LOW POLY TREES PACK v1.4.3

LMHPOLY

lmhpoly.com

Contacts

E-mail: justinas@lmhpoly.com

Website: http://lmhpoly.com/contact/

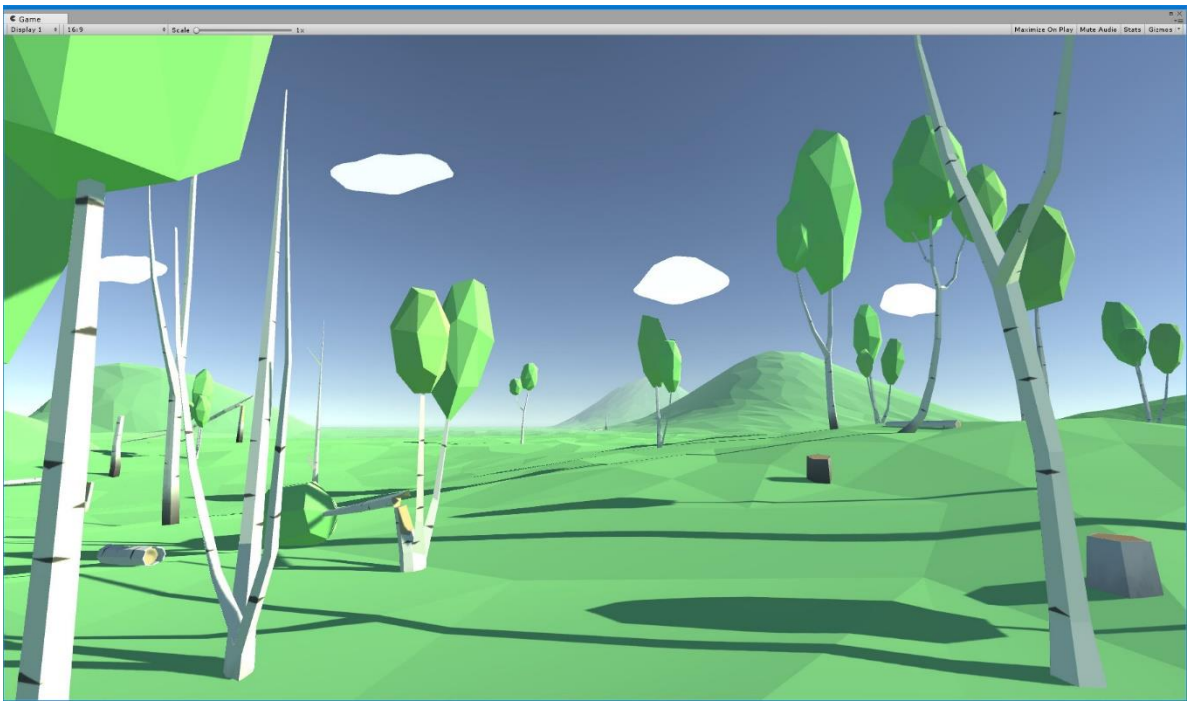
Follow me on **Twitter** to see what I'm working on right now:

https://twitter.com/lmhpoly

Content

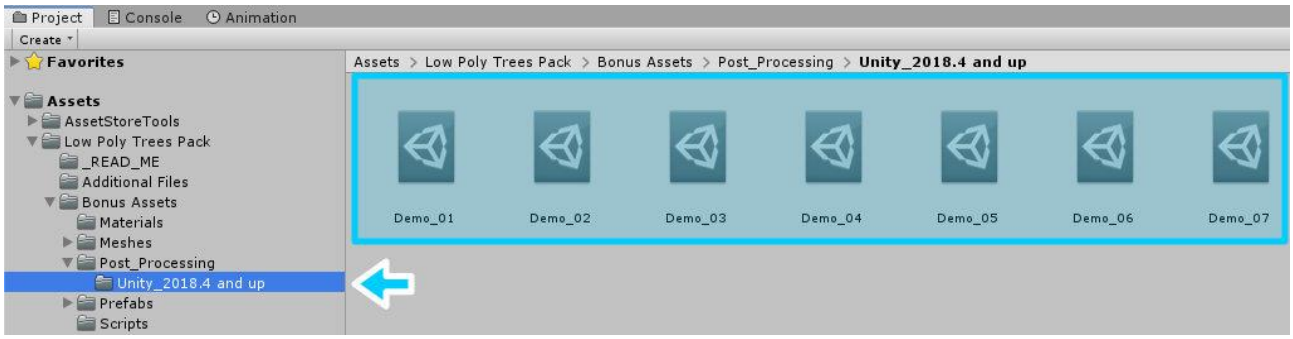
Demo scenes

Now as you have imported the whole "**Low Poly Trees Pack**" to your Unity project, go to *Low Poly Trees Pack > Demo > Demo_Scenes* - and open any Demo Scene (here is a **Demo_04** example). By default, the scene should look like this inside the **Game** view without any image effects applied. Scene by default use **Gamma** Color Space.



To make it look like this:

you need to use **Post-Processing Profile** on each demo scene.



Follow the steps below to setup **Post-Processing** image effects for Demo Scenes!

Post-Processing in Unity 2018.4 LTS and up

*You need at least Unity 2018.4 LTS to setup Post-Processing by following my tutorial!

BONUS

UPDATE! You can watch my video tutorial on the lighting and post-processing workflow I use for my low poly scenes if you want to light your own newly created scene in Unity:

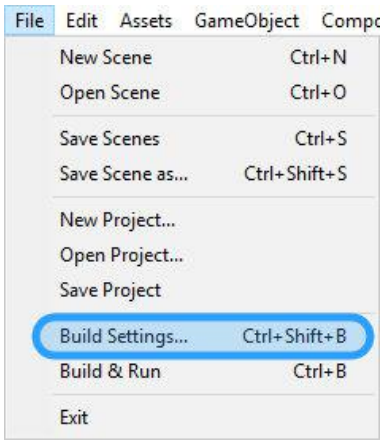
Unity URP Tutorial - Lighting And Post-Processing

Unity 2020 Tutorial - Lighting And Post-Processing Low Poly Scene

How to Setup Demo Scenes (Post-Processing) in Unity 2018.4 LTS and up (For PC)

1. Make sure you are using **PC, Mac & Linux Standalone!**

Go to *File > Build Settings*

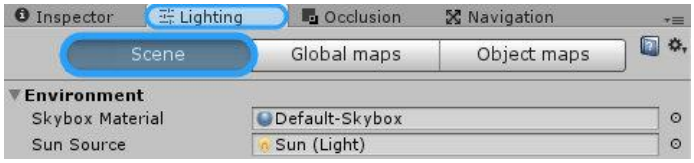


Select **PC, Mac & Linux Standalone** and hit **Switch Platform** button.

2. **Clean GI Cache** (Optional) – **Skip** this if you don't have any light baking errors!

Before you go to the next step, you need to disable **Auto** build/bake feature.

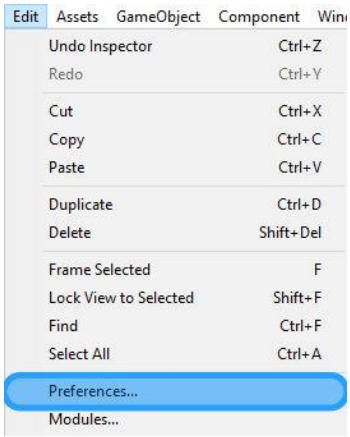
You can find it in **Lighting** and select **Scene** tab (If you don't see Lighting tab go to *Window > Lighting > Settings).*



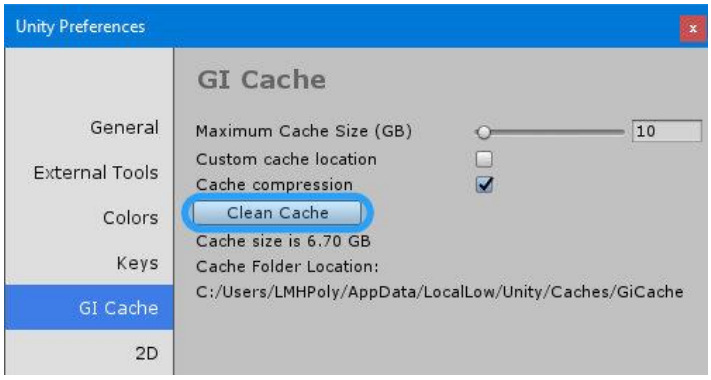
At the bottom you will see this:

uncheck **Auto Generate**.

Go to *Edit > Preferences*



Select **Gi Cache** tab and press on **Clean Cache** button!



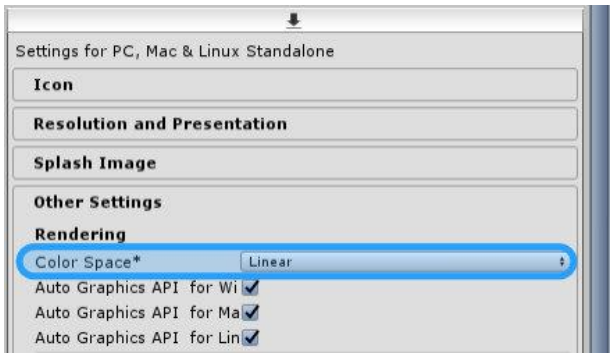
Enable **Auto Generate** / bake feature

and wait until the generation is done (blue loading bar at the right bottom corner).

3. Make sure that **Color Space** is set to **Linear.**

Go to *Edit > Project Settings > Player*

In the **Other Setting** tab, you will find **Color Space***, set it to **Linear**.

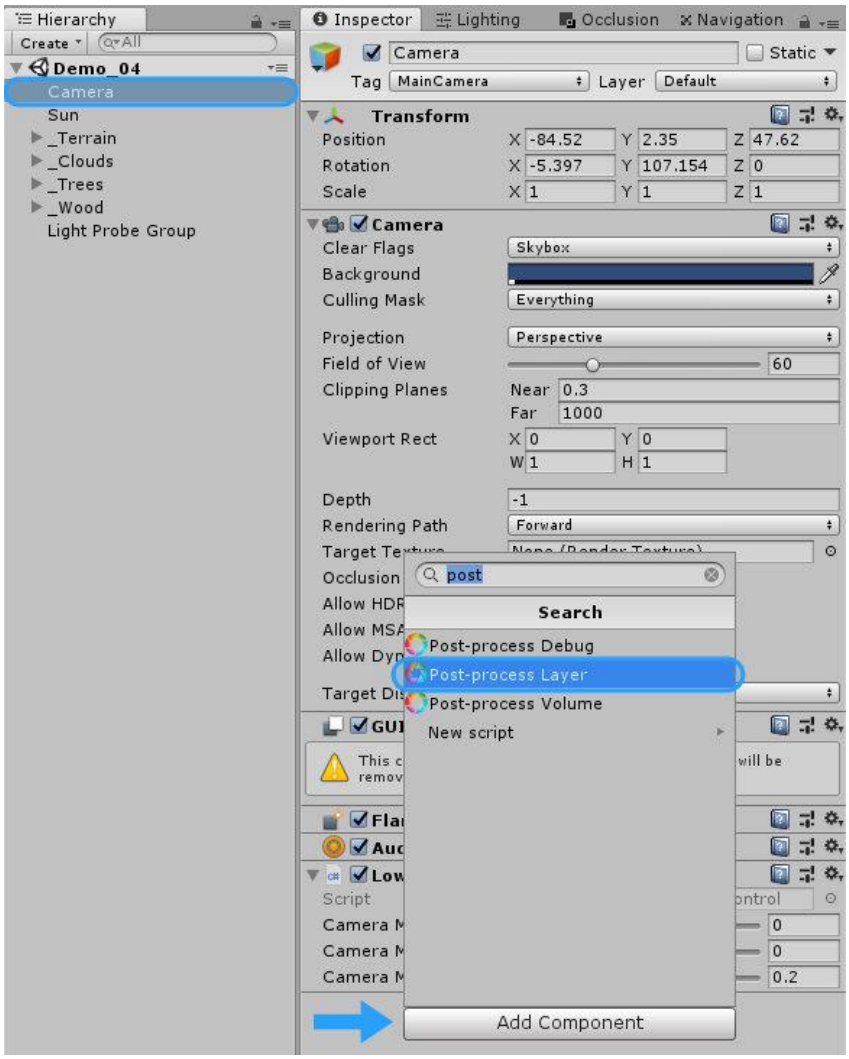


4. Install the **Post Processing** package from the **Package Manager**.

Go to *Window > Package Manager* - open the tab **All** and search for **Post Processing**. Select it and hit the **Install** button:

5. Apply **Post-process Layer** to the **Camera**.

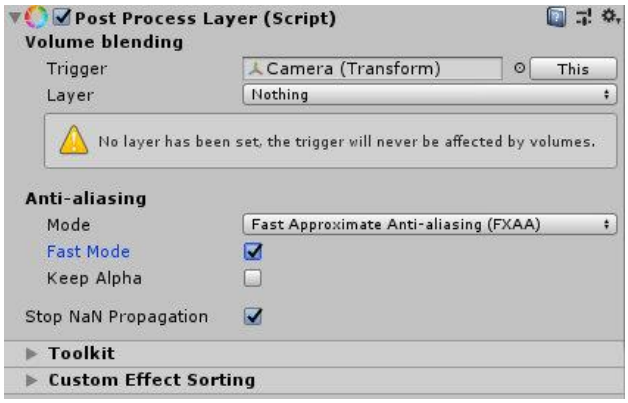
Select the **Camera** in the Hierarchy, press on **Add Component**, type **post** in the search window, and press on **Post-process Layer** to apply.



*Sometimes package installation gets corrupted, and you won't see those options (**Post-process Layer**, **Post-process Volume**, etc.). Follow these steps to fix that issue:

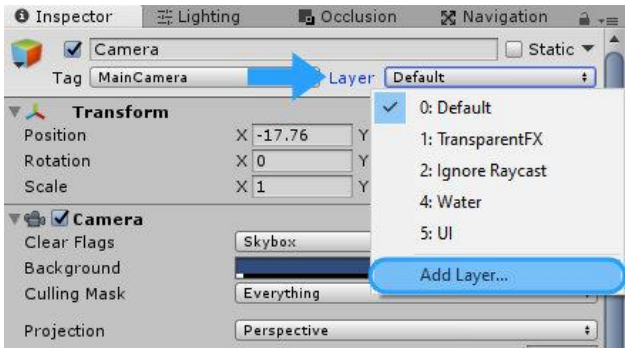
- Restart Unity.
    - If it still doesn't work, go to *Window > Package Manager*, remove **Post Processing** package.
    - Restart Unity
    - Install the **Post Processing** package again. Now it should work.

Post Process Layer settings:

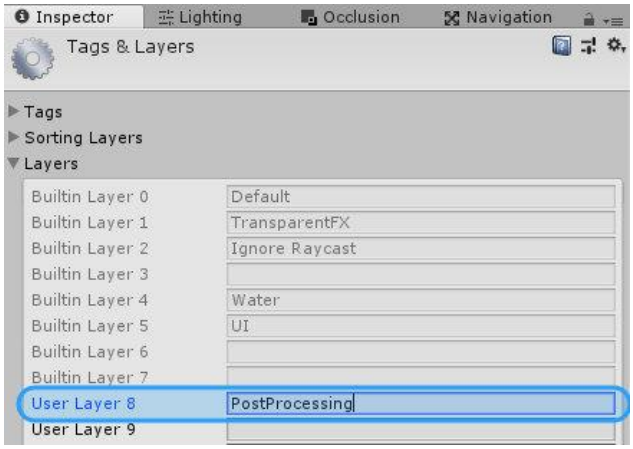


6. Create **PostProcessing** layer and apply it to the **Camera**.

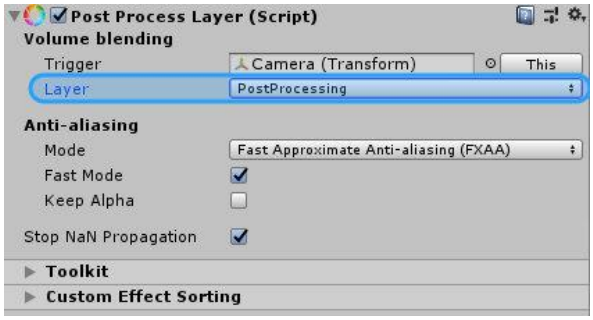
Press on **Layer** *Default > Add Layer...*



Create a new layer called **PostProcessing:**

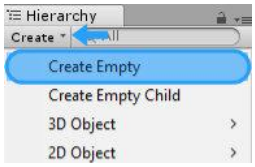


Select the **Camera** and inside the **Post Process Layer** – **Volume blending** – **Layer** apply **PostProcessing** layer we just created:

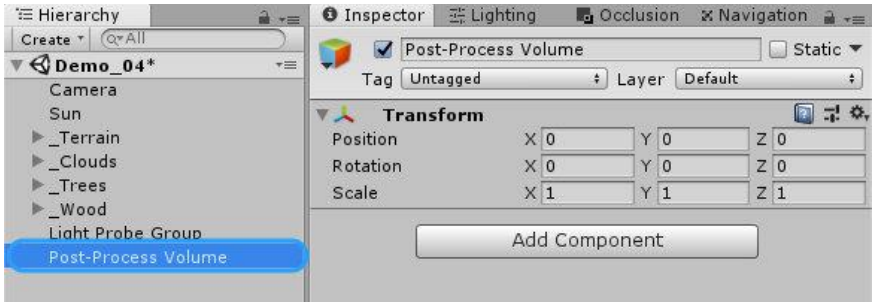


7. Create a **Post-Process Volume**.

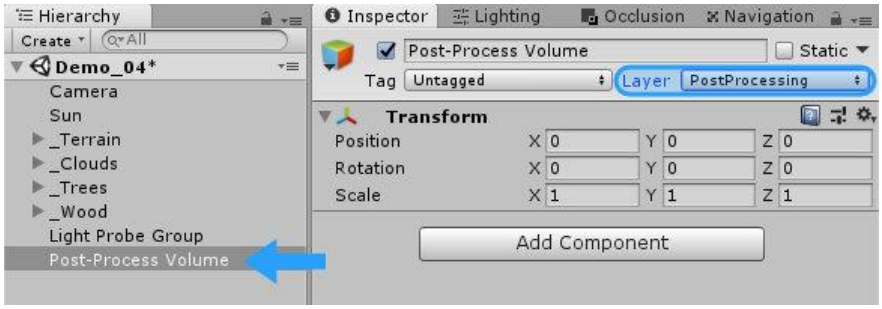
Create Empty game object:



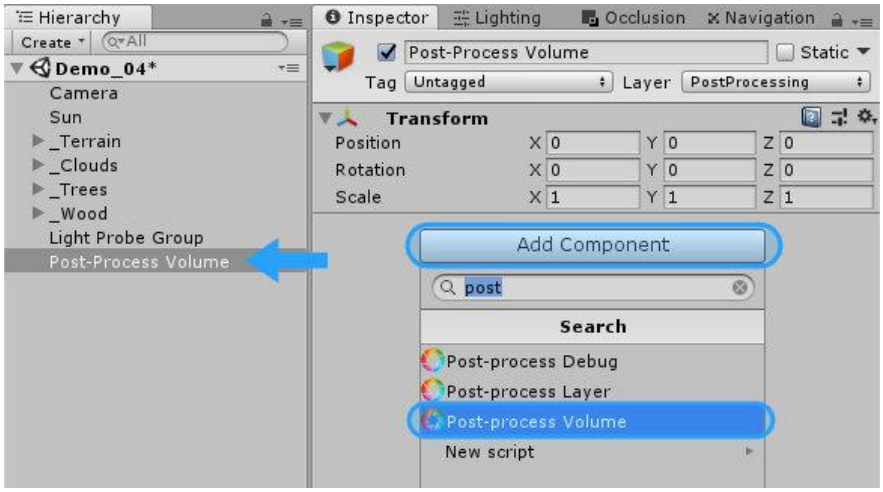
Rename it to something like **Post-Process Volume:**



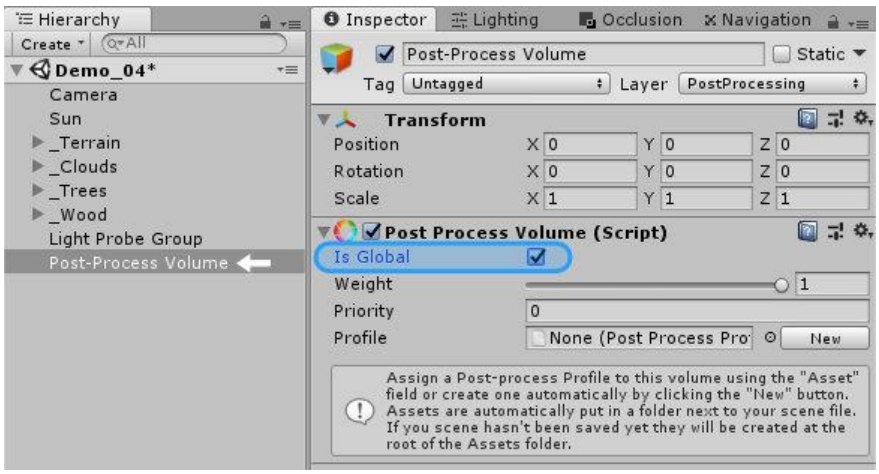
Set **Layer** to **PostProcessing**, the layer we just created before:



With **Post-Process Volume** selected press on **Add Component**, search for **post** and select **Post-process Volume** to apply:

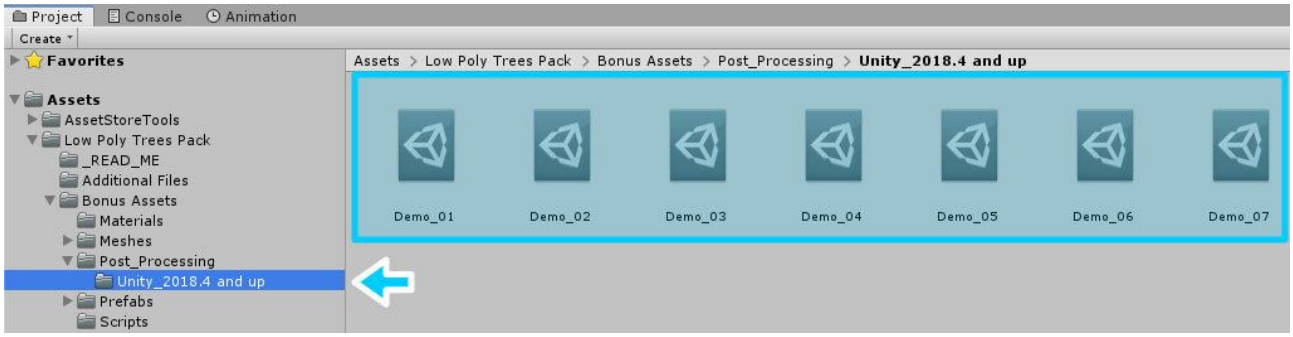


Enable **is Global**:

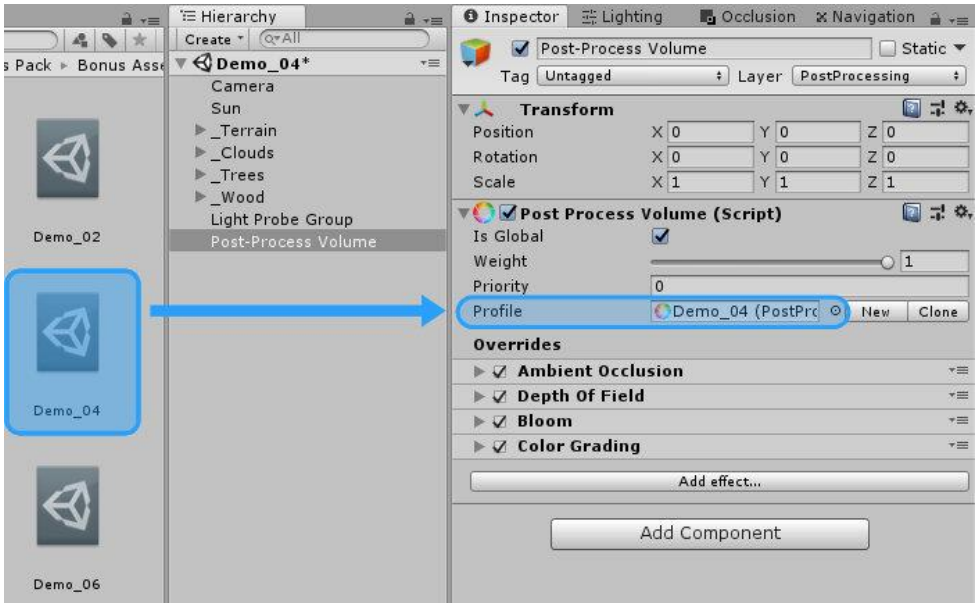


8. Apply **Post-Processing Profile**.

I've created 7 Post-Processing Profiles for 7 Demo scenes with different settings. Go to *Low Poly Trees Pack > Bonus Assets > Post_Processing > Unity_2018.4 and up.*



We have opened **Demo_04** scene - so we will use **Demo_04** Post-Processing Profile. Drag and drop **Demo_04** Post-Processing Profile to **Profile** slot inside the **Post Process Volume**:

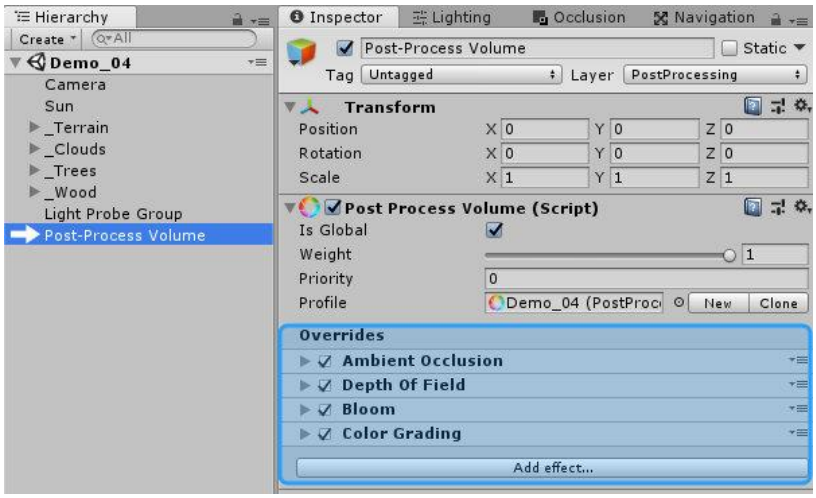


Now your scene should look like this (Demo_04):

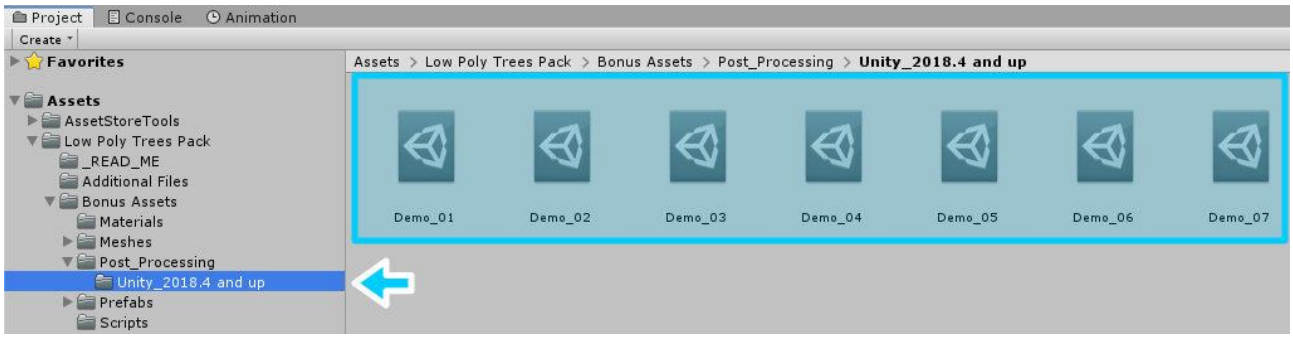
***For Low-End PC's** - if you hit play and it lags, try disabling Post-Processing effects one by one on the Post-Processing Profile settings!

9. Edit **Post-Processing Profile**.

Select **Post-Process Volume** game object in the **Hierarchy,** and Inside the **Post Process Volume,** you will see options like Ambient Occlusion, Depth of Field, etc. Open and edit them.



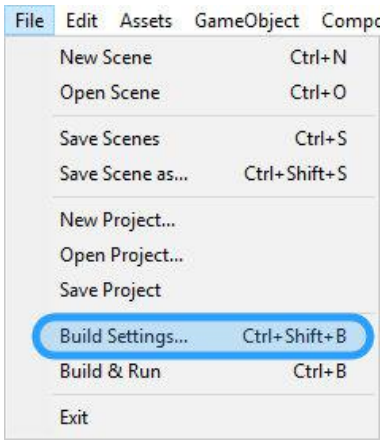
Or select any **Post-Processing Profile** inside the **Project** tab to edit.



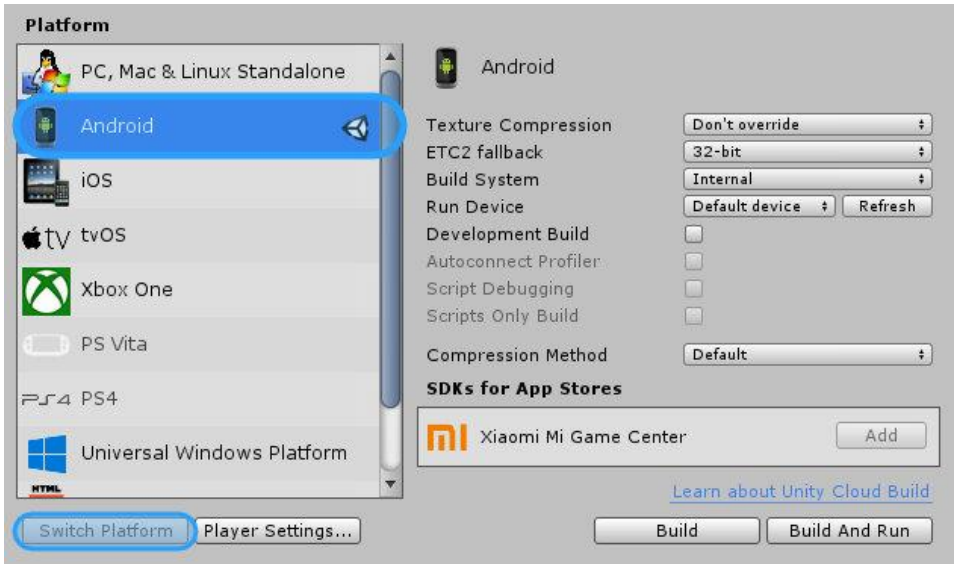
How to Setup Demo Scenes in Unity 2018.4 LTS and up (For Android)

1. Make sure you are using **Android** build!

Go to *File > Build Settings*



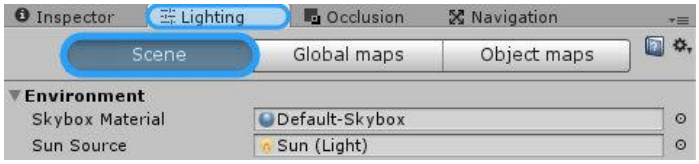
Select **Android** and hit the **Switch Platform** button.



2. Clean GI Cache (Optional – **Skip** this if you don't have any light baking errors!)

Before you go to the next step, you need to disable **Auto** build/bake feature.

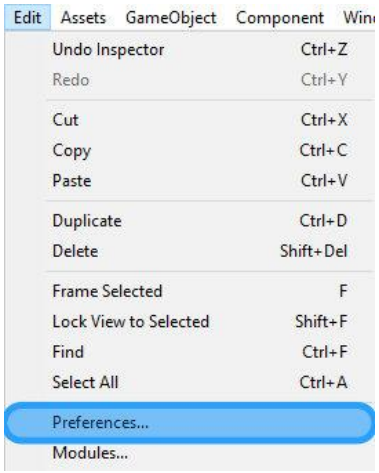
You can find it in **Lighting** and select **Scene** tab (If you don't see Lighting tab go to *Window > Lighting > Settings).*



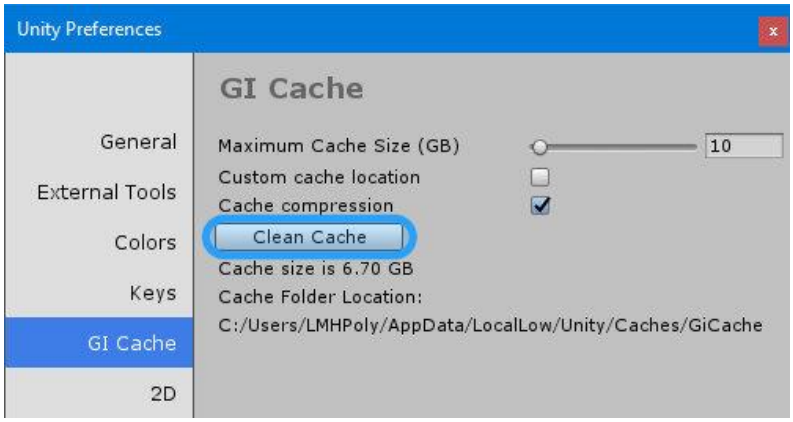
At the bottom you will see this:

uncheck **Auto Generate**.

Go to *Edit > Preferences*



Select **Gi Cache** tab and press on **Clean Cache** button!

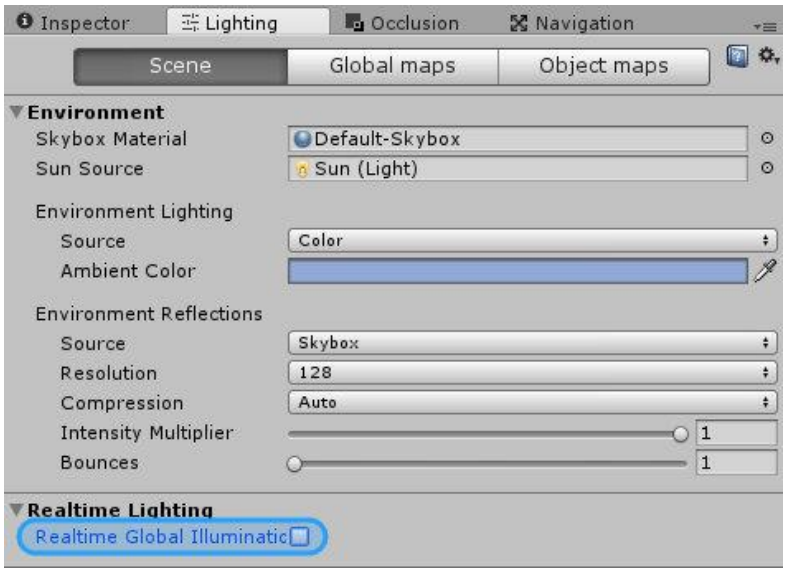


Enable **Auto Generate** / bake feature

and wait until the generation is done (blue loading bar at the right bottom corner).

3. Disable **Realtime Global Illumination** (Optional – for slightly better performance)

You can find it in **Lighting** and select **Scene** tab (If you don't see Lighting tab go to *Window > Lighting > Settings).*

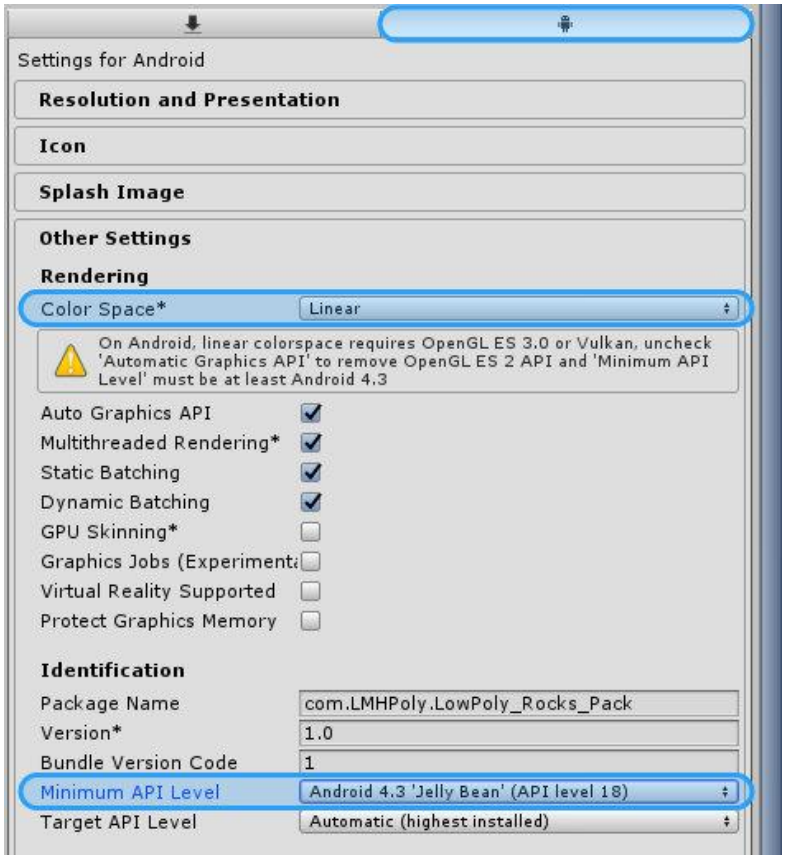


4. Make sure that **Color Space** is set to **Linear** (not all devices support it).

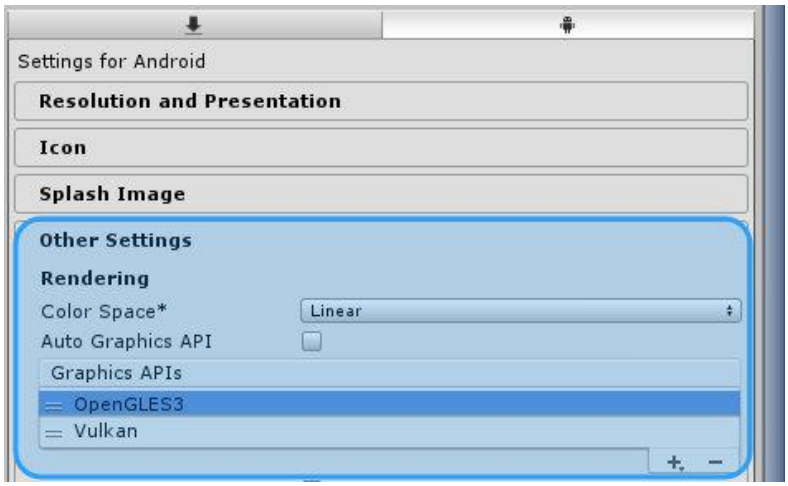
Go to *Edit > Project Settings > Player*

In the **Other Setting** tab, you will find **Color Space***, set it to **Linear**.

To use **Linear** Color Space on Android, you need to set **Minimum API level** to at least **Android 4.3 (API level 18)** or higher!

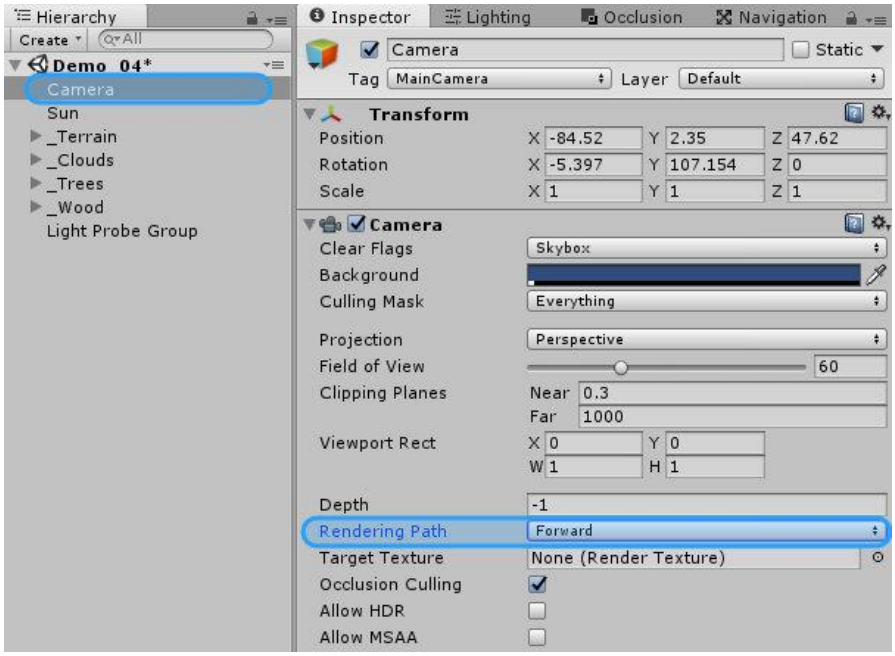


Also, uncheck **Auto Graphics API** and remove all Graphic APIs from the list, leave only **OpenGLES3** and **Vulkan** (if you can't see it, press on **+** to add it). Make sure your Android device supports one of those graphic APIs!



5. Make sure that you are using **Forward Rendering**. (Use Forward Rendering instead of Deferred for better mobile performance).

Select the **Camera** and make sure that **Rendering Path** is set to **Forward.**

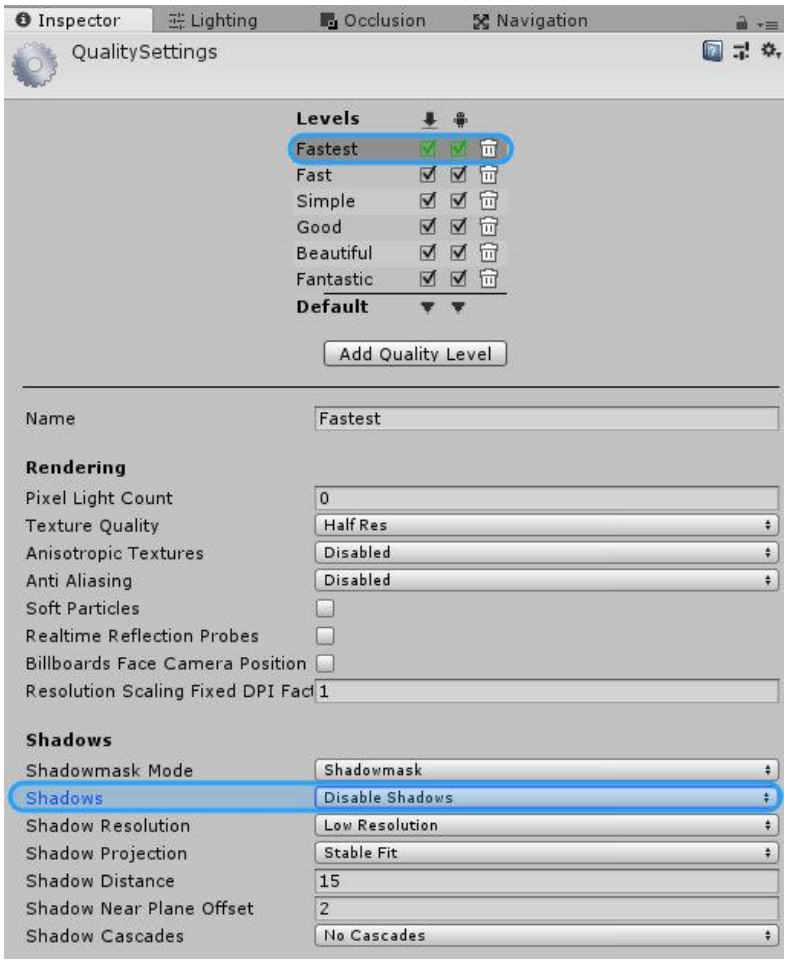


*If you set **Rendering Path** to **Deferred**, the game might slow down a lot on mobile!

6. Disable **Real-time Shadows** (Optional – for much better performance).

Go to *Edit > Project Settings > Quality*

Select Android quality level, which is in **Green Color**, for me, it's **Fastest**. And set **Shadows** to **Disable Shadows**.



*Realtime shadows are not recommended to use on mobile devices because they decrease the performance significantly. You should bake them instead. Or use them only on high-end devices.

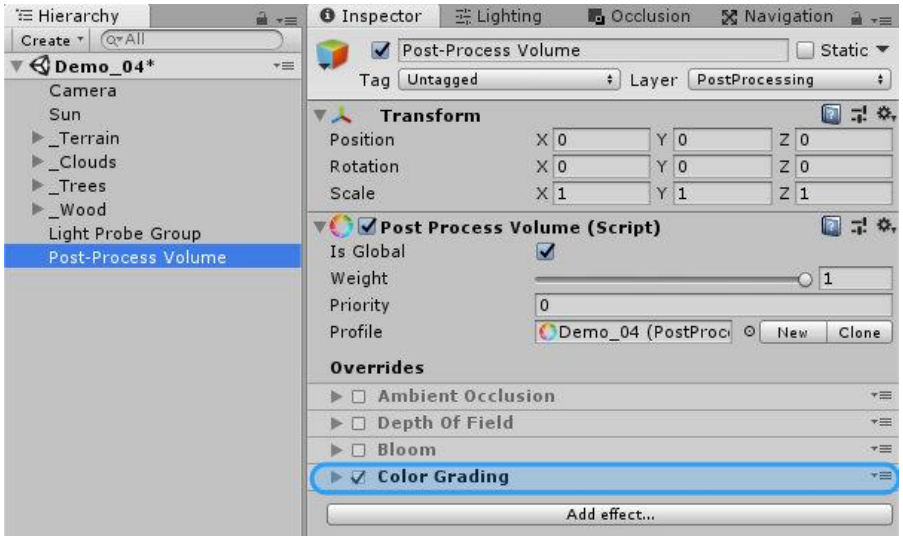
7. Import and enable **Post Processing** image effects (Optional – **Big performance hit for mobile devices!**).

Go to the part of the documentation: **Post-Processing in Unity 2018.4 LTS and up**

And follow those steps.

*I highly recommend not to use Post-Processing effects on mobile devices because it's a huge hit to performance!

If you will use **Post-Processing** effects, use **Color Grading** only, and leave everything else disabled. It will look nice, and it will work great on high-end devices (Tested on Google Pixel 2 XL).



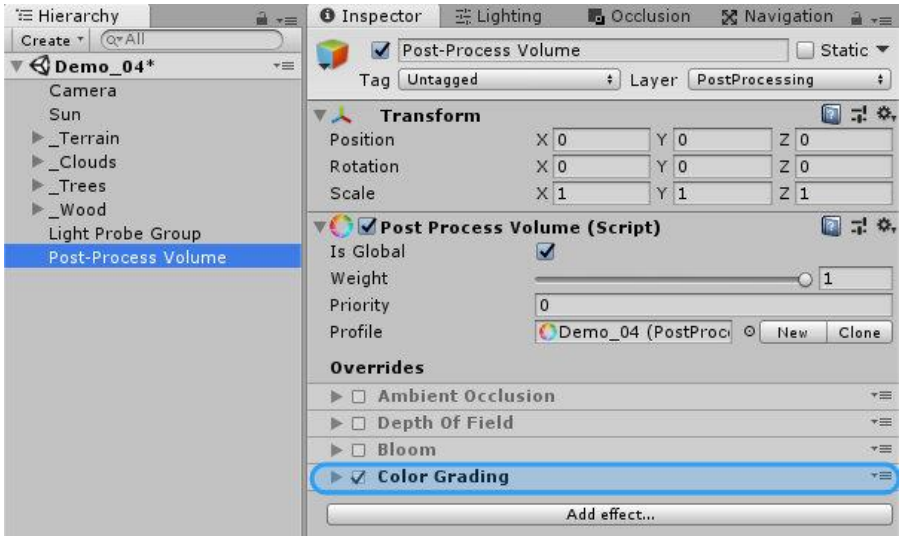
Now your **Demo_04** scene should look like this (if you skipped all **Optional** steps, and with Realtime Shadows **Disabled**):

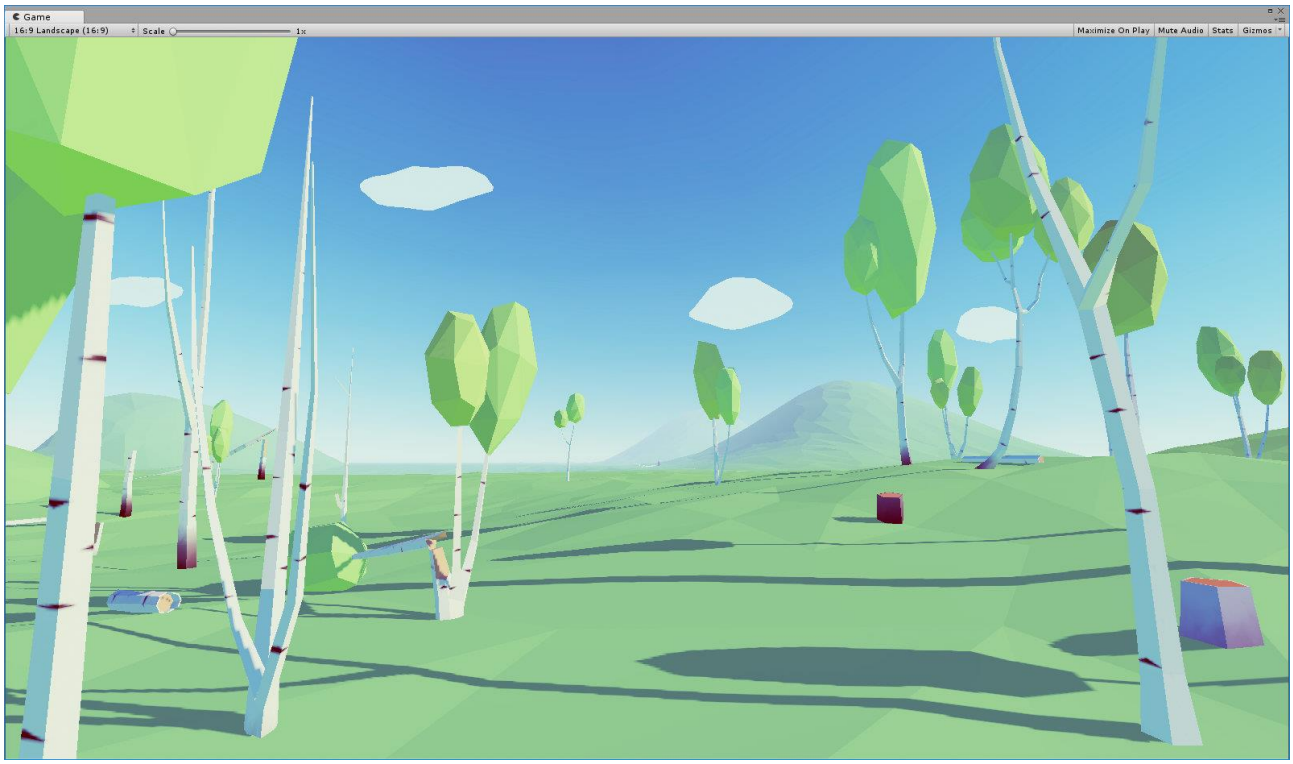
By using **Unity 5.5** and up + **Linear** lighting feature for **Android** and **iOS**, you can achieve much better results than using **Gamma** lighting!

All demo scenes including **Demo_04** has been tested on old Xperia Z Ultra (runs at solid 60FPS): without Post Processing effects, using Realtime GI, Linear Color Space, Forward Rendering Path and Real-time Shadows disabled.

*I don't have an **iOS** device, so I can't test it on that!

Demo_04 scene with the same settings + Post Processing (**Color Grading** enabled only) + **Realtime Shadows**: medium resolution enabled:

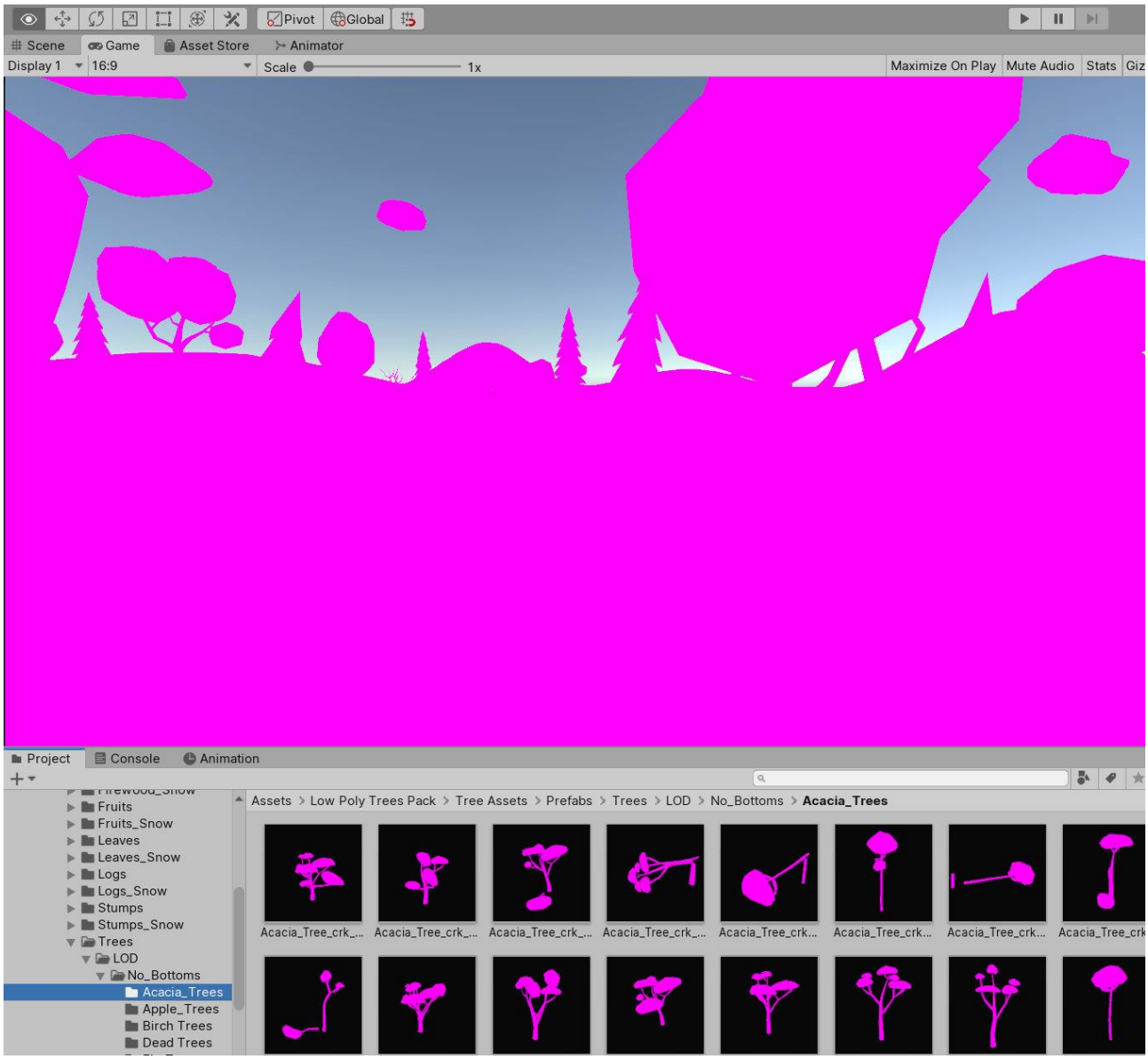




Tested on Google Pixel 2 XL – runs at solid 60fps. Xperia Z Ultra drops to ~26fps for using Realtime shadows and Color Grading.

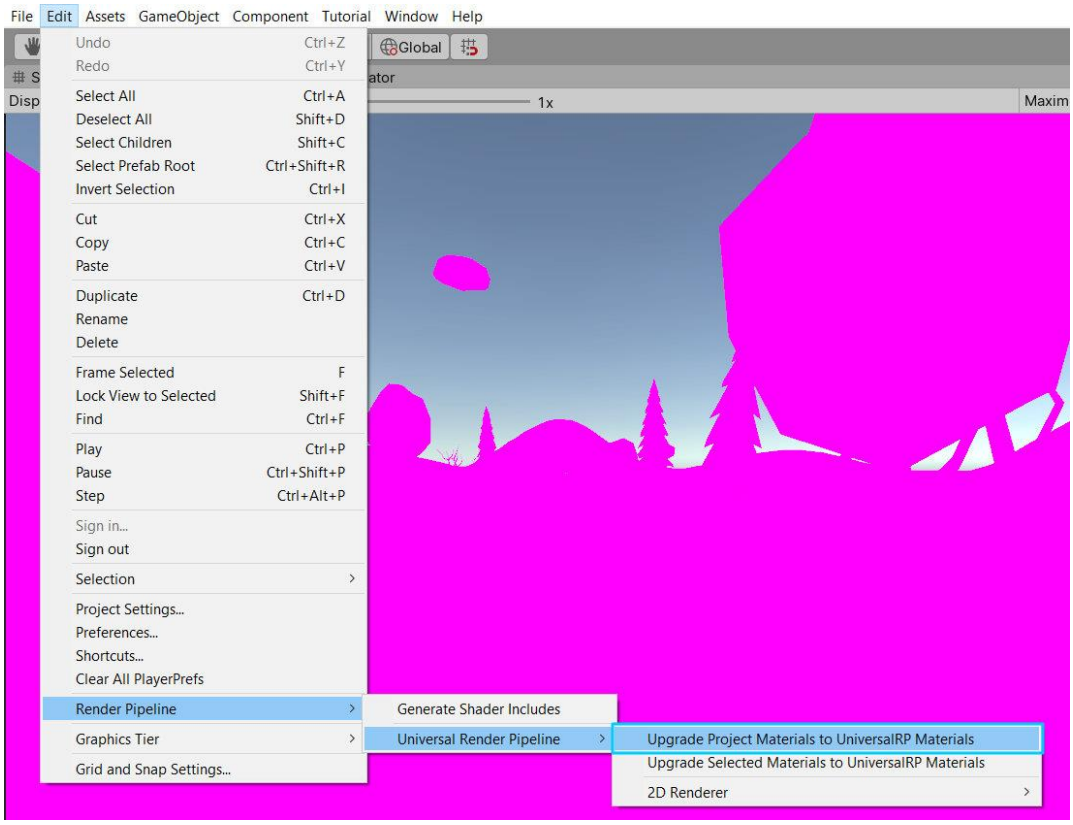
Unity 2019.3 and up - Universal Render Pipeline (URP)

You might encounter pink textures after importing **Low Poly Trees Pack** to your Unity project, which is using **Universal Render Pipeline (URP)**.

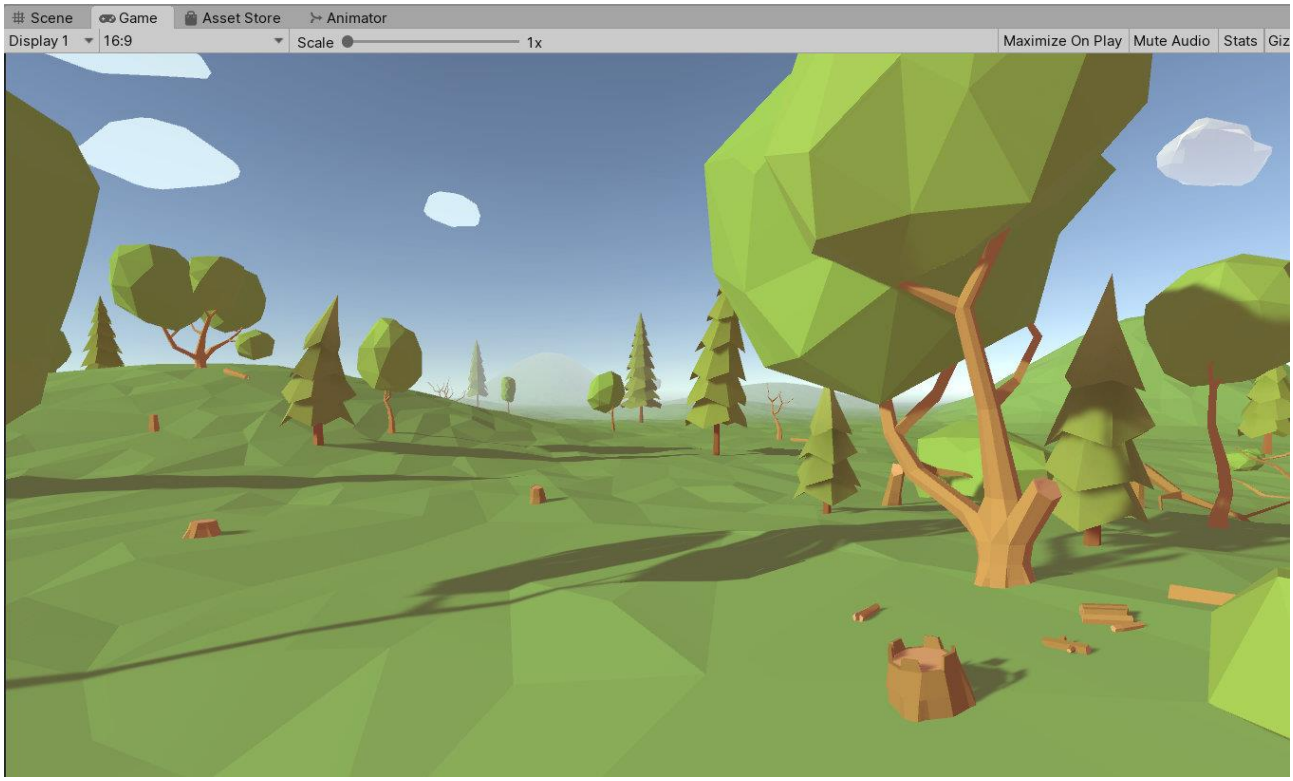


It's because all of **Low Poly Trees Pack** assets use material with a default **Standard Unity shader**. **URP** use different materials and shaders. So we need to change all materials from **Standard shader** to **Universal Render Pipeline/Lit shader**.

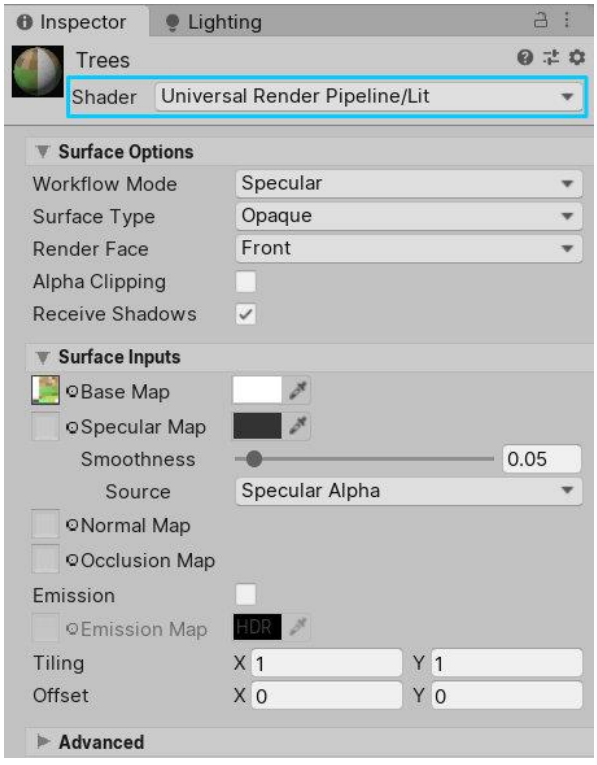
Go to *Edit > Render Pipeline > Universal Render Pipeline >* **Upgrade Project Materials to UniversalRP Materials**



And it's done!



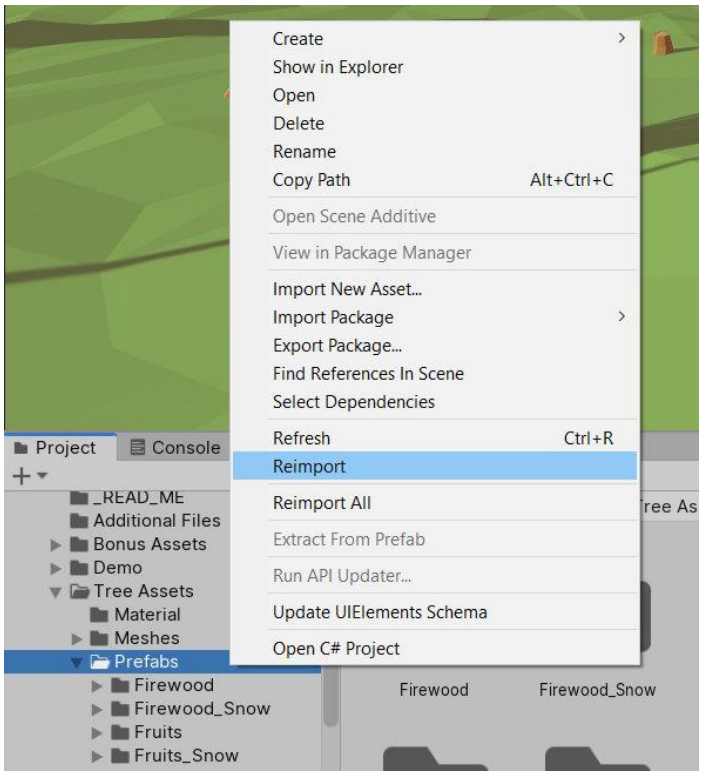
All project **Material** shaders were changed to **Universal Render Pipeline/Lit**



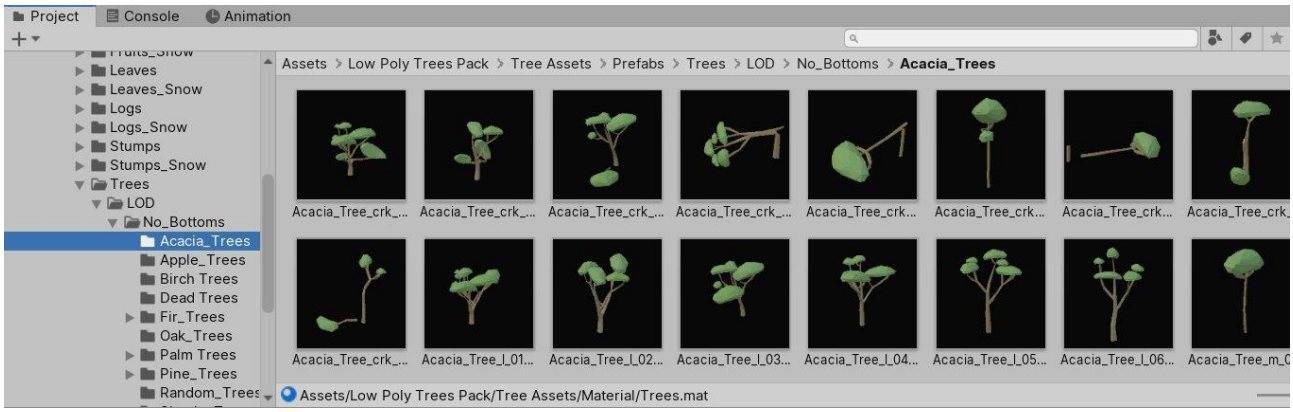
*You can do it manually by selecting **Material** and changing the **Shader** but it's much slower.

Now if you go to *Low Poly Trees Pack > Tree Assets > Prefabs > Trees > LOD > No_Bottoms > > Acacia_Trees* - or inside any other trees folder. You might see all of the prefabs in **Pink** color.

To fix that - press **RMouse** on the „**Prefabs"** folder and select **Reimport**.

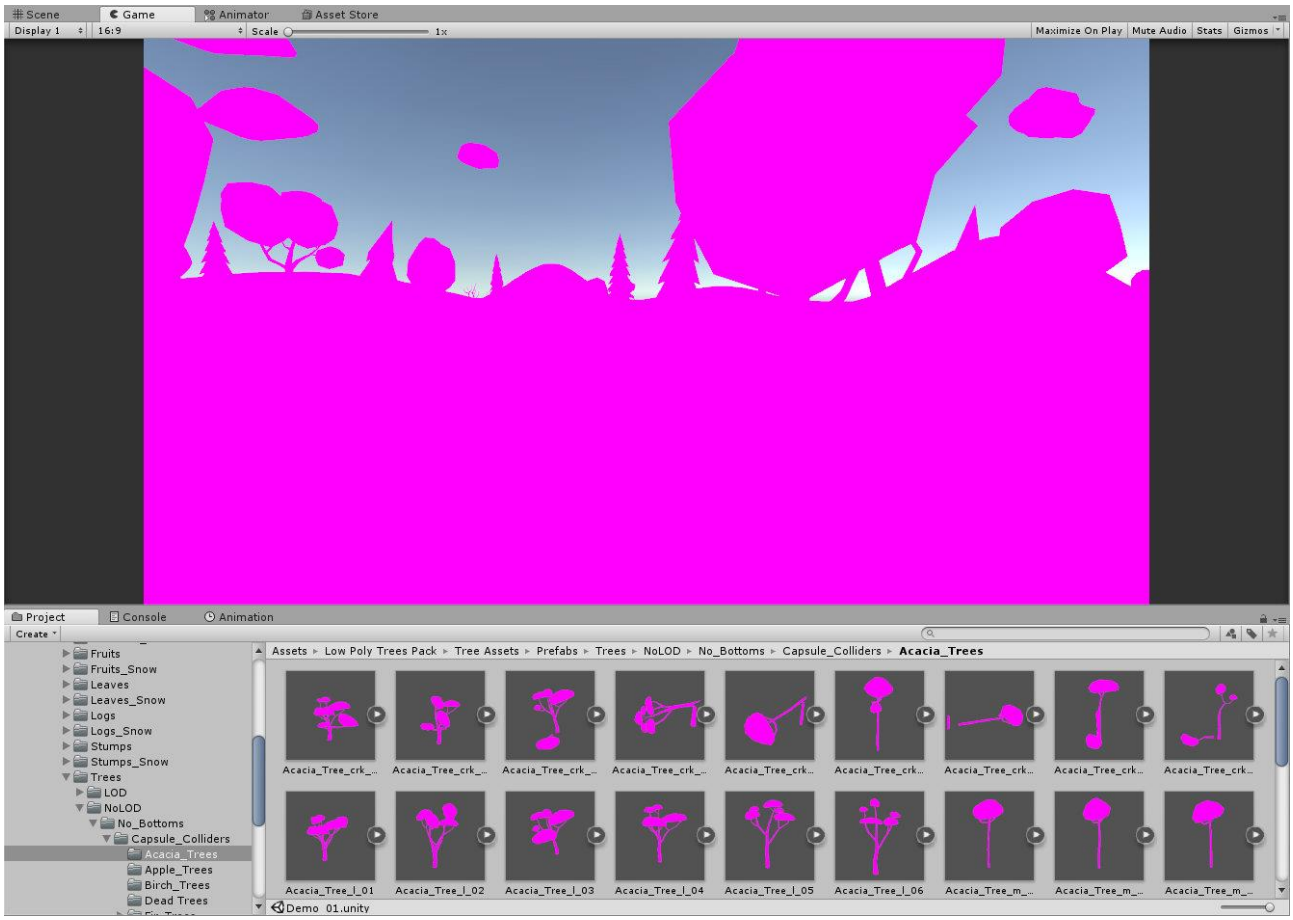


And it's fixed!



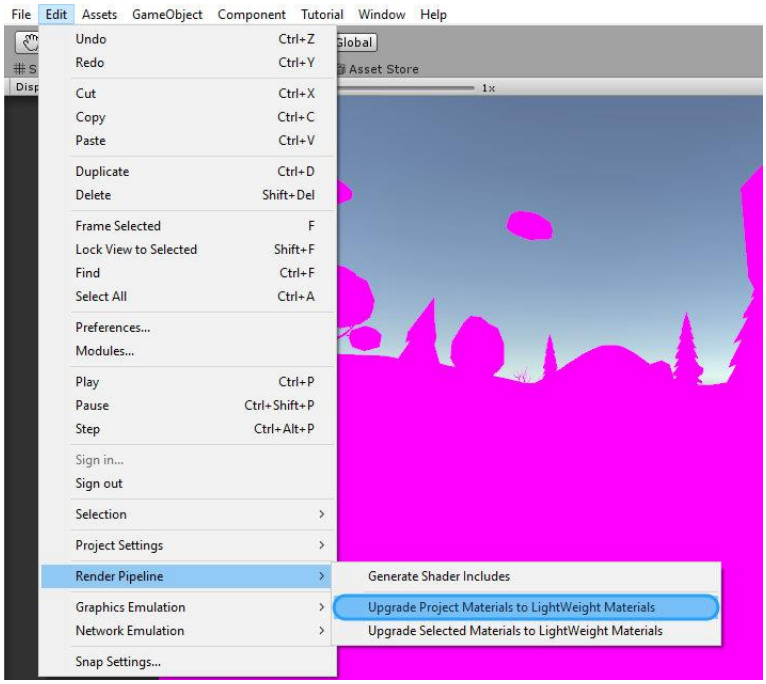
Unity 2018.4 LTS and up - Lightweight Render Pipeline (LWRP)

You might encounter pink textures after importing **Low Poly Trees Pack** to your Unity project, which is using **Lightweight Render Pipeline (LWRP)**.

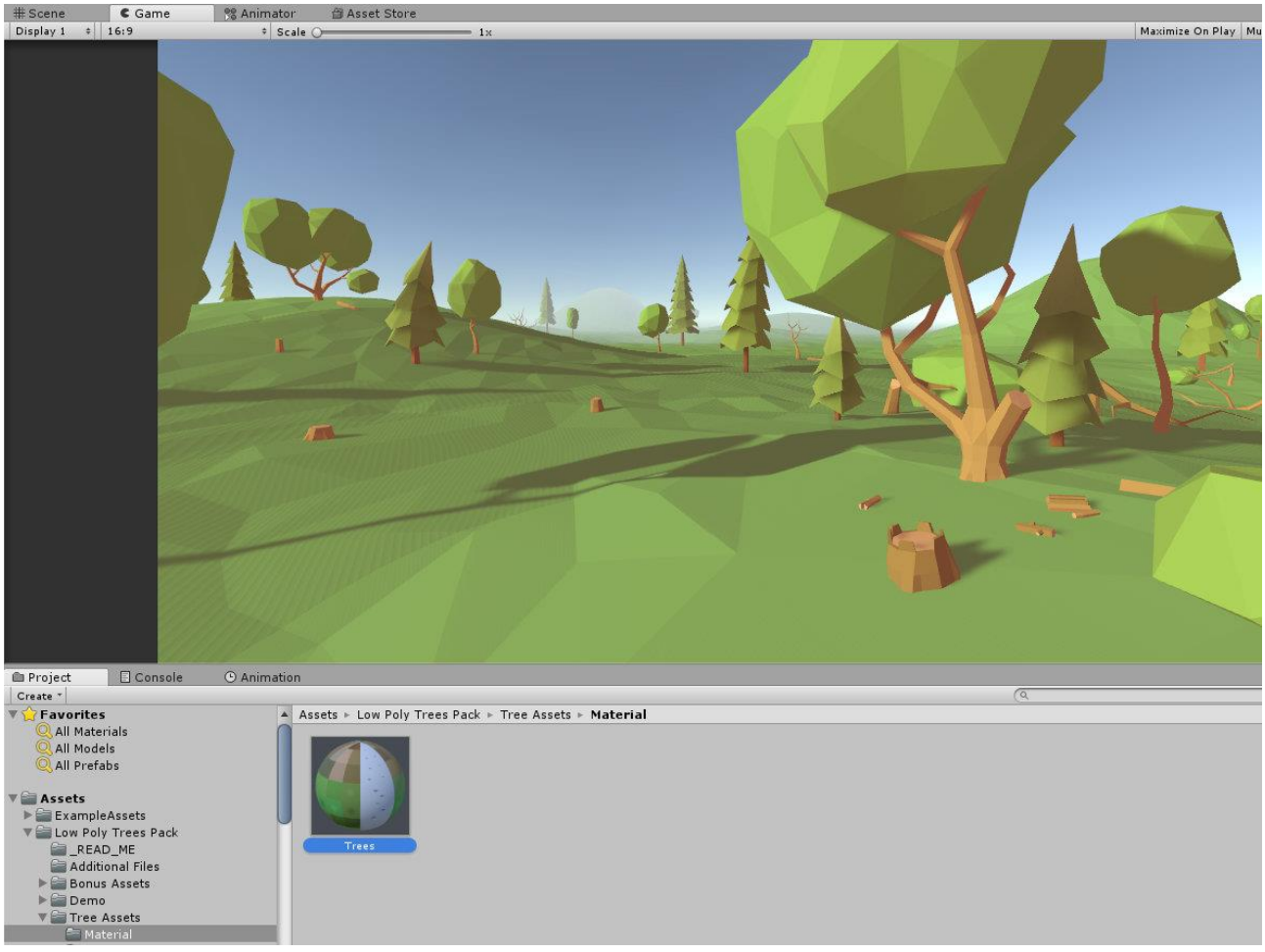


It's because all of **Low Poly Trees Pack** assets use material with a default **Standard Unity shader**. **LWRP** use different materials and shaders. So we need to change all materials from **Standard shader** to **LightweightPipeline shader**.

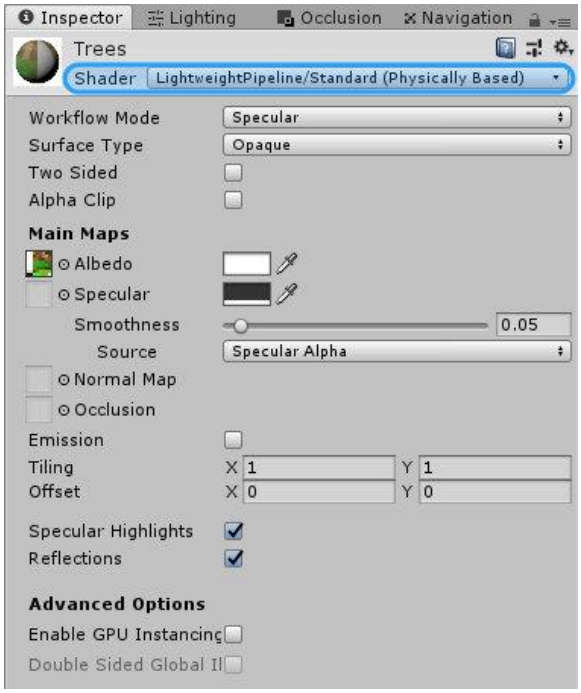
Go to *Edit* > *Render Pipeline* > **Upgrade Project Materials to LightWeight Materials**



And it's done!

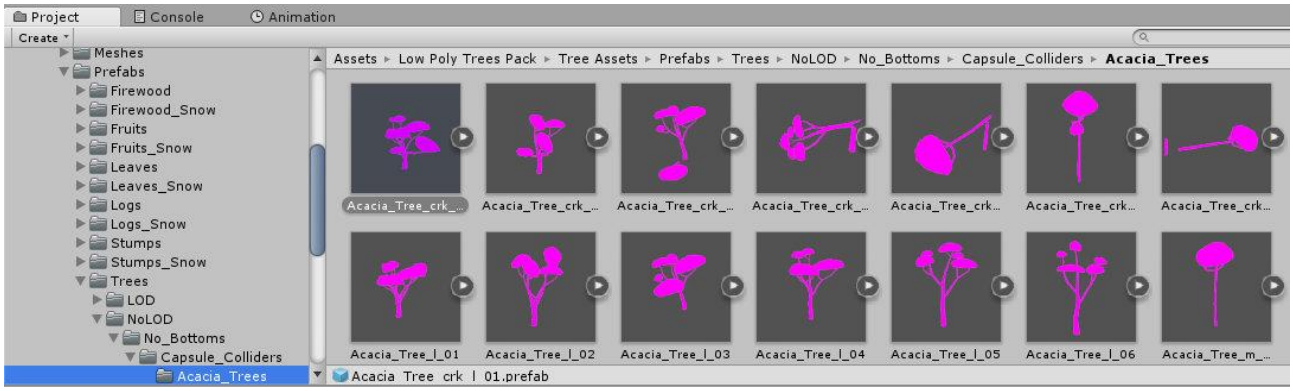


All project **Material** shaders were changed to **LightweightPipeline/Standard (Physically Based)**.

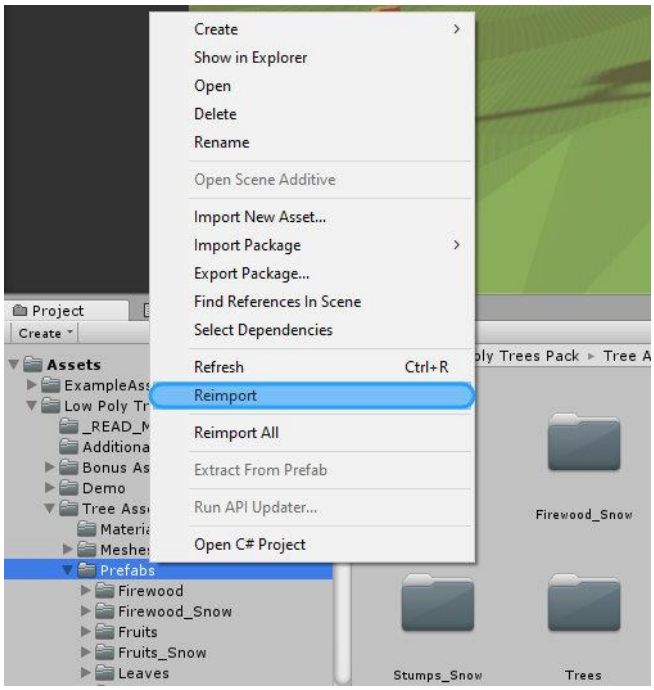


*You can do it manually by selecting **Material** and changing the **Shader** but it's much slower.

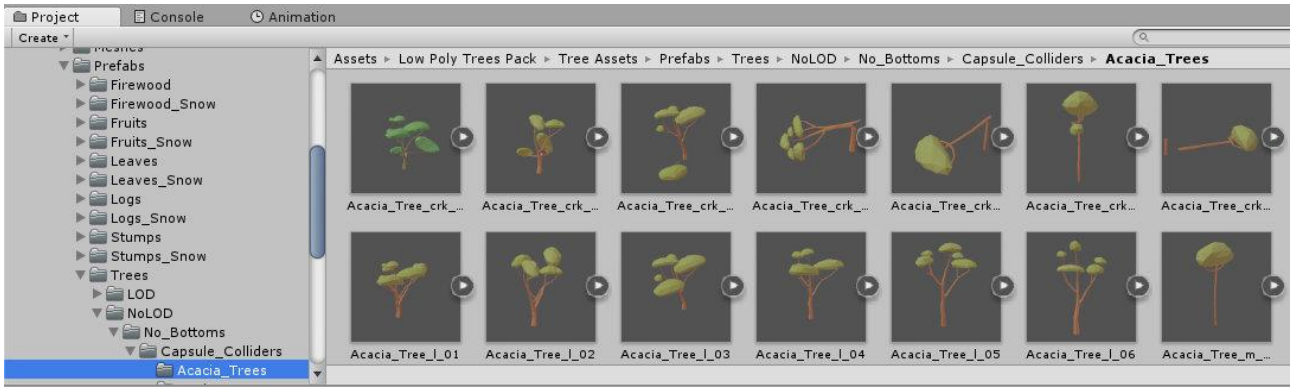
Now if you go to *Low Poly Trees Pack > Tree Assets > Prefabs > Trees > NoLOD > No_Bottoms > Capsule_Colliders > Acacia_Trees* - or inside any other trees folder. You might see all of the prefabs in **Pink** color.



To fix, that press **Right Mouse Button** on **Prefabs** folder and select **Reimport**.

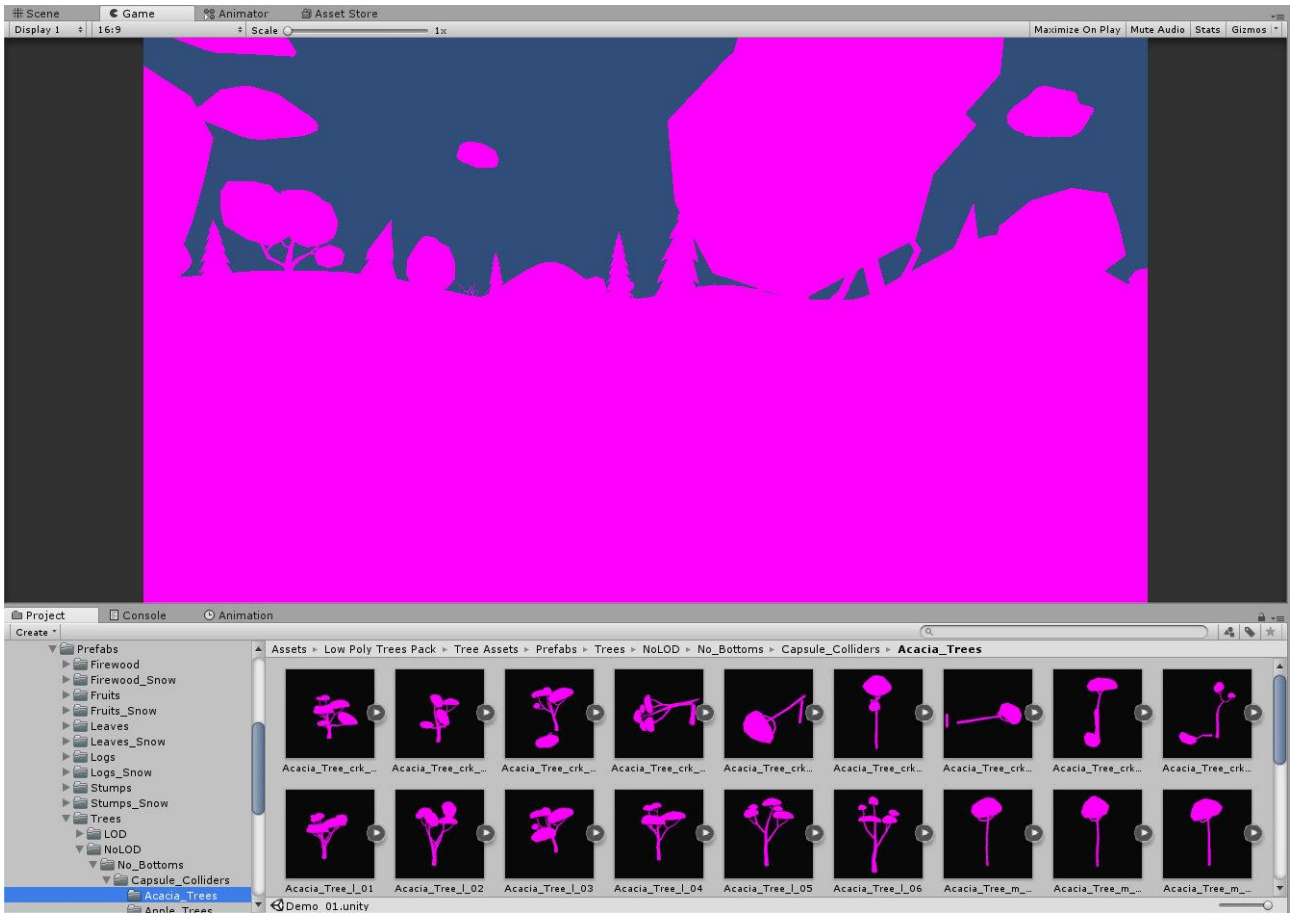


And it's fixed!



Unity 2018.4 LTS and up - High Definition Render Pipeline (HDRP)

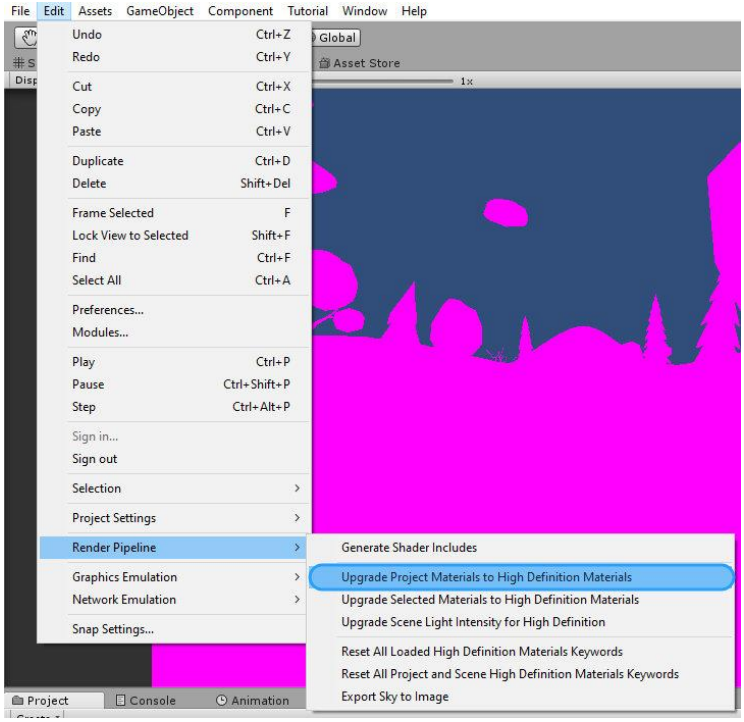
You might encounter pink textures after importing **Low Poly Trees Pack** to your Unity project, which is using **High Definition Render Pipeline (HDRP)**.



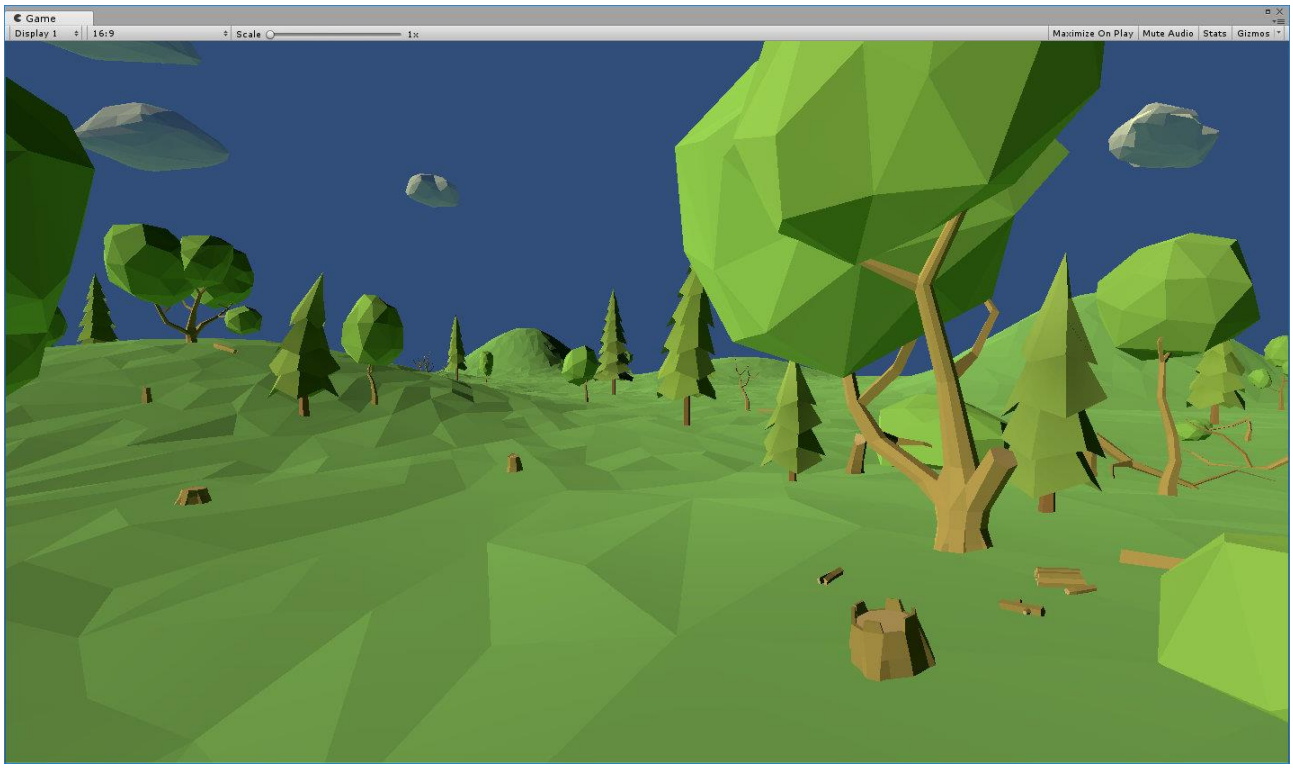
It's because all of **Low Poly Trees Pack** assets use material with a default **Standard Unity shader**. **HDRP** use different materials and shaders. So we need to change all materials from Standard shader to HDRenderPipeline shader.

1. Fix **Purple Materials**

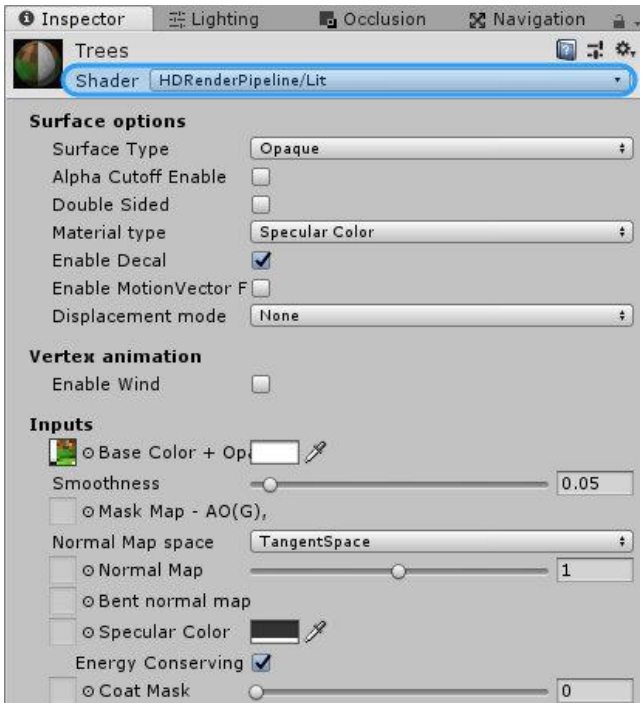
Go to *Edit* > *Render Pipeline* > **Upgrade Project Materials to High Definition Materials**



And it's done!

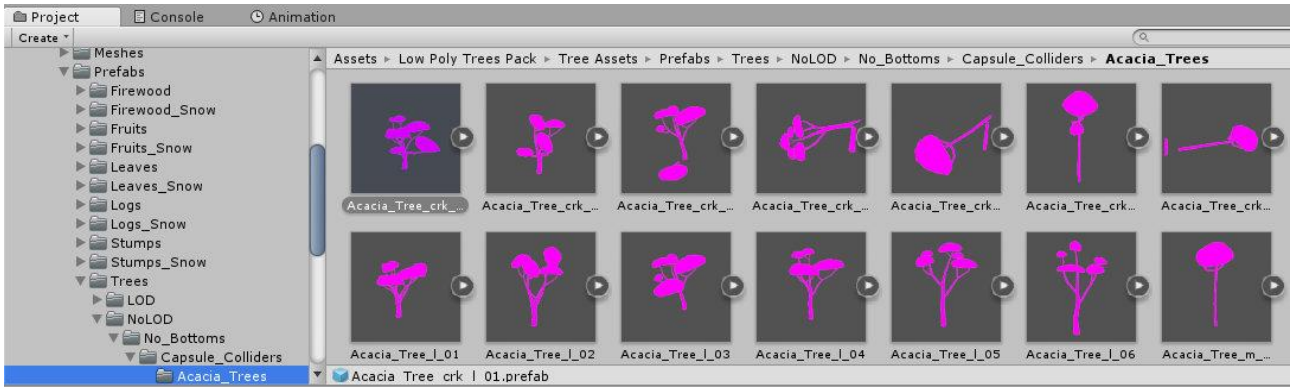


All project **Material** shaders were changed to **HDRP/Lit**.

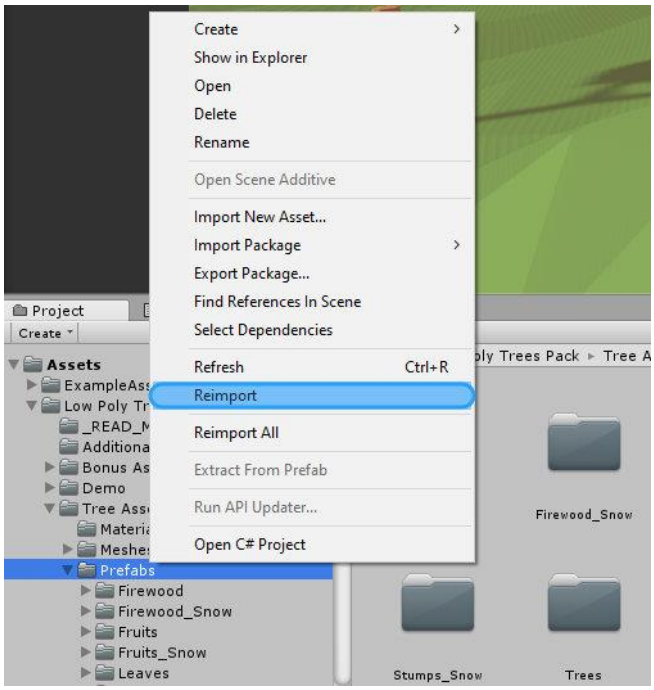


*You can do it manually by selecting **Material** and changing the **Shader** but it's much slower.

Now if you go to *Low Poly Trees Pack > Tree Assets > Prefabs > Trees > NoLOD > No_Bottoms > Capsule_Colliders > Acacia_Trees* - or inside any other trees folder. You might see all of the prefabs in **Pink** color.

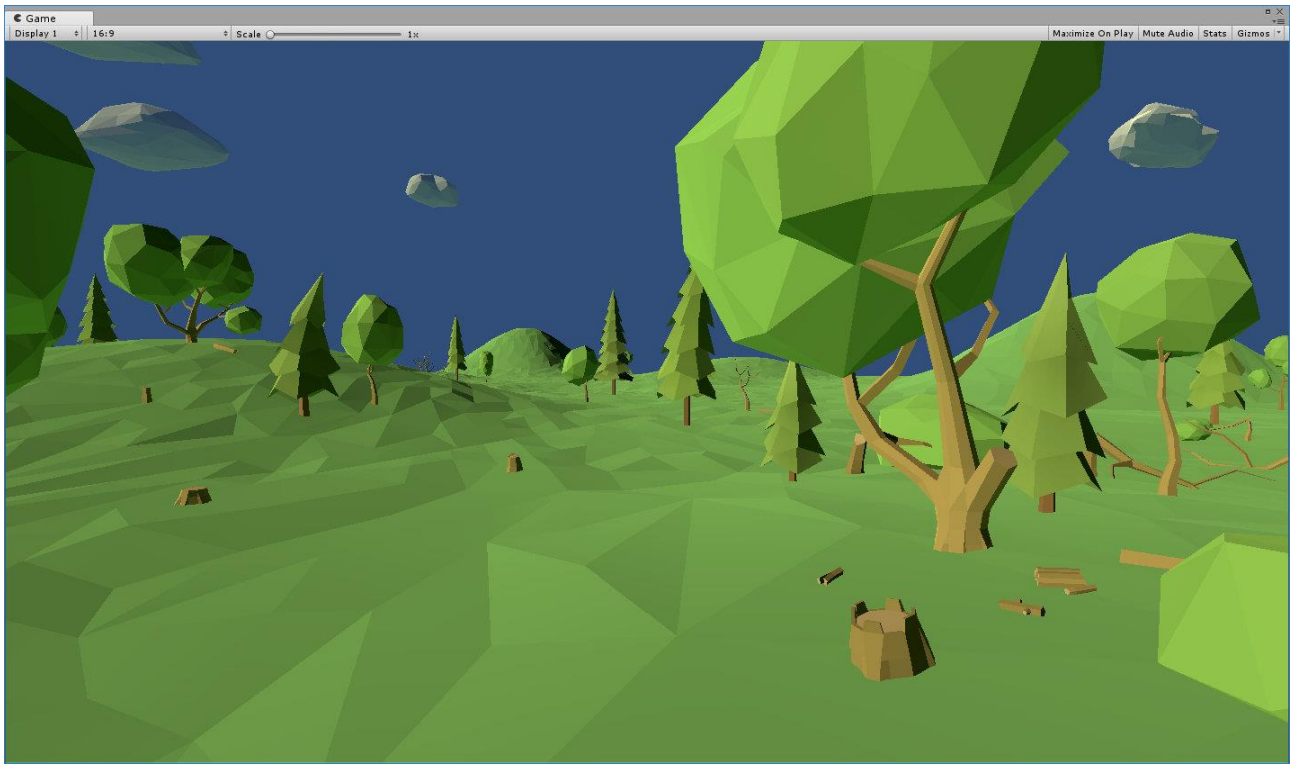


To fix that - press **Right Mouse Button** on **Prefabs** folder and select **Reimport**.



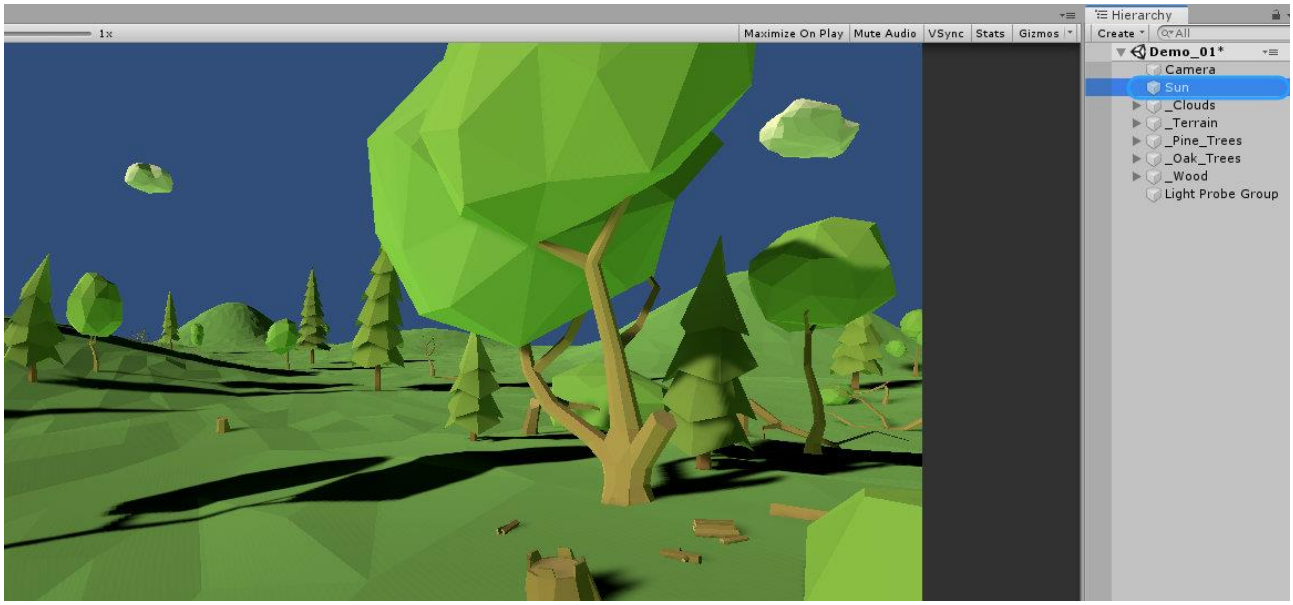
And it's fixed!

As you can see, the scene looks very dull. It has no skybox and proper lighting.



2. Fix **Shadows** and **Lighting**

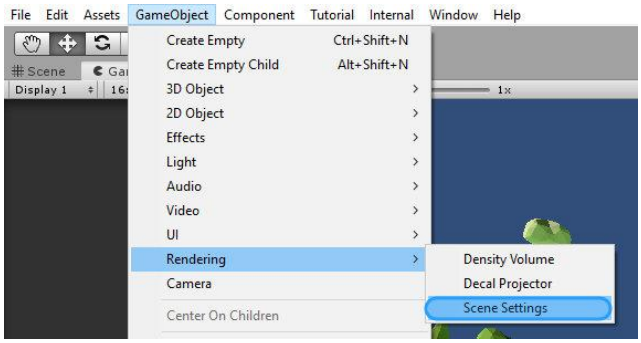
Just select the **Sun** in the **Hierarchy** for lighting and shadows to show up in the scene.



*If Unity freezes after selecting the light, upgrade your project to Unity 2019.1 or up.

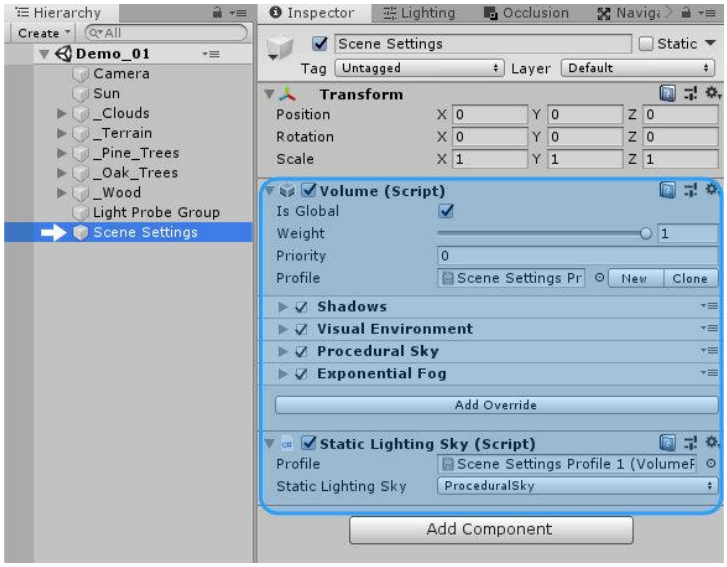
3. Fix the **Skybox**

Using HDRP, you need to use **Scene Settings** - to change the **Skybox** and other scene settings. Go to *GameObject > Rendering > Scene Settings*



And you will see that the **Skybox** is applied to the scene right away.

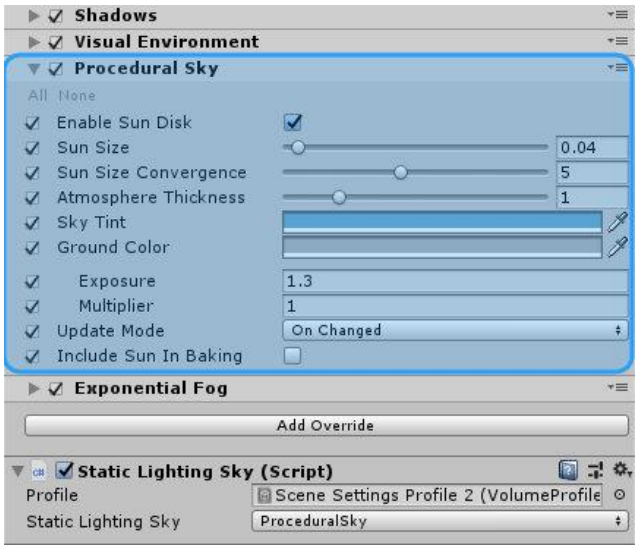
With a **Scene Settings** selected, you can change a bunch of scene settings like (Shadows, Skybox, Fog, and much more).



You need to play a bit with all of those settings to achieve similar results which you can get by default using Unity without HDRP.

4. Edit the **Procedural Sky** (Skybox)

Use my **Procedural Skybox** settings:



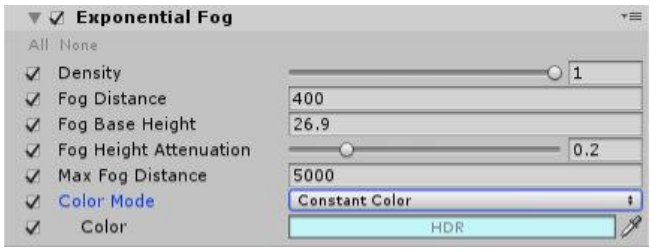
Sky Tint (Color code): 68A4C3

Ground Color (Color code): ADADAD

to achieve this:

5. Edit the **Exponential Fog**

Use my **Exponential Fog** settings:



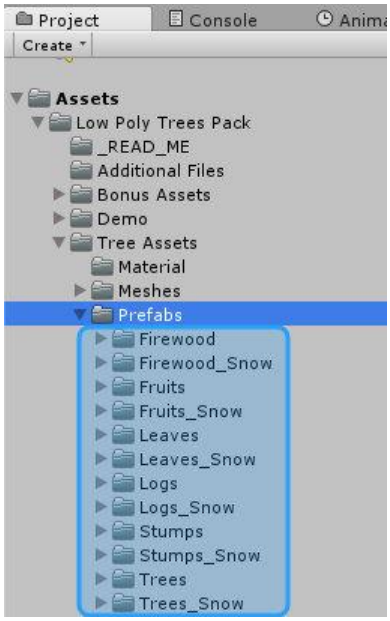
Set **Color Mode** to **Constant Color** and use this **Color** (R: 141; G:233; B:239)

Final result

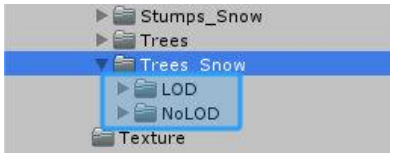
How to use “Low Poly Trees Pack”

Go to *Assets > Low Poly Trees Pack > Tree Assets > Prefabs*

Choose which **Prefab** type you want to import to your scene, with or without the Snow.



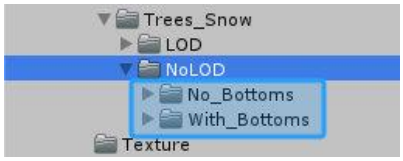
Let’s say you want Trees with Snow on them. Open folder **Trees_Snow**. Inside, you will see 2 folders **LOD** and **NoLOD**.



- **LOD** – Trees with LODs (all prefabs has 3 levels of LOD (LOD0, LOD1, LOD2)).
- **NoLOD** – Trees without LODs.

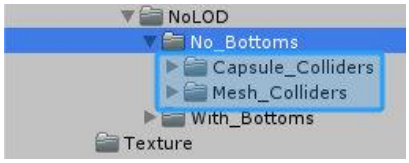
*I highly recommend, to use LOD prefabs for Unity Terrain, or just for big worlds in general!

Next, open **NoLOD** folder. Inside you will see 2 folders **No_Bottoms** and **With_Bottoms**.



No_Bottoms – Tree meshes don't have faces at the bottom.	**With_Bottoms** - Tree meshes have faces at the bottom.
	

Let's open **No_Bottoms**. Here you will see 2 types of **Colliders**.



Choose Collider type:

- **Capsule_Colliders** – Prefabs use Capsule Colliders for Unity Terrain support (you can paint Prefabs on the Terrain).
- **Mesh_Colliders** – Prefabs use accurate Mesh Colliders (you can use Prefabs by placing with your mouse manually or using **Polybrush** to paint them on any mesh).

*By using **Capsule Colliders,** you can achieve better performance than using **Mesh Colliders**!

Let's say that you want to palace Prefabs by hand (or using Polybrush) and have more accurate Colliders - open folder **Mesh_Colliders**. Select which Tree type you want to import to your scene. For example, open folder **Acacia_Trees** select and drag **Prefab** to your scene. That's it.

Same for **Bonus Assets.**

Go to *Assets > Low Poly Trees Pack > Bonus Assets > Prefabs*

Select what you want and drag it to the scene.

Every model pivot is at the center bottom of the model, so you can quickly drop it on the ground, scale and rotate.

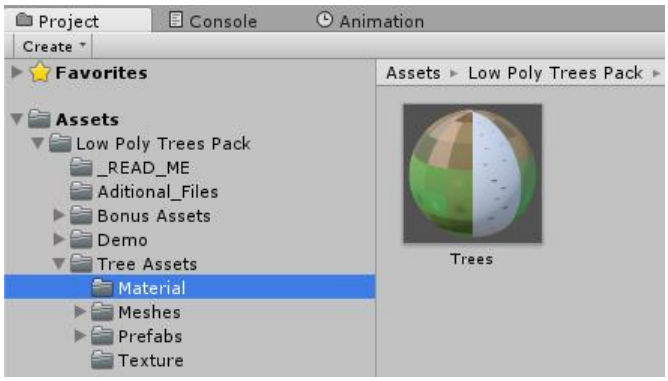
*After **Low Poly Trees Pack v1.1/1.2 Updates** – all tree/stump bottoms were extended down below the ground level, so you can easily place trees on the uneven ground / mountains!

*Use **Pivot** and **Global** settings for the best experience!

You can change it by tapping on the **buttons**, which are near Move, Scale tools.

How to Change Prefabs Color / Texture

Go to *Low Poly Trees Pack > Tree Assets > Material* - here, you will find 1 material.

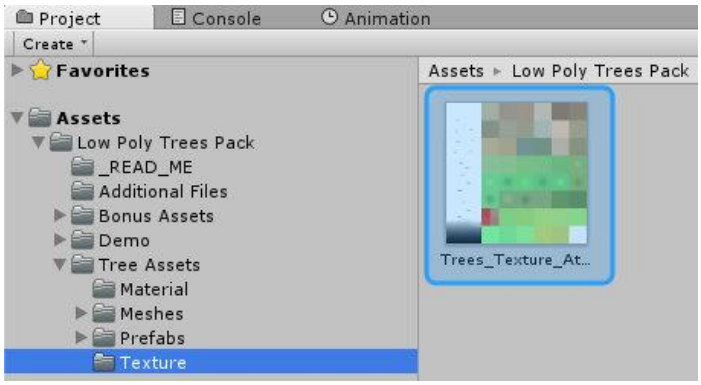


Material **Trees** is used for all **Tree Assets:** (Trees, Trees_Snow, Firewood, Firewood_Snow, Fruits, Fruits_Snow, Leaves, Leaves_Snow, Logs, Logs_Snow, Stumps, Stumps_Snow).

Change Tree Prefab Color

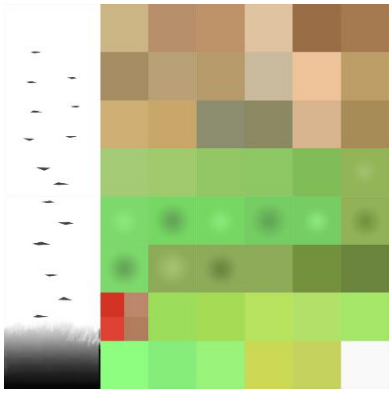
Trees Material use **1 Texture Atlas**. So, we need to change colors for that texture to change Tree Prefab colors.

Go to *Low Poly Trees Pack > Tree Assets > Texture*

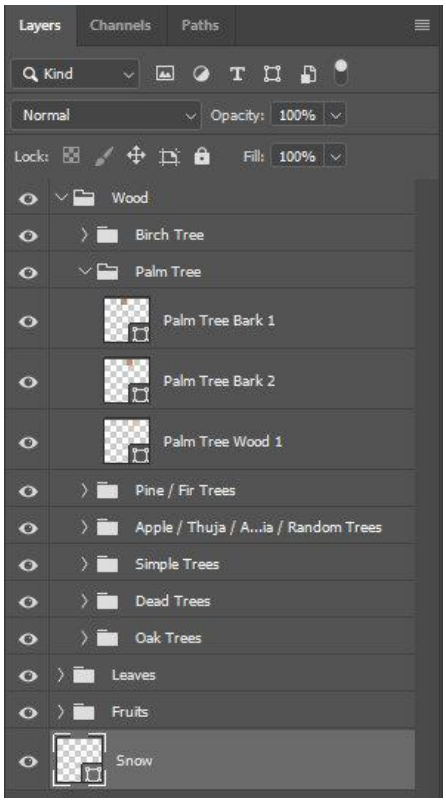


And open **Trees_Texture_Atlas.png** inside Photoshop, Gimp, Affinity or any other image editing software. Every color square used for one random Tree asset.

For example, all **Brown** squares are used for **Wood**, and **Green** used for **Leaves**. **White** square at the right bottom corner is used for **Snow**.

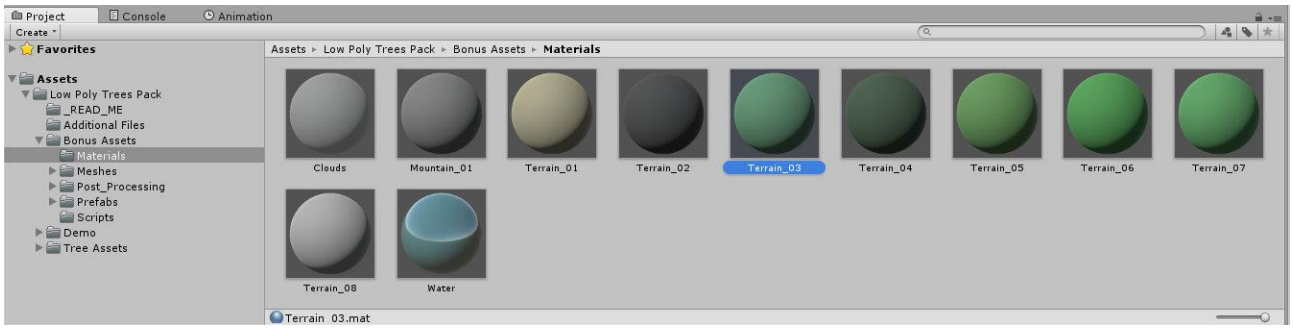


I also included **.psd** & **.afdesign** files of this texture inside *Low Poly Trees Pack > Additional_Files* folder. Extract **Trees_Texture_Atlas.7z** file (using 7zip or winrar) and open **.psd** inside **Photoshop, Gimp, Affinity Designer, etc**. Or open **.afdesign** if you are using Affinity Designer or Affinity Photo. This way, you can see which colors are for which Tree assets by looking into **Layer Names**, and edit those colors easily.

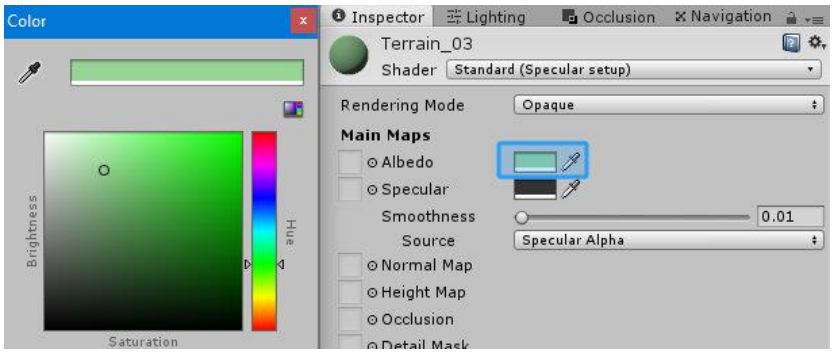


Change Bonus Assets Color

To change colors for Bonus Assets (Clouds, Hills, Mountains, Terrain, and Water), go to *Low Poly Trees Pack > Bonus Assets > Materials.*

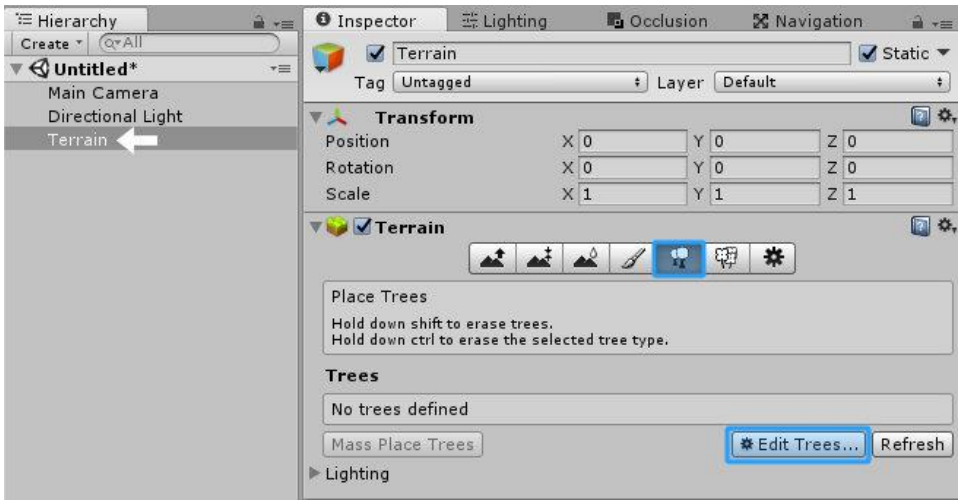


Select the **Material** you want to edit and in the **Inspector** change **Albedo Color**.

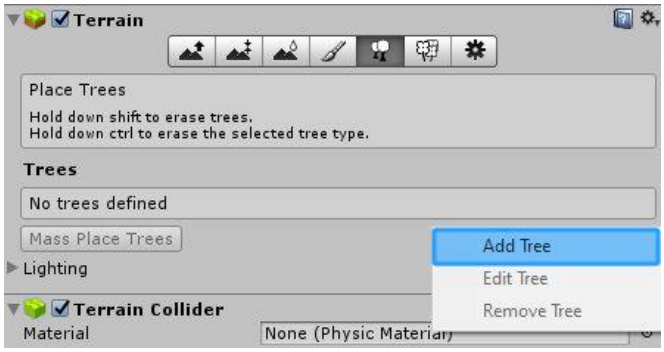


How to Paint Tree Prefabs on Unity Terrain

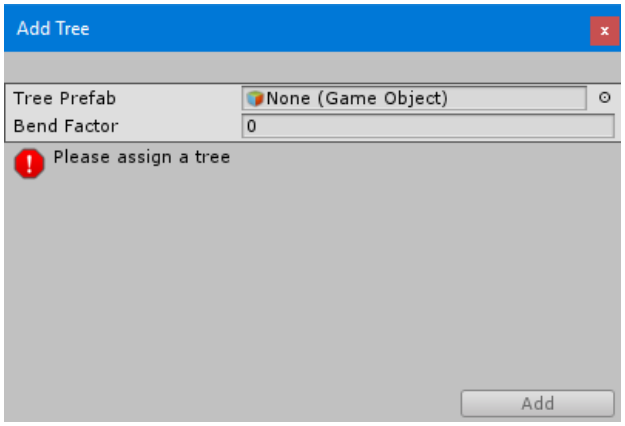
Select your Unity Terrain and go to **Place Trees** tab. Click on **Edit Trees...**



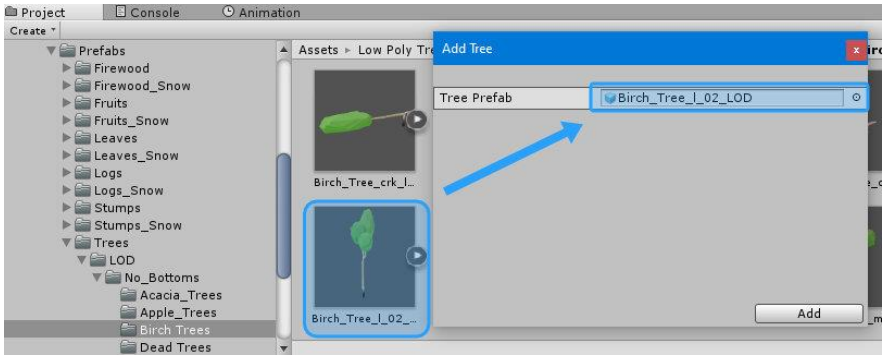
...and press on **Add Tree**



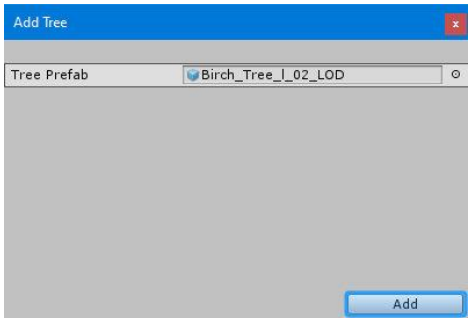
You should see a popup window **Add Tree**



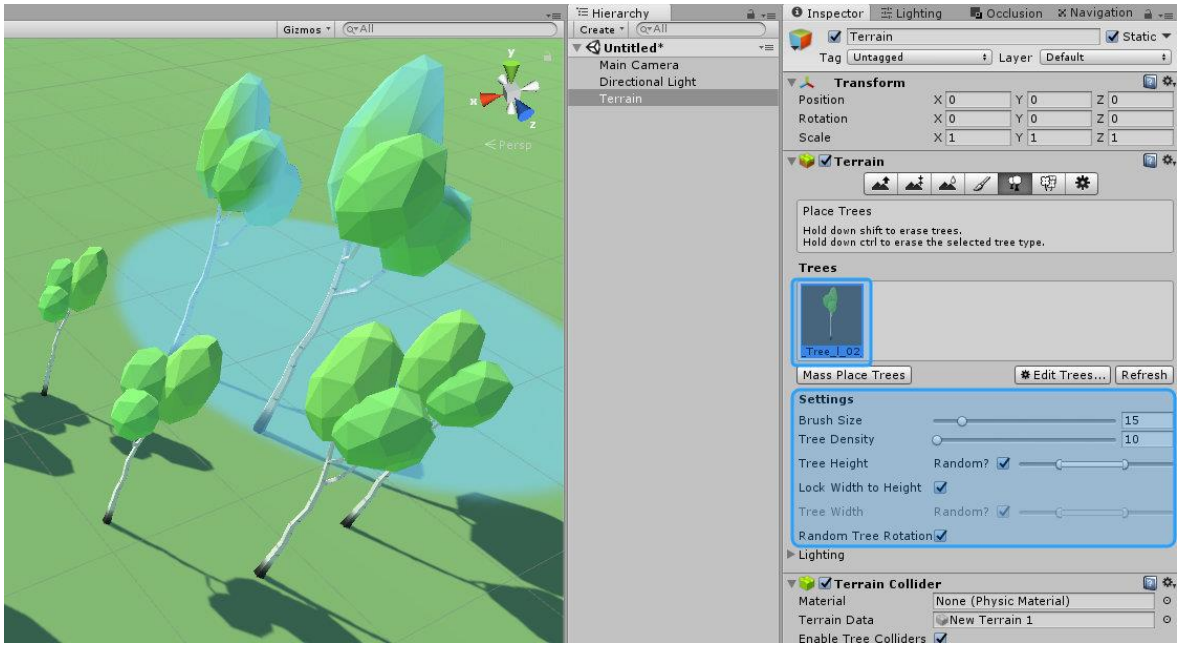
Go to *Low Poly Trees Pack > Tree Assets > Prefabs > Trees > LOD > No_Bottoms >* and select any Tree Type you want to use (I used **Birch_Tree**), drag and drop Prefab to **Tree Prefab** tab:



Press **Add**



That's it! Select **Tree Prefab**, change **Settings,** and paint.



*Make sure to use prefabs with **Capsule Colliders** (LOD Trees use only Capsule Colliders). Mesh colliders are not supported by Unity Terrain.

***LOD** Prefabs support **Random Rotation** in Unity Terrain Editor!

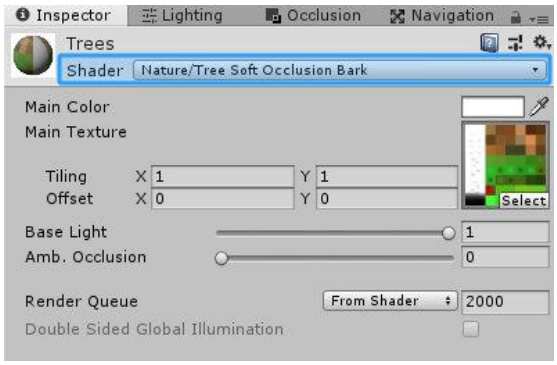
How to Paint Tree Prefabs on Mesh Terrain Using Polybrush

UPDATE! Watch my Polybrush Tutorial on how to use it now!

*To use Polybrush - you need at least **Unity 2019.4 LTS!** It was removed from the Asset Store and it's the part of the Package Manager now.

Billboards

If you want to use **Billboards** for **NoLOD** prefabs, set prefab material Shader to **Nature/Tree Soft Occlusion Bark**.



Trees material is located at: *Low Poly Trees Pack > Tree Assets > Material.*

*I highly recommend, to use LOD prefabs for Unity Terrain, or just for big worlds! LOD prefabs support Random Rotation in Unity Terrain Editor!

Additional Info

Naming Conventions

Prefab name example 1: **Pine_Tree_crk_l_01_LOD**

- **Pine_Tree** – Tree Type
- **crk** – means the Tree is cracked
- **l** – large size
- **01** – prefab number
- **LOD** – prefab has LOD group with 3 levels of LODs

Prefab name example 2: **Acacia_Tree_crk_l_Snow_BT_01**

- **Snow** – Tree has snow on it
- **BT –** Tree **With_Bottoms** - Tree meshes have faces at the bottom

You can find these letters:

- **s** – small size
- **m** – medium size
- **l** – large size
- **crk** – means the tree is cracked.
- **NoLeaves** – Tree has no leaves
- **OneSided** – Tree leaves are visible only from one side (from top)
- **LOD** – prefab has LOD group with 3 levels of LODs
- **BT** - Tree **With_Bottoms** - Tree meshes have faces at the bottom
- **Snow** - prefab has snow on it

*Keep in mind that every tree mesh is different, no matter is it small or large.

Scripts

Every scene **Camera**, **Directional Light,** and **_Clouds**(*an empty game object which contains all clouds on the scene*) have movement controls.

For, example, select **Camera** and on **Inspector** scroll down to the bottom, you will see **LowPolyTrees_Camera Control (Script)** attached to it. Here you can control **Camera Movement Speed** using sliders.

Same with **Direction Lights** and **_Clouds**.

Contacts

If you have any questions, suggestions on what to improve or create. Maybe found any bugs, please send me an e-mail!

E-mail: justinas@lmhpoly.com

Website: http://lmhpoly.com/contact/

Follow me on **Twitter** to see what I'm working on right now:

https://twitter.com/lmhpoly