Skies

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 2019.4 Universal Render Pipeline (URP)**.

Features

1. Add as many Times of Day as you need with customizable Start Times.
2. Set up a unique Horizon Color and Zenith (top of the sky) color for each Time of Day.
3. Set the speed for the cloud textures to pan through the skybox.
4. Configure the base color and shaded color for the clouds to easily fit your color palette.
5. Decide how much the sun influences the lighting of the clouds.
6. Change how much the clouds are affected by the color of the skies.
7. Easily transition from cloudy to clear skies with controllable cloud thresholds.
8. Control the size and color of the sun to fit your game's atmosphere.
9. Easily skip to specific times in the day.
10. Control how long it takes to transition between different times of day.
11. Set the overall day length with a controllable slider to determine how long one real-life second is in-game.
12. Modify the cloud and cloud shading sharpness to customize the look of your clouds - super soft and fluffy, or really crisp and stylized.
13. Built-in blue noise dithering to prevent banding on soft sky gradients.
14. Uses custom UVs to ensure you can have clouds directly overhead without any UV "pulling" at the top of the skybox.

15. Easy-to-use toggles and controls for both the Day/Night Manager and Skybox Material.

Performance
Both the shader and the day/night cycle manager are extremely performant, with ~0.1ms cost compared to an empty scene. Day/Night cycle manager profiled to < 0.02ms.

The Volumetric Clouds are also highly performant, with minimal < 1ms cost at “Medium” settings shown here.

First Setup - Skybox

1. Import this package.
2. **Attach the TimeOfDayManager script from “OS Shader _ Skybox URP/Scripts” onto your main Directional Light in the scene.**

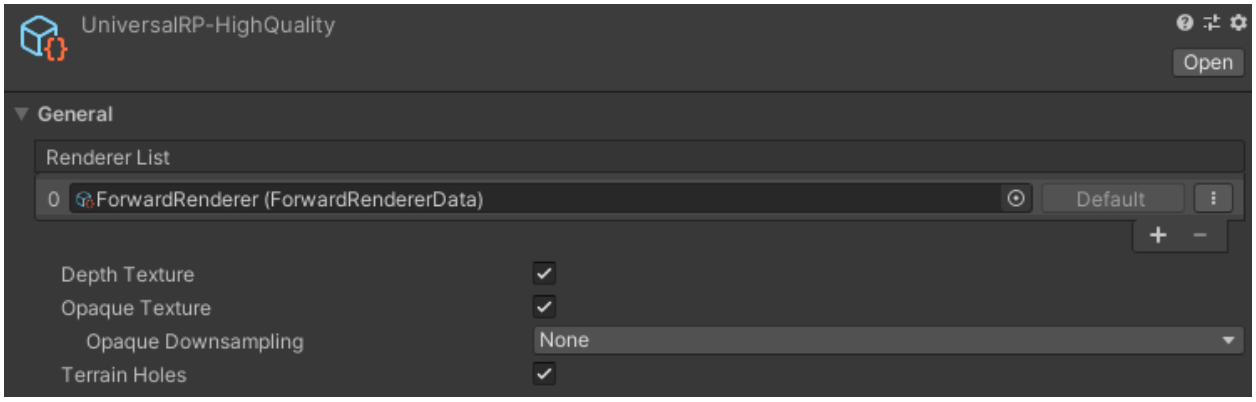
3. **Attach the OS Shader _ Skybox material** from “OS Shader _ Skybox URP/Materials” onto the TimeOfDayManager script on your main Direction Light as the Skybox Material. This Material can be reused across any number of scenes.

4. **Attach the Skybox Definition object** from “OS Shader _ Skybox URP/Skybox Definitions” onto the TimeOfDayManager script as the Skybox Definition.

5. Open the Skybox Definition object to configure the Skybox and fog configuration that is applied in your scene.

First Setup - Volumetric Clouds

1. Import this package.
2. Attach the VolumetricClouds_SetMainLightPosition script from “Assets/Skies/Scripts/...” onto your main Directional Light in the scene.
3. Open your Forward Renderer in “Assets/Settings/...”, click “Add Renderer Feature”, and select “Skybox Clouds Feature”.
4. Expand the Skybox Clouds Feature’s settings, then drag and drop the Volumetric Clouds - Render Pass material into the Cloud Pass material slot.
5. Configure your Volumetric Clouds by navigating to “Assets/Skies/Materials/…”, and then selecting the “Volumetric Clouds - Render Pass” material.
6. Volumetric Clouds depends on a Opaque and Depth Textures. Make sure that you generate these textures from your UniversalRP-[High/Medium/Low]Quality assets.

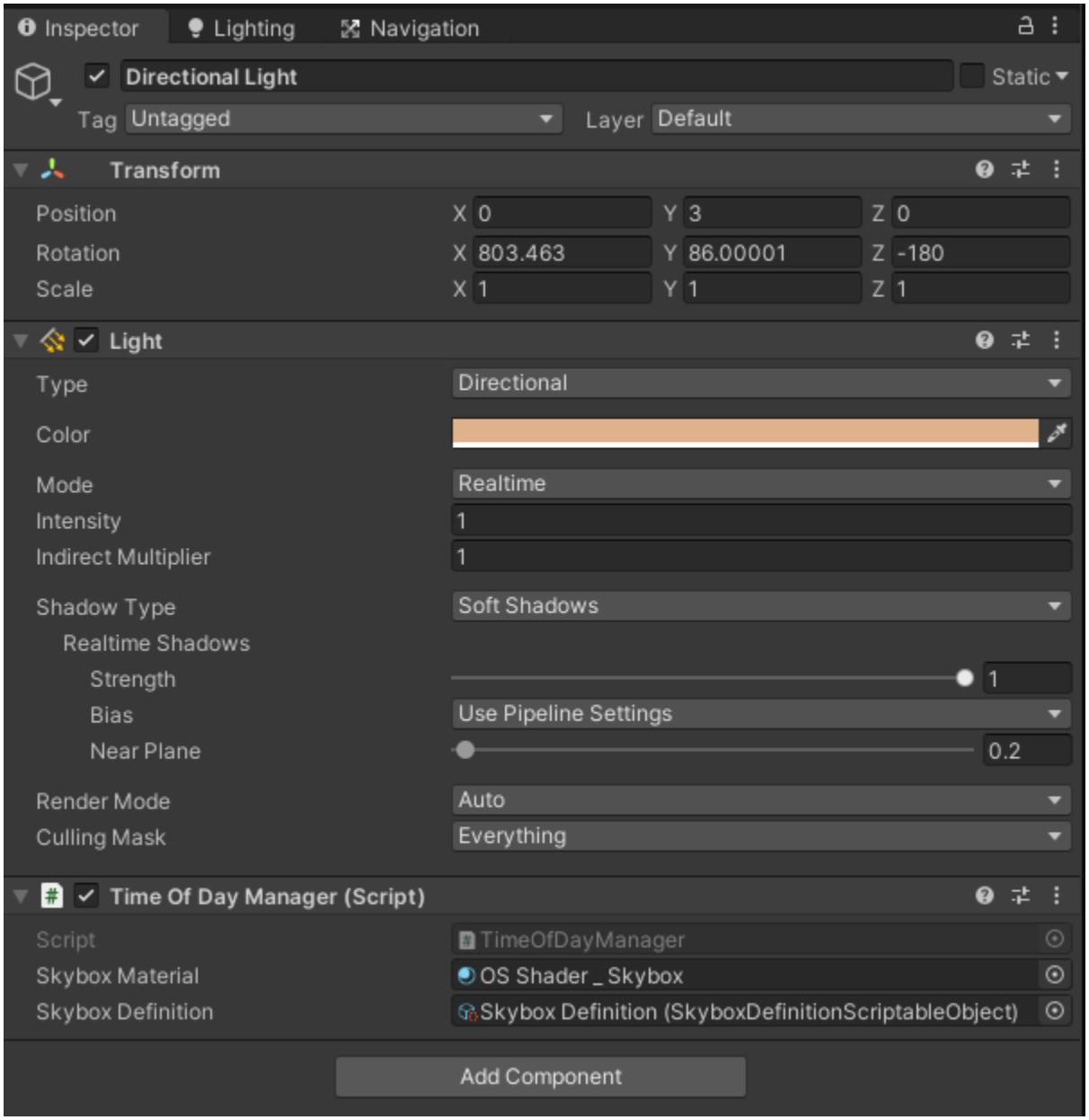


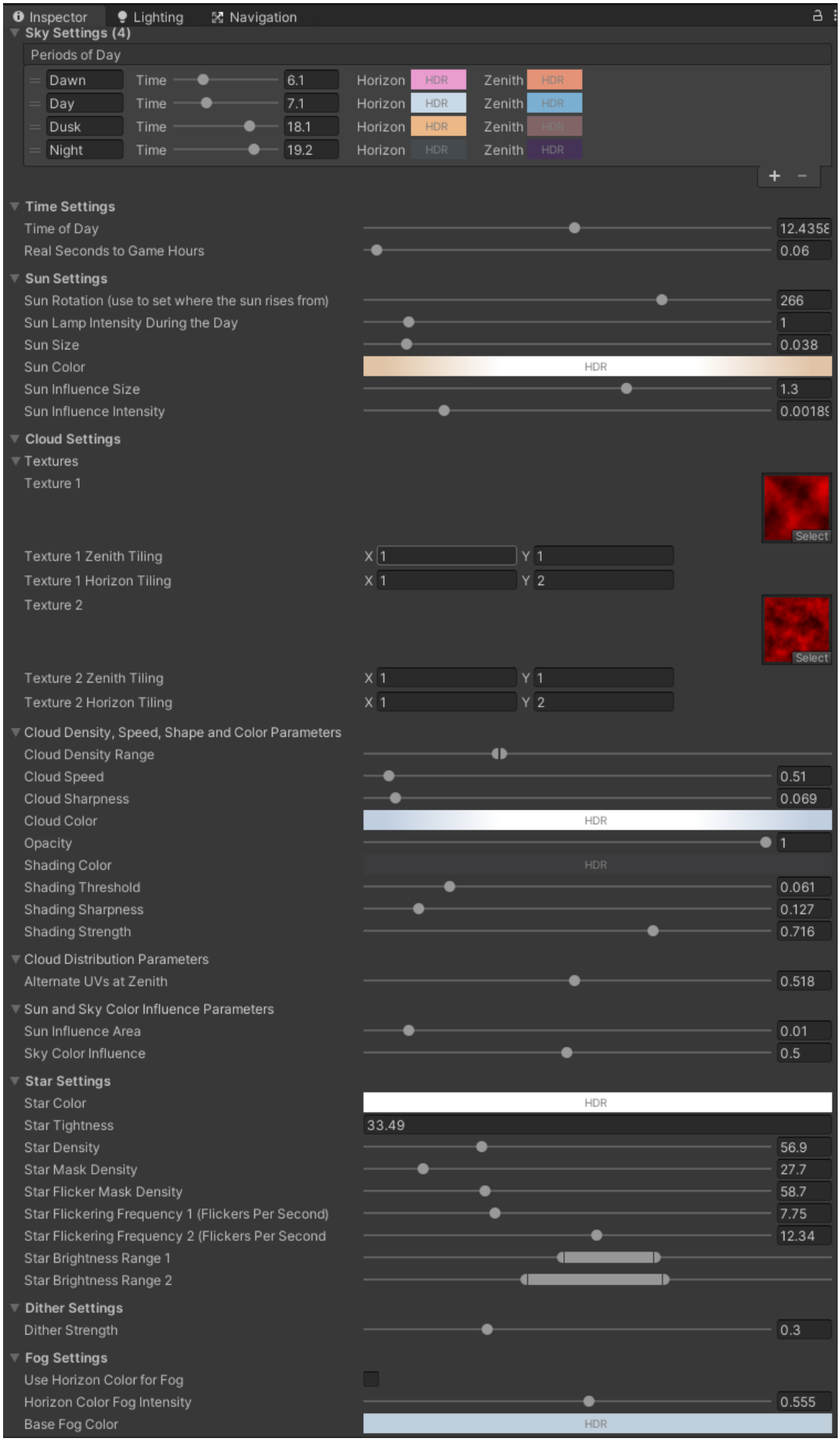
Skybox Definitions

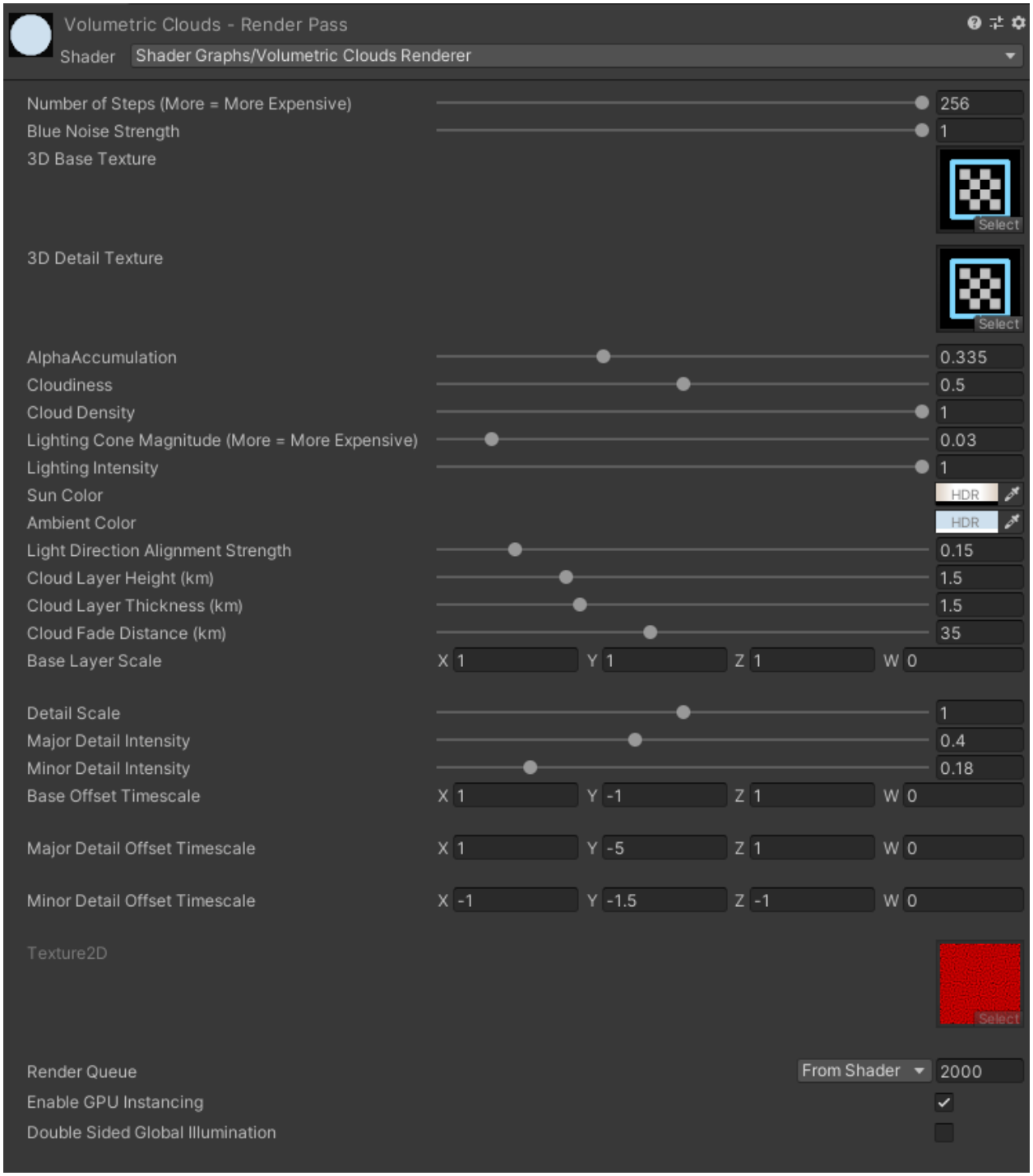
A Skybox Definition represents a pre-made configuration asset for the Times of Day, Sky, Cloud, Star, Fog, and other settings. You can save these assets, use them across scenes and have changes in one asset propagate to all scenes, or swap out to different Skybox Definitions while in a given scene.

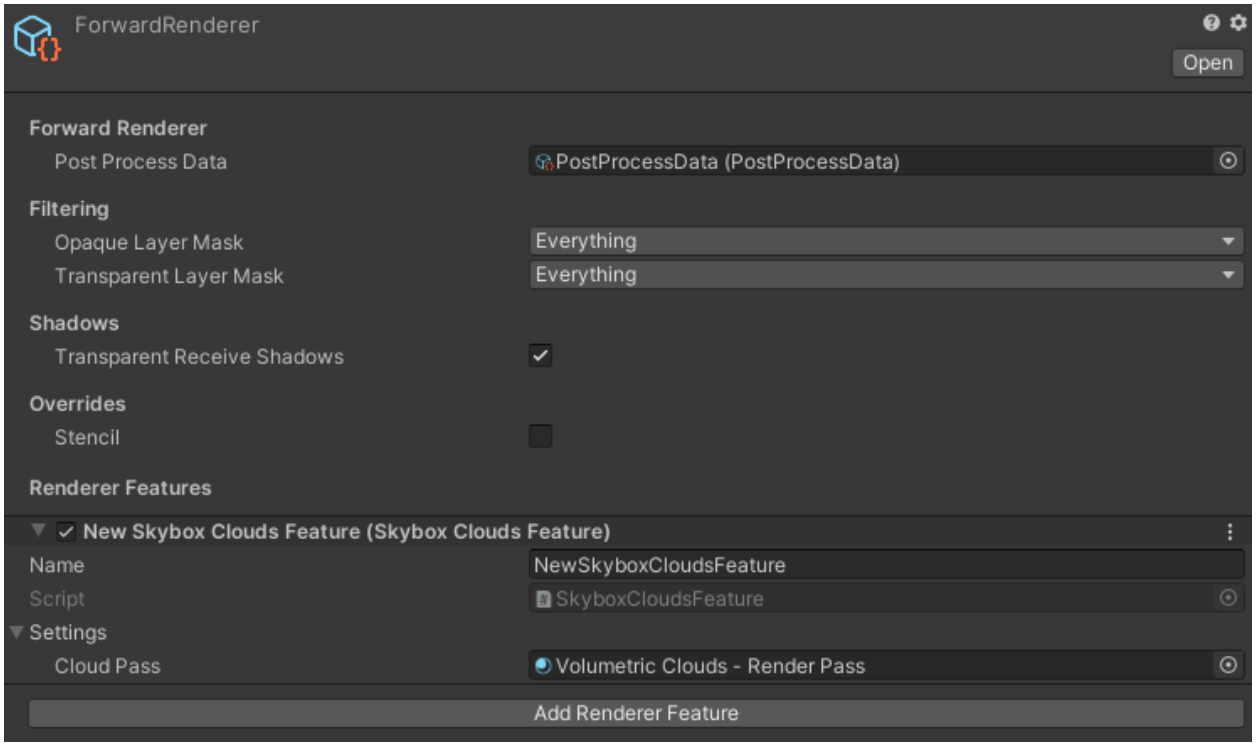
Note that **Volumetric Clouds** have not yet been integrated with the Skybox Definition workflow. You can configure Volumetric Clouds using the Volumetric Clouds - Render Pass material.

Example Configuration




Inspector
Lighting
Navigation
Sky Settings (4)
Periods of Day
Dawn Time 6.1 Horizon HDR Zenith HDR
Day Time 7.1 Horizon HDR Zenith HDR
Dusk Time 18.1 Horizon HDR Zenith HDR
Night Time 19.2 Horizon HDR Zenith HDR
Time Settings
Time of Day 12.435
Real Seconds to Game Hours 0.06
Sun Settings
Sun Rotation (use to set where the sun rises from) 266
Sun Lamp Intensity During the Day 1
Sun Size 0.038
Sun Color HDR
Sun Influence Size 1.3
Sun Influence Intensity 0.0018
Cloud Settings
Textures
Texture 1
Select
Texture 1 Zenith Tiling X 1 Y 1
Texture 1 Horizon Tiling X 1 Y 2
Texture 2
Select
Texture 2 Zenith Tiling X 1 Y 1
Texture 2 Horizon Tiling X 1 Y 2
Cloud Density, Speed, Shape and Color Parameters
Cloud Density Range
Cloud Speed 0.51
Cloud Sharpness 0.069
Cloud Color HDR
Opacity 1
Shading Color HDR
Shading Threshold 0.061
Shading Sharpness 0.127
Shading Strength 0.716
Cloud Distribution Parameters
Alternate UVs at Zenith 0.518
Sun and Sky Color Influence Parameters
Sun Influence Area 0.01
Sky Color Influence 0.5
Star Settings
Star Color HDR
Star Tightness 33.49
Star Density 56.9
Star Mask Density 27.7
Star Flicker Mask Density 58.7
Star Flickering Frequency 1 (Flickers Per Second) 7.75
Star Flickering Frequency 2 (Flickers Per Second 12.34
Star Brightness Range 1
Star Brightness Range 2
Dither Settings
Dither Strength 0.3
Fog Settings
Use Horizon Color for Fog
Horizon Color Fog Intensity 0.555
Base Fog Color HDR


Volumetric Clouds - Render Pass
Shader
Shader Graphs/Volumetric Clouds Renderer
Number of Steps (More = More Expensive)
256
Blue Noise Strength
1
3D Base Texture
Select
3D Detail Texture
Select
AlphaAccumulation
0.335
Cloudiness
0.5
Cloud Density
1
Lighting Cone Magnitude (More = More Expensive)
0.03
Lighting Intensity
1
Sun Color
HDR
Ambient Color
HDR
Light Direction Alignment Strength
0.15
Cloud Layer Height (km)
1.5
Cloud Layer Thickness (km)
1.5
Cloud Fade Distance (km)
35
Base Layer Scale
X 1
Y 1
Z 1
W 0
Detail Scale
1
Major Detail Intensity
0.4
Minor Detail Intensity
0.18
Base Offset Timescale
X 1
Y -1
Z 1
W 0
Major Detail Offset Timescale
X 1
Y -5
Z 1
W 0
Minor Detail Offset Timescale
X -1
Y -1.5
Z -1
W 0
Texture2D
Select
Render Queue
From Shader
2000
Enable GPU Instancing
Double Sided Global Illumination



Additional Notes

Make sure you turn on Post-Processing effects, including Bloom. Bloom is critical for the sun to “pop”. Let me know if this is a problem for you, and I can look into offering an alternative.

No bloom (left) vs bloom (right)

Contact

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