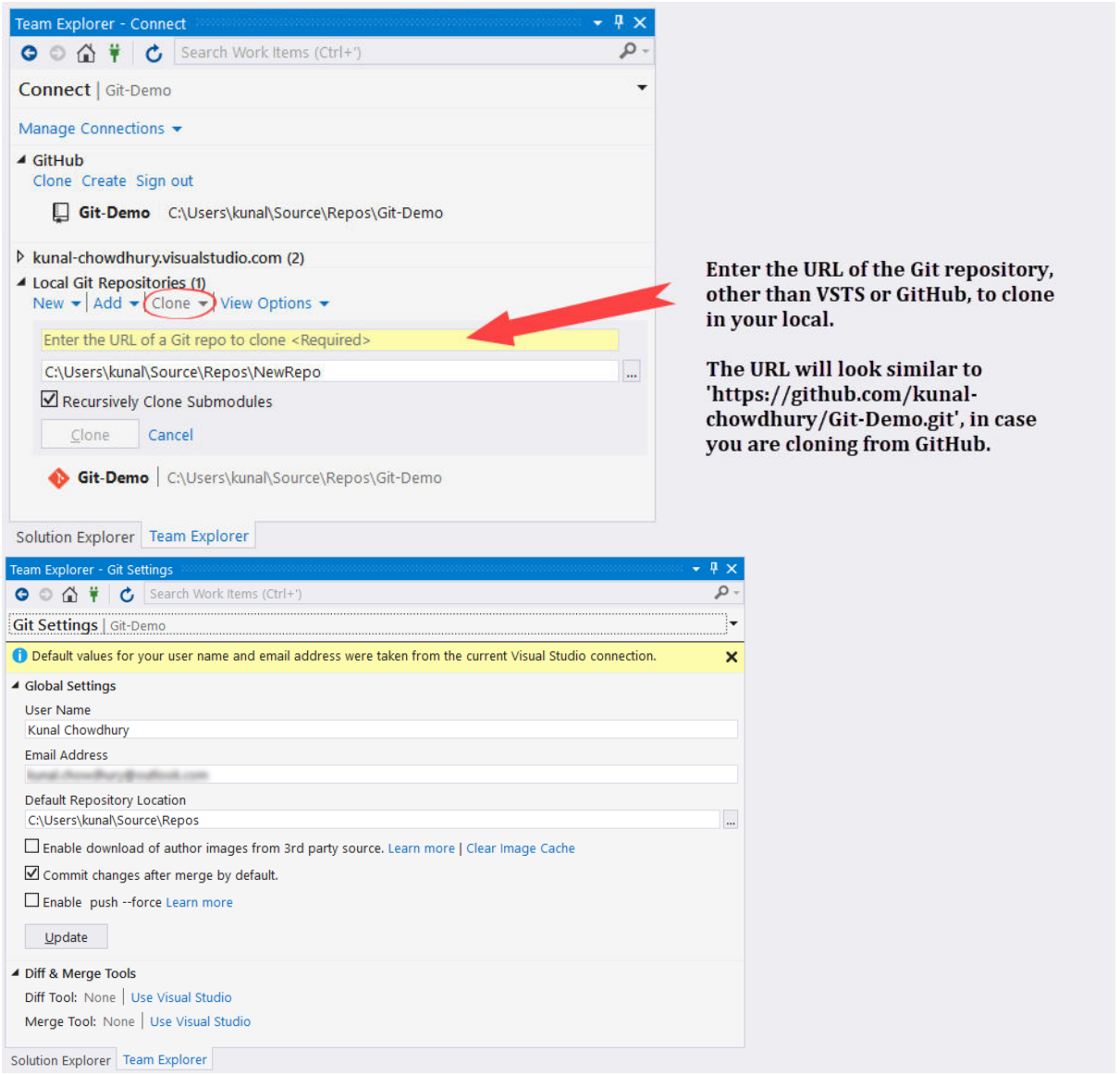



Modifying — Visual Studio Enterprise 2017 — 15.1 (26403.0)
Workloads
Individual components
Language packs
Code tools
Class Designer
ClickOnce Publishing
Code Clone
Code Map
Developer Analytics tools
DGML editor
Git for Windows
GitHub extension for Visual Studio
Help Viewer
LINQ to SQL tools
Live Dependency Validation
NuGet package manager
PowerShell tools
PreEmptive Protection - Dotfuscator
Static analysis tools
Text Template Transformation
Summary
C# and Visual Basic Roslyn compilers
Static analysis tools
C# and Visual Basic
MSBuild
Live Unit Testing
.NET Framework 4.6.2 SDK
.NET Framework 4.6.2 targeting pack
Git for Windows
GitHub extension for Visual Studio
.NET Framework 3.5 development to...
By continuing, you agree to the license for the Visual Studio edition you selected. We also offer the ability to download other software with Visual Studio. This software is licensed separately, as set out in the 3rd Party Notices or in its accompanying license. By continuing, you also agree to those licenses.
Location
C:\Program Files (x86)\Microsoft Visual Studio\2017\Enterprise
Install size: 225 MB
Modify


Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Attach...
Toolbox
Test Explorer
Team Explorer - Connect
Search Work Items
Connect | Offline
Manage Connections
Hosted Service Providers
Visual Studio Team Services
Microsoft Corporation
Services to help you ship high quality software. On time, every time. Focus on your code. We'll simplify the rest.
Connect...
Get started for free
GitHub
GitHub, Inc.
Powerful collaboration, code review, and code management for open source and private projects.
Connect...
Sign up
Local Git Repositories
New | Add | Clone | View Options
Add or clone a Git repository to get started.
Solution Explorer
Team Explorer
Error List
Output
Web Publish Activity
Ready
Connect To GitHub
GitHub
Login
GitHub
GitHub Enterprise
kunal-chowdhury
Login
Don't have an account? Sign up

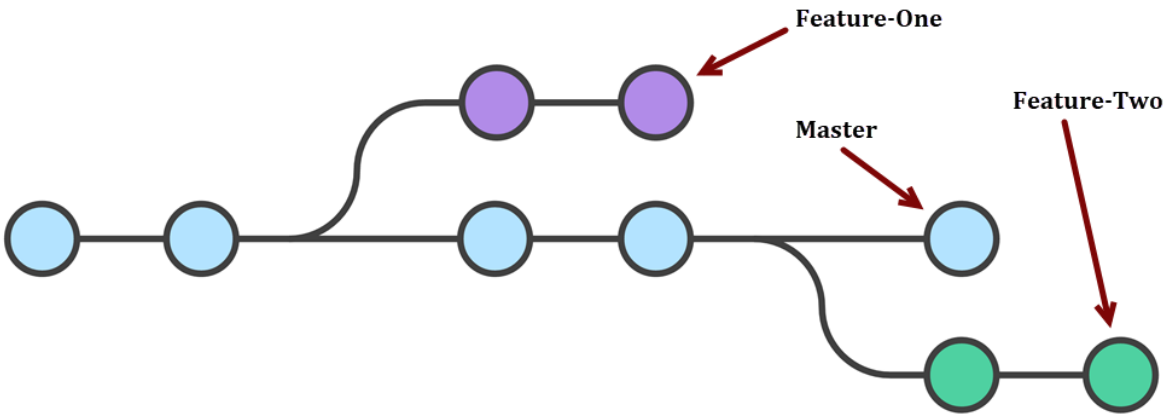

Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Attach...
Toolbox
Test Explorer
Team Explorer - Connect
Search Work Items (C
Connect | Offline
Manage Connections
GitHub
Clone Create Sign out
Hosted Service Providers
Visual Studio Team Services
Microsoft Corporation
Services to help you ship high quality software. On time, every time. Focus on your code. We'll simplify the rest.
Connect...
Get started for free
Local Git Repositories
New | Add | Clone | View Options
Add or clone a Git repository to get started.
Solution Explorer
Team Explorer
Error List
Output
Web Publish Activity
Ready
Create a GitHub Repository
GitHub
Name
Master-Repository
Description
Local path
C:\Users\kunal\Source\Repos
Browse
Git ignore
VisualStudio
License
GNU General Public License v3.0
kunal-chowdhury
Private Repository
Create

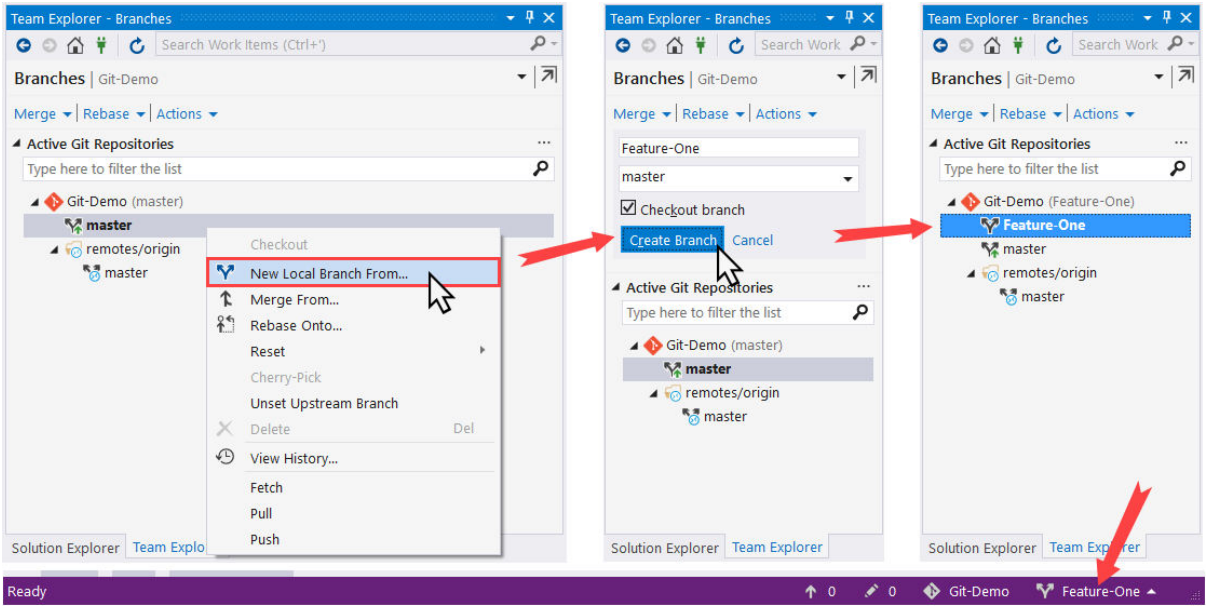

Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Attach...
Toolbox
Test Explorer
Team Explorer - Connect
Search Work Items (Ctrl+')
Connect | Offline
Manage Connections
GitHub
Clone Create Sign out
kunal-chowdhury.visualstudio.com (2)
Local Git Repositories
New | Add | Clone | View Options
Add or clone a Git repository to get started.
Solution Explorer
Team Explorer
Error List
Output
Web Publish Activity
Ready
Clone a GitHub Repository
Search repositories
kunal-chowdhury
Git-Demo
Path
C:\Users\kunal\Source\Repos
Browse
Clone

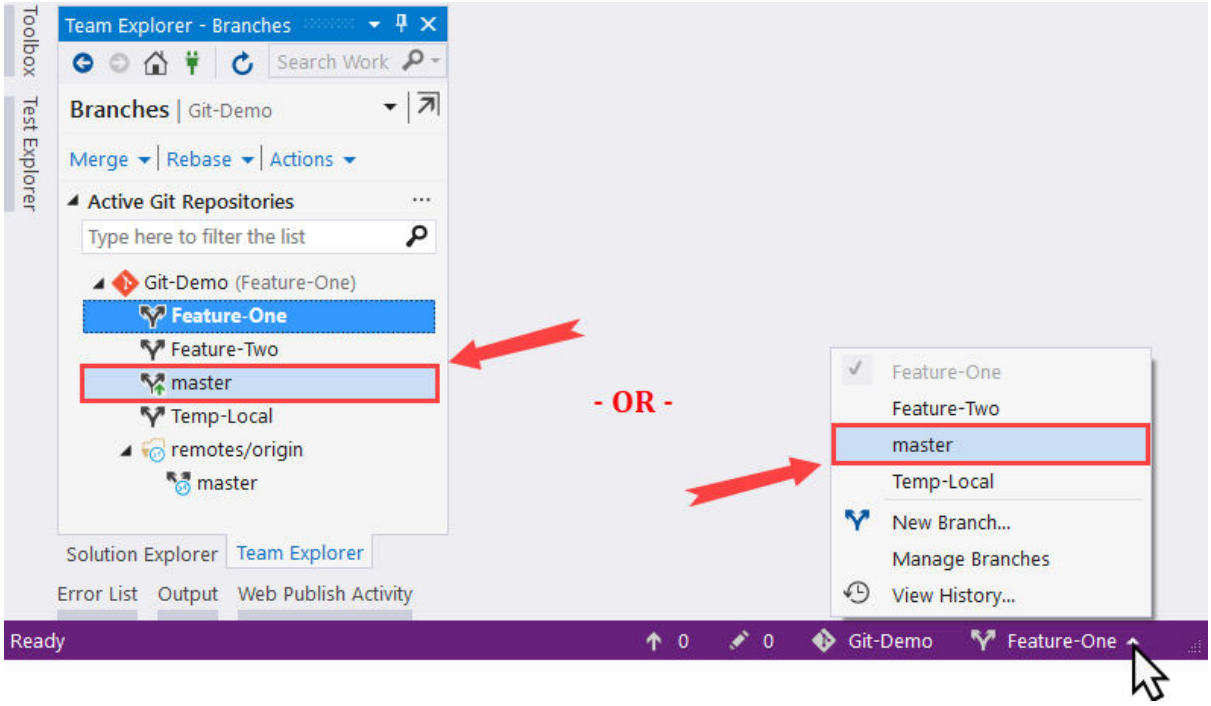


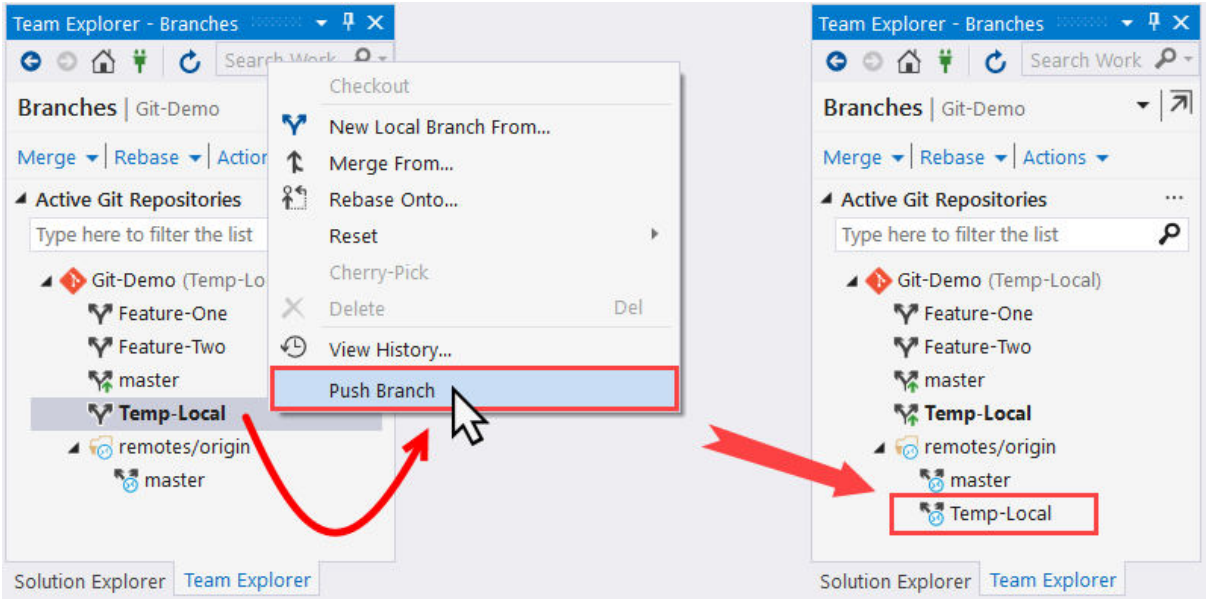
Enter the URL of the Git repository, other than VSTS or GitHub, to clone in your local.

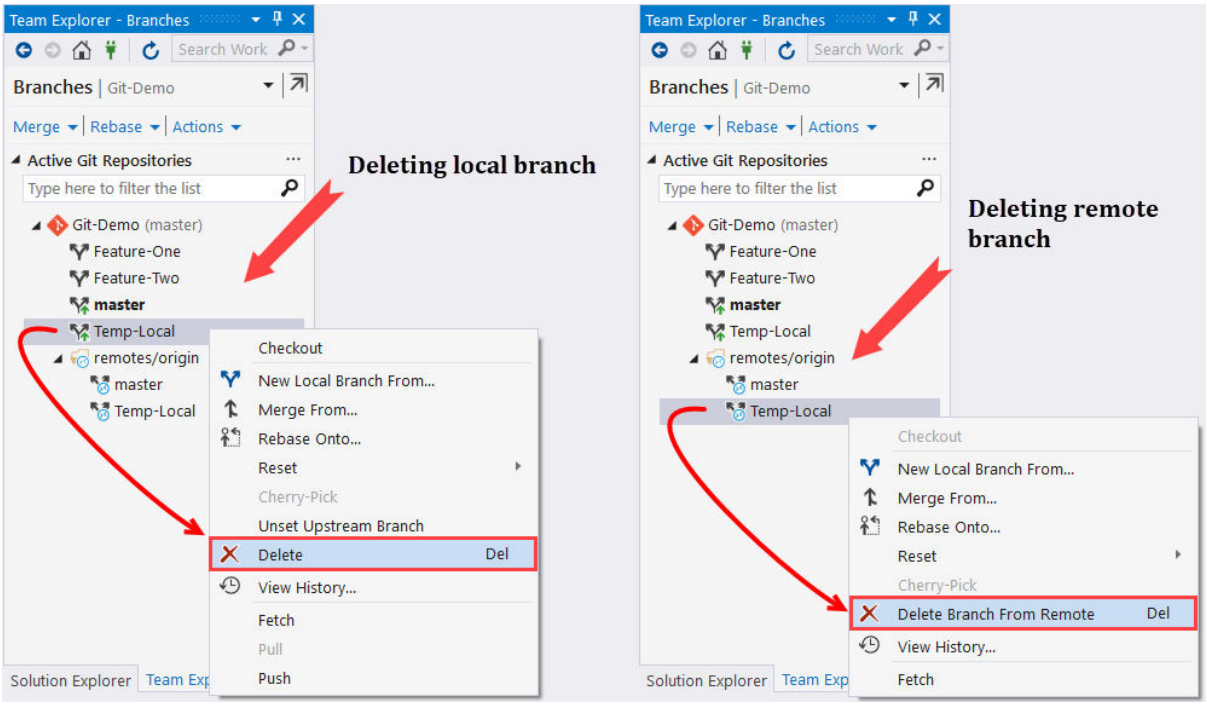
The URL will look similar to 'https://github.com/kunal-chowdhury/Git-Demo.git', in case you are cloning from GitHub.

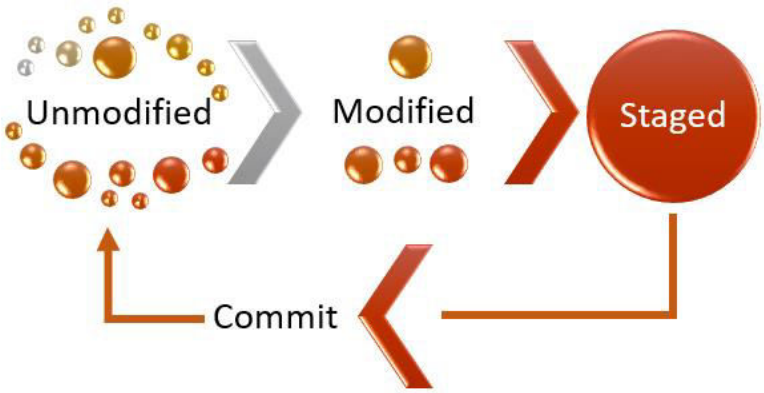


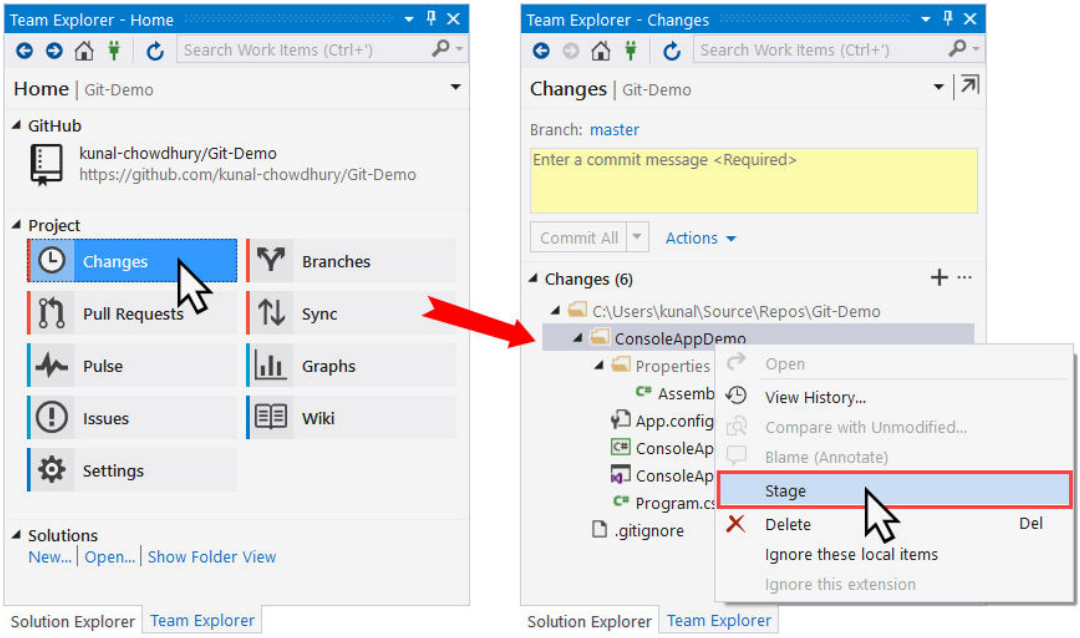

Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (master)
master
remotes/origin
master
Checkout
New Local Branch From...
Merge From...
Rebase Onto...
Reset
Cherry-Pick
Unset Upstream Branch
Delete Del
View History...
Fetch
Pull
Push
Feature-One
master
Checkout branch
Create Branch
Cancel
Git-Demo (Feature-One)
Feature-One
master
remotes/origin
master
Solution Explorer
Team Explorer
Ready
0
0
Git-Demo
Feature-One

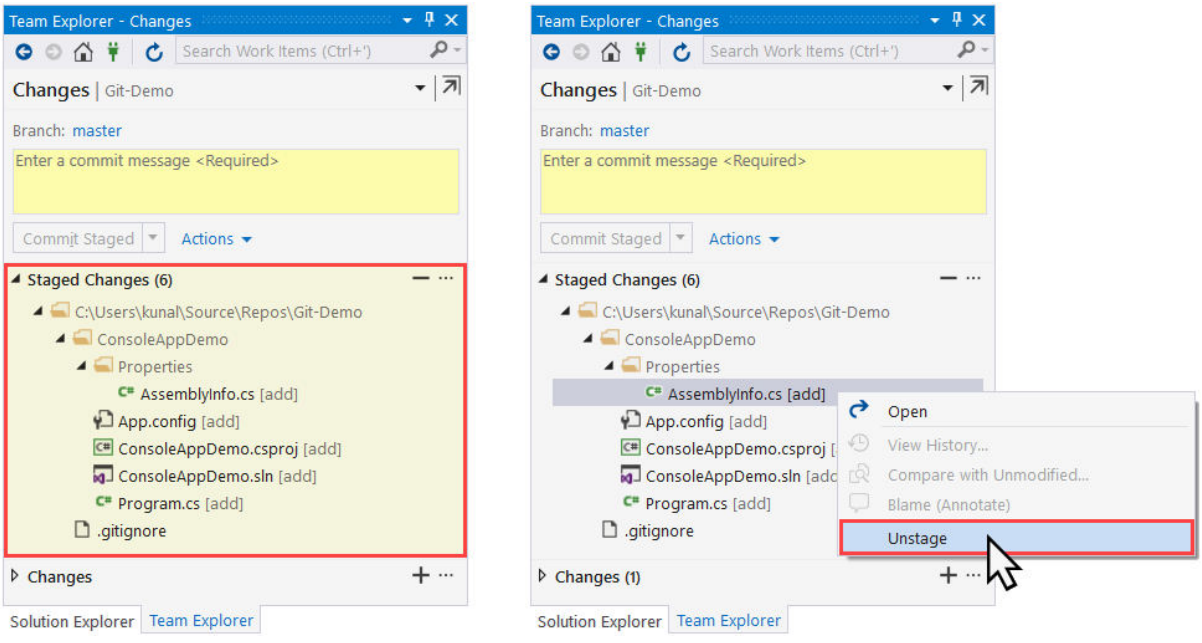

Toolbox
Test Explorer
Team Explorer - Branches
Search Work
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (Feature-One)
Feature-One
Feature-Two
master
Temp-Local
remotes/origin
master
Solution Explorer
Team Explorer
Error List
Output
Web Publish Activity
- OR -
Feature-One
Feature-Two
master
Temp-Local
New Branch...
Manage Branches
View History...
Ready
0
0
Git-Demo
Feature-One

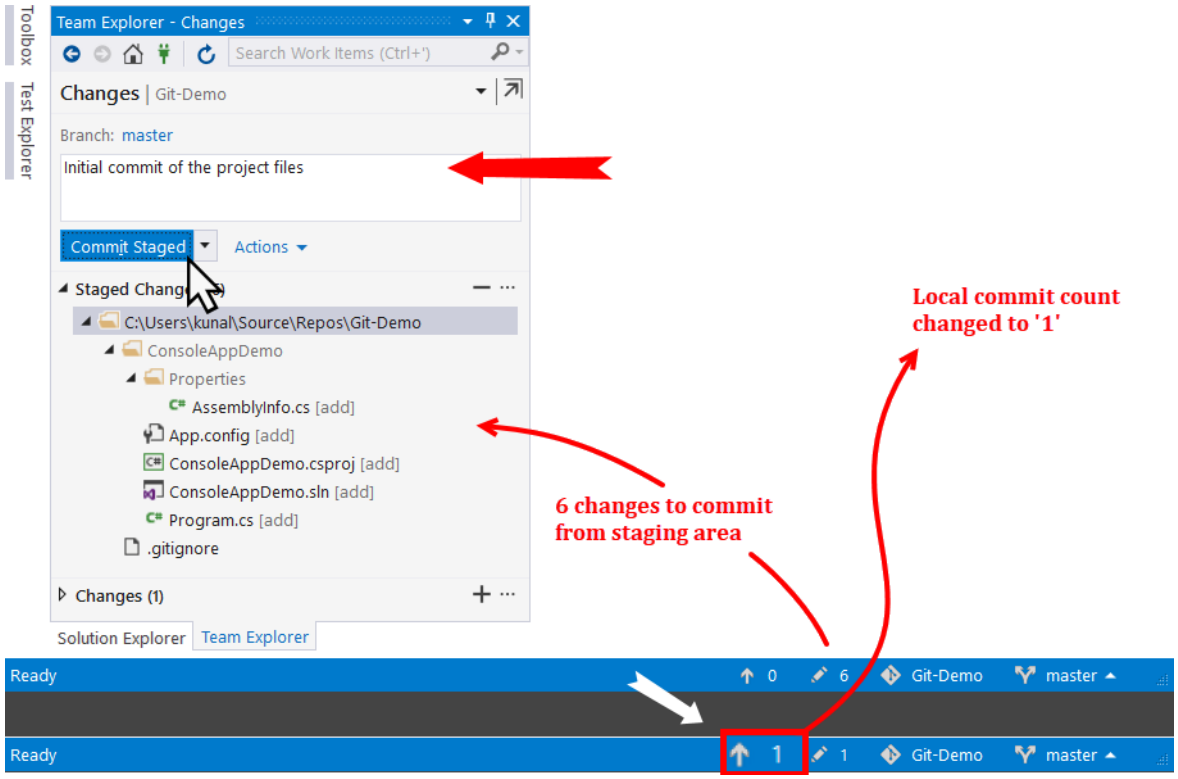

Team Explorer - Branches
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (Temp-Local)
Feature-One
Feature-Two
master
Temp-Local
remotes/origin
master
Temp-Local
Checkout
New Local Branch From...
Merge From...
Rebase Onto...
Reset
Cherry-Pick
Delete Del
View History...
Push Branch
Solution Explorer
Team Explorer

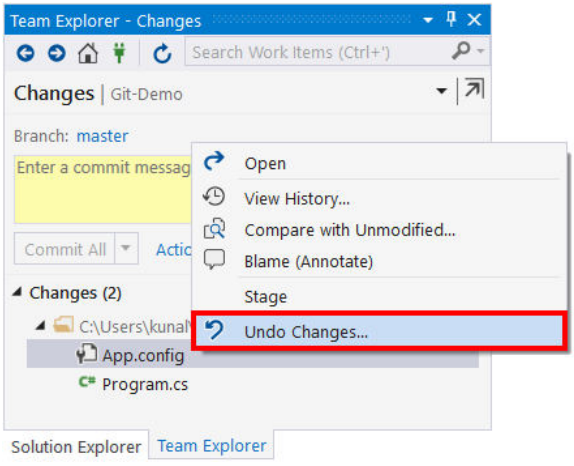

Team Explorer - Branches
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (master)
Feature-One
Feature-Two
master
Temp-Local
remotes/origin
master
Temp-Local
Deleting local branch
Checkout
New Local Branch From...
Merge From...
Rebase Onto...
Reset
Cherry-Pick
Unset Upstream Branch
Delete Del
View History...
Fetch
Pull
Push
Deleting remote branch
Delete Branch From Remote Del
Solution Explorer

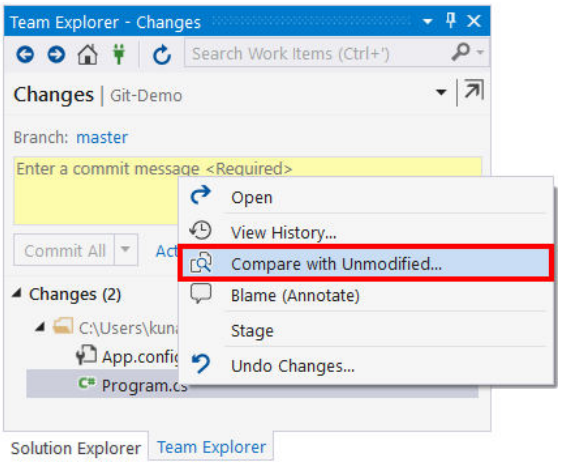

Unmodified
Modified
Staged
Commit

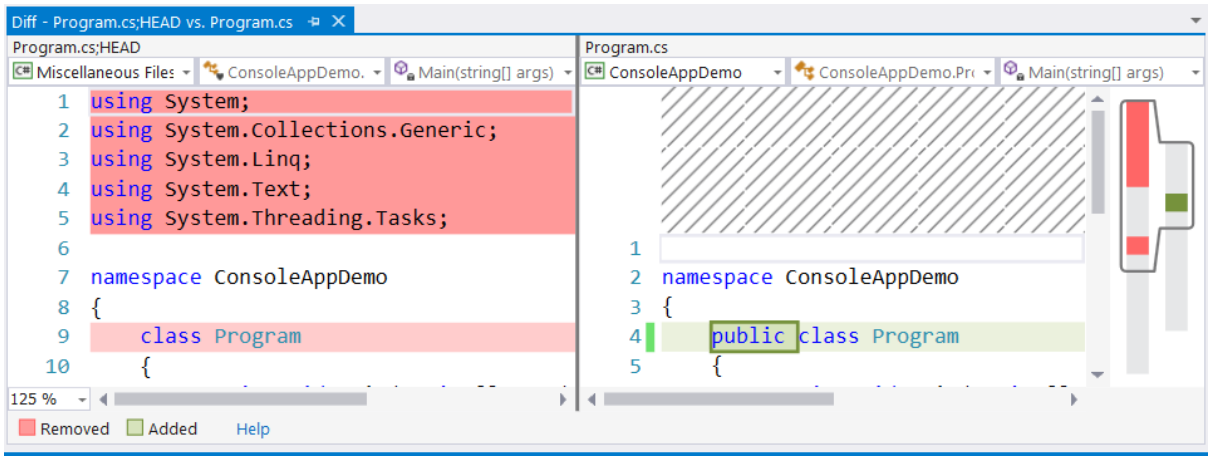

Team Explorer - Home
Search Work Items (Ctrl+')
Home | Git-Demo
GitHub
kunal-chowdhury/Git-Demo
https://github.com/kunal-chowdhury/Git-Demo
Project
Changes
Branches
Pull Requests
Sync
Pulse
Graphs
Issues
Wiki
Settings
Solutions
New... | Open... | Show Folder View
Solution Explorer | Team Explorer
Team Explorer - Changes
Search Work Items (Ctrl+')
Changes | Git-Demo
Branch: master
Enter a commit message <Required>
Commit All
Actions
Changes (6)
C:\Users\kunal\Source\Repos\Git-Demo
ConsoleAppDemo
Properties
App.config
Program.cs
.gitignore
Open
View History...
Compare with Unmodified...
Blame (Annotate)
Stage
Delete
Del
Ignore these local items
Ignore this extension
Solution Explorer | Team Explorer

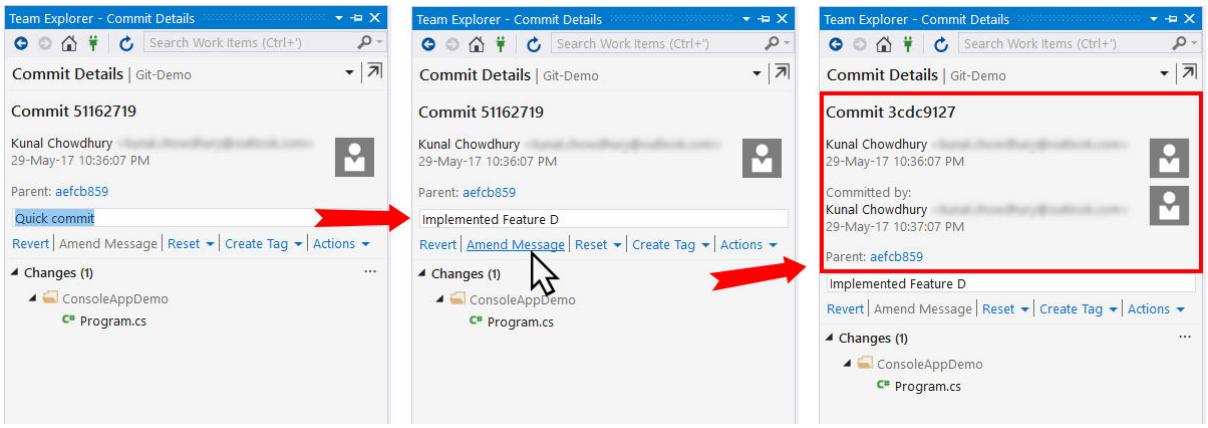

Team Explorer - Changes
Search Work Items (Ctrl+')
Changes | Git-Demo
Branch: master
Enter a commit message <Required>
Commit Staged
Actions
Staged Changes (6)
C:\Users\kunal\Source\Repos\Git-Demo
ConsoleAppDemo
Properties
AssemblyInfo.cs [add]
App.config [add]
ConsoleAppDemo.csproj [add]
ConsoleAppDemo.sln [add]
Program.cs [add]
.gitignore
Changes
Changes (1)
Open
View History...
Compare with Unmodified...
Blame (Annotate)
Unstage
Solution Explorer | Team Explorer

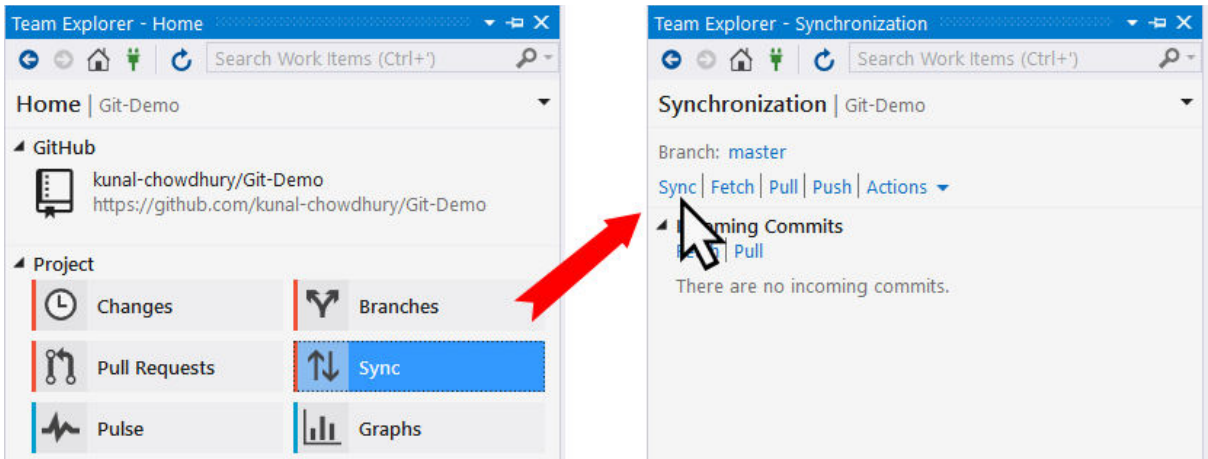

Toolbox
Test Explorer
Team Explorer - Changes
Search Work Items (Ctrl+')
Changes | Git-Demo
Branch: master
Initial commit of the project files
Commit Staged
Actions
Staged Changes (6)
C:\Users\kunal\Source\Repos\Git-Demo
ConsoleAppDemo
Properties
AssemblyInfo.cs [add]
App.config [add]
ConsoleAppDemo.csproj [add]
ConsoleAppDemo.sln [add]
Program.cs [add]
.gitignore
Changes (1)
Solution Explorer
Team Explorer
Local commit count changed to '1'
6 changes to commit from staging area
Ready
0
6
Git-Demo
master
Ready
1
1
Git-Demo
master

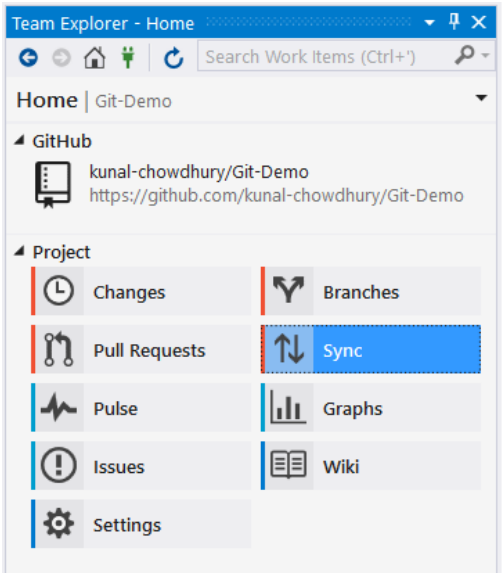

Team Explorer - Changes
Search Work Items (Ctrl+')
Changes | Git-Demo
Branch: master
Enter a commit messag
Commit All
Changes (2)
App.config
Program.cs
Open
View History...
Compare with Unmodified...
Blame (Annotate)
Stage
Undo Changes...
Solution Explorer
Team Explorer

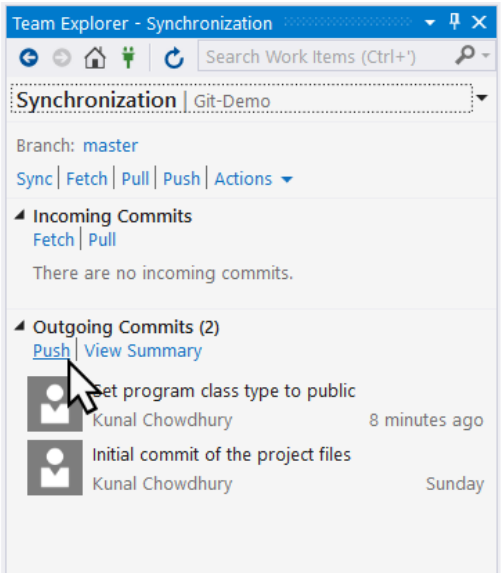

Team Explorer - Changes
Search Work Items (Ctrl+')
Changes | Git-Demo
Branch: master
Enter a commit message <Required>
Commit All
Changes (2)
Program.cs
Open
View History...
Compare with Unmodified...
Blame (Annotate)
Stage
Undo Changes...
Solution Explorer
Team Explorer

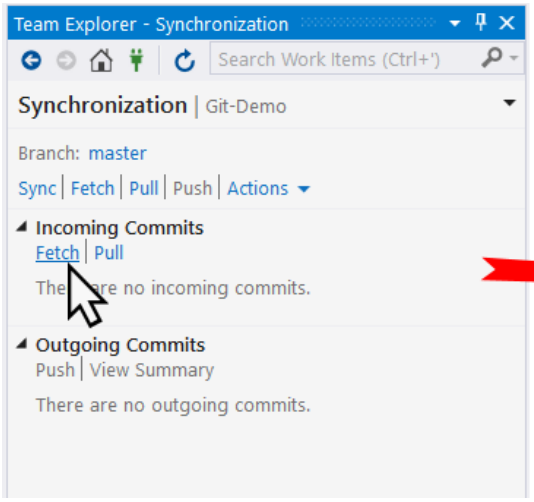

Diff - Program.cs;HEAD vs. Program.cs
Program.cs;HEAD
Miscellaneous Files
ConsoleAppDemo.
Main(string[] args)
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace ConsoleAppDemo
{
class Program
{
Program.cs
ConsoleAppDemo
ConsoleAppDemo.Pr
Main(string[] args)
namespace ConsoleAppDemo
{
public class Program
{
125 %
Removed
Added
Help


Team Explorer - Commit Details
Search Work Items (Ctrl+')
Commit Details | Git-Demo
Commit 51162719
Kunal Chowdhury
29-May-17 10:36:07 PM
Parent: aefcb859
Quick commit
Revert | Amend Message | Reset | Create Tag | Actions
Changes (1)
ConsoleAppDemo
Program.cs
Team Explorer - Commit Details
Search Work Items (Ctrl+')
Commit Details | Git-Demo
Commit 51162719
Kunal Chowdhury
29-May-17 10:36:07 PM
Parent: aefcb859
Implemented Feature D
Revert | Amend Message | Reset | Create Tag | Actions
Changes (1)
ConsoleAppDemo
Program.cs
Team Explorer - Commit Details
Search Work Items (Ctrl+')
Commit Details | Git-Demo
Commit 3cdc9127
Kunal Chowdhury
29-May-17 10:36:07 PM
Committed by:
Kunal Chowdhury
29-May-17 10:37:07 PM
Parent: aefcb859
Implemented Feature D
Revert | Amend Message | Reset | Create Tag | Actions
Changes (1)
ConsoleAppDemo
Program.cs


Team Explorer - Home
Search Work Items (Ctrl+')
Home | Git-Demo
GitHub
kunal-chowdhury/Git-Demo
https://github.com/kunal-chowdhury/Git-Demo
Project
Changes
Branches
Pull Requests
Sync
Pulse
Graphs
Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Pull
There are no incoming commits.


Team Explorer - Home
Search Work Items (Ctrl+')
Home | Git-Demo
GitHub
kunal-chowdhury/Git-Demo
https://github.com/kunal-chowdhury/Git-Demo
Project
Changes
Branches
Pull Requests
Sync
Pulse
Graphs
Issues
Wiki
Settings


Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Incoming Commits
Fetch | Pull
There are no incoming commits.
Outgoing Commits (2)
Push | View Summary
et program class type to public
Kunal Chowdhury 8 minutes ago
Initial commit of the project files
Kunal Chowdhury Sunday


Team Explorer - Synchronization
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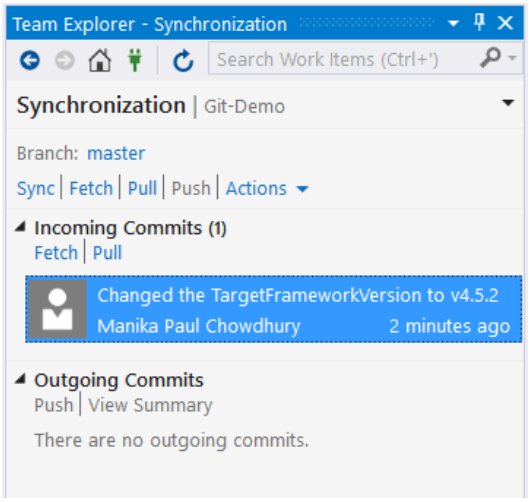
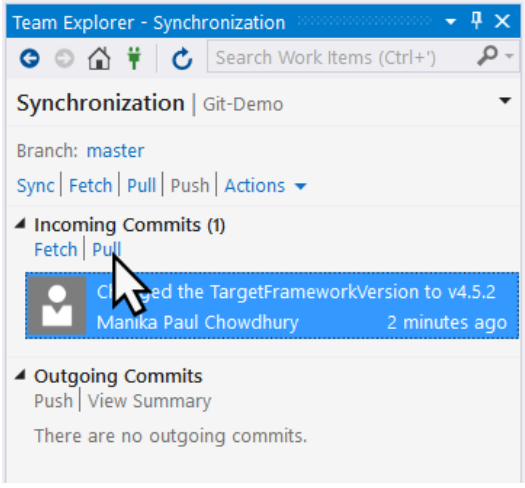
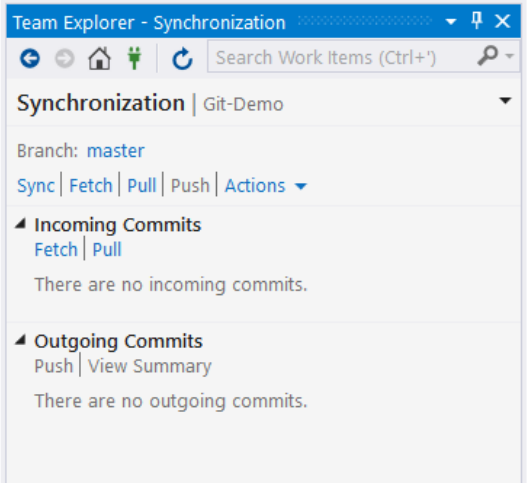
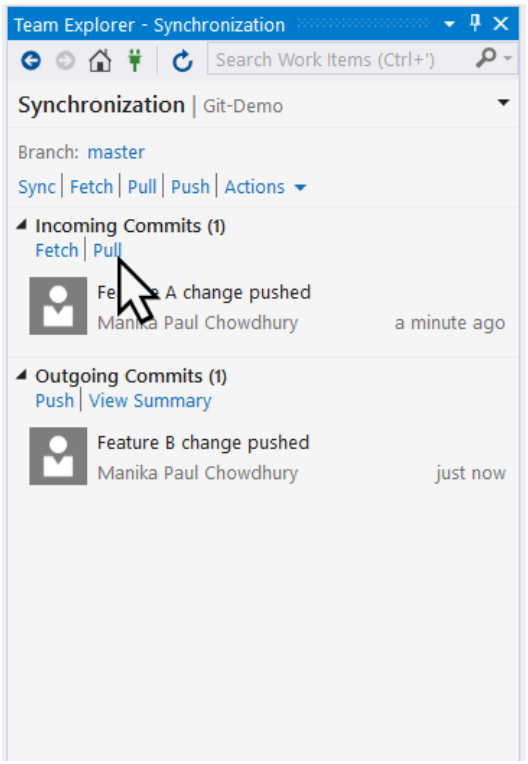
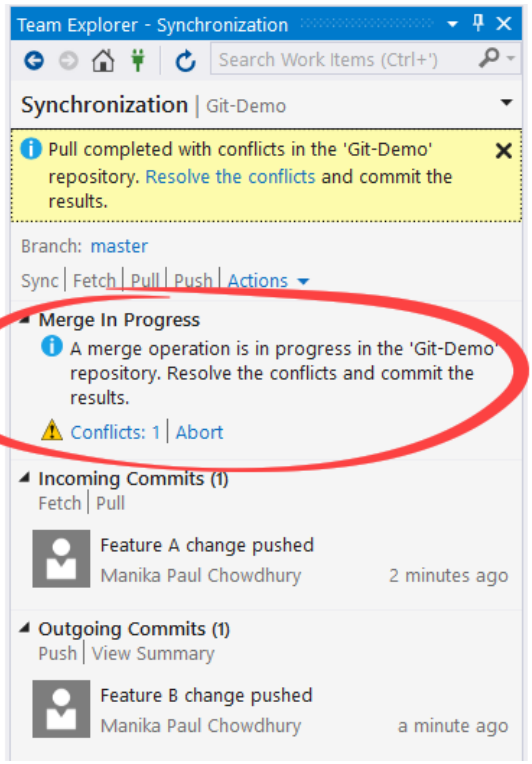
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Incoming Commits
Fetch | Pull
The re no incoming commits.
Outgoing Commits
Push | View Summary
There are no outgoing commits.

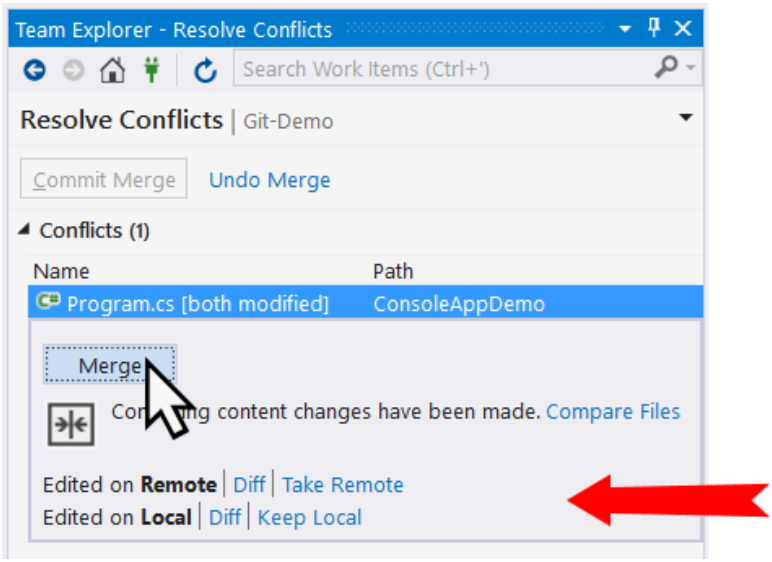

Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Incoming Commits (1)
Fetch | Pull
Changed the TargetFrameworkVersion to v4.5.2
Manika Paul Chowdhury 2 minutes ago
Outgoing Commits
Push | View Summary
There are no outgoing commits.

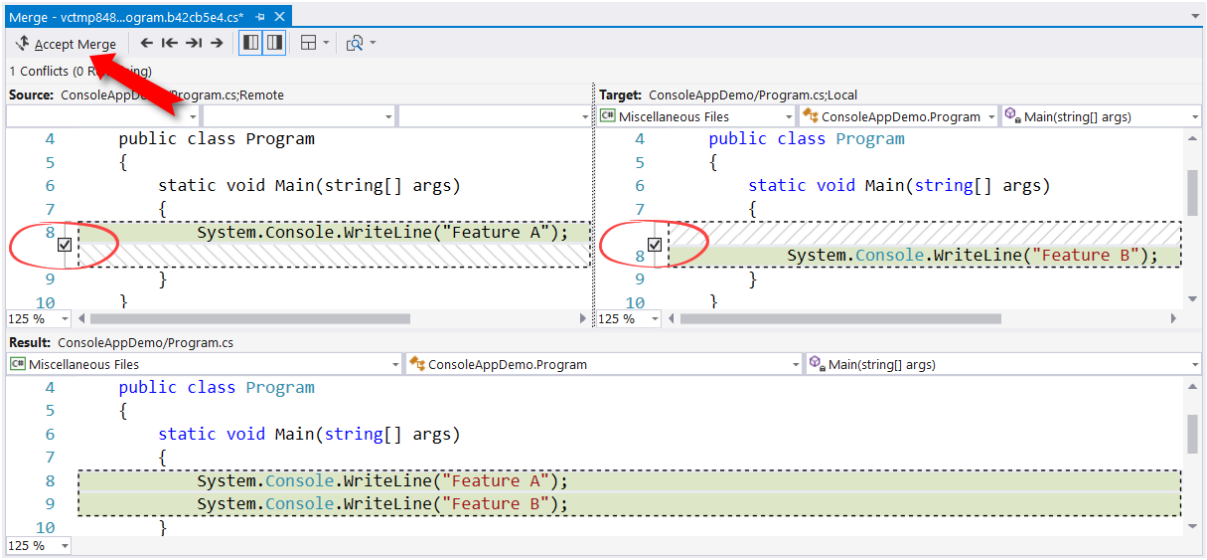

Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Incoming Commits (1)
Fetch | Pull
C ed the TargetFrameworkVersion to v4.5.2
Manika Paul Chowdhury 2 minutes ago
Outgoing Commits
Push | View Summary
There are no outgoing commits.

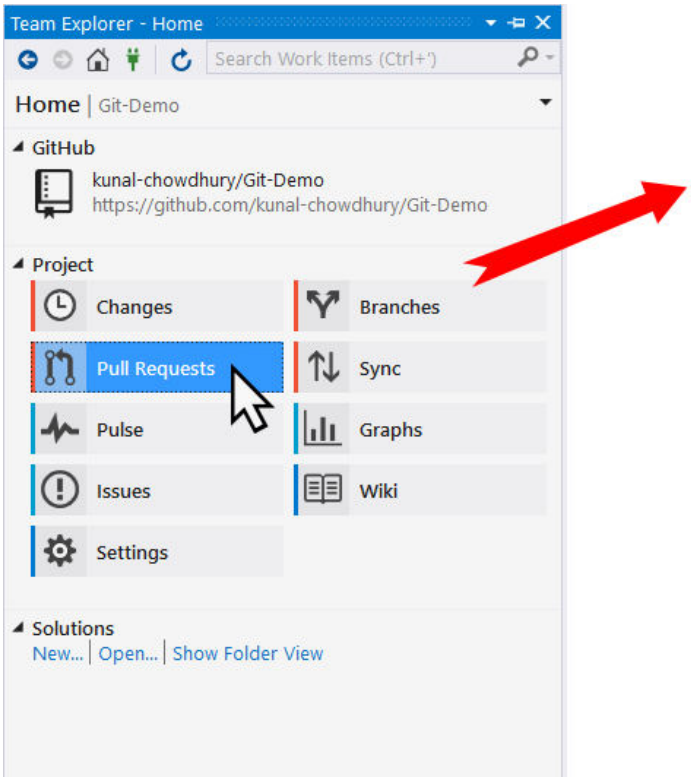

Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Incoming Commits
Fetch | Pull
There are no incoming commits.
Outgoing Commits
Push | View Summary
There are no outgoing commits.

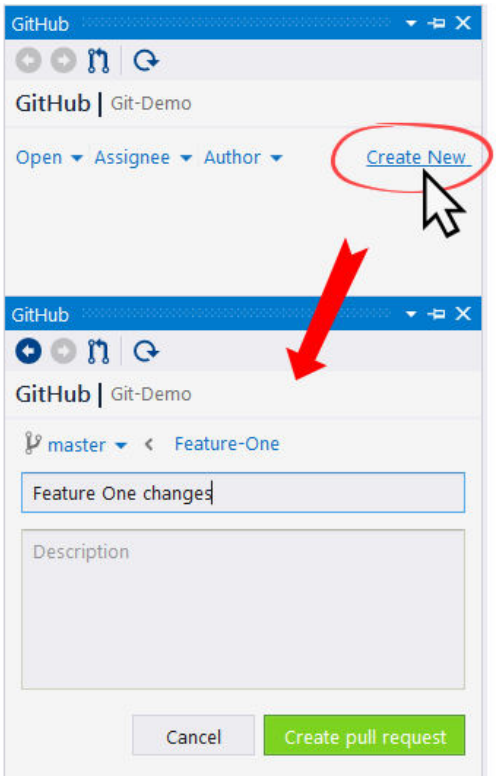

Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Branch: master
Sync | Fetch | Pull | Push | Actions
Incoming Commits (1)
Fetch | Pull
A change pushed
Manika Paul Chowdhury
a minute ago
Outgoing Commits (1)
Push | View Summary
Feature B change pushed
Manika Paul Chowdhury
just now

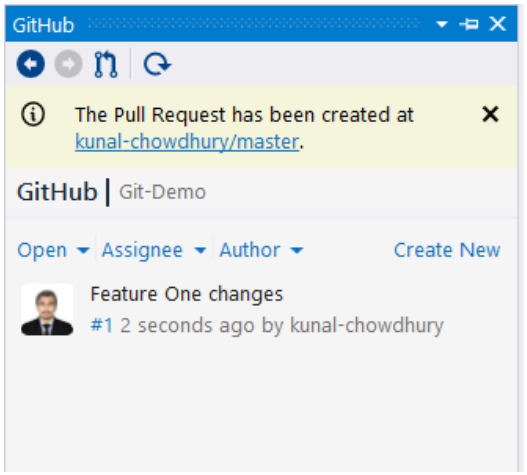

Team Explorer - Synchronization
Search Work Items (Ctrl+')
Synchronization | Git-Demo
Pull completed with conflicts in the 'Git-Demo' repository. Resolve the conflicts and commit the results.
Branch: master
Sync | Fetch | Pull | Push | Actions
Merge In Progress
A merge operation is in progress in the 'Git-Demo' repository. Resolve the conflicts and commit the results.
Conflicts: 1 | Abort
Incoming Commits (1)
Fetch | Pull
Feature A change pushed
Manika Paul Chowdhury
2 minutes ago
Outgoing Commits (1)
Push | View Summary
Feature B change pushed
Manika Paul Chowdhury
a minute ago

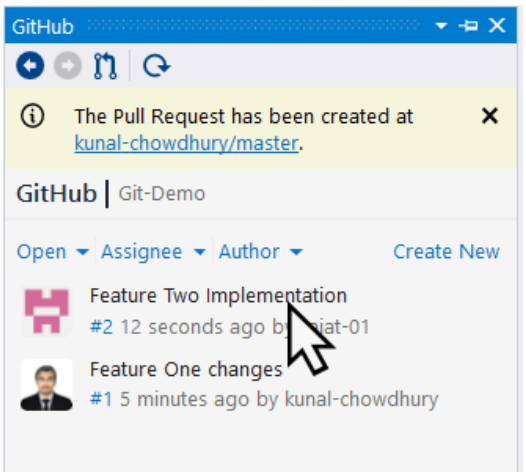

Team Explorer - Resolve Conflicts
Search Work Items (Ctrl+')
Resolve Conflicts | Git-Demo
Commit Merge
Undo Merge
Conflicts (1)
Name
Path
Program.cs [both modified]
ConsoleAppDemo
Merge
Compare Files
Edited on Remote | Diff | Take Remote
Edited on Local | Diff | Keep Local

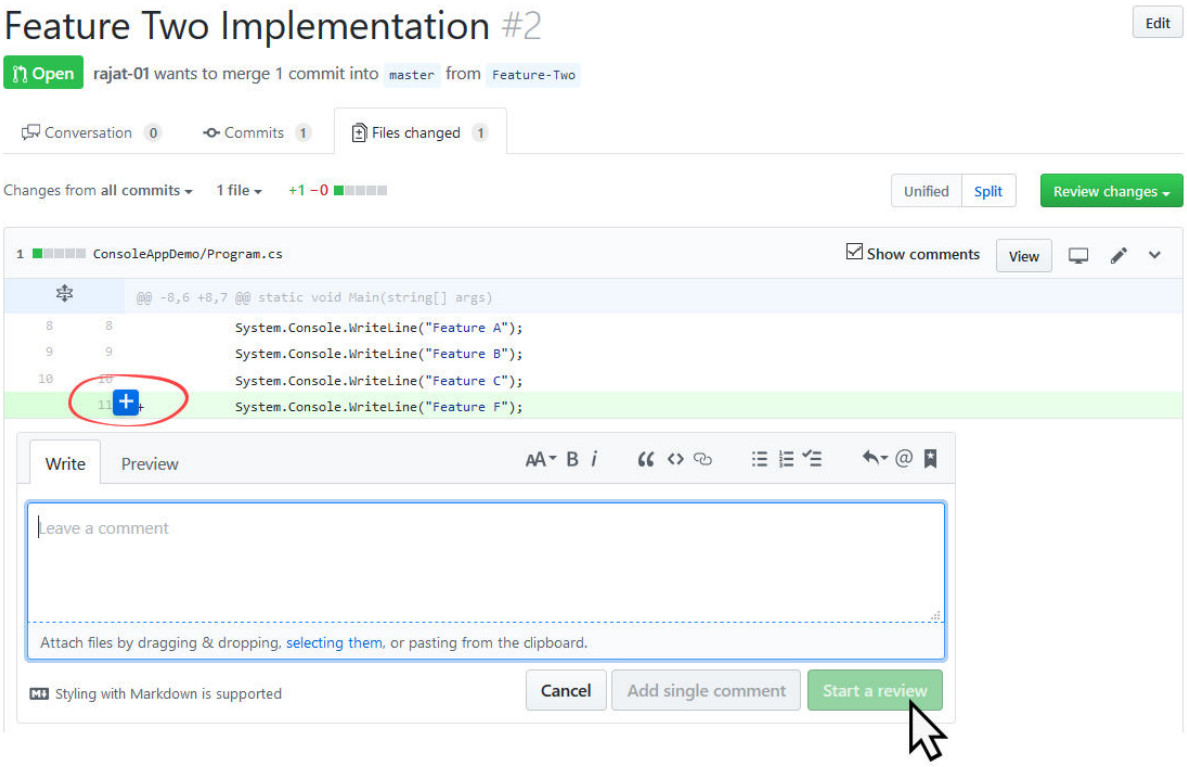

Merge - vctmp848...ogram.b42cb5e4.cs*
Accept Merge
1 Conflicts (0 R ing)
Source: ConsoleAppD rogram.cs;Remote
Target: ConsoleAppDemo/Program.cs;Local
Miscellaneous Files
ConsoleAppDemo.Program
Main(string[] args)
public class Program
{
static void Main(string[] args)
{
System.Console.WriteLine("Feature A");
System.Console.WriteLine("Feature B");
}
}
125 %
Result: ConsoleAppDemo/Program.cs
System.Console.WriteLine("Feature A");
System.Console.WriteLine("Feature B");

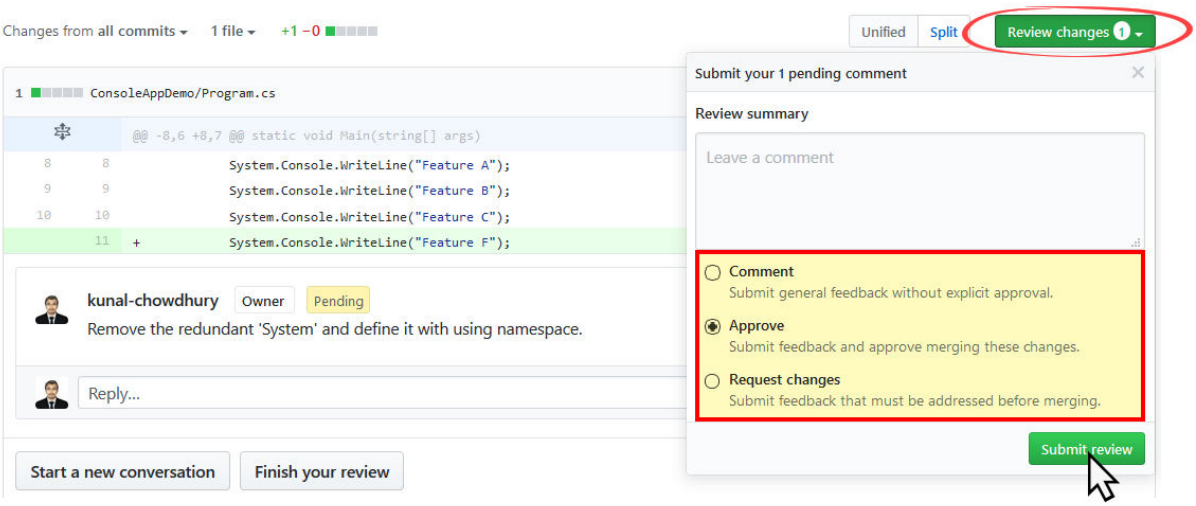

Team Explorer - Home
Search Work Items (Ctrl+')
Home | Git-Demo
GitHub
kunal-chowdhury/Git-Demo
https://github.com/kunal-chowdhury/Git-Demo
Project
Changes
Branches
Pull Requests
Sync
Pulse
Graphs
Issues
Wiki
Settings
Solutions
New... | Open... | Show Folder View

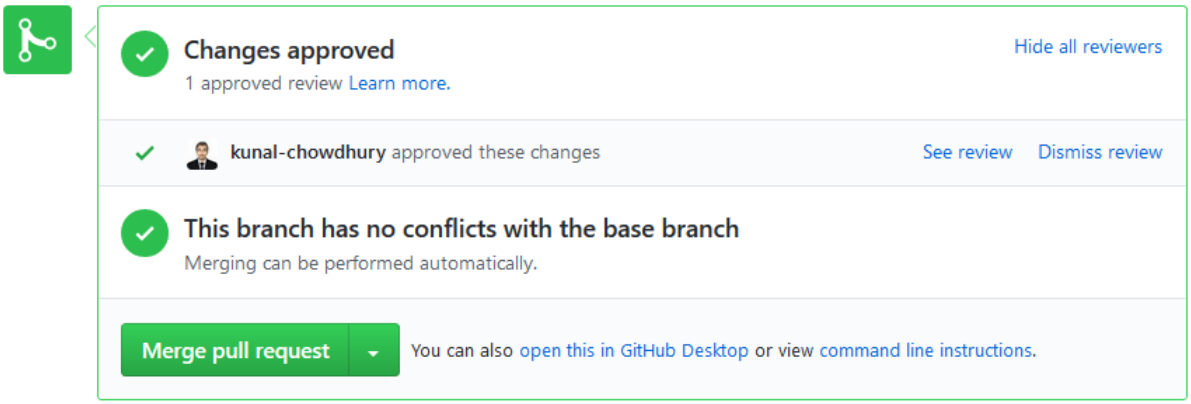

GitHub
GitHub | Git-Demo
Open
Assignee
Author
Create New
GitHub
GitHub | Git-Demo
master
Feature-One
Feature One changes
Description
Cancel
Create pull request

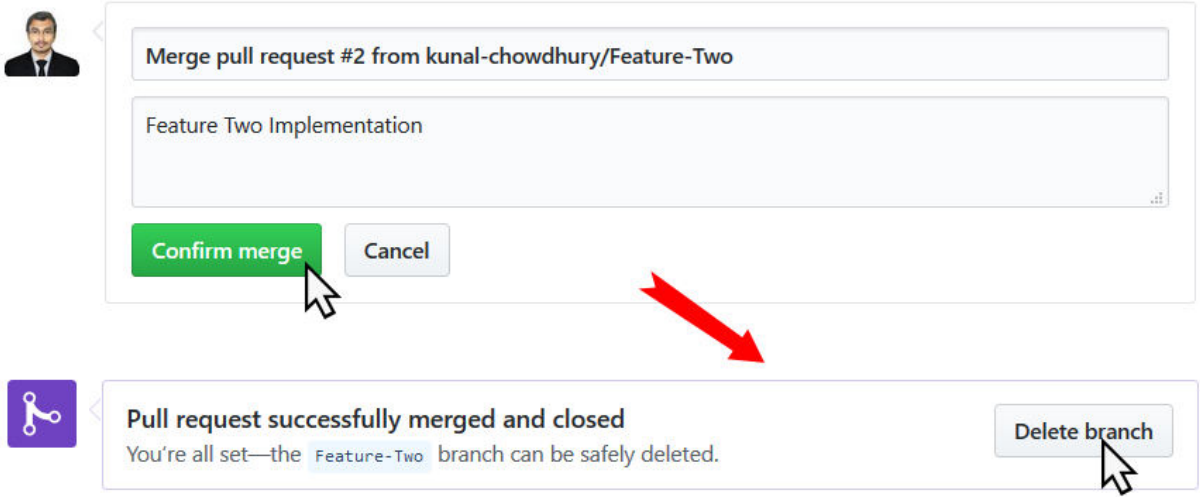

GitHub
The Pull Request has been created at kunal-chowdhury/master.
GitHub | Git-Demo
Open Assignee Author Create New
Feature One changes
#1 2 seconds ago by kunal-chowdhury

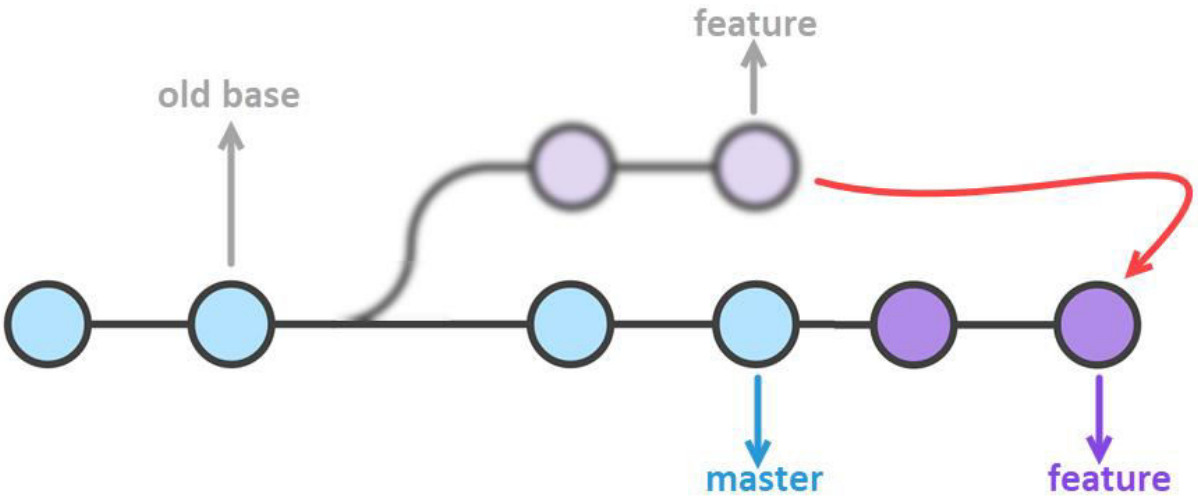

GitHub
The Pull Request has been created at kunal-chowdhury/master.
GitHub | Git-Demo
Open Assignee Author Create New
Feature Two Implementation
#2 12 seconds ago by rajat-01
Feature One changes
#1 5 minutes ago by kunal-chowdhury

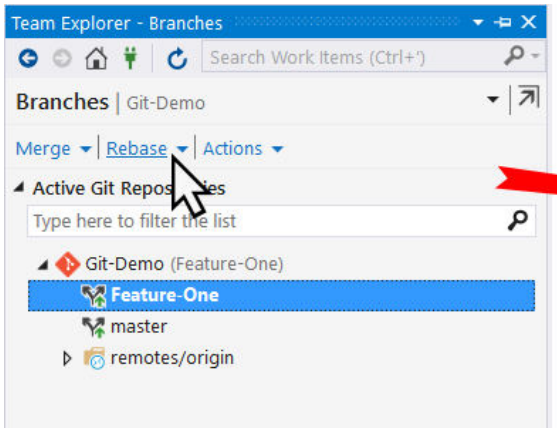

Feature Two Implementation #2
Edit
Open rajat-01 wants to merge 1 commit into master from Feature-Two
Conversation 0 Commits 1 Files changed 1
Changes from all commits 1 file +1 −0
Unified Split Review changes
1 ConsoleAppDemo/Program.cs
Show comments View
@@ -8,6 +8,7 @@ static void Main(string[] args)
System.Console.WriteLine("Feature A");
System.Console.WriteLine("Feature B");
System.Console.WriteLine("Feature C");
System.Console.WriteLine("Feature F");
Write Preview
Leave a comment
Attach files by dragging & dropping, selecting them, or pasting from the clipboard.
Styling with Markdown is supported
Cancel Add single comment Start a review

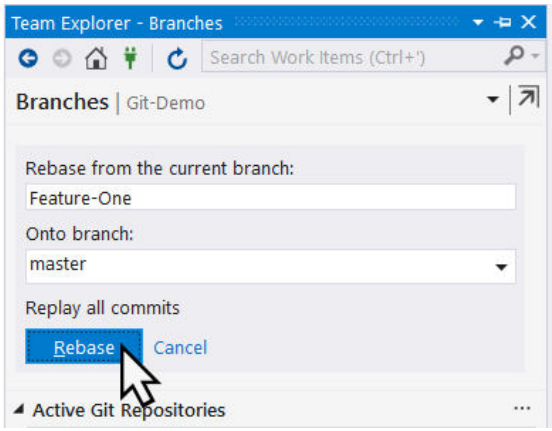

Changes from all commits
1 file
+1 −0
Unified
Split
Review changes
1 ConsoleAppDemo/Program.cs
@@ -8,6 +8,7 @@ static void Main(string[] args)
System.Console.WriteLine("Feature A");
System.Console.WriteLine("Feature B");
System.Console.WriteLine("Feature C");
+ System.Console.WriteLine("Feature F");
kunal-chowdhury
Owner
Pending
Remove the redundant 'System' and define it with using namespace.
Reply...
Start a new conversation
Finish your review
Submit your 1 pending comment
Review summary
Leave a comment
Comment
Submit general feedback without explicit approval.
Approve
Submit feedback and approve merging these changes.
Request changes
Submit feedback that must be addressed before merging.
Submit review

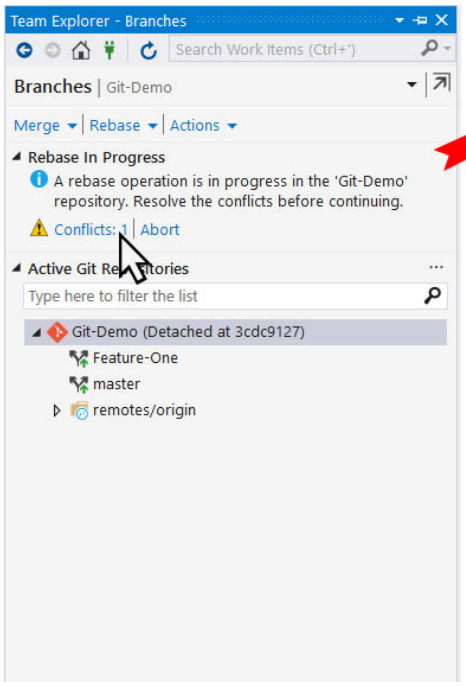

Changes approved
1 approved review Learn more.
Hide all reviewers
kunal-chowdhury approved these changes
See review
Dismiss review
This branch has no conflicts with the base branch
Merging can be performed automatically.
Merge pull request
You can also open this in GitHub Desktop or view command line instructions.

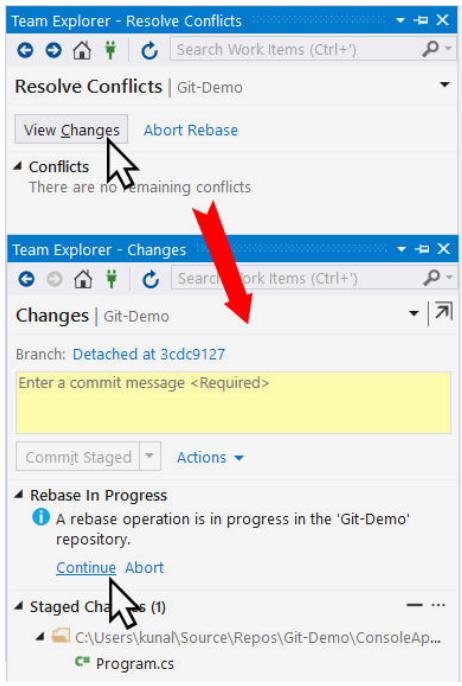

Merge pull request #2 from kunal-chowdhury/Feature-Two
Feature Two Implementation
Confirm merge
Cancel
Pull request successfully merged and closed
You're all set—the Feature-Two branch can be safely deleted.
Delete branch

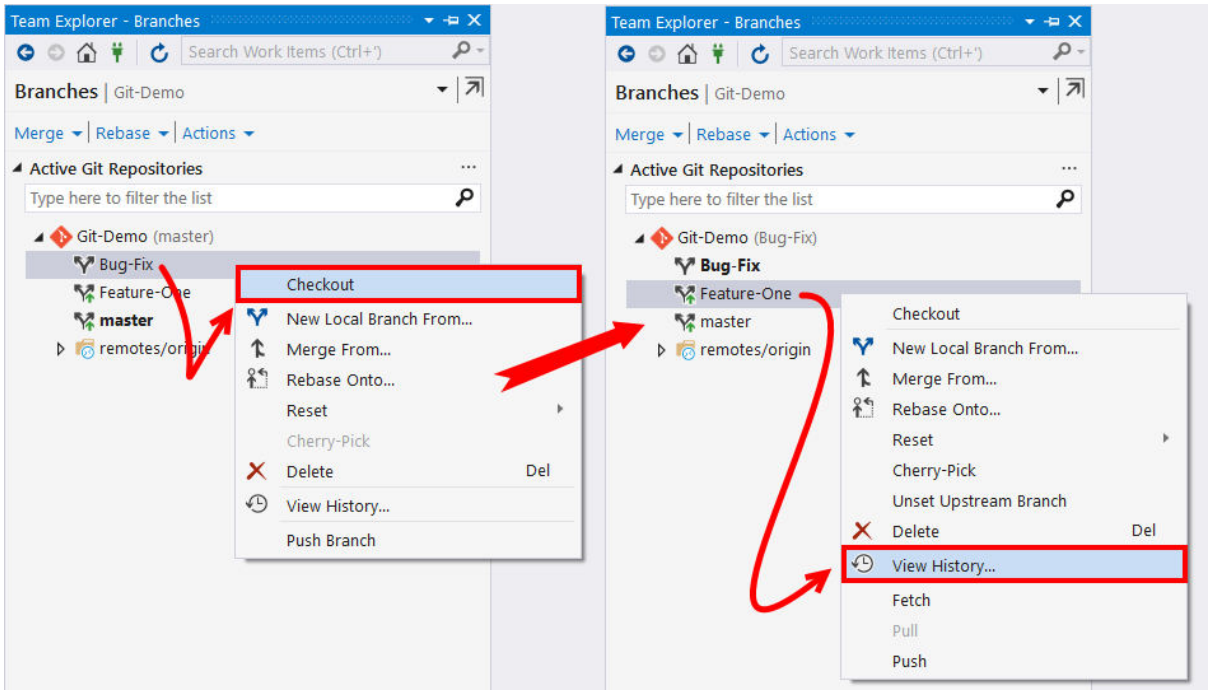

feature
old base
master
feature

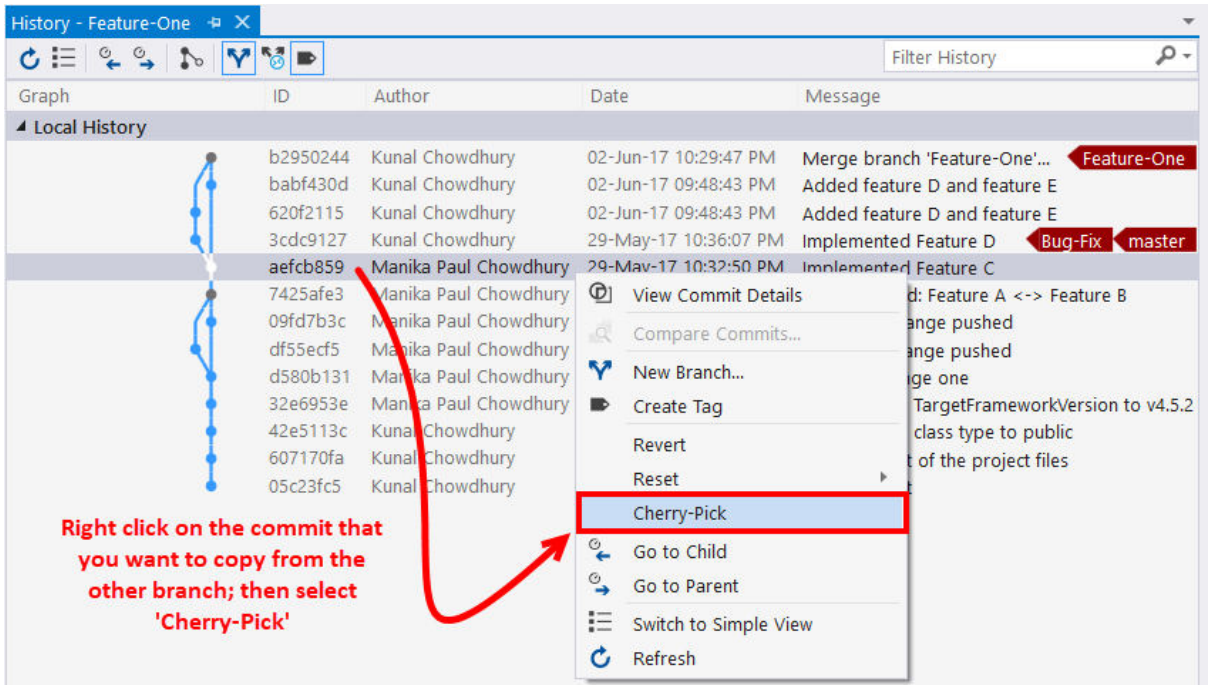

Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repos
Type here to filter the list
Git-Demo (Feature-One)
Feature-One
master
remotes/origin

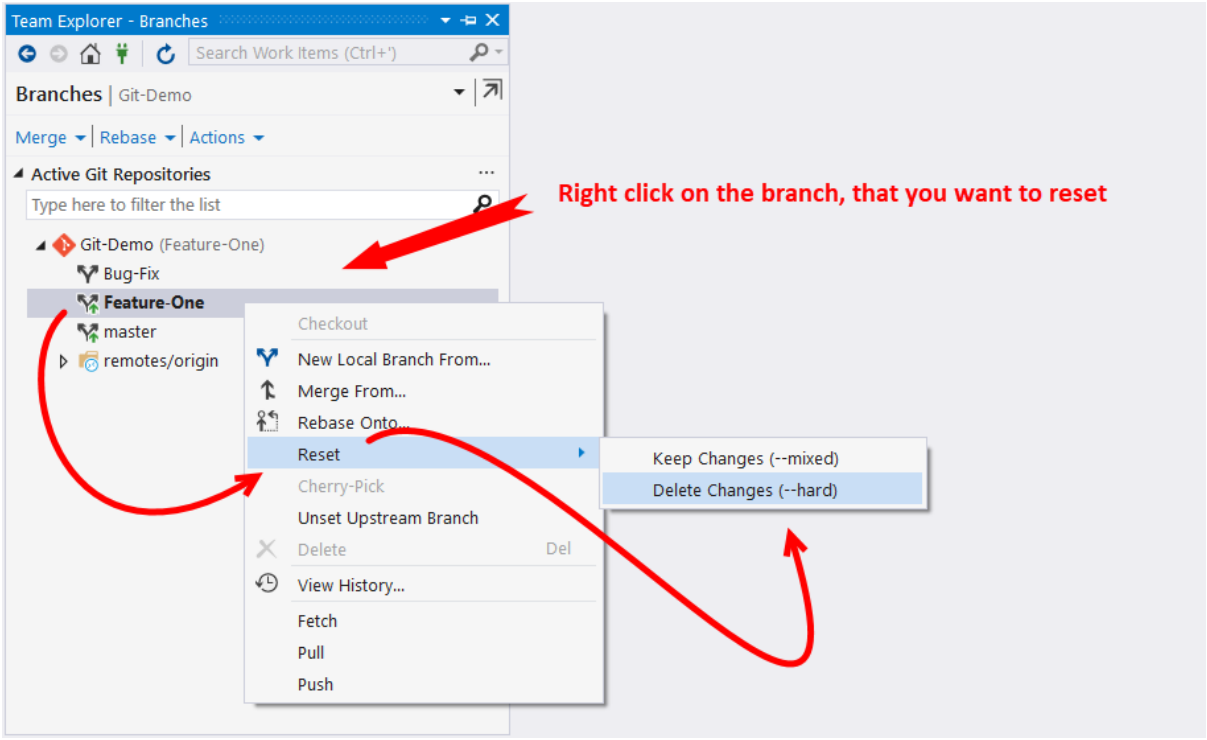

Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Rebase from the current branch:
Feature-One
Onto branch:
master
Replay all commits
Rebase
Cancel
Active Git Repositories

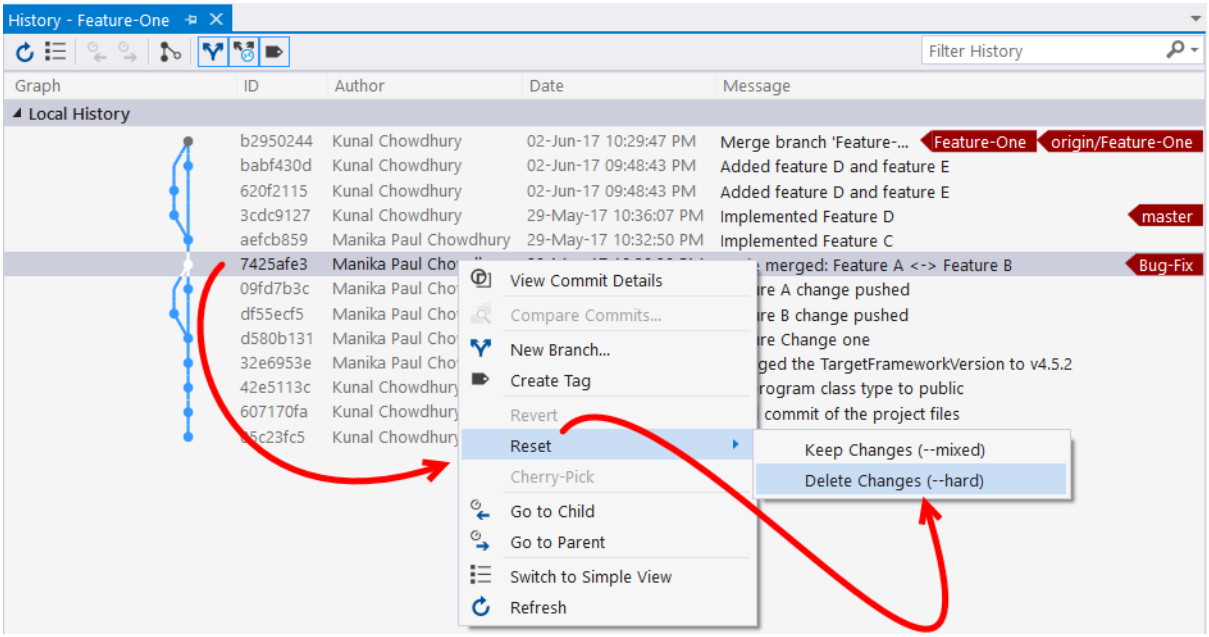

Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Merge | Rebase | Actions
Rebase In Progress
A rebase operation is in progress in the 'Git-Demo' repository. Resolve the conflicts before continuing.
Conflicts: 1 | Abort
Type here to filter the list
Git-Demo (Detached at 3cdc9127)
Feature-One
master
remotes/origin

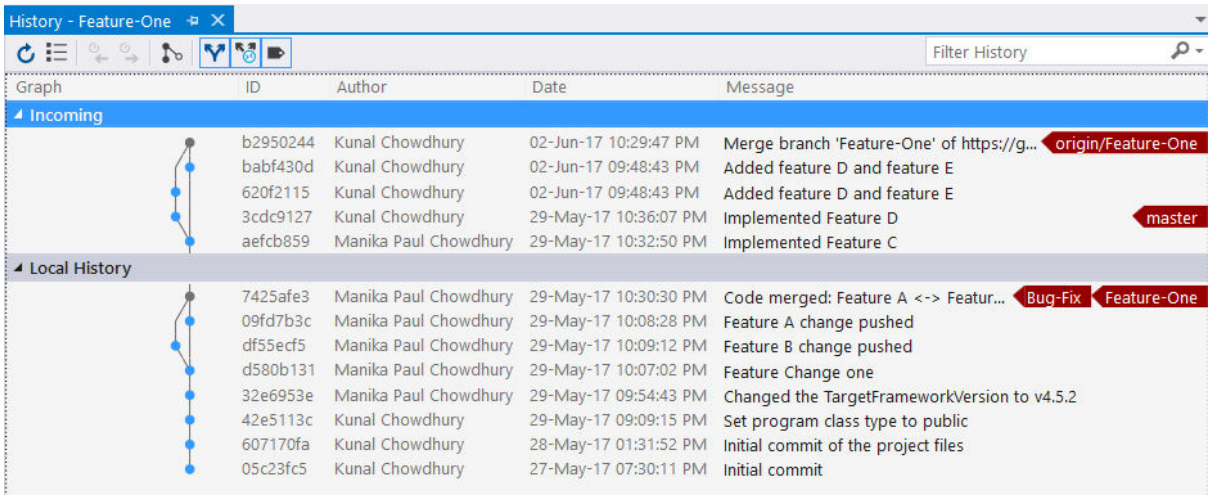

Team Explorer - Resolve Conflicts
Search Work Items (Ctrl+')
Resolve Conflicts | Git-Demo
View Changes
Abort Rebase
Conflicts
There are no remaining conflicts
Team Explorer - Changes
Changes | Git-Demo
Branch: Detached at 3cdc9127
Enter a commit message <Required>
Commit Staged
Actions
Rebase In Progress
A rebase operation is in progress in the 'Git-Demo' repository.
Continue
Abort
Program.cs

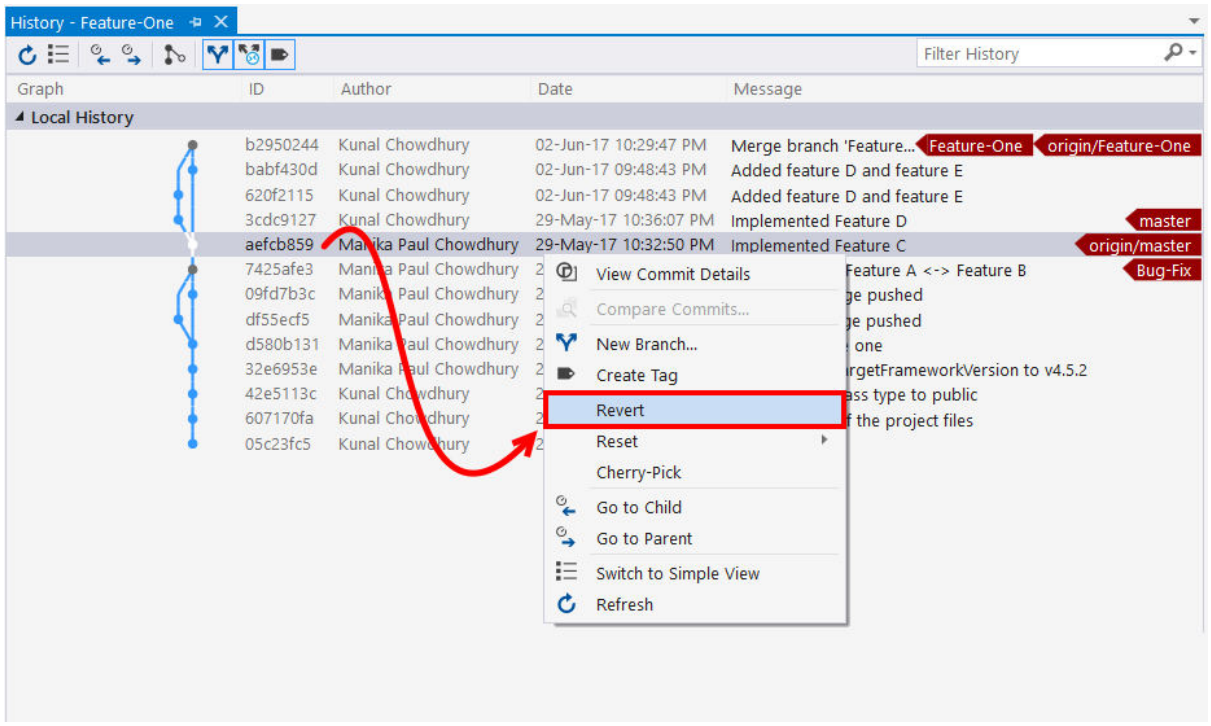

Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (master)
Bug-Fix
Feature-One
master
remotes/origin
Checkout
New Local Branch From...
Merge From...
Rebase Onto...
Reset
Cherry-Pick
Delete Del
View History...
Push Branch
Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (Bug-Fix)
Bug-Fix
Feature-One
master
remotes/origin
Checkout
New Local Branch From...
Merge From...
Rebase Onto...
Reset
Cherry-Pick
Unset Upstream Branch
Delete Del
View History...
Fetch
Pull
Push

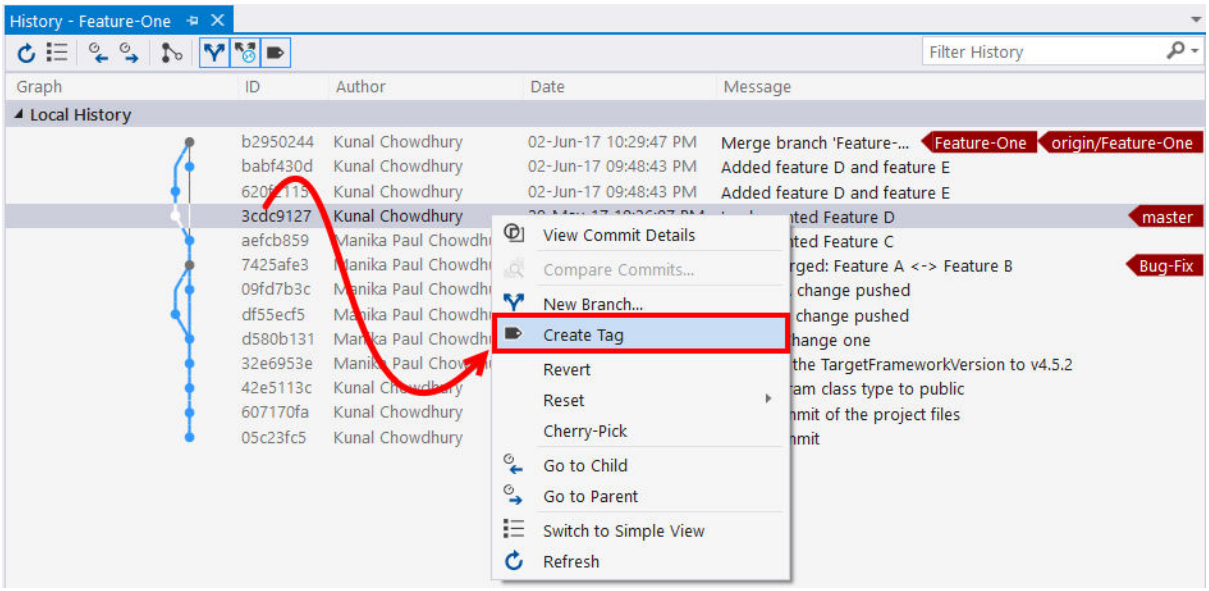

History - Feature-One
Filter History
Graph
ID
Author
Date
Message
Local History
b2950244 Kunal Chowdhury 02-Jun-17 10:29:47 PM Merge branch 'Feature-One'... Feature-One
babf430d Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
620f2115 Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
3cdc9127 Kunal Chowdhury 29-May-17 10:36:07 PM Implemented Feature D Bug-Fix master
aefcb859 Manika Paul Chowdhury 29-May-17 10:32:50 PM Implemented Feature C
7425afe3 Manika Paul Chowdhury
09fd7b3c Manika Paul Chowdhury
df55ecf5 Manika Paul Chowdhury
d580b131 Manika Paul Chowdhury
32e6953e Manika Paul Chowdhury
42e5113c Kunal Chowdhury
607170fa Kunal Chowdhury
05c23fc5 Kunal Chowdhury
View Commit Details
Compare Commits...
New Branch...
Create Tag
Revert
Reset
Cherry-Pick
Go to Child
Go to Parent
Switch to Simple View
Refresh
Right click on the commit that you want to copy from the other branch; then select 'Cherry-Pick'

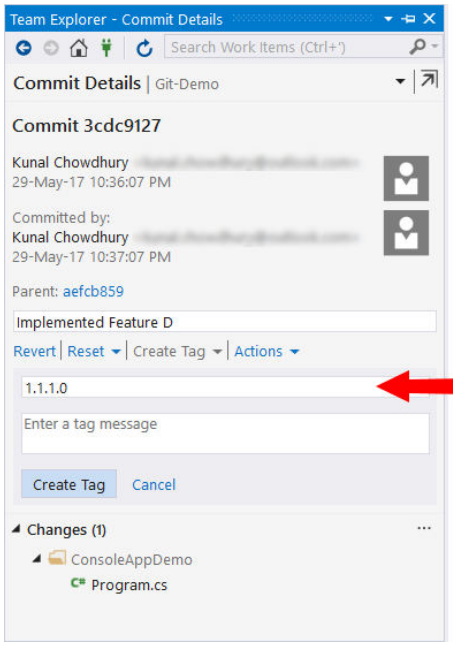

Team Explorer - Branches
Search Work Items (Ctrl+')
Branches | Git-Demo
Merge | Rebase | Actions
Active Git Repositories
Type here to filter the list
Git-Demo (Feature-One)
Bug-Fix
Feature-One
master
remotes/origin
Right click on the branch, that you want to reset
Checkout
New Local Branch From...
Merge From...
Rebase Onto...
Reset
Cherry-Pick
Unset Upstream Branch
Delete Del
View History...
Fetch
Pull
Push
Keep Changes (--mixed)
Delete Changes (--hard)


History - Feature-One
Filter History
Graph
ID
Author
Date
Message
Local History
b2950244 Kunal Chowdhury 02-Jun-17 10:29:47 PM Merge branch 'Feature-... Feature-One origin/Feature-One
babf430d Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
620f2115 Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
3cdc9127 Kunal Chowdhury 29-May-17 10:36:07 PM Implemented Feature D master
aefcb859 Manika Paul Chowdhury 29-May-17 10:32:50 PM Implemented Feature C
7425afe3 Manika Paul Cho merged: Feature A <-> Feature B Bug-Fix
09fd7b3c Manika Paul Cho re A change pushed
df55ecf5 Manika Paul Cho re B change pushed
d580b131 Manika Paul Cho re Change one
32e6953e Manika Paul Cho ged the TargetFrameworkVersion to v4.5.2
42e5113c Kunal Chowdhury rogram class type to public
607170fa Kunal Chowdhury commit of the project files
Kunal Chowdhury
View Commit Details
Compare Commits...
New Branch...
Create Tag
Revert
Reset
Cherry-Pick
Go to Child
Go to Parent
Switch to Simple View
Refresh
Keep Changes (--mixed)
Delete Changes (--hard)

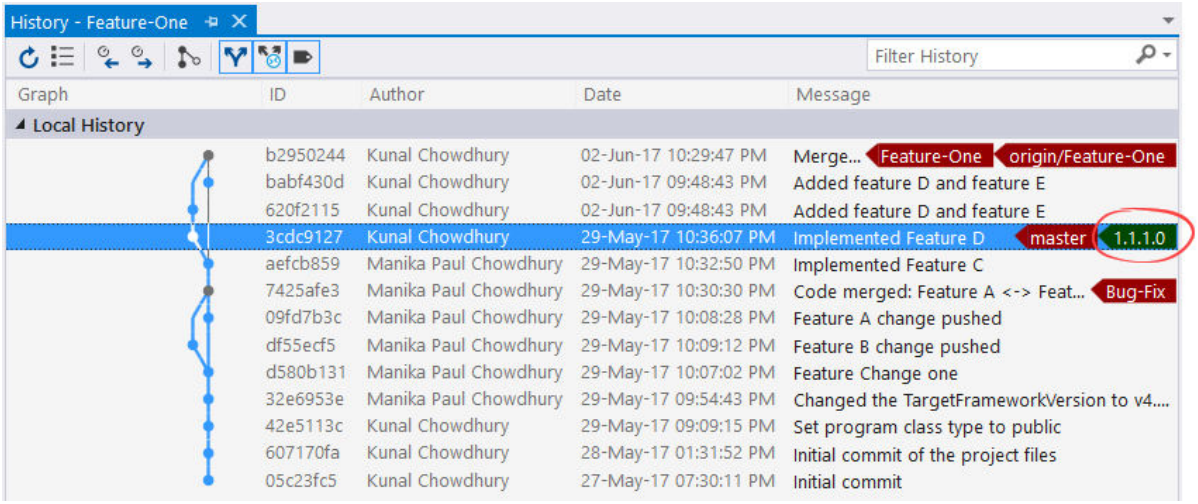

History - Feature-One
Filter History
Graph
ID
Author
Date
Message
Incoming
b2950244 Kunal Chowdhury 02-Jun-17 10:29:47 PM Merge branch 'Feature-One' of https://g... origin/Feature-One
babf430d Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
620f2115 Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
3cdc9127 Kunal Chowdhury 29-May-17 10:36:07 PM Implemented Feature D master
aefcb859 Manika Paul Chowdhury 29-May-17 10:32:50 PM Implemented Feature C
Local History
7425afe3 Manika Paul Chowdhury 29-May-17 10:30:30 PM Code merged: Feature A <-> Featur... Bug-Fix Feature-One
09fd7b3c Manika Paul Chowdhury 29-May-17 10:08:28 PM Feature A change pushed
df55ecf5 Manika Paul Chowdhury 29-May-17 10:09:12 PM Feature B change pushed
d580b131 Manika Paul Chowdhury 29-May-17 10:07:02 PM Feature Change one
32e6953e Manika Paul Chowdhury 29-May-17 09:54:43 PM Changed the TargetFrameworkVersion to v4.5.2
42e5113c Kunal Chowdhury 29-May-17 09:09:15 PM Set program class type to public
607170fa Kunal Chowdhury 28-May-17 01:31:52 PM Initial commit of the project files
05c23fc5 Kunal Chowdhury 27-May-17 07:30:11 PM Initial commit

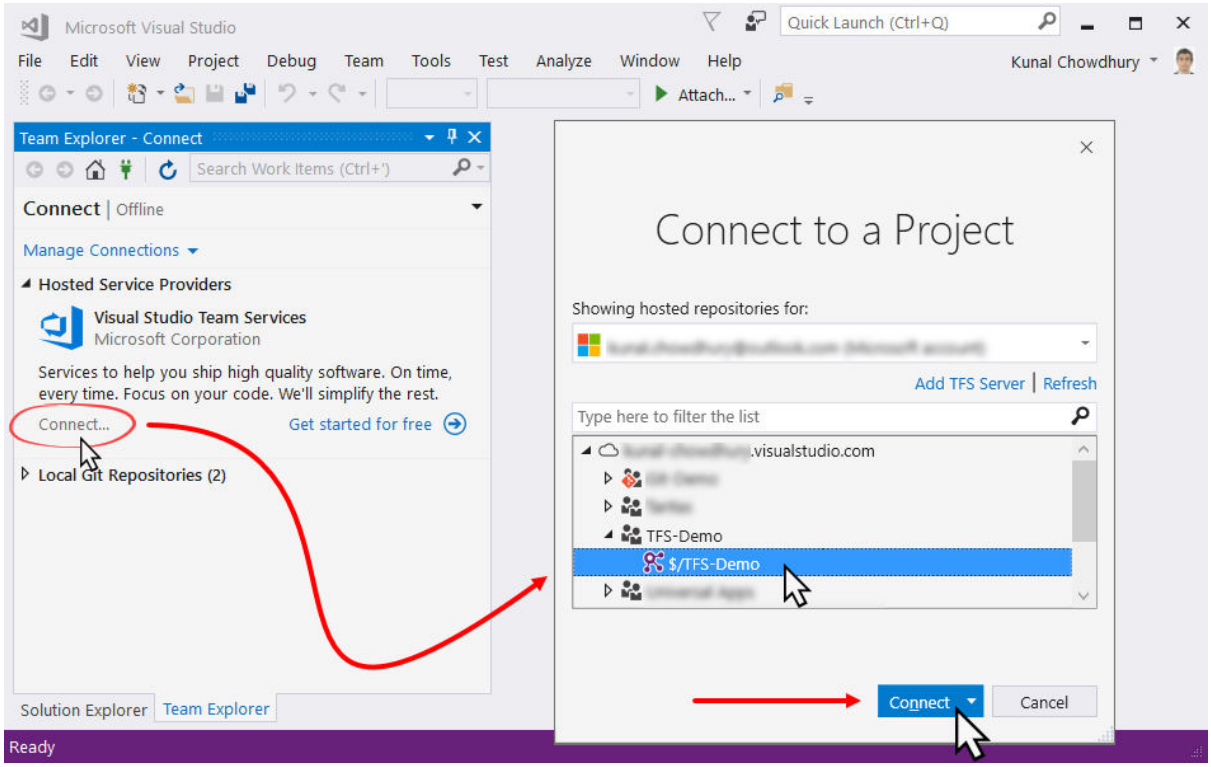

History - Feature-One
Filter History
Graph
ID
Author
Date
Message
Local History
b2950244 Kunal Chowdhury 02-Jun-17 10:29:47 PM Merge branch 'Feature... Feature-One origin/Feature-One
babf430d Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
620f2115 Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
3cdc9127 Kunal Chowdhury 29-May-17 10:36:07 PM Implemented Feature D master
aefcb859 Manika Paul Chowdhury 29-May-17 10:32:50 PM Implemented Feature C origin/master
7425afe3 Manika Paul Chowdhury 2 Feature A <-> Feature B Bug-Fix
09fd7b3c Manika Paul Chowdhury 2 ge pushed
df55ecf5 Manika Paul Chowdhury 2 ge pushed
d580b131 Manika Paul Chowdhury 2 one
32e6953e Manika Paul Chowdhury 2 rgetFrameworkVersion to v4.5.2
42e5113c Kunal Chowdhury 2 ss type to public
607170fa Kunal Chowdhury 2 f the project files
05c23fc5 Kunal Chowdhury 2
View Commit Details
Compare Commits...
New Branch...
Create Tag
Revert
Reset
Cherry-Pick
Go to Child
Go to Parent
Switch to Simple View
Refresh

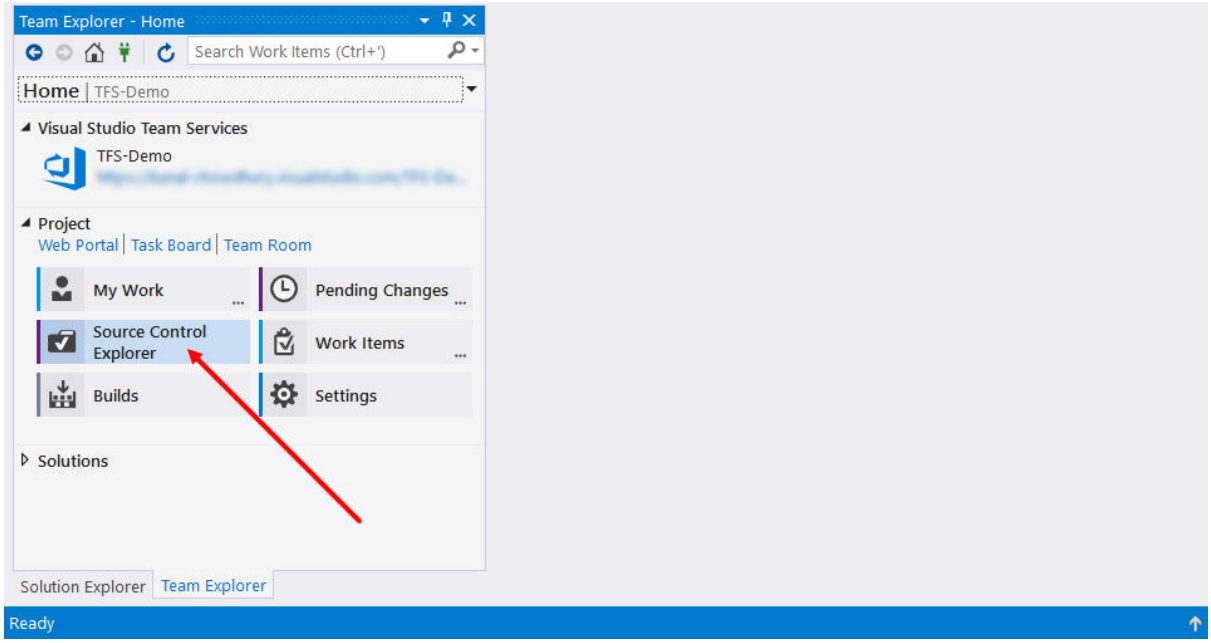


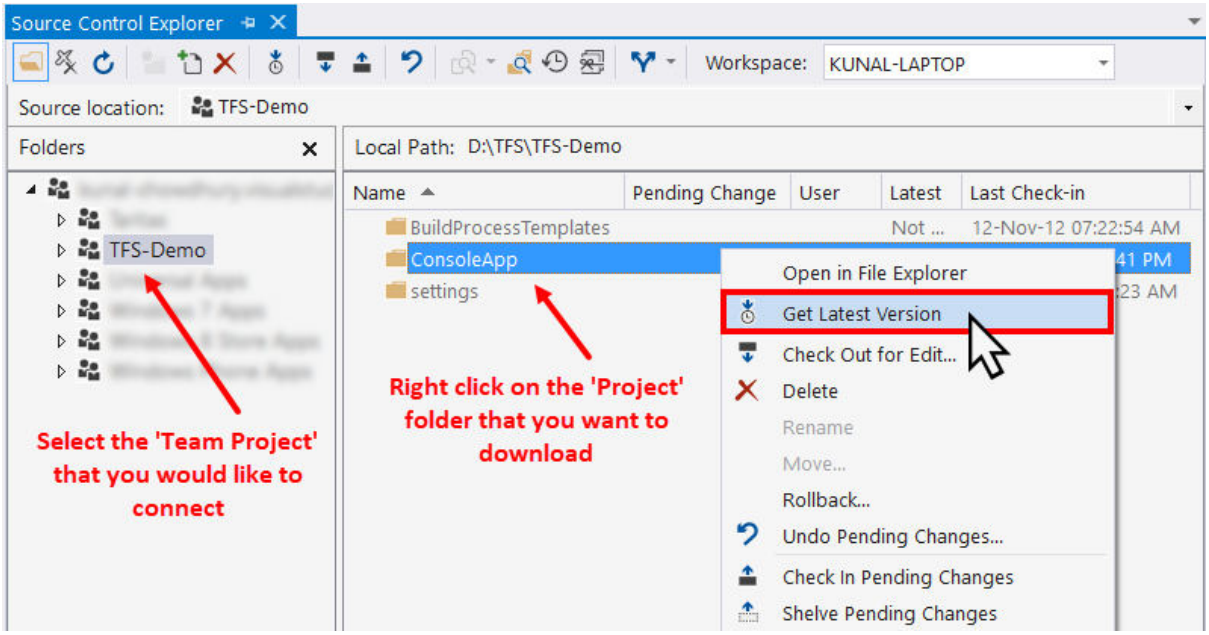


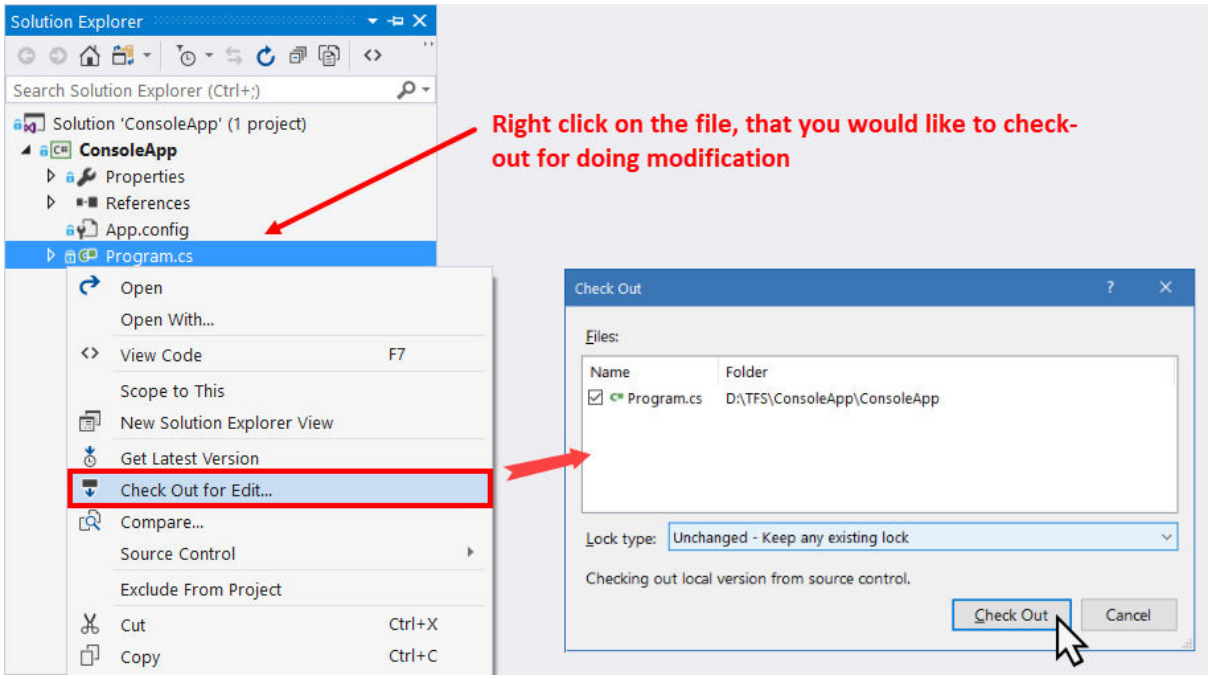
Enter a 'Tag' for the commit, to identify it easily

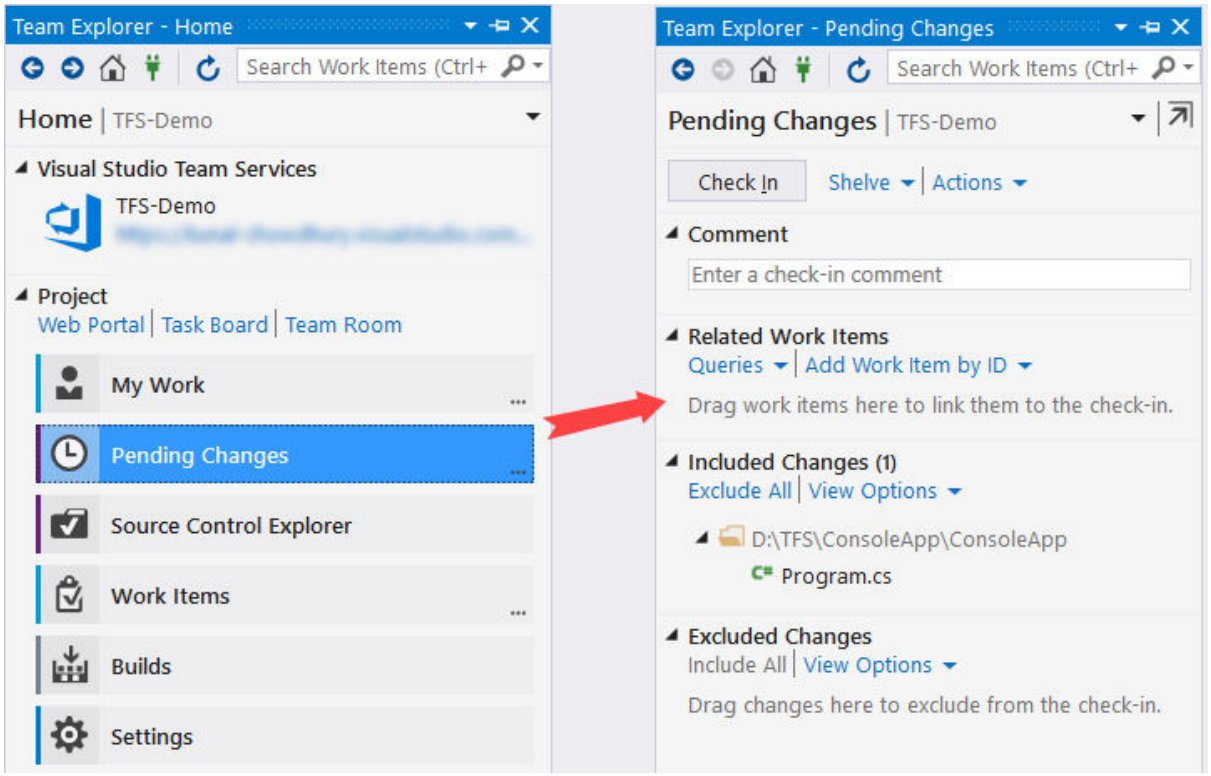

History - Feature-One
Filter History
Graph
ID
Author
Date
Message
Local History
b2950244 Kunal Chowdhury 02-Jun-17 10:29:47 PM Merge... Feature-One origin/Feature-One
babf430d Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
620f2115 Kunal Chowdhury 02-Jun-17 09:48:43 PM Added feature D and feature E
3cdc9127 Kunal Chowdhury 29-May-17 10:36:07 PM Implemented Feature D master 1.1.1.0
aefcb859 Manika Paul Chowdhury 29-May-17 10:32:50 PM Implemented Feature C
7425afe3 Manika Paul Chowdhury 29-May-17 10:30:30 PM Code merged: Feature A <-> Feat... Bug-Fix
09fd7b3c Manika Paul Chowdhury 29-May-17 10:08:28 PM Feature A change pushed
df55ecf5 Manika Paul Chowdhury 29-May-17 10:09:12 PM Feature B change pushed
d580b131 Manika Paul Chowdhury 29-May-17 10:07:02 PM Feature Change one
32e6953e Manika Paul Chowdhury 29-May-17 09:54:43 PM Changed the TargetFrameworkVersion to v4....
42e5113c Kunal Chowdhury 29-May-17 09:09:15 PM Set program class type to public
607170fa Kunal Chowdhury 28-May-17 01:31:52 PM Initial commit of the project files
05c23fc5 Kunal Chowdhury 27-May-17 07:30:11 PM Initial commit

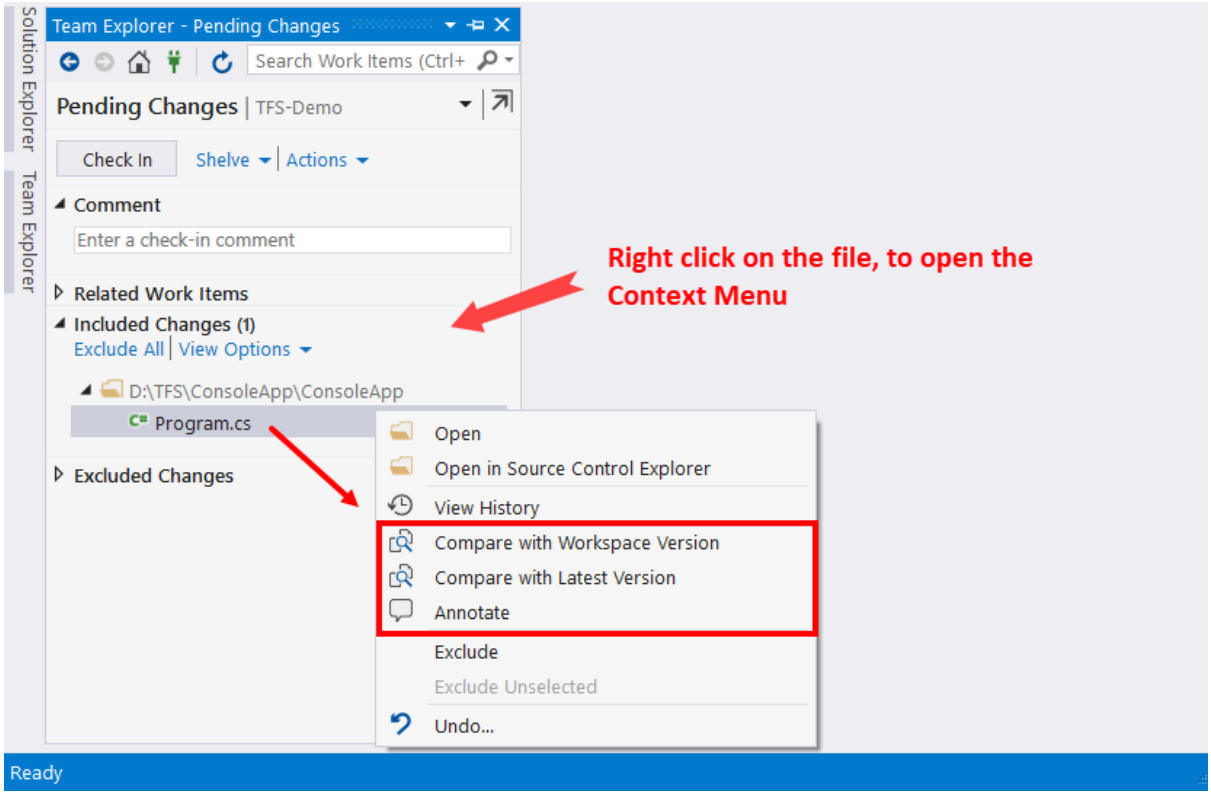

Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Attach...
Team Explorer - Connect
Search Work Items (Ctrl+')
Connect | Offline
Manage Connections
Hosted Service Providers
Visual Studio Team Services
Microsoft Corporation
Services to help you ship high quality software. On time, every time. Focus on your code. We'll simplify the rest.
Connect...
Get started for free
Local Git Repositories (2)
Solution Explorer
Team Explorer
Connect to a Project
Showing hosted repositories for:
Add TFS Server | Refresh
Type here to filter the list
.visualstudio.com
TFS-Demo
$/TFS-Demo
Connect
Cancel
Ready

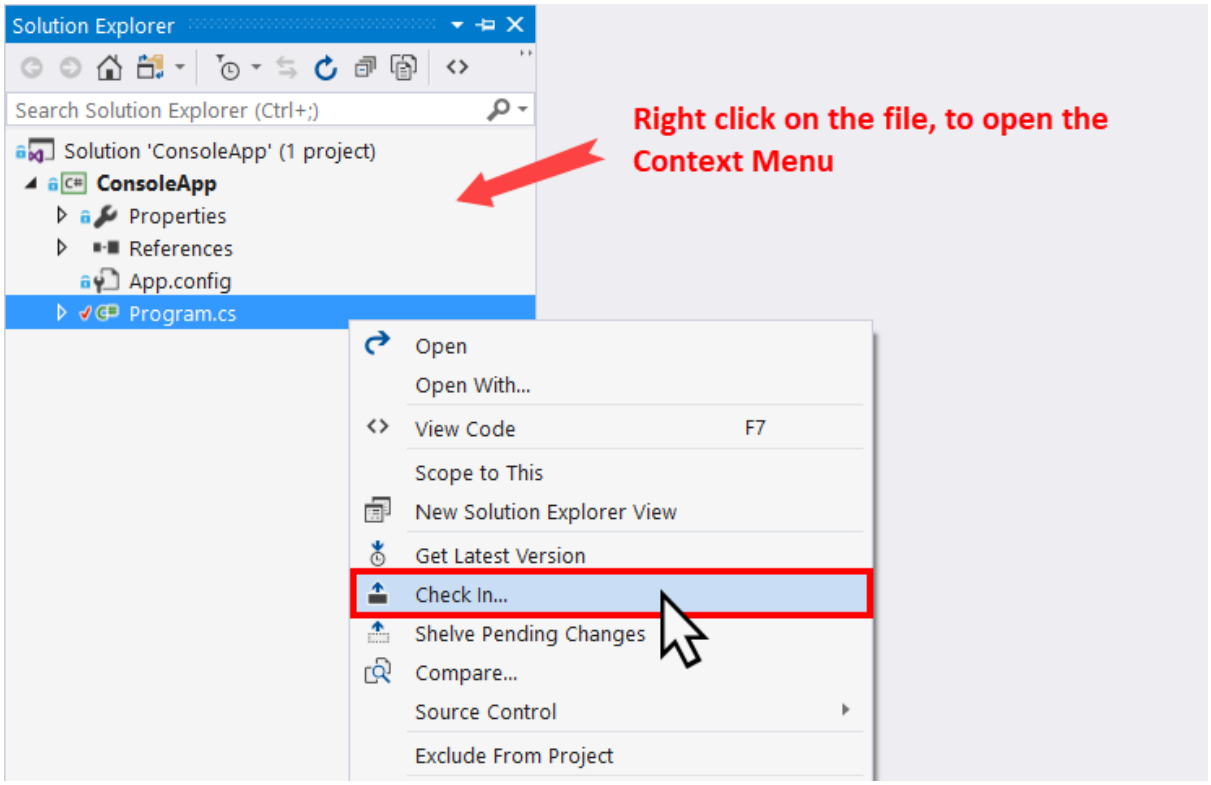

Team Explorer - Home
Search Work Items (Ctrl+')
Home | TFS-Demo
Visual Studio Team Services
TFS-Demo
Project
Web Portal | Task Board | Team Room
My Work
Pending Changes
Source Control Explorer
Work Items
Builds
Settings
Solutions
Solution Explorer
Team Explorer
Ready

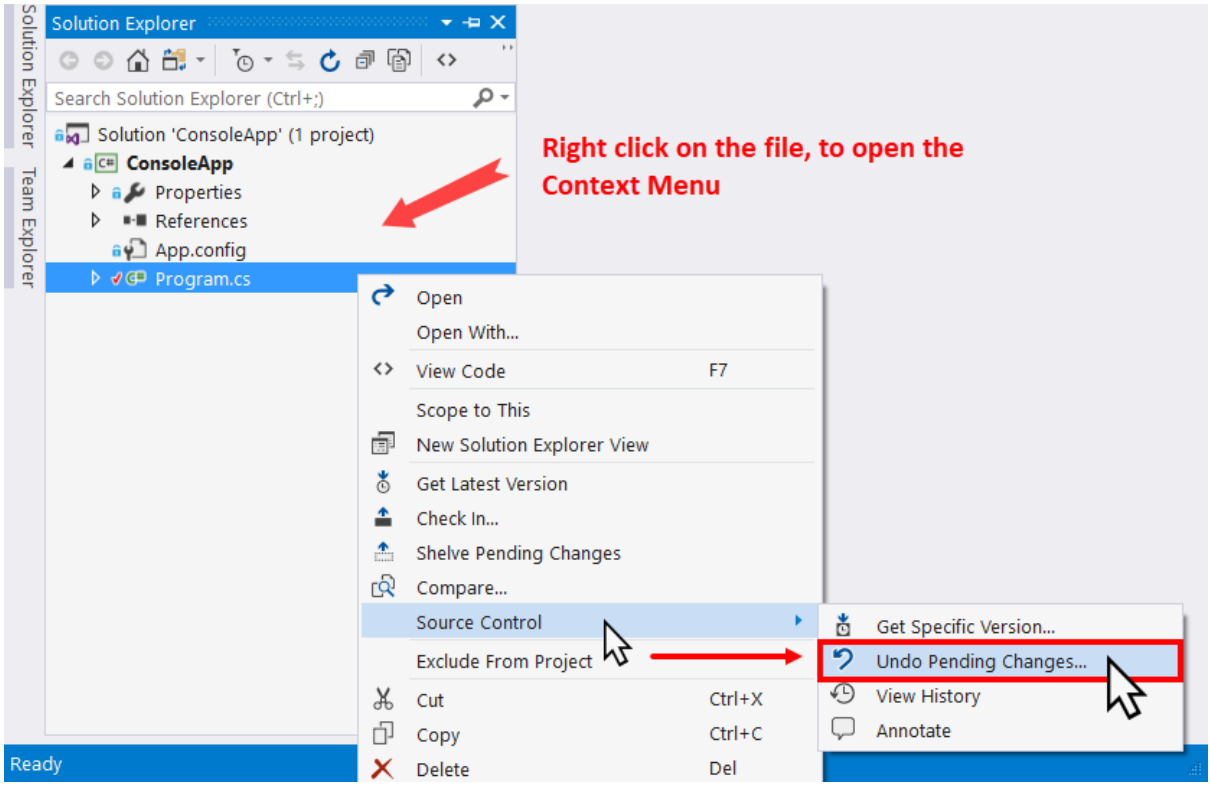

Source Control Explorer
Workspace: KUNAL-LAPTOP
Source location: TFS-Demo
Folders
Local Path: D:\TFS\TFS-Demo
Name
Pending Change
User
Latest
Last Check-in
BuildProcessTemplates
Not ...
12-Nov-12 07:22:54 AM
ConsoleApp
settings
TFS-Demo
Open in File Explorer
Get Latest Version
Check Out for Edit...
Delete
Rename
Move...
Rollback...
Undo Pending Changes...
Check In Pending Changes
Shelve Pending Changes
Select the 'Team Project' that you would like to connect
Right click on the 'Project' folder that you want to download

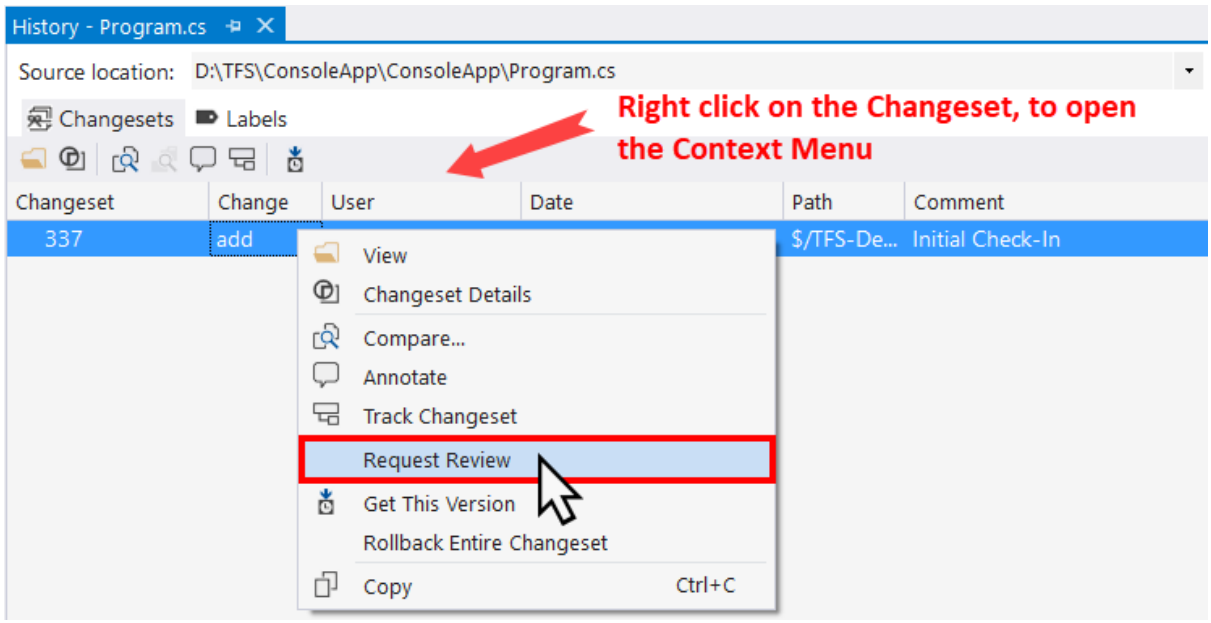

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ConsoleApp' (1 project)
ConsoleApp
Properties
References
App.config
Program.cs
Right click on the file, that you would like to check-out for doing modification
Open
Open With...
View Code F7
Scope to This
New Solution Explorer View
Get Latest Version
Check Out for Edit...
Compare...
Source Control
Exclude From Project
Cut Ctrl+X
Copy Ctrl+C
Check Out
Files:
Name
Folder
Program.cs
D:\TFS\ConsoleApp\ConsoleApp
Lock type:
Unchanged - Keep any existing lock
Checking out local version from source control.
Check Out
Cancel

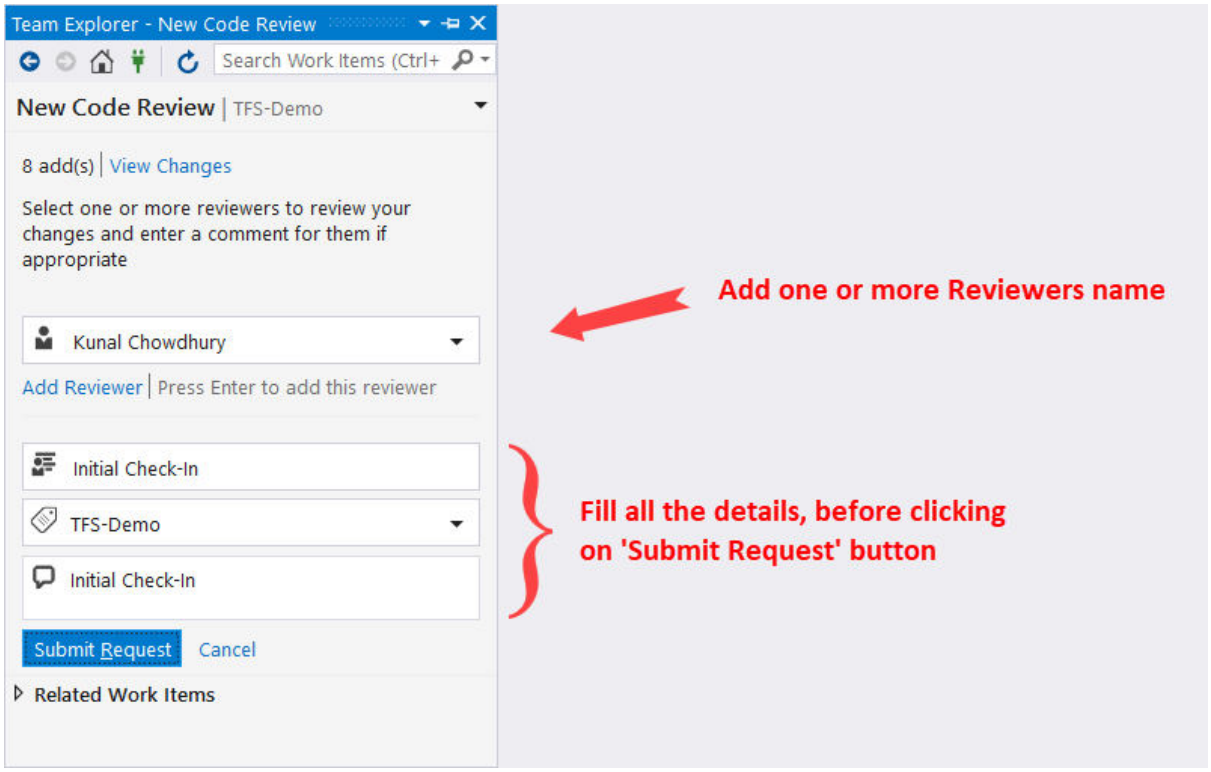

Team Explorer - Home
Search Work Items (Ctrl+
Home | TFS-Demo
Visual Studio Team Services
TFS-Demo
Project
Web Portal | Task Board | Team Room
My Work
Pending Changes
Source Control Explorer
Work Items
Builds
Settings
Team Explorer - Pending Changes
Search Work Items (Ctrl+
Pending Changes | TFS-Demo
Check In
Shelve | Actions
Comment
Enter a check-in comment
Related Work Items
Queries | Add Work Item by ID
Drag work items here to link them to the check-in.
Included Changes (1)
Exclude All | View Options
D:\TFS\ConsoleApp\ConsoleApp
Program.cs
Excluded Changes
Include All | View Options
Drag changes here to exclude from the check-in.

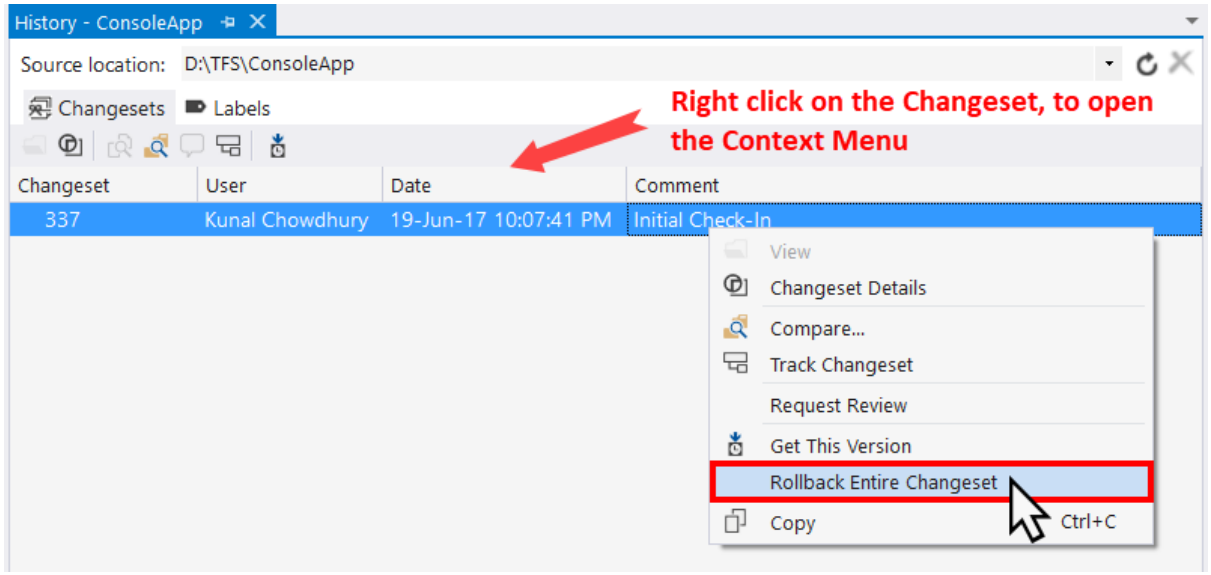

Team Explorer - Pending Changes
Search Work Items (Ctrl+
Pending Changes | TFS-Demo
Check In
Shelve
Actions
Comment
Enter a check-in comment
Related Work Items
Included Changes (1)
Exclude All | View Options
D:\TFS\ConsoleApp\ConsoleApp
Program.cs
Excluded Changes
Right click on the file, to open the Context Menu
Open
Open in Source Control Explorer
View History
Compare with Workspace Version
Compare with Latest Version
Annotate
Exclude
Exclude Unselected
Undo...
Ready


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ConsoleApp' (1 project)
ConsoleApp
Properties
References
App.config
Program.cs
Right click on the file, to open the Context Menu
Open
Open With...
View Code
F7
Scope to This
New Solution Explorer View
Get Latest Version
Check In...
Shelve Pending Changes
Compare...
Source Control
Exclude From Project


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'ConsoleApp' (1 project)
ConsoleApp
Properties
References
App.config
Program.cs
Right click on the file, to open the Context Menu
Open
Open With...
View Code F7
Scope to This
New Solution Explorer View
Get Latest Version
Check In...
Shelve Pending Changes
Compare...
Source Control
Exclude From Project
Cut Ctrl+X
Copy Ctrl+C
Delete Del
Get Specific Version...
Undo Pending Changes...
View History
Annotate
Ready


History - Program.cs
Source location: D:\TFS\ConsoleApp\ConsoleApp\Program.cs
Changesets
Labels
Right click on the Changeset, to open the Context Menu
Changeset
Change
User
Date
Path
Comment
337
add
$/TFS-De...
Initial Check-In
View
Changeset Details
Compare...
Annotate
Track Changeset
Request Review
Get This Version
Rollback Entire Changeset
Copy Ctrl+C


Team Explorer - New Code Review
Search Work Items (Ctrl+
New Code Review | TFS-Demo
8 add(s) | View Changes
Select one or more reviewers to review your changes and enter a comment for them if appropriate
Kunal Chowdhury
Add Reviewer | Press Enter to add this reviewer
Initial Check-In
TFS-Demo
Initial Check-In
Submit Request
Cancel
Related Work Items
Add one or more Reviewers name
Fill all the details, before clicking on 'Submit Request' button


History - ConsoleApp
Source location: D:\TFS\ConsoleApp
Changesets
Labels
Right click on the Changeset, to open the Context Menu
Changeset
User
Date
Comment
337
Kunal Chowdhury
19-Jun-17 10:07:41 PM
Initial Check-In
View
Changeset Details
Compare...
Track Changeset
Request Review
Get This Version
Rollback Entire Changeset
Copy
Ctrl+C