Clothing Tool Properties Reference

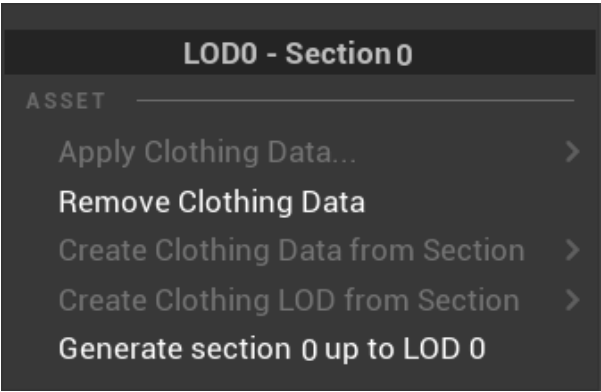A reference page for the available properties used with Clothing Tool.

The **Cloth Paint Tools** have many options and properties that you can use to make very specific clothing simulations. Below you'll find the details about the menu options you can use when creating your clothing assets and details about the Cloth Paint panel that you will use when selecting different painting tools to paint cloth values for your render mesh.

Clothing Asset Creation Menus

In this section, you'll find the details about the properties and settings you can use when creating and applying your clothing assets to your render mesh.
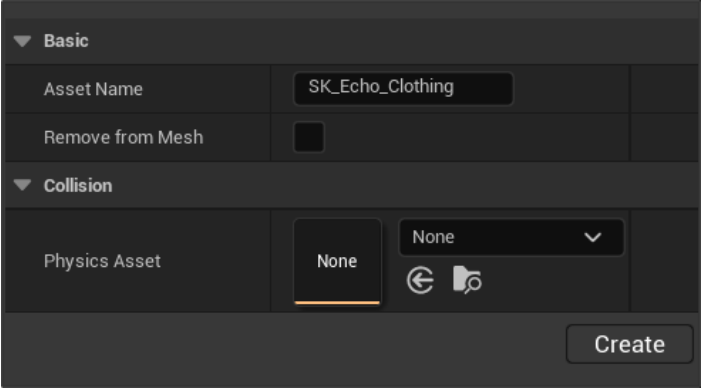
Section Selection

The **Section Selection** menu is available by right-clicking a selected section. It enables you to select the different material elements of your render mesh to create and apply a clothing asset. In this menu, you can identify the LOD and a material section of your mesh that you've selected, create a cloth asset for your render mesh and its LODs, apply the clothing asset to the selected section, and remove it later if needed.
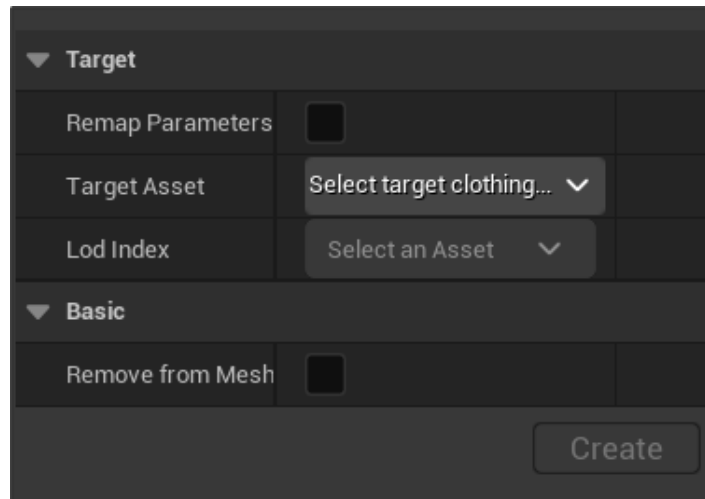
Property	Description
LOD Section Selection	The name of the LOD level used and the Section to create a Cloth Asset for.
Apply Clothing Asset	Select a clothing asset to apply to the selected section.
Remove Clothing Asset	Remove the currently assigned clothing asset.
Create Clothing Asset from Section	Create a new clothing asset using the selected section as a simulation mesh. - Basics **Asset Name**: The name entered for the cloth section asset. **Remove from Mesh**: Whether or not to leave this section behind (if driving a mesh with itself). Enable this is driving a high-poly mesh with a low-poly mesh. - Collision **Physics Asset**: Physics Asset to extract collisions from. Note that this will export

Property	Description
	Sphere and Sphylls, but does support up to 32 convex faces (or 5 boxes).
Create Clothing Asset from LOD Section	Create a clothing simulation mesh from the selected section and add its LOD to an existing clothing asset.

- Target
  - **Remap Parameters**: If reimporting, this will map the old LOD parameters to the new LOD mesh. If adding a new LOD, this will map the parameters from the preceding LOD.
  - **Target Asset**: This is the target asset when importing LODs.
  - **LOD Index**
    - **Replace LOD**: Replace the simulation mesh in LOD0 of your selected clothing asset with this section.
    - **Add LOD**: Use the selected section to add a new LOD.
- Basic
  - **Remove from Mesh**: Whether or not to leave this section behind (if driving a mesh with itself). Enable this if driving a high-poly mesh with a low-poly one.

Property	Description
Generate section # up to LOD #	Generated LODs will use section # up to LOD #, and ignore it for lower quality LODs

Clothing Panel

The **Clothing** panel houses all the clothing data, masks, configuration parameters for how your cloth reacts, and the tools you'll use when painting your cloth values.

Clothing ✕

Echo_Cloth_Scarf

▼ MASKS   ⊕

	Name	Target
☑	None	Max Distance
☑	None	Backstop Radius
☑	None	Backstop Distance

▼ MESH SKINNING

Use Multiple Influences	☐
Kernel Radius	100.0
Smooth Transition From Skin to Cloth	☐

▼ Config

Physics Asset	PA_Echo_Sword ⌄ ⟲

▶ Cloth Configs   3 Map elements

▼ Import

Imported File Path	

▼ Cloth Painting

Tool	Gradient ⌄

▼ View

View Min	0.0
View Max	100.0
Auto View Range	☐

▼ Advanced

Flip Normal	☐
Cull Backface	☐
Opacity	0.8

▼ Visualization

Vertex Preview Size	6.0

▼ Tool Settings

Gradient Start Value	0.0
Gradient End Value	100.0
Use Regular Brush	☐

▼ Brush

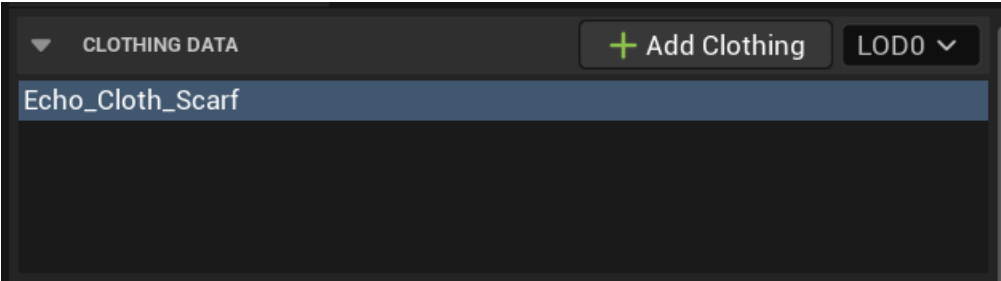|	
Radius	128.0
Strength	0.5
Falloff	0.5
Enable Brush Flow	☑
Ignore Back-Facing	☐ ⟲

Clothing Data

The **Clothing Data** category displays your currently created clothing assets that are assigned to a render mesh,enables you to copy clothing data from an existing skeletal mesh, and lets you select from the available LODs created for your mesh to adjust parameter values.

Property	Description
Name	The name of the cloth asset created for a LOD section of your physical mesh.
Copy Clothing from SkeletalMesh	Enables you to select a skeletal mesh from which to copy clothing data.
Level of Detail (LOD) Selection	Enables you to select a Level of Detail (LOD) mesh to set parameters, paint values, or copy values to.

Masks

The **Masks** category displays any created parameter sets for painted cloth values. These can be assigned a Target value for use with your clothing asset.
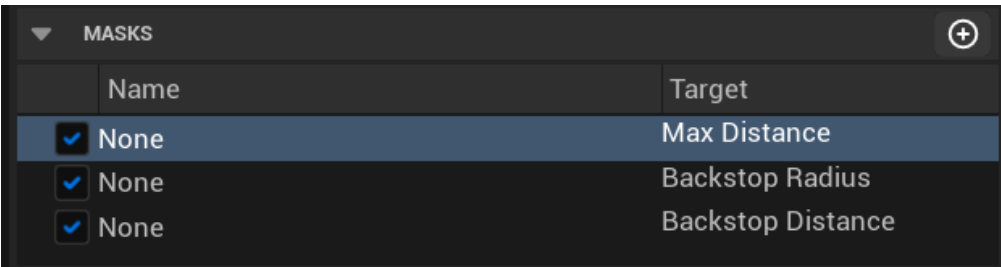
Property	Description
Name	The name given to the mask along with its target setting for this parameter set.

Property	Description

	Context Menu Settings
	    • Set Target
	        ○ **None**: The target has not been set for this parameter set.
	        ○ **Max Distance**: This is the maximum distance the clothing simulation particle can move from its animated position.
	        ○ **Backstop Distance**: This is the distance offset from the Max Distance used to limit the movement of the cloth simulation particles.
	        ○ **Backstop Radius**: This is a radius that when intersected with the Max Distance will prevent any cloth simulation particle from moving into that area.
	    • Actions
	        ○ **Move Up**: Moves the Mask up one slot in the list.
	        ○ **Move Down**: Move the Mask down one slot in the list.
	        ○ **Delete**: Deletes the Mask from the list.
	        ○ **Apply**: Applies the Mask to the physical mesh.

Plus (+)	Adds a new Mask to the available list of Mask parameters.

Config

The **Config** properties enable you to adjust how your cloth reacts so that it can simulate different types of material, such as burlap, rubber, leather, and much more.

Config

Physics Asset	PA_Echo_Sword ⌄

Cloth Configs — 3 Map elements

ClothConfigNv — ClothConfigNv'/Game/Slay/Assets/Chr/Echo/Mes

ClothConfig

Property	Value		
Clothing Wind Method	Legacy ⌄		
▶ Vertical Constraint			
▶ Horizontal Constraint			
▶ Bend Constraint			
▶ Shear Constraint			
Self Collision Radius	0.0		
Self Collision Stiffness	0.0		
Self Collision Cull Scale	1.0		
▶ Damping	0.6	0.6	0.6
Friction	0.1		
Wind Drag Coefficient	0.0002		
Wind Lift Coefficient	0.0002		
▶ Linear Drag	0.2	0.2	0.2
▶ Angular Drag	0.2	0.2	0.2
▶ Linear Inertia Scale	0.1	0.1	0.1
▶ Angular Inertia Scale	0.1	0.1	0.1
▶ Centrifugal Inertia Scale	0.1	0.1	0.1
Solver Frequency	360.0		
Stiffness Frequency	200.0		
✔ Gravity Scale	0.75		
▶ ☐ Gravity Override	0.0	0.0	0.0
Tether Stiffness	1.0		
Tether Limit	1.0		
Collision Thickness	1.2		
Anim Drive Spring Stiffn...	1.0		
Anim Drive Damper Stif...	1.0		

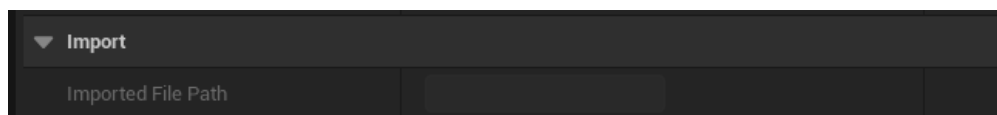| Property	Description
Physics Asset	The Physics Asset to extract collisions from when building a simulation.
Wind Method	How wind should be processed; Accurate uses drag and lift to make the cloth react differently, Legacy applies similar forces to all clothing without drag and lift (similar to APEX). **Legacy**: Use the Legacy wind mode, where accelerations are modified directly by the simulation with no regard to drag or lift.
Vertical Constraint Config	Constraint data for vertical constraints. **Stiffness**: How stiff this constraint is between the nodes. This affects how closely it will follow the desired position. **Stiffness Multiplier**: This is a multiplier affecting the **Stiffness** value used. **Stretch Limit**: The hard limit on how far this constraint can stretch. **Compression Limit**: The hard limit on how far this constraint can compress.
Horizontal Constraint Config	Constraint data for horizontal constraints. **Stiffness**: How stiff this constraint is between the nodes. This affects how closely it will follow the desired position. **Stiffness Multiplier**: This is a multiplier affecting the **Stiffness** value used. **Stretch Limit**: The hard limit on how far this constraint can stretch. **Compression Limit**: The hard limit on how far this constraint can compress.
Bend Constraint Config	Constraint data for bend constraints. **Stiffness**: How stiff this constraint is between the nodes. This affects how closely it will follow the desired position.

Property	Description
	• **Stiffness Multiplier**: This is a multiplier affecting the **Stiffness** value used. • **Stretch Limit**: The hard limit on how far this constraint can stretch. • **Compression Limit**: The hard limit on how far this constraint can compress.
Shear Constraint Config	Constraint data for shear constraints. • **Stiffness**: How stiff this constraint is between the nodes. This affects how closely it will follow the desired position. • **Stiffness Multiplier**: This is a multiplier affecting the **Stiffness** value used. • **Stretch Limit**: The hard limit on how far this constraint can stretch. • **Compression Limit**: The hard limit on how far this constraint can compress.
Self Collision Radius	The size of self-collision spheres centered on each vertice.
Self Collision Stiffness	The stiffness of the spring force that will resolve self-collisions.
Self Collision Cull State	The scale to use for the radius of the culling checks for self-collisions. Any other self-collision body within the radius of this check will be culled. This helps performance with higher resolution meshes by reducing the number of colliding bodies within the cloth. Reducing this will harm performance.
Damping	The damping of particle motion per-axis.
Friction	The friction of the surface when colliding.
Wind Drag Coefficient	The drag coefficient for wind calculations, where higher values mean wind has a more lateral effect on cloth.

Property	Description
Wind Lift Coefficient	The lift coefficient for wind calculations, where higher values make cloth rise easier in the wind.
Linear Drag	The drag applied to linear particle movement per-axis.
Angular Drag	The drag to angular particle movement, where higher values should limit material bending (per-axis).
Linear Inertia Scale	The scale for linear particle inertia, or how much movement should translate to linear motion (per-axis).
Angular Inertia Scale	The scale for angular particle inertia, or how much movement should translate to angular motion (per-axis).
Centrifugal Inertia Scale	The scale for centrifugal particle inertia, or how much movement should translate to angular motion (per-axis).
Solver Frequency	The frequency of the position solver, where lower values will lead to stretchier, bouncier cloth.
Stiffness Frequency	The frequency for stiffness calculations, where lower values will degrade stiffness of constraints.
Gravity Scale	The scale of gravity effect on the cloth particle simulation.
Gravity Override	The direct gravity override value
Tether Stiffness	The scale for stiffness of particle tethers between each other.
Tether Limit	The scale for the limit of particle tethers (how far they can separate).

Property	Description
Collision Thickness	The "thickness" of the simulated cloth, which is used to adjust collisions.
Anim Drive Spring Thickness	Default spring thickness if an anim drive is in use.
Anim Drive Damper Thickness	Default damper thickness if an anim drive is in use.

Import

The **Import** option displays the file path of any imported APEX files.

Property	Description
Imported File Path	If this asset was imported from a file, this will be the original path.

Cloth Painting

The **Cloth Painting** section enables you to select between your different tools, such as brush, gradient, smooth, and fill.

Before these properties can be populated, you must first select a clothing asset from your Clothing Data window and then click the **Activate Paint Tools** button in the toolbar.
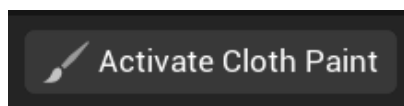
The type of tool to use when painting cloth values.

- Brush
- Gradient
- Smooth
- Fill

Brush

The **Brush** tool enables you to paint a radius and strength value on your cloth as you drag across cloth asset.

Property	Description
View	
View Min	When painting float/1D values, this is considered the zero or black point for painted values.
View Max	When painting float/1D values, this is considered the one or white point for painted values.

Property	Description
Autoview Range	When set, the view min and max values will be calculated from the values present in the currently editable mask.
Advanced Rollout	
Flip Normal	Whether to flip normals on the mesh preview.
Cull Backface	Whether to cull back-facing triangles when rendering the mesh preview.
Opacity	The opacity value of the mesh preview enables you to see through the mesh.
Visualization	
Vertex Preview Size	Size of vertex points drawn when mesh painting is active.
Tool Settings	
Paint Value	The value to paint onto the mesh for this parameter.
Brush	
Radius	The radius of the Brush used for painting.
Strength	The strength of the brush (0.0 - 1.0).
Falloff	The amount of fall off to apply (0.0 - 1.0).
Enable Brush Flow	Enables "flow" painting where the paint is continually applied from the brush every tick.

Property	Description
Ignore back-facing	Whether back-facing triangles should be ignored when painting.

Gradient

The **Gradient** tool enables you to paint a gradual blend between a set of cloth values that are selected.

Property	Description
View	

Property	Description
View Min	When painting float/1D values, this is considered the zero or black point for painted values.
View Max	When painting float/1D values, this is considered the one or white point for painted values.
Autoview Range	When set, the view min and max values will be calculated from the values present in the currently editable mask.
Advanced Rollout	
Flip Normal	Whether to flip normals on the mesh preview.
Cull Backface	Whether to cull back-facing triangles when rendering the mesh preview.
Opacity	The opacity value of the mesh preview enables you to see through the mesh.
Visualization	
Vertex Preview Size	Size of vertex points drawn when mesh painting is active.
Tool Settings	
Gradient Start Value	The value of the gradient at the start points.
Gradient End Value	The value of the gradient at the end points.
Use Regular Brush	Enables the painting of selected points using a brush rather than a point.
Brush	

Property	Description
Radius	The radius of the Brush used for painting.
Strength	The strength of the brush (0.0 - 1.0).
Falloff	The amount of falloff to apply (0.0 - 1.0).
Enable Brush Flow	Enables "flow" painting where the paint is continually applied from the brush every tick.
Ignore back-facing	Whether back-facing triangles should be ignored when painting.

Smooth

The **Smooth** tool enables you to blur or soften the contrast between painted cloth values.

Property	Description
View	
View Min	When painting float/1D values, this is considered the zero or black point for painted values.
View Max	When painting float/1D values, this is considered the one or white point for painted values.
Autoview Range	When set, the view min and max values will be calculated from the values present in the currently editable mask.
Advanced Rollout	

Property	Description
Flip Normal	Whether to flip normals on the mesh preview.
Cull Backface	Whether to cull back-facing triangles when rendering the mesh preview.
Opacity	The opacity value of the mesh preview enables you to see through the mesh.
Visualization	
Vertex Preview Size	Size of vertex points drawn when mesh painting is active.
Tool Settings	
Strength	The strength of the smoothing (blurring) effect when painting.
Brush	
Radius	The radius of the Brush used for painting.
Strength	The strength of the brush (0.0 - 1.0).
Falloff	The amount of falloff to apply (0.0 - 1.0).
Enable Brush Flow	Enables "flow" painting where the paint is continually applied from the brush every tick.
Ignore back-facing	Whether back-facing triangles should be ignored when painting.

Fill

The **Fill** tool enables you to replace areas with similar values with another value.

Property	Description
View	
View Min	When painting float/1D values, this is considered the zero or black point for painted values.
View Max	When painting float/1D values, this is considered the one or white point for painted values.
Autoview Range	When set, the view min and max values will be calculated from the values present in the currently editable mask.

Property	Description
Advanced Rollout	
Flip Normal	Whether to flip normals on the mesh preview.
Cull Backface	Whether to cull back-facing triangles when rendering the mesh preview.
Opacity	The opacity value of the mesh preview enables you to see through the mesh.
Visualization	
Vertex Preview Size	Size of vertex points drawn when mesh painting is active.
Tool Settings	
Threshold	Threshold for fill operation that will keep filling until sampled vertices aren't within this range of the original vertex.
Fill Value	The value to fill all select vertices to.
Brush	
Radius	The radius of the Brush used for painting.
Strength	The strength of the brush (0.0 - 1.0).
Falloff	The amount of falloff to apply (0.0 - 1.0).
Enable Brush Flow	Enables "flow" painting where the paint is continually applied from the brush every tick.

Property	Description
Ignore back-facing	Whether back-facing triangles should be ignored when painting.