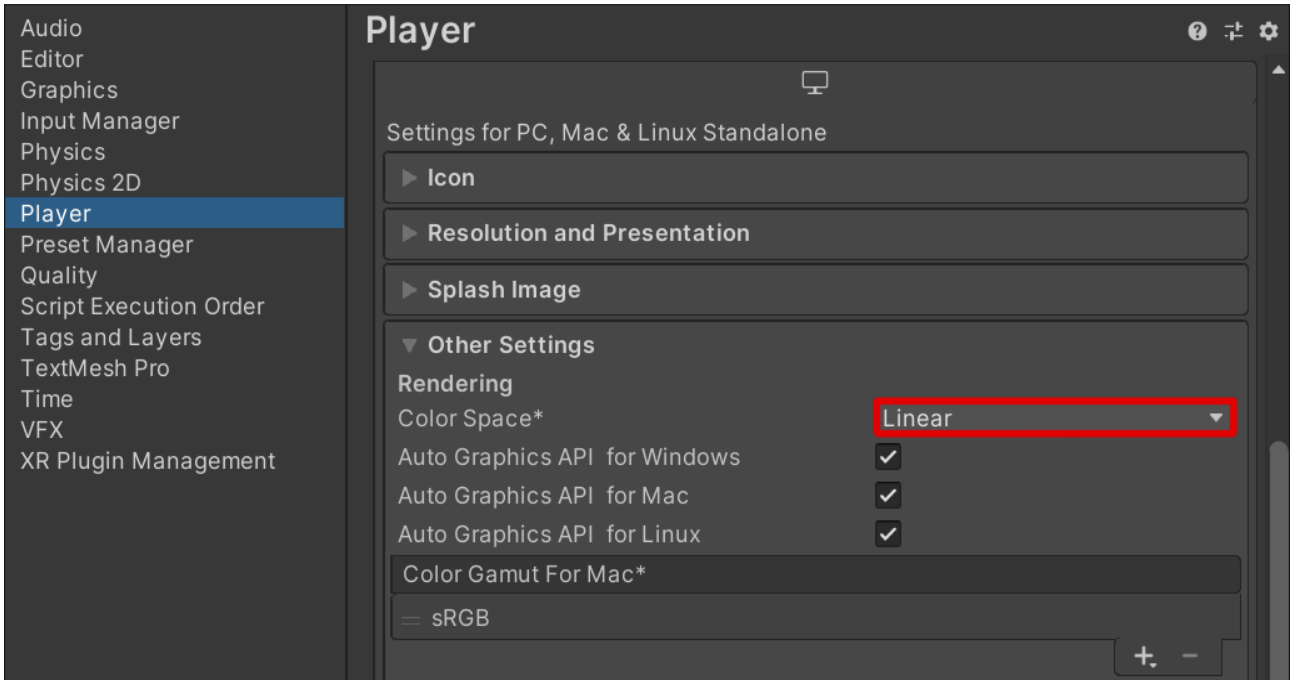
Pure Nature

/!\ Make sure your project Rendering Settings are set to **Linear.**
Rendering Settings are located in **Edit > Project Settings > Player**

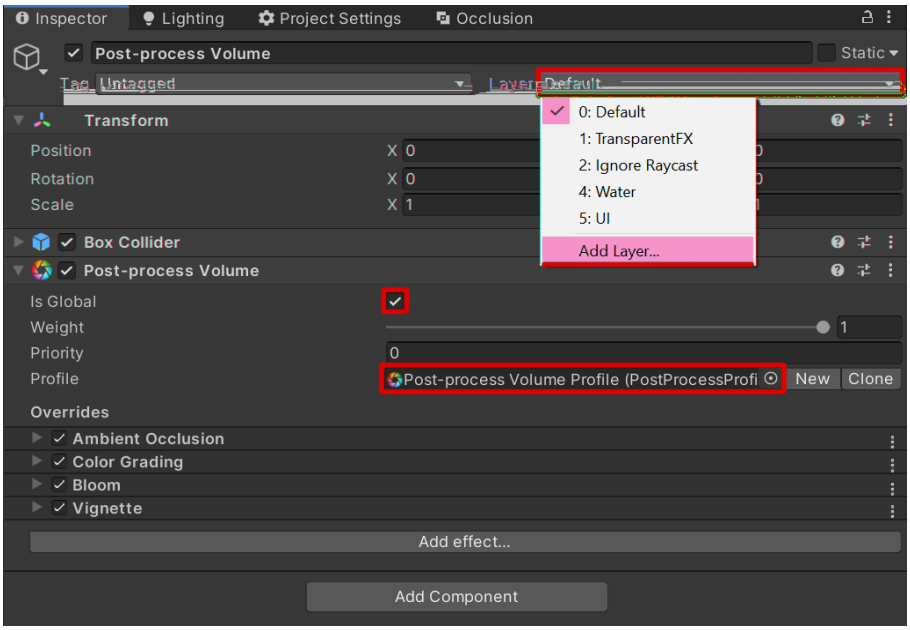


Standard / Built-in setup

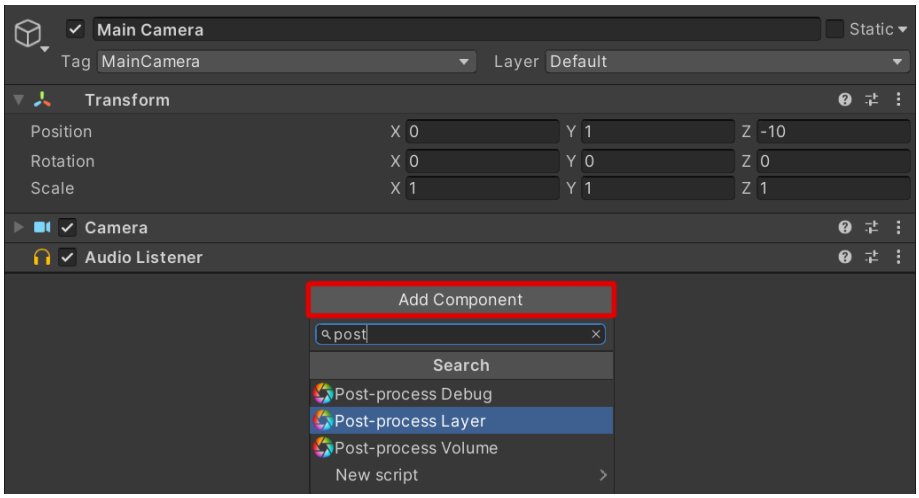
To achieve the same lighting setup as the screenshots seen on the Asset Store,
install the **Post-Processing** plugin via the Download Manager, located in **Window > Package Manager**

When installed, create a **Game Object > 3D Object > Post-Process Volume**.

On the created Volume, assign the **Post-Process Profile** located in **PureNature > Settings > Built-in**
Create a custom Layer for the Post-Process Volume by clicking on the Default Layer and **Add Layer...**
Give any name to the new Layer, and go back to the Volume to assign it. Check **Is Global**.



Now add a **Post-Process Layer** component to the scene **Camera** :



Assign the **Layer** you just created to the component, and choose an **Anti-Aliasing** method.

URP setup

After downloading the Universal RP from the package manager,
open the **URP** package with the right version located in **PureNature > Settings > URP**.

Assign the **UniversalRenderPipelineAsset** in **Edit > Project Settings > Graphics**

Assign the provided **Global Volume Profile** located in **PureNature > Settings > URP**
to the Global Volume in the scenes if missing.

You may have to change/re-save the scene or reboot Unity for the grass shader to fully update.
You also may need to recalculate Lightmaps.

If you have circular shadow lines appearing on terrain, update URP to version **7.5.1**

Shaders

All Shaders are made, and are editable with **Amplify Shader Editor**.
They are located in **PureNature > Shaders**.

There are two different grass shaders, one for terrain (that replaces the hidden internal one), one for prefabs.

Most shaders use either VertexColor, an IDmap, or a mask to control their effects.

Some transparent shaders uses dithering as opacity method. It can be disabled on tree leaves materials.

LODs use crossfade in URP.

Billboards :
Camera-facing Billboard shader for trees.
Has a gradient parameter to control a blend between two colors from base to top, a third color is used for a global color variation (controlled by a World-Space noise).
Has a Wind Multiplier override (Wind is controlled by UVs).

An ID map uses the following channels :

R – Trunk color
G – Leaves color
B – Layer/Detail color
A – Opacity

Clouds :
Transparent shader for pseudo-volumetric clouds.
Controls two moving noises at different speeds/directions
Has multiple parameters for color, coverage, softness, scattering...

GrassMesh :
Vertex animated Shader for non-terrain grass (if you are using Polybrush or YAPP to place grass on prefabs).

The ID map uses the following channels :

R – Grass color luminosity
G – Grass Scattering intensity
B – n/a
A – Opacity

GrassTerrain : /!\ Built-in only – URP uses default Terrain shader instead (a Unity bug prevent the override).
Vertex animated Shader that replace the default hidden Unity Terrain grass.
Colors and Tint are still manageable trough the DetailMesh and Terrain parameters.

The ID map uses the same channels as GrassMesh :

R – Grass color luminosity
G – Grass Scattering intensity
B – n/a
A – Opacity

StandardLayer :
Standard PBR Shader for surfaces with a masked material layer for moss or snow.
Layer mask uses either Vertex Colors or World-Space Normals (top of the object).
VertexColor can be adjusted by using Layer Position and Layer Contrast.
Mesh normals and Layer normals, can be blended together.

VegetationTrunk :
Same Shader as the StandardLayer, with Vertex animation added to move trunks with the wind.
Wind is controlled by VertexColor (channels can be changed).
VertexColor can be adjusted by using Layer Position and Layer Contrast.
Has a Wind Multiplier override.

VegetationLeaves :
Vertex animated Shader for trees leaves with pseudo Sub-Surface Scattering.
Has a gradient parameter to control a blend between two colors from base to top, a third color is used for a global color variation (controlled by a World-Space noise).
The checkbox "Hide Sides" enables flat planes hiding when viewed at glancing angles. This uses Dithering.
Has a Wind Multiplier override.

VertexColor uses the following channels :

R – Micro wind
G – Layer intensity
B – Base wind
A – n/a

Water and WaterFall :
Transparent Shaders with refraction, depth color, and edge foam.
Foam can be controlled by VertexColor (Red channel).

Scripts

An **EnvironmentManager** script is provided to have some control over all vegetation in the scene.
The script is located in StylizedNature > Scripts

Base Wind controls the wind power of trees trunks.
Wind Bursts controls a World-Space noise that multiply the Base Wind to give some movement variations.
Micro Wind controls the wind power for leaves and grass.
Render Distance for grass. The value also need to be edited in Terrain settings (twice the script value).

You can check the **Show Wind** debug option to have a visual of the different wind noises.
Presets for this script : Windy (default) and Stormy.

Clouds are managed both script and shader side.
The script spawns a number of QuadMeshes using GPU instancing

Volume Samples is the number of planes.
Volume Size controls planes spacing.
You can edit coverage, movement, color etc, on the Clouds Material.
Presets for the Material : Cloudy, Night, Overcast, Storm, Sunset, and Swirly.

A **WaterReflection** script is added to the demo scene camera.
Activate the greyed-out Reflection Probe in the hierarchy to enable realtime reflections.
/!\ This will double the Drawcalls, realtime reflections are only intended for screenshot purposes.

Tips & Tweaks

There are presets for : Directional Light, EnvironmentManager, CloudsVolume, and Water.
They are all located in **PureNature > Settings > Presets**.

Switch the scene to night :
Change the Skybox in Lighting settings to SkyNight,
Change Directional Light preset to Light_Night,
Change Clouds Volume preset to CloudsVolume_Night,
Change the Fog color in Lighting settings to a deep blue,
Recalculate Lightmaps.

LODs distance can be easily increased/decreased in **Project Settings > Quality**,
Set the LOD Bias value to 1, 2, 5, or 10.

An empty scene with everything set-up, ready to be used, is available in **PureNature > Scenes > Scene_Empty**

Third-Party

Recommended tools and plugins to go along this pack :

Yet Anoher Prefab Painter (free & open-source)
Place prefabs by paint, splines, or grid. Can also paint prefabs with physics. All prefabs in the example scene have been placed with this tool.
https://github.com/Roland09/PrefabPainter
https://forum.unity.com/threads/free-yapp-yet-another-prefab-painter-open-source-github.782483
Polybrush (free)
Place prefabs and edit VertexColor, available on the Package Manager.

MicroSplat (free & paid)
For Terrains, enable procedural painting, height based textures blending, and much more.
https://assetstore.unity.com/packages/tools/terrain/microsplat-96478

Amplify Shader Editor (paid) All custom shaders are editable with this tool.
https://assetstore.unity.com/packages/tools/visual-scripting/amplify-shader-editor-68570

Amplify Impostors (paid)
Professional option for billboards with custom shader support.
https://assetstore.unity.com/packages/tools/utilities/amplify-impostors-119877

Thank you ♥

If you have any issue, questions, or simply want to say hello, feel free to contact us at **contact@bk-prod.fr**

We also have a **7 questions** survey over here :
https://forms.gle/5Am8UN3NFq7Qq5ar5
Every bit helps, your feedback is extremely valuable to us !

Enjoy your pack !