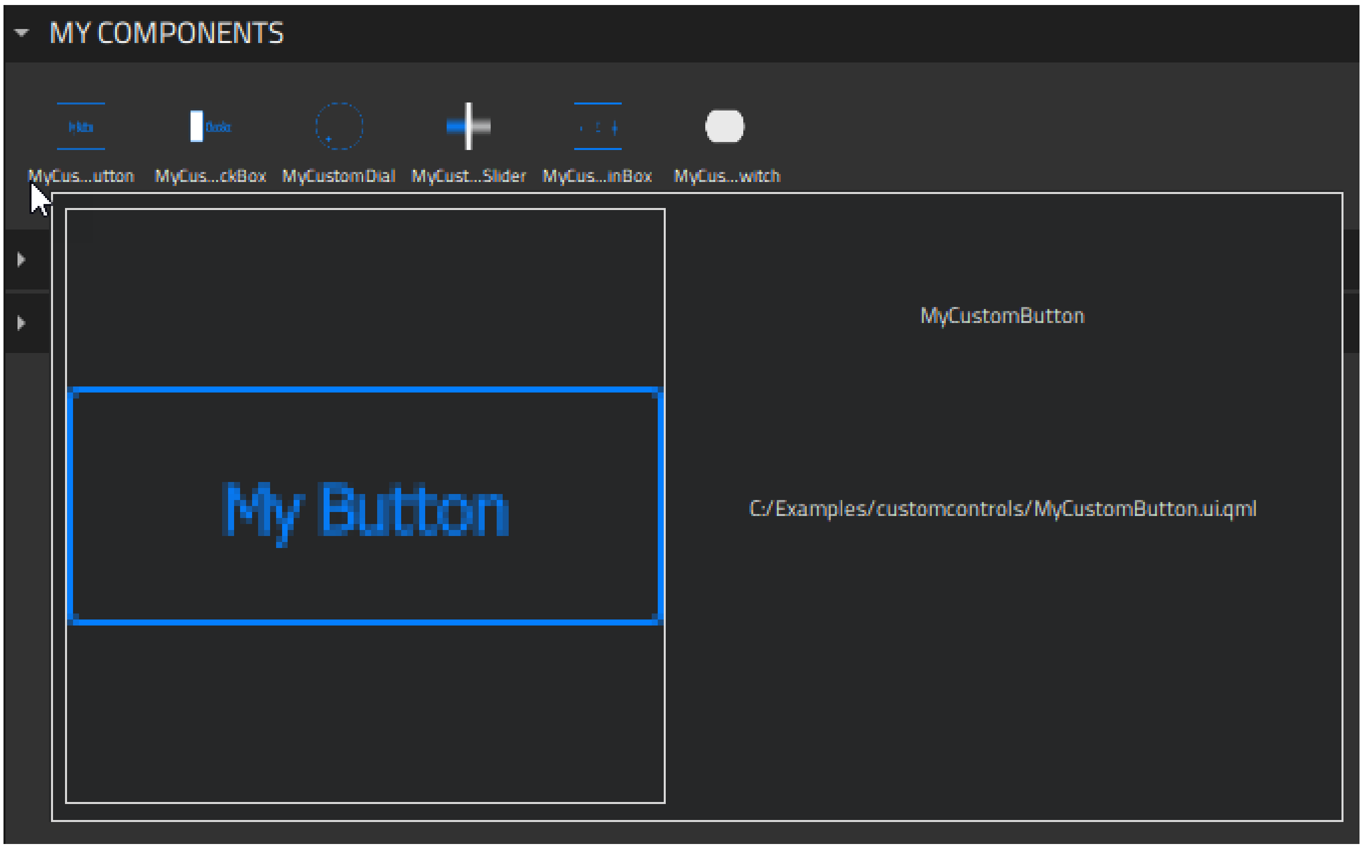
Creating Custom Components

You can either use project wizard templates to create custom components and controls or move component instances into separate files to turn them into new components that you can create instances of. You can then use the instances of the new components in other components.



Custom components are stored in **Components** > **My Components**. You can create instances of custom components by dragging-and-dropping them from **Components** to the 2D, 3D, or Navigator view.

Creating Components from Scratch

To use wizard templates to create custom components:

1. Select **File** > **New File** > **Qt Quick Files** > **Qt Quick UI File** > **Choose** to create a new `.ui.qml` file.

   Note: Components are listed in **Components** > **My Components** only if the filename begins with a capital letter.

3. Drag-and-drop a component from **Components** to **Navigator** or the **2D** view.
4. Edit component properties in the **Properties** view. The available properties depend on the component type. You can add properties for components on the **Properties** tab in the **Connections** view.
5. To change the appearance and behavior of the component instances in ways that are not supported in Qt Design Studio by default, you can define custom properties on the **Properties** tab in the **Connections** view.

The following sections contain more information about how to use the **2D** view to edit 2D content and the **3D** view to edit 3D scenes, as well as examples of how to create UI controls using instances of basic components:

- The 2D View
- The 3D View
- Creating Buttons
- Creating Scalable Buttons and Borders

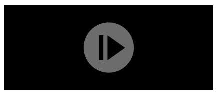
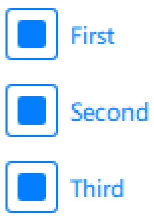
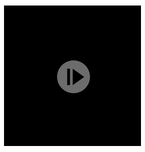
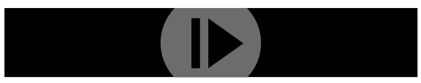
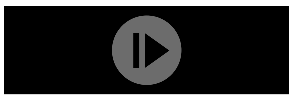
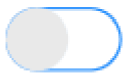
Naming Conventions

Establish naming conventions to keep the components in your UI organized. Name your components accurately and give them suitable IDs. Particularly, check and modify the default names of the components you export from design tools to create reliable and self-explanatory names that follow the naming conventions you have established.

For example, a button symbol might have the ID *myButton_symbol* and the different layers might have it as a prefix with the states appended, thus producing IDs such as *myButton_symbol_default*. To prepare for additional mouse areas later in the project, you could use similar IDs for them, such as *myButton_symbol_hotspot*. When you use the button as instances in a screen, you would give each of these instances a unique ID that relates to that screen. For example, *myButton_myMenu_home*, *myButton_myMenu_profile*, and *myButton_myMenu_settings*

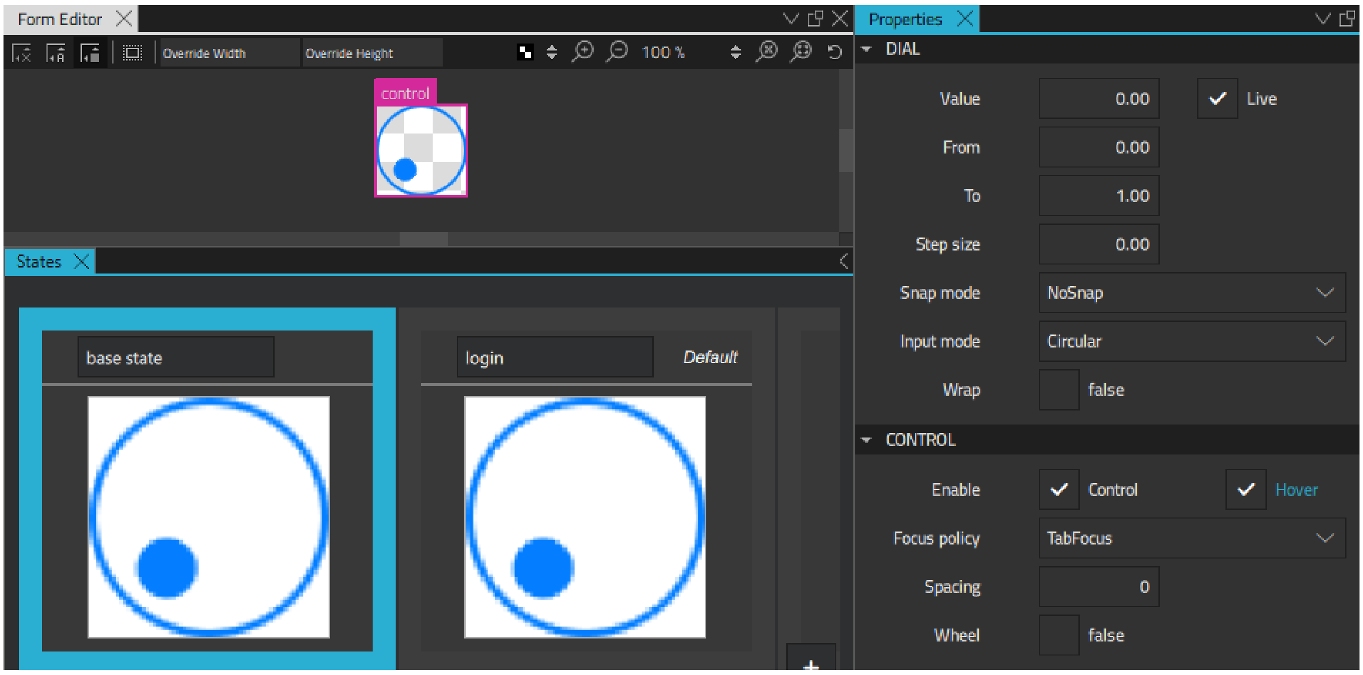
Creating Custom Controls

You can use project wizard templates to create stylable UI controls based on the components in the Qt Quick Controls module:

Button	Check Box	Dial
		
Slider	**Spin Box**	**Switch**
		

You can edit the properties of the controls in all the preset states to apply your own style to them.

Note: For buttons and check boxes, you can disable the misbehaving hover effects by selecting Properties >



To create stylable UI controls:

1. Select **File** > **New File** > **Files and Classes** > **Qt Quick Controls**.
2. Select the control to create, and then select **Choose**.

   Note: Components are listed in Components > **My Components** only if the filename begins with a capital letter.

3. Edit component properties in the Properties view.

   The available properties depend on the component type. You can add properties for components on the **Properties** tab in the {Connections} view.

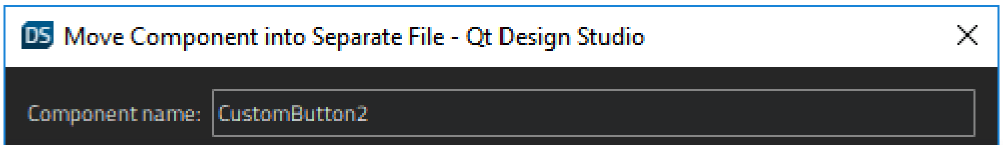
For an example of using the **Button** template to create a button and styling it, see Creating a Push Button in the Log In UI - Components tutorial.

In addition, you can create starting points for different types of screens:

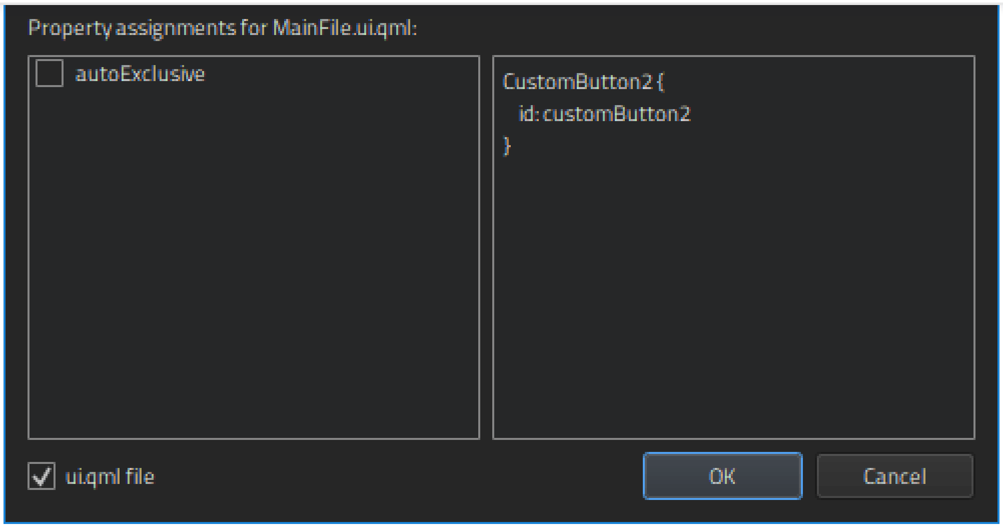
- Pane
- Stack Layout
- Swipe View

Turning Component Instances into Custom Components

An alternative way of creating reusable components is to turn component instances into custom components by moving them into separate component files (.ui.qml). Right-click a component instance in **Navigator** or the **2D** view, and select **Move Component into Separate File** in the context menu.



Component name: CustomButton2


Property assignments for MainFile.ui.qml:

☐ autoExclusive

```
CustomButton2 {
  id: customButton2
}
```

☑ ui.qml file

Give the new component a name, and select whether properties are set for the new component or for the original one.

When you select **OK**, a new component file is created and an instance of the component is added to the code in the current component file. The look of your UI in the **2D** view does not change.

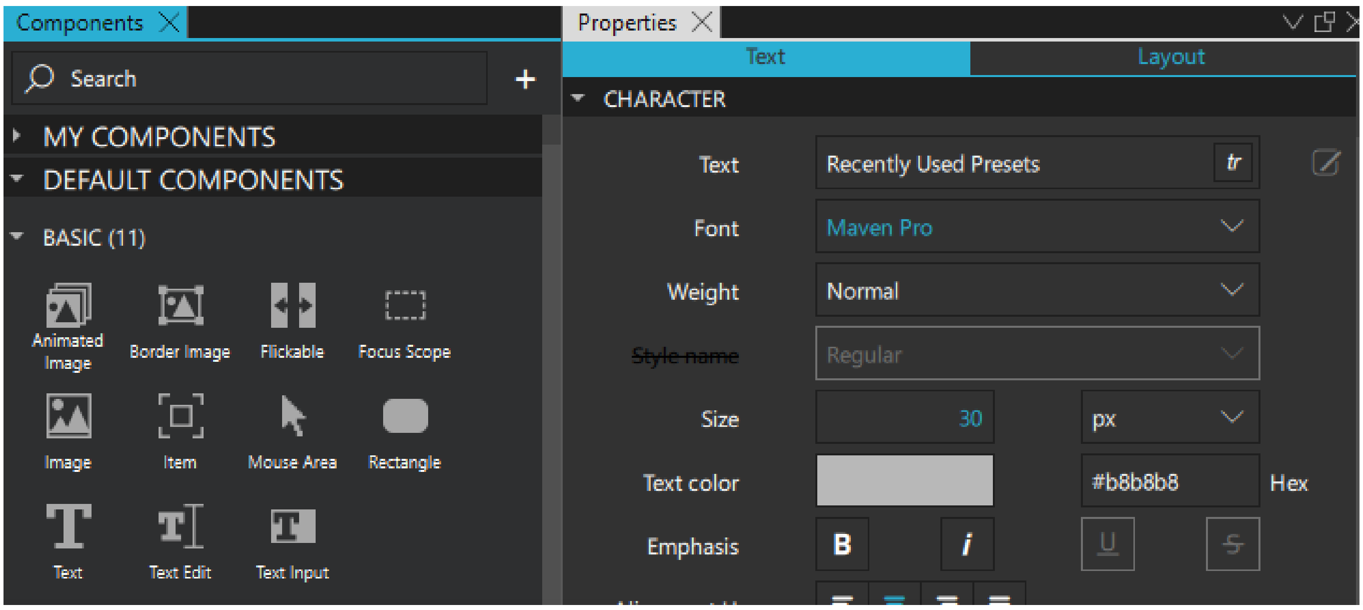
To open the new component file for editing the properties that you want to change for all instances of the component, right-click the component, and then select **Go into Component** in the context menu. For additional ways of opening base components, see Moving Within Components.

For an example of creating a reusable custom component, see Progress Bar. Custom components are listed in **Components** > **My Components**, and you can use instances of them to build more components.

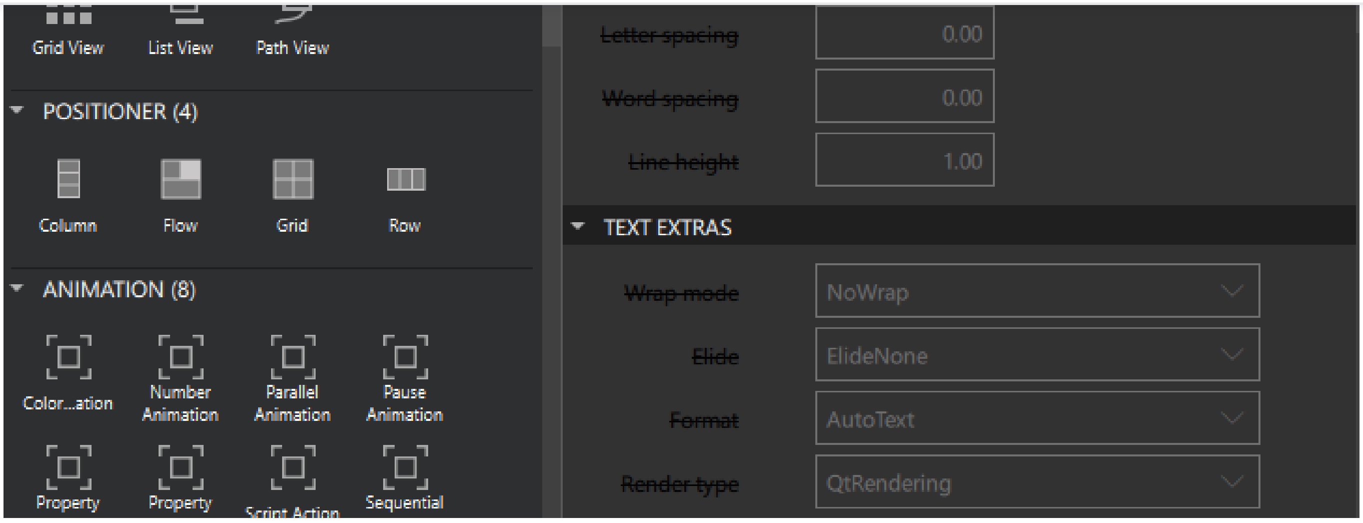
Creating UIs for MCUs

Qt for MCUs enables you to use subsets of components to create UIs for devices that are powered by microcontroller units (MCU). The subset of supported components depends on the Qt for MCUs version that you use for development. In this manual, we indicate which components are supported at the time of writing.

To develop for MCUs, create an MCU project. Only the components available on MCUs are displayed in Components. Only a subset of properties is supported for the supported components. The properties that are not available on MCUs are marked in the Properties view with strikethrough text.



Text	Recently Used Presets
Font	Maven Pro
Weight	Normal
~~Style name~~	Regular
Size	30 px
Text color	#b8b8b8 Hex
Emphasis	B *i* U S



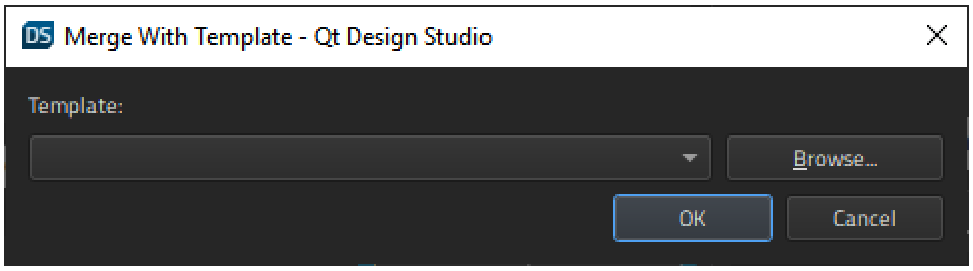
~~Letter spacing~~ 0.00
~~Word spacing~~ 0.00
~~Line height~~ 1.00
~~Wrap mode~~ NoWrap
~~Elide~~ ElideNone
~~Format~~ AutoText
~~Render type~~ QtRendering

For more information about the supported components and their properties, see Qt for MCUs - All QML Types.

Merging Files with Templates

You can merge the current component file against an existing second component file using the second file in a way similar to using a CSS stylesheet.

To use this experimental feature, right-click a component in the **Navigator** or **2D** view and select **Merge File with Template** in the context menu.



In the **Template** field, select the file to use as a template.

‹ Creating Component Instances Creating Buttons ›

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