

AZURE[SKY]



Document Version 3.0.0

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INTRODUCTION

Azure[Sky] was developed for those who need scenes with day and night cycles and need a dynamic sky system. I'm putting a lot of effort in development to make Azure runs as a regular skybox material. Until then you dont need worry about using spheres or any type of mesh around the scene, because Azure works directly as a skybox and you can enjoy all the features of reflection and lighting of Unity5.

Azure[Sky] is designed to be simple and easy learning with rapid integration to your project. With its clean and uncluttered interface you can create beautiful scenes very quickly.

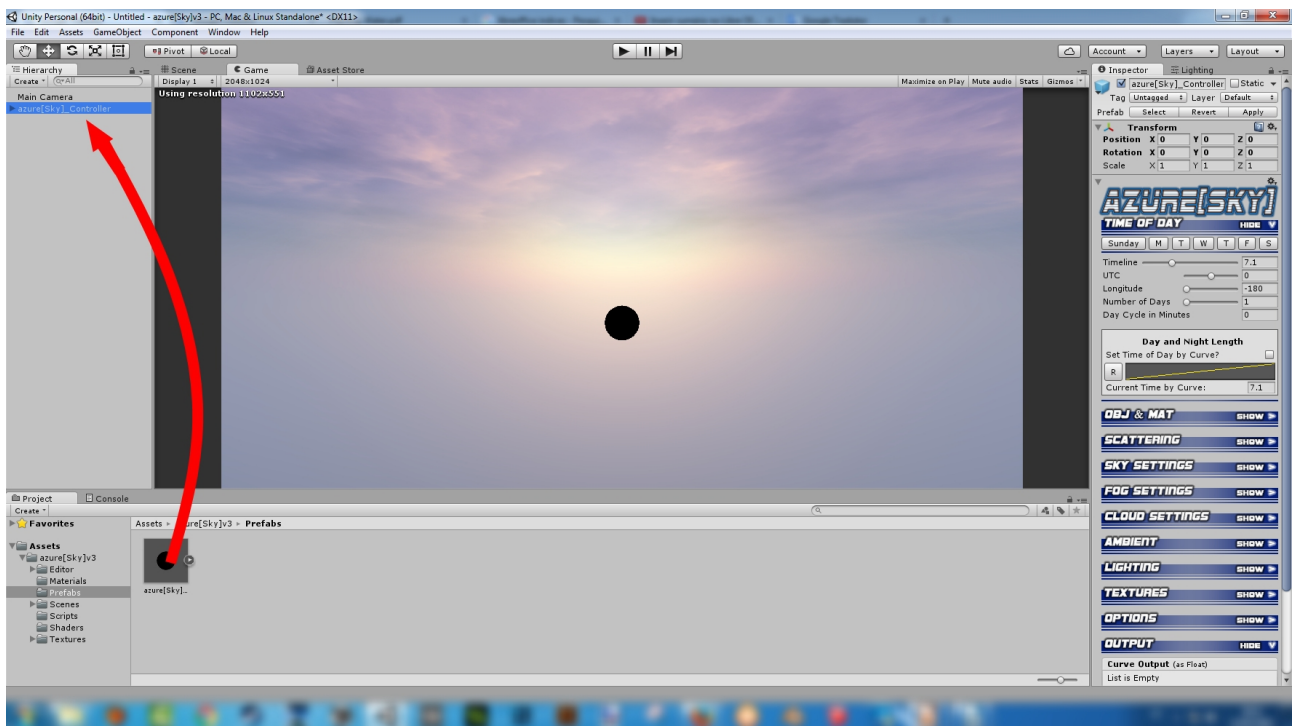
Azure[Sky] keeps all the power and control in your hands. You can set the values of any property at any time of day and if that were not enough, you have the ability to customize 7 days as you like.

- *PS: English is not my native language, so I apologize for possible grammar errors.*

GETTING STARTED

After importing Azure for your project, all you need to do is drag the **Azure[Sky]_Controller** prefab into your scene. The Skybox will automatically switch to the azure[Sky] material.

- *Make sure that there is no other directional light in the scene, because the prefab comes with directional lights of the sun and moon attached to it.*
- *The **Azure[Sky]_Controller** prefab is located within the "Prefabs" folder.*



The prefab is set to linear color space. If you are in gamma color mode you must change the "Color Space" property in the "Options" tab to Default.

ABOUT THE PREFAB

As you may have noticed, the Azure[Sky] _Controller prefab comes with some child objects. Below is a brief explanation of what they are used.



SUN LIGHT

This is the sun directional light, if you need real-time shadows at daytime is here that you must set.

MOON LIGHT

This is the moon directional light, if you need real-time shadows at night is here that you must set.

MOON SHAFTS

This is the moon shafts caster. You should use this as a moon target for the "SunShafts" image effect if needed.

SUN SHAFTS

This is the sun shafts caster. You should use this as a sun target for the "SunShafts" image effect if needed.

MOON SPHERE

This is the sphere of the moon used to generate the moon texture in the skybox.

MOON CAMERA

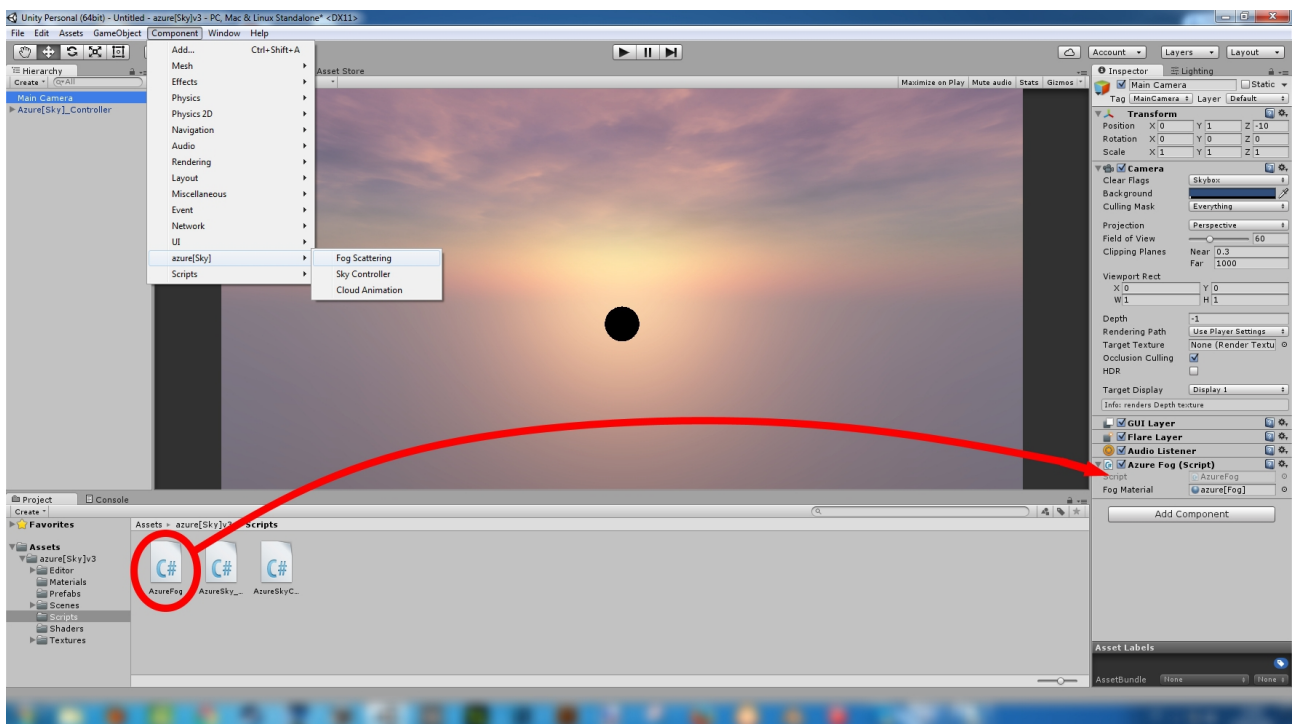
This camera is always pointing to the moon, capturing all the changes of the moon and sending the "RenderTexture" to the skybox. That was the only way I have found to draw the moon behind the clouds. Do not forget to change the "Culling Mask" of this camera to render only the moon and also change the "Culling Mask" from the main camera to not render the sphere of the moon, because it is only in the skybox that the moon must be shown.

REFLECTION PROBE

This is used to generate the ambient reflections in the scene if necessary. You can change its properties in the "Ambient" tab.

ABOUT THE FOG SCATTERING

Azure fog scattering is an image effect that you need to attach to your camera. To activate the effect you can simply drag the "**AzureFog**" script into the Inspector of the camera or via the menu "**Component>> azure[Sky]>> Fog Scattering**".

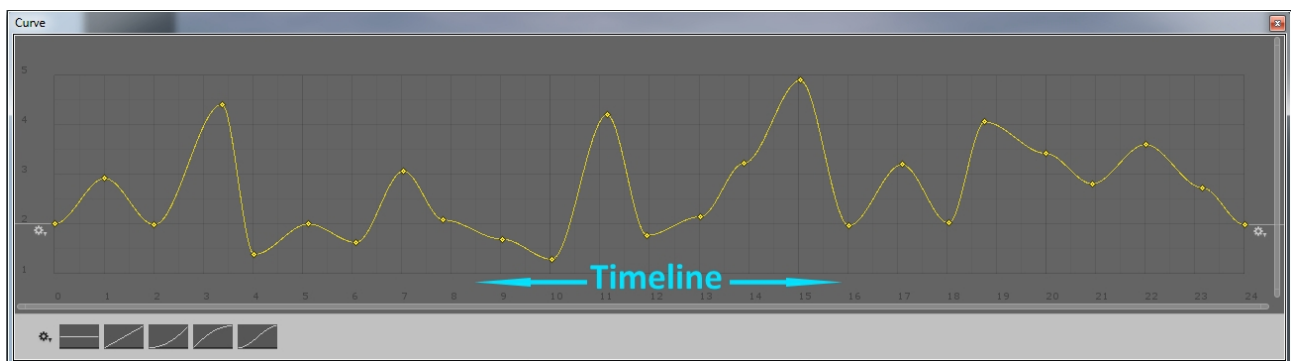


- It is advised to disable "Anti Aliasing" in quality settings, as this interferes in a variety of image effects and can cause some artifacts in the fog of Azure. Ideally, use the "Anti Aliasing" through image effect.
- The order of the image effects in the camera Inspector can change the result of the image. It is advised to attach the fog scattering before the other image effects, especially if you are also using "PlayWay Water System".
- The fog will affect only objects that draw to the depth buffer. Usually the objects that are in the "Transparent" queue do not draw to the depth buffer. Uncommenting the line with the command "**[ImageEffectOpaque]**" in the "AzureFog" script will make the fog effect be processed before that the objects in "Transparent" queue are rendered.

- Water systems as "PlayWay Water System" draw to the depth buffer, but are in the "Transparent" render queue. Then by default the "AzureFog" script comes with the command "**[ImageEffectOpaque]**" disabled so that the fog is not processed before the water is rendered. This may cause some artifacts on objects that do not draw to the depth buffer. The best way to around this is using two cameras, one to render the scene and the other only to render transparent objects that do not draw to the depth buffer.

ABOUT THE CURVE SYSTEM

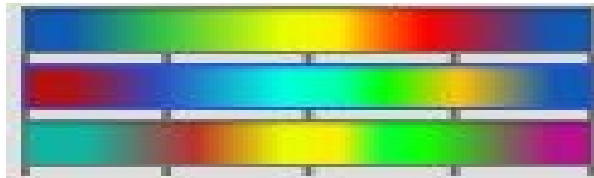
Starting from this new version (3.0.0). Instead of sliders, the properties are configured by curves and gradient colors. With this new system it will be possible to determine the best setting you find in different times of day. You also have the option to customize 7 different days with smooth transitions between them.



- You need only click on the property field in the Inspector to open the curve editor.
- On the horizontal axis are the hours of the day between 0-24. On the vertical axis is determined the property value at each time of day. When the time of day changes, the property value is updated to the value that is in the curve at that time. You can create as many keys you want, no need to create a key for each hour if this is not necessary.
- To create smooth transitions from one day to another, just start the day with the same values that the previous day has ended.

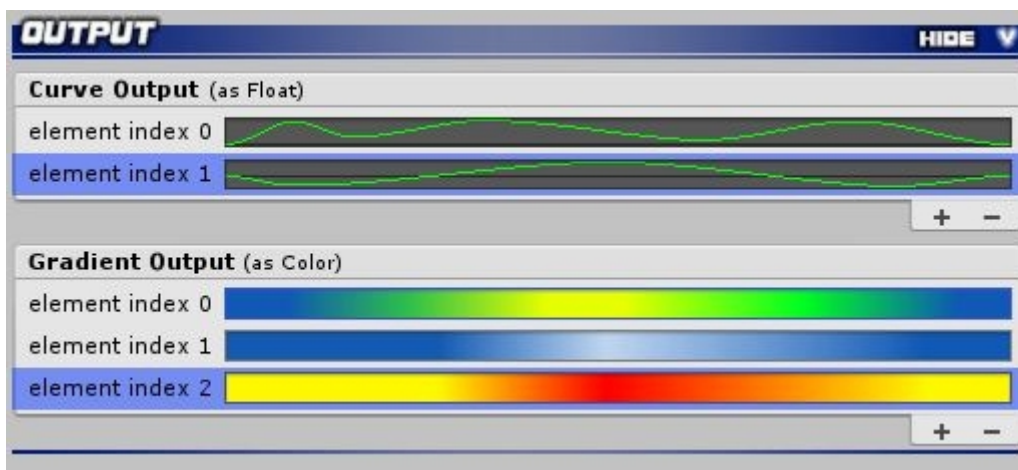
ABOUT THE GRADIENT COLORS

Instead of using a color field to the sunset, night and daytime as it was in the previous version. Now it is used a color gradient which allows to change smoothly from one color to another according to the time of day changes. Unity allows you to use up to 8 color keys per gradient, and that's more than enough to customize the color properties of Azure.



ABOUT THE OUTPUT SYSTEM

This new version(3.0.0) comes with a new feature called "Output". I created this system to be used if Azure does not offer the option to customize certain property that you need to change based on time of day. With this system you will be able to add new curves and gradient colors giving the possibility to control other properties of any other components.



- As you can see in the figure above. As an example I created two "Outputs" of curve type and three "Outputs" of gradient type. You can create and delete as many "Outputs" you need.
- To use the "Output System" although it is very simple, it is recommended that you understand the basics of scripts programming.

- To access the value based on the timeline of the "Curve Output" just use the method "**AzureSkyGetCurveOutput(int index)**". (In the "index" you must put the number of the element of "Curve Output" that you are accessing). This will return a value of type "**float**" that you can convert in "**integer**" if necessary.
- To access the value based on the timeline of the "Gradient Output" just use the method "**AzureSkyGetGradientOutput(int index)**". (In the "index" you must put the number of the element of "Gradient Output" that you are accessing). This will return a Color.
- In the "Scenes" folder has a scene named "OutputDemo" which shows how to change the intensity and color of a "Point Light" based on the timeline using the "Output" system.

ABOUT THE TABS

As Azure have many properties and this makes the inspector very large vertically I separated all property in "tabs" sorted by categories. That way you can open and close the tabs leaving open only the tab you want to customize, avoiding wasting time getting rolling the mouse all the time looking for certain property.

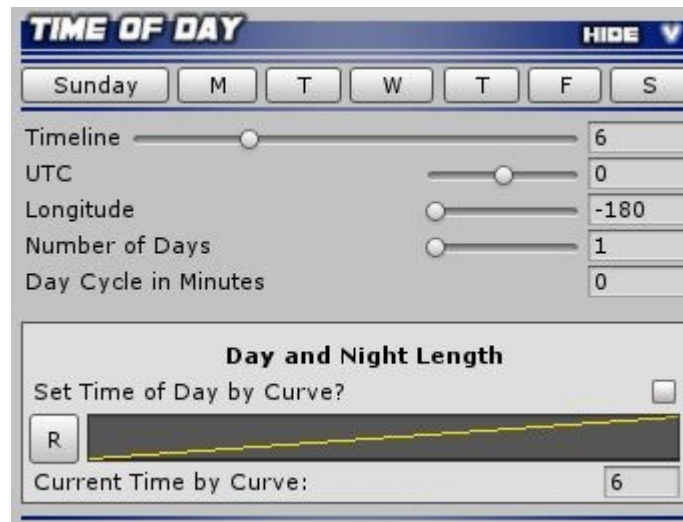
- To open and close a tab, just press the arrow on the right end of the tab.
- I have based on the tabs style of "Horizon[ON]", then for the sake of justice a part of the credit goes to the Horizon[ON] developer.



TIME OF DAY TAB

This tab has the properties related to the day/night cycle. Here you will set for example the duration and time of day.

In this tab are also present the selection buttons of the seven days of the week, simply click in the button of day that you want to edit and all changes made in the "Inspector" will be saved only on that selected day.



TIMELINE

This slider is used to control the cycle of day, do not confuse the cycle of day with the hour of day. If "[Set Time of Day by Curve](#)" is disabled, the time of day will reflect the value set here, otherwise it will only represent the cycle of day and the actual hour of day will be displayed on the property "[Current Time by Curve](#)". The scene will start on time that is set here in this slider.

UTC

This property is used to control the time zone, but as the system time is not yet complete, currently it is not useful, then I recommend setting the value to zero.

LONGITUDE

As the name suggests, this property is used to control the longitudinal coordinate of the sun. You can define which direction in the scene the sun will rise and set.

NUMBER OF DAYS

To set the number of days used in the scene between 1-7. If you for example choose 3 days, only the first three days will be used in the weekly cycle of the scene and when the third day was ended will back automatically to the first day. The properties of unused days will be deleted from the list in the [Start\(\)](#) to free memory and will no longer be used in the scene during gameplay. If you do not want this to happen, then comment the line that calls the method "[ClearList\(\)](#);" in the [Start\(\)](#) of script "[AzureSky_Controller.cs](#)".

DAY CYCLE IN MINUTES

Here is where you will set the duration of the cycle of day in minutes, do not confuse with the speed that daytime and night will pass. This sets the time it will take for the sun to complete a full circle around the scene.. For the day stay static just set this value to zero.

SET TIME OF DAY BY CURVE

*Enabling this option you set the speed that the daytime and the night will pass based on the curve that can be edited in the field below. The curve is based on the value that you set in the "**Day Cycle in Minutes**". For example, if you set the duration of the "day cycle" to 15 minutes, you can edit the curve to make the daytime last 10 minutes and the night last 5 minutes. Note that the total duration of the "day cycle" will still be 15 minutes. **By changing the length of daytime and night, the hour of day will not match with the value of the "Timeline" slider. The correct hour of day will be displayed on the property "Current Time by Curve".***

CURRENT TIME BY CURVE

*Just to show the correct hour of day if the "**Set Time of Day by Curve**" option is enabled.*

OBJ&MAT TAB

Here in this tab are the fields of objects and materials that need to be referenced to the sky system to work properly. It should already be set by default, so there is no need to change anything here.



SCATTERING TAB

Here in this tab are the properties that make up the mathematical equations used to generate the sky.

The screenshot shows a software interface titled "SCATTERING" with a "HIDE" button and a dropdown arrow. It contains two main sections. The first section, labeled "Wave-Length", has three rows for Red (R), Green (G), and Blue (B) channels, each with a color bar and a numerical value: R is 650, G is 570, and B is 475. The second section lists ten parameters, each with a radio button (R), a graph, and a numerical value: Rayleigh (2.1), Mie (1), Turbidity (1), G (0.75), Kr (8.4), Km (1.25), Altitude (0.05), Sky Coefficient (2000), Sun Intensity (75), and Moon Intensity (0.25).

Parameter	Value
Wave-Length R	650
Wave-Length G	570
Wave-Length B	475
Rayleigh	2.1
Mie	1
Turbidity	1
G	0.75
Kr	8.4
Km	1.25
Altitude	0.05
Sky Coefficient	2000
Sun Intensity	75
Moon Intensity	0.25

RGB

To set the values of wavelengths.

RAYLEIGH

https://en.wikipedia.org/wiki/Rayleigh_scattering

MIE

https://en.wikipedia.org/wiki/Mie_scattering

TURBIDITY

Turbidity of the air. This decreases the brightness generated by "Mie Scattering" making the solar disc be more visible at sunset.

G

The Directionality Factor. This basically controls the concentration factor and propagation of the brightness generated by "Mie Scattering".

KR

To calculate the Rayleigh optical depth.

KM

To calculate the Mie optical depth.

ALTITUDE

This simulates the camera height in the sky, but in reality what moves are the vertices of the skybox, setting very high values may lose the smooth transition between the fog with the sky.

SKY COEFFICIENT

If used together with "Kr", "Km" and "Altitude", helps to simulate the camera height if you need a view in high places. But keep in mind that Azure is not recommended for flight simulators because their clouds are drawn in the skybox, then will never be possible go to above the clouds.

SUN INTENSITY

It controls the intensity of sun brightness in the skybox. Do not confuse with the intensity of the sun directional light used to illuminate the scene.

MOON INTENSITY

It controls the intensity of moon brightness in the skybox. Do not confuse with the intensity of the moon directional light used to illuminate the scene.

SKY SETTINGS TAB

In this tab are the properties of the artistic customization of sky together with its elements such as sun, moon, stars, etc...

This tab is divided into subcategories that I will call of "sections".

The SKY SETTINGS tab is organized into several sections, each with its own set of controls:

- Sky**
 - Exposure: 1.5
 - Luminance: 1
 - Darkness: 1.5
 - Sunset Power: 4.587
 - Sunset Color: [Color bar]
- Sun Disk**
 - Size: 250
 - Intensity: 3
 - Propagation: -1.5
- Stars**
 - Intensity: 10
 - Extinction: 1.629
 - Sparkle: 5.5
- Moon**
 - Color: [Color bar]
 - Bright Color: [Color bar]
 - Color Power: 2
 - Size: 5
 - Extinction: 1
 - Eclipse?: 0
 - Umbra: 0.95
 - Umbra Size: 0.25
 - Penumbra: 3
 - Penumbra Size: 0.5
 - Penumbra Color: [Color bar]
- Milky Way**
 - Intensity: 0
 - Power: 3
 - Position:
 - X: 340
 - Y: 314
 - Z: 26
- Night Sky Ground Color**
 - Close Color: [Color bar]
 - Far Color: [Color bar]
 - Distance: 0.55
 - Power: 0.143

SKY SECTION

EXPOSURE

Controls the exposure of the tonemapping that is performed internally in the shader if the "HDR Sky" option is disabled. If "HDR Sky" option is enabled, thus the internal tonemapping will not be applied and this property will have no effect.

LUMINANCE

It controls the brightness of the sky. If you want to get days and nights more or less bright, this is one of the first properties that you should try. Note that the properties of the "Night Sky Ground Color" can also interfere with the luminance of the sky, especially at night.

DARKNESS

This property controls the darkness of the blue color of the sky. In some cases depending on the values of other properties, the effect of this property can be unnoticeable.

SUNSET POWER

Controls the intensity of the orange color at sunset.

SUNSET COLOR

Sets the sun bright color at sunset. In the rest of the day make sure you set the color to white as shown in the picture above.

SUN DISK SECTION

SIZE

Size of the solar Disk.

INTENSITY

Intensity of the solar Disk.

PROPAGATION

Light propagation of the solar Disk.

STARS SECTION

INTENSITY

The intensity of the stars.

BRIGHT COLOR

The extinction of the stars on the horizon. If the value is low, more visible on the horizon will be the stars. If the value is high, the stars will be visible only in the top of the sky and covered by the atmosphere on the horizon.

SPARKLE

Sets the scintillation speed of the stars.

MOON SECTION

COLOR

The color of the moon texture in the skybox.

BRIGHT COLOR

The bright color of the moon in the skybox.

COLOR POWER

Intensity of the moon texture color in the skybox.

SIZE

The size of the moon in the skybox.

EXTINCTION

Extinction of the moon on the horizon. Sets the height that the moon will fade on the horizon.

ECLIPSE?

Sets if the moon will be affected by the eclipse. (0=false) (1=true). The eclipse will happen when the moon is exactly in the opposite direction of the sun.

UMBRA

Intensity of the Umbra.

UMBRA SIZE

Size of the Umbra.

PENUMBRA

Intensity of the Penumbra.

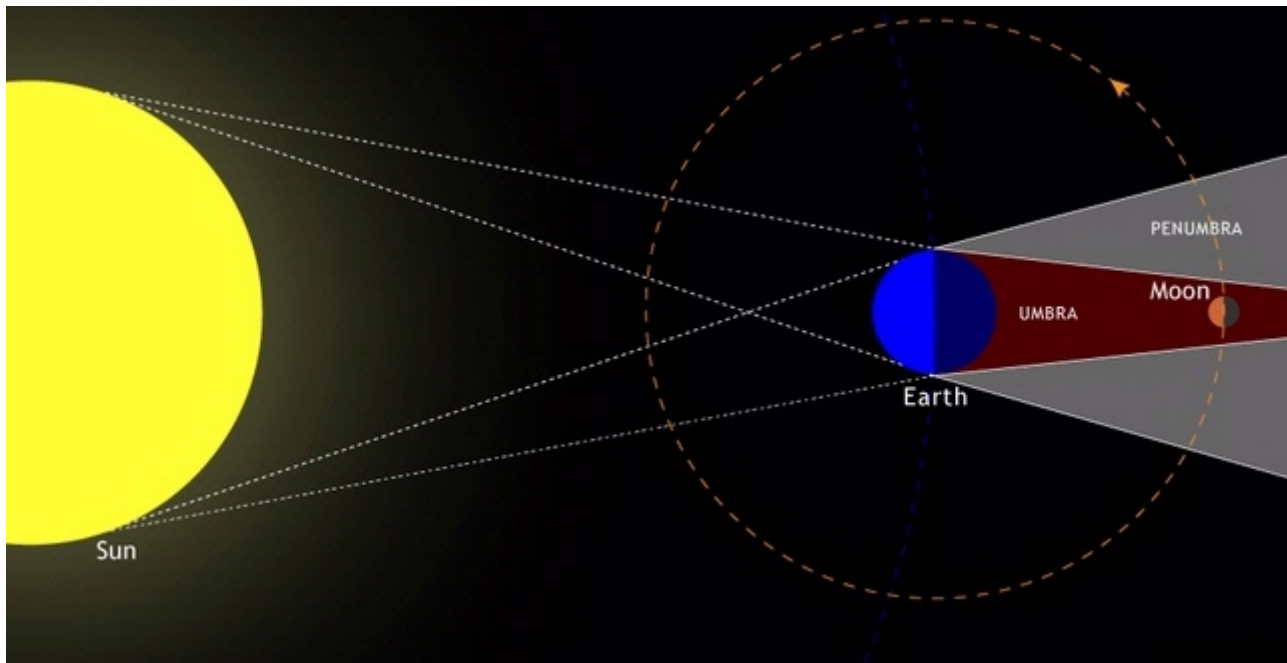
PENUMBRA SIZE

Size of the Penumbra.

PENUMBRA COLOR

Color of the Penumbra.

- About the “Lunar Eclipse”: https://en.wikipedia.org/wiki/Lunar_eclipse



MILKY WAY SECTION

INTENSITY

The intensity of the Milky Way in the skybox.

POWER

The power factor of MilkyWay.

POSITION

Sets the position of the Milky Way in the sky. If you do not like the default position of the Milky Way in the sky, you can set its position by rotating the XYZ axes through the sliders. When the sky rotate at night, the Milky Way will rotate based on this value.

NIGHT SKY GROUND COLOR SECTION

The color of the ground sky can greatly interfere in the appearance of fog scattering. And the ground color of the night sky generated by equations receives a brownish color making the fog scattering with a strange aspect at night. For this reason I replaced the night ground by a customizable gradient. That way you can better set up the ground color of night sky to make the fog look better at night.

- *If you want the night to be darker, you can decrease the value of the "Luminance" and set dark colors on the ground of night sky.*
- *The gradient color starts from the camera going to the direction of the horizon.*

CLOSE COLOR

The gradient color of ground sky close to the camera.

FAR COLOR

The gradient color of ground sky on the horizon.

DISTANCE

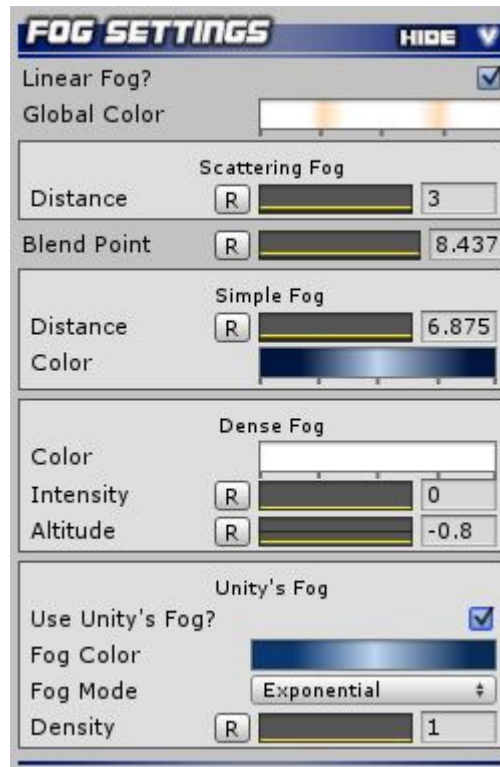
Distance of where will be the blend point of "Close Color" by "Far Color".

POWER

The power factor of the distance blend.

FOG SETTINGS TAB

Here in this tab are all the fog control properties. If you do not want use the Azure fog scattering and only use the Unity's fog, just do not attach the script "AzureFog.cs" for your camera e set "Use Unity's fog" option.



LINEAR FOG?

If enabled will potentiate the fog by "0.45" making the fog more dense.

GLOBAL COLOR

Overall color of the screen. Multiplies by color of the entire screen.

SCATTERING FOG

DISTANCE

The distance of Scattering Fog. **NOTE:** The "Far Clipping Plane" of camera also interferes with the distance of the fog.

BLEND POINT

Distance from the blend point between the "Simple Fog" and "Fog Scattering".

- The "Fog Scattering" looks better in large scenes, so if you leave the very closed fog will seem that the sunlight passes through the walls and mountains, especially at sunset. If you want to scenes with very dense fog, it

may be better to use a simple fog near of the camera and leave the fog scattering to away from the camera view. And then make a smooth transition from "Simple Fog" to "Scattering Fog".

SIMPLE FOG

DISTANCE

The distance of Simple Fog.

COLOR

The color of Simple Fog.

DENSE FOG

It is still in the testing phase. This fog covers the entire scene, even the skybox. It will be useful to simulate heavy rain usually when the sky gets all covered by fog.

COLOR

The color of Dense Fog.

INTENSITY

The intensity of Dense Fog.

ALTITUDE

The height of Dense Fog in the scene.

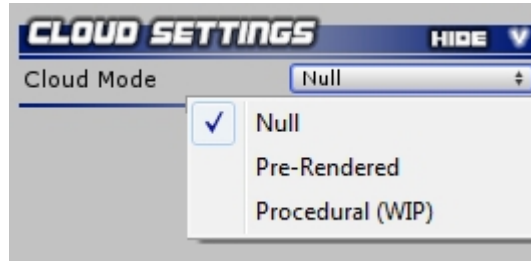
USE UNITY'S FOG?

If you want to use the standard Unity fog leave this option enabled, instead of customize the Unity's fog by "Lighting" window, the same customization options will appear in the Inspector, the difference is that you can use the curves system and gradients which by default is not possible.

CLOUD SETTINGS TAB

In this tab are all the customization properties of clouds. Unlike the previous version which had a version of sky system for each type of cloud, now different modes of cloud systems will be chosen and customized only here.

You just need to choose the type of clouds that you wish to use and customize.



CLOUD MODE

In this option you will choose the type of clouds that you want to use.

NULL

No clouds in the sky.

PRE-RENDERED

With this system you obtain more realistic clouds, because the clouds and their movement in the sky were pre-rendered in external programs.

PROCEDURAL

With this system the clouds are generated procedurally and you can have more control of the clouds. This system is still in development, already is possible to control the cloud cover.

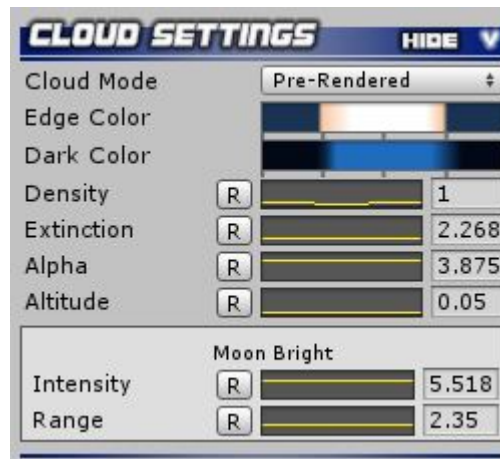
ABOUT THE PRE-RENDERED CLOUDS

When selecting pre-rendered clouds mode will appear in the Inspector the customization properties related to this type of clouds.

The displacement of the clouds in the sky is done through a sequence of images, then you must also add to the sky controller the "AzureSkyCloudAnimation.cs" script.

This script has an CloudArray and you must attach the 120 cloud textures that are in the "Textures >> Altocumulus" folder. In the PreRenderedClouds demo scene everything is already set up for this type of clouds, if you want to use this system just copy and paste the prefab to the scene that you want to use.

This cloud system is very fast, but how it is used many textures that will influence in the final file size of the game. For this reason it uses a separate script for use only with this cloud system. If you plan to use another type of clouds, then remove the "AzureSkyCloudAnimation.cs" script, otherwise the textures will be included with the game file even if they are not used. Because the Unity includes in the build all that is referenced in some place.



EDGE COLOR

The border color of the clouds.

DARK COLOR

The color of the dark part of the clouds. Generally where the cloud is denser.

DENSITY

The intensity of the dark area of cloud. NOTE: In this system cannot control the cloud cover.

EXTINCTION

The extinction of cloud in the horizon.

ALPHA

The alpha of cloud.

ALTITUDE

The height position of cloud in the sky.

MOON BRIGHT INTENSITY

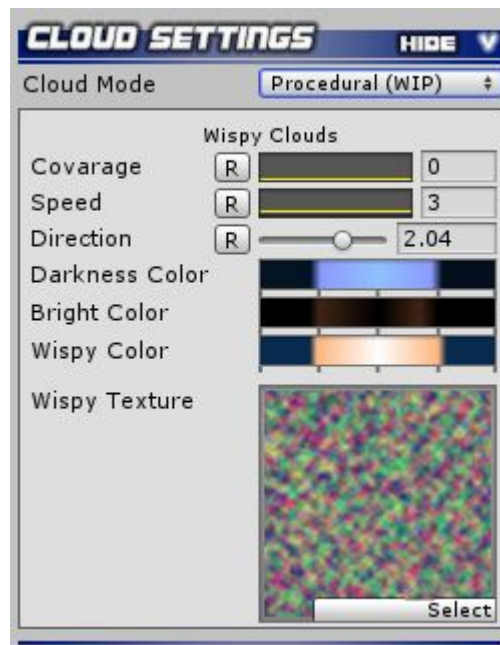
The intensity of the moon bright in the clouds.

MOON BRIGHT RANGE

The range of the brightness of the moon in the clouds.

ABOUT THE PROCEDURAL CLOUDS

Unlike of the pre-rendered clouds, such clouds are generated procedurally and uses only a single texture. This cloud system is still in development and has implemented only one type of thin clouds. Although not designed for it is also possible to control the coverage of these thin clouds in the sky. I want to add in the future other layers of dense clouds with rain and snow effects to be able to control the weather.



COVERAGE

The cloud cover in the sky.

SPEED

The speed that clouds moving in the sky. More specifically is the wind speed.

DIRECTION

The direction that the clouds moving in the sky. Still can't be used as the wind direction, because it rotates the entire layer cloud in the scene.

DARKNESS COLOR

The dark color of cloud cover.

BRIGHT COLOR

The bright color of cloud cover.

WISPY COLOR

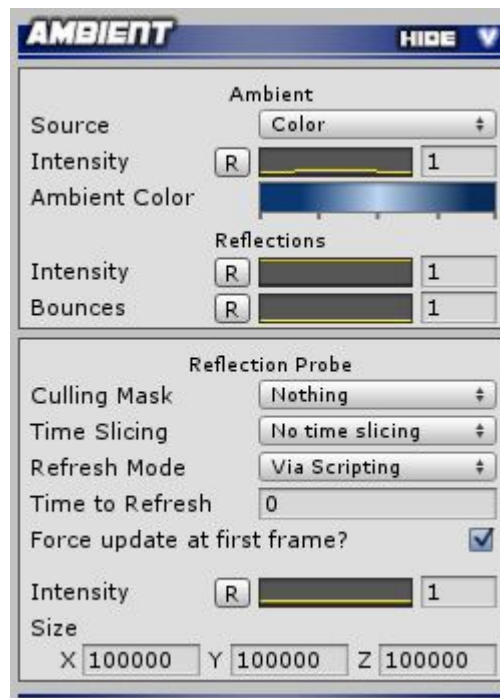
The color of wispy cloud.

WISPY TEXTURE

The texture used to create the wispy cloud layer.

AMBIENT TAB

In this tab you will be able to set the ambient lighting of your scene. If the "Use Reflection Probe" option is enabled on the "Options" tab will also appear in the Inspector of this tab the customization section of "Reflection Probe", otherwise these properties will disappear from the Inspector, so do not worry if the "Reflection Probe" section is not displayed on your Inspector it is because the use of "Reflection Probe" is inactive.



AMBIENT SECTION

SOURCE

The ambient lighting mode. Depending that option you choose here, the amount of customization properties will change. These properties are all originated from the "Lighting" window, so I will not explain what each does. To learn more just check the documentation of Unity.

<http://docs.unity3d.com/Manual/GlobalIllumination.html>

REFLECTION PROBE SECTION

In this section are some of the customization properties of Reflection Probe object that is child of Azure[Sky]_Controller game object. I will not go into details, because everything you need to know about Reflection Probes is on the Unity's documentation.

<http://docs.unity3d.com/Manual/class-ReflectionProbe.html>

The only different feature is that Azure gives you the option to choose the GI update time as the "Refresh Mode" is set to "Via Scripting." When you set the "Refresh Mode" to "Via Scripting" will appear in the Inspector two properties.

TIME TO REFRESH

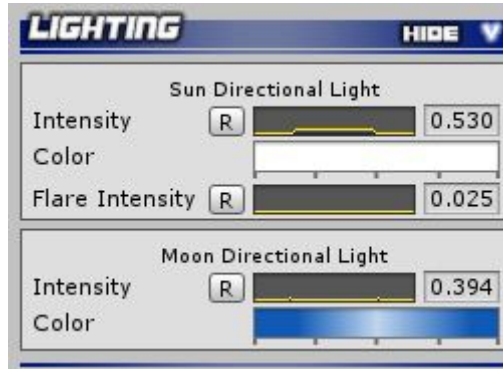
Time in seconds to wait for update the GI. If the value is set to zero the update will be made in every frames. To increase performance use higher values.

FORCE UPDATE AT FIRST FRAME

*If you set the value of "**Time to Refresh**" for example to 5 seconds. The GI will be updated 5 seconds after starting the scene, if this option is activated the GI will be updated in the first frame when you start the scene.*

LIGHTING TAB

In this tab are the properties to customize the directional lights of the sun and moon to set the scene lighting.



SUN DIRECTIONAL LIGHT

INTENSITY

The intensity of sun directional light.

COLOR

The color of sun directional light.

FLARE INTENSITY

The intensity of the sun lens flare effect. This property is only visible in the Inspector if the option "Use Sun Lens Flare" in the "Options" tab is enabled.

MOON DIRECTIONAL LIGHT

INTENSITY

The intensity of moon directional light.

COLOR

The color of moon directional light.

- *To enable shadows or other things related to the directional lights you must make the changes directly by Inspector of directional lights affiliated to "Azure[Sky]_Controller".*

TEXTURES TAB

Here in this tab are the fields of textures that need to be referenced to the sky system to work properly. It should already be set by default, so there is no need to change anything here.



OPTIONS TAB

This tab contains some options for customizing the sky and Inspector.



SKY OPTIONS

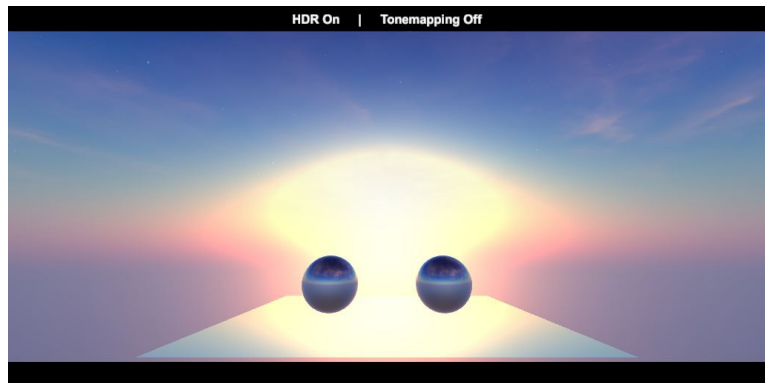
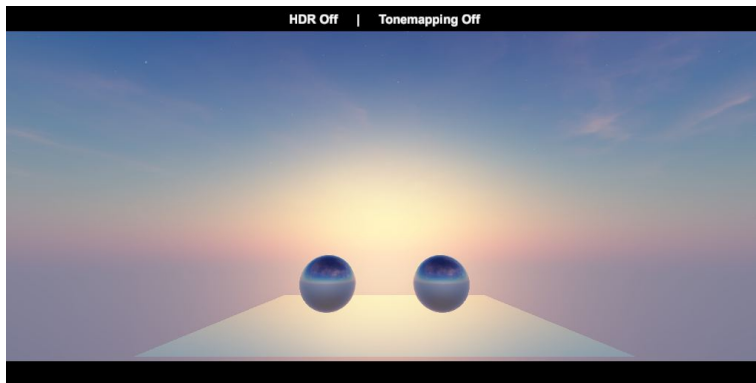
SKY UPDATE?

This option enables and disables the update of virtually every properties of the sky. It is recommended to keep this option always active. This option can be disabled in cases that time is freezed at same position and does not require that the hours pass, in these cases it is not need to spend processing making unnecessary calculations.

...

SKY HDR?

If this option is disabled Azure will automatically apply in the shader the tonemapping effect. If you want to use your own tonemapping by image effect, then enable this option and also enable the HDR option of your camera.



USE LENS FLARE?

If this option is active will enable the component "Lens Flare" of sun directional light. The intensity of the lens flare can be adjusted in the "Lighting" tab.

USE REFLECTION PROBE?

If you need to use the reflections, then activate this option and customize the properties of the "Reflection Probe" by the "Ambient" tab. If you do not use the reflections, then disable this option for increase performance considerably.

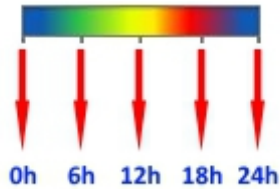
SPACE COLOR

If you are using "Gamma" color space, then set this property to "Default". Otherwise set this property to "Linear To Gamma."

EDITOR OPTIONS

GRADIENT TIME MARKERS?

This option enables the markers below the gradients color fields. These markers are to help you to find out what time of day is the region of gradient that you are editing.



SHOW CURRENT CURVE VALUE?

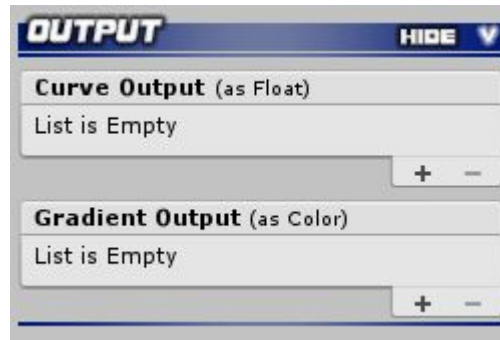
This option shows at right side the current value of each curve field based on the current time of day.

CURVE COLOR

The line color shown in the curve field.

OUTPUT TAB

As already mentioned, in this tab is where you will create the outputs of curves and gradients.



USING THE OUTPUT SYSTEM

Often you will need to change the properties of an element of the scene based on time of day, such as turn on the lights of a city at night and turn off at daytime or change some value or color of any material. For this I created a Output System that gives the option to add extra color gradients and curves that can be accessed by other objects.

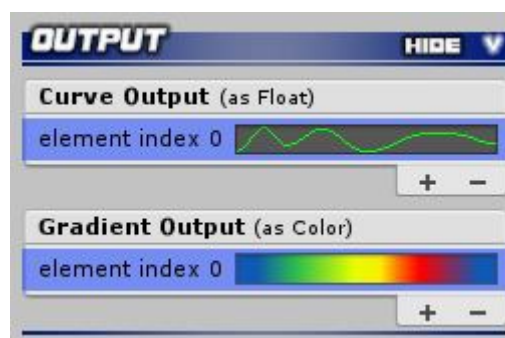
In this example I will show how to change the color and intensity of a "Point Light" using the Output System.

First you need to create a new scene.

- *Delete the default directional light;*
- *Add the prefab "Azure[Sky]_Controller" to the scene;*
- *Add a "Point Light";*

Now let's create the Outputs.

- *Select in the scene the sky controller.*
- *Open in the Inspector the "Output" tab.*
- *Create a curve Output.*
- *Create a gradient Output.*
- *Customize the Outputs as you want.*



The curve output will be to set the light intensity and the gradient output will be to set the color of the point light.

Now we need to get the values of the curve and gradient and send it to the "Point Light" properties.

- *Create a C# script.*
- *Attach this script to the "Point Light".*

This script will grab the output value related to the time of day and set to the property of the point light. The simplest way to do this is by creating a variable of "AzureSky_Controller" type and reference it in the Inspector to be able to access the properties of the sky controller.

```
[ExecuteInEditMode] // To execute the script in the Editor.
public class OutputDemo : MonoBehaviour
{
    //Drag in the Inspector the GameObject that contain AzureSky_Controller script.
    public AzureSky_Controller getOutput;
    private Light thisLight;//To store the Light component

    void Start()
    {
        //Getting the Light component and save in this variable to use later.
        thisLight = GetComponent<Light> ();
    }

    // Update is called once per frame
    void Update ()
    {
        if(getOutput)
        {
            //Getting element 0 of "Curve Output" in "Azure Inspector" and applying to the Light.
            thisLight.intensity = getOutput.AzureSkyGetCurveOutput (0);

            //Getting element 0 of "Color Output" in "Azure Inspector" and applying to the Light.
            thisLight.color = getOutput.AzureSkyGetGradientOutput (0);
        }
    }
}
```

As you can see in the above script, "AzureSky_Controller" contain two public methods that you can access by other scripts to get the values of the outputs. If you have created multiple outputs you need pass to the method the element number of output that you want to access.

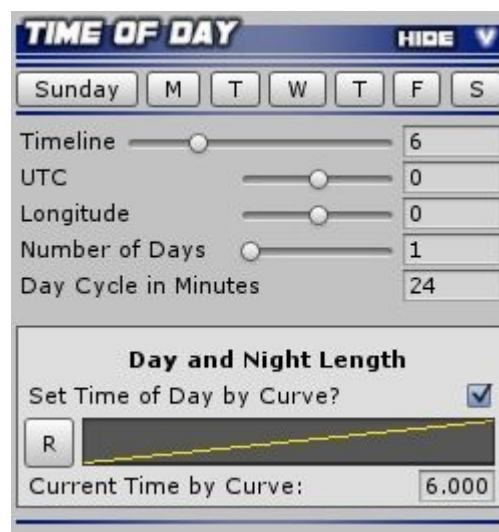
Methods:

- **AzureSkyGetCurveOutput**("Set the element number HERE")
- **AzureSkyGetGradientOutput**("Set the element number HERE")

CUSTOMIZING THE LENGTH OF DAY AND NIGHT

Azure allows you to customize the length of day and night. With this feature you can create a day and night cycle with length of 15 minutes and make the daytime with 10 minutes and the night with 5 minutes.

In this example, to be easier to understand we set the property "Day Cycle in Minutes" to 24, thus each hour of the game will last 1 minute in real life time. Also check the "Set Time of Day by Curve" for the length of daytime and night are based on the curve time.



If you move the timeline slider it will still be looking normal, this because the curve is set by default in linear mode.

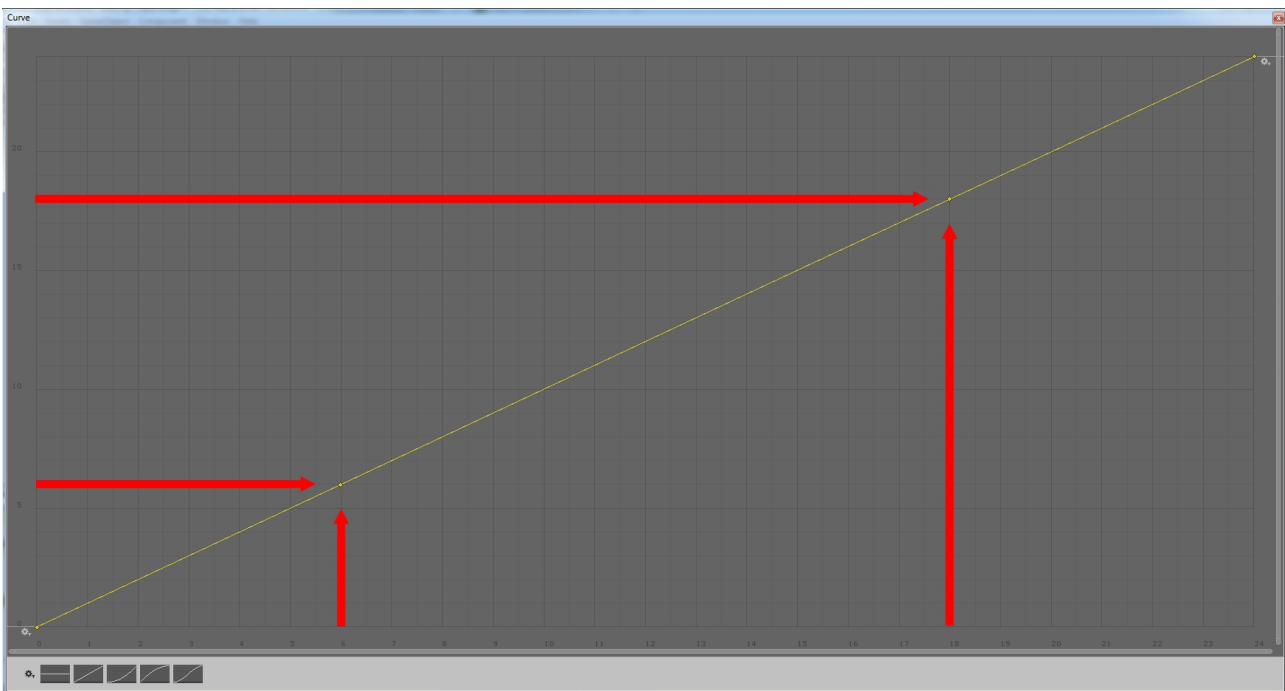
Before you edit the time curve, you need to know that the daytime begins exactly at 6am and ends at 18pm. The night begins exactly at 18pm and ends at 6am. This information is very important and helps to understand how to edit the time curve without problems.

The time curve has values between 0-24 in the horizontal line representing the value of timeline slider and also has values between 0-24 in the vertical line representing the hours you want set at that time. It seems to be complicated but is very simple and with the tips that I will give will become easier to understand.

In the first step you need to:

- *Create a key at the intersection point between 6am of the horizontal axis with the vertical axis.*
- *Create a key at the intersection point between 18pm of the horizontal axis with the vertical axis.*

Exemple Image:



- *As you can see in the example image above, the hours are between the keys (6am - 18pm) represent the daytime and the hours that are outside of the keys represent the night.*

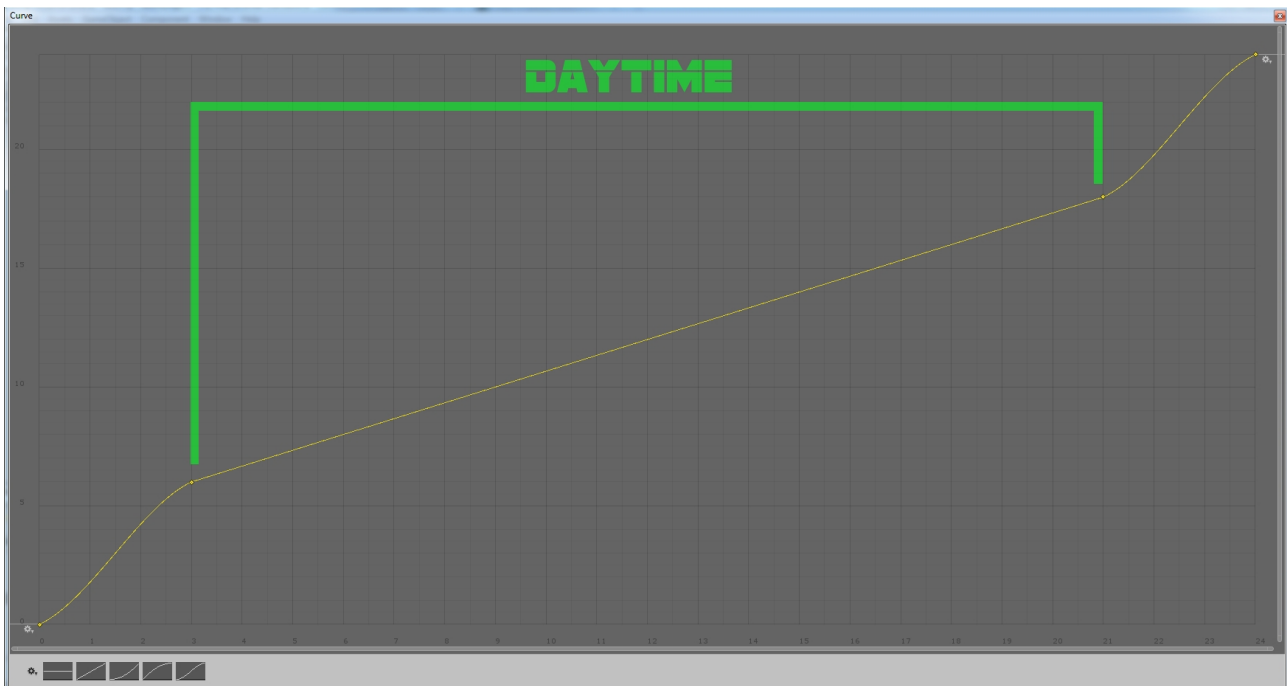
Now to change the length of day and night is very simple, just move the key points on the horizontal axis by increasing or decreasing the hours between them.

In this example I will make the length of the day to be greater than the night. Then I'll move the 6am key to value of 3 hours to the left and move the 18pm key to value of 3 hours to the right.

Just make sure to move each of the keys the same number of hours.

- Click with the right mouse button on the 6am key and choose "**Right Tangent >> Linear**".
- Click with the right mouse button on the 18pm key and choose "**LeftTangent >> Linear**".

Example Image:



- As you can see in the picture above the daytime will start when the timeline value is 3h and will end when the timeline value is 21h.
- The night will begin when the timeline value is 21h and will end when the timeline value is 3h.
- In this example the daytime will last 18 minutes and the night will last only 6 minutes.
- The properties of the sky will adapt to whatever is the length of daytime and night, because they are based on hour of day instead of the cycle of day.