

Unit 12: Post-Processing

- [Introduction](#)
- [Goal](#)
- [Process](#)
 - [Install the Post-processing Package](#)
 - [Setting up the camera](#)
 - [Setting up the volume](#)
- [Wrap-Up](#)
- [Further Material](#)

Introduction

Modern games have a lot of tricks and techniques to make them visually interesting and beautiful. We're not that concerned at this level about making things super attractive, but there is a simple way to turn up the cool – using **Post-processing**. Post-processing happens after the entire screen is rendered, but before it's shown on the screen. At this stage, we can play around with the rendered image just as if it were an image in Photoshop.

Goal

To add simple post-processing to the game.

Process

Install the Post-processing Package

Unity has many, many extra “packages” of functionality that can be added. A lot of these are in Beta, and are either instable, constantly changing, or simply not finished. You have been warned.

To install a package, we use the **Package Manager**.

1. Go to the **Window > Package Manager** menu:

Minimize

⌘ M

Zoom

Bring All to Front

Windows



Layouts



Asset Store

⌘ 9

Package Manager

Asset Management



TextMeshPro



General



Rendering



Animation



Audio



Sequencing



Analysis



2D



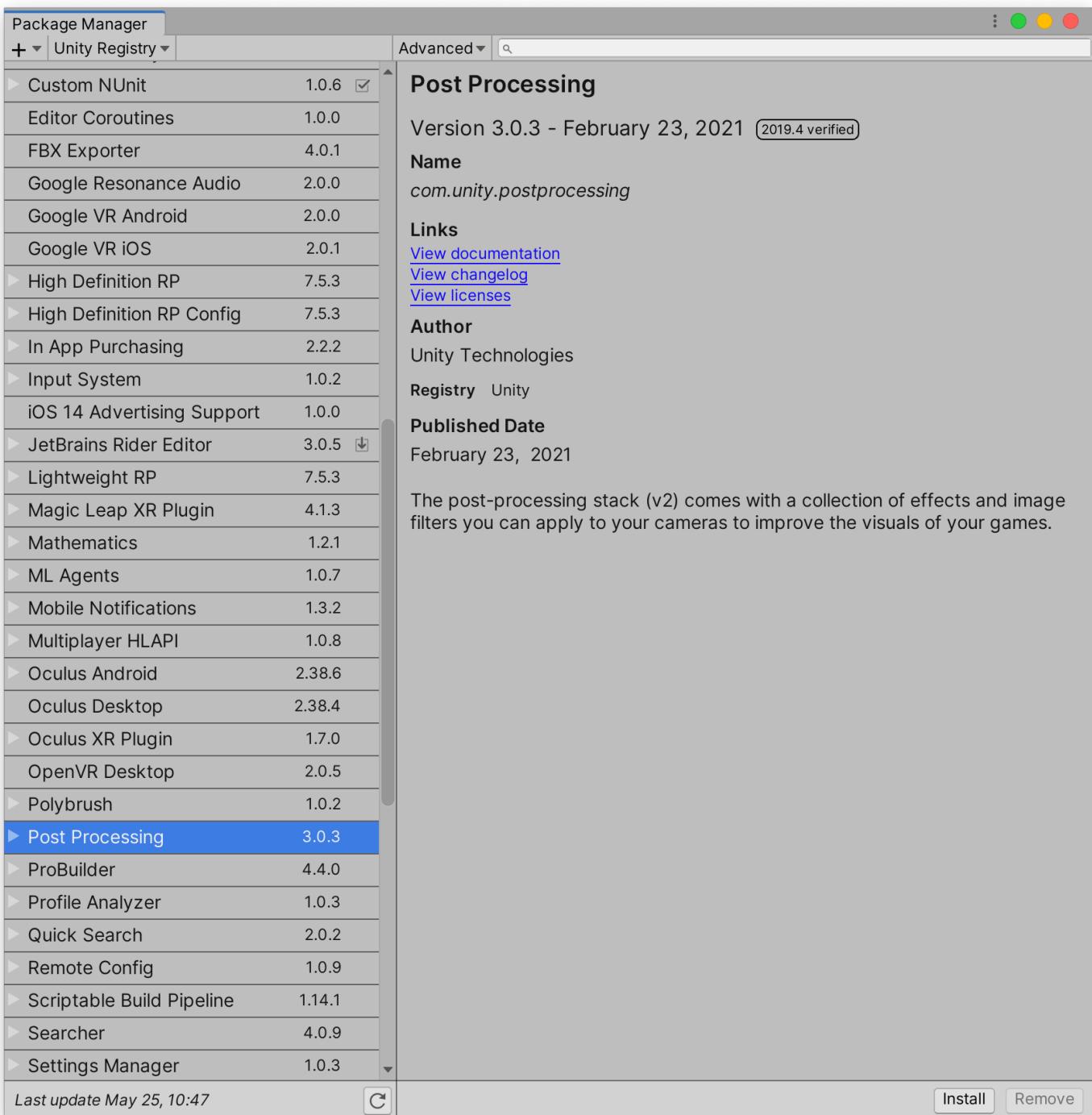
AI



UI



1. This brings up the Package Manager:



You might need to wait a couple of seconds as Unity pulls data from online.

1. Scroll down to **Post Processing**, and click on the **Install** button at the bottom right.

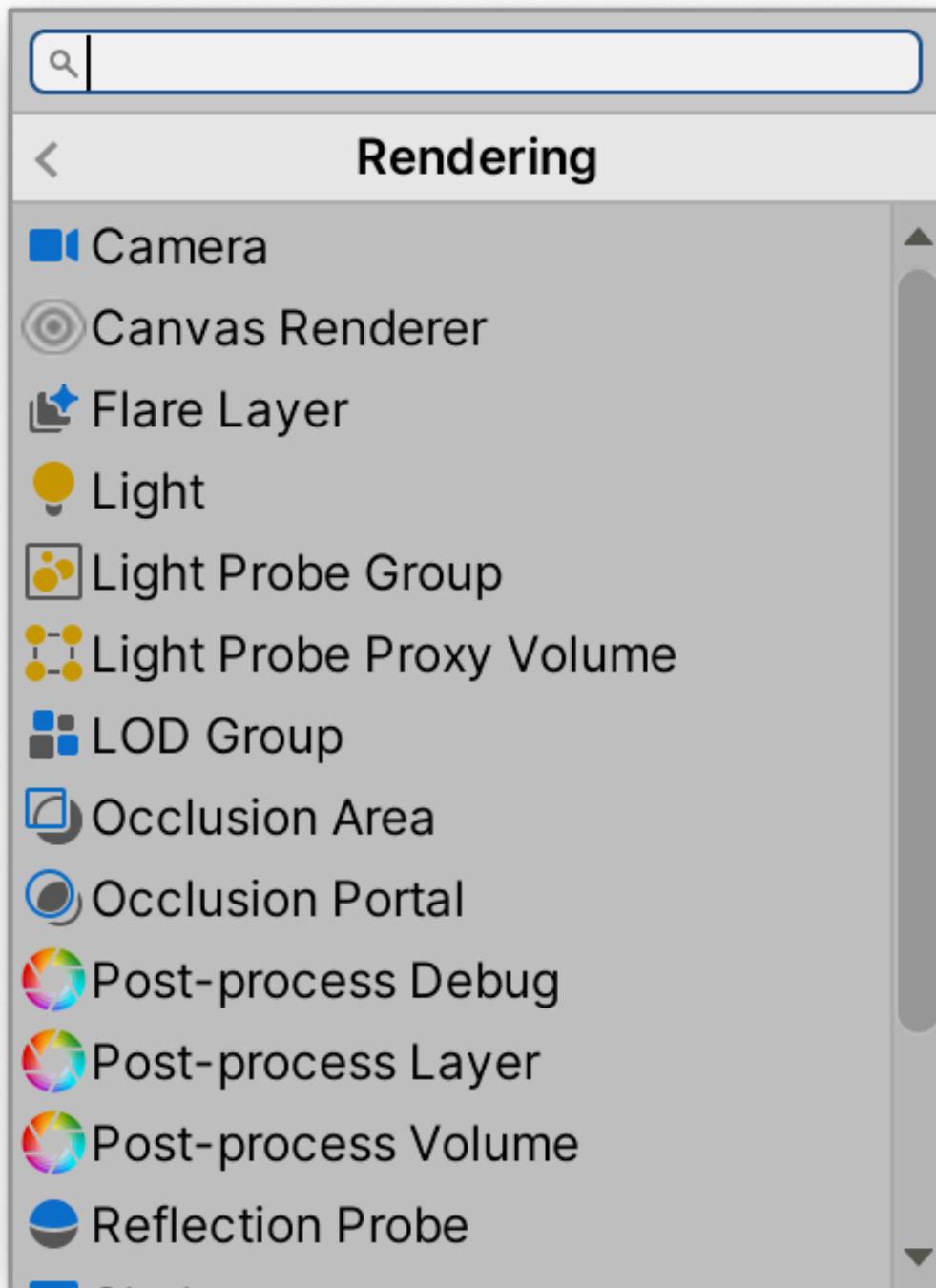
Unity will install this package in your Project in the **Packages** folder.

Setting up the camera

Now we need to do two things: tell the camera to use post-processing, and create a post-process volume.

1. Select your **Main Camera**, and add a new component of type **Rendering > Post-process Layer**.

The new component has a bunch of settings, but the main one we're concerned about is the **Layer** setting. This setting applied the effect to only the checked layers.



1. In the `Layers` dropdown menu, select **Everything**.

9

Volume blending

Trigger  Main Camera (Transform) This

Layer **Everything**

 Do not use "Everything" or "Default" as a layer mask as it will slow down the volume blending process! Put post-processing volumes in their own dedicated layer for best performances.

Anti-aliasing

You'll get a warning about applying the effect to Everything. It's a good warning, and normally you *wouldn't* do this, but our games are small enough that it won't be a big deal.

Setting up the volume

Now we need to set up the post-process volume. Unity uses volumes – cubes – that specifies where the volume is applied. This way, you can have different post-process effects in different areas. For this game, we'll apply across the whole game.

1. Right-click in the Hierarchy, and choose **3d Object > Post-process Volume**:

Copy
Paste

Rename

Duplicate

Delete

Select Children

Select Prefab Root

Create Empty

3D Object ►

2D Object ►

Effects ►

Light ►

Audio ►

Video ►

UI ►

Camera

Cube

Sphere

Capsule

Cylinder

Plane

Quad

Text - TextMeshPro

Post-process Volume >

Ragdoll...

Terrain

Tree

Wind Zone

3D Text

This creates a new gameObject with a Post-process volume component.

1. In the Post-process volume component, turn on Is Global :

The screenshot shows the 'Post-process Volume' settings in the Unity Editor. At the top left is a camera icon with a checkmark, followed by the title 'Post-process Volume'. To the right are three icons: a question mark, a settings gear, and a vertical ellipsis. Below the title are four settings: 'Is Global' with a checked checkbox, 'Weight' with a slider set to 1, 'Priority' with a value of 0, and 'Profile' with a dropdown menu showing 'Post-process Volum' and buttons for 'New' and 'Clone'. A section titled 'Overrides' follows, containing a message box with an exclamation mark icon stating 'No override set on this volume.' and a button labeled 'Add effect...'. On the far right edge of the window, there is a vertical scroll bar.

1. Click the `New` button in the `Profile` slot to create a new profile.

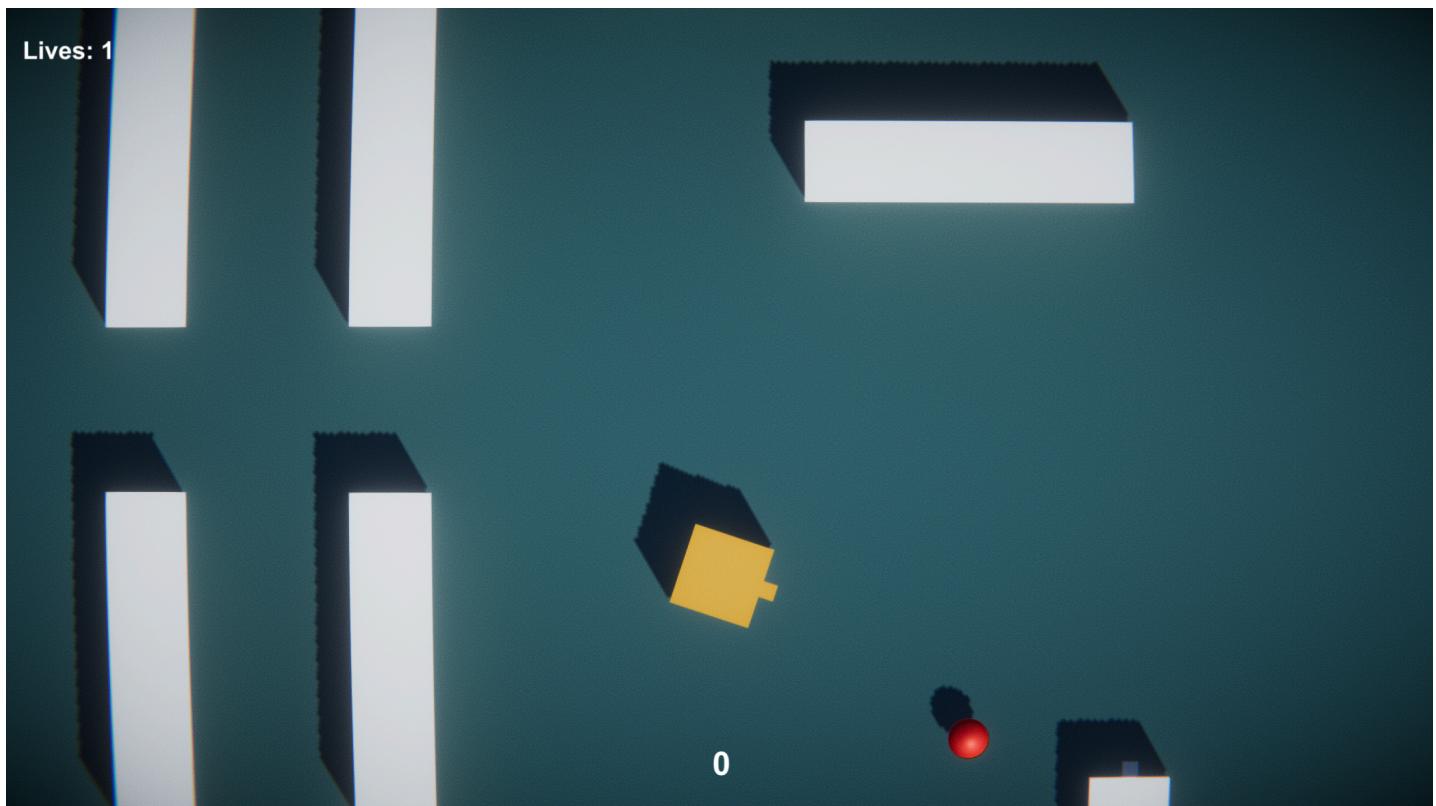
A profile is a selection of effects to apply.

1. You can now click the `Add Effect...` button to add new effects.

The screenshot shows the 'Overrides' settings in the Unity Editor. It lists two profiles: 'Lens Distortion' and 'Vignette'. The 'Lens Distortion' profile is expanded, showing its settings. Under 'Lens Distortion', there is a 'None' option and an 'On/Off' switch set to 'On'. Below this are five sliders: 'Intensity' (value 18), 'X Multiplier' (value 1), 'Y Multiplier' (value 1), 'Center X' (value 0), 'Center Y' (value 0), and 'Scale' (value 1). Each slider has a corresponding checkbox to its left, with 'Intensity' being checked. The 'Vignette' profile is also listed but is collapsed. On the far right edge of the window, there is a vertical scroll bar.

Note that in order to change a value in any of the effects, you need to turn on the checkbox next to the name of the value. This way, Unity will optimise for only those values that are checked.

Have fun with the effects!



Wrap-Up

In this unit, we installed a Unity Package, which allowed us to add a post-process volume. Keep in mind that Packages are often difficult to use.

Further Material

- [Unity Manual on Post-Process Volumes](#)