



UCreate Fractal Toolkit asset pack

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If you have any problems or suggestions please write to me at: sornatmichal@gmail.com

Update 01: a "Mesh Multi Deform" Blueprint for UE 5.1+ has been added to the pack.

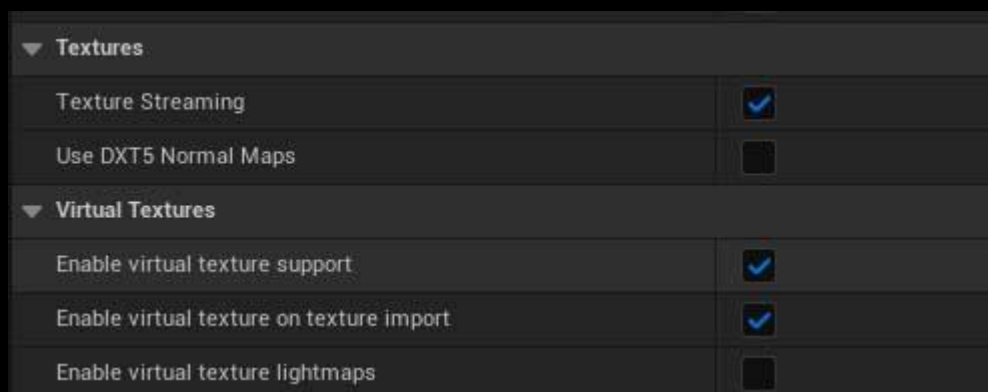
Installation

After adding the Fractal Toolkit to your project using the Epic launcher, you will have an additional folder placed in your Content folder called „UCreate_Fractals“. That's it. Now you can open example maps visible in the UCreate_Fractals -> Maps folder.

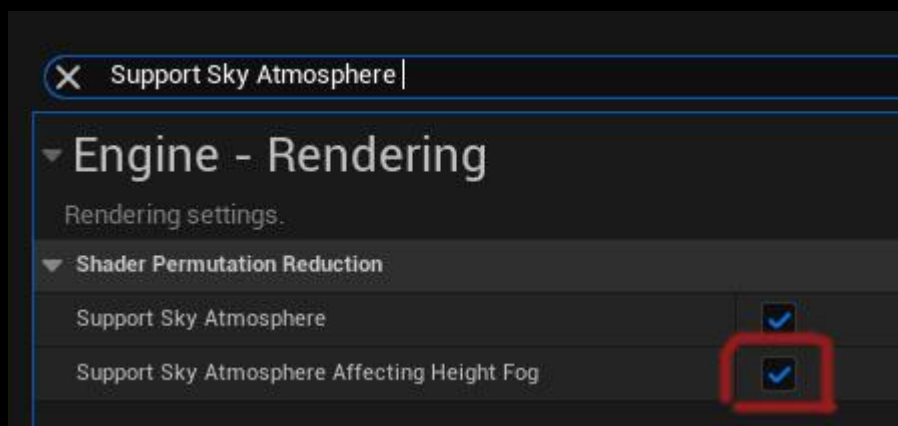
Project Settings

The pack is using **Nanite**, therefore you have to make sure you have **directx 12 and SM6** shader format enabled by going to Edit -> Project Settings -> Platforms -> Windows. That is true only if you want to use Nanite of course.

The “Example_level_Fantasy” map is using RVT blend for some foliage, so in order for it to display correctly you have to enable **virtual texture support**. You can do that in Project Settings -> Engine -> Rendering, under the Virtual Textures tab.



If you want the height fog to be behaving the same way that you see on the pack’s promo shots, please enable "**Support Sky Atmosphere Affecting Height Fog**" in Project Settings -> Engine -> Rendering:



Editor Settings

If you intend to use **Procedural Foliage** in your project, navigate to Edit -> Editor Settings -> Foliage tab, and tick *Procedural foliage* on.

[More information on how to use procedural foliage down below.]

Optional Plugins

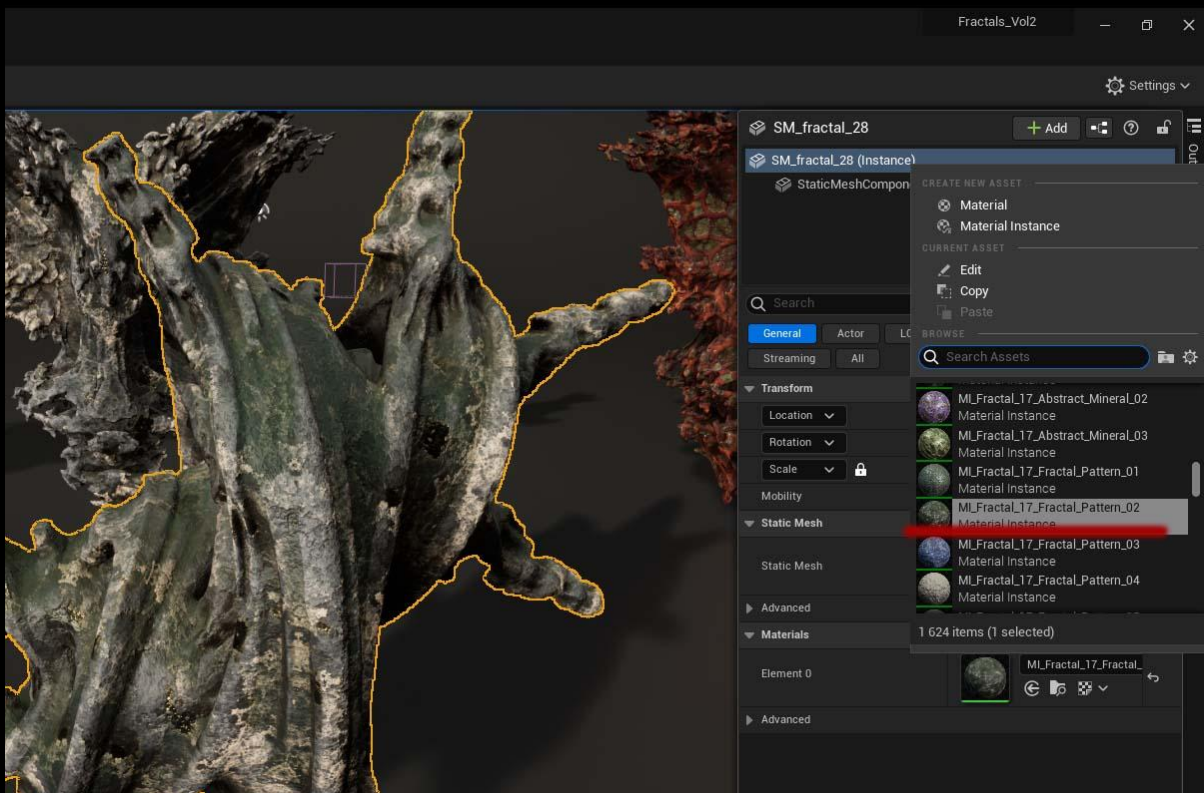
To use a “**Mesh Multi Deform**” blueprint, please enable “PCG” - Procedural Content Generation plugin in Edit -> Plugins.

Note that in UE 5.1 the plugin is in BETA version, so it's more advisable to use this blueprint on 5.2+ to ensure stability. I haven't encountered any problems on 5.1 though thus far.

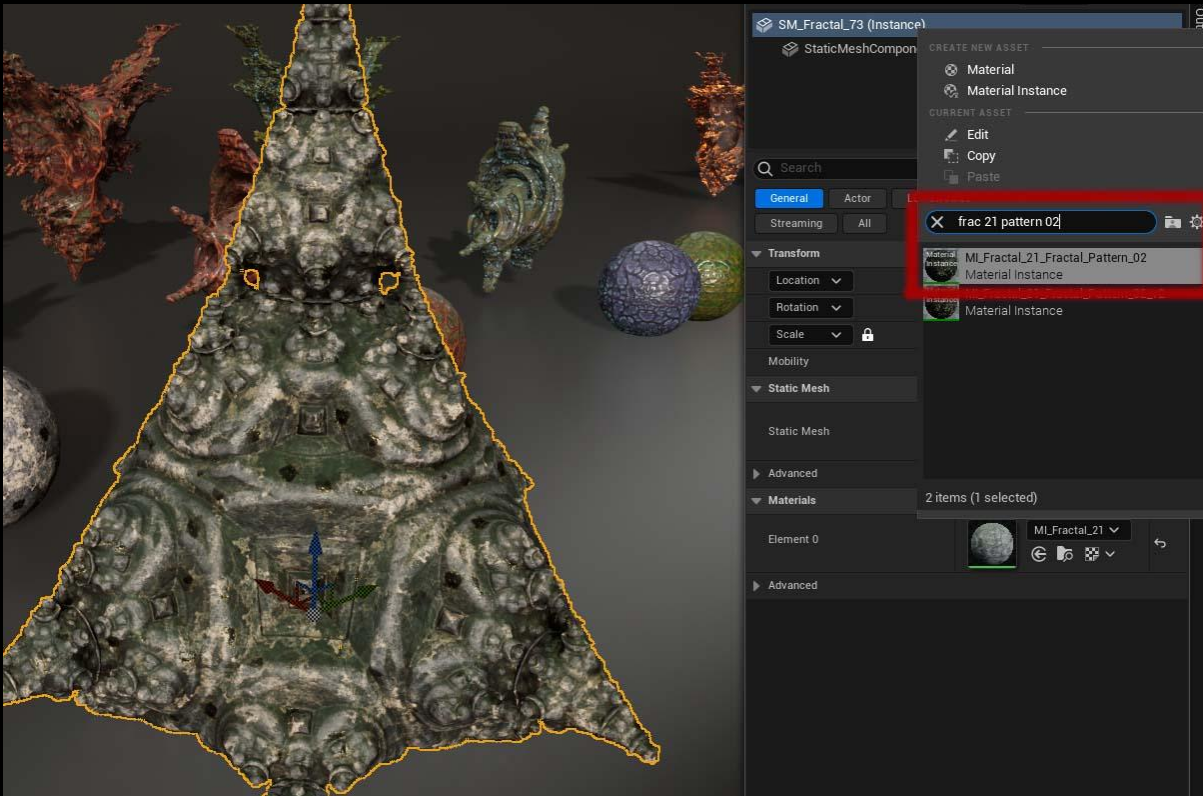
Material Management

If you open up “Materials_Showcase_level” in the Maps folder, you will see a whole array of different materials.

If you want to **quickly assign any material to a mesh you like**, just look up for it's material instance name, for example “fractal_pattern_02”:



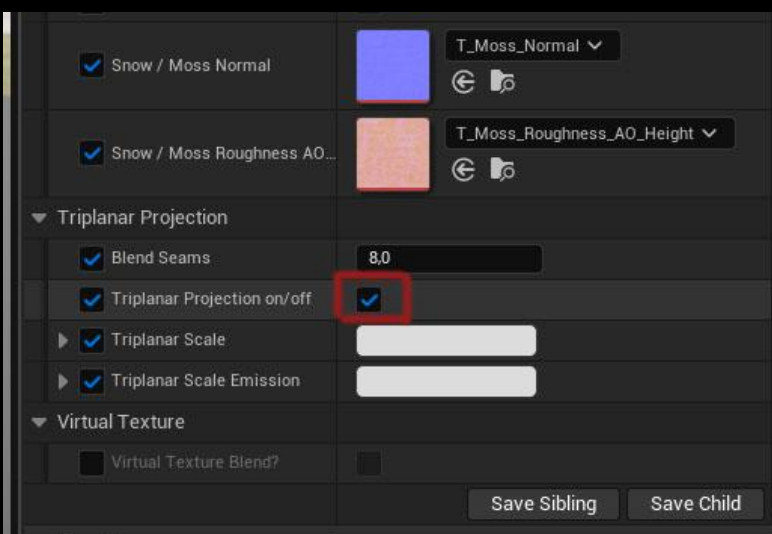
Then if you want to apply it for “SM_Fractal_21” - or whatever other model you want - start typing “frac 21 patt 02” in the model details panel under material:



There are over 1500 material instances in the pack, so for every model there is a corresponding material instance.

Triplanar Mapping

Every material has an optional triplanar mapping method:



Most of the materials are using it by default, as usually triplanar mapping looks relatively better than traditional UV tiling.

Note that **triplanar mapping is quite heavy on the performance**, so use it wisely.

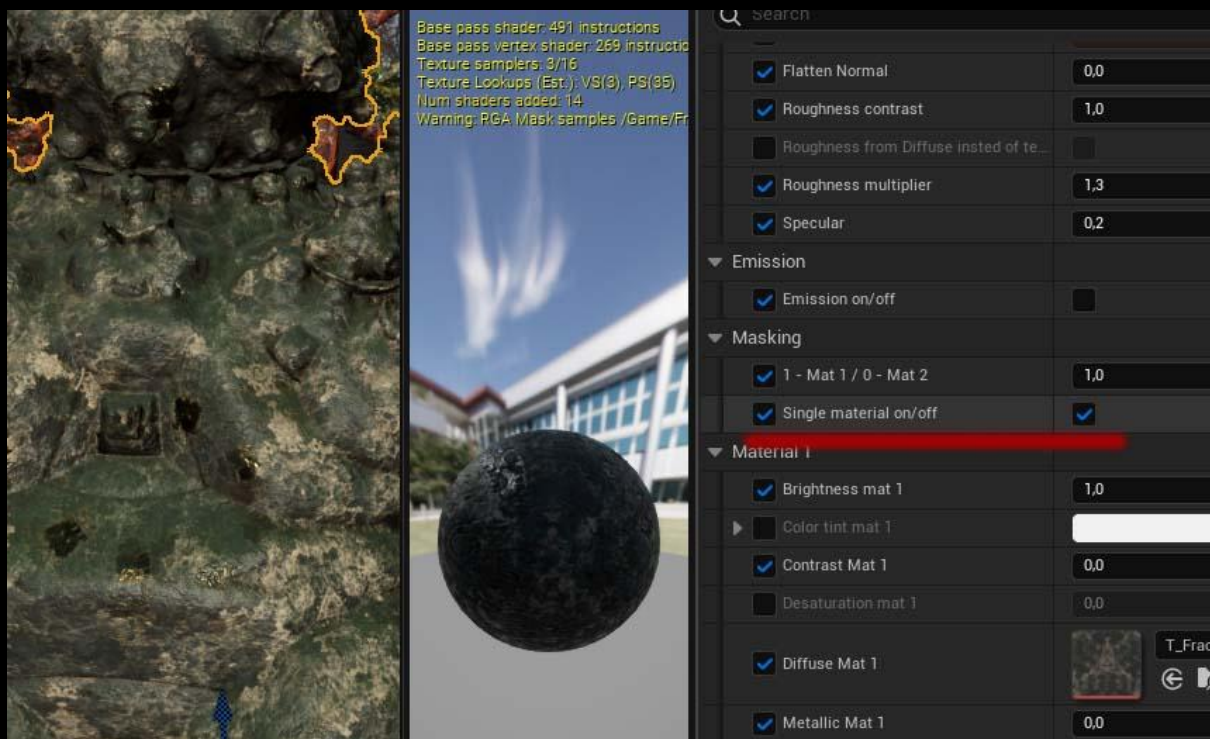
You can always turn it off by unchecking the on/off switch.

Additionally, triplanar mapping lets you use materials on every surface, even when the mesh is not UV unwrapped.

Material Blending

Each fractal model has its own RGA mask that lets you blend two texture sets, based on the model curvature.

If you open up any material instance of any model you will see an option "single material on/off":



If you tick “on”, you have now an option to display only one texture set, like a “normal” material would, without any blending.

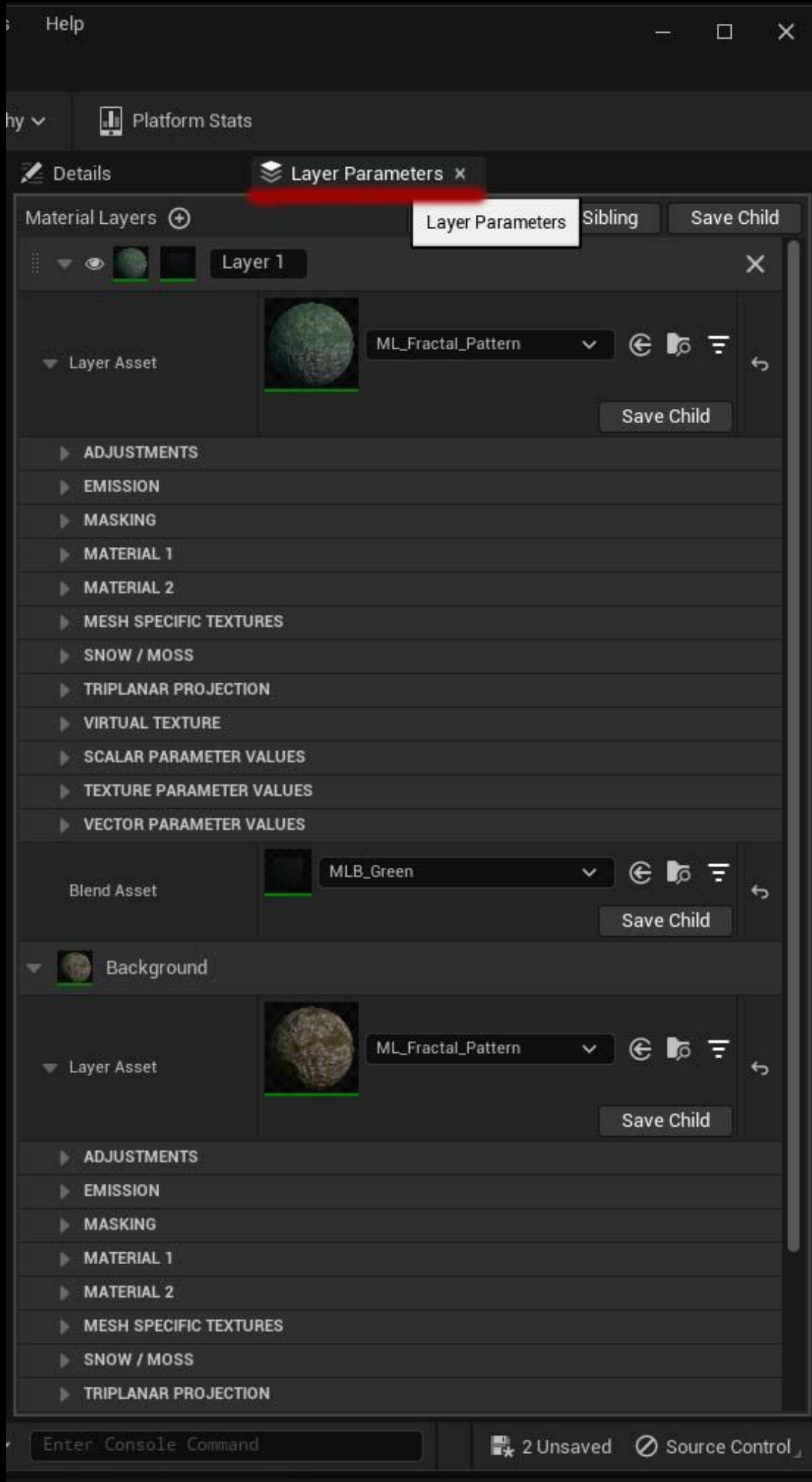
You can quickly swap between Material 1 and Material 2 by typing either 1 for Mat 1 or 0 for Mat 2.

Material layer blend / vertex painted materials



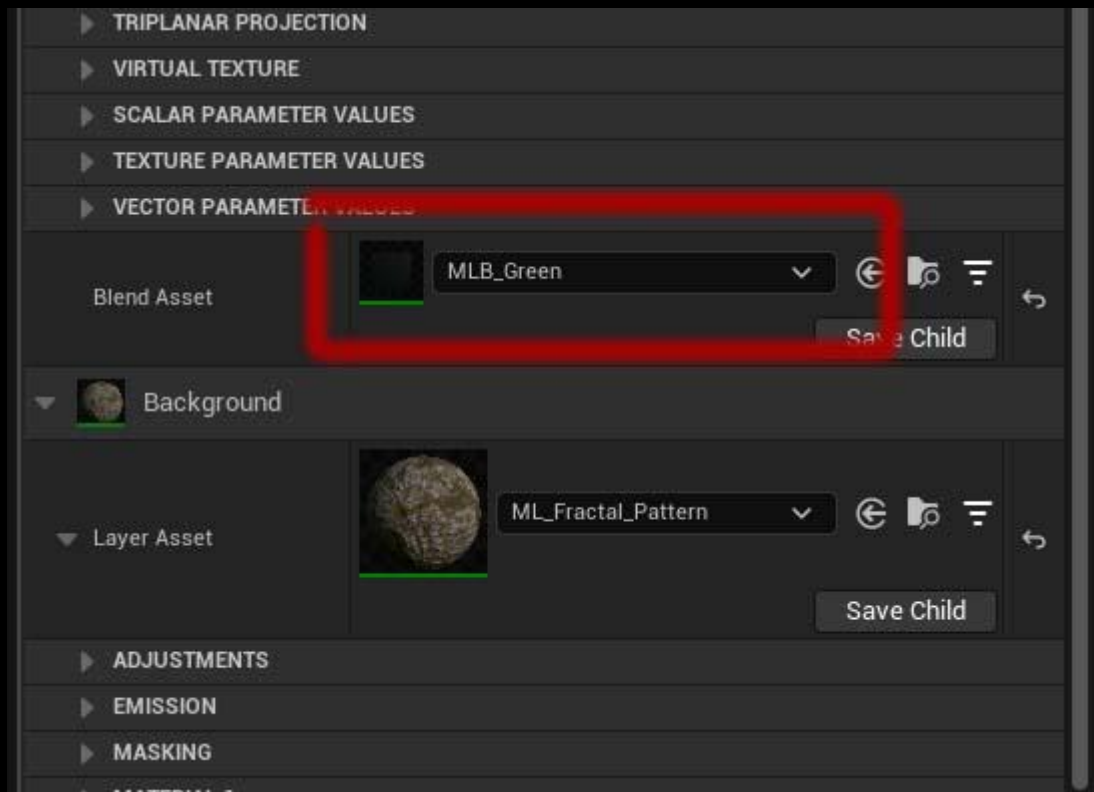
If you want to vertex paint additional material on a mesh, you can take advantage of the Material Layer System.

If you open up for example “MLS_Fractal_27” in UCreate_Fractals -> Materials -> Material Layers and make sure you are on “Layer Parameters” tab, you will see a list of parameters almost identical to a normal material instance:



That means that you can edit them to your liking, including choosing texture sets that you want for material 1 and/or material 2.

Background layer is by default applied to a whole mesh whereas **Layer 1** would be your vertex painted material on top of it. In example of Fractal_27 the background is painted in Red and additional layer is painted in Green, because the Blend Asset is set to Green:



You can of course add more layers if you need them.

Very **important** thing here is that in “Mesh Specific Textures” you choose appropriate Normal and RGA mask textures for a given fractal model you want to paint on, in this example “fractal_27_Normal” and “fractal_27_RGA_Mask”:



Summary

If you want to paint more materials on different fractal models, the easiest way is to:

1. duplicate any MLS material - like for example "MLS_Fractal_27"
2. edit its parameters , in particular "Mesh Specific Textures" as stated above.
3. go to *Mesh Paint* mode and start painting. If for example you paint in Red, then make sure that Blend Asset is set to MLB_Red:

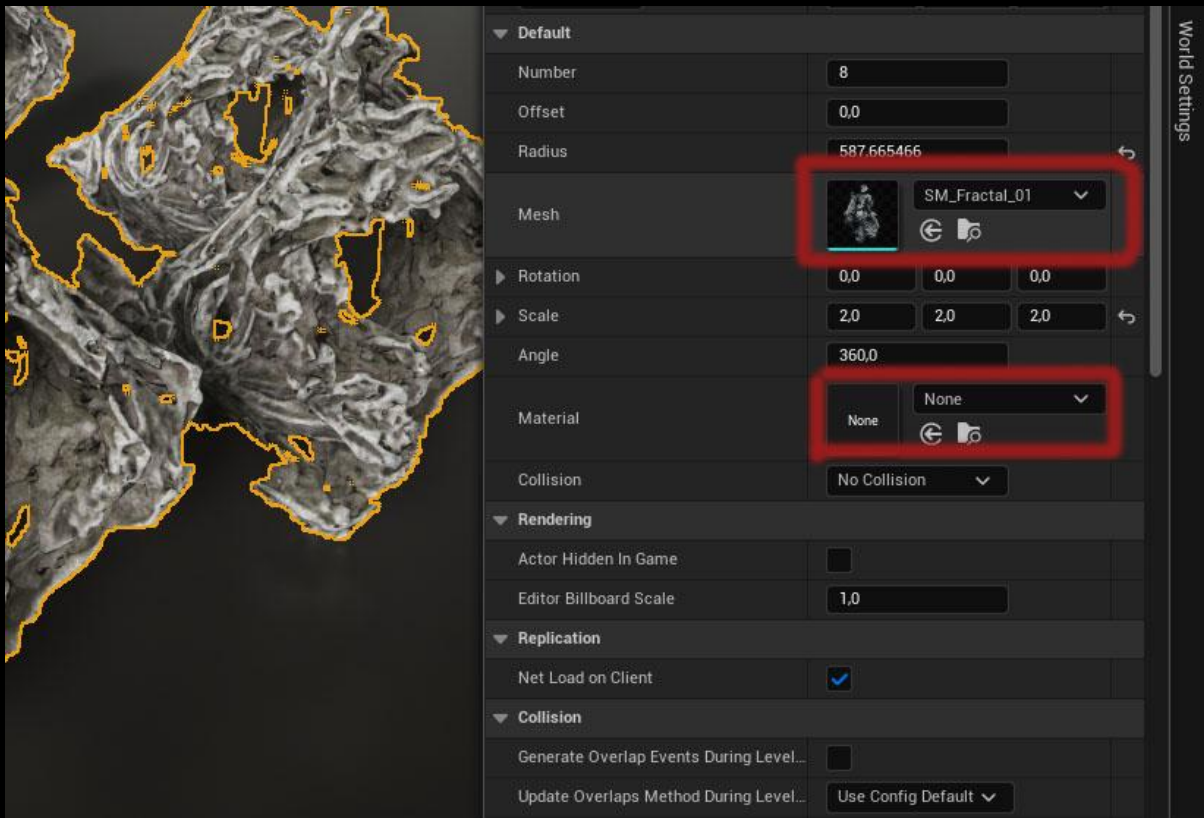


Vertex Paint Troubleshooting

On UE 5.1 you may not be able to paint at all **if the mesh has Nanite enabled**. Try to disable Nanite first, then paint and when you're done, click "Apply". Now you can enable Nanite again and the mesh should keep your paint information.

Blueprints

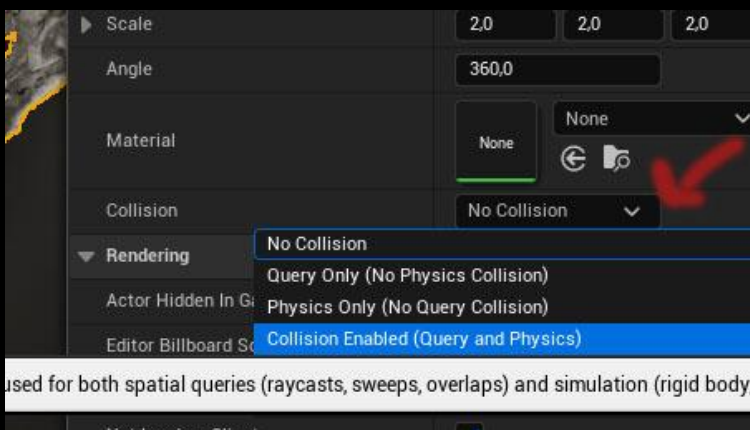
All four blueprints - Spline deform, Circular array, 3D array, Mesh Multi Deform - have an option to swap meshes and materials on the fly:



If you leave the Material slot empty like in example above, the meshes will display their default stone material.

Important:

When using blueprints, you may sometimes experience noticeable lagging effects. To counter that, please work with collisions disabled. When you are satisfied with your result and you want to have collisions, enable them afterwards:



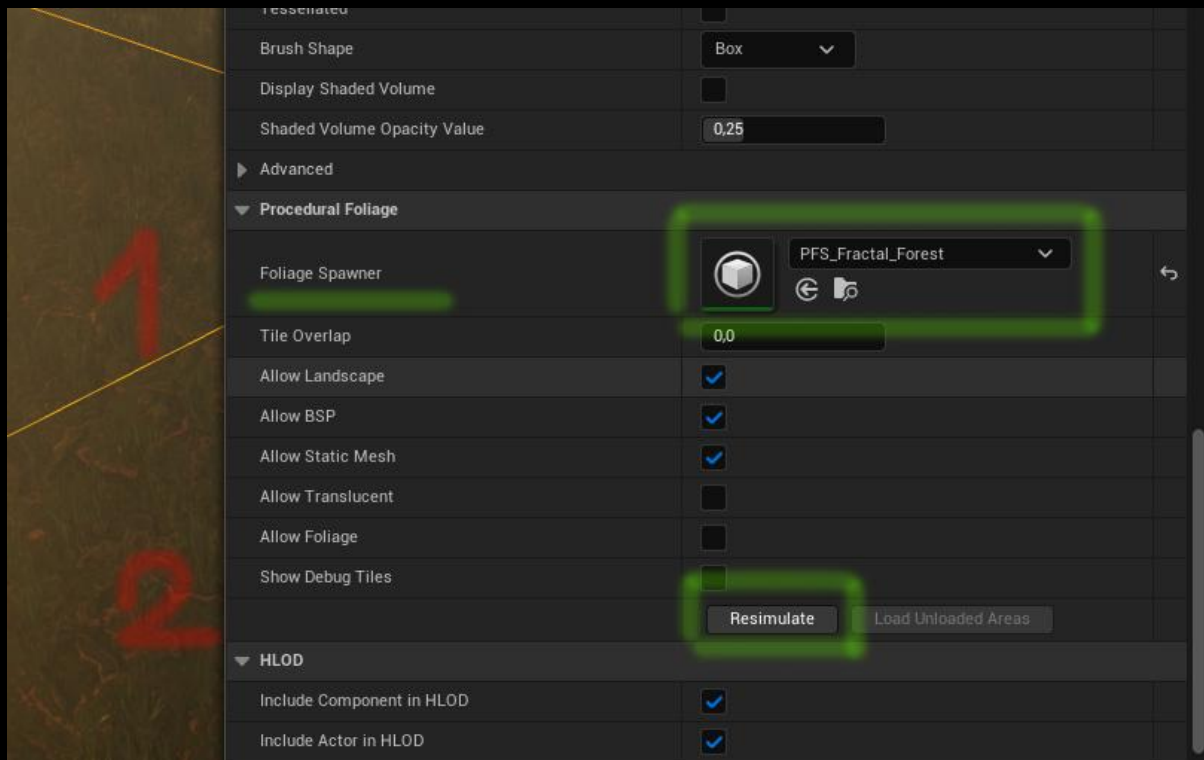
Procedural Foliage

The 'Example_level_Fantasy' illustrates how you can take advantage of the **Procedural Foliage** system, so you can easily and quickly generate entire fractal forests.

To enable procedural foliage, navigate to Edit -> Editor Settings -> Foliage tab, and tick *Procedural foliage* on.

Now you can drag and drop **Procedural Foliage Volume** into your scene, which you can find in **place actors** window.

After you adjust the size of the volume, you can go to the **Details tab** of the volume and choose pre made **foliage spawner**, as you can see below:



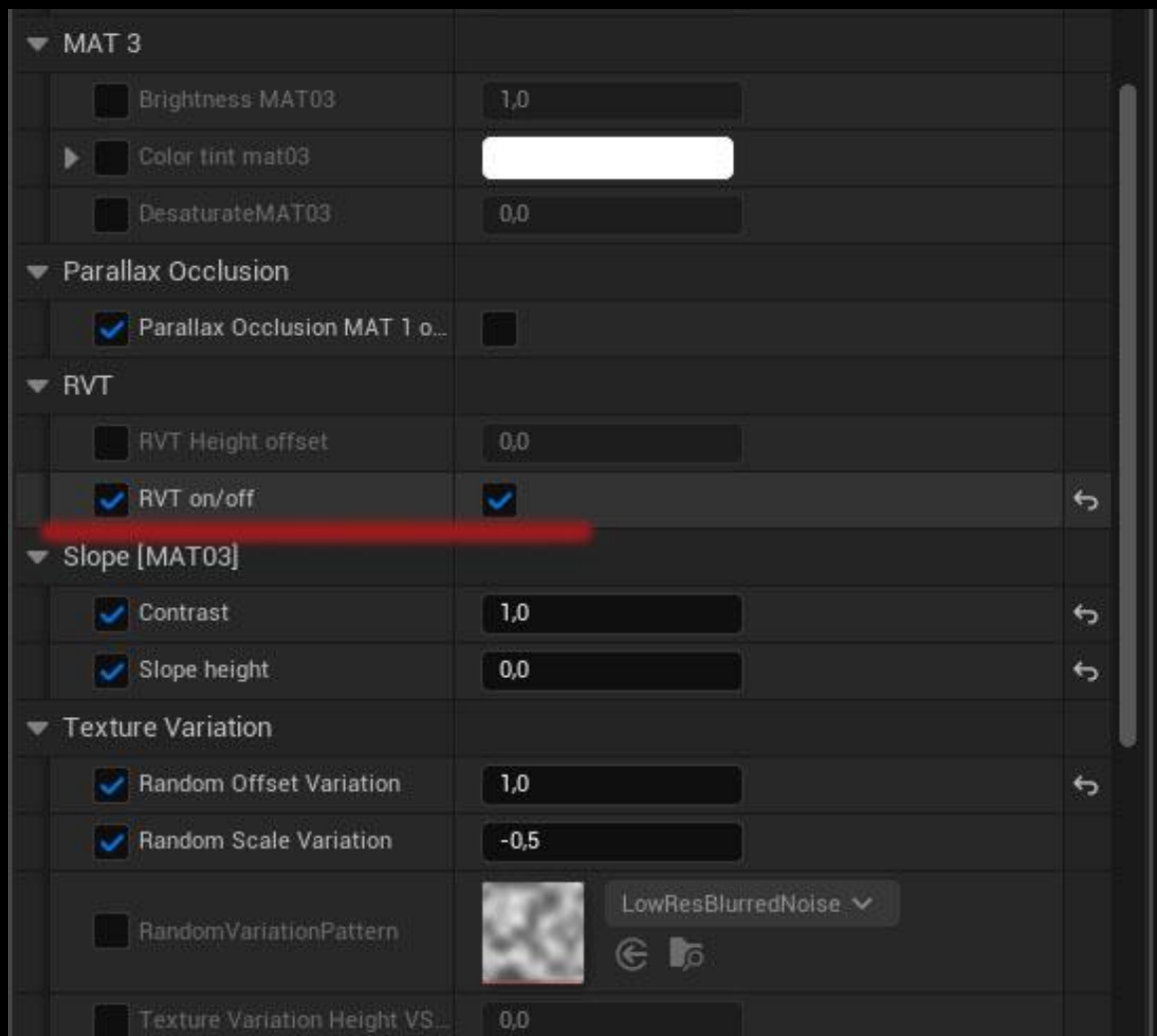
The final step is to hit "**Resimulate**".

You can of course adjust the Spawner settings when you double click on it, like the density, or add/delete the spawned meshes and so on.

Landscape RVT

If you want to use landscape RVT, please enable **Virtual Texture Support** in Project settings

All example levels that use landscape have already RVT set up in place, the only thing you need to do is open up MI_Landscape_Stronghold, or MI_Landscape_Fantasy etc. in "Material" -> "Landscape" folder and tick RVT on:



Enabling RVT is a very good way to optimize your landscape, but it's not enabled by default because it reduces the texture quality a bit.