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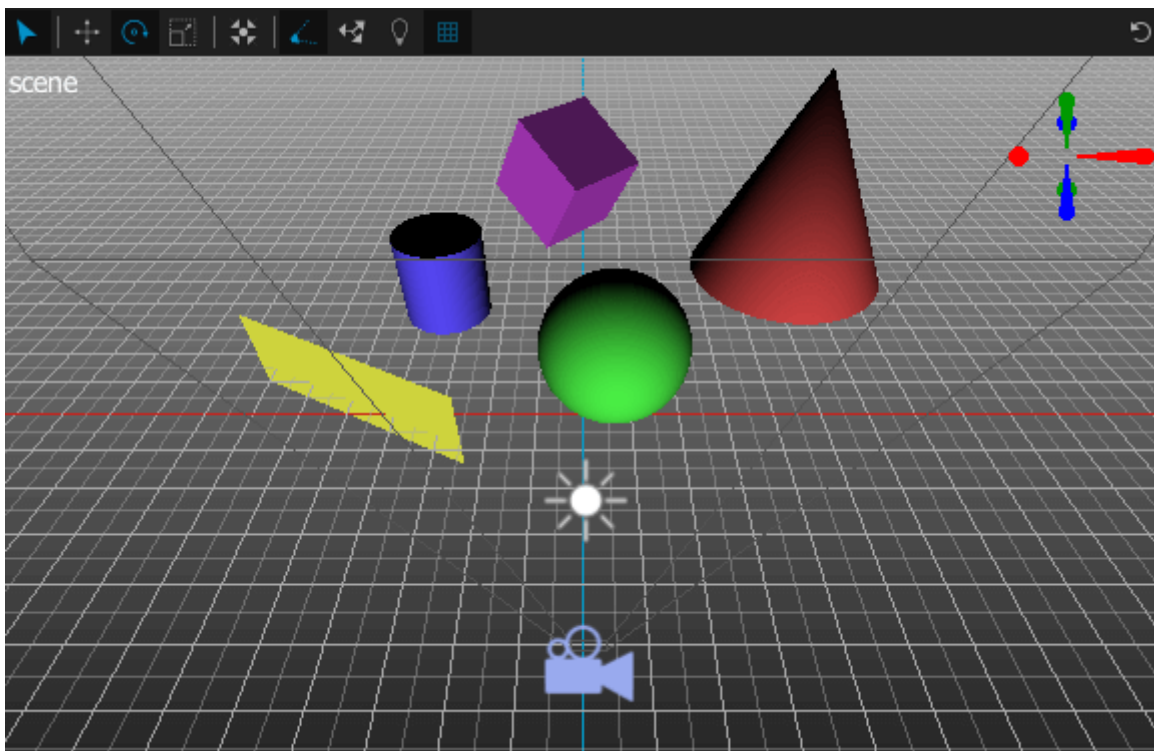
Qt Design Studio Manual > 3D Models

3D Models

The Components view features some built-in primitive 3D models. This allows you to add cubes, cones, cylinders, and planes (rectangles) to your scene.


A model component loads mesh data from a file. You can modify how the component is shaded by using materials. For more information, see Materials and Shaders and Creating Custom Materials.

To add a model component to your UI, do one of the following:

› Drag a model component from **Components** > **Qt Quick 3D** to the 3D view or to Navigator > **View3D** > **Scene**.

› Right-click in the **3D** view and select **Create** > **Primitives** from the context menu.
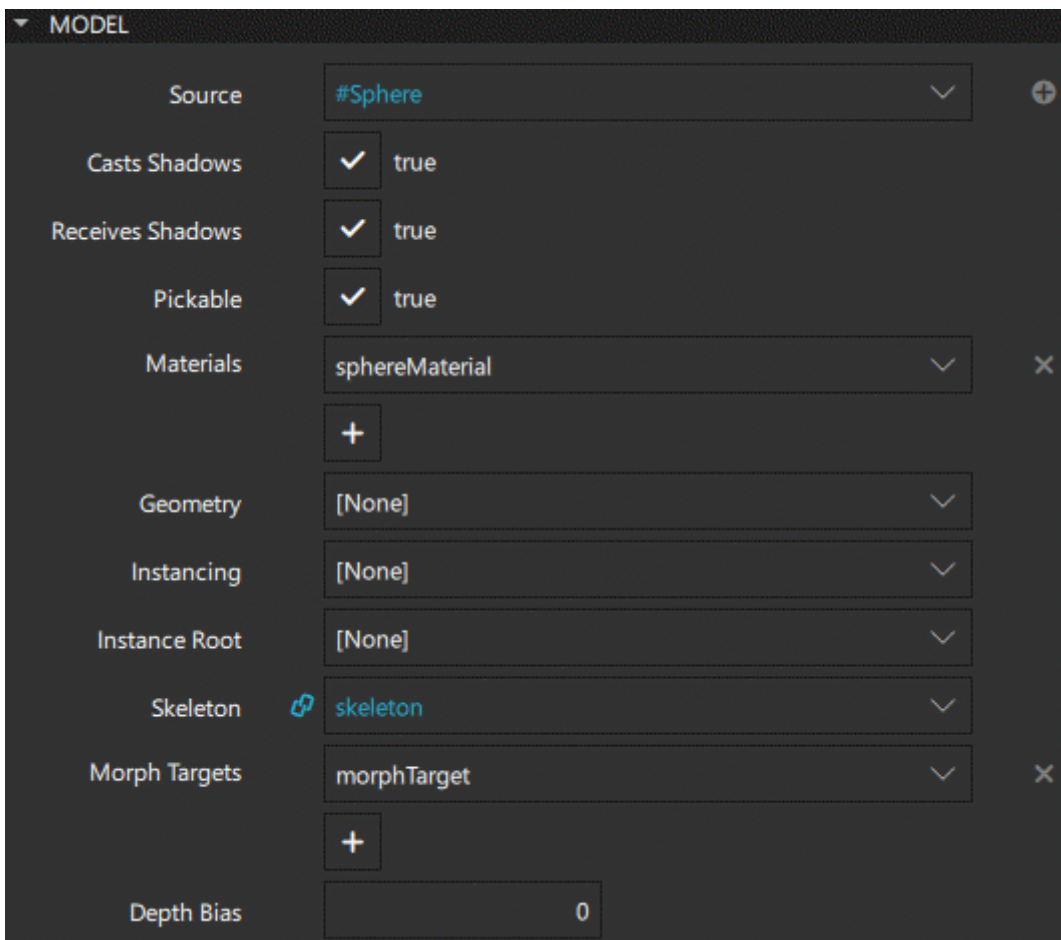
> **Note:** You can not create **Empty** models this way.

If you cannot find the model components in **Components**, add the **QtQuick3D** module to your project, as described in Adding and Removing Modules.

▼ QT QUICK 3D (28)
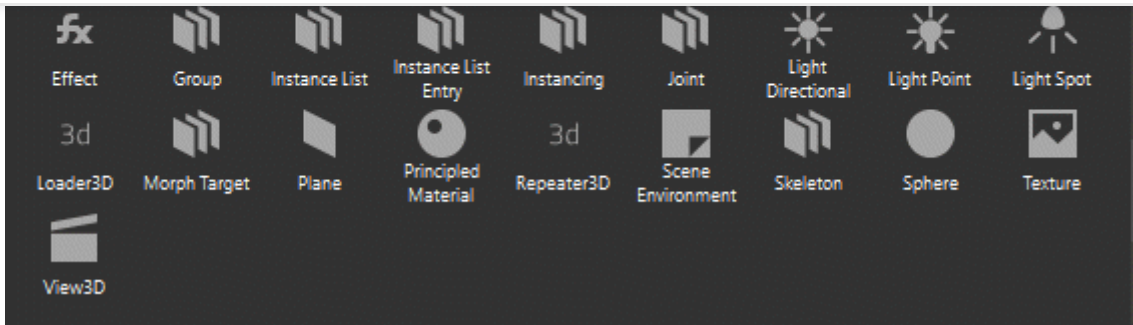
Model Properties

You can change the model type in **Properties** > **Model** > **Source** field. Select the ✛ button to add custom model types to the list.

To use the geometry of this model when rendering to shadow maps, select the **Casts shadows** check box. To allow casting shadows on the model, select the **Receives shadows** check box.

To enable picking the model against the scene, select the **Pickable** check box. Picking transforms the screen space x and y coordinates to a ray cast towards the specified position in scene space.

A model can consist of several sub-meshes, each of which can have its own material. Select the material from the list in the **Materials** field. Select the ✛ button to add materials to the list. For more information about materials, see Materials and Shaders.

Specify a custom geometry for the model in the **Geometry** field. The **Source** field must be empty when custom

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instancing tables can be defined by using one of the Instancing components available in **Components > Qt Quick 3D > {Qt Quick 3D}**.

Set the **Instance root** property to define the origin of the instance's coordinate system.

Specify the **Skeleton** property to define the **Skeleton** component used for this model. **Skeletons** are used for skeletal animation.

Specify **Morph targets** to use for rendering the provided geometry. Meshes should have at least one attribute among positions, normals, tangent, and bitangent for the morph targets. **Quick 3D** supports the maximum of eight **Morph targets**. Any additional targets after the first eight will be ignored. This property is not used when the model is shaded by a **Custom Material**.

Define the **Depth bias** property to ensure the shadows of your model are displayed correctly.

Tessellation Properties Available in Qt 5

The properties discussed in this section are only available if you selected **Qt 5** as the **Target Qt Version** when creating the project.
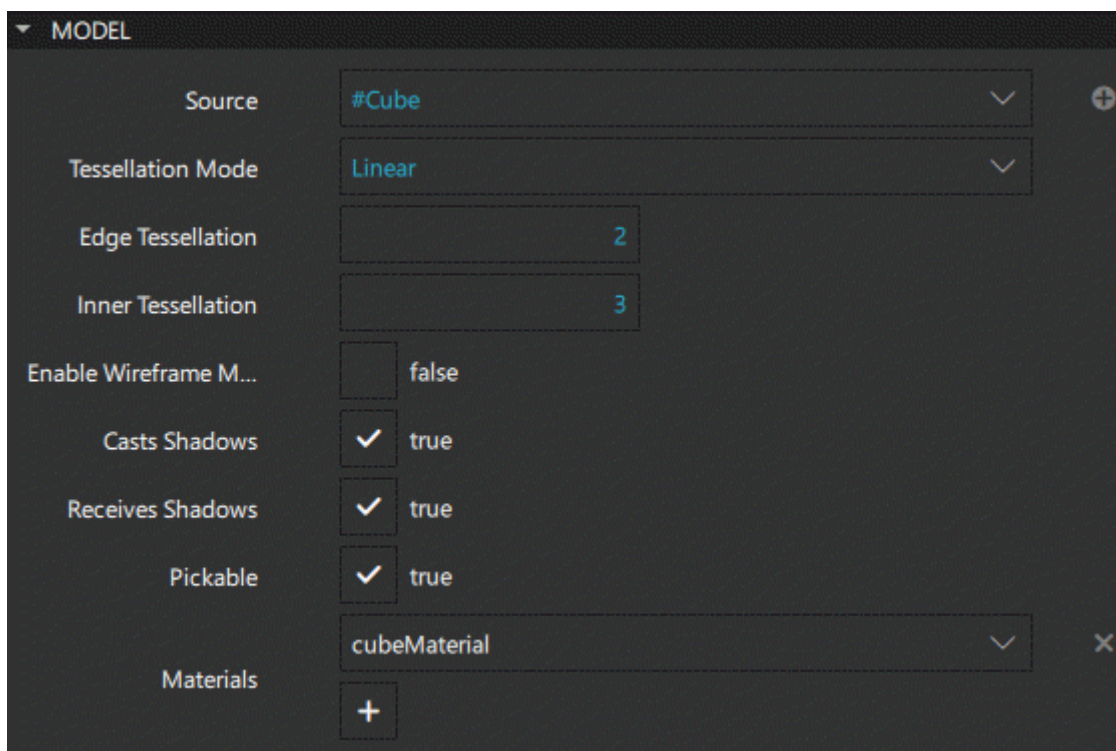
Tessellation refers to additional geometry that resembles tiling, which you can add to your model. To dynamically generate tessellation for the model, select **Linear**, **Phong**, or **NPatch** as the **Tessellation mode**. Tessellation is useful when using a displacement map with geometry, or to generate a smoother silhouette when zooming in.

Specify an edge multiplier to the tessellation generator in the **Edge tessellation** field and an inner multiplier in the **Inner tessellation** field.

To display a wireframe that highlights the additional geometry created by the tessellation generator, select the **Enable wireframe mode** check box.

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