Scoping

- Concept and Use Cases
- Manage Scopes in Scopes Panel
- Edit Scope Mask of a Node

Concept and Use Cases

Scoping: Concept

The scope concept supplies selects only specific parts of the scene graph for rendering, depending on the specific situation.

- Scope forms conceptual groups independent of the scene graph.
- Node part of the scene tree can be assigned to several scopes.

Scopes are logical entities defined as bit fields, whereby each scope corresponds to a bit field. The set of scopes associated to a node is called scope mask. By default, the scope mask of all nodes including cameras contains all of the 32 scopes.

Scoping: Use Cases

The scope concept is used for:

- Light culling: Only objects part of the scope of a given light will be illuminated
- Visibility culling: Only objects part of the scope of a given camera will be rendered

Scope Mask

This option "Show scope mask in hexadecimal format" is available in the Preferences dialog opened from "File" > "Preferences" menu, section Editor.
It ensures that the values for Scope property will be displayed in hex in the Properties panel.

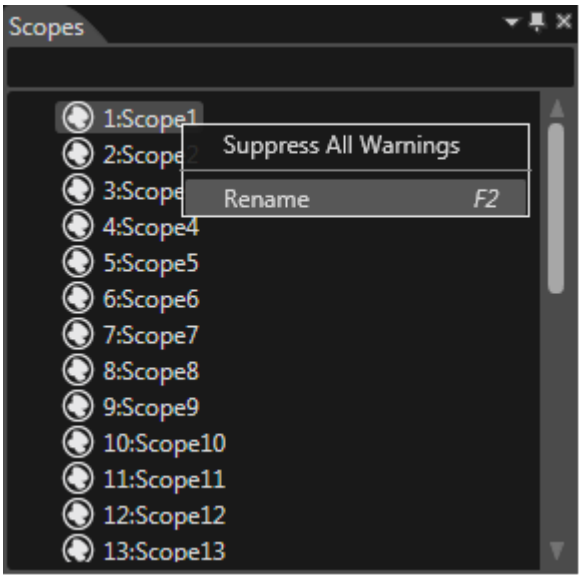
Manage Scopes in Scopes Panel

Scopes Panel

The Scopes Panel (enable from menu "View" > "Libraries" > "Scopes") displays all 32 scopes with default scope names.

Rename a Scope

Rename a scope by selecting the option Rename of the context menu in Scopes panel:



Assign Single Scope to a Node

Assign a single scope to the scope mask of a node by dragging the scope from the Scopes panel and dropping it over the desired node.
The valid scope is highlighted.

Edit Scope Mask of a Node

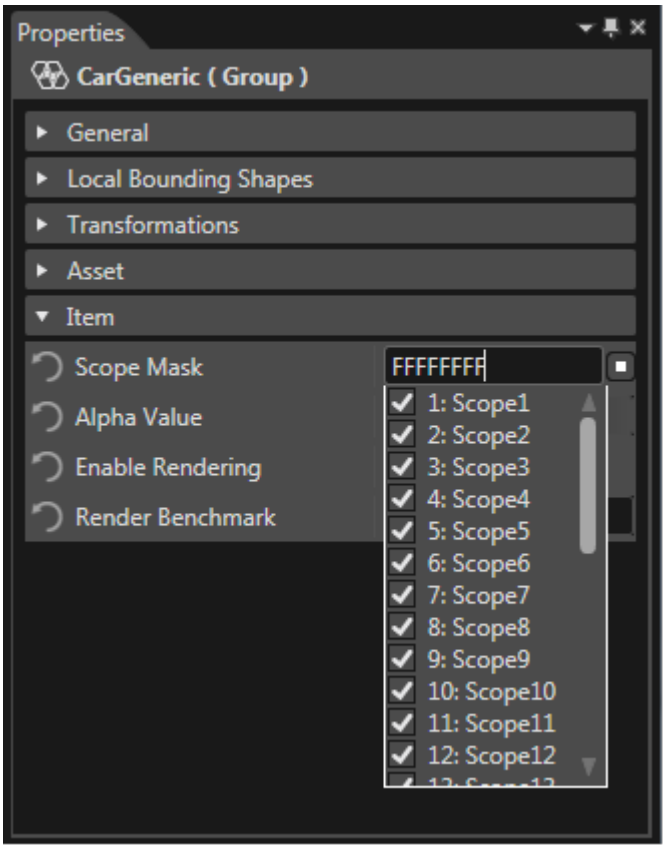
Scope Mask of a Node in the Properties Panel

By default, the scope mask of a node contains all 32 scopes available. This can be inspected in:

- Properties Panel, on the item property "Scope Mask"
- Scopes Panel, since all scopes valid for the currently selected node are highlighted.

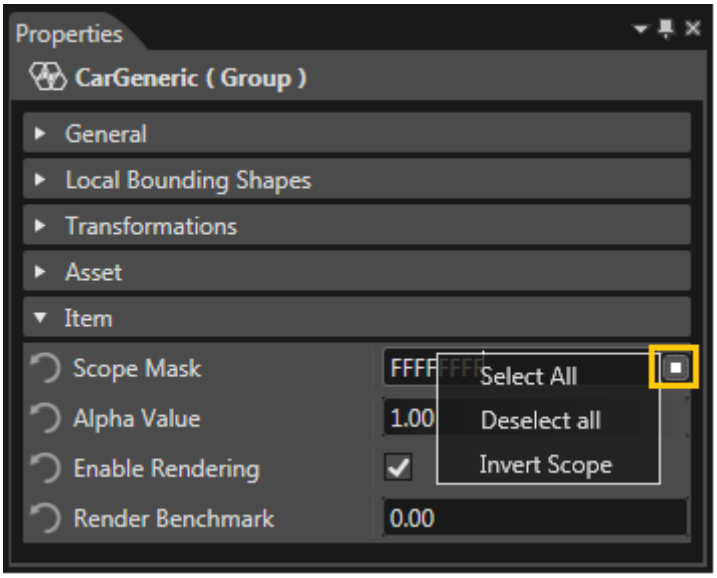
Select specific Scopes for a Node

Modify the scope mask of a node from the Properties panel by checking or unchecking the desired scopes from the Scope Mask combo box.



Select or Deselect all Scopes for a Node

Select all/Deselect all scopes from Properties panel.



Invert a Scope Mask

Invert Scope option will perform a bitwise NOT operation on the bits of the selected scope mask.

Apply Node Scope on Children

Apply a node scope mask on all children of the node by using the "Apply Node Scope on Children" option from the context menu.

