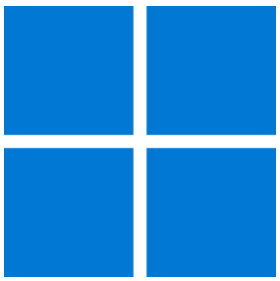
tutorial

Windows App SDK



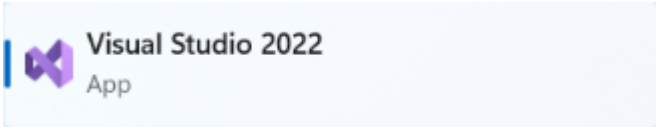
Page Transitions

Page Transitions shows how you can create **Transitions** that apply to **Pages** within an Application using the **Windows App SDK**.

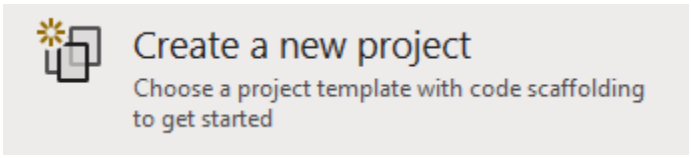
Step 1

Follow **Setup and Start** on how to get **Setup** and **Install** what you need for **Visual Studio 2022** and **Windows App SDK**.

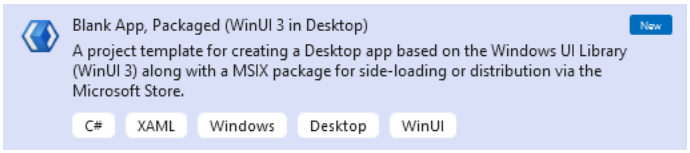
In **Windows 11** choose **Start** and then find or search for **Visual Studio 2022** and then select it.



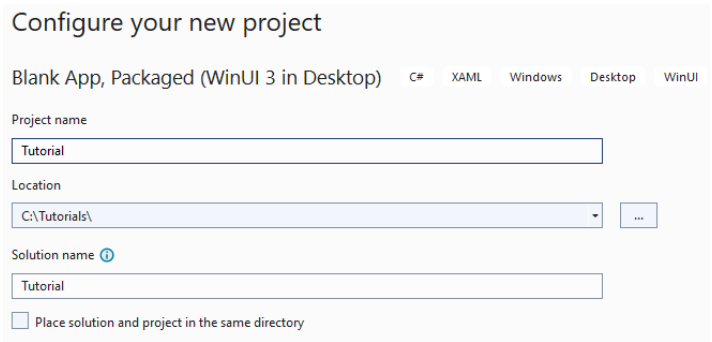
Once **Visual Studio 2022** has started select **Create a new project**.



Then choose the **Blank App, Packages (WinUI in Desktop)** and then select **Next**.

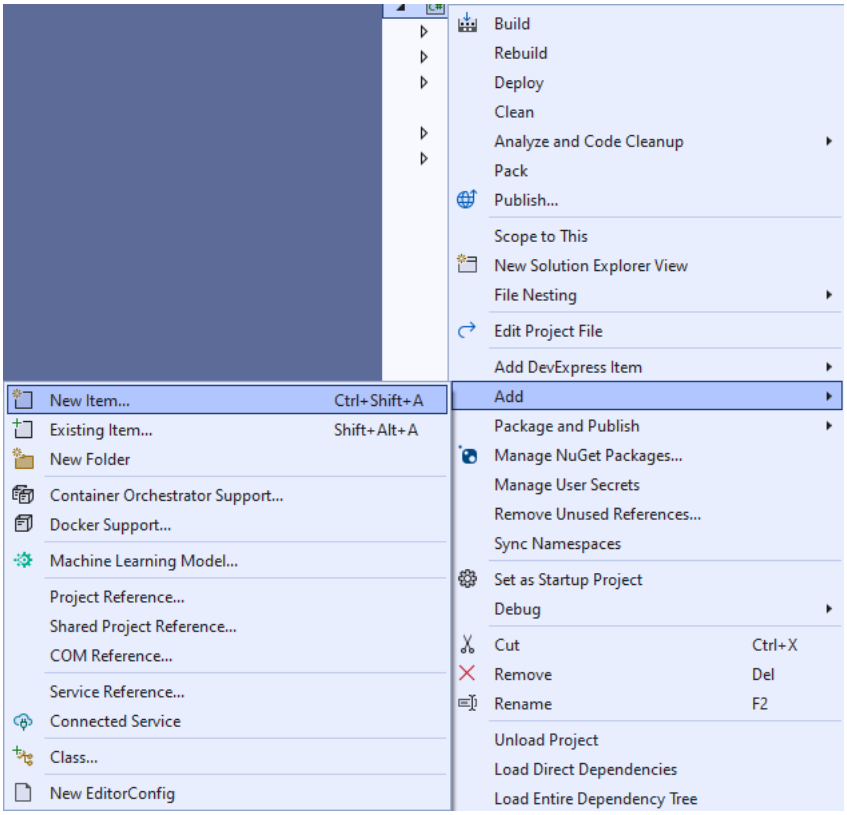


After that in **Configure your new project** type in the **Project name** as *PageTransitions*, then select a Location and then select **Create** to start a new **Solution**.



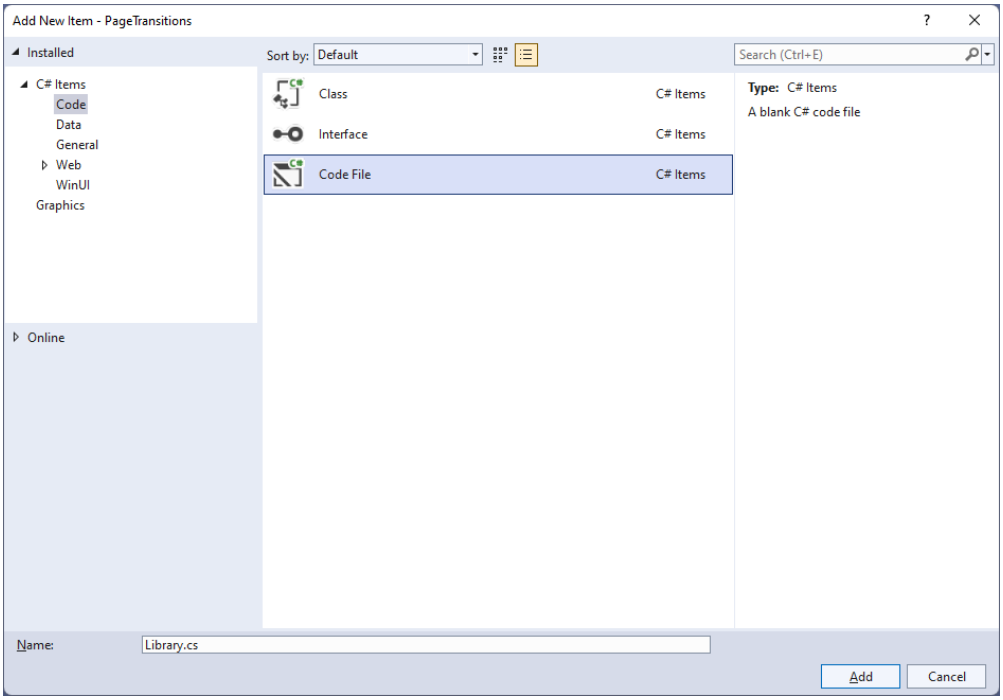
Step 2

Then in **Visual Studio** within **Solution Explorer** for the **Solution**, right click on the **Project** shown below the **Solution** and then select **Add** then **New Item...**



Step 3

Then in **Add New Item** from the **C# Items** list, select **Code** and then select **Code File** from the list next to this, then type in the name of *Library.cs* and then **Click** on **Add**.



Step 4

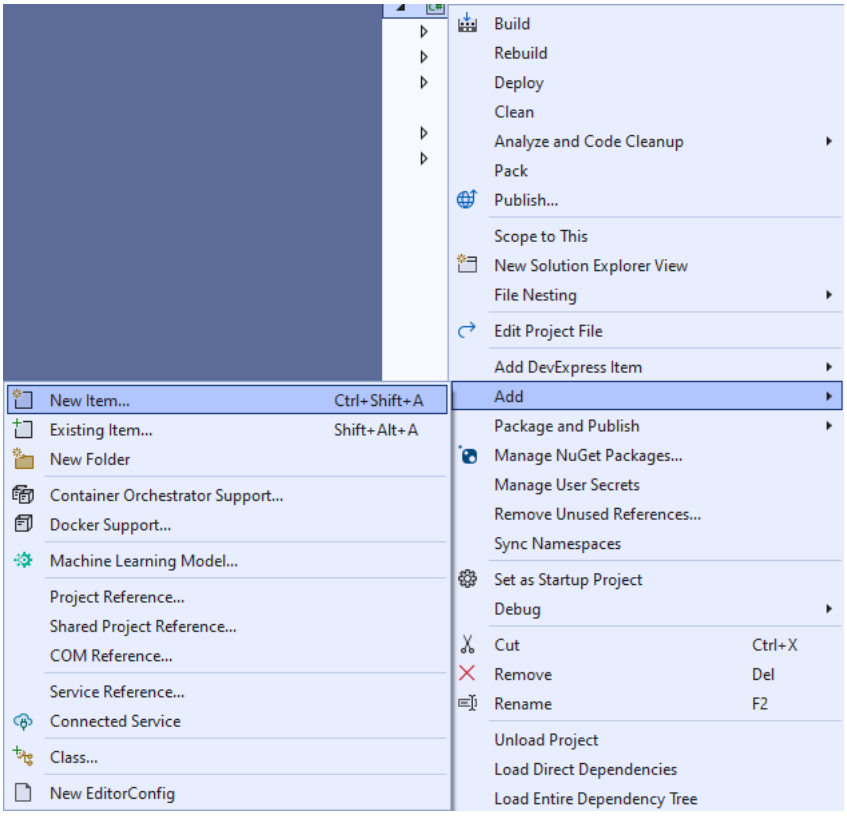
You will now be in the **View** for the **Code** of *Library.cs*, within this type the following **Code**:

```
using Microsoft.UI.Xaml.Controls;
using Microsoft.UI.Xaml.Media;
using Microsoft.UI.Xaml.Media.Animation;
using Microsoft.UI.Xaml.Shapes;
using System;

internal class Library
{
    public static Frame Frame { get; set; }

    public static string Option { get; set; }

    public static void Navigate(Type page, object parameter = null)
    {
        NavigationTransitionInfo transitionInfo = Option switch
        {
            "Entrance" => new EntranceNavigationTransitionInfo(),
            "Drill In" => new DrillInNavigationTransitionInfo(),
            "Slide from Right" => new SlideNavigationTransitionInfo()
            {
                Effect = SlideNavigationTransitionEffect.FromRight
            },
            "Slide from Left" => new SlideNavigationTransitionInfo()
            {
                Effect = SlideNavigationTransitionEffect.FromLeft
            },
            "Supress" => new SuppressNavigationTransitionInfo(),
            _ => null,
        };
        if (Frame.BackStackDepth > 0)
        {
            Frame.BackStack.Clear();
        }
        Frame.Navigate(page, parameter, transitionInfo);
    }

    public static Brush GetFill(object parameter)
    {
        return (parameter as Rectangle).Fill;
    }
}
```

The **`Class`** that has been defined in *Library.cs* has **Properties** for **`Frame`** and **`Option`** then a **Method** for **`Navigate`** that will be used to set the **`NavigationTransitionInfo`** to set the different **Page Transitions** when using **`Navigate`** with the **`Frame`** and the **`BackStack`** for the **`Frame`** is also cleared so the different **Page Transitions** can be seen. There is also a **Method** to get the **`Fill`** from a **`Rectangle`** from an **`object`** and everything is declared as **`static`** so an **Instance** of the **`Class`** is not be needed.

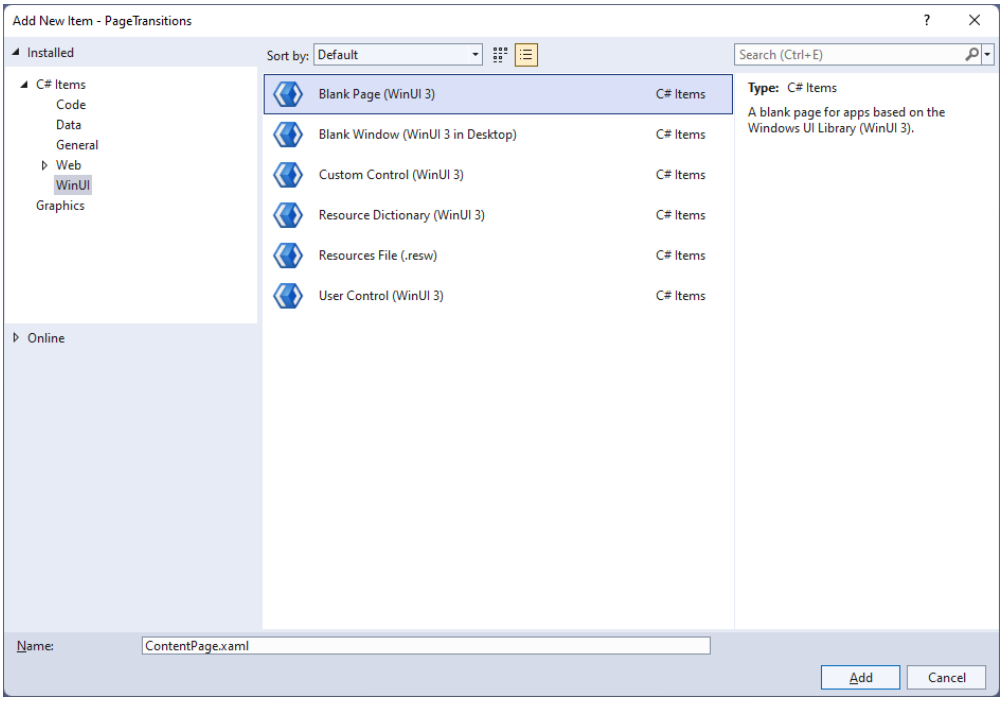
Step 5

Then within **Solution Explorer** for the **Solution**, right click on the **Project** shown below the **Solution** and then select **Add** then **New Item...**



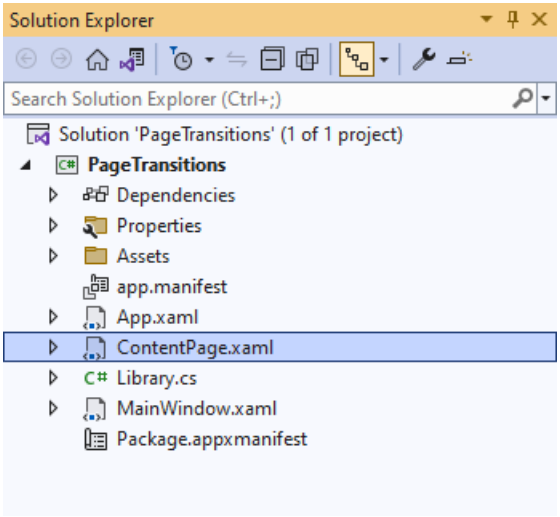
Step 6

Then in **Add New Item** from the **WinUI** items list, select **Page** and then select **Blank page (WinUI 3)** from the list next to this, then type in the name of *ContentPage.xaml* and then **Click** on **Add**.



Step 7

Then from **Solution Explorer** for the **Solution** double-click on **ContentPage.xaml** to see the **XAML** for the **Content Page**.



Step 8

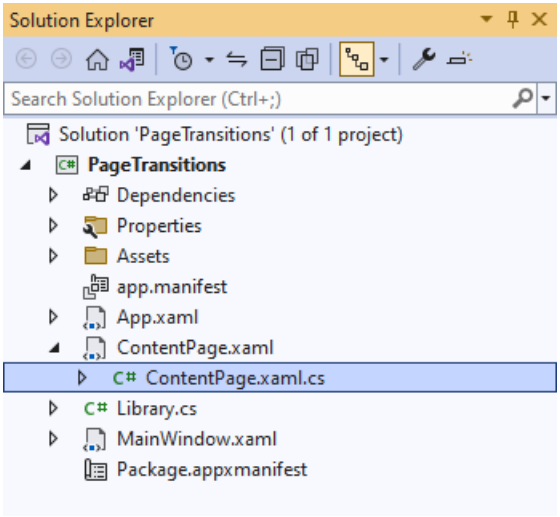
Then in the **XAML** for **ContentPage.xaml**, below **`<Grid>`** and above **`</Grid>`**, type in the following **XAML**:

```
<ListView Name="Display" Margin="10">
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Black" Fill="Black" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Gray" Fill="Gray" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Red" Fill="Red" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Orange" Fill="Orange" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Yellow" Fill="Yellow" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Green" Fill="Green" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
        Width="64" Height="64" Tag="Cyan" Fill="Cyan" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
        Width="64" Height="64" Tag="Blue" Fill="Blue" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Magenta" Fill="Magenta" Tapped="Rectangle_Tapped"/>
    <Rectangle HorizontalAlignment="Left" Margin="10"
    Width="64" Height="64" Tag="Purple" Fill="Purple" Tapped="Rectangle_Tapped"/>
</ListView>
```

This **`ListView`** contains **`Rectangle`** elements of different colours plus each has the **Event** for **`Tapped`** set to the **Method** of **`Rectangle_Tapped`** which will be triggered when the **`Rectangle`** is **Tapped** or **Clicked**.

Step 9

Then, within **Solution Explorer** for the **Solution** select the arrow next to **ContentPage.xaml** then double-click on **ContentPage.xaml.cs** to see the **Code** for the **Content Page**.



Step 10

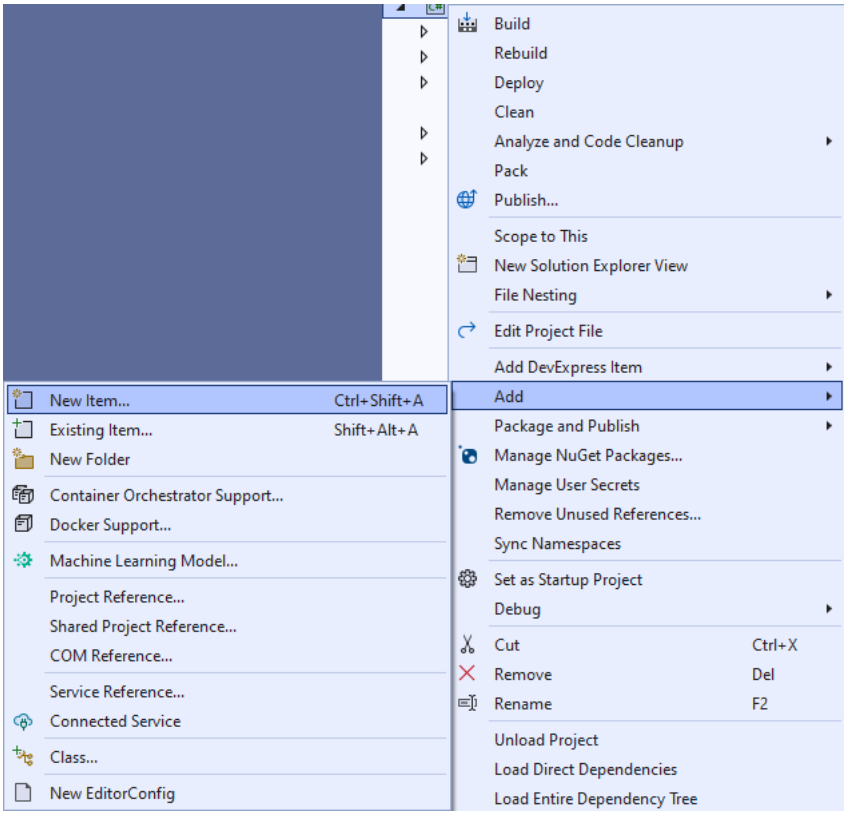
In the **Code** for **ContentPage.xaml.cs** type in the following **Code** below the end of the **Constructor** of **`public ContentPage() { ... }`**:

```
private void Rectangle_Tapped(object sender, TappedRoutedEventArgs e)
{
    Library.Navigate(typeof(DetailPage), sender);
}
```

This will define the **Method** of **`Rectangle_Tapped`** which will call the **Method** of **`Navigate`** in the **`Class`** of **`Library`** when a **`Rectangle`** is **Tapped** or **Clicked**.

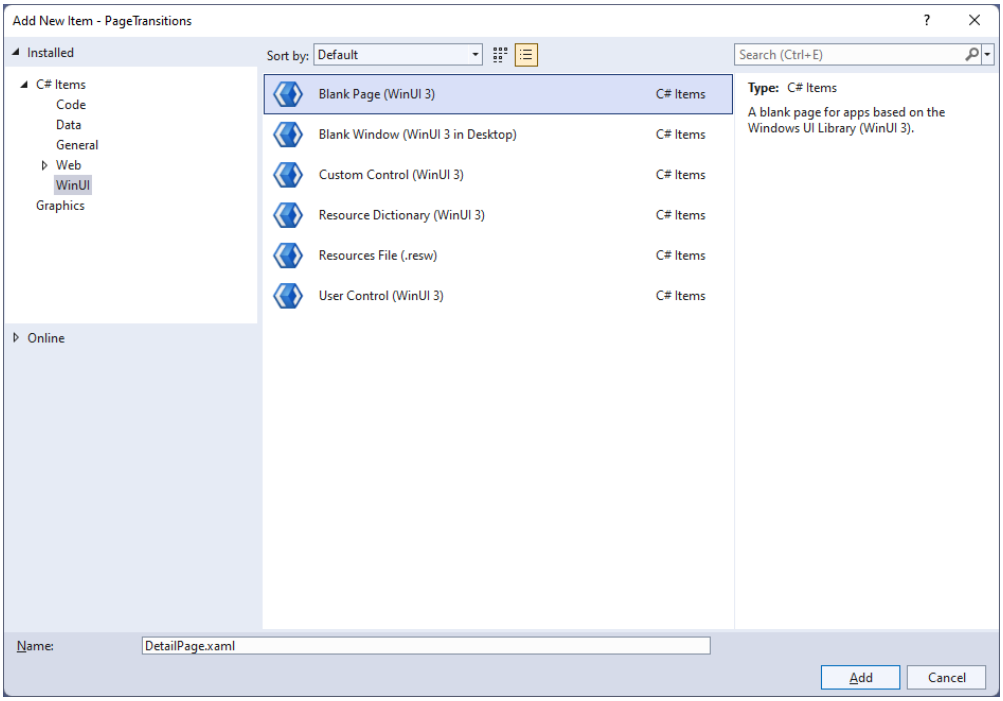
Step 11

Then within **Solution Explorer** for the **Solution**, right click on the **Project** shown below the **Solution** and then select **Add** then **New Item...**



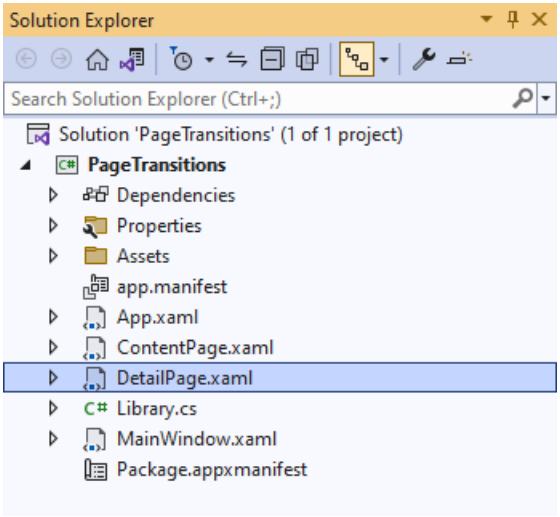
Step 12

Then in **Add New Item** from the **WinUI** items list, select **Page** and then select **Blank page (WinUI 3)** from the list next to this, then type in the name of *DetailPage.xaml* and then **Click** on **Add**.



Step 13

Then from **Solution Explorer** for the **Solution** double-click on **DetailPage.xaml** to see the **XAML** for the **Detail Page**.



Step 14

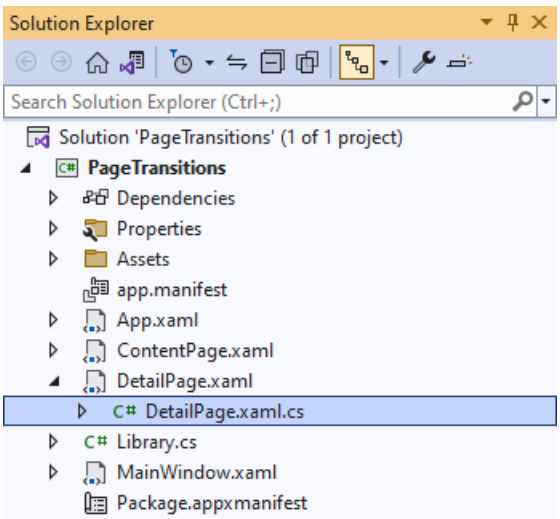
Then in the **XAML** for **DetailPage.xaml** below **`<Grid>`** and above **`</Grid>`**, type in the following **XAML**:

```
<Rectangle Margin="50" Name="Target"/>
<CommandBar VerticalAlignment="Bottom">
    <AppBarButton Icon="Back" Label="Back" Click="Back_Click"/>
</CommandBar>
```

There is **`Rectangle`** element of **`Target`** along with an **`AppBarButton`** set to a **Method** of **`Back_Click`** which will be triggered when the **`AppBarButton`** is **Clicked**.

Step 15

Then, within **Solution Explorer** for the **Solution** select the arrow next to **DetailPage.xaml** then double-click on **DetailPage.xaml.cs** to see the **Code** for the **Detail Page**.



Step 16

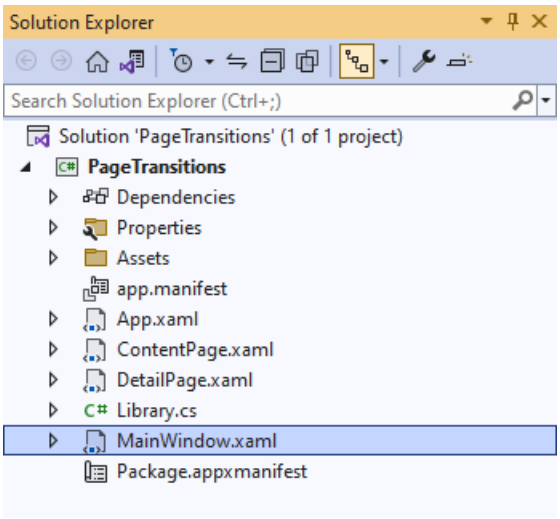
In the **Code** for **DetailPage.xaml.cs** type in the following **Code** below the end of the **Constructor** of **`public DetailPage() { ... }`**:

```
protected override void OnNavigatedTo(NavigationEventArgs e)
{
    Target.Fill = Library.GetFill(e.Parameter);
}

private void Back_Click(object sender, RoutedEventArgs e)
{
    Library.Frame.GoBack();
}
```

There is the **Method** for **`OnNavigatedTo`** that uses **`override`** to change the functionality of the **Method** for **`OnNavigatedTo`** which will set **`Fill`** for the **`Rectangle`** element of **`Target`** using the **Method** of **`GetFill`** from the **`Class`** for **`Library`** and there is the **Method** for when the **`AppBarButton`** is **Clicked** of **`Back_Click`** which calls the **Method** of **`GoBack`** for the **`Frame`** in the **`Class`** for **`Library`**.

Step 17

Then from **Solution Explorer** for the **Solution** double-click on **MainWindow.xaml** to see the **XAML** for the **Main Window**.



Step 18

In the **XAML** for **MainWindow.xaml** there be some **XAML** for a **`StackPanel`**, this should be **Removed** by removing the following:

```
<StackPanel Orientation="Horizontal"
HorizontalAlignment="Center" VerticalAlignment="Center">
    <Button x:Name="myButton" Click="myButton_Click">Click Me</Button>
</StackPanel>
```

Step 19

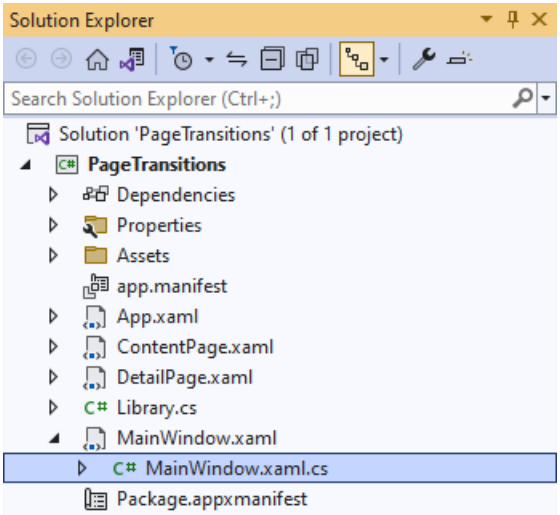
While still in the **XAML** for **MainWindow.xaml** above **</Window>**, type in the following **XAML**:

```
<Grid>
    <Grid.RowDefinitions>
        <RowDefinition Height="Auto"/>
        <RowDefinition Height="*"/>
    </Grid.RowDefinitions>
    <ComboBox Grid.Row="0" Name="Options" Margin="25"
        HorizontalAlignment="Stretch"
        SelectionChanged="Options_SelectionChanged">
        <ComboBoxItem IsSelected="True">Slide from Bottom (Default)</ComboBoxItem>
        <ComboBoxItem>Entrance</ComboBoxItem>
        <ComboBoxItem>Drill In</ComboBoxItem>
        <ComboBoxItem>Slide from Right</ComboBoxItem>
        <ComboBoxItem>Slide from Left</ComboBoxItem>
        <ComboBoxItem>Supress</ComboBoxItem>
    </ComboBox>
    <Frame Grid.Row="1" Name="Frame"/>
</Grid>
```

This **XAML** features a **Grid** with the top **Row** set to a **ComboBox** that has the **Page Transitions** to use and the **Event** for **SelectionChanged** set to the **Method** for **Options_SelectionChanged** with the second **Row** set to a **Frame**.

Step 20

Then, within **Solution Explorer** for the **Solution** select the arrow next to **MainWindow.xaml** then double-click on **MainWindow.xaml.cs** to see the **Code** for the **Main Window**.



Step 21

In the **Code** for **MainWindow.xaml.cs** there be a **Method** of **`myButton_Click(...)`** this should be **Removed** by removing the following:

```
private void myButton_Click(object sender, RoutedEventArgs e)
{
    myButton.Content = "Clicked";
}
```

Step 22

Once **`myButton_Click(...)`** has been removed, type in the following **Code** below the end of the **Constructor** of **`public MainWindow() { ... }`**:

```
private void Options_SelectionChanged(object sender, SelectionChangedEventArgs e)
{
    Library.Option = (Options.SelectedItem as ComboBoxItem).Content as string;
}
```

The **Method** of **`Options_SelectionChanged`** will be triggered when an option has been selected from the **`ComboBox`** and set the **Property** for **`Option`** within the **`class`** of **`Library`**.

Step 23

While still in the **Code** for **MainWindow.xaml.cs** within the **Constructor** of **`public MainWindow() { ... }`** and below the line of **`this.InitializeComponent();`** type in the following **Code**:

```
Library.Frame = Frame;
Library.Navigate(typeof(ContentPage));
```

The **Constructor** of **`public MainWindow() { ... }`** should look like the following:

```
public MainWindow()
{
    this.InitializeComponent();
    Library.Frame = Frame;
    Library.Navigate(typeof(ContentPage));
}
```

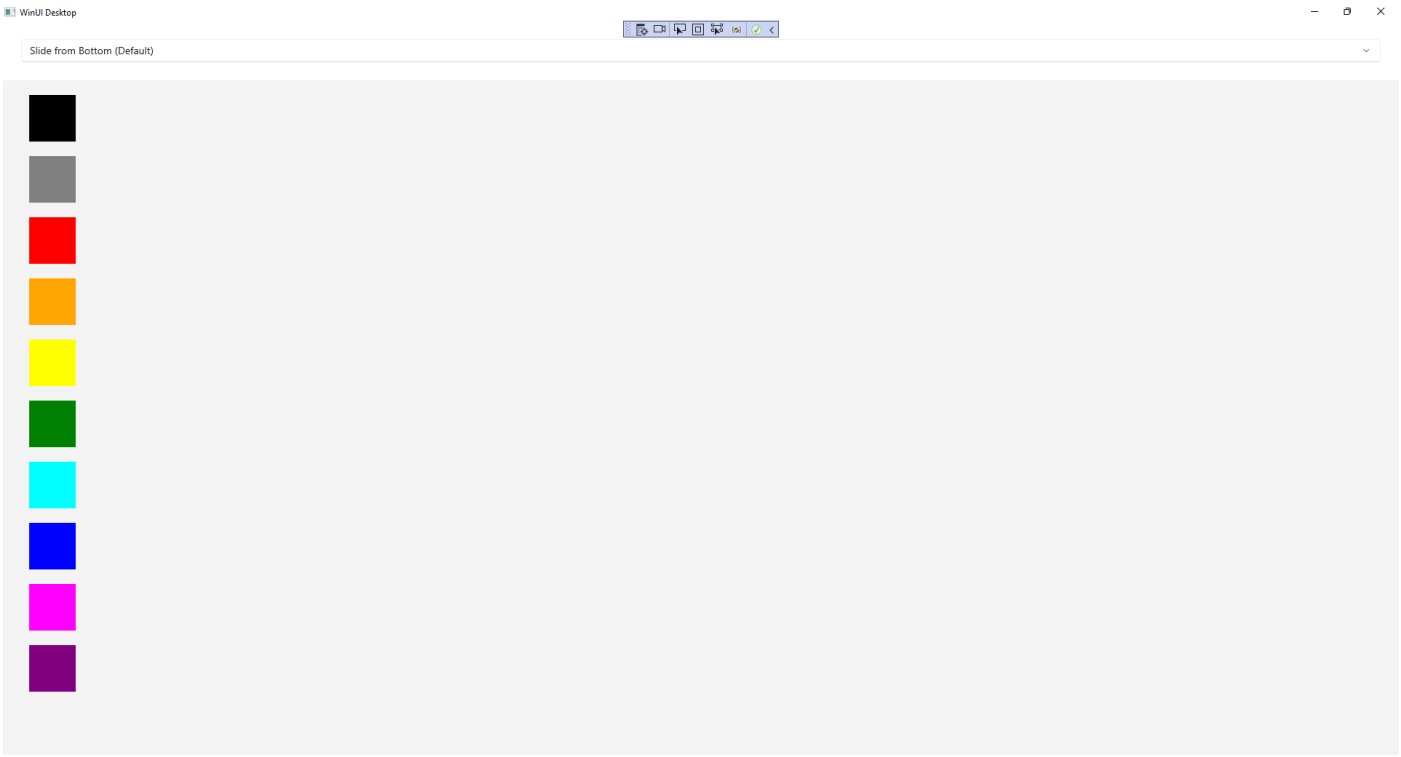
These set up the **Property** for the **`Frame`** and call the **Method** for **`Navigate`** in the **`class`** of **`Library`**.

Step 24

That completes the **Windows App SDK** Application. In **Visual Studio 2022** from the **Toolbar** select **PageTransitions (Package)** to **Start** the Application.

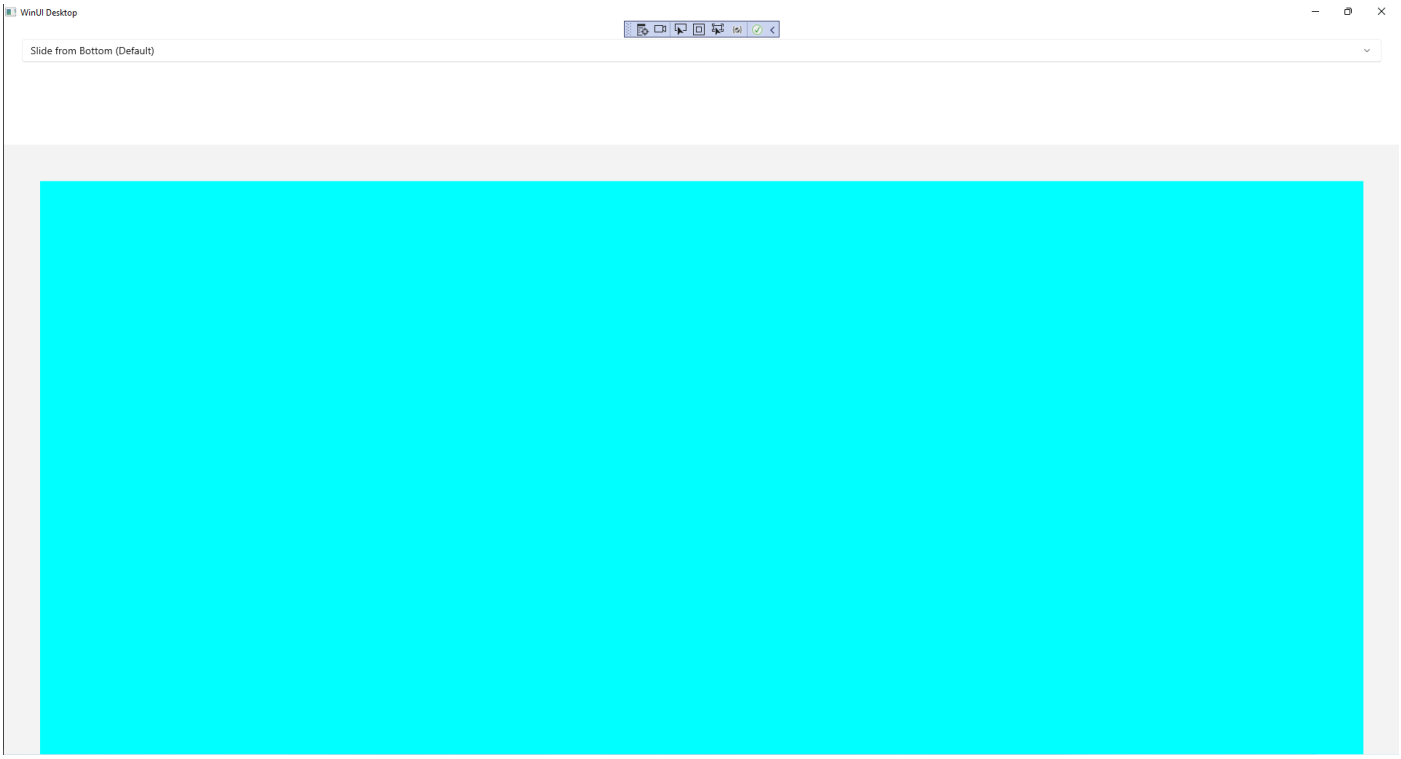
Step 25

Once running you should see the **`ComboBox`** with the **Page Transitions** options and **`Rectangle`** elements.



Step 26

You can **Click** on any of the **`Rectangle`** elements to switch from the **Content Page** to the **Detail Page** and observe the **Page Transition** based on the option selected from the **`ComboBox`**.



Step 27

To **Exit** the **Windows App SDK** Application, select the **Close** button from the top right of the Application as that concludes this **Tutorial** for **Windows App SDK** from tutorialr.com!