AIO Dynamic Sky Manual

Introduction

It should be most easy to setup Dynamic Sky with Day Night Cycle, just like default SkyBox, just put the preset material in light setting, Done.

AIO Dynamic Sky isn't base on realistic calculation, It isn't volumetric clouds(too heavy) , including sun, moon, star field & clouds, sunlight & moonlight can affect the clouds,based on sm2.0, without extra mesh, should be light weight for most project.

V1.3 Changed

New AIO V2 Shader with better approximation of lighting & Clouds shape, give you next level of visual quality, much better sun light & moon light affect the clouds shading, much better scatting effect, New AioSun script replace AioSky, direct adjust the skybox material. Extremely light weight even the old gt650m can render over 200 fps.
New simple sky come with amplify shader node you can modify(only the simple sky shade have shader node, and you need to have amplify shader editor to use it)

Setup

Just like Unity Default Skybox
(remember to organize your skybox material, every scene should have it own skybox material)
1.) Lighting windows > Skybox > select AIOsky Material.
2.) select scene Directional Light use as sun.
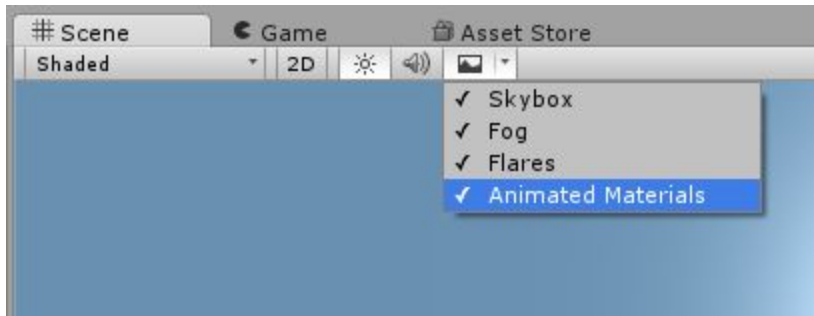(as this moment, you can Edit the Material as you like)

Optional

3.) add the AIOSun Script to the scene.(attach to Sun Light)

4.) AIO SkyControl script select scene light as sun & moon.
(use Light to control the moon position, moon Light Intensity should very low, or turn off the moon Light)
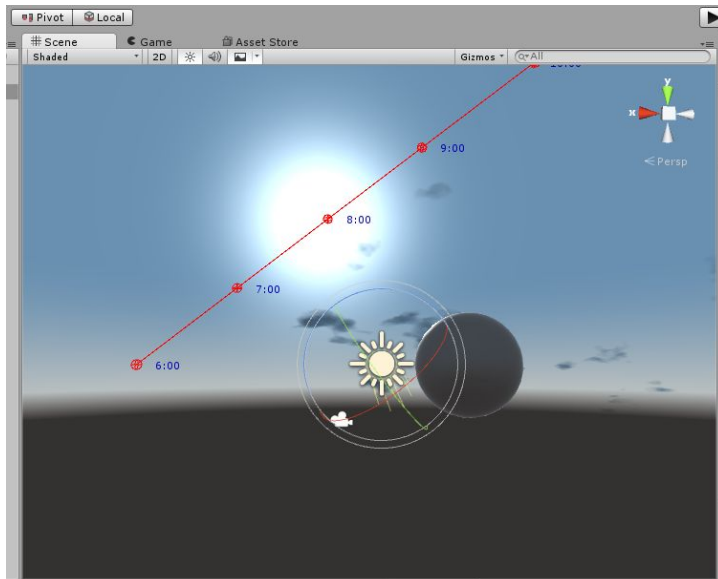

Enable Animated Materials to preview the clouds animation

SkyBox Preset

under Assets\AIO_Sky\SkyBoxPreSet\, all preset just like standard Unity skybox material, you can drag & drop to scene any time. note that all preset are purposely set to fast forward.

The Script

Ideal vs Reality Sun System, AIO only support Ideal Sun System. That mean the sun away rise at 6:00am, sun set away is 6:00pm, sunshine duration away is 12 hours, this is easy to adjust,Suit for games system.Enable gizmos in the AIO script Inspector, Red line in Scene view

is the sun path, blue text is sun position at that time. Rotate the sun light can see the path change, set Pivot & Local mode to adjust it, the sun rise is control by X axis, (The Script with take control the X axis, also the light intensity, use AioSky Script to control it) Other axis is control the sun path.
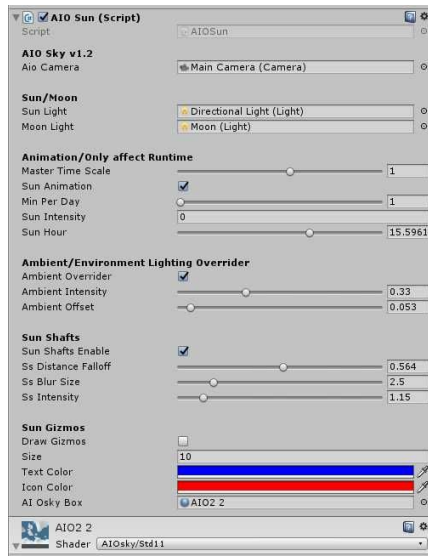
Usage

AIO Sky Script control the sun intensity, day night animation, sun/moon position, Draw the gizmos preview the sun path, and control the environment ambient lighting(since some version real time ambient light didn't work)
When the Script is Enabled, it will replace the SkyBox material to runtime version, if you want to adjust the SkyBox material, disable the script first.

Min Per Day control the Day night cycle time in Minute.

Fog control will affect the fog color in unity lighting setting fog & GlobalFog fog color

SunShafts requires sm3.0 hardware. Sun Shafts Enable should not change in runtime, us ss Intensity instead.

(GlobalFog & SunShafts requires standard asset image effect installed, if manually installed this asset, please delete the standard assets folder under AIO_Sky)

Sun Gizmos only work in editor, It will show the sun path & the day time.

Skybox Material tab in the bottom, expand it, now you can direct adjust the skybox material. remember to organize your skybox material, every scene should have it own skybox material. Skybox in Material tab only can edit in editor mode, not in runtime, you need to use script to control the skybox in runtime)

About AIO V2 shader
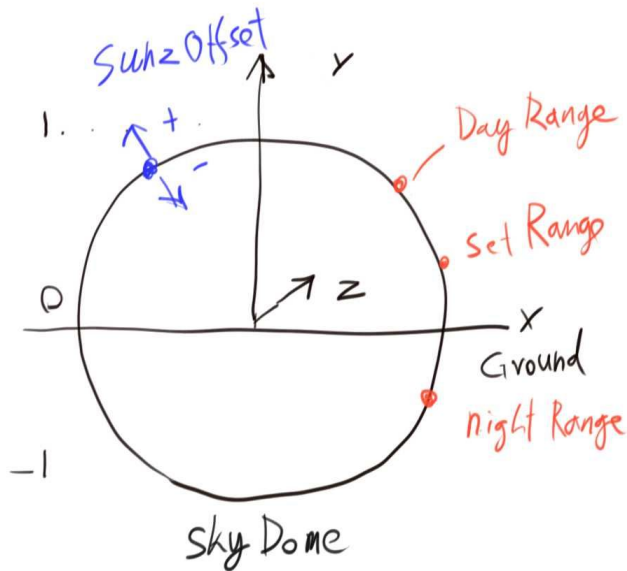
Sky Dome

- Clouds texture is Normal map with Height map for Alpha
- SunZoffset is how the light source (sun & moon) project to sky Dome, minus is inside the Dome(lighter) , plus is outside the Dome(darker)
- Animation TimeScale & DistortionTime related to Clouds Scale
- RG/AG normal is depend on texture compression and system. if you think the clouds shading is wrong, try toggle this one.
- AIO_V2Half use Half float inside shader, It run faster, but graphic may downgraded.

Simple API

public void SkyboxLerp(Material mat, float t)
Lerp the SkyBox material to mat in t seconds. Note that some parametric in shader is toggle, is should not be lerp.

static public Material GetRuntimeMat()
Get the Skybox Material.

static public void GetAIOTime(float t)
Get the AIO Day time, t from 0 to 24 in hours.
(eg. 6.5 mean 6:30am, 18.25 mean 6:15pm)

static public void SetAIOTime(float t)
Set the AIO Day time, t is 0 to 24 in hours.

Ambient/Environment Lighting Overider

When enabled, It will override the Lighting windows Environment lighting, ambient mode.

Useful public variable

public bool cloudsAdjust
public float cloudsDensity
public float cloudsThickness
public float sunRotateSpeed
public float masterTimeScale