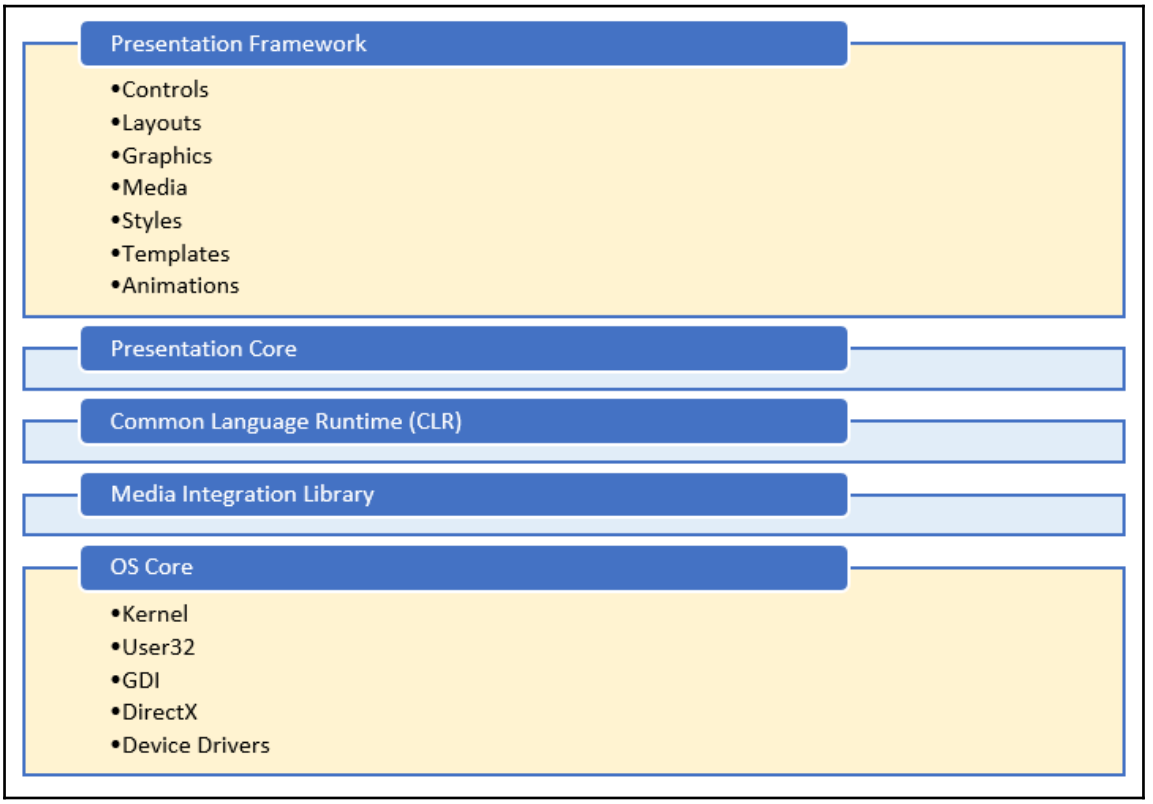
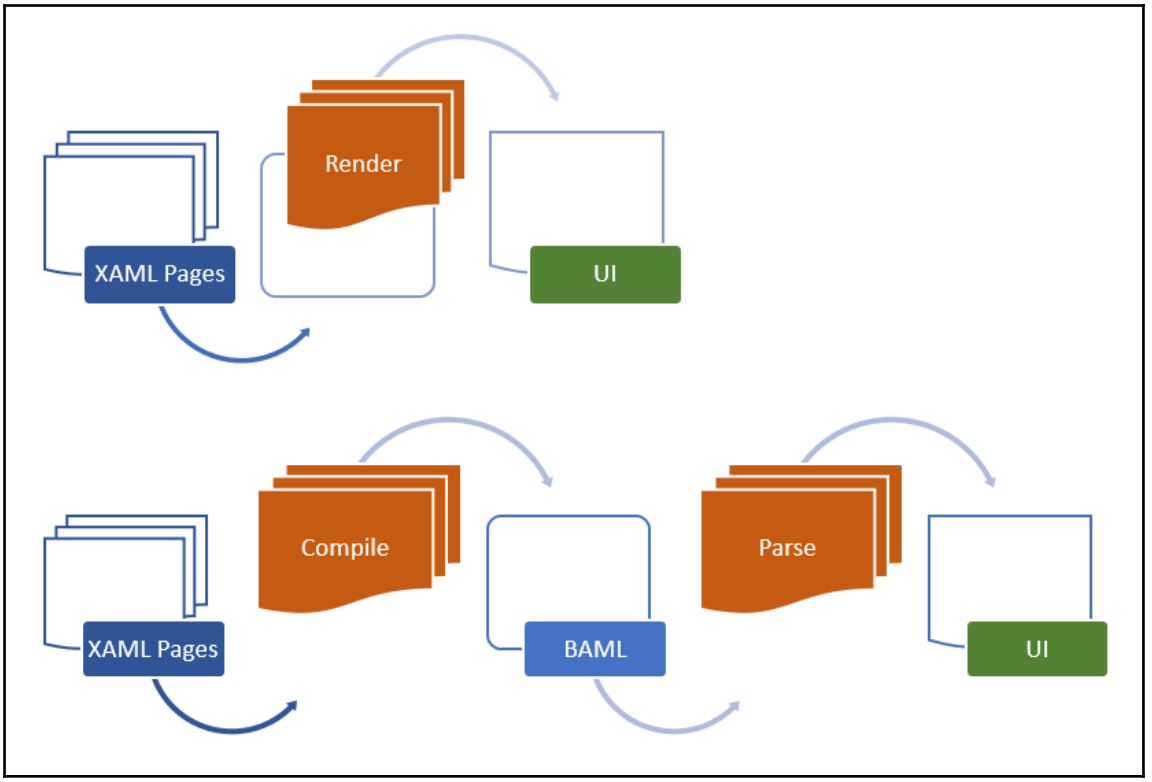
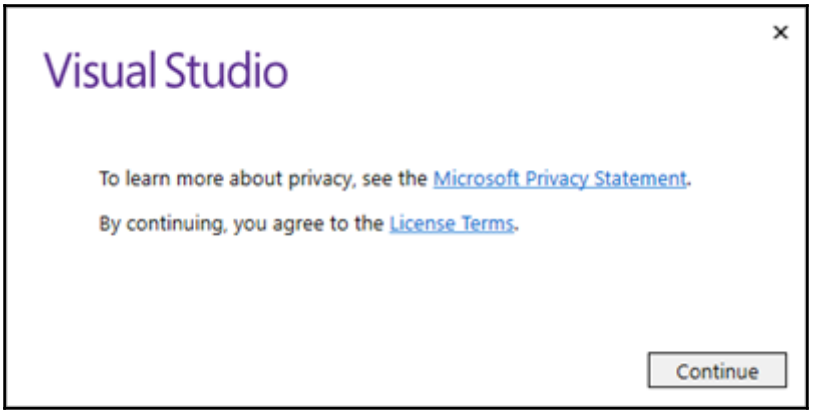
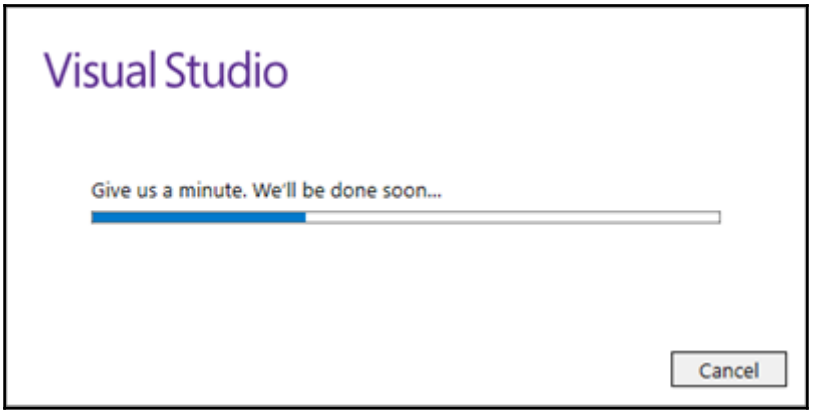
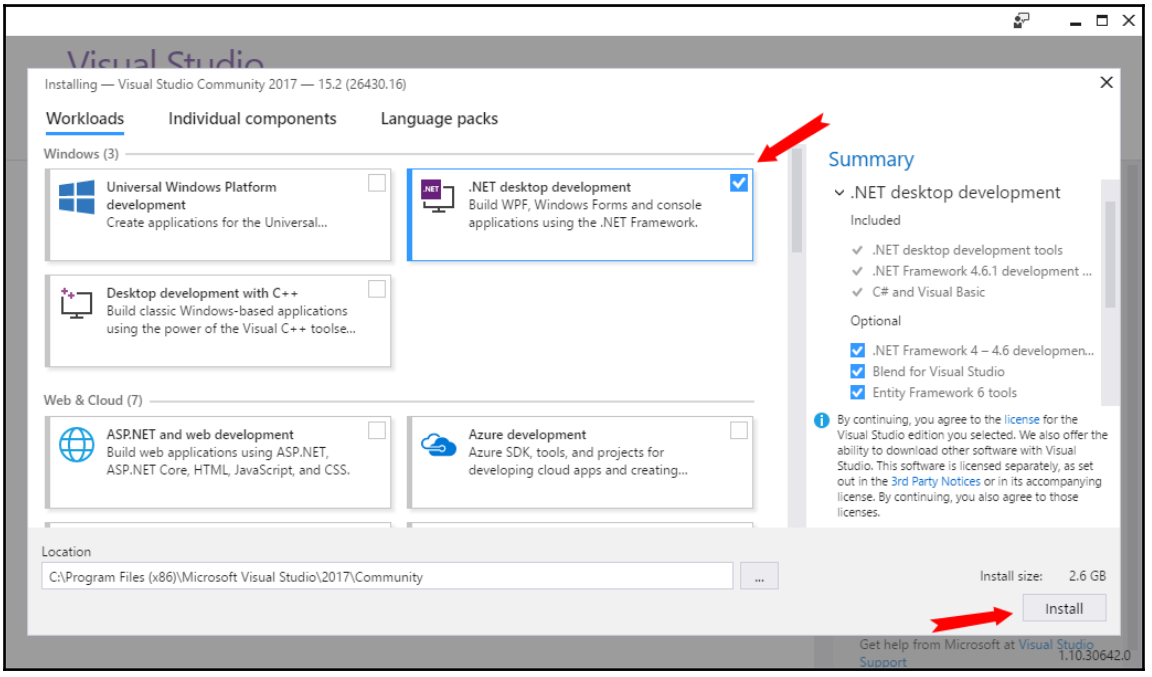
Chapter 1: WPF Fundamentals

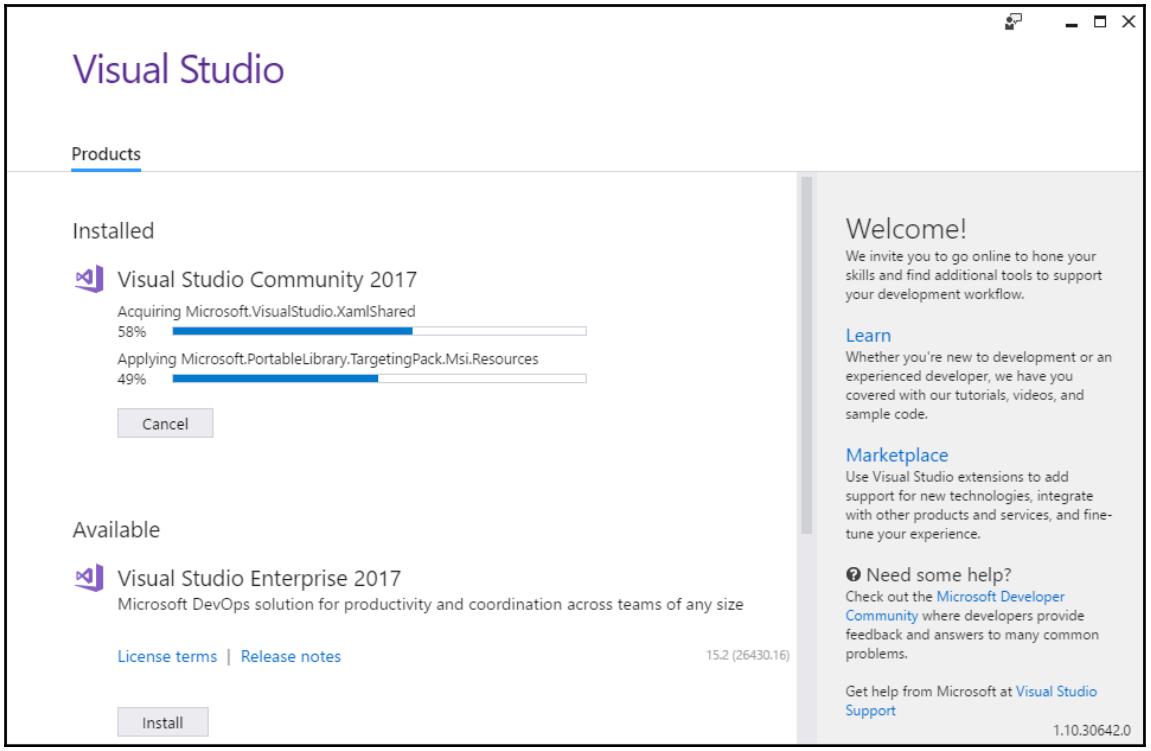


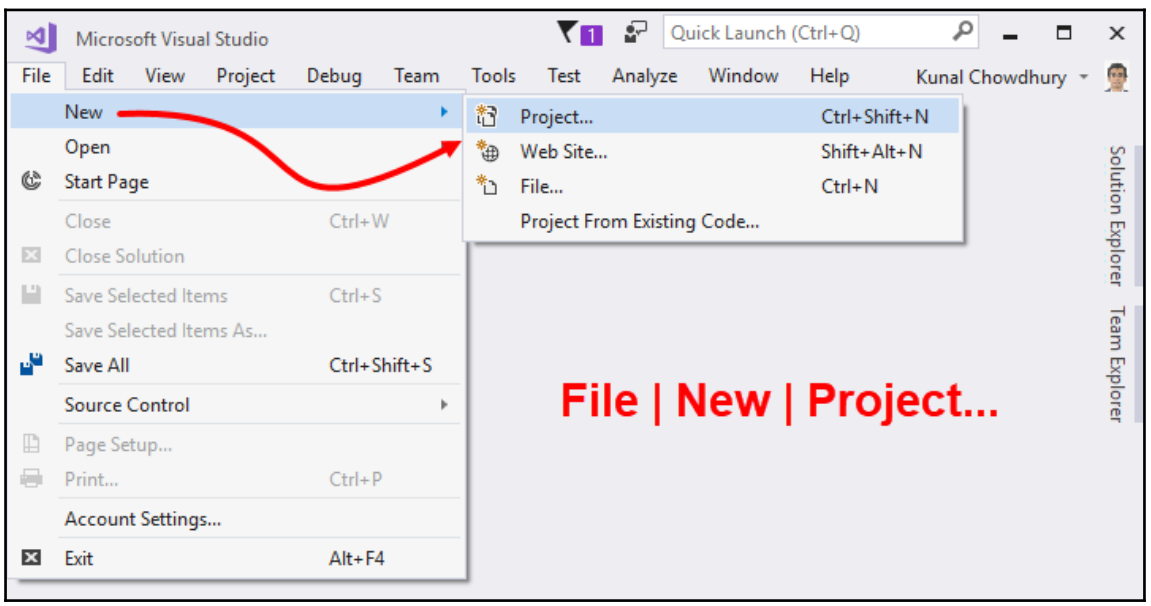

Render
XAML Pages
UI
Compile
XAML Pages
BAML
Parse
UI

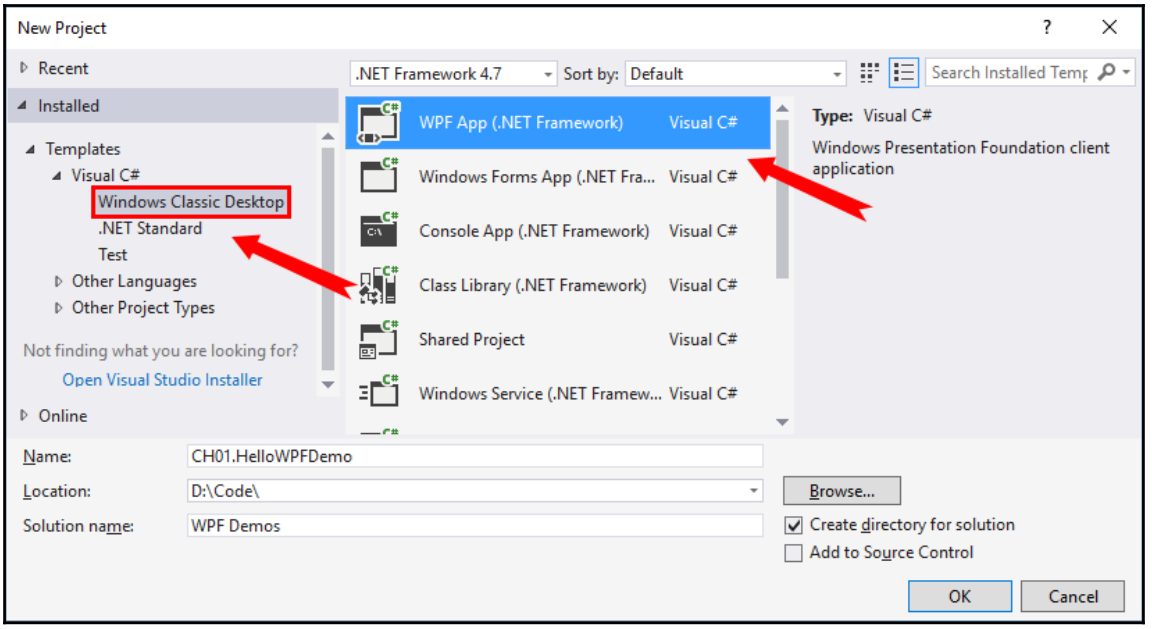

Visual Studio
To learn more about privacy, see the Microsoft Privacy Statement.
By continuing, you agree to the License Terms.
Continue

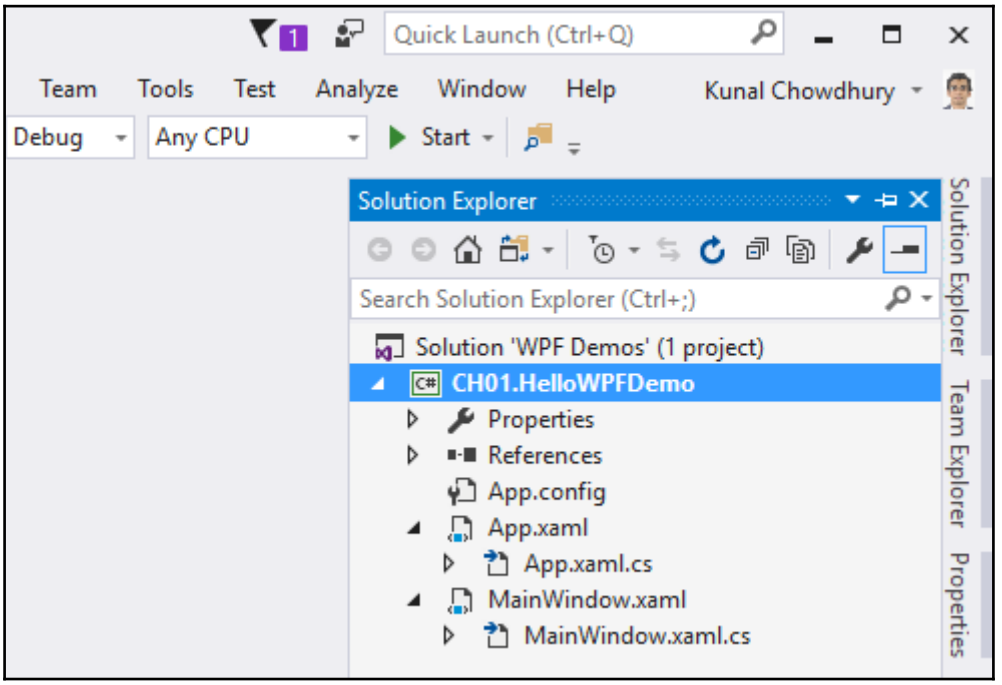

Visual Studio
Give us a minute. We'll be done soon...
Cancel

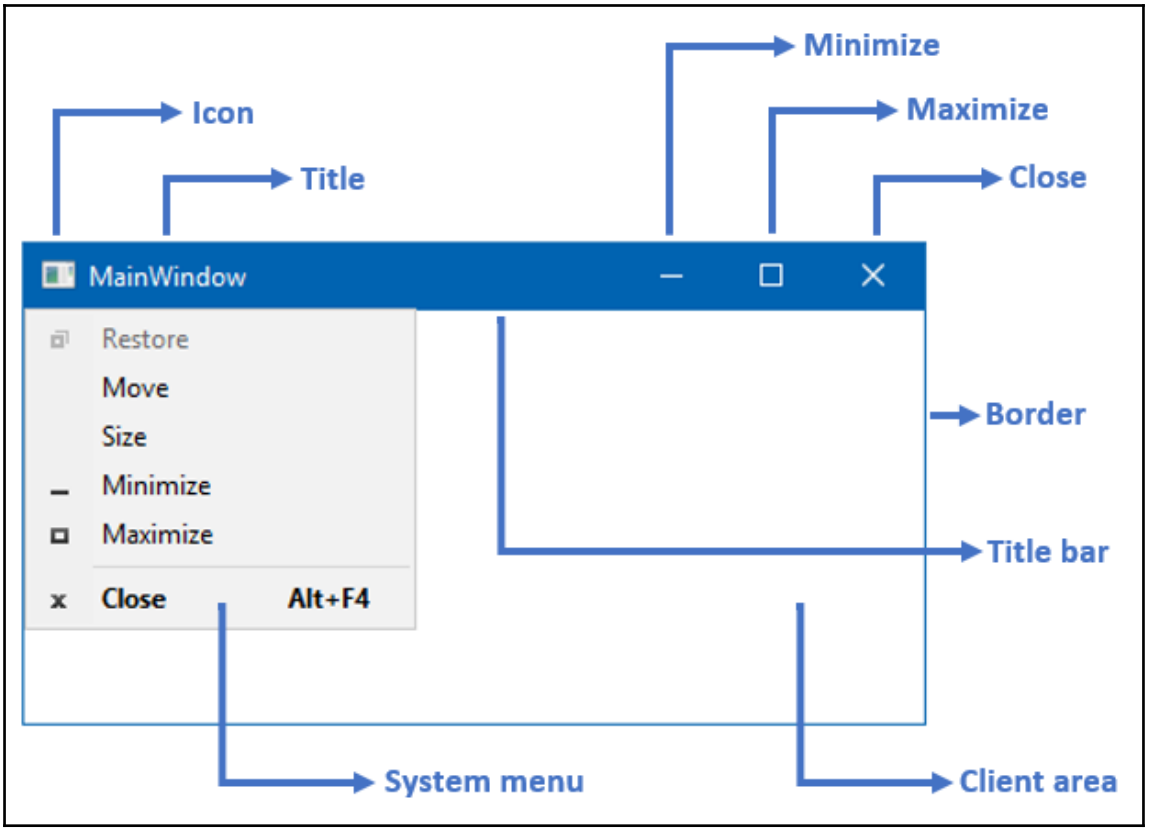

Installing — Visual Studio Community 2017 — 15.2 (26430.16)
Workloads
Individual components
Language packs
Windows (3)
Universal Windows Platform development
Create applications for the Universal...
.NET desktop development
Build WPF, Windows Forms and console applications using the .NET Framework.
Desktop 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
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\Community
Install size: 2.6 GB
Install
Get help from Microsoft at Visual Studio Support
1.10.30642.0

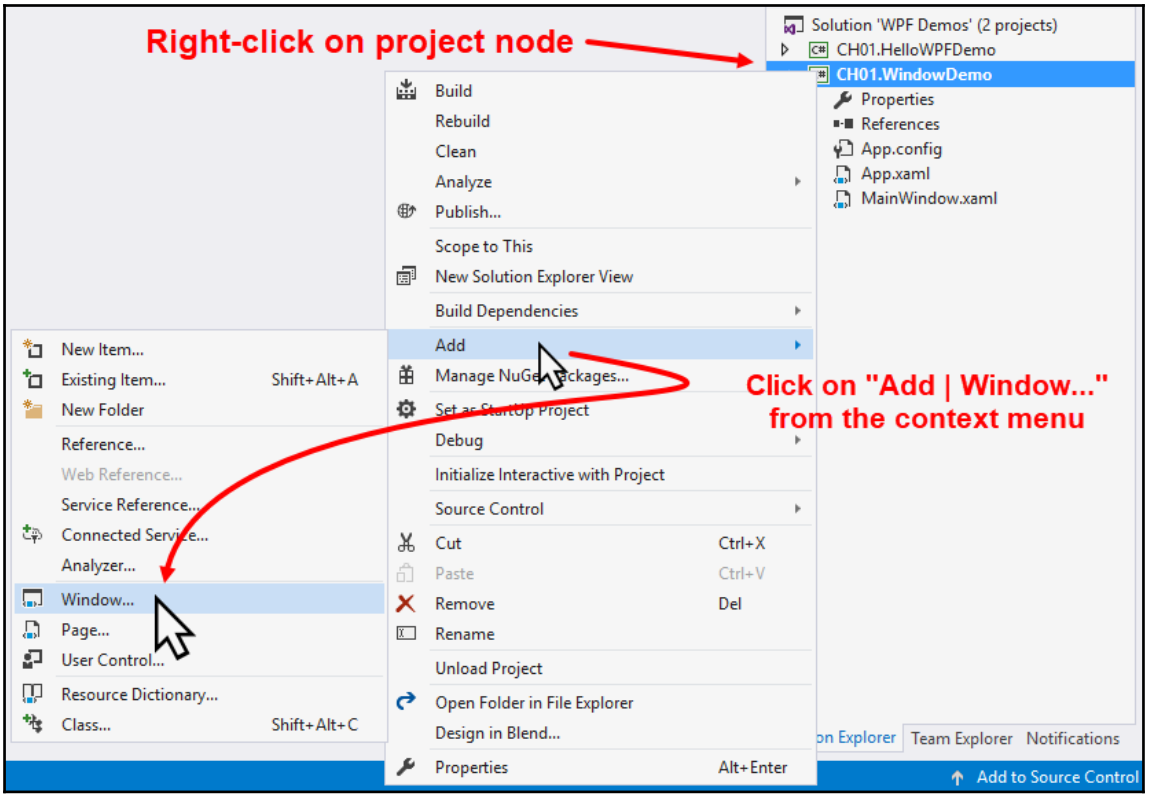

Visual Studio
Products
Installed
Visual Studio Community 2017
Acquiring Microsoft.VisualStudio.XamlShared
58%
Applying Microsoft.PortableLibrary.TargetingPack.Msi.Resources
49%
Cancel
Available
Visual Studio Enterprise 2017
Microsoft DevOps solution for productivity and coordination across teams of any size
License terms | Release notes
15.2 (26430.16)
Install
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
1.10.30642.0

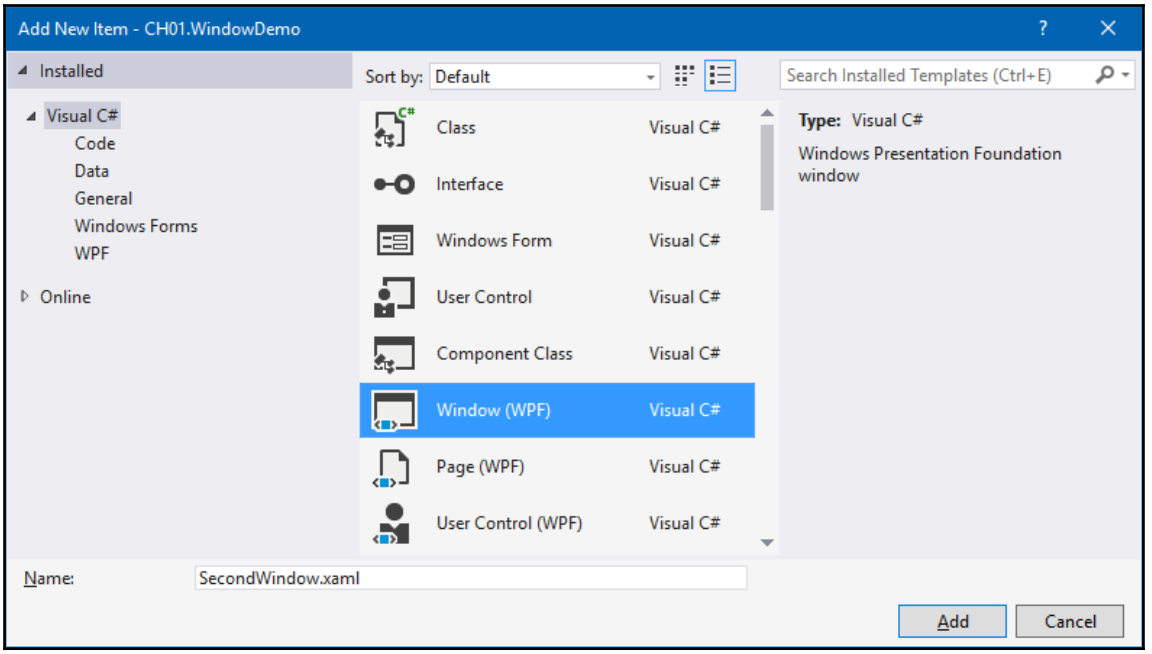

Microsoft Visual Studio
Quick Launch (Ctrl+Q)
File Edit View Project Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
New
Open
Start Page
Close Ctrl+W
Close Solution
Save Selected Items Ctrl+S
Save Selected Items As...
Save All Ctrl+Shift+S
Source Control
Page Setup...
Print... Ctrl+P
Account Settings...
Exit Alt+F4
Project... Ctrl+Shift+N
Web Site... Shift+Alt+N
File... Ctrl+N
Project From Existing Code...
Solution Explorer
Team Explorer
File | New | Project...

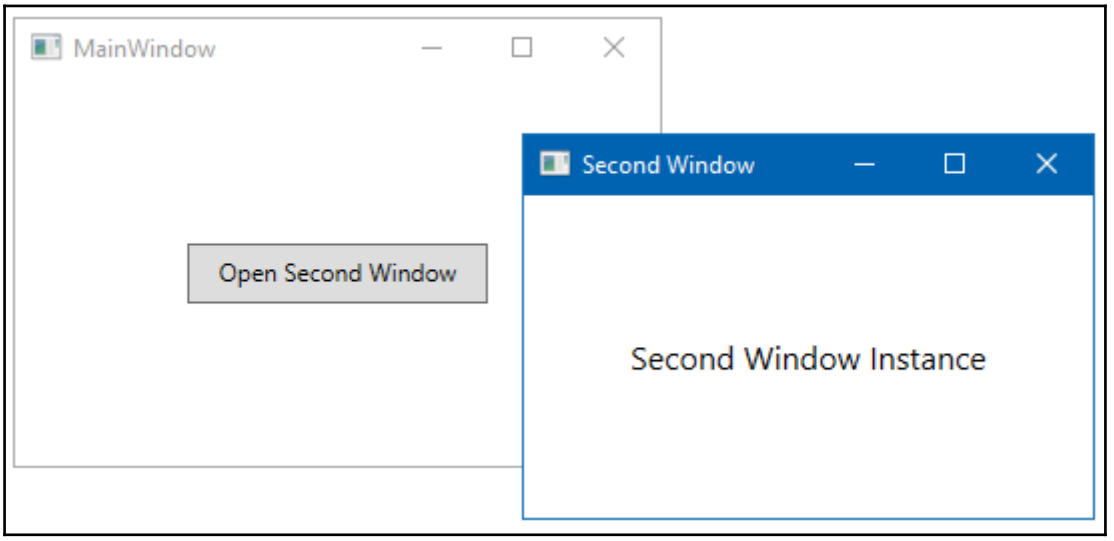

New Project
Recent
Installed
Templates
Visual C#
Windows Classic Desktop
.NET Standard
Test
Other Languages
Other Project Types
Not finding what you are looking for?
Open Visual Studio Installer
Online
.NET Framework 4.7
Sort by: Default
Search Installed Temp
WPF App (.NET Framework) Visual C#
Windows Forms App (.NET Fra... Visual C#
Console App (.NET Framework) Visual C#
Class Library (.NET Framework) Visual C#
Shared Project Visual C#
Windows Service (.NET Framew... Visual C#
Type: Visual C#
Windows Presentation Foundation client application
Name: CH01.HelloWPFDemo
Location: D:\Code\
Solution name: WPF Demos
Browse...
Create directory for solution
Add to Source Control
OK
Cancel

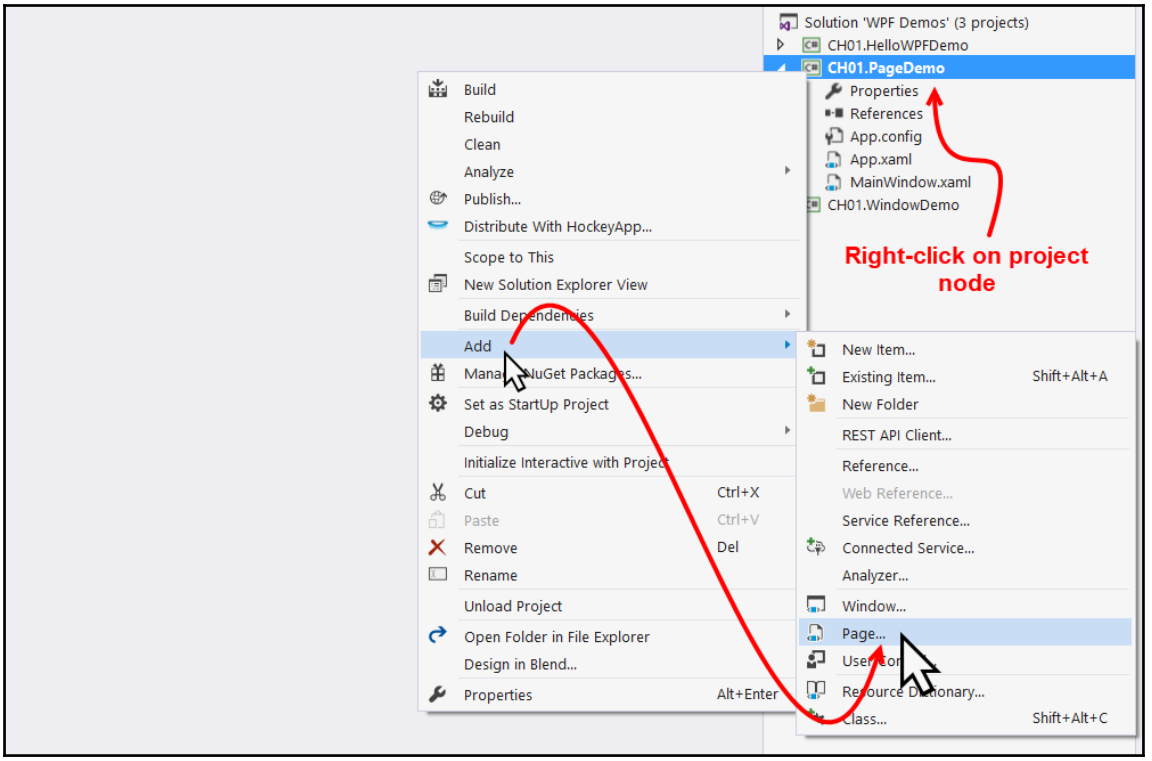

Quick Launch (Ctrl+Q)
Team
Tools
Test
Analyze
Window
Help
Kunal Chowdhury
Debug
Any CPU
Start
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos' (1 project)
CH01.HelloWPFDemo
Properties
References
App.config
App.xaml
App.xaml.cs
MainWindow.xaml
MainWindow.xaml.cs
Solution Explorer
Team Explorer
Properties

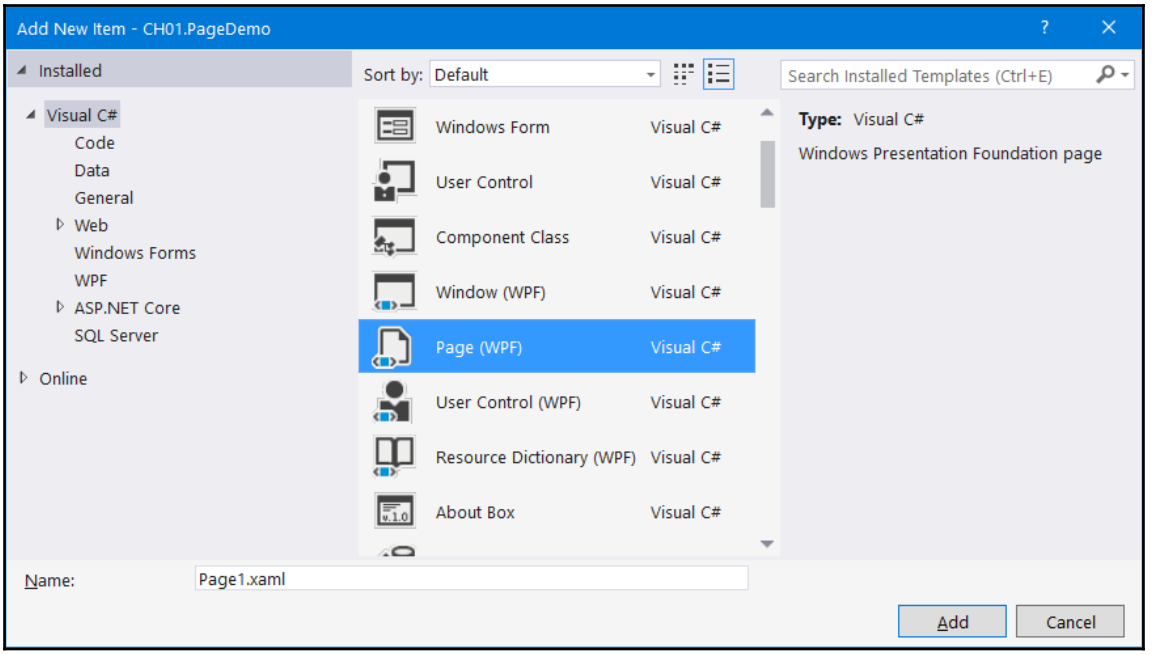

Minimize
Icon
Maximize
Title
Close
MainWindow
Restore
Move
Size
Minimize
Maximize
Close
Alt+F4
Border
Title bar
System menu
Client area

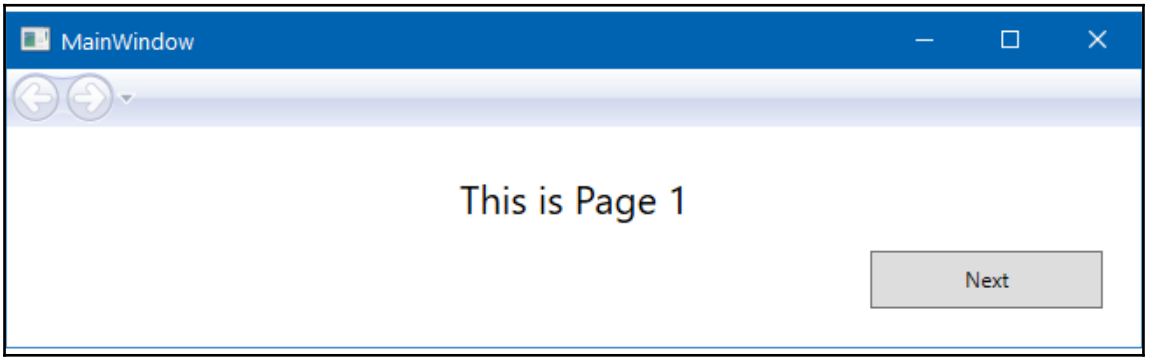

Right-click on project node
Solution 'WPF Demos' (2 projects)
CH01.HelloWPFDemo
CH01.WindowDemo
Properties
References
App.config
App.xaml
MainWindow.xaml
Build
Rebuild
Clean
Analyze
Publish...
Scope to This
New Solution Explorer View
Build Dependencies
Add
Manage NuGet Packages...
Set as StartUp Project
Debug
Initialize Interactive with Project
Source Control
Cut Ctrl+X
Paste Ctrl+V
Remove Del
Rename
Unload Project
Open Folder in File Explorer
Design in Blend...
Properties Alt+Enter
New Item...
Existing Item... Shift+Alt+A
New Folder
Reference...
Web Reference...
Service Reference...
Connected Service...
Analyzer...
Window...
Page...
User Control...
Resource Dictionary...
Class... Shift+Alt+C
Click on "Add | Window..." from the context menu
Team Explorer
Notifications
Add to Source Control

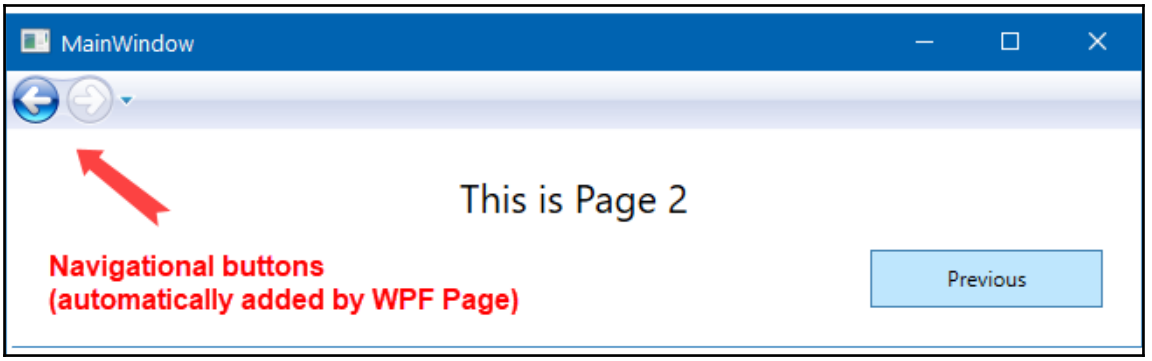

Add New Item - CH01.WindowDemo
Installed
Visual C#
Code
Data
General
Windows Forms
WPF
Online
Sort by: Default
Search Installed Templates (Ctrl+E)
Class Visual C#
Interface Visual C#
Windows Form Visual C#
User Control Visual C#
Component Class Visual C#
Window (WPF) Visual C#
Page (WPF) Visual C#
User Control (WPF) Visual C#
Type: Visual C#
Windows Presentation Foundation window
Name: SecondWindow.xaml
Add
Cancel

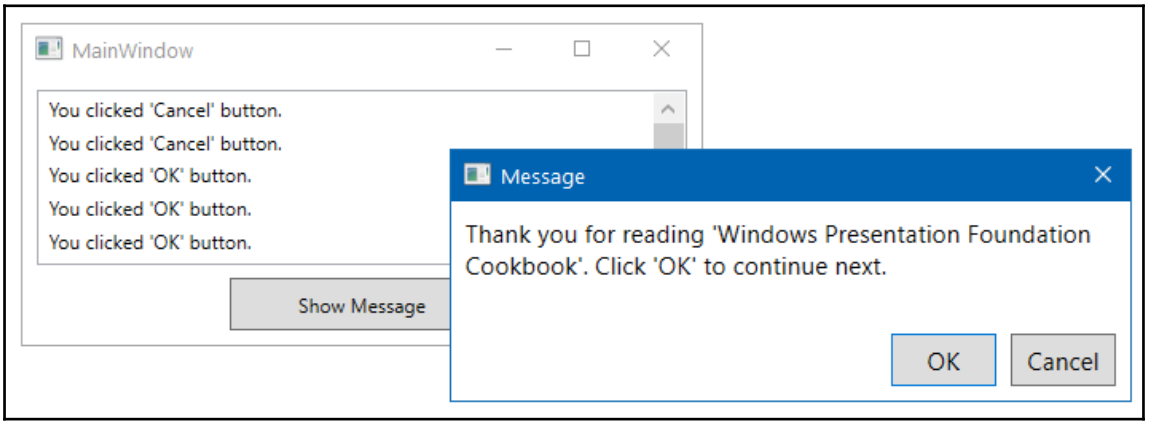

MainWindow
Open Second Window
Second Window
Second Window Instance

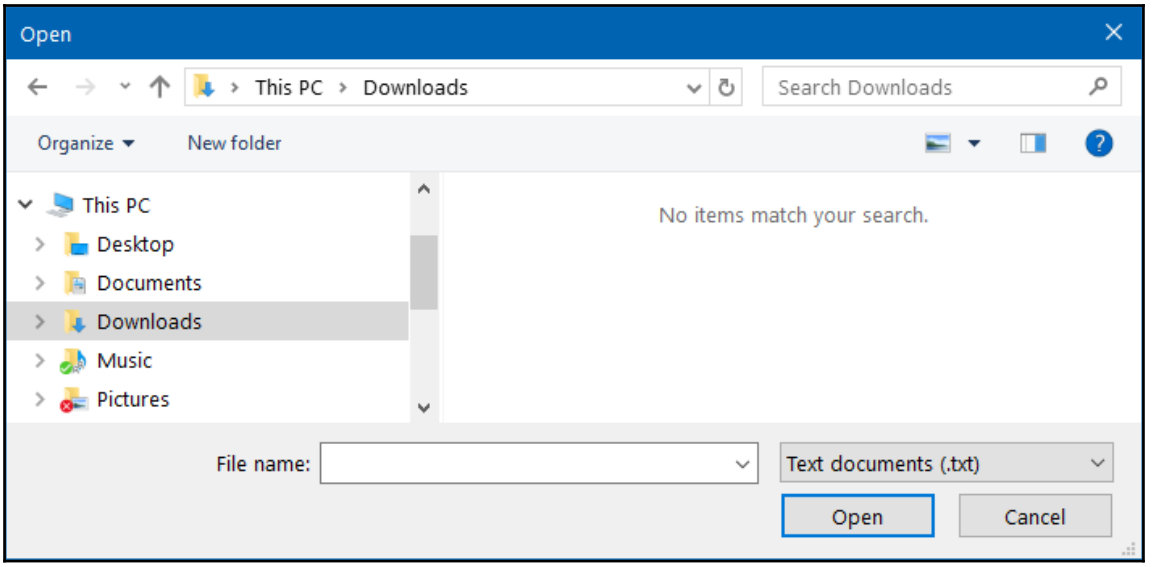

Solution 'WPF Demos' (3 projects)
CH01.HelloWPFDemo
CH01.PageDemo
Properties
References
App.config
App.xaml
MainWindow.xaml
CH01.WindowDemo
Right-click on project node
Build
Rebuild
Clean
Analyze
Publish...
Distribute With HockeyApp...
Scope to This
New Solution Explorer View
Build Dependencies
Add
Manage NuGet Packages...
Set as StartUp Project
Debug
Initialize Interactive with Project
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
REST API Client...
Reference...
Web Reference...
Service Reference...
Connected Service...
Analyzer...
Window...
Page...
User Control...
Resource Dictionary...
Class... Shift+Alt+C

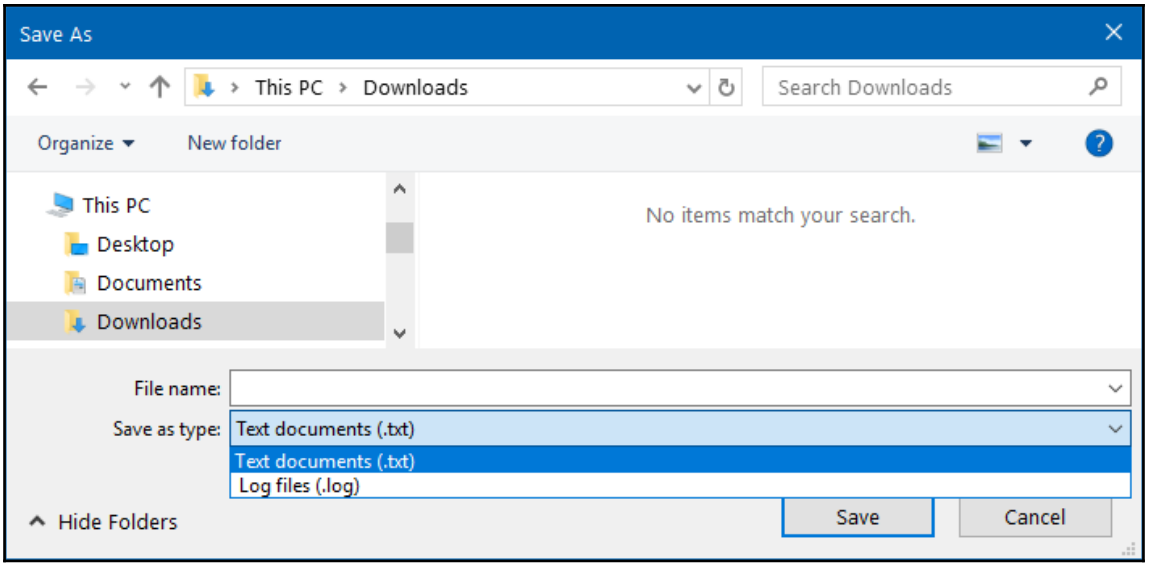

Add New Item - CH01.PageDemo
Installed
Visual C#
Code
Data
General
Web
Windows Forms
WPF
ASP.NET Core
SQL Server
Online
Sort by: Default
Search Installed Templates (Ctrl+E)
Windows Form Visual C#
User Control Visual C#
Component Class Visual C#
Window (WPF) Visual C#
Page (WPF) Visual C#
User Control (WPF) Visual C#
Resource Dictionary (WPF) Visual C#
About Box Visual C#
Type: Visual C#
Windows Presentation Foundation page
Name: Page1.xaml
Add
Cancel

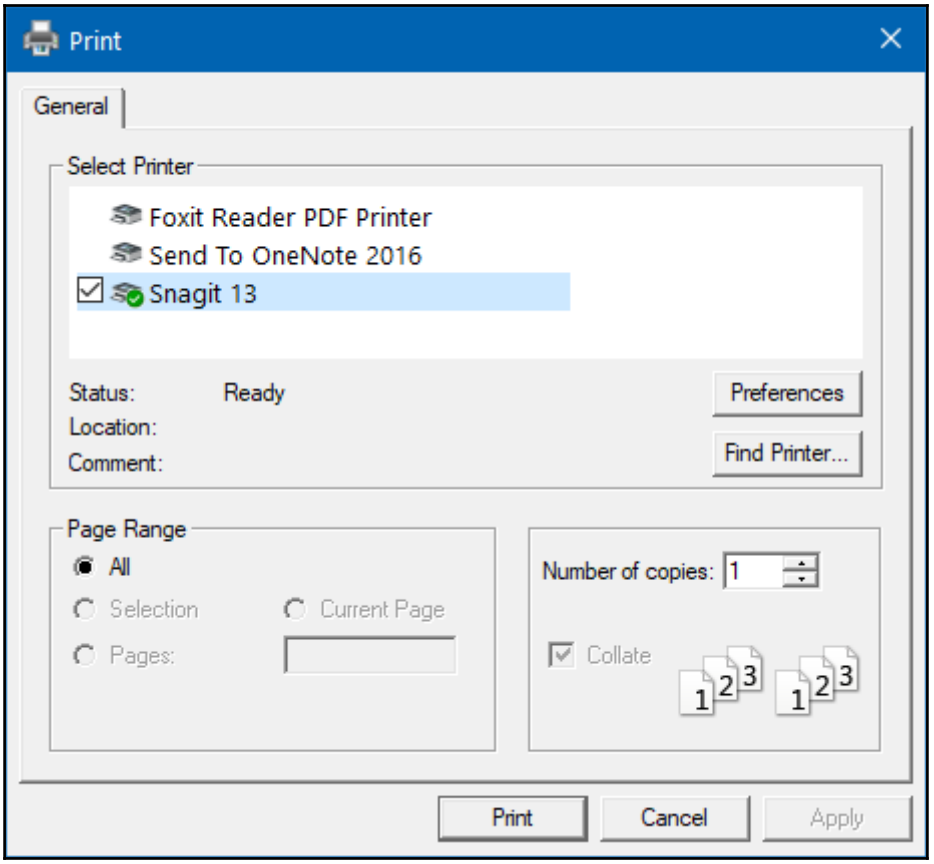

MainWindow
This is Page 1
Next

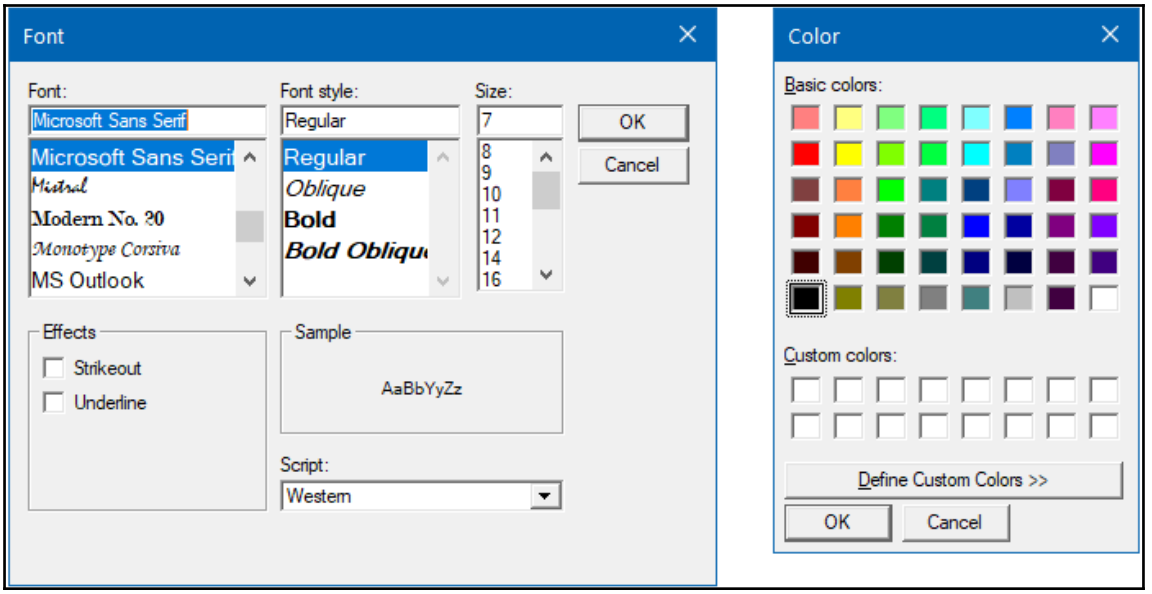

MainWindow
This is Page 2
Navigational buttons
(automatically added by WPF Page)
Previous

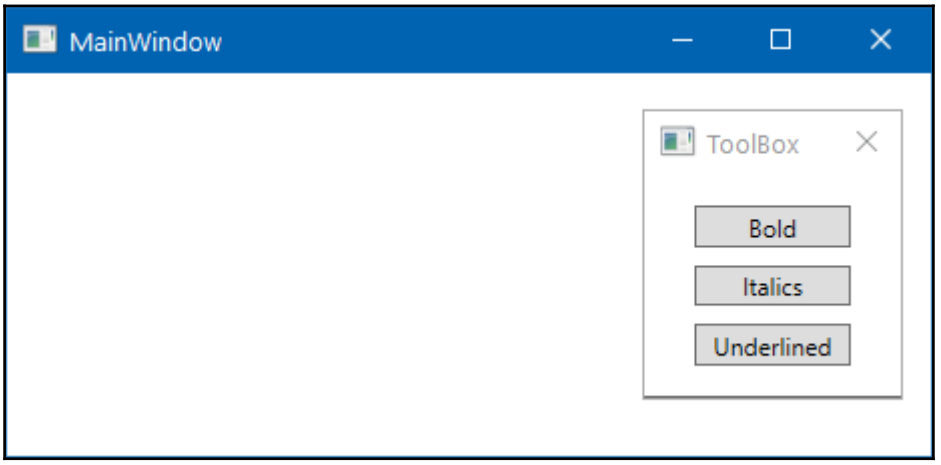

MainWindow
You clicked 'Cancel' button.
You clicked 'Cancel' button.
You clicked 'OK' button.
You clicked 'OK' button.
You clicked 'OK' button.
Show Message
Message
Thank you for reading 'Windows Presentation Foundation Cookbook'. Click 'OK' to continue next.
OK
Cancel


Open
This PC
Downloads
Search Downloads
Organize
New folder
This PC
Desktop
Documents
Downloads
Music
Pictures
No items match your search.
File name:
Text documents (.txt)
Open
Cancel


Save As
This PC
Downloads
Search Downloads
Organize
New folder
This PC
Desktop
Documents
Downloads
No items match your search.
File name:
Save as type:
Text documents (.txt)
Text documents (.txt)
Log files (.log)
Hide Folders
Save
Cancel


Print
General
Select Printer
Foxit Reader PDF Printer
Send To OneNote 2016
Snagit 13
Status: Ready
Location:
Comment:
Preferences
Find Printer...
Page Range
All
Selection
Current Page
Pages:
Number of copies: 1
Collate
1 2 3
1 2 3
Print
Cancel
Apply


Font
Font:
Microsoft Sans Serif
Microsoft Sans Seri
Mistral
Modern No. 20
Monotype Corsiva
MS Outlook
Font style:
Regular
Regular
Oblique
Bold
Bold Oblique
Size:
7
8
9
10
11
12
14
16
OK
Cancel
Effects
Strikeout
Underline
Sample
AaBbYyZz
Script:
Western
Color
Basic colors:
Custom colors:
Define Custom Colors >>
OK
Cancel


MainWindow
ToolBox
Bold
Italics
Underlined

```
0 references
protected override void OnStartup(StartupEventArgs e)
{
    base.OnStartup(e);

    var mainWindow = new MainWindow();
    // mainWindow.Show();

    var toolBox = new ToolBox { Owner = mainWindow };
    toolBox.Show();
}
```

Exception Unhandled

System.InvalidOperationException: 'Cannot set Owner property to a Window that has not been shown previously.'

View Details | Copy Details

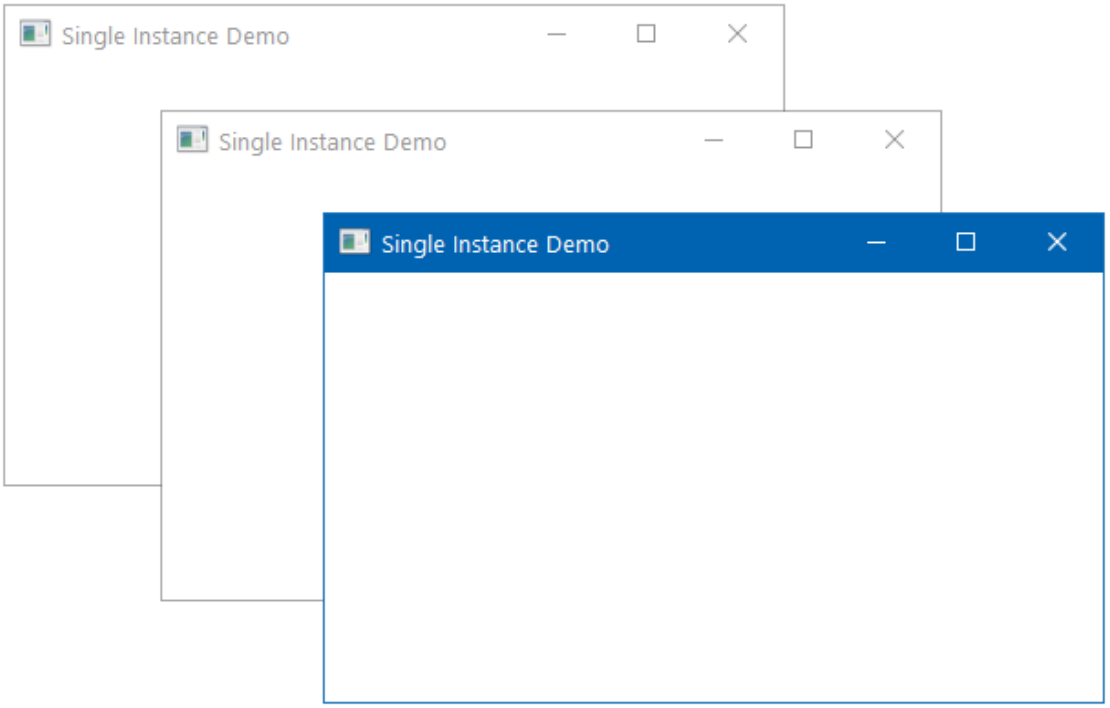
Exception Settings

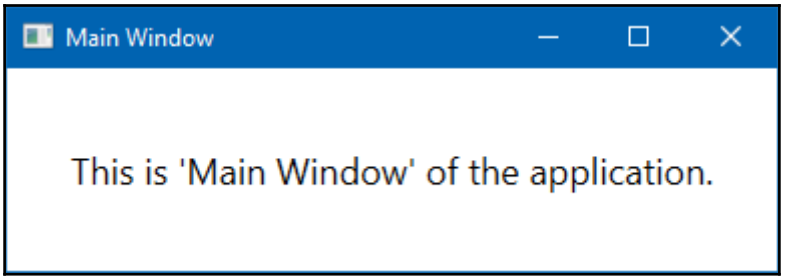
Break when this exception type is thrown

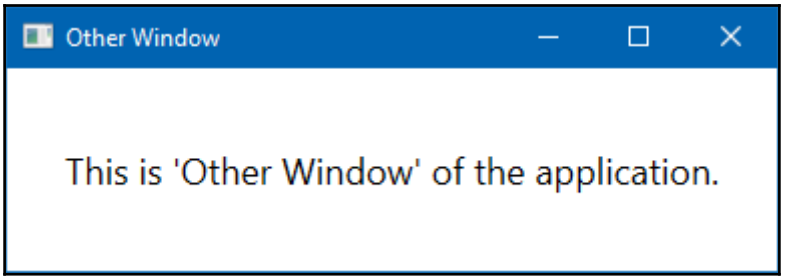
Except when thrown from:

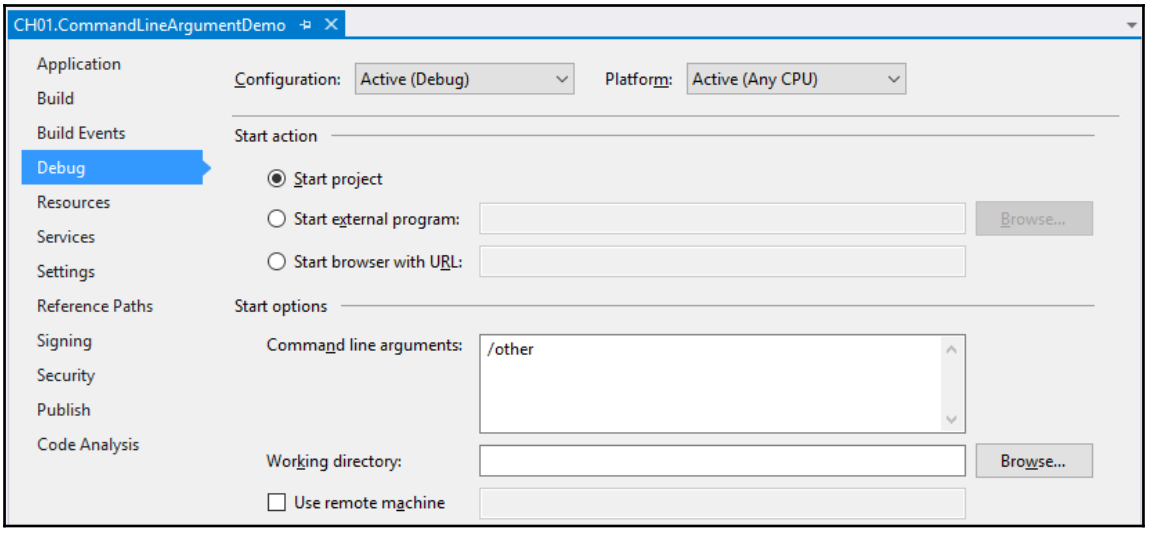
PresentationFramework.dll

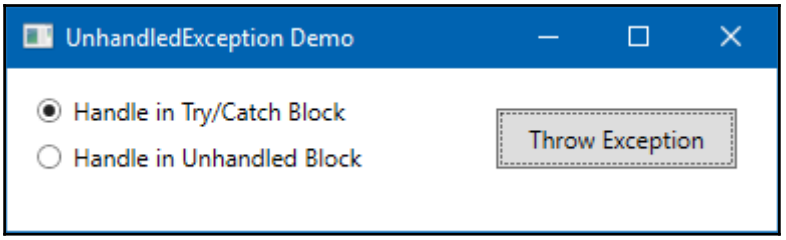
Open Exception Settings | Edit Conditions

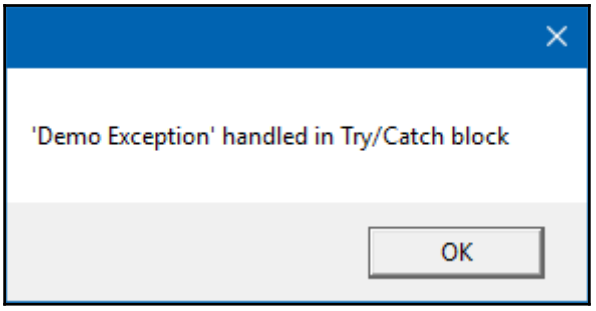


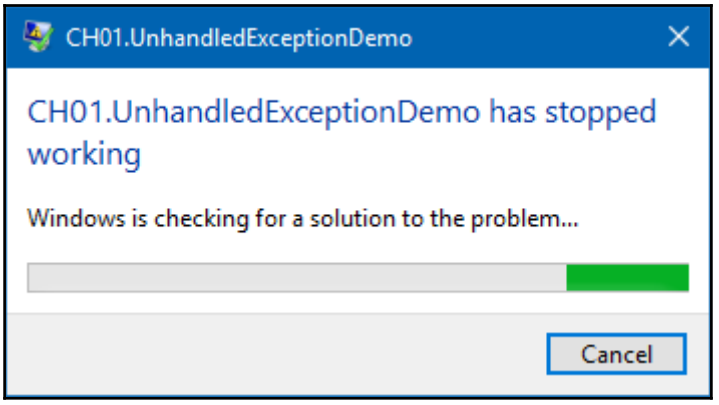

Main Window
This is 'Main Window' of the application.


Other Window
This is 'Other Window' of the application.

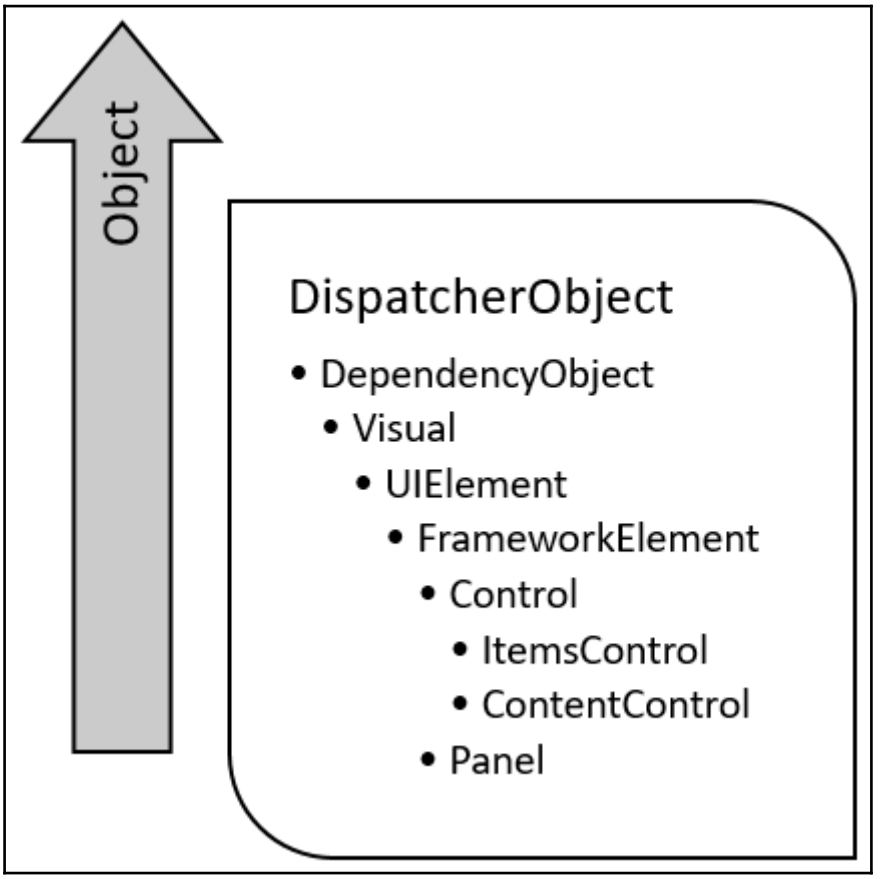

CH01.CommandLineArgumentDemo
Application
Build
Build Events
Debug
Resources
Services
Settings
Reference Paths
Signing
Security
Publish
Code Analysis
Configuration: Active (Debug)
Platform: Active (Any CPU)
Start action
Start project
Start external program:
Browse...
Start browser with URL:
Start options
Command line arguments:
/other
Working directory:
Browse...
Use remote machine

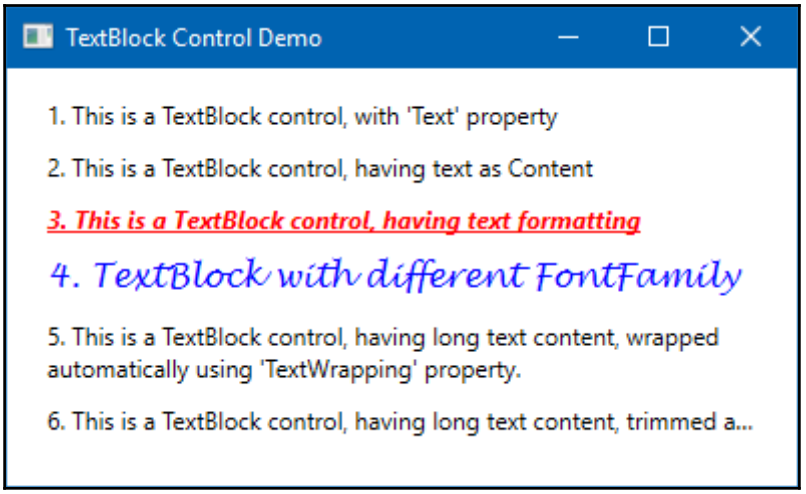

UnhandledException Demo
Handle in Try/Catch Block
Handle in Unhandled Block
Throw Exception

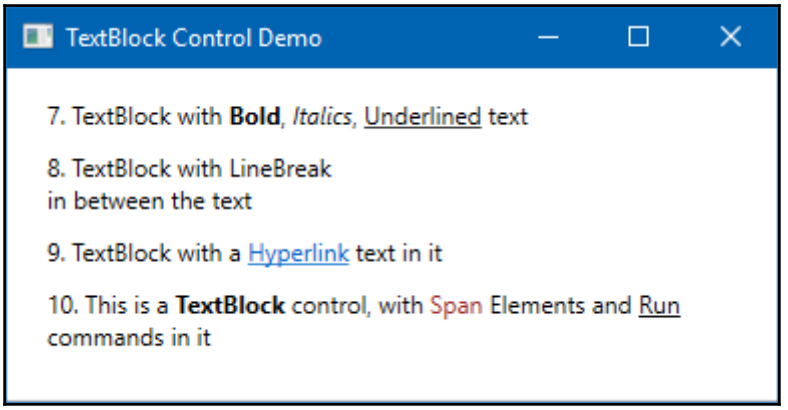

'Demo Exception' handled in Try/Catch block
OK

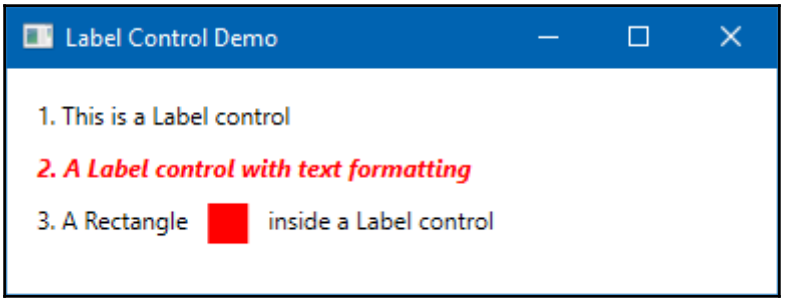

CH01.UnhandledExceptionDemo
CH01.UnhandledExceptionDemo has stopped working
Windows is checking for a solution to the problem...
Cancel

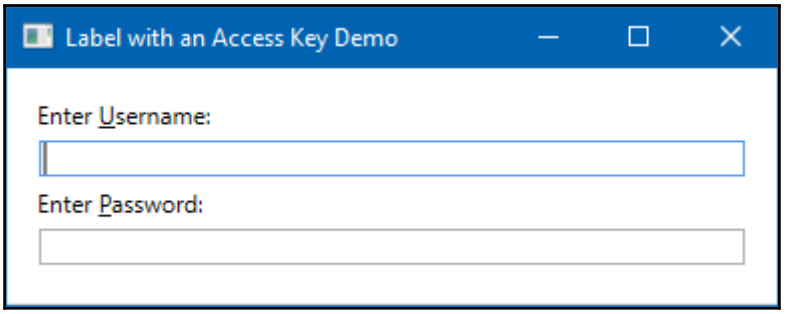
Chapter 2: Using WPF Standard Controls

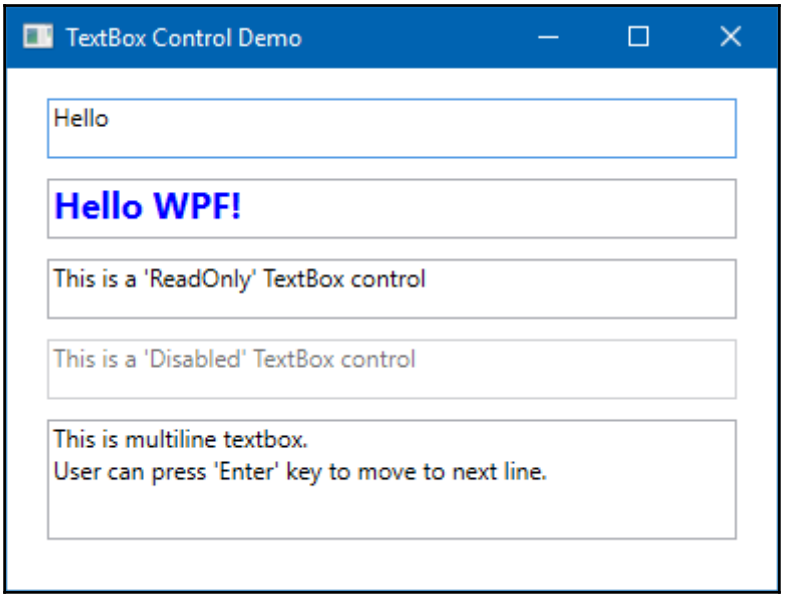


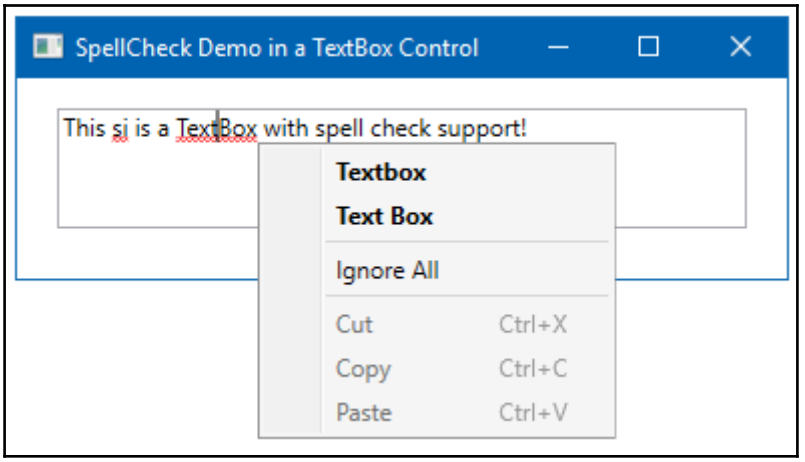

TextBlock Control Demo
1. This is a TextBlock control, with 'Text' property
2. This is a TextBlock control, having text as Content
3. This is a TextBlock control, having text formatting
4. TextBlock with different FontFamily
5. This is a TextBlock control, having long text content, wrapped automatically using 'TextWrapping' property.
6. This is a TextBlock control, having long text content, trimmed a...


TextBlock Control Demo
7. TextBlock with Bold, Italics, Underlined text
8. TextBlock with LineBreak
in between the text
9. TextBlock with a Hyperlink text in it
10. This is a TextBlock control, with Span Elements and Run commands in it


Label Control Demo
1. This is a Label control
2. A Label control with text formatting
3. A Rectangle
inside a Label control


Label with an Access Key Demo
Enter Username:
Enter Password:


TextBox Control Demo
Hello
Hello WPF!
This is a 'ReadOnly' TextBox control
This is a 'Disabled' TextBox control
This is multiline textbox.
User can press 'Enter' key to move to next line.


SpellCheck Demo in a TextBox Control
This si is a TextBox with spell check support!
Textbox
Text Box
Ignore All
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V

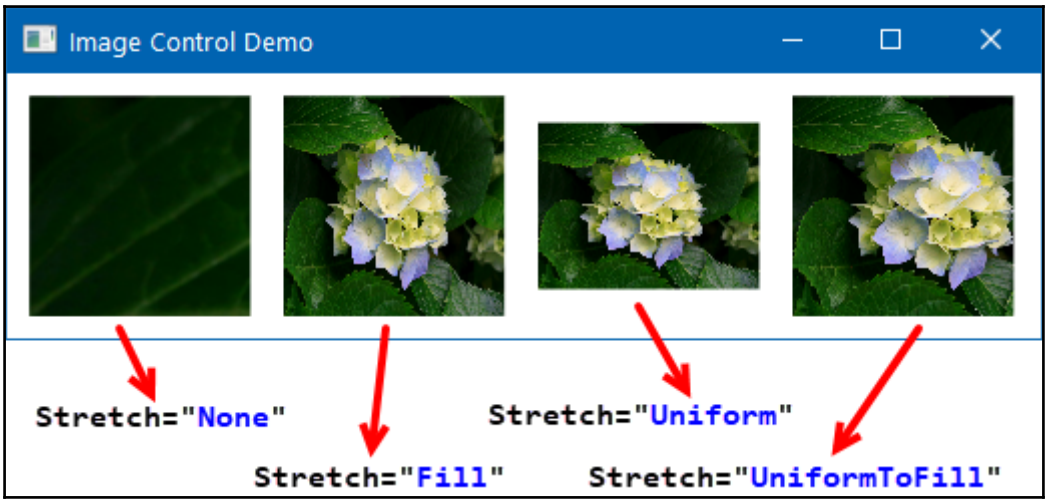
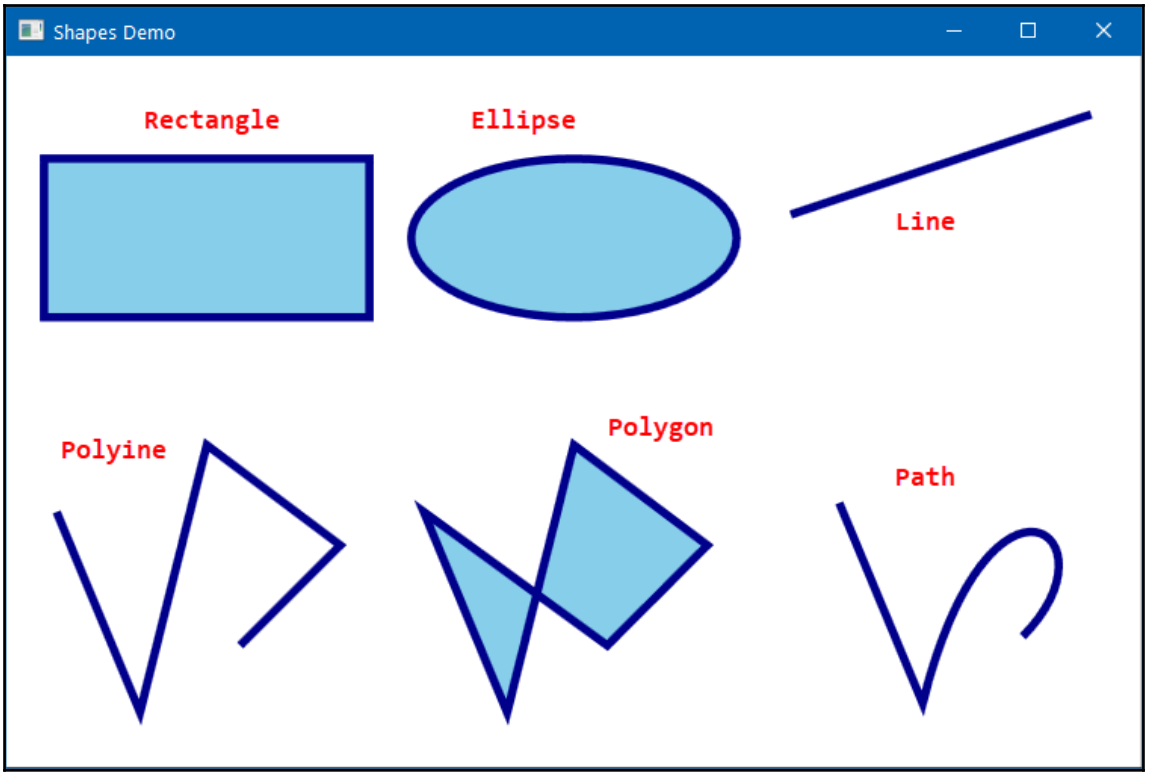
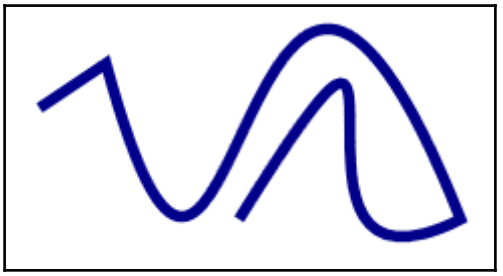
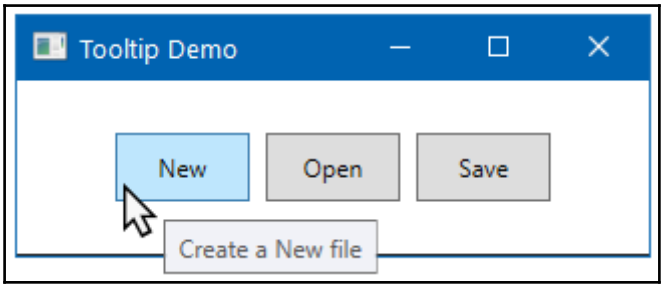
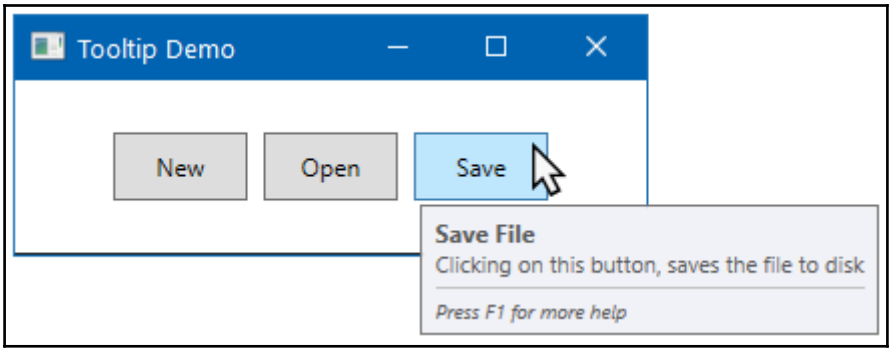


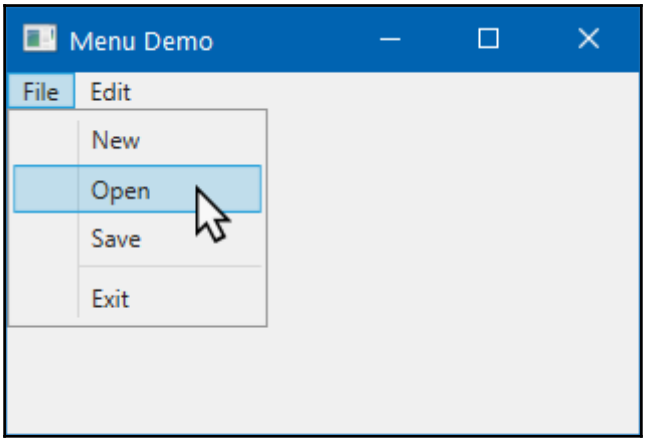
Image Control Demo
Stretch="None"
Stretch="Fill"
Stretch="Uniform"
Stretch="UniformToFill"


Shapes Demo
Rectangle
Ellipse
Line
Polyine
Polygon
Path

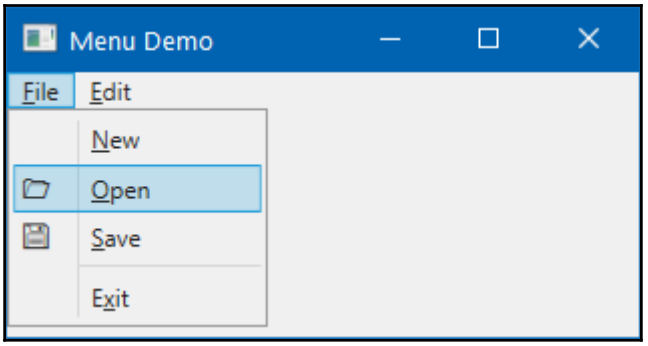


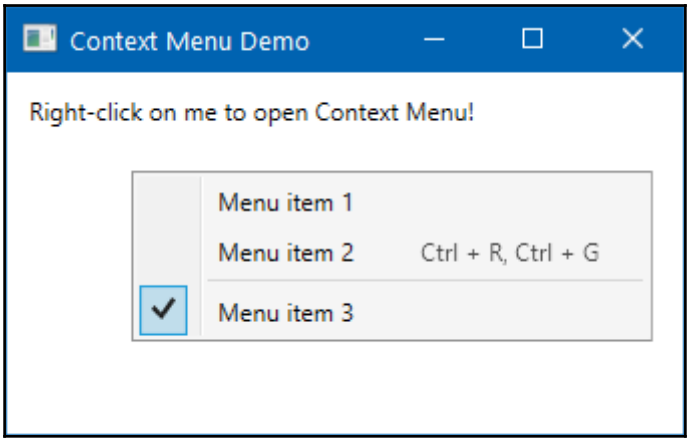

Tooltip Demo
New
Open
Save
Create a New file

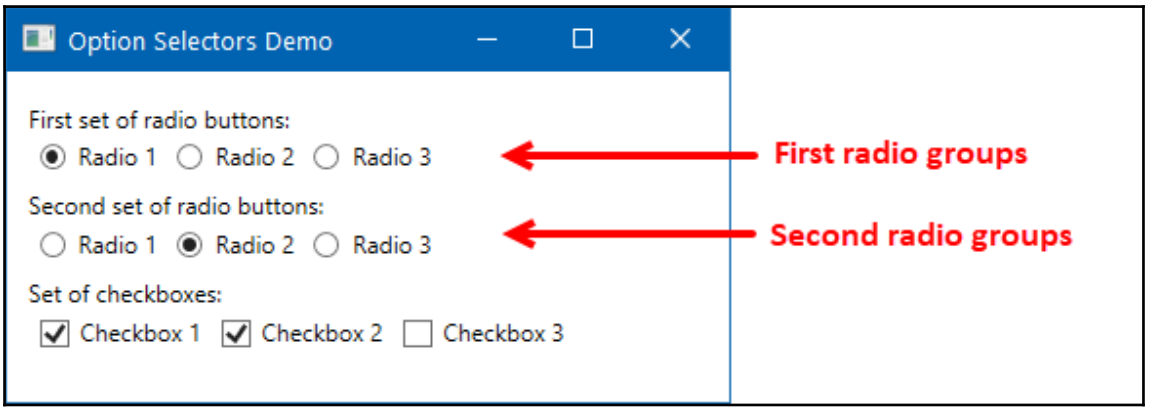


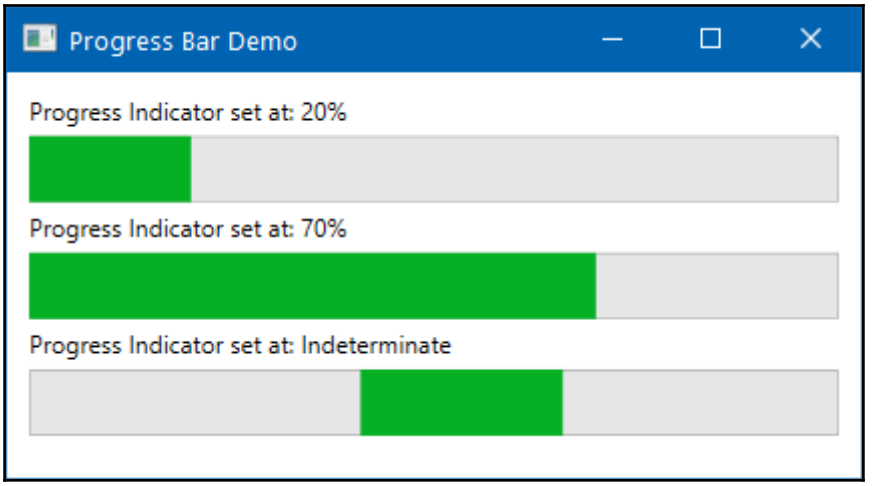


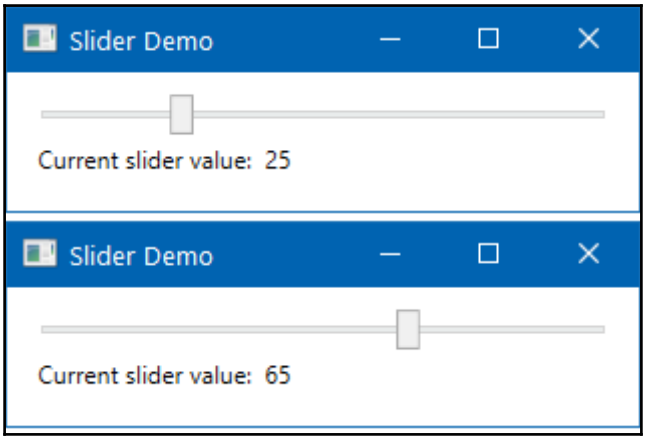

```
<MenuItem Header="_Open" Icon="&#x1F4C2;" />
<MenuItem Header="_Save" Icon="&#x1F4BE;" />
```

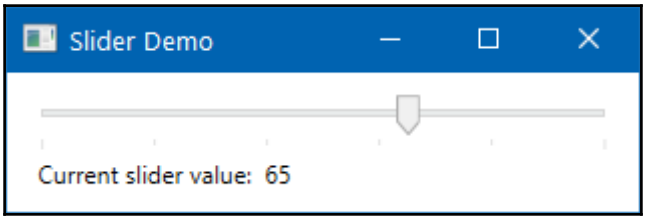

Menu Demo
File
Edit
New
Open
Save
Exit

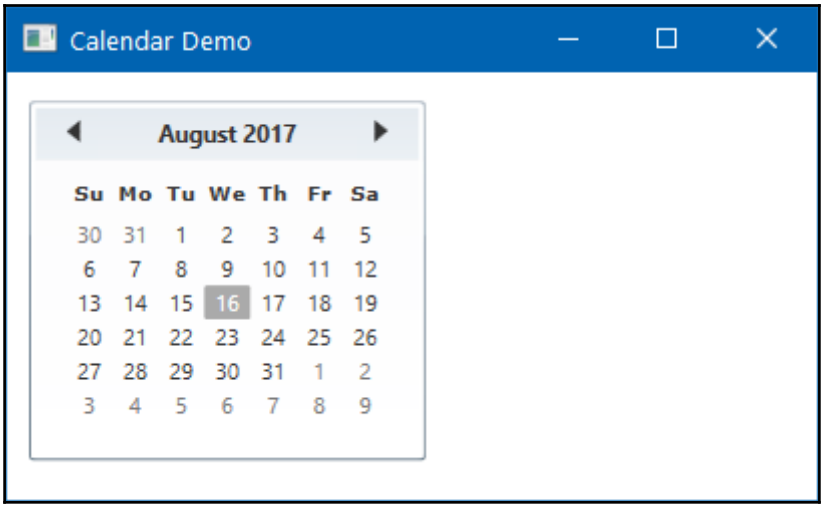

Context Menu Demo
Right-click on me to open Context Menu!
Menu item 1
Menu item 2
Ctrl + R, Ctrl + G
Menu item 3

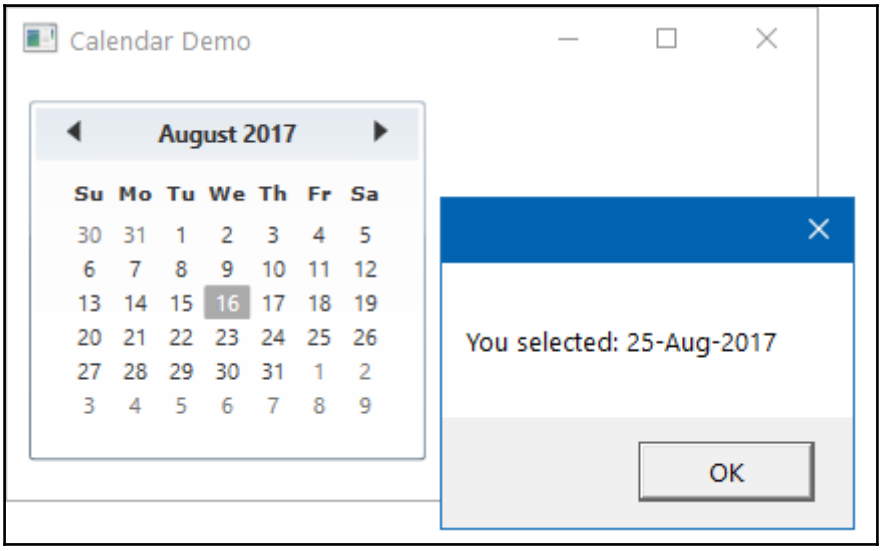

Option Selectors Demo
First set of radio buttons:
Radio 1
Radio 2
Radio 3
First radio groups
Second set of radio buttons:
Radio 1
Radio 2
Radio 3
Second radio groups
Set of checkboxes:
Checkbox 1
Checkbox 2
Checkbox 3

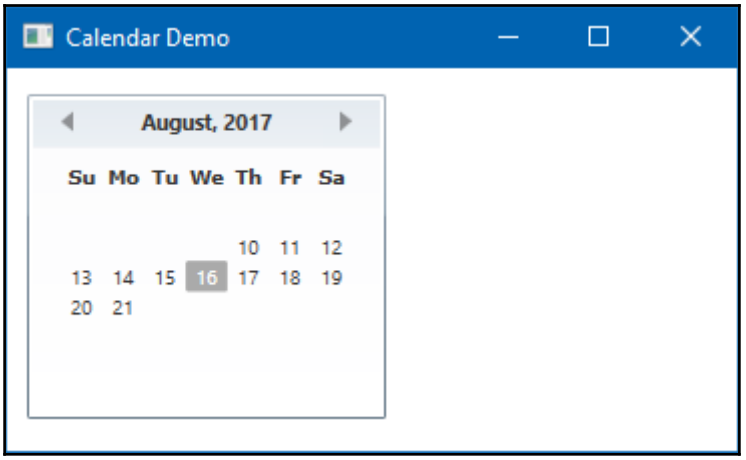

Progress Bar Demo
Progress Indicator set at: 20%
Progress Indicator set at: 70%
Progress Indicator set at: Indeterminate


Slider Demo
Current slider value: 25
Slider Demo
Current slider value: 65

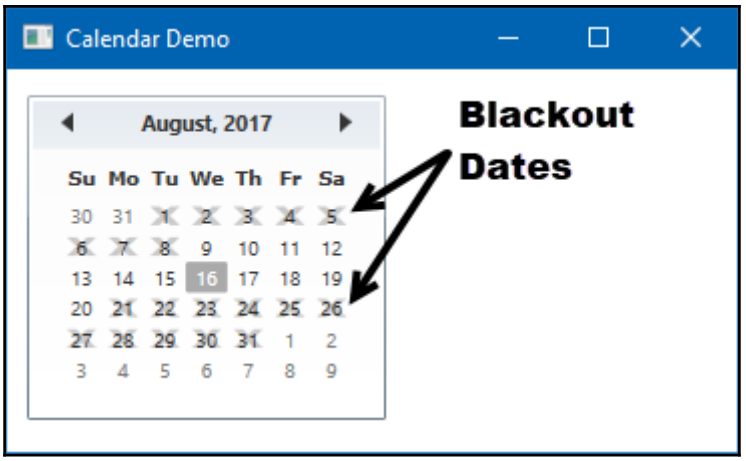

Slider Demo
Current slider value: 65

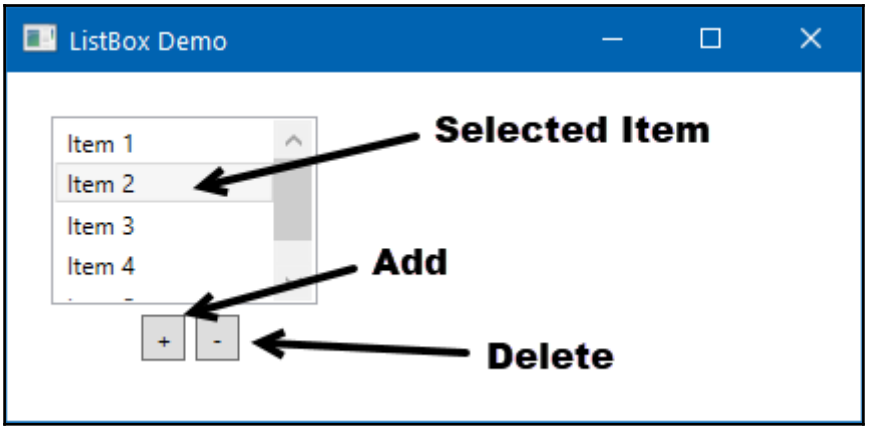

Calendar Demo
August 2017
Su Mo Tu We Th Fr Sa
30 31 1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31 1 2
3 4 5 6 7 8 9

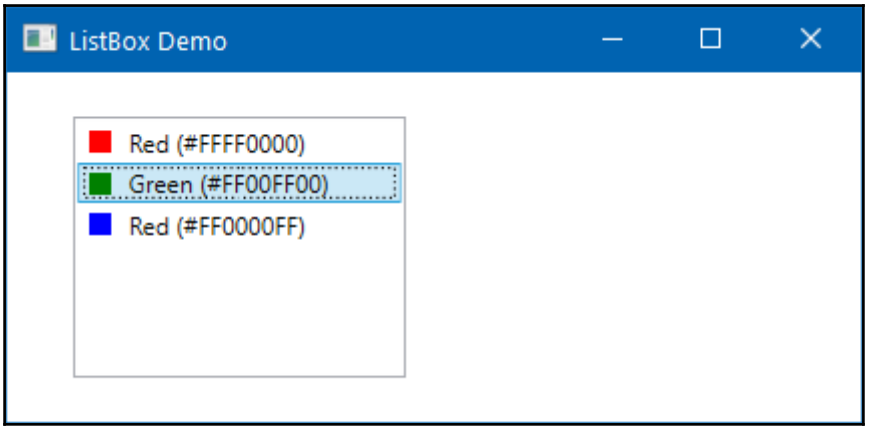

Calendar Demo
August 2017
Su Mo Tu We Th Fr Sa
30 31 1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31 1 2
3 4 5 6 7 8 9
You selected: 25-Aug-2017
OK

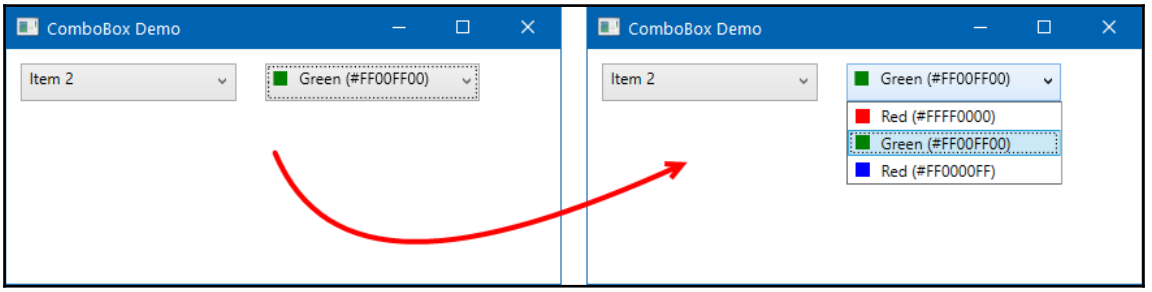

Calendar Demo
August, 2017
Su Mo Tu We Th Fr Sa
10 11 12
13 14 15 16 17 18 19
20 21

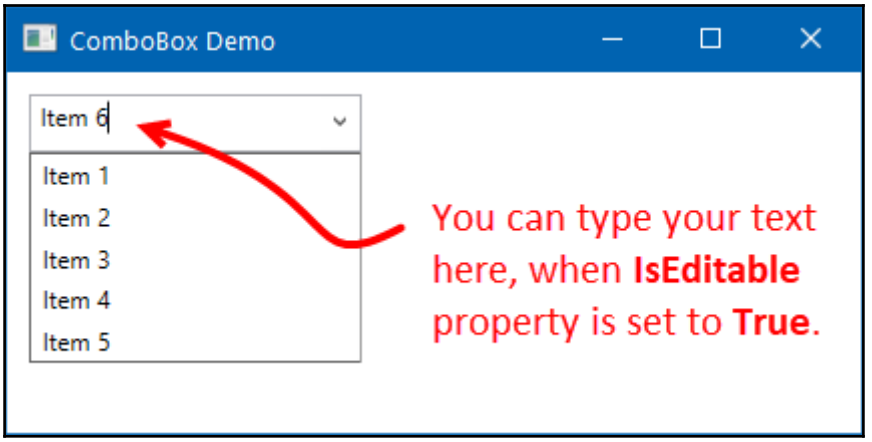
August, 2017
Su Mo Tu We Th Fr Sa
30 31 1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31 1 2
3 4 5 6 7 8 9
Month
2017
Jan Feb Mar Apr
May Jun Jul Aug
Sep Oct Nov Dec
Year
2010-2019
2009 2010 2011 2012
2013 2014 2015 2016
2017 2018 2019 2020
Decade


Calendar Demo
August, 2017
Su Mo Tu We Th Fr Sa
30 31 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 7 8 9
Blackout
Dates

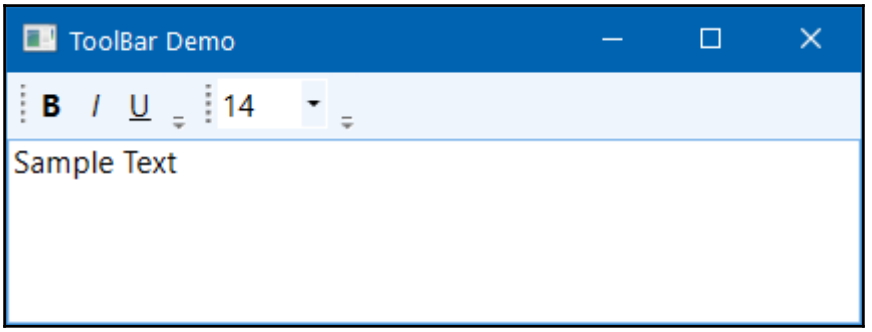

ListBox Demo
Item 1
Item 2
Item 3
Item 4
Selected Item
Add
+
-
Delete

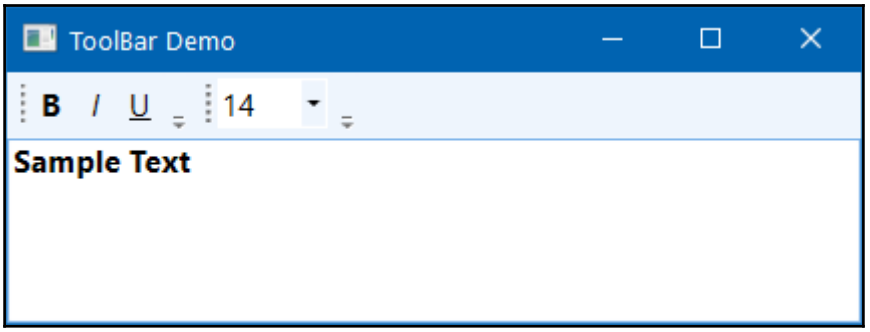

ListBox Demo
Red (#FFFF0000)
Green (#FF00FF00)
Red (#FF0000FF)


ComboBox Demo
Item 2
Green (#FF00FF00)
ComboBox Demo
Item 2
Green (#FF00FF00)
Red (#FFFF0000)
Green (#FF00FF00)
Red (#FF0000FF)

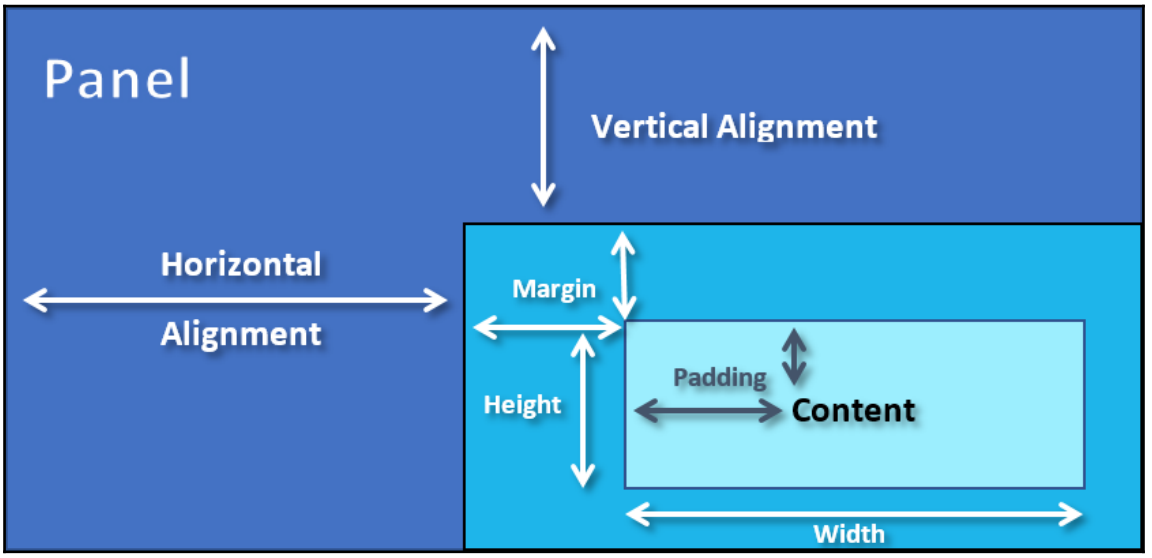

ComboBox Demo
Item 6
Item 1
Item 2
Item 3
Item 4
Item 5
You can type your text here, when **IsEditable** property is set to **True**.

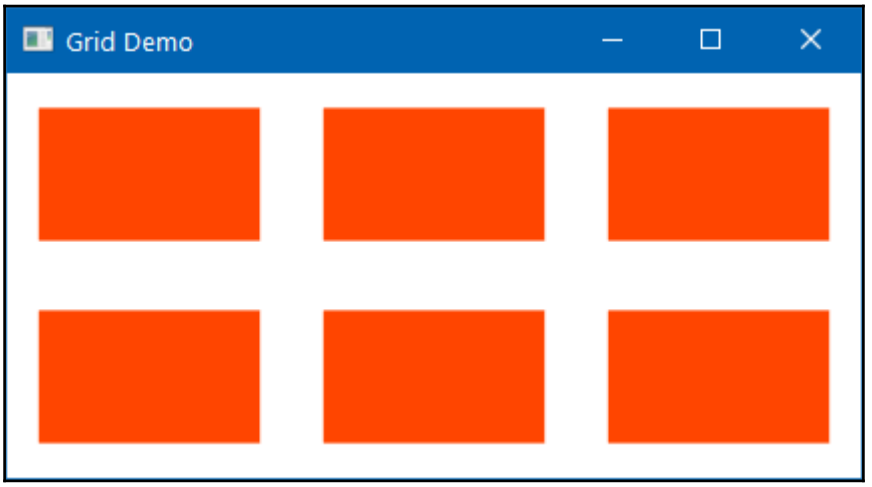
Status bar Demo
Status Bar, having a *TextBlock* and a *ProgressBar* control
Running Process...

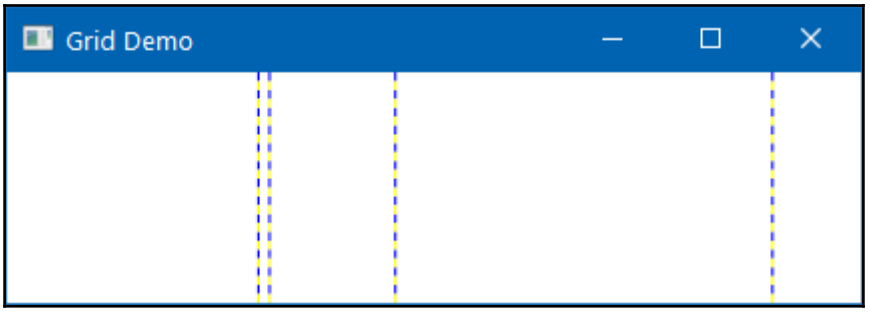

ToolBar Demo
B
I
U
14
Sample Text

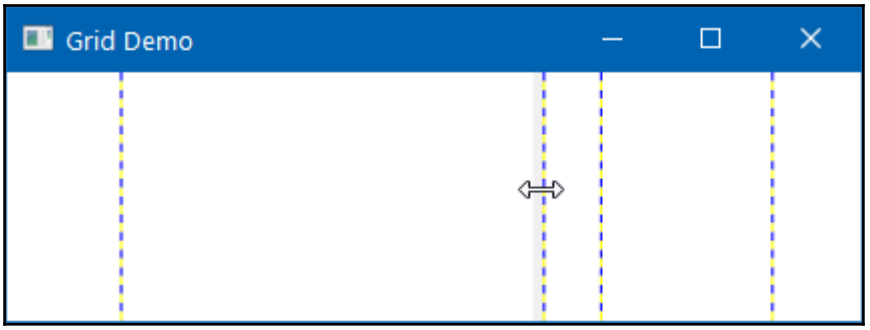

ToolBar Demo
B
I
U
14
Sample Text

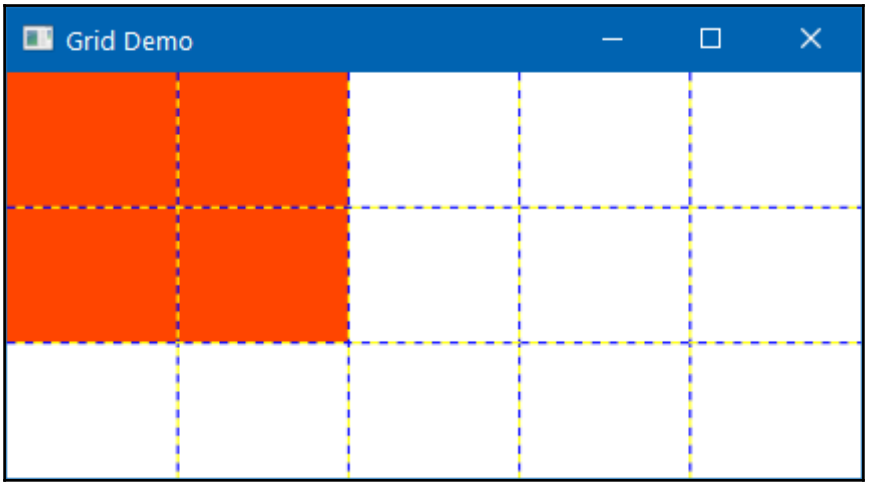
Chapter 3: Layouts and Panels

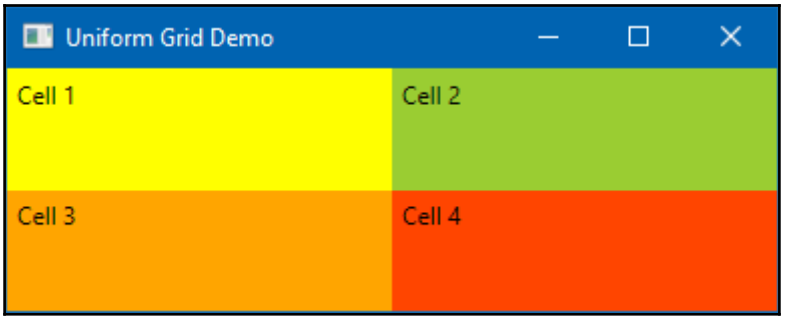


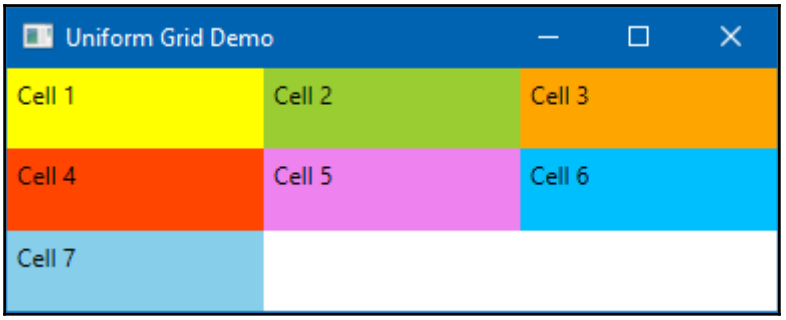


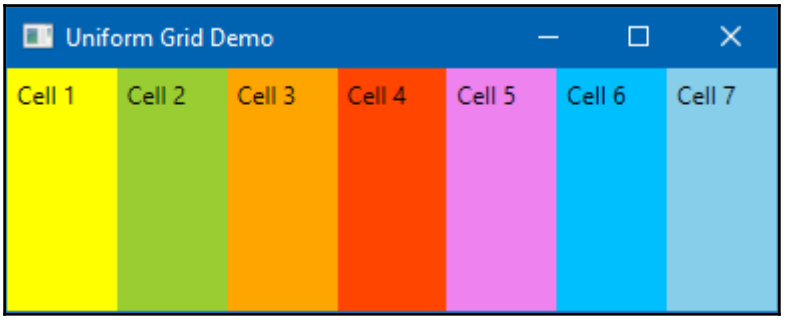

Grid Demo

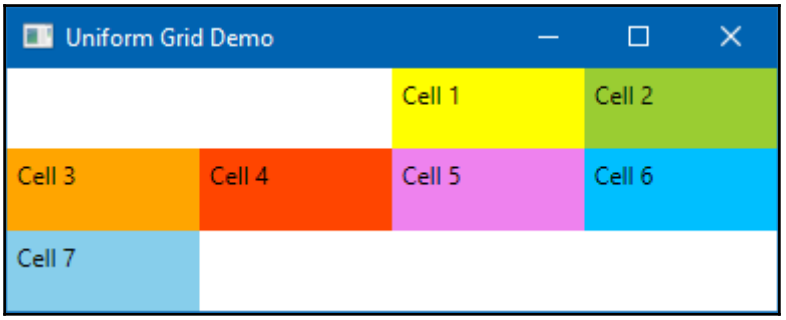

Grid Demo

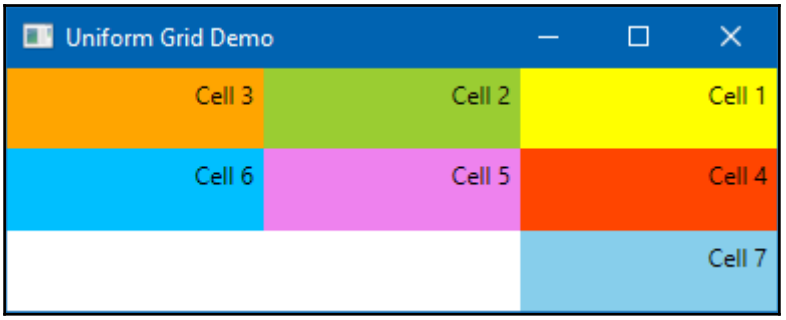

Grid Demo

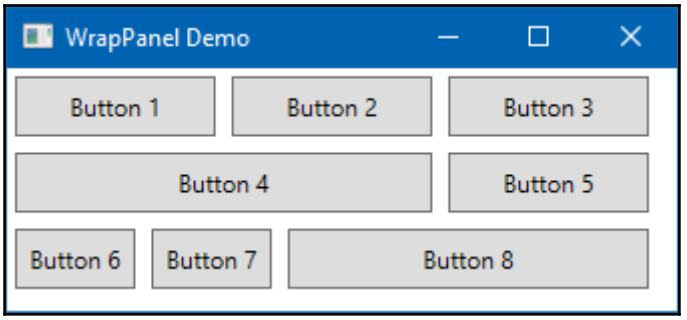

Uniform Grid Demo
Cell 1
Cell 2
Cell 3
Cell 4

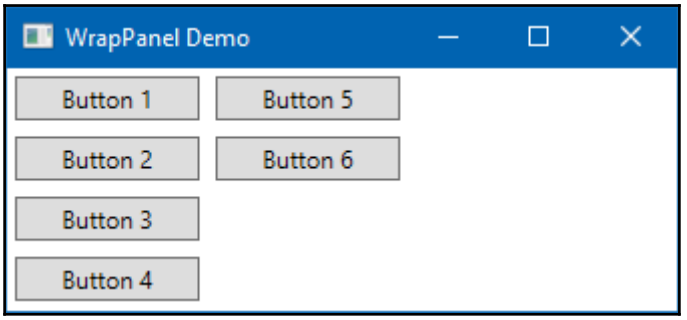

Uniform Grid Demo
Cell 1
Cell 2
Cell 3
Cell 4
Cell 5
Cell 6
Cell 7

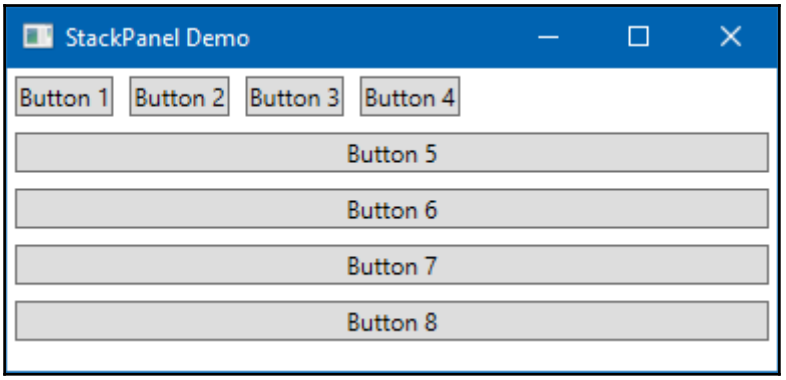

Uniform Grid Demo
Cell 1
Cell 2
Cell 3
Cell 4
Cell 5
Cell 6
Cell 7

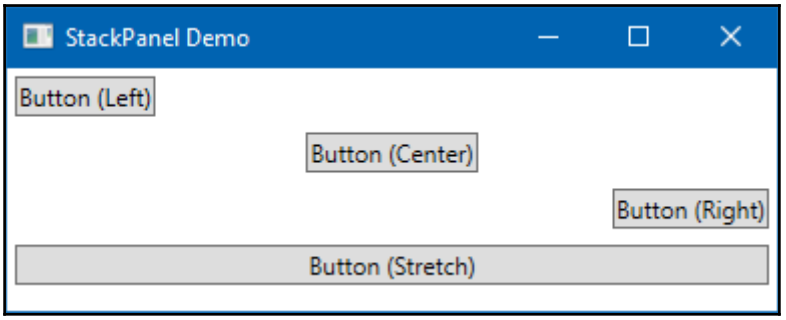

Uniform Grid Demo
Cell 1
Cell 2
Cell 3
Cell 4
Cell 5
Cell 6
Cell 7

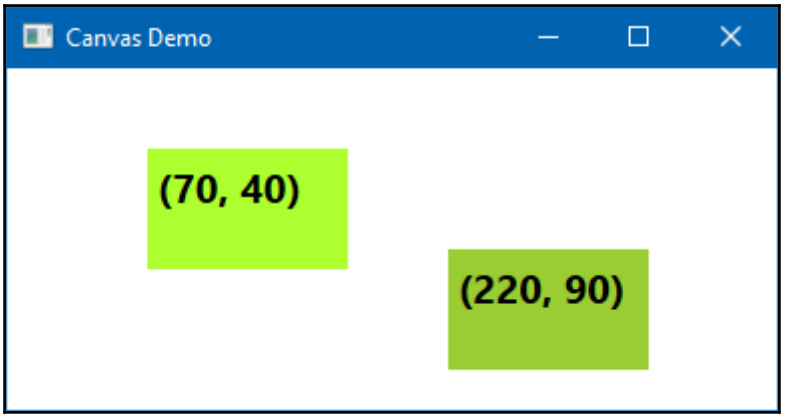

Uniform Grid Demo
Cell 3
Cell 2
Cell 1
Cell 6
Cell 5
Cell 4
Cell 7

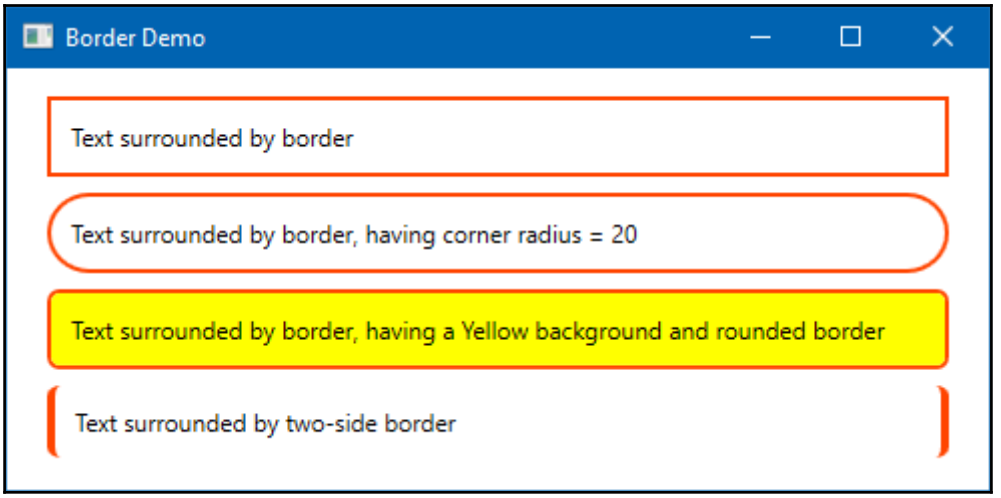

WrapPanel Demo
Button 1
Button 2
Button 3
Button 4
Button 5
Button 6
Button 7
Button 8

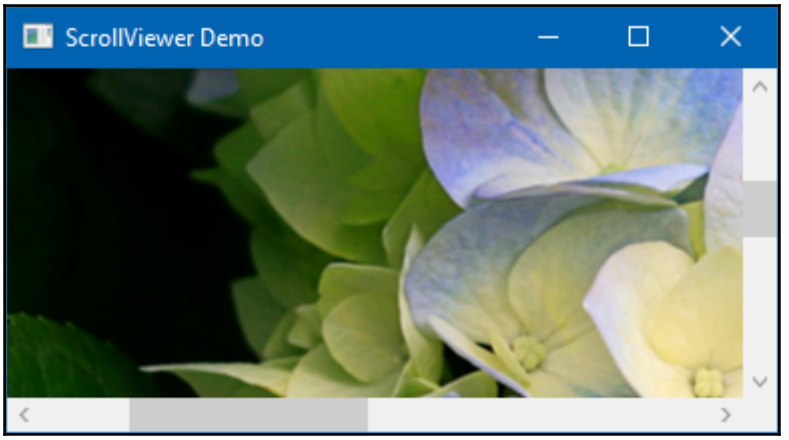

WrapPanel Demo
Button 1
Button 5
Button 2
Button 6
Button 3
Button 4

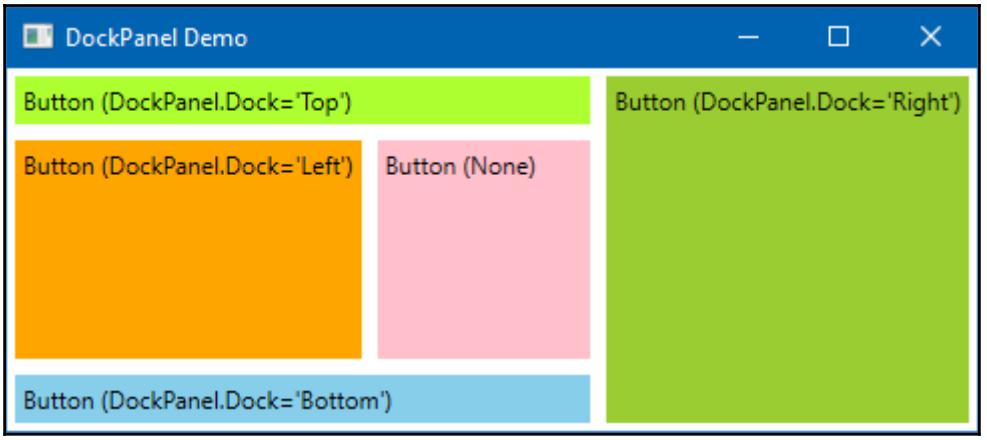

StackPanel Demo
Button 1
Button 2
Button 3
Button 4
Button 5
Button 6
Button 7
Button 8

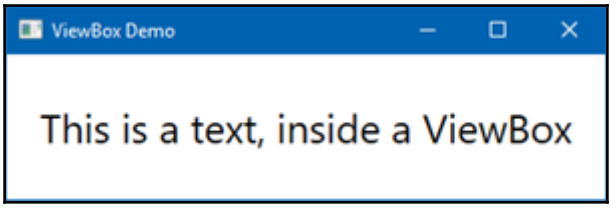

StackPanel Demo
Button (Left)
Button (Center)
Button (Right)
Button (Stretch)

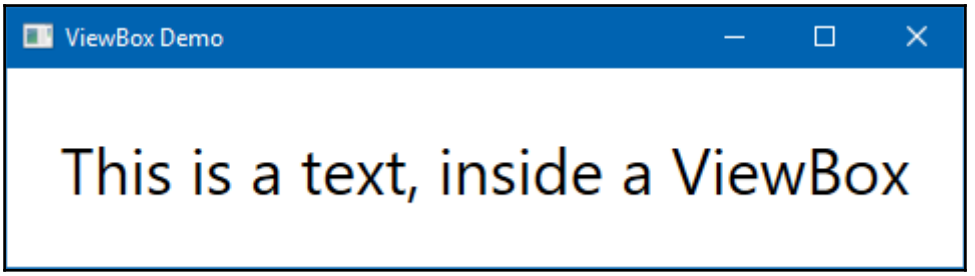

Canvas Demo
(70, 40)
(220, 90)

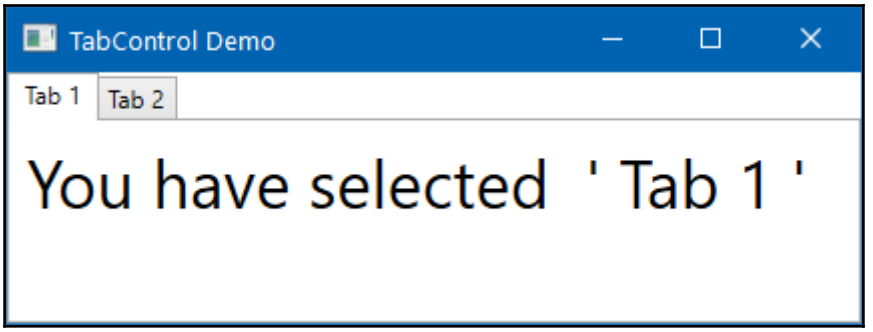

Border Demo
Text surrounded by border
Text surrounded by border, having corner radius = 20
Text surrounded by border, having a Yellow background and rounded border
Text surrounded by two-side border

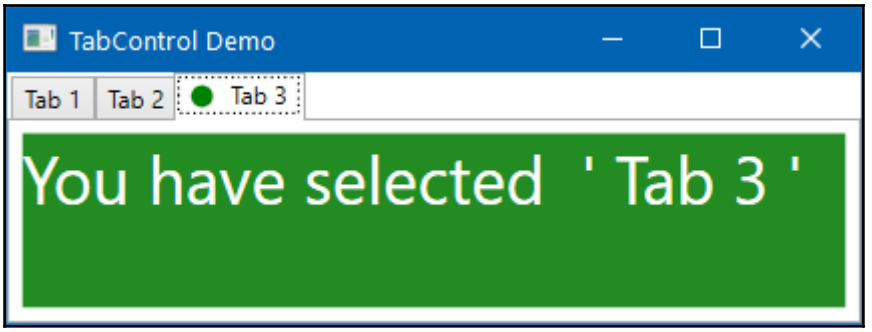

ScrollViewer Demo

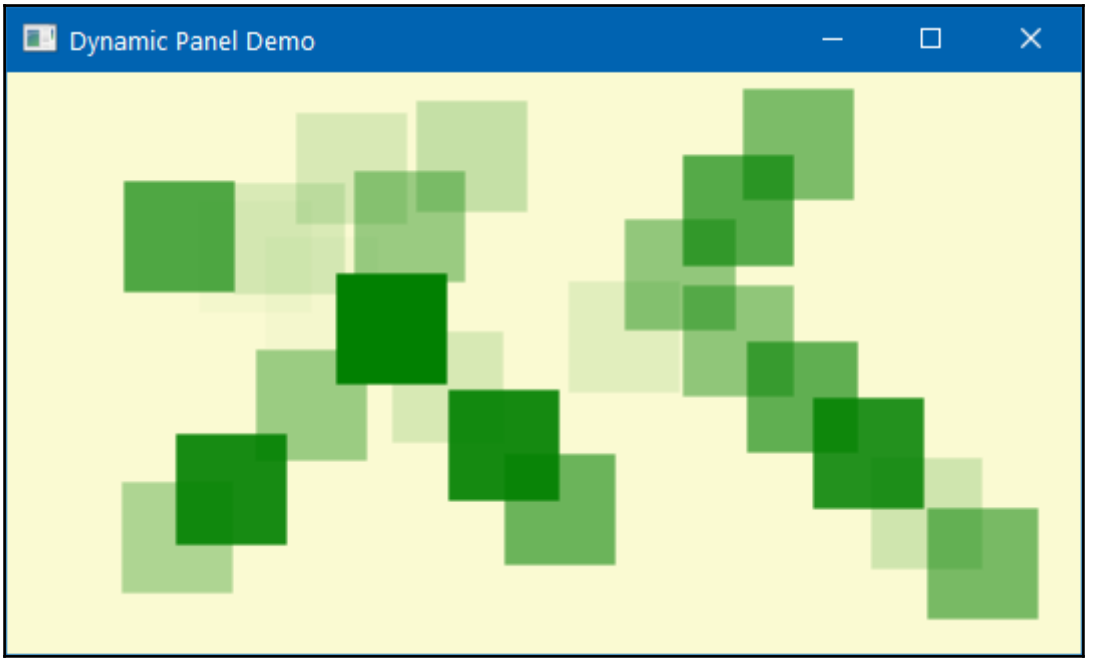

DockPanel Demo
Button (DockPanel.Dock='Top')
Button (DockPanel.Dock='Left')
Button (None)
Button (DockPanel.Dock='Right')
Button (DockPanel.Dock='Bottom')

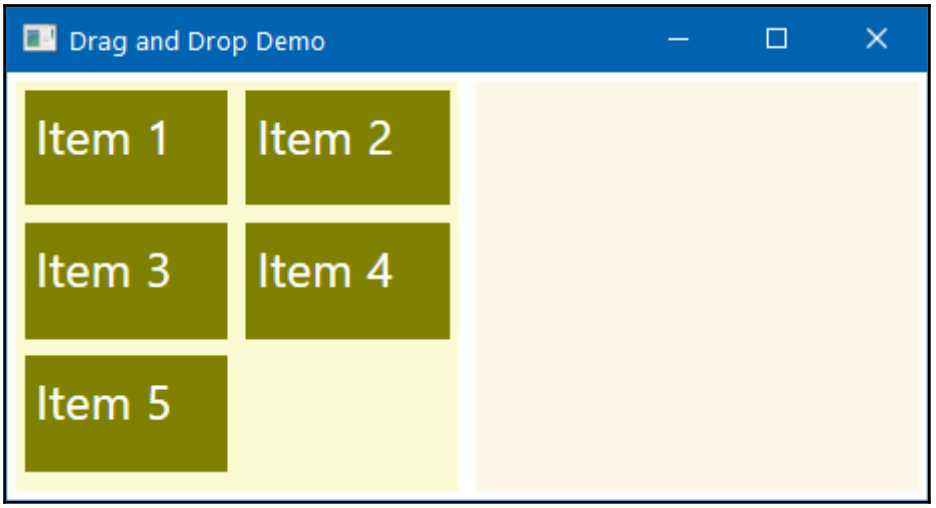

ViewBox Demo
This is a text, inside a ViewBox

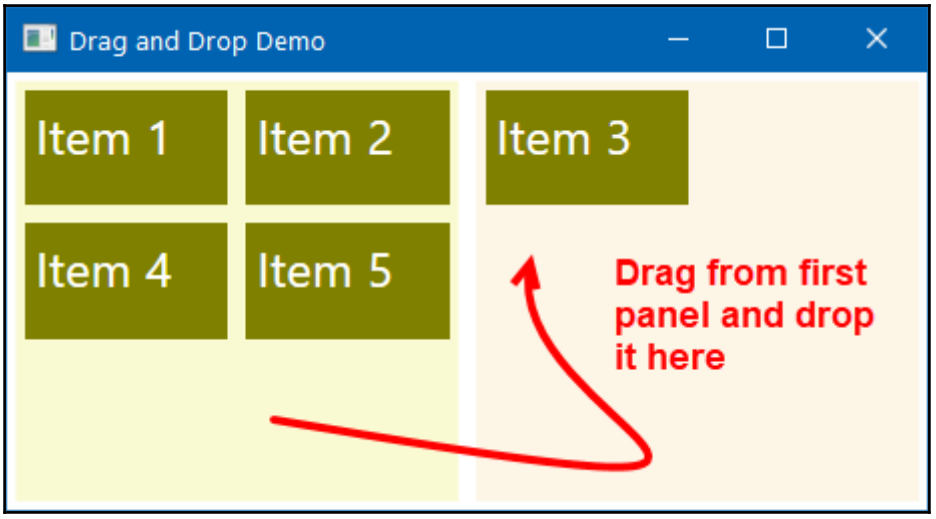

ViewBox Demo
This is a text, inside a ViewBox


TabControl Demo
Tab 1
Tab 2
You have selected ' Tab 1 '

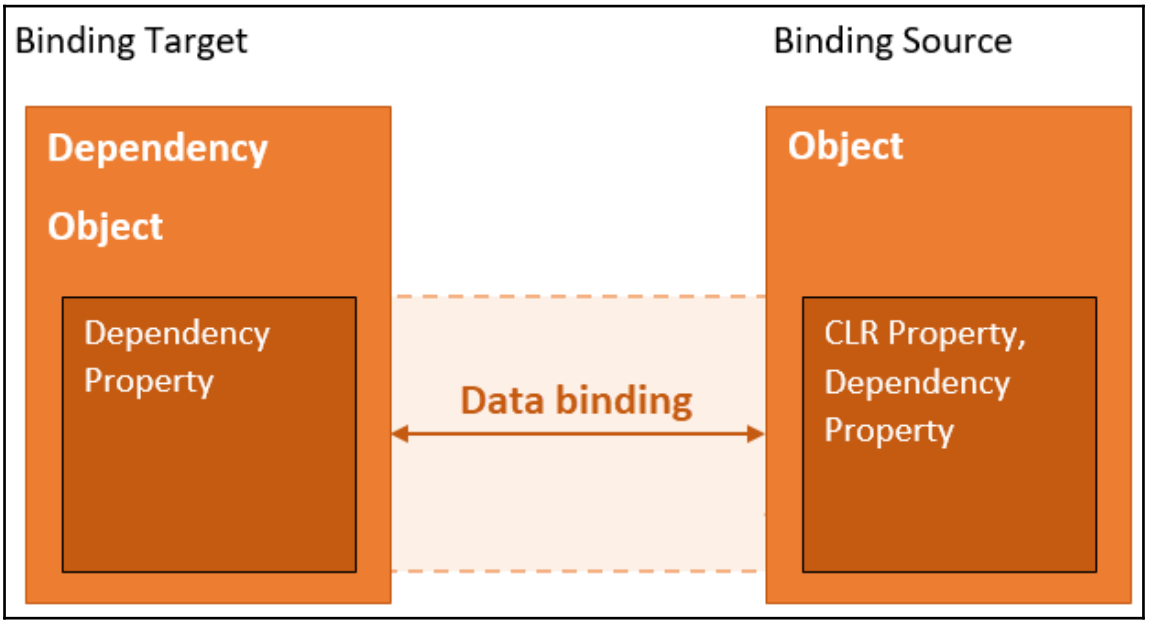

TabControl Demo
Tab 1
Tab 2
Tab 3
You have selected ' Tab 3 '

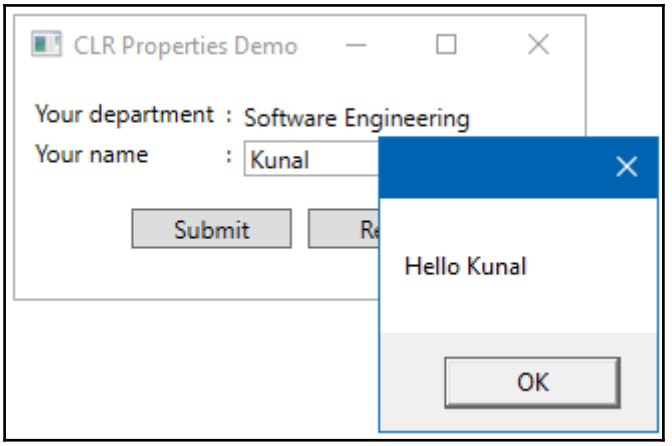

Dynamic Panel Demo

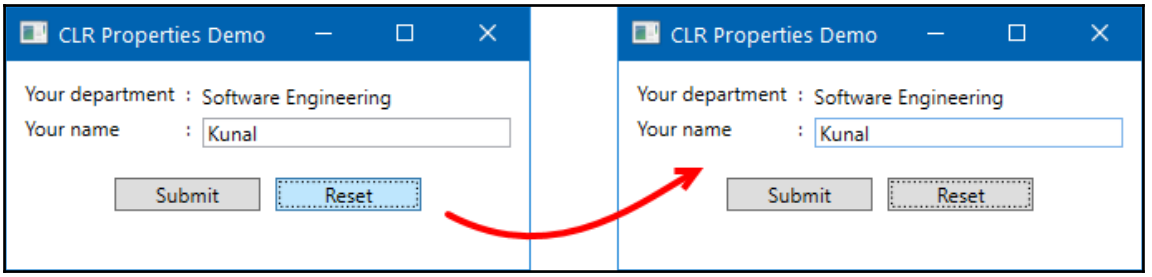

Drag and Drop Demo
Item 1
Item 2
Item 3
Item 4
Item 5

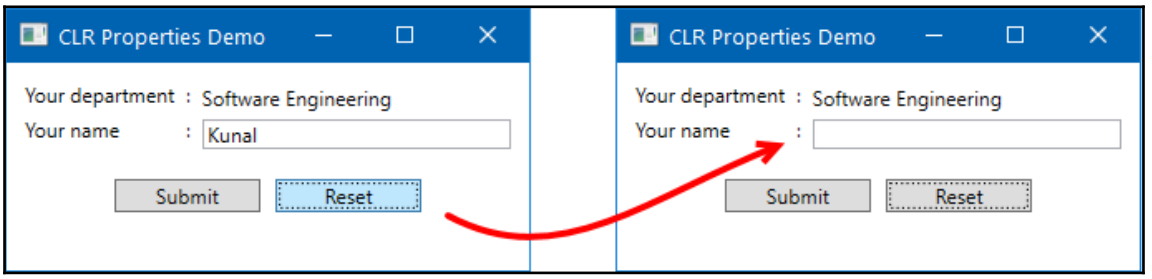

Drag and Drop Demo
Item 1
Item 2
Item 3
Item 4
Item 5
Drag from first panel and drop it here

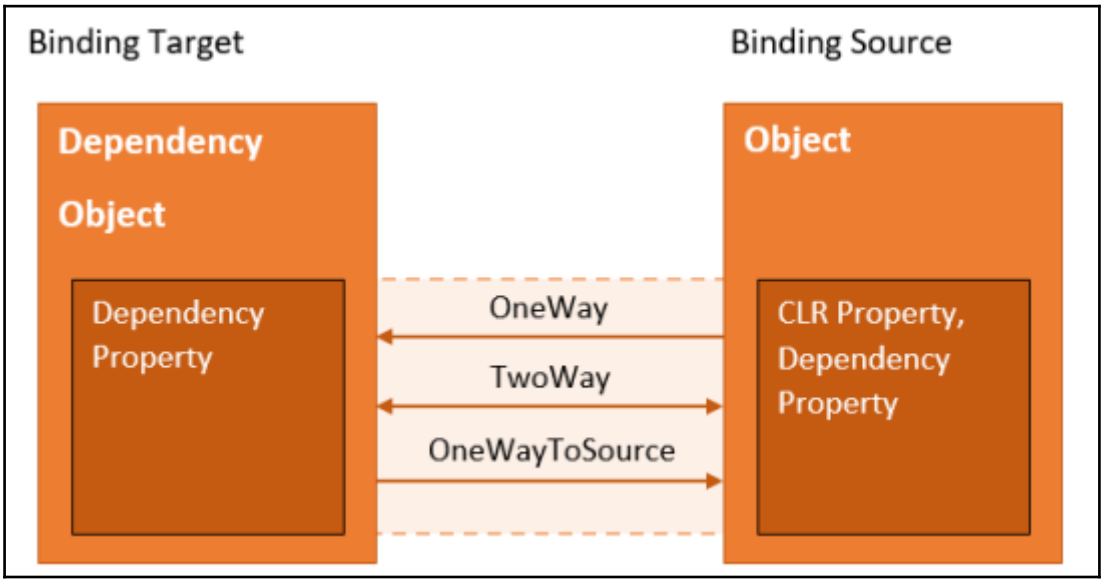
Chapter 4: Working with Data Bindings

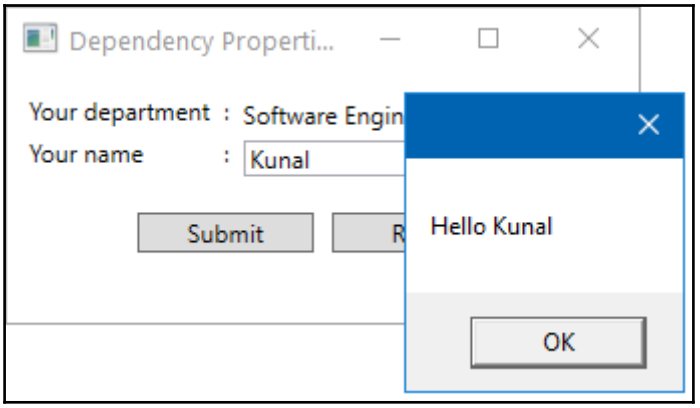


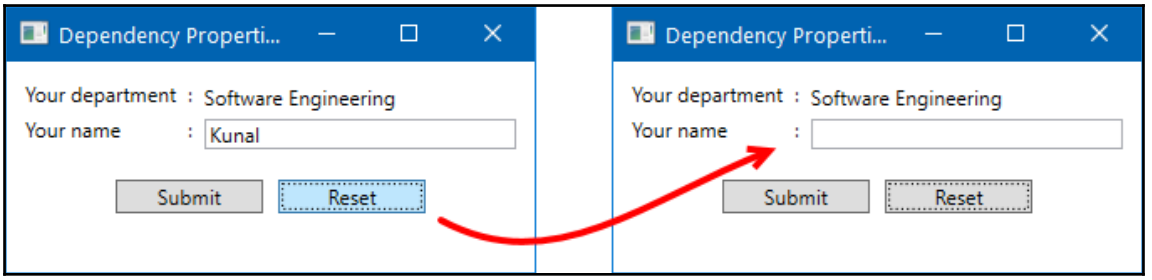


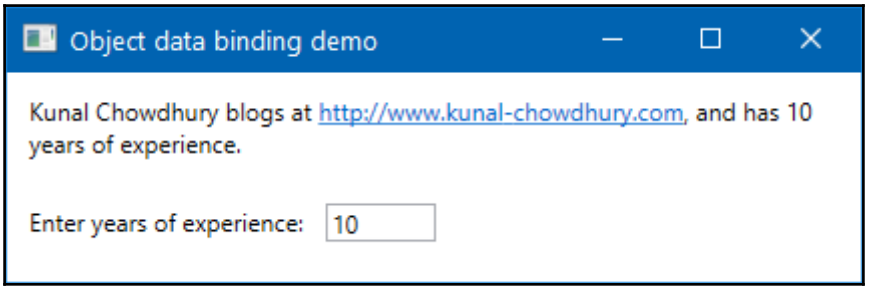

CLR Properties Demo
Your department : Software Engineering
Your name : Kunal
Submit
Reset
CLR Properties Demo
Your department : Software Engineering
Your name : Kunal
Submit
Reset

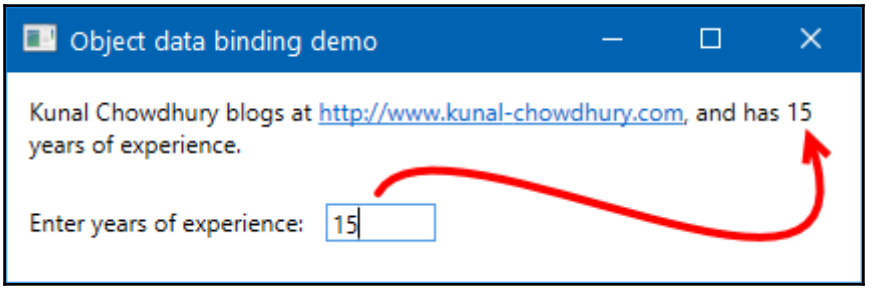

CLR Properties Demo
Your department : Software Engineering
Your name : Kunal
Submit
Reset
CLR Properties Demo
Your department : Software Engineering
Your name :
Submit
Reset

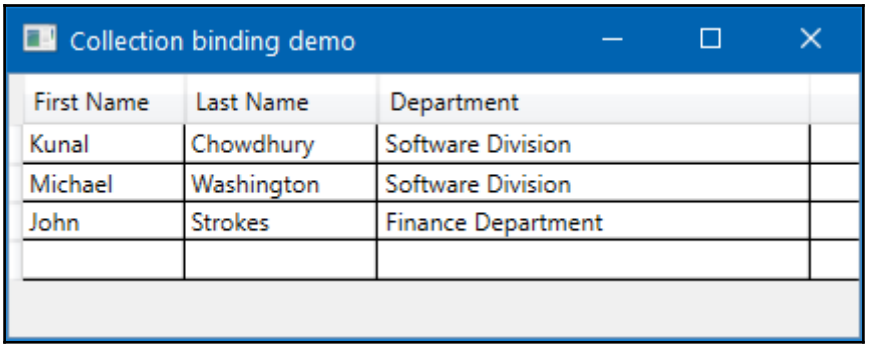

Binding Target
Binding Source
Dependency Object
Dependency Property
OneWay
TwoWay
OneWayToSource
Object
CLR Property, Dependency Property

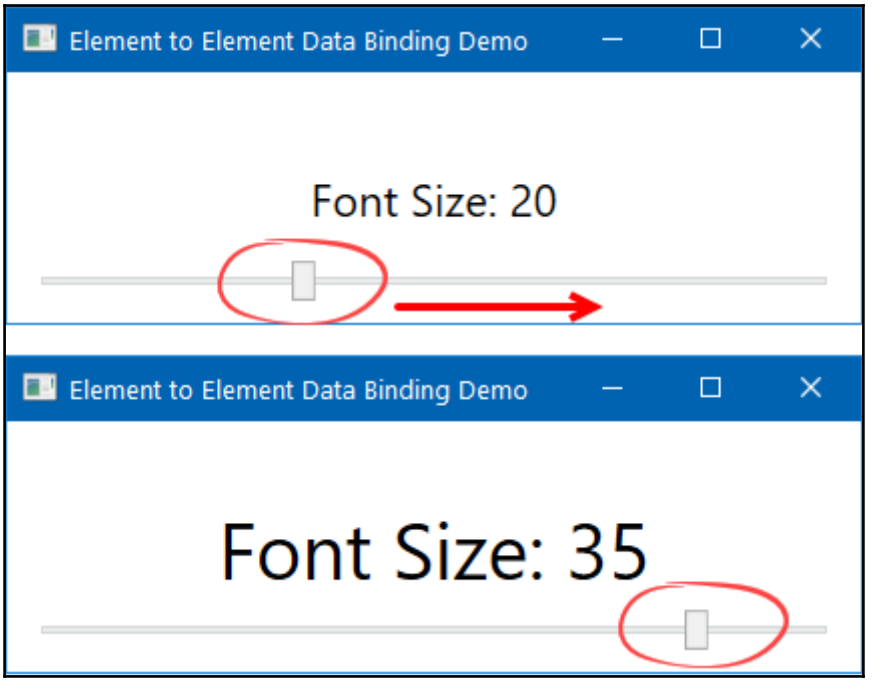

Dependency Properti...
Your department : Software Engin
Your name : Kunal
Submit
Hello Kunal
OK

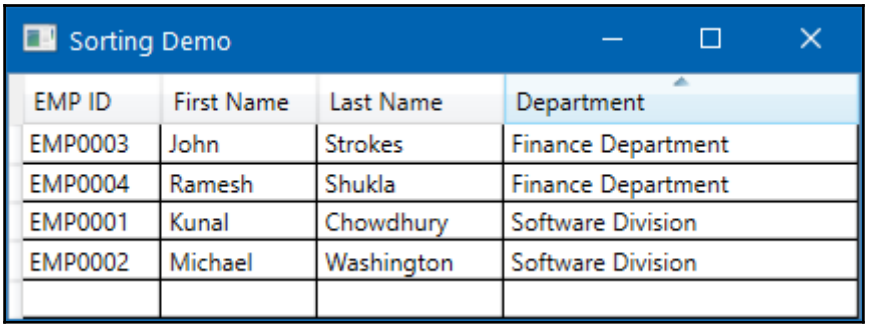

Dependency Properti...
Your department : Software Engineering
Your name : Kunal
Submit
Reset
Dependency Properti...
Your department : Software Engineering
Your name :
Submit
Reset

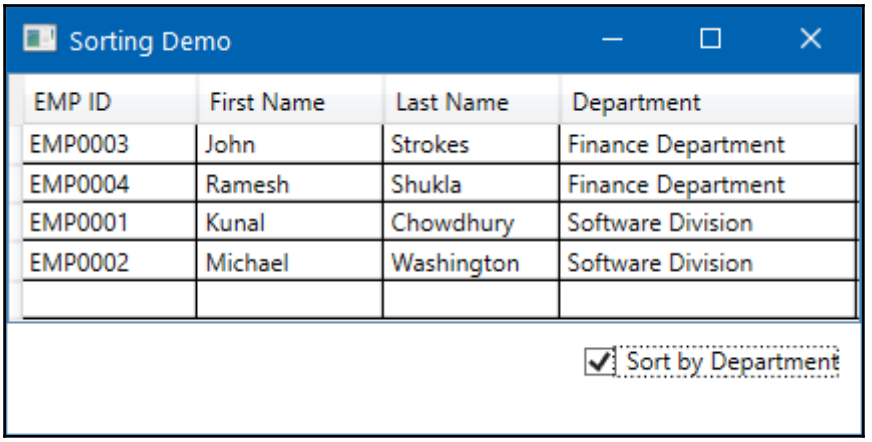

Object data binding demo
Kunal Chowdhury blogs at http://www.kunal-chowdhury.com, and has 10 years of experience.
Enter years of experience: 10

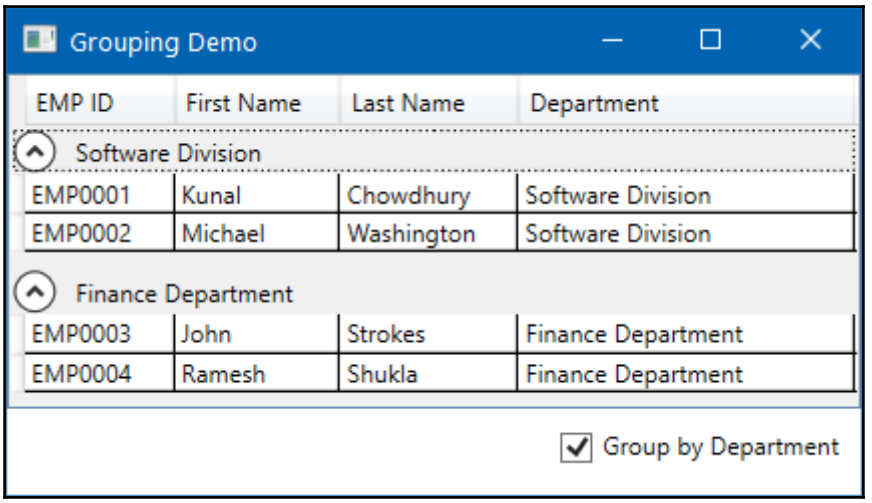

Object data binding demo
Kunal Chowdhury blogs at http://www.kunal-chowdhury.com, and has 15 years of experience.
Enter years of experience: 15

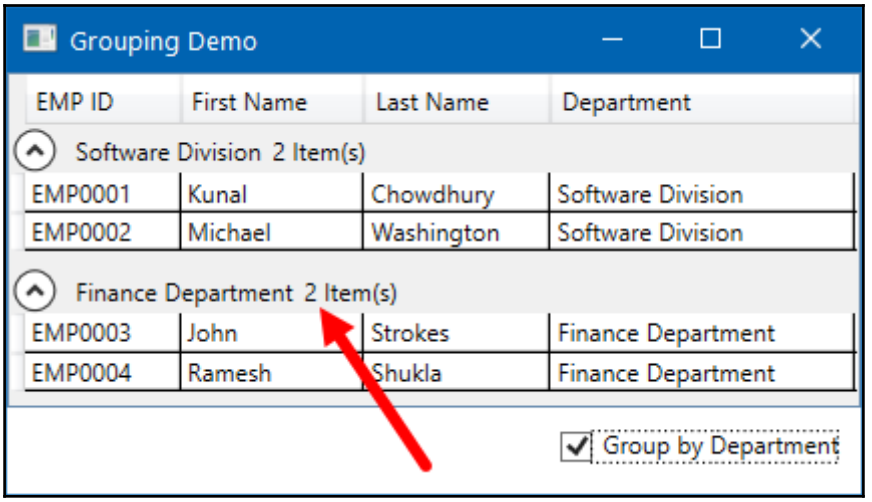

Collection binding demo
First Name
Last Name
Department
Kunal
Chowdhury
Software Division
Michael
Washington
Software Division
John
Strokes
Finance Department

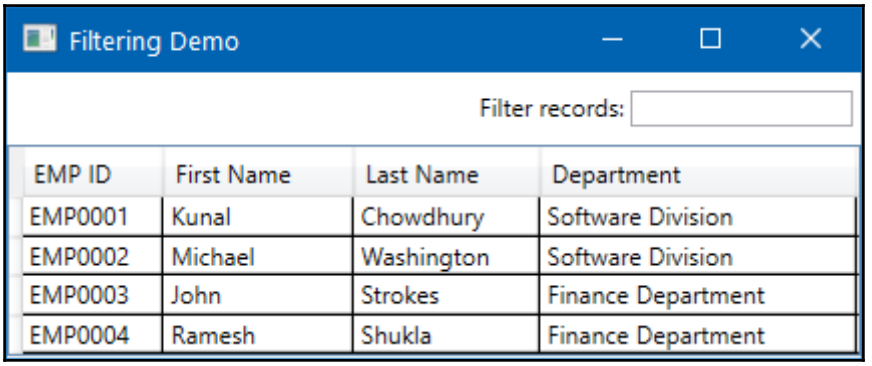

Element to Element Data Binding Demo
Font Size: 20
Element to Element Data Binding Demo
Font Size: 35

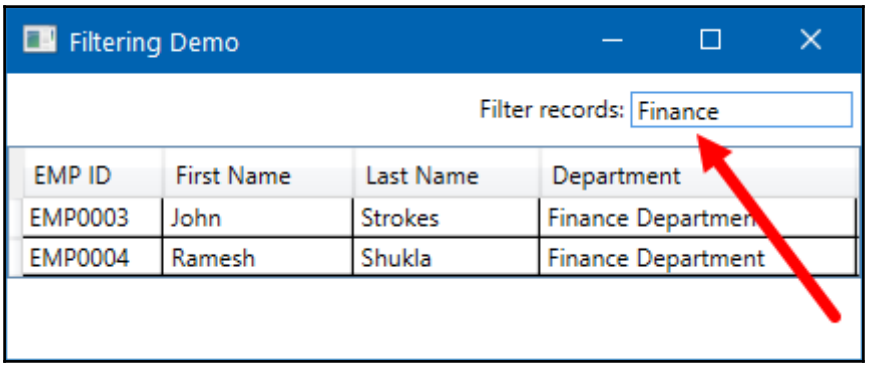

Sorting Demo
EMP ID
First Name
Last Name
Department
EMP0003
John
Strokes
Finance Department
EMP0004
Ramesh
Shukla
Finance Department
EMP0001
Kunal
Chowdhury
Software Division
EMP0002
Michael
Washington
Software Division

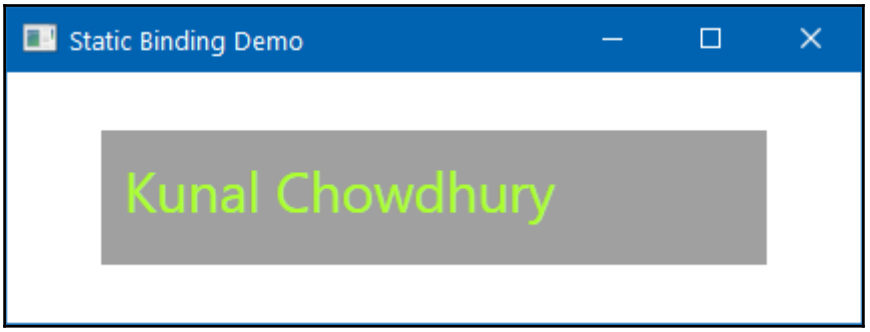

Sorting Demo
EMP ID
First Name
Last Name
Department
EMP0003
John
Strokes
Finance Department
EMP0004
Ramesh
Shukla
Finance Department
EMP0001
Kunal
Chowdhury
Software Division
EMP0002
Michael
Washington
Software Division
Sort by Department

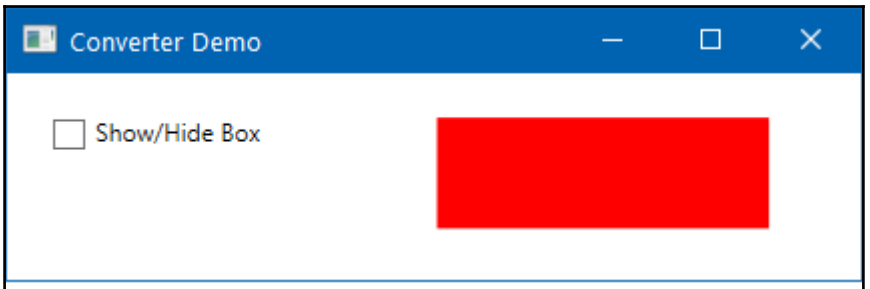

Grouping Demo
EMP ID
First Name
Last Name
Department
Software Division
EMP0001
Kunal
Chowdhury
Software Division
EMP0002
Michael
Washington
Software Division
Finance Department
EMP0003
John
Strokes
Finance Department
EMP0004
Ramesh
Shukla
Finance Department
Group by Department


Grouping Demo
EMP ID
First Name
Last Name
Department
Software Division 2 Item(s)
EMP0001
Kunal
Chowdhury
Software Division
EMP0002
Michael
Washington
Software Division
Finance Department 2 Item(s)
EMP0003
John
Strokes
Finance Department
EMP0004
Ramesh
Shukla
Finance Department
Group by Department

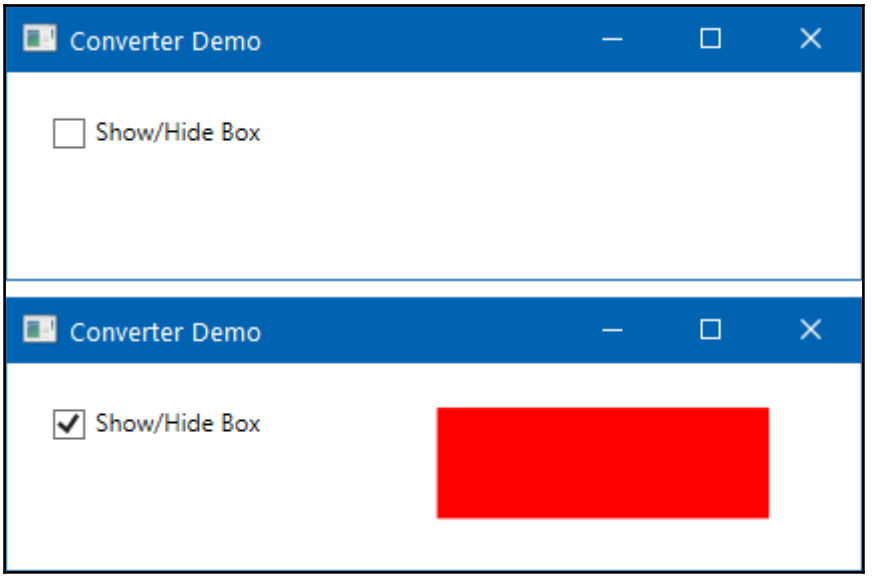

Filtering Demo
Filter records:
EMP ID
First Name
Last Name
Department
EMP0001
Kunal
Chowdhury
Software Division
EMP0002
Michael
Washington
Software Division
EMP0003
John
Strokes
Finance Department
EMP0004
Ramesh
Shukla
Finance Department

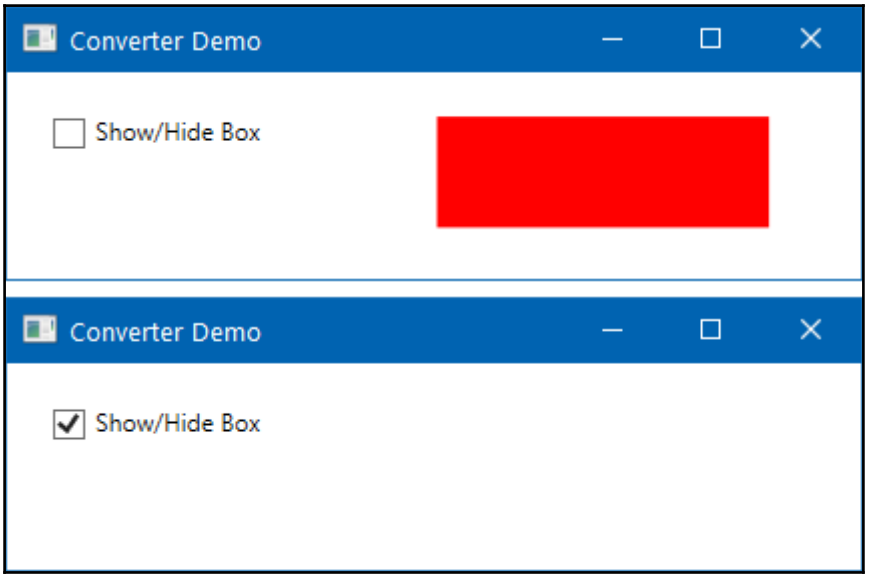

Filtering Demo
Filter records:
Finance
EMP ID
First Name
Last Name
Department
EMP0003
John
Strokes
Finance Department
EMP0004
Ramesh
Shukla
Finance Department

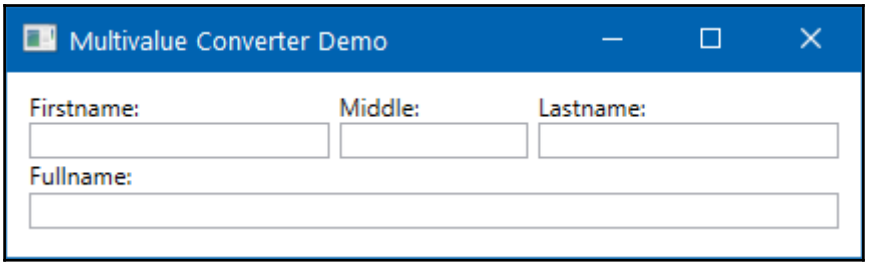

Static Binding Demo
Kunal Chowdhury

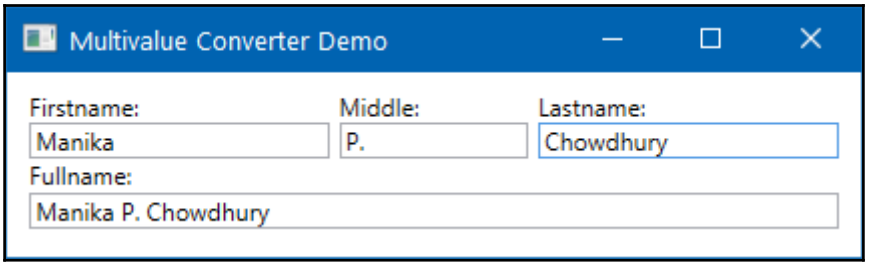

Converter Demo
Show/Hide Box

Converter Demo
Show/Hide Box

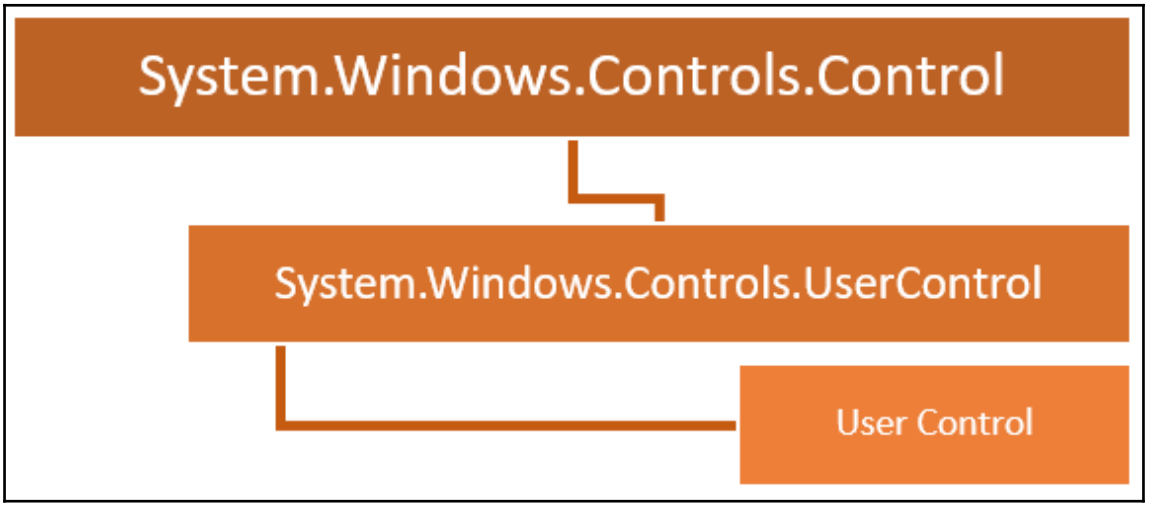

Converter Demo
Show/Hide Box
Converter Demo
Show/Hide Box

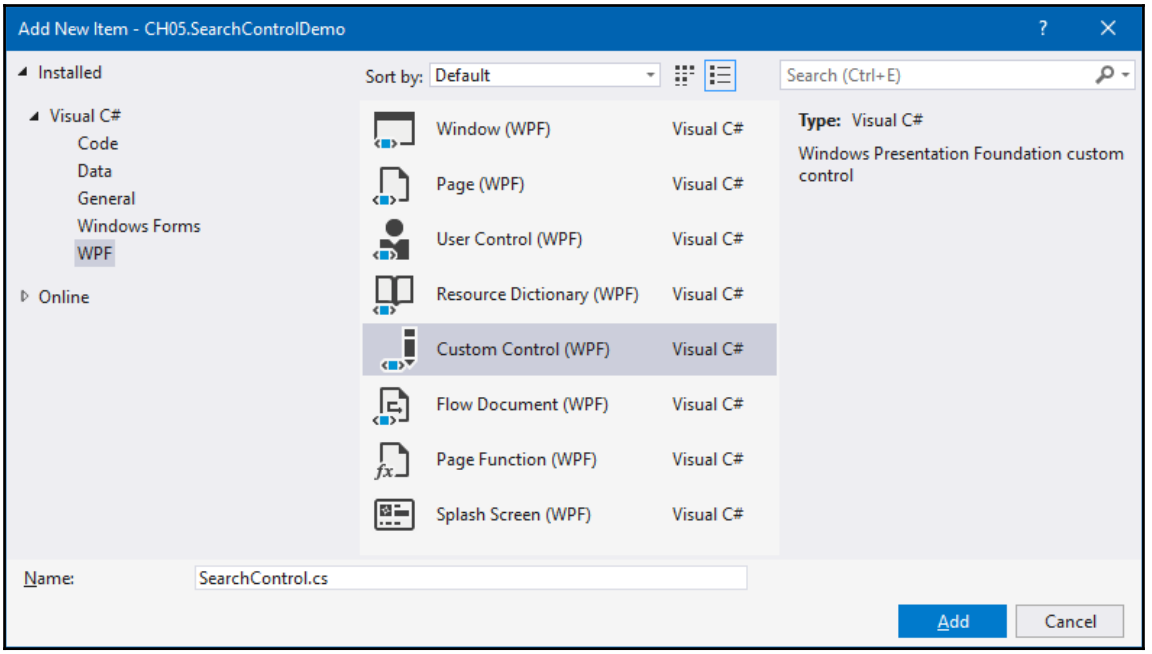

Converter Demo
Show/Hide Box
Converter Demo
Show/Hide Box

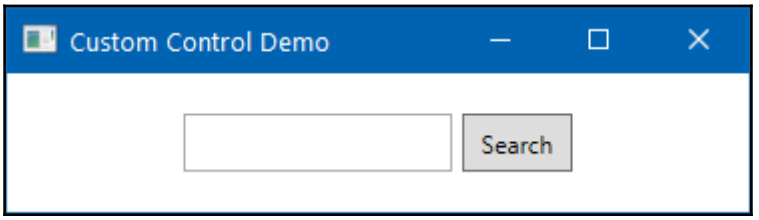

Multivalue Converter Demo
Firstname:
Middle:
Lastname:
Fullname:

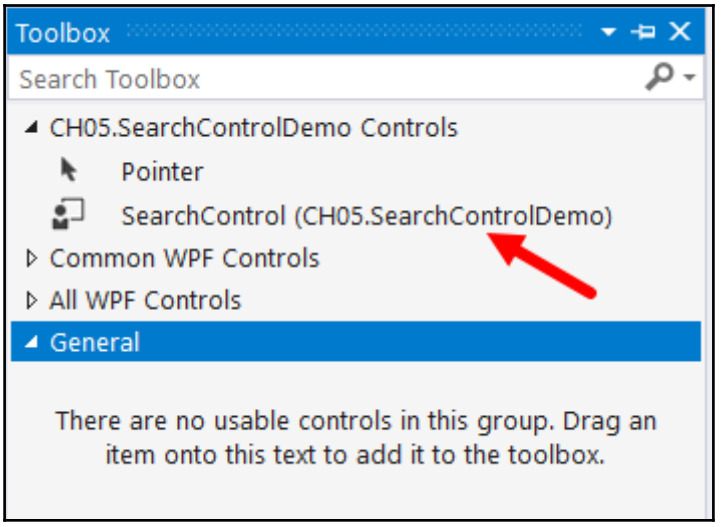

Multivalue Converter Demo
Firstname:
Manika
Middle:
P.
Lastname:
Chowdhury
Fullname:
Manika P. Chowdhury

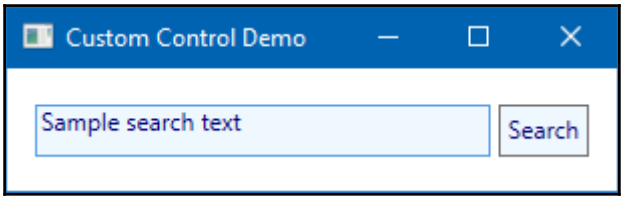
Chapter 5: Using Custom Controls and User Controls

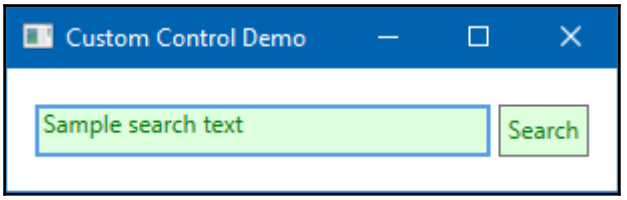



Add New Item - CH05.SearchControlDemo
Installed
Visual C#
Code
Data
General
Windows Forms
WPF
Online
Sort by: Default
Search (Ctrl+E)
Window (WPF) Visual C#
Page (WPF) Visual C#
User Control (WPF) Visual C#
Resource Dictionary (WPF) Visual C#
Custom Control (WPF) Visual C#
Flow Document (WPF) Visual C#
Page Function (WPF) Visual C#
Splash Screen (WPF) Visual C#
Type: Visual C#
Windows Presentation Foundation custom control
Name: SearchControl.cs
Add
Cancel

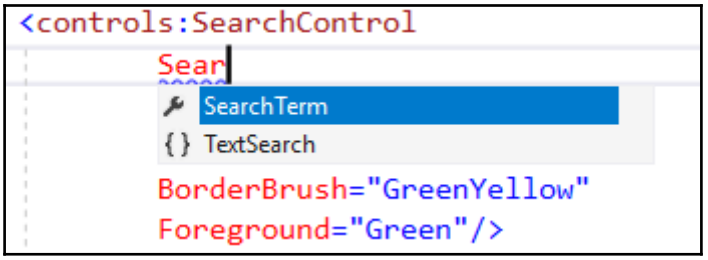

Custom Control Demo
Search

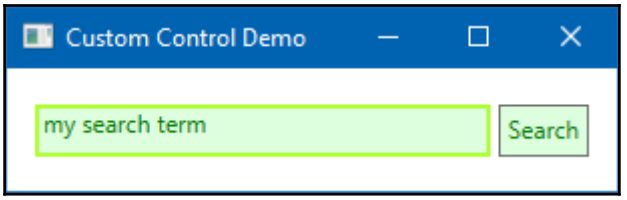


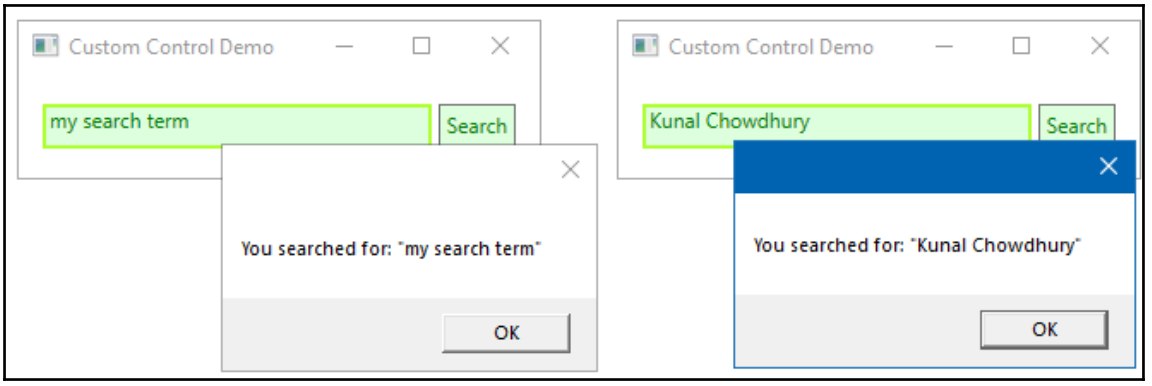


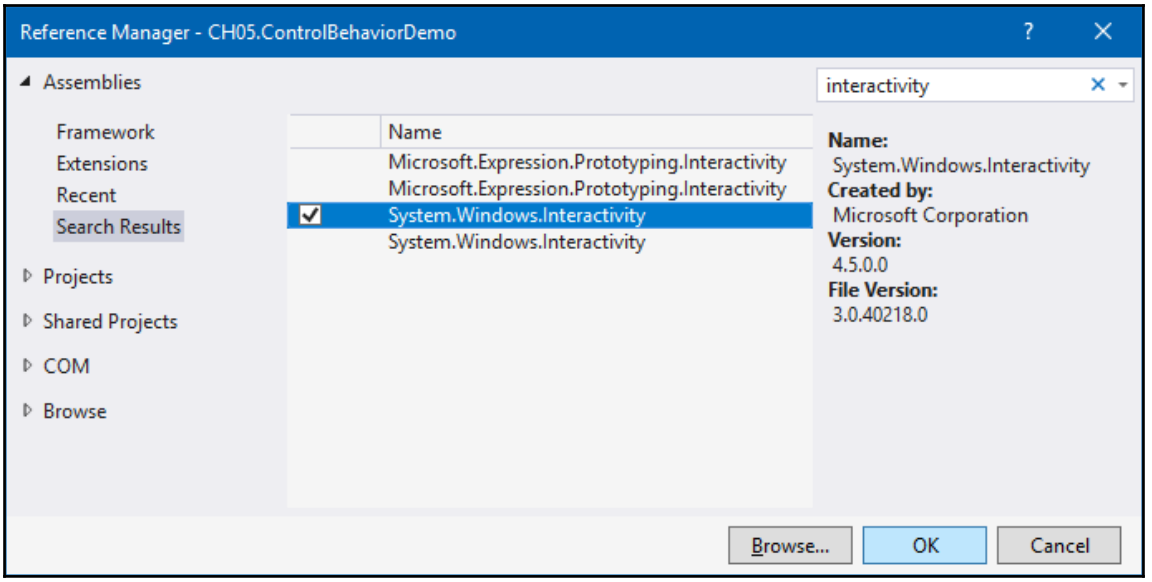


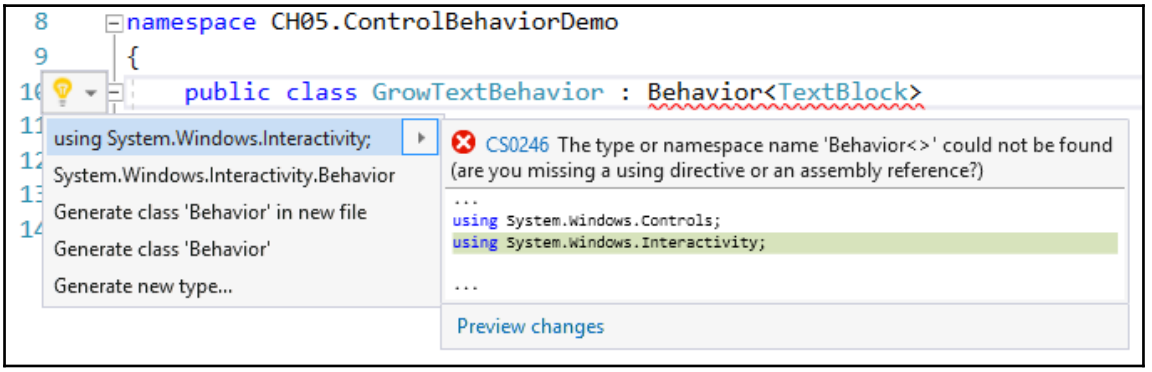

```
<TextBox x:Name="PART_TextBox"
         Grid.Column="0"
         Margin="2"
         Text="{TemplateBinding Sear}"
         Background="{TemplateBi SearchTerm
         BorderBrush="{TemplateBinding BorderBrush}"
         BorderThickness="{TemplateBinding BorderThickness}"
         Foreground="{TemplateBinding Foreground}"
```

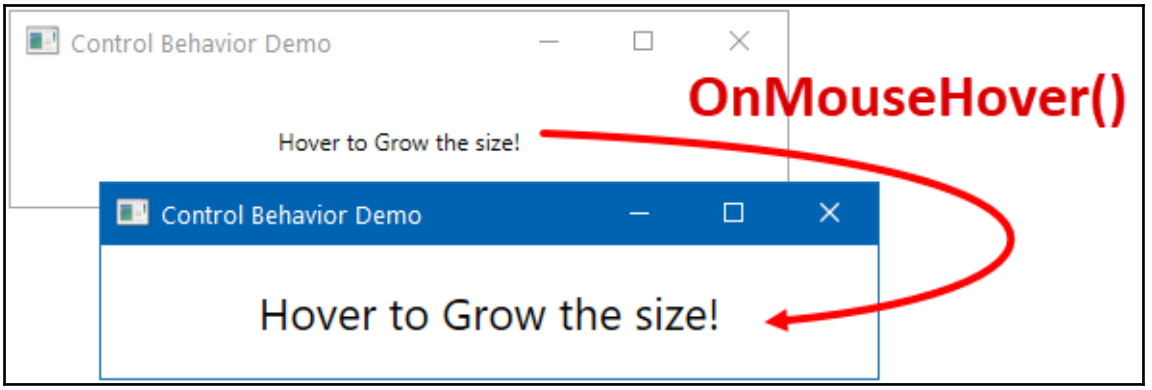

<controls:SearchControl
Sear
SearchTerm
TextSearch
BorderBrush="GreenYellow"
Foreground="Green"/>

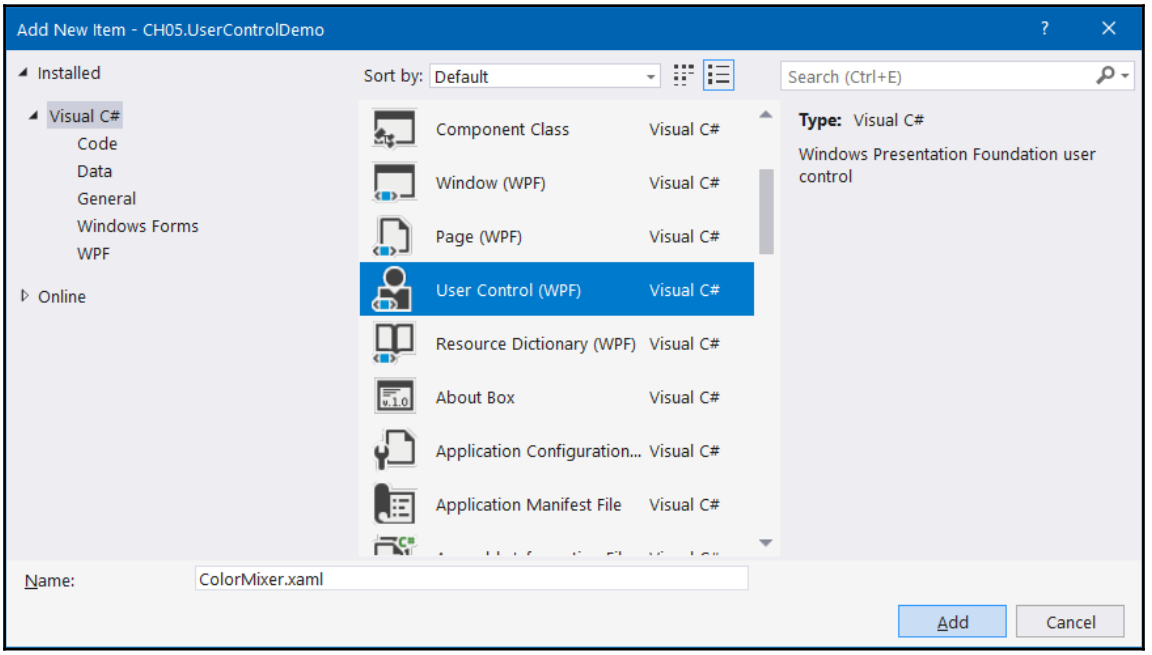

Custom Control Demo
my search term
Search

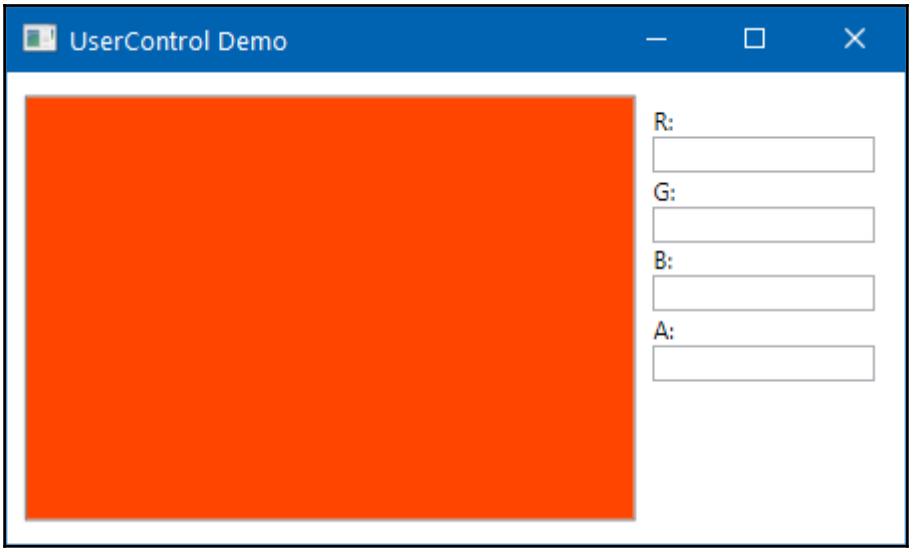

Custom Control Demo
my search term
Search
You searched for: "my search term"
OK
Custom Control Demo
Kunal Chowdhury
Search
You searched for: "Kunal Chowdhury"
OK

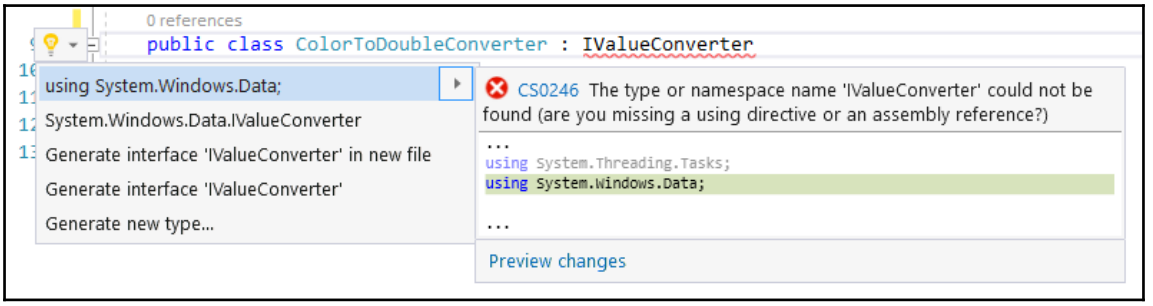

Reference Manager - CH05.ControlBehaviorDemo
Assemblies
Framework
Extensions
Recent
Search Results
Projects
Shared Projects
COM
Browse
interactivity
Name
Microsoft.Expression.Prototyping.Interactivity
Microsoft.Expression.Prototyping.Interactivity
System.Windows.Interactivity
System.Windows.Interactivity
Name:
System.Windows.Interactivity
Created by:
Microsoft Corporation
Version:
4.5.0.0
File Version:
3.0.40218.0
Browse...
OK
Cancel

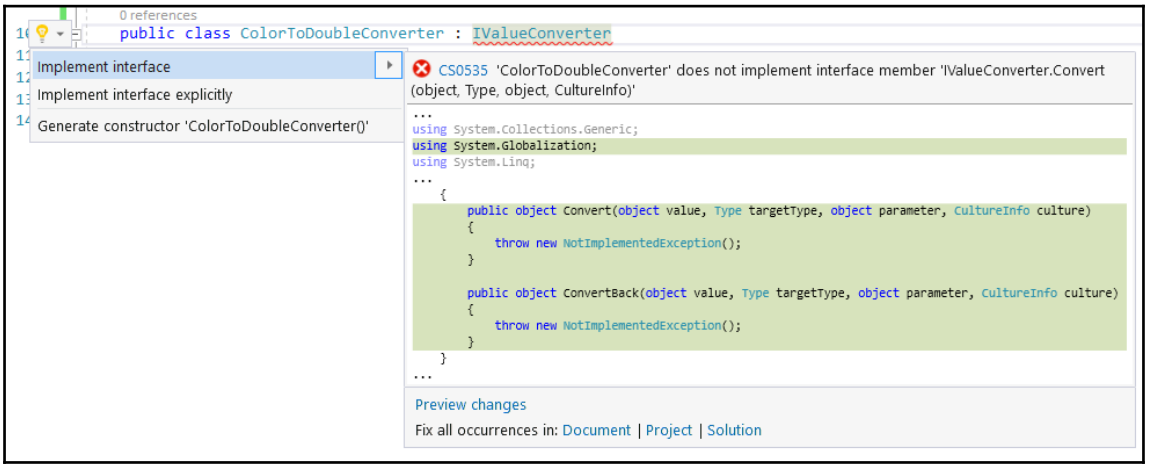

namespace CH05.ControlBehaviorDemo
{
public class GrowTextBehavior : Behavior<TextBlock>
using System.Windows.Interactivity;
System.Windows.Interactivity.Behavior
Generate class 'Behavior' in new file
Generate class 'Behavior'
Generate new type...
CS0246 The type or namespace name 'Behavior<>' could not be found (are you missing a using directive or an assembly reference?)
...
using System.Windows.Controls;
using System.Windows.Interactivity;
...
Preview changes

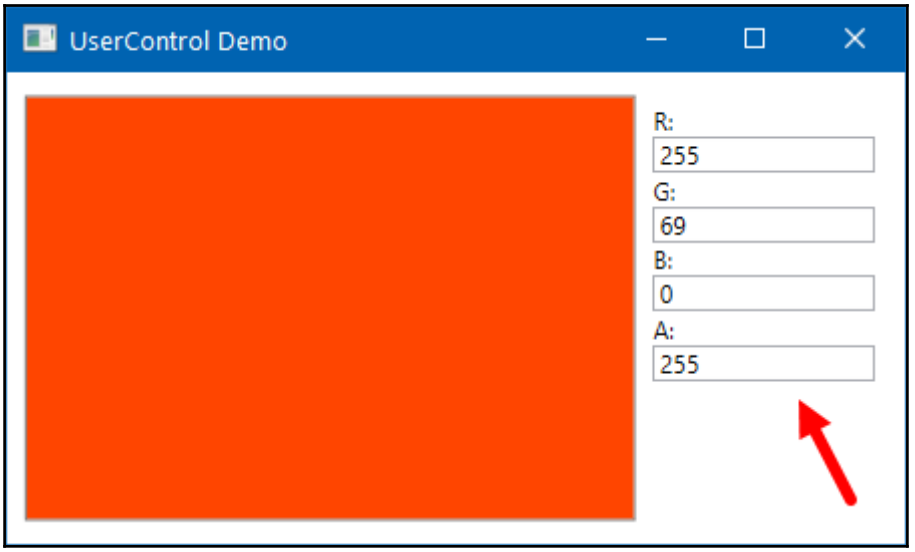

Control Behavior Demo
Hover to Grow the size!
OnMouseHover()
Control Behavior Demo
Hover to Grow the size!

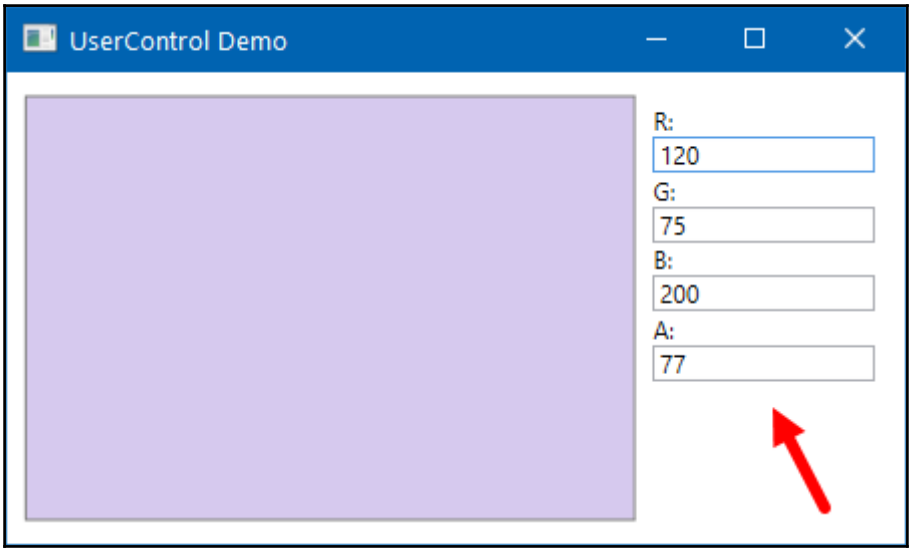

Add New Item - CH05.UserControlDemo
Installed
Visual C#
Code
Data
General
Windows Forms
WPF
Online
Sort by: Default
Search (Ctrl+E)
Component Class Visual C#
Window (WPF) Visual C#
Page (WPF) Visual C#
User Control (WPF) Visual C#
Resource Dictionary (WPF) Visual C#
About Box Visual C#
Application Configuration... Visual C#
Application Manifest File Visual C#
Type: Visual C#
Windows Presentation Foundation user control
Name: ColorMixer.xaml
Add
Cancel

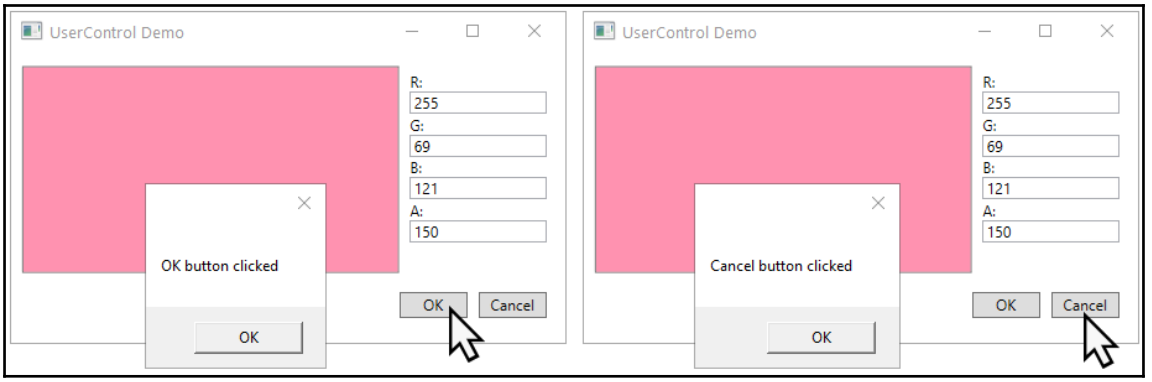

UserControl Demo
R:
G:
B:
A:


0 references
public class ColorToDoubleConverter : IValueConverter
using System.Windows.Data;
System.Windows.Data.IValueConverter
Generate interface 'IValueConverter' in new file
Generate interface 'IValueConverter'
Generate new type...
CS0246 The type or namespace name 'IValueConverter' could not be found (are you missing a using directive or an assembly reference?)
...
using System.Threading.Tasks;
using System.Windows.Data;
...
Preview changes

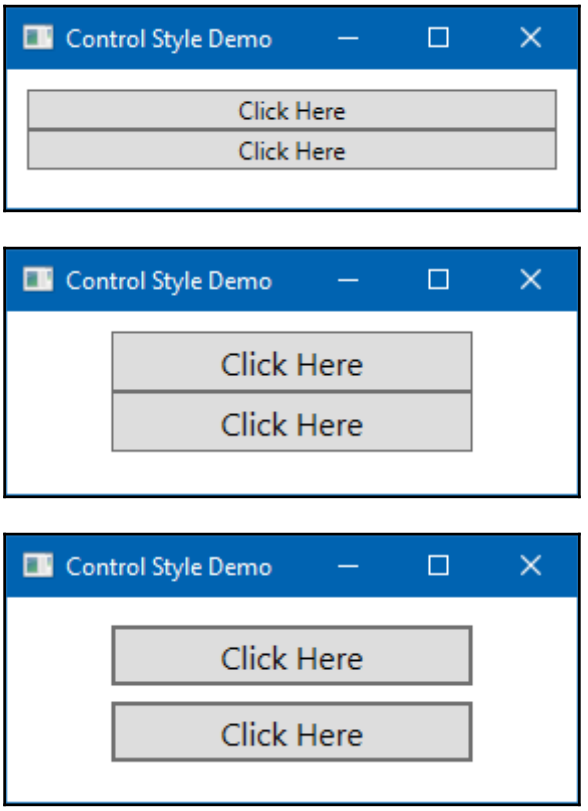

0 references
public class ColorToDoubleConverter : IValueConverter
Implement interface
Implement interface explicitly
Generate constructor 'ColorToDoubleConverter()'
CS0535 'ColorToDoubleConverter' does not implement interface member 'IValueConverter.Convert (object, Type, object, CultureInfo)'
...
using System.Collections.Generic;
using System.Globalization;
using System.Linq;
...
{
public object Convert(object value, Type targetType, object parameter, CultureInfo culture)
{
throw new NotImplementedException();
}
public object ConvertBack(object value, Type targetType, object parameter, CultureInfo culture)
{
throw new NotImplementedException();
}
}
...
Preview changes
Fix all occurrences in: Document | Project | Solution

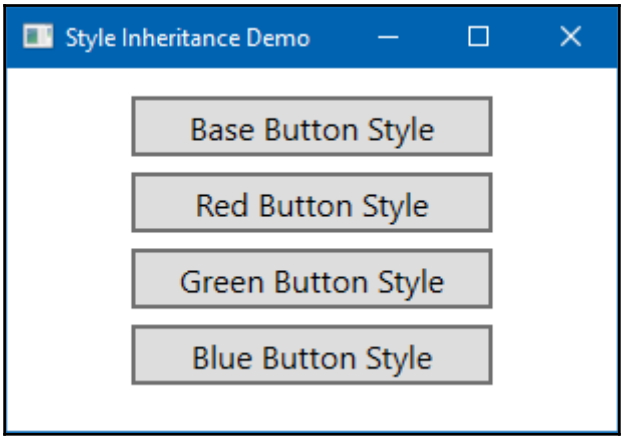

UserControl Demo
R:
255
G:
69
B:
0
A:
255

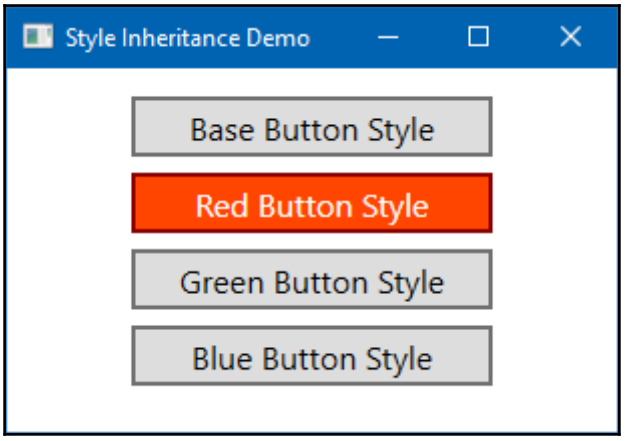

UserControl Demo
R:
120
G:
75
B:
200
A:
77

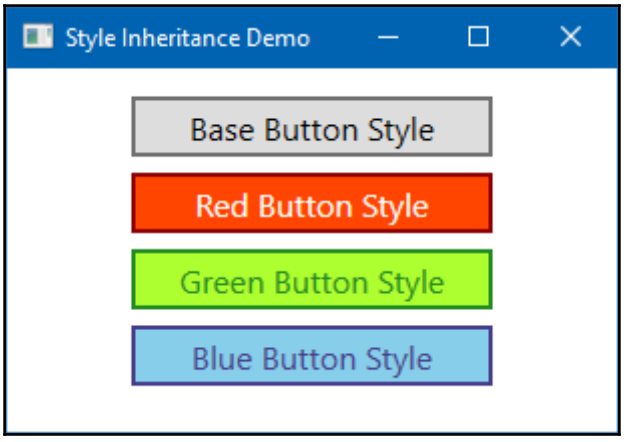

UserControl Demo
R:
255
G:
69
B:
121
A:
150
OK button clicked
OK
OK
Cancel
UserControl Demo
R:
255
G:
69
B:
121
A:
150
Cancel button clicked
OK
OK
Cancel

Chapter 6: Using Styles, Templates, and Triggers

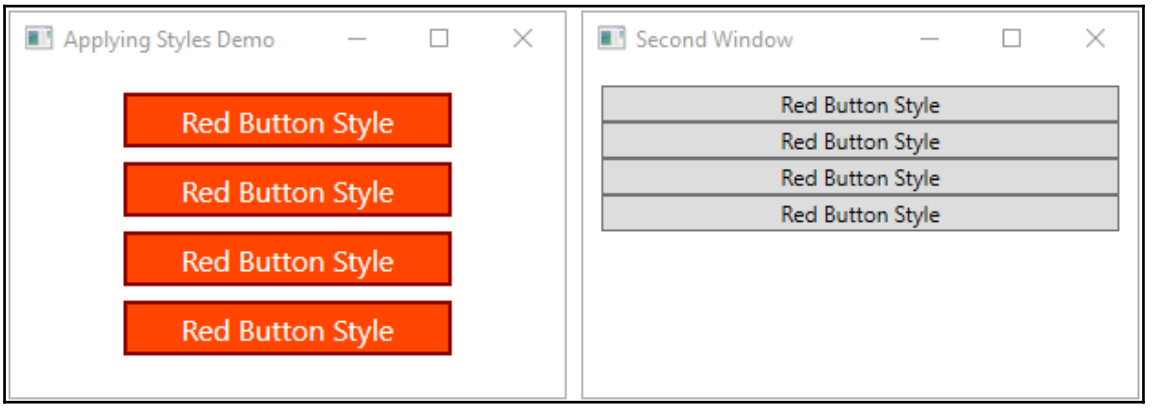


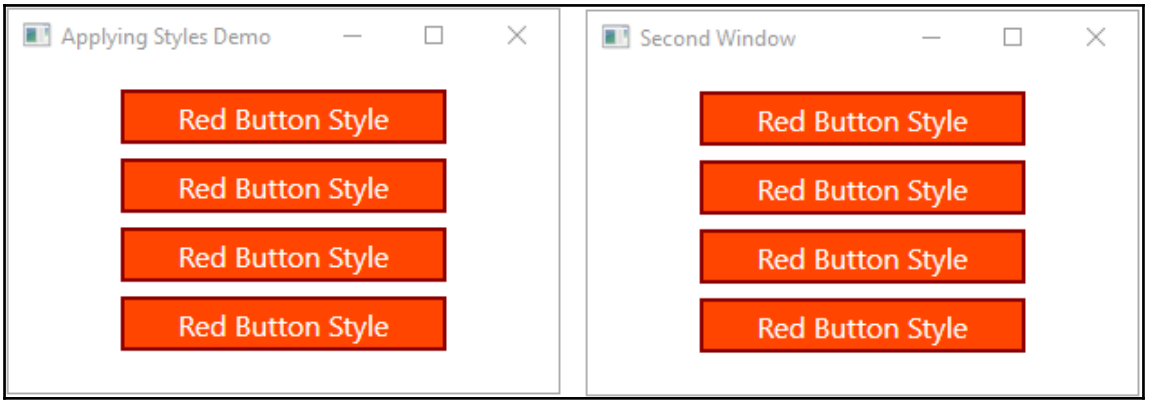

Style Inheritance Demo
Base Button Style
Red Button Style
Green Button Style
Blue Button Style

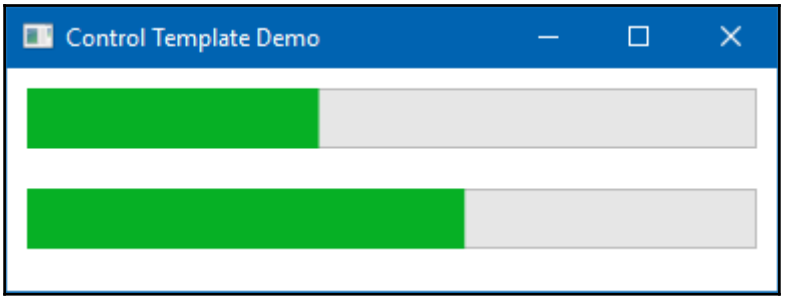

Style Inheritance Demo
Base Button Style
Red Button Style
Green Button Style
Blue Button Style

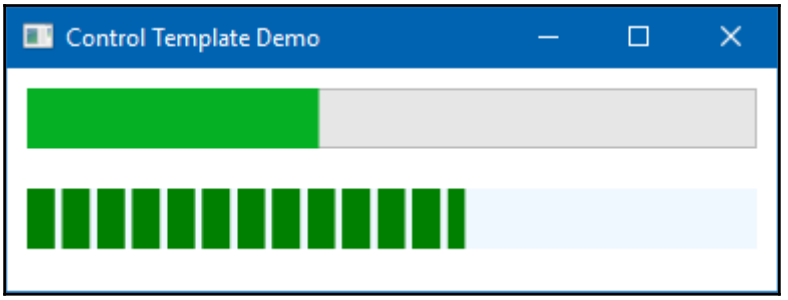

Style Inheritance Demo
Base Button Style
Red Button Style
Green Button Style
Blue Button Style

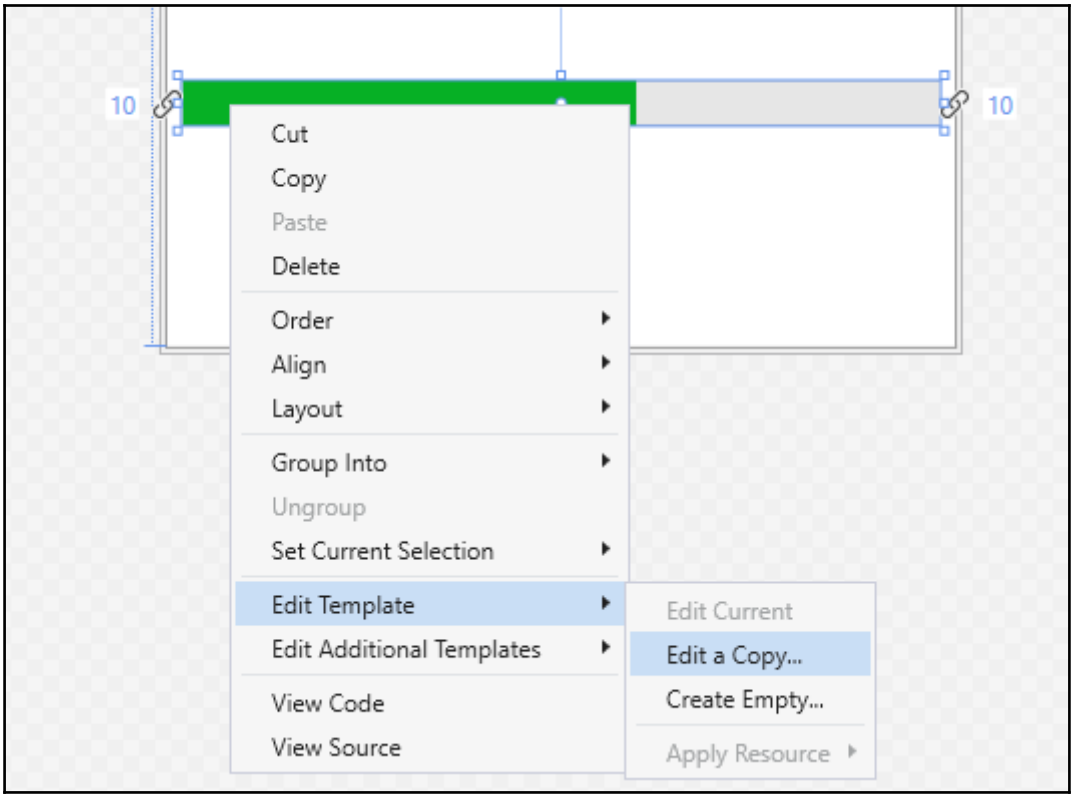
```
<Application x:Class="CH06.StyleUsageDemo.App"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             xmlns:local="clr-namespace:CH06.StyleUsageDemo"
             StartupUri="MainWindow.xaml">
    <Application.Resources>
```

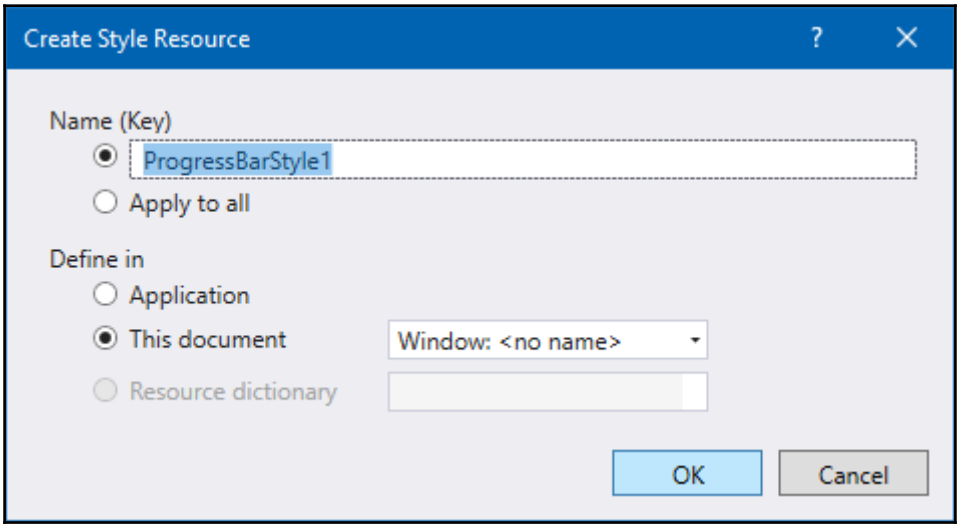


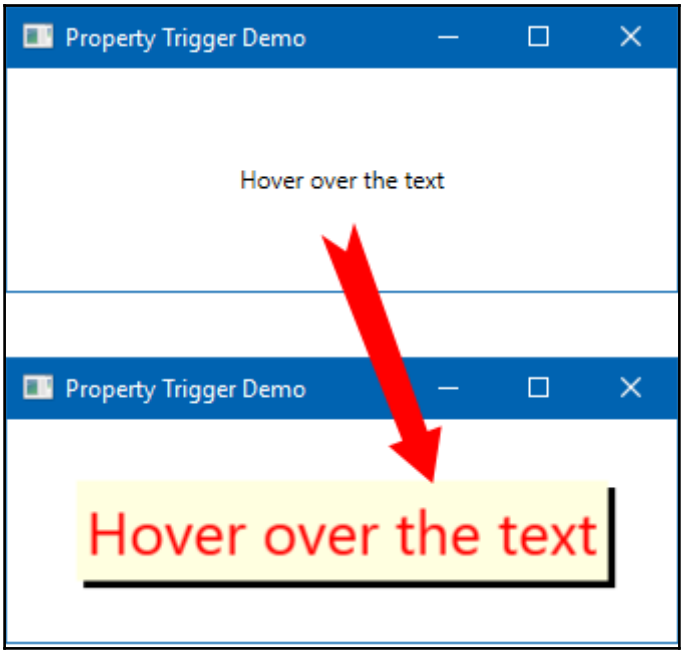


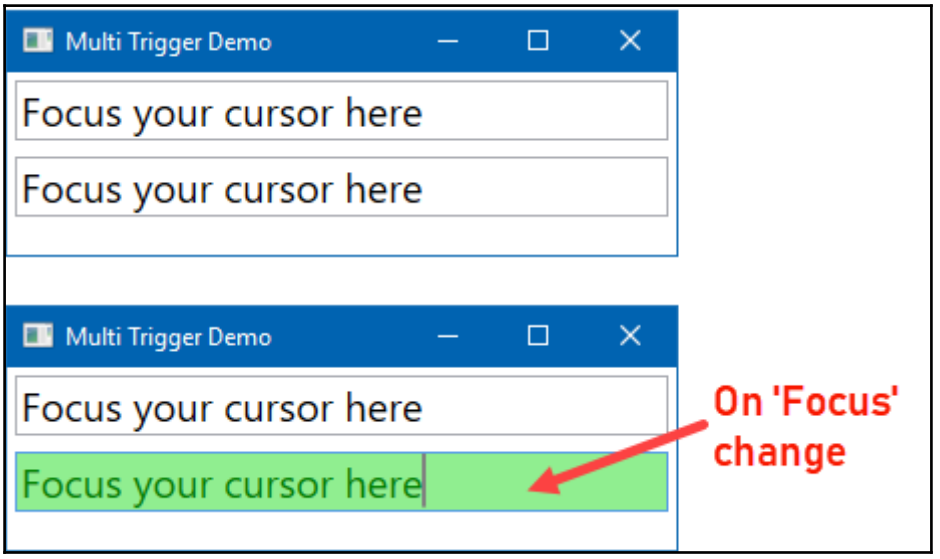

Control Template Demo

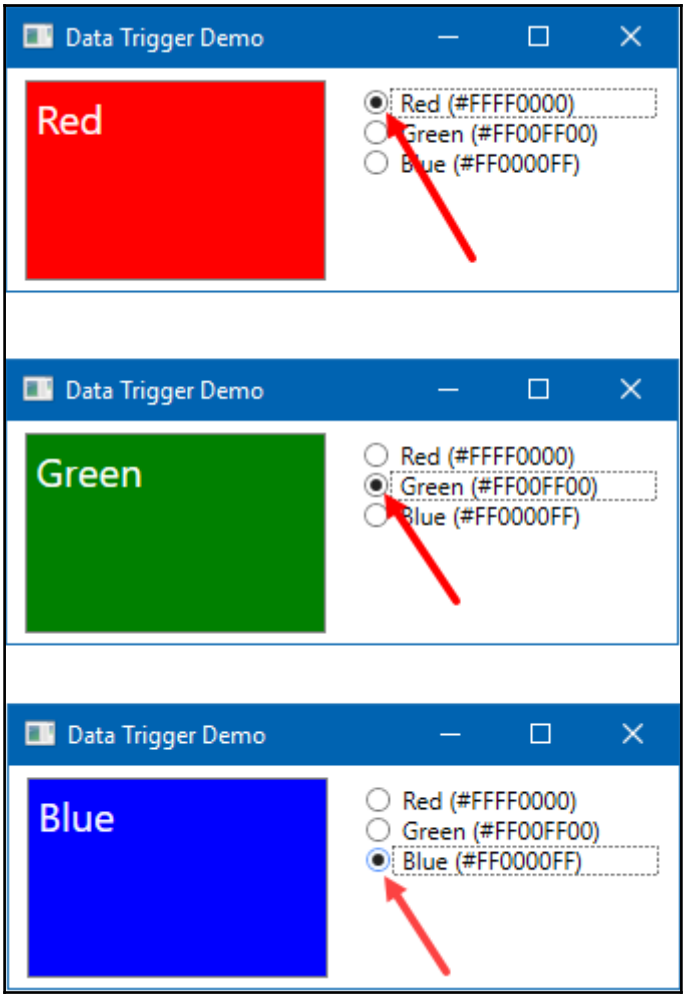

Control Template Demo


10
10
Cut
Copy
Paste
Delete
Order
Align
Layout
Group Into
Ungroup
Set Current Selection
Edit Template
Edit Additional Templates
View Code
View Source
Edit Current
Edit a Copy...
Create Empty...
Apply Resource

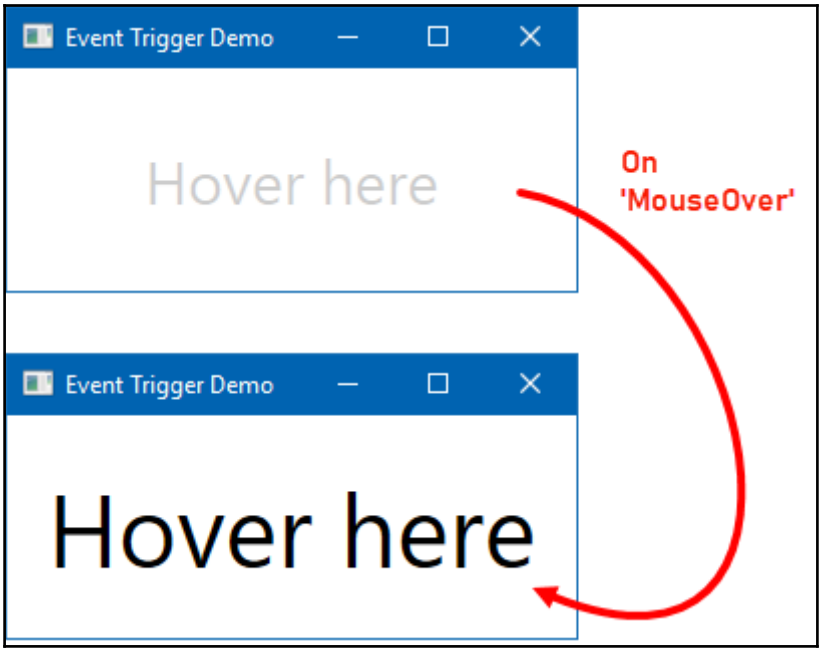

Create Style Resource
Name (Key)
ProgressBarStyle1
Apply to all
Define in
Application
This document
Window: <no name>
Resource dictionary
OK
Cancel


Property Trigger Demo
Hover over the text
Property Trigger Demo
Hover over the text

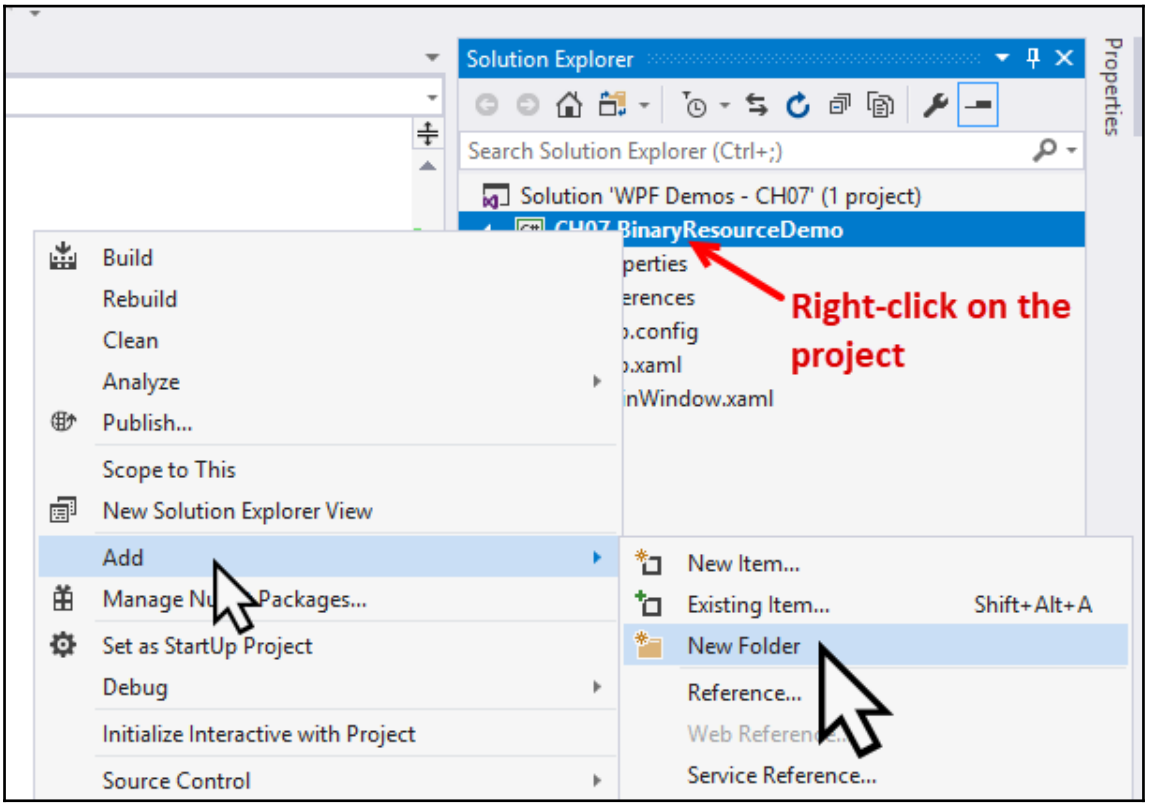

Multi Trigger Demo
Focus your cursor here
Focus your cursor here
Multi Trigger Demo
Focus your cursor here
Focus your cursor here
On 'Focus' change

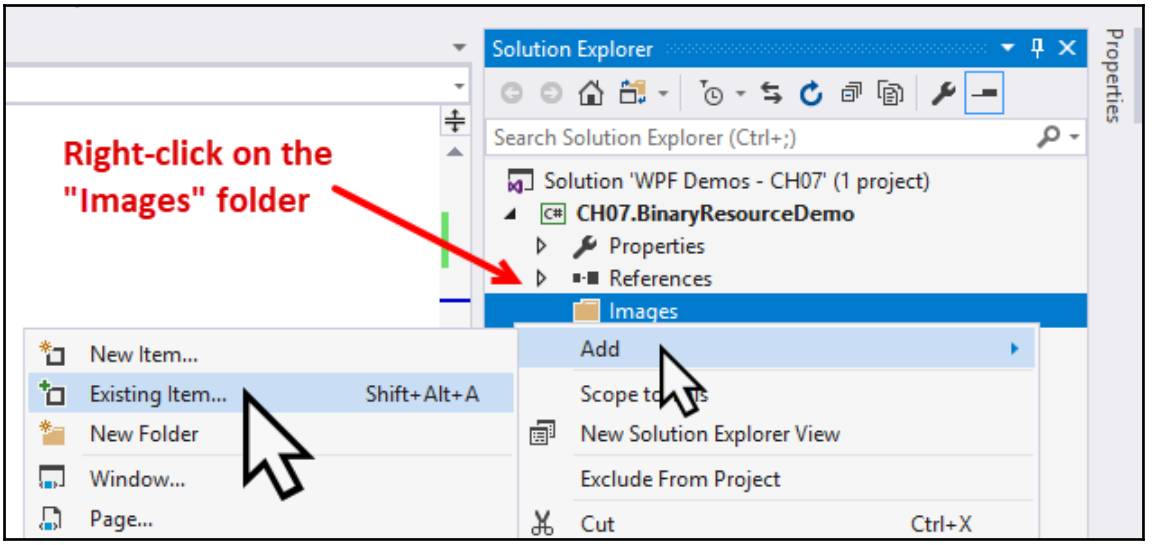

Data Trigger Demo
Red
Red (#FFFF0000)
Green (#FF00FF00)
Blue (#FF0000FF)
Data Trigger Demo
Green
Red (#FFFF0000)
Green (#FF00FF00)
Blue (#FF0000FF)
Data Trigger Demo
Blue
Red (#FFFF0000)
Green (#FF00FF00)
Blue (#FF0000FF)

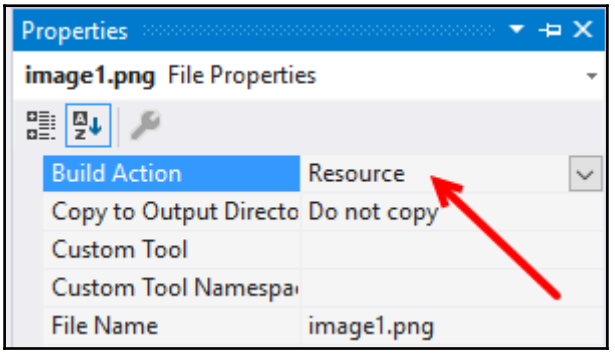
Multi Data Trigger Demo
Yes, I accept license agreement
Yes, I accept Terms & Conditions
Register
Disabled, when either or all of the checkboxes are unchecked
Multi Data Trigger Demo
Yes, I accept license agreement
Yes, I accept Terms & Conditions
Register
Multi Data Trigger Demo
Yes, I accept license agreement
Yes, I accept Terms & Conditions
Register
Enabled, when both the checkboxes are checked

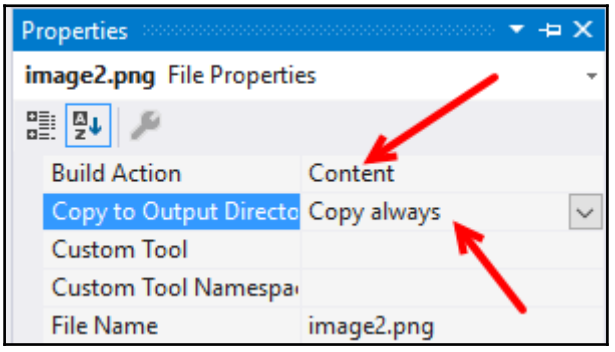

Event Trigger Demo
Hover here
On
'MouseOver'
Event Trigger Demo
Hover here

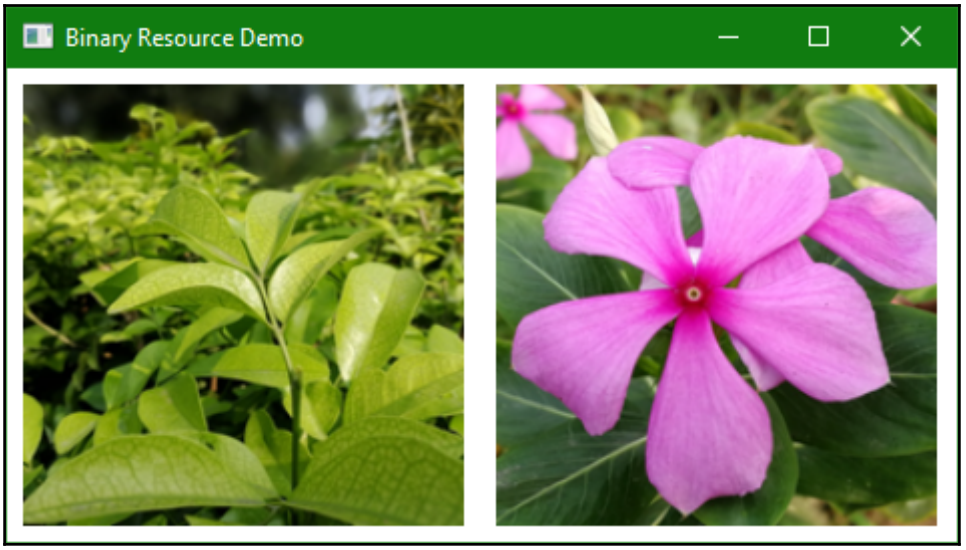
Chapter 7: Using Resources and MVVM Patterns

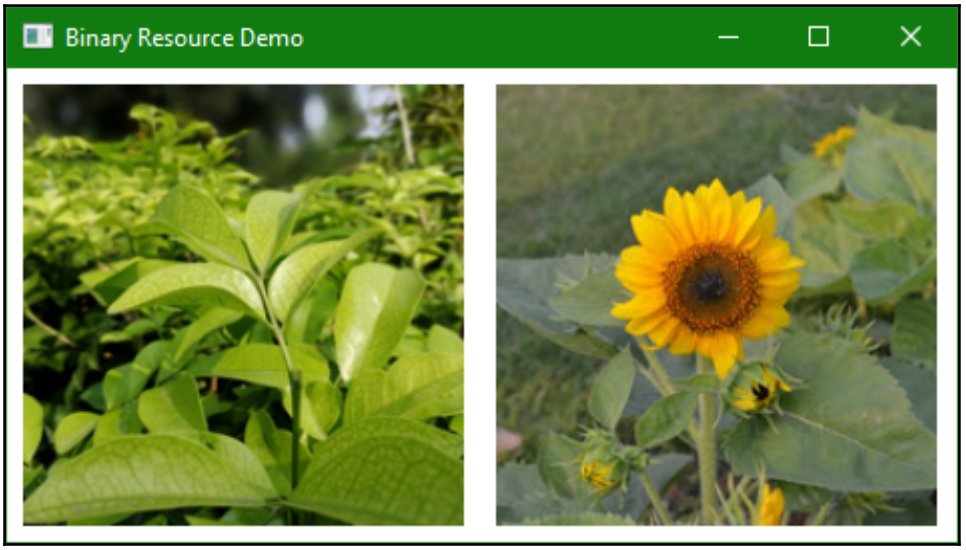


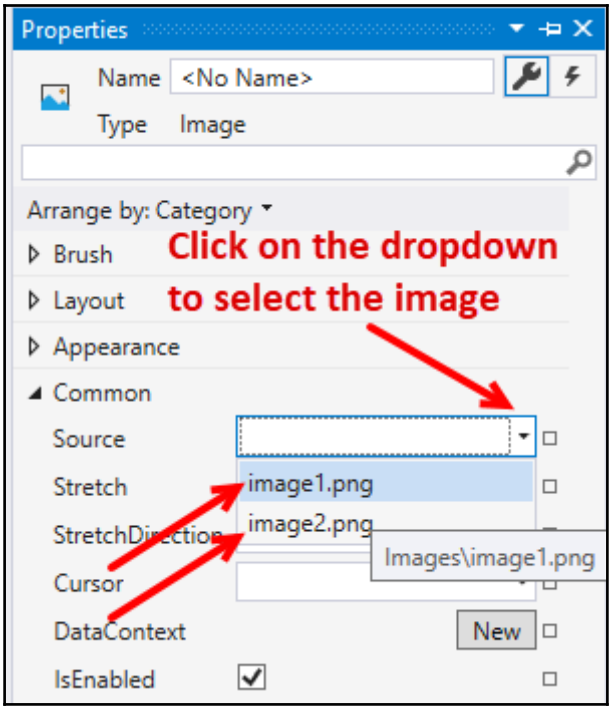

Right-click on the
"Images" folder
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH07' (1 project)
CH07.BinaryResourceDemo
Properties
References
Images
New Item...
Existing Item... Shift+Alt+A
New Folder
Window...
Page...
Add
New Solution Explorer View
Exclude From Project
Cut Ctrl+X
Properties

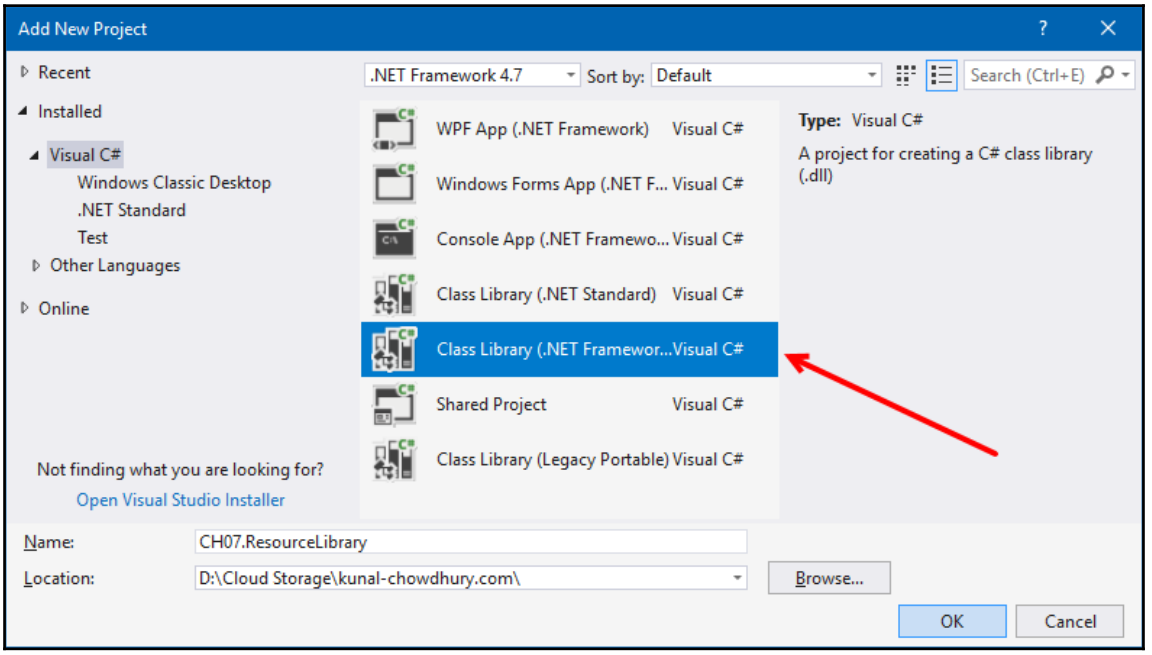

Properties
image1.png File Properties
Build Action Resource
Copy to Output Directo Do not copy
Custom Tool
Custom Tool Namespa
File Name image1.png

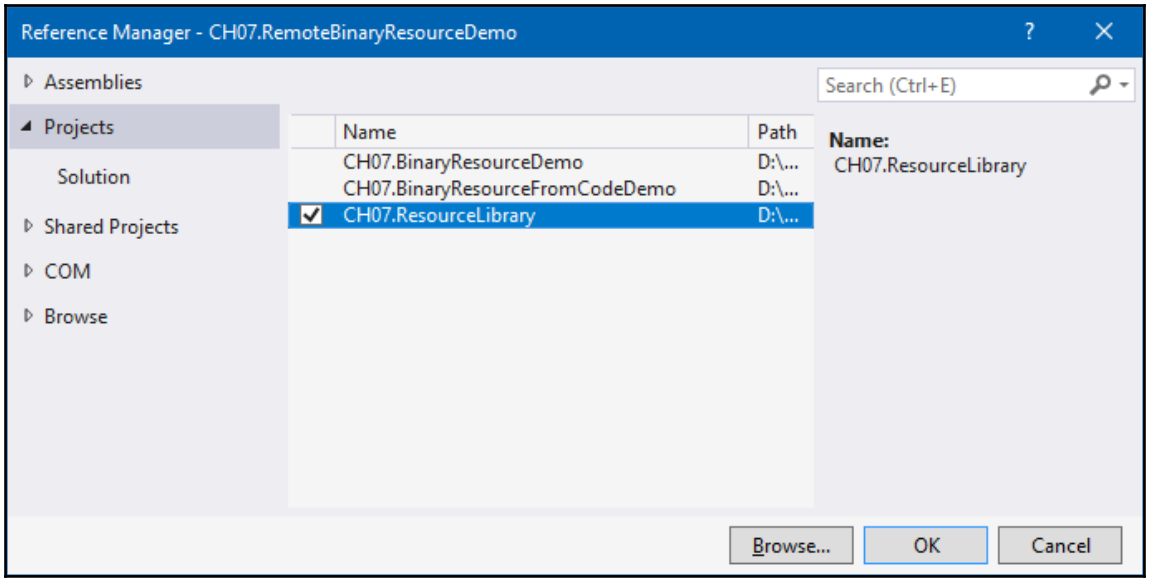

Properties
image2.png File Properties
Build Action Content
Copy to Output Directo Copy always
Custom Tool
Custom Tool Namespa
File Name image2.png

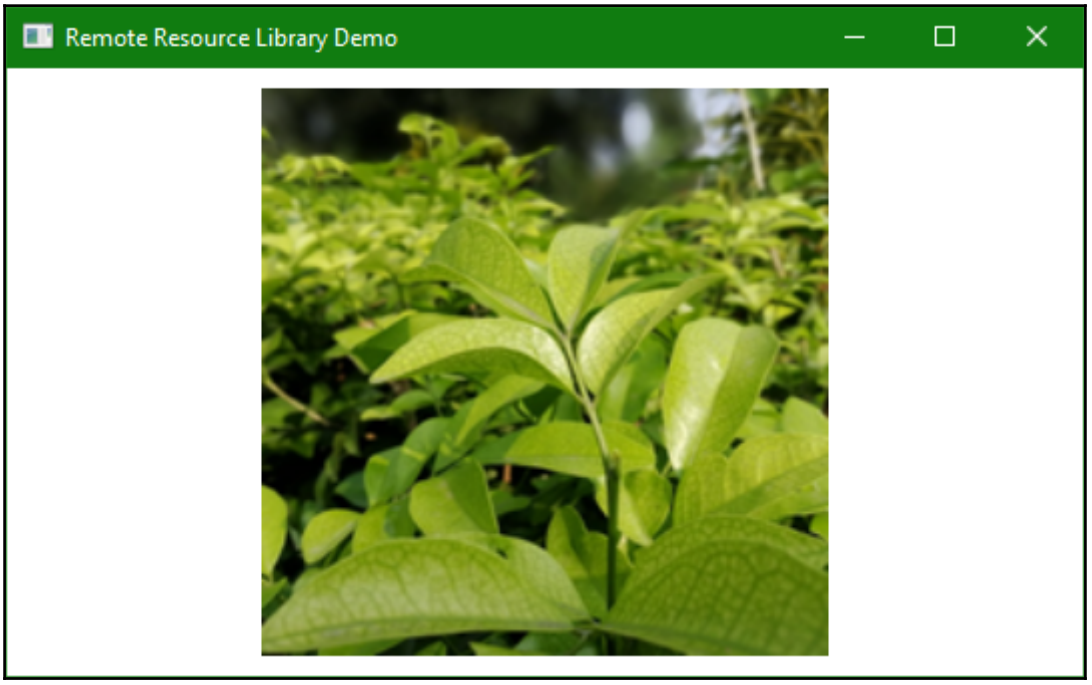

Binary Resource Demo

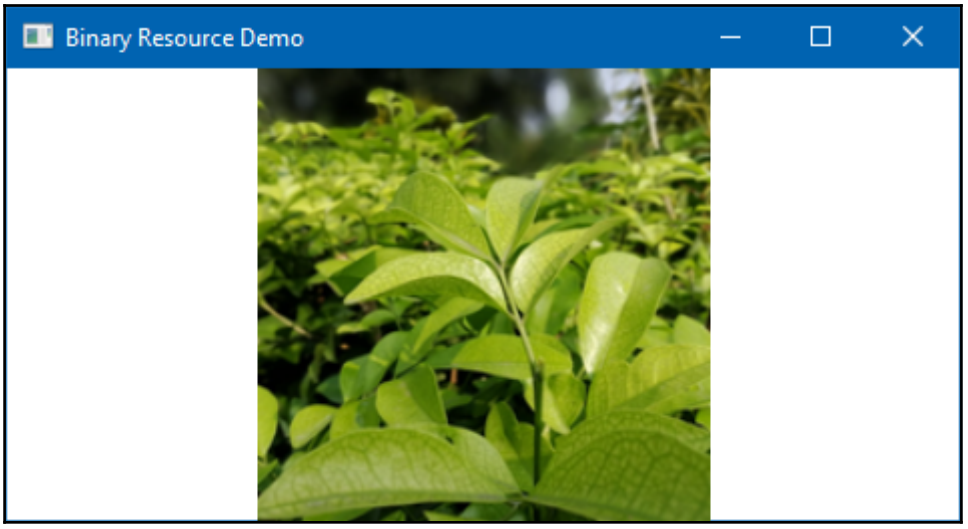

Binary Resource Demo

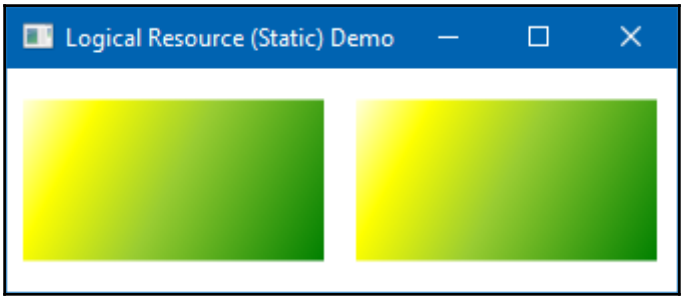

Properties
Name <No Name>
Type Image
Arrange by: Category
Brush
Layout
Appearance
Common
Source
Stretch
StretchDirection
Cursor
DataContext
IsEnabled
Click on the dropdown
to select the image
image1.png
image2.png
Images\image1.png
New

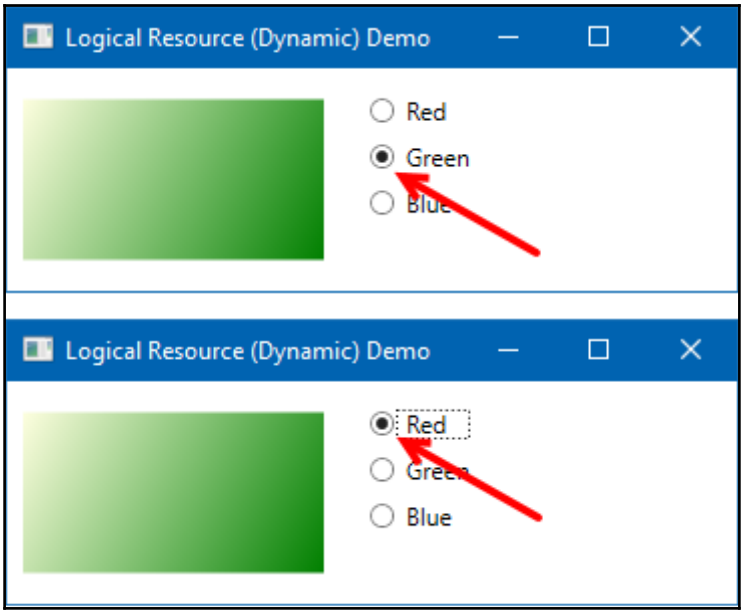

Add New Project
Recent
Installed
Visual C#
Windows Classic Desktop
.NET Standard
Test
Other Languages
Online
.NET Framework 4.7
Sort by: Default
Search (Ctrl+E)
WPF App (.NET Framework) Visual C#
Windows Forms App (.NET F... Visual C#
Console App (.NET Framewo... Visual C#
Class Library (.NET Standard) Visual C#
Class Library (.NET Framewor... Visual C#
Shared Project Visual C#
Class Library (Legacy Portable) Visual C#
Type: Visual C#
A project for creating a C# class library (.dll)
Not finding what you are looking for?
Open Visual Studio Installer
Name: CH07.ResourceLibrary
Location: D:\Cloud Storage\kunal-chowdhury.com\
Browse...
OK
Cancel

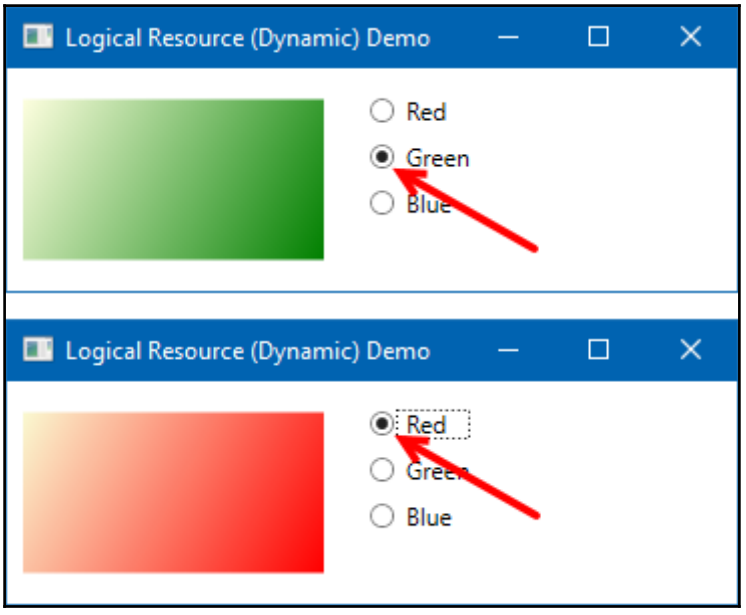

Reference Manager - CH07.RemoteBinaryResourceDemo
Assemblies
Projects
Solution
Shared Projects
COM
Browse
Search (Ctrl+E)
Name
Path
CH07.BinaryResourceDemo
D:\...
CH07.BinaryResourceFromCodeDemo
D:\...
CH07.ResourceLibrary
D:\...
Name:
CH07.ResourceLibrary
Browse...
OK
Cancel

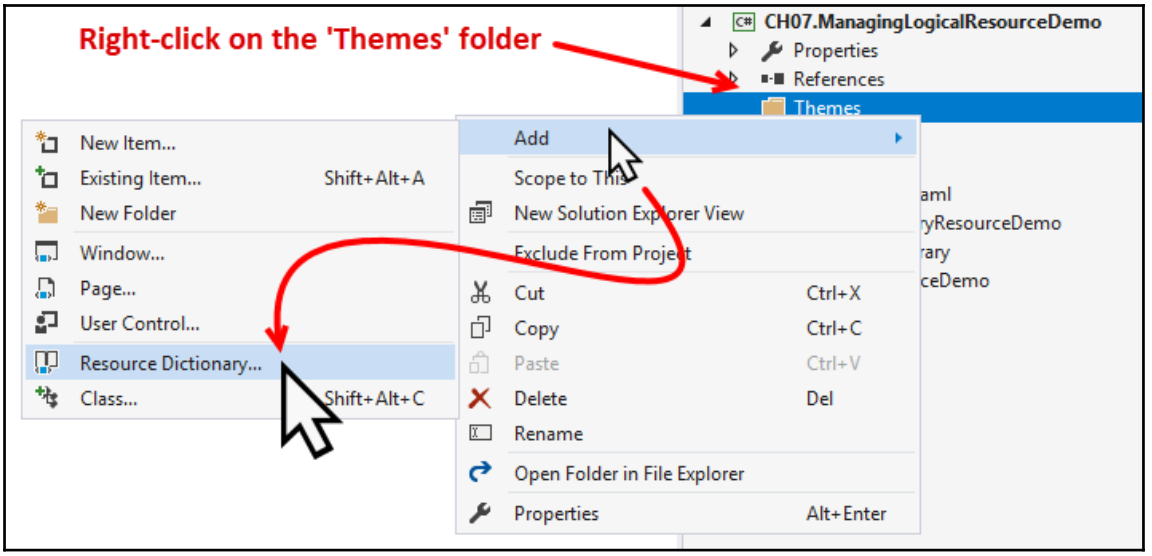

Remote Resource Library Demo

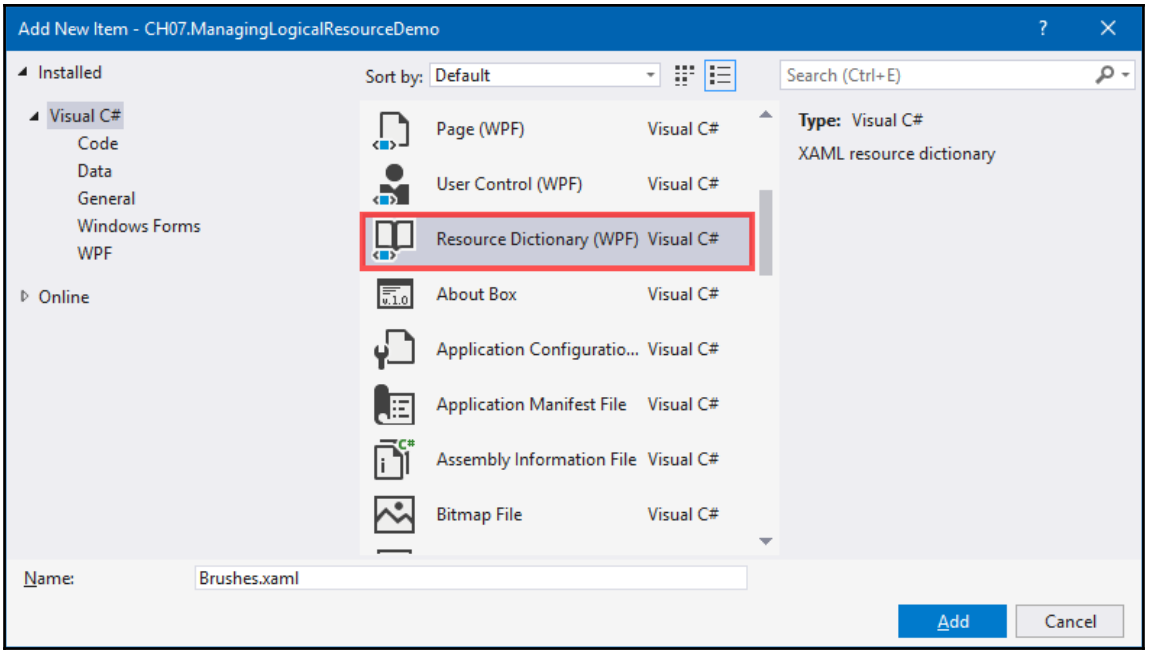

Binary Resource Demo

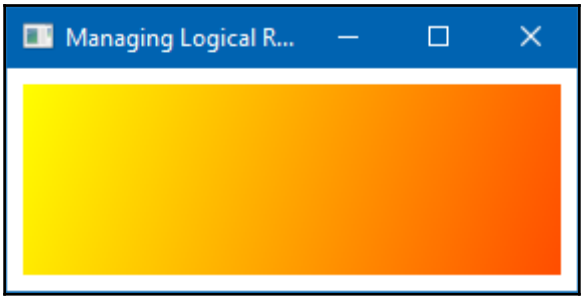

Logical Resource (Static) Demo

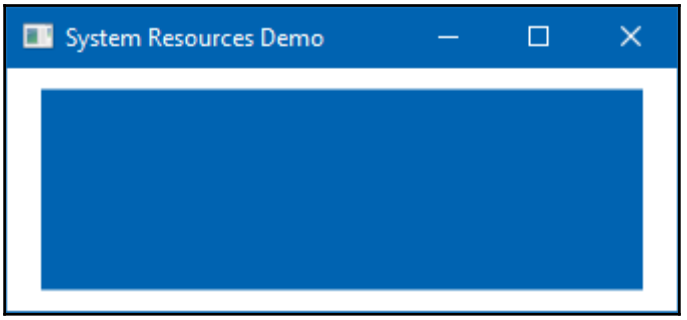

Logical Resource (Dynamic) Demo
Red
Green
Blue
Logical Resource (Dynamic) Demo
Red
Green
Blue

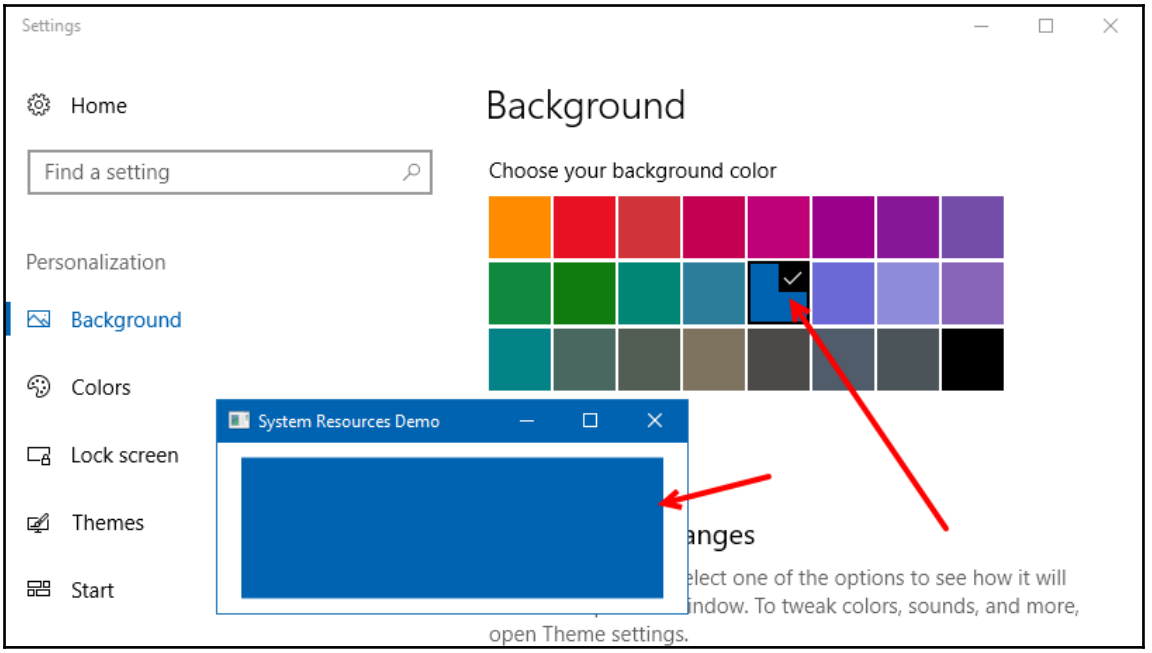

Logical Resource (Dynamic) Demo
Red
Green
Blue
Logical Resource (Dynamic) Demo
Red
Green
Blue

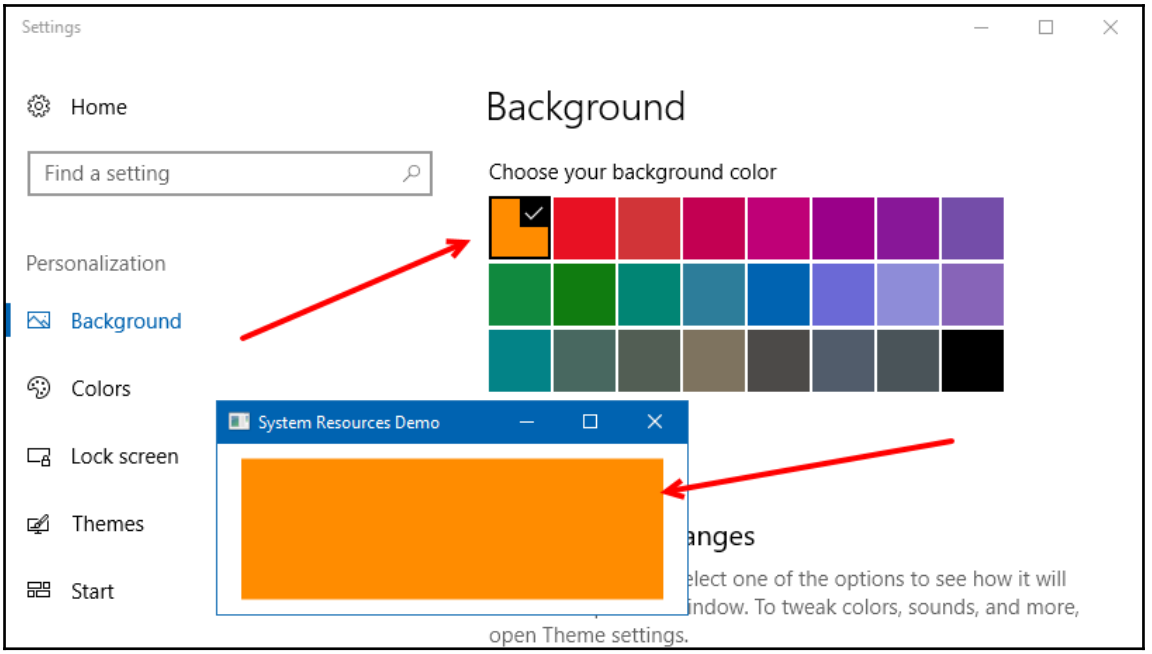

Right-click on the 'Themes' folder
CH07.ManagingLogicalResourceDemo
Properties
References
Themes
New Item...
Existing Item... Shift+Alt+A
New Folder
Window...
Page...
User Control...
Resource Dictionary...
Class... Shift+Alt+C
Add
Scope to This
New Solution Explorer View
Exclude From Project
Cut Ctrl+X
Copy Ctrl+C
Paste Ctrl+V
Delete Del
Rename
Open Folder in File Explorer
Properties Alt+Enter

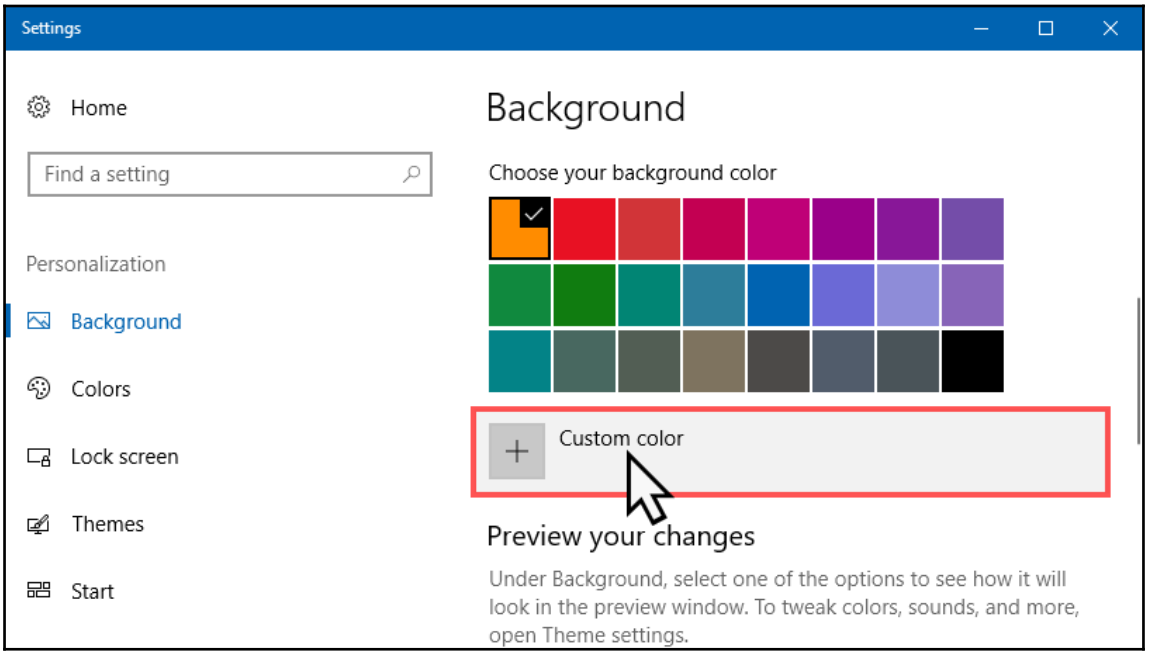

Add New Item - CH07.ManagingLogicalResourceDemo
Installed
Visual C#
Code
Data
General
Windows Forms
WPF
Online
Sort by: Default
Search (Ctrl+E)
Page (WPF) Visual C#
User Control (WPF) Visual C#
Resource Dictionary (WPF) Visual C#
About Box Visual C#
Application Configuratio... Visual C#
Application Manifest File Visual C#
Assembly Information File Visual C#
Bitmap File Visual C#
Type: Visual C#
XAML resource dictionary
Name: Brushes.xaml
Add
Cancel

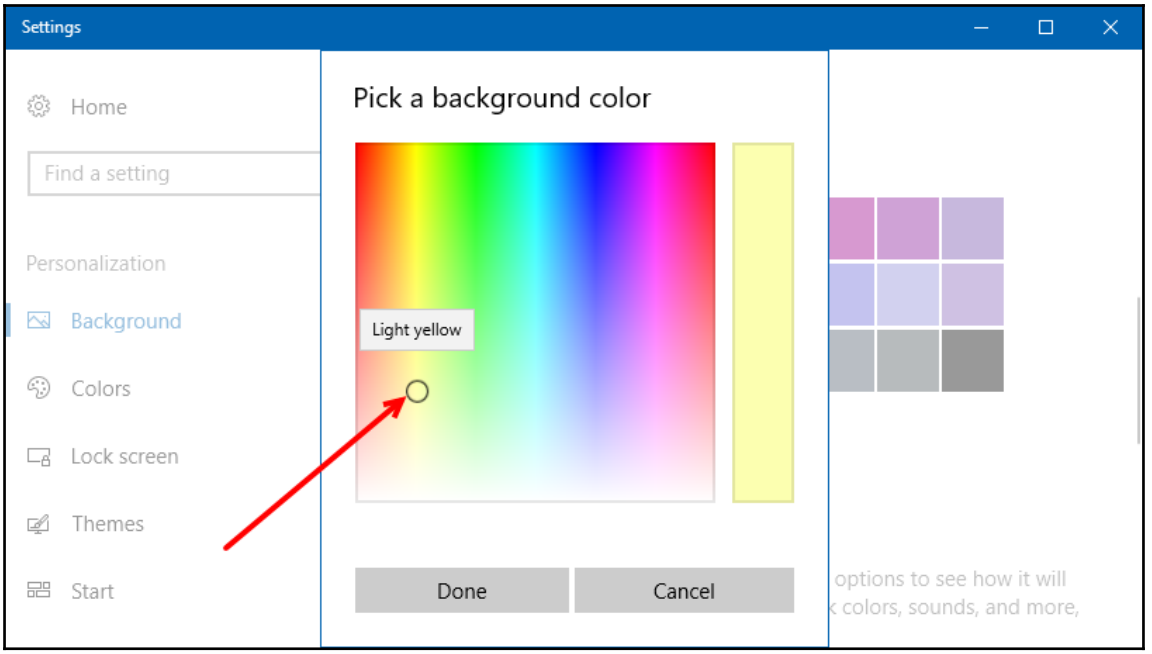

Managing Logical R...

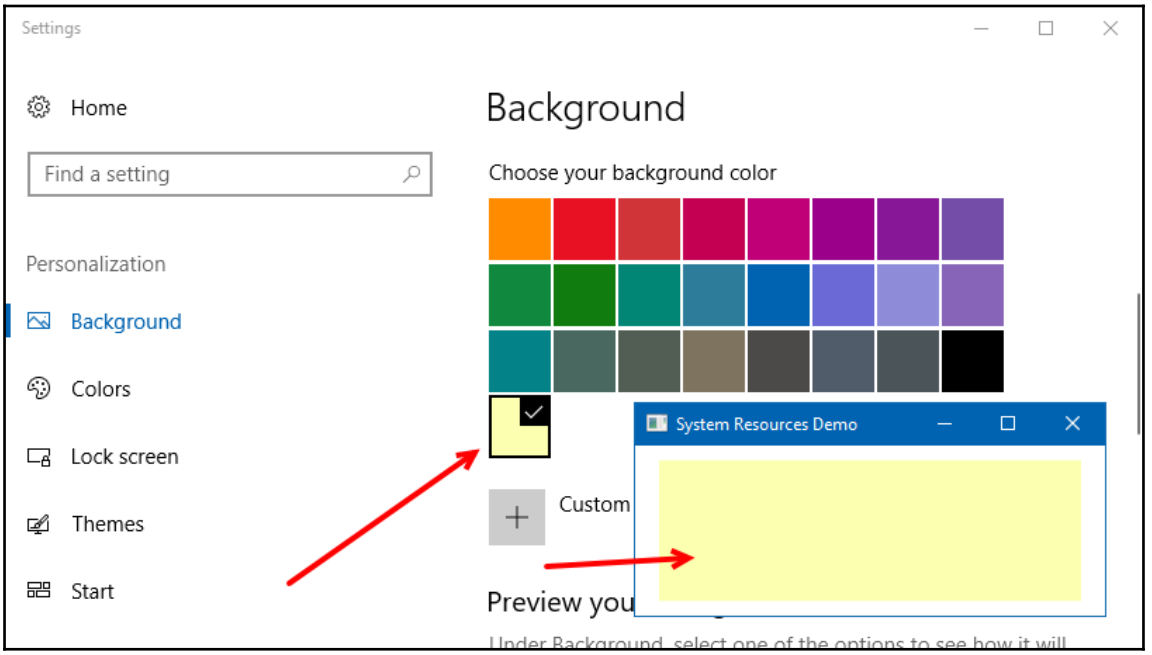

System Resources Demo


Settings
Home
Find a setting
Personalization
Background
Colors
Lock screen
Themes
Start
Background
Choose your background color
System Resources Demo
anges
lect one of the options to see how it will
indow. To tweak colors, sounds, and more,
open Theme settings.

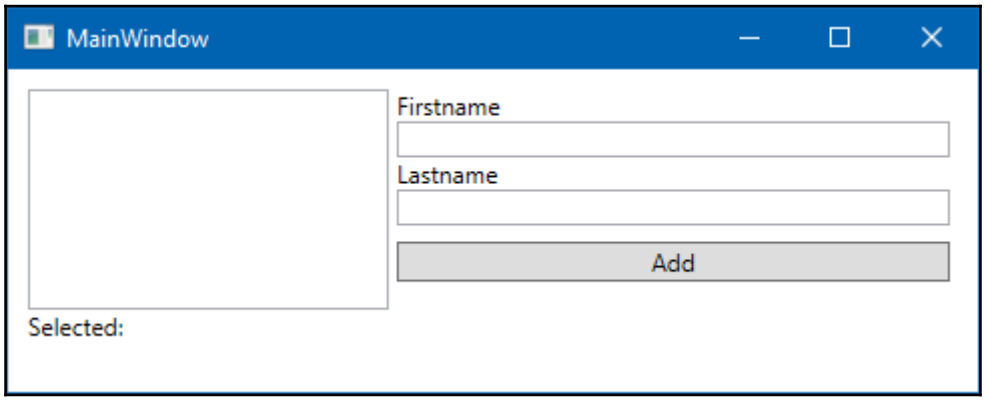

Settings
Home
Find a setting
Personalization
Background
Colors
Lock screen
Themes
Start
Background
Choose your background color
System Resources Demo
anges
elect one of the options to see how it will
indow. To tweak colors, sounds, and more,
open Theme settings.

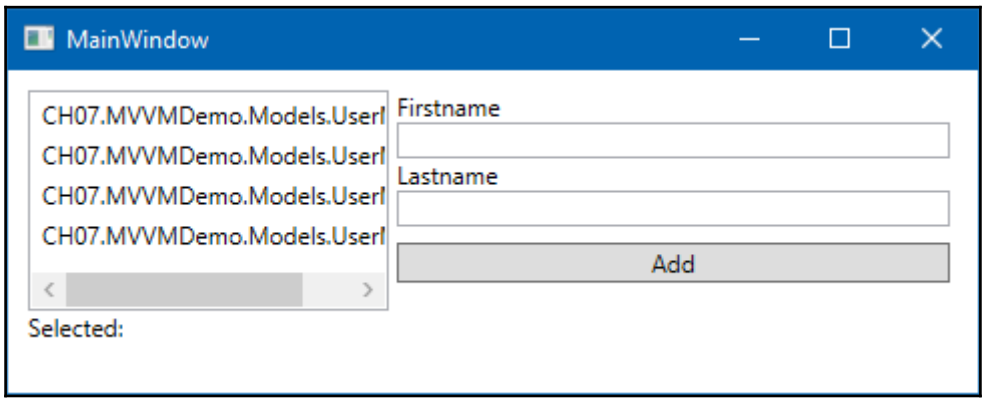

Settings
Home
Find a setting
Personalization
Background
Colors
Lock screen
Themes
Start
Background
Choose your background color
Custom color
Preview your changes
Under Background, select one of the options to see how it will look in the preview window. To tweak colors, sounds, and more, open Theme settings.

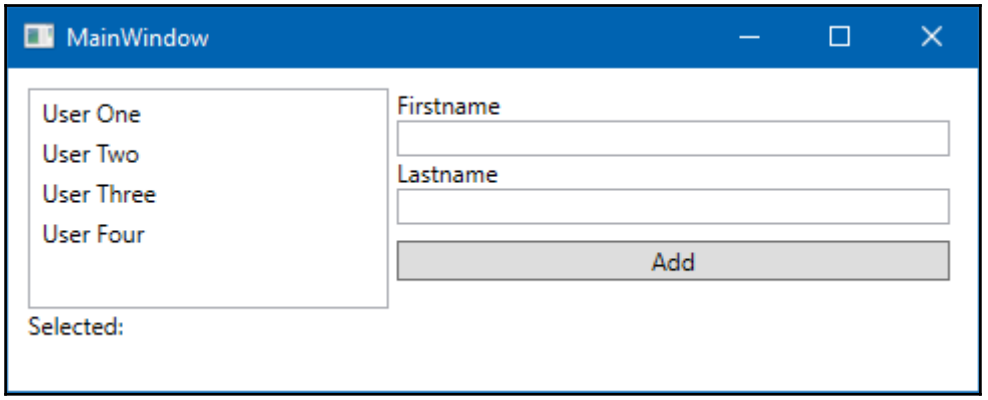

Settings
Home
Find a setting
Personalization
Background
Colors
Lock screen
Themes
Start
Pick a background color
Light yellow
Done
Cancel
options to see how it will
colors, sounds, and more,

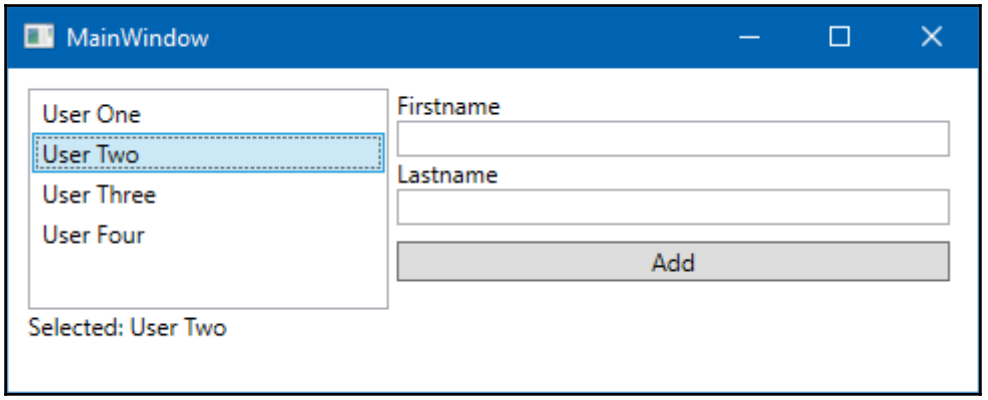

Settings
Home
Find a setting
Personalization
Background
Colors
Lock screen
Themes
Start
Background
Choose your background color
Custom
Preview you
System Resources Demo

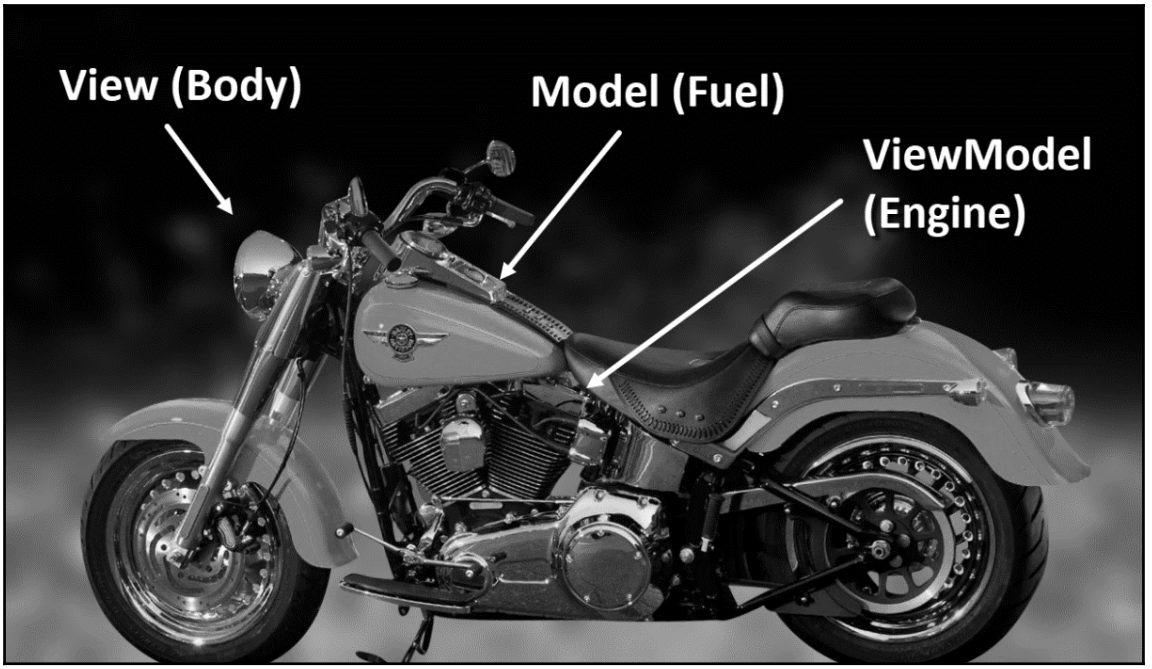
```
<Application x:Class="CH07.MVVMDemo.App"
             xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
             xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
             xmlns:local="clr-namespace:CH07.MVVMDemo"
             StartupUri="Views\MainWindow.xaml">
    <Application.Resources>

    </Application.Resources>
</Application>
```

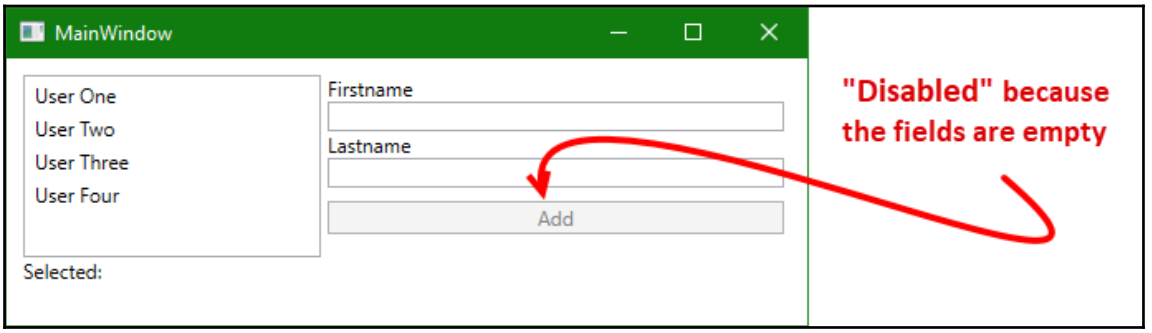


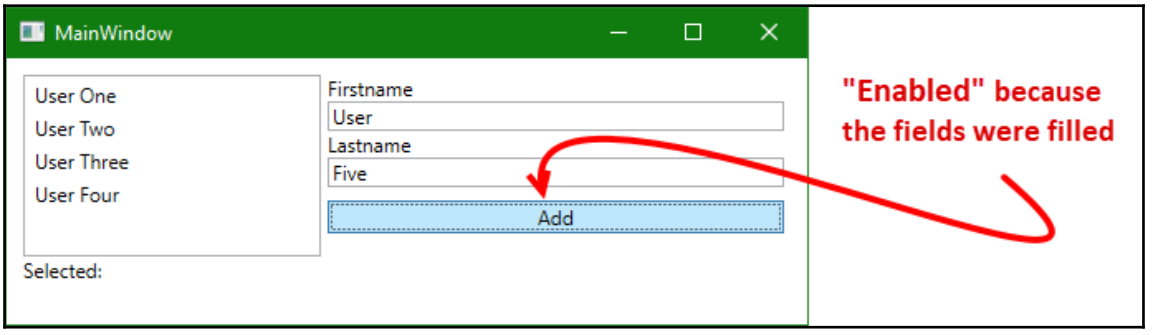


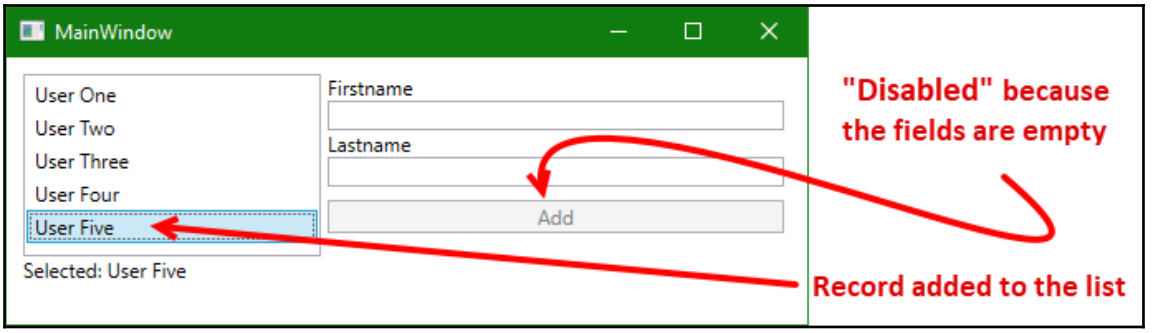

MainWindow
User One
User Two
User Three
User Four
Firstname
Lastname
Add
Selected:


MainWindow
User One
User Two
User Three
User Four
Firstname
Lastname
Add
Selected: User Two

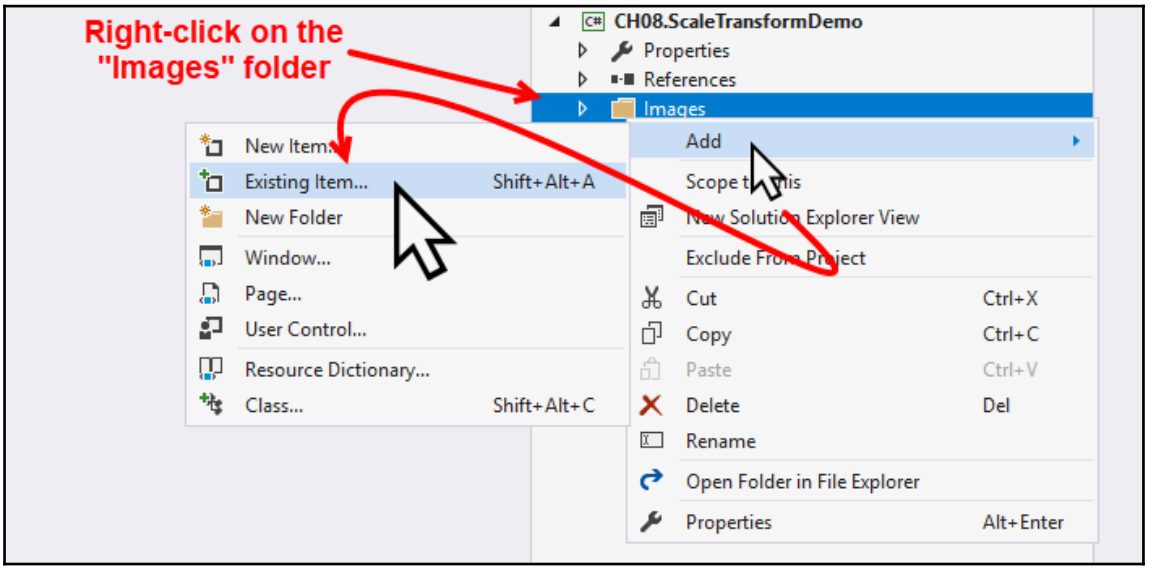

View (Body)
Model (Fuel)
ViewModel
(Engine)

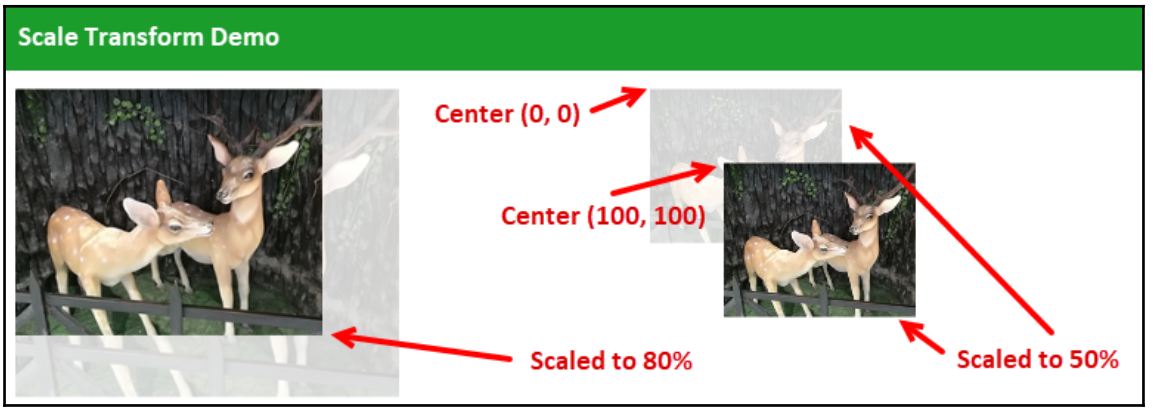

MainWindow
User One
User Two
User Three
User Four
Firstname
Lastname
Add
Selected:
"Disabled" because
the fields are empty

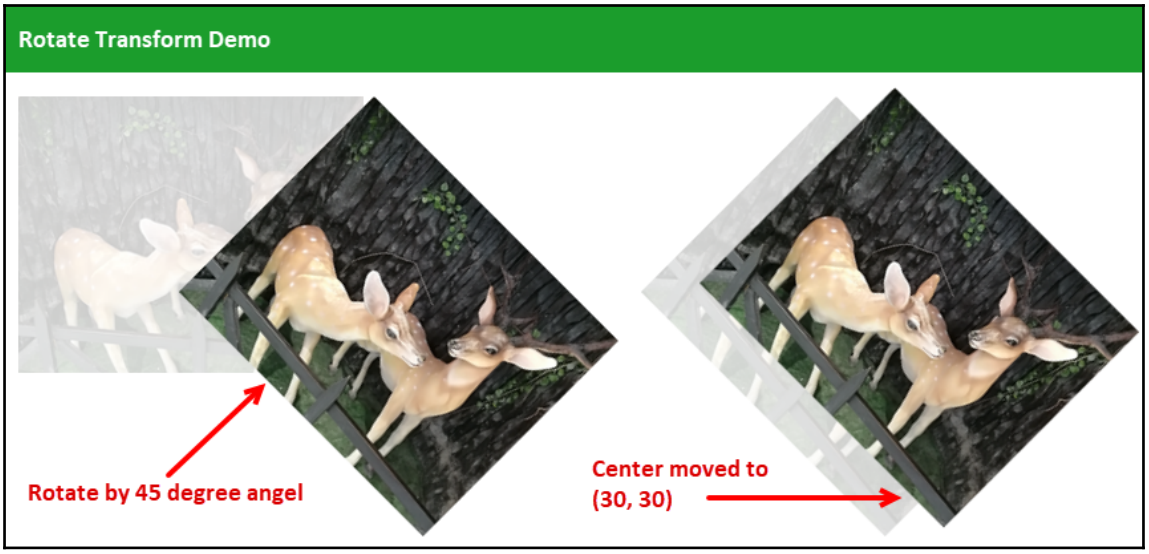

MainWindow
User One
User Two
User Three
User Four
Firstname
User
Lastname
Five
Add
Selected:
"Enabled" because
the fields were filled

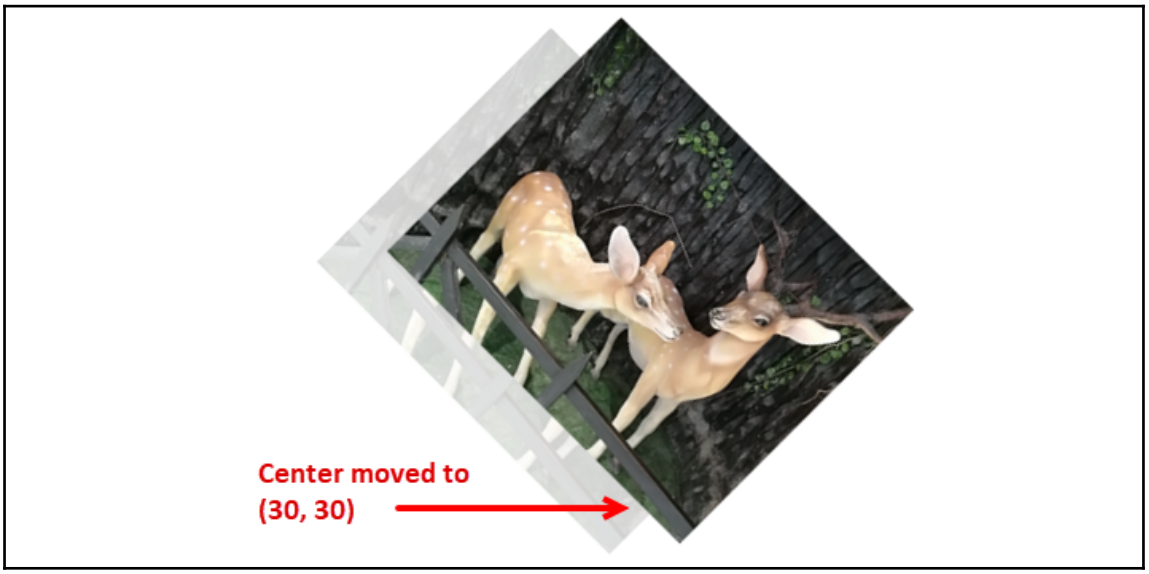

MainWindow
User One
User Two
User Three
User Four
User Five
Selected: User Five
Firstname
Lastname
Add
"Disabled" because the fields are empty
Record added to the list

Chapter 8: Working with Animations

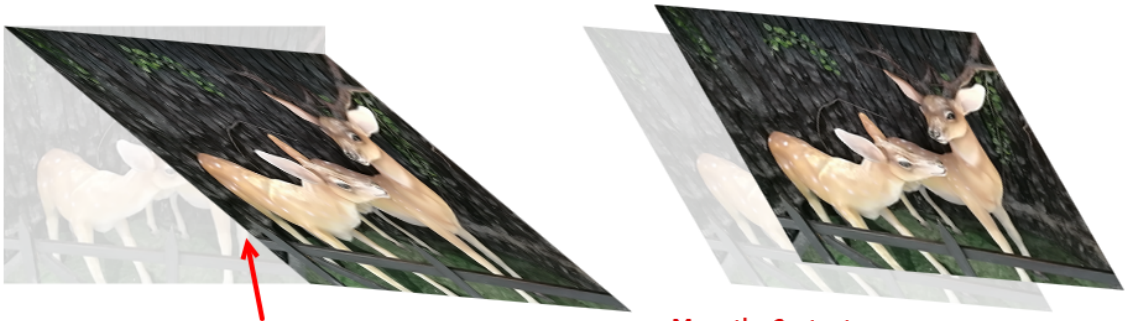


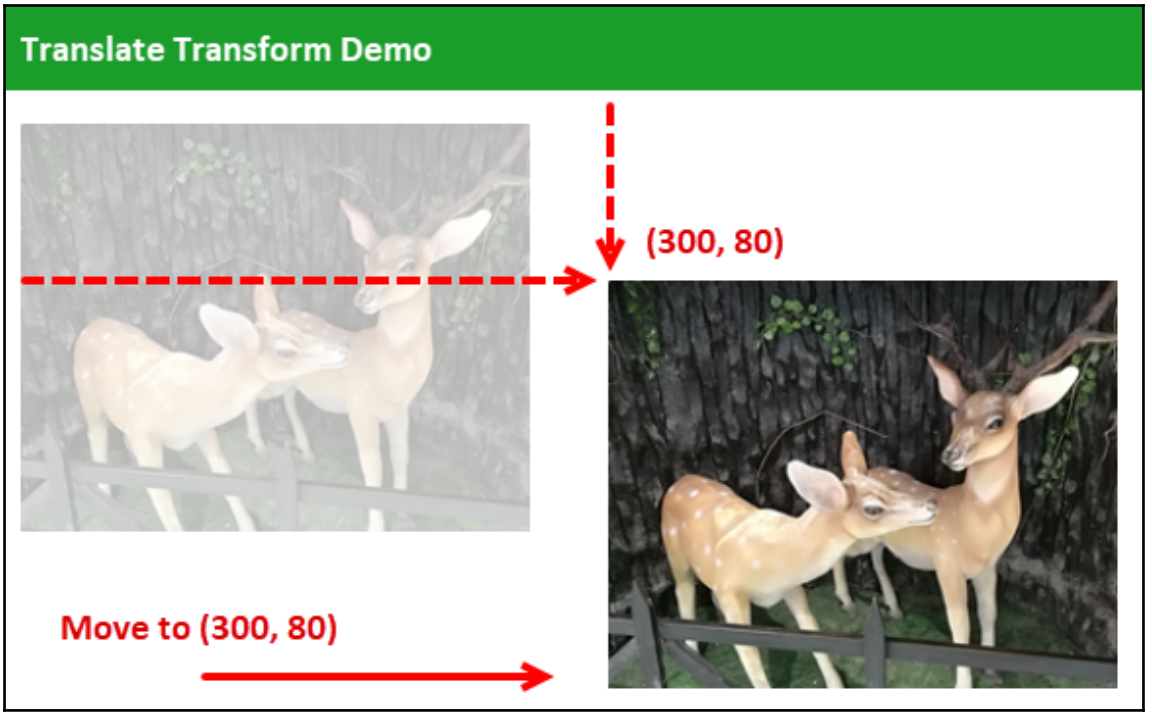


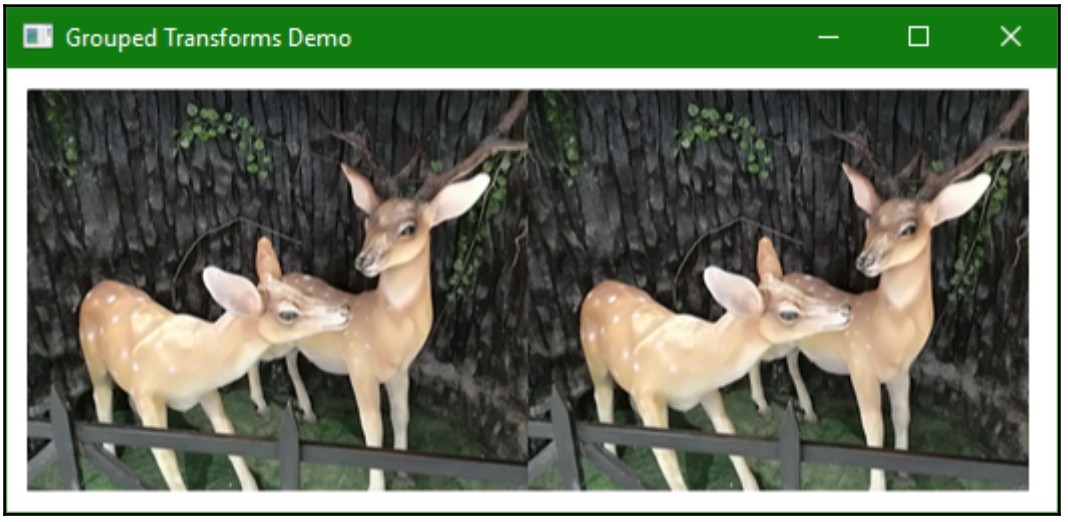

Rotate Transform Demo
Rotate by 45 degree angel
Center moved to
(30, 30)

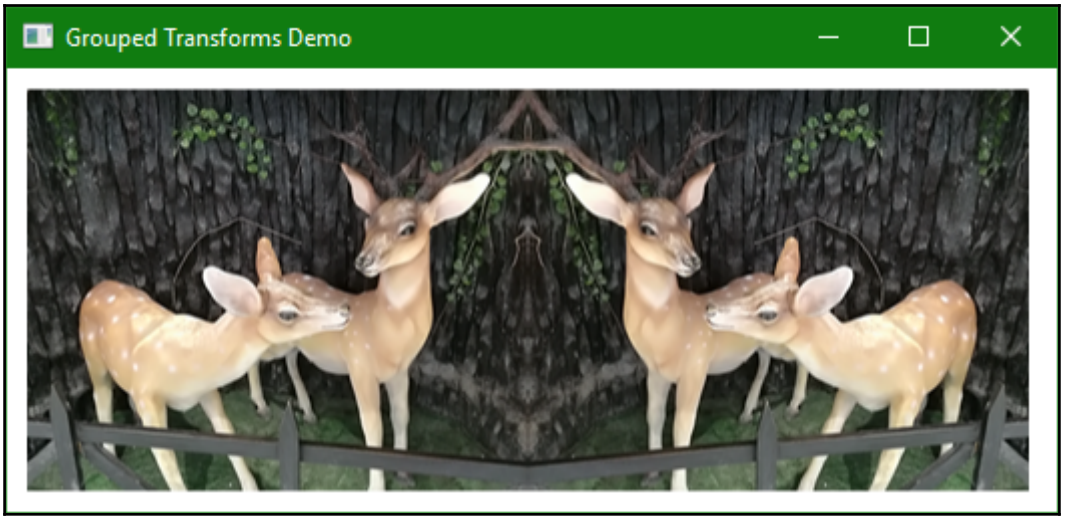

Center moved to
(30, 30)

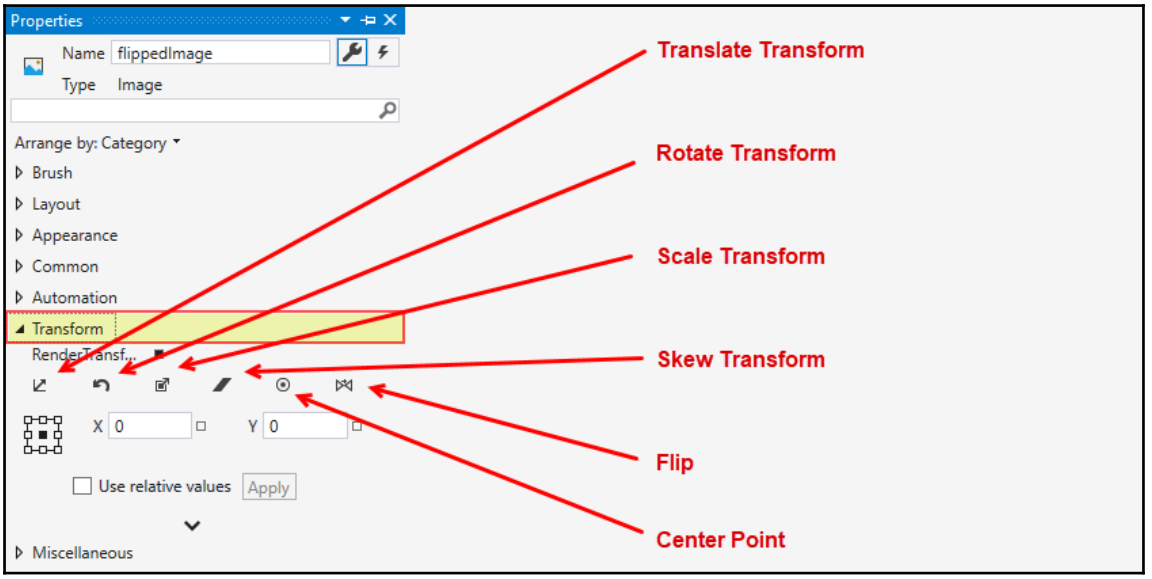
Skew Transform Demo

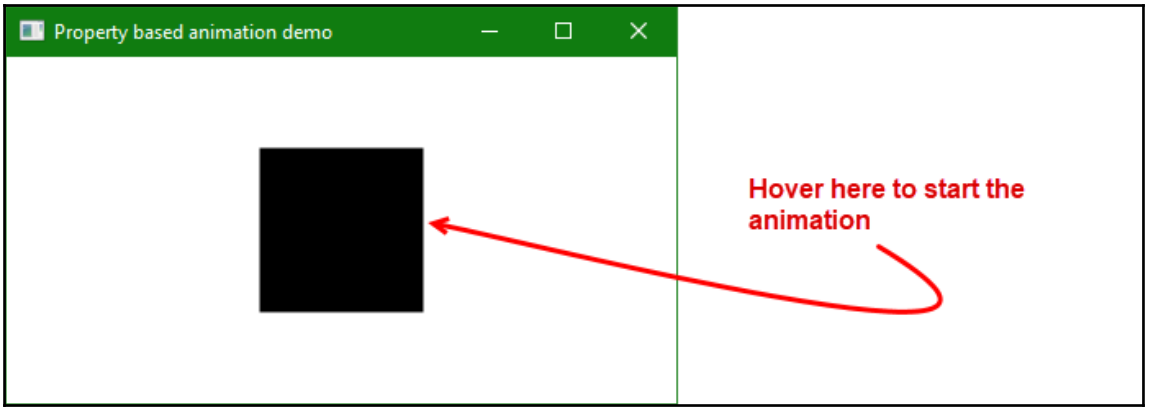


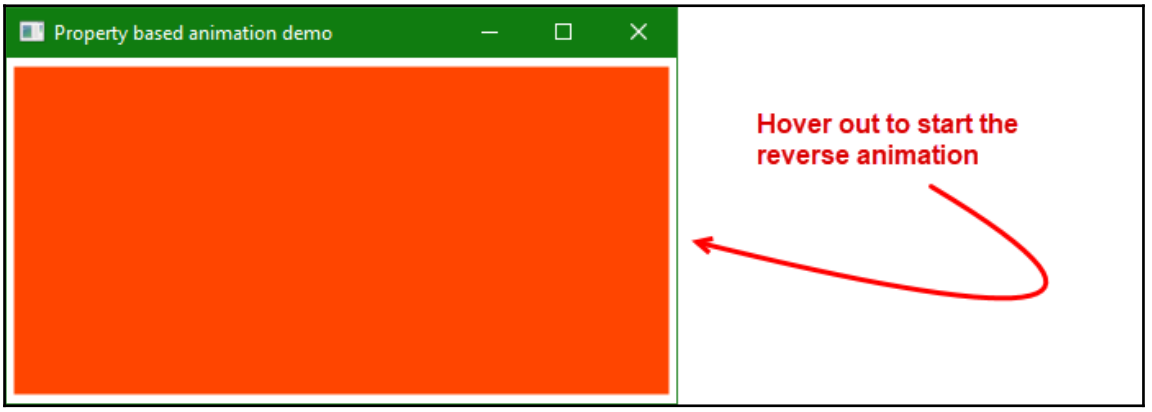

Translate Transform Demo
(300, 80)
Move to (300, 80)

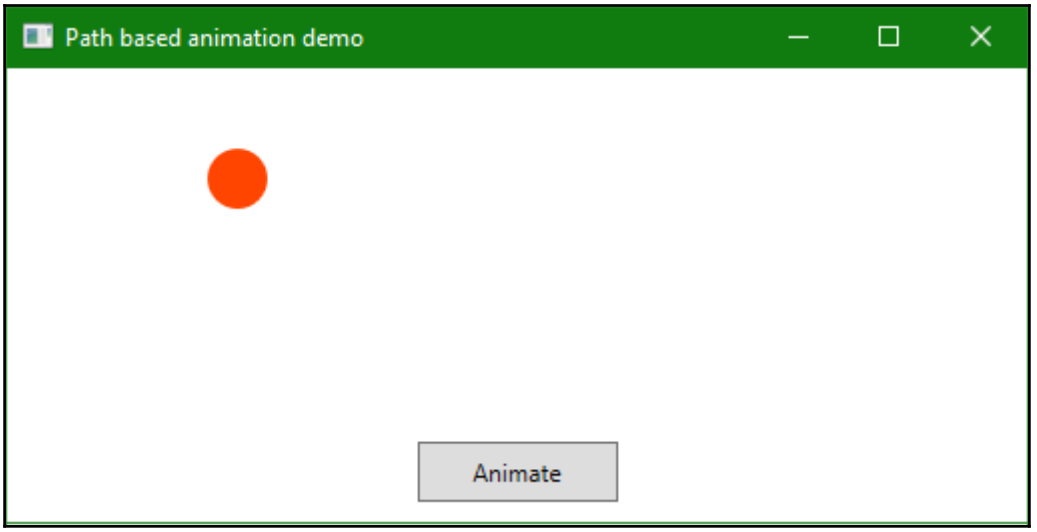

Grouped Transforms Demo

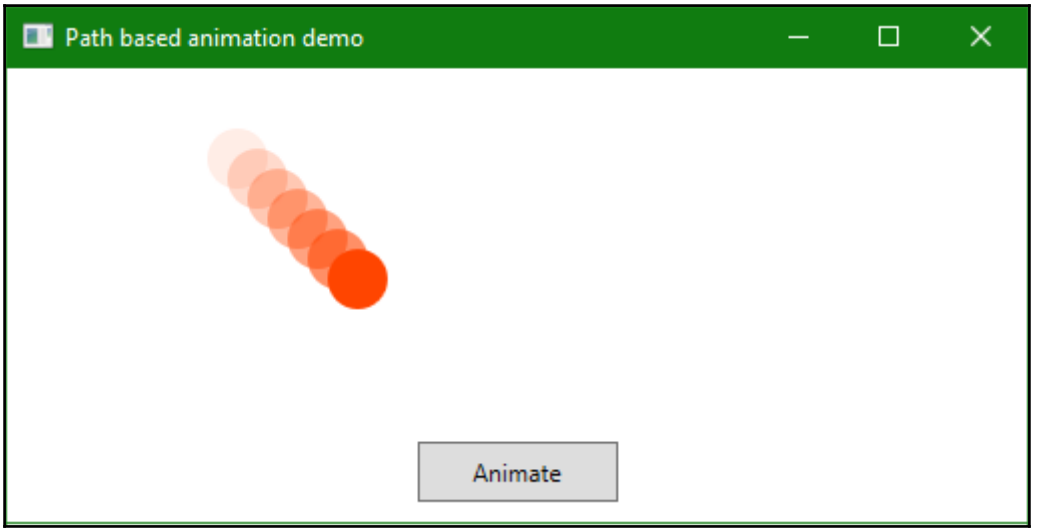

Grouped Transforms Demo

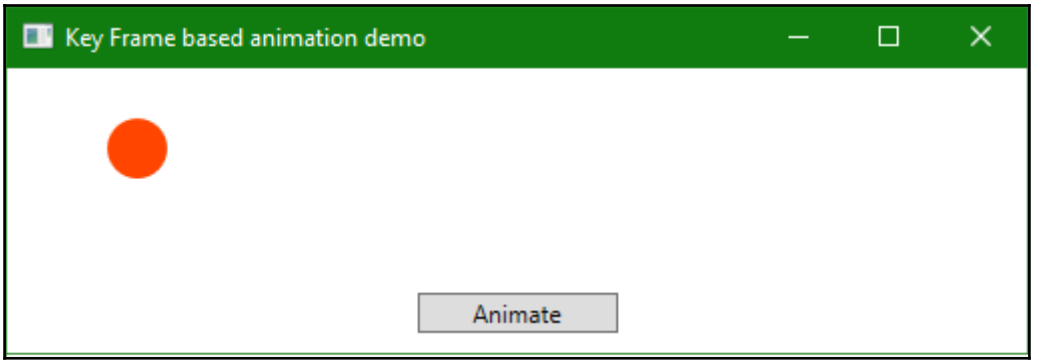

Properties
Name flippedImage
Type Image
Arrange by: Category
Brush
Layout
Appearance
Common
Automation
Transform
RenderTransf...
X 0
Y 0
Use relative values
Apply
Miscellaneous
Translate Transform
Rotate Transform
Scale Transform
Skew Transform
Flip
Center Point

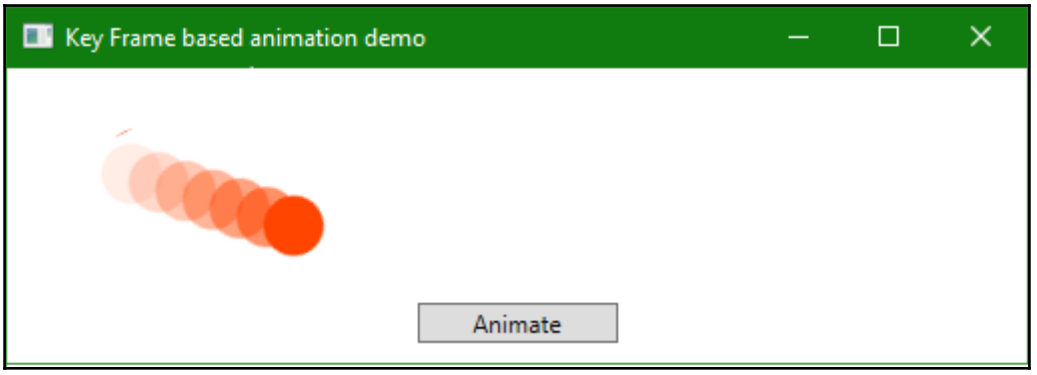

Property based animation demo
Hover here to start the animation

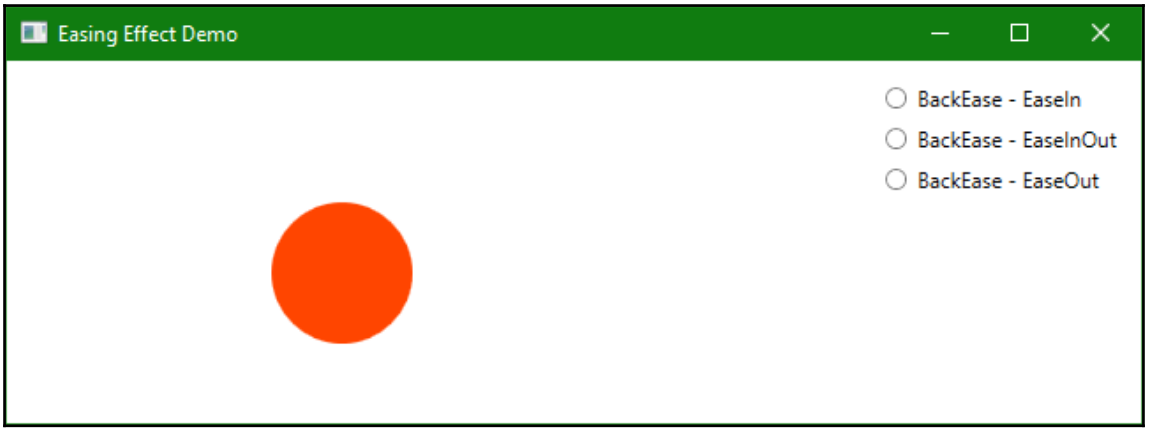

Property based animation demo
Hover out to start the reverse animation

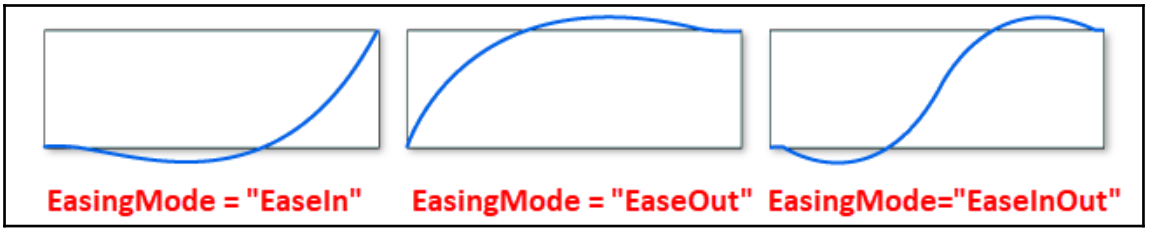

Path based animation demo
Animate

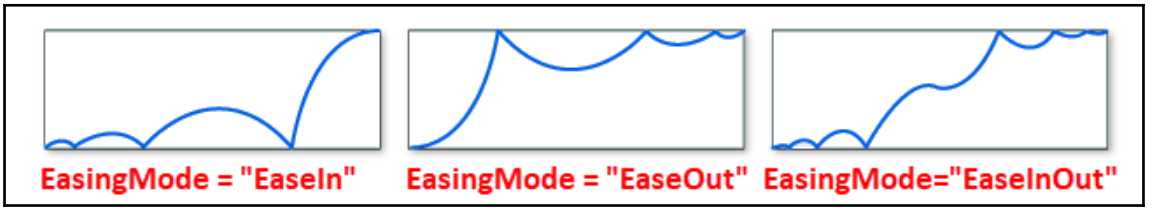

Path based animation demo
Animate

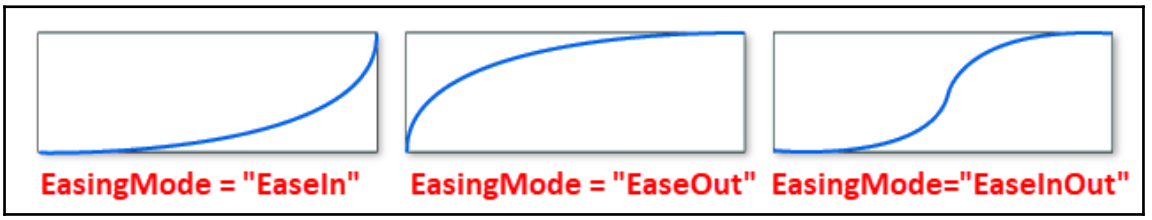

Key Frame based animation demo
Animate

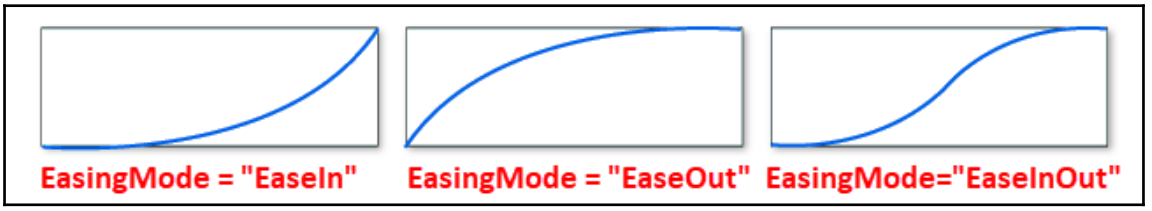

Key Frame based animation demo
Animate

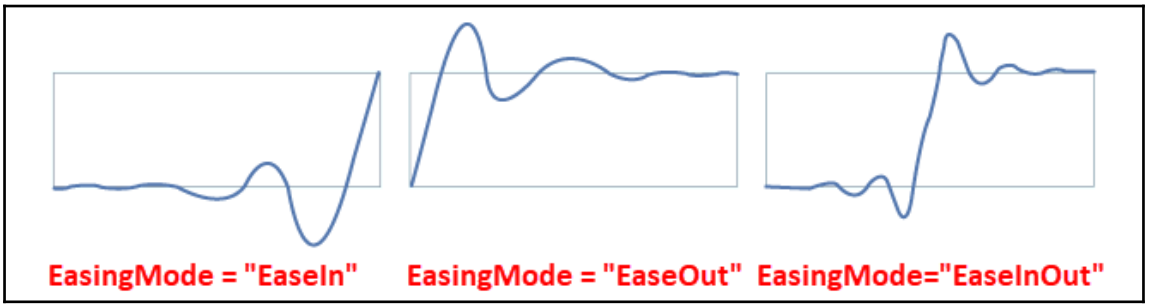

Easing Effect Demo
BackEase - EaseIn
BackEase - EaseInOut
BackEase - EaseOut

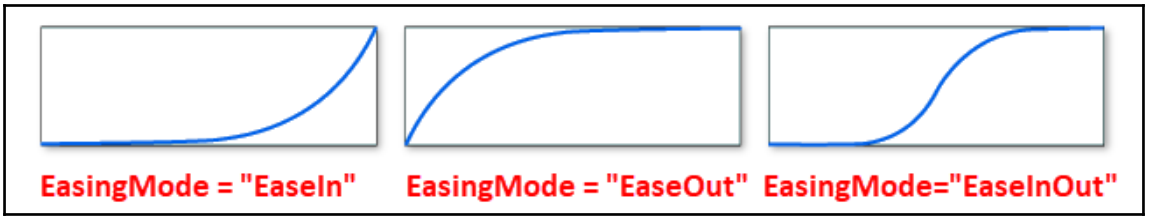

EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"


EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

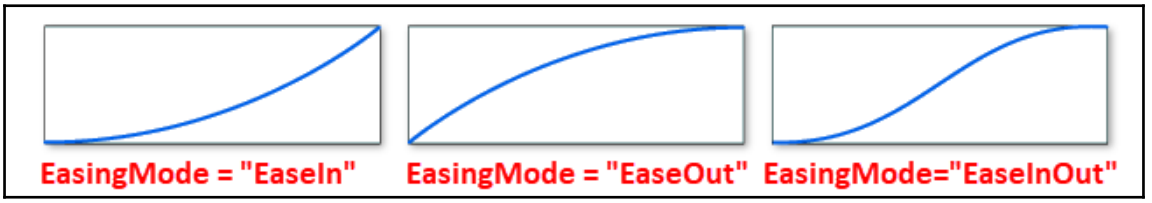

EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

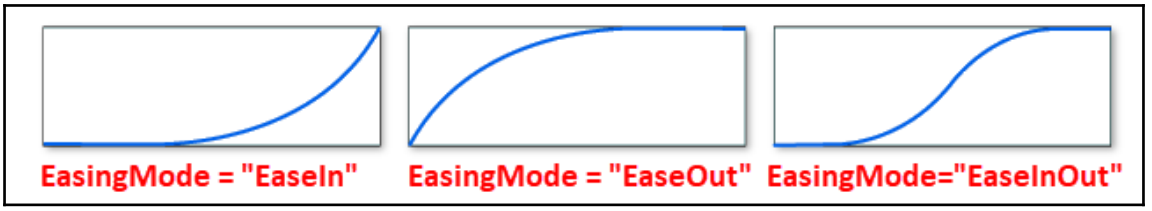

EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"


EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"


EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

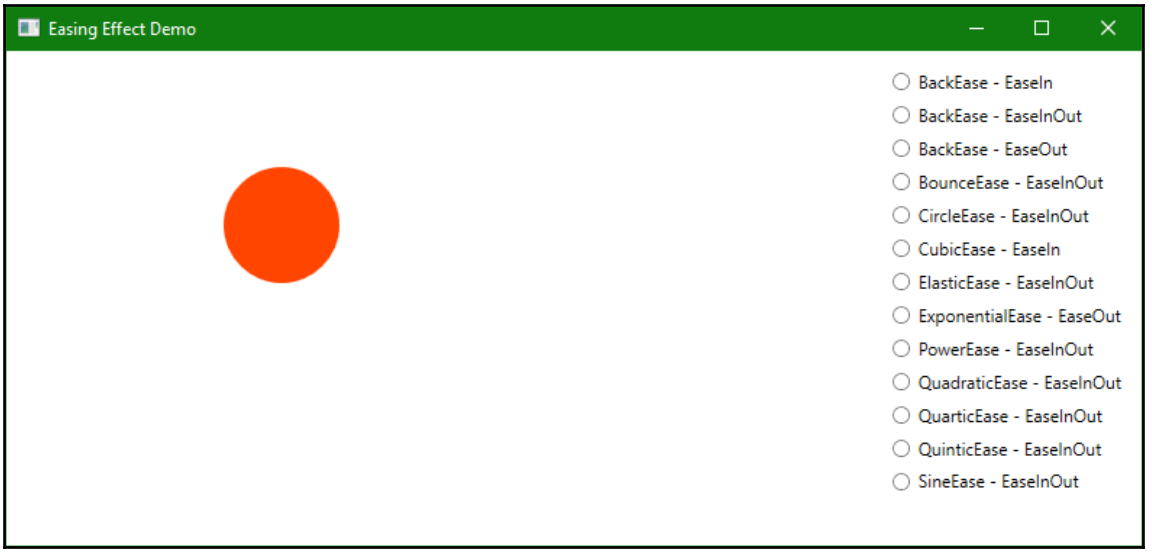
EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"


EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

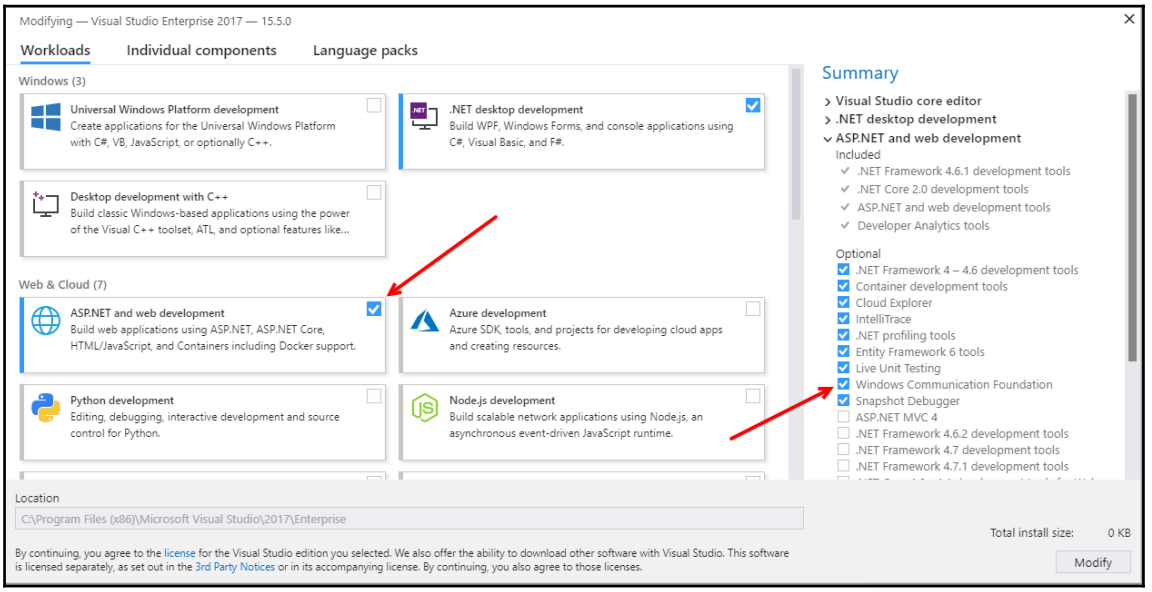

EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

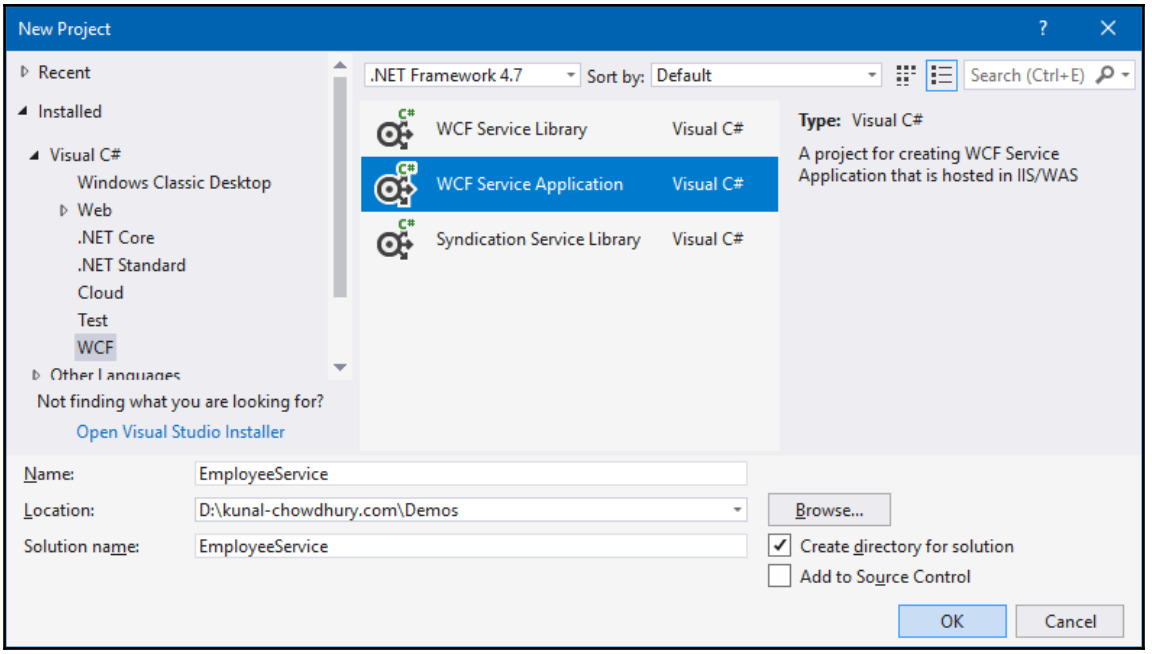
EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

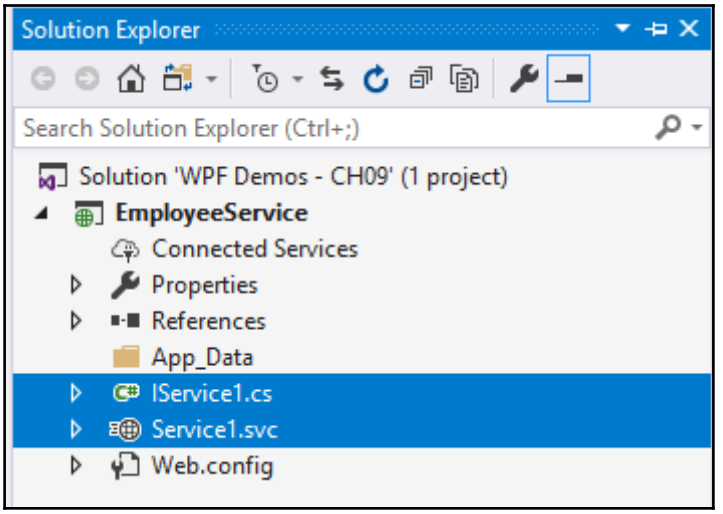
EasingMode = "EaseIn"
EasingMode = "EaseOut"
EasingMode="EaseInOut"

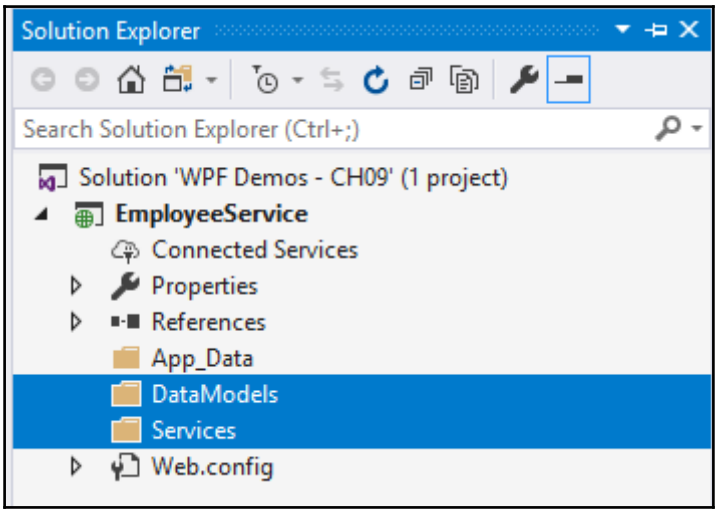

Easing Effect Demo
BackEase - EaseIn
BackEase - EaseInOut
BackEase - EaseOut
BounceEase - EaseInOut
CircleEase - EaseInOut
CubicEase - EaseIn
ElasticEase - EaseInOut
ExponentialEase - EaseOut
PowerEase - EaseInOut
QuadraticEase - EaseInOut
QuarticEase - EaseInOut
QuinticEase - EaseInOut
SineEase - EaseInOut

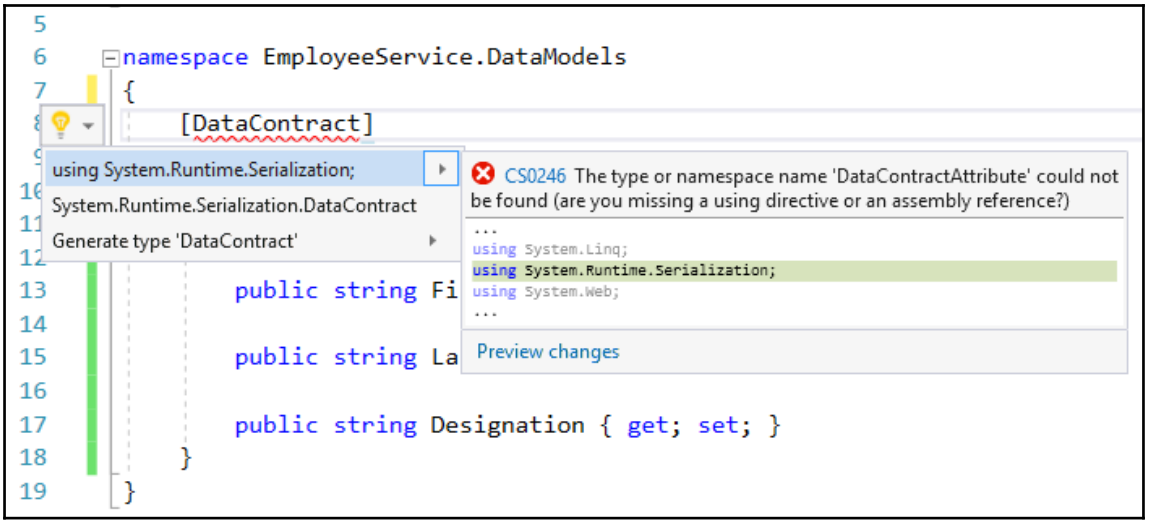
Chapter 9: Using WCF Services

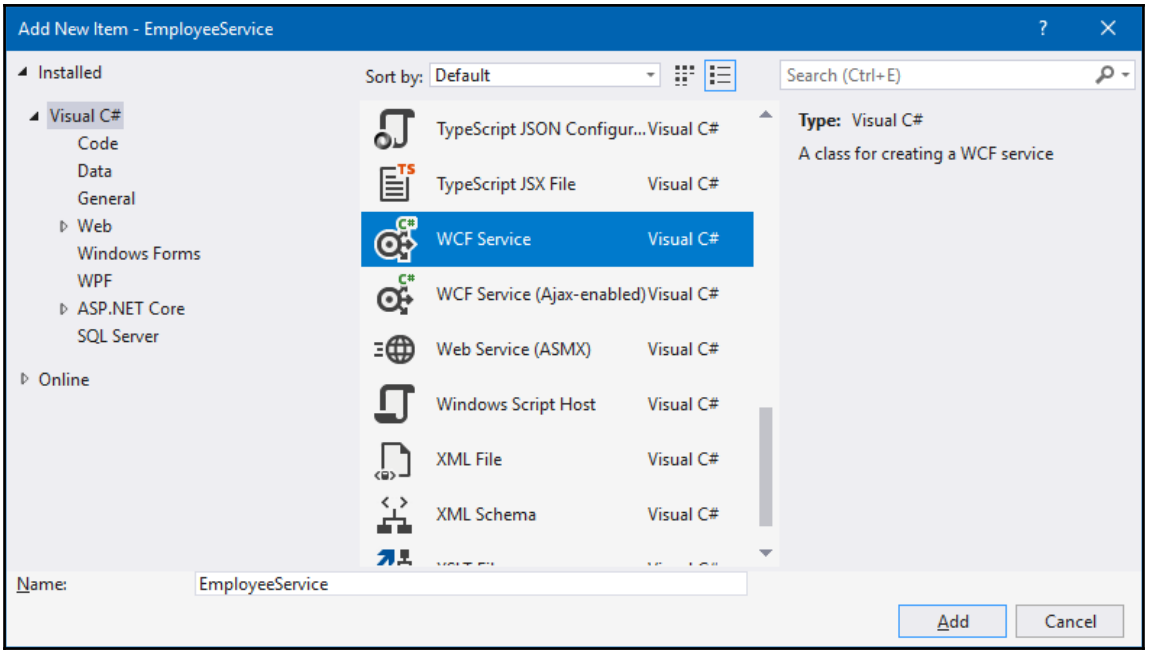


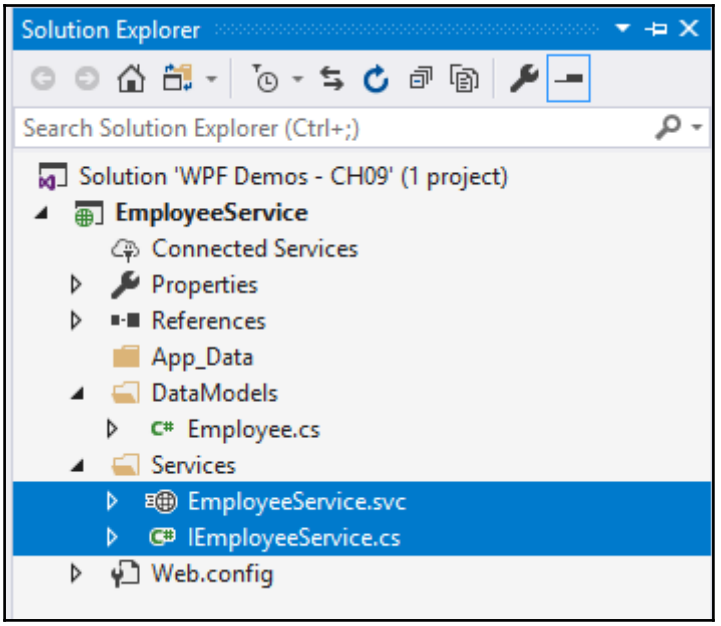


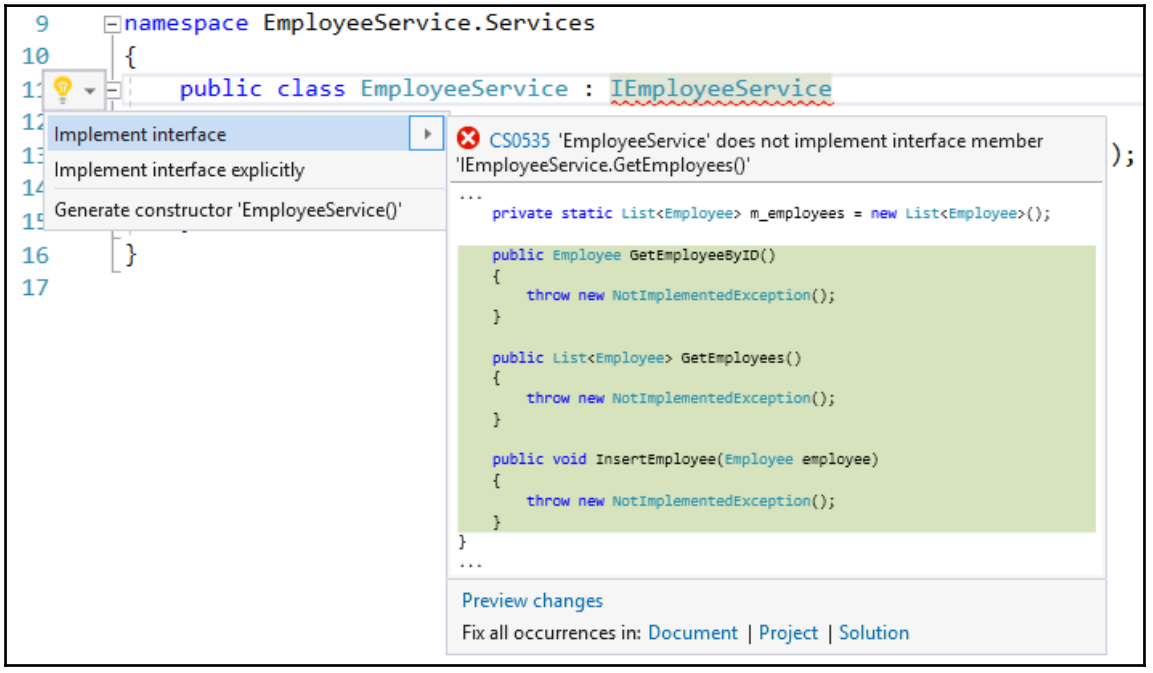

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (1 project)
EmployeeService
Connected Services
Properties
References
App_Data
IService1.cs
Service1.svc
Web.config

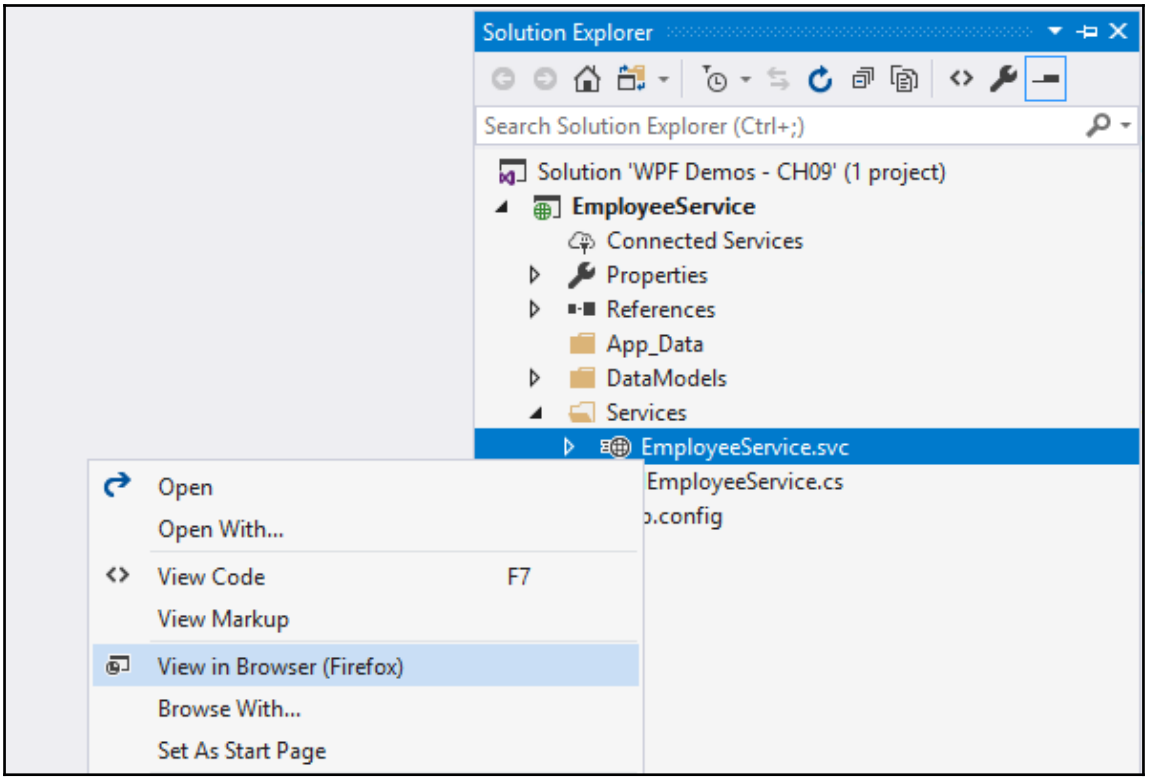

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (1 project)
EmployeeService
Connected Services
Properties
References
App_Data
DataModels
Services
Web.config

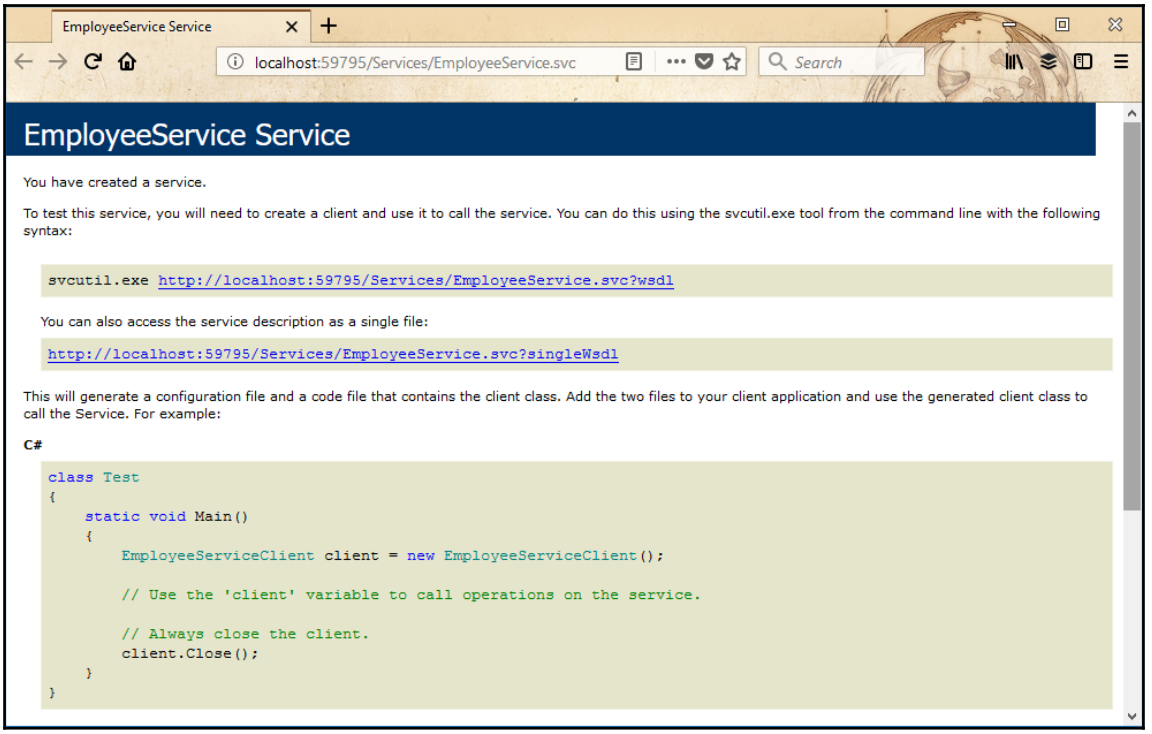

namespace EmployeeService.DataModels
{
[DataContract]
using System.Runtime.Serialization;
System.Runtime.Serialization.DataContract
Generate type 'DataContract'
CS0246 The type or namespace name 'DataContractAttribute' could not be found (are you missing a using directive or an assembly reference?)
using System.Linq;
using System.Runtime.Serialization;
using System.Web;
Preview changes
public string Fi
public string La
public string Designation { get; set; }
}
}

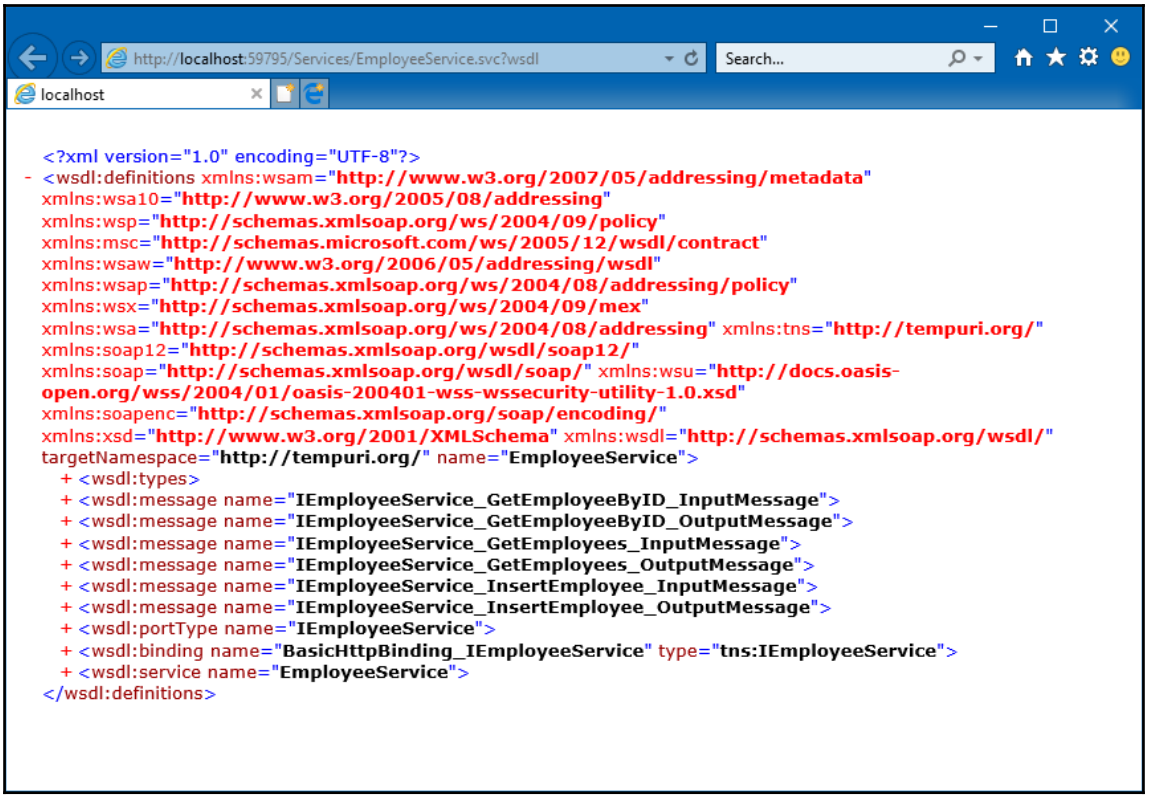

Add New Item - EmployeeService
Installed
Visual C#
Code
Data
General
Web
Windows Forms
WPF
ASP.NET Core
SQL Server
Online
Sort by: Default
Search (Ctrl+E)
TypeScript JSON Configur... Visual C#
TypeScript JSX File Visual C#
WCF Service Visual C#
WCF Service (Ajax-enabled) Visual C#
Web Service (ASMX) Visual C#
Windows Script Host Visual C#
XML File Visual C#
XML Schema Visual C#
Type: Visual C#
A class for creating a WCF service
Name: EmployeeService
Add
Cancel

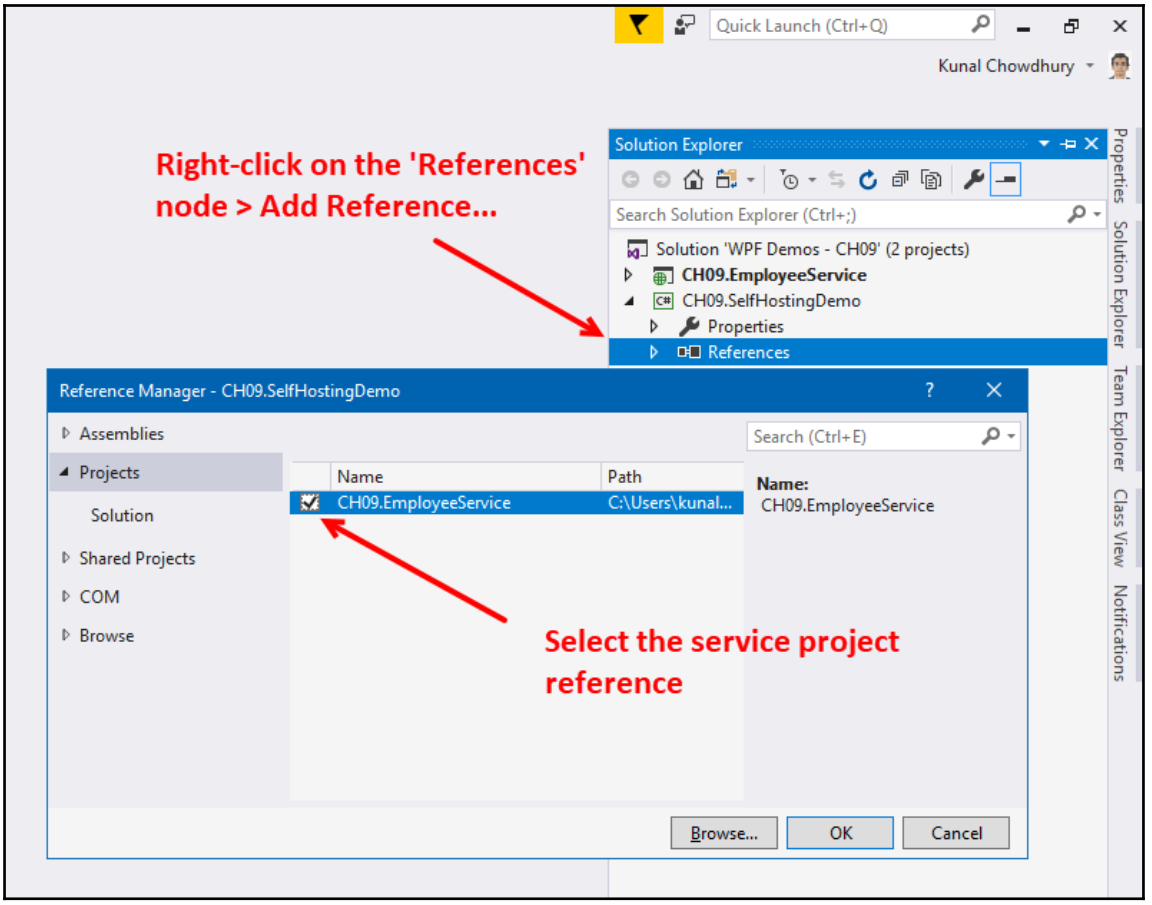

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (1 project)
EmployeeService
Connected Services
Properties
References
App_Data
DataModels
Employee.cs
Services
EmployeeService.svc
IEmployeeService.cs
Web.config

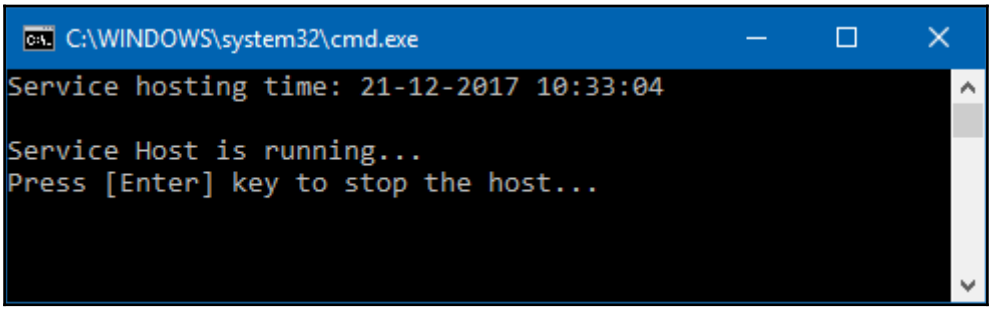

namespace EmployeeService.Services
{
public class EmployeeService : IEmployeeService
}
Implement interface
Implement interface explicitly
Generate constructor 'EmployeeService()'
CS0535 'EmployeeService' does not implement interface member 'IEmployeeService.GetEmployees()'
private static List<Employee> m_employees = new List<Employee>();
public Employee GetEmployeeByID()
{
throw new NotImplementedException();
}
public List<Employee> GetEmployees()
{
throw new NotImplementedException();
}
public void InsertEmployee(Employee employee)
{
throw new NotImplementedException();
}
Preview changes
Fix all occurrences in: Document | Project | Solution

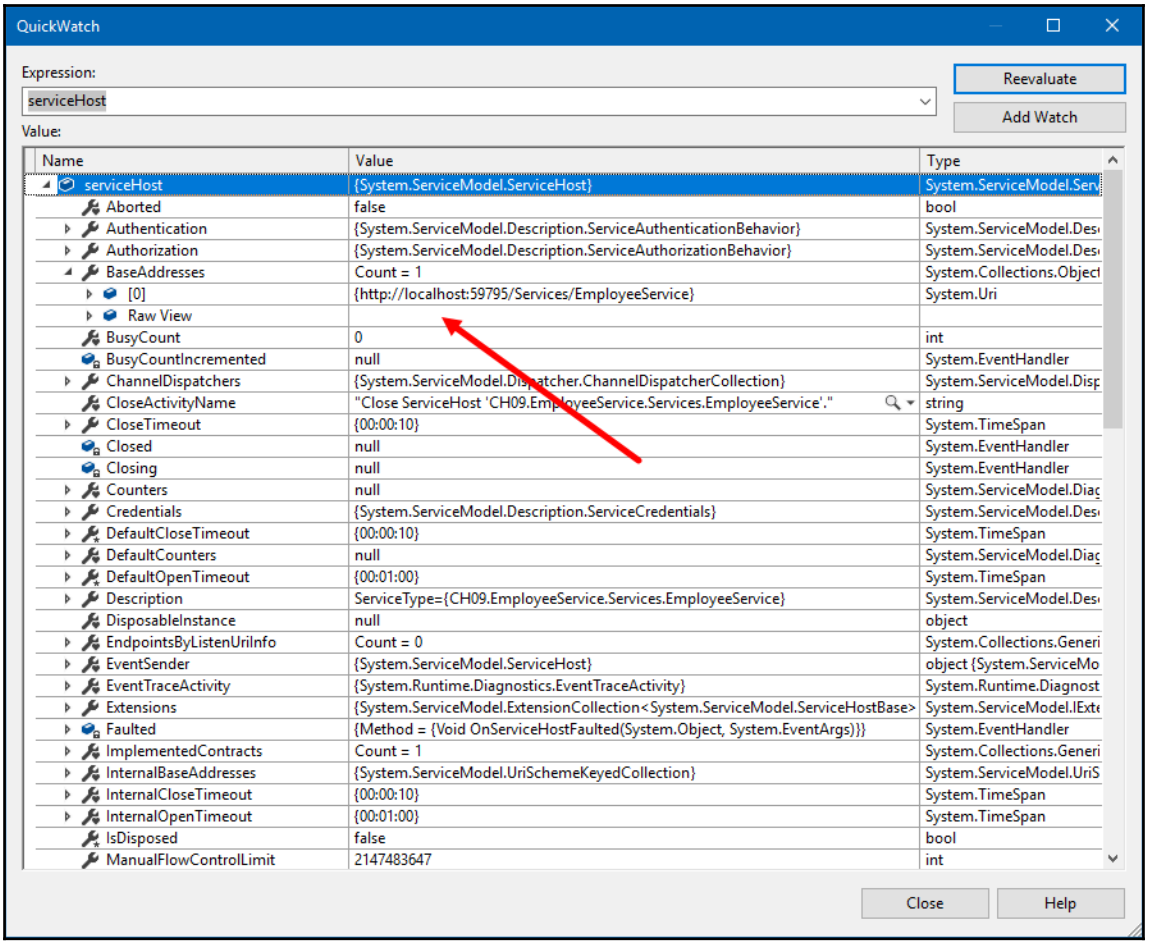

Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (1 project)
EmployeeService
Connected Services
Properties
References
App_Data
DataModels
Services
EmployeeService.svc
EmployeeService.cs
.config
Open
Open With...
View Code F7
View Markup
View in Browser (Firefox)
Browse With...
Set As Start Page

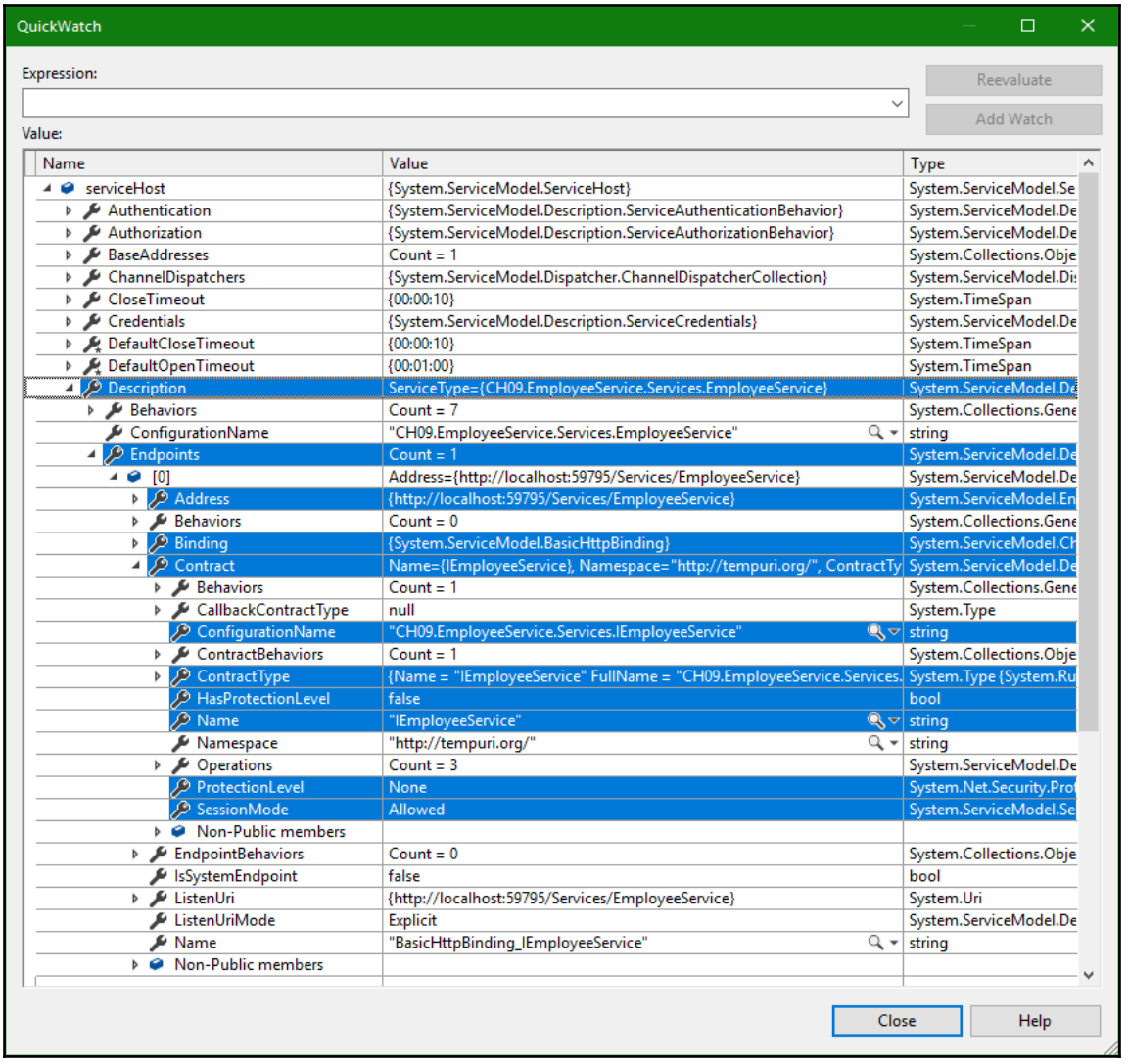

EmployeeService Service
localhost:59795/Services/EmployeeService.svc
Search
EmployeeService Service
You have created a service.
To test this service, you will need to create a client and use it to call the service. You can do this using the svcutil.exe tool from the command line with the following syntax:
svcutil.exe http://localhost:59795/Services/EmployeeService.svc?wsdl
You can also access the service description as a single file:
http://localhost:59795/Services/EmployeeService.svc?singleWsdl
This will generate a configuration file and a code file that contains the client class. Add the two files to your client application and use the generated client class to call the Service. For example:
C#
class Test
{
static void Main()
{
EmployeeServiceClient client = new EmployeeServiceClient();
// Use the 'client' variable to call operations on the service.
// Always close the client.
client.Close();
}
}

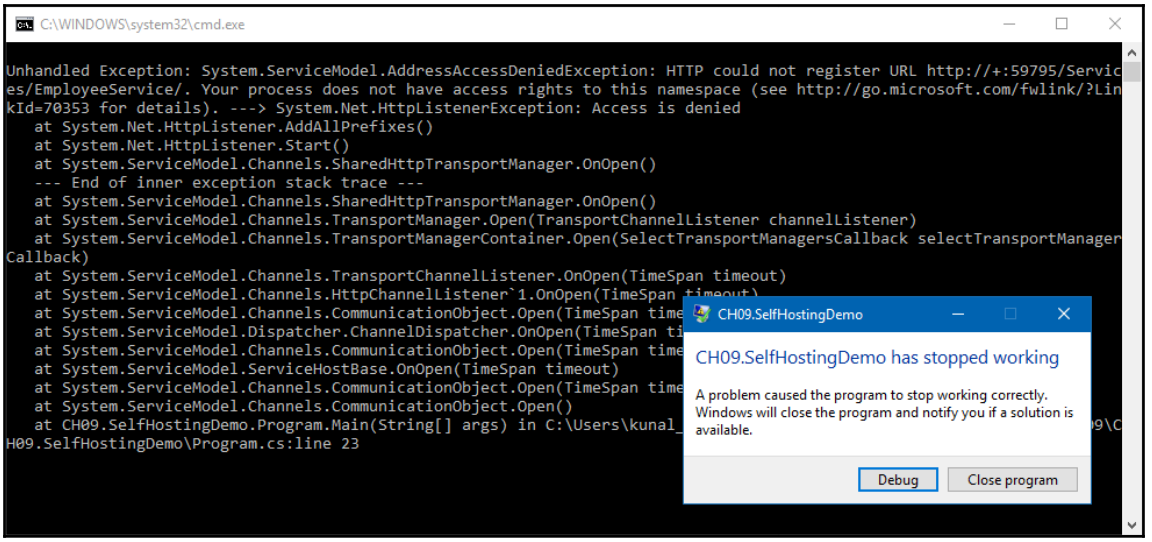

http://localhost:59795/Services/EmployeeService.svc?wsdl
Search...
localhost
<?xml version="1.0" encoding="UTF-8"?>
- <wsdl:definitions xmlns:wsam="http://www.w3.org/2007/05/addressing/metadata"
xmlns:wsa10="http://www.w3.org/2005/08/addressing"
xmlns:wsp="http://schemas.xmlsoap.org/ws/2004/09/policy"
xmlns:msc="http://schemas.microsoft.com/ws/2005/12/wsdl/contract"
xmlns:wsaw="http://www.w3.org/2006/05/addressing/wsdl"
xmlns:wsap="http://schemas.xmlsoap.org/ws/2004/08/addressing/policy"
xmlns:wsx="http://schemas.xmlsoap.org/ws/2004/09/mex"
xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing" xmlns:tns="http://tempuri.org/"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:wsu="http://docs.oasis-
open.org/wss/2004/01/oasis-200401-wss-wssecurity-utility-1.0.xsd"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
targetNamespace="http://tempuri.org/" name="EmployeeService">
+ <wsdl:types>
+ <wsdl:message name="IEmployeeService_GetEmployeeByID_InputMessage">
+ <wsdl:message name="IEmployeeService_GetEmployeeByID_OutputMessage">
+ <wsdl:message name="IEmployeeService_GetEmployees_InputMessage">
+ <wsdl:message name="IEmployeeService_GetEmployees_OutputMessage">
+ <wsdl:message name="IEmployeeService_InsertEmployee_InputMessage">
+ <wsdl:message name="IEmployeeService_InsertEmployee_OutputMessage">
+ <wsdl:portType name="IEmployeeService">
+ <wsdl:binding name="BasicHttpBinding_IEmployeeService" type="tns:IEmployeeService">
+ <wsdl:service name="EmployeeService">
</wsdl:definitions>

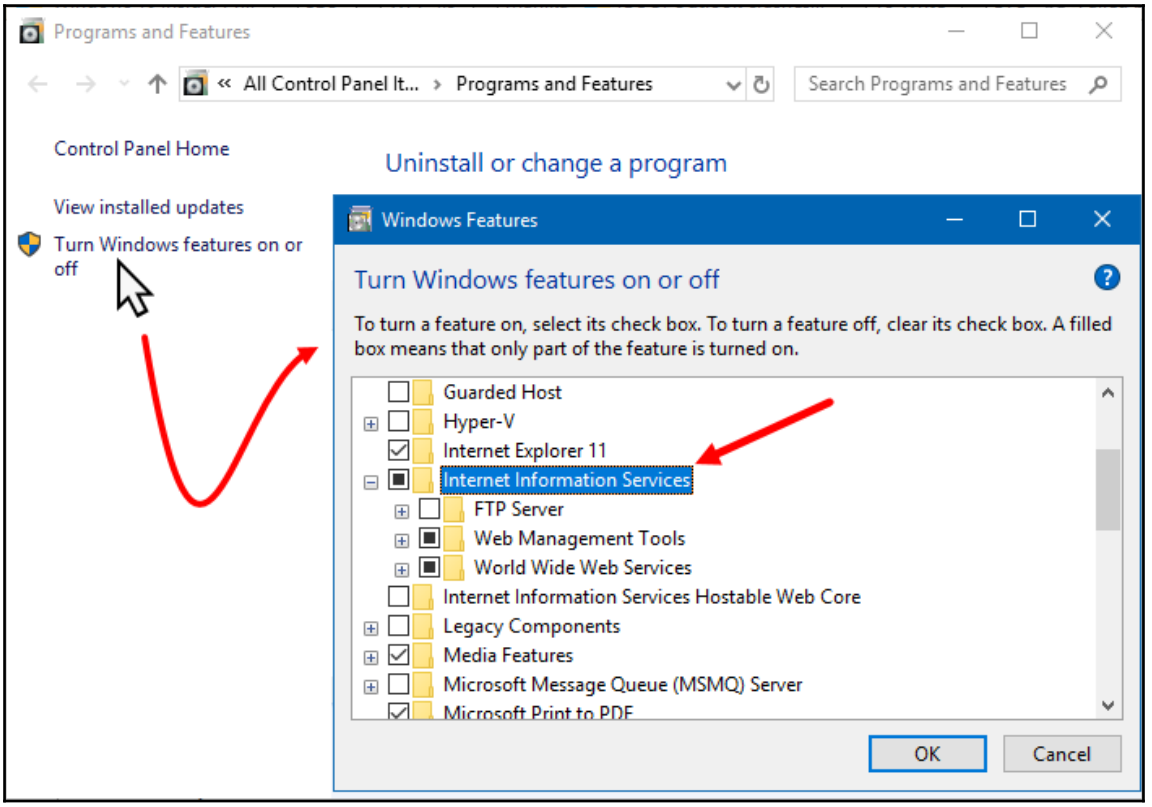

Quick Launch (Ctrl+Q)
Kunal Chowdhury
Right-click on the 'References' node > Add Reference...
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (2 projects)
CH09.EmployeeService
CH09.SelfHostingDemo
Properties
References
Properties
Solution Explorer
Team Explorer
Class View
Notifications
Reference Manager - CH09.SelfHostingDemo
Assemblies
Projects
Solution
Shared Projects
COM
Browse
Search (Ctrl+E)
Name
Path
CH09.EmployeeService
C:\Users\kunal...
Name:
CH09.EmployeeService
Select the service project reference
Browse...
OK
Cancel

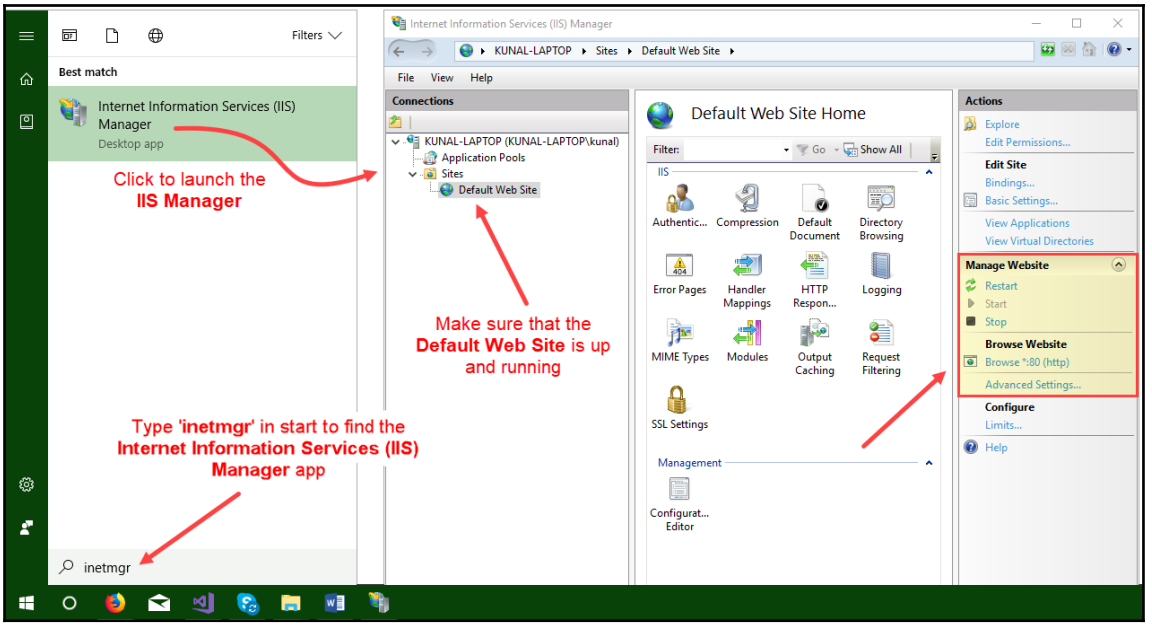

C:\WINDOWS\system32\cmd.exe
Service hosting time: 21-12-2017 10:33:04
Service Host is running...
Press [Enter] key to stop the host...

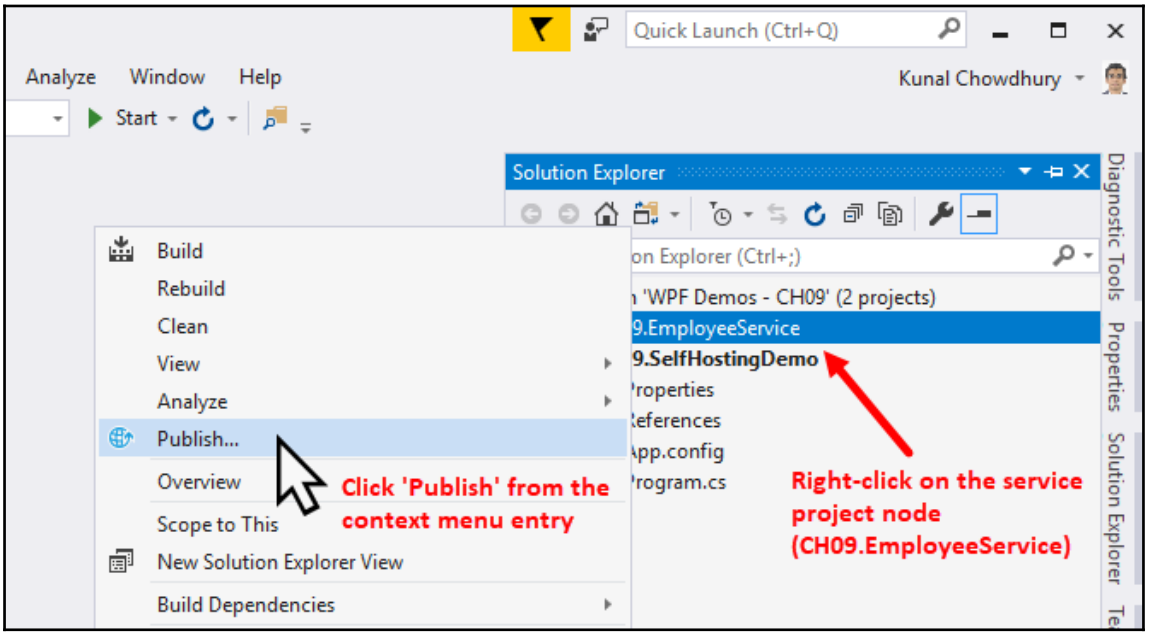

QuickWatch
Expression:
serviceHost
Reevaluate
Add Watch
Value:
Name
Value
Type
serviceHost
{System.ServiceModel.ServiceHost}
System.ServiceModel.Serv
Aborted
false
bool
Authentication
{System.ServiceModel.Description.ServiceAuthenticationBehavior}
System.ServiceModel.Des
Authorization
{System.ServiceModel.Description.ServiceAuthorizationBehavior}
System.ServiceModel.Des
BaseAddresses
Count = 1
System.Collections.Object
[0]
{http://localhost:59795/Services/EmployeeService}
System.Uri
Raw View
BusyCount
0
int
BusyCountIncremented
null
System.EventHandler
ChannelDispatchers
{System.ServiceModel.Dispatcher.ChannelDispatcherCollection}
System.ServiceModel.Disp
CloseActivityName
"Close ServiceHost 'CH09.EmployeeService.Services.EmployeeService'."
string
CloseTimeout
{00:00:10}
System.TimeSpan
Closed
null
System.EventHandler
Closing
null
System.EventHandler
Counters
null
System.ServiceModel.Diag
Credentials
{System.ServiceModel.Description.ServiceCredentials}
System.ServiceModel.Des
DefaultCloseTimeout
{00:00:10}
System.TimeSpan
DefaultCounters
null
System.ServiceModel.Diag
DefaultOpenTimeout
{00:01:00}
System.TimeSpan
Description
ServiceType={CH09.EmployeeService.Services.EmployeeService}
System.ServiceModel.Des
DisposableInstance
null
object
EndpointsByListenUriInfo
Count = 0
System.Collections.Generi
EventSender
{System.ServiceModel.ServiceHost}
object {System.ServiceMo
EventTraceActivity
{System.Runtime.Diagnostics.EventTraceActivity}
System.Runtime.Diagnost
Extensions
{System.ServiceModel.ExtensionCollection<System.ServiceModel.ServiceHostBase>
System.ServiceModel.IExte
Faulted
{Method = {Void OnServiceHostFaulted(System.Object, System.EventArgs)}}
System.EventHandler
ImplementedContracts
Count = 1
System.Collections.Generi
InternalBaseAddresses
{System.ServiceModel.UriSchemeKeyedCollection}
System.ServiceModel.UriS
InternalCloseTimeout
{00:00:10}
System.TimeSpan
InternalOpenTimeout
{00:01:00}
System.TimeSpan
IsDisposed
false
bool
ManualFlowControlLimit
2147483647
int
Close
Help

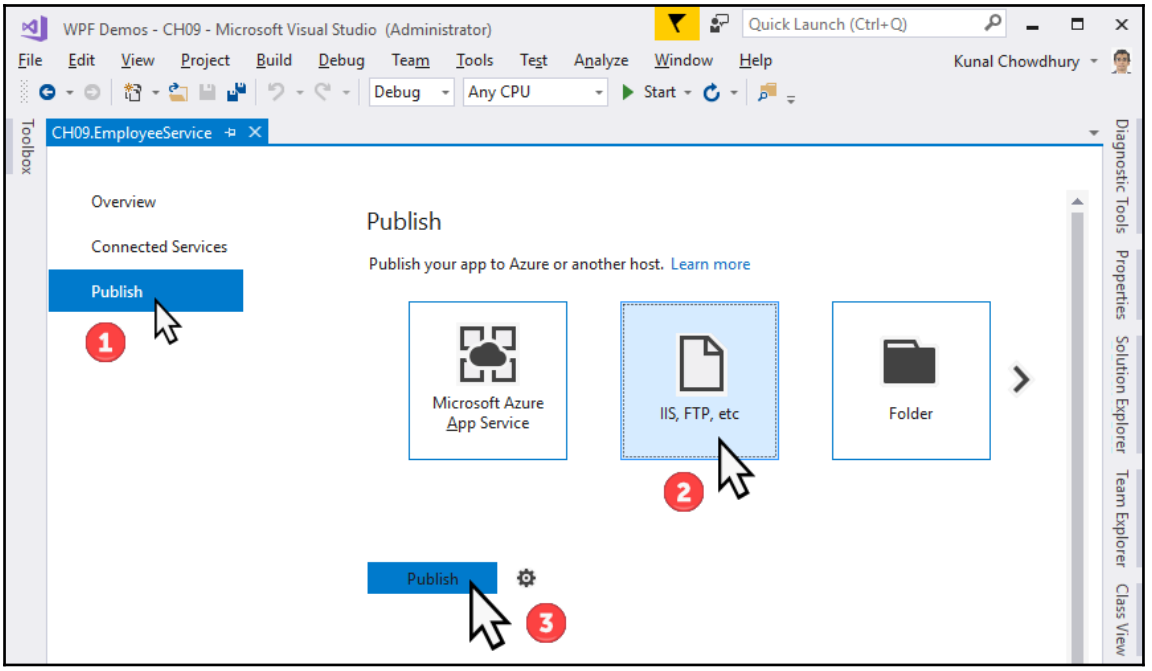

QuickWatch
Expression:
Reevaluate
Add Watch
Value:
Name
Value
Type
serviceHost
{System.ServiceModel.ServiceHost}
System.ServiceModel.Se
Authentication
{System.ServiceModel.Description.ServiceAuthenticationBehavior}
System.ServiceModel.De
Authorization
{System.ServiceModel.Description.ServiceAuthorizationBehavior}
System.ServiceModel.De
BaseAddresses
Count = 1
System.Collections.Obje
ChannelDispatchers
{System.ServiceModel.Dispatcher.ChannelDispatcherCollection}
System.ServiceModel.Di
CloseTimeout
{00:00:10}
System.TimeSpan
Credentials
{System.ServiceModel.Description.ServiceCredentials}
System.ServiceModel.De
DefaultCloseTimeout
{00:00:10}
System.TimeSpan
DefaultOpenTimeout
{00:01:00}
System.TimeSpan
Description
ServiceType={CH09.EmployeeService.Services.EmployeeService}
System.ServiceModel.De
Behaviors
Count = 7
System.Collections.Gene
ConfigurationName
"CH09.EmployeeService.Services.EmployeeService"
string
Endpoints
Count = 1
System.ServiceModel.De
[0]
Address={http://localhost:59795/Services/EmployeeService}
System.ServiceModel.De
Address
{http://localhost:59795/Services/EmployeeService}
System.ServiceModel.En
Behaviors
Count = 0
System.Collections.Gene
Binding
{System.ServiceModel.BasicHttpBinding}
System.ServiceModel.Ch
Contract
Name={IEmployeeService}, Namespace="http://tempuri.org/", ContractTy
System.ServiceModel.De
Behaviors
Count = 1
System.Collections.Gene
CallbackContractType
null
System.Type
ConfigurationName
"CH09.EmployeeService.Services.IEmployeeService"
string
ContractBehaviors
Count = 1
System.Collections.Obje
ContractType
{Name = "IEmployeeService" FullName = "CH09.EmployeeService.Services.
System.Type {System.Ru
HasProtectionLevel
false
bool
Name
"IEmployeeService"
string
Namespace
"http://tempuri.org/"
string
Operations
Count = 3
System.ServiceModel.De
ProtectionLevel
None
System.Net.Security.Prot
SessionMode
Allowed
System.ServiceModel.Se
Non-Public members
EndpointBehaviors
Count = 0
System.Collections.Obje
IsSystemEndpoint
false
bool
ListenUri
{http://localhost:59795/Services/EmployeeService}
System.Uri
ListenUriMode
Explicit
System.ServiceModel.De
Name
"BasicHttpBinding_IEmployeeService"
string
Non-Public members
Close
Help

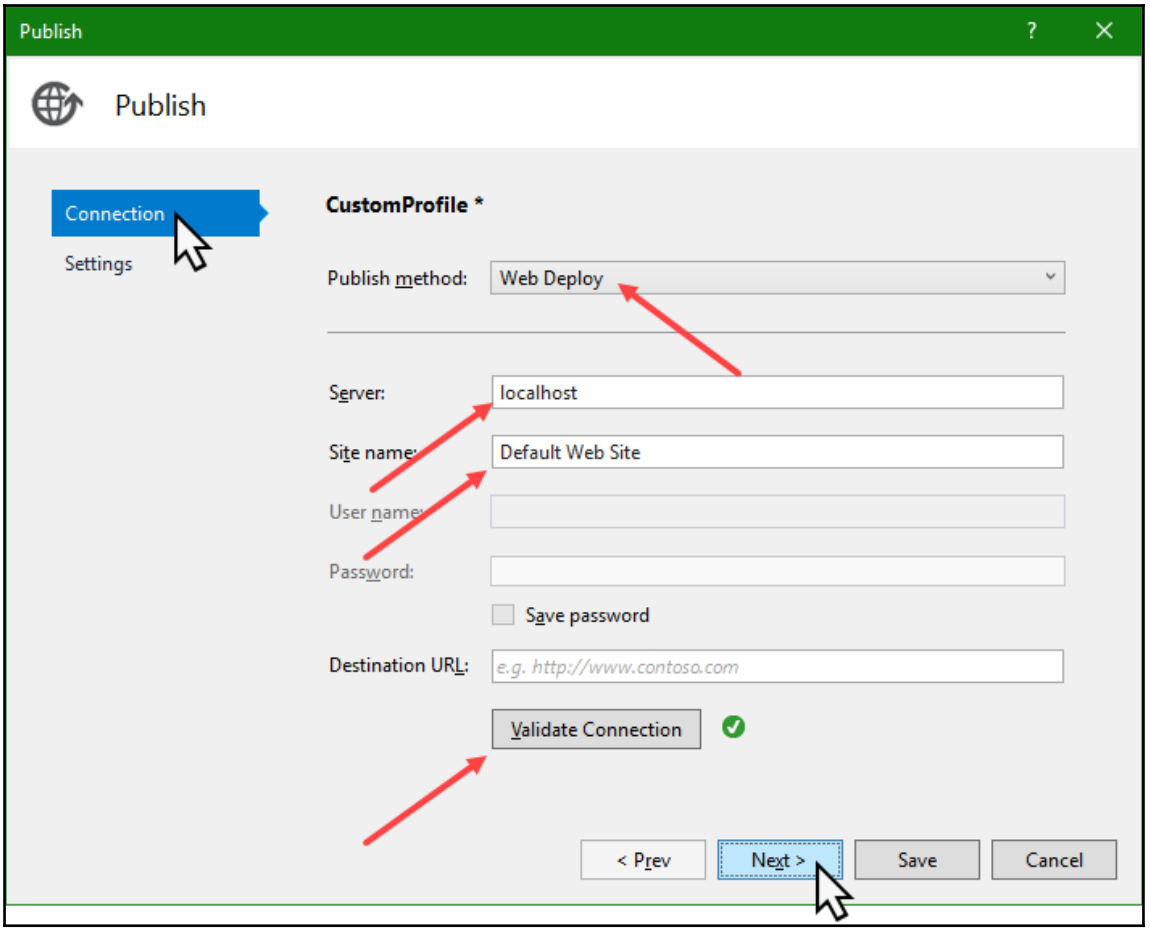

C:\WINDOWS\system32\cmd.exe
Unhandled Exception: System.ServiceModel.AddressAccessDeniedException: HTTP could not register URL http://+:59795/Service
es/EmployeeService/. Your process does not have access rights to this namespace (see http://go.microsoft.com/fwlink/?Lin
kId=70353 for details). ---> System.Net.HttpListenerException: Access is denied
at System.Net.HttpListener.AddAllPrefixes()
at System.Net.HttpListener.Start()
at System.ServiceModel.Channels.SharedHttpTransportManager.OnOpen()
--- End of inner exception stack trace ---
at System.ServiceModel.Channels.SharedHttpTransportManager.OnOpen()
at System.ServiceModel.Channels.TransportManager.Open(TransportChannelListener channelListener)
at System.ServiceModel.Channels.TransportManagerContainer.Open(SelectTransportManagersCallback selectTransportManager
Callback)
at System.ServiceModel.Channels.TransportChannelListener.OnOpen(TimeSpan timeout)
at System.ServiceModel.Channels.HttpChannelListener`1.OnOpen(TimeSpan timeout)
at System.ServiceModel.Channels.CommunicationObject.Open(TimeSpan time
at System.ServiceModel.Dispatcher.ChannelDispatcher.OnOpen(TimeSpan ti
at System.ServiceModel.Channels.CommunicationObject.Open(TimeSpan time
at System.ServiceModel.ServiceHostBase.OnOpen(TimeSpan timeout)
at System.ServiceModel.Channels.CommunicationObject.Open(TimeSpan time
at System.ServiceModel.Channels.CommunicationObject.Open()
at CH09.SelfHostingDemo.Program.Main(String[] args) in C:\Users\kunal_
H09.SelfHostingDemo\Program.cs:line 23
CH09.SelfHostingDemo
CH09.SelfHostingDemo has stopped working
A problem caused the program to stop working correctly. Windows will close the program and notify you if a solution is available.
Debug
Close program

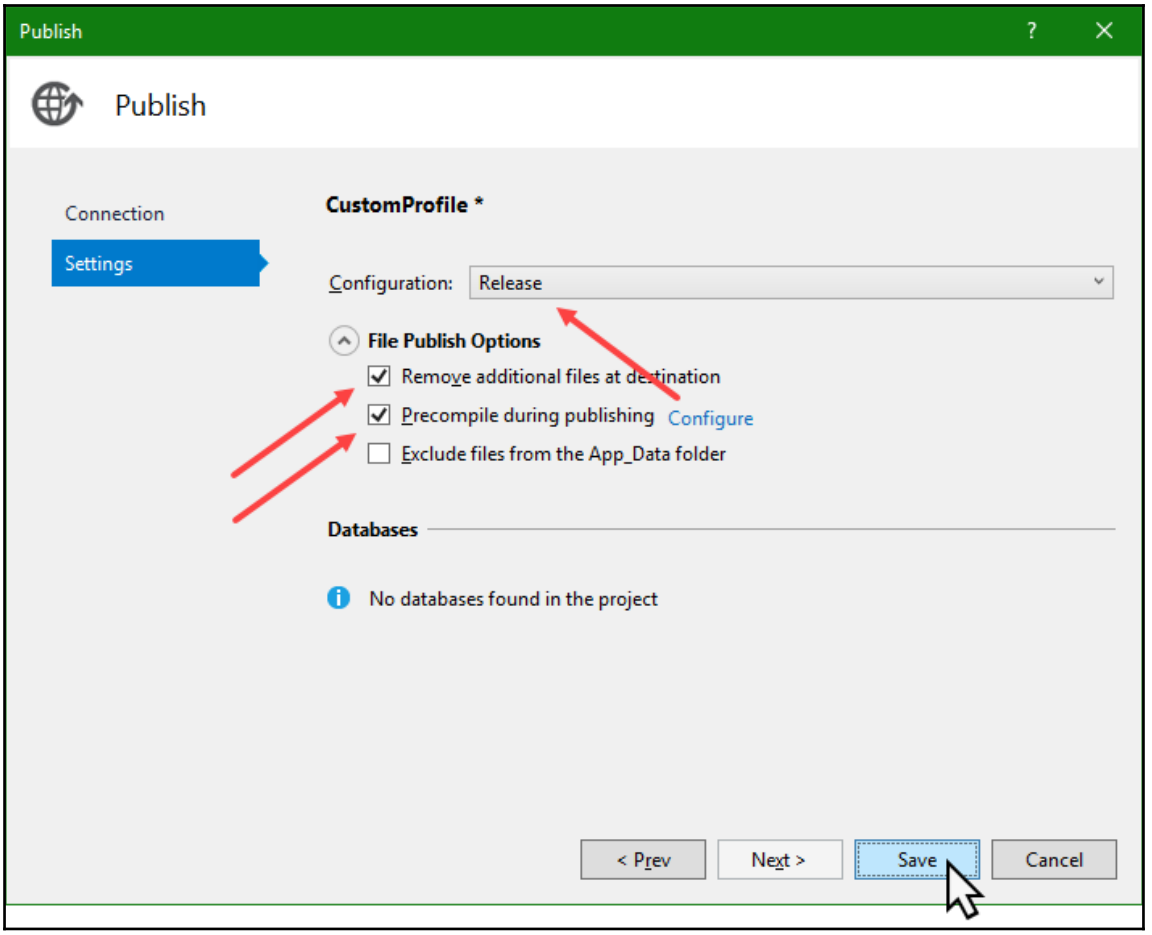

Programs and Features
« All Control Panel It... › Programs and Features
Search Programs and Features
Control Panel Home
View installed updates
Turn Windows features on or off
Uninstall or change a program
Windows Features
Turn Windows features on or off
To turn a feature on, select its check box. To turn a feature off, clear its check box. A filled box means that only part of the feature is turned on.
Guarded Host
Hyper-V
Internet Explorer 11
Internet Information Services
FTP Server
Web Management Tools
World Wide Web Services
Internet Information Services Hostable Web Core
Legacy Components
Media Features
Microsoft Message Queue (MSMQ) Server
Microsoft Print to PDF
OK
Cancel

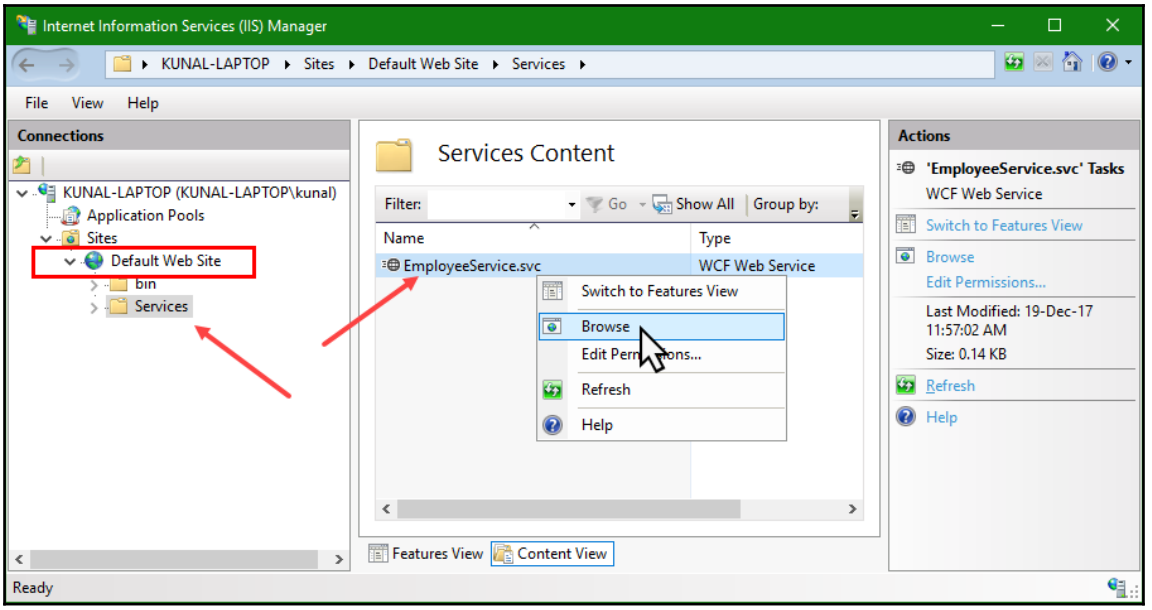

Best match
Internet Information Services (IIS) Manager
Desktop app
Click to launch the IIS Manager
Type 'inetmgr' in start to find the Internet Information Services (IIS) Manager app
inetmgr
Internet Information Services (IIS) Manager
KUNAL-LAPTOP ▸ Sites ▸ Default Web Site ▸
File View Help
Connections
KUNAL-LAPTOP (KUNAL-LAPTOP\kunal)
Application Pools
Sites
Default Web Site
Make sure that the Default Web Site is up and running
Default Web Site Home
Filter:
IIS
Authentic...
Compression
Default Document
Directory Browsing
Error Pages
Handler Mappings
HTTP Respon...
Logging
MIME Types
Modules
Output Caching
Request Filtering
SSL Settings
Management
Configurat... Editor
Actions
Explore
Edit Permissions...
Edit Site
Bindings...
Basic Settings...
View Applications
View Virtual Directories
Manage Website
Restart
Start
Stop
Browse Website
Browse *:80 (http)
Advanced Settings...
Configure
Limits...
Help

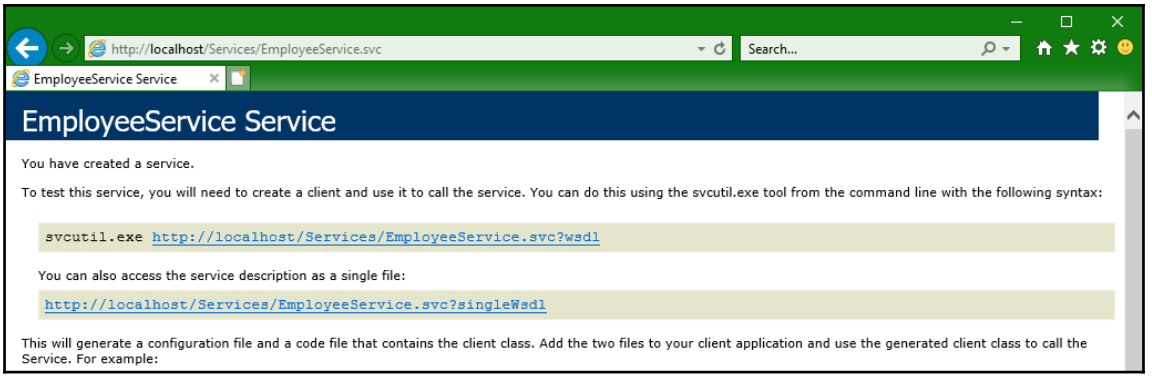

Quick Launch (Ctrl+Q)
Analyze Window Help
Kunal Chowdhury
Start
Solution Explorer
Build
Rebuild
Clean
View
Analyze
Publish...
Overview
Scope to This
New Solution Explorer View
Build Dependencies
Click 'Publish' from the context menu entry
'WPF Demos - CH09' (2 projects)
9.EmployeeService
9.SelfHostingDemo
Right-click on the service project node (CH09.EmployeeService)
Diagnostic Tools
Properties
Solution Explorer

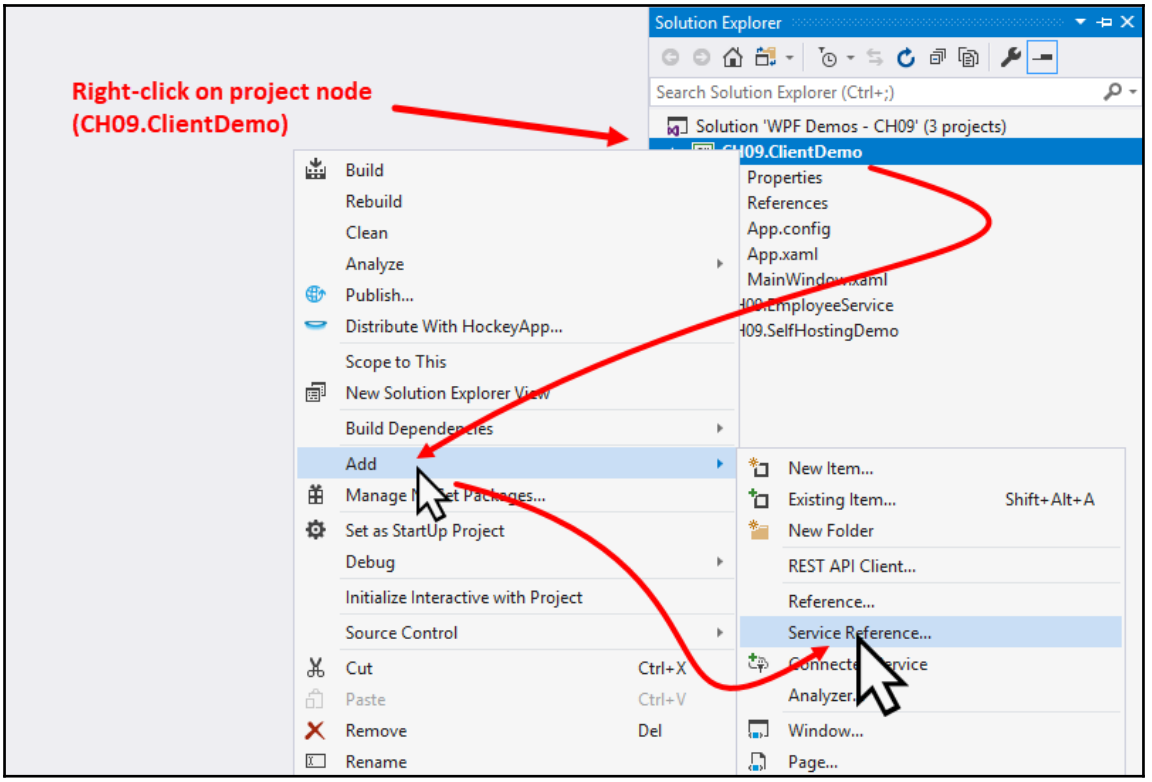

WPF Demos - CH09 - Microsoft Visual Studio (Administrator)
Quick Launch (Ctrl+Q)
File Edit View Project Build Debug Team Tools Test Analyze Window Help
Kunal Chowdhury
Debug
Any CPU
Start
Toolbox
CH09.EmployeeService
Overview
Connected Services
Publish
1
Publish
Publish your app to Azure or another host. Learn more
Microsoft Azure App Service
IIS, FTP, etc
Folder
2
Publish
3
Diagnostic Tools
Properties
Solution Explorer
Team Explorer
Class View

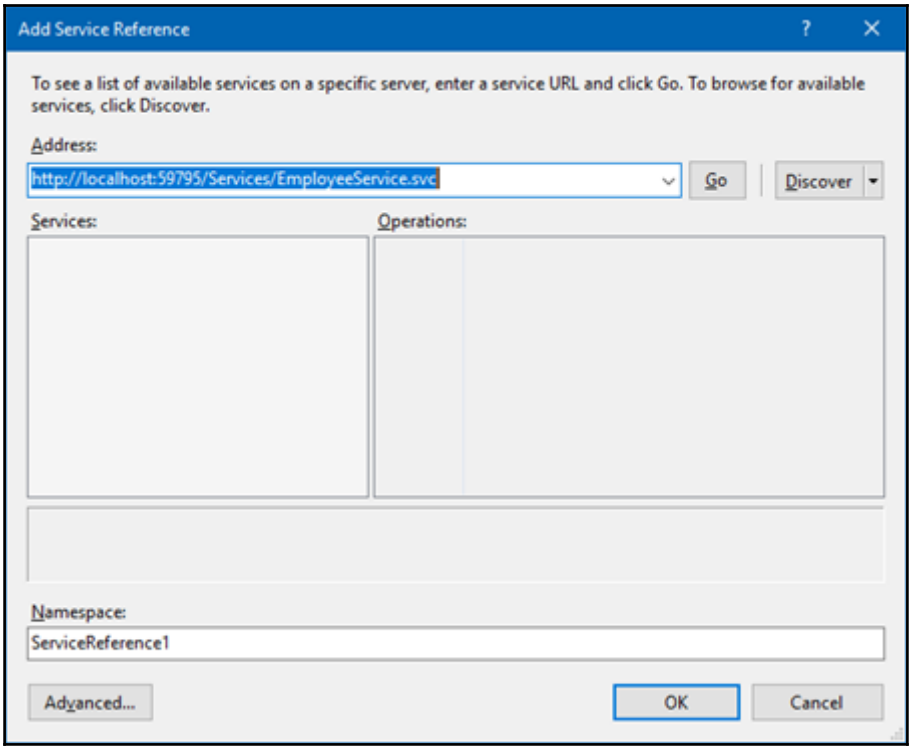

Publish
Publish
Connection
Settings
CustomProfile *
Publish method:
Web Deploy
Server:
localhost
Site name:
Default Web Site
User name:
Password:
Save password
Destination URL:
e.g. http://www.contoso.com
Validate Connection
< Prev
Next >
Save
Cancel

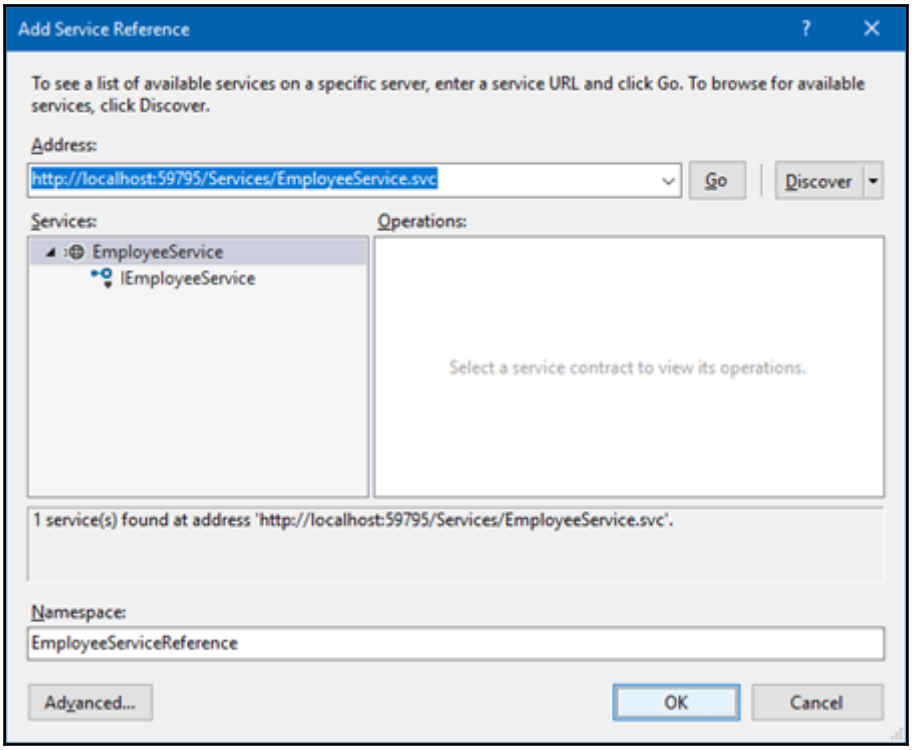

Publish
Publish
Connection
Settings
CustomProfile *
Configuration: Release
File Publish Options
Remove additional files at destination
Precompile during publishing
Configure
Exclude files from the App_Data folder
Databases
No databases found in the project
< Prev
Next >
Save
Cancel

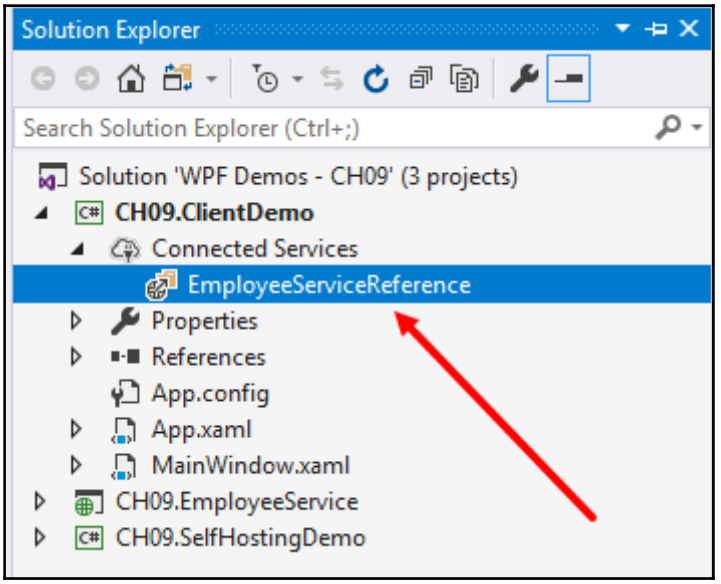

Internet Information Services (IIS) Manager
KUNAL-LAPTOP ▸ Sites ▸ Default Web Site ▸ Services ▸
File View Help
Connections
KUNAL-LAPTOP (KUNAL-LAPTOP\kunal)
Application Pools
Sites
Default Web Site
bin
Services
Services Content
Filter:
Go
Show All
Group by:
Name
Type
EmployeeService.svc
WCF Web Service
Switch to Features View
Browse
Edit Permissions...
Refresh
Help
Features View
Content View
Actions
'EmployeeService.svc' Tasks
WCF Web Service
Switch to Features View
Browse
Edit Permissions...
Last Modified: 19-Dec-17 11:57:02 AM
Size: 0.14 KB
Refresh
Help
Ready

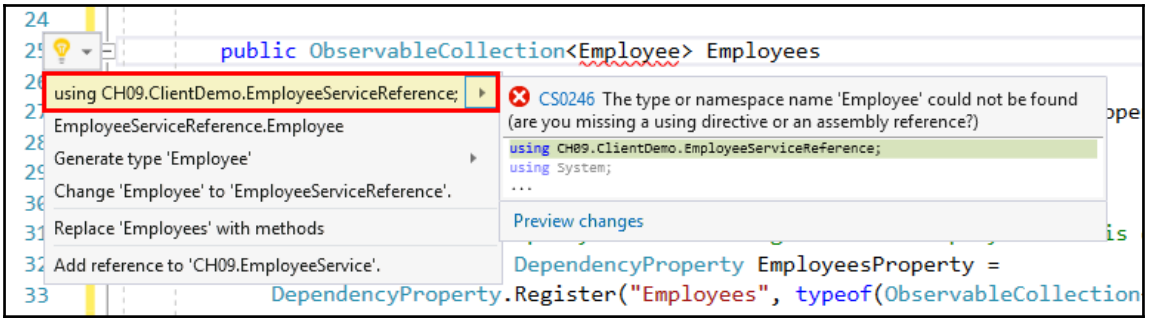

http://localhost/Services/EmployeeService.svc
Search...
EmployeeService Service
EmployeeService Service
You have created a service.
To test this service, you will need to create a client and use it to call the service. You can do this using the svcutil.exe tool from the command line with the following syntax:
svcutil.exe http://localhost/Services/EmployeeService.svc?wsdl
You can also access the service description as a single file:
http://localhost/Services/EmployeeService.svc?singleWsdl
This will generate a configuration file and a code file that contains the client class. Add the two files to your client application and use the generated client class to call the Service. For example:

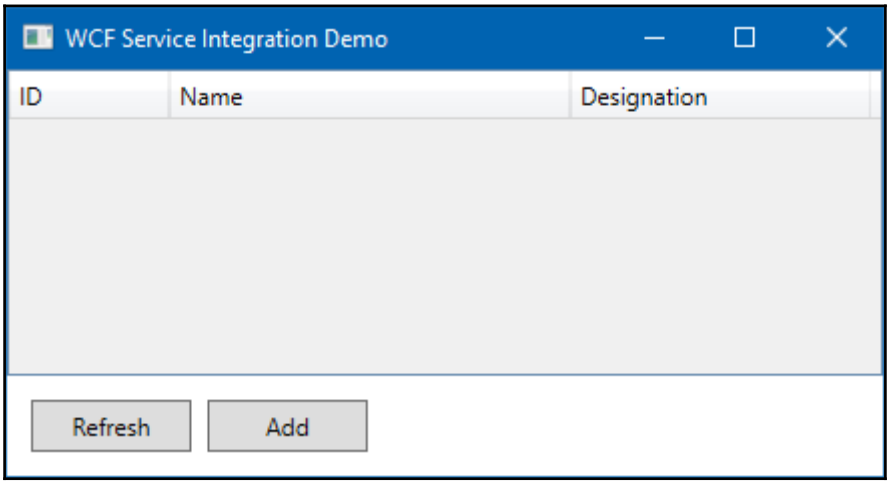

Right-click on project node
(CH09.ClientDemo)
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (3 projects)
Properties
References
App.config
App.xaml
Build
Rebuild
Clean
Analyze
Publish...
Distribute With HockeyApp...
Scope to This
New Solution Explorer View
Build Dependencies
Add
Set as StartUp Project
Debug
Initialize Interactive with Project
Source Control
Cut Ctrl+X
Paste Ctrl+V
Remove Del
Rename
New Item...
Existing Item... Shift+Alt+A
New Folder
REST API Client...
Reference...
Service Reference...
Analyzer...
Window...
Page...

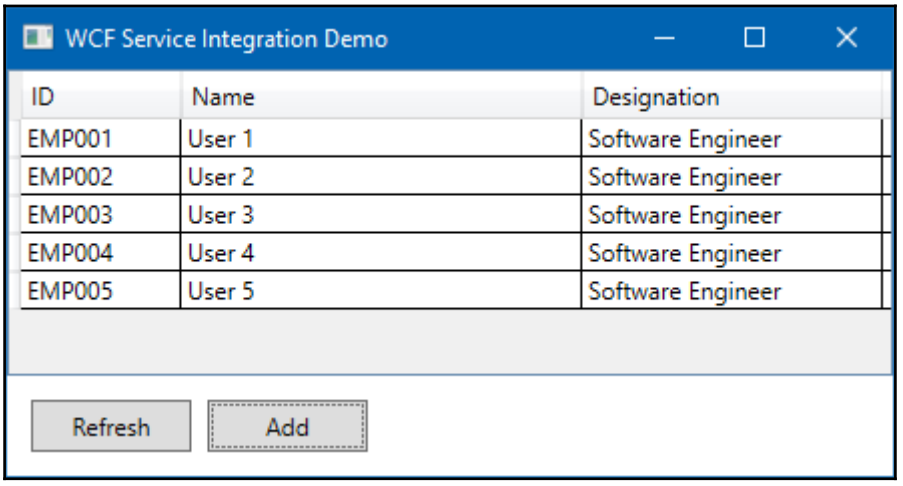

Add Service Reference
To see a list of available services on a specific server, enter a service URL and click Go. To browse for available services, click Discover.
Address:
http://localhost:59795/Services/EmployeeService.svc
Go
Discover
Services:
Operations:
Namespace:
ServiceReference1
Advanced...
OK
Cancel

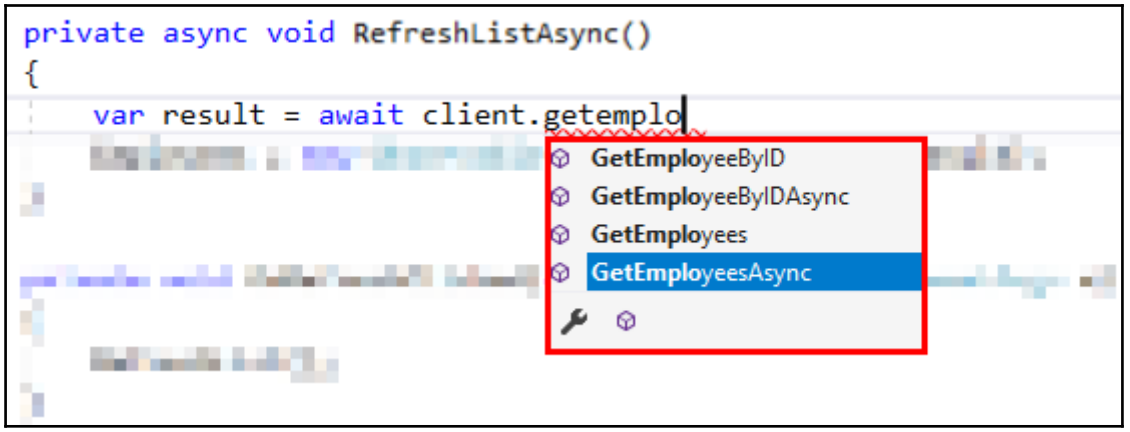

Add Service Reference
To see a list of available services on a specific server, enter a service URL and click Go. To browse for available services, click Discover.
Address:
http://localhost:59795/Services/EmployeeService.svc
Go
Discover
Services:
Operations:
EmployeeService
IEmployeeService
Select a service contract to view its operations.
1 service(s) found at address 'http://localhost:59795/Services/EmployeeService.svc'.
Namespace:
EmployeeServiceReference
Advanced...
OK
Cancel


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH09' (3 projects)
CH09.ClientDemo
Connected Services
EmployeeServiceReference
Properties
References
App.config
App.xaml
MainWindow.xaml
CH09.EmployeeService
CH09.SelfHostingDemo

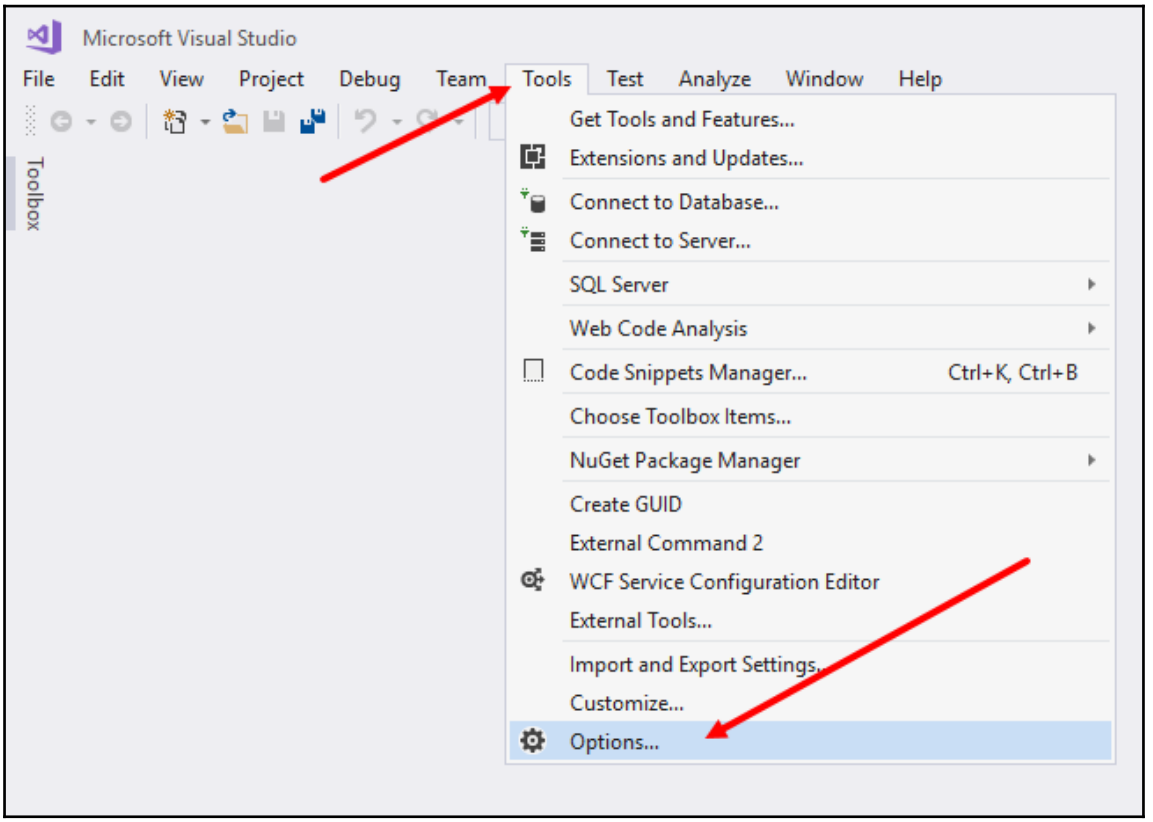

public ObservableCollection<Employee> Employees
using CH09.ClientDemo.EmployeeServiceReference;
EmployeeServiceReference.Employee
Generate type 'Employee'
Change 'Employee' to 'EmployeeServiceReference'.
Replace 'Employees' with methods
Add reference to 'CH09.EmployeeService'.
CS0246 The type or namespace name 'Employee' could not be found (are you missing a using directive or an assembly reference?)
using CH09.ClientDemo.EmployeeServiceReference;
using System;
...
Preview changes
DependencyProperty EmployeesProperty =
DependencyProperty.Register("Employees", typeof(ObservableCollection

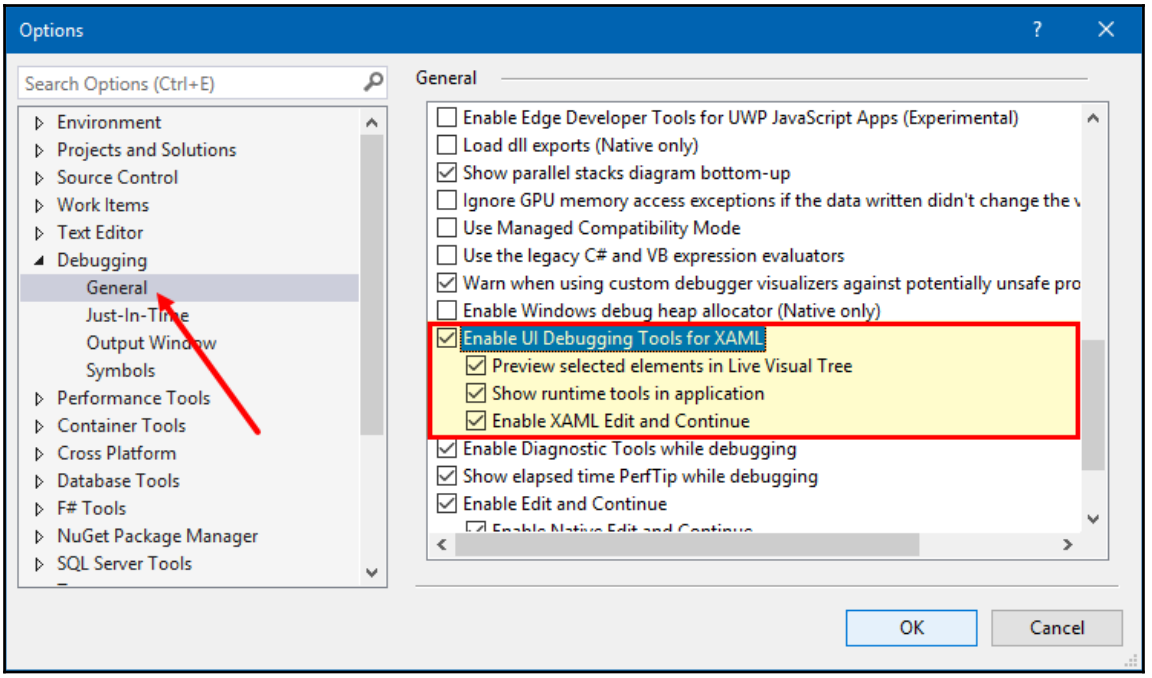

WCF Service Integration Demo
ID
Name
Designation
Refresh
Add

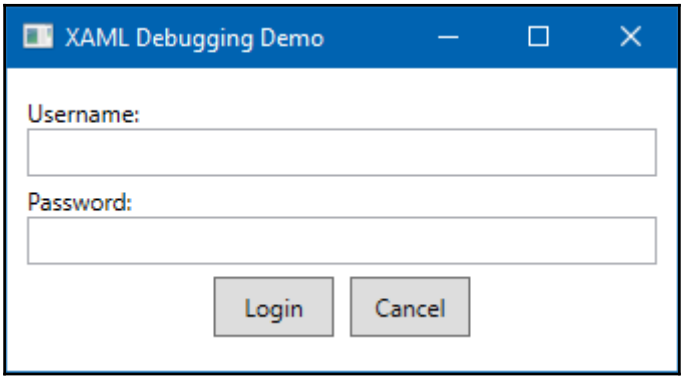

WCF Service Integration Demo
ID
Name
Designation
EMP001
User 1
Software Engineer
EMP002
User 2
Software Engineer
EMP003
User 3
Software Engineer
EMP004
User 4
Software Engineer
EMP005
User 5
Software Engineer
Refresh
Add

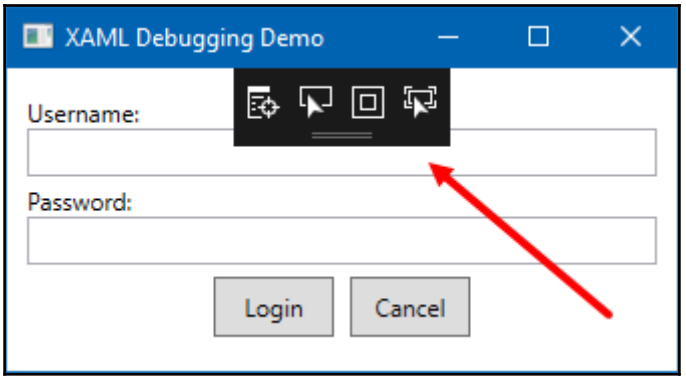

private async void RefreshListAsync()
{
var result = await client.getemplo
GetEmployeeByID
GetEmployeeByIDAsync
GetEmployees
GetEmployeesAsync

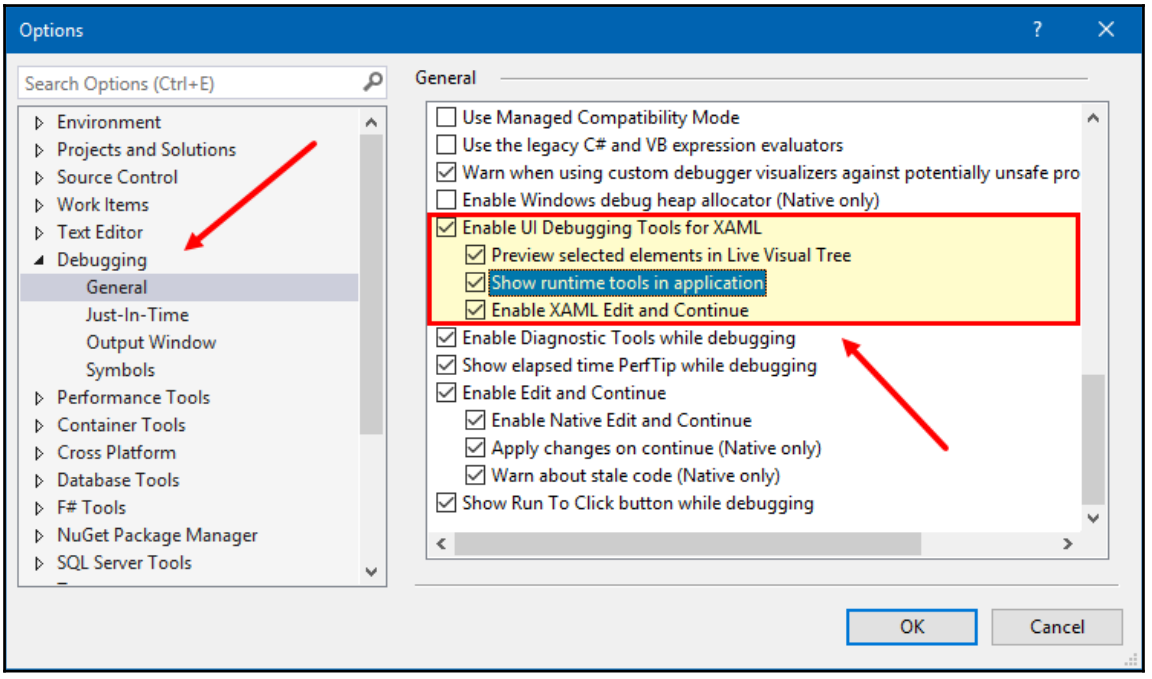
Chapter 10: Debugging and Threading

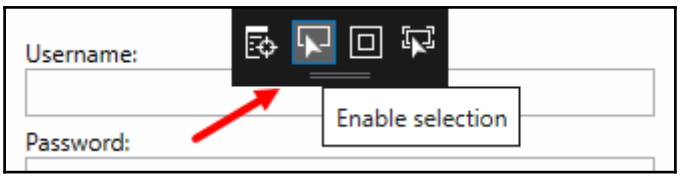


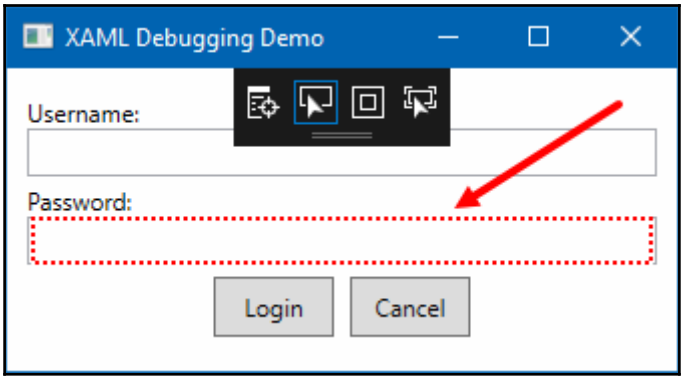

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
Debugging
General
Just-In-Time
Output Window
Symbols
Performance Tools
Container Tools
Cross Platform
Database Tools
F# Tools
NuGet Package Manager
SQL Server Tools
General
Enable Edge Developer Tools for UWP JavaScript Apps (Experimental)
Load dll exports (Native only)
Show parallel stacks diagram bottom-up
Ignore GPU memory access exceptions if the data written didn't change the
Use Managed Compatibility Mode
Use the legacy C# and VB expression evaluators
Warn when using custom debugger visualizers against potentially unsafe pro
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
OK
Cancel

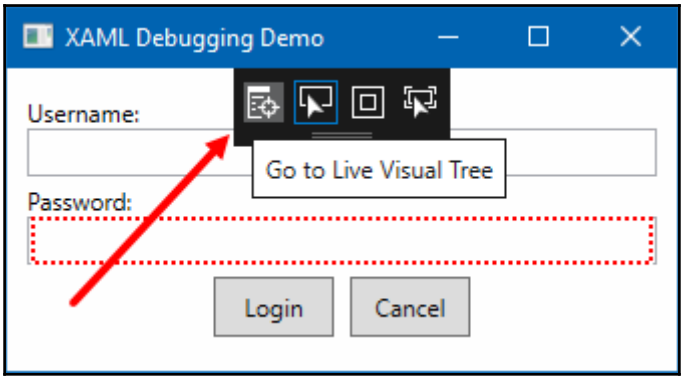

XAML Debugging Demo
Username:
Password:
Login
Cancel

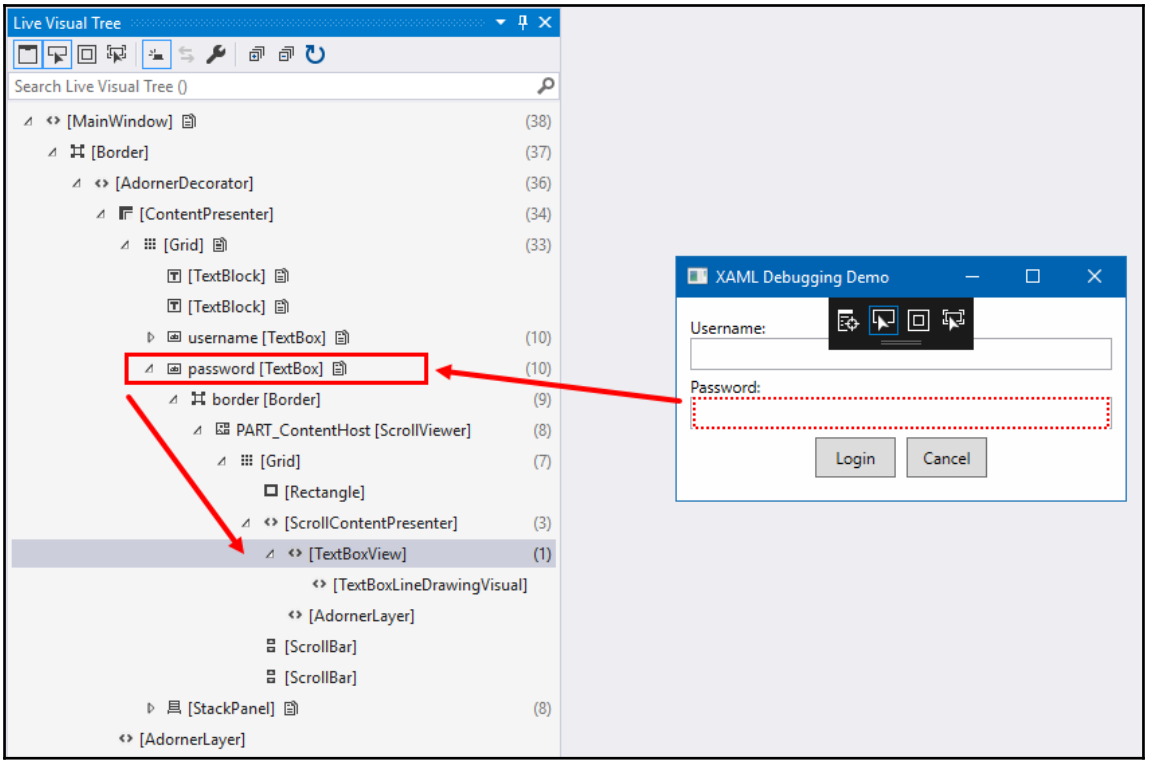

XAML Debugging Demo
Username:
Password:
Login
Cancel

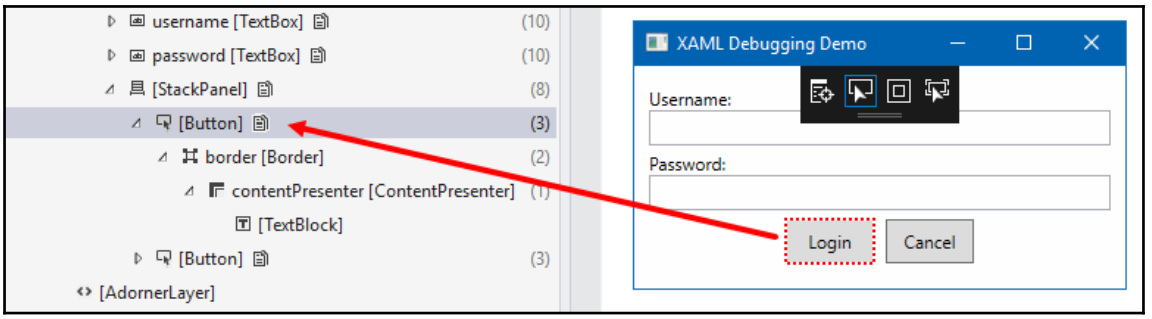

Options
Search Options (Ctrl+E)
Environment
Projects and Solutions
Source Control
Work Items
Text Editor
Debugging
General
Just-In-Time
Output Window
Symbols
Performance Tools
Container Tools
Cross Platform
Database Tools
F# Tools
NuGet Package Manager
SQL Server Tools
General
Use Managed Compatibility Mode
Use the legacy C# and VB expression evaluators
Warn when using custom debugger visualizers against potentially unsafe pro
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 while debugging
OK
Cancel

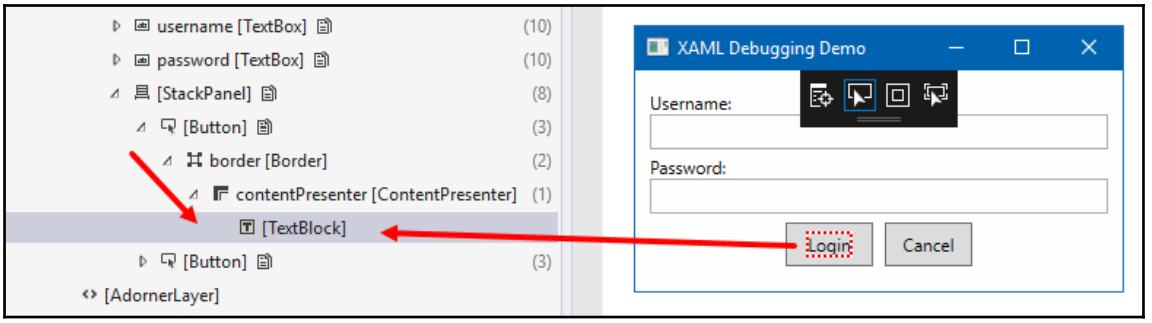

Username:
Password:
Enable selection

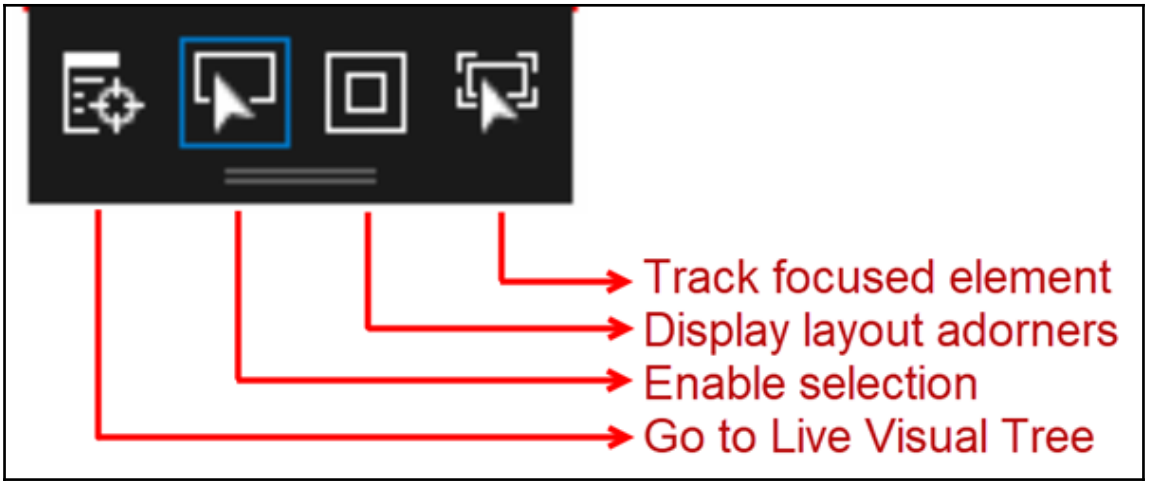

XAML Debugging Demo
Username:
Password:
Login
Cancel

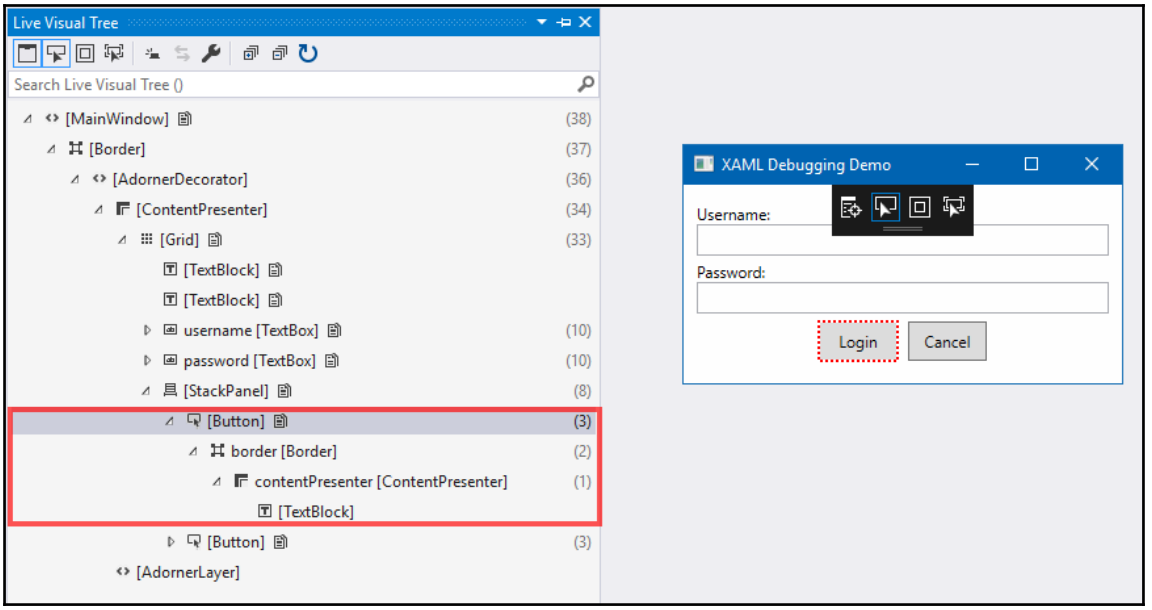

XAML Debugging Demo
Username:
Go to Live Visual Tree
Password:
Login
Cancel

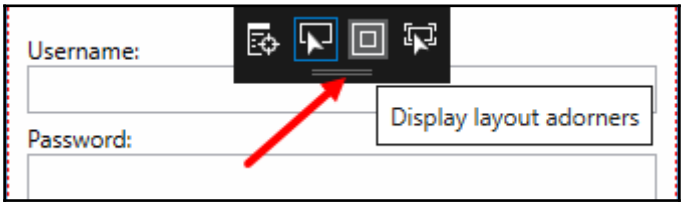

Live Visual Tree
Search Live Visual Tree ()
[MainWindow] (38)
[Border] (37)
[AdornerDecorator] (36)
[ContentPresenter] (34)
[Grid] (33)
[TextBlock]
[TextBlock]
username [TextBox] (10)
password [TextBox] (10)
border [Border] (9)
PART_ContentHost [ScrollViewer] (8)
[Grid] (7)
[Rectangle]
[ScrollContentPresenter] (3)
[TextBoxView] (1)
[TextBoxLineDrawingVisual]
[AdornerLayer]
[ScrollBar]
[ScrollBar]
[StackPanel] (8)
[AdornerLayer]
XAML Debugging Demo
Username:
Password:
Login
Cancel

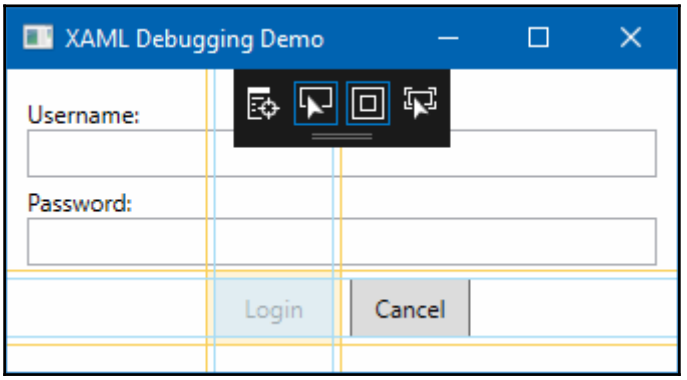

username [TextBox] (10)
password [TextBox] (10)
[StackPanel] (8)
[Button] (3)
border [Border] (2)
contentPresenter [ContentPresenter] (1)
[TextBlock]
[Button] (3)
[AdornerLayer]
XAML Debugging Demo
Username:
Password:
Login
Cancel

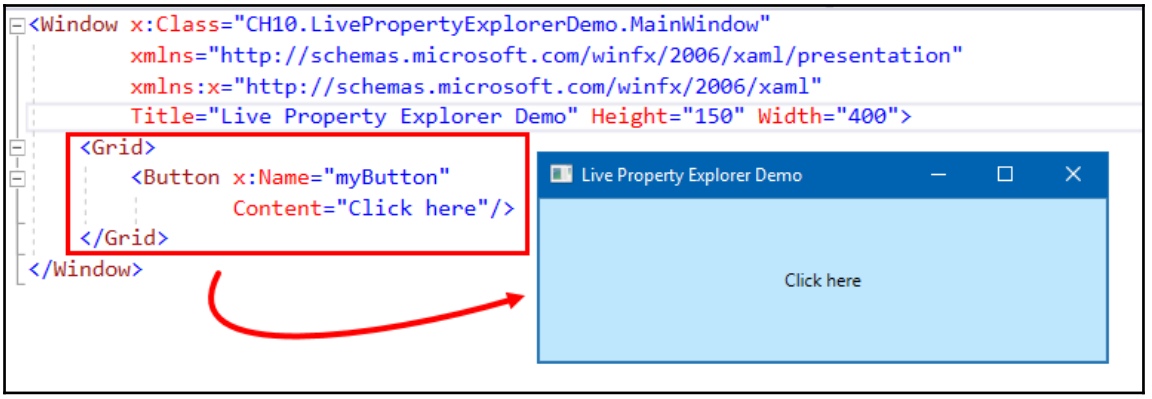

username [TextBox] (10)
password [TextBox] (10)
[StackPanel] (8)
[Button] (3)
border [Border] (2)
contentPresenter [ContentPresenter] (1)
[TextBlock]
[Button] (3)
[AdornerLayer]
XAML Debugging Demo
Username:
Password:
Login
Cancel

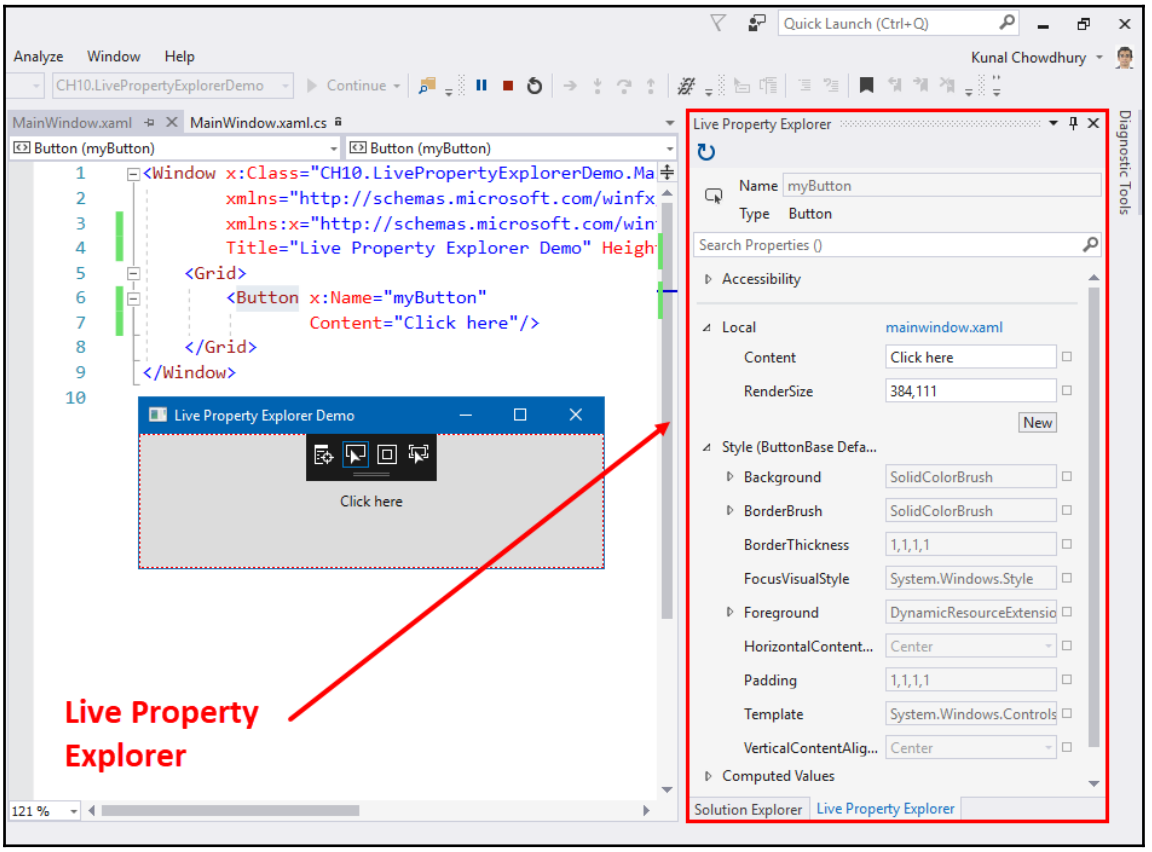

Track focused element
Display layout adorners
Enable selection
Go to Live Visual Tree

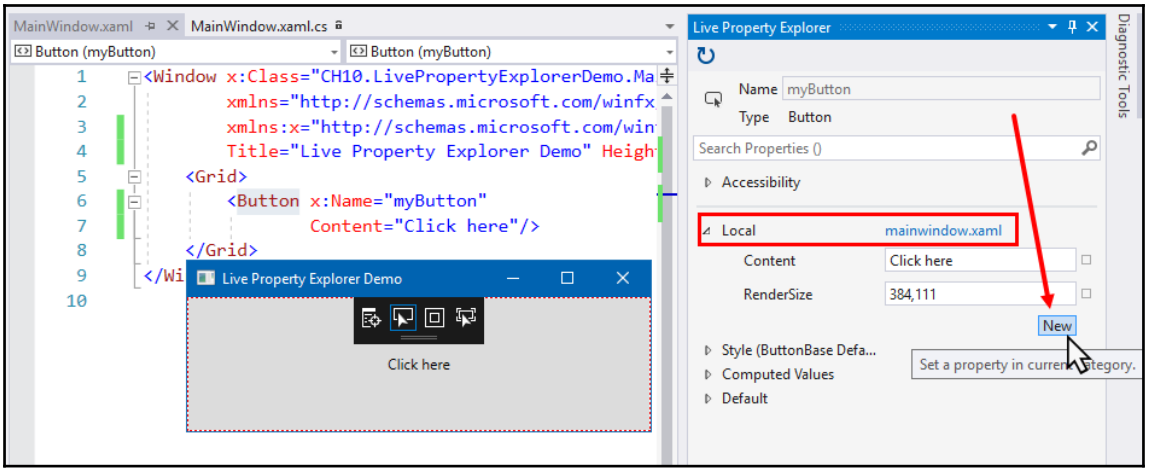

Live Visual Tree
Search Live Visual Tree ()
[MainWindow] (38)
[Border] (37)
[AdornerDecorator] (36)
[ContentPresenter] (34)
[Grid] (33)
[TextBlock]
[TextBlock]
username [TextBox] (10)
password [TextBox] (10)
[StackPanel] (8)
[Button] (3)
border [Border] (2)
contentPresenter [ContentPresenter] (1)
[TextBlock]
[Button] (3)
[AdornerLayer]
XAML Debugging Demo
Username:
Password:
Login
Cancel

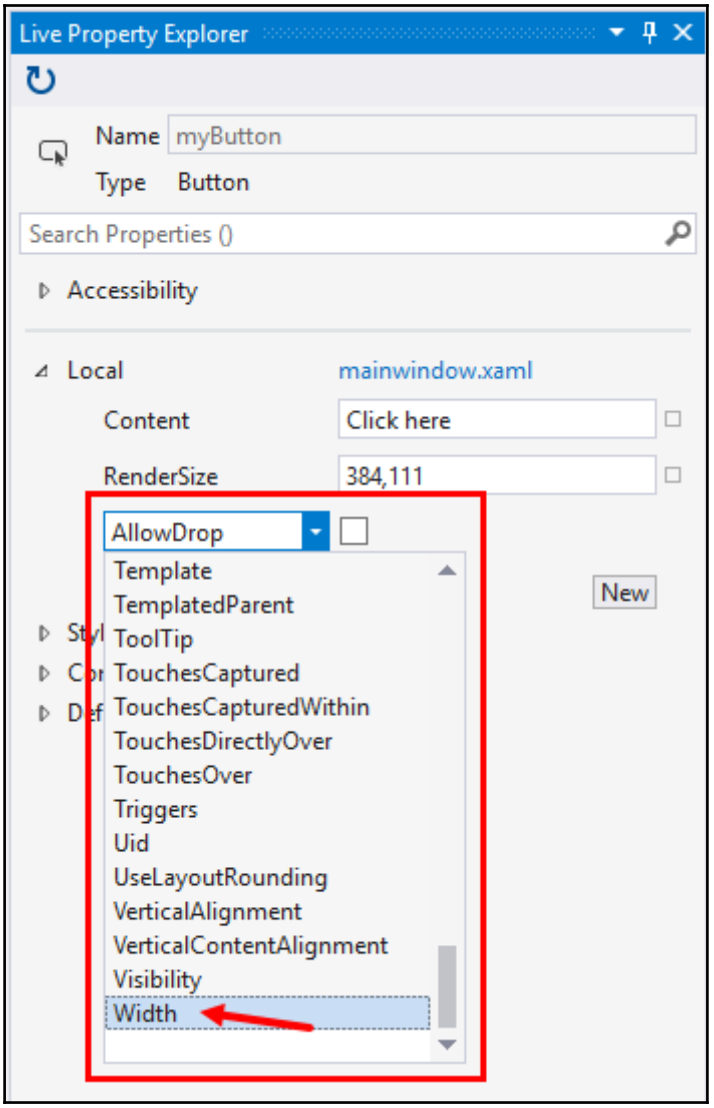

Username:
Password:
Display layout adorners

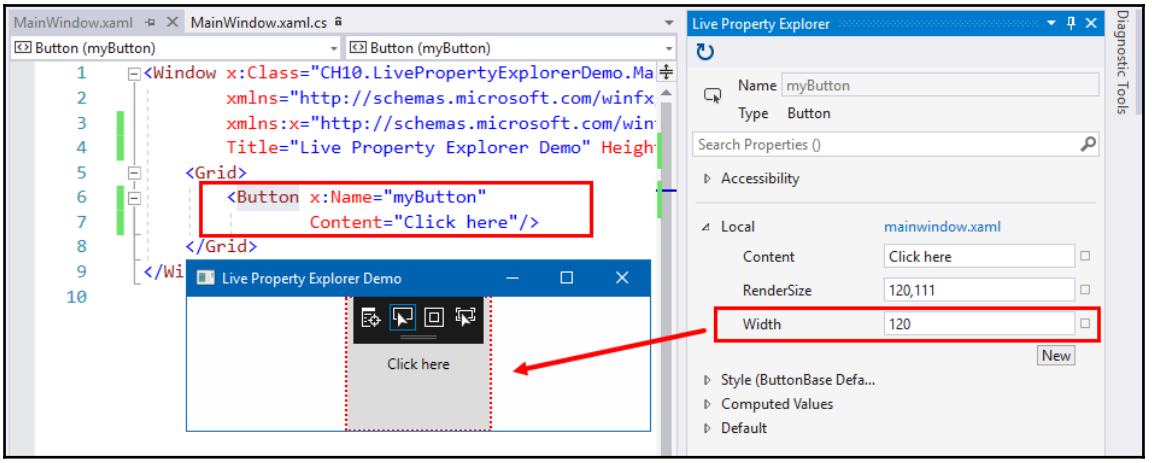

XAML Debugging Demo
Username:
Password:
Login
Cancel

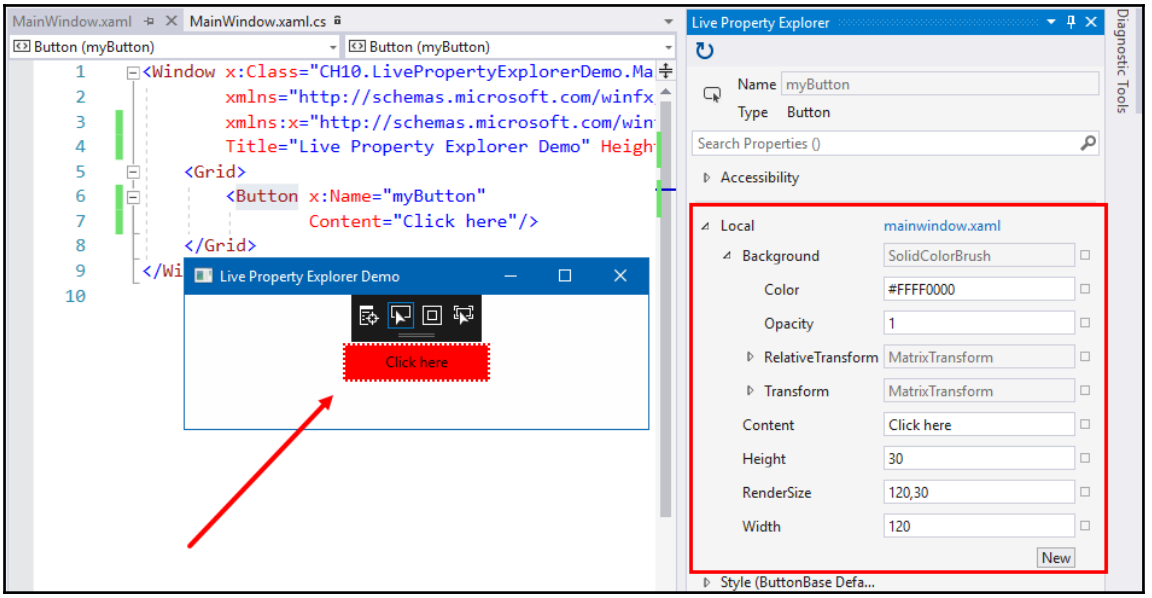

<Window x:Class="CH10.LivePropertyExplorerDemo.MainWindow"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
Title="Live Property Explorer Demo" Height="150" Width="400">
<Grid>
<Button x:Name="myButton"
Content="Click here"/>
</Grid>
</Window>
Live Property Explorer Demo
Click here

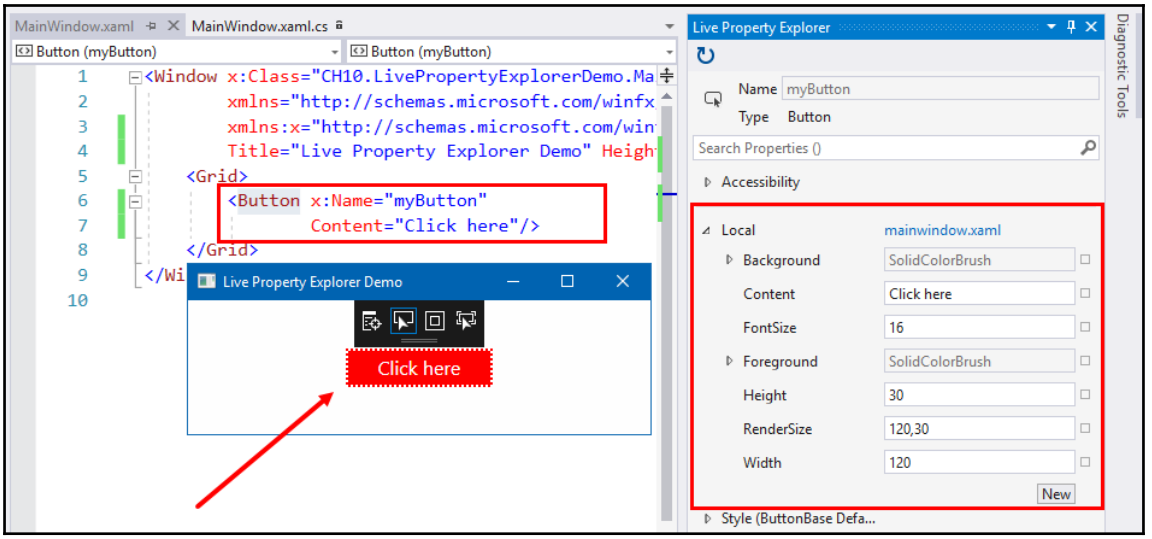

Quick Launch (Ctrl+Q)
Analyze Window Help
Kunal Chowdhury
CH10.LivePropertyExplorerDemo
Continue
MainWindow.xaml
MainWindow.xaml.cs
Button (myButton)
Button (myButton)
<Window x:Class="CH10.LivePropertyExplorerDemo.Ma
xmlns="http://schemas.microsoft.com/winfx
xmlns:x="http://schemas.microsoft.com/win
Title="Live Property Explorer Demo" Heigh
<Grid>
<Button x:Name="myButton"
Content="Click here"/>
</Grid>
</Window>
Live Property Explorer Demo
Click here
Live Property Explorer
Name myButton
Type Button
Search Properties ()
Accessibility
Local mainwindow.xaml
Content Click here
RenderSize 384,111
New
Style (ButtonBase Defa...
Background SolidColorBrush
BorderBrush SolidColorBrush
BorderThickness 1,1,1,1
FocusVisualStyle System.Windows.Style
Foreground DynamicResourceExtensio
HorizontalContent... Center
Padding 1,1,1,1
Template System.Windows.Controls
VerticalContentAlig... Center
Computed Values
Solution Explorer
Live Property Explorer
Diagnostic Tools
121 %
Live Property Explorer

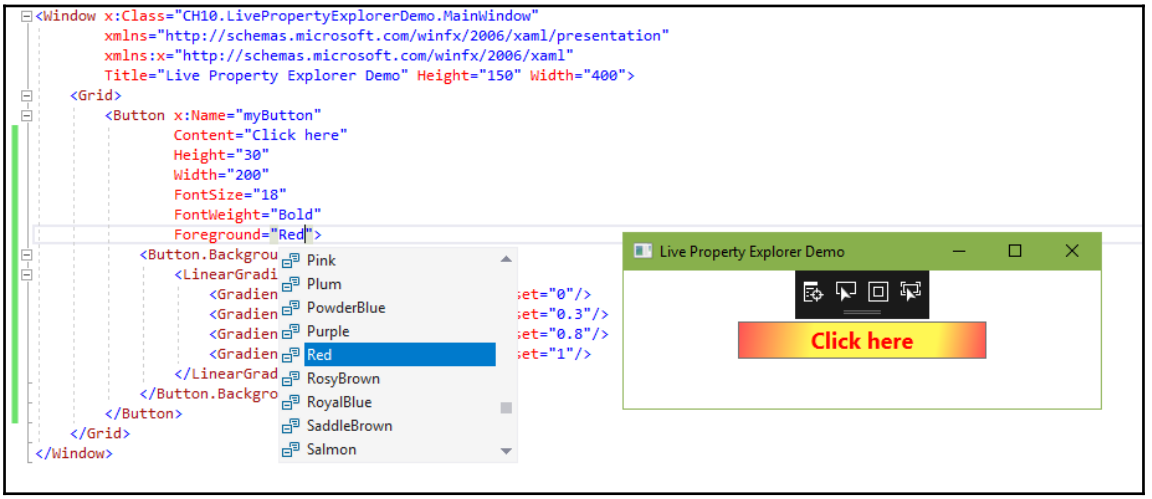

MainWindow.xaml
MainWindow.xaml.cs
Button (myButton)
Button (myButton)
<Window x:Class="CH10.LivePropertyExplorerDemo.Ma
xmlns="http://schemas.microsoft.com/winfx
xmlns:x="http://schemas.microsoft.com/win
Title="Live Property Explorer Demo" Heigh
<Grid>
<Button x:Name="myButton"
Content="Click here"/>
</Grid>
</Wi
Live Property Explorer Demo
Click here
Live Property Explorer
Name myButton
Type Button
Search Properties ()
Accessibility
Local mainwindow.xaml
Content Click here
RenderSize 384,111
New
Style (ButtonBase Defa...
Computed Values
Default
Set a property in current category.
Diagnostic Tools

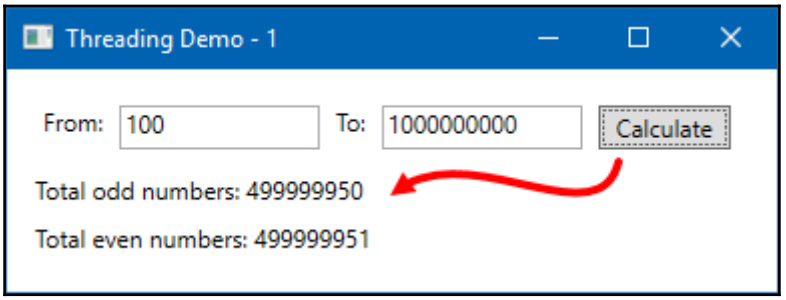

Live Property Explorer
Name myButton
Type Button
Search Properties ()
Accessibility
Local mainwindow.xaml
Content Click here
RenderSize 384,111
AllowDrop
Template
TemplatedParent
ToolTip
TouchesCaptured
TouchesCapturedWithin
TouchesDirectlyOver
TouchesOver
Triggers
Uid
UseLayoutRounding
VerticalAlignment
VerticalContentAlignment
Visibility
Width
New

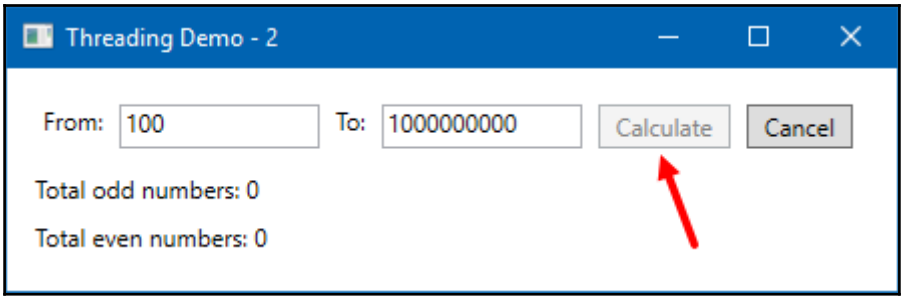

MainWindow.xaml
MainWindow.xaml.cs
Button (myButton)
Button (myButton)
<Window x:Class="CH10.LivePropertyExplorerDemo.Ma
xmlns="http://schemas.microsoft.com/winfx
xmlns:x="http://schemas.microsoft.com/win
Title="Live Property Explorer Demo" Heigh
<Grid>
<Button x:Name="myButton"
Content="Click here"/>
</Grid>
</Wi
Live Property Explorer Demo
Click here
Live Property Explorer
Name myButton
Type Button
Search Properties ()
Accessibility
Local mainwindow.xaml
Content Click here
RenderSize 120,111
Width 120
New
Style (ButtonBase Defa...
Computed Values
Default
Diagnostic Tools

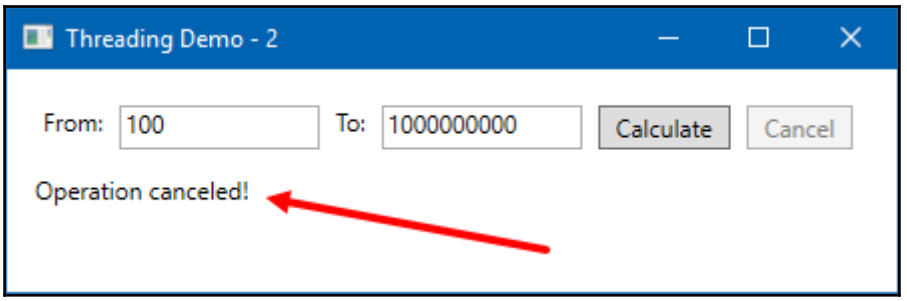

MainWindow.xaml
MainWindow.xaml.cs
Button (myButton)
Button (myButton)
<Window x:Class="CH10.LivePropertyExplorerDemo.Ma
xmlns="http://schemas.microsoft.com/winfx
xmlns:x="http://schemas.microsoft.com/win
Title="Live Property Explorer Demo" Heigh
<Grid>
<Button x:Name="myButton"
Content="Click here"/>
</Grid>
</Wi
Live Property Explorer Demo
Click here
Live Property Explorer
Name myButton
Type Button
Search Properties ()
Accessibility
Local mainwindow.xaml
Background SolidColorBrush
Color #FFFF0000
Opacity 1
RelativeTransform MatrixTransform
Transform MatrixTransform
Content Click here
Height 30
RenderSize 120,30
Width 120
New
Style (ButtonBase Defa...
Diagnostic Tools

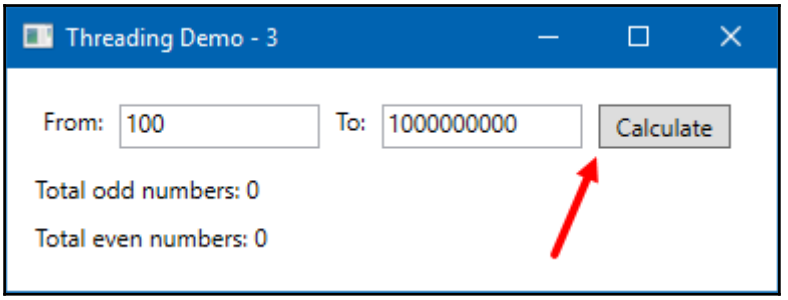

MainWindow.xaml
MainWindow.xaml.cs
Button (myButton)
Button (myButton)
<Window x:Class="CH10.LivePropertyExplorerDemo.Ma
xmlns="http://schemas.microsoft.com/winfx
xmlns:x="http://schemas.microsoft.com/win
Title="Live Property Explorer Demo" Heigh
<Grid>
<Button x:Name="myButton"
Content="Click here"/>
</Grid>
</Wi
Live Property Explorer Demo
Click here
Live Property Explorer
Name myButton
Type Button
Search Properties ()
Accessibility
Local mainwindow.xaml
Background SolidColorBrush
Content Click here
FontSize 16
Foreground SolidColorBrush
Height 30
RenderSize 120,30
Width 120
New
Style (ButtonBase Defa...
Diagnostic Tools

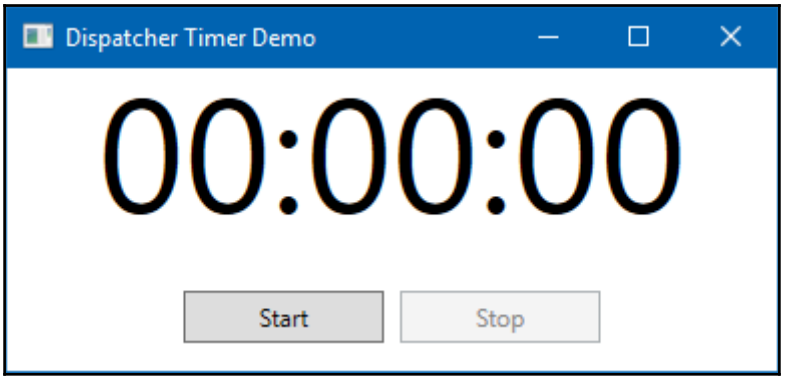

<Window x:Class="CH10.LivePropertyExplorerDemo.MainWindow"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
Title="Live Property Explorer Demo" Height="150" Width="400">
<Grid>
<Button x:Name="myButton"
Content="Click here"
Height="30"
Width="200"
FontSize="18"
FontWeight="Bold"
Foreground="Red">
<Button.Backgrou
<LinearGradi
<Gradien
<Gradien
<Gradien
<Gradien
</LinearGrad
</Button.Backgro
</Button>
</Grid>
</Window>
Pink
Plum
PowderBlue
Purple
Red
RosyBrown
RoyalBlue
SaddleBrown
Salmon
Live Property Explorer Demo
Click here

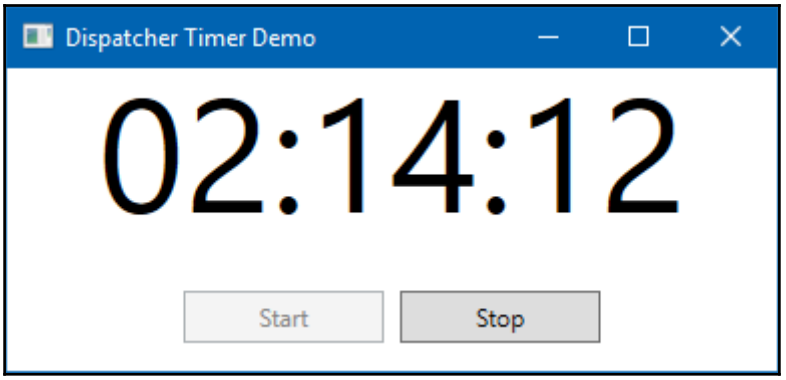

Threading Demo - 1
From: 100
To: 1000000000
Calculate
Total odd numbers: 499999950
Total even numbers: 499999951


Threading Demo - 2
From:
100
To:
1000000000
Calculate
Cancel
Total odd numbers: 0
Total even numbers: 0

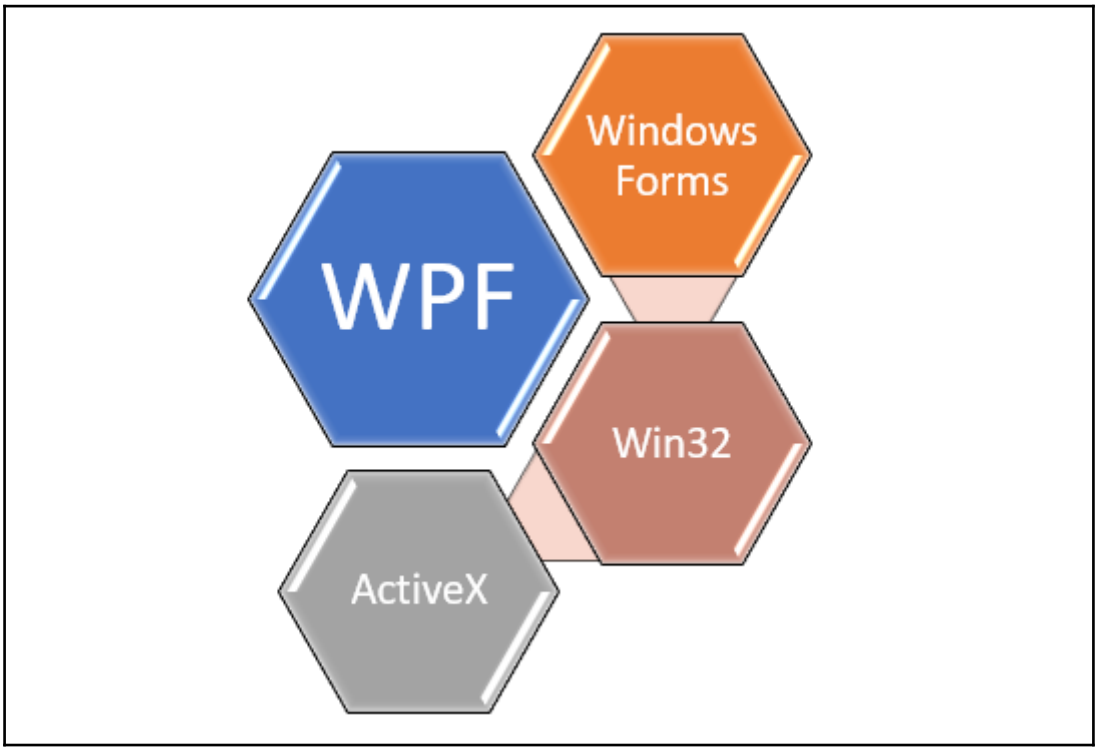

Threading Demo - 2
From:
100
To:
1000000000
Calculate
Cancel
Operation canceled!


Threading Demo - 3
From:
100
To:
1000000000
Calculate
Total odd numbers: 0
Total even numbers: 0


Dispatcher Timer Demo
00:00:00
Start
Stop

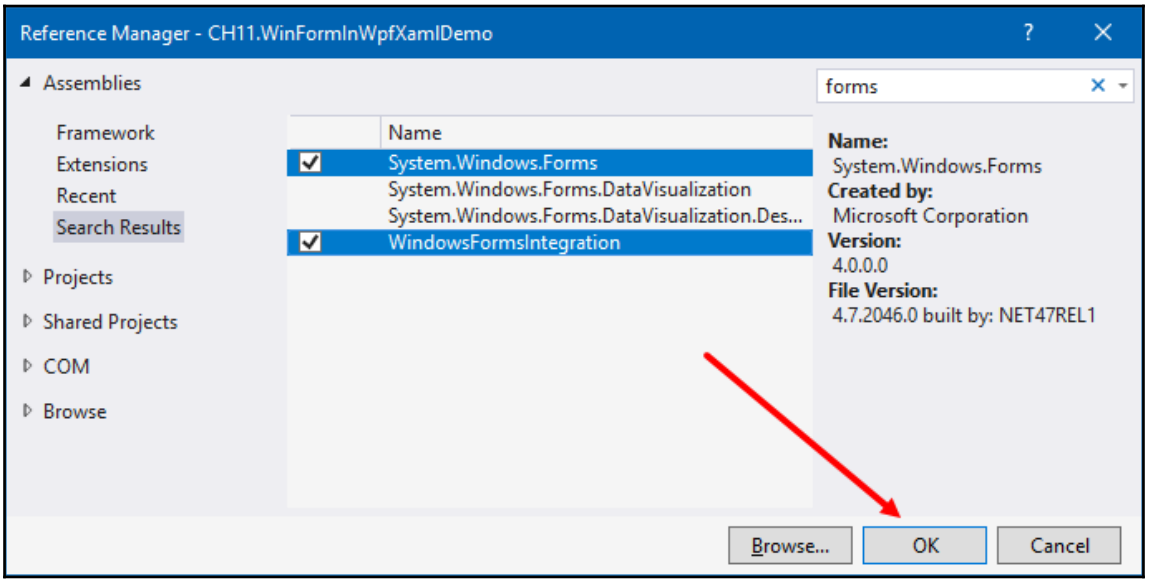

Dispatcher Timer Demo
02:14:12
Start
Stop

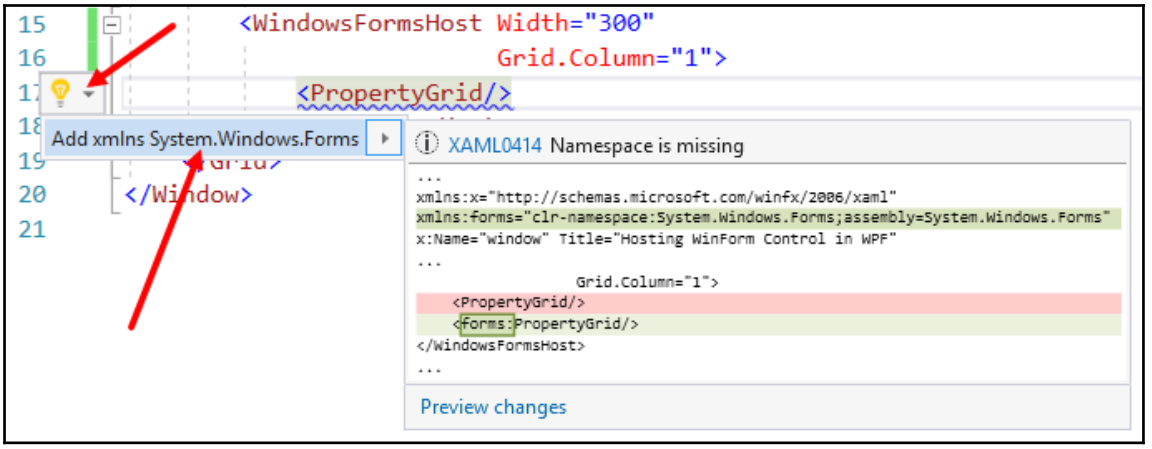
Chapter 11: Interoperability with Win32 and WinForm

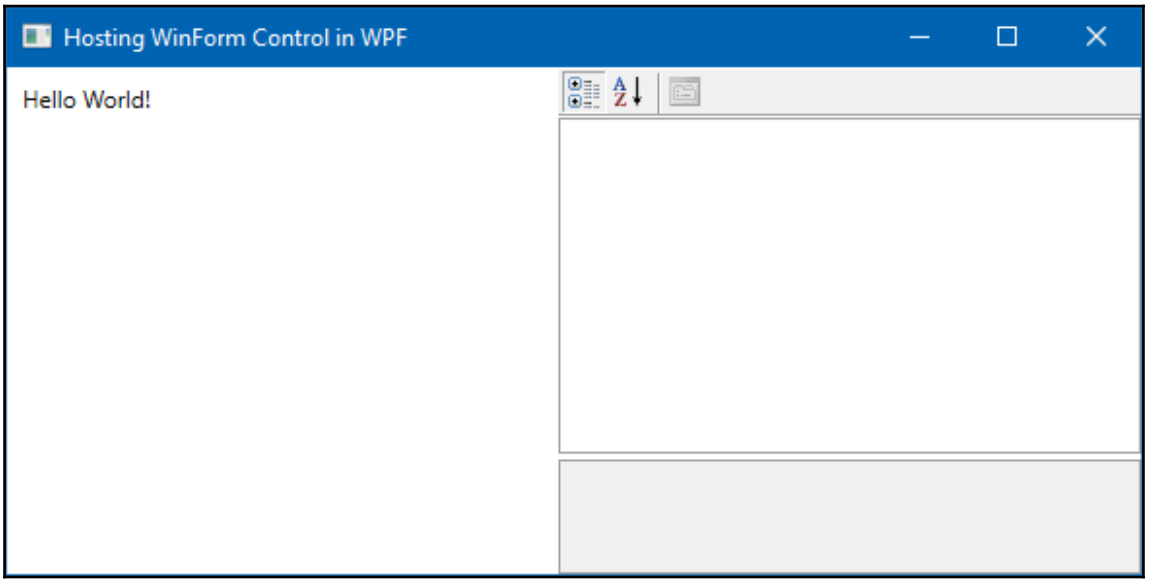


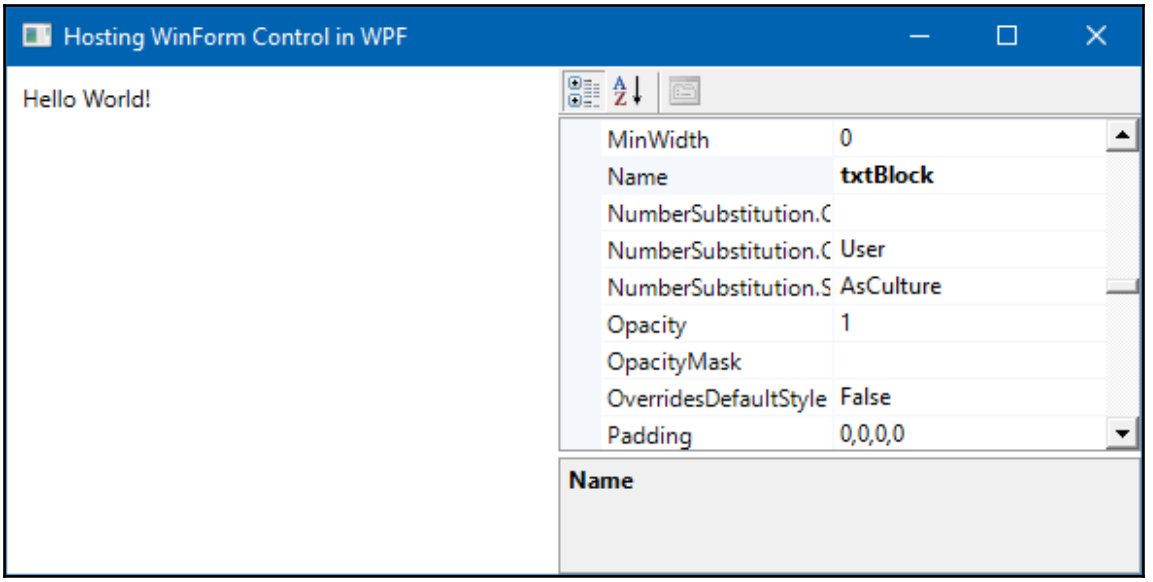
```
<Window x:Class="CH11.WinFormInWpfXamlDemo.MainWindow"
        xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
        xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
        x:Name="window" Title="Hosting WinForm Control in WPF"
        Height="300" Width="600">
    <Grid>
        <Grid.ColumnDefinitions>
            <ColumnDefinition Width="*"/>
            <ColumnDefinition Width="Auto"/>
        </Grid.ColumnDefinitions>
        <TextBlock x:Name="txtBlock"
                   Grid.Column="0"
                   Margin="8"
                   Text="Hello World!"/>
        <WindowsFormsHost>

        </WindowsFormsHost>
    </Grid>
</Window>
```

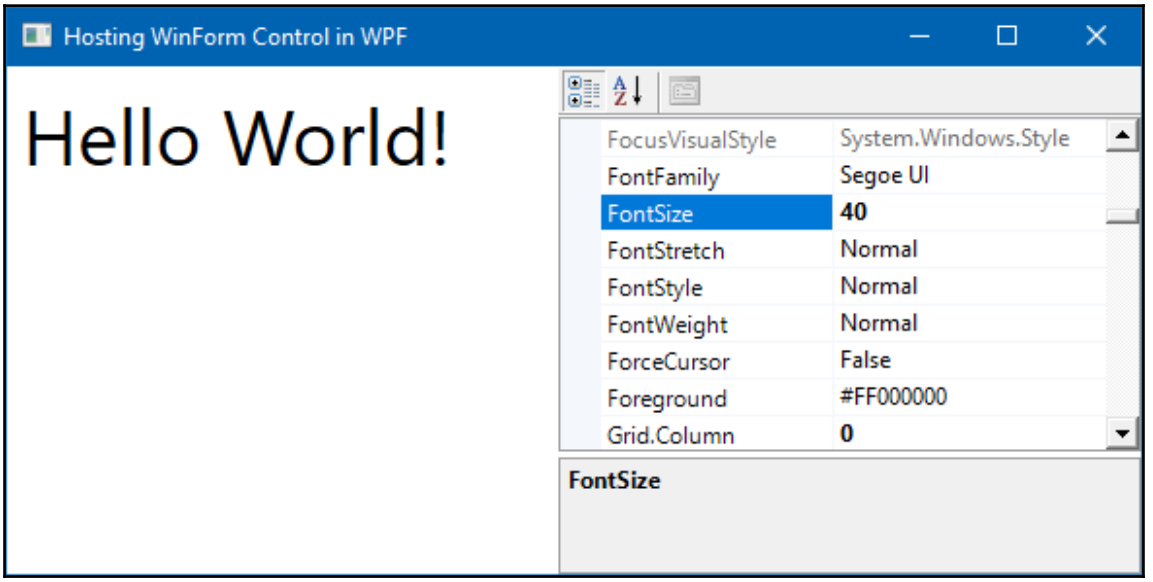
WindowsFormsHost is not supported in a Windows Presentation Foundation (WPF) project.

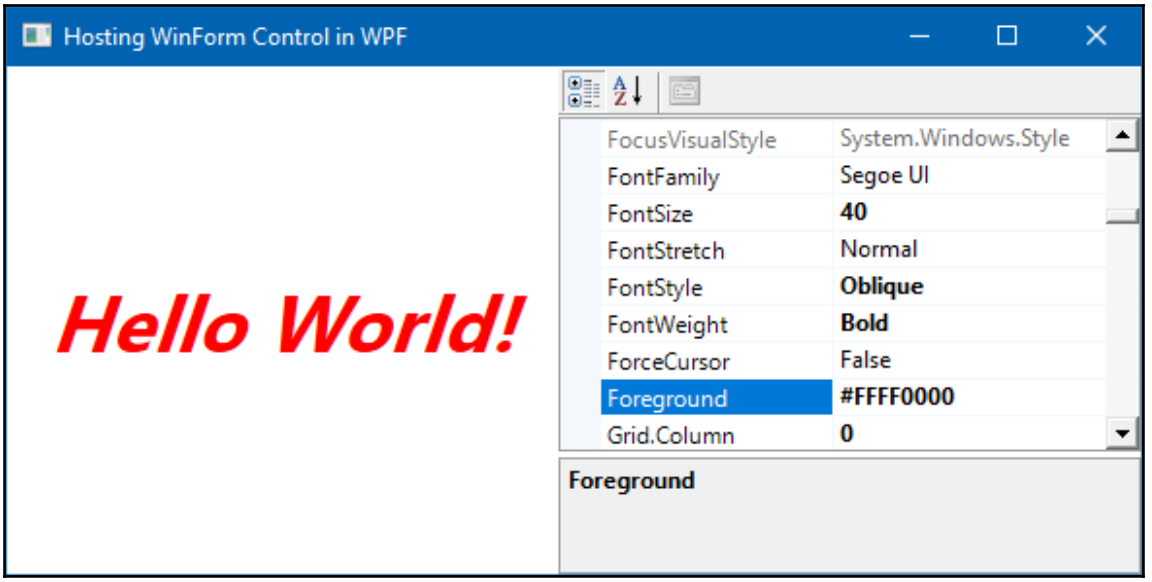


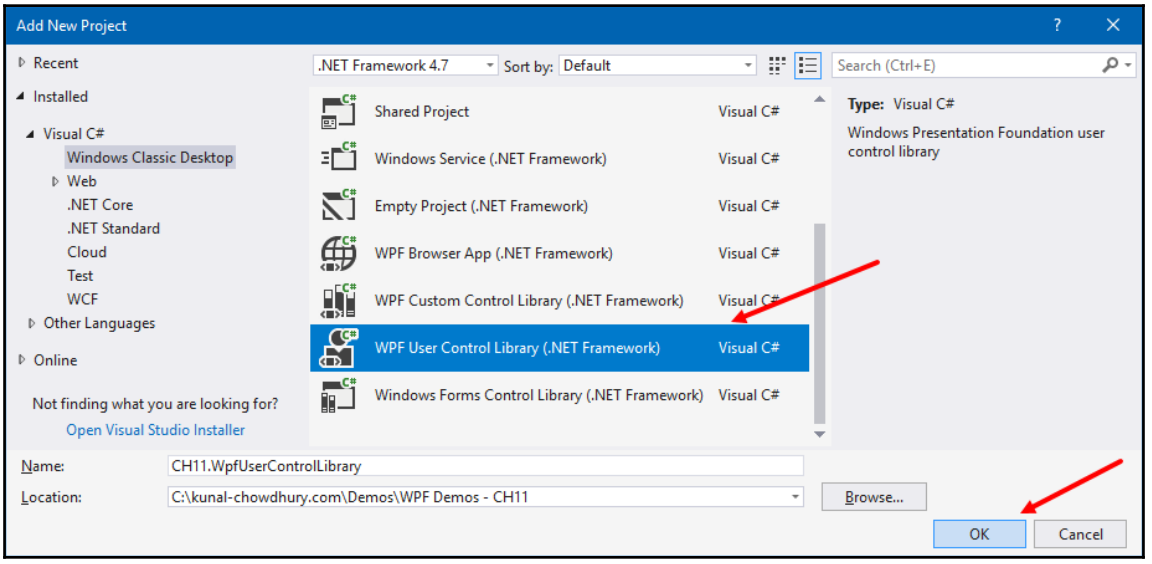

15
16
17
18
19
20
21
<WindowsFormsHost Width="300"
Grid.Column="1">
<PropertyGrid/>
</Window>
Add xmlns System.Windows.Forms
XAML0414 Namespace is missing
...
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
xmlns:forms="clr-namespace:System.Windows.Forms;assembly=System.Windows.Forms"
x:Name="window" Title="Hosting WinForm Control in WPF"
...
Grid.Column="1">
<PropertyGrid/>
<forms:PropertyGrid/>
</WindowsFormsHost>
...
Preview changes

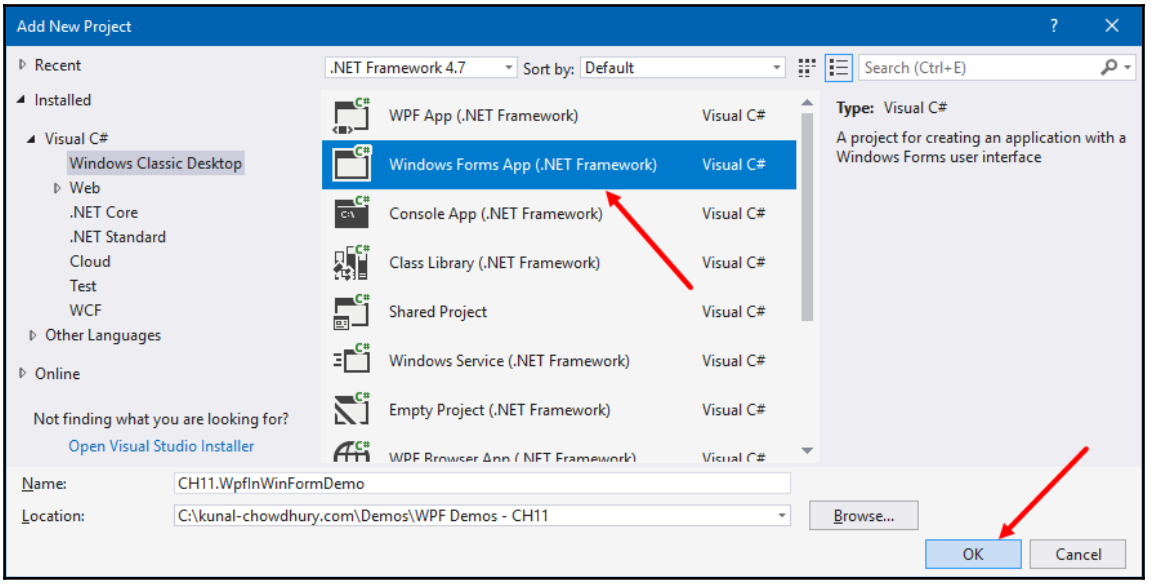

Hosting WinForm Control in WPF
Hello World!

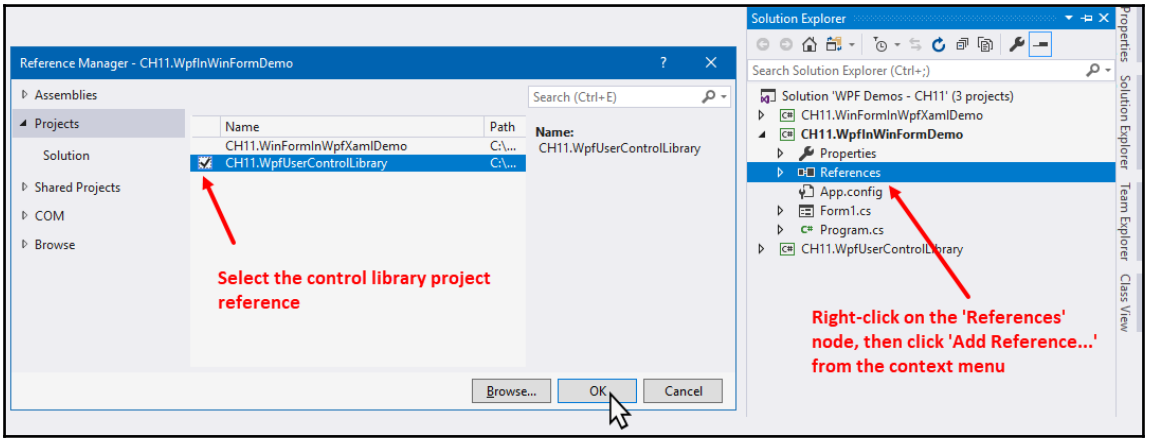

Hosting WinForm Control in WPF
Hello World!
MinWidth 0
Name txtBlock
NumberSubstitution.C
NumberSubstitution.C User
NumberSubstitution.S AsCulture
Opacity 1
OpacityMask
OverridesDefaultStyle False
Padding 0,0,0,0
Name

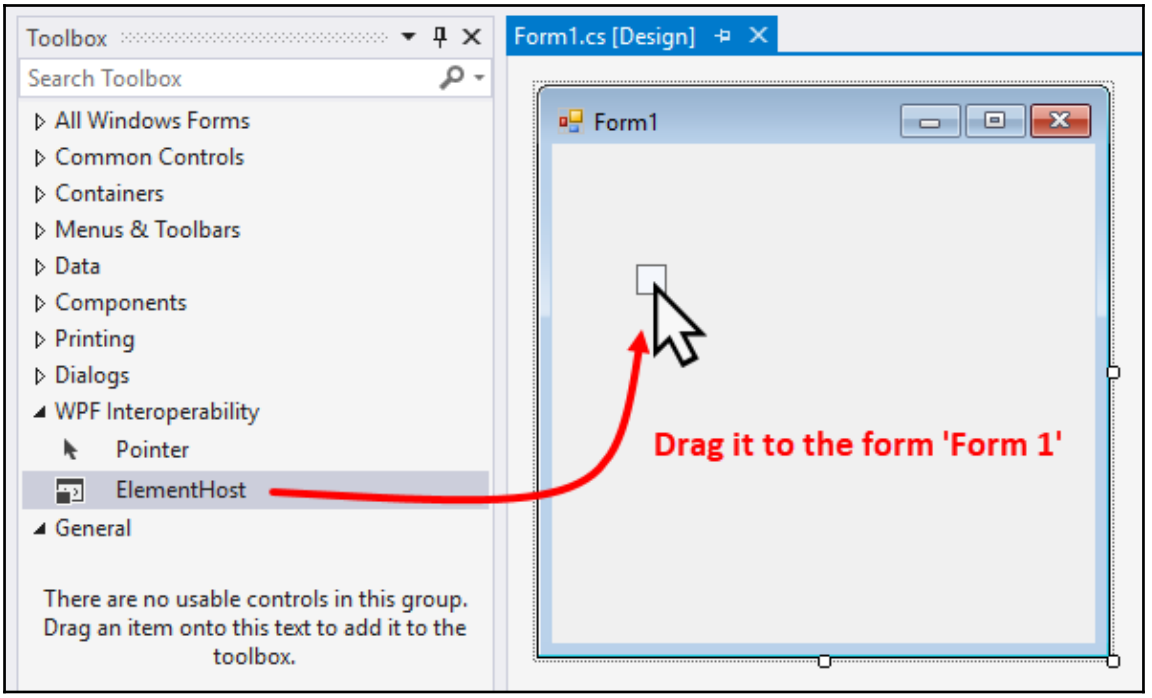

Hosting WinForm Control in WPF
Hello World!
FocusVisualStyle System.Windows.Style
FontFamily Segoe UI
FontSize 40
FontStretch Normal
FontStyle Normal
FontWeight Normal
ForceCursor False
Foreground #FF000000
Grid.Column 0
FontSize

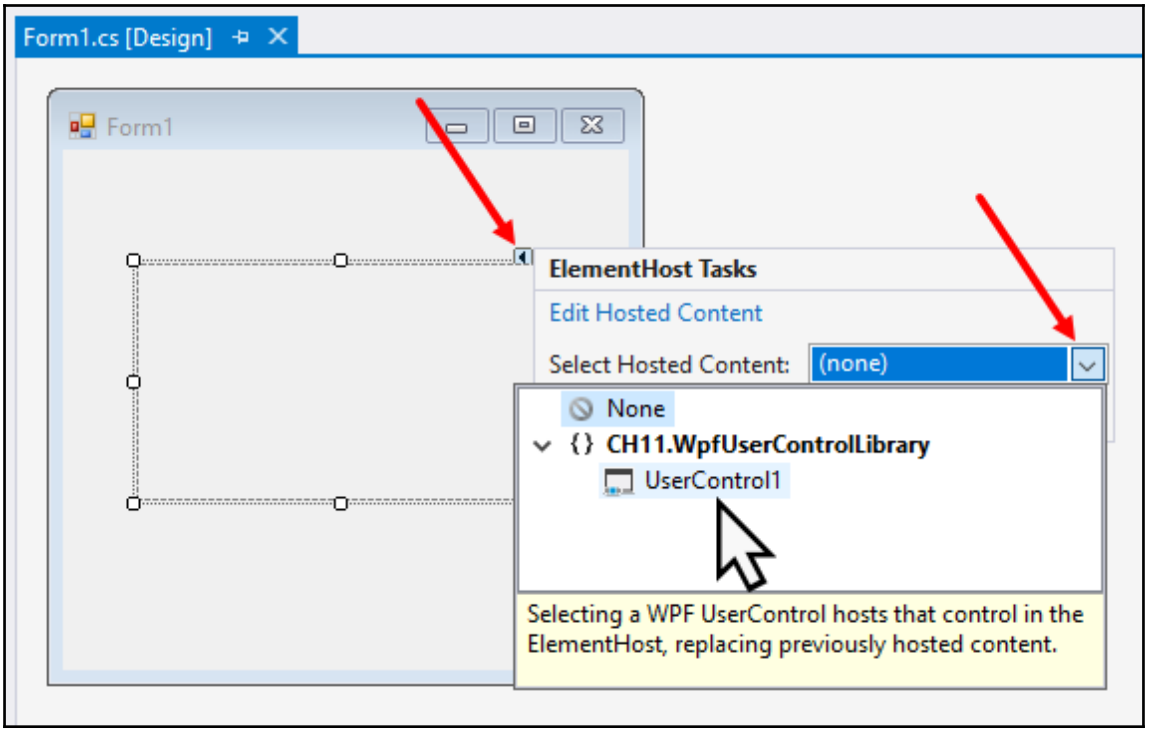

Hosting WinForm Control in WPF
Hello World!
FocusVisualStyle
System.Windows.Style
FontFamily
Segoe UI
FontSize
40
FontStretch
Normal
FontStyle
Oblique
FontWeight
Bold
ForceCursor
False
Foreground
#FFFF0000
Grid.Column
0
Foreground

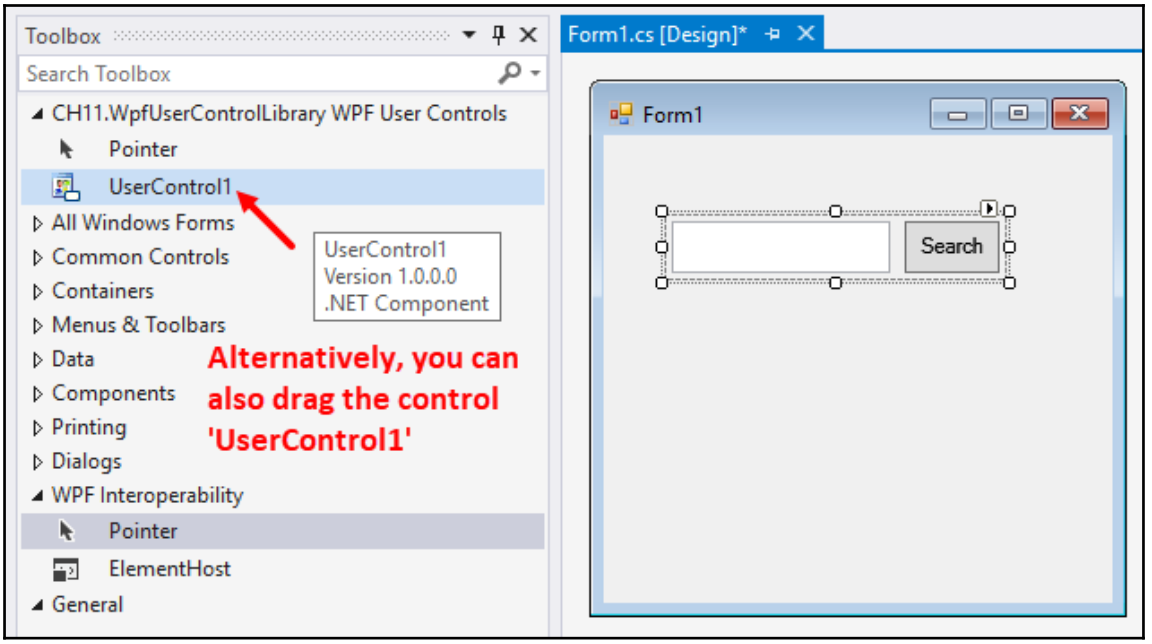

Add New Project
Recent
Installed
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
WCF
Other Languages
Online
Not finding what you are looking for?
Open Visual Studio Installer
.NET Framework 4.7
Sort by:
Default
Search (Ctrl+E)
Shared Project
Visual C#
Windows Service (.NET Framework)
Visual C#
Empty Project (.NET Framework)
Visual C#
WPF Browser App (.NET Framework)
Visual C#
WPF Custom Control Library (.NET Framework)
Visual C#
WPF User Control Library (.NET Framework)
Visual C#
Windows Forms Control Library (.NET Framework)
Visual C#
Type: Visual C#
Windows Presentation Foundation user control library
Name:
CH11.WpfUserControlLibrary
Location:
C:\kunal-chowdhury.com\Demos\WPF Demos - CH11
Browse...
OK
Cancel

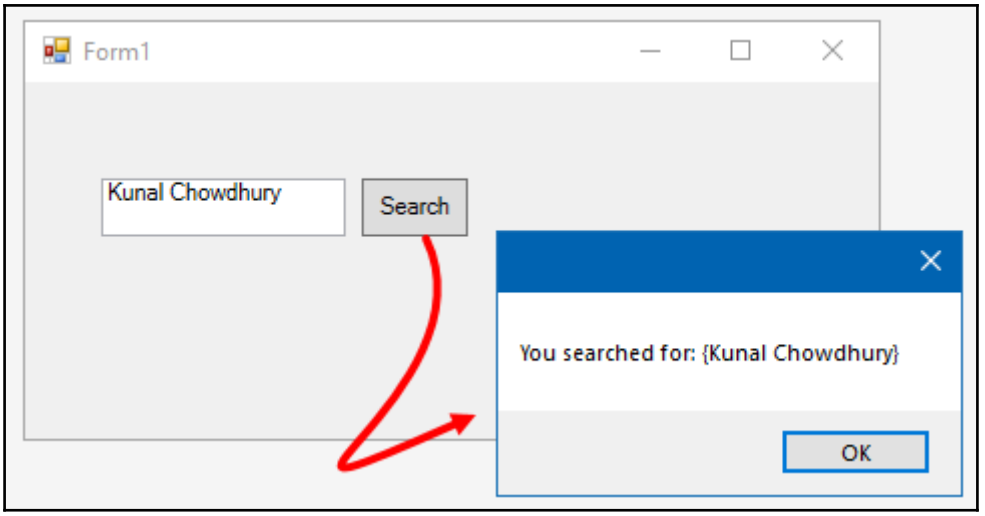

Add New Project
Recent
Installed
Visual C#
Windows Classic Desktop
Web
.NET Core
.NET Standard
Cloud
Test
WCF
Other Languages
Online
Not finding what you are looking for?
Open Visual Studio Installer
.NET Framework 4.7
Sort by: Default
Search (Ctrl+E)
WPF App (.NET Framework) Visual C#
Windows Forms 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 an application with a Windows Forms user interface
Name: CH11.WpfInWinFormDemo
Location: C:\kunal-chowdhury.com\Demos\WPF Demos - CH11
Browse...
OK
Cancel

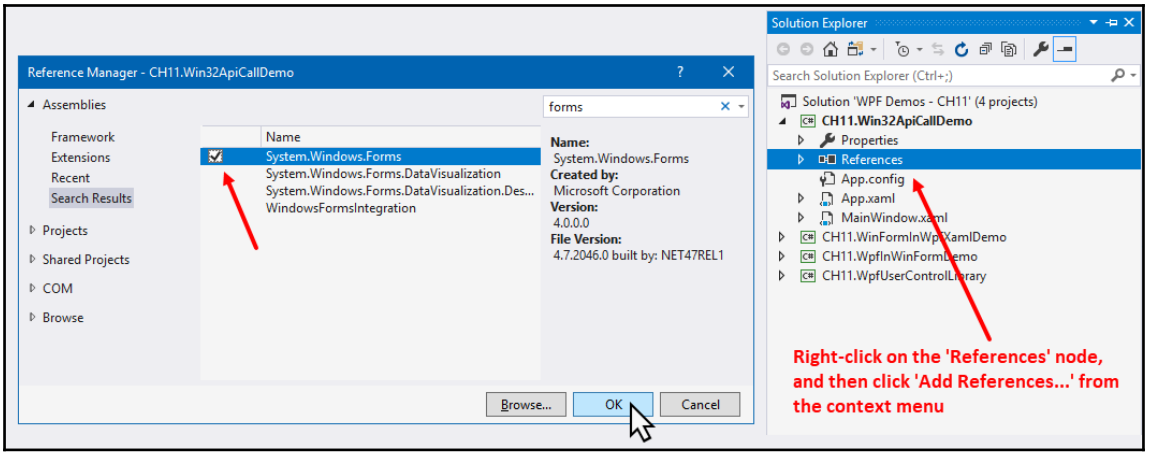

Reference Manager - CH11.WpfInWinFormDemo
Assemblies
Projects
Solution
Shared Projects
COM
Browse
Search (Ctrl+E)
Name
Path
CH11.WinFormInWpfXamlDemo C:\...
CH11.WpfUserControlLibrary C:\...
Name:
CH11.WpfUserControlLibrary
Select the control library project reference
Browse...
OK
Cancel
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH11' (3 projects)
CH11.WinFormInWpfXamlDemo
CH11.WpfInWinFormDemo
Properties
References
App.config
Form1.cs
Program.cs
CH11.WpfUserControlLibrary
Right-click on the 'References' node, then click 'Add Reference...' from the context menu
Properties
Solution Explorer
Team Explorer
Class View


Toolbox
Search Toolbox
All Windows Forms
Common Controls
Containers
Menus & Toolbars
Data
Components
Printing
Dialogs
WPF Interoperability
Pointer
ElementHost
General
There are no usable controls in this group. Drag an item onto this text to add it to the toolbox.
Form1.cs [Design]
Form1
Drag it to the form 'Form 1'

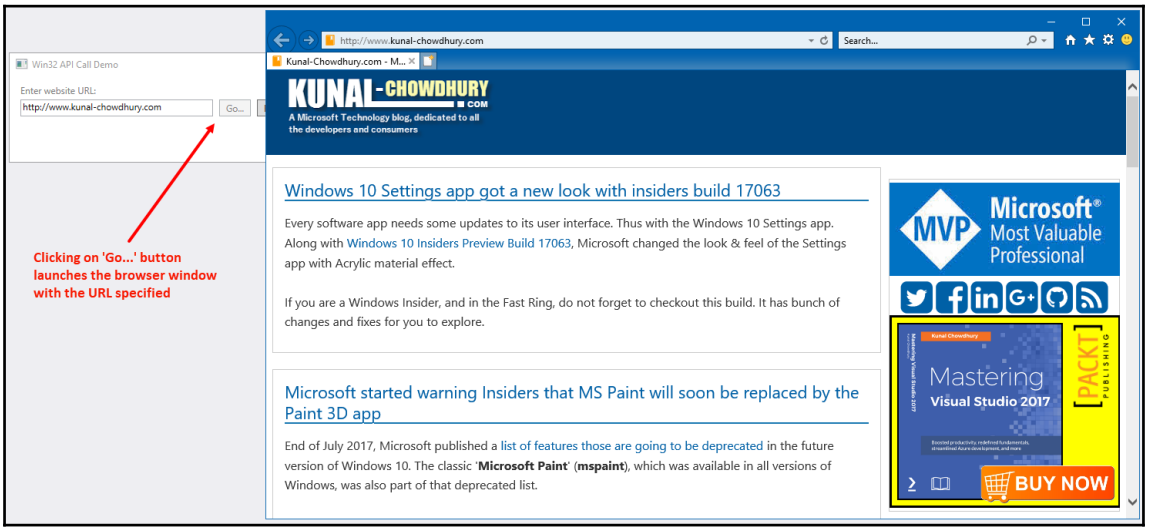

Form1.cs [Design]
Form1
ElementHost Tasks
Edit Hosted Content
Select Hosted Content:
(none)
None
CH11.WpfUserControlLibrary
UserControl1
Selecting a WPF UserControl hosts that control in the ElementHost, replacing previously hosted content.

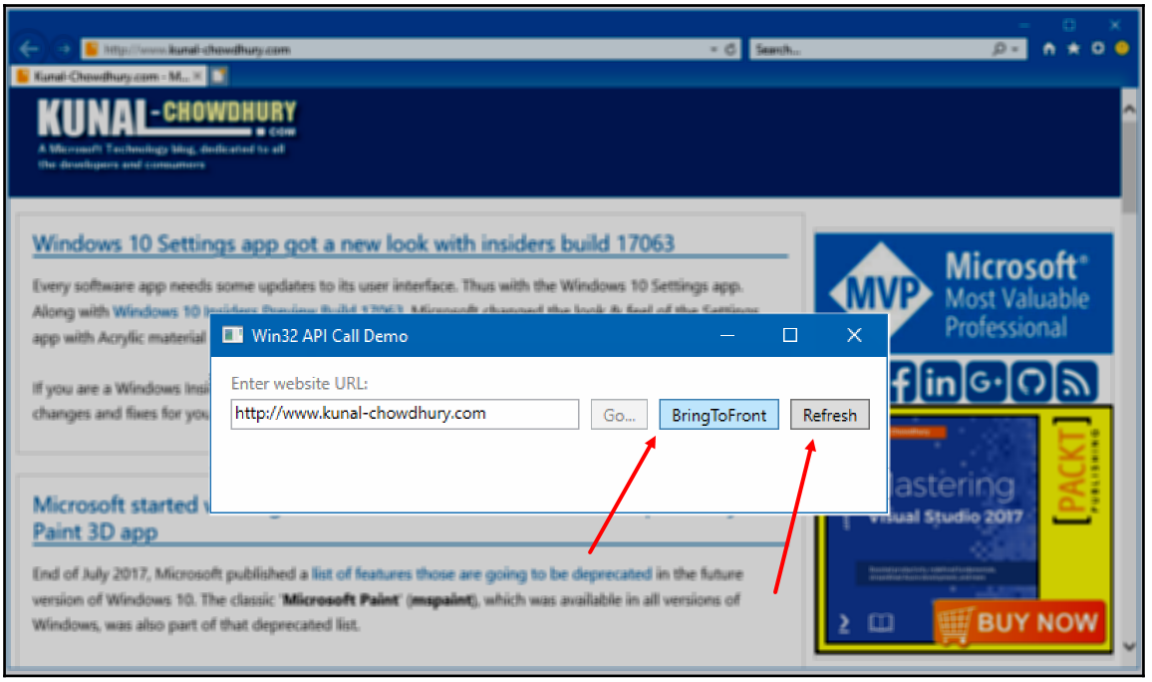

Toolbox
Search Toolbox
CH11.WpfUserControlLibrary WPF User Controls
Pointer
UserControl1
All Windows Forms
Common Controls
Containers
Menus & Toolbars
Data
Components
Printing
Dialogs
WPF Interoperability
Pointer
ElementHost
General
UserControl1
Version 1.0.0.0
.NET Component
Alternatively, you can also drag the control 'UserControl1'
Form1.cs [Design]*
Form1
Search

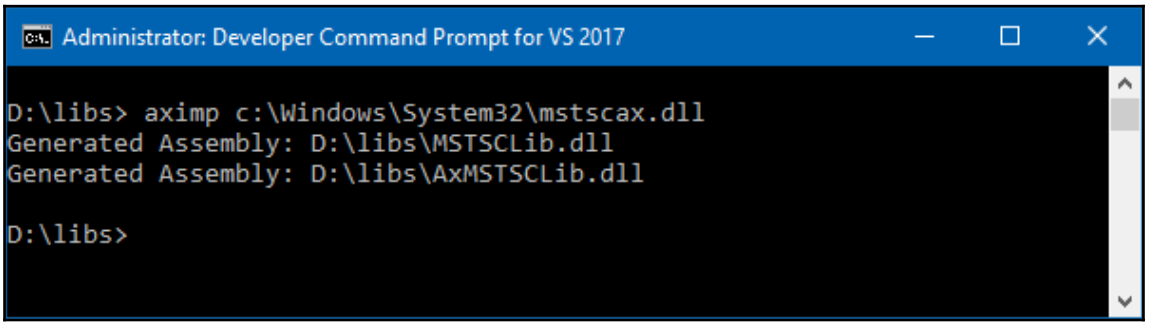

Form1
Kunal Chowdhury
Search
You searched for: {Kunal Chowdhury}
OK

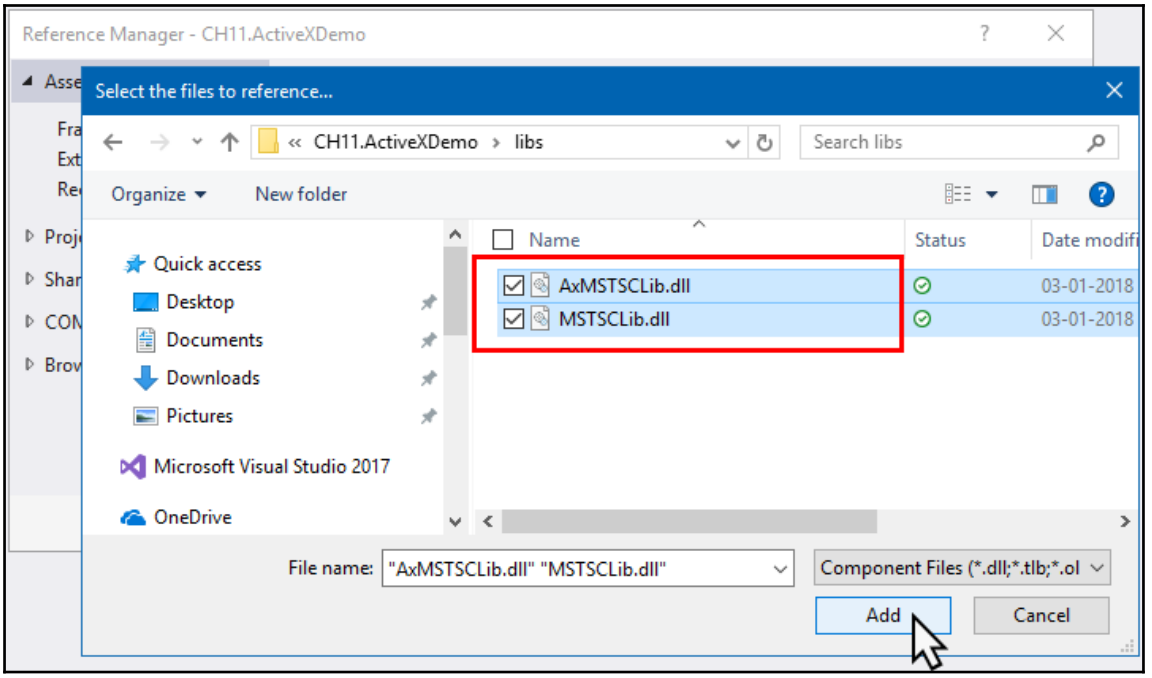

Reference Manager - CH11.Win32ApiCallDemo
Assemblies
Framework
Extensions
Recent
Search Results
Projects
Shared Projects
COM
Browse
forms
Name
System.Windows.Forms
System.Windows.Forms.DataVisualization
System.Windows.Forms.DataVisualization.Des...
WindowsFormsIntegration
Name:
System.Windows.Forms
Created by:
Microsoft Corporation
Version:
4.0.0.0
File Version:
4.7.2046.0 built by: NET47REL1
Browse...
OK
Cancel
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'WPF Demos - CH11' (4 projects)
CH11.Win32ApiCallDemo
Properties
References
App.config
App.xaml
MainWindow.xaml
CH11.WinFormInWpfXamlDemo
CH11.WpfInWinFormDemo
CH11.WpfUserControlLibrary
Right-click on the 'References' node, and then click 'Add References...' from the context menu

Win32 API Call Demo
Enter website URL:
http://www.kunal-chowdhury.com
Go...
BringToFront
Refresh


Clicking on 'Go...' button launches the browser window with the URL specified
KUNAL-CHOWDHURY .COM
A Microsoft Technology blog, dedicated to all the developers and consumers
Windows 10 Settings app got a new look with insiders build 17063
Every software app needs some updates to its user interface. Thus with the Windows 10 Settings app. Along with Windows 10 Insiders Preview Build 17063, Microsoft changed the look & feel of the Settings app with Acrylic material effect.
If you are a Windows Insider, and in the Fast Ring, do not forget to checkout this build. It has bunch of changes and fixes for you to explore.
Microsoft started warning Insiders that MS Paint will soon be replaced by the Paint 3D app
End of July 2017, Microsoft published a list of features those are going to be deprecated in the future version of Windows 10. The classic 'Microsoft Paint' (mspaint), which was available in all versions of Windows, was also part of that deprecated list.
MVP
Microsoft Most Valuable Professional
Mastering Visual Studio 2017
PACKT PUBLISHING
BUY NOW


KUNAL-CHOWDHURY
Windows 10 Settings app got a new look with insiders build 17063
Every software app needs some updates to its user interface. Thus with the Windows 10 Settings app.
Win32 API Call Demo
Enter website URL:
http://www.kunal-chowdhury.com
Go...
BringToFront
Refresh
Microsoft started
Paint 3D app
End of July 2017, Microsoft published a list of features those are going to be deprecated in the future
version of Windows 10. The classic 'Microsoft Paint' (mspaint), which was available in all versions of
Windows, was also part of that deprecated list.
MVP
Microsoft
Most Valuable
Professional
BUY NOW


Administrator: Developer Command Prompt for VS 2017
D:\libs> aximp c:\Windows\System32\mstscax.dll
Generated Assembly: D:\libs\MSTSCLib.dll
Generated Assembly: D:\libs\AxMSTSCLib.dll
D:\libs>


Reference Manager - CH11.ActiveXDemo
Select the files to reference...
« CH11.ActiveXDemo › libs
Search libs
Organize
New folder
Quick access
Desktop
Documents
Downloads
Pictures
Microsoft Visual Studio 2017
OneDrive
Name
Status
Date modifi
AxMSTSCLib.dll
MSTSCLib.dll
03-01-2018
03-01-2018
File name:
"AxMSTSCLib.dll" "MSTSCLib.dll"
Component Files (*.dll;*.tlb;*.ol
Add
Cancel

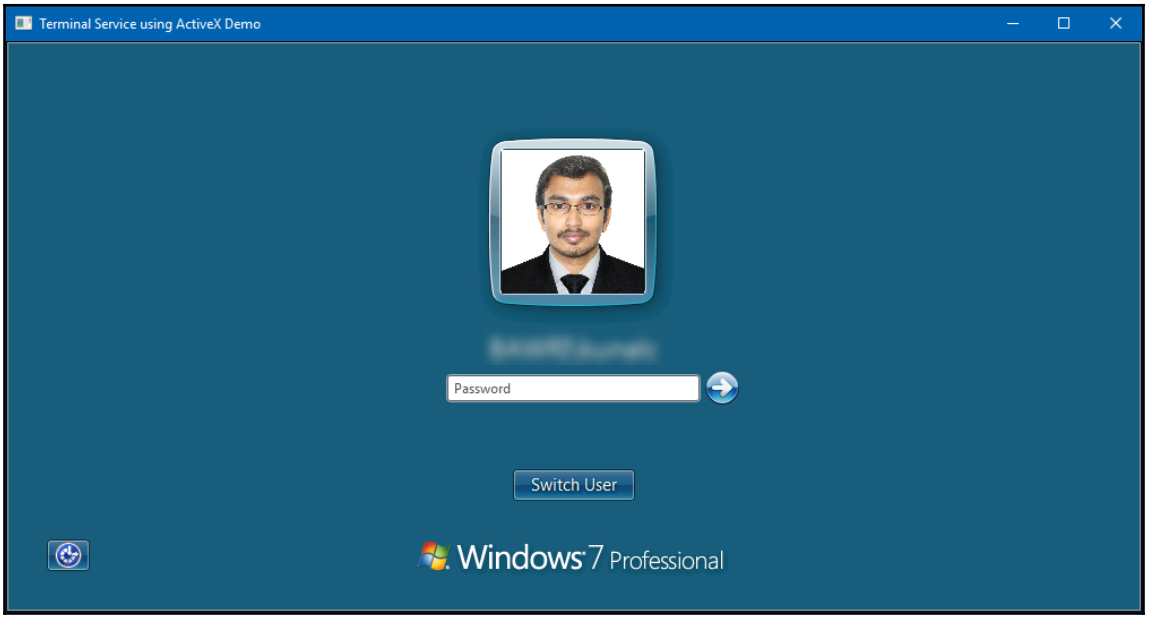

Terminal Service using ActiveX Demo
Password
Switch User
Windows 7 Professional

Table of Contents

Index 2

Index