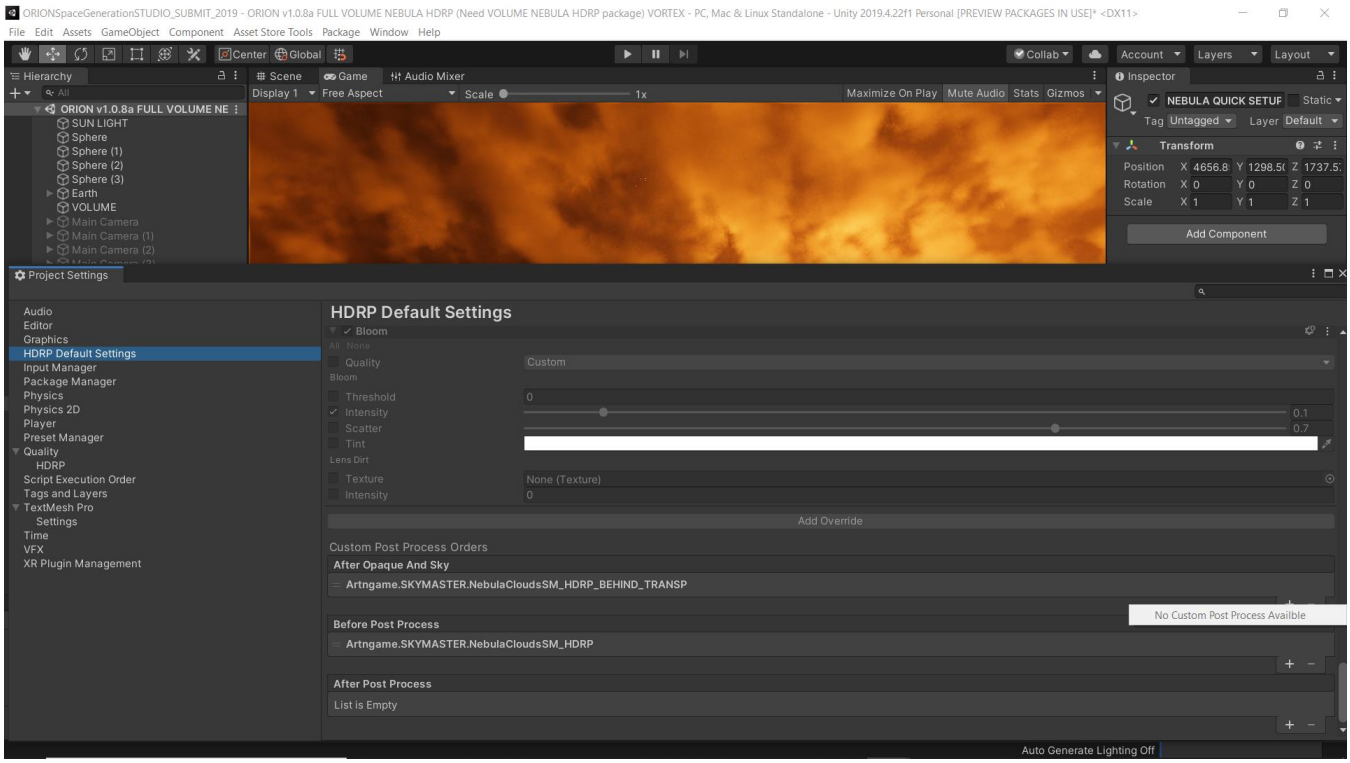
# ORION Nebula URP-HDRP Setup Guide

### Overview

The system is a volumetric Nebula emulation framework, with various options, for URP and HDRP pipelines**.**

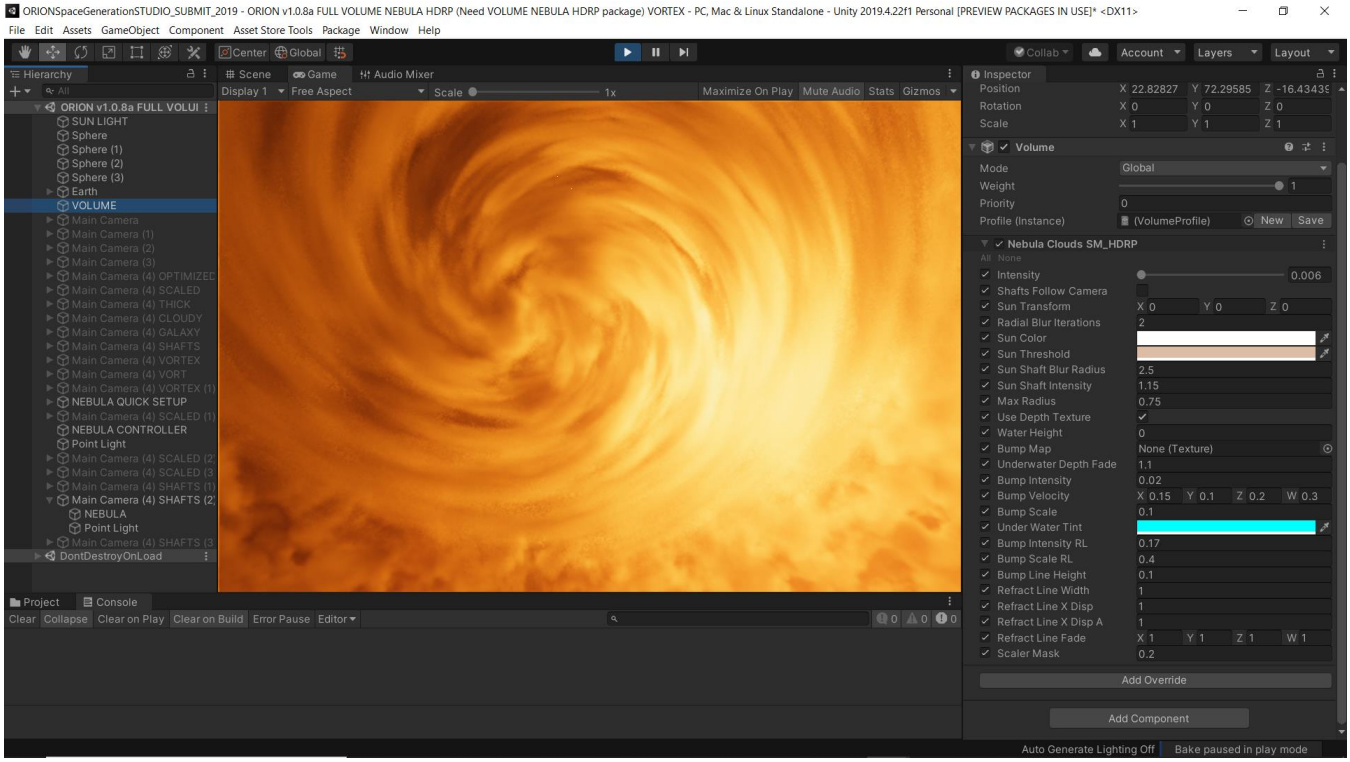
## HDRP Pipeline Nebula Image effect setup steps

**To setup the core of the system, requires to add the Custom Post process effects as shown in the image below.** There is two versions of the effect, the behind transparent version is used when the effect need to appear after effects like rain or snow, or generally transparent items. The other version may be used when the nebula need to appear in front of transparent objects, like when view the nebula above the nebula volume and below is a planet ocean.

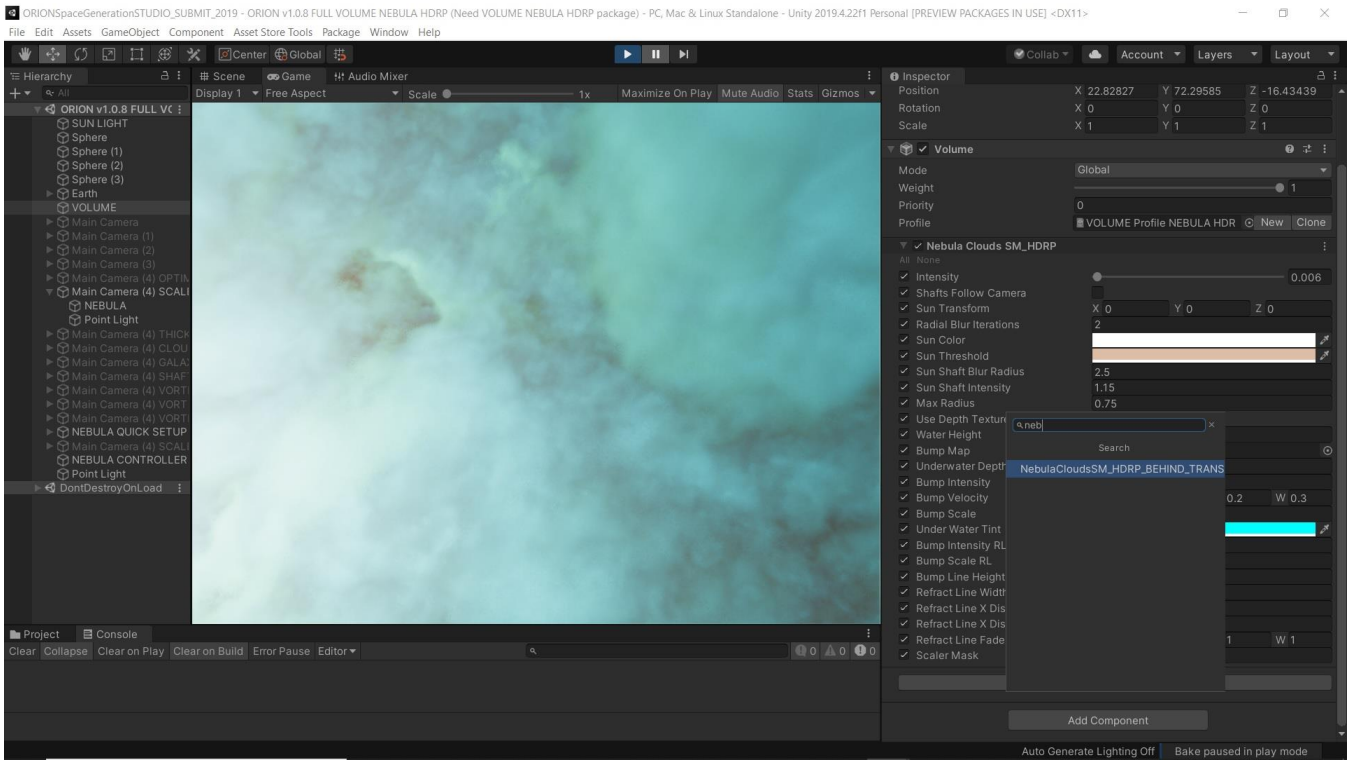


## Setup steps

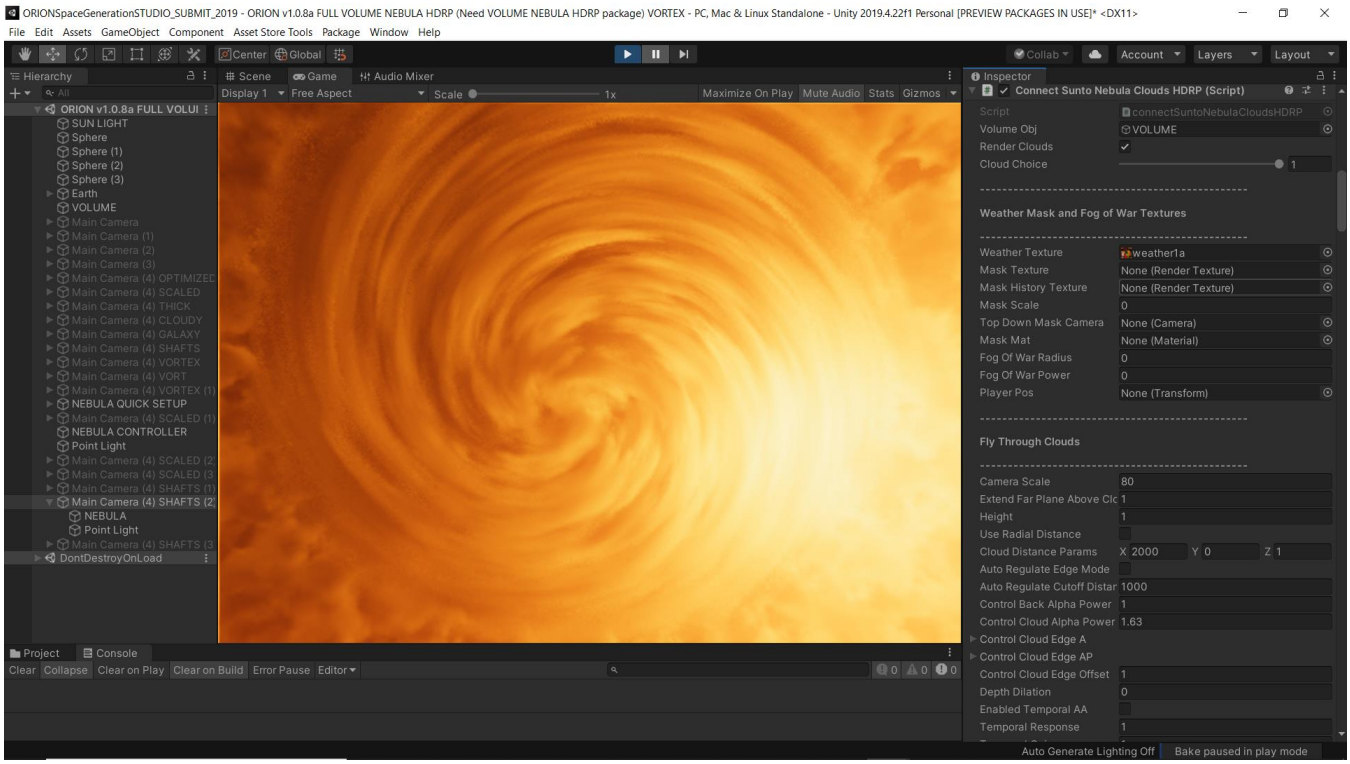
To setup the system, first step is to add the image effect to a volume in the scene, as shown in the following photos.



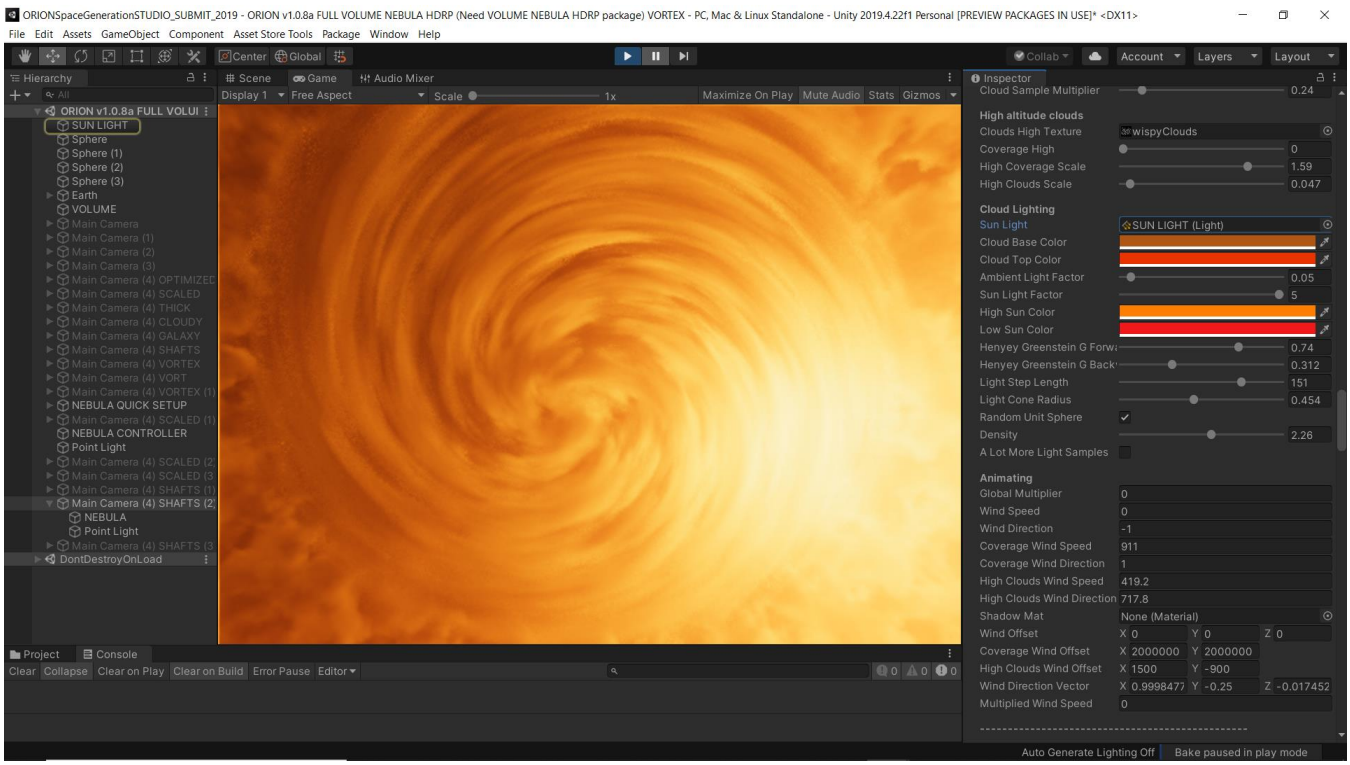
Add the behind transparent variant also if needed and enable one of the two per requirements in the scene.



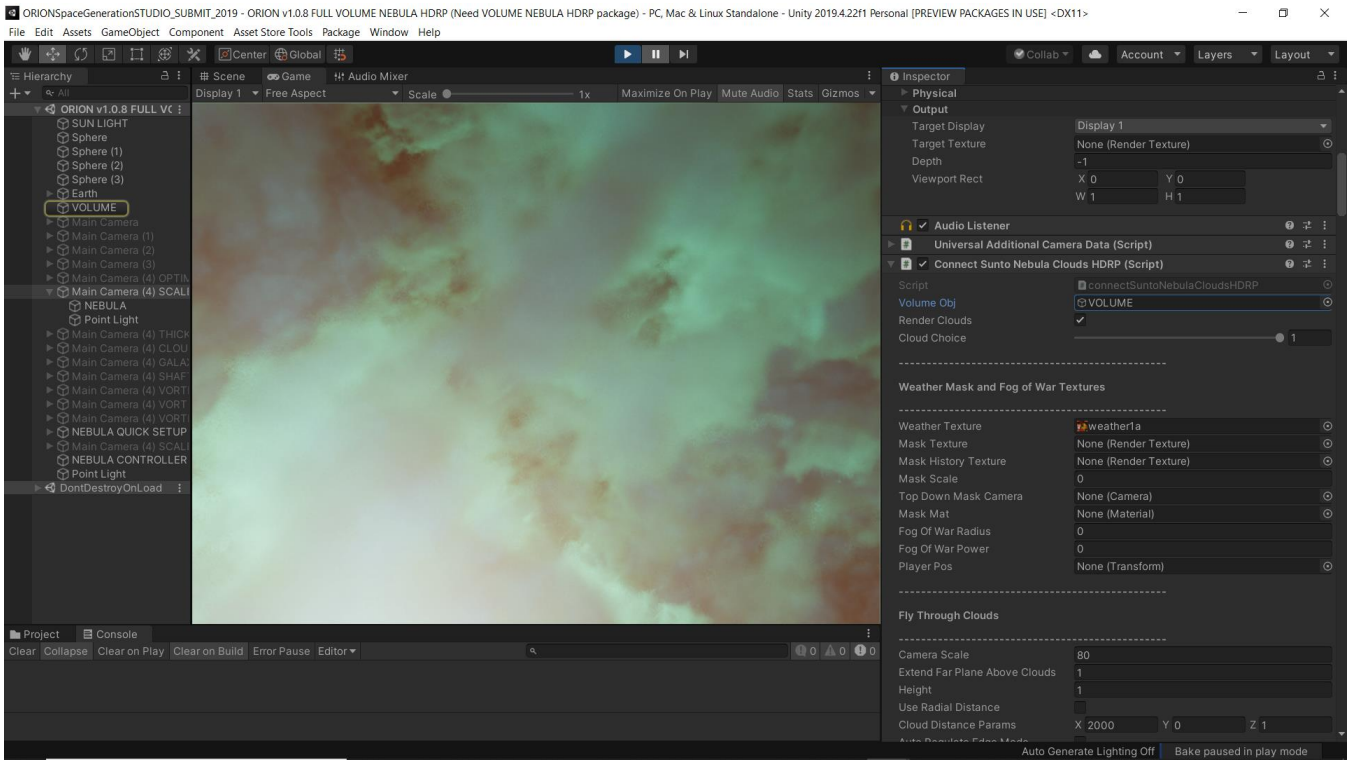
These steps enable the effect in the scene. The next step is to add the controller of the effect to the camera. For this purpose copy the **“Connect Sun To Nebula Clouds HDRP”** component from the vortex or Nebula volume demos cameras, to the camera in your scene. Is best to copy both the Camera and Volume to your scene from the demos and then copy the connect script to any other camera as needed.




Reference the sun light of the scene as shown in the photo below, in “SunLight” slot.

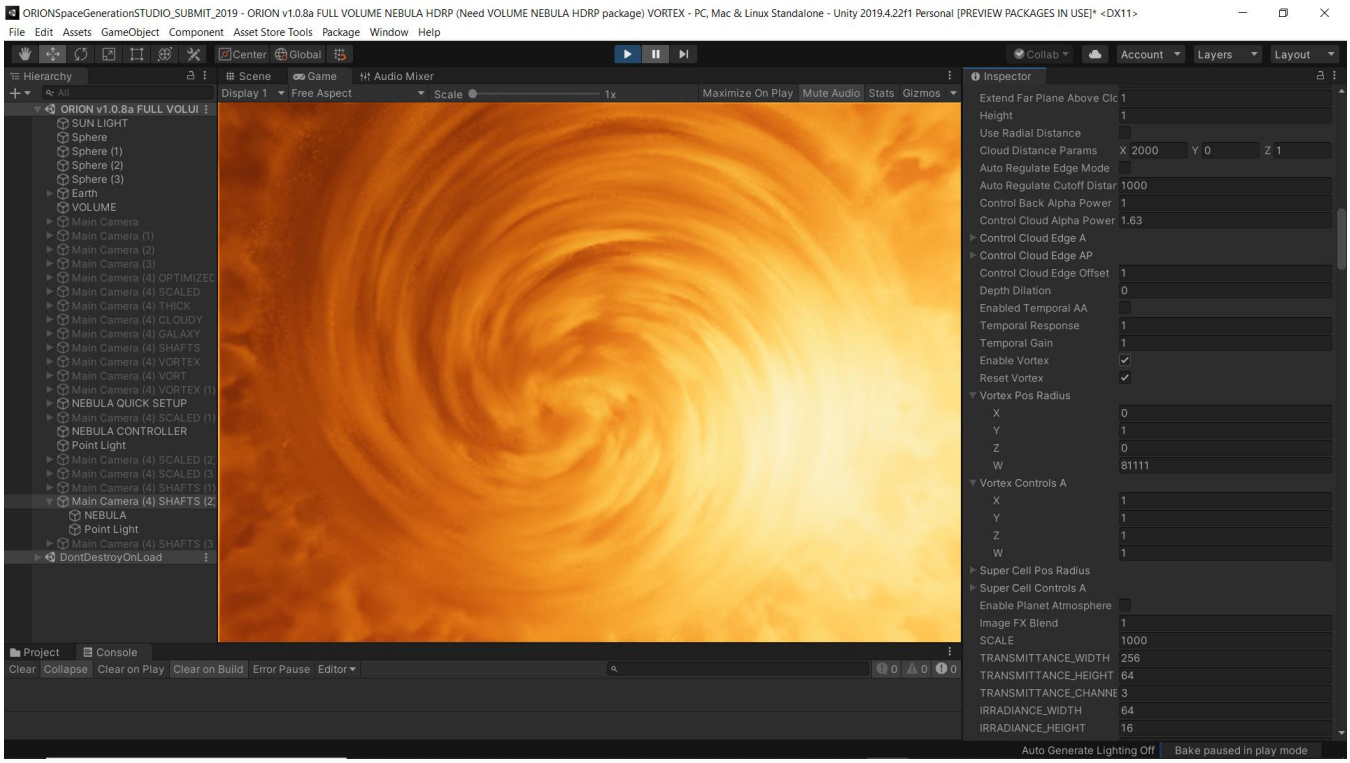


Reference the volume as shown below in “VolumeObj” slot.




## Usage of Nebula Manager

To enable the vortex enable the following checkbox

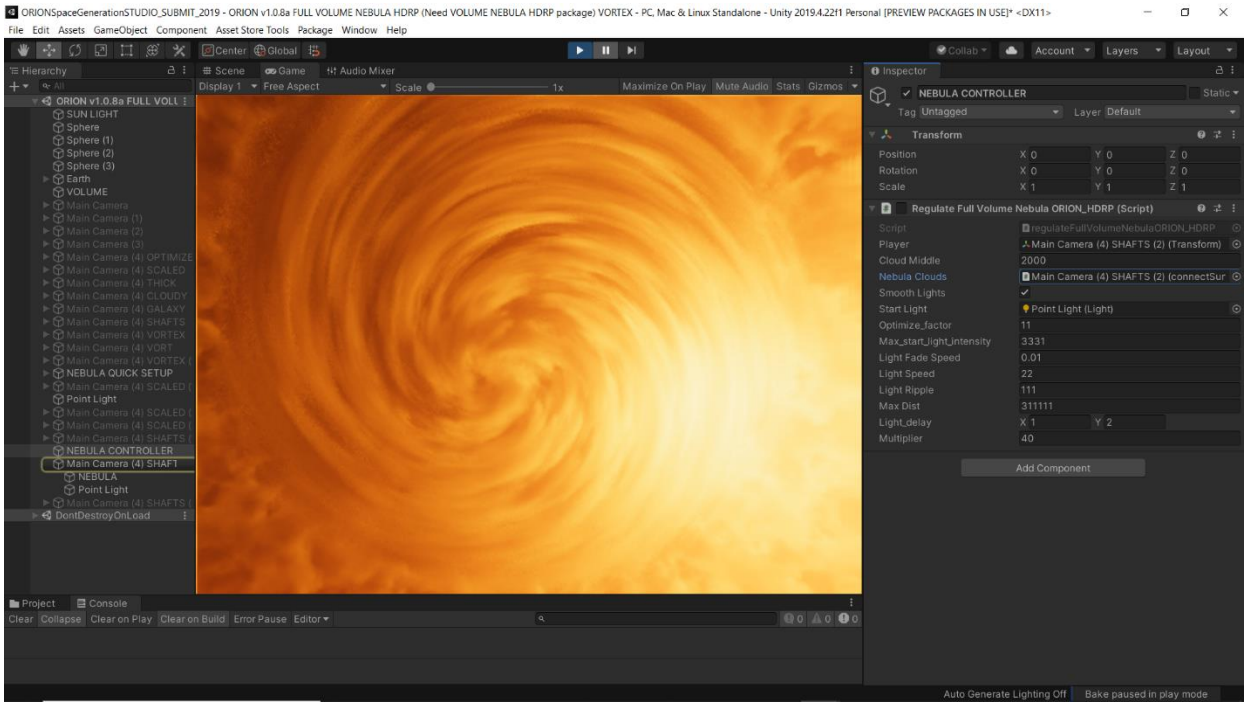


### Nebula global and lightning controller

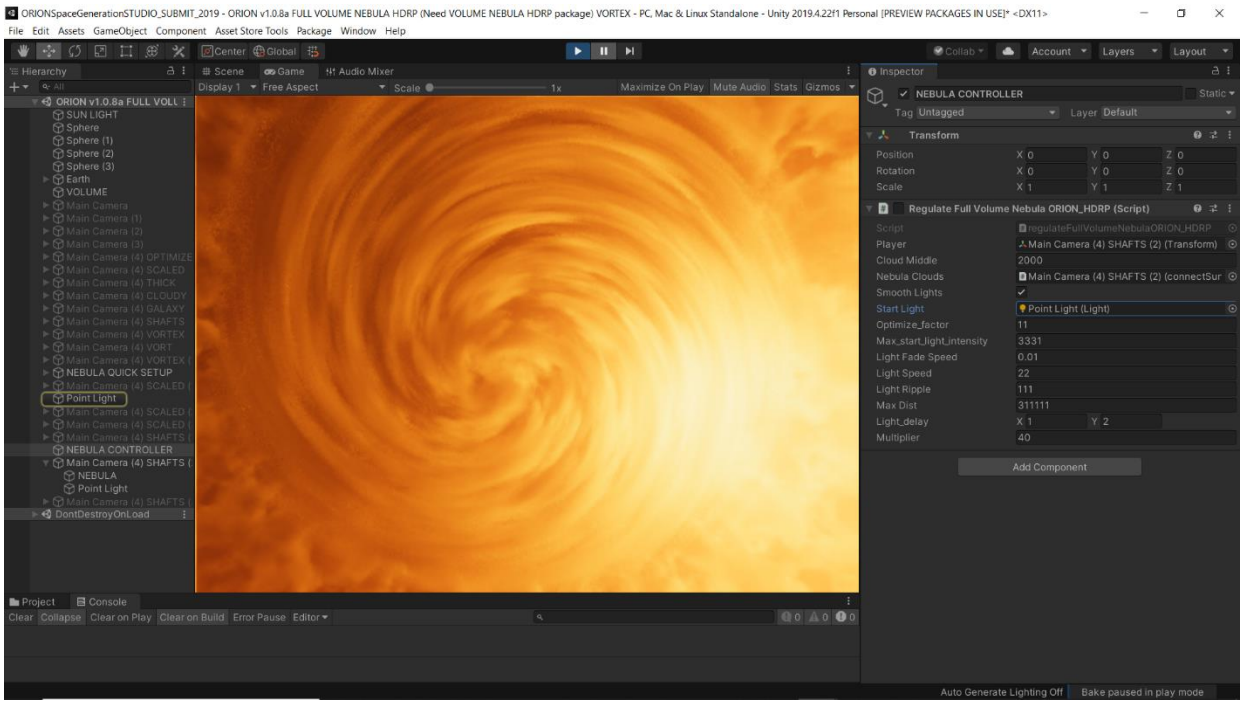
The connect script controls all aspects of the cloud formation, for the gameplay time **there is an extra global control script** named **“Regulate Full Volume Nebula ORION HDRP”** that adds lightning and also controls the cloud shift to keep the player always in the clouds if the endless Nebula mode is to be used.

### Global and lightning controller setup

First reference the camera in the Player and Nebula Clouds slots

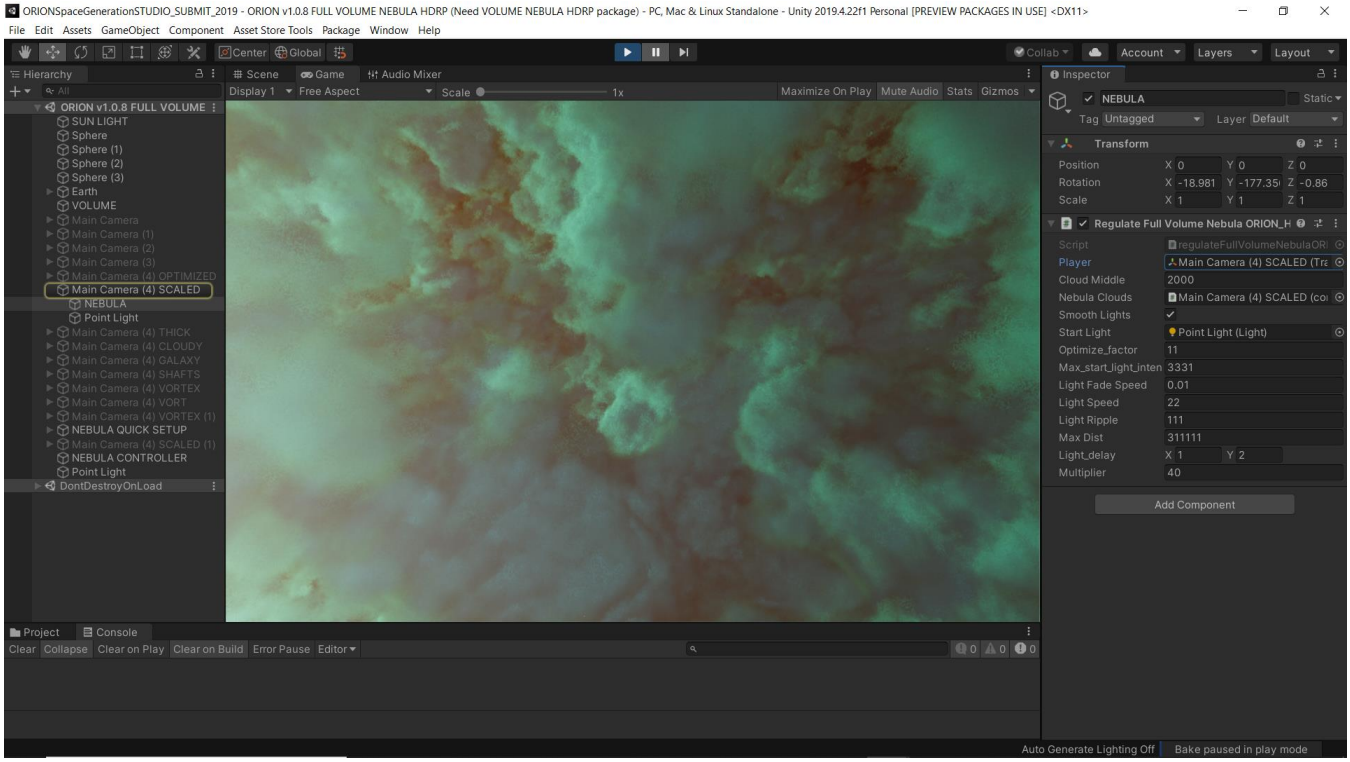



Then reference a point light that will be used to apply the lightning to the clouds.



## Nebula global and lightning controller use

The controller can now be disabled if lightning and endless Nebula modes are not needed or enabled to use the two modes.

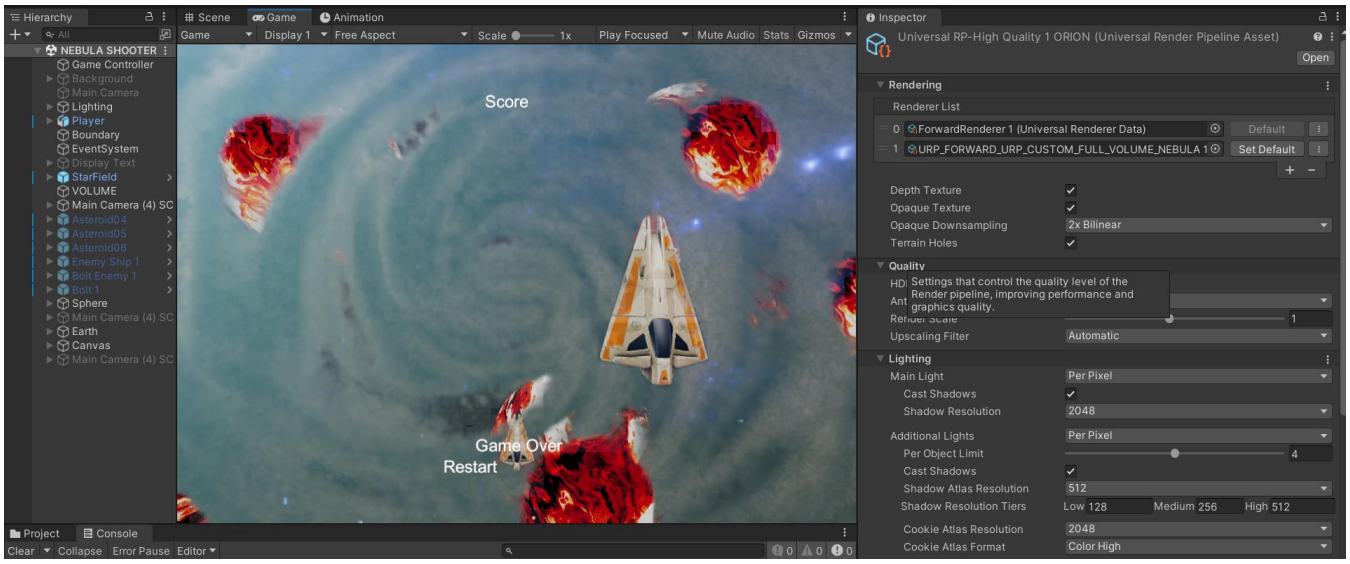



**To enable the lightning but not the endless mode, assign a stationary object to the Player slot.**

**NOTE:** The vortex has been tested only in the non-endless mode, the use for endless mode is not yet available. In vortex case the camera should be below the Nebula bed.

# URP Pipeline Nebula Image effect setup steps

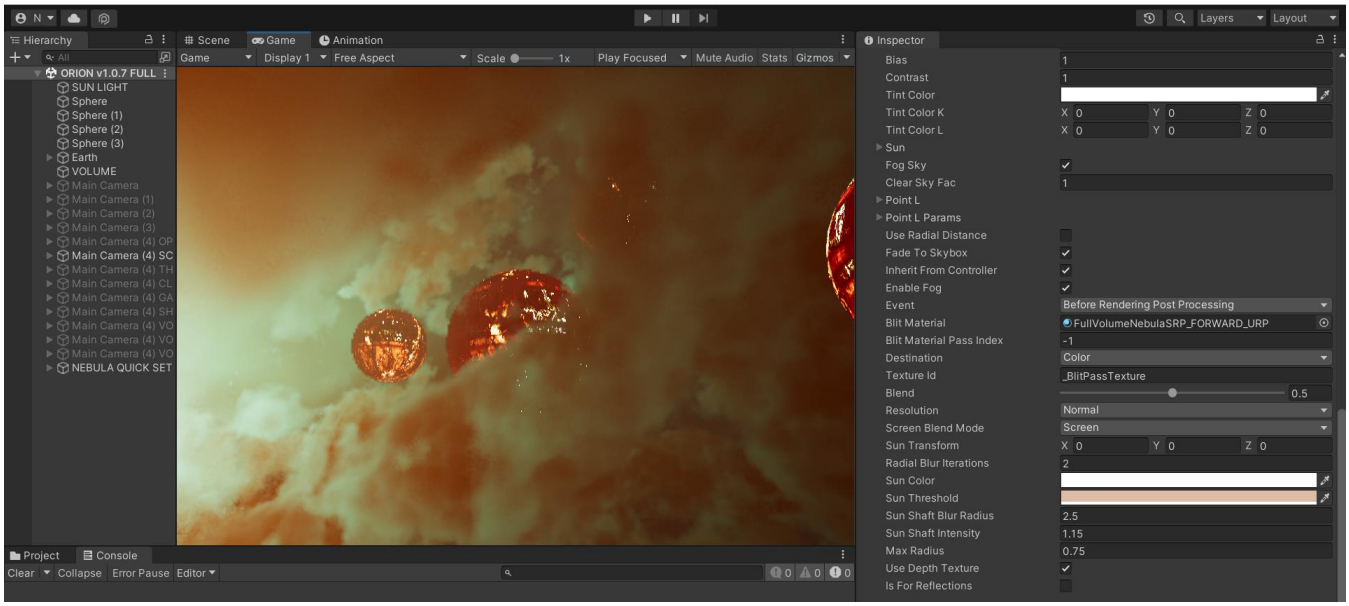
**To setup the core of the system, requires to add the NEBULA forward renderer with the NEBULA renderer feature in the pipeline, as shown in the image below.** Note that the sample URP pipeline included in the asset already implements this renderer with the Nebula feature in the second slot of the forward renders list.





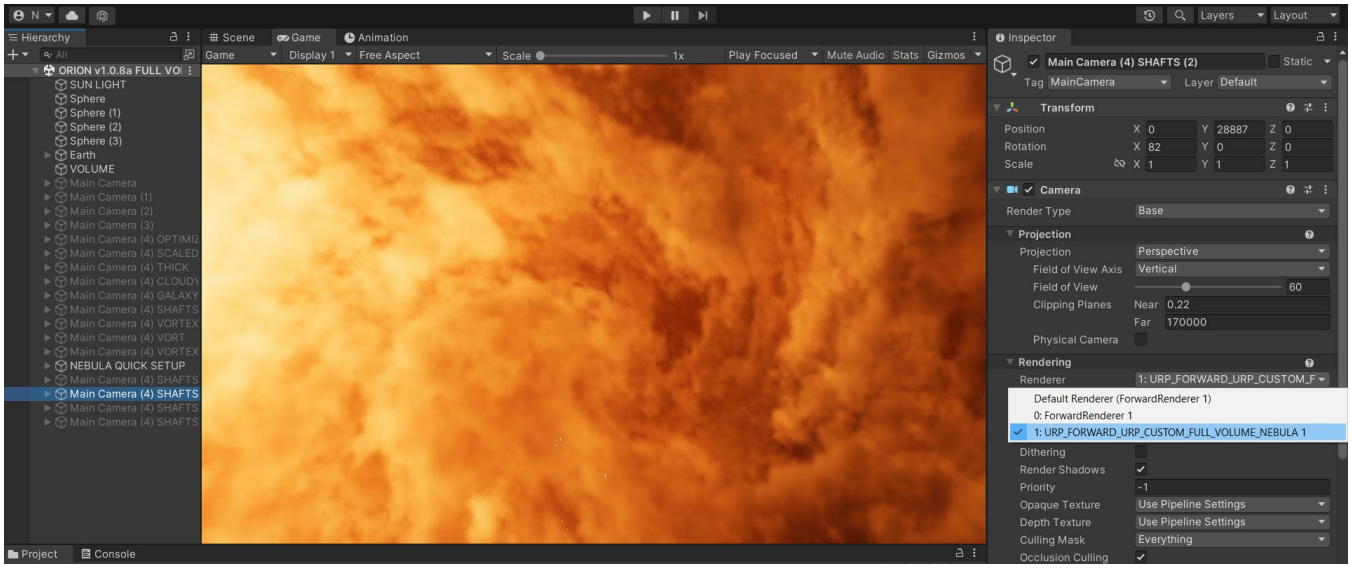
The demos use the second forward renderer in the pipeline by default. It is also generally a good practice to use the second and non default renderer for image effects, so assets or unity systems that may use the default renderer will not render the image effects, which may not be desired to be rendered for helpers cameras for example. **Thus is best practice to assign the renderer with the image effect as non default and select it on the main camera explicitly.**

The setup of the renderer feature requires the material in Blit Material shown in the photo below and set the Event for defining the render order of the effect.




**Setup steps**

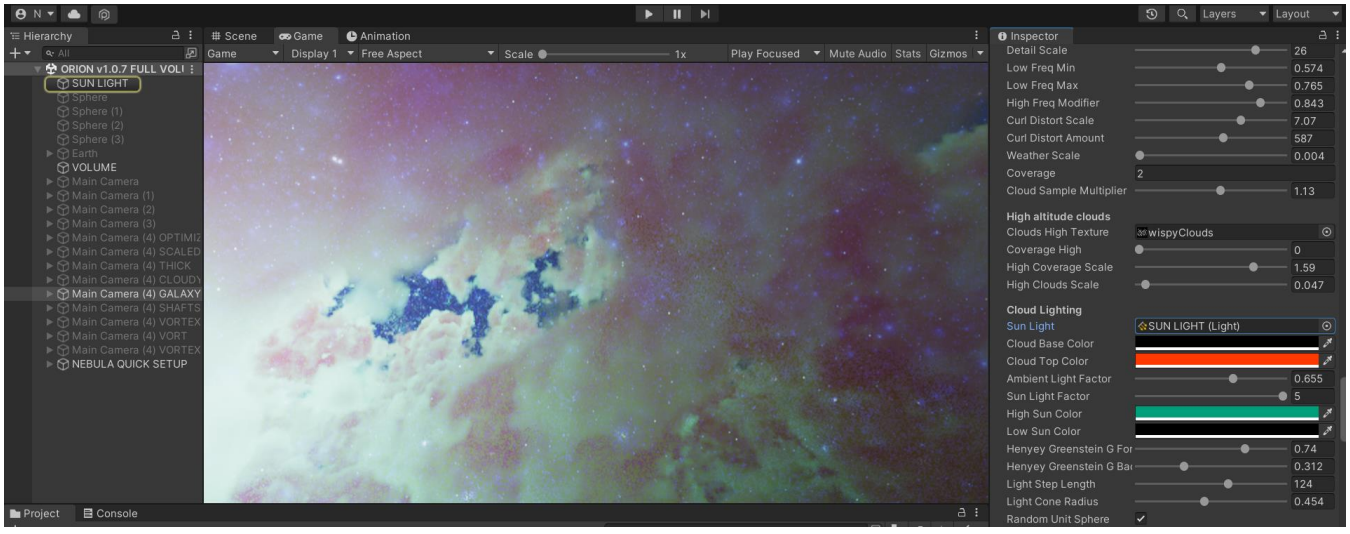
To setup the system, first step is to apply to the main camera the forward renderer that has the Nebula URP image effect assigned. The camera must also be tagged as “MainCamera”.




This step enables the effect in URP image effect stack and in camera.

The next step is to add the controller of the effect to the camera. For this purpose copy the **“Connect Sun To Nebula Clouds URP”** component from the vortex or Nebula volume demos cameras, to the camera in your scene. Is best to copy the sample Camera to your scene from the demos and then copy the connect script to any other camera as needed and remove the helper camera.


Reference the sun light of the scene as shown in the photo below, in “SunLight” slot.



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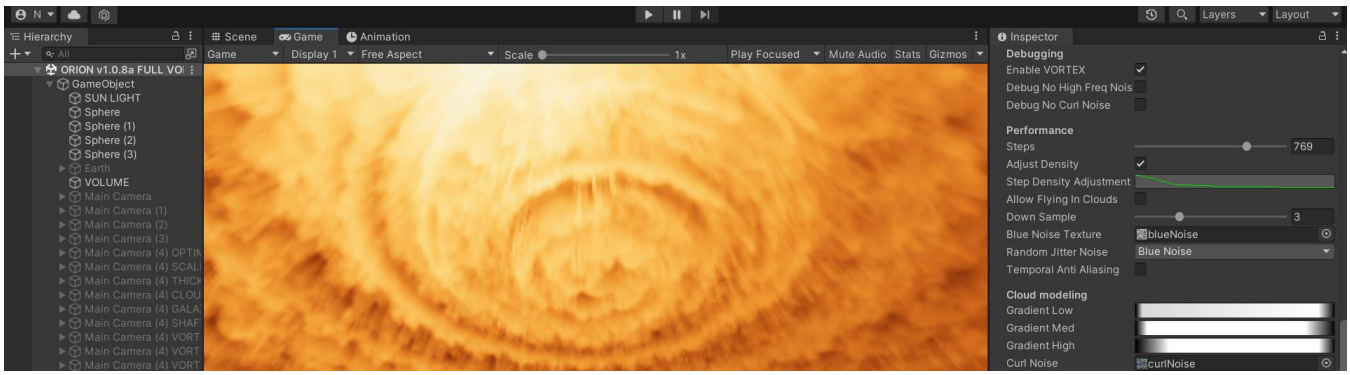


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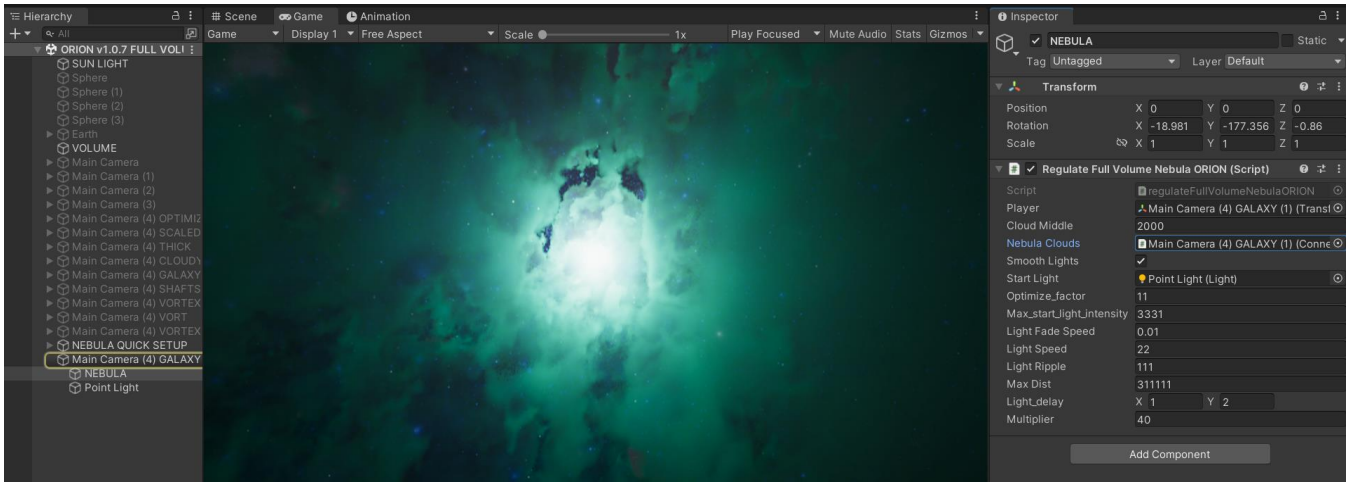


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Then reference a point light that will be used to apply the lightning to the clouds.

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