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# Exporting from Qt 3D Studio

Use the following guidelines to achieve the best results when converting projects from Qt 3D Studio to Qt Design Studio.

## Best Practices

- › If something in UI is clearly 2D, do not import it from Qt 3D Studio presentation. Implement it directly in Qt Design Studio.
- › QML streams cannot be imported as QML elements directly into Qt Design Studio. They need to be copied manually since there is no import functionality for QML files in Qt Design Studio.
- › If you do import the whole Qt 3D Studio project (.uia file), use only the parts you actually need from it. Use **Move Component Into Separate File** for the parts you need, and eventually delete all the rest from the project structure.
- › There are extra levels of Node elements in most imported QML files, and they should be removed for improved performance. As a rule of thumb, each Node that has only one child is considered an extra level that should be deleted.
- › Qt 3D Studio *slides* become Qt Design Studio *states*, and there may be problems with state changes. Always go through each of the state changes to make sure they work correctly.

## Importing Assets

### Custom Materials

Custom materials (*something.shader* files in Qt 3D Studio) are not imported correctly, and have to be fixed manually.

- › They are imported as `CustomMaterial { id: something; source: "something" }` that neither works nor does anything.
- › Remove the `source: 'something'` altogether.
- › Vertex shader part from the *something.shader* needs to be copied to `Shader { stage: Shader.Vertex; shader: "vertex shader code here" }` inside the `CustomMaterial`. Fragment shader part needs to be copied to `Shader { stage: Shader.Fragment; shader: "fragment shader code here" }`.
- › Properties in *Metadata* of the *something.shader* need to be introduced manually as QML properties of the same name and correct type inside the `CustomMaterial` element.

- › If custom material uses textures, they are not imported automatically and must be manually added to the project structure.
- › Many custom materials are not rendered in the **3D** or **2D** view due to an open bug in Qt Design Studio 1.5. The project needs to be run for them to appear.

## Standard Materials

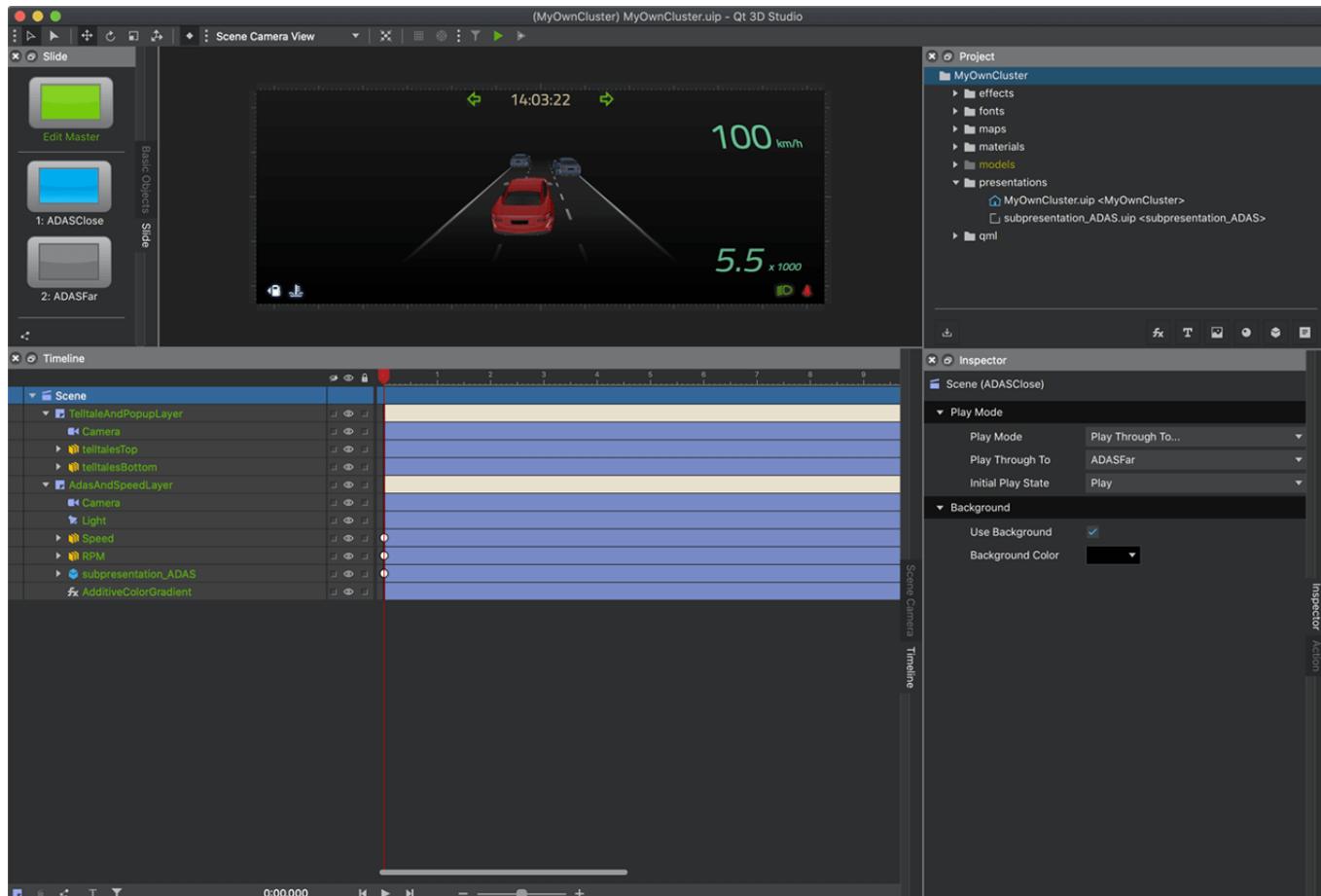
Some properties of standard materials may not be imported correctly.

- › The sensible value ranges of some properties may have changed between Qt 3D Studio and Qt Design Studio and need to be redefined manually.
- › Extra properties may be added and can be removed manually.

## Models

Models have some extra properties (tessellations), which can be removed.

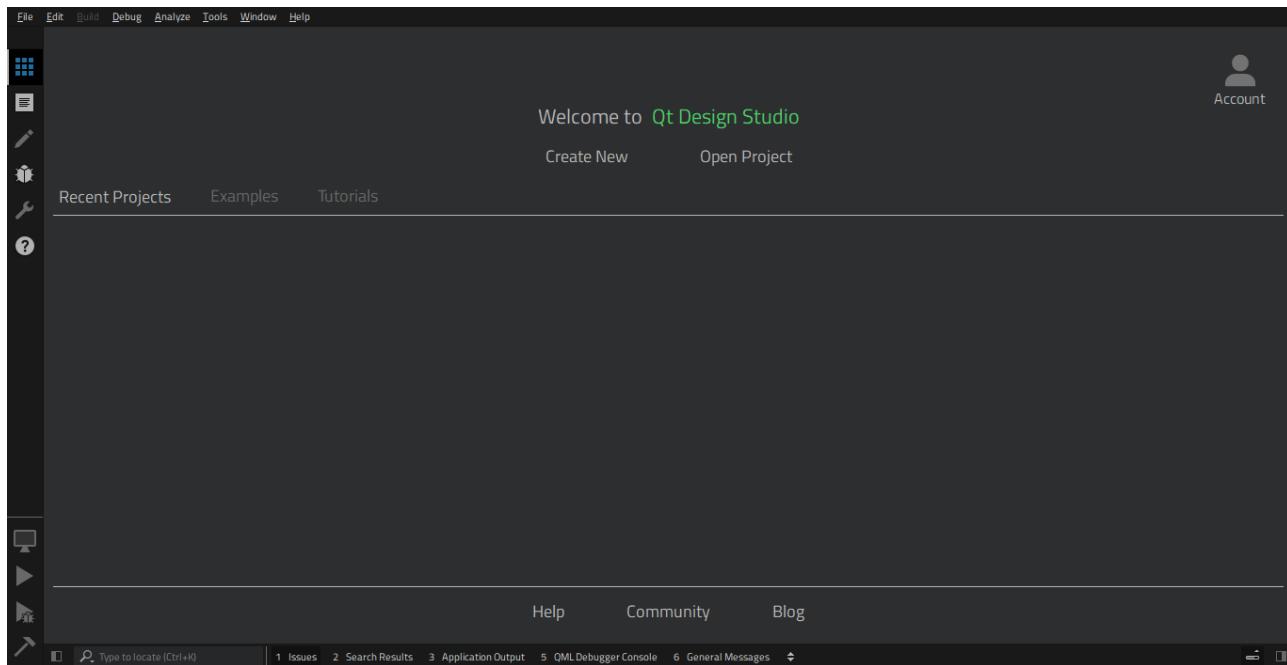
## Example: Converting MyOwnCluster Project from Qt 3D Studio to Qt Design Studio



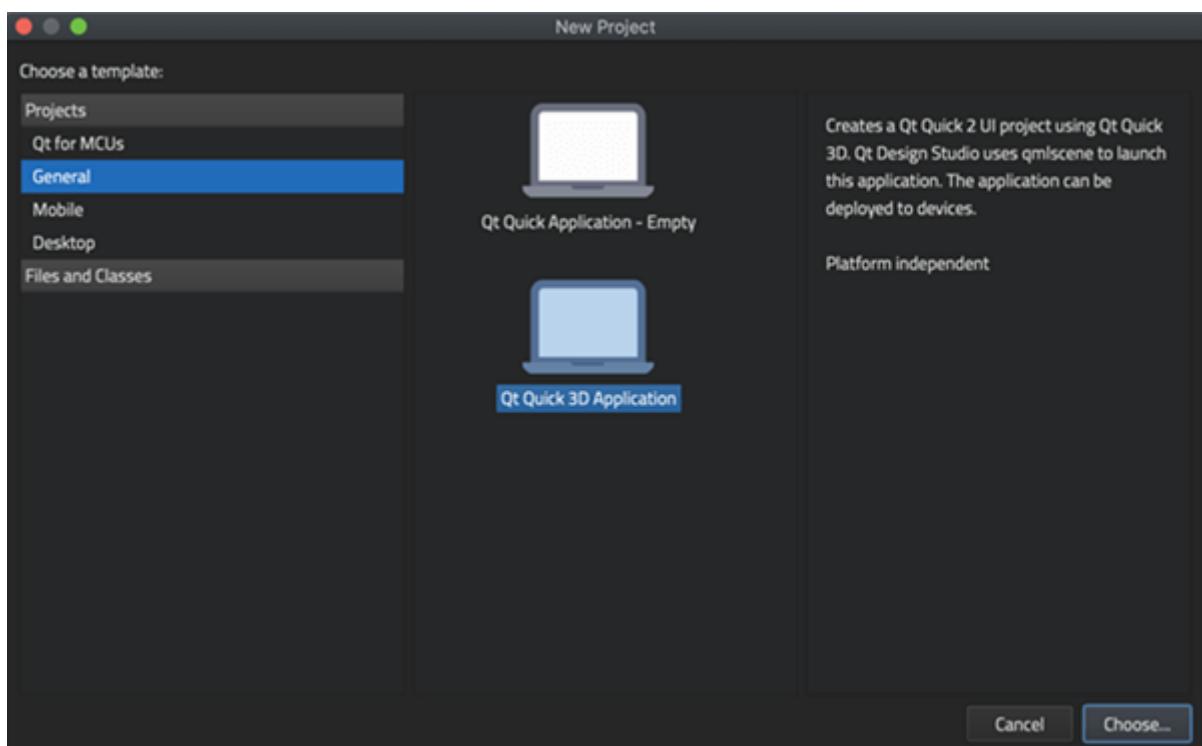
*My Own Cluster project in Qt 3D Studio*

The following steps describe how to convert the My Own Cluster project from Qt 3D Studio to Qt Design Studio.

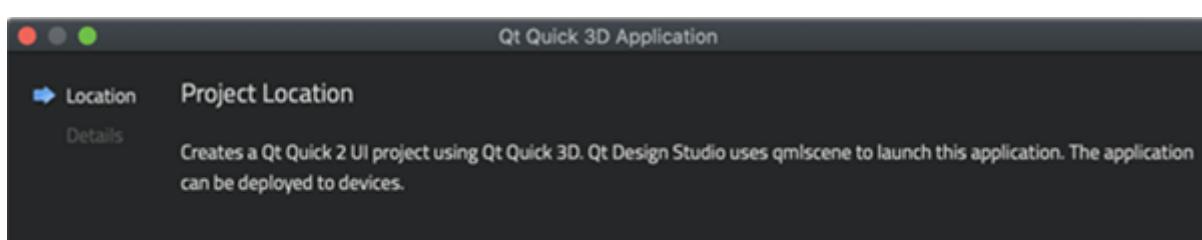
### Creating a New Project in Qt Design Studio

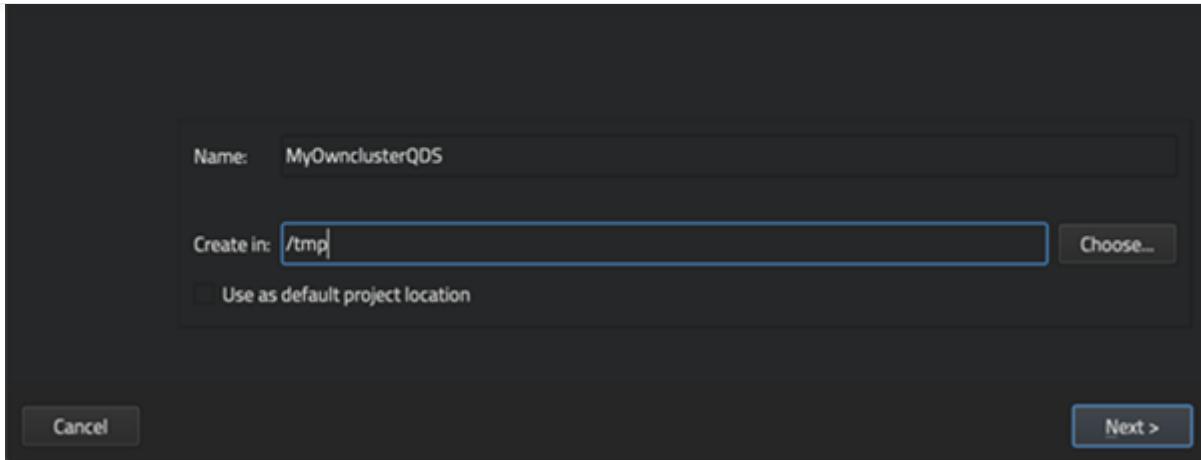


2. Creating a new project in Qt Design Studio is aided by a wizard that contains templates for creating different types of projects. Choose the **Qt Quick 3D Application** template to get started with your new 3D project.

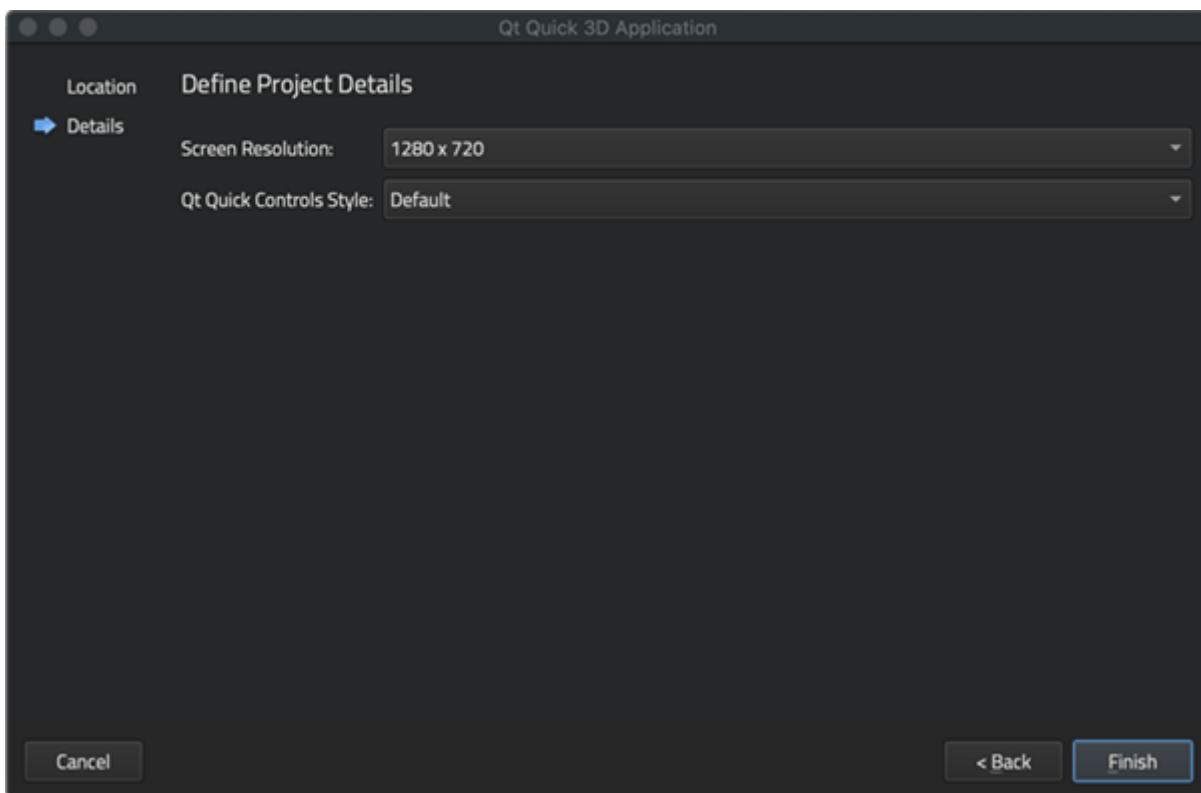


3. In the **Name** field, enter a name for the project. In the **Create in** field, enter the path for the project files, and then select **Next**.

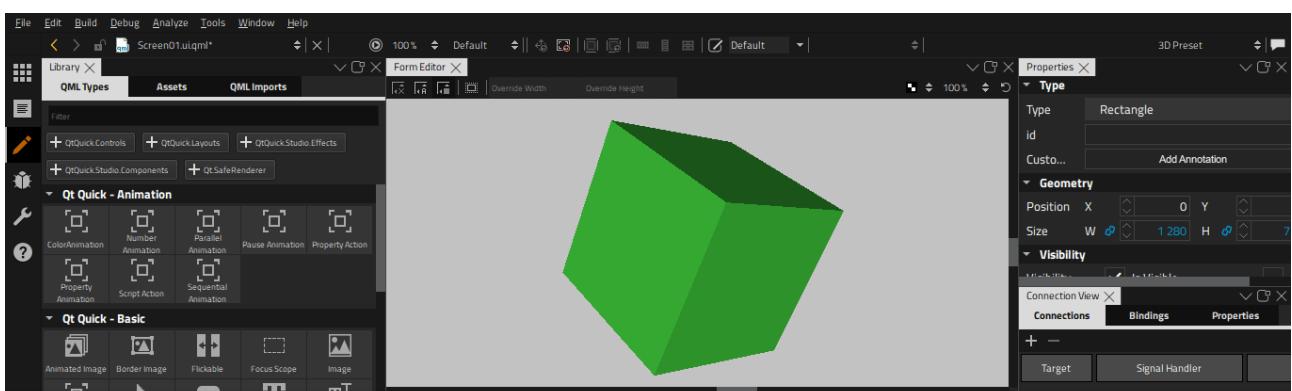


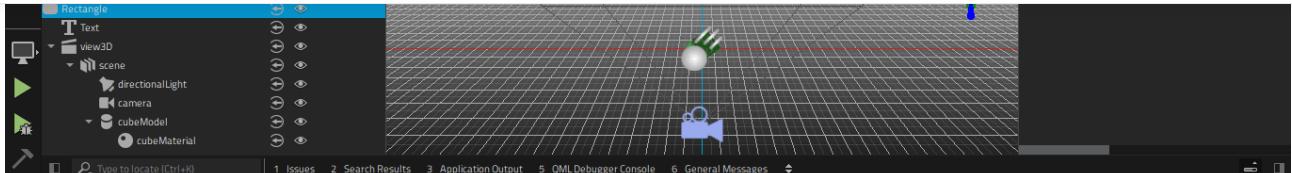


4. In the **Screen resolution** field, select the screen resolution for previewing the UI on the desktop or on a device. You must select one of the predefined screen resolutions, which will later be altered to match the width and height of the original project. In the **Qt Quick Controls Style** field, select one of the predefined UI styles to use, and then select **Finish**.



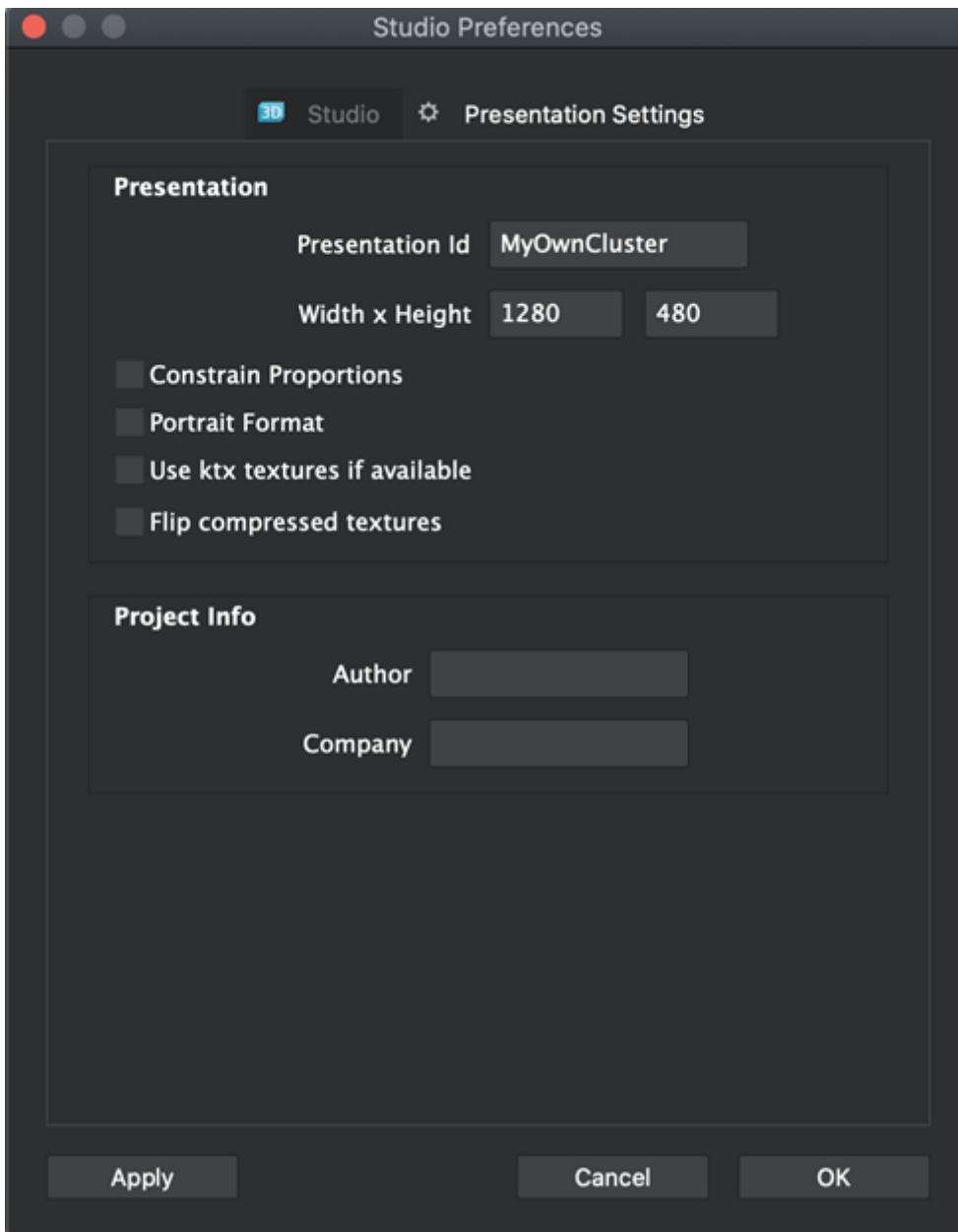
5. Your new project has now been created. For more information on creating projects in Qt Design Studio, see [Creating Projects](#). For more information on how to get started with Qt Design Studio, see [Getting Started](#).





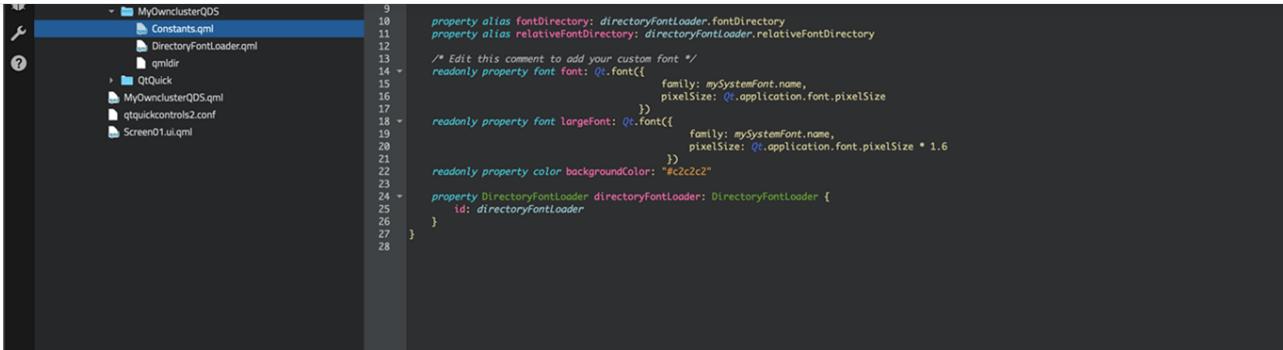
## Getting Started with MyOwnCluster

1. Return to your project in Qt 3D Studio to check the size of the presentation. Select **Edit > Presentation Settings** to see the values for **Width x Height**.



2. Adjust the canvas size of your project in Qt Design Studio according to the screen size in Qt 3D Studio presentation by editing the `Constants.qml` file in the **Code** view. If you cannot see the **Code** view, select **Window > Views**, and then select the **Code** checkbox. In the **Projects** view, open the imports subfolder, then the subfolder named after your project, and double-click `Constants.qml`. Edit the values for *readonly property int width* and *readonly property int height* to match the **Width x Height** values in Qt 3D Studio presentation.





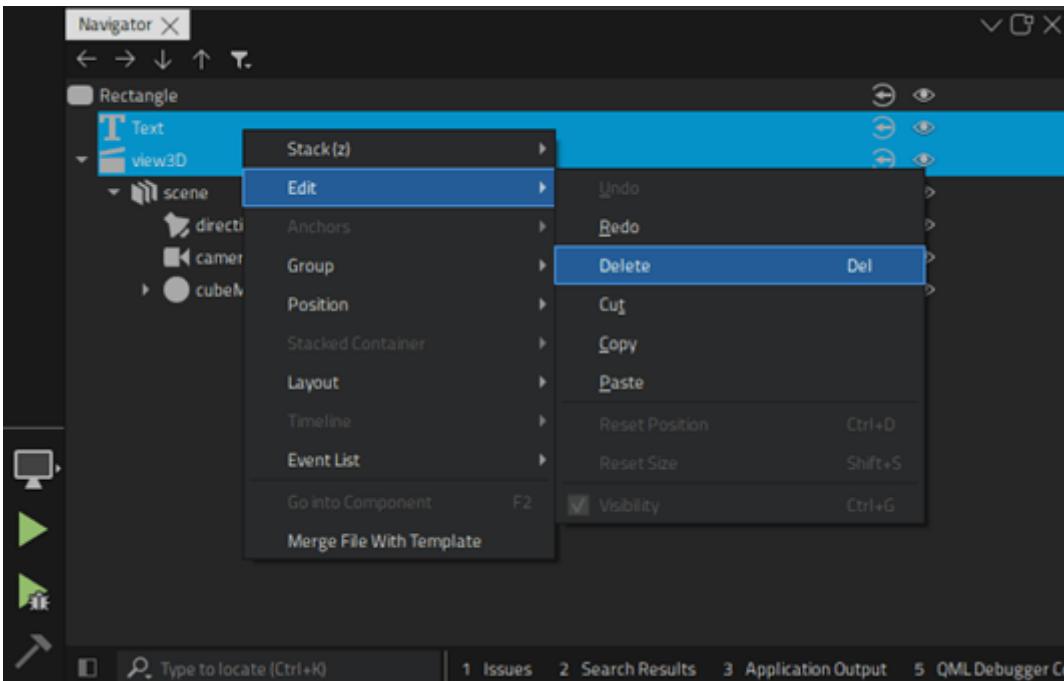
```

9
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```

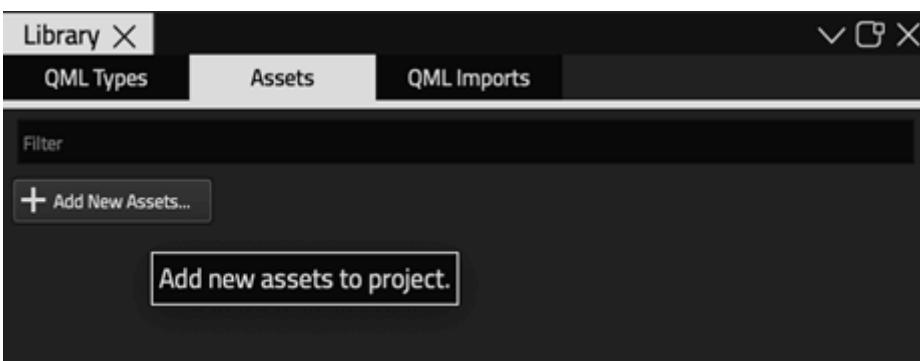
property alias fontDirectory: directoryFontLoader.fontDirectory  
 property alias relativeFontDirectory: directoryFontLoader.relativeFontDirectory  
 /\* Edit this comment to add your custom font \*/  
 readonly property font font: Qt.font{  
 family: mySystemFont.name,  
 pixelSize: Qt.application.font.pixelSize  
 }  
 readonly property font largeFont: Qt.font{  
 family: mySystemFont.name,  
 pixelSize: Qt.application.font.pixelSize \* 1.6  
 }  
 readonly property color backgroundColor: "#c2c2c2"  
 property DirectoryFontLoader directoryFontLoader: DirectoryFontLoader {  
 id: directoryFontLoader  
}

3. To delete the placeholders created by the wizard, multiselect **Text** and **view3D** components (**Ctrl + mouse left click**) in **Navigator**, then right click on the selected items, and select **Edit > Delete**.

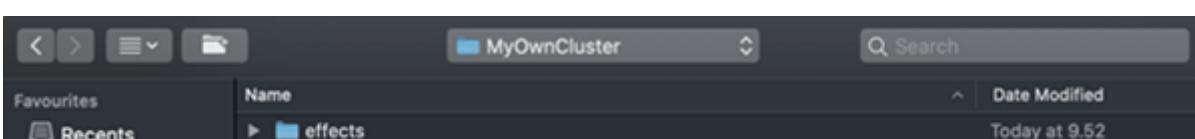


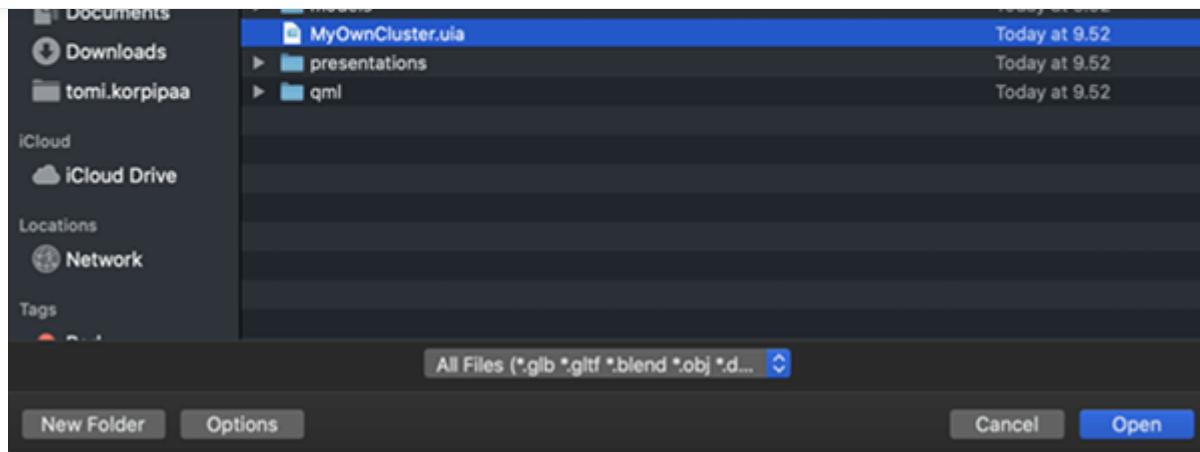
## Importing Assets

1. Select **Assets > +**.

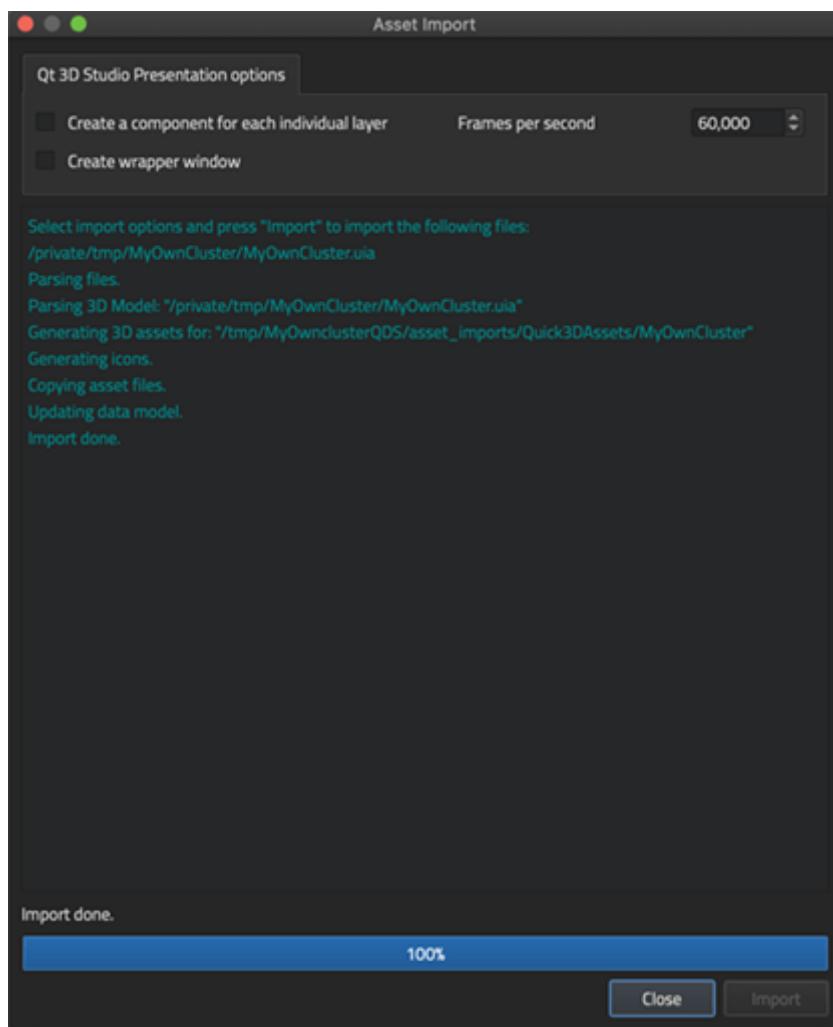


2. Select the .uia file for the Qt 3D Studio project you wish to import, and then select **Open**.

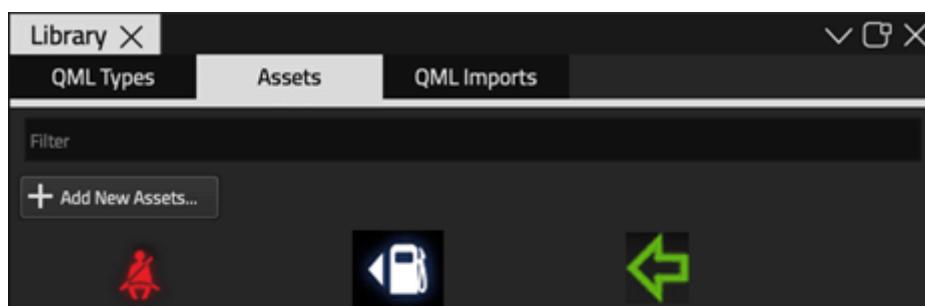


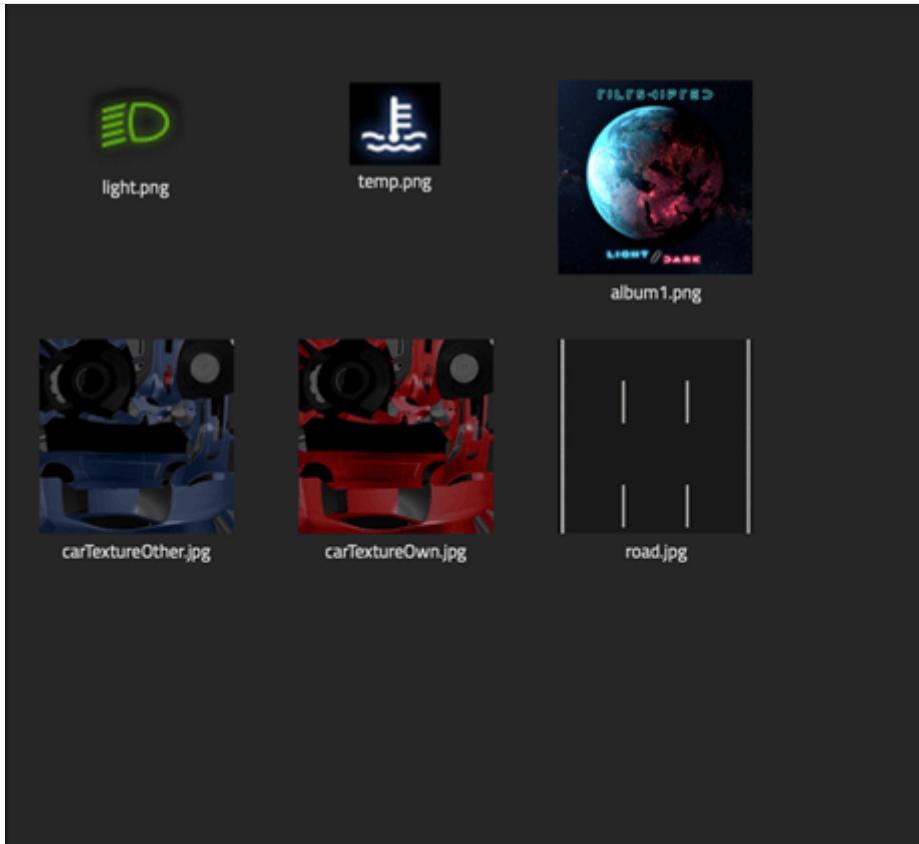


3. Select **Import**, and after the import is complete, select **Close**.

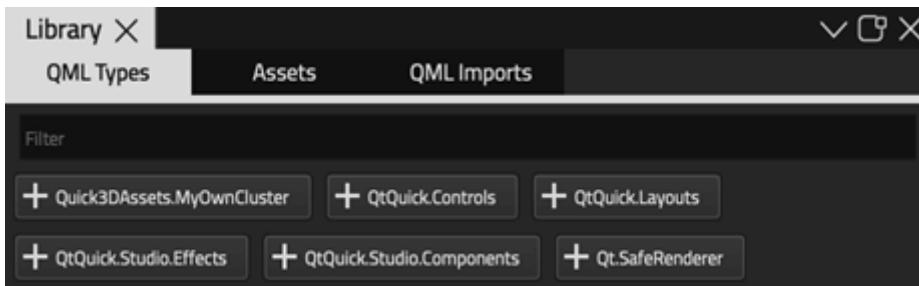


4. The 2D assets imported from Qt 3D Studio now appear in > Assets.

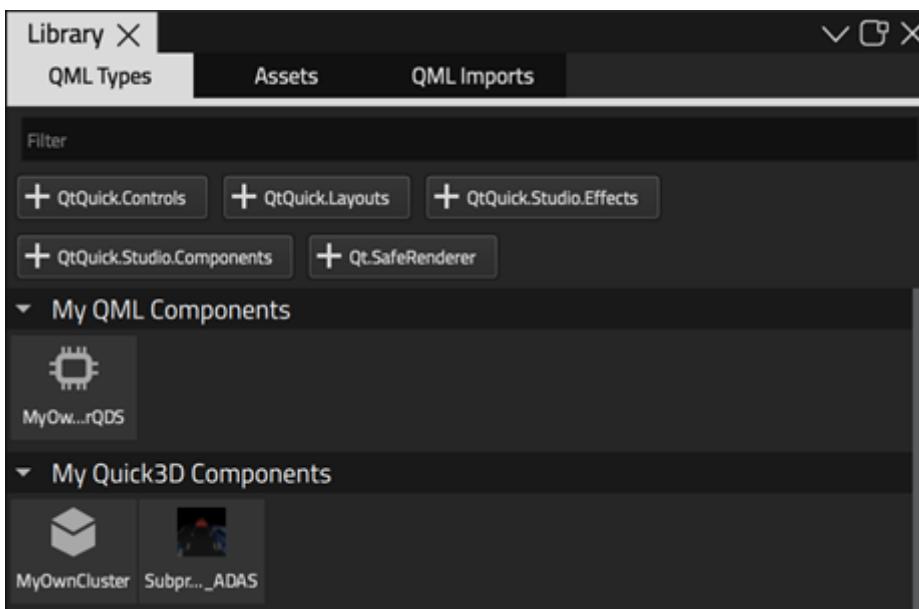




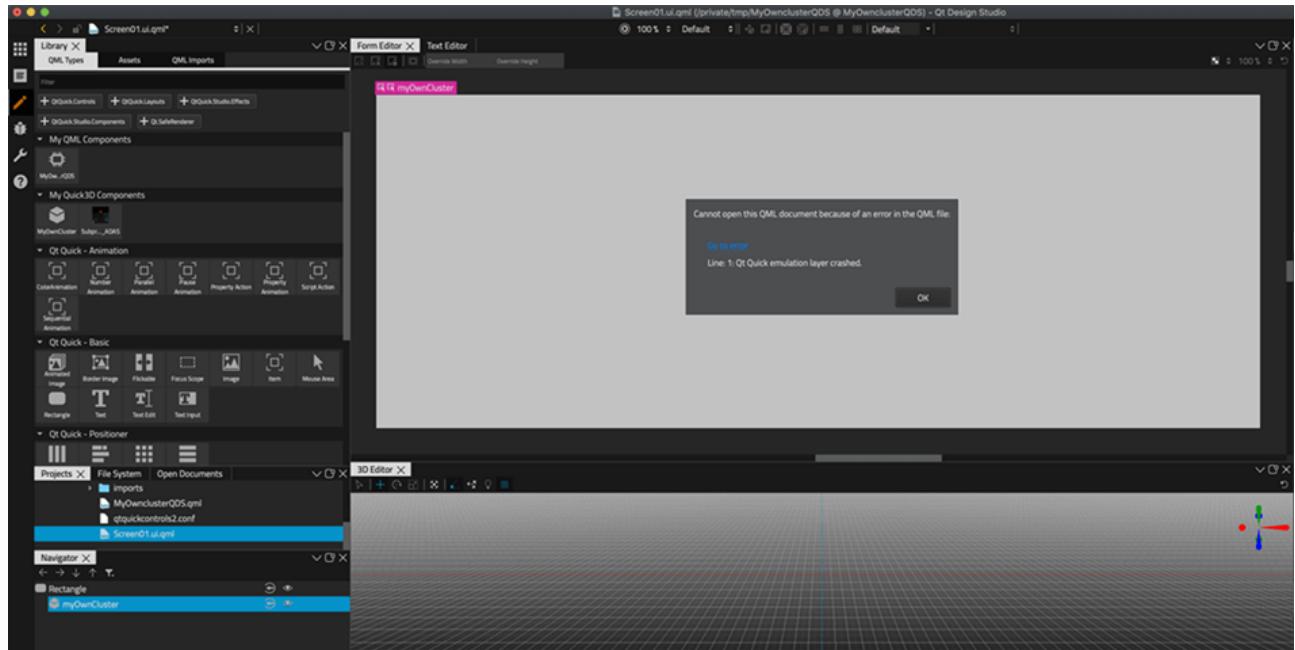
5. The QML components generated from the imported Qt 3D Studio project now appear as available imports in **Components** under **QML Types**. Select **Quick3DAssets.MyOwnCluster** to import them to your project.



6. The imported QML types now appear in **Components** and can be added to the project.

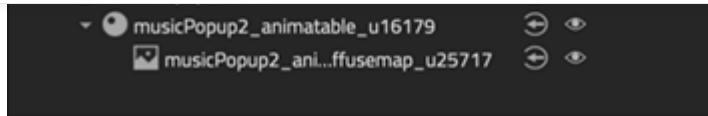


1. Drag MyOwnCluster from My Quick3D Components in Components to the 2D view.



2. In Navigator, right click on myOwnCluster and select Go into Component.





3. Find the offending line in the **Code** view.

```

267     scale.x: 4
268     scale.y: 2
269     source: "#Rectangle"
270     edgeTessellation: 4
271     innerTessellation: 4
272
273     DefaultMaterial {
274         id: musicPopup2_animatable_u16179
275         lighting: DefaultMaterial.NoLighting
276         diffuseMap: musicPopup2_animatable_u16179_diffusemap_u25717
277         indexOfRefraction: 1.5
278         specularRoughness: 0
279         bumpAmount: 0.5
280         translucentFalloff: 1
281         displacementAmount: 20
282
283     Texture {
284         id: musicPopup2_animatable_u16179_diffusemap_u25717
285         sourceItem: MusicPopup { }
286     }
287 }
288 materials: [musicPopup2_animatable_u16179]
289 }
290 }
291 Timeline {
292     id: aDASCloseTimeline
293     startFrame: 0
294 }
```

4. Comment out the offending line by placing two slashes in the beginning of it (or remove the line).

// sourceItem: MusicPopup { }'. The rest of the code remains the same."/>

```

267     scale.x: 4
268     scale.y: 2
269     source: "#Rectangle"
270     edgeTessellation: 4
271     innerTessellation: 4
272
273     DefaultMaterial {
274         id: musicPopup2_animatable_u16179
275         lighting: DefaultMaterial.NoLighting
276         diffuseMap: musicPopup2_animatable_u16179_diffusemap_u25717
277         indexOfRefraction: 1.5
278         specularRoughness: 0
279         bumpAmount: 0.5
280         translucentFalloff: 1
281         displacementAmount: 20
282
283     Texture {
284         id: musicPopup2_animatable_u16179_diffusemap_u25717
285     //}
286     }
287 }
288 materials: [musicPopup2_animatable_u16179]
289 }
290 }
291 Timeline {
292     id: aDASCloseTimeline
293     startFrame: 0
294 }
```

5. In Navigator, go to each component of the project and comment out (or remove) any offending lines you find.

```

1 import QtQuick3D 1.15
2
3 DefaultMaterial {
4     id: materials_subpresentation_ADAS_u28425
5     diffuseMap: materials_subpresentation_ADAS_u28425_diffusemap_u11815
6     indexOfRefraction: 1.5
7 }
```

```

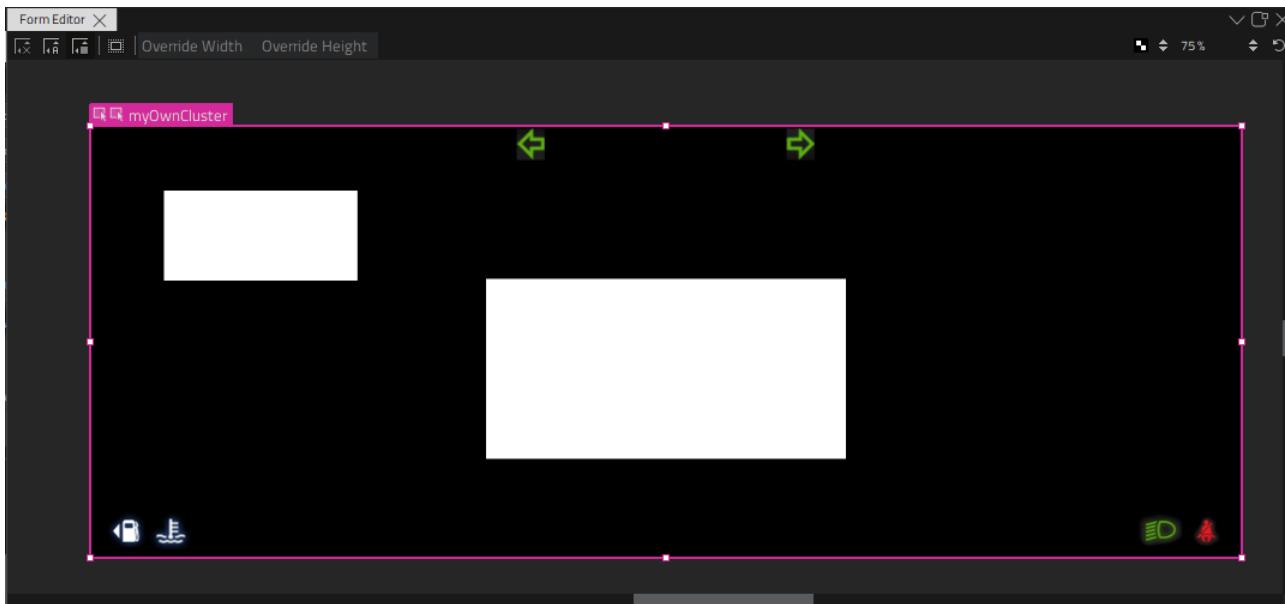
13
14     }
15
16 }
17

```

to: materials\_SubPresentation\_ADAS\_debounce\_0111asemap\_011025
sourceItem: Subpresentation\_ADAS { }

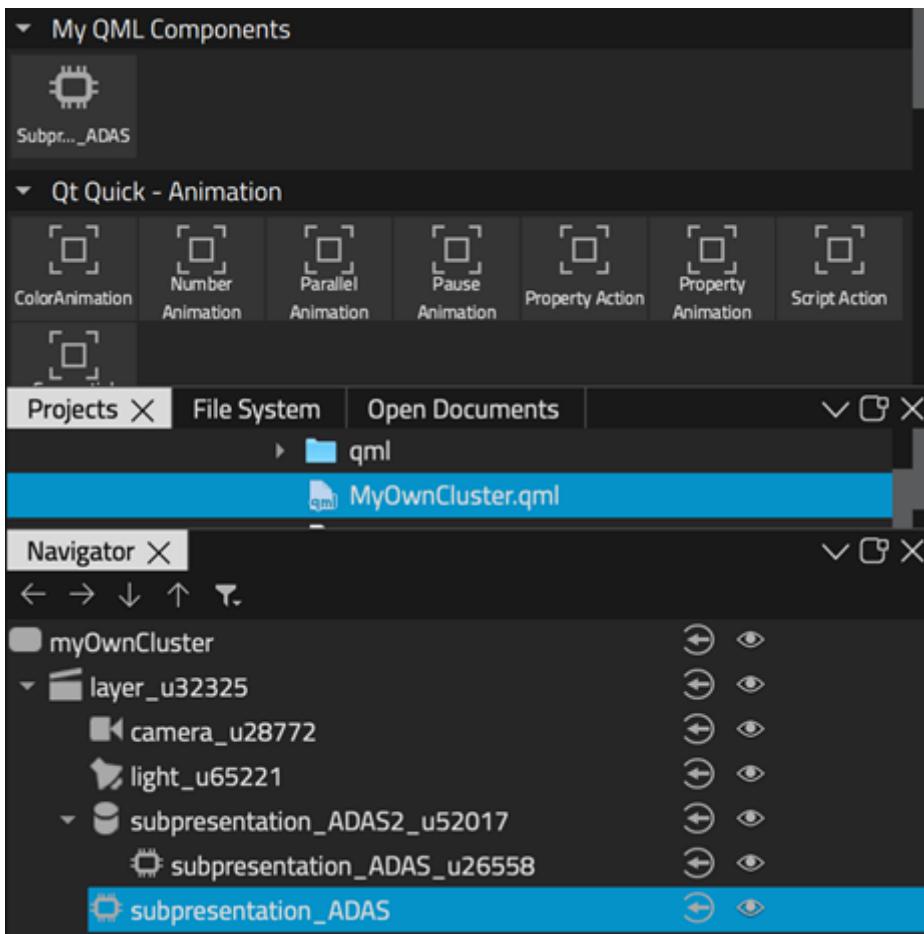
Unknown component: (M300)

6. You should now see some parts of the project in the 2D view.

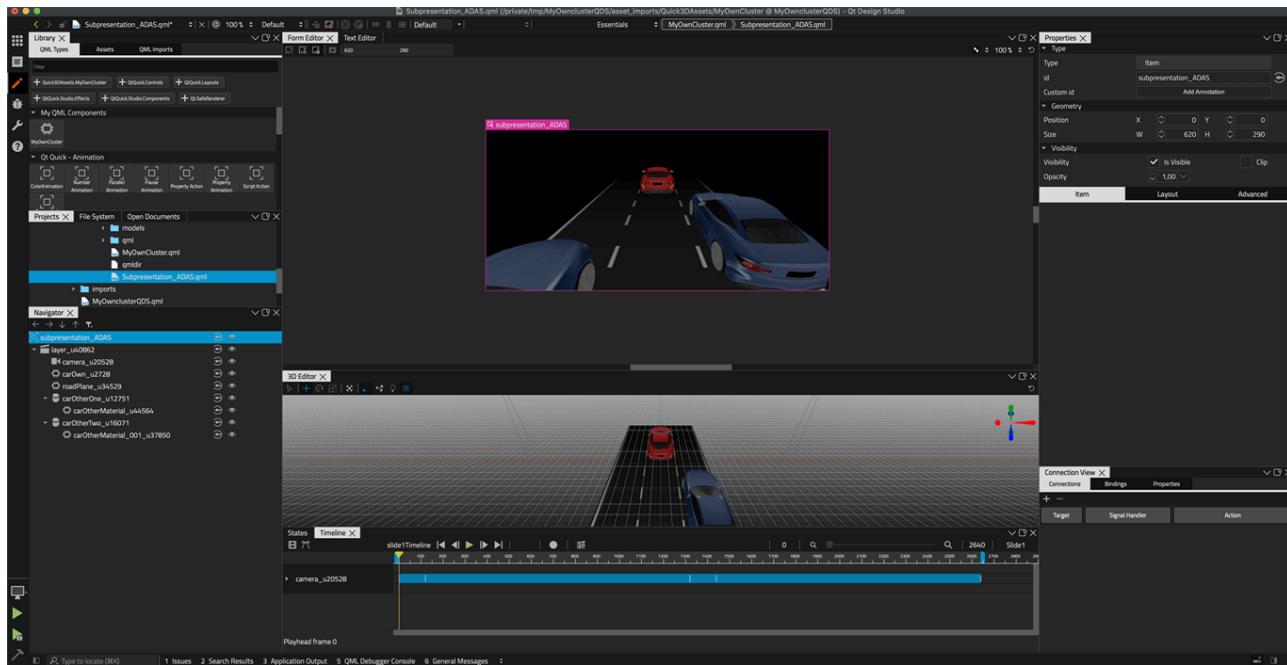


## Converting 3D Elements

1. Drag subpresentation\_ADAS from Components > {My 3D Components} into layer folder in Navigator.

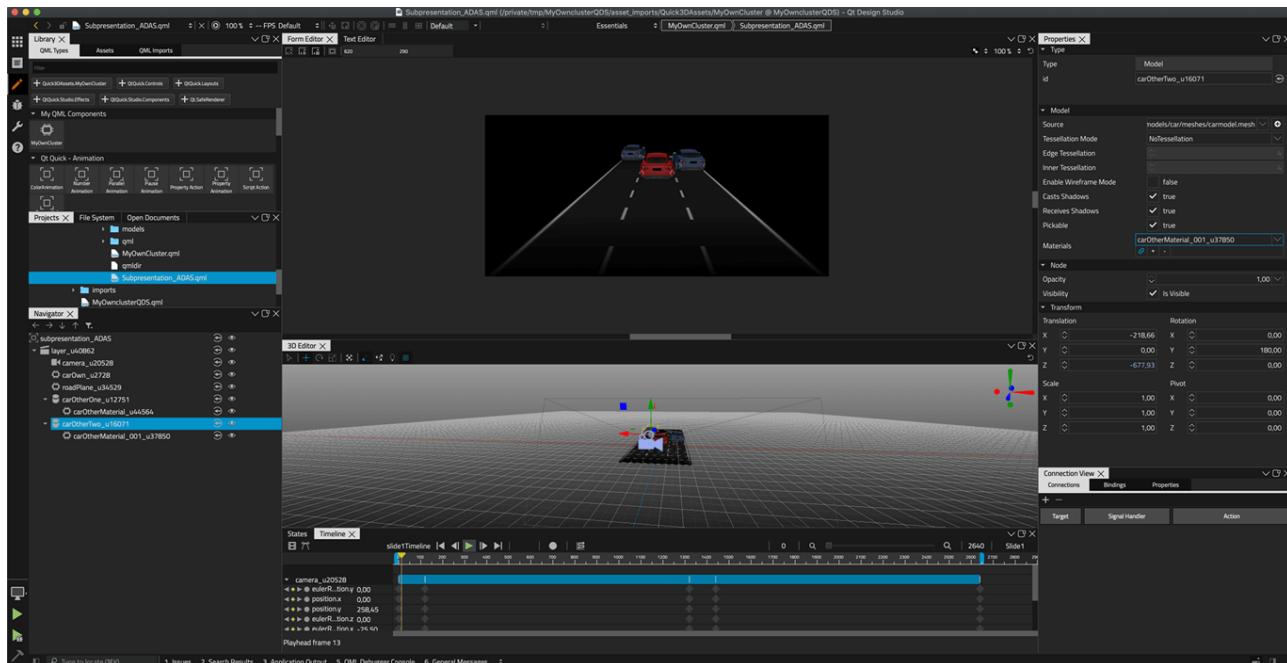


2. To delete the old subpresentation rectangle, right-click on the file name (subpresentation\_ADAS2\_u52017 in

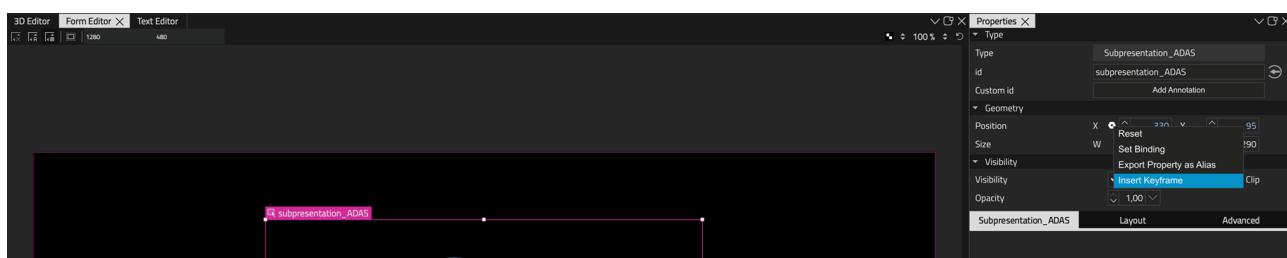


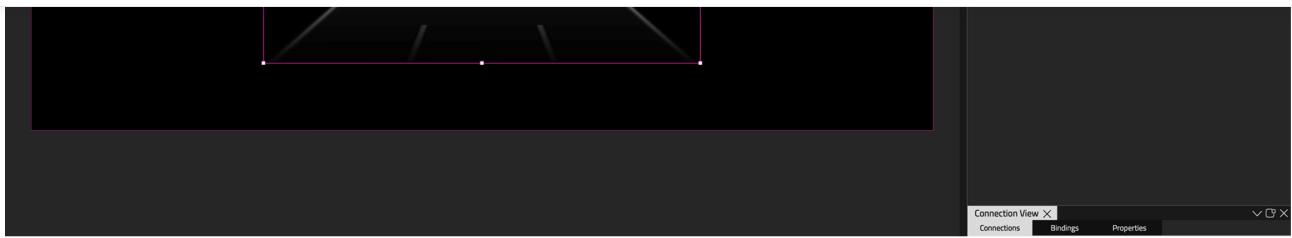
- Reposition objects and/or camera in the **3D** view according to the original Qt 3D Studio project. The desired scene may be achieved simply by changing the z position sign from positive to negative, or vice versa, in some cases.

See the **3D** view for more information on how to edit 3D scenes.

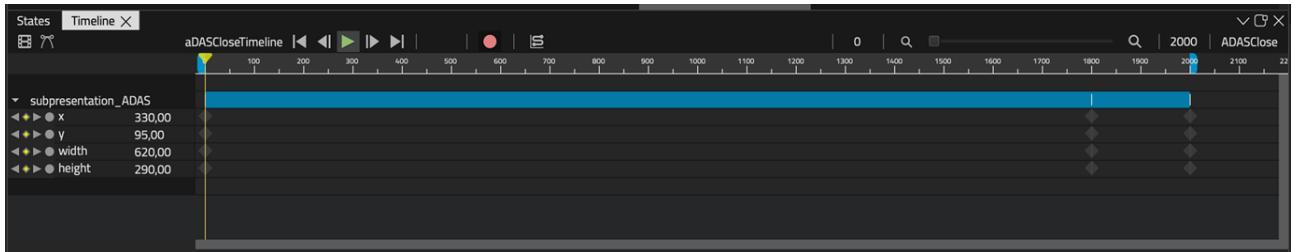


- Recreate animations in subpresentation\_ADAAS according to the original project. For more information on creating animations in Qt Design Studio, see [Creating Timeline Animations](#).



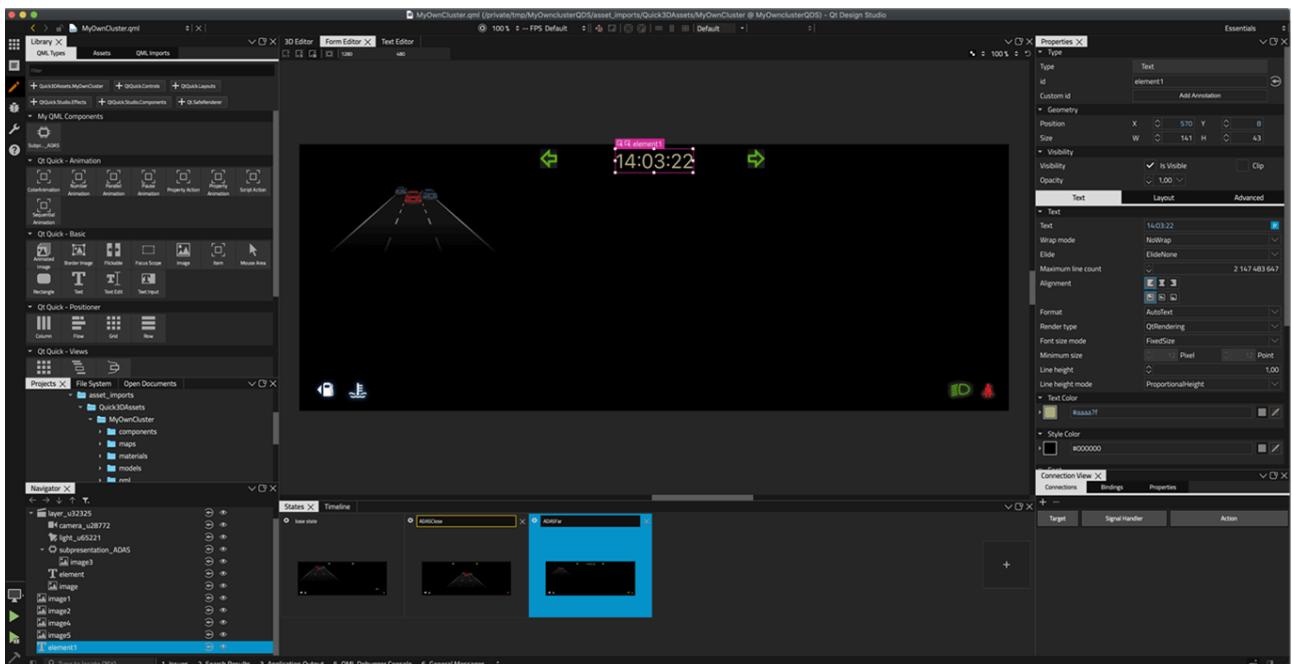


6. Go to the **Timeline** View to review the timeline for the project.

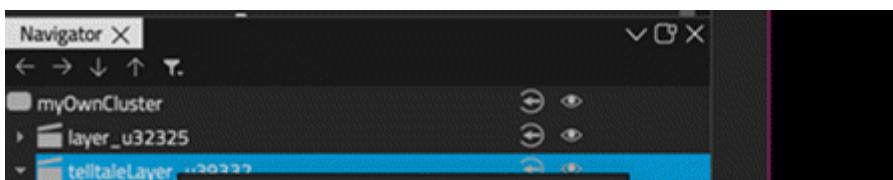


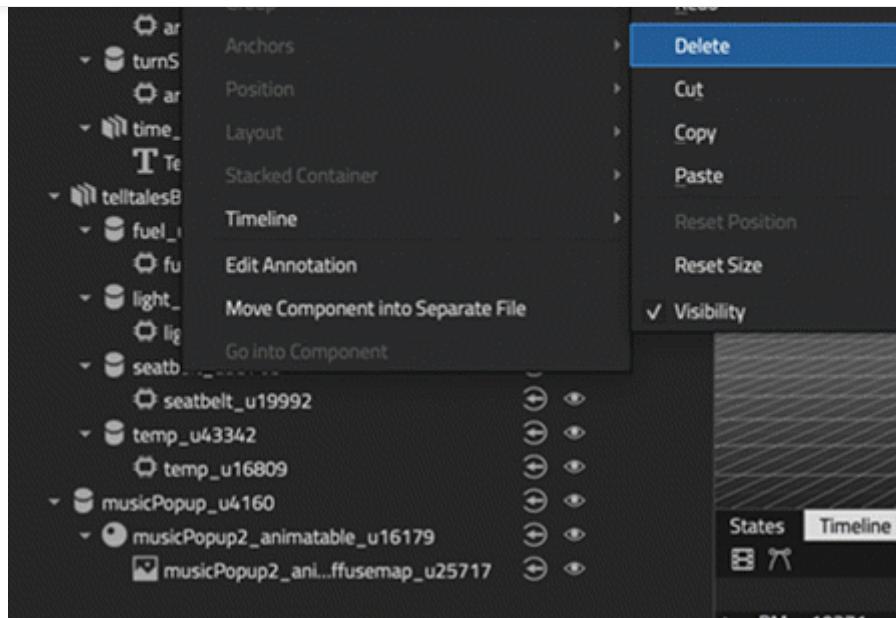
## Converting 2D Elements

1. Recreate the 2D elements of the original project (in all layers) using the 2D QML elements available in Qt Design Studio. You can use the imported 2D layer as a guide for recreating the elements. If the 2D elements in the original project have rotations, especially in a 3D layer, make sure to add rotations that mimic the original ones to the Qt Design Studio project. For example, rotation on one axis with perspective camera requires rotation on two axes in pure 2D. You may need to use the **Code** view to achieve rotation similar to the rotation of the object in Qt 3D Studio. For more information on specifying advanced transformations on **Items**, see [Transform](#).

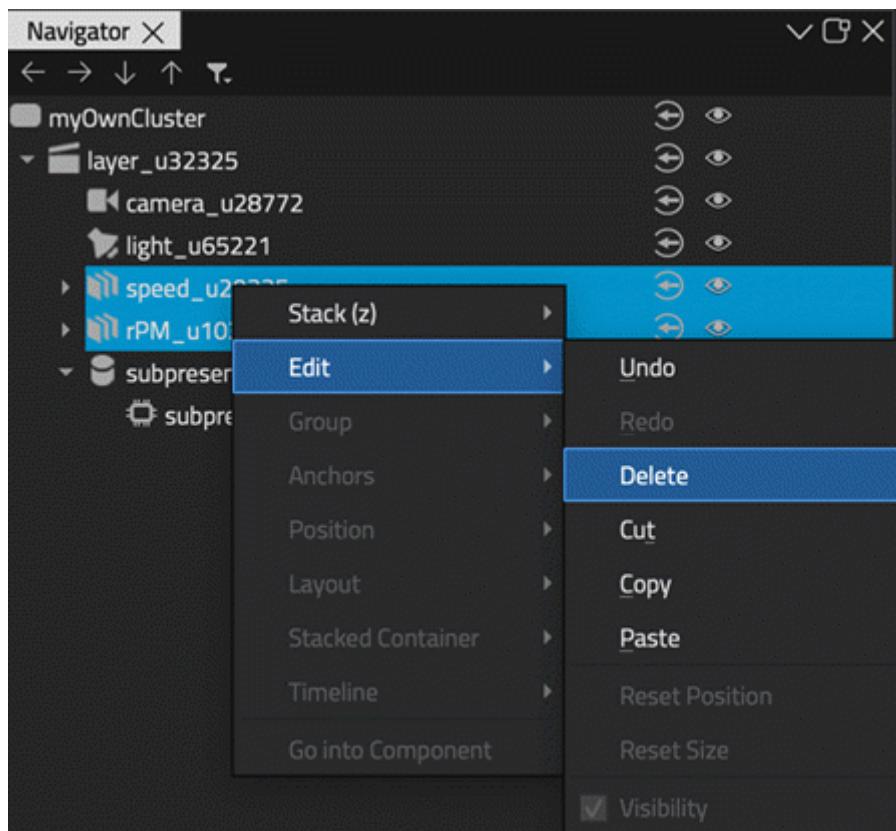


2. To delete the 2D layer (`telltaleLayer_u39332`) in **Navigator** after recreating the 2D elements, right-click on the component, and select **Edit > Delete**.





3. Next, you need to delete the 2D elements from the 3D layer (speed\_u20335 and rPM\_u10371 from layer\_32325). Right-click on the element, and select Edit > Delete.



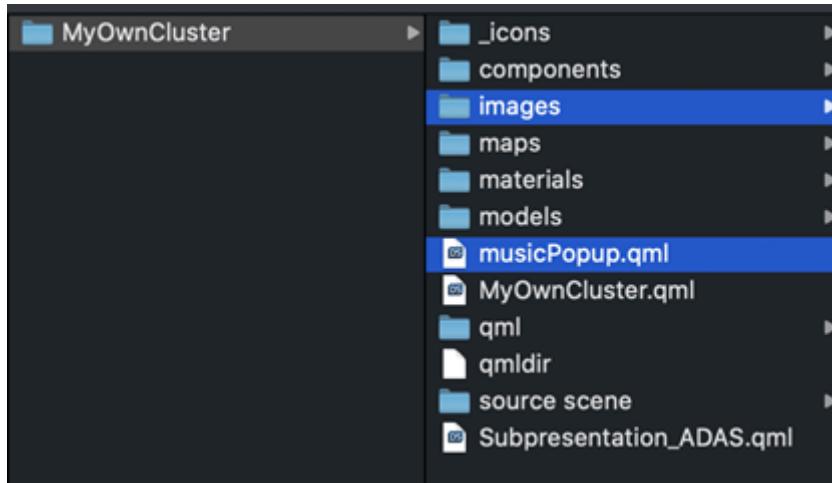
4. Recreate the animations for 2D elements the same way it was done for the 3D elements.

## Converting QML Streams

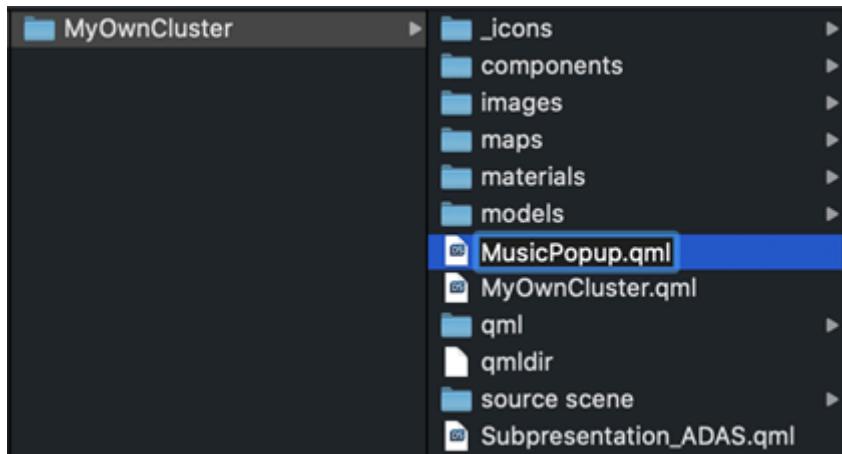
1. Find QML stream files in file explorer.



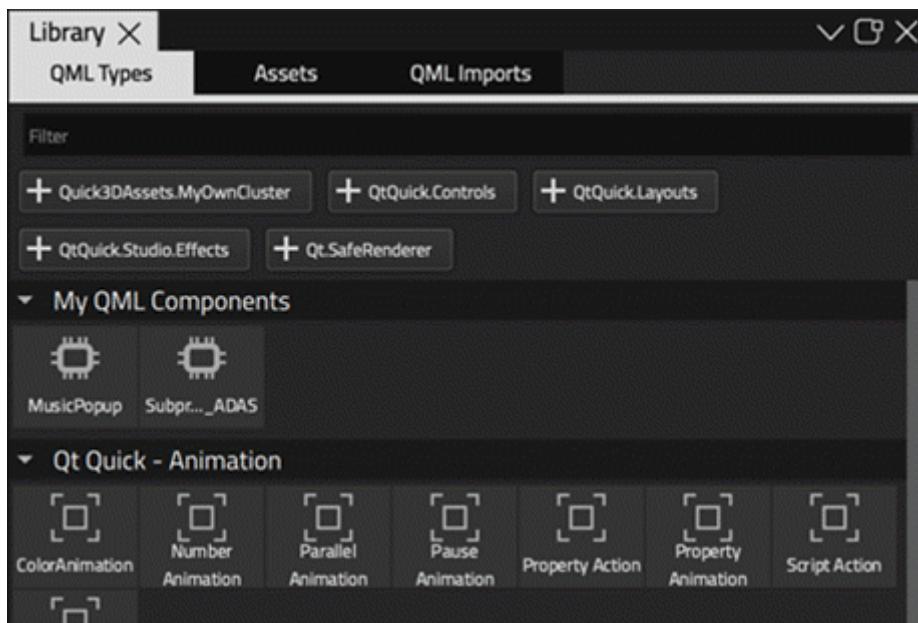
2. Move the QML stream files under the import's main folder (one level up in this example).

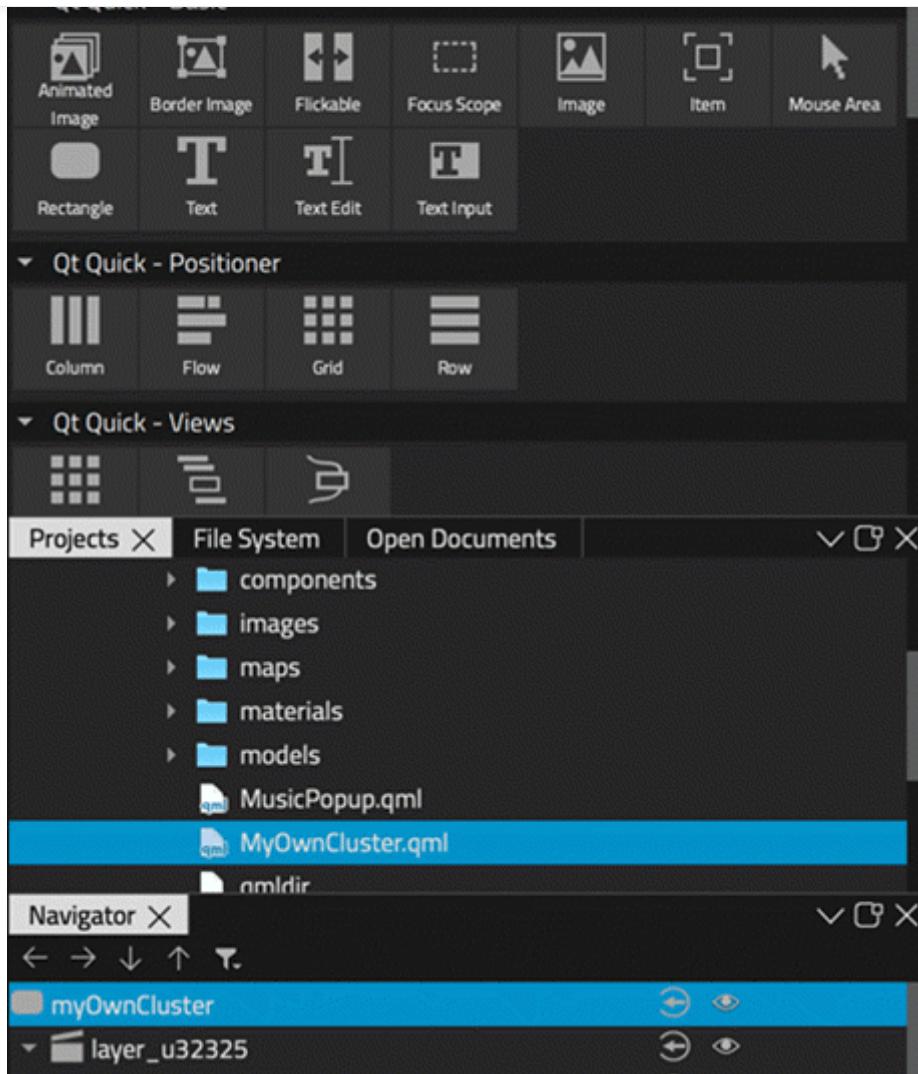


3. Make sure that the QML stream file names start with a capital letter to enable Qt Design Studio to recognize them as QML component files.

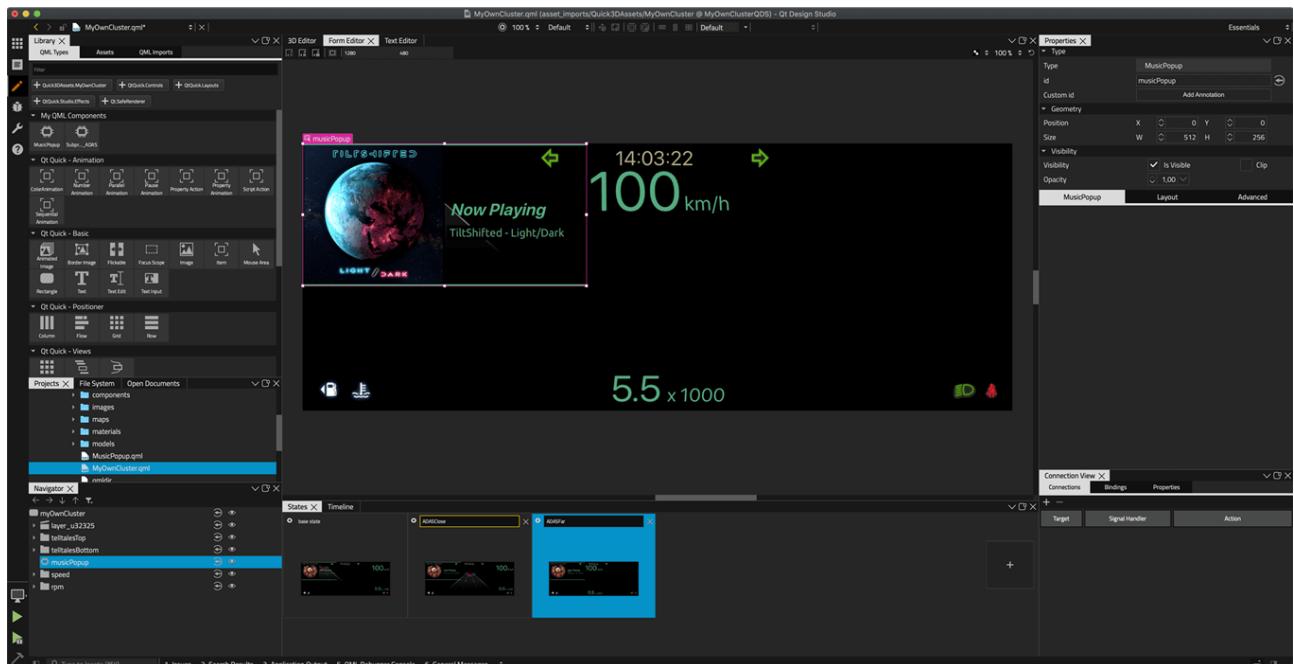


4. Return to Qt Design Studio and enter the MyOwnCluster component. The QML stream component now appears in **My 3D Components**.

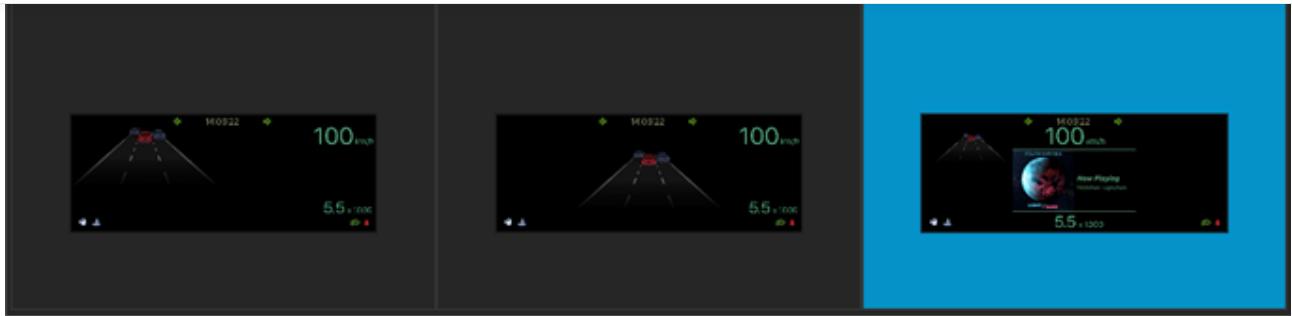




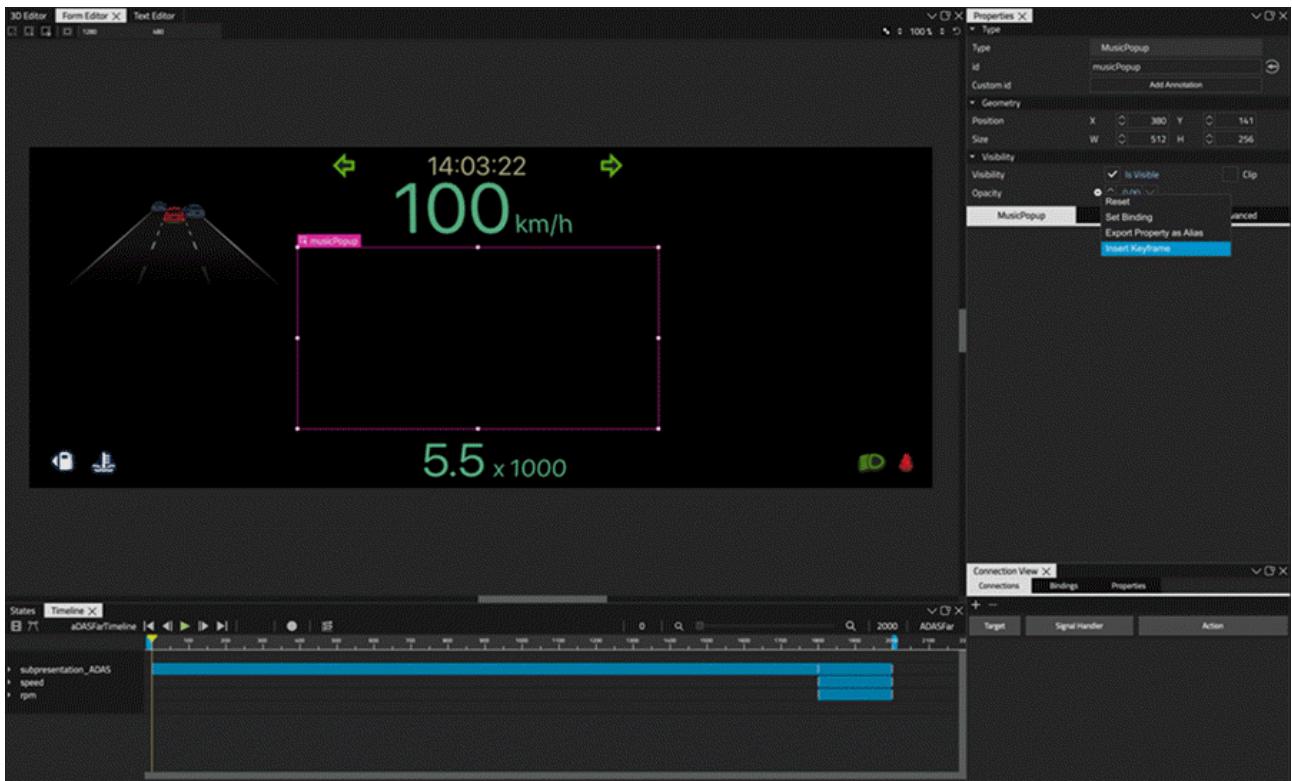
5. Drag-and-drop the QML stream component to MyOwnCluster in Navigator.



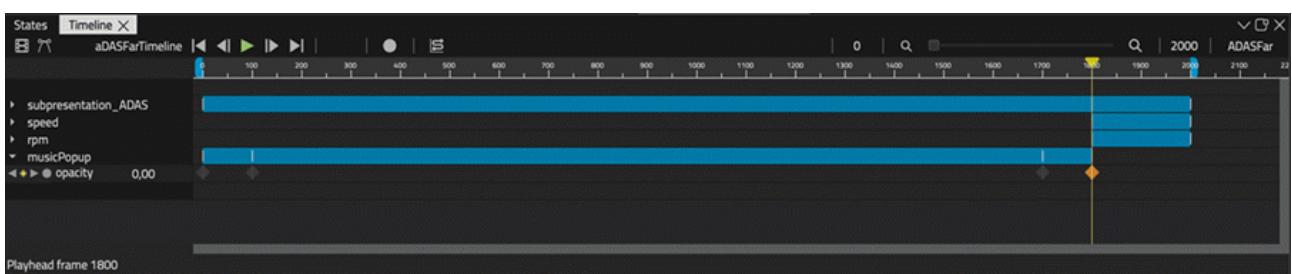
6. Go to the **States** view and use the **Visibility** tab in the **Properties** view to make the QML stream component visible only in the correct state.



7. Next, recreate the animations for the QML stream according to the original project.

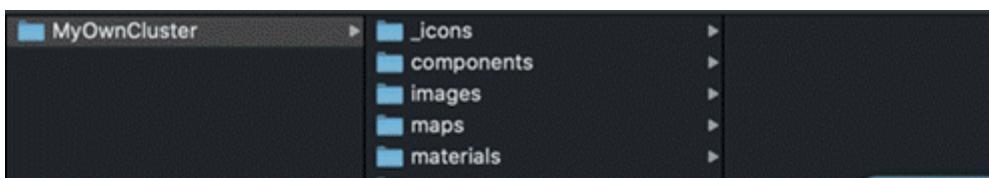


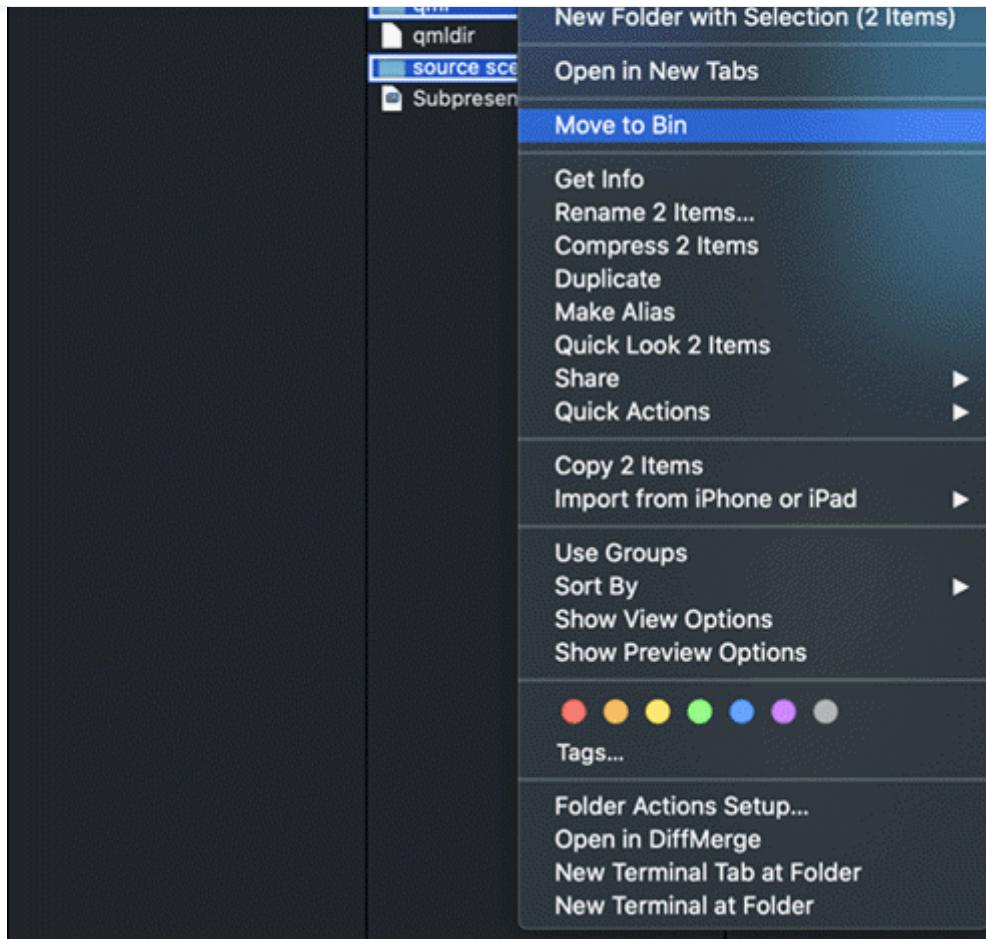
8. Recreate all the keyframes for the imported QML stream that is now a component.



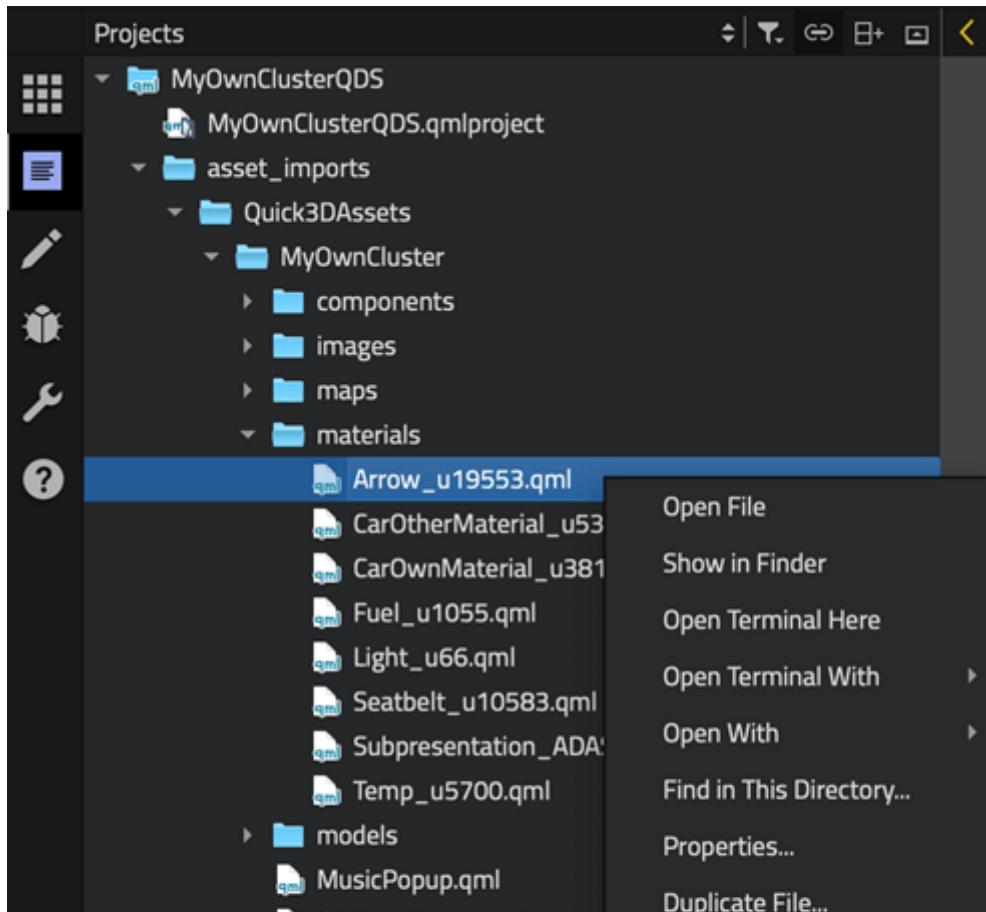
## Cleaning Up the Project Structure

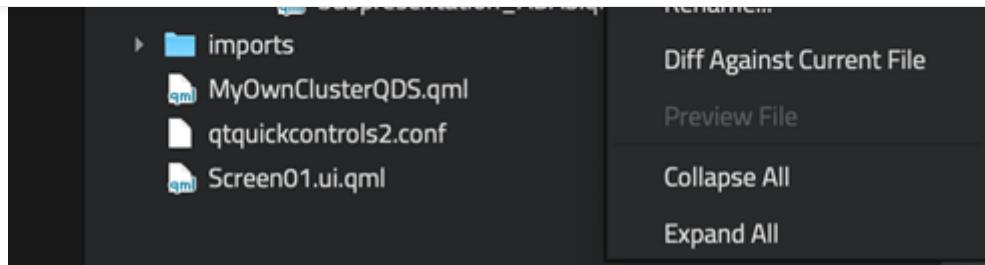
1. Go to file explorer and clean up the project structure deleting the folder and files that are not used in the Qt Design Studio project.



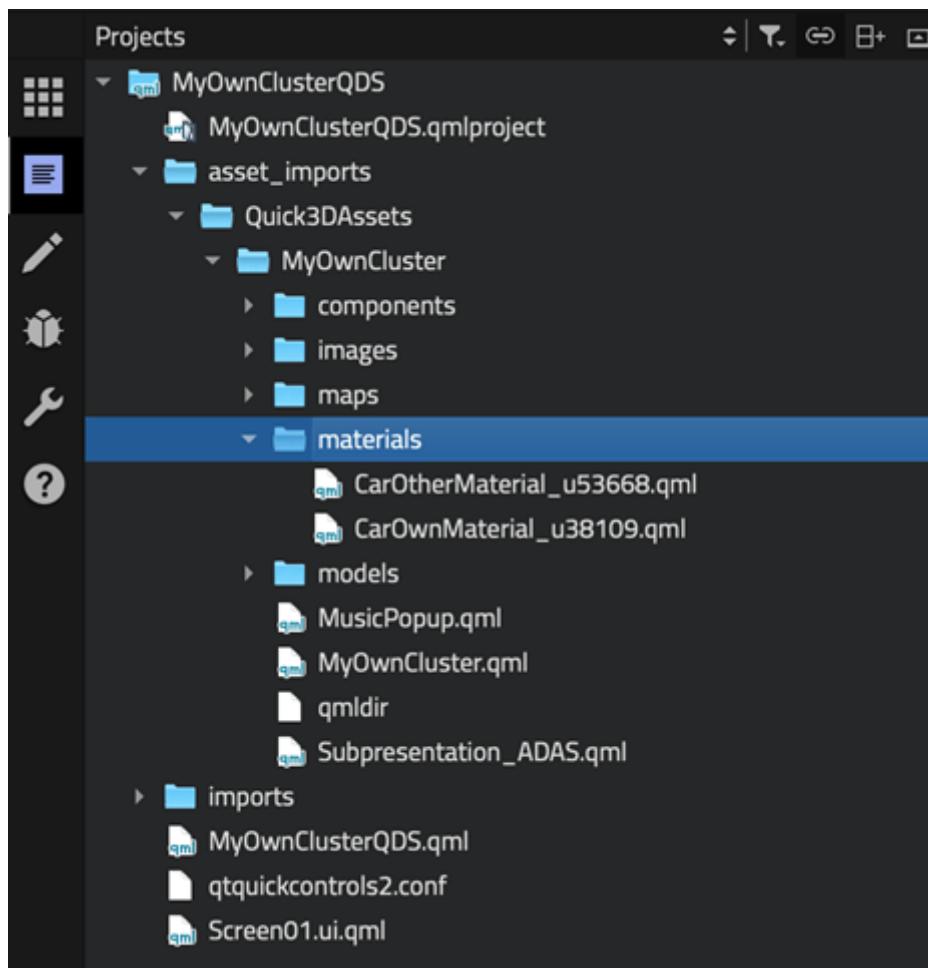


2. Individual files can also be deleted in the **Projects** view in Qt Design Studio. To delete a file, right-click on it, select **Delete File**, and then select **Yes**.





3. This is the project structure after clean-up.



## Finished

You have now converted your Qt 3D Studio project to Qt Design Studio.



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