

2.5D Medieval Fantasy Environment documentation



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1 Introduction

Thank you for purchasing 2.5D Medieval Fantasy Environment.

2.5D Medieval Fantasy Environment documentation contains everything you need to get started.
If you have any questions, please contact us at tropicalstudio3d@gmail.com

You could join the forum here : [link](#)

How to use 2.5D Medieval Fantasy Environment :

- Read chapter 2 (Settings needed to use this asset).

- Open demo scene to see example scene.

[TS_Medieval_Fantasy > Demo > DEMO_scene_v2](#)

- Open showroom scene to see all prefabs available in asset.

[TS_Medieval_Fantasy > Demo > Showroom](#)

-Read chapter 4 to learn how to optimize your scene. [link](#)

- A geometry combiner script is also included in this asset. This script is a big help to optimize framerate and reduce lightmap precompute time.

Read chapter 4 part 3 to learn how to use combiner script. [link](#)

- Effects enhance the quality of the final image. (Only for desktop)

Read chapter 5 to learn how to add effects to the camera. [link](#)

This chapter also suggest effects presets .

- For new scene preferably using the scene **Starter_Kit**

[TS_Medieval_Fantasy > Assets > Scenes > Starter_Kit](#)

All you need to start scene is set (lighting panel presets, ambiant light, camera + character + collider)

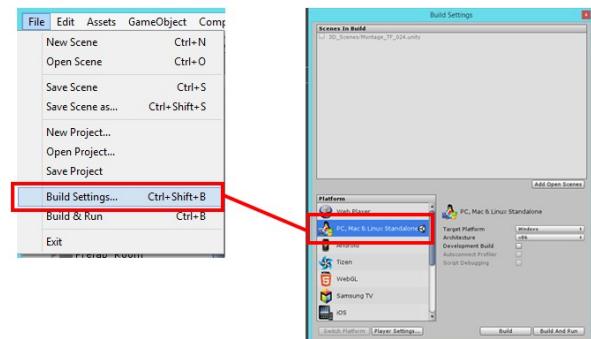
- If you want to export to mobile read chapter 7. [link](#)

2 Settings

(Settings needed to use this project)

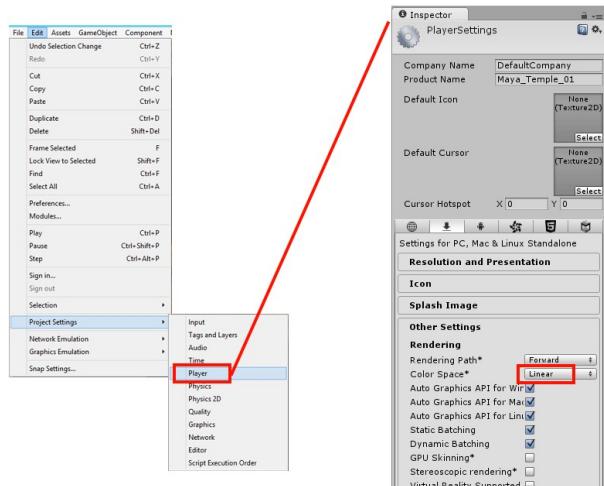
1 Go to **File > Build_Settings**.

Verify that **PC, Mac & Linux Standalone** mode is selected.



2 Open **Edit > Project Settings > Player**.

In Inspector window change **Color Space** to **Linear**



3 You need to add **standard assets** asset to your "MY ASSETS" folder

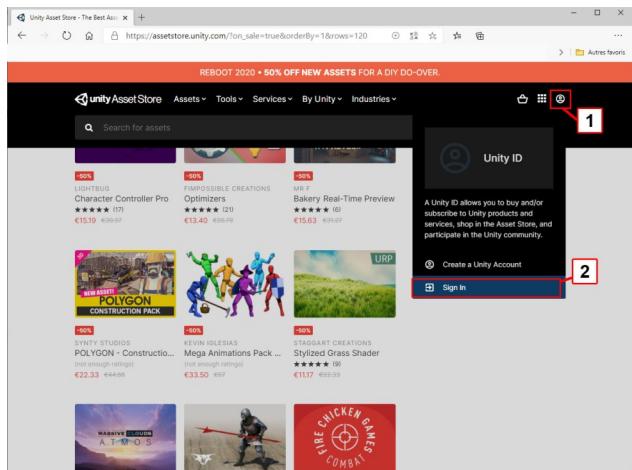
If you already have it go directly to **step 8**

You need to log in

Press **circle icon** button (spot 1)

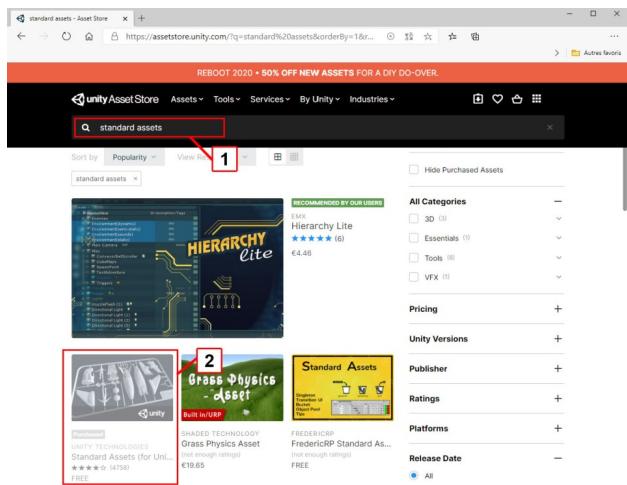
4 Press button **Sign In** (spot2)

Add your code if needed

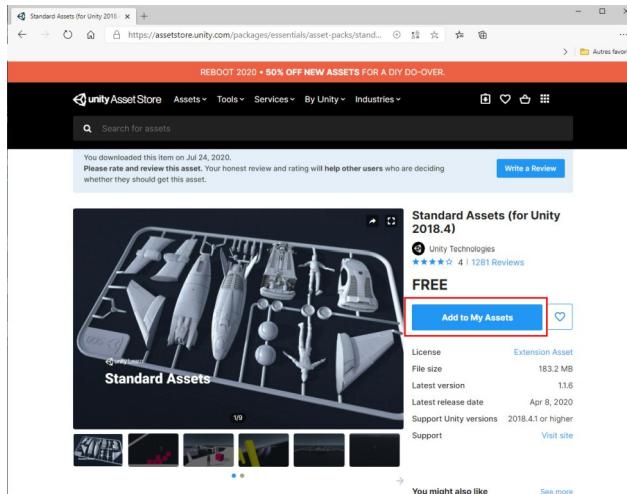


5 Search Standard assets (spot1)

6 Press on Standard assets icon (spot2)

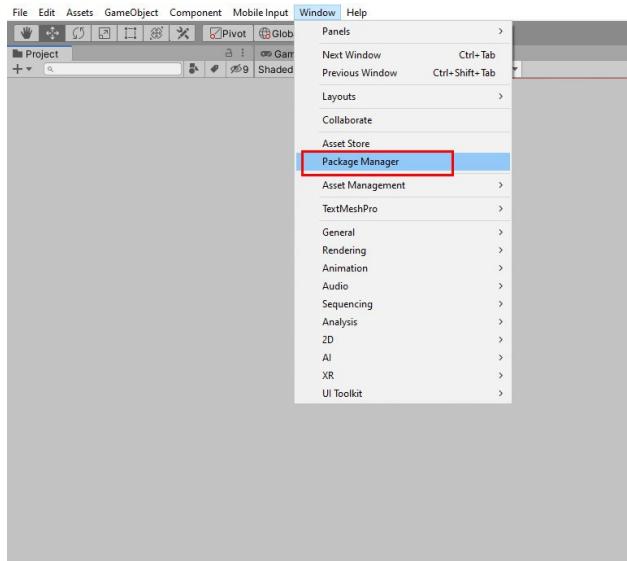


7 Press button Add to My Assets



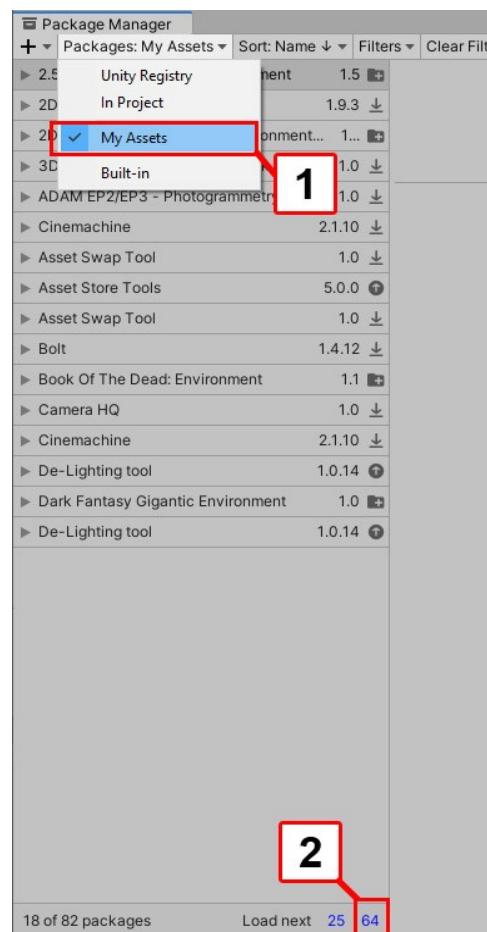
8 In Unity

Go to Window > Package Manager



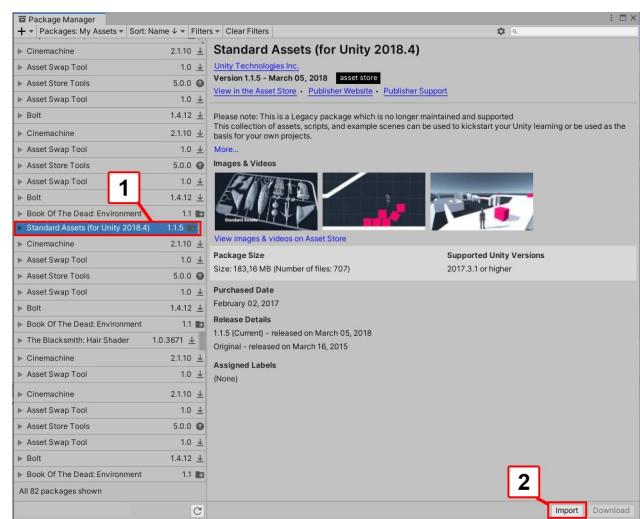
9 Select **Packages > My Assets** (spot 1)

10 At the bottom right click on the number furthest to the right to show more assets (spot 2)

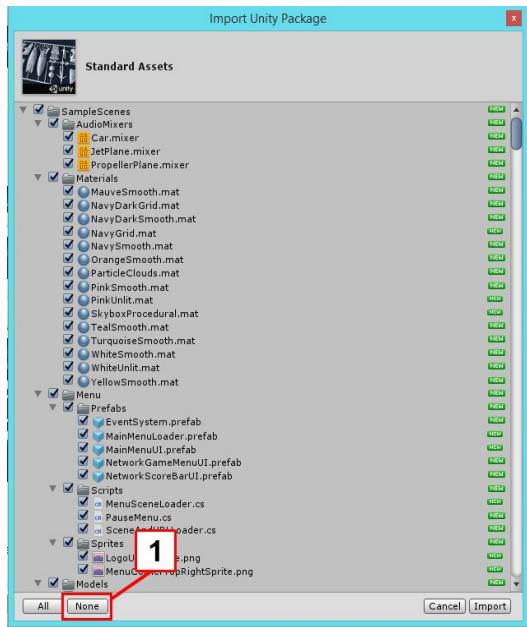


11 Select **Standard Assets** (spot 1)

12 Press button **Import** (spot 2)



13 Press button **None** to deselect all (spot1)



14 In Standard assets folder select **Characters** (spot 1)

15 In Standard assets folder select **CrossPlatformInput** (spot 2)

16 Select in Editor folder **CrossPlatformInput** folder (spot 3)

17 In Utility Folder select: (spot 4)

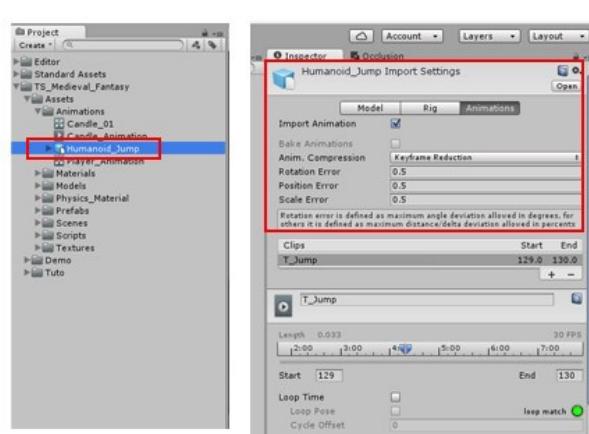
-CurveControlledBob.cs
-FollowTarget.cs
-FOVKick.cs
-LerpControlledBob.cs

18 Press **Import** button (spot 5)

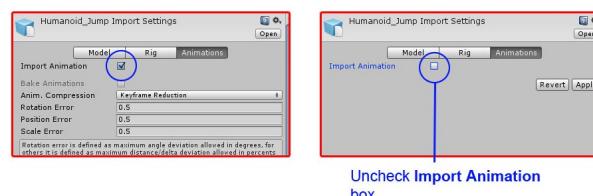


19 Select **Humanoid_Jump** prefab in Project tab

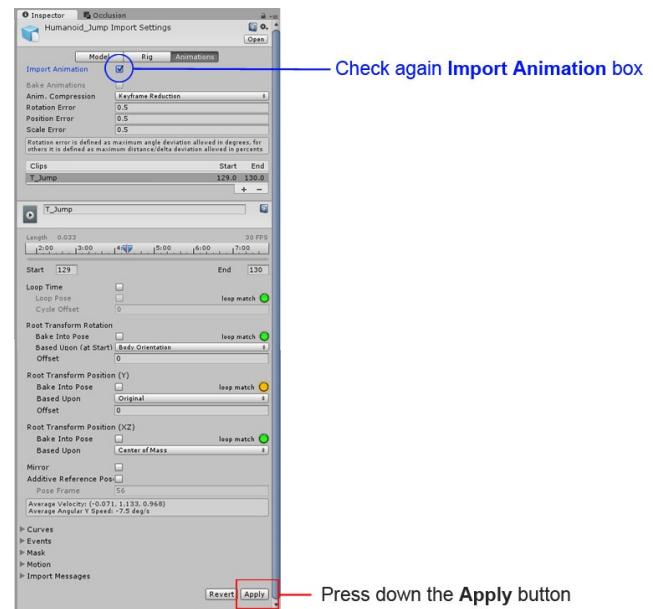
TS_Medieval_Fantasy > Assets > Animations > Humanoid_Jump



20 Uncheck Import Animation box then press **Apply** button



21 Check again Import Animation box then press **Apply** button



22 Optimization (optional)

In **Edit > Project Settings > Quality.**

Select **Fantastic** (spot 1)

Set **Shadow Distance** to **20** (spot 2)

In **shadowmask Mode** choose **Shadow mask** (spot 3)

Select **Beautiful** (spot 1)

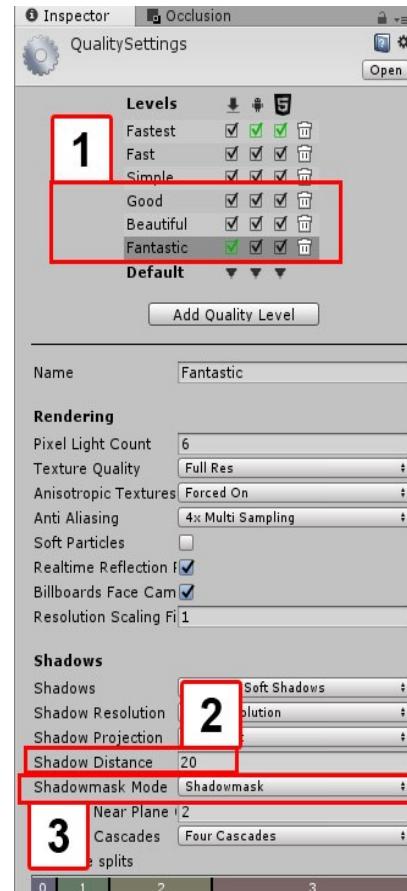
Set **Shadow Distance** to **20** (spot 2)

In **shadowmask Mode** choose **Shadow mask** (spot 3)

Select **Good** (spot 1)

Set **Shadow Distance** to **20** (spot 2)

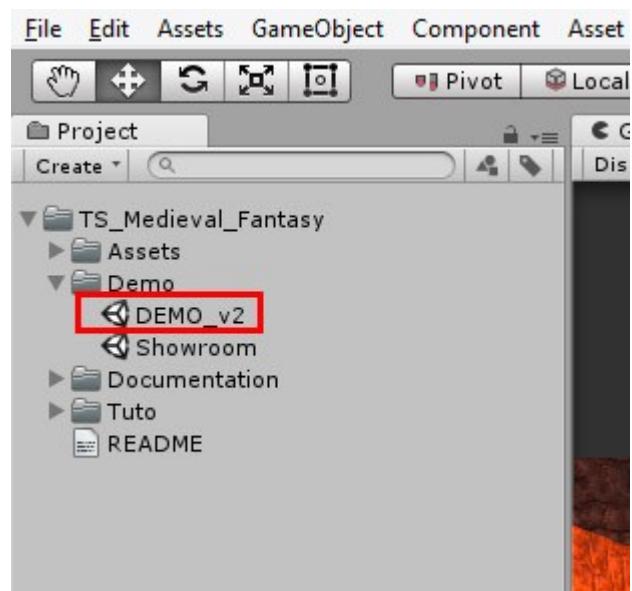
In **shadowmask Mode** choose **Shadow mask** (spot 2)



3 Demo

In folder Demo open DEMO_v2

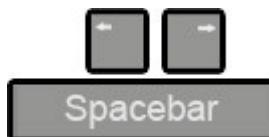
TS_Medieval_Fantasy > Demo > DEMO_v2



Demo scene contains one character and camera follow

Use the **arrow keys** on your keyboard to move your character.

Use the **spacebar keys** on your keyboard to jump.



Mobile use another button. Please read chapter 7 to learn more about mobile setup.

[link](#)

If your character does not move correctly when you use the arrow keys please read chapter 2 [link](#)

To discover all prefabs contained in this asset open Showroom

TS_Medieval_Fantasy > Demo > Showroom

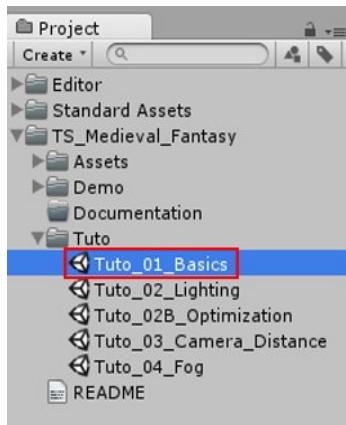


4 Tutorial

Part 1 : Basics

1 Open scene **Tuto_01_Basics**

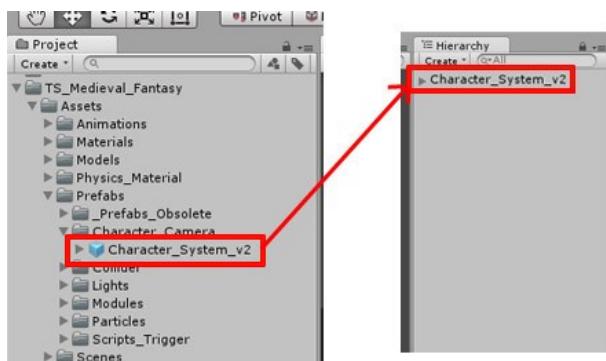
TS_Medieval_Fantasy > Tuto > Tuto_01_Basics



2 From project window drag and drop **Character_System_v2** in hierachy tab

TS_Medieval_Fantasy > Assets > Prefabs > Character_Camera > Character_System_v2

In hierarchy select **Character_System_v2** and change the X,Y,Z coordinates : X:0 Y: -0.8 Z: -1.5



Tips : to move character always move the entire group : **Character_System_v2**

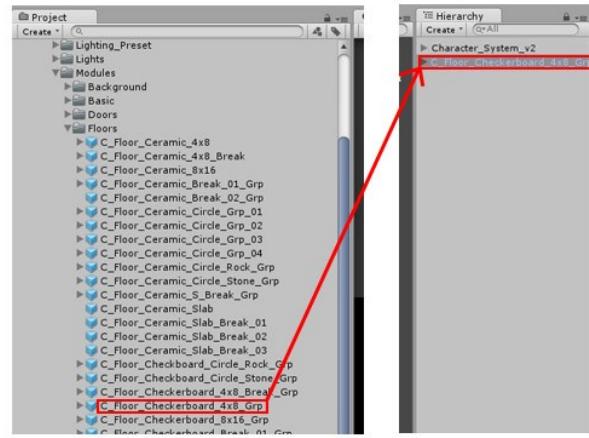
To learn how to modify camera distance read chapter 6 [link](#)

3 From project window drag and drop **AMBIANT_Directional light** in hierachy tab

TS_Medieval_Fantasy > Assets > Prefabs > Lights > AMBIANT_Directional light

4 From project window drag and drop C_Floor_Checkerboard_4x8_Grp

TS_Medieval_Fantasy > Assets > Prefabs > Modules > Floors > C_Floor_Checkerboard_4x8_Grp



5 From project window drag and drop K_Barrel_Multi_Grp in hierarchy tab

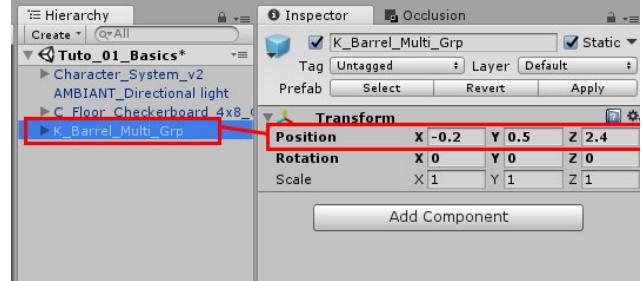
TS_Medieval_Fantasy > Assets > Prefabs > Modules > Objects > K_Barrel_Multi_Grp

In hierarchy select K_Barrel_Multi_Grp and change the X,Y,Z coordinates :

X: -0.2

Y: 0.5

Z: 2.4



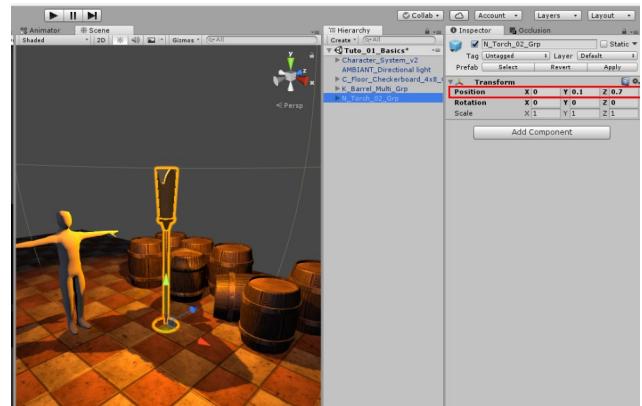
6 Import N_Torch_02_Grp in hierarchy tab:

TS_Medieval_Fantasy > Assets > Prefabs > Lights > N_Torch_02_Grp

In hierarchy select N_Torch_02_Grp and change the coordinates :

Y: 0.1

Z: 0.7



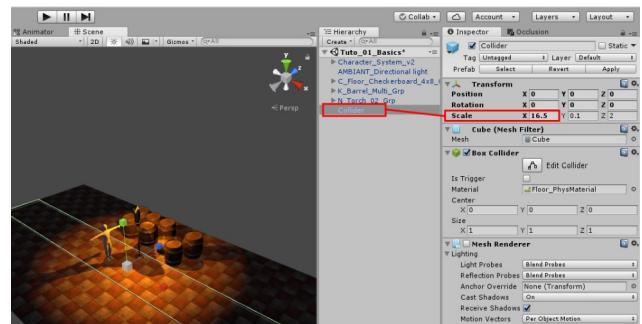
7 Drag and drop Collider in hierarchy tab:

TS_Medieval_Fantasy > Assets > Prefabs > Collider > Collider

In hierarchy select Collider and change the scale X : 17

If you have a problem open scene Tuto_01B_Basics

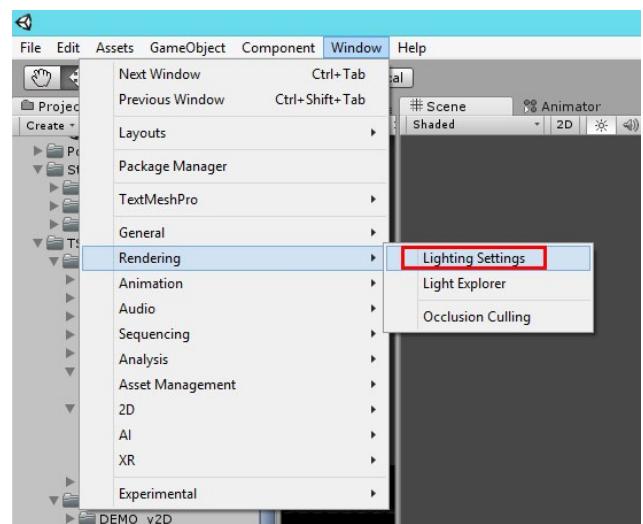
TS_Medieval_Fantasy > Tuto > Tuto_01B_Basics



Before testing our scene we need to calculate lightmap.

1 Open lighting panel.

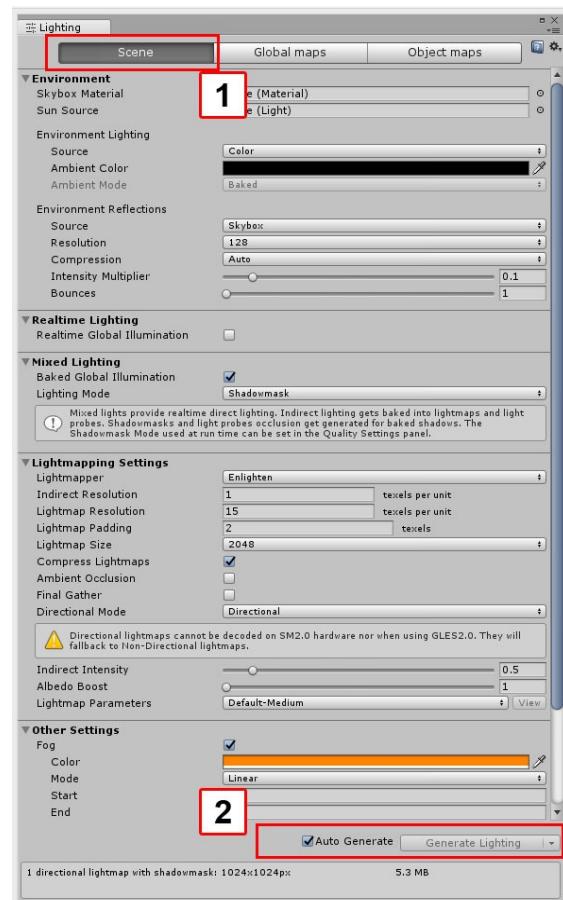
Window > Rendering > Lightings Settings



2 Select Scene tab in lighting panel (spot 1)

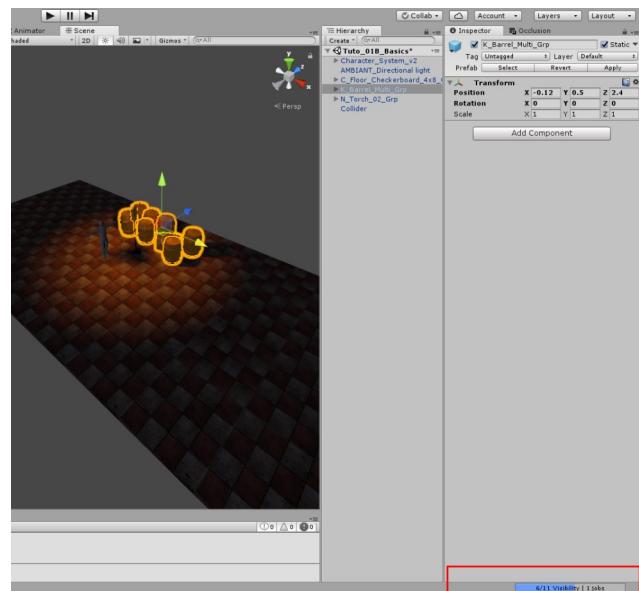
3 Check box Auto generate at the bottom of lighting tab (spot 2)

For large scene it is better to click on **Generate Lighting** button instead of **Auto generate** check box. In this case lightmap are save in project (in a folder with the same name as your scene).



Precompute lightmap process is starting.
When the precompute process is running, a blue progress bar will appear in the bottom right of the Editor.

Tips :
Calculing lightmaps on a large scene can take time.
At first it is better to test lightmap on small part.



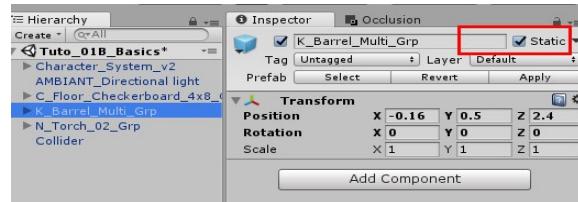
When precomputed process is finished **run your scene**.



You can see that **character is not lit by the torch**.

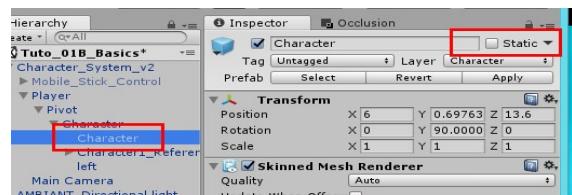
It is because lights in scene are baked light.
(except **AMBIANT_Directional light**)

Baked light only lit static object (for exemple floor and barrels).



Character is not a static object.

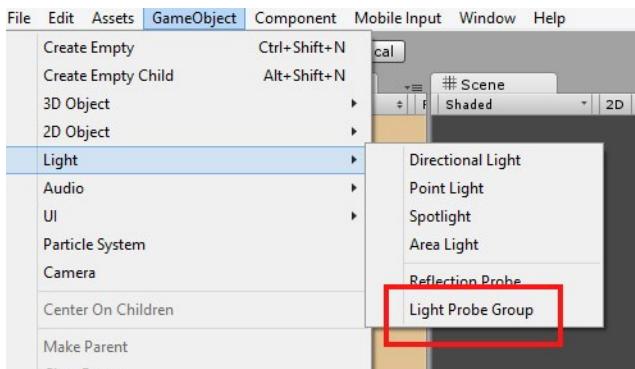
To add light to character we need to create **Lightprobe**.



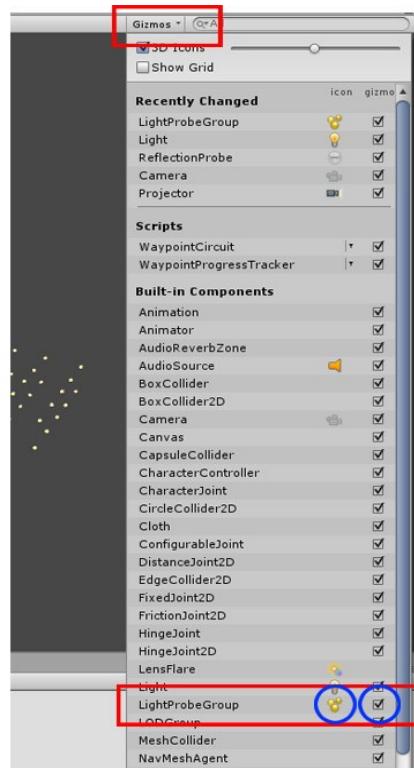
Part 2 : Lightprob

If you don't follow tuto part 1 open scene [Tuto_01B_Basics](#)
[TS_Medieval_Fantasy > Tuto > Tuto_01B_Basics](#)

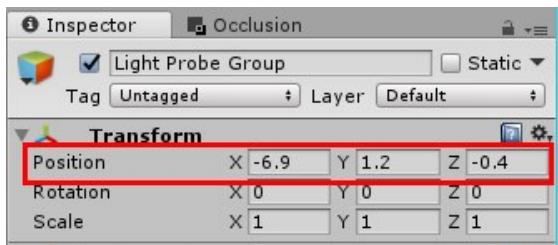
- 1 Go to GameObject > Light > Light Prob Group.



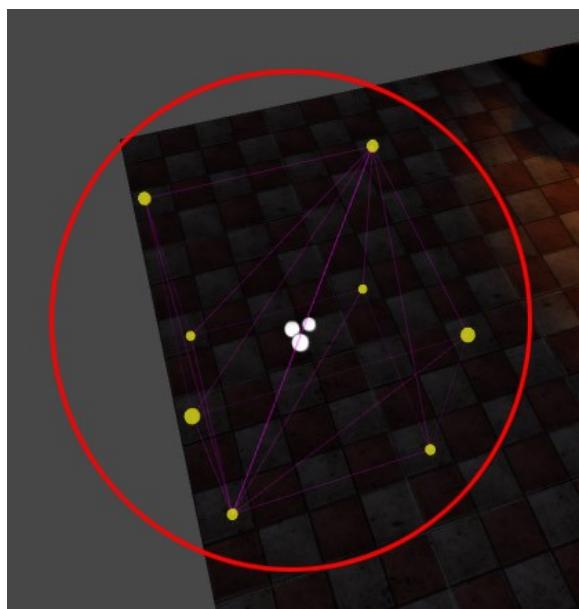
If the light prob doesn't appear check that the lightprobGroup option is selected in Gizmos window.



- 2 Select Light Probe Group in hierarchy. In Inspector change the X,Y, and Z coordinates :
X: -6.9
Y: 1.2
Z: 0.4



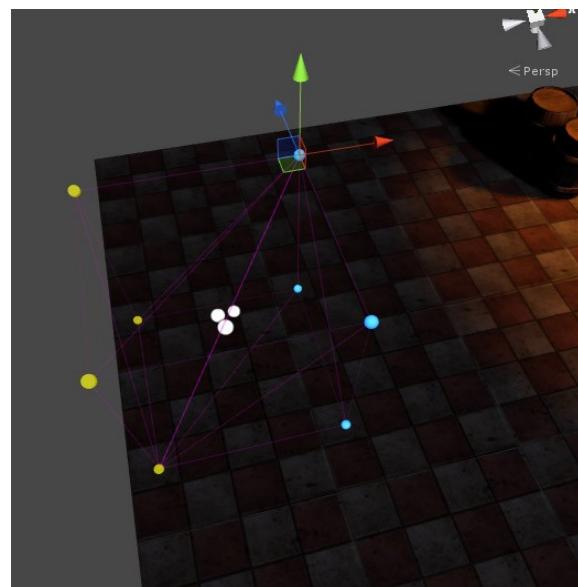
Light prob is in the form of a cube formed by 8 yellow balls.



3 Select Light Probe Group in hierarchy tab.

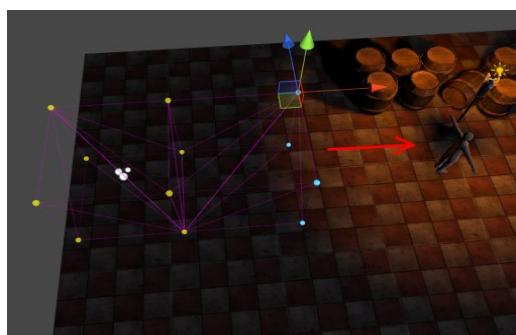
4 In Scene tab select 4 balls (yellow balls become blue).

*Tips: To select several balls use the **MAJ keys**.*



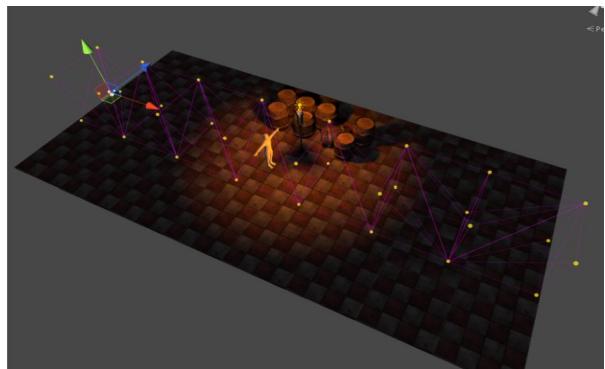
5 Duplicate object by pressing **CTRL + D**

6 Move the blue balls on the X-axis for creating a new cube.

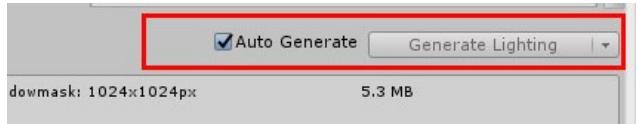


7 Repeat the process until the entire area covered by the character is filled.

Each cube (represented by 8 blue balls) corresponds to a specific lighting area. The smaller the cubes the more precise the light.



8 Verify that **Auto generate** in lighting tab is check. If not check box **Auto generate**. Wait for lightmap precompute process.



9 Run the scene

Now you can see that character is lit by the torch.



If you have a problem open scene

[*Tuto_01C_Basics*](#)

Tips :

**For new scene preferably using the scene
Starter_Kit**

[*TS_Medieval_Fantasy > Assets > Scenes >
Starter_Kit*](#)

All you need to start scene is set (lighting panel
presets, ambient light, camera + character +
collider)

Part 3 : Combiner

If you don't follow tuto part 2 open scene *Tuto_01C_Basics*

TS_Medieval_Fantasy > Tuto > Tuto_01C_Basics

A combiner mesh script is included in this asset.

TS_Medieval_Fantasy > Assets > Scripts > Meshcombinervtwo

Combiner mesh script combine all the mesh that have the same material on a single new mesh.
This a good solution to drastically reduce drawcalls and reduce lighmap precomputed time.

1 Create a new empty group in hierachy

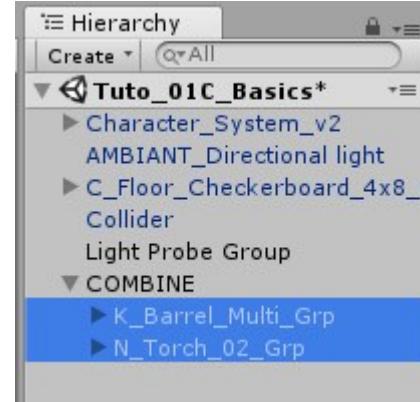
2 Rename it (for example « COMBINE »)



3 In hierachy tab drag and drop

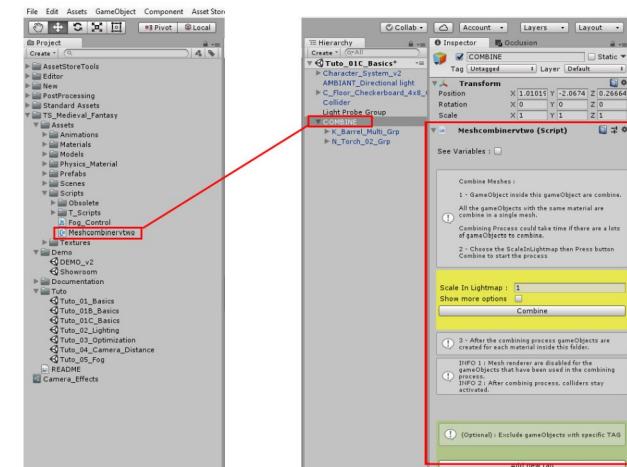
K_Barrel_Multi_Grp and *N_Torch_02_Grp* in
COMBINE

4 Select **COMBINE**



5 From projets tab drag and drop

Meshcombinervtwo on **COMBINE**

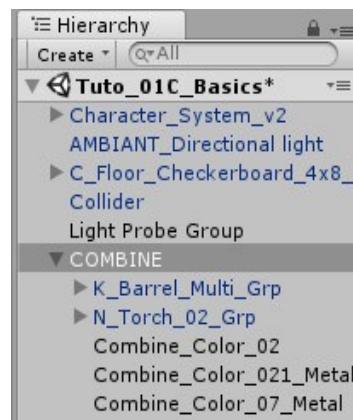


6 Click on Combine Button

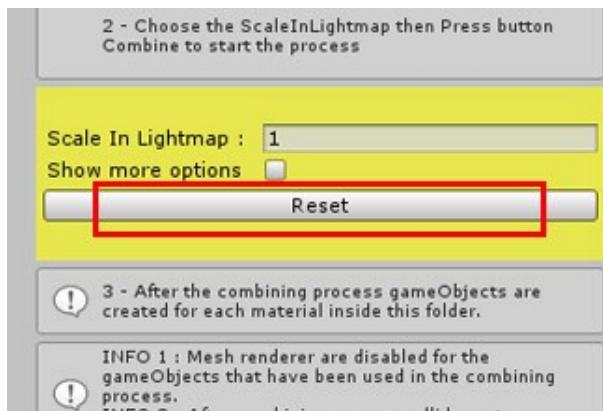


After the process new Combine gameObjects are created inside **COMBINE** group.

K_Barrel_Multi_Grp and **N_Torch_02_Grp** are hide.



If you want to reverse the process press **Reset** button or **CTRL+Z**



Caution:

- You must combine only static objets.
- Combine together **objects that are close** otherwise there will be a loss of fps
- The number of vertices in a combined object must not exceed 65,000 tris.
If there are too many tris, split them into two groups.

Troubleshooting :

- If you have a lot of objects (or large objects) in group we recommande to separate into several pieces to avoid poor quality lightmaps.

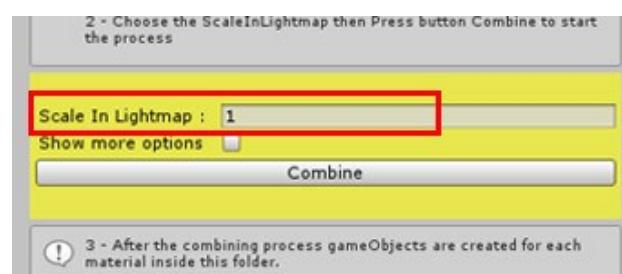
- If you have strange results, this is probably because the number of tris of combine objects are too important.

To solve this issue separate into several groups and combine each group separately.

Options:

Some objects, especially those with rounded edges require more lightmap definition.

To increase the definition of these objects increase **Scale in lightmap value**.



Exemple :

- Create 2 groups

- Add combiner script on each

- Add to the first group objects with sharp edges
(Floor and walls, table ...)

- Set **Scale in lightmap value** to 1

- Add to the second group objects with smooth edges (Barrels, pot, round pillar ...)

- Set **Scale in lightmap value** to 3
(if the quality of the lightmaps is not sufficient increase the value)

Caution: If you change the value you must decombine (reset) and then recombine the group (combine)

Tips: if you want to increase the quality of lightmaps for the whole scene, you can increase **lightmap resolution** value in **lightings settings** tab.

On the other hand the size of the lightmaps will be larger and the lightmaps precomputing time too.

So it's best to put a low value of **lightmap resolution** in **lightings settings** and choose a **scale in lightmap** value depending on the type of objects(smooth or sharp).

To see more options check [Show more options](#) box

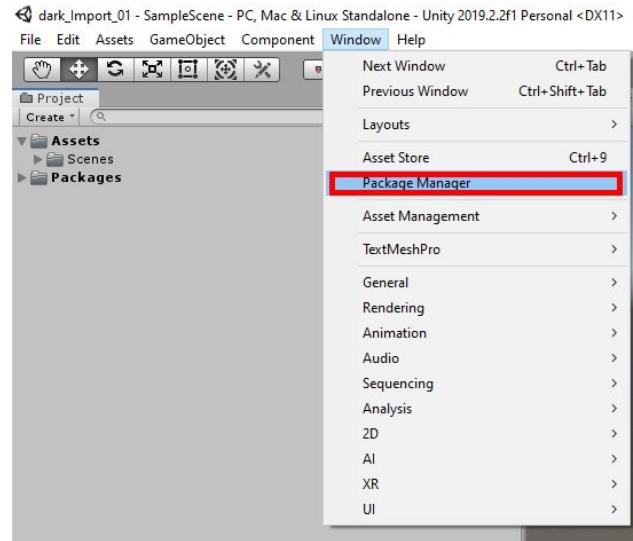
[Stitch seams](#) improves the quality of lightmaps

Keep shadow Mode allows you to keep the shadows options (for example cast shadow: off)

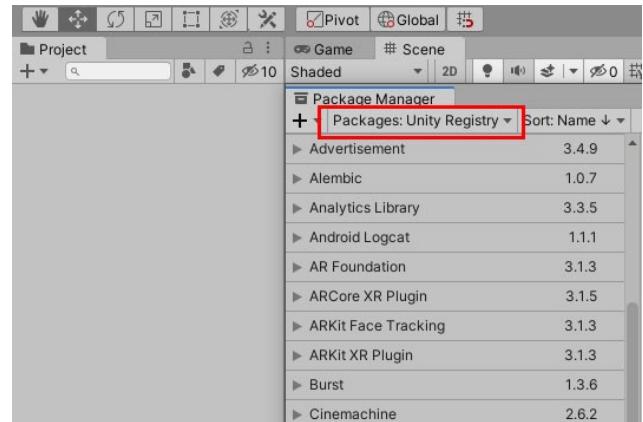


5 Effects (only for desktop)

1 Go to Window > Package Manager

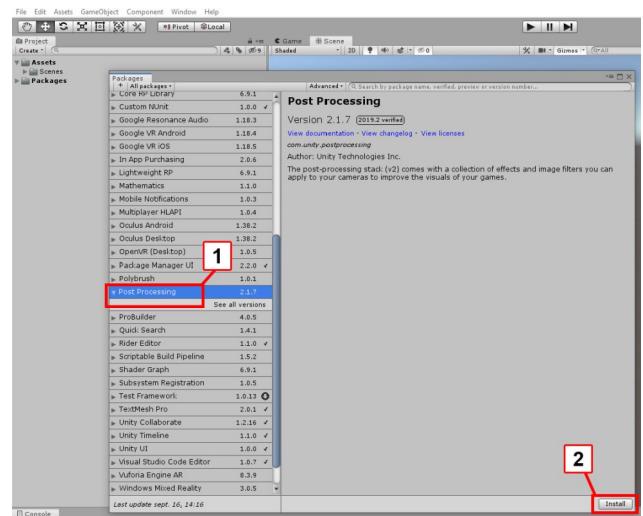


2 Select Package: Unity Registry



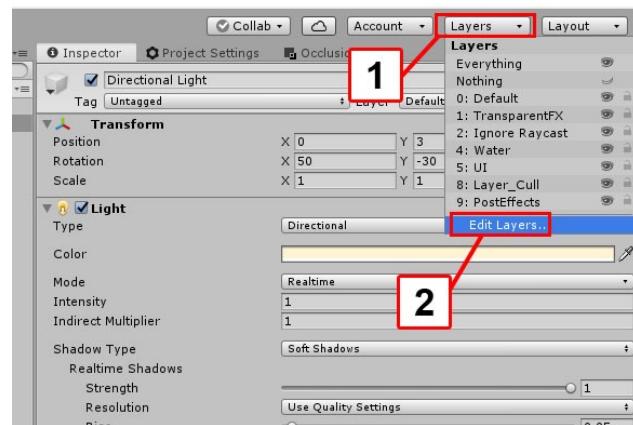
3 Select Post-Processing (spot 1)

4 Press button Install (spot 2)



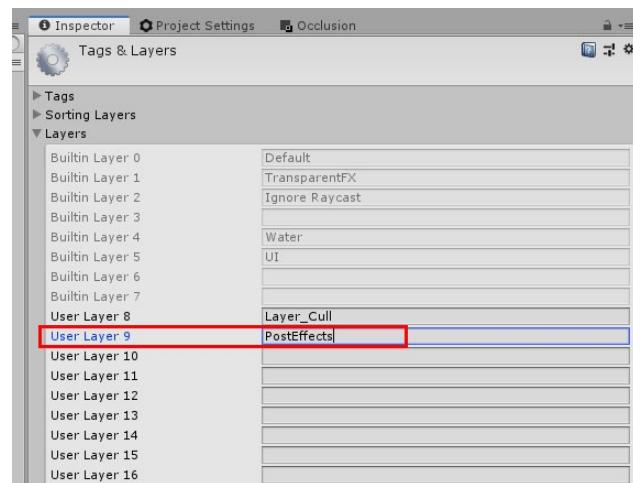
5 Top right select **Layer** (spot 1)

6 Press button **EditLayer** (spot 2)



7 Create a new layer

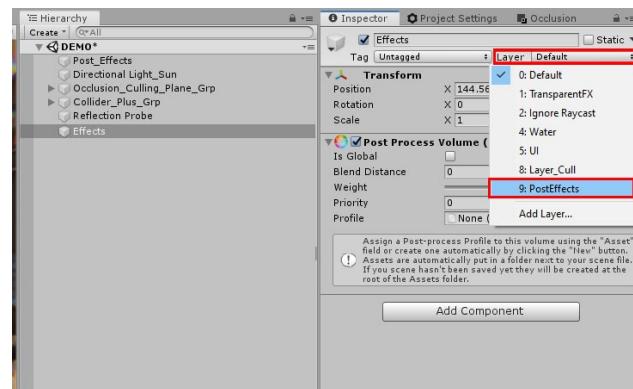
Name it for example : PostEffects



8 In hierarchy tab create an empty object

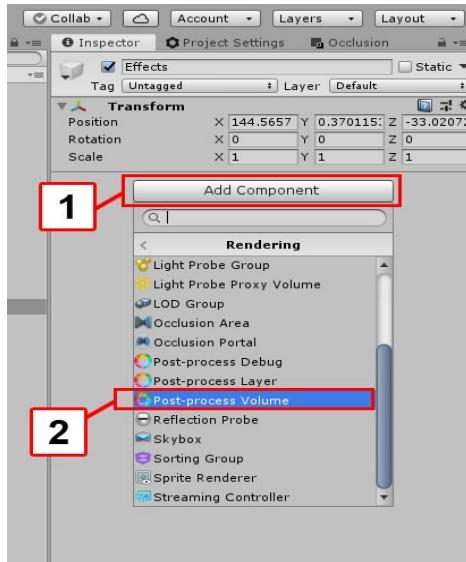
9 Rename it for example : **Effects**

10 In Hierarchy tab select **Effects**

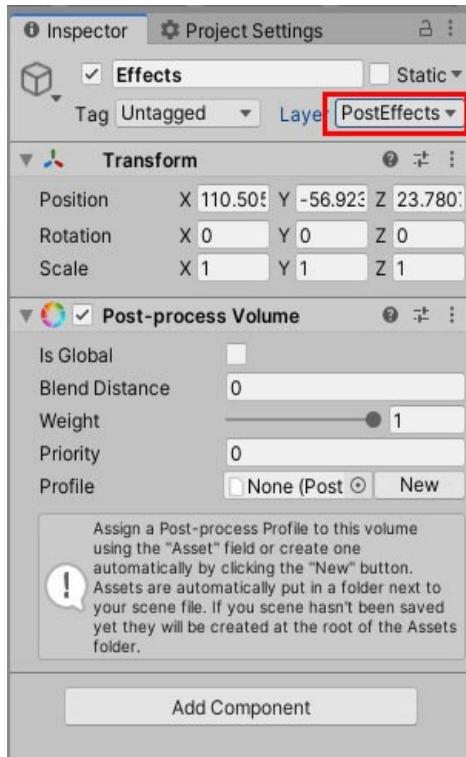


11 In Inspector tab press button **Add Component** (spot 1)

12 Choose **Rendering > Post-process Volume** (spot 2)

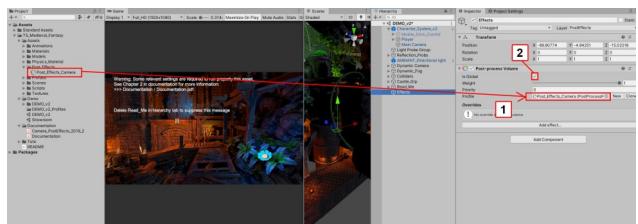


13 In Inspector tab choose layer: **PostEffects**



14 From Project tab:
drag and drop **Post_Effects_Camera** to the
profile slot in inspector tab (spot 1)

TS_Medieval_Fantasy > Assets > Post_Effects >
Post_Effects_Camera

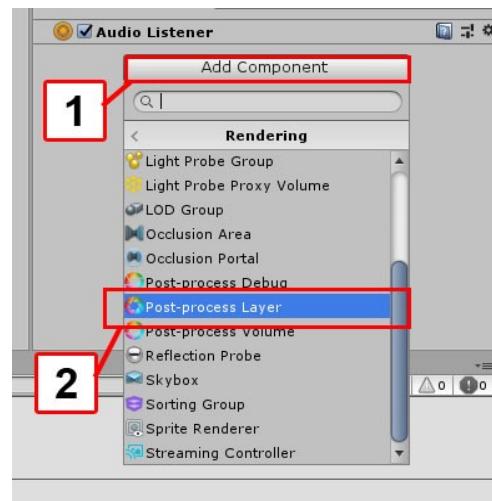


15 Check **is global** checkbox (spot 2)

16 In **hierarchy tab** select your camera

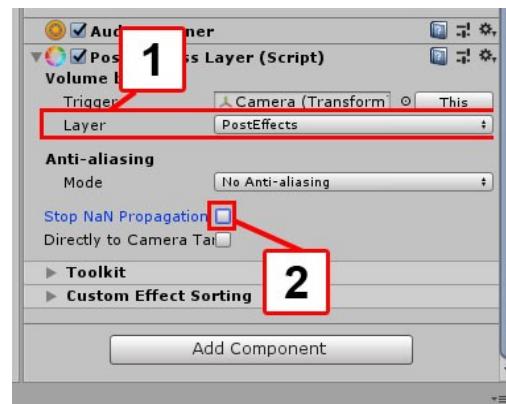
17 In **Inspector tab** press button **Add Component** (spot 1)

18 Choose **Rendering > Post-process Layer** (spot 2)



19 Choose **Layer > PostEffects** (spot 1)

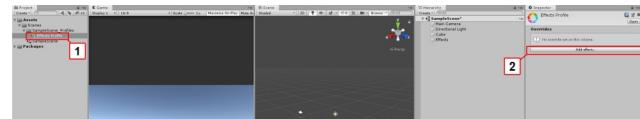
20 Optional : UnCheck **Stop NaN Propagation** checkbox (spot 2)



21 In **Project tab** select your post process profile (spot1)

22 In **Inspector tab** press button **Add effect** (spot 2)

23 Add the effects you want.



6 Specials effects

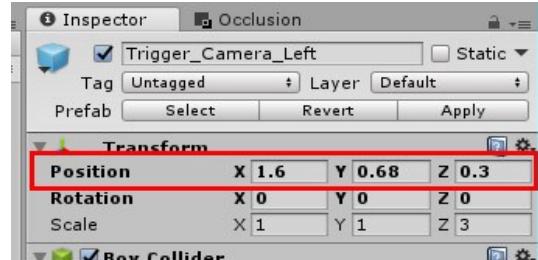
Script 1 : Camera distance and height control (Tutorial)

1 Open scene [Tuto_02_Camera_Distance](#)
TS_Medieval_Fantasy > Tuto >
Tuto_02_Camera_Distance

2 From project window drag and drop
[Trigger_Camera_Left](#) in hierarchy panel

TS_Medieval_Fantasy > Assets > Prefabs >
Scripts_Trigger > Trigger_Camera_Left

3 Change the X,Y,Z coordinates:
X: 1.6 Y: 0.68 Z: 0.3

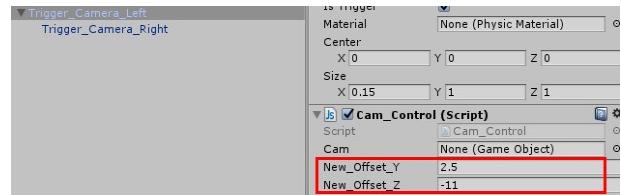


How it works :

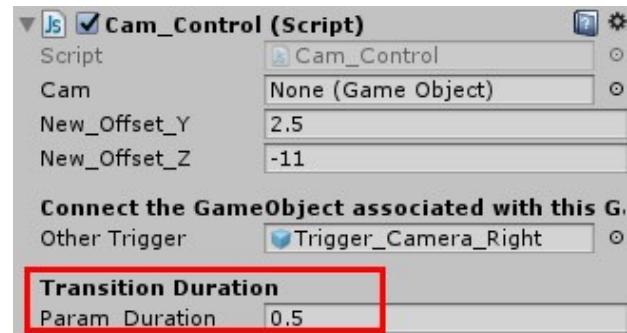
There are two triggers : [Trigger_Camera_Left](#)
and [Trigger_Camera_Right](#)

When the character hit Trigger_Camera_Left
camera use value of Cam_Control(script) attach
to Trigger_Camera_Left

New offset Y = height of camera
New offset Z = distance between camera and
character
*Change this value to modify height and camera
distance*



**The same things occur when the character
hit Trigger_Camera_Right**



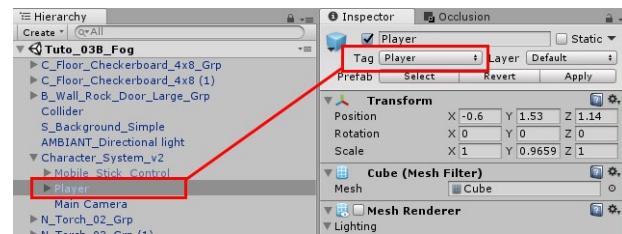
Use [Transition duration](#) to modify duration of
camera distance and height transition.

4 Run the scene and move character from right
to left

If you have a problem open scene
[Tuto_02B_Camera_Distance](#)

TS_Medieval_Fantasy > Tuto >
Tuto_02B_Camera_Distance

Warning : Character need to use “Player” tag. (Don’t forget it if you use another character)



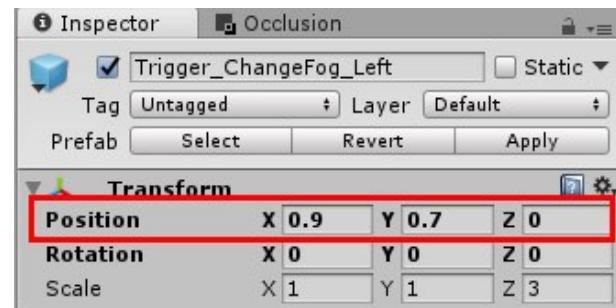
Script 2 : Fog control (Tutorial)

1 Open scene [Tuto_03_Fog](#)
TS_Medieval_Fantasy > Tuto > Tuto_03_Fog

2 From project window drag and drop
[Trigger_ChangeFog_Left](#) in hierarchy panel

TS_Medieval_Fantasy > Assets > Prefabs >
Scripts_Trigger > Trigger_ChangeFog_Left

3 Change the X,Y,Z coordinates:
X: 0.9 Y: 0.7 Z: 0



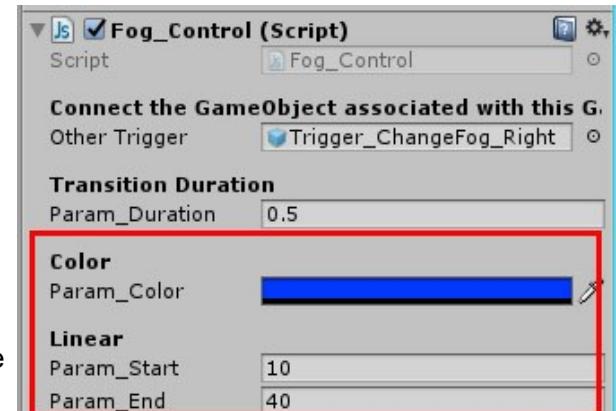
How it works :

There are two triggers : [Trigger_ChangeFog_Left](#) and [Trigger_ChangeFog_Right](#)

When the character hit [Trigger_ChangeFog_Left](#)
fog use value of Fog_Control(script) attach to
[Trigger_ChangeFog_Left](#)

Color = color of fog
Param_Start and **Param_End** = start and end value of fog.
Change this value to modify color and size of fog

*The same things occur when the character hit
[Trigger_ChangeFog_Right](#)*

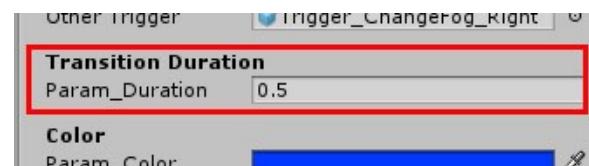


Use **Transition duration** to modify duration of fog transition.

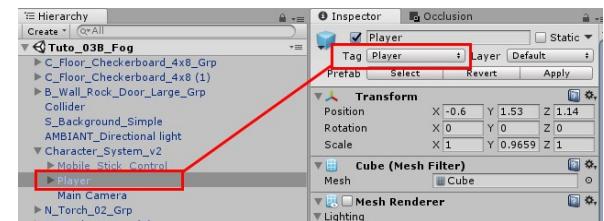
4 Run the scene and move character from right to left

If you have a problem open scene [Tuto_03B_Fog](#)

TS_Medieval_Fantasy > Tuto > Tuto_03B_Fog



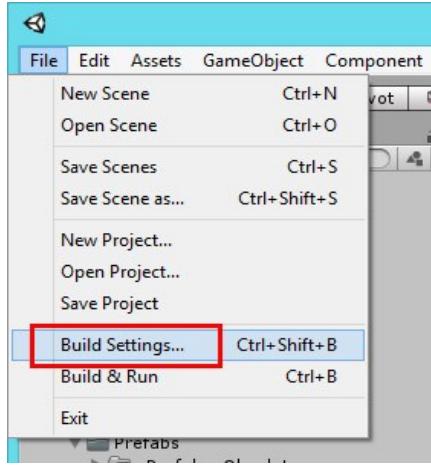
Warning : Character need to use “Player” tag.
(Don’t forget it if you use another character)



7 Export to mobile

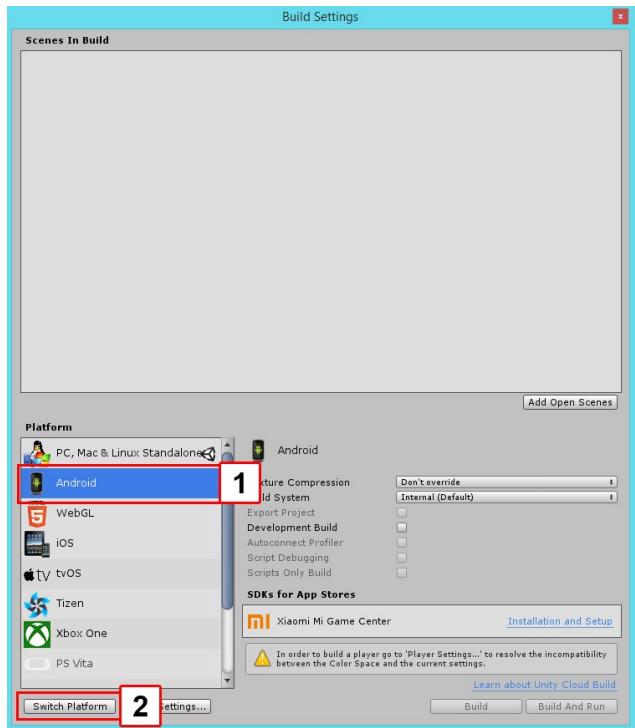
Follow this step to export your project to mobile (exemple for Android)

1 Go to **File > Build_Settings**.

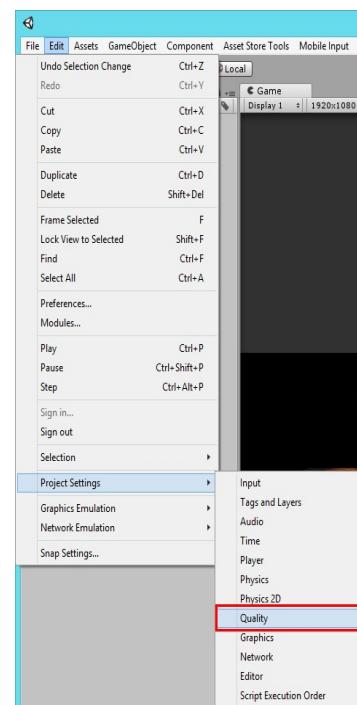


1 Select **Android** (spot 1)

2 Press button **Switch Platform** (spot 2)



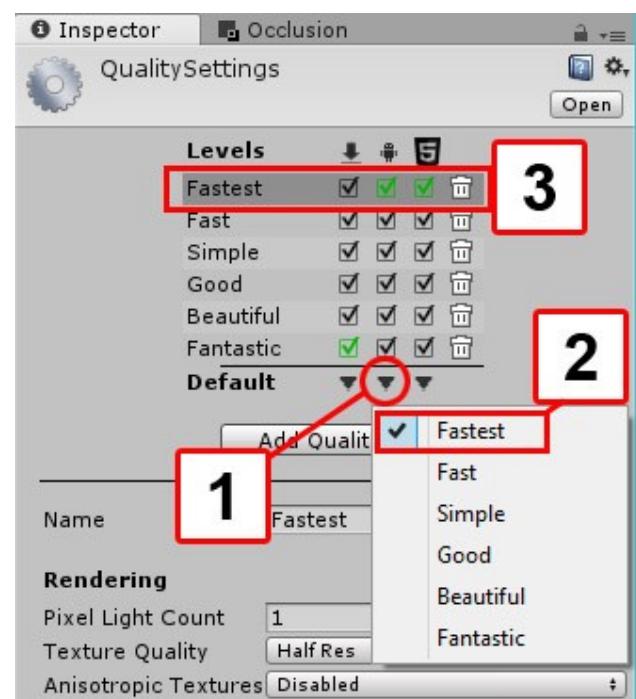
3 Go to **Edit > Project Settings > Quality**



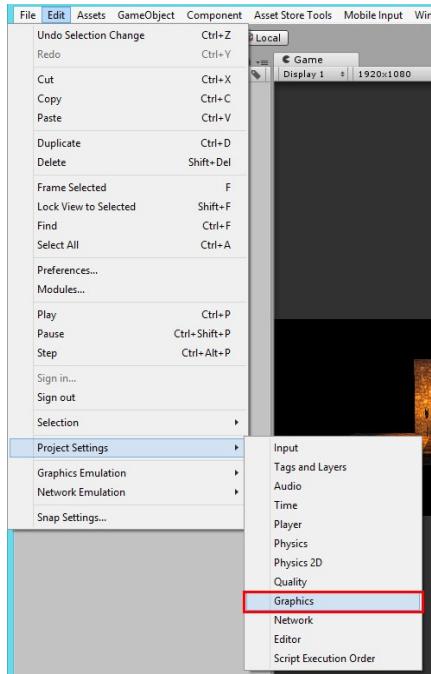
4 Press the triangle (spot 1)

5 Select **Fastest** to choose fastest when build (spot 2)

6 Press **Fastest** to choose fastest visualization in unity viewport (spot 3)



7 Go to File > Project_Settings > Graphics

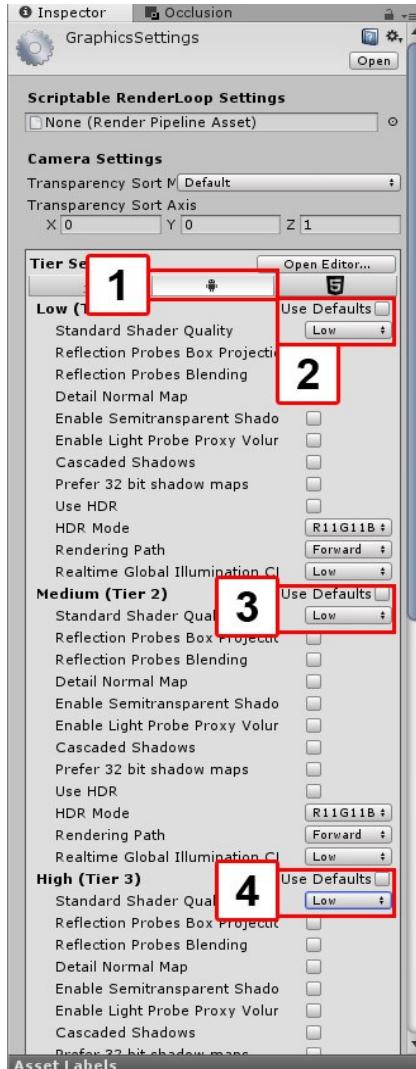


8 Choose Android (press android small icon) (spot 1)

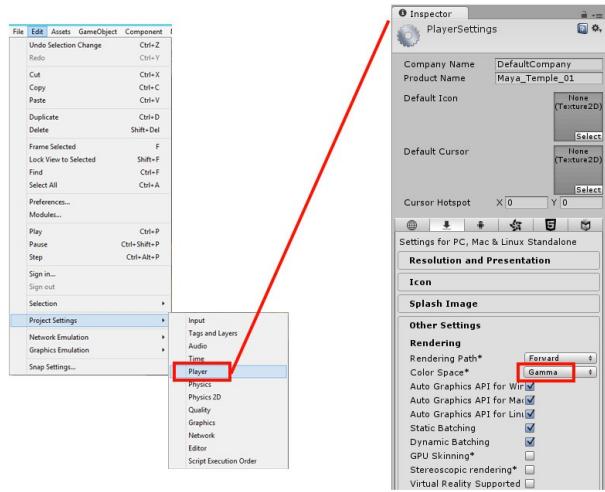
9 Uncheck Use Default checkbox
Then choose Low (spot 2)

10 Uncheck Use Default checkbox
Then choose Low (spot 3)

11 Uncheck Use Default checkbox
Then choose Low (spot 4)



12 Open Edit > Project Settings > Player.
In Inspector window change Color Space to Gamma



13 Open Lighting Tab

Window > Rendering > Lightings Settings

We only change some parameters assuming that you use **Startet_Kit** scene as the starting point or lighting panel presets values shown in chapter 9 Appendices 1

14 Change Ambiant Color : (spot 1)

R : 0.63
G : 0.58
B : 0.58

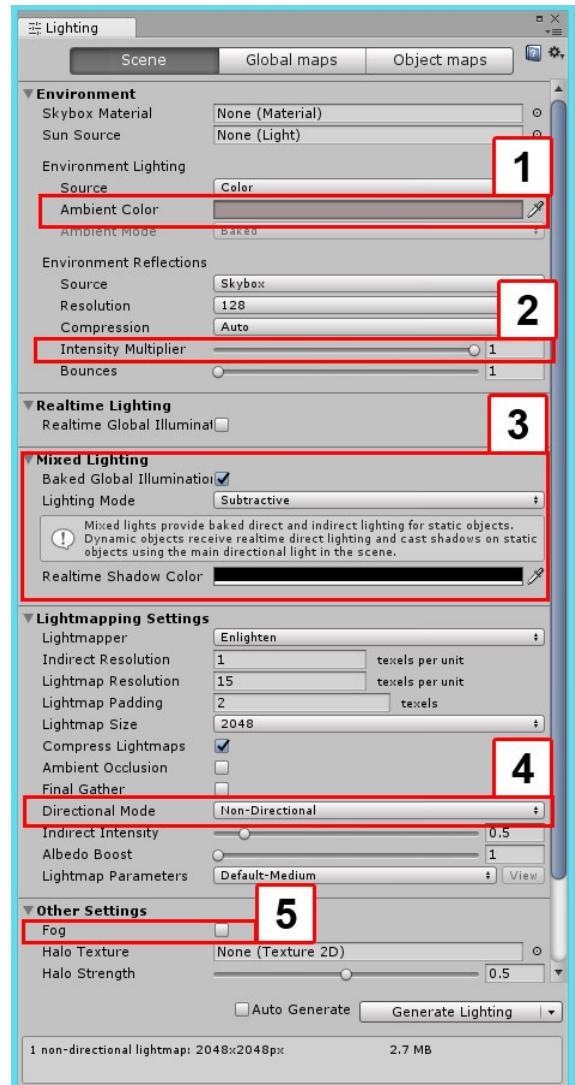
(Hex Color :A19494)

15 Set Intensity Multiplier to 1 (spot 2)

16 Set Lighting Mode to Subtractive (spot 3)

17 Set Directionnal Mode to Non Directional (spot 4)

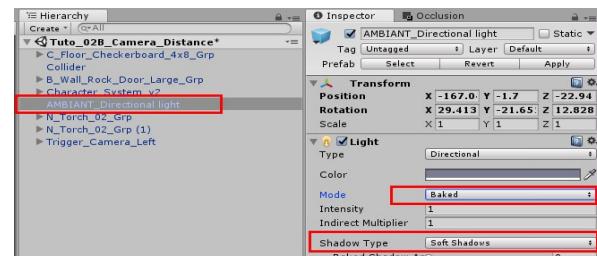
18 Uncheck Fog checkbox (spot 5)



19 In Hierarchy select AMBIANT_Directional light

Set Mode to Baked

Set Shadow Type to Soft Shadows



20 In Hierarchy if you use Fog trigger, delete it

For more informations about Fog Trigger read chapter 6

21 If you use Effects on camera delete it
(Post-Processing Behaviour script)

For more informations about Effects read chapter 5

22 Now we want to use optimize materials for mobile

- First Quit Unity (close software)

On your Pc/ Mac Desktop :

- Open folder yourProject
/TS_Medieval_Fantasy / Assets / Materials /
Materials_Mobile

- Select all files in the folder except .meta files

Very important: do not copy .meta files

- Copy

- Open folder yourProject
/TS_Medieval_Fantasy / Assets / Materials /
Materials_Grp

- Paste

- Restart Unity and open you project

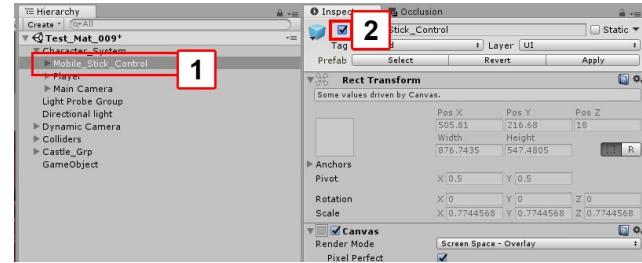
Tips :

If you want to reverse the process copy materials from yourProject /TS_Medieval_Fantasy / Assets / Materials / Materials/Desktop

Paste in yourProject /TS_Medieval_Fantasy / Assets / Materials / Materials_Grp

23 In hierarchy select Mobile_Stick_Control
(spot 1)
Character_System_v2 > Mobile_Stick_Control

24 Check box to unhide Mobile_Stick_Control



Mobile Ui controller are now displayed in game tab



25 Recalculate the lighmap

For more informations about how to calculate lighmap read Chapter 4 part 1 [link](#)

You are ready to export to Mobile platform.

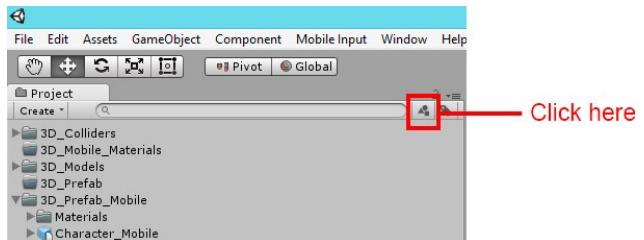
Tips :

If framerate is low try to reduce the numbers of objects in your scene.

8 Tricks and Tips

Tips 1 : prefabs visualization

1 In project window click this icon



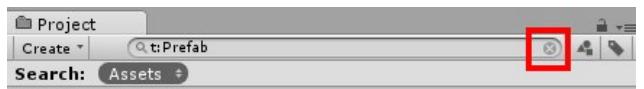
2 Select Prefab



3 Select Asset



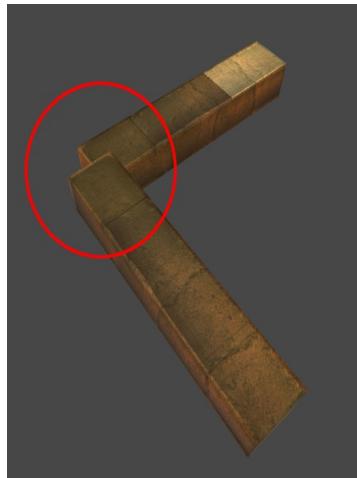
Click on the icon representing a cross to return to the normal mode



Tips 2 : Overlapping objects

Two objects very close (same position on Y for exemple) may cause visual artifacts.

Move one of the two objects by selecting it and dragging it a little bit.



Tips 3 : Hierarchy padlock

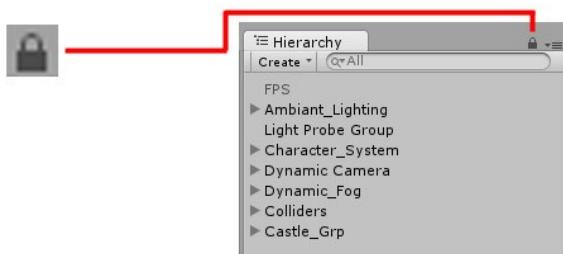
When you select an objet included in a group in your scene, automatically Unity open its corresponding group in hierarchy tab.

This can become difficult to navigate in hierarchy tab when there is a lot of objects in the scene.

To prevent this, follow this tips:

To the right of hierarchy tab, you will find a lock icon.

1 Click on it to close the lock



2 Select one object included in a group in your scene. Now Unity does not automatically open the group in hierarchy tab.

What do i do if i need to find the object in hierarchy tab ?

Move your mouse over hierarchy tab then press F key .

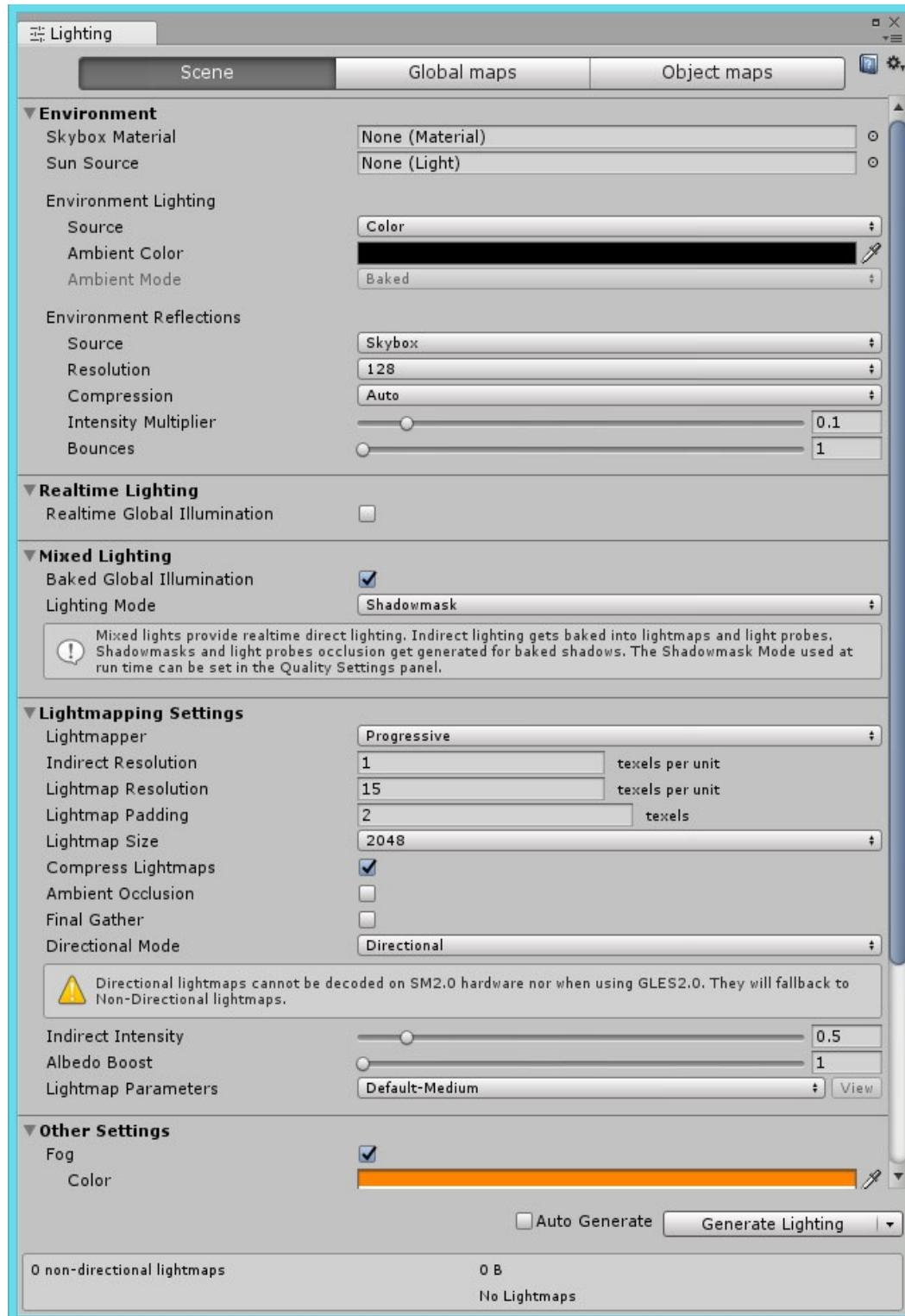
Object is now select in hierarchy tab.



9 Appendices

If you don't want to use Starter_Kit scene as starting point you could find here Lightings tab presets.

1 Desktop Presets :



2 Mobile Presets :

- For more informations about how to export to mobile read chapter 7. [link](#)

