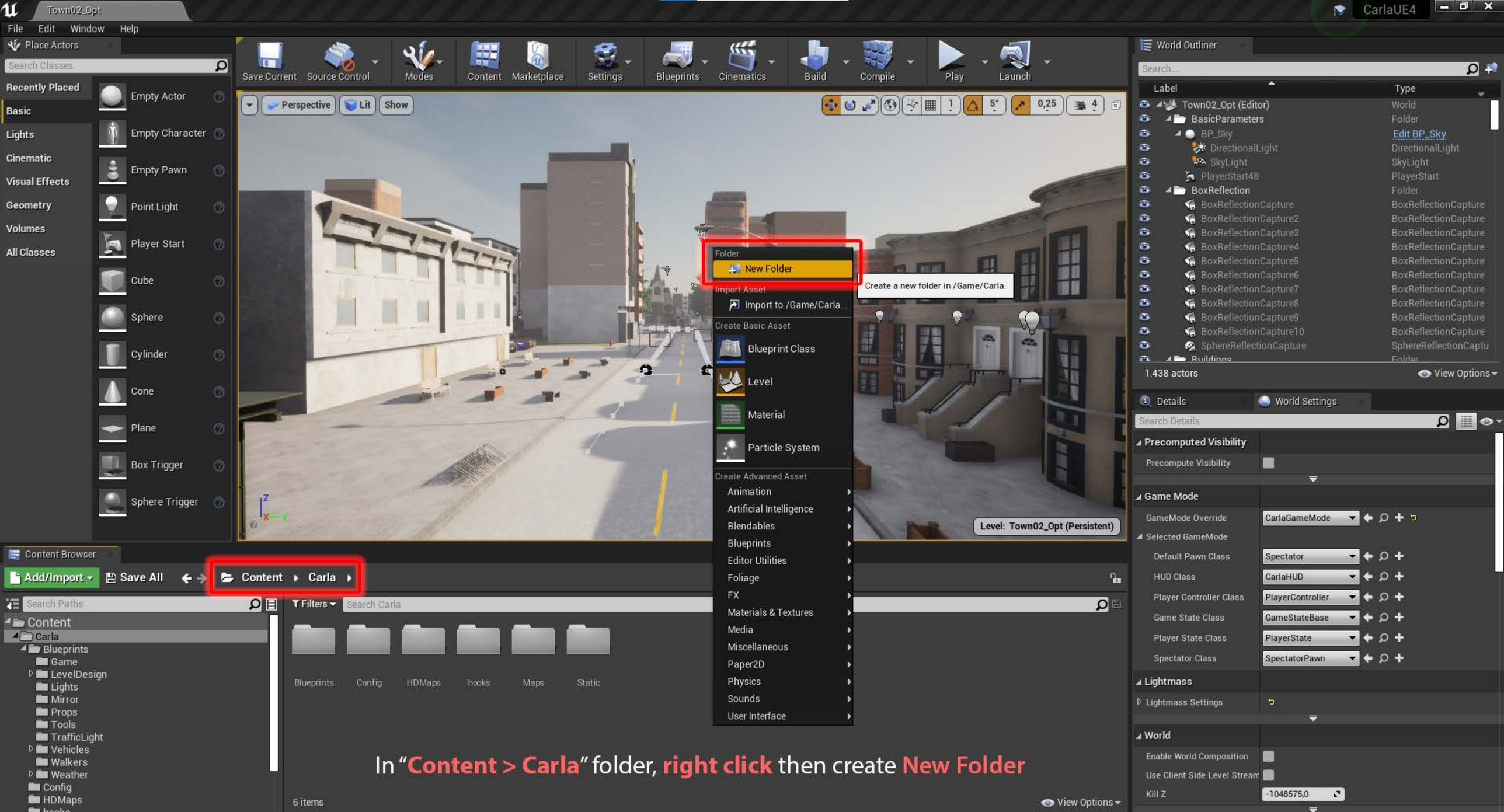
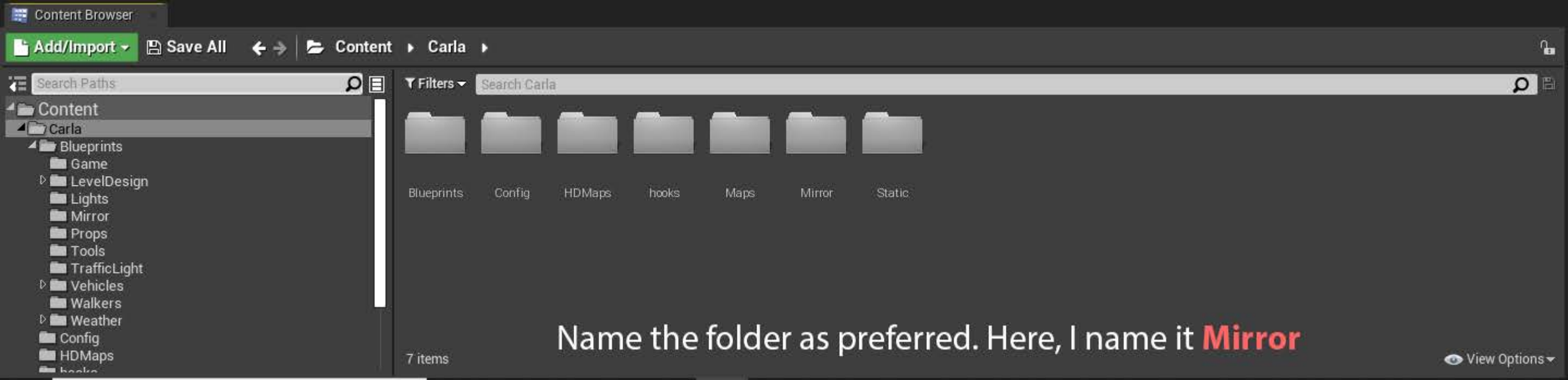
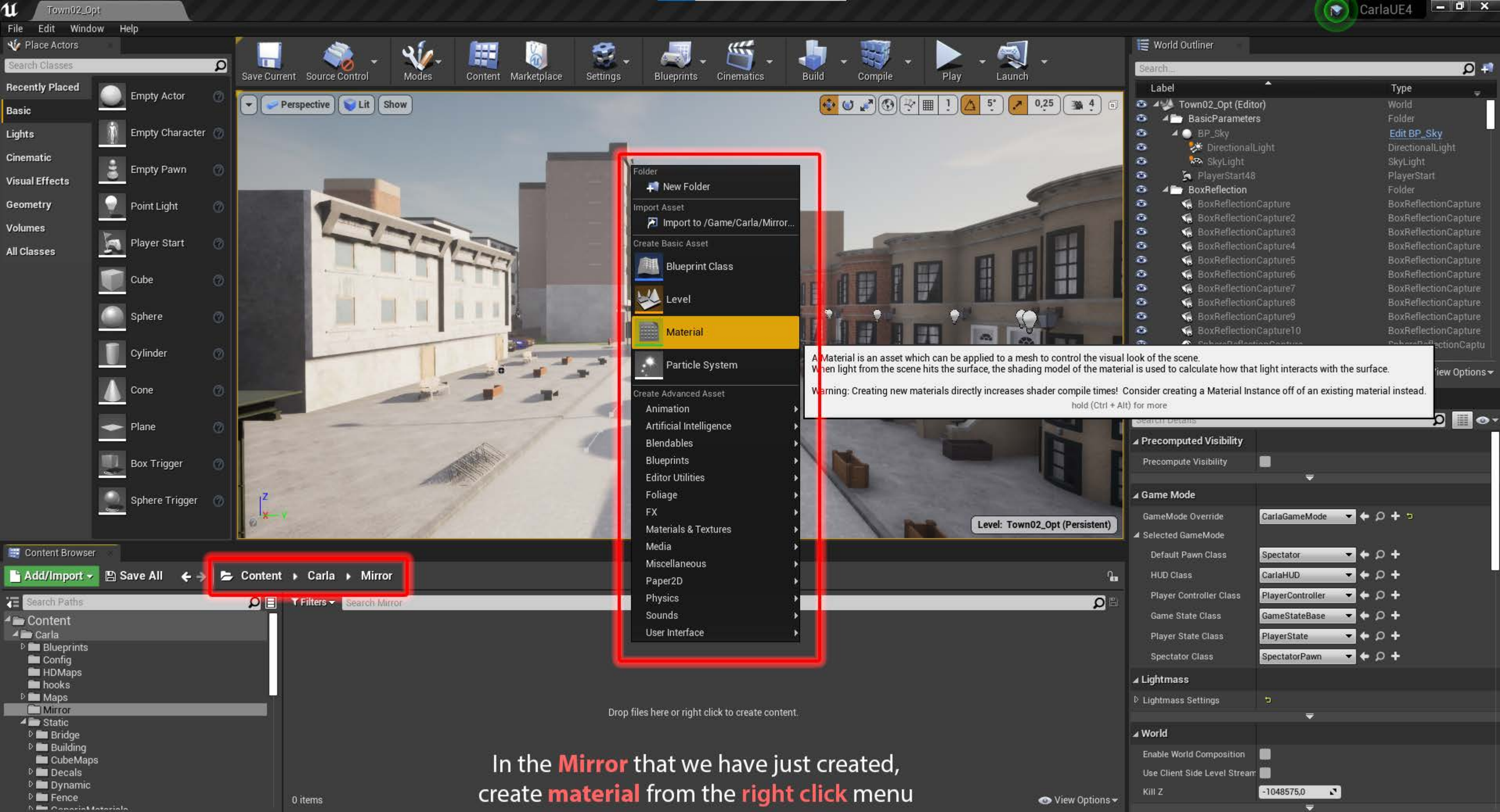
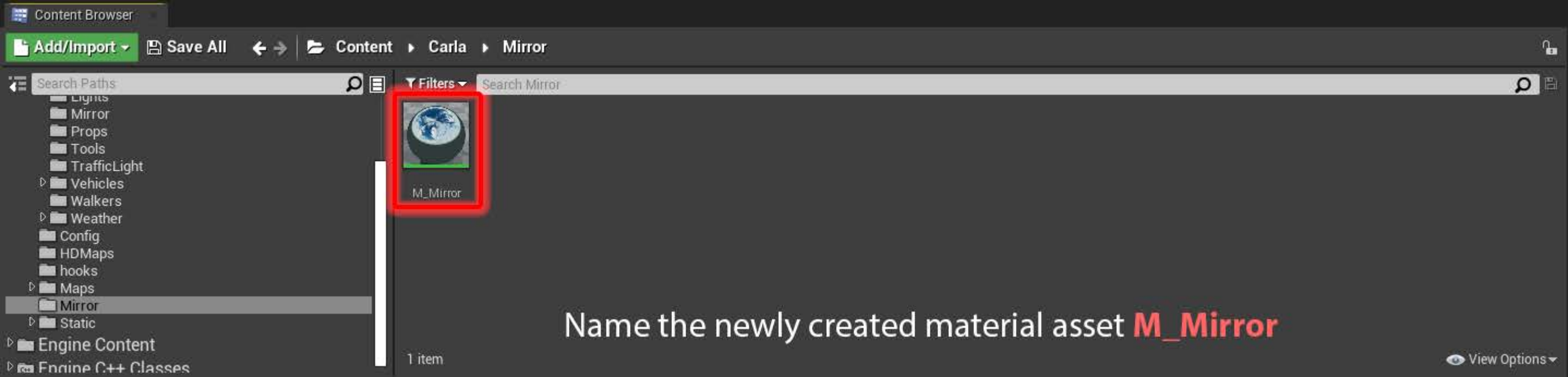
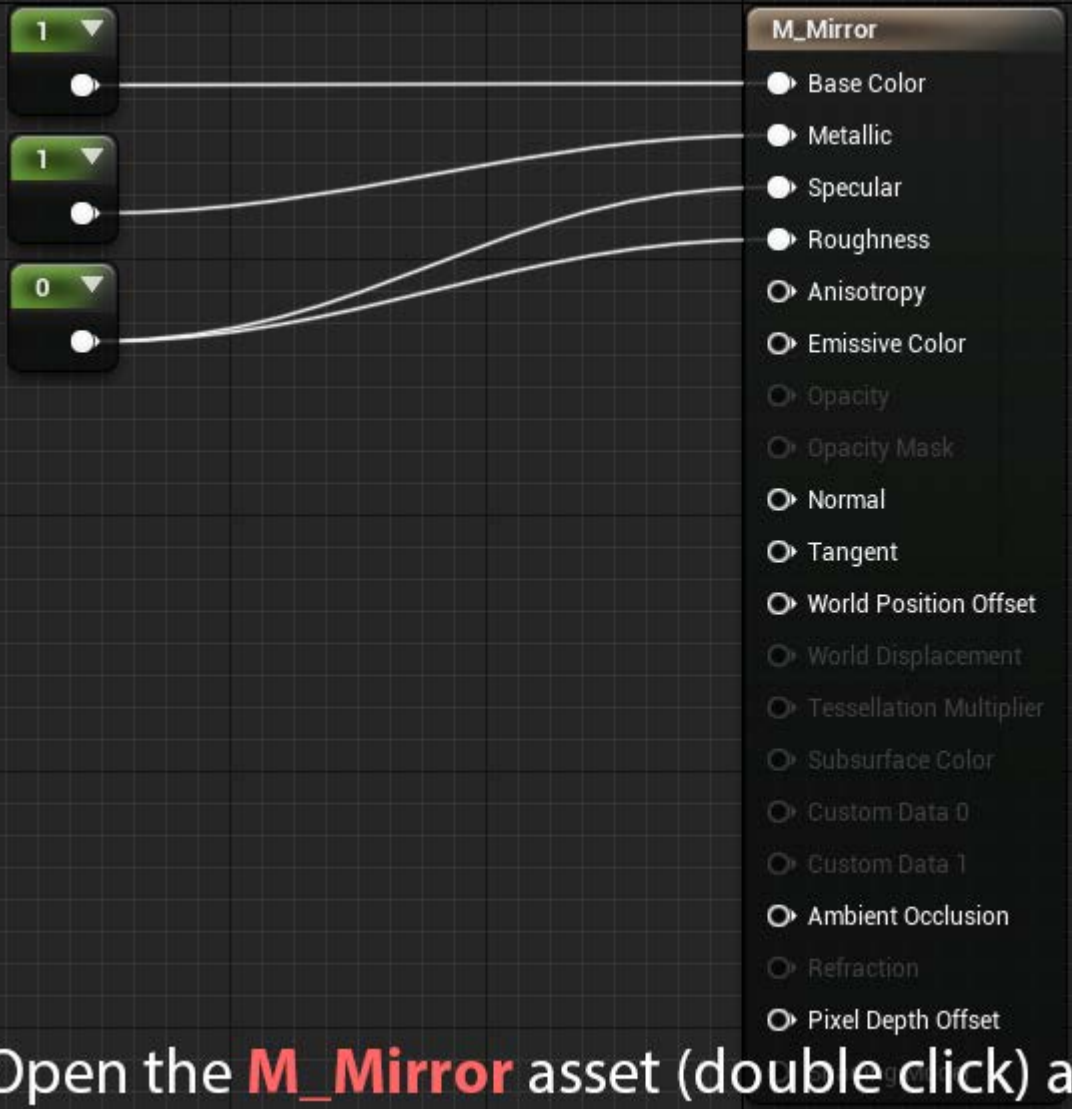

Town02_Opt
CarlaUE4
File Edit Window Help
Place Actors
Search Classes
Recently Placed
Basic
Lights
Cinematic
Visual Effects
Geometry
Volumes
All Classes
Empty Actor
Empty Character
Empty Pawn
Point Light
Player Start
Cube
Sphere
Cylinder
Cone
Plane
Box Trigger
Sphere Trigger
Save Current
Source Control
Modes
Content
Marketplace
Settings
Blueprints
Cinematics
Build
Compile
Play
Launch
Perspective
Lit
Show
Folder
New Folder
Import Asset
Import to /Game/Carla...
Create Basic Asset
Blueprint Class
Level
Material
Particle System
Create Advanced Asset
Animation
Artificial Intelligence
Blendables
Blueprints
Editor Utilities
Foliage
FX
Materials & Textures
Media
Miscellaneous
Paper2D
Physics
Sounds
User Interface
Create a new folder in /Game/Carla.
Level: Town02_Opt (Persistent)
World Outliner
Search...
Label
Type
Town02_Opt (Editor)
BasicParameters
BP_Sky
Edit BP_Sky
DirectionalLight
SkyLight
PlayerStart48
BoxReflection
BoxReflectionCapture
BoxReflectionCapture2
BoxReflectionCapture3
BoxReflectionCapture4
BoxReflectionCapture5
BoxReflectionCapture6
BoxReflectionCapture7
BoxReflectionCapture8
BoxReflectionCapture9
BoxReflectionCapture10
SphereReflectionCapture
1.438 actors
View Options
Details
World Settings
Search Details
Precomputed Visibility
Precompute Visibility
Game Mode
GameMode Override
CarlaGameMode
Selected GameMode
Default Pawn Class
Spectator
HUD Class
CarlaHUD
Player Controller Class
PlayerController
Game State Class
GameStateBase
Player State Class
PlayerState
Spectator Class
SpectatorPawn
Lightmass
Lightmass Settings
World
Enable World Composition
Use Client Side Level Stream
Kill Z
-1048575,0
Content Browser
Add/Import
Save All
Content
Carla
Search Paths
Content
Carla
Blueprints
Game
LevelDesign
Lights
Mirror
Props
Tools
TrafficLight
Vehicles
Walkers
Weather
Config
HDMaps
Filters
Search Carla
Blueprints
Config
HDMaps
hooks
Maps
Static
6 items
View Options
In "Content > Carla" folder, right click then create New Folder

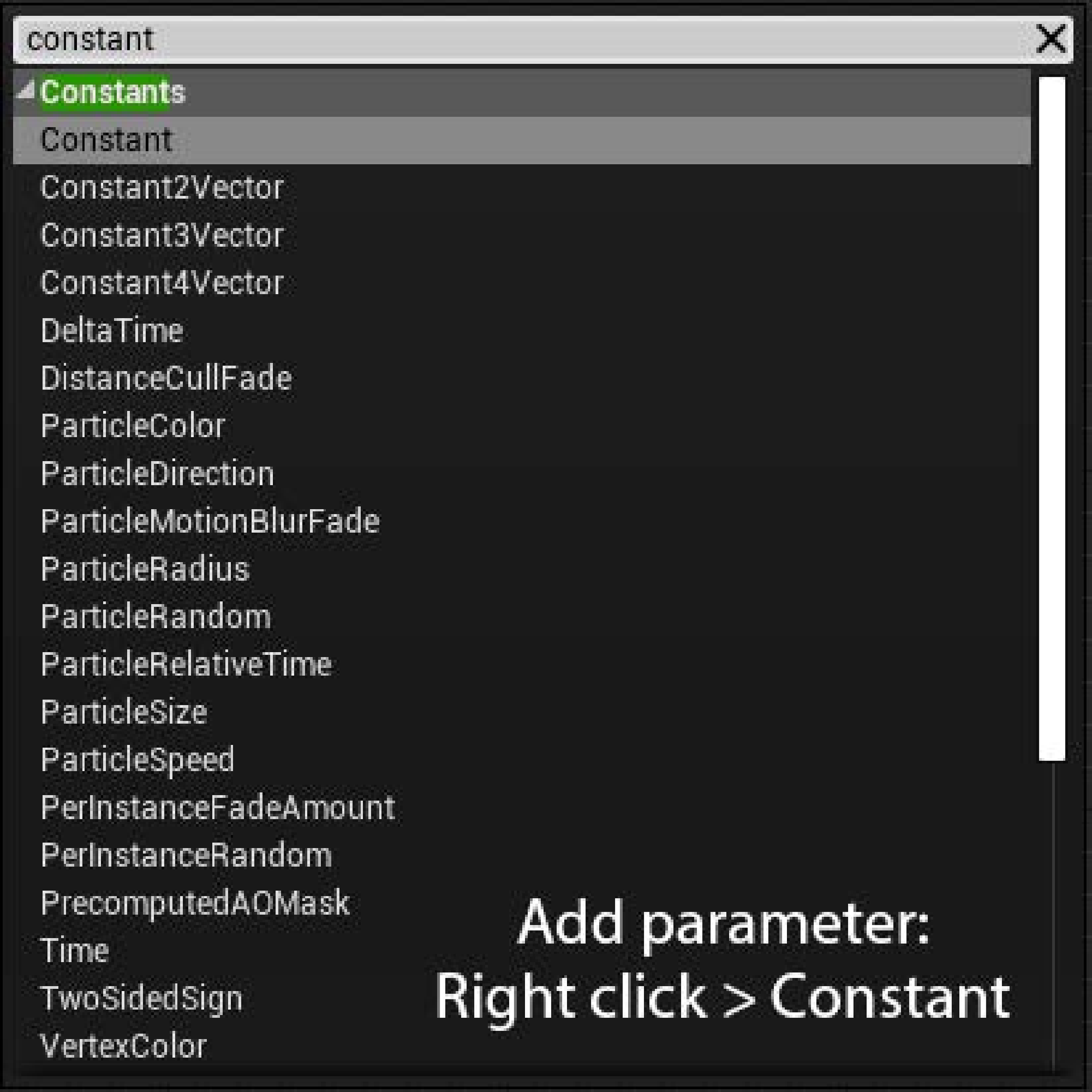

Content Browser
Add/Import
Save All
Content
Carla
Search Paths
Content
Carla
Blueprints
Game
LevelDesign
Lights
Mirror
Props
Tools
TrafficLight
Vehicles
Walkers
Weather
Config
HDMaps
Filters
Search Carla
Blueprints
Config
HDMaps
hooks
Maps
Mirror
Static
7 items
Name the folder as preferred. Here, I name it Mirror
View Options


Town02_Opt
CarlaUE4
File Edit Window Help
Place Actors
Search Classes
Recently Placed
Basic
Lights
Cinematic
Visual Effects
Geometry
Volumes
All Classes
Empty Actor
Empty Character
Empty Pawn
Point Light
Player Start
Cube
Sphere
Cylinder
Cone
Plane
Box Trigger
Sphere Trigger
Save Current
Source Control
Modes
Content
Marketplace
Settings
Blueprints
Cinematics
Build
Compile
Play
Launch
Perspective
Lit
Show
Folder
New Folder
Import Asset
Import to /Game/Carla/Mirror...
Create Basic Asset
Blueprint Class
Level
Material
Particle System
Create Advanced Asset
Animation
Artificial Intelligence
Blendables
Blueprints
Editor Utilities
Foliage
FX
Materials & Textures
Media
Miscellaneous
Paper2D
Physics
Sounds
User Interface
A Material is an asset which can be applied to a mesh to control the visual look of the scene.
When light from the scene hits the surface, the shading model of the material is used to calculate how that light interacts with the surface.
Warning: Creating new materials directly increases shader compile times! Consider creating a Material Instance off of an existing material instead.
hold (Ctrl + Alt) for more
Level: Town02_Opt (Persistent)
World Outliner
Label
Type
Town02_Opt (Editor)
BasicParameters
BP_Sky
DirectionalLight
SkyLight
PlayerStart48
BoxReflection
BoxReflectionCapture
BoxReflectionCapture2
BoxReflectionCapture3
BoxReflectionCapture4
BoxReflectionCapture5
BoxReflectionCapture6
BoxReflectionCapture7
BoxReflectionCapture8
BoxReflectionCapture9
BoxReflectionCapture10
Edit BP_Sky
Precomputed Visibility
Precompute Visibility
Game Mode
GameMode Override
CarlaGameMode
Selected GameMode
Default Pawn Class
Spectator
HUD Class
CarlaHUD
Player Controller Class
PlayerController
Game State Class
GameStateBase
Player State Class
PlayerState
Spectator Class
SpectatorPawn
Lightmass
Lightmass Settings
World
Enable World Composition
Use Client Side Level Stream
Kill Z
-1048575,0
Content Browser
Add/Import
Save All
Content
Carla
Mirror
Search Paths
Filters
Search Mirror
Content
Carla
Blueprints
Config
HDMaps
hooks
Maps
Mirror
Static
Bridge
Building
CubeMaps
Decals
Dynamic
Fence
Drop files here or right click to create content.
0 items
View Options
In the Mirror that we have just created,
create material from the right click menu

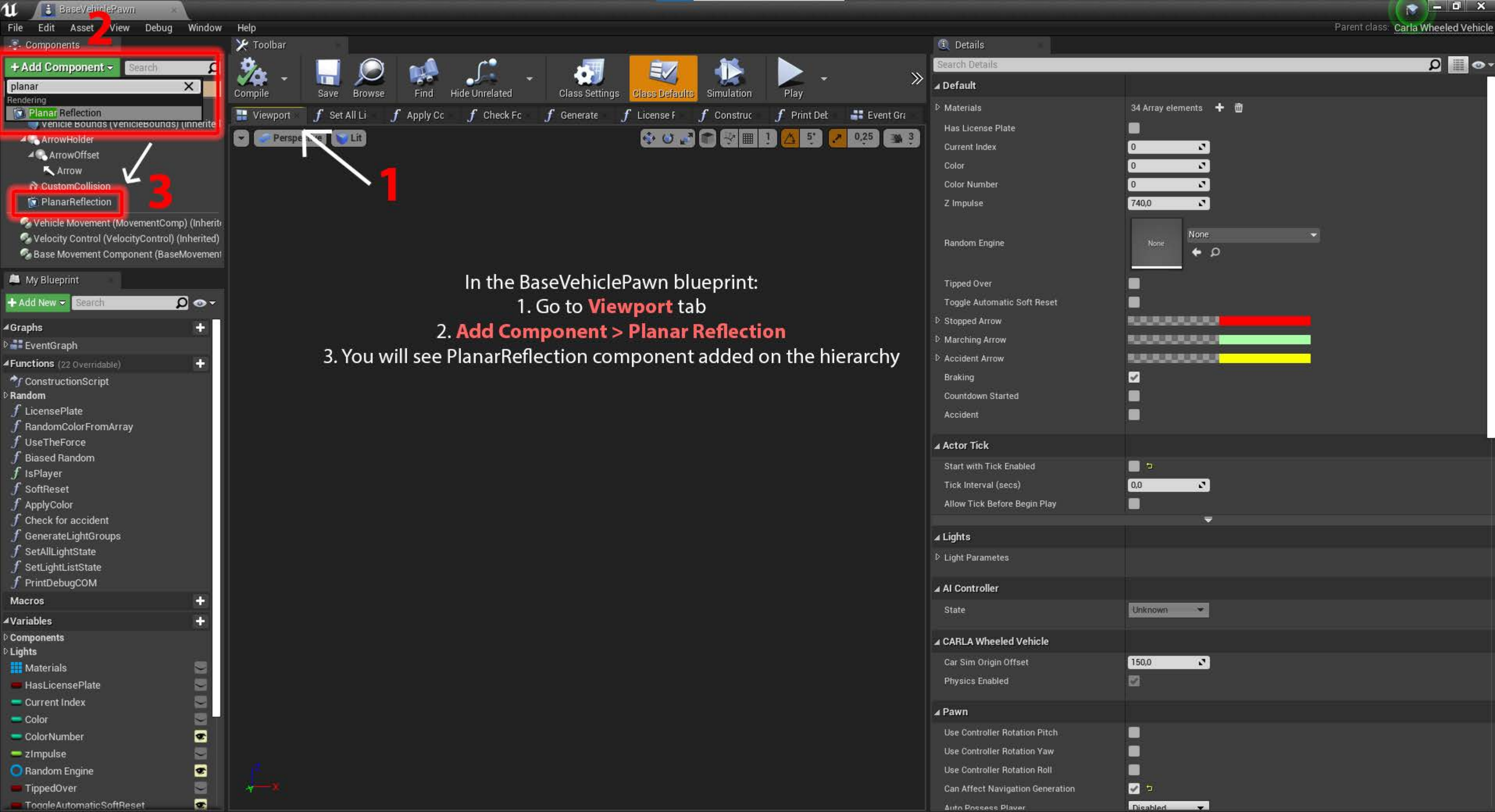

Content Browser
Add/Import
Save All
Content
Carla
Mirror
Search Paths
Mirror
Props
Tools
TrafficLight
Vehicles
Walkers
Weather
Config
HDMaps
hooks
Maps
Mirror
Static
Engine Content
Filters
Search Mirror
M_Mirror
Name the newly created material asset M_Mirror
1 item
View Options

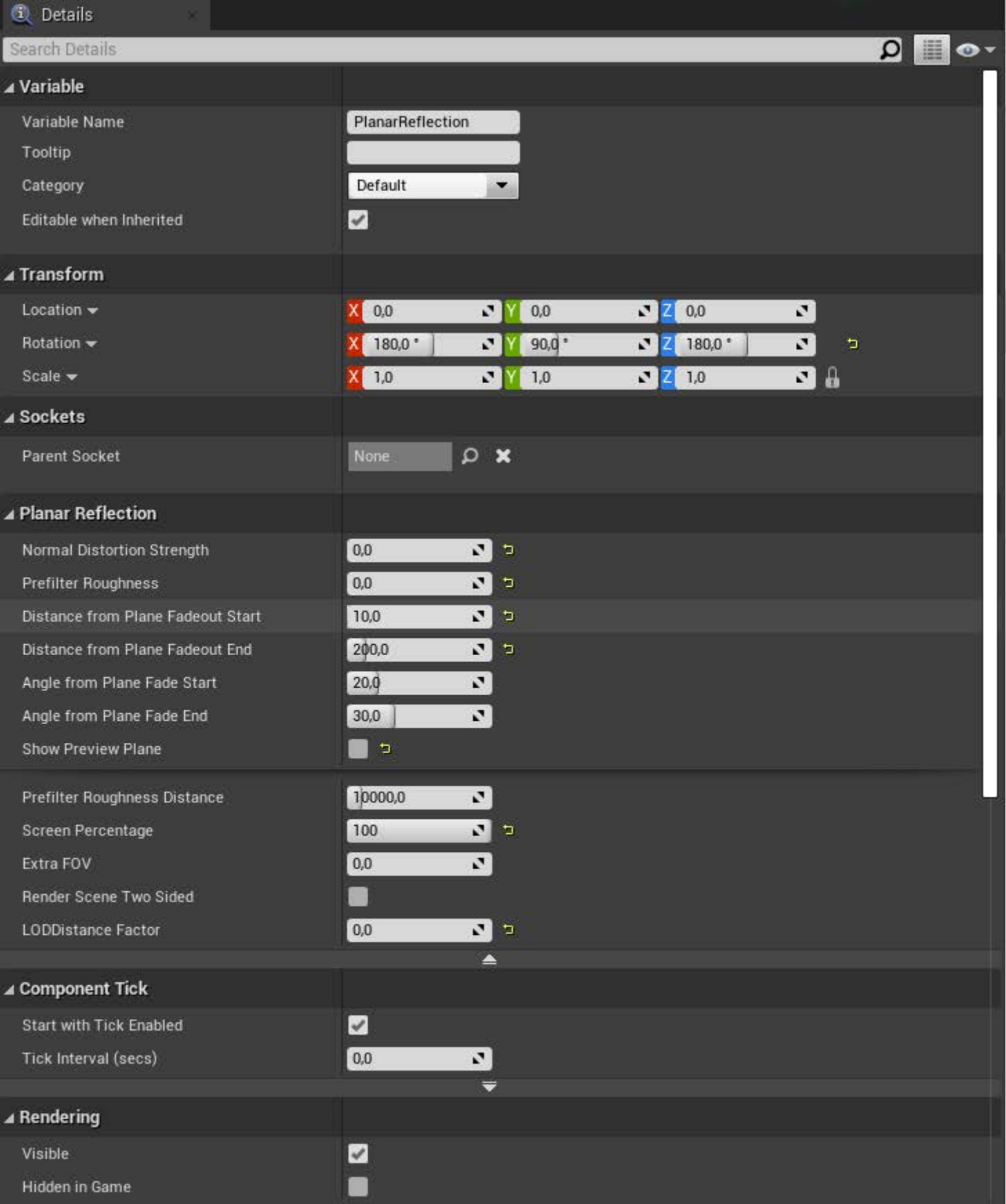


Open the **M_Mirror** asset (double click) and setup the parameters as such

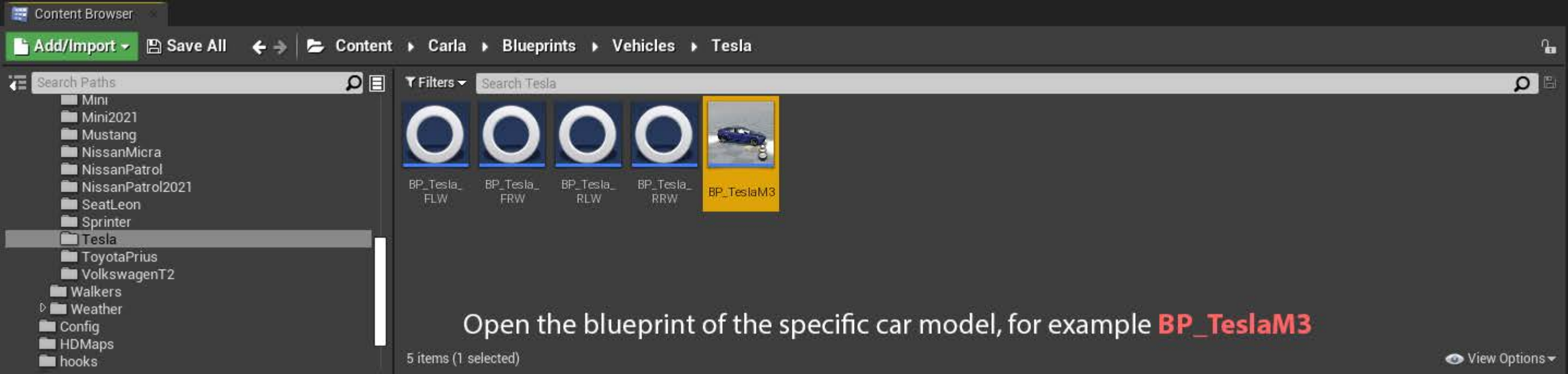

constant
Constants
Constant
Constant2Vector
Constant3Vector
Constant4Vector
DeltaTime
DistanceCullFade
ParticleColor
ParticleDirection
ParticleMotionBlurFade
ParticleRadius
ParticleRandom
ParticleRelativeTime
ParticleSize
ParticleSpeed
PerInstanceFadeAmount
PerInstanceRandom
PrecomputedAOMask
Time
TwoSidedSign
VertexColor
Add parameter:
Right click > Constant

Content Browser
Add/Import
Save All
Content
Carla
Blueprints
Vehicles
Search Paths
Content
Carla
Blueprints
Game
LevelDesign
Lights
Mirror
Props
Tools
TrafficLight
Vehicles
Walkers
Weather
Config
HDMaps
Filters
Search Vehicles
Tourer
Impala
Charger2020
ChargerPolice
Rubicon
Lincoln MKZ2017
Lincoln MKZ2020
Mercedes
Mercedes CCC
Mini
Mini2021
Mustang
NissanMicra
NissanPatrol
Nissan Patrol2021
SeatLeon
Sprinter
Tesla
ToyotaPrius
Volkswagen T2
BaseVehicle Pawn
Collision Wheel
CommonTire Config
Custom Navegation
Road Navigation
Vehicle Factory
Wheel_Shape
37 items
Open the BaseVehiclePawn asset in
Content > Carla > Blueprints >Vehicles
View Options


BaseVehiclePawn
File Edit Asset View Debug Window Help
Parent class: Carla Wheeled Vehicle
Components
+ Add Component
Search
planar
Rendering
Planar Reflection
ArrowHolder
ArrowOffset
Arrow
CustomCollision
PlanarReflection
Vehicle Movement (MovementComp) (Inherit
Velocity Control (VelocityControl) (Inherited)
Base Movement Component (BaseMovement
2
3
Toolbar
Compile
Save
Browse
Find
Hide Unrelated
Class Settings
Class Defaults
Simulation
Play
Viewport
Set All Li
Apply Cc
Check Fc
Generate
License F
Construc
Print Del
Event Gra
Perspective
Lit
1
In the BaseVehiclePawn blueprint:
1. Go to Viewport tab
2. Add Component > Planar Reflection
3. You will see PlanarReflection component added on the hierarchy
My Blueprint
+ Add New
Search
Graphs
EventGraph
Functions (22 Overridable)
ConstructionScript
Random
LicensePlate
RandomColorFromArray
UseTheForce
Biased Random
IsPlayer
SoftReset
ApplyColor
Check for accident
GenerateLightGroups
SetAllLightState
SetLightListState
PrintDebugCOM
Macros
Variables
Components
Lights
Materials
HasLicensePlate
Current Index
Color
ColorNumber
zImpulse
Random Engine
TippedOver
ToggleAutomaticSoftReset
Details
Search Details
Default
Materials
34 Array elements
Has License Plate
Current Index
0
Color
0
Color Number
0
Z Impulse
740,0
Random Engine
None
None
Tipped Over
Toggle Automatic Soft Reset
Stopped Arrow
Marching Arrow
Accident Arrow
Braking
Countdown Started
Accident
Actor Tick
Start with Tick Enabled
Tick Interval (secs)
0,0
Allow Tick Before Begin Play
Lights
Light Parametes
AI Controller
State
Unknown
CARLA Wheeled Vehicle
Car Sim Origin Offset
150,0
Physics Enabled
Pawn
Use Controller Rotation Pitch
Use Controller Rotation Yaw
Use Controller Rotation Roll
Can Affect Navigation Generation
Auto Possess Player
Disabled



On the Details tab (on the right side) of the PlanarReflection component, adjust the parameters as follows


Content Browser
Add/Import
Save All
Content
Carla
Blueprints
Vehicles
Tesla
Search Paths
Mini
Mini2021
Mustang
NissanMicra
NissanPatrol
NissanPatrol2021
SeatLeon
Sprinter
Tesla
ToyotaPrius
VolkswagenT2
Walkers
Weather
Config
HDMaps
hooks
Filters
Search Tesla
BP_Tesla_FLW
BP_Tesla_FRW
BP_Tesla_RLW
BP_Tesla_RRW
BP_TeslaM3
Open the blueprint of the specific car model, for example BP_TeslaM3
5 items (1 selected)
View Options

BP_TeslaM3*

File Edit Asset View Debug Window Help

Parent class: Base Vehicle Pawn

Components

+ Add Component | Search

BP_TeslaM3(self)

- Mesh (VehicleMesh) (Inherited)
  - Vehicle Bounds (VehicleBounds) (Inheri
  - ArrowHolder (Inherited)
    - ArrowOffset (Inherited)
      - Arrow (Inherited)
    - CustomCollision (Inherited)
    - PlanarReflection (Inherited)
    - back-blinker-r-1
    - back-blinker-l-1
    - front-blinker-r-1
    - front-blinker-l-1

My Blueprint

+ Add New | Search

Graphs
- EventGraph

Functions (36 Overridable)
- ConstructionScript
- SetTimer

Macros

Variables

Components
- VehicleMaterial
- Timer

Event Dispatchers

Toolbar

Compile | Save | Browse | Find | Hide Unrelated | Class Settings | Class Defaults | Simulation | Play

Viewport | Construction Scrip | Event Graph

Perspective | Lit

You can untick **Show Preview Plane** to hide the large reflection plane.

Details

Search Details

Variable

Variable Name	PlanarReflection
Tooltip	
Category	Default
Editable when Inherited	☑

Transform

	X	Y	Z
Location	56,381535	-108,034645	103,162521
Rotation	180,0 °	94,5 °	180,0 °
Scale	2,0	2,0	2,0

Sockets

Parent Socket	None

Planar Reflection

Normal Distortion Strength	0,0
Prefilter Roughness	0,0
Distance from Plane Fadeout Start	10,0
Distance from Plane Fadeout End	200,0
Angle from Plane Fade Start	20,0
Angle from Plane Fade End	30,0
Show Preview Plane	☐
Prefilter Roughness Distance	10000,0
Screen Percentage	100
Extra FOV	0,0
Render Scene Two Sided	☐
LODDistance Factor	0,0

Component Tick

Start with Tick Enabled	☑
Tick Interval (secs)	0,0

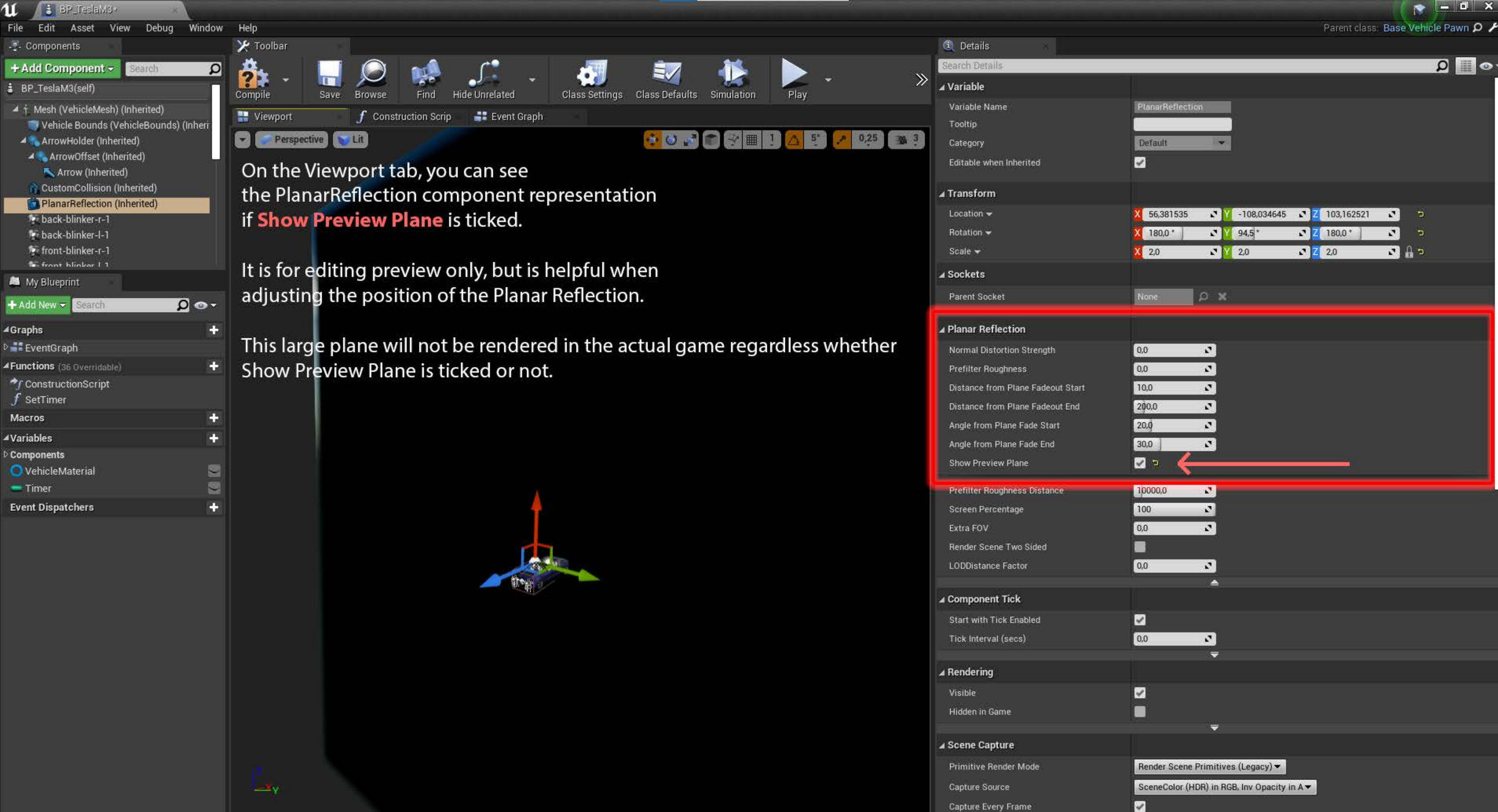
Rendering

Visible	☑
Hidden in Game	☐

Scene Capture

Primitive Render Mode	Render Scene Primitives (Legacy)
Capture Source	SceneColor (HDR) in RGB, Inv Opacity
Capture Every Frame	☑

Saving


BP_TeslaM3*
File Edit Asset View Debug Window Help
Parent class: Base Vehicle Pawn
Components
+ Add Component
Search
BP_TeslaM3(self)
Mesh (VehicleMesh) (Inherited)
Vehicle Bounds (VehicleBounds) (Inheri
ArrowHolder (Inherited)
ArrowOffset (Inherited)
Arrow (Inherited)
CustomCollision (Inherited)
PlanarReflection (Inherited)
back-blinker-r-1
back-blinker-l-1
front-blinker-r-1
My Blueprint
+ Add New
Search
Graphs
EventGraph
Functions (36 Overridable)
ConstructionScript
SetTimer
Macros
Variables
Components
VehicleMaterial
Timer
Event Dispatchers
Toolbar
Compile
Save
Browse
Find
Hide Unrelated
Class Settings
Class Defaults
Simulation
Play
Viewport
Construction Scrip
Event Graph
Perspective
Lit
On the Viewport tab, you can see
the PlanarReflection component representation
if Show Preview Plane is ticked.
It is for editing preview only, but is helpful when
adjusting the position of the Planar Reflection.
This large plane will not be rendered in the actual game regardless whether
Show Preview Plane is ticked or not.
Details
Search Details
Variable
Variable Name
PlanarReflection
Tooltip
Category
Default
Editable when Inherited
Transform
Location
X 56,381535
Y -108,034645
Z 103,162521
Rotation
X 180,0 °
Y 94,5 °
Z 180,0 °
Scale
X 2,0
Y 2,0
Z 2,0
Sockets
Parent Socket
None
Planar Reflection
Normal Distortion Strength
0,0
Prefilter Roughness
0,0
Distance from Plane Fadeout Start
10,0
Distance from Plane Fadeout End
200,0
Angle from Plane Fade Start
20,0
Angle from Plane Fade End
30,0
Show Preview Plane
Prefilter Roughness Distance
10000,0
Screen Percentage
100
Extra FOV
0,0
Render Scene Two Sided
LODDistance Factor
0,0
Component Tick
Start with Tick Enabled
Tick Interval (secs)
0,0
Rendering
Visible
Hidden in Game
Scene Capture
Primitive Render Mode
Render Scene Primitives (Legacy)
Capture Source
SceneColor (HDR) in RGB, Inv Opacity in A
Capture Every Frame

Town02_Opt | M_Mirror | BP_TeslaM3* | BP_CarlaCola

File Edit Asset View Debug Window Help

Parent class: Base Vehicle Pawn

Components

+ Add Component | Search

BP_TeslaM3(self)

Mesh (VehicleMesh) (Inherited)

ArrowHolder (Inherited)

ArrowOffset (Inherited)

Arrow (Inherited)

CustomCollision (Inherited)

PlanarReflection (Inherited)

back-blinker-r-1

back-blinker-l-1

front-blinker-r-1

My Blueprint

+ Add New | Search

Graphs

EventGraph

Functions (36 Overridable)

ConstructionScript

SetTimer

Macros

Variables

Components

VehicleMaterial

Timer

Event Dispatchers

Toolbar

Compile | Save | Browse | Find | Hide Unrelated | Class Settings | Class Defaults | Simulation | Play

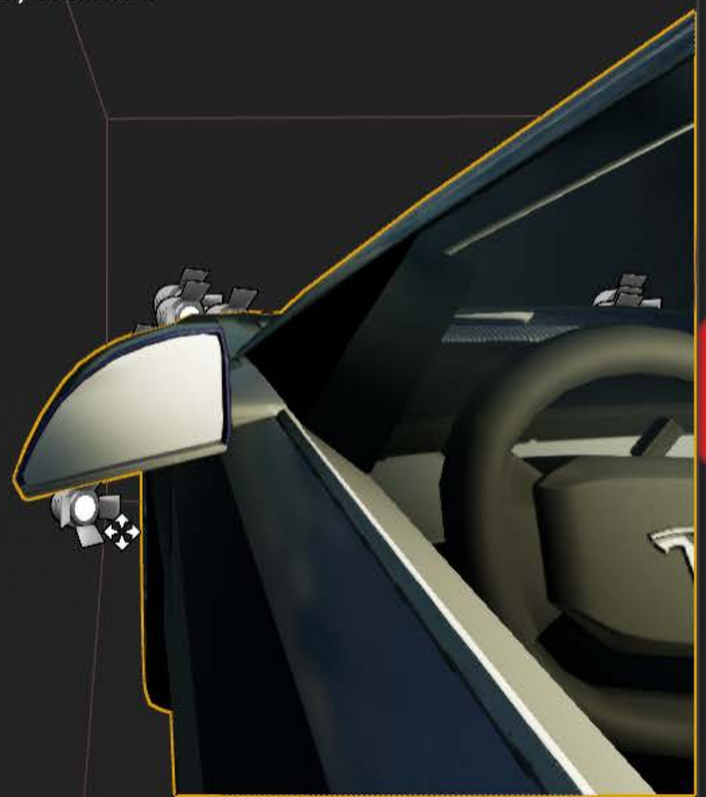
Viewport | Construction Scrip | Event Graph

Perspective | Lit

Select the VehicleMesh from the hierarchy list (left side)

Look for the material that represents the car mirror in the Details tab (right side).
In most cases the default material for this is **PolishedAluminiumWhite_Inst**

!!Note: If you cannot find the representing material, there is a possibility that you may need to edit the mesh and material assignment with an external 3D modelling software, e.g. Maya, Blender.



Details

Search Details

Element 0 — MI_Wheels_TeslaM3 — Textures

Element 1 — MI_CarLightGlass_TeslaM3 — Textures

Element 2 — MI_LicensePLate — Textures

Element 3 — MI_Interior_TeslaM3 — Textures

Element 4 — MI_CarExterior_TeslaM3 — Textures

Element 5 — MI_CarGlass_TeslaM3 — Textures

Element 6 — MI_CarExterior_TeslaM3 — Textures

Element 7 — PolishedAluminiumWhite_Inst — Textures

Component Tick

Start with Tick Enabled

Tick Interval (secs) 0,0

Clothing

Disable Cloth Simulation

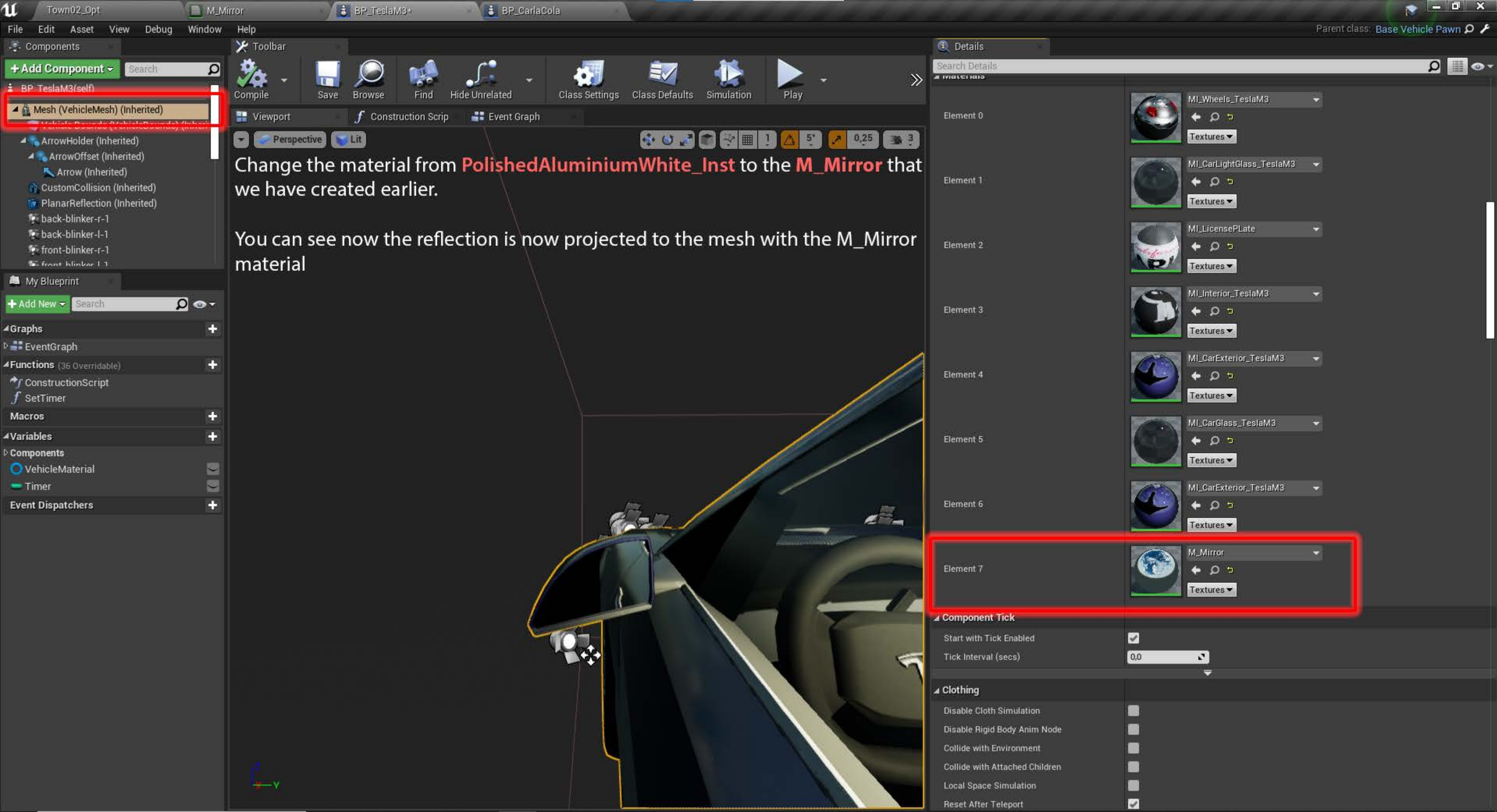
Disable Rigid Body Anim Node

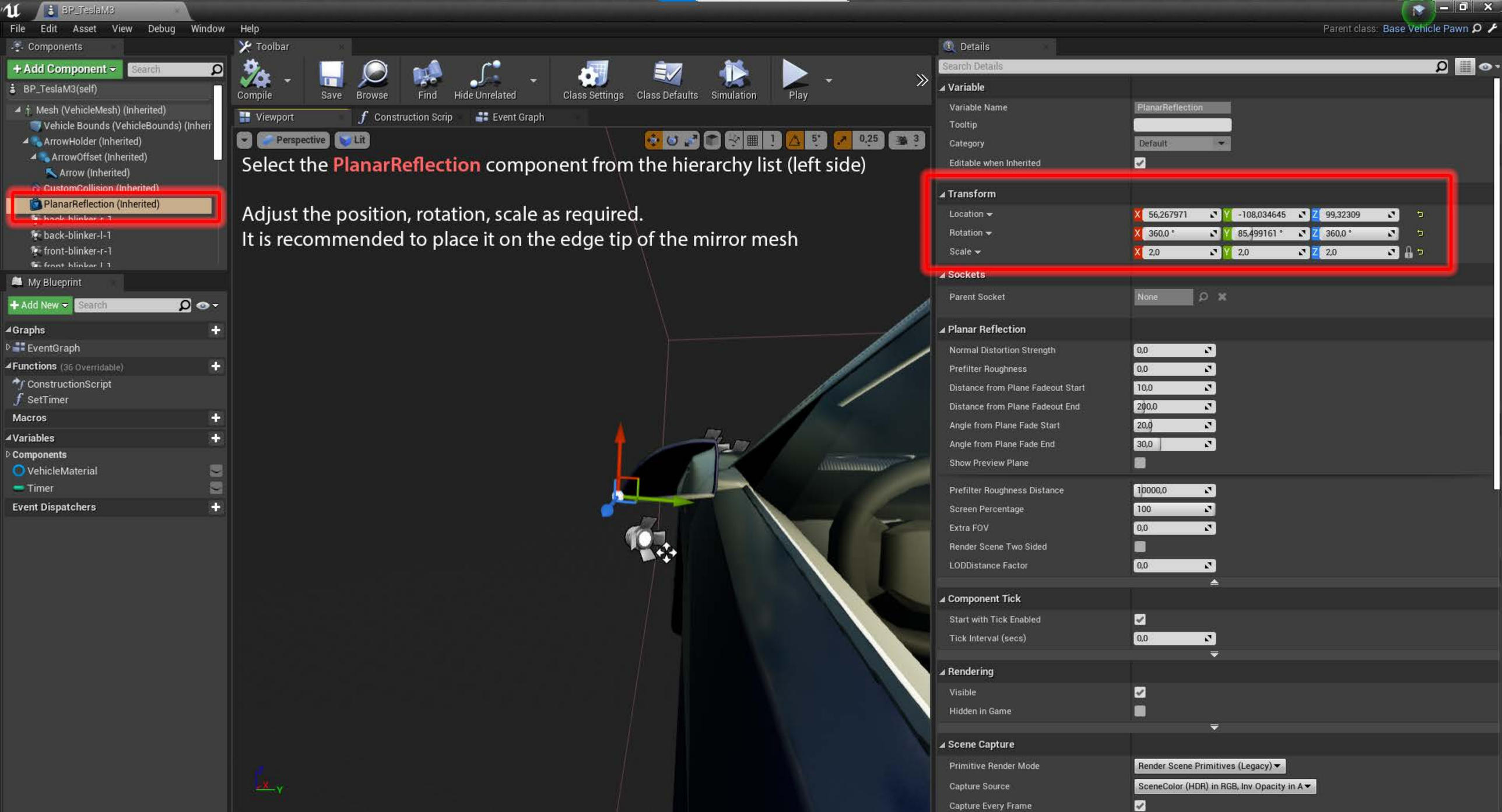
Collide with Environment

Collide with Attached Children

Local Space Simulation

Reset After Teleport


Town02_Opt
M_Mirror
BP_TeslaM3*
BP_CarlaCola
File Edit Asset View Debug Window Help
Parent class: Base Vehicle Pawn
Components
+ Add Component
Search
BP_TeslaM3(self)
Mesh (VehicleMesh) (Inherited)
ArrowHolder (Inherited)
ArrowOffset (Inherited)
Arrow (Inherited)
CustomCollision (Inherited)
PlanarReflection (Inherited)
back-blinker-r-1
back-blinker-l-1
front-blinker-r-1
My Blueprint
+ Add New
Search
Graphs
EventGraph
Functions (36 Overridable)
ConstructionScript
SetTimer
Macros
Variables
Components
VehicleMaterial
Timer
Event Dispatchers
Toolbar
Compile
Save
Browse
Find
Hide Unrelated
Class Settings
Class Defaults
Simulation
Play
Viewport
Construction Scrip
Event Graph
Perspective
Lit
Change the material from PolishedAluminiumWhite_Inst to the M_Mirror that we have created earlier.
You can see now the reflection is now projected to the mesh with the M_Mirror material
Details
Search Details
Element 0
MI_Wheels_TeslaM3
Element 1
MI_CarLightGlass_TeslaM3
Element 2
MI_LicensePLate
Element 3
MI_Interior_TeslaM3
Element 4
MI_CarExterior_TeslaM3
Element 5
MI_CarGlass_TeslaM3
Element 6
MI_CarExterior_TeslaM3
Element 7
M_Mirror
Textures
Component Tick
Start with Tick Enabled
Tick Interval (secs)
Clothing
Disable Cloth Simulation
Disable Rigid Body Anim Node
Collide with Environment
Collide with Attached Children
Local Space Simulation
Reset After Teleport


BP_TeslaM3
File Edit Asset View Debug Window Help
Parent class: Base Vehicle Pawn
Components
+ Add Component
Search
BP_TeslaM3(self)
Mesh (VehicleMesh) (Inherited)
Vehicle Bounds (VehicleBounds) (Inheri
ArrowHolder (Inherited)
ArrowOffset (Inherited)
Arrow (Inherited)
CustomCollision (Inherited)
PlanarReflection (Inherited)
back-blinker-l-1
front-blinker-r-1
My Blueprint
+ Add New
Search
Graphs
EventGraph
Functions (36 Overridable)
ConstructionScript
SetTimer
Macros
Variables
Components
VehicleMaterial
Timer
Event Dispatchers
Toolbar
Compile
Save
Browse
Find
Hide Unrelated
Class Settings
Class Defaults
Simulation
Play
Viewport
Construction Scrip
Event Graph
Perspective
Lit
Select the PlanarReflection component from the hierarchy list (left side)
Adjust the position, rotation, scale as required.
It is recommended to place it on the edge tip of the mirror mesh
Details
Search Details
Variable
Variable Name
PlanarReflection
Tooltip
Category
Default
Editable when Inherited
Transform
Location
X 56,267971
Y -108,034645
Z 99,32309
Rotation
X 360,0 °
Y 85,499161 °
Z 360,0 °
Scale
X 2,0
Y 2,0
Z 2,0
Sockets
Parent Socket
None
Planar Reflection
Normal Distortion Strength
0,0
Prefilter Roughness
0,0
Distance from Plane Fadeout Start
10,0
Distance from Plane Fadeout End
200,0
Angle from Plane Fade Start
20,0
Angle from Plane Fade End
30,0
Show Preview Plane
Prefilter Roughness Distance
10000,0
Screen Percentage
100
Extra FOV
0,0
Render Scene Two Sided
LODDistance Factor
0,0
Component Tick
Start with Tick Enabled
Tick Interval (secs)
0,0
Rendering
Visible
Hidden in Game
Scene Capture
Primitive Render Mode
Render Scene Primitives (Legacy)
Capture Source
SceneColor (HDR) in RGB, Inv Opacity in A
Capture Every Frame