Repeater3D

Note: The **Repeater3D** component is released as a tech preview feature in Qt Design Studio 2.2, and its functionality will be improved in future releases.

The **Repeater3D** component is used to create multiple similar items. Like other view types, **Repeater3D** needs a model and a delegate. The delegate sets the item to use and the model sets the structure of the items in the **Repeater3D** component.

The model can be any of the supported data models. Additionally, like delegates for other views, a delegate for the **Repeater3D** can access its index within the repeater, as well as the model data relevant to the delegate.

Note: Repeater3D owns all items it instantiates. Removing or dynamically destroying an item created by **Repeater3D** results in unpredictable behavior.

Note: Repeater3D can only repeat objects derived from **Nodes**.

For more information, see Repeater3D in the **Qt Quick 3D** documentation.

Repeater3D Properties

Model

The **Model** property specifies the model providing data for the repeater. You can only use the **Model** property in the **Properties** view to set a numeric model or to bind to QML based models. You can use the Code view to define any of the supported data models as the value of the **Model** property:

- A number that indicates the number of delegates to be created by the repeater.
- A model, such as a **ListModel** component, or a QAbstractItemModel subclass.
- A string list.
- An object list.

The type of model affects the properties that are exposed to the delegate.

Delegate

The **Delegate** property specifies a template defining each object instantiated by the repeater. Currently, the

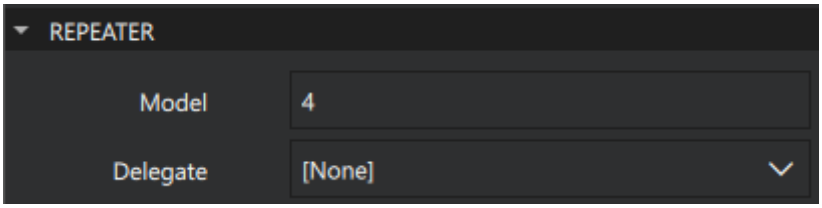
If the model is a model object, such as a ListModel, the delegate can access all model roles as named properties, in the same way that delegates do for view classes like **ListView**.

Adding a Repeater3D Component with a Numeric Model

This section explains how to add a **Repeater3D** component with a numeric model to your Qt Design Studio project.

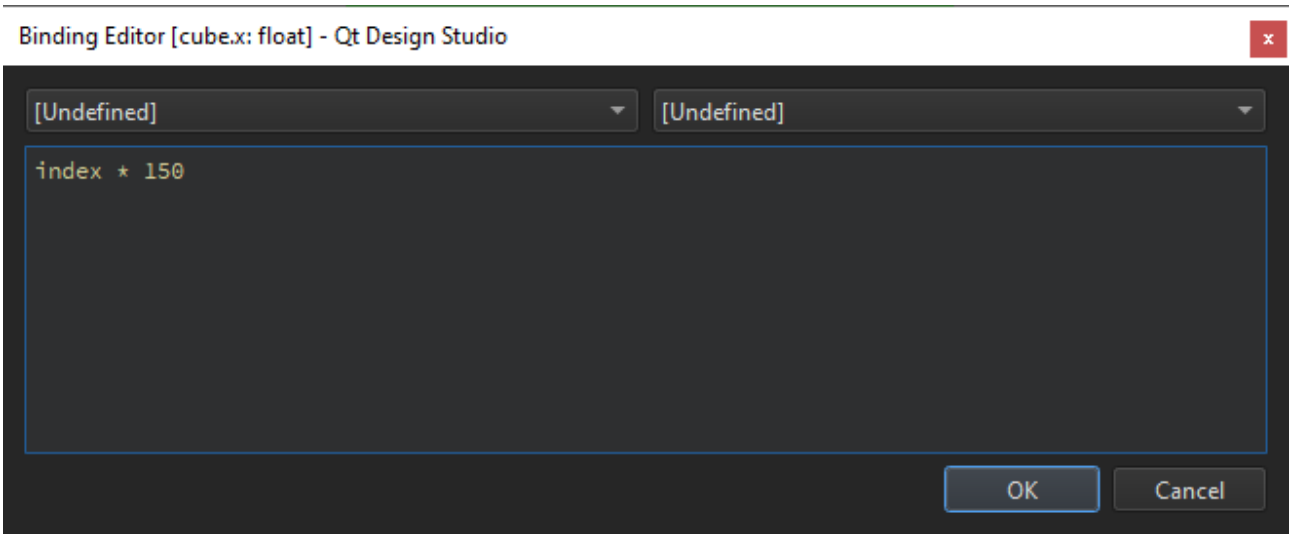
To add a **Repeater3D** component:

1. Drag a **Repeater3D** component from **Components** to *scene* in **Navigator**.
2. Select *repeater3D* in **Navigator** and in **Properties**, set **Model** to 4.

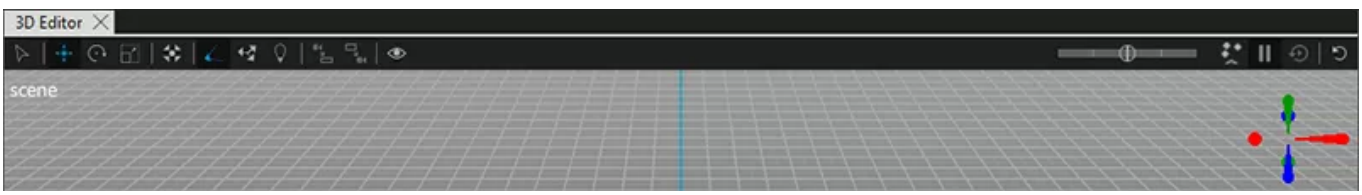


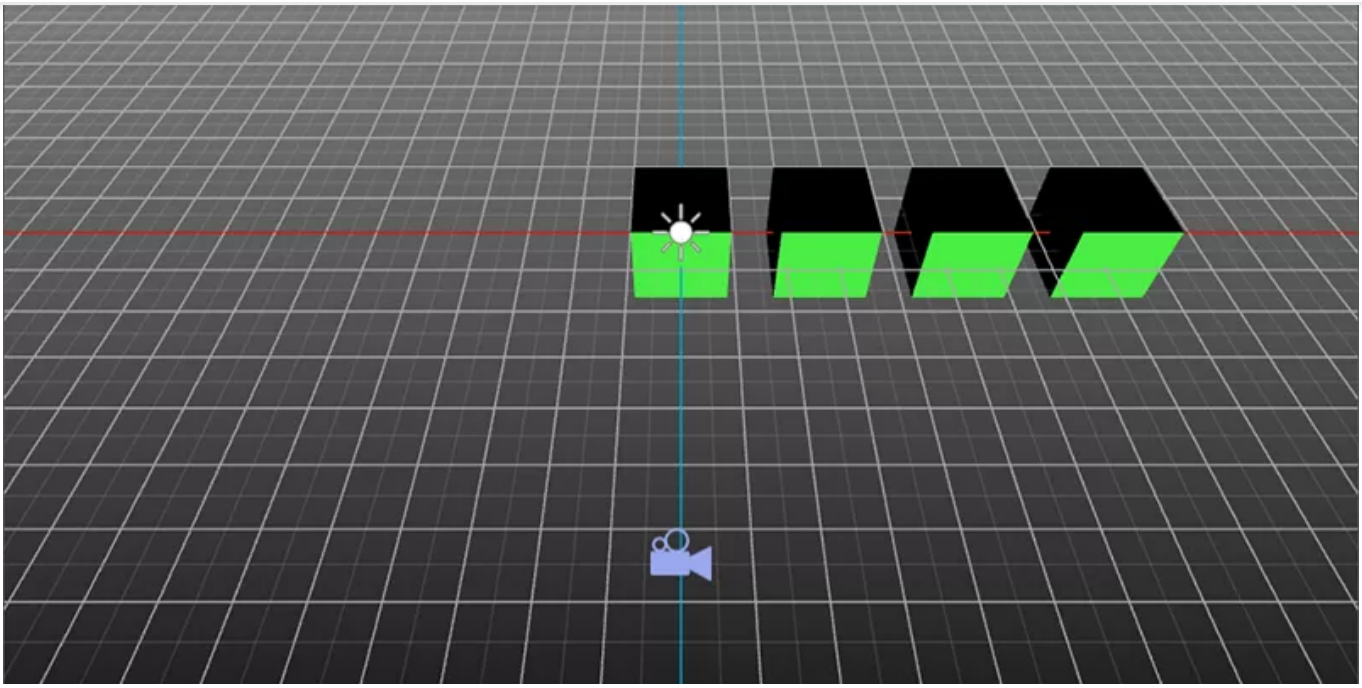
Now, you have set up the **Repeater3D** component to use a numeric model that draws four instances of the same item. Next, you need to add the item to draw. In this example we are using a **Cube**.

1. From **Components**, drag a **Cube** to *repeater3D* in **Navigator**. Now, four cubes are drawn to the scene, but they are drawn to the exact same place.
2. Select *cube* in **Navigator** and in **Properties** select next to **Translation** > **X**.
3. Select **Set binding** to open **Binding Editor**.
4. In the binding editor, enter `index * 150`. This sets the X location to increase by 150 for each of the cube instances.



5. Select **OK** and go to the **3D** view to see the result.





Adding a Repeater3D Component with a List Model

This section explains how to add a **Repeater3D** component with a ListModel to your Qt Design Studio project:

To add a **Repeater3D** component:

1. Drag a **Repeater3D** component from **Components** to *scene* in **Navigator**.
2. You need to enter the QML code for the **ListModel** manually. Go to the **Code** view and enter the following code somewhere inside the root object:

```
ListModel {
    id: planetModel
    ListElement {
        name: "Mars"
        radius: 3.39
    }
    ListElement {
        name: "Earth"
        radius: 6.37
    }
    ListElement {
        name: "Venus"
        radius: 6.05
    }
}
```

The default root object for a Qt Design Studio project is **Rectangle**, so you can paste the **ListModel** code, for example, like this:

```
Rectangle {
```

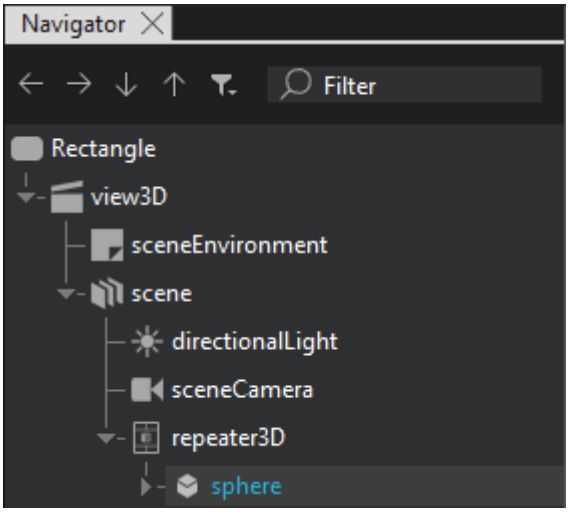
```
ListModel {
    id: planetModel
    ListElement {
        name: "Mars"
        radius: 3.39
    }
    ListElement {
        name: "Earth"
        radius: 6.37
    }
    ListElement {
        name: "Venus"
        radius: 6.05
    }
}

View3D {
    id: view3D
    anchors.fill: parent
    ...
```

3. In the **Code** view, add `model: planetModel` to the **Repeater3D** object to tell that you want to use your **ListModel** as the model for the **Repeater3D** object.

```
Repeater3D {
    id: repeater3D
    model: planetModel
}
```

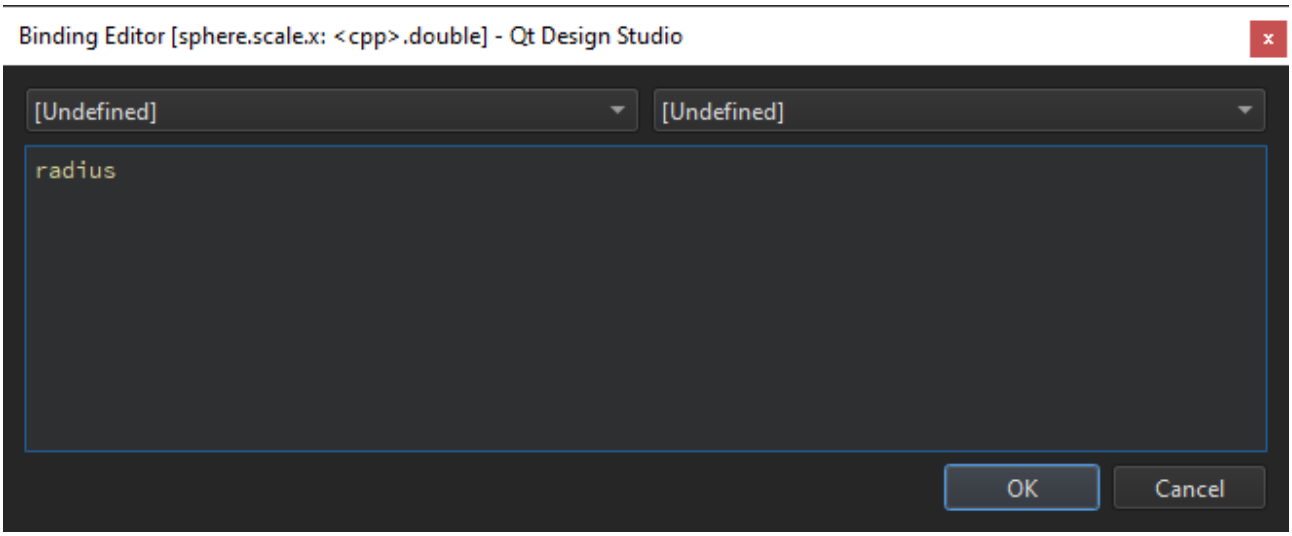
Now, you have set up the **Repeater3D** component to use a **ListModel** to draw the items. Next, you need to add the item to draw. In this example we are using a **Sphere**.

1. From **Components**, drag a **Sphere** to *repeater3D* in **Navigator**.



2. Select *sphere* in **Navigator** and select next to **Scale** > **X**.

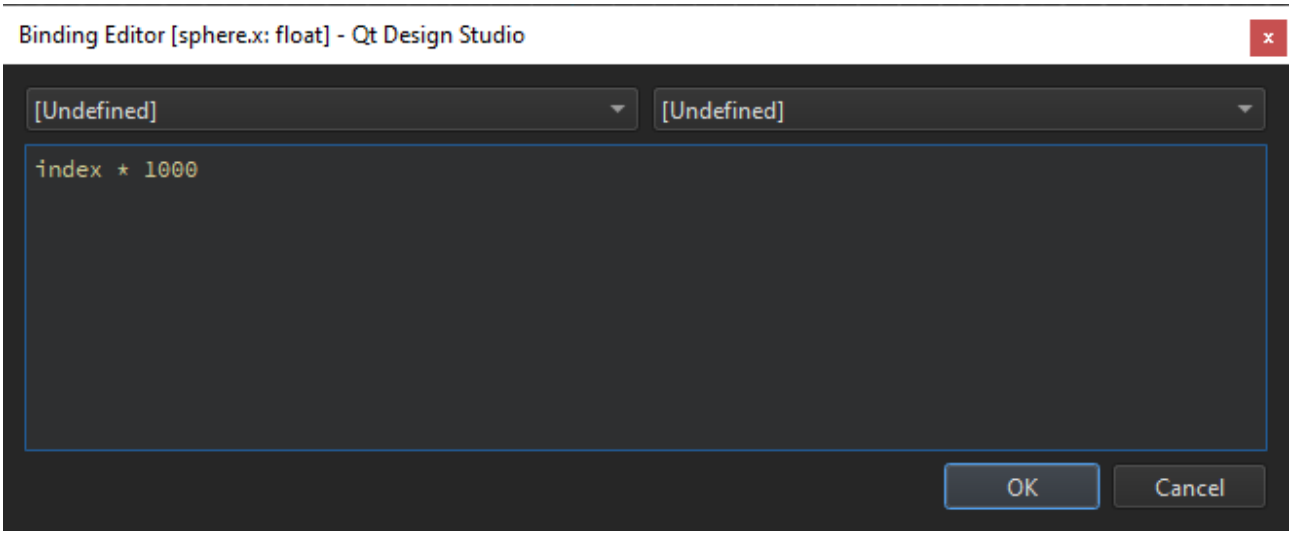
of the sphere instances.



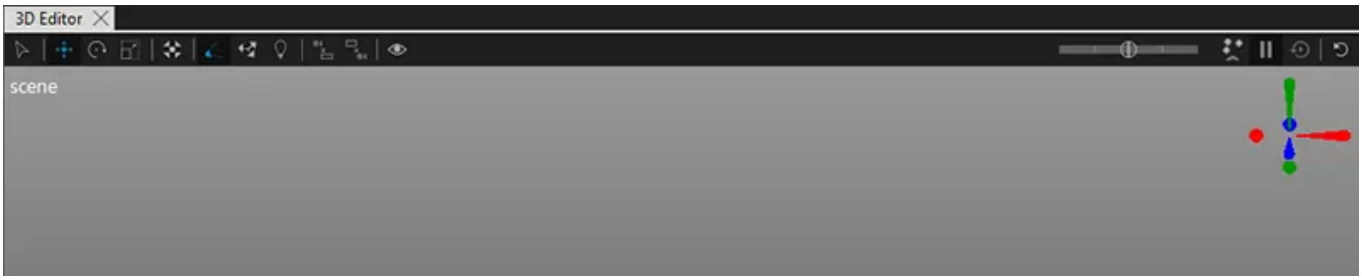
5. Select **OK**.
6. Repeat steps 2 to 5 for **Scale** > **Y** and **Scale** > **Z**.

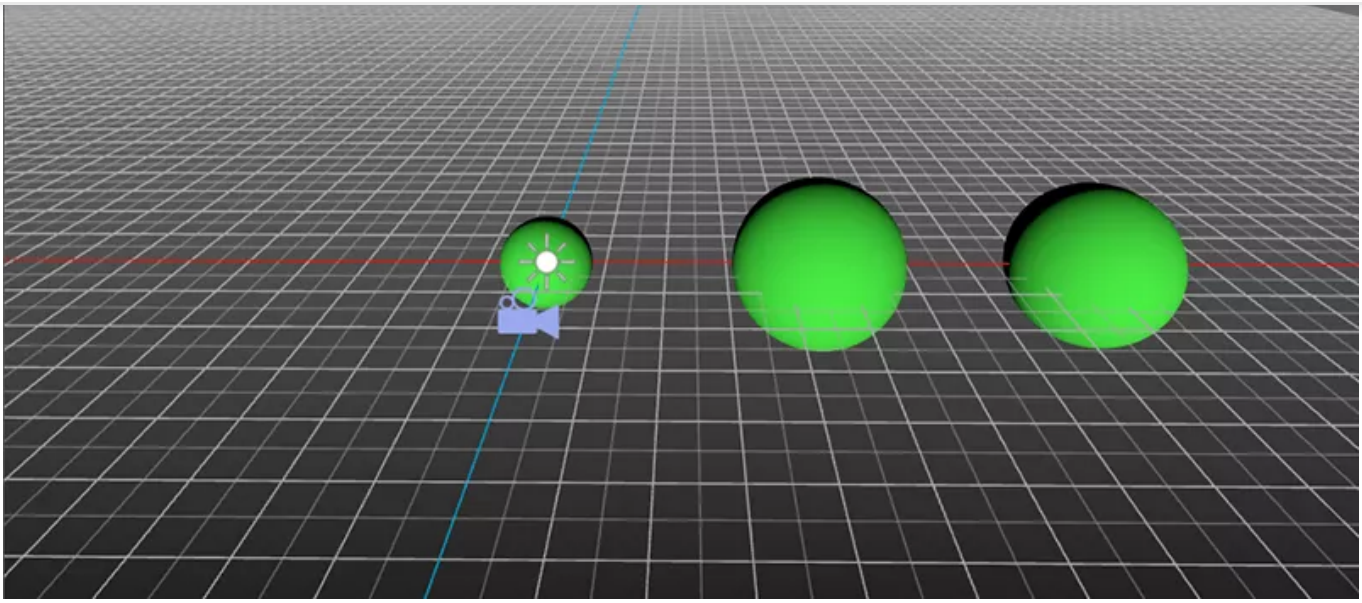
Now, three spheres of different size are drawn but they are drawn in the same position so you need to change the position to see all spheres.

1. Select *sphere* in **Navigator** and select next to **Translation** > **X**.
2. Select **Set binding** to open **Binding Editor**.
3. In the binding editor, enter `index * 1000`. This sets the X location to increase by 1000 for each of the sphere instances.



4. Select **OK** and go to the **3D** view to see the result. You need to zoom out to see all the spheres.





‹ Morph Target

Loader3D ›