

# HLMS Editor Cheat Sheet

## Main window

File Materials Textures Painting Tools Window

Action	Command
Generate HLMS	F5

File	Command
New Project	Ctrl + Shift + N
New Hlms Pbs	Ctrl + Alt + N
New Hlms Unlit	Ctrl + N
Open Project	Ctrl + Shift + O
Open Hlms	Ctrl + Alt + O
Open Mesh	Ctrl + O
Save Project	Ctrl + Shift + S
Save Hlms	Ctrl + Alt + S
Save Project as	Ctrl + Shift + A
Save Hlms as	Ctrl + Alt + A
Save Mesh as	Ctrl + A
Export Material browser to zip	-
Export Current project to zip	-
Import HLMS Editor project from zip	-
Import 3D models	-
Quit	Ctrl + Q

<b><u>M</u>aterials</b>	<b>Command</b>
Apply current material to (sub)mesh	<b>Ctrl + M</b>
Open browser	<b>Ctrl + B</b>
Add Hlms to browser	<b>Ctrl + H</b>

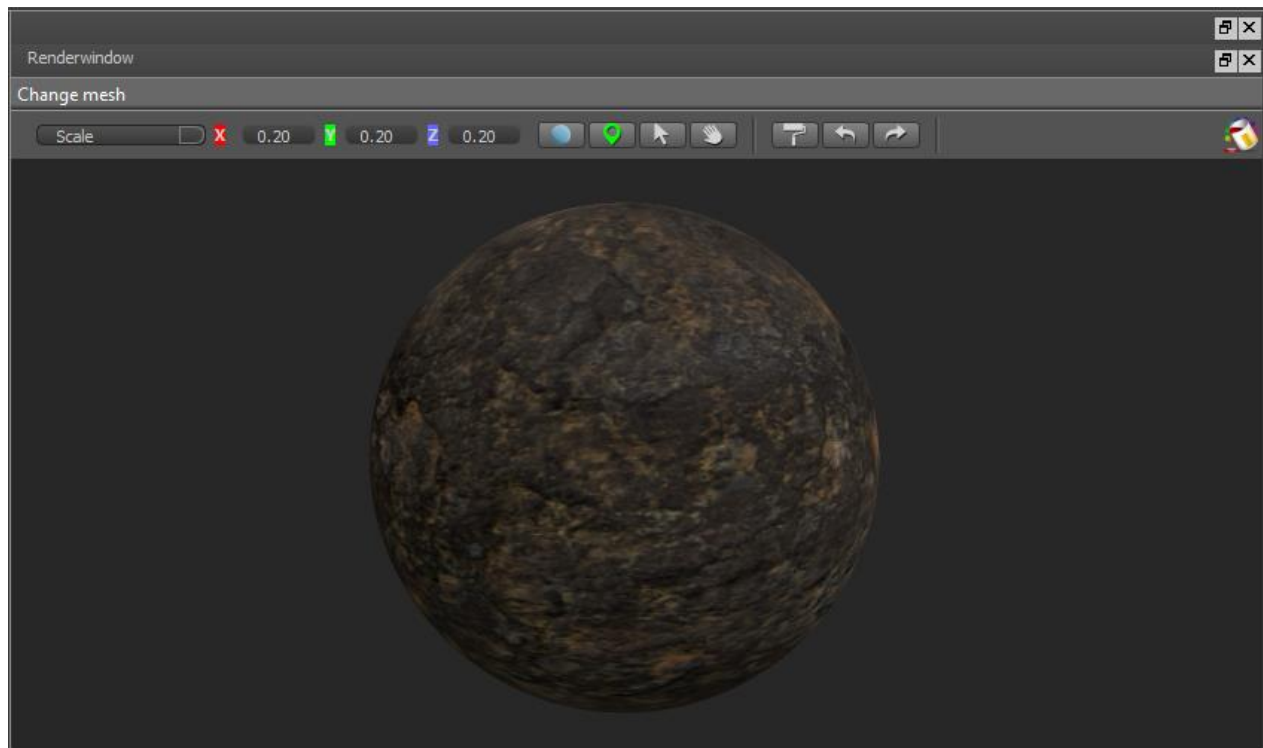
<b><u>T</u>extures</b>	<b>Command</b>
Import textures from directory	<b>Ctrl + I</b>
Add texture file(s)	<b>Ctrl + T</b>

<b><u>P</u>ainting</b>	<b>Command</b>
Create paint layer	<b>Ctrl + P</b>
Edit paint layer	<b>Ctrl + R</b>
Delete selected paint layer	<b>Ctrl + D</b>


<b><u>T</u>ools</b>	<b>Command</b>
Configure	<b>Ctrl + X</b>

<b><u>W</u>indow</b>	<b>Command</b>
Reset Window Layout	<b>Ctrl + R</b>

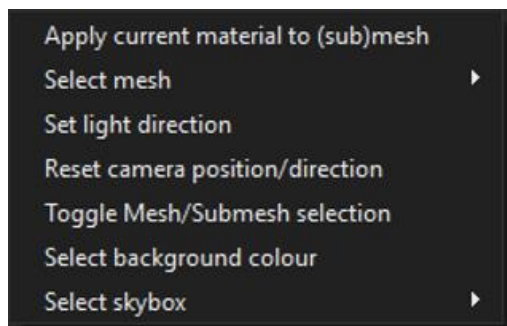
## Render window



Action	Command
Rotate mesh	Left Mouse Button (LMB) Drag
Move mesh	Shift + LMB Drag
Select a mesh from a list	Change mesh listbox
Scale mesh	
Set light direction	Toggle between  and
Reset position and orientation mesh	
Mesh/submesh selection	Toggle between  and  + Hoover over submeshes (on/off)
Offset texture	Toggle between  and  + (+ detail map selected) + LMB drag a detail map
Paint on a texture	Toggle between  and  +

Action	Command
	(+ paintlayer created) + <b>LMB</b> + move
Undo paint action	Click on 
Redo paint action	Click on 
Change background colour	Click on 
Set current material to a Mesh or a Submesh	<b>Doubleclick</b> on Mesh/Submesh

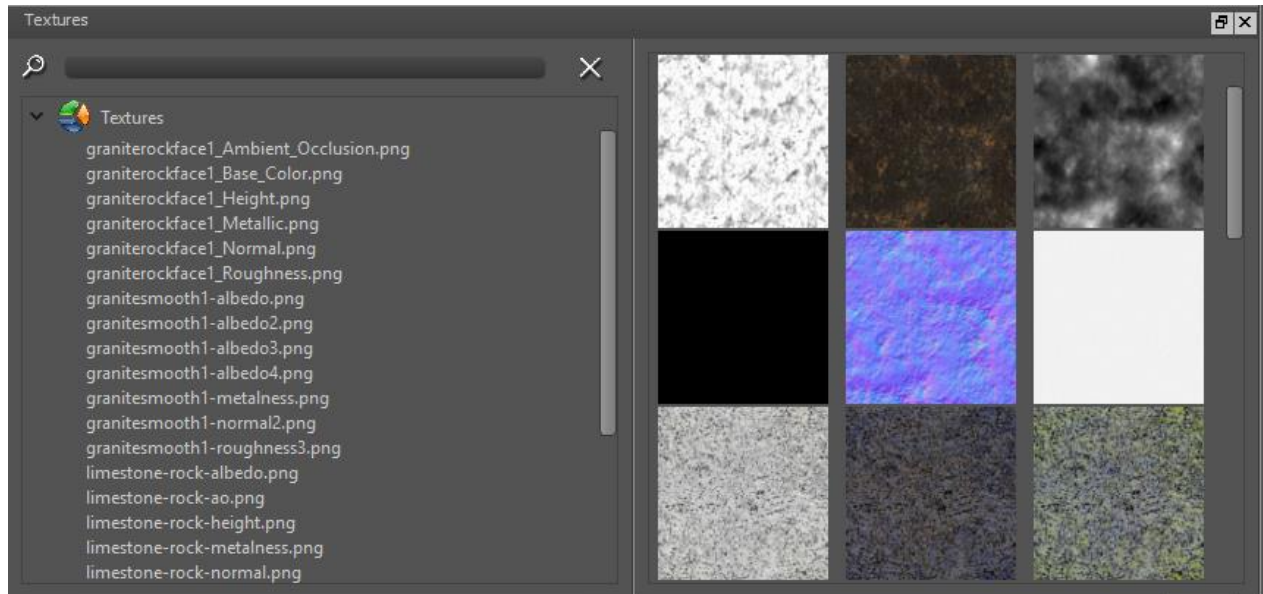
## Render window context menu




Action	Command
Display context menu	<b>Right Mouse Button (RMB)</b>
Apply current material to a Mesh or a Submesh	Apply current material to a (sub)mesh
Select a mesh from a list	Select mesh
Set the direction of the light by moving the mouse	Set light direction + <b>LMB</b> + move
Reset position and orientation mesh	Reset camera position/direction
Hoover over submeshes; double clicking on highlighted submeshes applies the current material to that submesh	Toggle Mesh/Submesh selection

Action	Command
Change background colour	Select background colour
Select a skybox from a list	Select skybox

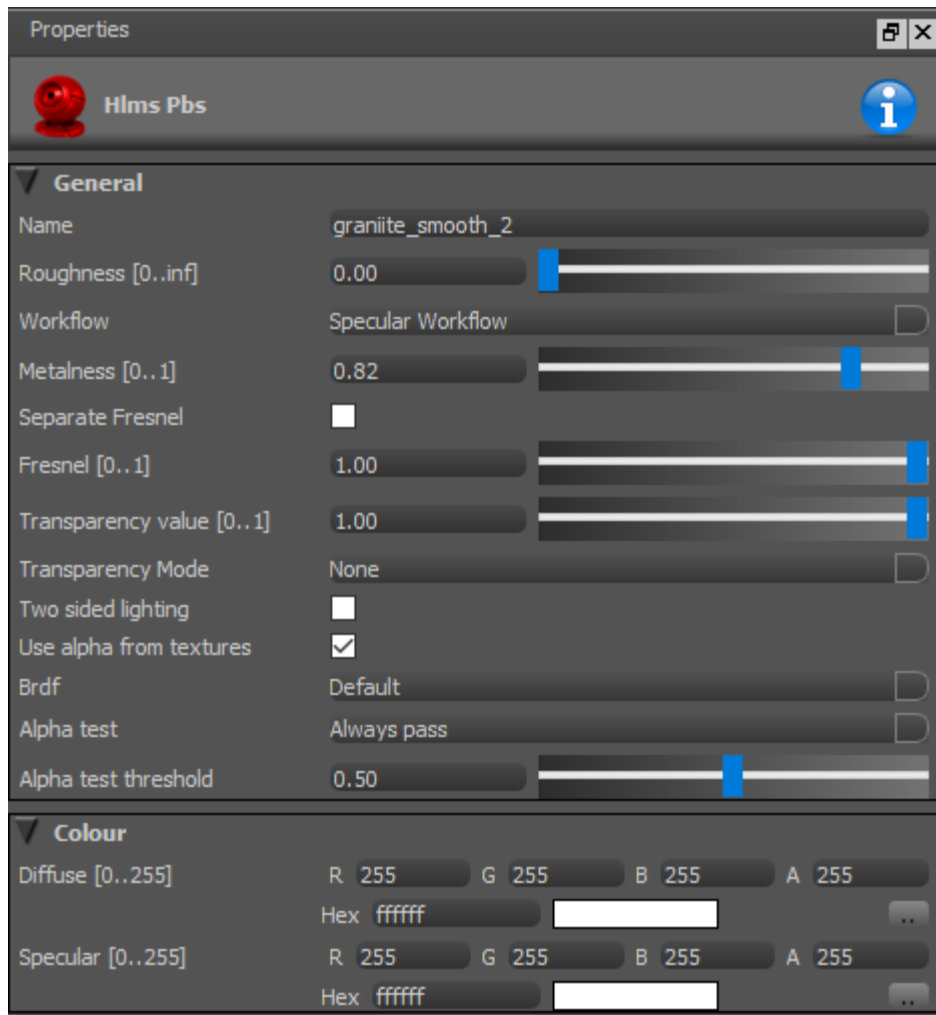
## Texture window



Action	Command
Search	Enter search phrase in edit field
Reset search	Click on 
Create a subgroup	<b>Right Mouse Button (RMB) + select</b> 'Create a subgroup' from contextmenu
Remove selected subgroup or texture from texture list	<b>RMB + select</b> 'Remove from list' from contextmenu
Collapse / expand	<b>RMB + select</b> 'Collapse / expand' from contextmenu
Import from directory	<b>RMB + select</b> 'Import from directory' from contextmenu
Add texture file(s)	<b>RMB + select</b> 'Add texture file(s)' from contextmenu
Add texture file(s)	<b>Drag</b> from file external explorer (eg Windows file explorer) + <b>drop</b> on texture window
Delete selected texture	<b>Delete</b> key
New Texture / Samplerblock node (in Node editor window)	<b>Drag</b> from texture listbox + <b>drop</b> on node editor window

Action	Command
New Texture / Samplerblock node (in Node editor window)	<b>Drag</b> image + <b>drop</b> on node editor window

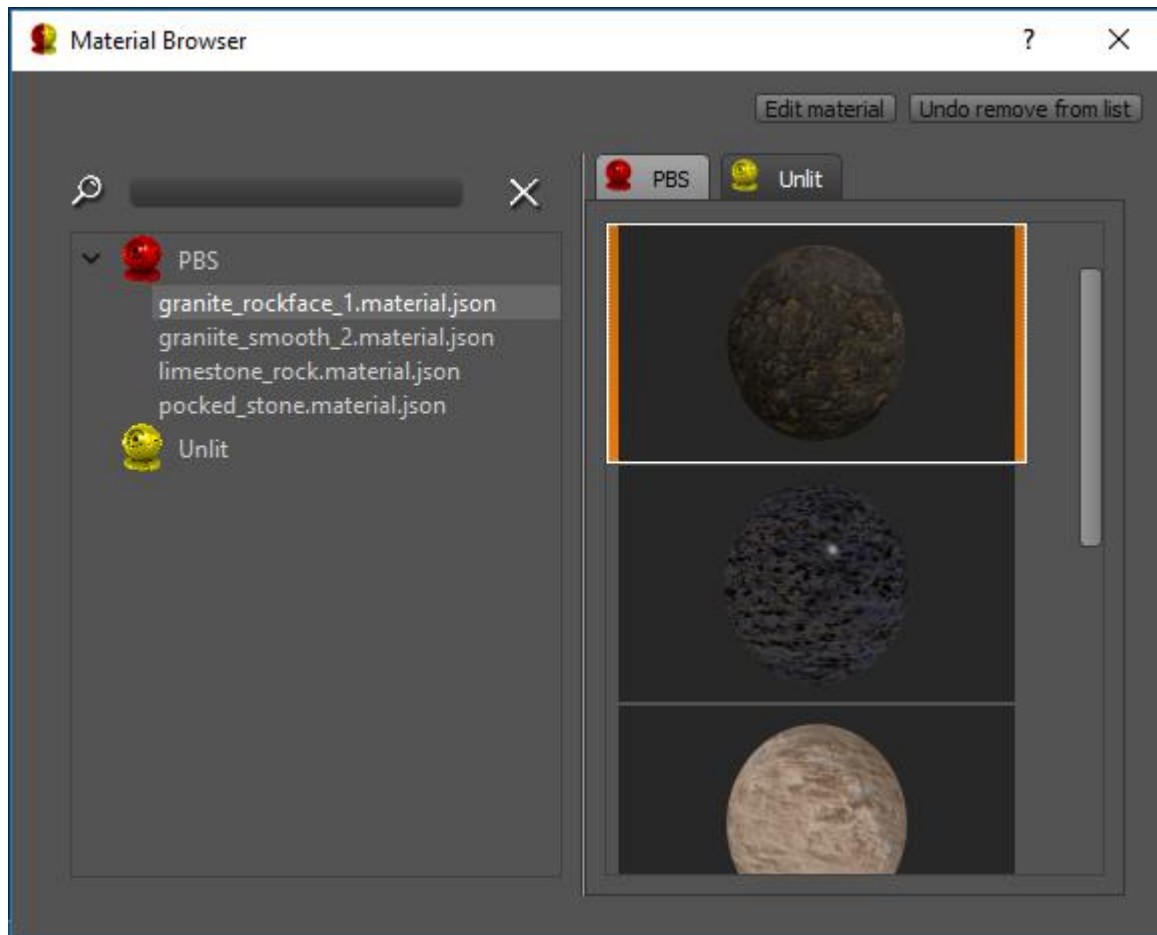
## Properties window




Action	Command
Collapse property group	Click on ▼
Expand property group	Click on ►



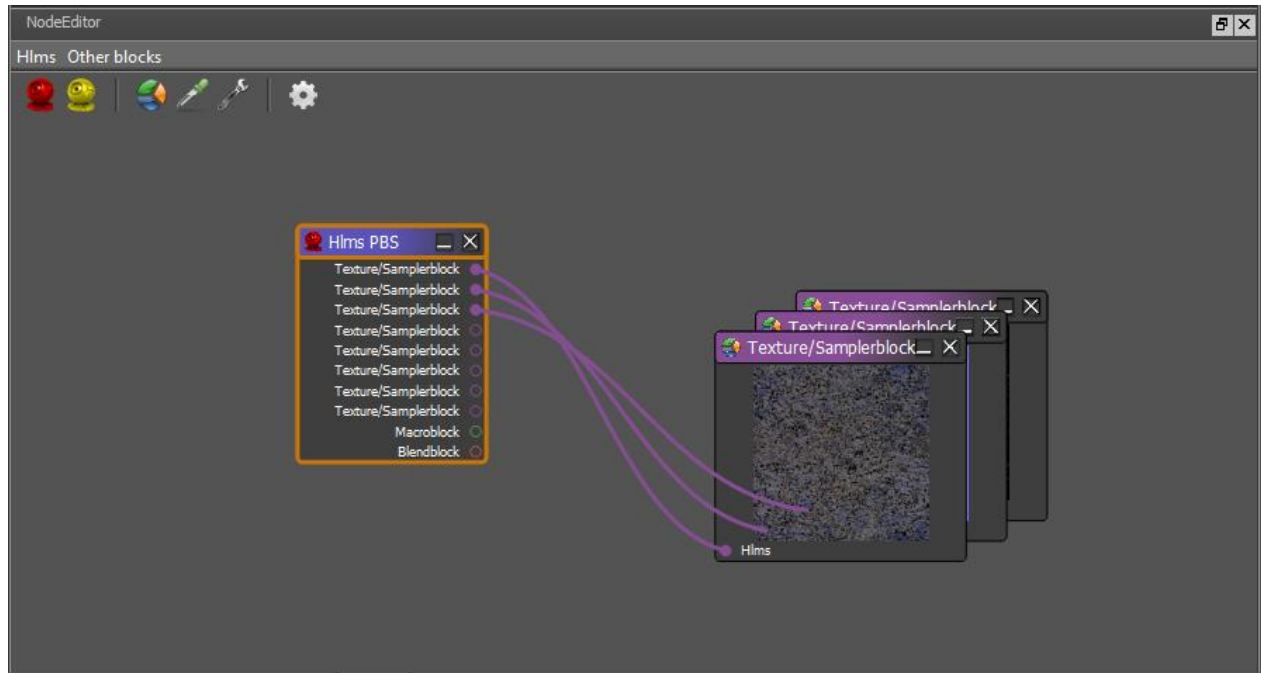
## Material browser window








Action	Command
Search	Enter search phrase in edit field
Reset search	Click on 
Select material for editor	<b>Doubleclick</b> on item in listbox
Select material for editor	<b>Click</b> on item in listbox + button <b>Edit material</b>
Select material for editor	<b>Right Mouse Button (RMB)</b> + select 'Edit material' from contextmenu
Create a subgroup	<b>RMB</b> + select 'Create a subgroup' from contextmenu


Action	Command
Clone a material	<b>RMB</b> + 'Clone material' from contextmenu
Remove selected subgroup or material from material list	<b>RMB</b> + 'Remove from list' from contextmenu
Collapse / expand	<b>RMB</b> + 'Collapse / expand' from contextmenu
Undo remove from list	<b>Click</b> on item in listbox + button <b>Undo remove from list</b>

## Node editor window

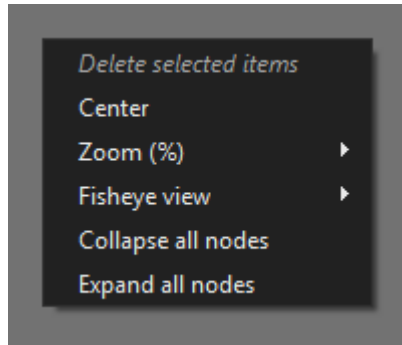


## Node editor toolbar and menu

Action	Command
New HLMS PBS node	 Click on Menu: Hlms → New Hlms Pbs
New HLMS Unlit node	 Click on Menu: Hlms → New Hlms Pbs
New Texture / Samplerblock node	 Click on Menu: Other blocks → New Texture/Samplerblock
New Blendblock	 Click on Menu: Other blocks → New Blendblock
New Macroblock	 Click on Menu: Other blocks → New Macroblock

Action	Command
Generate HLMS	Click on 

## Node editor context menu



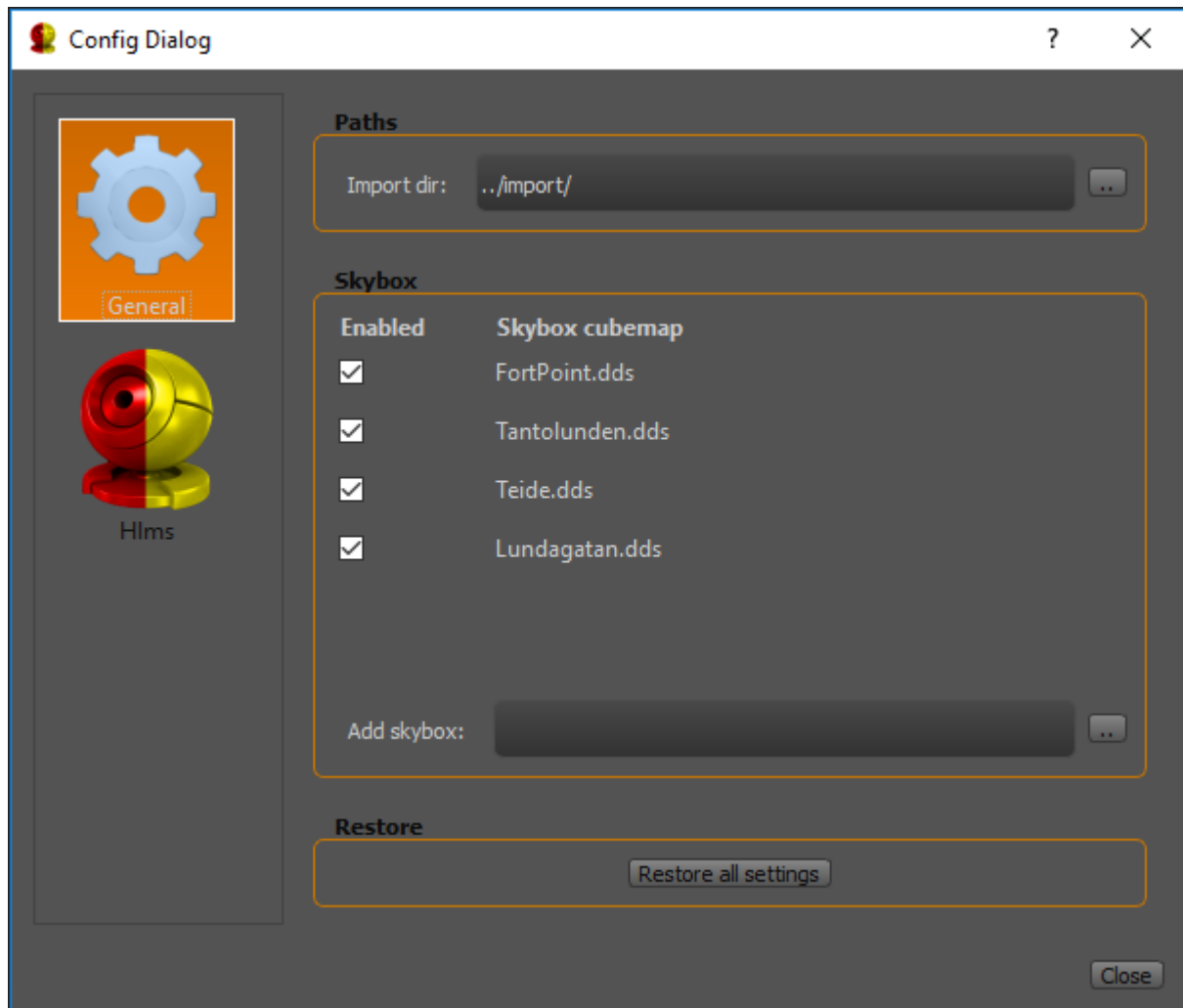
Action	Command
Display context menu	<b>RMB</b>
Center all nodes	Center
Zoom in/out (10% - 300%)	Zoom (%)
Automatic zoom in/out (based on mouse position)	Fisheye view
Collapse all nodes	Collapse all nodes
Expand all nodes	Expand all nodes




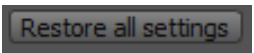
## Node editor canvas actions

Action	Command
Select node	<b>Click</b> on header of a node
Add to selection	<b>Ctrl + Click</b> on header of a node
Rubberband selection	<b>LMB</b> Drag
Delete selected node(s)	<b>Delete</b> key

Action	Command
Move selected node(s)	<b>Ctrl + LMB</b> Drag
Pan the graph	<b>Shift + LMB</b> Drag
Zoom in/out	<b>Mouse Wheel Up/Down</b>
Display properties in properties window	<b>Click</b> on header of a node

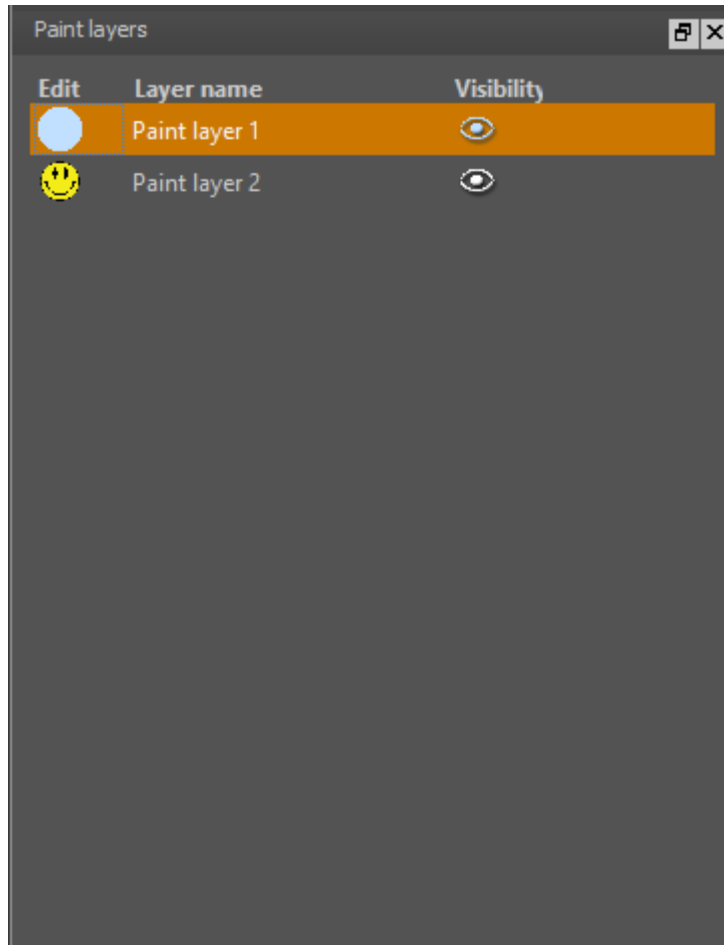
## Configure dialog




Action	Command
Set the import directory (used for importing project and models)	Tab General: Click on  (in Paths group)
Enable/disable a skybox	Tab General: Click on 
Add a skybox	Tab General: Click on  (in Skybox group)
Restore all settings	Tab General: Click on 

Action	Command
Set default value of Min, Mag, Mip Filter of a Samplerblock	<b>Tab Hlms: Select</b> from dropdown listbox
Close the config dialog	Click on 

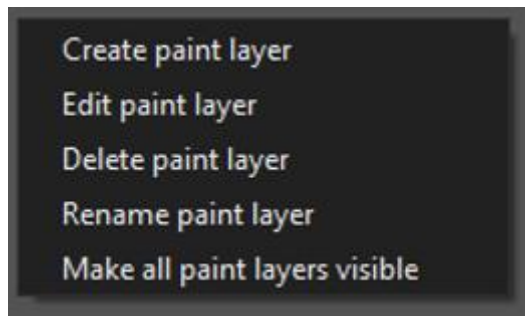
## Paint Layers



Action	Command
Open properties window	<b>DoubleClick</b> on brush icon
Change (edit) the name of the layer	<b>DoubleClick</b> on Layer name
Make layer visible/invisible; all other layers with the same texture type reference are also made visible/invisible	



## Paint layers context menu



Action	Command
Add (create) a new paint layer	Create paint layer
Open properties window	Edit paint layer
Delete the selected paint layer	Delete paint layer
Change (edit) the name of the layer	Rename paint layer
Set all visibility icons	Make all paint layers visible

## Properties paint layers

Properties paint layer: Paint layer 1

General

Texture type

Paint effect

Colour

Overflow

Continue

Colour painting

Paint colour

R 255

G 255

B 255

A 255

Hex

ffffff

..

Jitter colour

☐

Brush scale

Brush scale

0.10

Jitter brush scale

☐

Brush force

Brush force

1.00

Jitter brush force

☐

Brush rotation angle

Brush rotation angle

0.00

Jitter brush rotation angle

☐

Brush translation

Translation X

0.00

Translation Y

0.00

Jitter translation

☐

Brush mirror horizontal

Horizontal mirror

☐

Jitter horizontal mirror

☐

Brush mirror vertical



Vertical mirror

☐

Jitter vertical mirror

☐

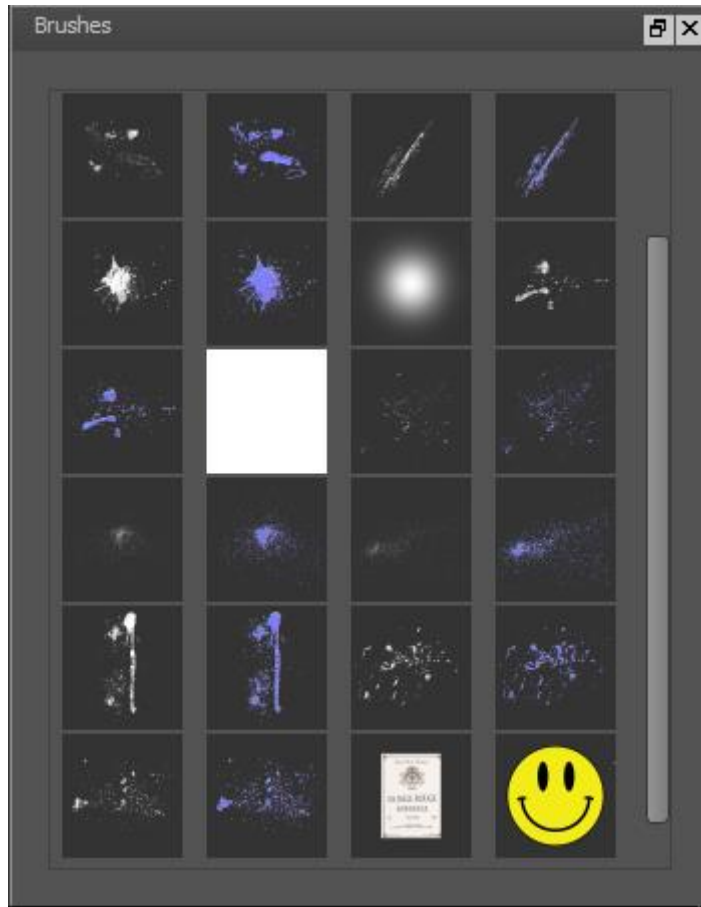
Close

Action	Command
<b>General</b>	
Texture type	Select from list: Only the texture types used by the material are showed.
Paint effect	Select from list: <ul style="list-style-type: none"> <li>• <b>Colour</b> - Paint with colour</li> <li>• <b>Erase</b> – Use the brush as an eraser</li> <li>• <b>Alpha</b> - Paint with an alpha value; the brush acts as eraser</li> <li>• <b>Texture / Normal</b> – The brush image is placed on the texture</li> <li>• <b>Carbon Copy</b> – Use the brush to ‘stamp’ the selected texture on the target map of the model</li> </ul>
Overflow	Select from list: <ul style="list-style-type: none"> <li>• <b>Ignore</b> – The part of the brush that crosses the boundaries of the map is ignored for painting</li> <li>• <b>Continue</b> – When the brush crosses the boundaries of the map, painting continues at the opposite side</li> </ul>
<b>Carbon Copy</b>	
Texture	 + select texture from file dialog
Scale texture	<b>LMB</b> + slide
<b>Colour Painting</b>	
Paint colour	Enter values of the colour OR Colour picker: 
Jitter colour If checked, a random colour between 2 colours is painted. The interval determines the frequency.	Checkbox
<b>Brush scale</b>	
Brush scale Determines the size of the brush	<b>LMB</b> + slide
Jitter brush scale	Checkbox

Action	Command
If checked, a brush scale between 2 values is used for painting. The interval determines the frequency.	
<b>Brush force</b>	
Brush force Determines how much 'pressure' is used for painting	<b>LMB + slide</b>
Jitter brush force If checked, a brush force between 2 values is used for painting. The interval determines the frequency.	Checkbox
<b>Brush rotation angle</b>	
Brush rotation angle Determines the angle of the brush in relation to the texture	<b>LMB + slide</b>
Jitter brush rotation angle If checked, a brush rotation angle between 2 values is used for painting. The interval determines the frequency.	Checkbox
<b>Brush translation</b>	
Brush translation Applies a uv offset to the brush	<b>LMB + slide</b>
Jitter translation If checked, a brush translation between 2 values is used for painting. The interval determines the frequency.	Checkbox
<b>Brush mirror horizontal</b>	
Brush mirror horizontal Determines whether the brush is mirrored horizontally	Checkbox
Jitter horizontal mirror If checked, the brush is mirrored horizontal randomly. The interval determines the frequency.	Checkbox
<b>Brush mirror vertical</b>	
Brush mirror vertical	Checkbox

Action	Command
Determines whether the brush is mirrored vertically	
Jitter vertical mirror If checked, the brush is mirrored vertical randomly. The interval determines the frequency.	Checkbox

## Brushes



Action	Command
Assign the brush to the selected paint layer	<b>Doubleclick</b> on brush

# Workflows

