



URBAN ABANDONED DISTRICT DAY/NIGHT SCENE

DOCUMENTATION



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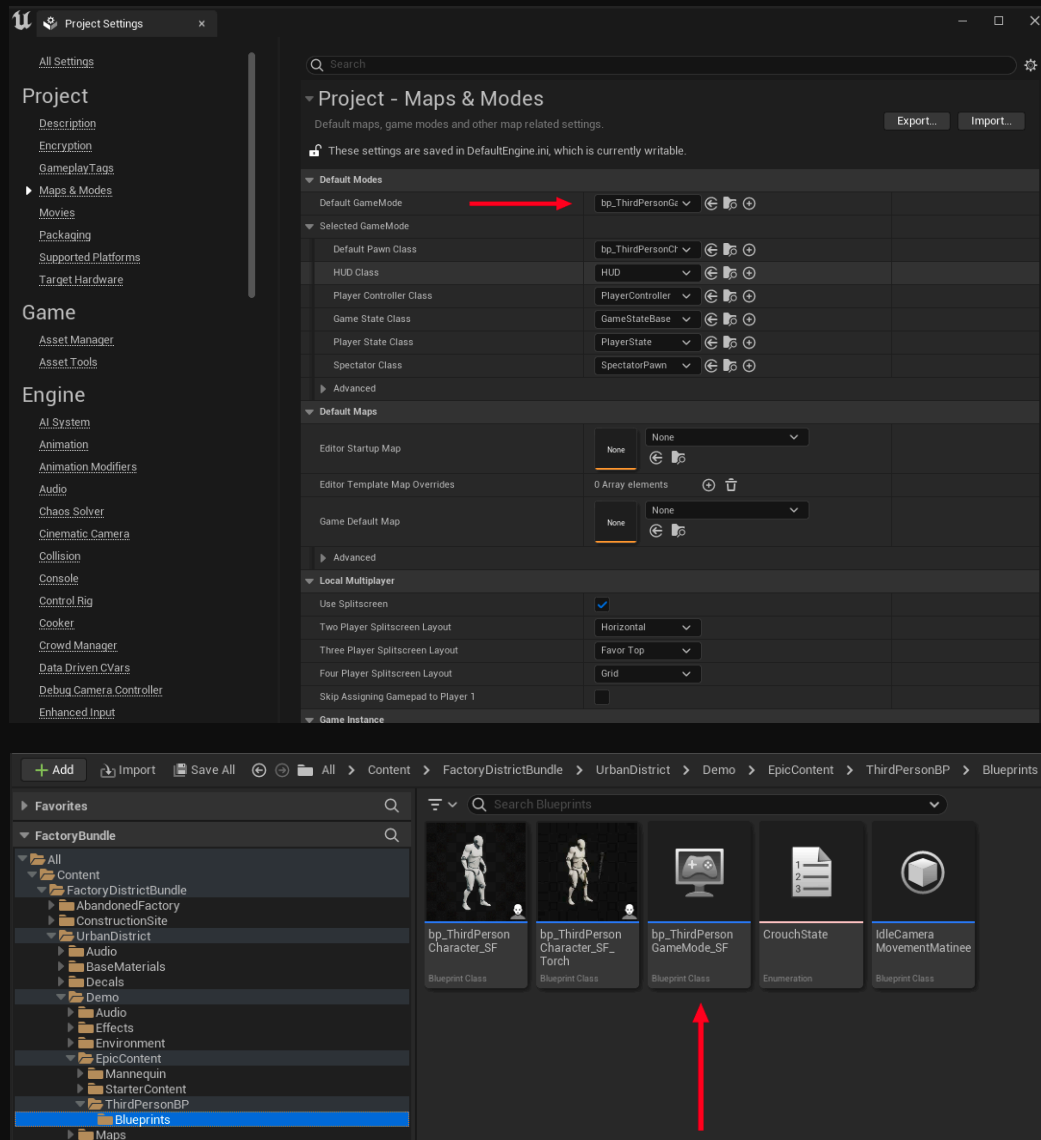
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First Steps

The pack is based on a modified **Third Person template**, after adding it to your project you need to change **Default GameMode** in **Project Settings** to our **ThirdPersonGameMode_SF**



If you add a pack to **Blank project** you should definite Engine input or import it, simply download it from our drive - [Scans Factory input](#)

Additional keys in Play mode:

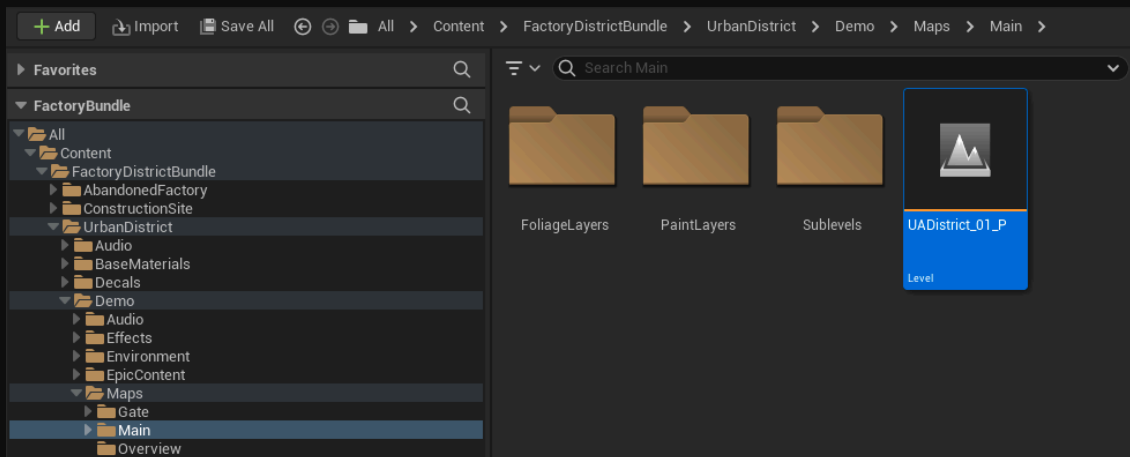
- 1- day light scenario
- 2 - night light scenario
- C - FPP/TPP view
- T - isometric view
- F - torchlight

5 - LOW graphic settings

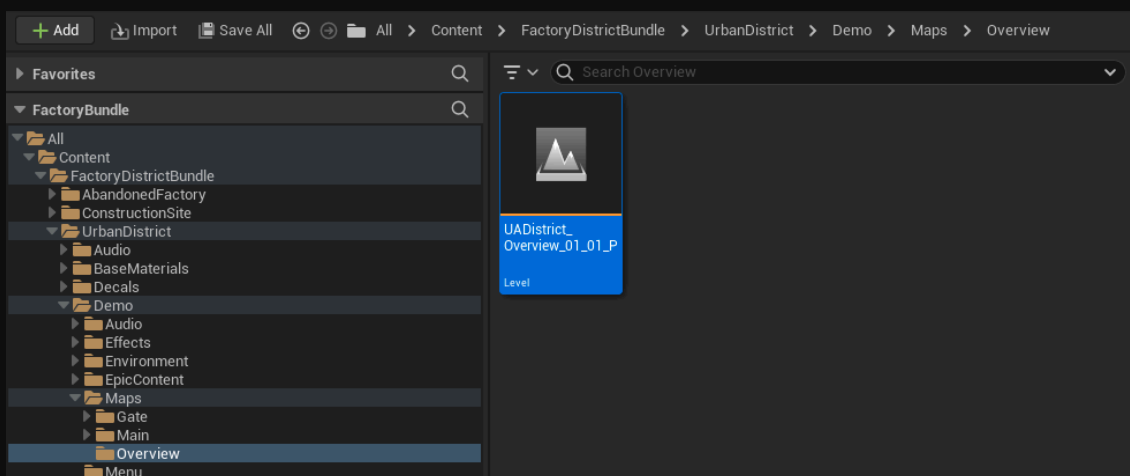
6 - High graphic settings

7 - Ultra graphic settings

Name of the demo scene is **UADistrict_01_P**



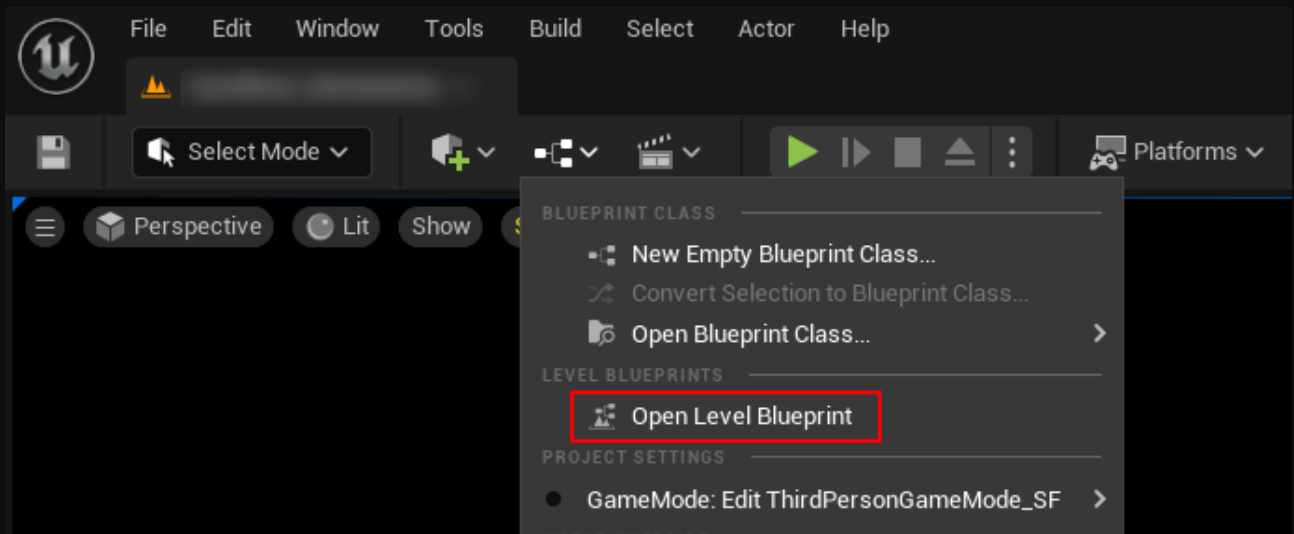
All content is on an overview map **UADistrict_Overview_01_01_P**:



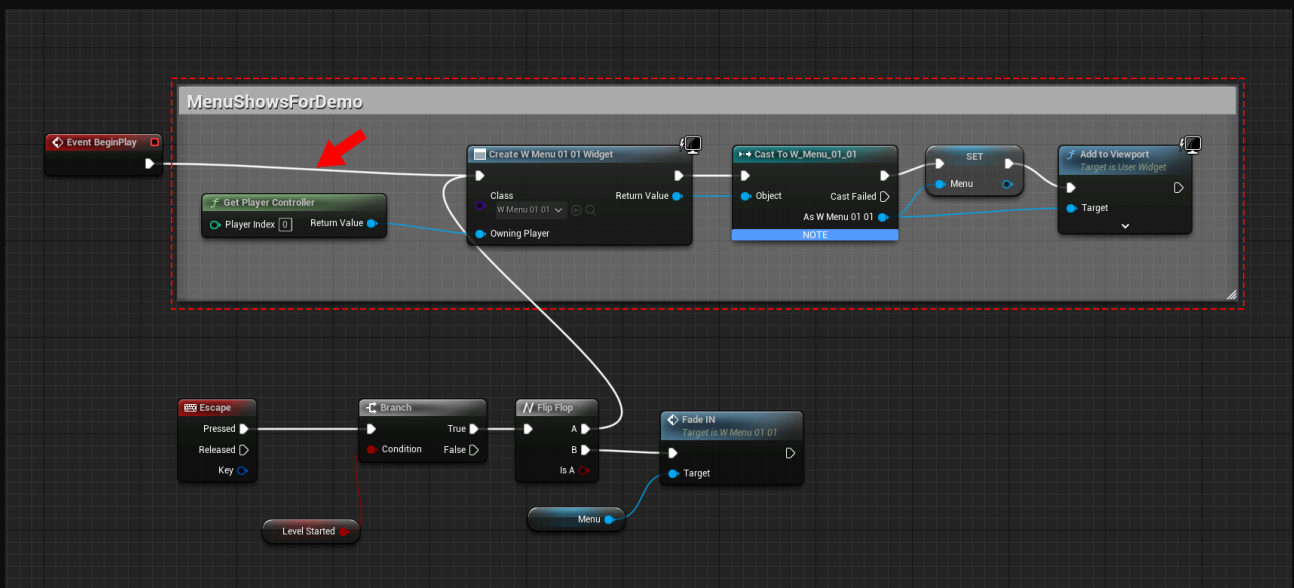
Disable HUD Menu (startup fade & rendering problems)

We have included a user interface menu & fade board when GameMode is launched. All files related to the menu are located in this directory: \Content\ProjectName\Demo\Maps\Menu\

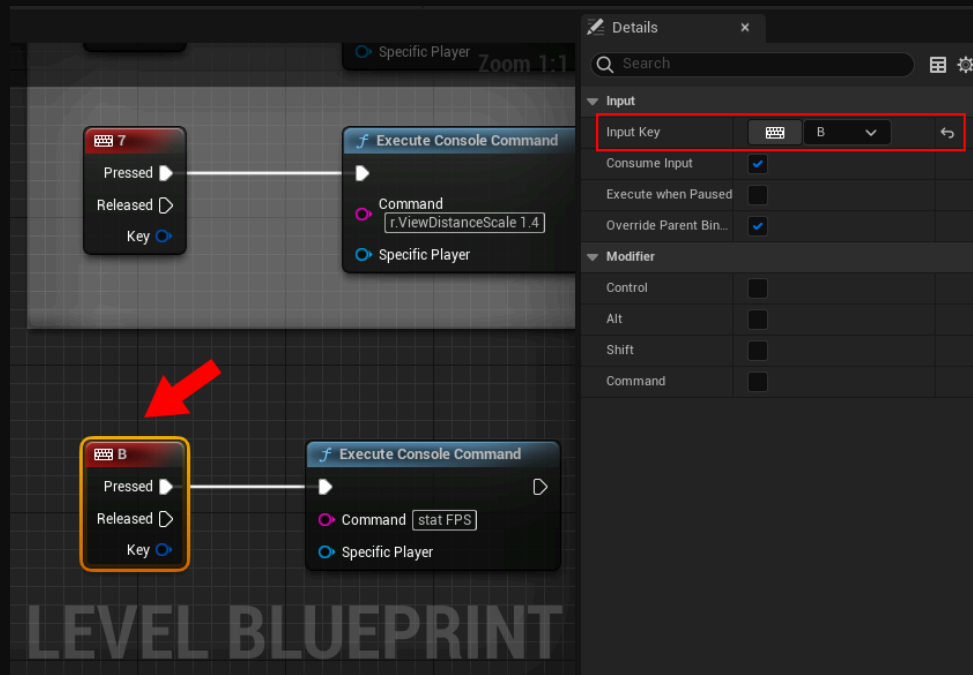
If you want to disable default menu, go to Level Blueprint settings:



The displayed menu is controlled by a selected Menu graph. You can edit it or simply disconnect the indicated node:

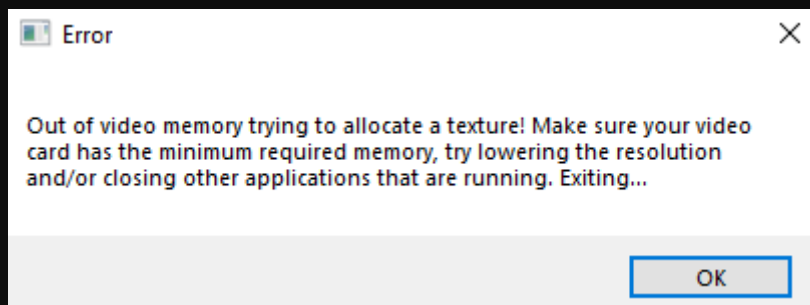


However, if you'd like to customize user menu, you can edit the keys assigned to individual functions:



Film template - out of memory problem

If you use Film, Television, and Live Events template you probably get the error "*Out of memory*"

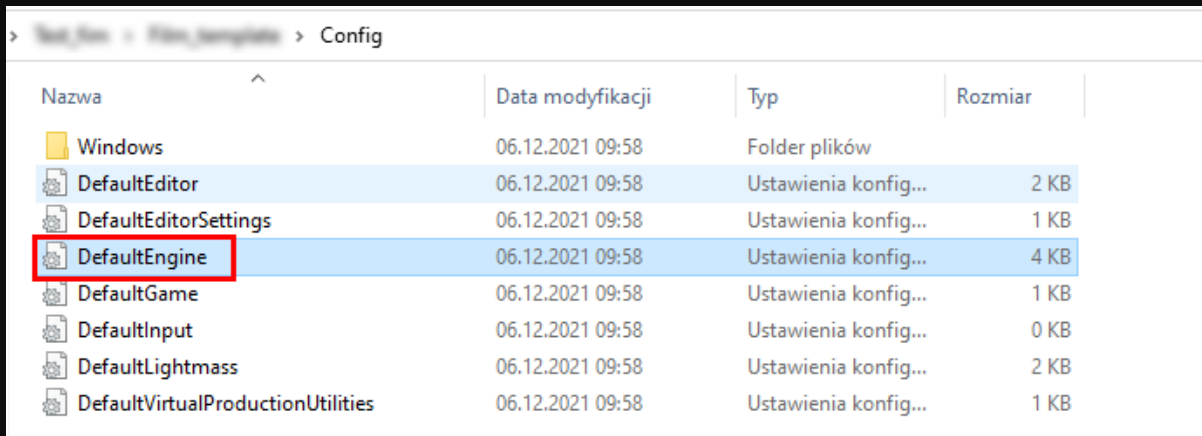


Resolution captures are set to 2048 by default with a *film template* which is the problem.

We use many reflection captures by default because it's perfect for game-projects. You can change this resolution to something reasonable like 512 or 1024 in config files. After opening a scene you will probably delete all of the reflections capture actors and switch to ray-trace reflections which will do a great job in your movie/film.

To change resolution:

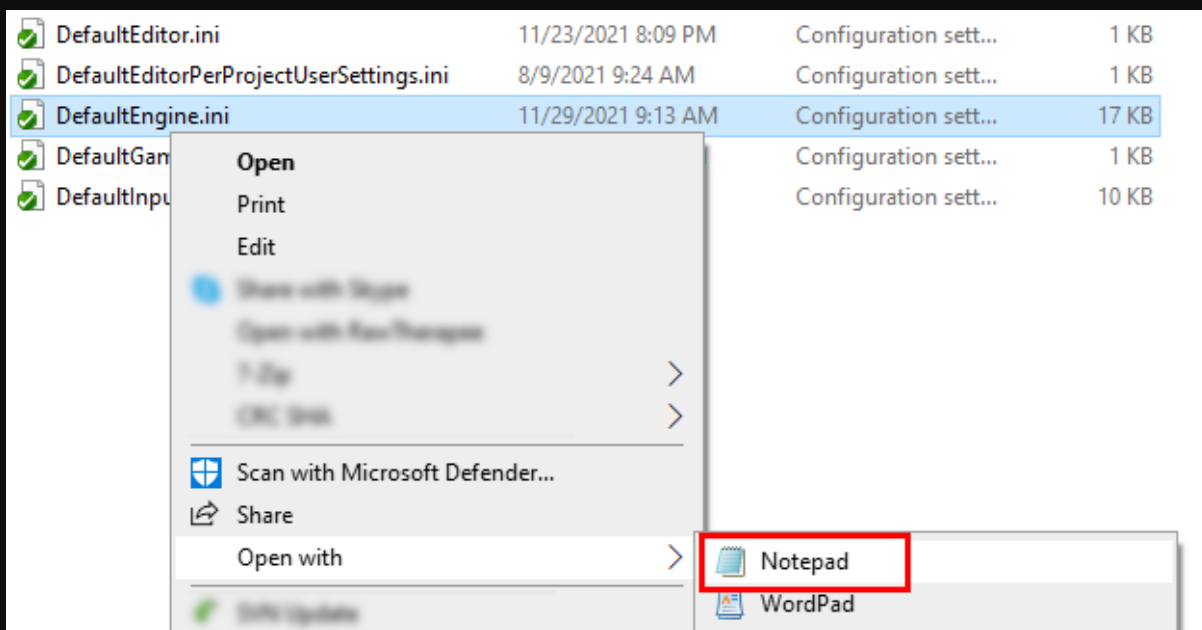
1. find the configuration file *DefaultEngine.ini* that is located - *Your_project's_name\Config*:




The screenshot shows a Windows File Explorer window with the address bar set to 'Test_Proj > Files_Template > Config'. The main area displays a list of files and folders. The 'DefaultEngine' file is highlighted with a red rectangle.

Nazwa	Data modyfikacji	Typ	Rozmiar
Windows	06.12.2021 09:58	Folder plików	
DefaultEditor	06.12.2021 09:58	Ustawienia konfigur...	2 KB
DefaultEditorSettings	06.12.2021 09:58	Ustawienia konfigur...	1 KB
DefaultEngine	06.12.2021 09:58	Ustawienia konfigur...	4 KB
DefaultGame	06.12.2021 09:58	Ustawienia konfigur...	1 KB
DefaultInput	06.12.2021 09:58	Ustawienia konfigur...	0 KB
DefaultLightmass	06.12.2021 09:58	Ustawienia konfigur...	2 KB
DefaultVirtualProductionUtilities	06.12.2021 09:58	Ustawienia konfigur...	1 KB

2. open with notepad for example:



3. find *r.ReflectionCaptureResolution=2048* and change 2048 to 1024 or 512



```
DefaultEngine
Plik Edycja Format Widok Pomoc

;dynamic gi settings
r.LightPropagationVolume=0

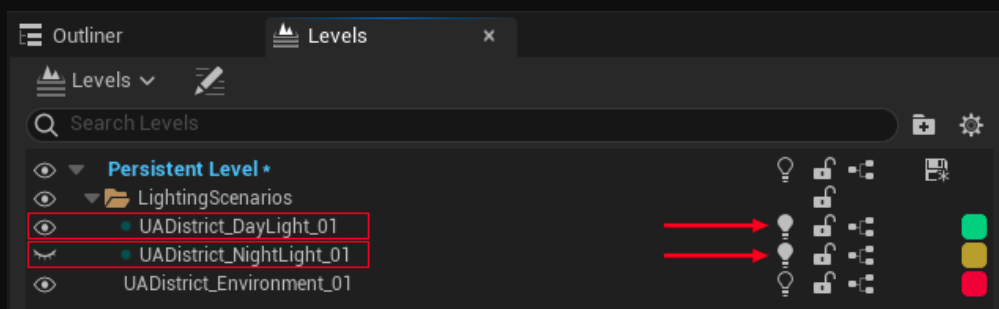
; quality settings
r.ReflectionCaptureResolution=2048
r.AllowStaticLighting=True
r.HighResScreenshotDelay=8
r.DefaultBackBufferPixelFormat=4
r.AllowGlobalClipPlane=False
r.GBufferFormat=3
```

4. save and enjoy the scene in the movie template

Lights Scenarios

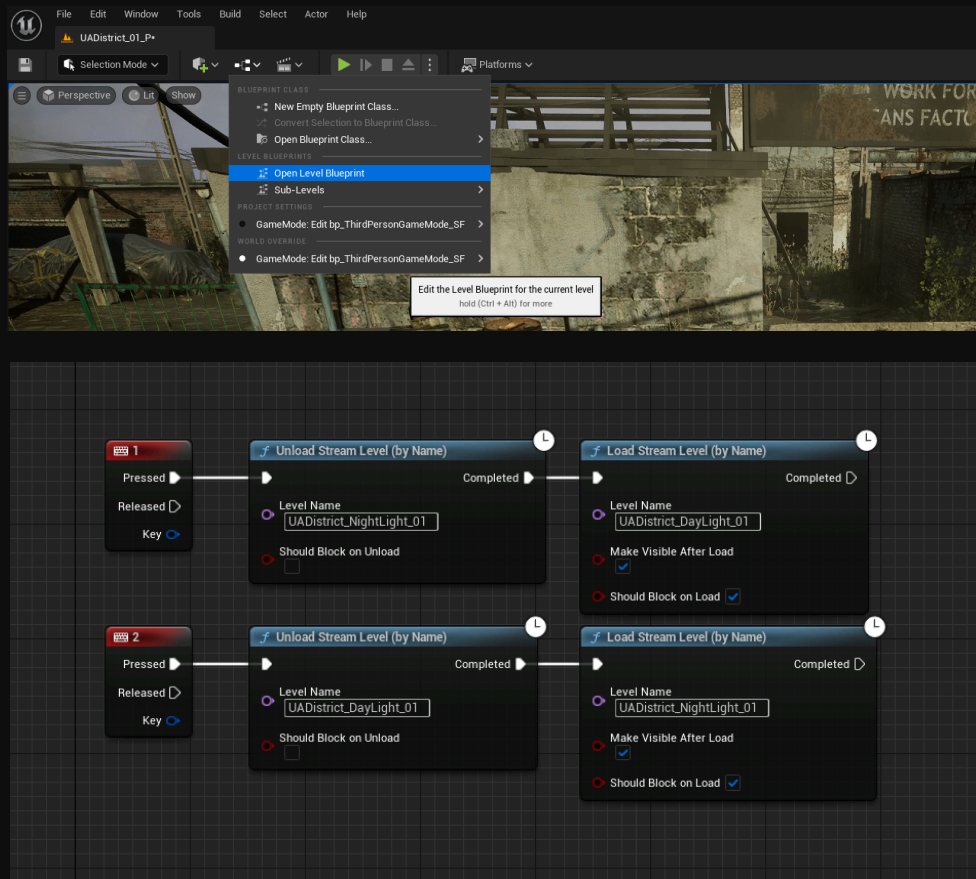
There are two lighting scenarios - day *UADistrict_DayLight_01* and night

UADistrict_NightLight_01. In the editor, you can switch between them from the **Levels** tab.



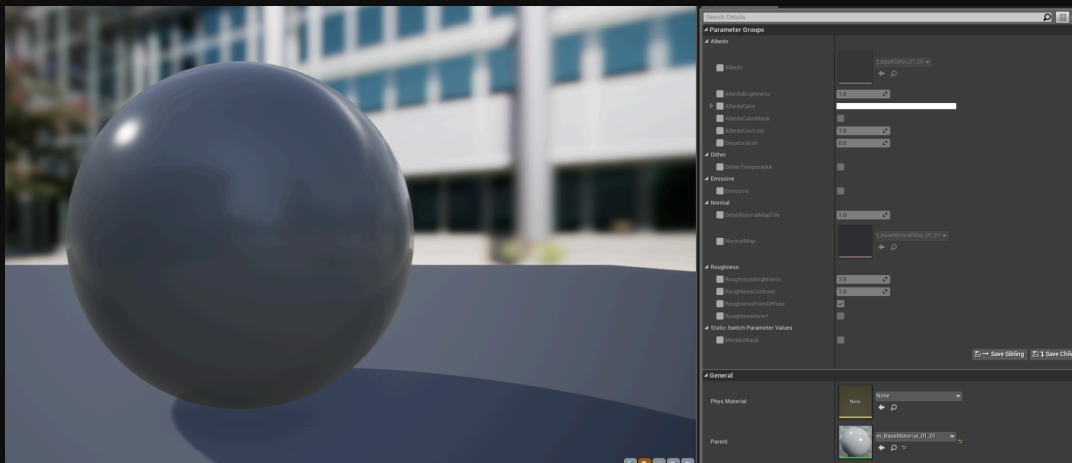
In-Game mode, you can switch between light scenarios on keyboard 1 (day), 2 (night).

To change the order or deactivate the lighting scenarios you just need to edit the main level **UADistrict_01_P** blueprint:













Base Material

m_BaseMaterial_01_01 is a special optimal material for models based on photogrammetry scans with many textures. We decide for optimization reasons, to resign from additional texture and generate roughness texture from base color. You can easily control a roughness by two parameters and easy invert it by switch:

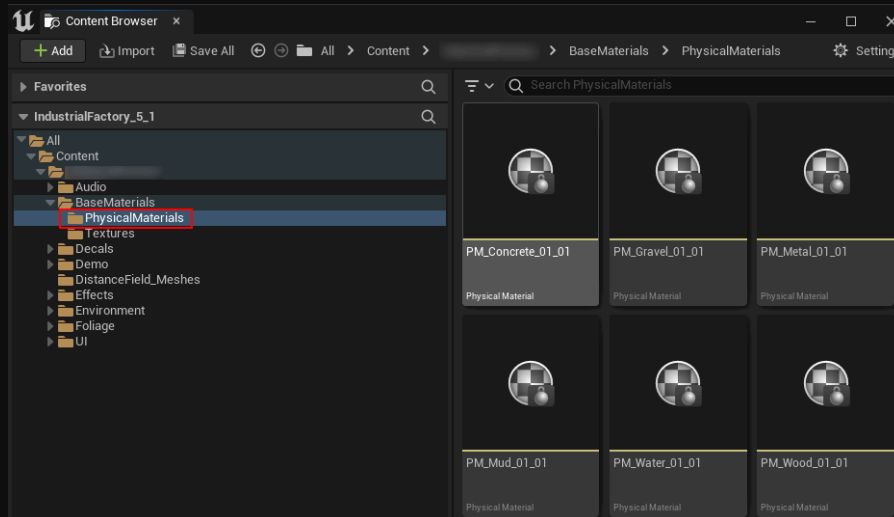


List of base materials:

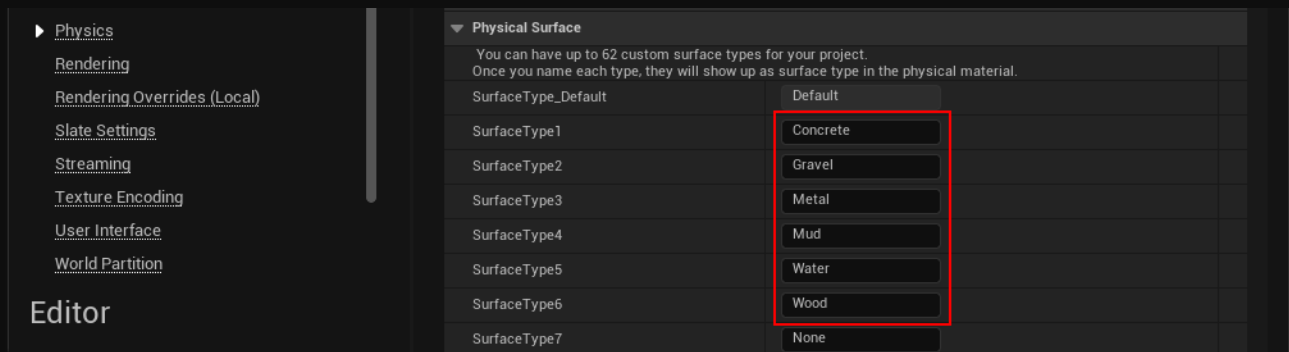
	m_BaseMaterial_01_01 Material
	m_BaseMaterial_01_02_Tile Material
	m_BaseMaterial_01_03_Translucent Material
	m_BaseMaterial_01_04_VertexPaint Material
	m_BaseMaterial_01_05_tessellation Material
	m_BaseMaterial_01_06_RMA Material
	m_BaseMaterial_01_07_Masks Material
	m_BaseMaterialWindows_01 Material
	m_Decal_01_01 Material
	m_Light_01_01 Material

Footsteps warning

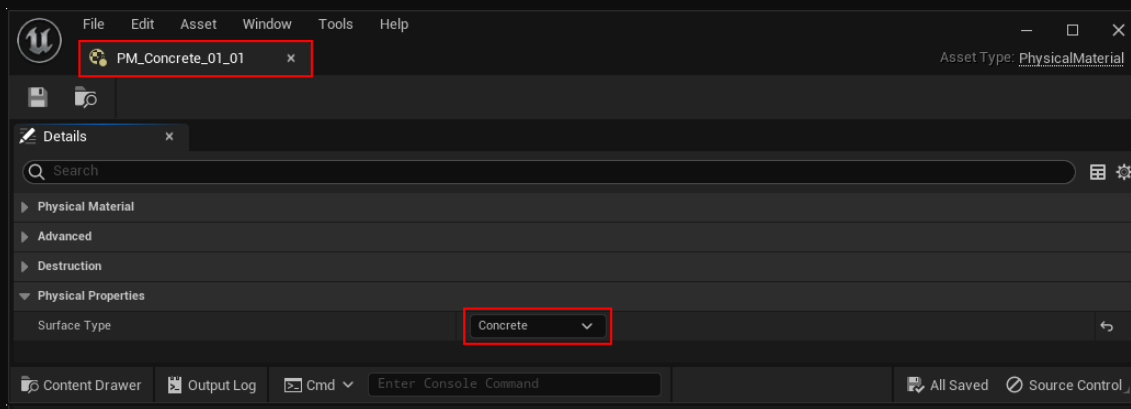
We defined four **Physical Surfaces**: Concrete, Gravel, Metal, Mud, Water and Wood.



Our pawn has footstep sounds implemented for these surfaces. For proper operation and compilation, it must be defined in Project Settings > Engine > Physics > Physical Surface:



Most likely, in your project, you will need to assign the correct surface in the physical material properties. Just Double-click on each material and choose the correct value from the list:

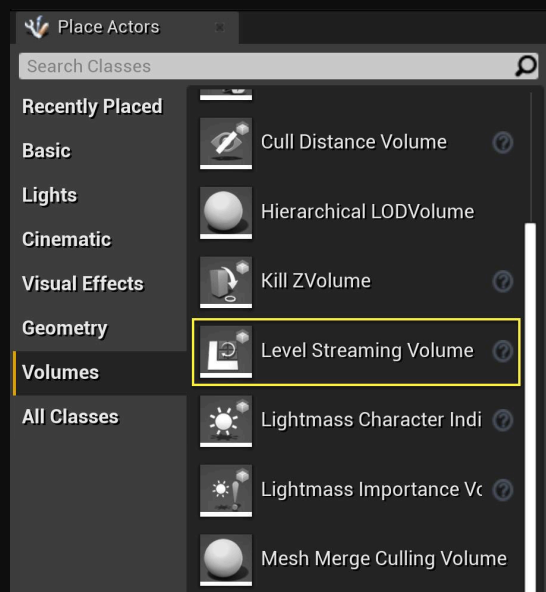


Optimization

We optimize our scenes to achieve the best performance and experiences. We use Level Streaming Volumes and Cull Distance Volumes for this purpose.

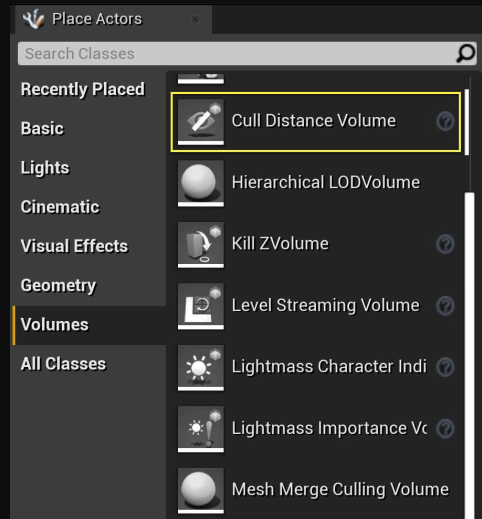
Level Streaming Volumes

are a feature in Unreal Engine that allow for the dynamic loading and unloading of map data during gameplay. This solution is especially useful for large environments where the entire map cannot be loaded into memory at once. By dividing the map into smaller areas, known as streaming volumes, only the portions of the map that are currently visible to the player are loaded into memory. This can greatly reduce system resource usage and improve performance by reducing the amount of data that needs to be processed at any given time.



Cull Distance Volumes

are a useful optimization tool that defines what distance to draw (or make visible) any Actor within the volume. These volumes store any number of size and distance combinations called Cull Distance Pairs. These are mapped to the bounds of an Actor (along its longest dimension) and then assigned to that Actor instance in the level.



Check how to properly use these solutions in the official UE documentation:

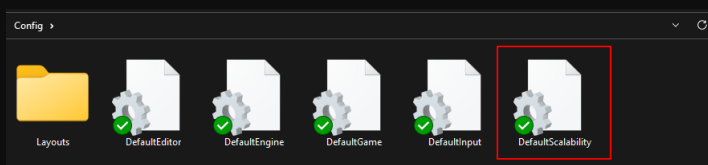
[Level Streaming Volumes](#)

[Cull Distance Volumes](#)

Scalability Settings

The Scalability settings allow you to adjust the quality of various features, especially the visual appearance in order to maintain the best performance. We place our custom settings and modifications in the DefaultScalability.ini file.

If you want to make your own changes, go to: ProjectName > Config > DefaultScalability.ini



You can read more about the Scalability Settings in the official [Unreal Engine Documentation](#)

Performance

SPECIFICATION UE ver. 5.1	LIGHTING SCENARIO	QUALITY SETTINGS		
		LOW	HIGH	ULTRA
RTX 3060 FULL HD AMD Ryzen 7 5700X 8-Core 32 GB RAM SSD STORAGE	DAY	370 FPS	250 FPS	180 FPS
	NIGHT	320 FPS	270 FPS	230 FPS

Thanks!

Again if you will have any problems, let us know! :)

Scans Factory Team