MANUAL FOR RAINDROPFX PRO

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THANK YOU FOR YOUR PURCHASE!

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2-1-1 SCREEN SPACE VERSION - Install post processing stack V2

The post processing stack v2 (PPV2) must be installed before you can continue. You can either use the GitHub or Package Manager installation. Please choose your installation method according to the actual situation :

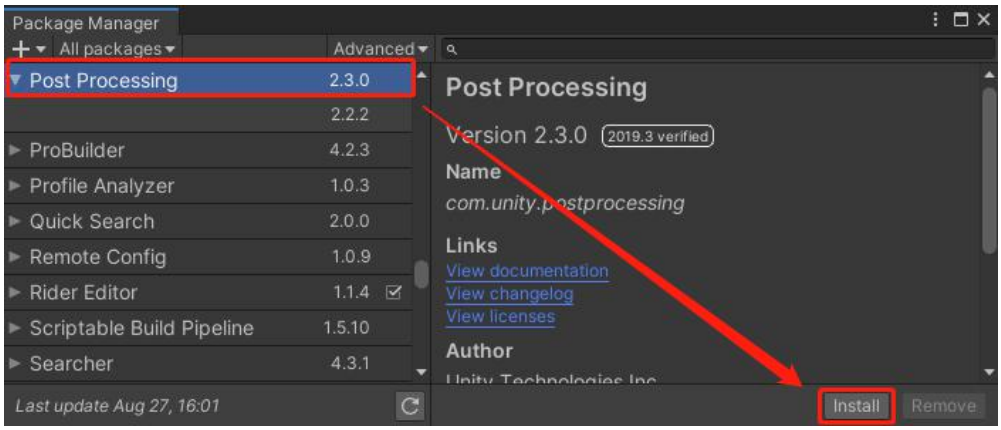
1. For SRP in Unity 2018.4+

Since version 2018.4, HDRP and URP using their built-in post-processing stack instead of PPV2, current version of RaindropFX only support standard rendering pipeline so can't be used in HDRP and URP in Unity 2018.4+.

You can find RaindropFX Pro for HDRP here: http://u3d.as/1Un5. URP version will be released in the near future.

2. For standard pipeline in Unity 2018.2+ and SRP in Unity 2018.2-2018.3

If you create your project using HDRP or LWRP template, PPV2 will be included in your project automatically, you do not need to do anything. Otherwise, you need to use the Package Manager to install the PPV2 :



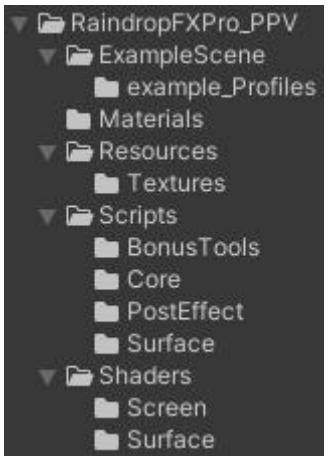
Use Package Manager to install the stack

3. For unity 2018.1 or lower

If you want to use RaindropFX in those old versions unity, please using lite version: http://u3d.as/14V0.

2-1-2 SCREEN SPACE VERSION - Download RaindropFX to your project

If you have any old version RaindropFX, delete it first, then download and import RaindropFX V2.5 to your project, and you will see those files:



2-1-3 SCREEN SPACE VERSION - Post processing stack setup

1. Camera setup

Select the main camera in your secne, and add a “Post Process Layer” script component. On the component, in the “Layer” dropdown, select the “PostProcessing” layer.

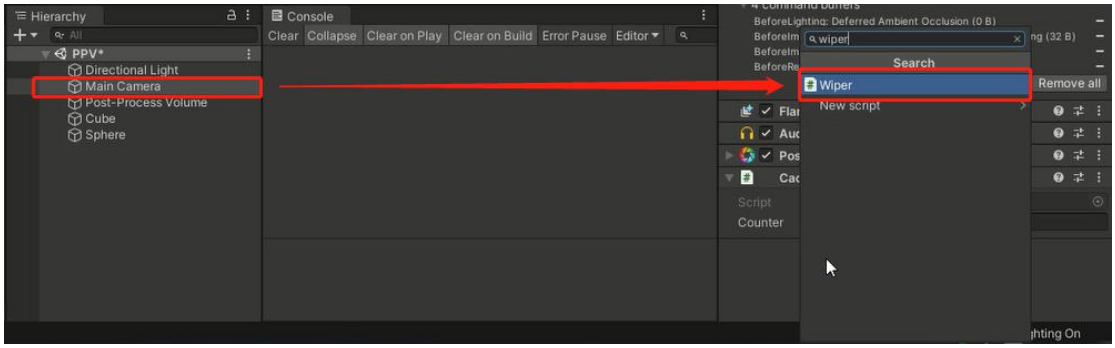
2. Post process volume Setup

Go to “GameObject -> 3D Object -> Post-process Volume” to create a new volume object. On the “Post Process Volume” component, tick the “Global” box, then choose a profile in the profile field or create a new profile.

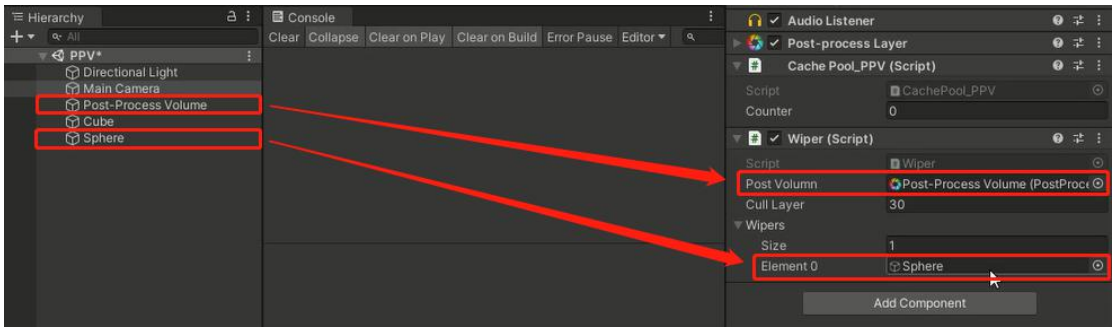
3. Post process profile setup

On the “Post Process Volume” component, go to “Add effect -> RaindropFX -> CameraLensRain” to add the effect.

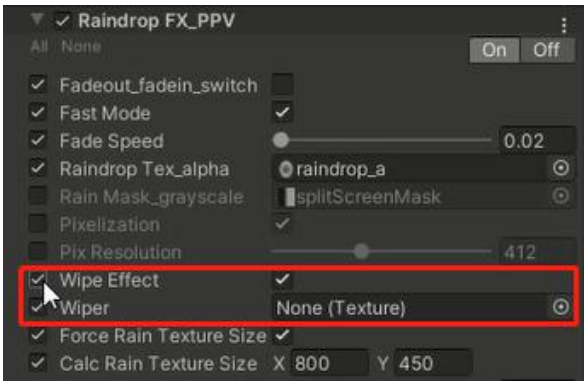
1. Add ‘Wiper’ component to your main camera;



2. Add ‘Post-Process Volume’ component to ‘Post Volumn’, then add all the wipers to ‘Wipers’ (you can set the size of the ‘Wipers’ to any number you like. For example, if you want to use two wipers, set it to 2, then drag and drop your wipers into the slots);



3. Then tick the ‘Wipe Effect’ and ‘Wiper’ in the ‘Raindrop FX_PPV’ in the ‘Post-Process Volume’. Just leave the ‘Wiper’ empty, it’ll be assigned by ‘Wiper’ component automatically;

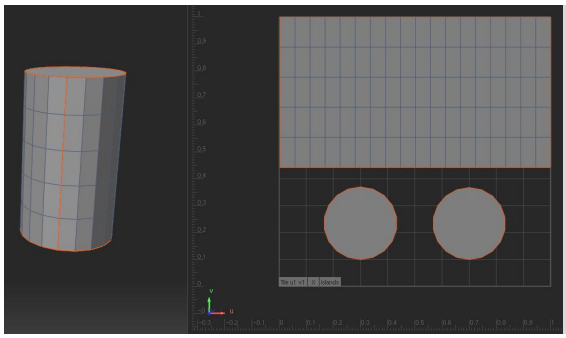


4. Finally, run your game and drag your wiper, you’ll see the wipe effect. The wipe effect affects both water droplets and the screen fog.

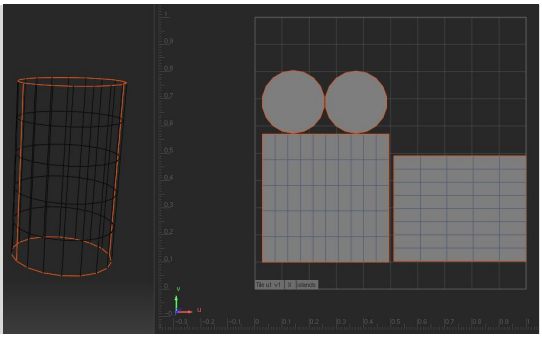
*NOTE: The current version of object space RaindropFX is a **non-physical accurate** version. Physical calculation of water droplets are totally dependent on the UV space of your model. So the way of dividing the UV will directly affect the flow of water droplets.

2-2-1 OBJECT SPACE VERSION – Setup your model

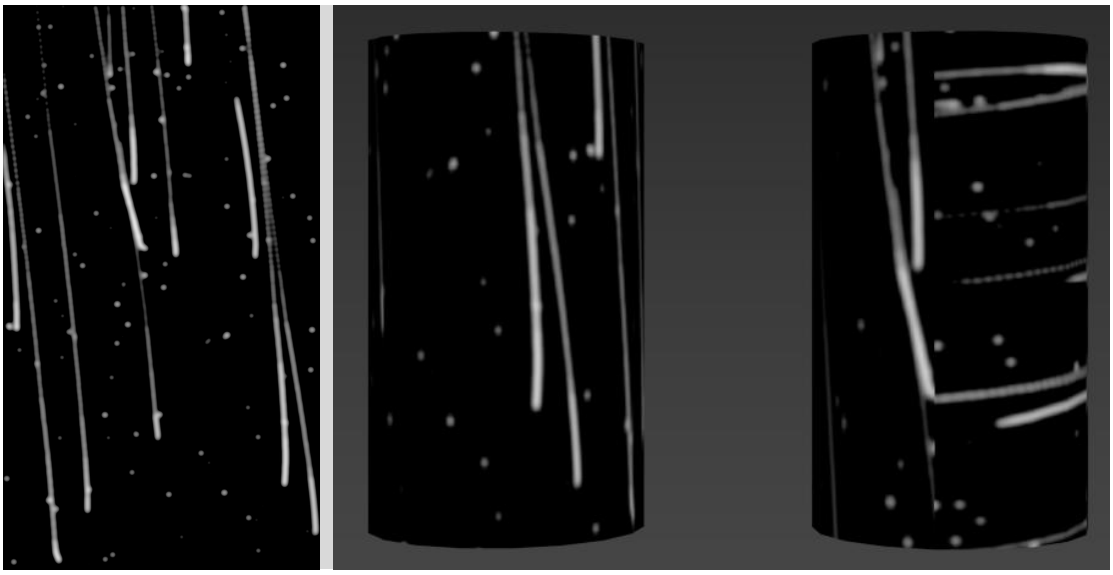
As shown in the figure below, there are two different UV division methods for the same cylinder model:



(a) The side of the cylinder is divided into single UV island



(b) The side of the cylinder is divided into two UV islands, with one of which is rotated 90 degrees

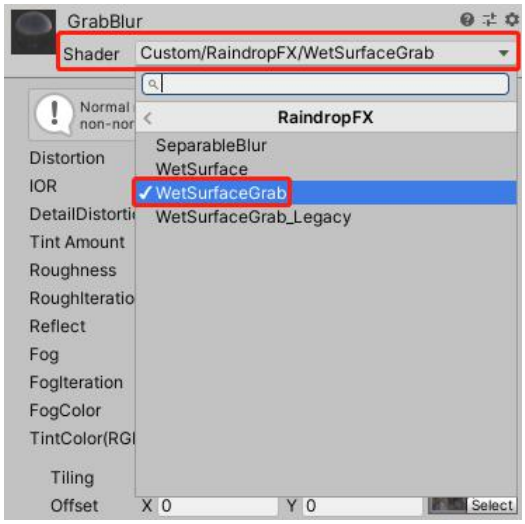


As the figure above shows, left side is the computed raindrop texture. Because of that the flow direction of raindrops is roughly along the v-axis of the UV space, so if we apply the texture to the middle cylinder (with UV division method (a)), the result will be correct; But if we apply the texture to the right cylinder (with UV division method (b)), the result will be wrong.

Therefore, in the process of UV division, please try to **keep the UV island orientation consistent** and try to **divide the UV into a whole piece of island**.

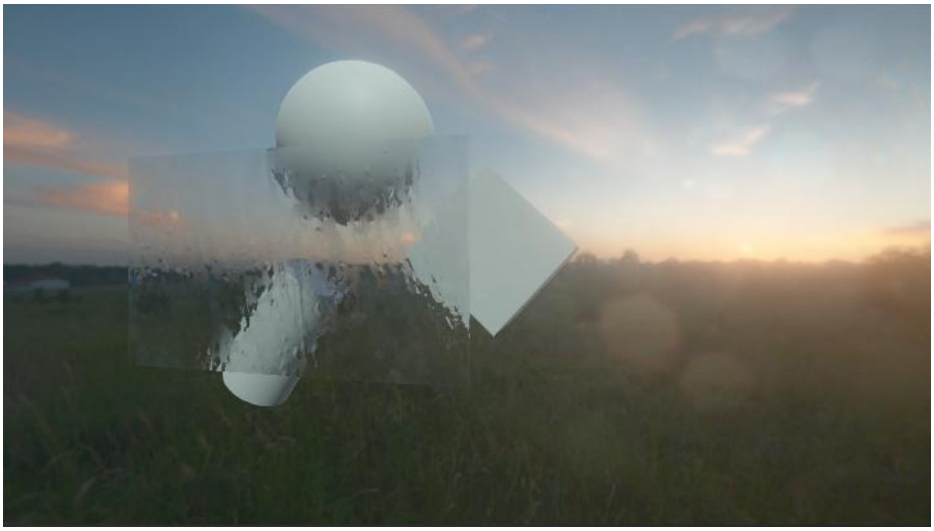
2-2-2 OBJECT SPACE VERSION – Setup material & solver

1. Create a new material, change the shader type to ‘Custom/RaindropFX/WetSurfaceGrab’;

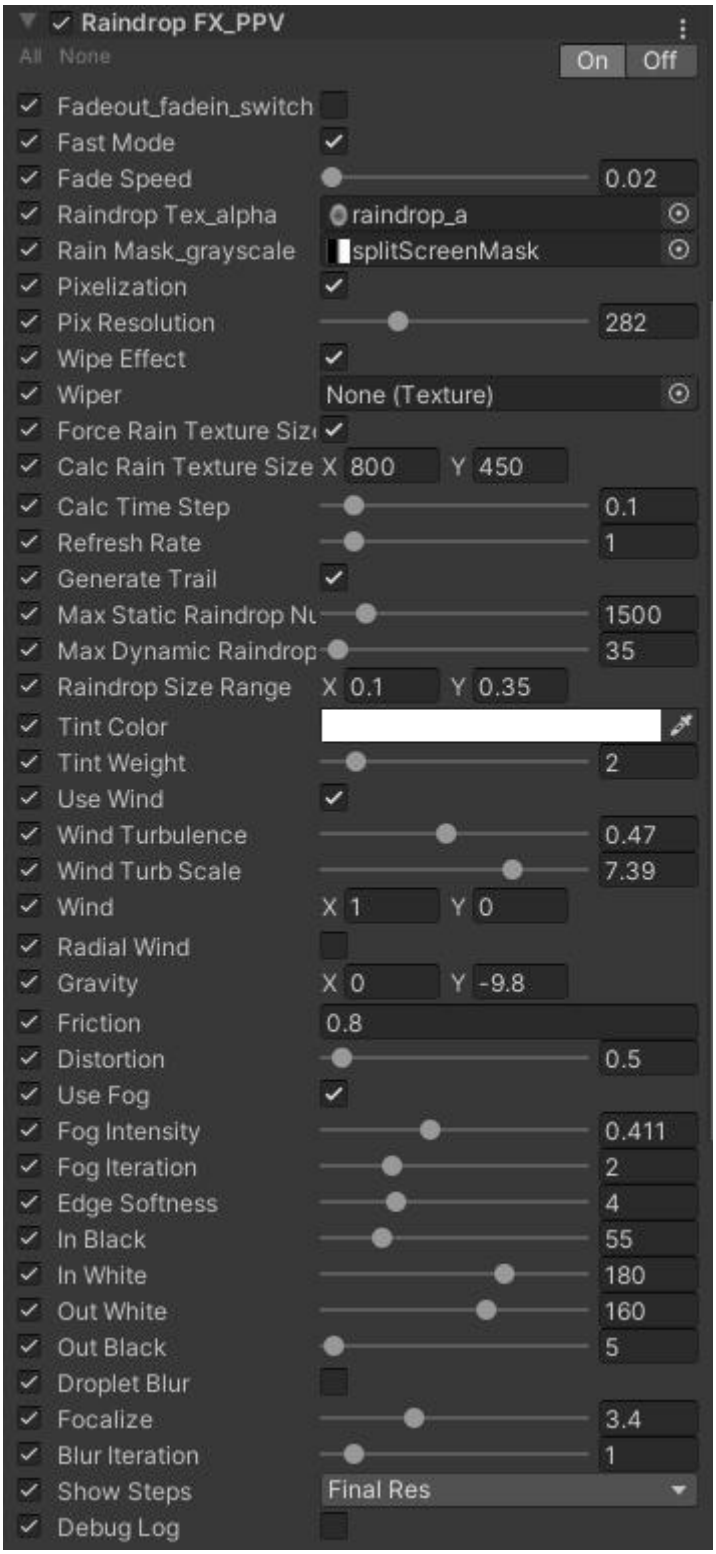


2. Add ‘Material Linker’ to your model object. ‘Material Linker’ will try to find the target material (main material of your model) automatically, if the component failed to get the correct material or if you changed the material of model after scripts have been added, please reset ‘Target Mat’ manually.

3. Now you can see raindrops on your model surface.



3 SYSTEM OPTIONS



Parameter	
Fadeout_fadein_switch	Waterdrops will fade in/out automatically if you disable/enable this.
Fast mode	Works with 'Fadeout_fadein_switch'. Waterdrops will fadeout with higher frame rate but lower accuracy if you turn it on. *It will greatly affect the effect of screen fog.
Fade speed	The speed of waterdrops fadeout. The bigger, the faster.
Raindrop tex_alpha	Raindrop texture must be set before you can use RaindropFX. Find the raindrop texture at "RaindropFXPro_PPV/Resources/Textures/raindrop_a". Or you can use your own raindrop texture. *The calculation of the program is based on the alpha channel of the texture, so PNG format images with alpha channel are recommended.
Rain Mask_grayscale	Controlling visible part of droplets based on a grayscale image.
Pixelization	Enable/Disable droplet pixelization. This effect can be used in pixel style games.
Pix Resolution	Specifies the pixel resolution. The lower the

	resolution, the more obvious the pixel of water droplets.
Wipe Effect	Enable/Disable wipe effect.
Wiper	Tick this option if you want to enable wipe effect. *there's no need to assign texture/object here.
Force rain texture size	When turn it on, raindropFX will always calculate the screen rain texture of the specified size(Calc Rain Texture Size) and then rescale it to the current screen resolution size. When your game resolution is very large, opening this option will improve performance.
Calc rain texture size	
Calc time step	The time step of physical calculation.
Refresh rate	For example, if you set it to 2, the raindrop animation will calculate every two frames.
Generate trail	Controls whether the dynamic water droplets produce a tail when they slide. When the dynamic water droplets produce a static tail drop, itself loses a certain amount of mass, which will affect the results of the physical calculation.
Max static raindrop number	Water droplets are divided into two categories: static and dynamic. Static water droplets are generated on the screen at random locations and cannot be moved. Dynamic water droplets are generated by the
Max dynamic raindrop number	

	physical computing movement.
Raindrop size range	Calculate the size range of raindrops based on your raindrop texture.
Tint color	Tint color for droplets.
Tint weight	The larger the value, the thicker the color.
Use wind	Tick this if you want to use screen wind.
Wind turbulence	Controls wind turbulence amount.
Wind turb scale	Adjust scale of the wind turbulence.
Wind	Wind power adjustment.
Radial wind	Enable radial wind, mostly for driving simulation.
Gravity	Gravity adjustment.
Friction	Friction adjustment.
Distortion	Screen blend effect intensity. The larger the value, the stronger the distortion.
Use fog	If you want to use screen fog, turn it on.
Fog intensity	Screen fog effect intensity.
Fog iteration	Controls the effect of water droplet wake on fog.
Edge softness	Edge softness of water droplets.
In black	Color level parameters. Can be used to adjust the "cutoff" effect of waterdrop edge.
In white	
Out white	

Out black	
Droplet blur	Enable this to blur foreground waterdrops.
Focalize	Adjust focal length.
Blur iteration	Adjust blur strength.
Show steps	Show calculation steps of screen rain texture.
Debug log	Enable this if you want to see debug info. Usually do not need to tick.

The processing flow of Batch Image Renderer is as follows :

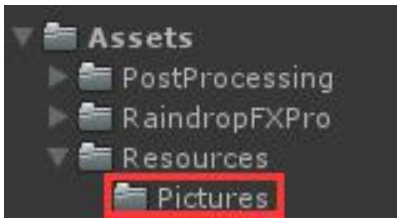
1. 'Batch Sequence Renderer' can be used to render your custom sequence frames to the screen in order;

2. Then you can further applying other post-processing stacks to the input sequence frames;

3. Finally, you can use the 'Screen Shoter' to save the processed sequence to your local disk.

4-1-1 BATCH IMAGE RENDERER – Import your image sequence

First, put all your pictures into 'Assets/Resources/Pictures', if this folder does not exist, create it :



4-1-2 BATCH IMAGE RENDERER – Setup 'Batch Sequence Renderer'

On the "Post Process Volume" component, go to "Add effect -> RaindropFX -> Batch Sequence Renderer" to add the renderer :

'interval' means that each frame of your input sequence will be rendered to the screen in every n frames.

*This tool will only start when you click the 'Run' button.

*NOTE: If you want to render raindrop effects to input sequence, when 'interval' is set to a small value (e.g. 1), the water droplets on the output frames will looks like the same because the interval between each frame is too small, which will leads to very small time steps in physical calculations. So if you want to make a significant change in the state of the water drops on each frame, increase the 'interval' value.

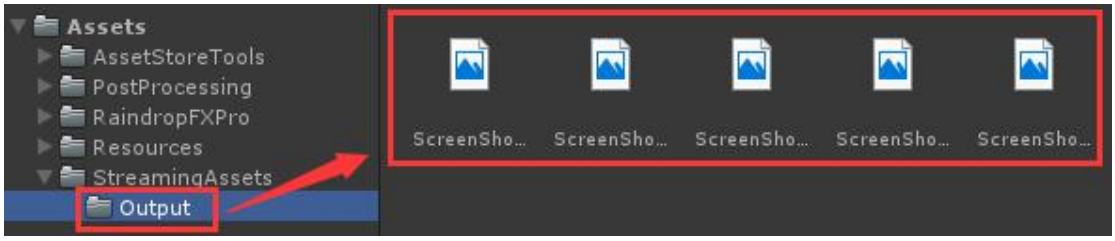
4-1-3 BATCH IMAGE RENDERER – Applying other post effects

On the "Post Process Volume" component, go to "Add effect -> RaindropFX" to add other post effects you prefer. All the effects you added will be applied to the input sequence.

4-1-4 BATCH IMAGE RENDERER – Setup ‘Screen shoter’

On the “Post Process Volume” component, go to “Add effect -> RaindropFX -> Screen Shoter” to add the screen shoter :

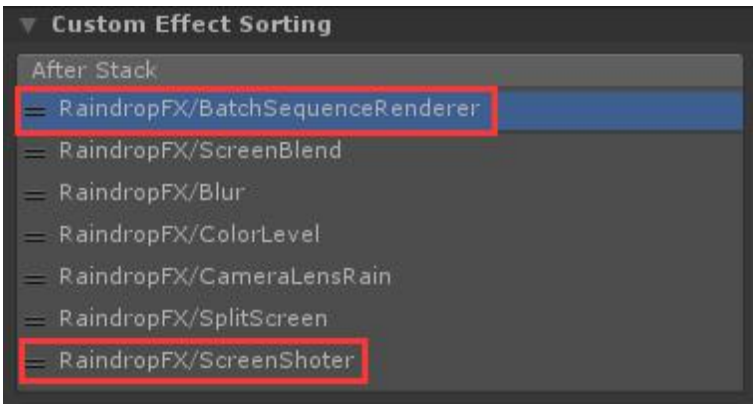
The image will be captured in every 'interval' frames and the captured images will be saved to the 'Assets/StreamingAssets/Output' folder automatically :



*This tool will only start when you click the ‘Run’ button.

4-1-5 BATCH IMAGE RENDERER – Sorting post effects

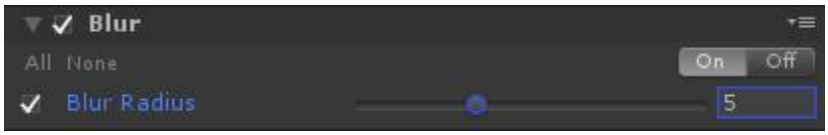
First, keep the value of ‘interval’ in both ‘Batch Sequence Renderer’ and ‘Screen Shoter’ as the same. Then, on the “Post Process Layer” component, sort after stacks manually, please make sure that ‘Batch Sequence Renderer’ is at the top, ‘Screen Shoter’ is at bottom.



Finally, run the game and all the input images in the 'Pictures' folder will be applied with post-effects you have been added before being output to the 'Output' folder.

4-2-1 BONUS POST STACKS - Screen blur effect

On the “Post Process Volume” component, go to “Add effect -> RaindropFX -> Blur” to add the blur effect :



It can blur your screen based on Gaussian Blur :

Without blur effect

With blur effect

4-2-2 BONUS POST STACKS - Ground glass effect

On the “Post Process Volume” component, go to “Add effect -> RaindropFX -> Screen Blend” to add the screen blend effect :

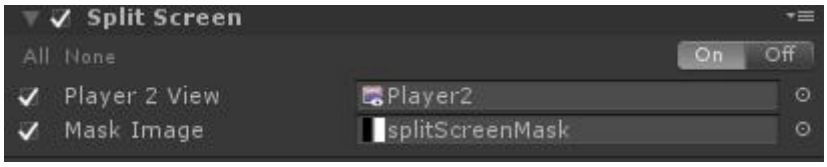
It can create ground glass effect based on your Height Map/Normal Map, and can achieve color mixing effects based on your Color Map :

Without screen blend effect

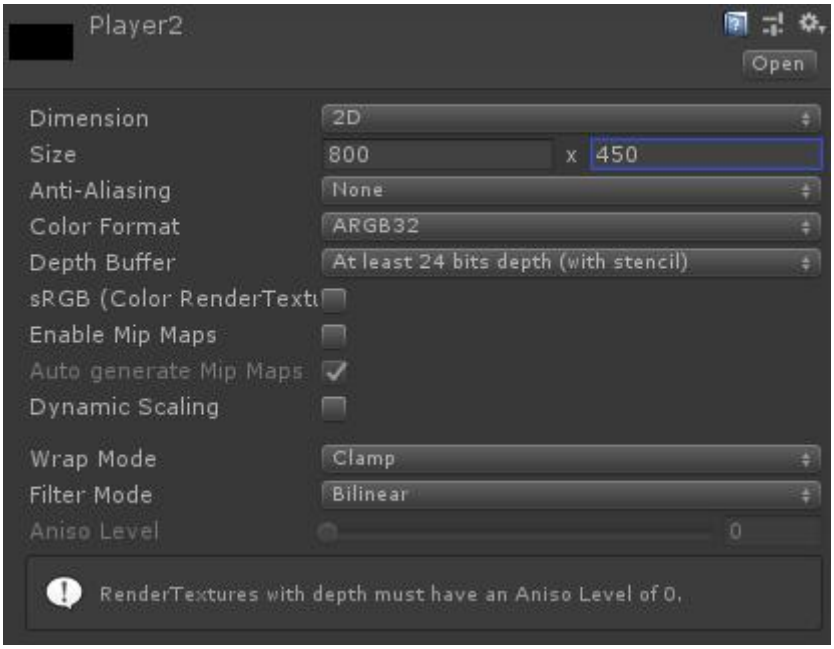
With screen blend effect

4-2-3 BONUS POST STACKS - Multi-player split screen

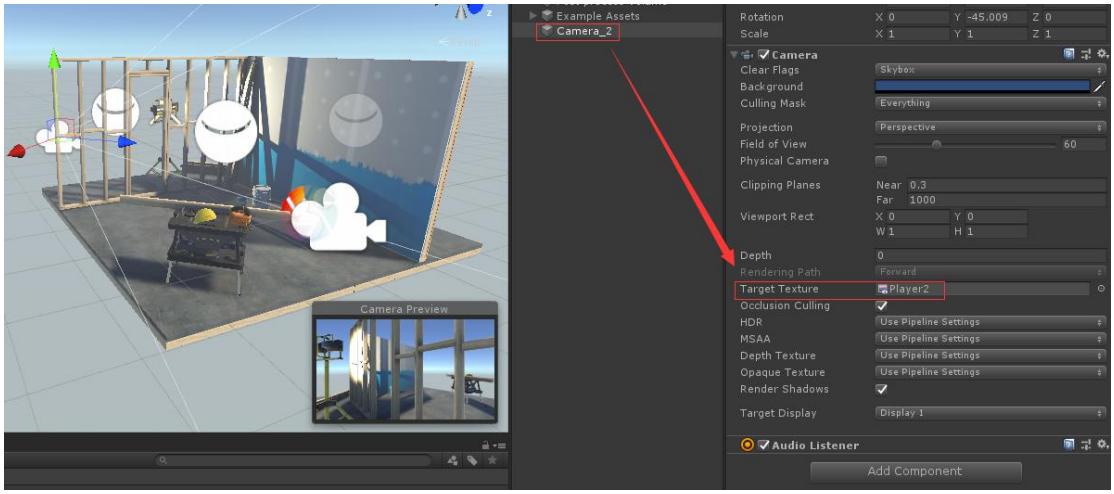
On the “Post Process Volume” component, go to “Add effect -> RaindropFX -> Split Screen” to add the split screen effect :



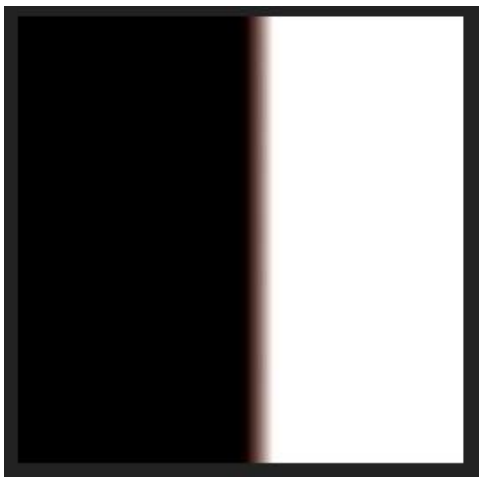
Then you should create another camera for player2 and create an render texture for camera2 as render target :



Set render texture size to as same as your main camera



Drag and drop the render texture to target texture of your camera2



Use an grayscale map as split mask, white part is the camera view of player2

Without split screen effect

With split screen effect

4-2-4 BONUS POST STACKS - Color level effect

On the “Post Process Volume” component, go to “Add effect -> RaindropFX -> Color Level” to add the color level effect :

Without color level effect

With color level effect

THANK YOU FOR YOUR PURCHASE!

RaindropFX – Realistic Camera Lens Rain

Version 2.5.0

Thank you for buying RaindropFX and supporting HU ANIME!

It's people like you that allow me to build and improve my indie games!

If you have any questions, comments, or requests for new features, please email me directly at: hztmailbox@gmail.com.