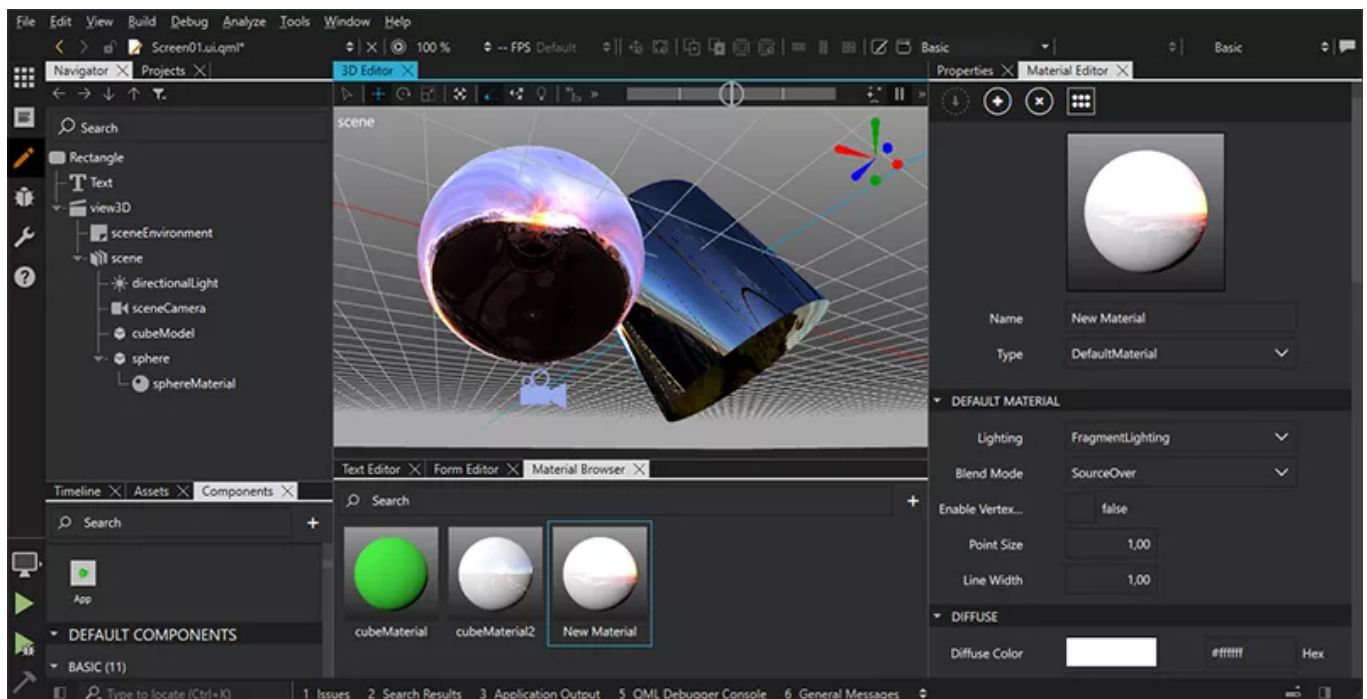


# Materials and Shaders



Materials and shaders define how object surfaces are rendered in Qt Design Studio and live preview. As you change the properties of materials, new shaders are generated accordingly, and the property values are bound. The complexity of a shader depends on a combination of the properties that are set on it, and the context of the scene itself.

It is recommended that you use the [Material Editor and Browser](#) when working with materials, but you can also add materials using the components library.

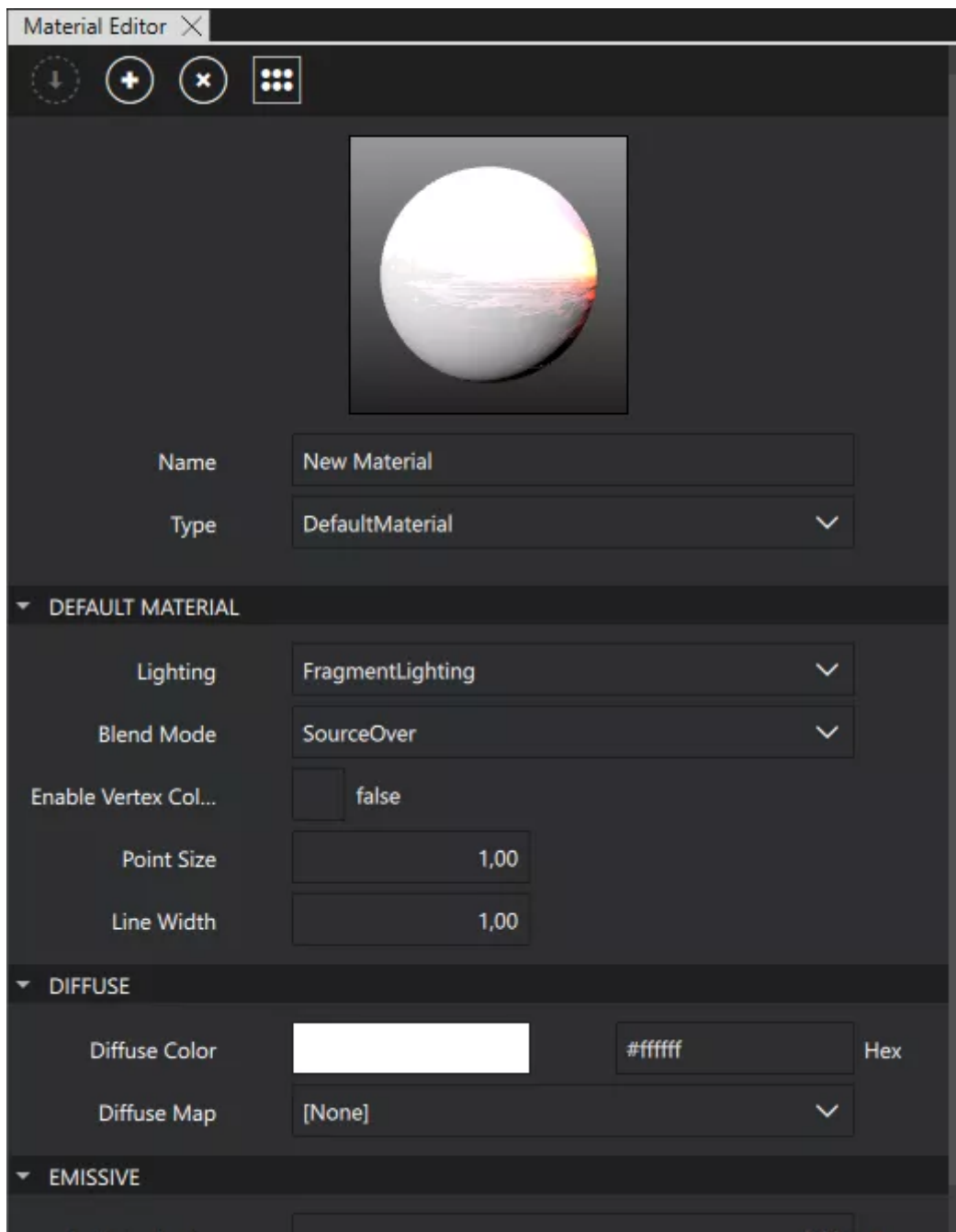
The materials that you used in your imported scenes are imported to Qt Design Studio as [Qt Quick 3D](#) components. When you add a [View3D](#) component, it contains a [DefaultMaterial](#) component. You can use the following predefined Qt Quick 3D components to add materials to models:

- Default material
- Principled material
- Custom material
- Texture

Before a model can be rendered in a scene, it must have at least one material to define how the mesh is shaded. The [DefaultMaterial](#) component is the easiest way to define such a material. The [PrincipledMaterial](#) component specifies the minimum amount of properties. The [CustomMaterial](#) component enables you to construct your own

mapped to meshes in a 3D scene. For more information, see [Textures](#).

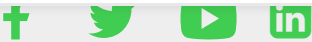
You can create and modify materials in **Material Editor** and **Material Browser**. The availability of the properties depends on the material type.



You can animate material properties in the **Timeline** view, as instructed in [Creating Timeline Animations](#).

[3D Models](#)

[Textures](#)



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