Altos

A Game-Ready Asset by **Occa Software**

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Introduction

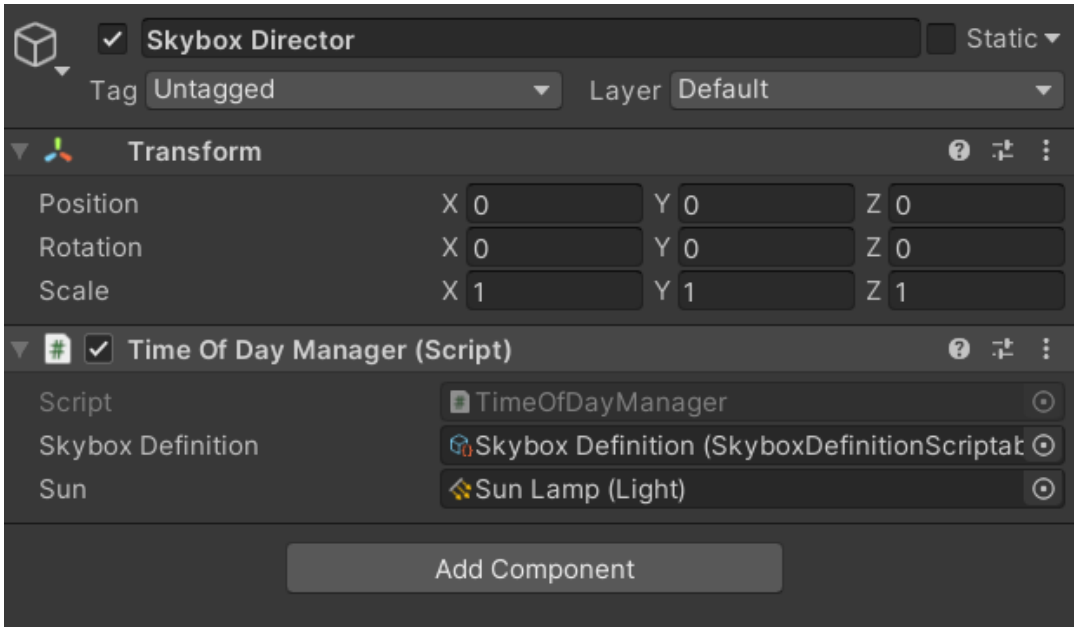
Easily add beautiful dynamic skies, volumetric clouds, and a 24-hour day/night cycle to your game.

Designed for **Unity 2021.3 Universal Render Pipeline (URP)**.

Features

1. Dynamic, Customizable Skybox
2. Time of Day Manager enables massive open world games with realistic day/night cycles
3. Skybox, High Altitude, and Low Altitude Volumetric Clouds
4. Realistic night sky rendering with stars and moon
5. Depth fog synchronized to the scene's lighting and atmospherics
6. Highly customizable and easy to use

First Setup - Skybox



1. Import the Skies package.
2. **I strongly recommend exploring the sample scene included in the project.**

3. **Click on the + button near the top of your Hierarchy window. Click Skybox Director.** This is a one-click setup that creates all the needed data and configurations for the Skybox to work.

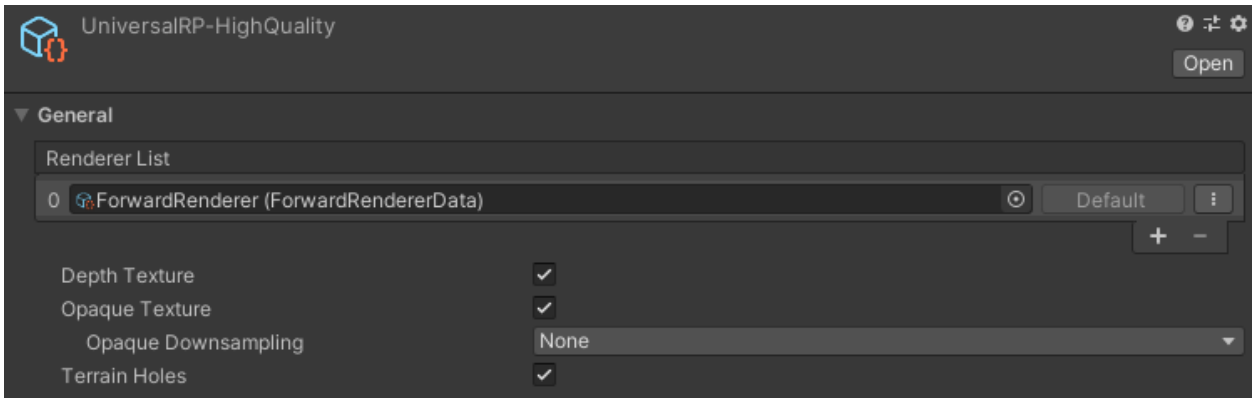
4. **Open the Skybox Definition object** from your TimeOfDayManager to configure the Skybox and fog configuration that is applied in your scene.

Important Note:
The one-click setup requires you to reload the scene. To do so, enter play mode, and then exit play mode. The Skybox should now be correctly configured.

(I am working to simplify this initial setup.)

First Setup - Volumetric Clouds

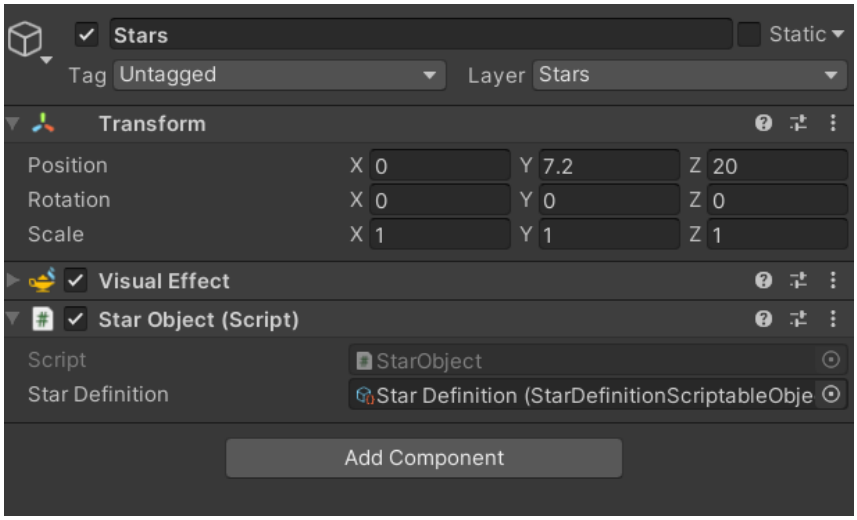
1. Open your Forward Renderer in “Assets/Settings/...”, click “Add Renderer Feature”, and select “Skybox Clouds Feature”.
2. Configure your Volumetric Clouds from the **Clouds game object** under the Skybox Director.
3. Volumetric Clouds requires your Rendering Asset to generate Opaque and Depth Textures. Ensure that you generate these textures from your UniversalRP-[High/Medium/Low]Quality assets.

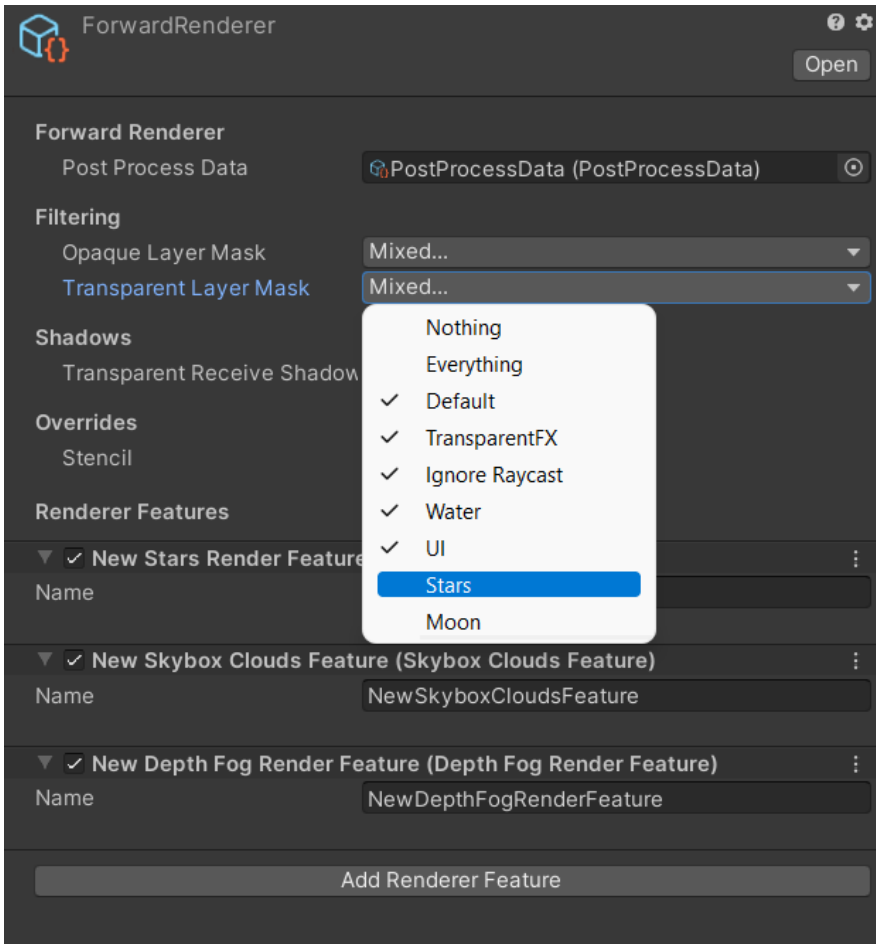


First Setup - Stars and Moon

Stars
Stars can now render behind Volumetric Clouds without impacting other Transparent Particles. This requires 3 easy steps.

1. On your Stars Game Object, create and set a new Layer to be used exclusively with the Stars game object. I named mine **Stars**.
2. On your Forward Renderer, pop open the Transparent Layer Mask and de-select the newly added layer. Then add the Stars Render Feature.

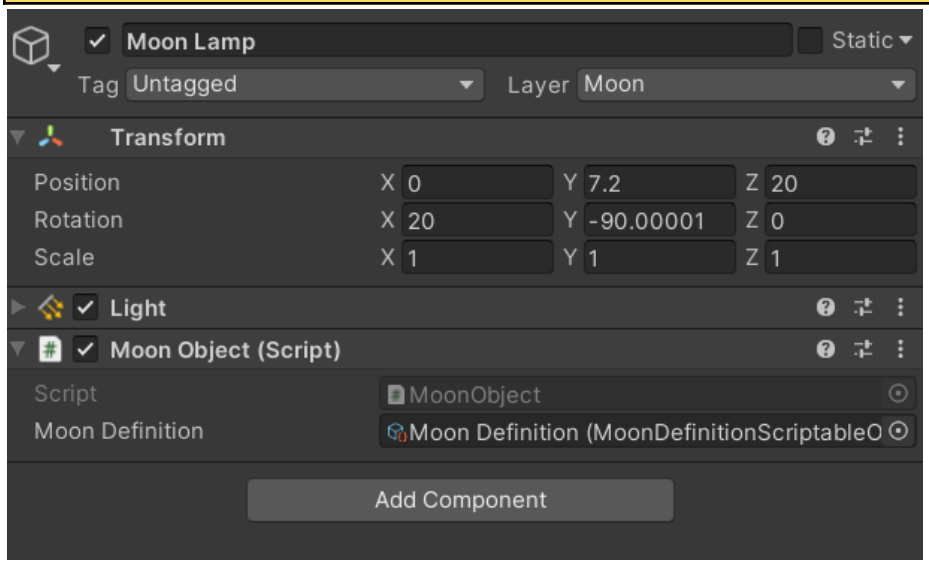

Stars
Static
Tag Untagged
Layer Stars
Transform
Position X 0 Y 7.2 Z 20
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1
Visual Effect
Star Object (Script)
Script StarObject
Star Definition Star Definition (StarDefinitionScriptableObje
Add Component

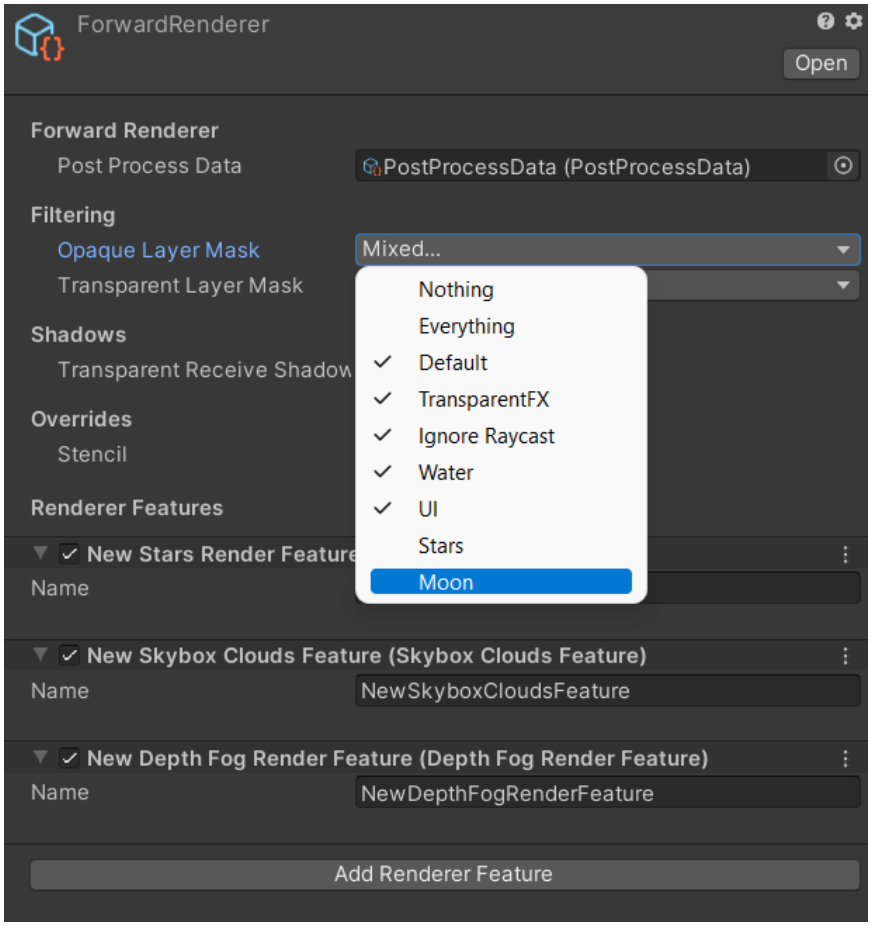

ForwardRenderer
Open
Forward Renderer
Post Process Data PostProcessData (PostProcessData)
Filtering
Opaque Layer Mask Mixed...
Transparent Layer Mask Mixed...
Nothing
Everything
Default
TransparentFX
Ignore Raycast
Water
UI
Stars
Moon
Shadows
Transparent Receive Shadow
Overrides
Stencil
Renderer Features
New Stars Render Feature
Name
New Skybox Clouds Feature (Skybox Clouds Feature)
Name NewSkyboxCloudsFeature
New Depth Fog Render Feature (Depth Fog Render Feature)
Name NewDepthFogRenderFeature
Add Renderer Feature

Moon

The moon can also render behind Volumetric Clouds without impacting other Transparent Particles. This requires 2 easy steps.

1. On your Moon Game Object, create and set a new Layer to be used exclusively with the Moon game object. I named mine **Moon**.
2. On your Forward Renderer, pop open the Opaque Layer Mask and de-select the newly added layer. Then add the Stars Render Feature if you have not already added it for the Stars. You should only have one Stars Render Feature present in your ForwardRenderer.




ForwardRenderer
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Transparent Layer Mask
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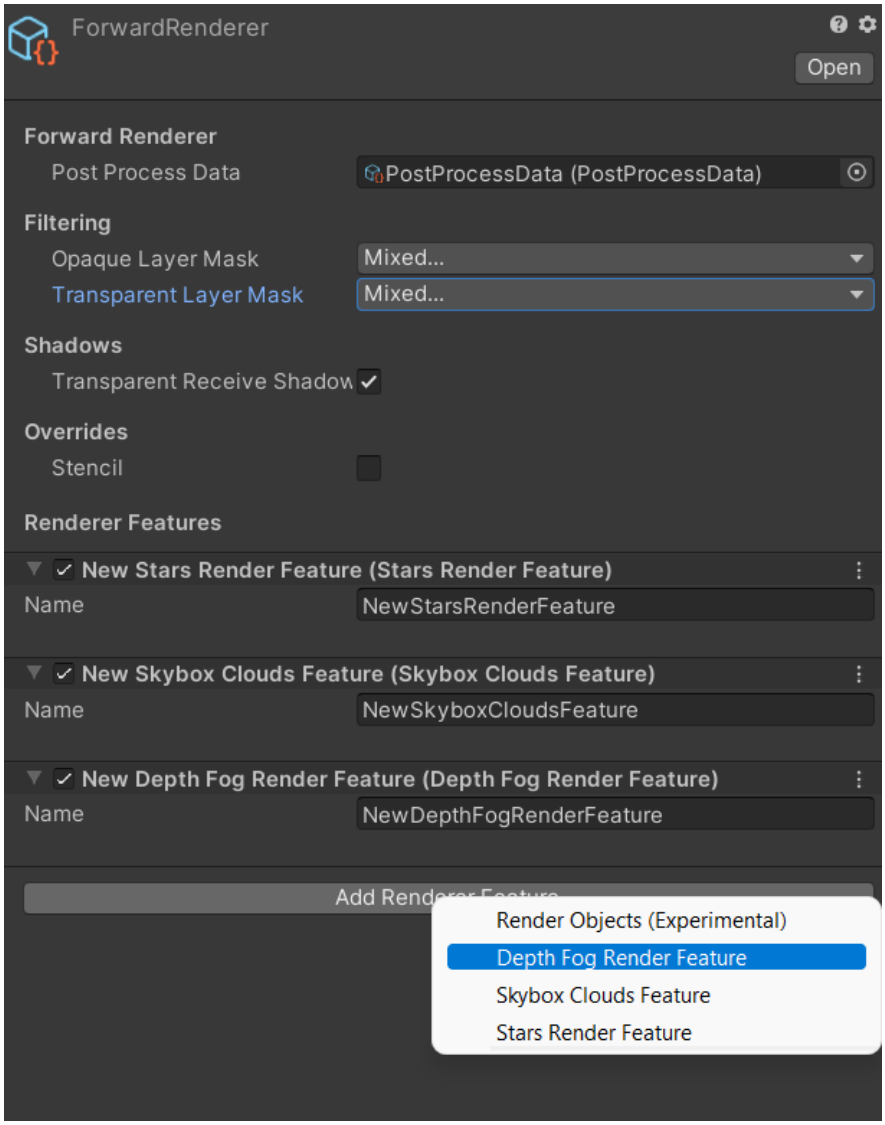
Default
TransparentFX
Ignore Raycast
Water
UI
Stars
Moon
Shadows
Transparent Receive Shadow
Overrides
Stencil
Renderer Features
New Stars Render Feature
Name
New Skybox Clouds Feature (Skybox Clouds Feature)
Name
NewSkyboxCloudsFeature
New Depth Fog Render Feature (Depth Fog Render Feature)
Name
NewDepthFogRenderFeature
Add Renderer Feature

First Setup - Depth Fog



1. In your ForwardRenderer, click “Add Renderer Feature”.
2. Select “Depth Fog Render Feature”

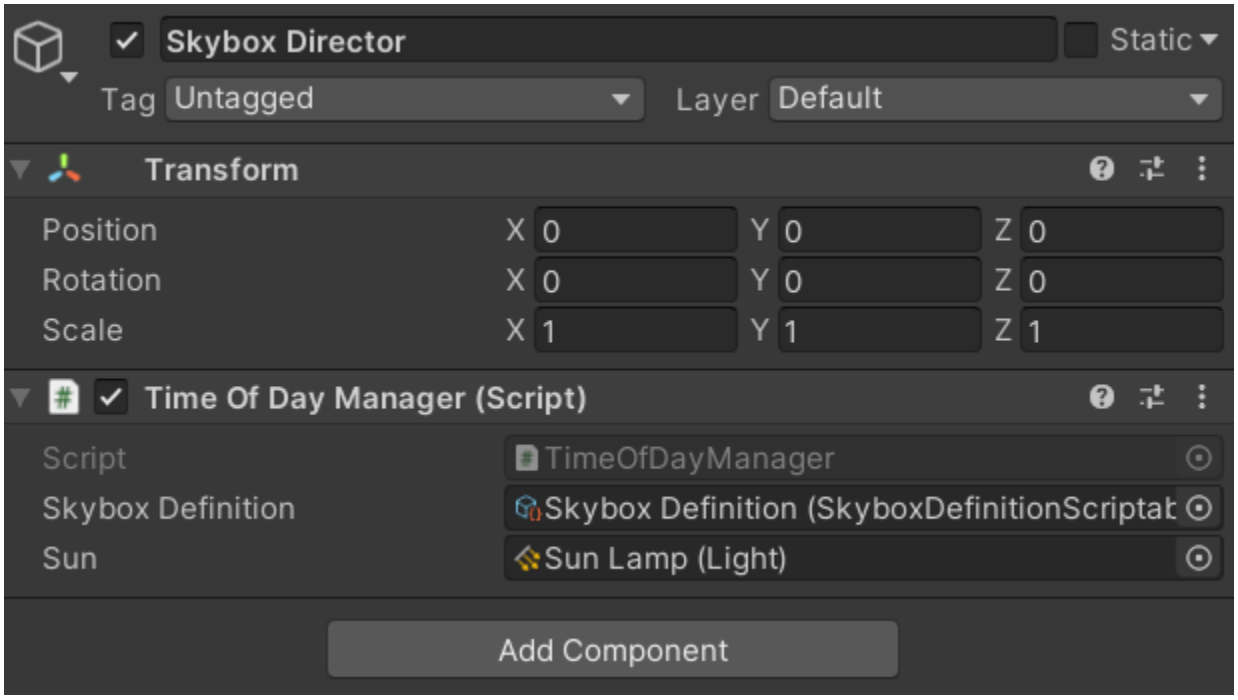
Skybox Definitions

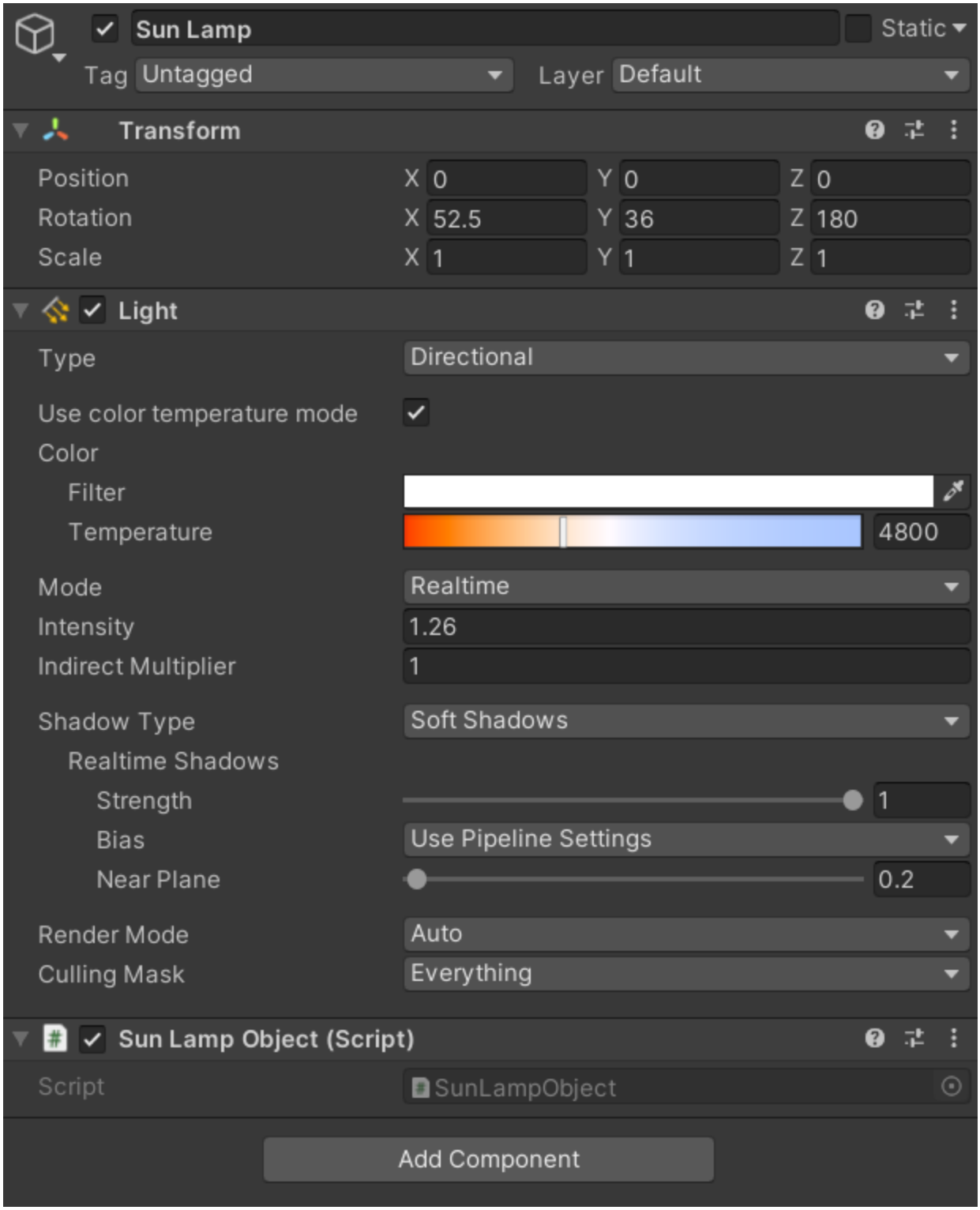
A Skybox Definition represents a pre-made configuration asset for the Times of Day, Sky, Cloud, Star, Fog, and other settings. You can save these assets, use them across scenes and have changes in one asset propagate to all scenes, or swap out to different Skybox Definitions while in a given scene.

We have distinct Definition Objects for your Time of Day Manager, Stars, Moon, and Clouds configurations. This enables you to easily save and swap your favorite configurations.

You can create a new asset for each configuration by right clicking in your Project window and selecting Skies and choosing the appropriate sub-selection.

Example Configuration

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Color
Filter
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Intensity 1.26
Indirect Multiplier 1
Shadow Type Soft Shadows
Realtime Shadows
Strength 1
Bias Use Pipeline Settings
Near Plane 0.2
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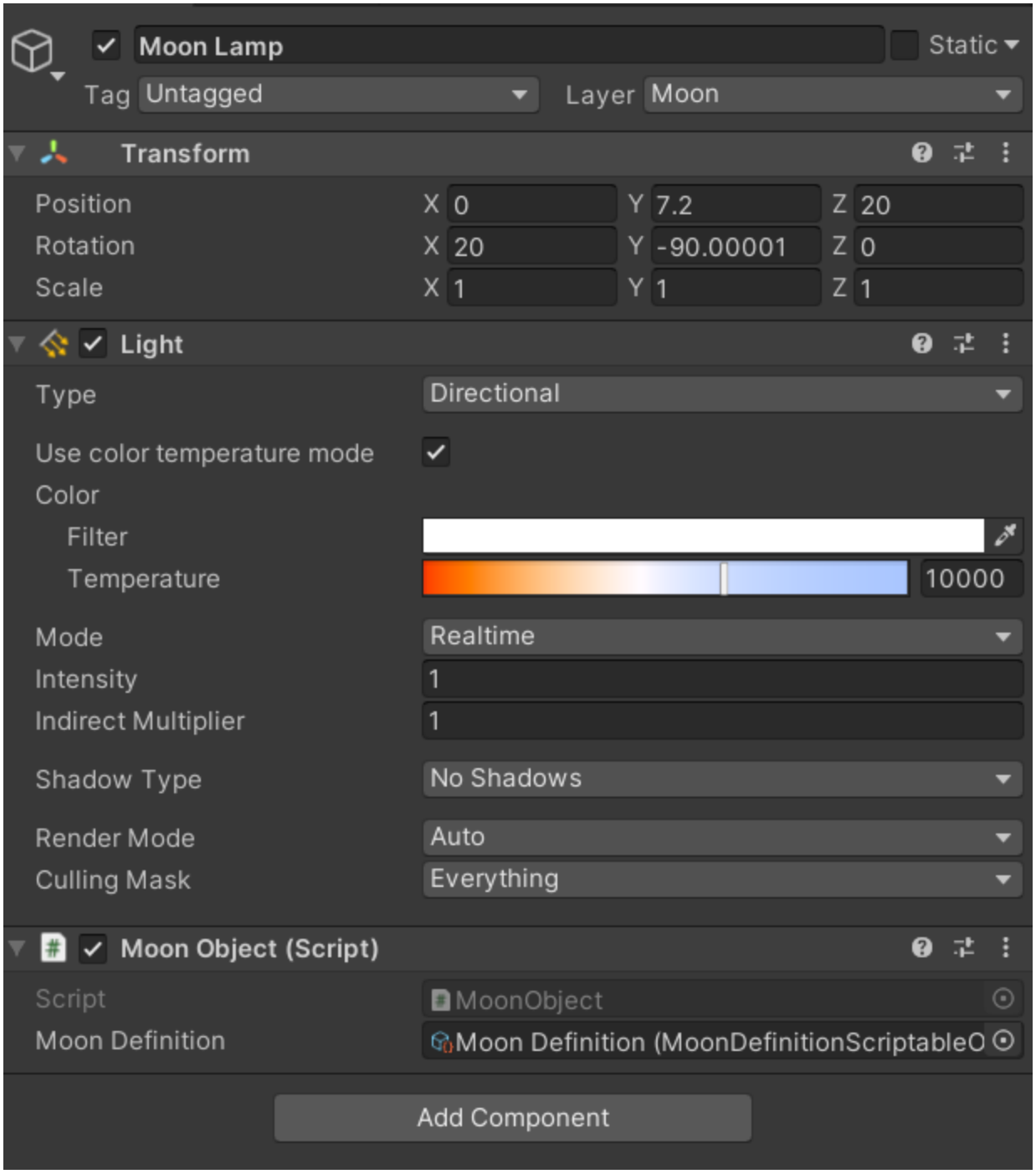
Sun Lamp Object (Script)
Script SunLampObject
Add Component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Color
Filter
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Mode Realtime
Intensity 1
Indirect Multiplier 1
Shadow Type No Shadows
Render Mode Auto
Culling Mask Everything
Moon Object (Script)
Script MoonObject
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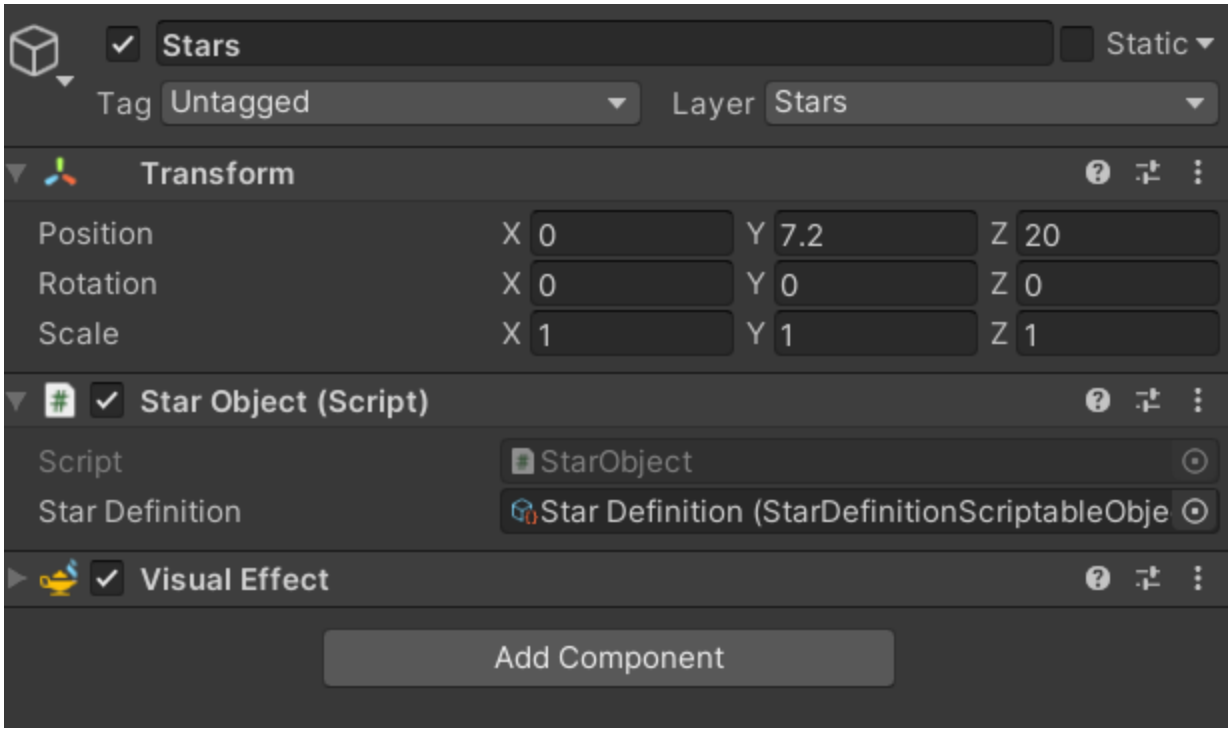
Add Component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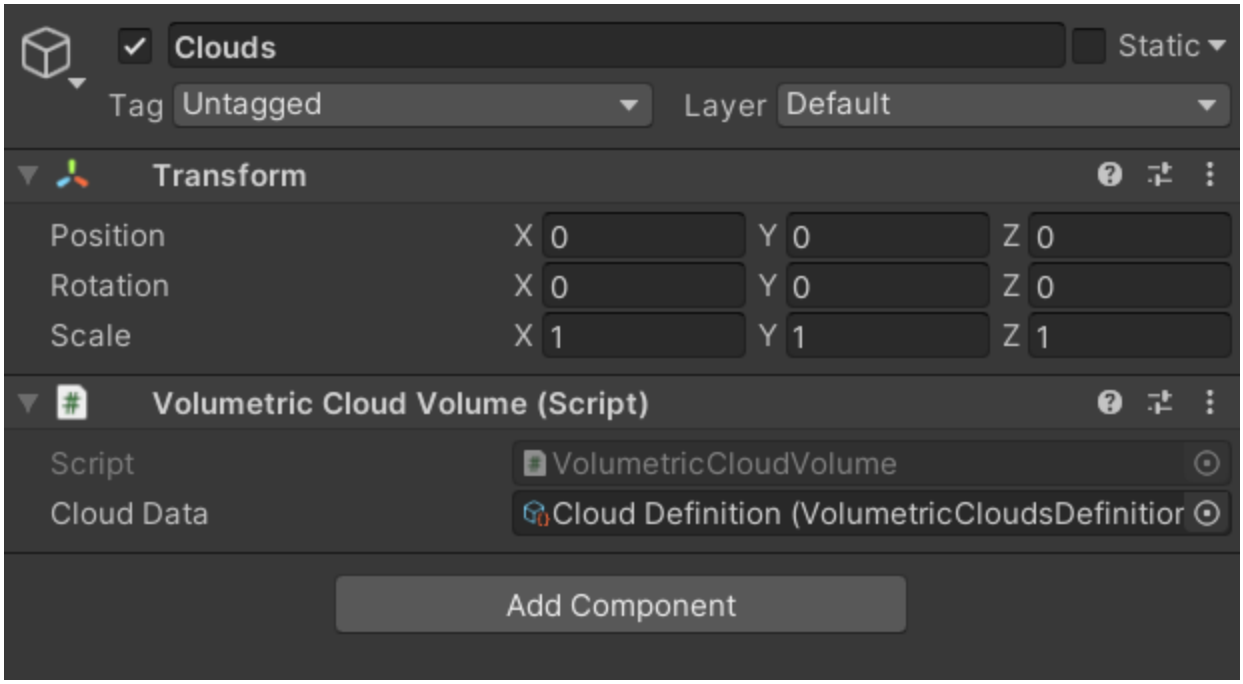
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Volumetric Cloud Volume (Script)
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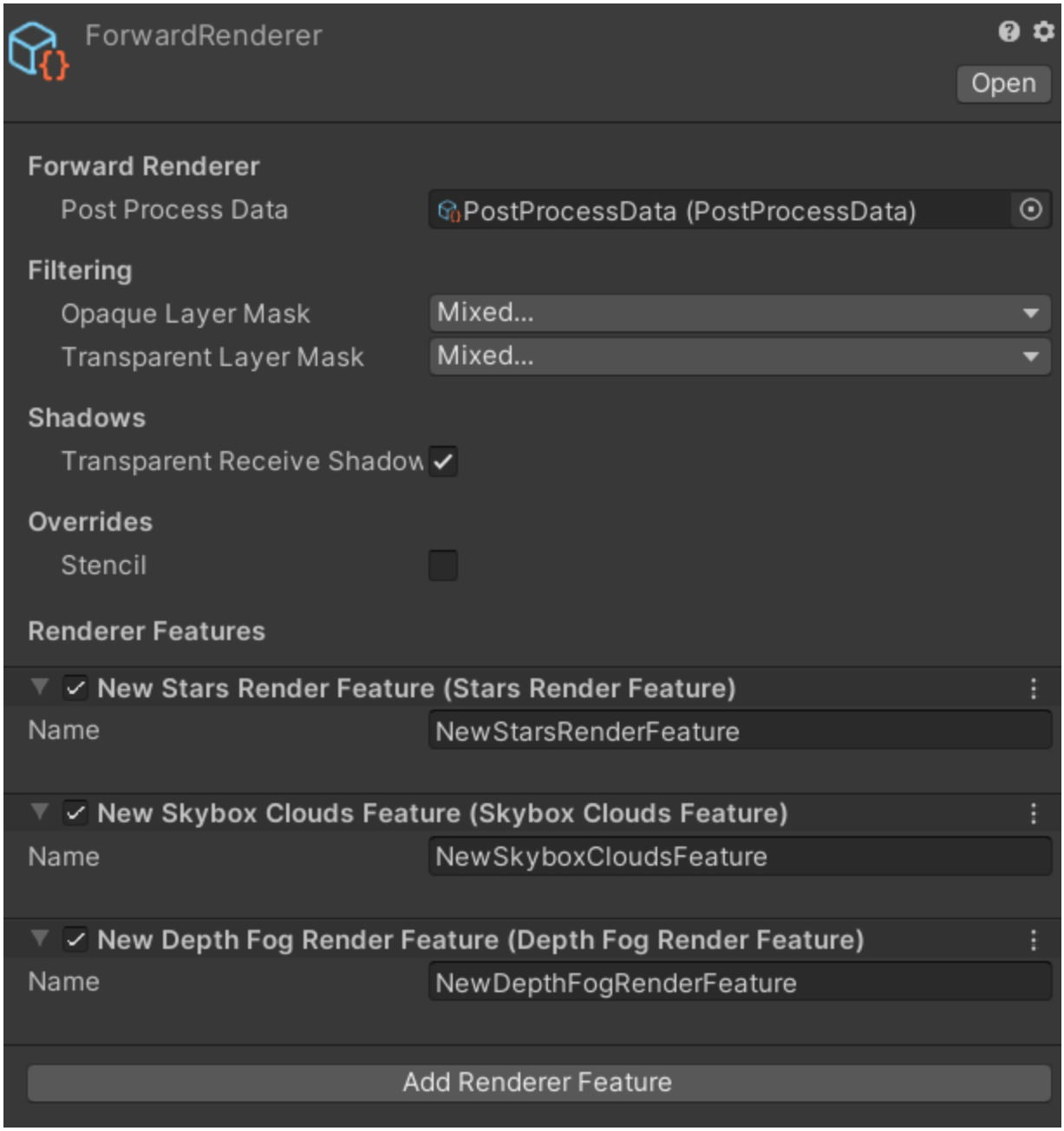
Add Component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Name
NewSkyboxCloudsFeature
New Depth Fog Render Feature (Depth Fog Render Feature)
Name
NewDepthFogRenderFeature
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Additional Notes

- When first setting up the Skybox, you may need to reload the scene by entering and exiting playmode once.

- When setting up Stars configuration, you may need to manually refresh the Stars VFX by entering and exiting playmode once.

- Make sure you turn on Post-Processing effects, including Bloom. Bloom is critical for the sun to “pop”.

No bloom (left) vs bloom (right)

Credit for the Moon Albedo map to NASA's Scientific Visualization Studio.
Credit for the Moon Normal map to both NASA's Scientific Visualization Studio and Christian Petry.

Contact

If you encounter any issues at all, please don't hesitate to contact me at occasoftware@gmail.com