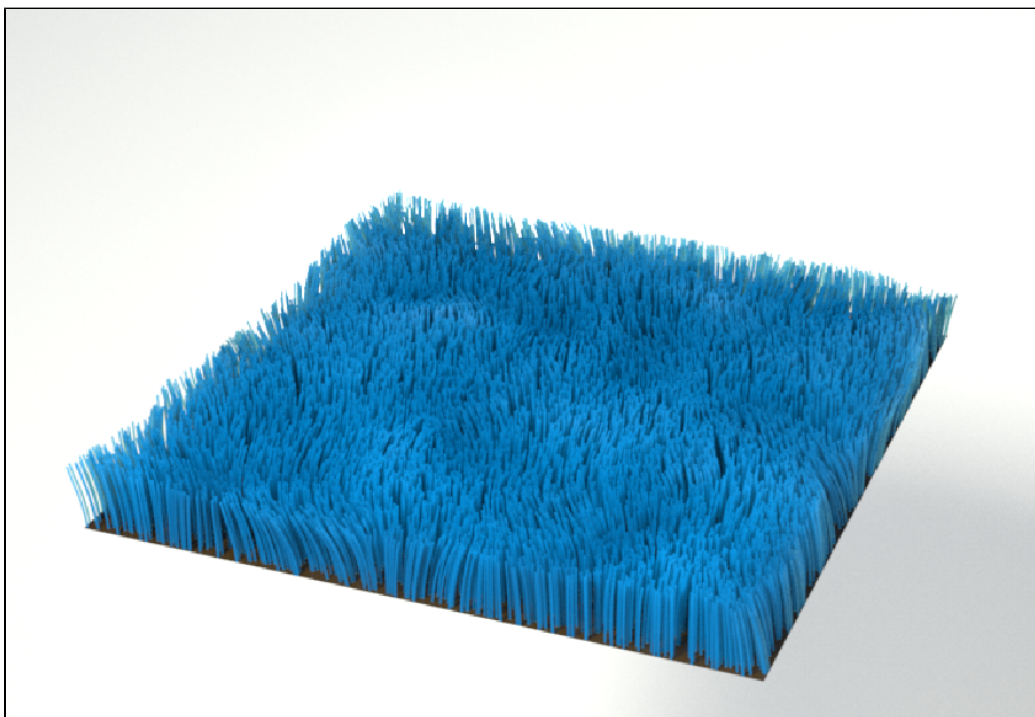
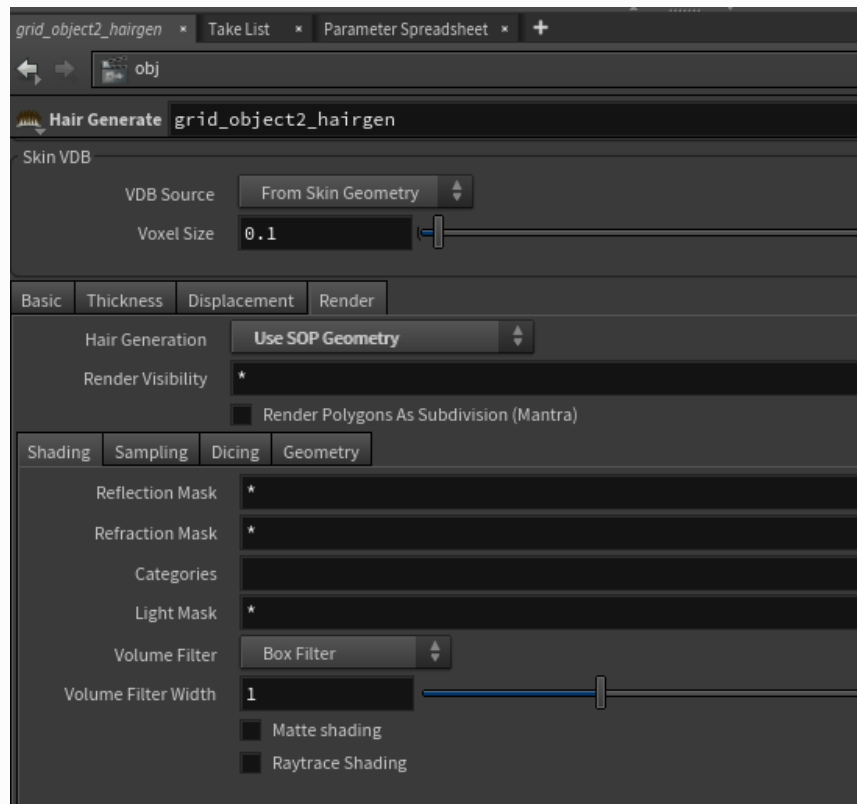


## Fur and Hair in Houdini



## Required For Houdini 16 Fur:

In hairgen object's Render tab, we need to set **Hair Generation** to **Use SOP Geometry** so RiCurves will be generated. Otherwise, no fur will be rendered.



## Render Fur

To render Houdini fur with RenderMan, we need to add the required RenderMan curve attributes and use the [PxrMarschnerHair](#) hair Bxdf.

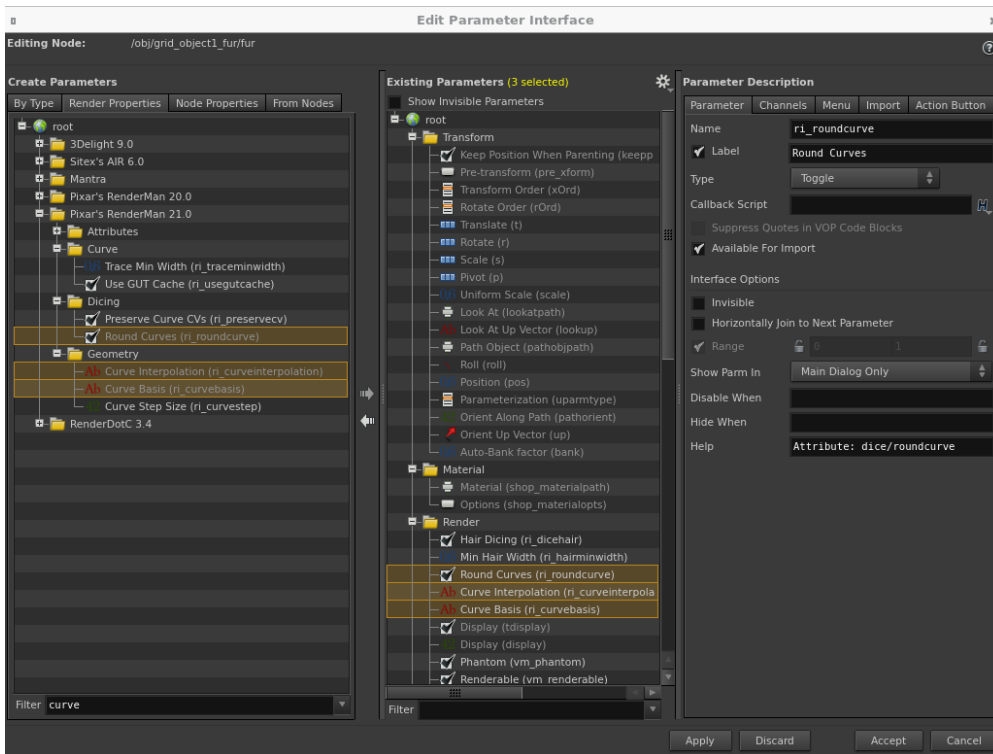
## Add Curves Attributes

For Houdini 15.5, select the fur object node (e.g. the fur node inside grid\_object1\_fur), add the following RenderMan attributes.

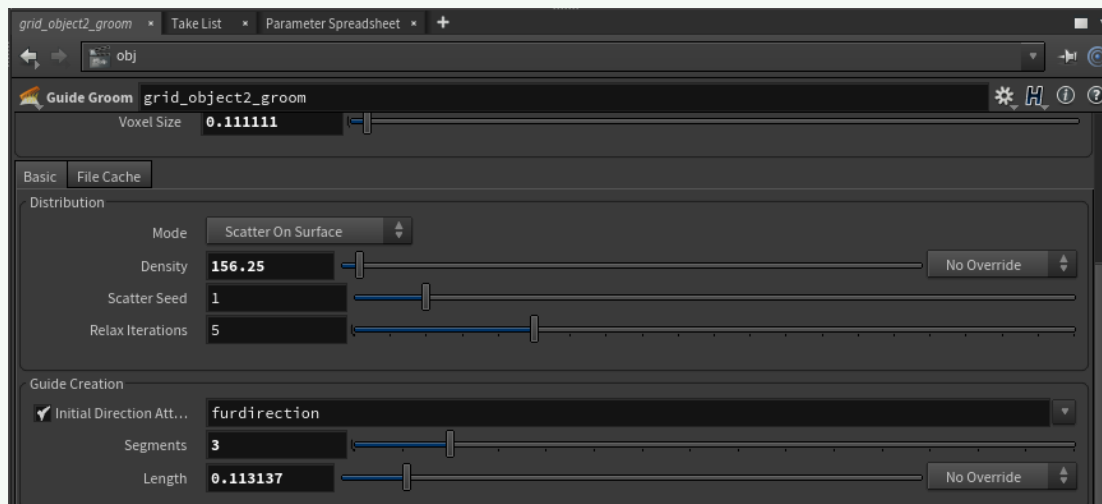
For Houdini 16, add these attributes to the hair gen node. See [Curves](#) for more information on these attributes.



- **ri\_roundcurve** - This turns on/off round curves. It is off by default which will render as flat ribbons.
- **ri\_curveinterpolation** - This selects whether the curve is linear or cubic.
- **ri\_curvebasis** - This selects the basis of the curve such as B-spline.



For cubic **bezier** curve interpolation, we need to set the **Guide Groom** node's **Guide Creation/Segments** as a **multiple of 3**, e.g. 3, 6, 9, etc.



For hair, it is also recommended to add the following attribute.



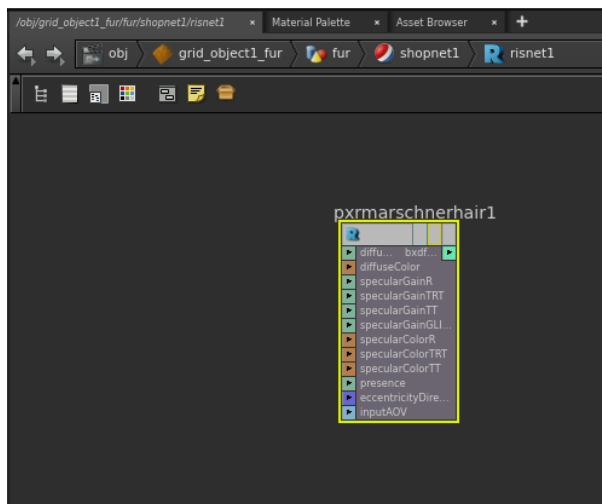
- **ri\_dicehair** - This turns on/off the hair dicing.

## Add Curves Option

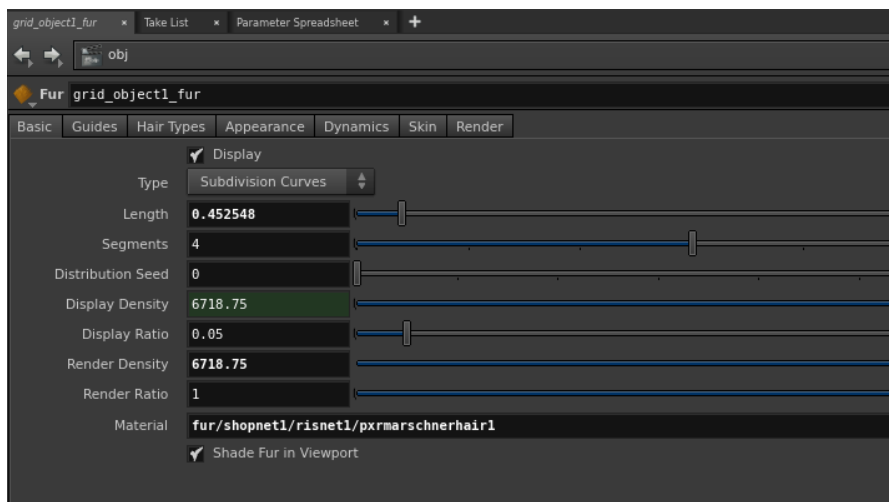
For ROP, it is recommended to add **ri\_hairminwidth** which sets the minimal width for the hair.

## Create and Assign the Hair Shader

Dive into the fur's shopnet. Create a RIS Network and PxrMarschnerHair inside the RIS Network.

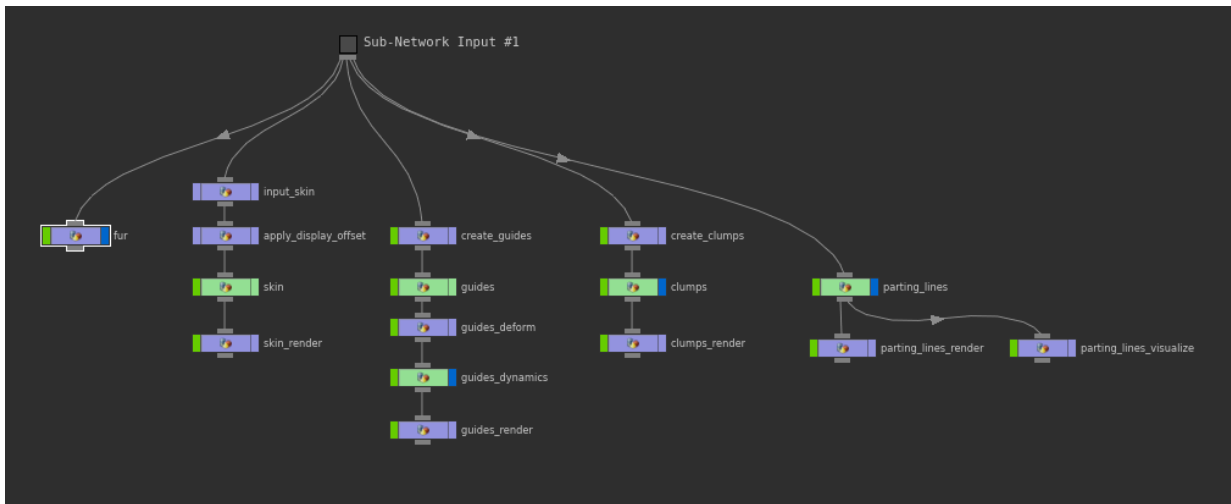


Set the Material of the fur object to point to this shader path.



## Display

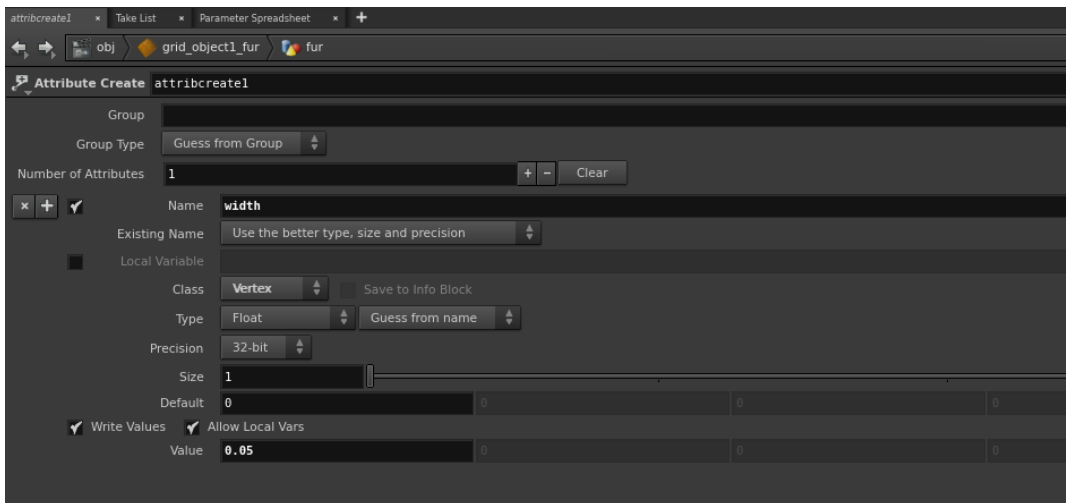
Turn off display for other nodes so only fur is displayed.



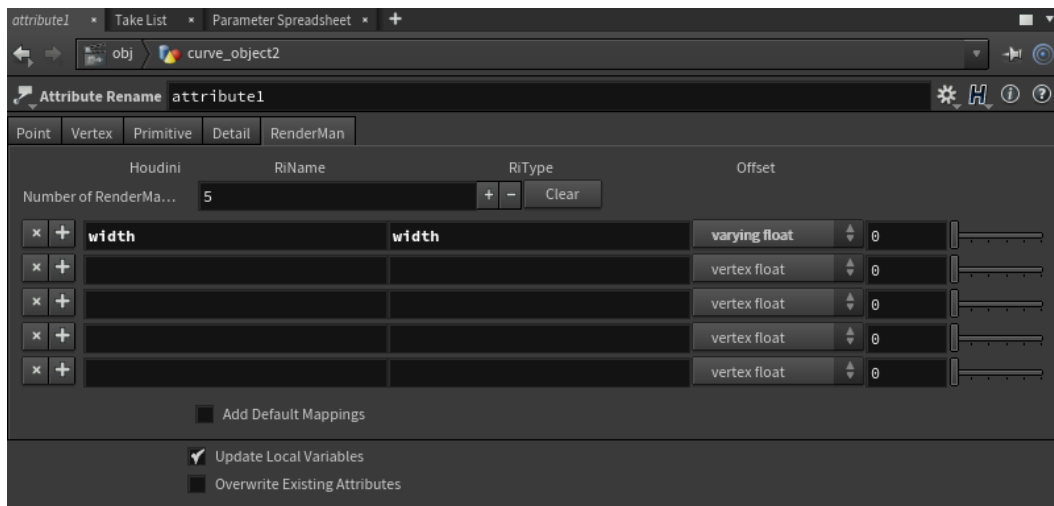
## Add Width Attribute

Like rendering normal [Curves in Houdini](#), we also need to add a width attribute.

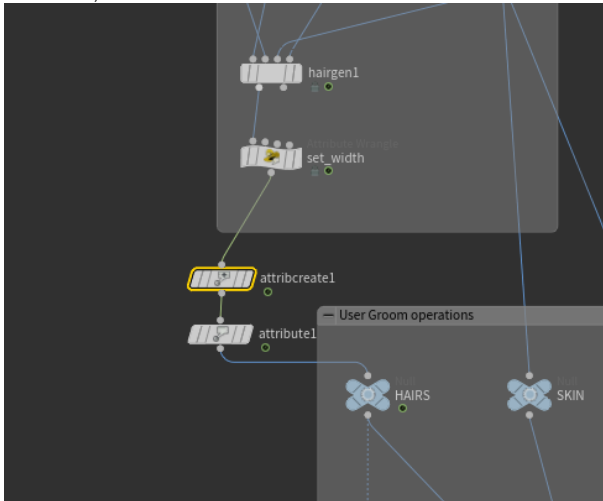
- Add a width attribute with **Attribute Create**. Set its type to **Vertex Float**. Set a width value at the bottom, e.g. 0.05.



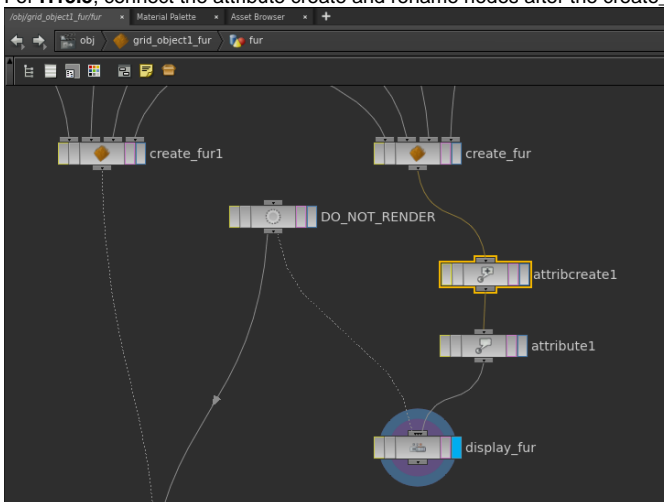
- Map the width attribute to RenderMan attribute with **Attribute Rename**.



- For **H16.0**, connect the attribute create and rename nodes after the set\_width node inside the Hair Generate node.



- For **H15.5**, connect the attribute create and rename nodes after the create\_fur node.



Render!