XAML Application Creation Lab - MAUI

Perform these labs on your own computer using Visual Studio 2022 or later to ensure you understand the lessons presented in the corresponding videos and lectures.

Lab 1: Create a .NET MAUI Application

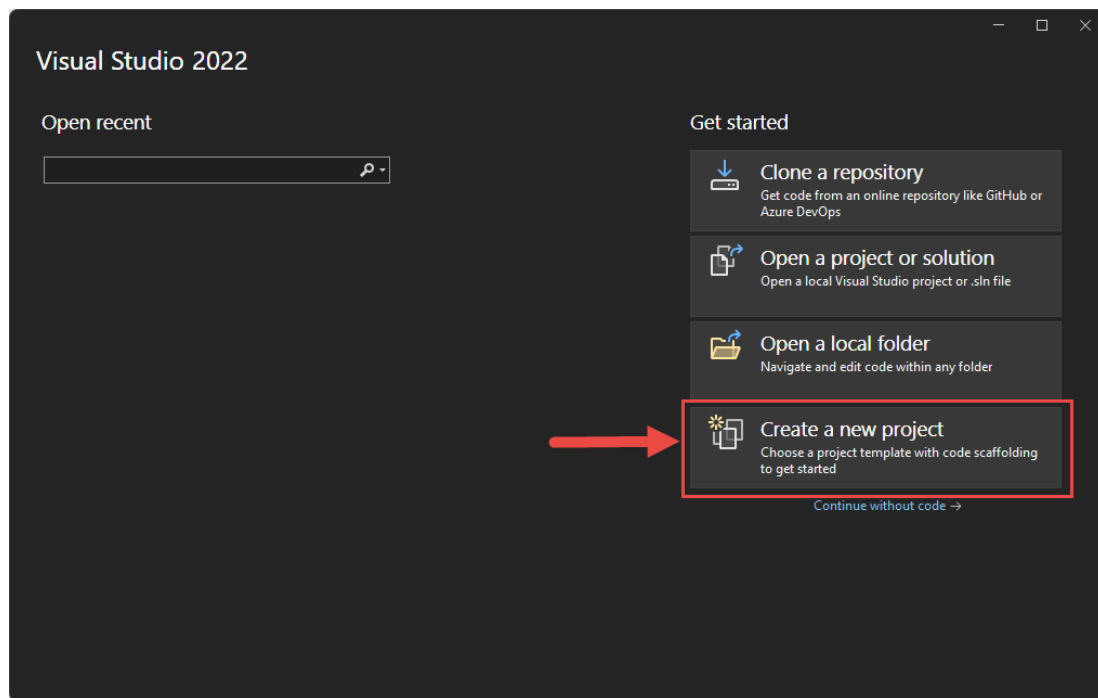Open Visual Studio 2022 and select Create a new project as shown in Figure 1.

Figure 1: Select Create a new project from the Visual Studio screen.

On the Create a new project page, select a **.NET MAUI App** from the list of templates (Figure 2). Be sure to choose the **C#** language.
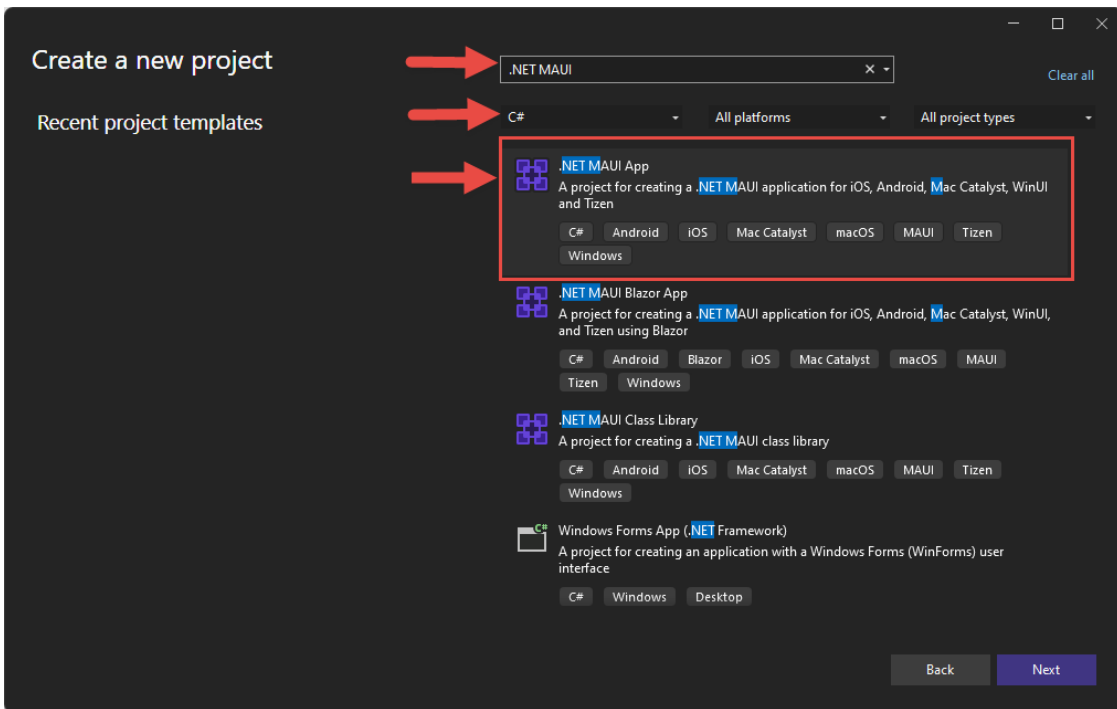
Click the **Next** button.

Figure 2: Select a .NET MAUI App from the list of templates.

On the Configure your new project screen, set the **Project name** of the new project to **AdventureWorks.MAUI** (Figure 3). Place the project into a folder on your hard drive.

IMPORTANT: Be sure to **uncheck** the **Place the solution and project in the same directory**.
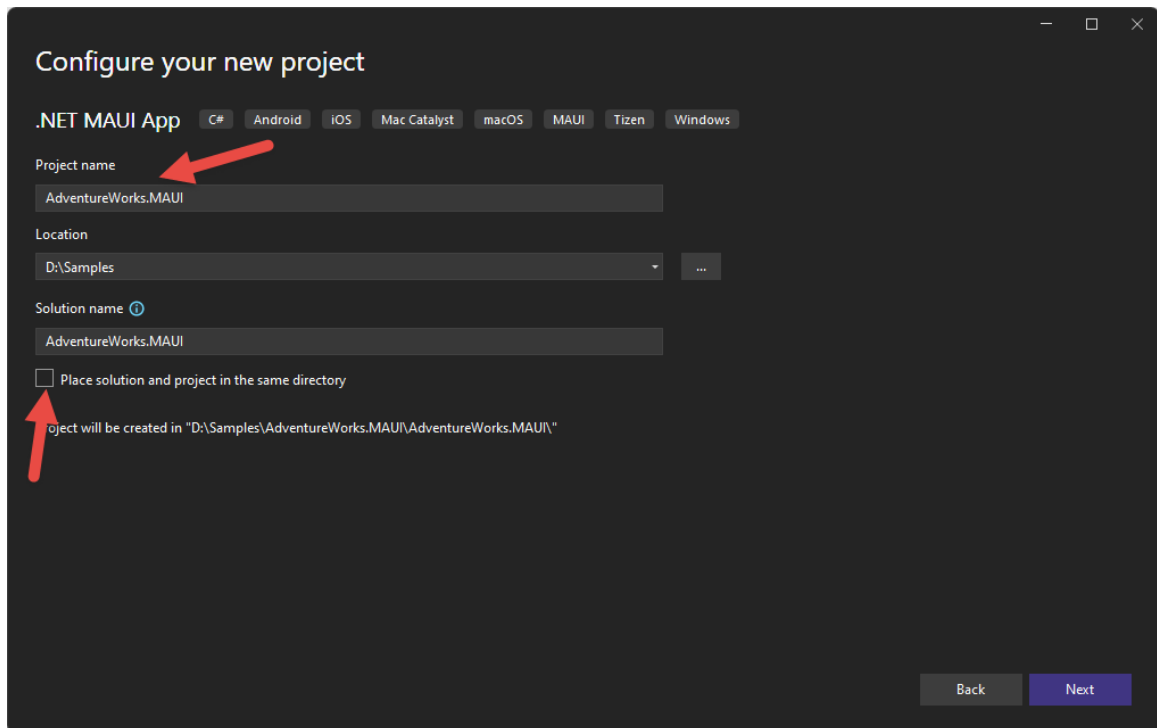
Figure 3: Set the project name and location.

Click the **Next** button.

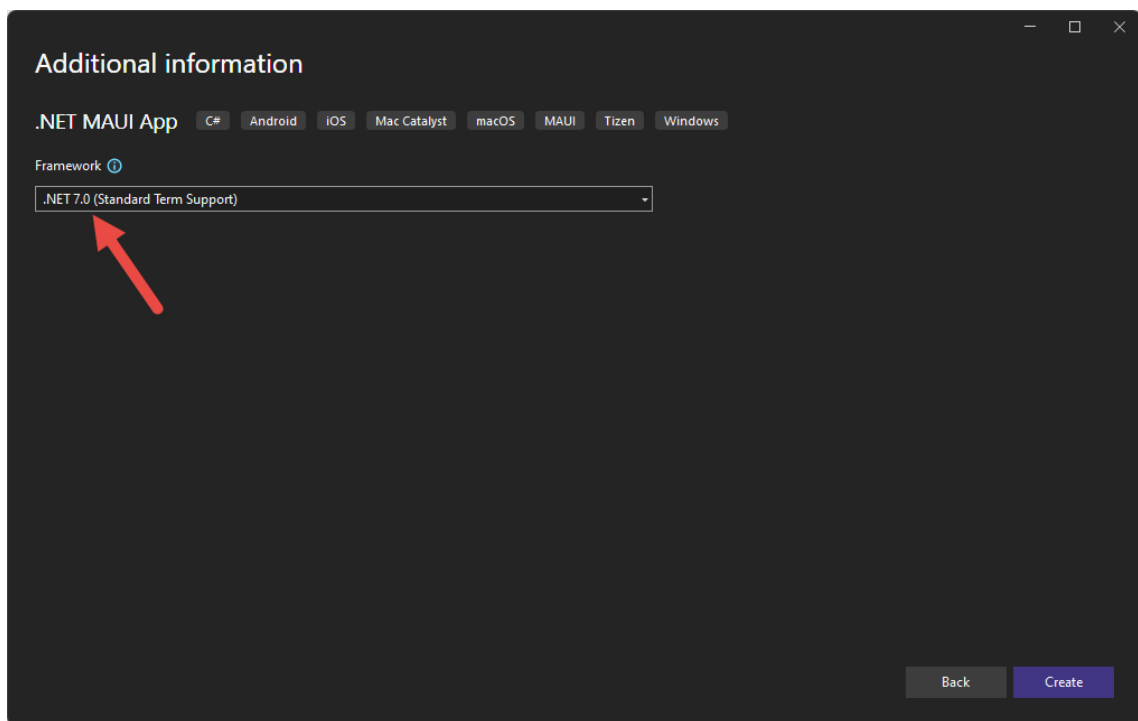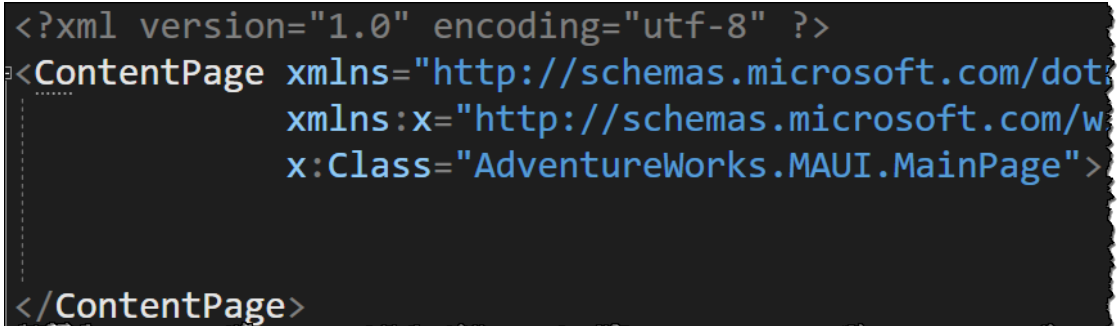On the Additional information screen, choose **.NET 7** or later.

Figure 4: Choose .NET 7 or later when creating a .NET MAUI application.

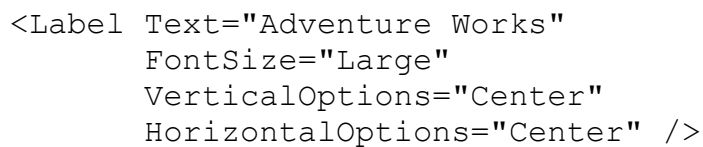Click on the **Create** button.

Lab 2: Fix up the Main Page

Open the **MainPage.xaml** file and remove the lines 6 through 39. This is the <ScrollView> element and everything down to (and including) the closing </ScrollView> element as shown in Figure 5.
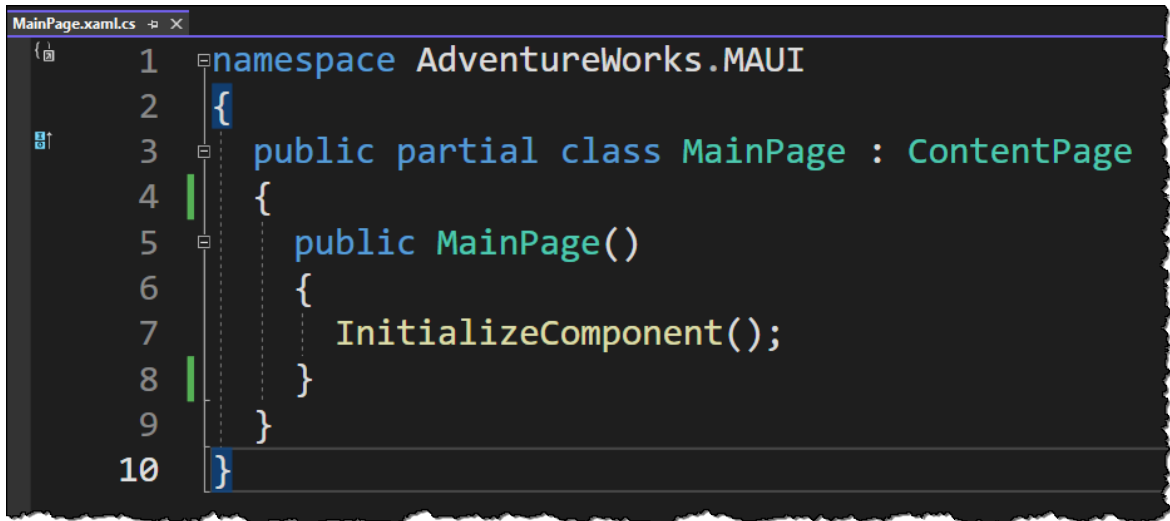
Figure 5: Remove all the XAML from within the <ContentPage> element.

Add the following <Label> within the <ContentPage> element.

```
<Label Text="Adventure Works"
       FontSize="Large"
       VerticalOptions="Center"
       HorizontalOptions="Center" />
```

Open the **MainPage.xaml.cs** file and remove the code behind, except for the constructor as shown in Figure 6.

Figure 6: Remove everything but the constructor from the code-behind.

Set the Title Property

Open the **MainPage.xaml** file and set the **Title** property on the <ContentPage> element to **Adventure Works**.

Lab 3: Set Shell Properties

Open the **AppShell.xaml** file and set the **Title** property to **Adventure Works**.

Try It Out

Run the application on Windows and it should look like Figure 7
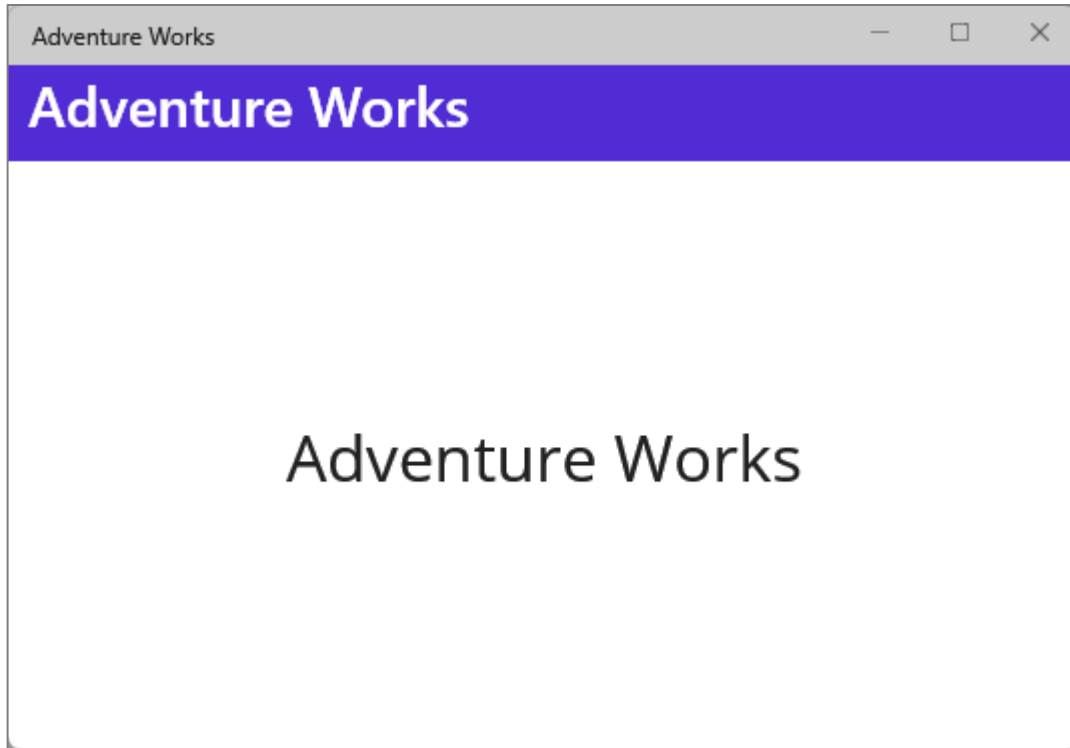
Figure 7: The start of the Adventure Works application.

Lab 4: Create a Reusable View

Right mouse-click on the project and add a new folder named **PartialViews**.

Right mouse-click on the **PartialViews** folder and select **Add | New Item | .NET MAUI | .NET MAUI ContentView (XAML)…** from the context-sensitive menu.

Set the name of the **ContentView** to **HeaderView**.

Delete the <VerticalStackLayout> and all XAML within it.

Add the following where the <VerticalStackLayout> was.

```
<Grid RowDefinitions="Auto,Auto,Auto">
  <Label Text="View Title"
         FontSize="24"
         Grid.Row="0" />
  <Label Text="View Sub-Title"
         FontSize="16"
         Grid.Row="1" />
  <BoxView Grid.Row="2"
           Margin="0,0,0,20"
           HeightRequest="1"
           Color="Black"  />
</Grid>
```

Lab 5: Add Login View

Right mouse-click on the project and add a new folder named **Views**.

Right mouse-click on the **Views** folder and select **Add | New Item | .NET MAUI | .NET MAUI ContentPage (XAML)…** from the context-sensitive menu.

Set the name of the page to **LoginView**.

Set the **Title** to "**Login**".

Add a namespace within the <ContentPage...>.

```
xmlns:partialViews="clr-
namespace:AdventureWorks.MAUI.PartialViews"
```

Delete the <VerticalStackLayout> and all XAML within it.

Add the following where the <VerticalStackLayout> was.

```
<Grid RowDefinitions="Auto,Auto,Auto,Auto"
      ColumnDefinitions="Auto,*">
  <partialViews:HeaderView Grid.ColumnSpan="2" />
  <Label Grid.Row="1"
         Text="Login ID" />
  <Entry Grid.Row="1"
         Grid.Column="1"
         Text="" />
  <Label Grid.Row="2"
         Text="Password" />
  <Entry Grid.Row="2"
         Grid.Column="1"
         IsPassword="True" />
  <HorizontalStackLayout Grid.Row="3"
                         Grid.Column="1">
    <Button Text="Login" />
    <Button Text="Cancel" />
  </HorizontalStackLayout>
</Grid>
```

Call the Login View

Open the **AppShell.xaml** file and add a new xml namespace.

```
xmlns:views="clr-namespace:AdventureWorks.MAUI.Views"
```

Replace the one <ShellContent> element with the following.

```
<TabBar>
  <ShellContent Title="Home"
                ContentTemplate="{DataTemplate
local:MainPage}"
                Route="Home" />

  <ShellContent Title="Login"
                ContentTemplate="{DataTemplate
views:LoginView}"
                Route="LoginView" />
</TabBar>
```

Try It Out

Run the application and click on both the **Home** and **Login** tabs to ensure you can see each page.

Lab 6: Add User Detail View

Right mouse-click on the **Views** folder and select **Add | New Item | .NET MAUI | .NET MAUI ContentPage (XAML)…** from the context-sensitive menu. Set the name of the page to **UserDetailView**.

Change the **Title** property to "**User Information**".

Add a namespace within the <ContentPage...>.

```
xmlns:partialViews="clr-
namespace:AdventureWorks.MAUI.PartialViews"
```

Delete the <VerticalStackLayout> and all XAML within it.

Add the following where the <VerticalStackLayout> was.

```
<Grid
RowDefinitions="Auto,Auto,Auto,Auto,Auto,Auto,Auto"
      ColumnDefinitions="Auto,*">
  <partialViews:HeaderView Grid.ColumnSpan="2" />
  <Label Text="Login ID"
         Grid.Row="1" />
  <Entry Grid.Column="1"
         Text=""
         Grid.Row="1" />
  <Label Text="First Name"
         Grid.Row="2" />
  <Entry Grid.Column="1"
         Text=""
         Grid.Row="2" />
  <Label Text="Last Name"
         Grid.Row="3" />
  <Entry Grid.Column="1"
         Text=""
         Grid.Row="3" />
  <Label Text="Password"
         Grid.Row="4" />
  <Entry Grid.Column="1"
         Grid.Row="4"
         IsPassword="True" />
  <Label Text="Email Address"
         Grid.Row="5" />
  <Entry Grid.Column="1"
         Grid.Row="5"
         Text="" />
  <HorizontalStackLayout Grid.Row="6"
                         Grid.Column="1">
    <Button Text="Save" />
    <Button Text="Cancel" />
  </HorizontalStackLayout>
</Grid>
```

Call the User Detail View

Open the **AppShell.xaml** file and add a new <ShellContent> element below the Login ShellContent.

```
<ShellContent Title="Users"
              ContentTemplate="{DataTemplate
views:UserDetailView}"
              Route="UserDetailView" />
```

Try It Out

Run the application and click on all three tabs to ensure you can see each page.

Lab 7: Add Product Detail View

Right mouse-click on the **Views** folder and select **Add | New Item | .NET MAUI | .NET MAUI ContentPage (XAML)…** from the context-sensitive menu.

Set the name of the page to **ProductDetailView**.

Change the **Title** property to "**Product Information**".

Add a namespace within the <ContentPage...>.

```
xmlns:partialViews="clr-
namespace:AdventureWorks.MAUI.PartialViews"
```

Delete the <VerticalStackLayout> and all XAML within it.

Add the following where the <VerticalStackLayout> was.

```
<Grid
RowDefinitions="Auto,Auto,Auto,Auto,Auto,Auto,Auto,Auto,
Auto,Auto,Auto,Auto,Auto,Auto"
      ColumnDefinitions="Auto,*">
    <partialViews:HeaderView Grid.ColumnSpan="2" />
    <Label Text="Product Name"
           Grid.Row="1" />
    <Entry Grid.Column="1"
           Grid.Row="1" />
    <Label Text="Product Number"
           Grid.Row="2" />
    <Entry Grid.Row="2"
           Grid.Column="1" />
    <Label Text="Color"
           Grid.Row="3" />
    <Entry Grid.Row="3"
           Grid.Column="1" />
    <Label Text="Cost"
           Grid.Row="4" />
    <Entry Grid.Row="4"
           Grid.Column="1" />
    <Label Text="Price"
           Grid.Row="5" />
    <Entry Grid.Row="5"
           Grid.Column="1" />
    <Label Text="Size"
           Grid.Row="6" />
    <Entry Grid.Row="6"
           Grid.Column="1" />
    <Label Text="Weight"
           Grid.Row="7" />
    <Entry Grid.Row="7"
           Grid.Column="1" />
    <Label Text="Category"
           Grid.Row="8" />
    <Entry Grid.Row="8"
           Grid.Column="1" />
    <Label Text="Model"
           Grid.Row="9" />
    <Entry Grid.Row="9"
           Grid.Column="1" />
    <Label Text="Selling Start Date"
           Grid.Row="10" />
    <Entry Grid.Row="10"
           Grid.Column="1" />
    <Label Text="Selling End Date"
           Grid.Row="11" />
```

```
        <Entry Grid.Row="11"
               Grid.Column="1" />
        <Label Text="Discontinued Date"
               Grid.Row="12" />
        <Entry Grid.Row="12"
               Grid.Column="1" />
        <HorizontalStackLayout Grid.Row="13"
                               Grid.Column="1">
          <Button Text="Save" />
          <Button Text="Cancel" />
        </HorizontalStackLayout>
</Grid>
```

Call the Product Detail View

Open the **AppShell.xaml** file and add a new <ShellContent> element.

```
<ShellContent Title="Products"
              ContentTemplate="{DataTemplate
views:ProductDetailView}"
              Route="ProductDetailView" />
```

Try It Out

Run the application and click on all four tabs to ensure you can see each page.