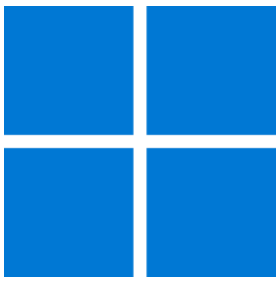
tutorial

Windows App SDK



Lucky Dice

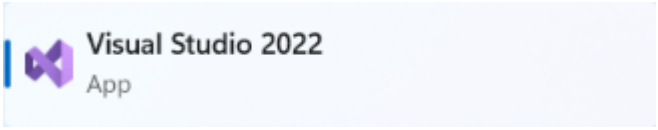
Lucky Dice

Lucky Dice shows how you can create a simple random number game and display this using a control from **NuGet** using the **Windows App SDK**.

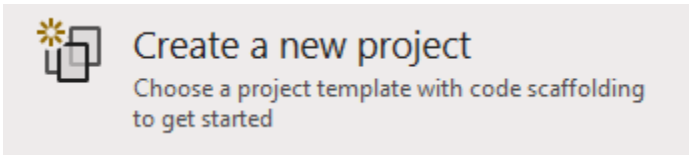
Step 1

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

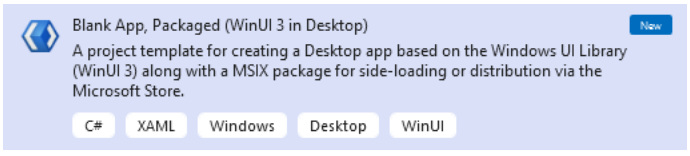
In **Windows 11** choose **Start** and then find or search for **Visual Studio 2022** and then select it.



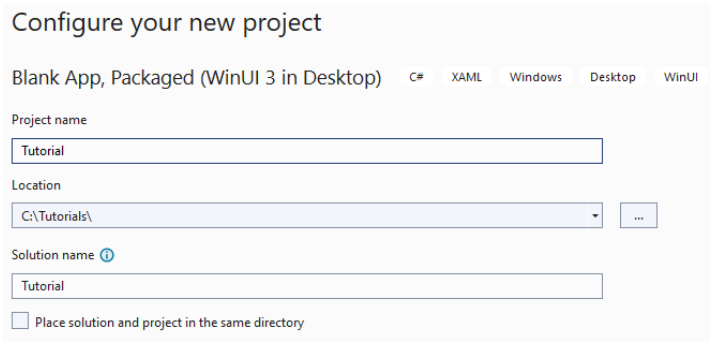
Once **Visual Studio 2022** has started select **Create a new project**.



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

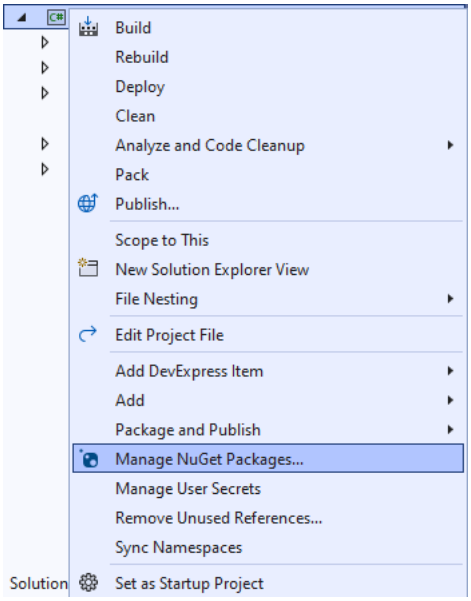


After that in **Configure your new project** type in the **Project name** as *LuckyDice*, then select a Location and then select **Create** to start a new **Solution**.



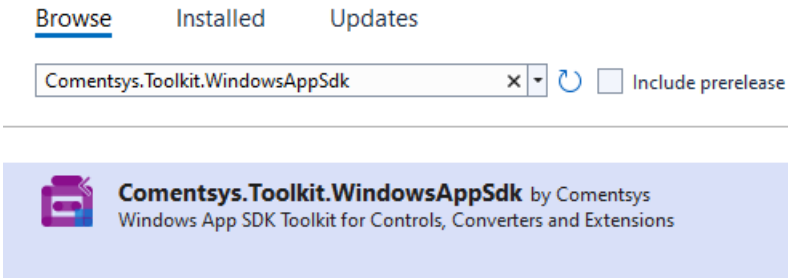
Step 2

Then in **Visual Studio** within **Solution Explorer** for the **Solution**, right click on the **Project** shown below the **Solution** and then select **Manage NuGet Packages...**



Step 3

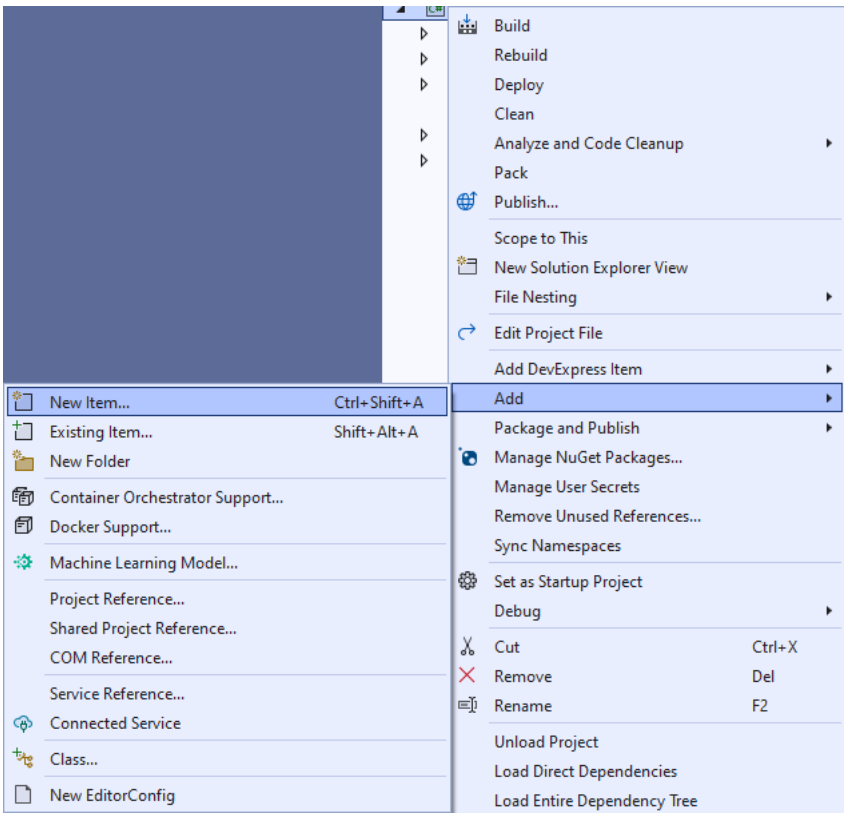
Then in the **NuGet Package Manager** from the **Browse** tab search for **Comentsys.Toolkit.WindowsAppSdk** and then select **Comentsys.Toolkit.WindowsAppSdk by Comentsys** as indicated and select **Install**



This will add the package for **Comentsys.Toolkit.WindowsAppSdk** to your **Project**. If you get the **Preview Changes** screen saying **Visual Studio is about to make changes to this solution. Click OK to proceed with the changes listed below.** You can read the message and then select **OK** to **Install** the package, then you can close the **tab** for **Nuget: LuckyDice** by selecting the **x** next to it.

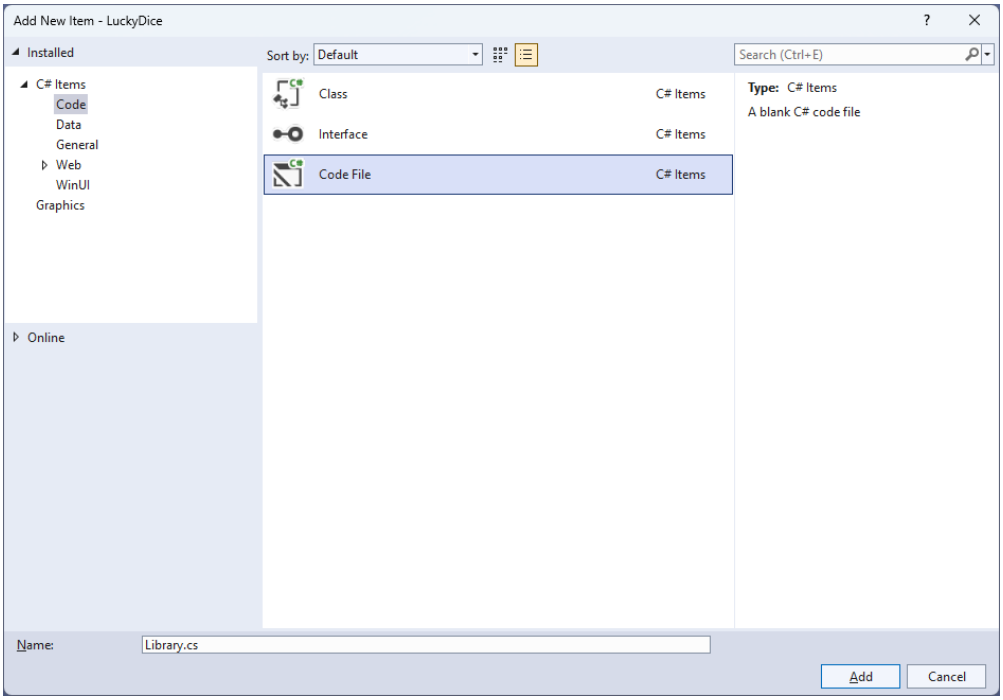
Step 4

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 5

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 6

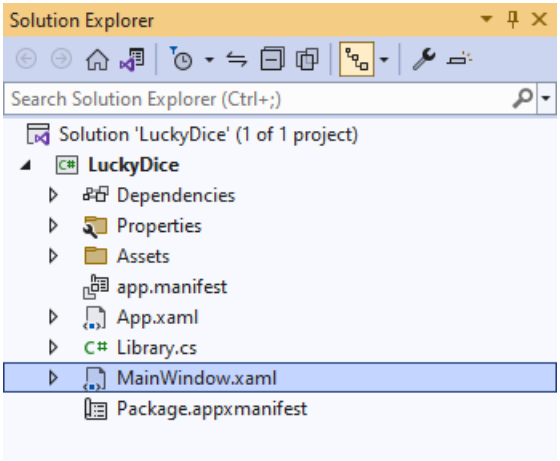
You will now be in the **View** for the **Code** of *Library.cs*, within this first type the following **Code**:

```
using Comentsys.Toolkit.WindowsAppSdk;
using Microsoft.UI;
using Microsoft.UI.Xaml;
using Microsoft.UI.Xaml.Controls;
using Microsoft.UI.Xaml.Input;
using Microsoft.UI.Xaml.Media;
using System;
using Windows.UI;

public class Library
{
    private readonly Random _random = new((int)DateTime.UtcNow.Ticks);

    public Dice Get(Color foreground, Color background)
    {
        Dice dice = new()
        {
            Margin = new Thickness(25),
            CornerRadius = new CornerRadius(10),
            Foreground = new SolidColorBrush(foreground),
            Background = new SolidColorBrush(background)
        };
        dice.Tapped += (object sender, TappedRoutedEventArgs e) =>
            ((Dice)sender).Value = _random.Next(1, 7);
        return dice;
    }

    public void New(StackPanel panel)
    {
        panel.Children.Clear();
        panel.Children.Add(Get(Colors.Red, Colors.WhiteSmoke));
        panel.Children.Add(Get(Colors.Blue, Colors.WhiteSmoke));
    }
}
```

The **`Class`** that has been defined in *Library.cs* has a **`using`** for the package of **`Comentsys.Toolkit.WindowsAppSdk`** amongst others needed. Then there is **`Random`** which will be used to select randomised numbers from. There is a **Method** of **`Get`** which is used to create a **Dice** which is a control in **`Comentsys.Toolkit.WindowsAppSdk`** and it has two **Parameters** for the **`foreground`** which will control the colour of the **Pips** and **`background`** for the **`Dice`**. An **Event** handler is attached to the **`Tapped`** event for the **`Dice`** using **Arrow Syntax** with **`=>`** which is a useful shorthand. This will set the **Property** for the **`Value`** of the **`Dice`** from *1* to below *7*. This is then used in the **Method** of **`New`** which takes a **`StackPanel`** as a **Parameter** which it then **Clears** and adds two **`Dice`** with some colours provided for the **`foreground`** and **`background`**.

Step 7

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



Step 8

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 9

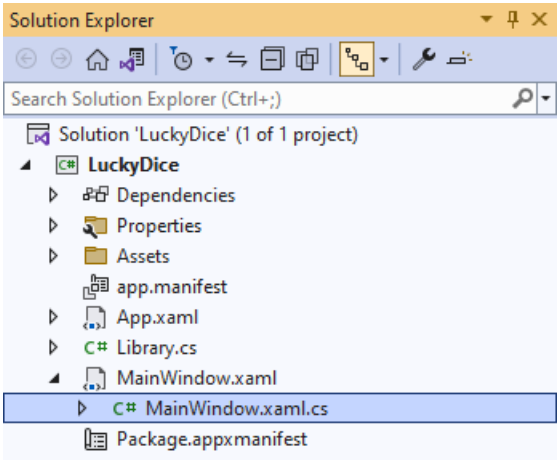
While still in the **XAML** for **MainWindow.xaml** above **`</Window>`**, type in the following **XAML**:

```
<Grid>
    <Viewbox>
        <StackPanel Margin="50" Name="Display" Orientation="Horizontal"
        HorizontalAlignment="Center" VerticalAlignment="Center" Loaded="New"/>
    </Viewbox>
    <CommandBar VerticalAlignment="Bottom">
        <AppBarButton Icon="Page2" Label="New" Click="New"/>
    </CommandBar>
</Grid>
```

This **XAML** contains a **`Grid`** with a **`Viewbox`** which will **Scale** a **`StackPanel`**. It has a **`Loaded`** event handler for **`New`** which is also shared by the **`AppBarButton`**.

Step 10

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 11

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 12

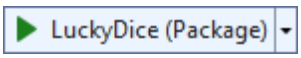
Once **`myButton_Click(...)`** has been removed, type in the following **Code** below the end of the **Constructor** of **`public MainWindow() { ... }`**:

```
private readonly Library _library = new();

private void New(object sender, RoutedEventArgs e) =>
    _library.New(Display);
```

Here an **Instance** of **`Library`** is created then below this is the **Method** of **`New`** that will be used with **Event Handler** from the **XAML**, this **Method** uses **Arrow Syntax** with the **`=>`** for an expression body which is useful when a **Method** only has one line.

Step 13

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

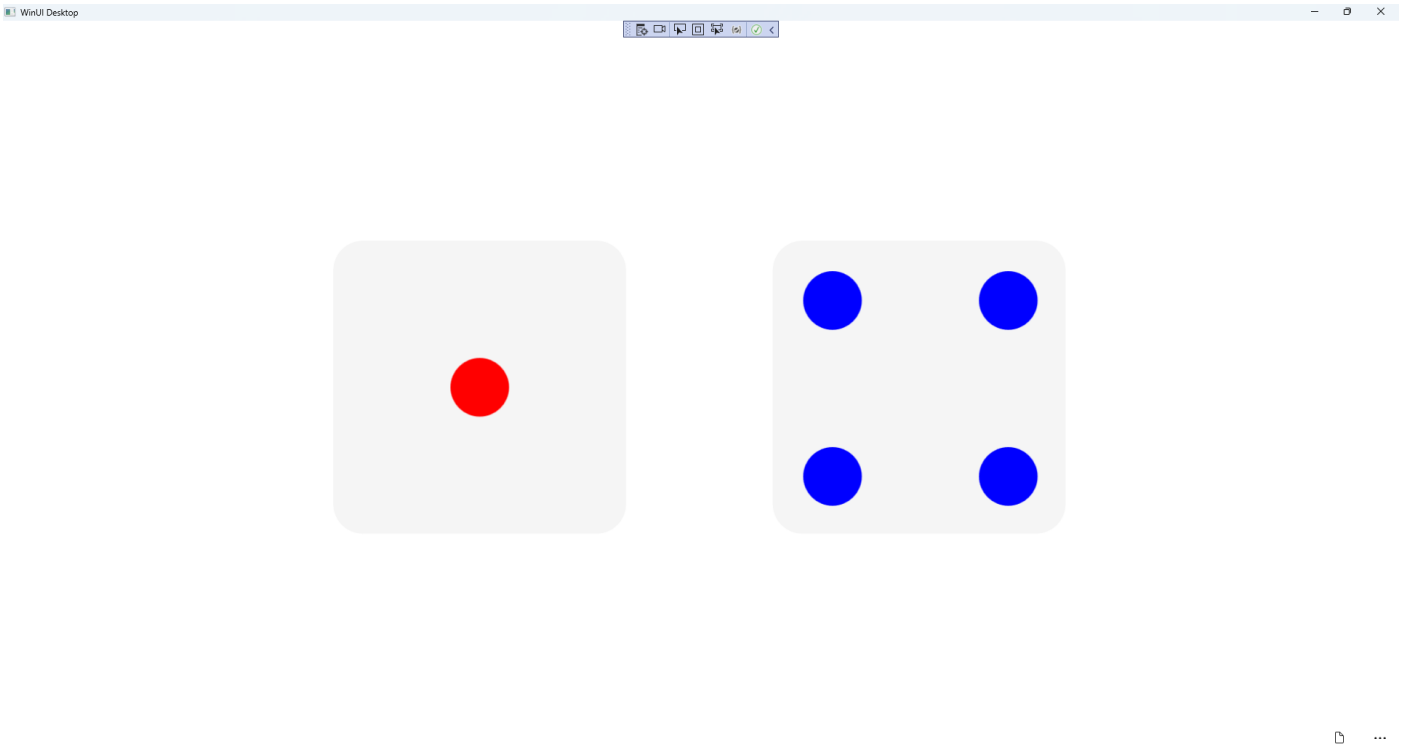


Step 14

Once running you should see the **`Dice`** elements.

Step 15

You can **Click** on either **`Dice`** to *"roll"* them and see what outcome you get or select *New* to reset



Step 16

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!