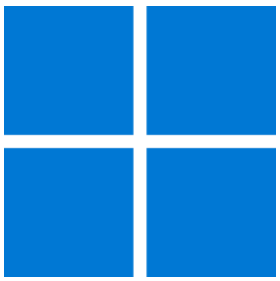
tutorial

Windows App SDK



Custom ToggleSwitch

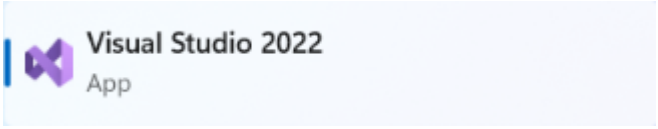
Custom ToggleSwitch

Custom ToggleSwitch shows how to create a customised **Style** for a **ToggleSwitch** using **Windows App SDK**

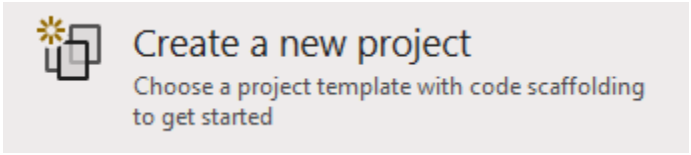
Step 1

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

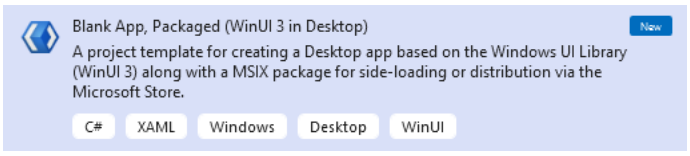
In **Windows 11** choose **Start** and then find or search for **Visual Studio 2022** and then select it.



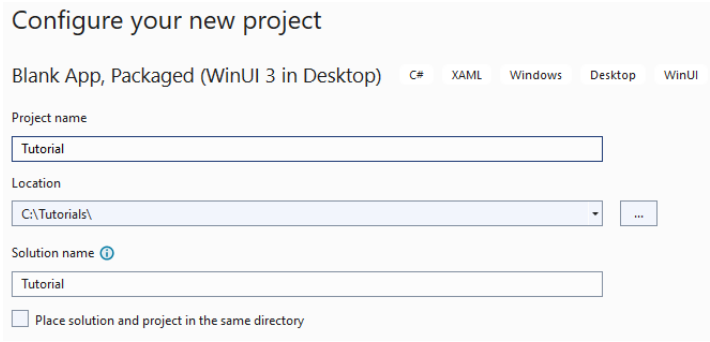
Once **Visual Studio 2022** has started select **Create a new project**.



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

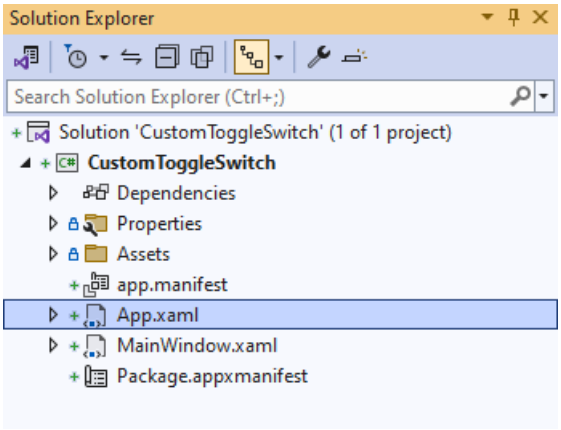


After that in **Configure your new project** type in the **Project name** as *CustomToggleSwitch*, then select a Location and then select **Create** to start a new **Solution**.



Step 2

Then in **Visual Studio** within **Solution Explorer** for the **Solution** double-click on **App.xaml** to see the **XAML** for the **Project**.



Step 3

In the **XAML** for **App.xaml** below the **Comment** of **`<!-- Other app resources here -->`** type in the following **XAML**:

```
<Style x:Key="CustomToggleSwitch" TargetType="ToggleSwitch">
    <Setter Property="Background" Value="LightSalmon"/>
    <Setter Property="BorderBrush" Value="Salmon"/>
    <Setter Property="Foreground" Value="Gold"/>
    <Setter Property="ManipulationMode" Value="System,TranslateX"/>
    <Setter Property="UseSystemFocusVisuals" Value="True"/>
    <Setter Property="Template">
        <Setter.Value>
            <ControlTemplate TargetType="ToggleSwitch">
                <Grid HorizontalAlignment="Center">
                    <VisualStateManager.VisualStateGroups>
                        <VisualStateGroup x:Name="ToggleStates">
                            <VisualStateGroup.Transitions>
                                <!-- Transitions -->

                            </VisualStateGroup.Transitions>
                            <!-- Visual States -->

                        </VisualStateGroup>
                    </VisualStateManager.VisualStateGroups>
                    <!-- Content -->

                </Grid>
            </ControlTemplate>
        </Setter.Value>
    </Setter>
</Style>
```

This **XAML** is part of a **`Style`** of **`CustomToggleSwitch`** that will be used to target a **`ToggleSwitch`** which will contain some **Transitions** and **Visual States** along with the **Content** for the **Custom ToggleSwitch**.

Step 4

While still in the **XAML** for **App.xaml** below the **Comment** of **`<!-- Transitions -->`** type the following **XAML**:

```
<VisualTransition x:Name="DraggingToOnTransition"
    From="Dragging" GeneratedDuration="0" To="On">
    <Storyboard>
        <RepositionThemeAnimation
        FromHorizontalOffset="{Binding
        TemplateSettings.KnobCurrentToOnOffset,
        RelativeSource={RelativeSource Mode=TemplatedParent}}"
        TargetName="SwitchKnob"/>
    </Storyboard>
</VisualTransition>
<VisualTransition x:Name="DraggingToOffTransition"
    From="Dragging" GeneratedDuration="0" To="Off">
    <Storyboard>
        <RepositionThemeAnimation
        FromHorizontalOffset="{Binding
        TemplateSettings.KnobCurrentToOffOffset,
        RelativeSource={RelativeSource Mode=TemplatedParent}}"
        TargetName="SwitchKnob"/>
    </Storyboard>
</VisualTransition>
<VisualTransition x:Name="OnToOffTransition"
    From="On" GeneratedDuration="0" To="Off">
    <Storyboard>
        <RepositionThemeAnimation FromHorizontalOffset="{Binding
        TemplateSettings.KnobOnToOffOffset,
        RelativeSource={RelativeSource Mode=TemplatedParent}}"
        TargetName="SwitchKnob"/>
    </Storyboard>
</VisualTransition>
<VisualTransition x:Name="OffToOnTransition"
    From="Off" GeneratedDuration="0" To="On">
    <Storyboard>
        <RepositionThemeAnimation FromHorizontalOffset="{Binding
        TemplateSettings.KnobOffToOnOffset,
        RelativeSource={RelativeSource Mode=TemplatedParent}}"
        TargetName="SwitchKnob"/>
    </Storyboard>
</VisualTransition>
```

This **XAML** is for the **Transitions** between the **States** for the **`ToggleSwitch`** including how it will behave when it is either **`Dragging`** or **Switched** between **`On`** or **`Off`** for the **Custom ToggleSwitch**.

Step 5

Next in the **XAML** for **App.xaml** below the **Comment** of **`<!-- Visual States -->`** type the following **XAML**:

```
<VisualState x:Name="Dragging"/>
<VisualState x:Name="Off"/>
<VisualState x:Name="On">
    <Storyboard>
        <DoubleAnimation Duration="0" To="24" Storyboard.TargetProperty="X"
        Storyboard.TargetName="KnobTranslateTransform"/>
        <ObjectAnimationUsingKeyFrames
            Storyboard.TargetProperty="Opacity"
            Storyboard.TargetName="SwitchKnobBounds">
            <DiscreteObjectKeyFrame KeyTime="0" Value="1"/>
        </ObjectAnimationUsingKeyFrames>
        <ObjectAnimationUsingKeyFrames
            Storyboard.TargetProperty="Opacity"
            Storyboard.TargetName="SwitchKnobOn">
            <DiscreteObjectKeyFrame KeyTime="0" Value="1"/>
        </ObjectAnimationUsingKeyFrames>
        <ObjectAnimationUsingKeyFrames
            Storyboard.TargetProperty="Opacity"
            Storyboard.TargetName="SwitchKnobOff">
            <DiscreteObjectKeyFrame KeyTime="0" Value="0"/>
        </ObjectAnimationUsingKeyFrames>
    </Storyboard>
</VisualState>
```

This **XAML** is for the **Visual States** that will represent the **States** for the **`ToggleSwitch`** including how it will behave when it is **`Off`** and when it is **`On`** for the **Custom ToggleSwitch**.

Step 6

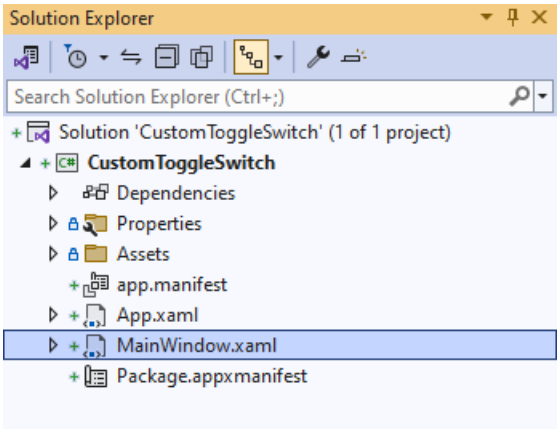
Then in the **XAML** for **App.xaml** below the **Comment** of **`<!-- Content -->`** type the following **XAML:**

```
<Rectangle x:Name="OuterBorder"
Height="30" Width="55" RadiusY="15" RadiusX="15"
StrokeThickness="1" Stroke="{TemplateBinding BorderBrush}"
Fill="{TemplateBinding Background}"/>
<Rectangle x:Name="SwitchKnobBounds"
Height="30" Width="55" RadiusY="15" RadiusX="15"
StrokeThickness="1" Stroke="Goldenrod"
Fill="{TemplateBinding Foreground}" Opacity="0"/>
<Grid x:Name="SwitchKnob" Grid.Row="2"
    HorizontalAlignment="Left"
    Height="25" Width="30">
    <Grid.RenderTransform>
        <TranslateTransform x:Name="KnobTranslateTransform"/>
    </Grid.RenderTransform>
    <Ellipse x:Name="SwitchKnobOn"
    Height="15" Width="15"
    Fill="{TemplateBinding Background}" Opacity="0"/>
    <Ellipse x:Name="SwitchKnobOff"
    Height="15" Width="15"
    Fill="{TemplateBinding Foreground}"/>
</Grid>
<Thumb x:Name="SwitchThumb"
    AutomationProperties.AccessibilityView="Raw">
    <Thumb.Template>
        <ControlTemplate TargetType="Thumb">
            <Rectangle Fill="Transparent"/>
        </ControlTemplate>
    </Thumb.Template>
</Thumb>
```

This **XAML** is the **Content** for the layout of a **`ToggleSwitch`** when the **`Style`** is applied for the **Custom ToggleSwitch**.

Step 7

Within **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

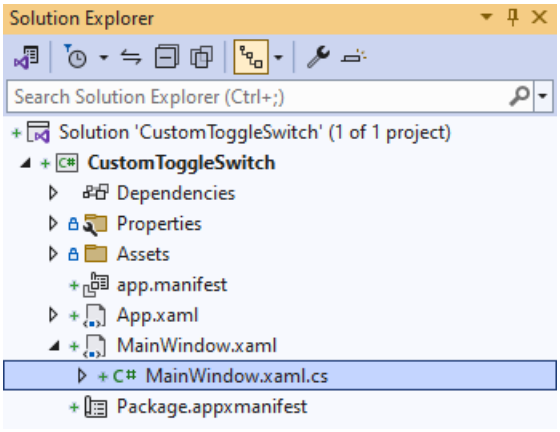
While still in the **XAML** for **MainWindow.xaml** above **`</Window>`**, type in the following **XAML**:

```
<ToggleSwitch HorizontalAlignment="Center"
Style="{StaticResource CustomToggleSwitch}"/>
```

This **XAML** contains a **`ToggleSwitch`** with **`Style`** set to the **`StaticResource`** of **`CustomToggleSwitch`** from **App.xaml**.

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**.



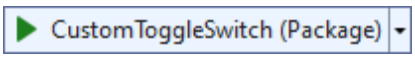
Step 11

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";
}
```

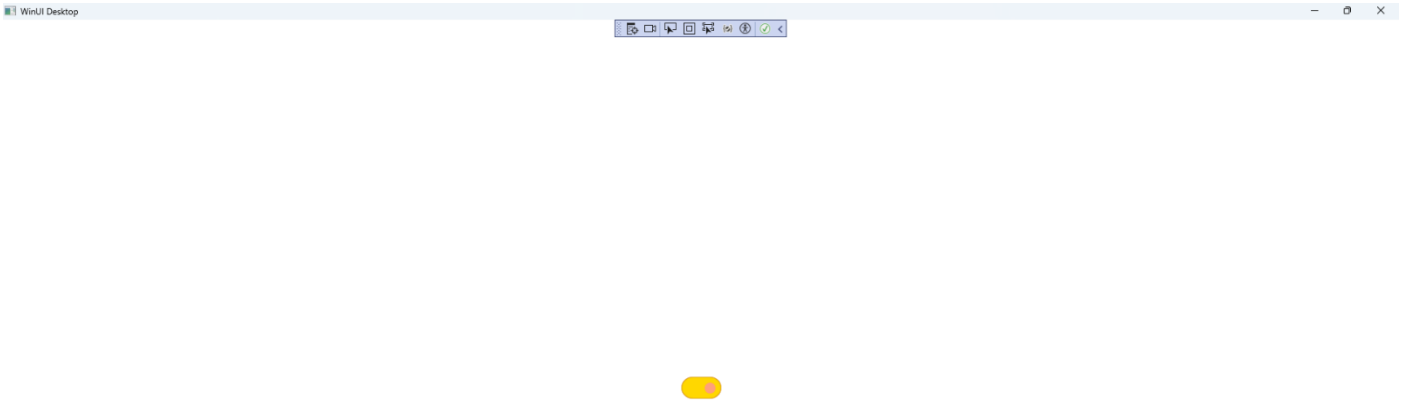
Step 12

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



Step 13

Once running you will see the **Custom ToggleSwitch** displayed which you can then set to **On**.



Step 14

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!