

5-1 Working with asset packs

5CM503 Virtual Environment Development

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Contents

Asset packs

What, why and how....

What is an asset pack?

- An asset pack is a collection of assets usually designed to build a specific environment.
- Where we use a game engine to replace the systems programmer, we can use an asset pack to replace some of the creative work in game environment.

So where can I get asset packs?

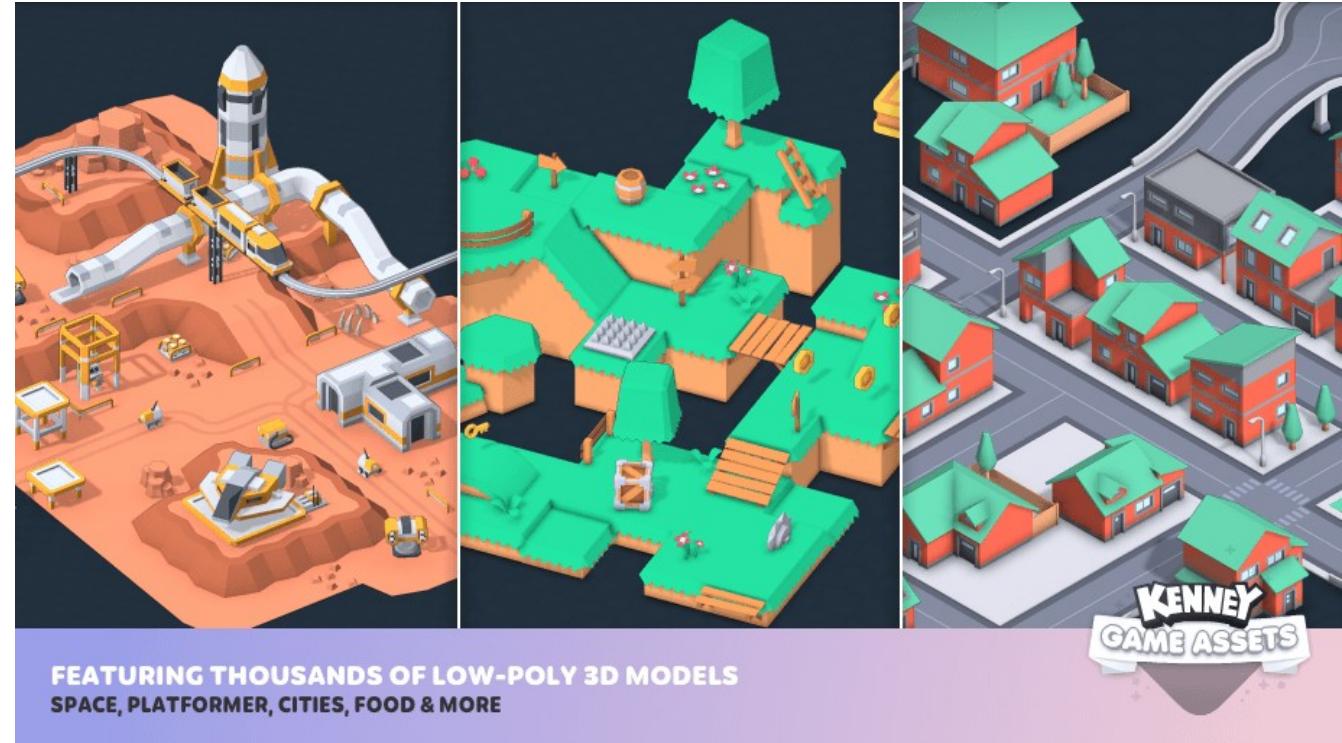
- Honestly, everywhere!
- You have some experience from last year when I made you go and find art assets for your games.
- When things get 3D though, things get a little trickier...

You get what you pay for...

- Yes, you can get free asset packs, often they are samplers for larger packs or a single pack from a bigger collection.
- But generally, if someone is giving something away for free it usually means its going to be of lower quality and more difficult to work with.

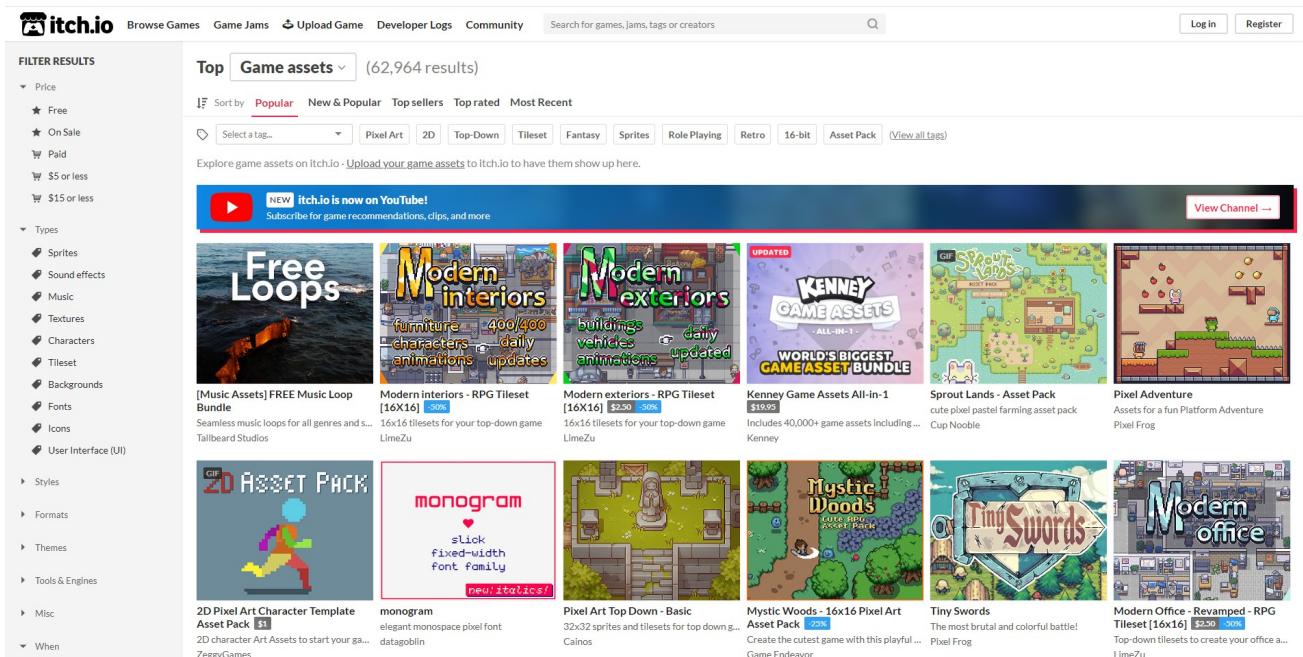
Kenney Asset Pack

- I have genuinely been using this for years, (since my degree in fact)
- An excellent all-round pack, nothing amazing, but all the pieces you need to make a lot of different 2D and 3D games.
- Comes with UI elements and sound effects which is a big bonus.



Itch.io

- Marketplace for indie games and assets.
- Find what you need, for free or relatively cheap.
- Does have some garbage though...



<https://itch.io/game-assets>

derby.ac.uk

Synty

- Great assets,
- Very specific,
- **Very expensive!**
- Often on sale, lots of assets end up in bundles with heavy discounts.



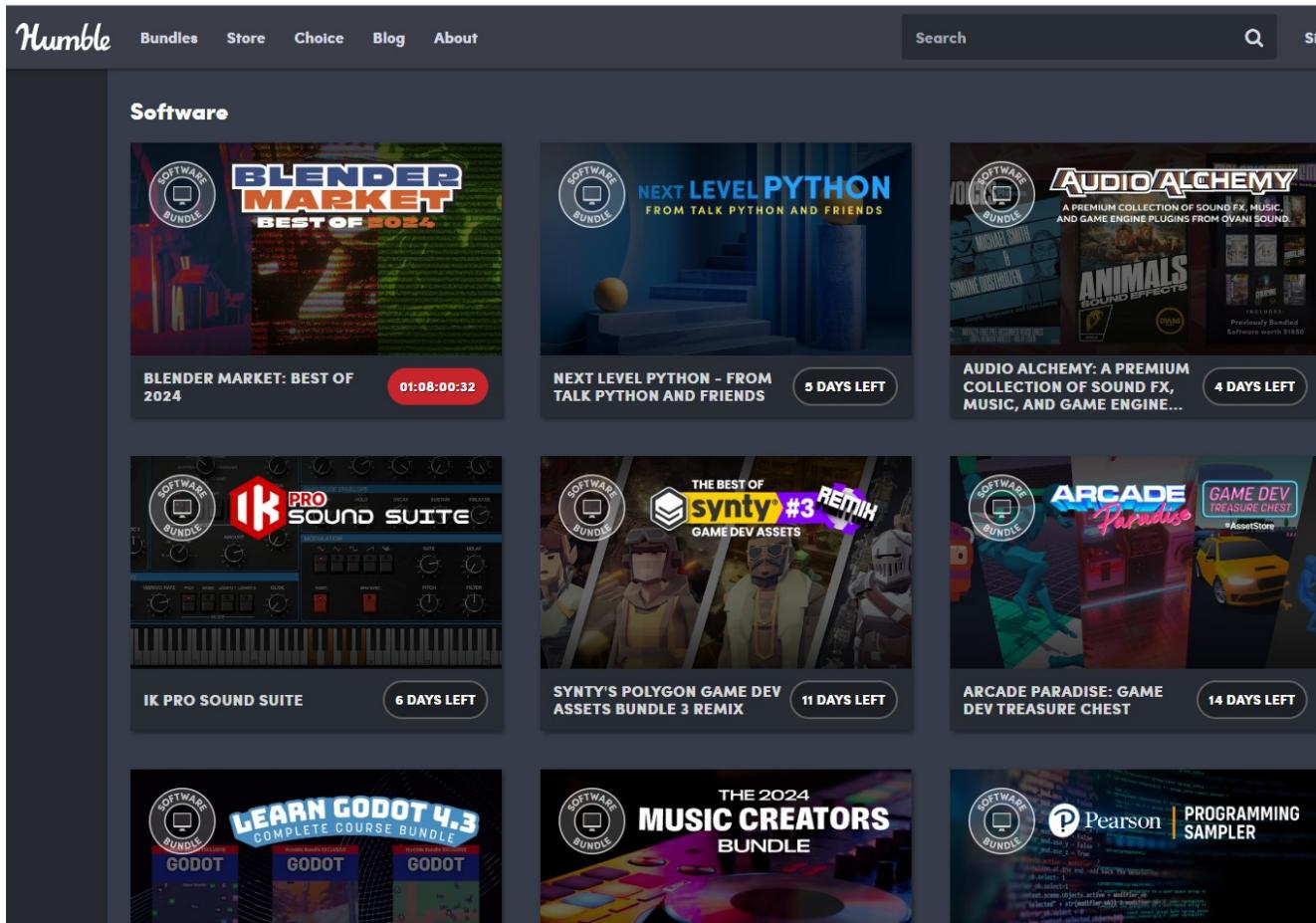
<https://syntystore.com/en-gb>

The Unreal Marketplace

- Get assets and extensions downloaded right into the project.
- Often expensive
- Locked to the engine.
- Free content monthly ^ .
- Can also add in engine features!
- Helpful to fix a complex technical challenge.
 - Employing an additional systems programmer.

Humble Bundle

- Cheap and plentiful :D
- No control over what is available!
 - WIWIG
- Also has tutorial series for most game engines and tools such as blender.
- Some money goes to charity!



So how do I use these?

- Drop them in and start throwing them around.
- Well, not quite...
- Sometimes you need to do a bit of prep work.

Just a word about file sizes...

- Importing lots of asset packs quickly ramps up the file sizes of your projects.
- Particularly high quality meshes and textures.
- Think before importing.
- You can remove parts of packages you are not using.
 - Things that are not needed, add unnecessary bloat.
 - Not a terrible problem unless you move the project or work on it from a cloud service.
 - Particularly, demo scenes.

Organising

- Depends what you are importing...
- One or two items, organise it with everything else in your project.
- Whole package, probably import the whole structure.

Individual imports or external assets

- Generally as a rule, if you bought something from the asset store, it should just work out of the box.
- Importing generic assets can be a little more tricky.
- Scale is usually an issue.
- Do one and apply the settings to all.

Importing a mesh

- You will at least have a mesh, this contains the geometry of the object, the shape if you will.
- You ***may*** have one or more of the following or they ***may*** be included with the mesh file.
 - Materials
 - The material to apply to the asset to apply colour and mapping details.
 - Textures
 - The image containing, colour and mapping data.
 - Animations
 - Animations to make your mesh move.



Interchange Pipeline Configuration (Import Content)

Import source C:/Users/785882/Desktop/Kennys Assets/3D/3D Road pack (300 models)/Mode Basic Layout Filter on Contents Reset Selected PipelineChoose Pipeline Stack: Assets **L Default Assets Pipeline (InterchangeGenericAssetsPipeline)**

Search



General

Animation Sequences

Materials

Skeletal Meshes

Static Meshes

Textures

All

▼ Common

Use Source Name for Asset Asset Name ► Offset Translation 0.0 0.0 0.0► Offset Rotation 0.0 ° 0.0 ° 0.0 °Offset Uniform Scale 1.0

▼ Common Meshes

Force All Mesh as Type Auto Detect Mesh Type Import Lods Keep Sections Separate Vertex Color Import Option ► Vertex Override Color

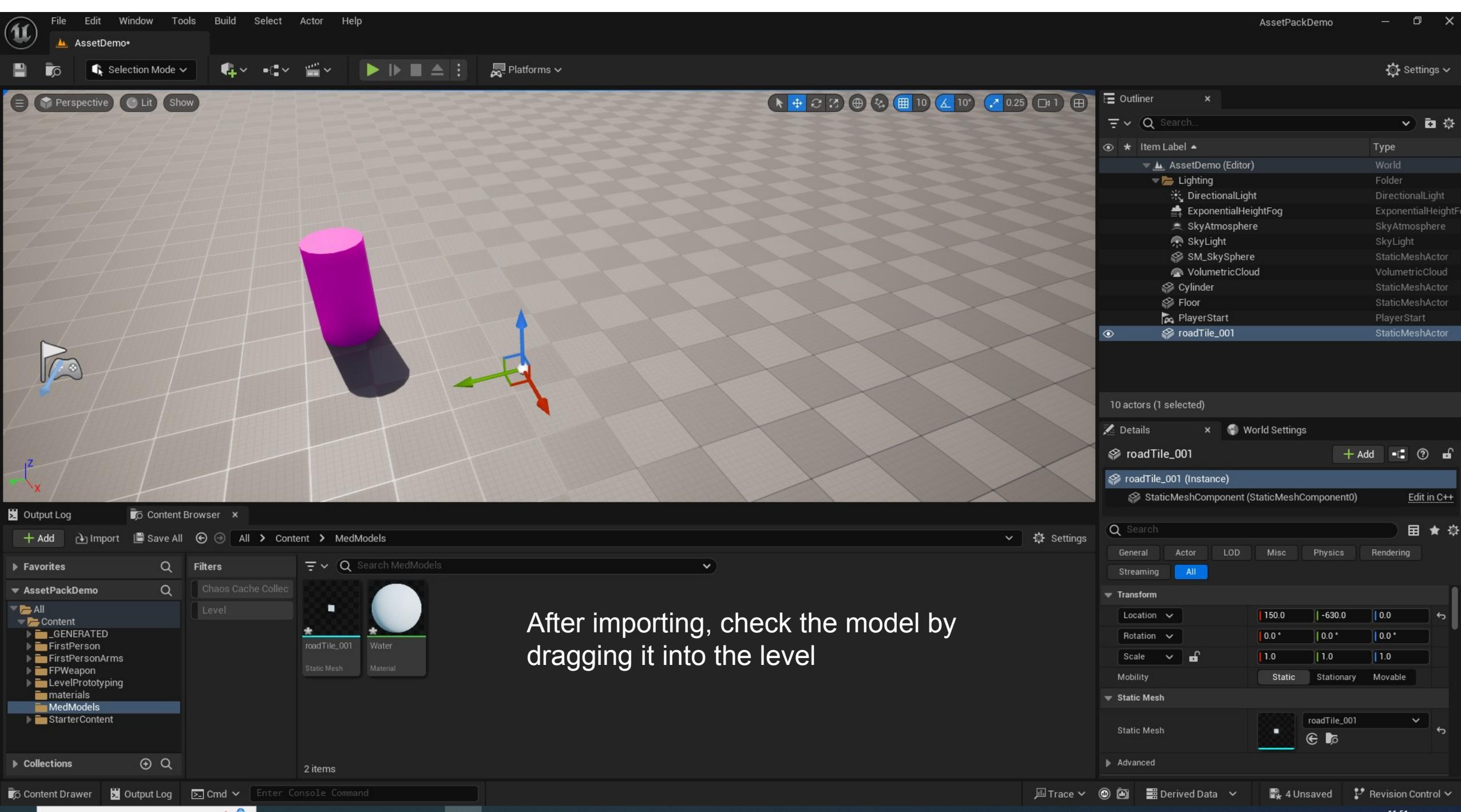
► Build

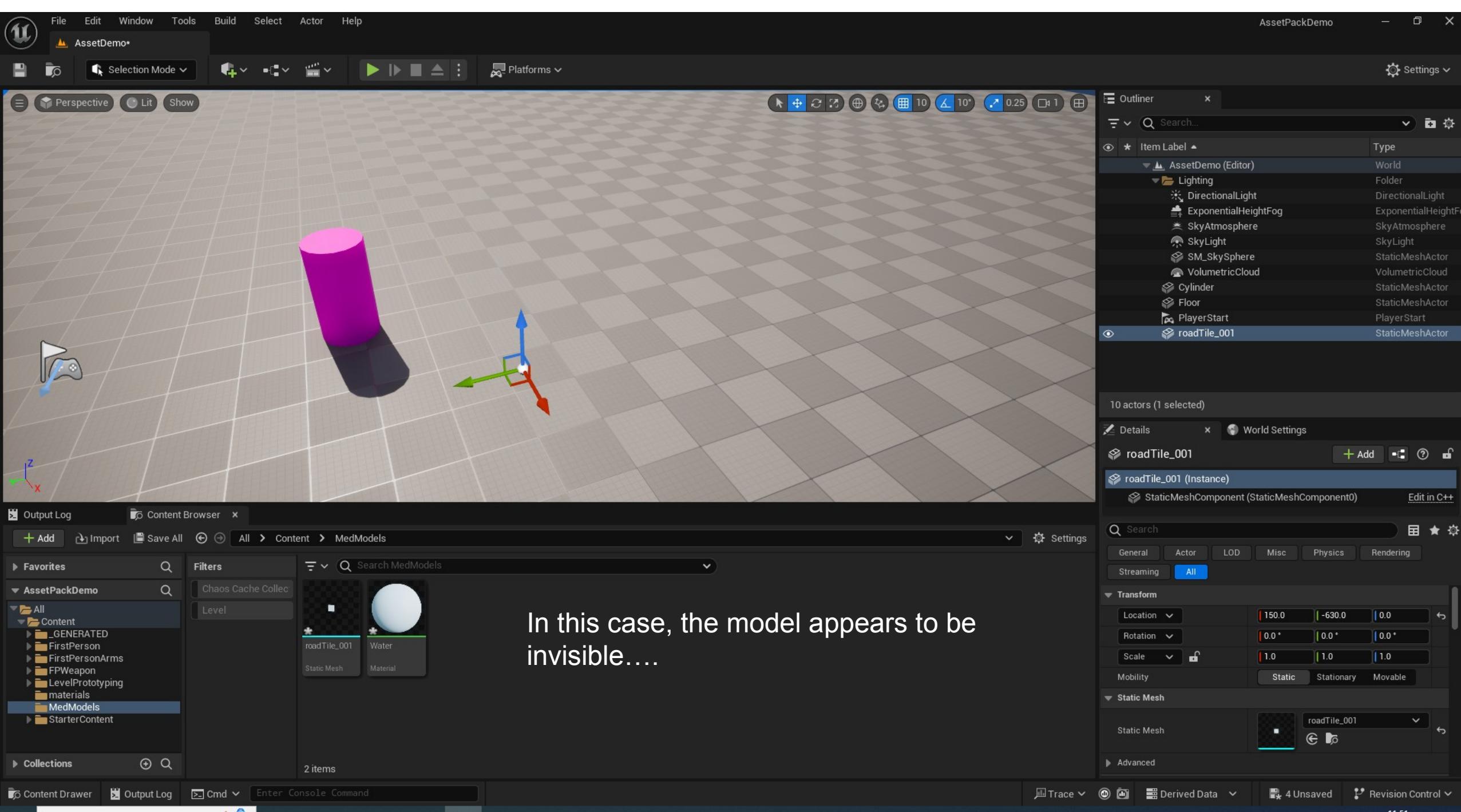
▼ Common Skeletal Meshes and Animations

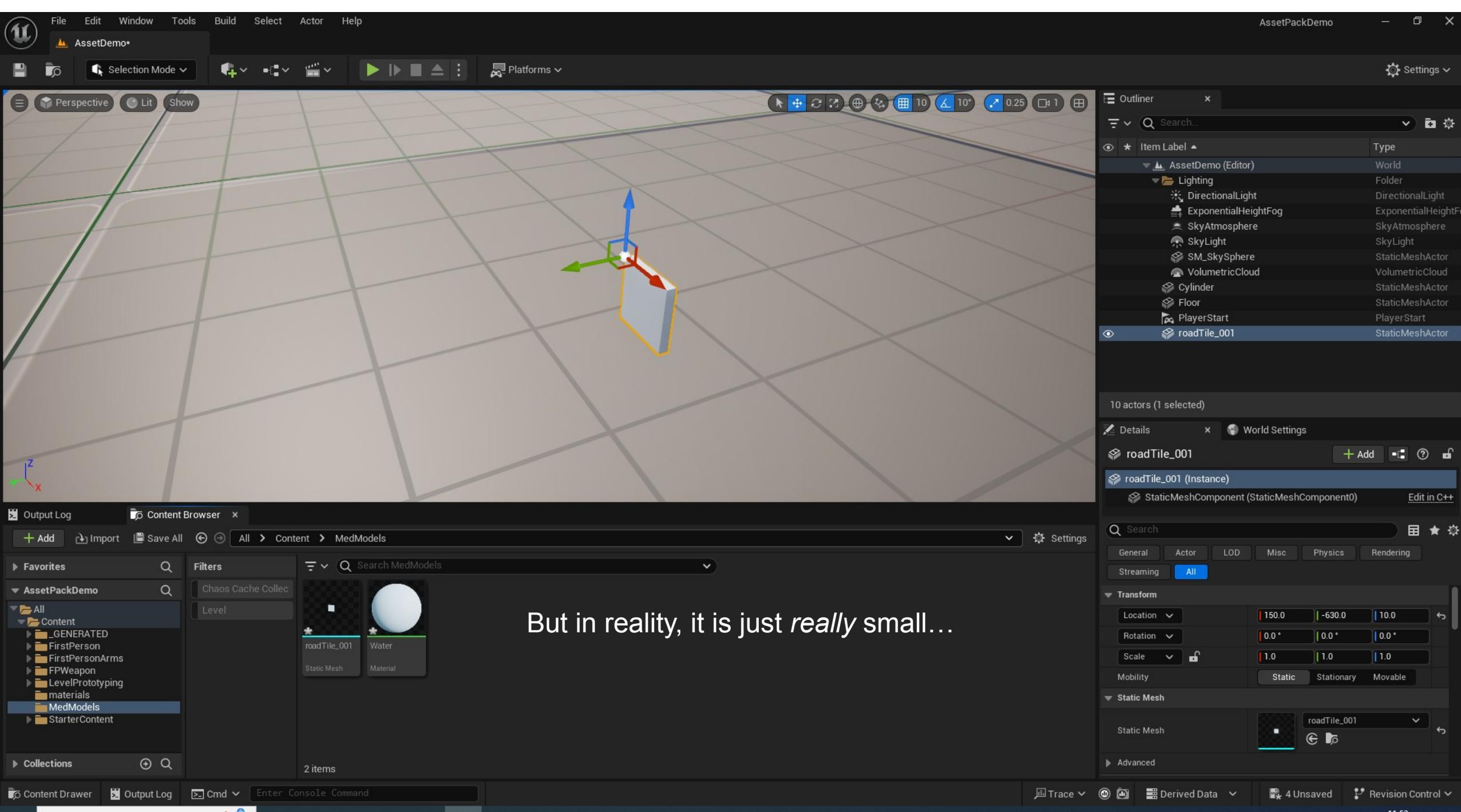
Import Only Animations Use the same settings for subsequent files **Import**

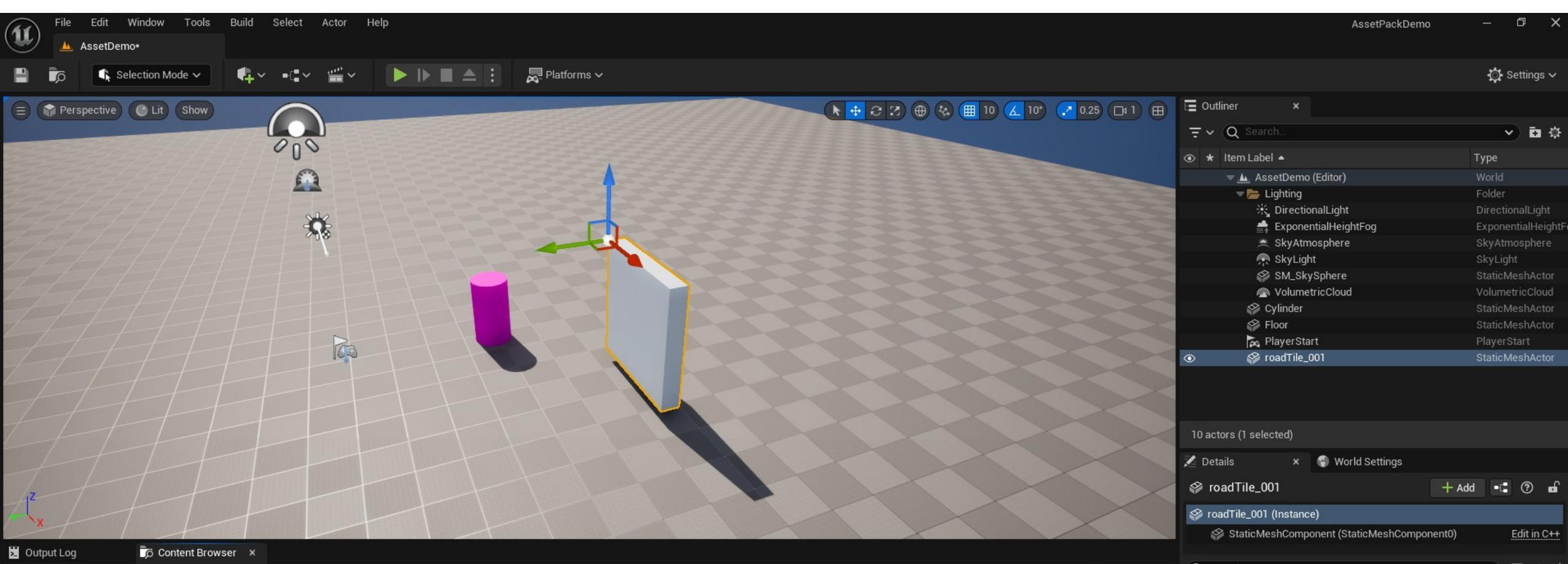
Preview...

Cancel









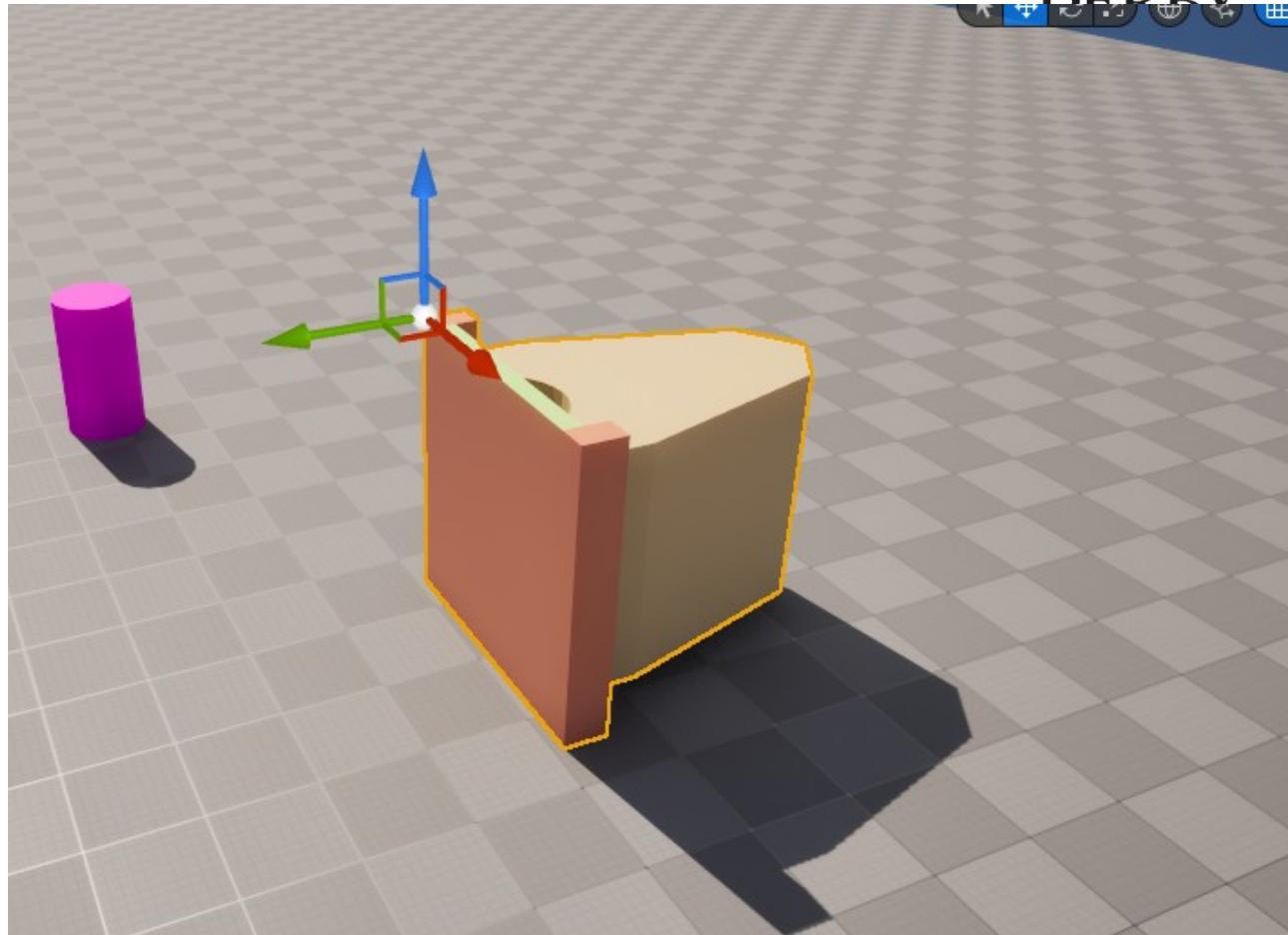
Uniformly adjust the scale to the correct scale.

HINT:- its normally a power of 10, the difference between mm, cm and meters.
If it was in inches, have fun with that :D

This part of the screenshot shows the Content Browser and Details panel for the 'roadTile_001' asset. The Content Browser lists 'roadTile_001' as a Static Mesh and 'Water' as a Material. The Details panel shows the asset's properties under the 'Static Mesh' section, including a preview thumbnail and dropdown menus for Static, Stationary, and Movable options. A large blue arrow points from the text above towards the Scale field in the Details panel.

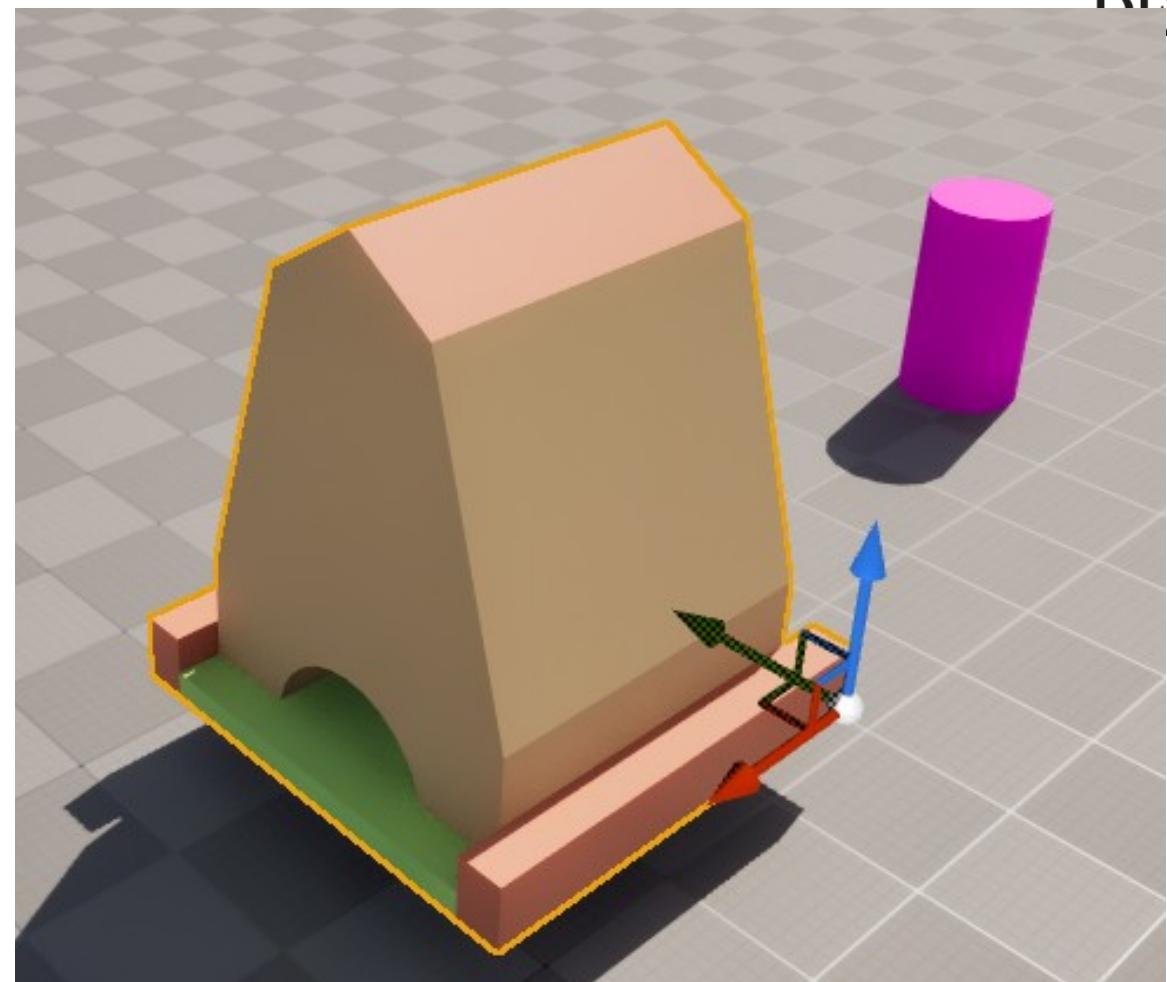
The up and forward axis...

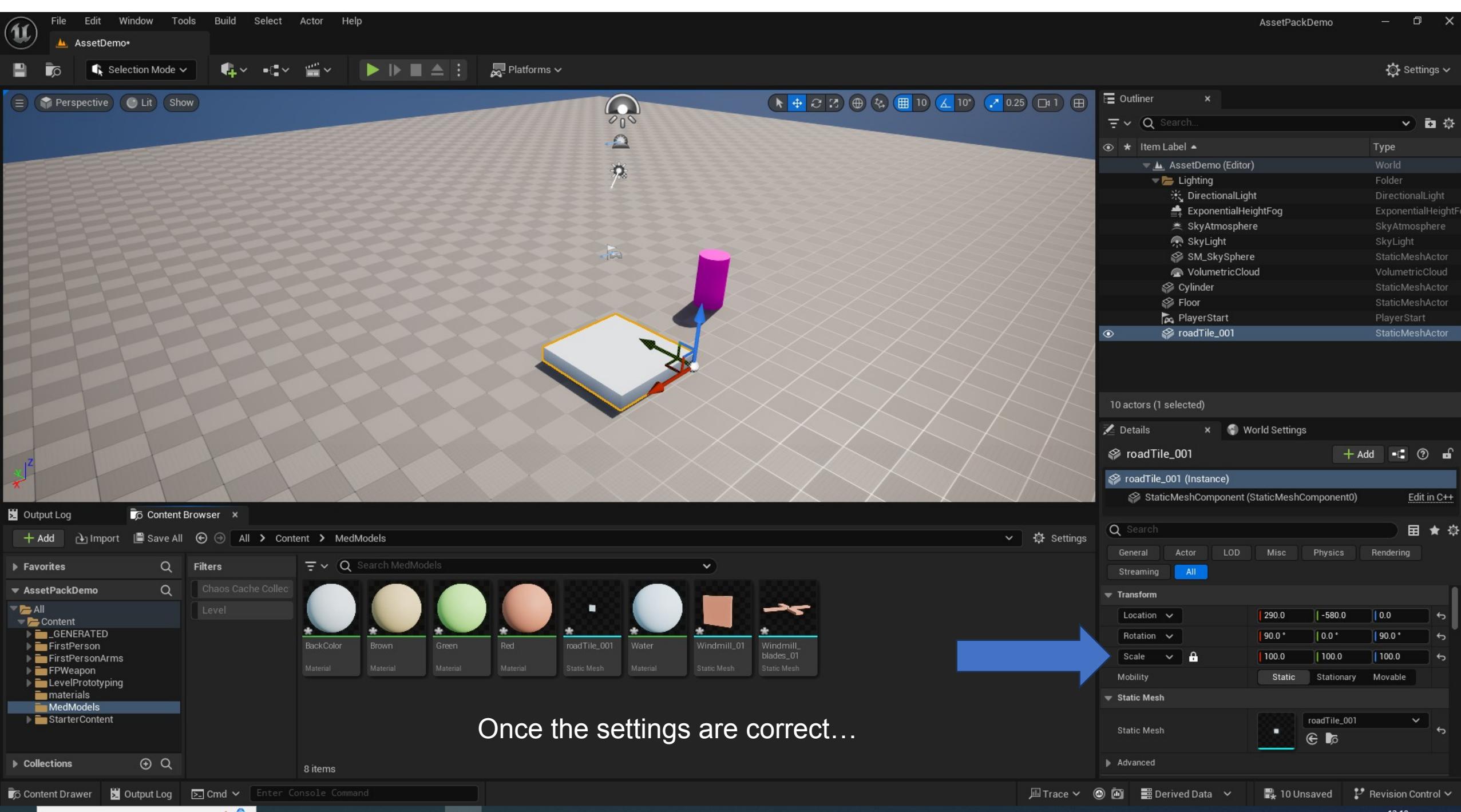
- You need to align the model to the correct axis.
- This is so when you use the direction vectors later in the program they are aligned correctly.
- Unfortunately, this is not standard...
- Unreal uses X as FORWARD and Z as UP

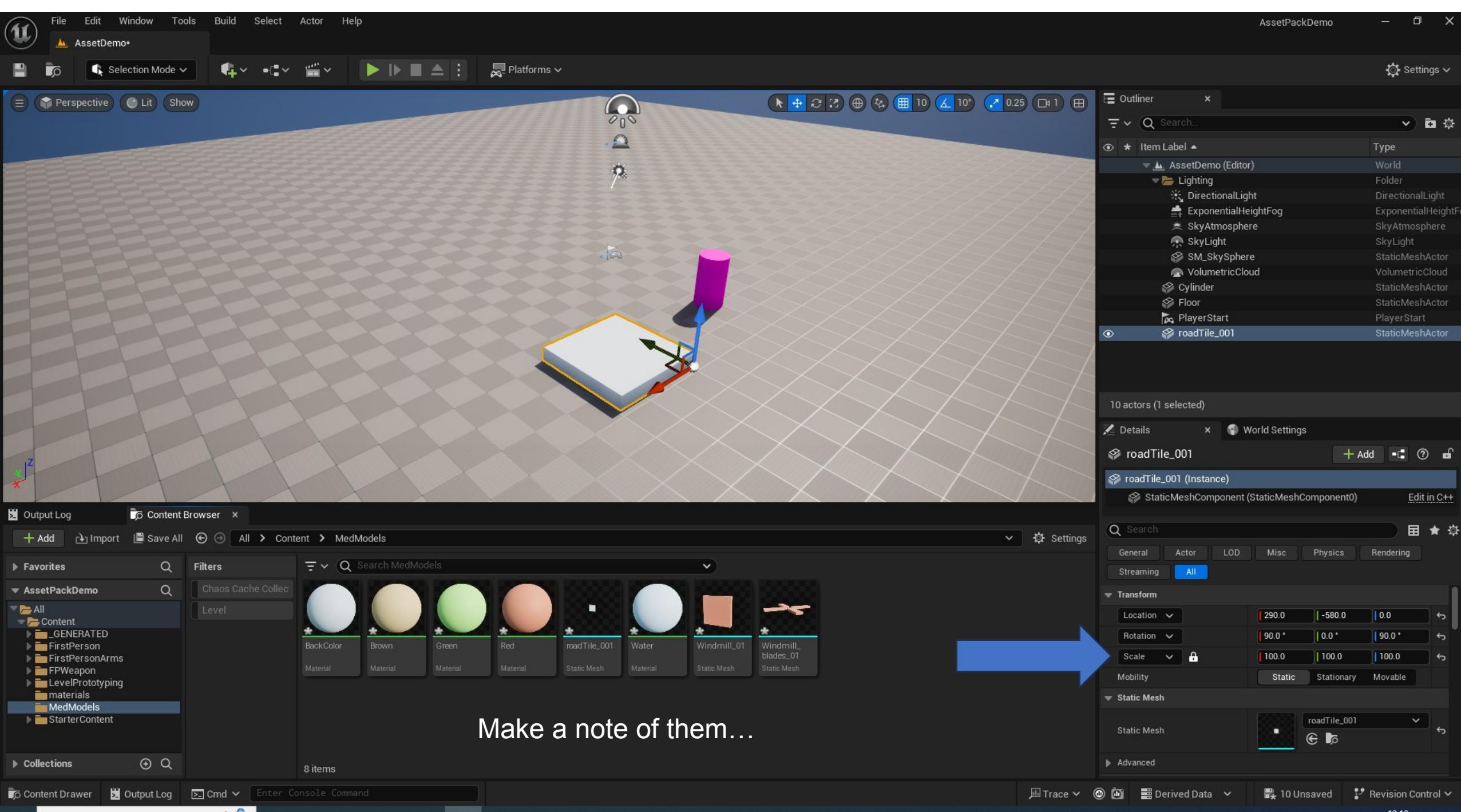


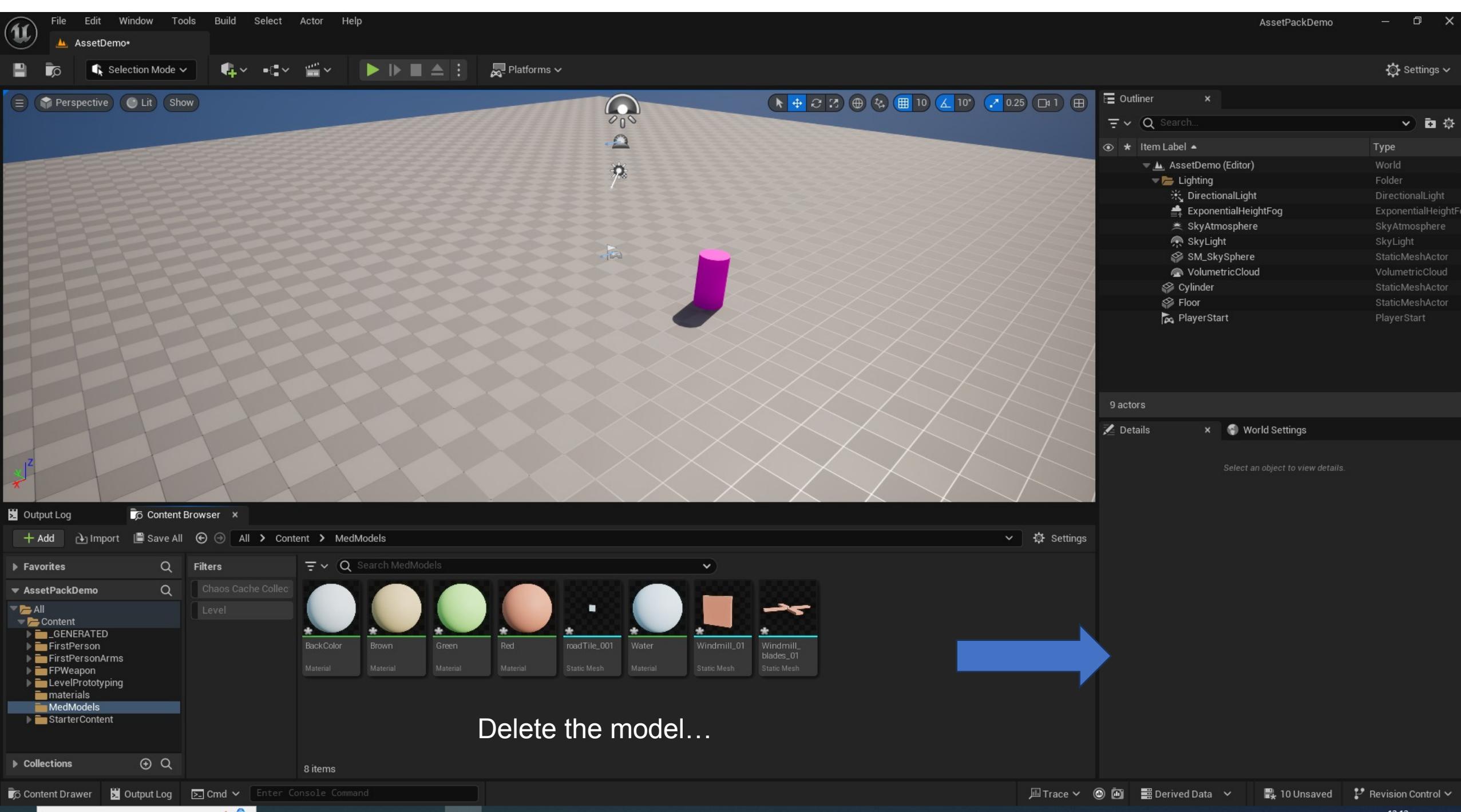
The up and forward axis...

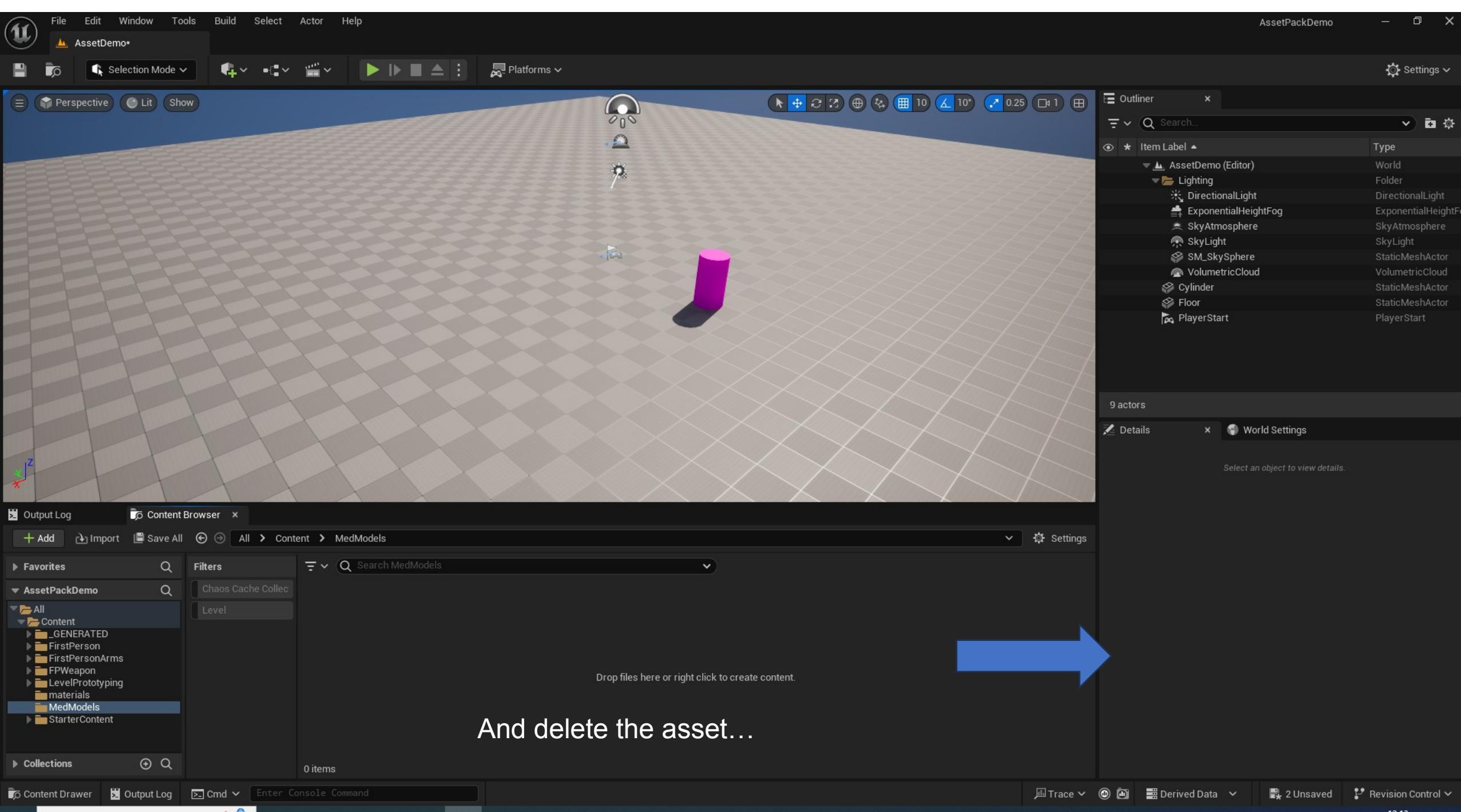
- In simple terms, rotate the model to align the model so that...
 - The model aligns vertically to the blue Z arrow.
 - The front of the model aligns to the red X arrow.













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► Offset Translation

0.0

0.0

0.0

► Offset Rotation

90.0 °

0.0 °

90.0 °

Offset Uniform Scale 100.0Apply those
settings at
import

▼ Common Meshes

Force All Mesh as Type Auto Detect Mesh Type Import Lods Keep Sections Separate Vertex Color Import Option ► Vertex Override Color

► Build

▼ Common Skeletal Meshes and Animations

Import Only Animations Use the same settings for subsequent files **Import**

Preview...

Cancel

Content Browser x

Add Import Save All All Content > MedModels Settings

Favorites

AssetPackDemo

- All
- Content
- GENERATED
- FirstPerson
- FirstPersonArms
- FPWeapon
- LevelPrototyping
- materials
- MedModels
- StarterContent

Filters

Chaos Cache Collection

Level

Search MedModels

Banner_01 Castle_Wall_01 Dark_Stone FrontColor Green_Roof Grey_Arch_01 Grey_Border_Wall_01 Grey_Broken_Wall_01 Grey_Corner_01 Grey_Door_Round_01 Grey_Door_Square_01 Grey_Pole_01 Grey_Short_Wall_01 Grey_Slanted_Pole_01 Grey_Slanted_Wall_01 Grey_Small_Wall_01

Static Mesh Material Static Mesh Material Static Mesh Static Mesh

Grey_Triangle_01 Grey_Wall_01 Grey_Window_Narrow_01 Grey_Window_Round_01 Grey_Window_Round_Sill_01 Grey_Window_Square_01 Grey_Window_Square_Sill_01 Iron_Door_01 Light_Stone Lightpost_01 Plate_Corner_01 Plate_Curve_01 Plate_Pavement_01 Plate_Road_01 Plate_Sidewalk_01

Static Mesh Static Mesh

Plate_Wood_01 Red_Cotton Red_Roof Roof_Corner_Green_01 Roof_Corner_Red_01 Roof_Inner_Corner_Green_01 Roof_Inner_Corner_Red_01 Roof_Point_Green_01 Roof_Point_Red_01 Roof_Slant_Green_01 Roof_Slant_Red_01 Roof_Straight_Green_01 Roof_Straight_Red_01 Shield_Green_01 Shield_Red_01 Stairs_Stone_01

Static Mesh Material Material Static Mesh Static Mesh

Stairs_Wood_01 Tree_01 White Wood Wood_Arch_01 Wood_Border_Wall_01 Wood_Broken_Wall_01 Wood_Corner_01 Wood_Door_01 Wood_Door_Round_01 Wood_Door_Square_01 Wood_Pole_01 Wood_Railing_01 Wood_Slanted_Pole_01 Wood_Slanted_Wall_01 Wood_Small_Wall_01

Static Mesh Static Mesh Material Static Mesh Static Mesh

Wood_Tiny_Wall_01 Wood_Triangle_01 Wood_Wall_01 Wood_Wall_Double_Cross_01 Wood_Wall_Narrow_01 Wood_Window_Round_01 Wood_Window_Round_Long_01 Wood_Window_Square_01 Wood_Window_Square_Sill_01

Static Mesh Static Mesh

Tada!

Best to organise this folder now, keep it tidy :D

Collections

75 items (3 selected)

Content Browser x

Add Import Save All All Content MedModels > Settings

Favorites

AssetPackDemo

All Content GENERATED FirstPerson FirstPersonArms FPWeapon LevelPrototyping materials MedModels Materials StarterContent

Filters Chaos Cache Collection Level

Search MedModels

Materials Banner_01 Castle_Wall_01 Grey_Arch_01 Grey_Border_Wall_01 Grey_Broken_Wall_01 Grey_Corner_01 Grey_Door_Round_01 Grey_Door_Square_01 Grey_Pole_01 Grey_Short_Wall_01 Grey_Slanted_Pole_01 Grey_Slanted_Wall_01 Grey_Small_Wall_01 Grey_Triangle_01 Grey_Wall_01

Grey_Window_Narrow_01 Grey_Window_Round_01 Grey_Window_Round_Long_01 Grey_Window_Round_Sill_01 Grey_Window_Square_01 Grey_Window_Square_Sill_01 Iron_Door_01 Lightpost_01 Plate_Corner_01 Plate_Curve_01 Plate_Pavement_01 Plate_Road_01 Plate_Sidewalk_01 Plate_Wood_01 Roof_Corner_Green_01 Roof_Corner_Red_01

Roof_Inner_Corner_Green_01 Roof_Inner_Corner_Red_01 Roof_Point_Green_01 Roof_Point_Red_01 Roof_Slant_Green_01 Roof_Slant_Red_01 Roof_Straight_Green_01 Roof_Straight_Red_01 Shield_Green_01 Shield_Red_01 Stairs_Stone_01 Stairs_Wood_01 Tree_01 Wood_Arch_01 Wood_Border_Wall_01 Wood_Broken_Wall_01

Wood_Corner_01 Wood_Door_01 Wood_Door_Round_01 Wood_Door_Square_01 Wood_Pole_01 Wood_Railing_01 Wood_Slanted_Pole_01 Wood_Slanted_Wall_01 Wood_Small_Wall_01 Wood_Tiny_Wall_01 Wood_Triangle_01 Wood_Wall_Cross_01 Wood_Wall_Double_Cross_01 Wood_Window_Narrow_01 Wood_Window_Round_01

Wood_Window_Round_Long_01 Wood_Window_Round_Sill_01 Wood_Window_Square_01 Wood_Window_Square_Sill_01

68 items

Better, think of this as a pallet of our assets to build our level with. We wont be dragging out materials but we will be dragging out assets.

Content Browser x

Add Import Save All All Content MedModels > Settings

Favorites

AssetPackDemo

All Content GENERATED FirstPerson FirstPersonArms FPWeapon LevelPrototyping materials MedModels Materials StarterContent

Filters Chaos Cache Collection Level

Search MedModels

Materials Banner_01 Castle_Wall_01 Grey_Arch_01 Grey_Border_Wall_01 Grey_Broken_Wall_01 Grey_Corner_01 Grey_Door_Round_01 Grey_Door_Square_01 Grey_Pole_01 Grey_Short_Wall_01 Grey_Slanted_Pole_01 Grey_Slanted_Wall_01 Grey_Small_Wall_01 Grey_Triangle_01 Grey_Wall_01

Grey_Window_Narrow_01 Grey_Window_Round_01 Grey_Window_Round_Long_01 Grey_Window_Round_Sill_01 Grey_Window_Square_01 Grey_Window_Square_Sill_01 Iron_Door_01 Lightpost_01 Plate_Corner_01 Plate_Curve_01 Plate_Pavement_01 Plate_Road_01 Plate_Sidewalk_01 Plate_Wood_01 Roof_Corner_Green_01 Roof_Corner_Red_01

Roof_Inner_Corner_Green_01 Roof_Inner_Corner_Red_01 Roof_Point_Green_01 Roof_Point_Red_01 Roof_Slant_Green_01 Roof_Slant_Red_01 Roof_Straight_Green_01 Roof_Straight_Red_01 Shield_Green_01 Shield_Red_01 Stairs_Stone_01 Stairs_Wood_01 Tree_01 Wood_Arch_01 Wood_Border_Wall_01 Wood_Broken_Wall_01

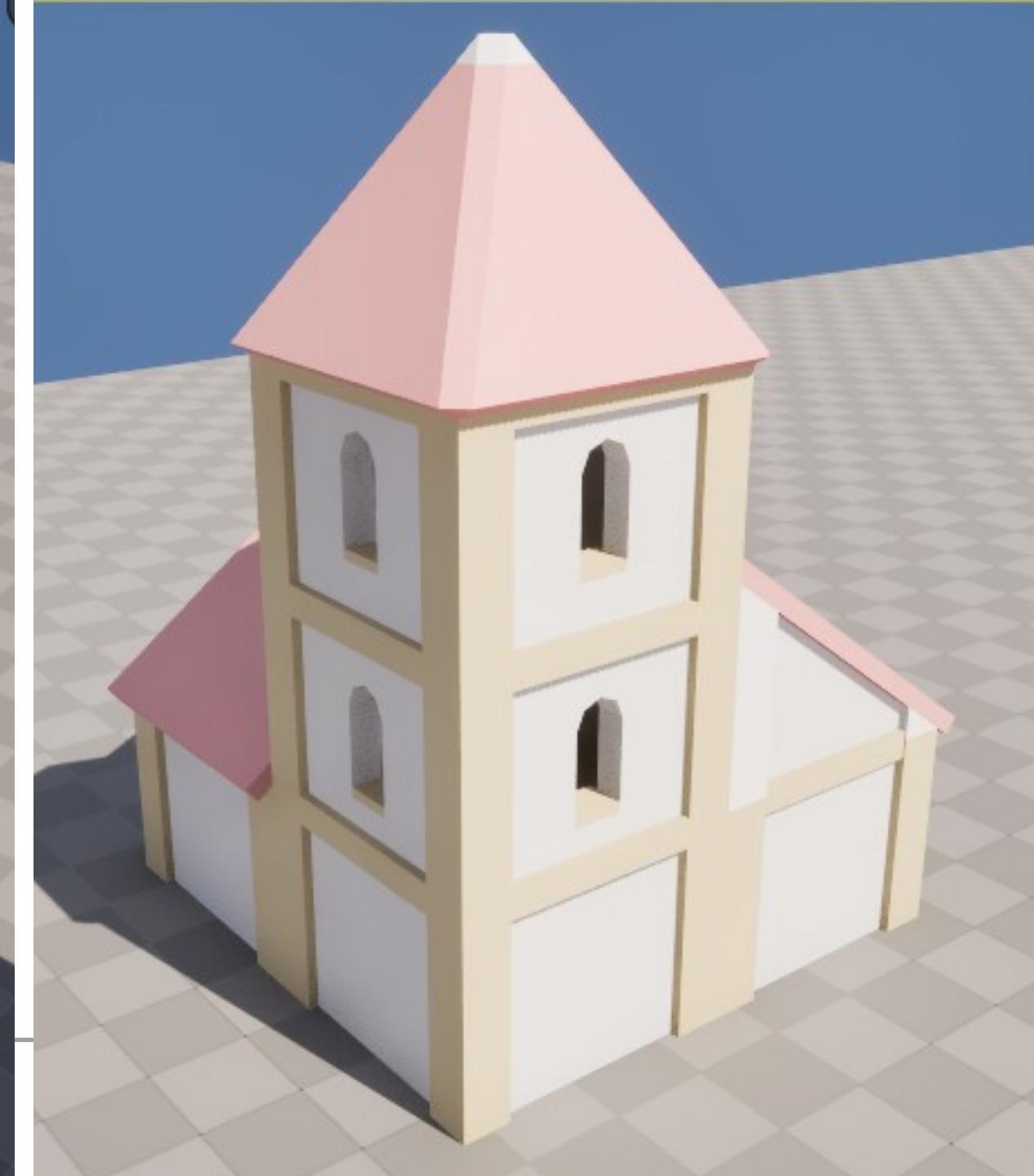
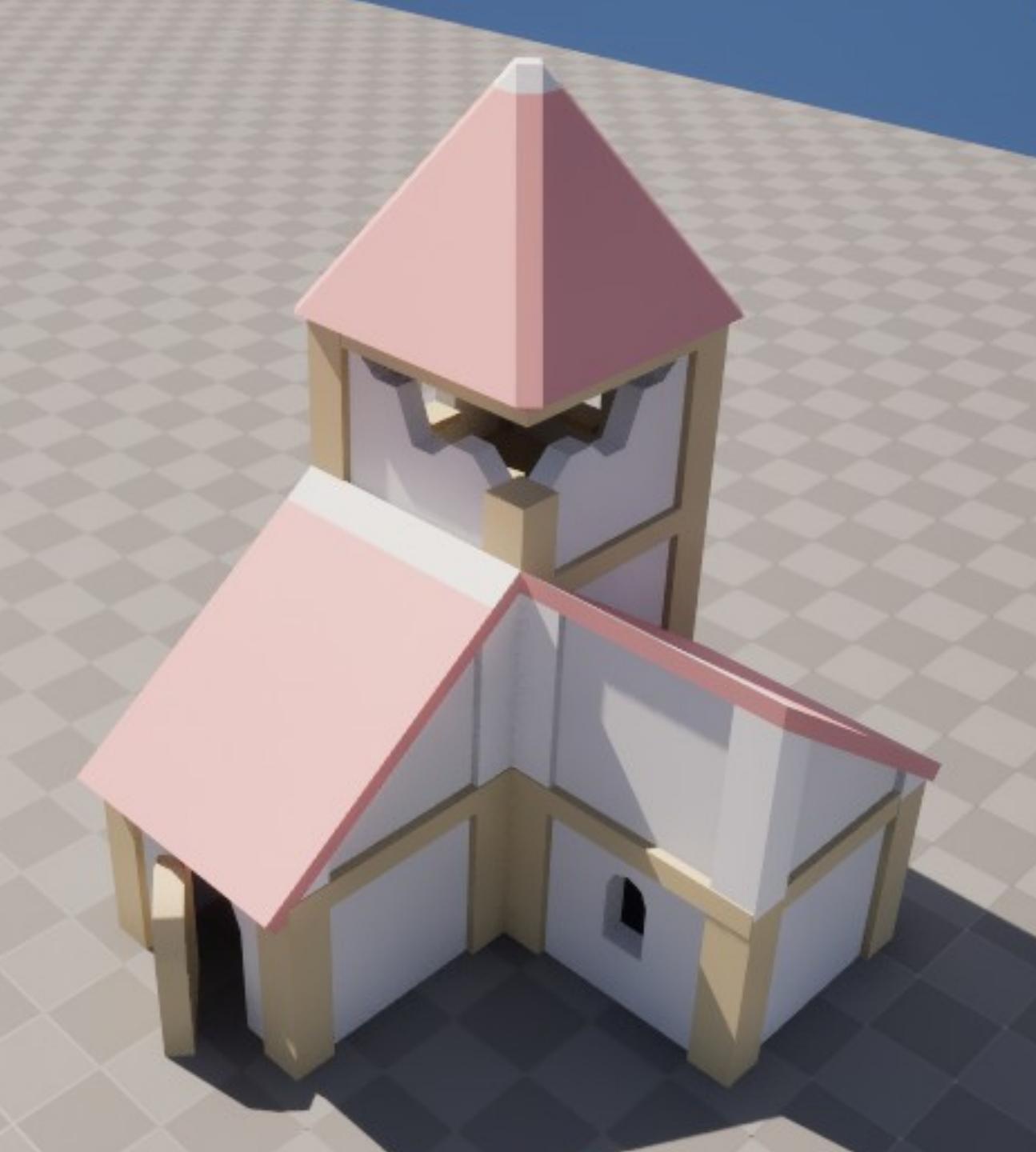
Wood_Corner_01 Wood_Door_01 Wood_Door_Round_01 Wood_Door_Square_01 Wood_Pole_01 Wood_Railing_01 Wood_Slanted_Pole_01 Wood_Slanted_Wall_01 Wood_Small_Wall_01 Wood_Tiny_Wall_01 Wood_Triangle_01 Wood_Wall_Cross_01 Wood_Wall_Double_Cross_01 Wood_Window_Narrow_01 Wood_Window_Round_01

Wood_Window_Round_Long_01 Wood_Window_Round_Sill_01 Wood_Window_Square_01 Wood_Window_Square_Sill_01

68 items

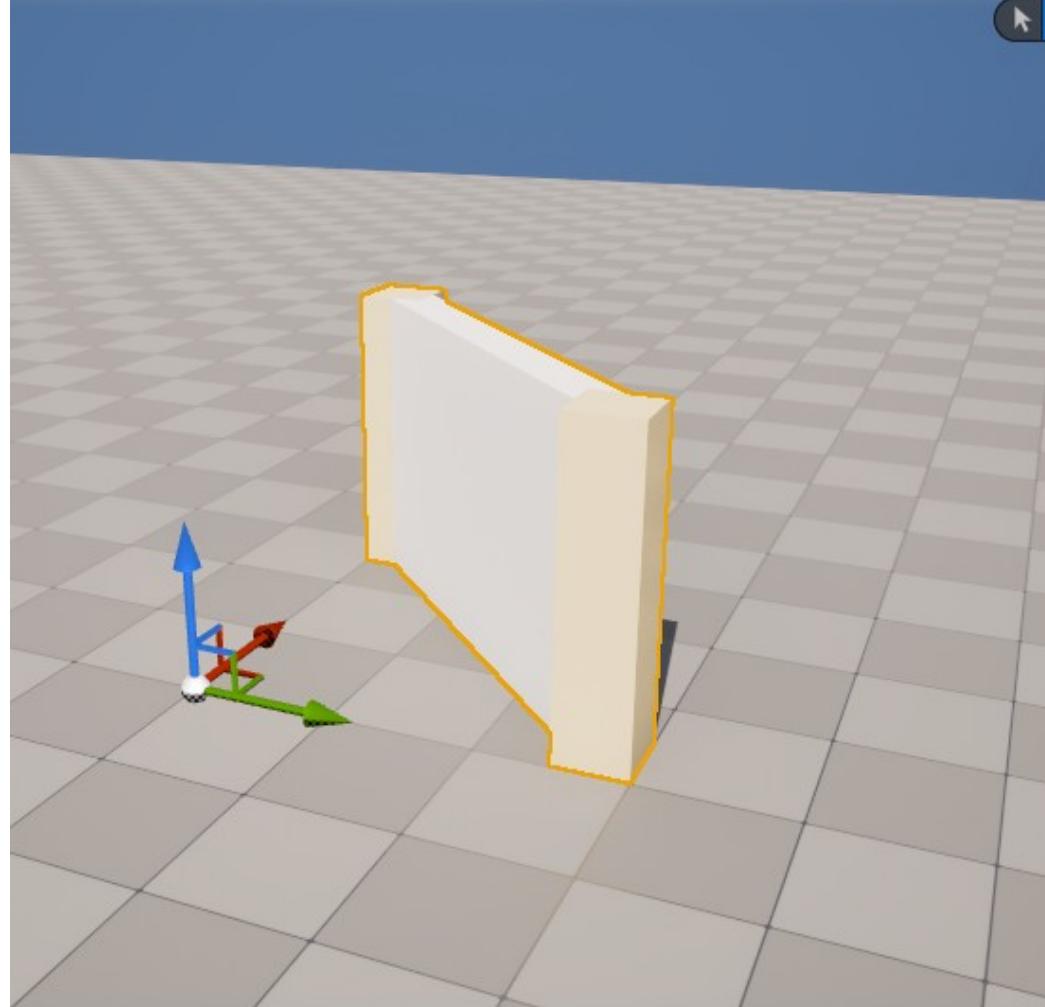
This is what we call a modular asset pack, rather than having several fully complete models, we have pieces that, when placed together can be used to create multiple buildings quickly and efficiently.



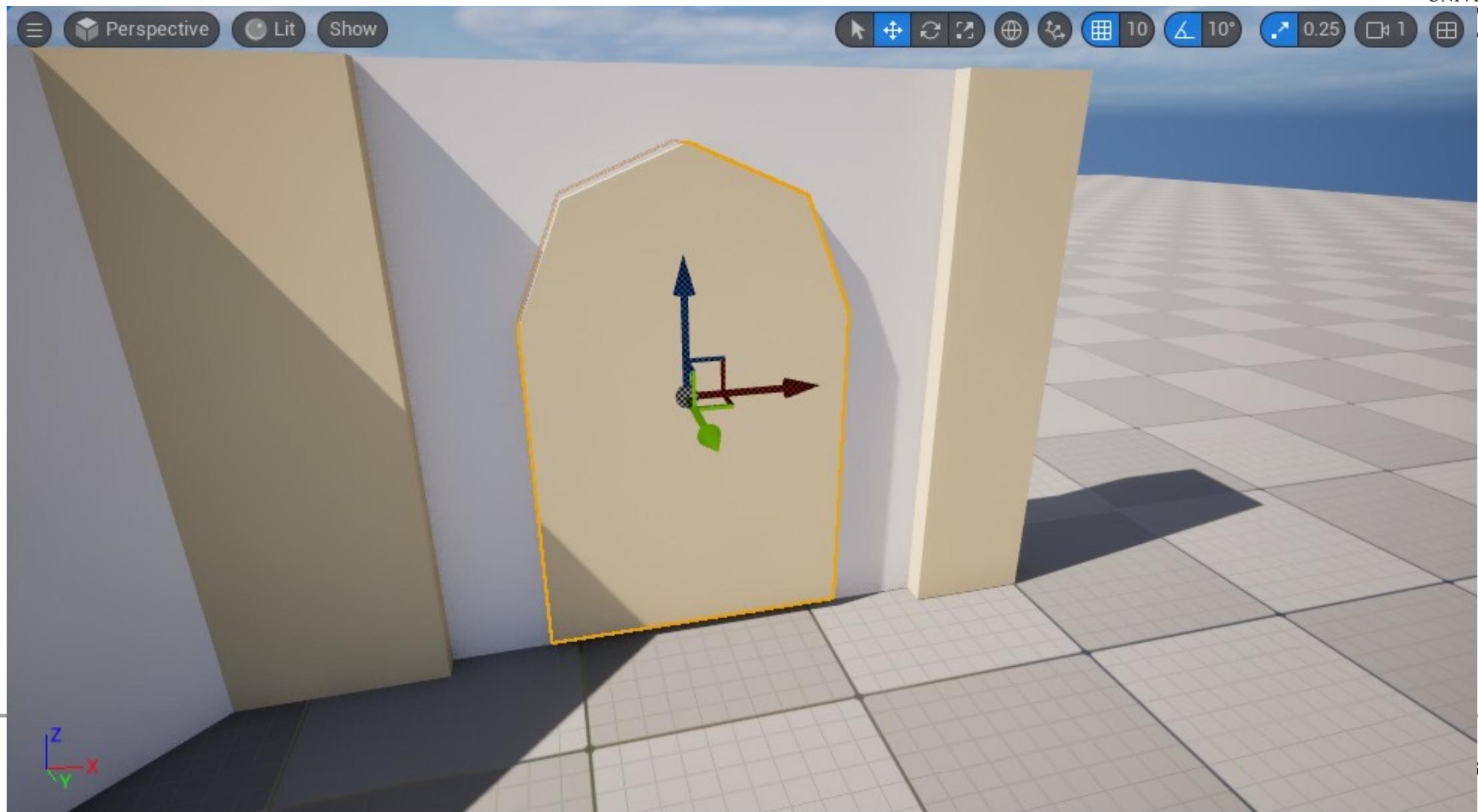


Pivot points

- All models rotate around the pivot point, visually represented by the white ball in the centre of the handle.
- Not so much of a problem for meshes that never move, just awkward to work with...



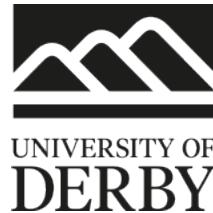
However, consider this door...



Uh oh...



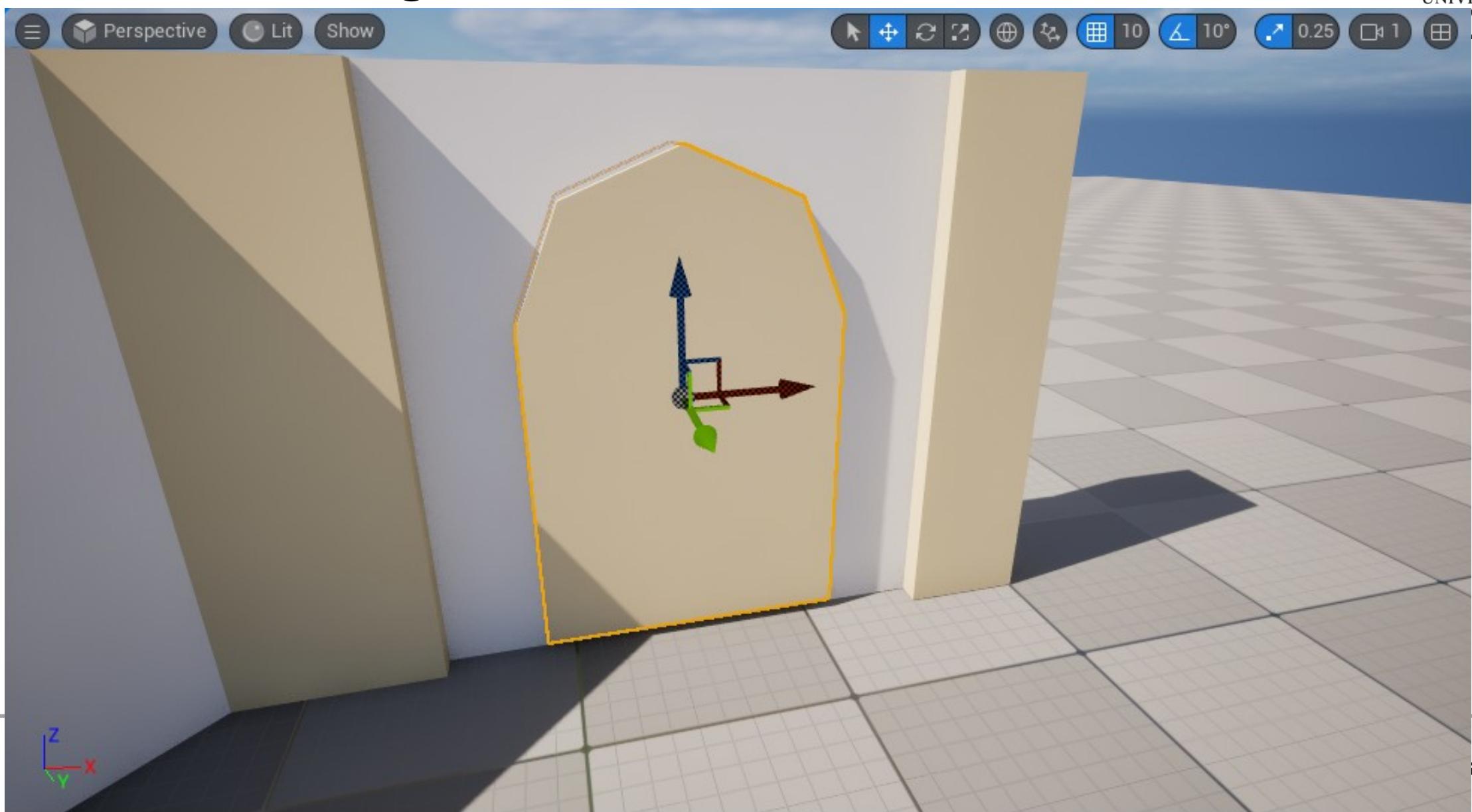
Pivots can be edited...



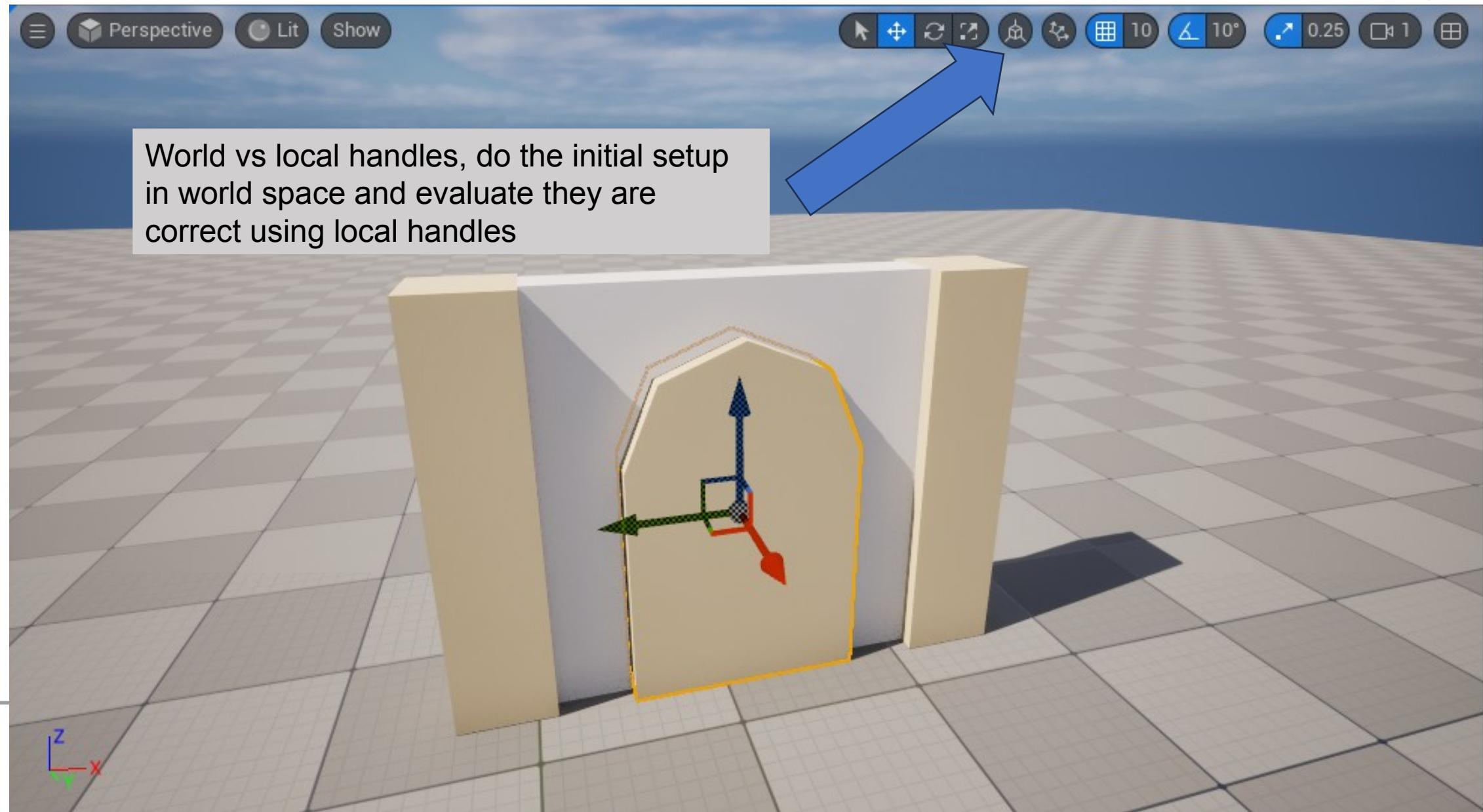
WARNING!!!

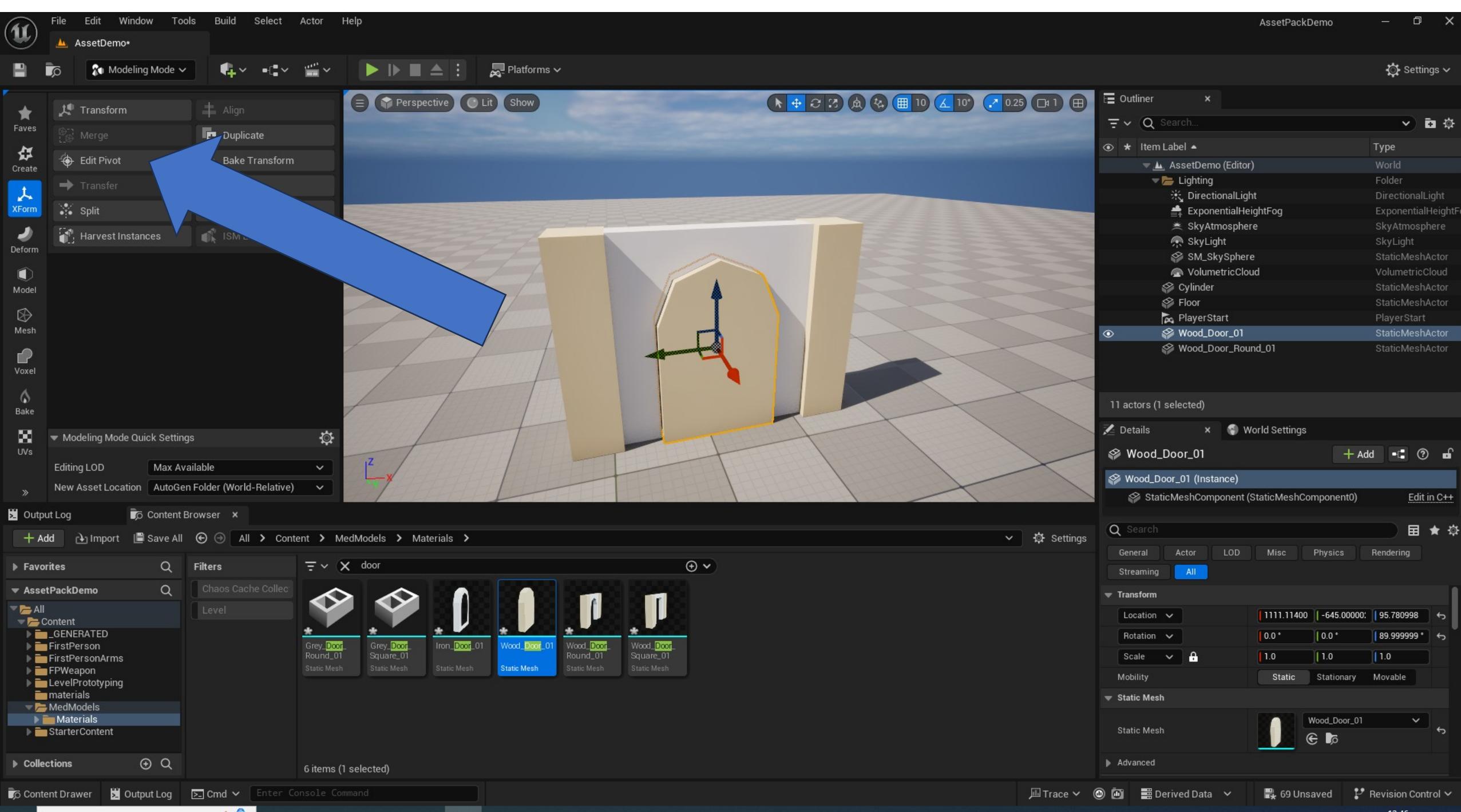
**A PROGRAMMER SHOULD
NOT EVER BE EDITING A
MESH WITHOUT PERMISSION
FROM THE ARTIST!**

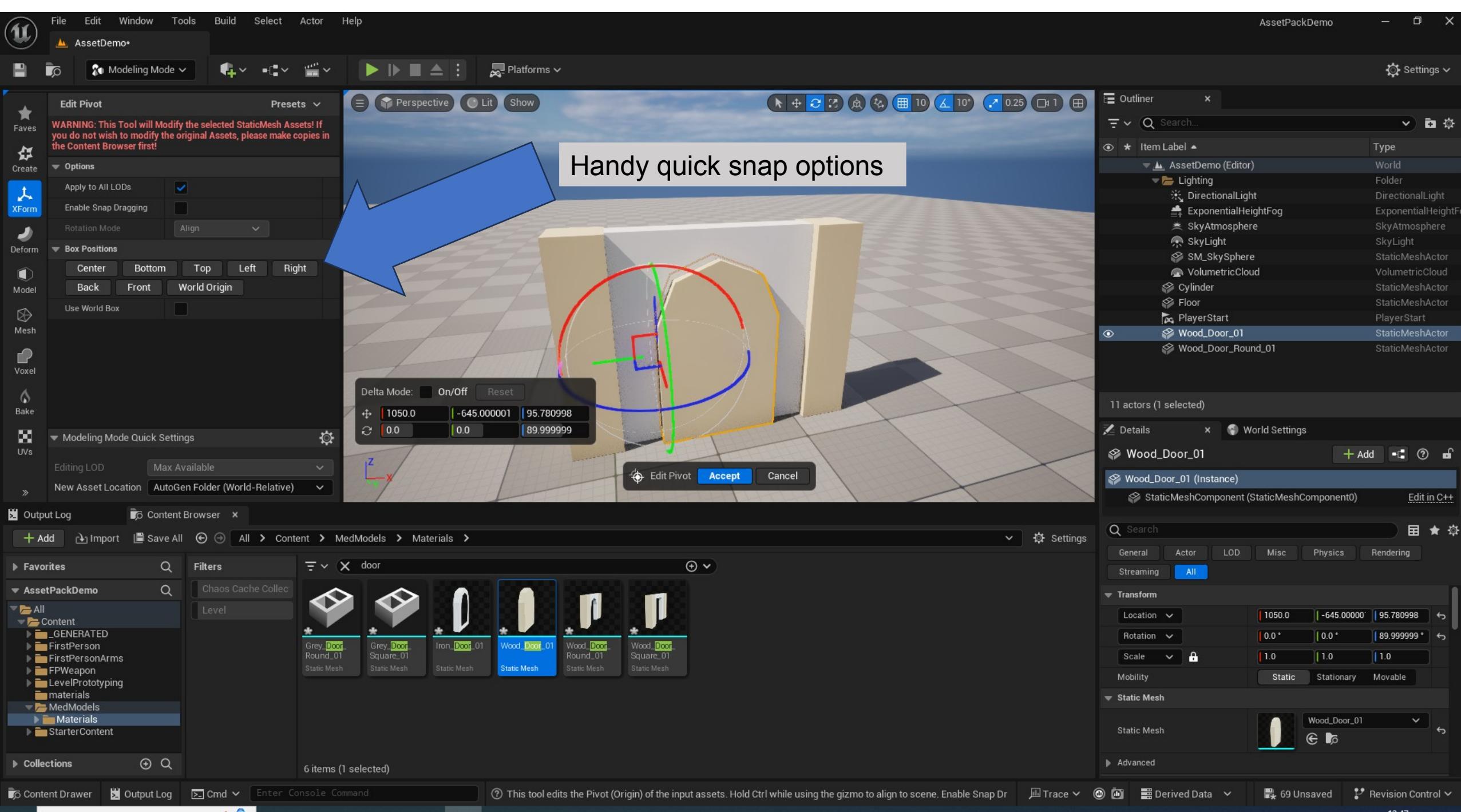
What's wrong with this door?



Better ^







Success!

