

**Why did I make this guide?** Well, I personally love using skydomes in my scenes and I'm sure many others do as well. Problem is there is a very limited selection of HDRIs/Panoramas that are free, and even PolyHaven isn't updated that often or contains the kind of skydome variety I am looking for (such as an aerial city panorama that can be used for an apartment scene in VAM). On the other hand, Google Street View has an enormous amount (more than you can imagine) of street view images that can be used as panoramas. These put those paid HDRI's/panorama's to shame, because these are uploaded and freely available by Google and individuals uploading their own images from all over the world from every setting you can image and the majority are high quality (above 8k) as well.

**Why is this any good and why should I care?** You should, if you like using skyboxes, because whatever you can image in your mind as a skybox (within actual reality of course, no sci-fi), you can go look and find something that fits in. I've been looking for aerial panorama's for my NYC Apartment scenes and found absolutely nothing that fits, until I was able to figure out how to use Google Street views to get the skydomes of distant Manhattan skyscrapers and nearby Brooklyn/Queens suburbs into my scene.

**Why street view? I don't want street level skydomes in my scenes!** Well that's the thing, it's not ONLY street level images that Google has. It has tons of 360 images of being on rooftops, aerial shots from drones, spectacular 360 images of anywhere in the world from cities to deserts to fields to urban areas to...anything!

**Oh shit! That sounds awesome! Now how I do I use a google street view 360 image as a skydome in my scene?**

A few notes before we get started:

- These are Google owned images, even from user uploaded panoramas. That means you CANNOT include them in your paid content. If you share it out to the community as part of VAM content then it needs to be non commercial, non derivative unless you get explicit permission from Google or maybe just the uploader (which I'm sure will entail some kind of commercial use fee).
- This guide assumes you already know how the basics of Unity. If you need a quick tutorial, there's many videos on youtube you can look into. I'm no Unity expert myself, I just know the basics to make assets and skydomes for Unity, that's it.
- If you don't have or care for learning Unity, but you still want a certain set of Google images to use as skydomes within your scene, reach out to me and I'll see what I can do for a very small commission.
- In addition to Unity you will need a piece of software called "Street View Download 360". You will see the link to download this program from the website we will use below

**Step 1:**

Go to this website: <https://istreetview.com/>

The reason we go here and not Google maps directly is because Google maps doesn't readily show you the image ID that we will need. Otherwise it is functionally the same.

Before you do anything, click the link on the left to download and install "Street View Download 360"



Once you have that installed, keep it open in the background. We will continue to use the istreetview website for now.

### Step 2 (quick):

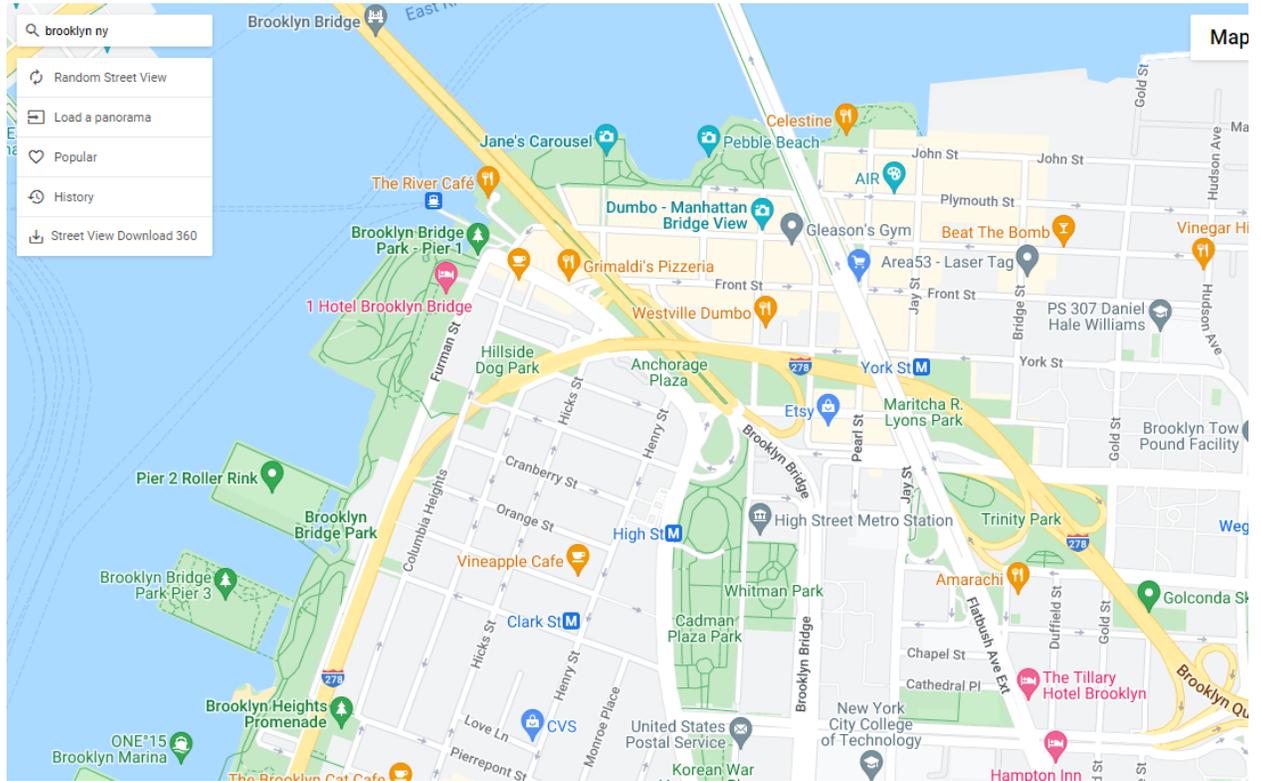
You can quickly find images by clicking on "Random Street View" or the "Popular" link as shown in the screenshot above. Alternatively, you can scroll the bottom for a preset selection of google street view images:



### Step 3 (manual):

More often than not though, if you want something specific you're gonna have to look for it. Unfortunately, there's no easy "search" function for google street view images. The way I do it is like this:

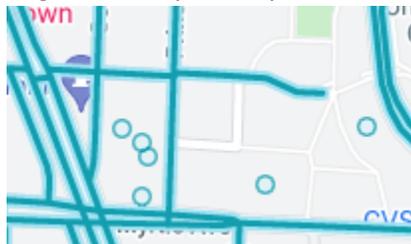
- In the search bar, type in a general address (such as Brooklyn, NY). This will take google maps to the general area you typed in.
- Zoom into the map a bit, this will make finding user uploaded images easier.



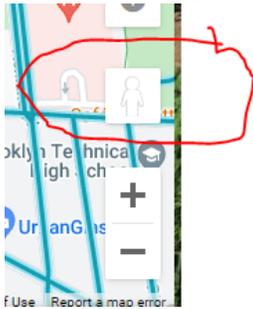
- On the bottom right side of the map, click the icon to show google street view paths



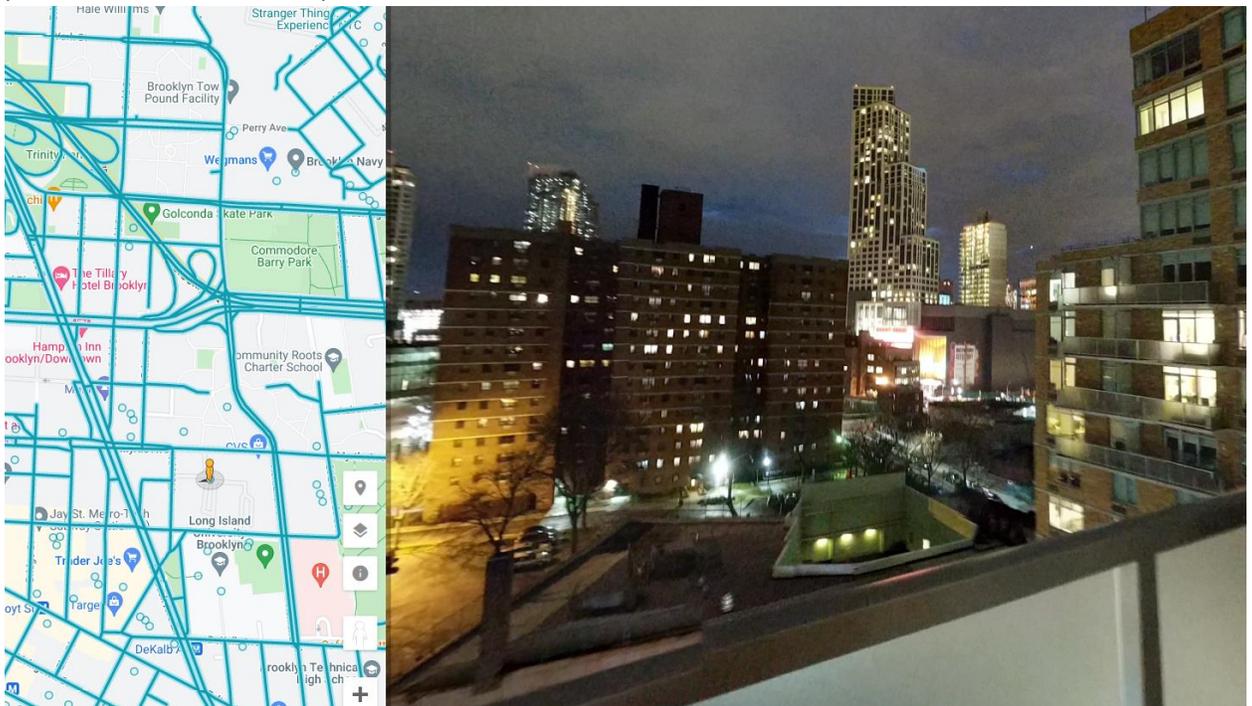
- Now, these are all the google street view paths you can choose. However, make note of the blue circles. The blue circles represent user uploaded 360 images. Most will be functional, some might not be (probably because a user tried to upload something inappropriate):



- Drag the “man” icon to either any blue circle or anywhere in the blue path. This will bring up the street view image on the right side.



- In this below example, I dragged to a random blue circle and it brought up a nice balcony panorama that someone uploaded:



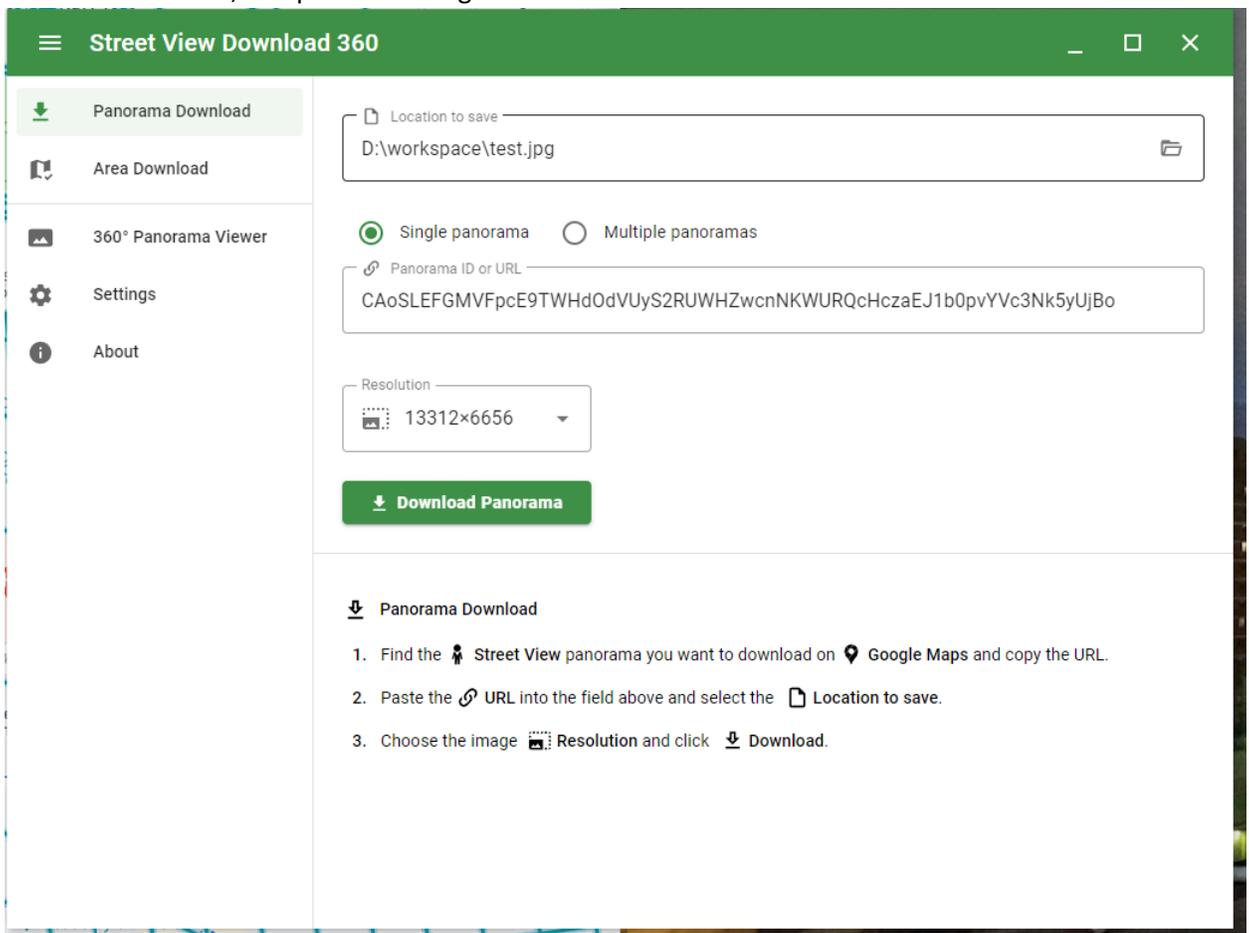
- If you don't like the panorama you found, just keep searching the area. Check the blue circles, the street view paths, eventually you'll find something you'll like, and more often than not you'll run into something you REALLY REALLY like. Remember, you have the ENTIRE WORLD to explore. The first time I discovered this, I spent hours upon hours looking and finding outstanding 360 images that absolutely blew away anything on paid and free sites.

#### Step 4 – Save the image

- On the top left of the panorama image section, click the letter combo to copy the image ID:



- Open the Street View 360 program that you downloaded/installed earlier. Choose a save location for the file, and paste the image ID into the middle section.

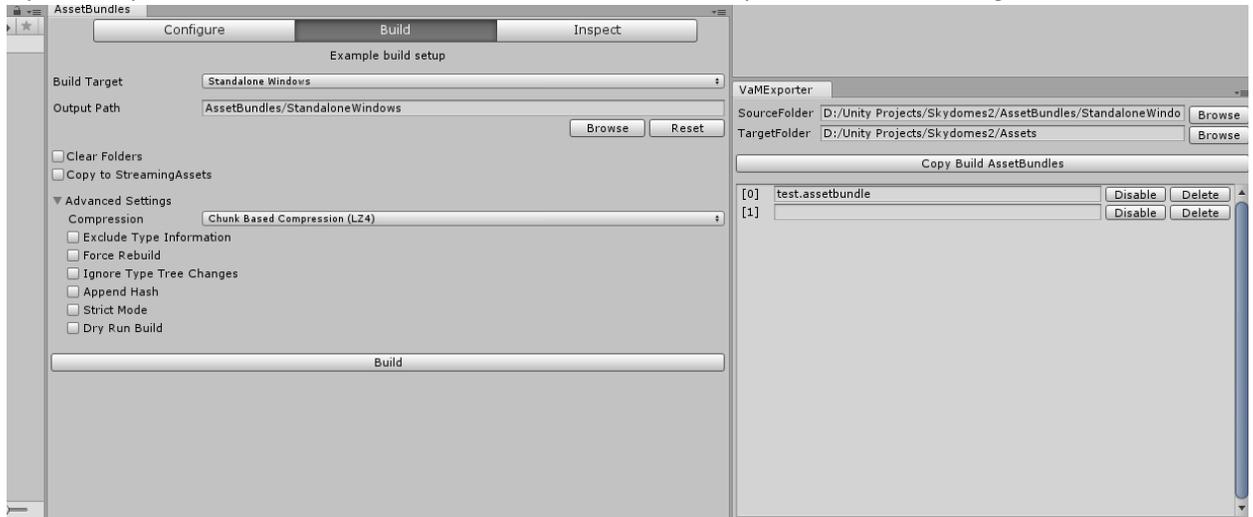


- Choose the resolution (I always choose the highest available) and then click Download Panorama. This will save the image into the location you specified. Note that the higher the resolution the panorama is, the bigger the file. Not really a concern for most people, but something to keep in mind if you wanna pack a ton of skydomes into one asset for use with VAM. **IMPORTANT – In addition to quality, the number of tiles determine how good the**

**resolution is in VAM. The higher the tiles, the better. Unfortunately you will often not be able to visually tell the quality difference between a 32 tile panorama from one with 100+, not by the saved image or the panorama itself in street view. Only when you convert to a skydome and load it in VAM will you see just how ugly a 32 tile panorama will look (usually it looks excessively grainy). Keep that in mind when downloading street view images. Luckily though, low tile panoramas will be rare and not the norm.**

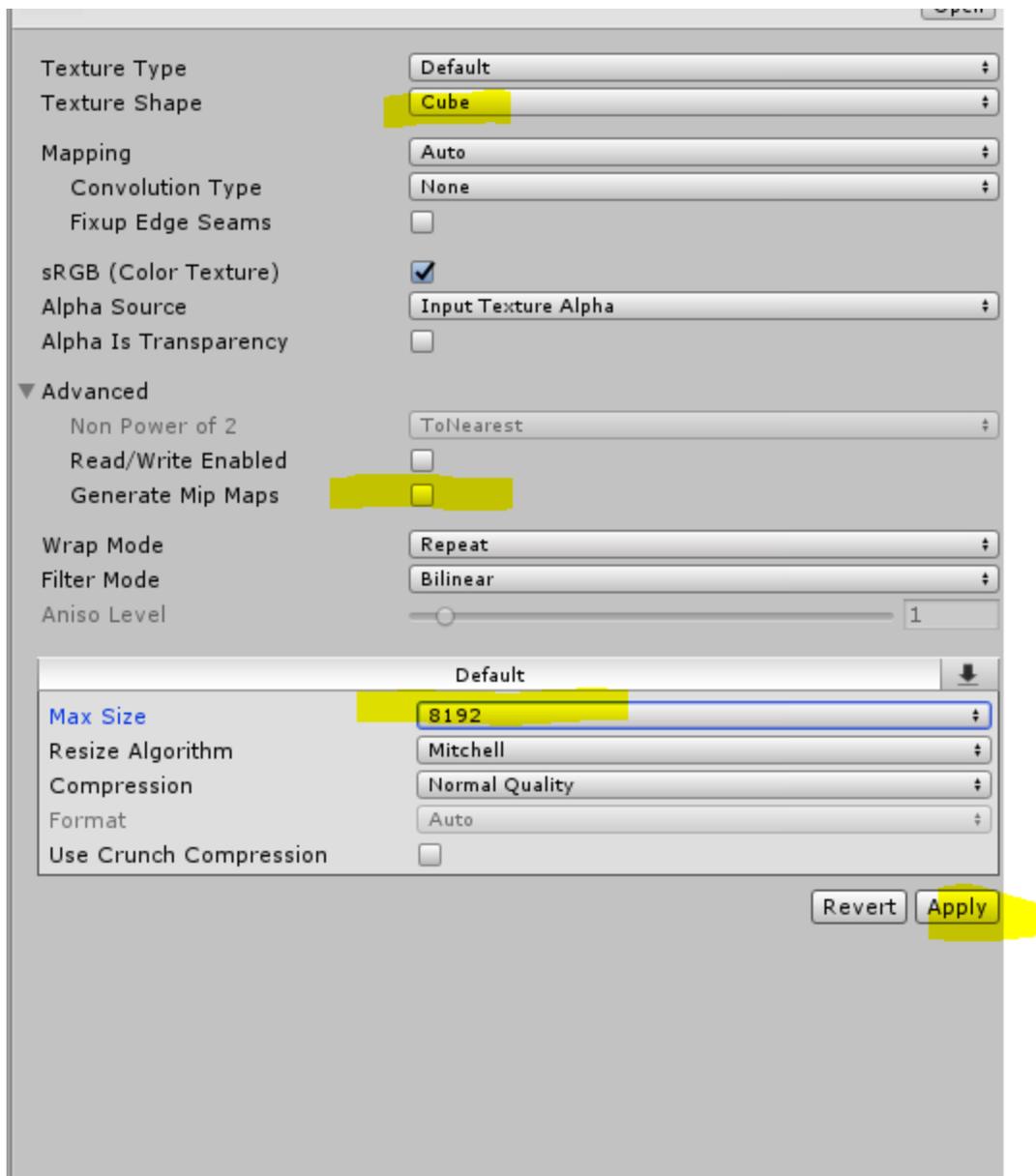
#### Step 5 – Open Unity Editor

- Open Unity Editor and make sure it includes the VAM Asset Exporter / Bundle configurator



#### Step 6 – Import the panorama image

- In the assets area, right click and choose “Import New Asset” and load the image
- Set Texture Shape to: Cube
- DISABLE generate mip maps
- Set the quality (2k or 4k or 8k). Note the higher the quality the bigger the file. 4k works great and is best trade off for file/image quality. 8k is recommended if you really want to see finer details of the skydome in VAM and it’s worth the file size trade off to you.
- Hit Apply



#### Step 7 – Create new material

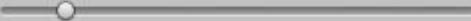
- Right click the assets area again and click “Create” → Material
- Set the shader to Skybox → Cubemap
- Drag the image from the assets area into the material thumbnail as shown below

**Inspector**

bkd 803

Shader **Skybox/Cubemap**

Tint Color 

Exposure  1

Rotation  0

Cubemap (HDR)  **Select**

Render Queue **From Shader** 1000

Double Sided Global Illumination

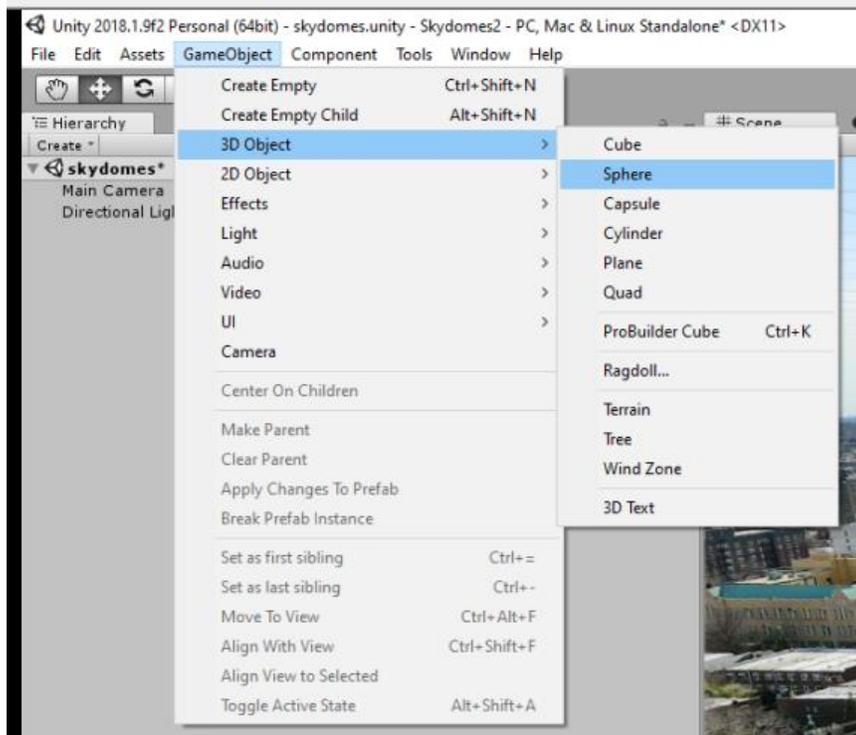
bkd 803



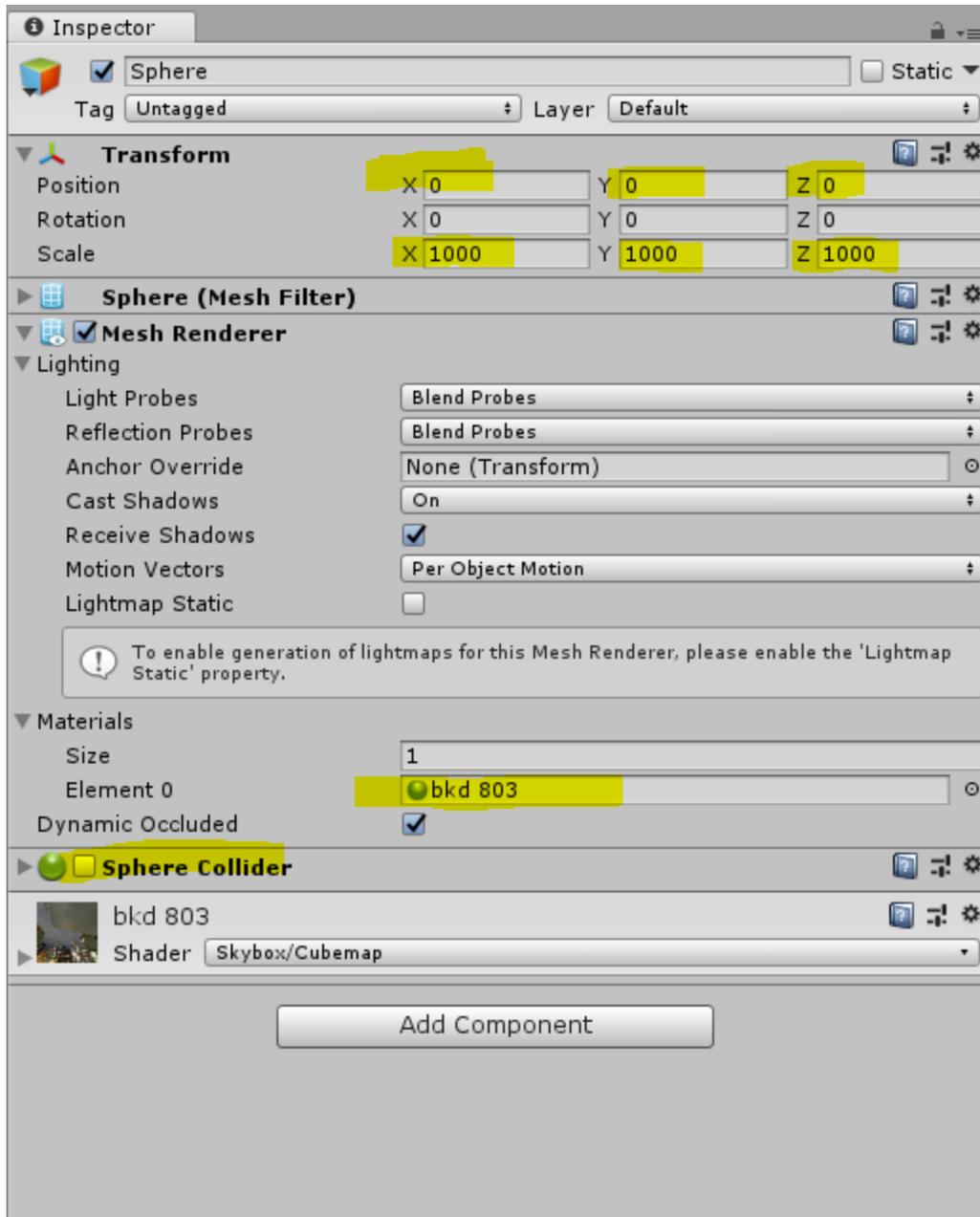
AssetBundle **None** **None**

## Step 8 – Create a new sphere and apply skydome

- From the top title bar choose GameObject → 3D Object → Sphere



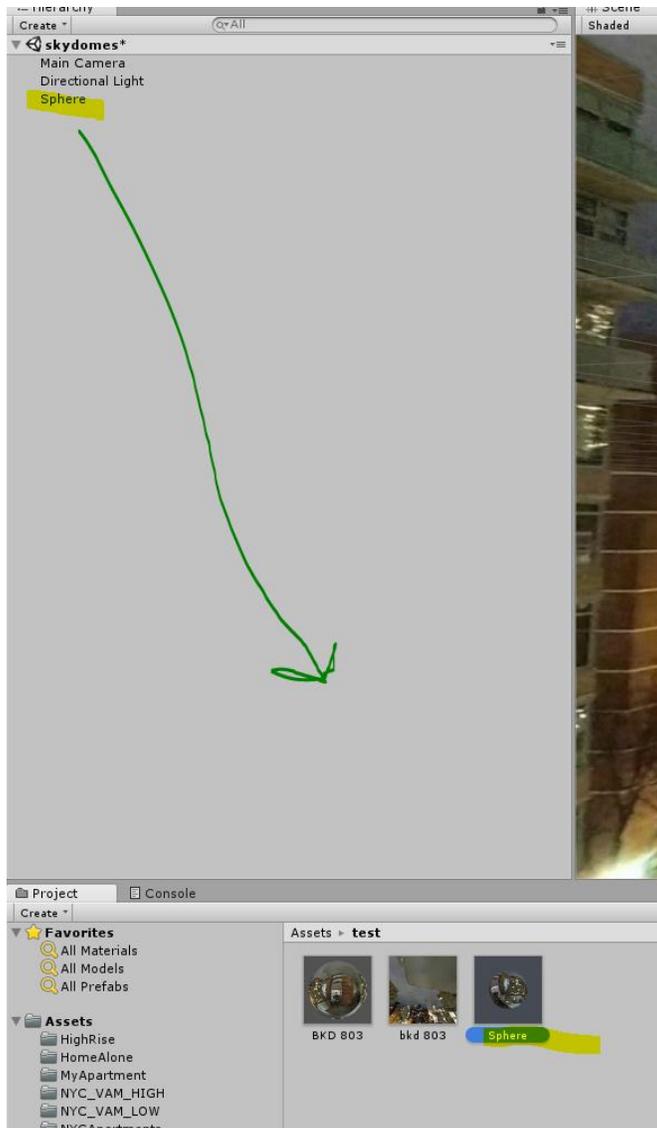
- Configure the sphere as follows: set coordinates to ZERO, scale to 1000, and disable mesh collider. 1000 is recommended for a nice big skydome that gives a good feeling of distance and depth. If your skydome is not aerial and much closer, like street level, you can set this number lower, like 300, which makes the skydome smaller in VAM.
- Drag the MATERIAL (not the image) from asset area into the sphere material (element 0 under “materials”, NOT the “default material” area)



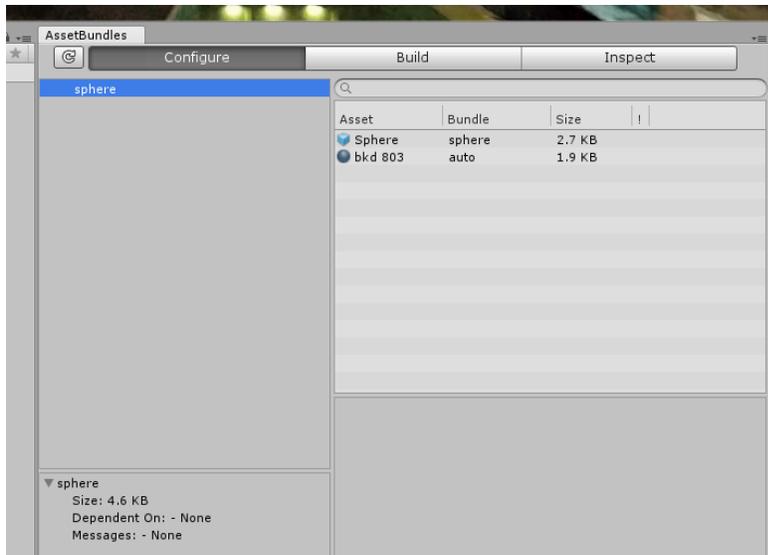
At this point, you should see the skydome within the Unity editor and look up/down/around etc.. Now we need to export it to use with VAM.

#### Step 9 – Create skydome prefab

- Drag the sphere from the hierarchy into the assets area, this will automatically create a prefab. At this point you should name the sphere to something if you haven't already.

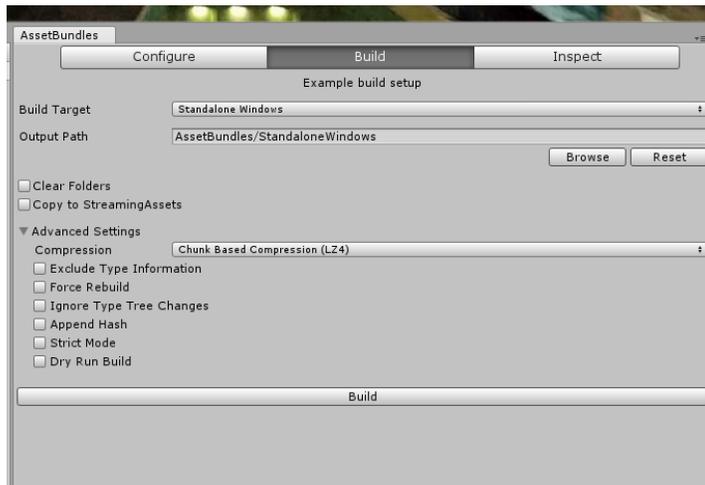


Step 10 – From the assets area drag the sphere prefab into the AssetBundle area. This will automatically include all related images and assets files for the skydome. Make sure whatever name is in the build window is lower case.



## Step 11 – Build

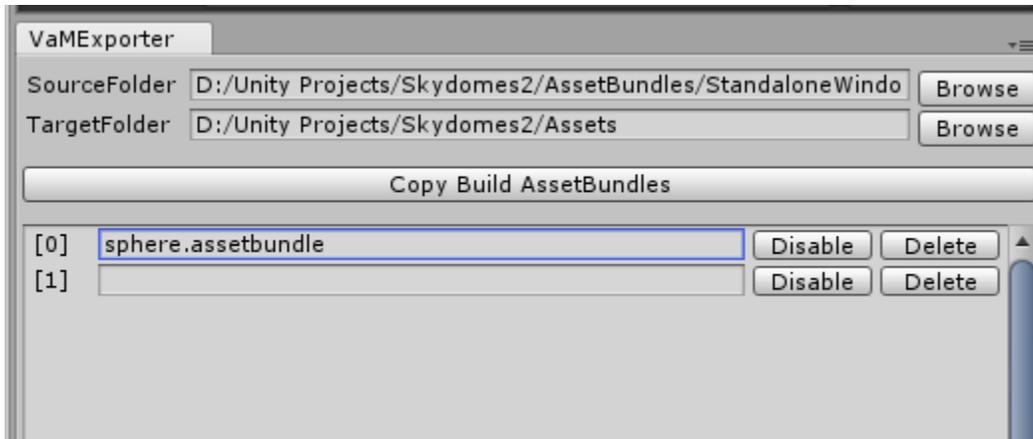
- Click the build tab and configure as follows. I use chunk based compression. I'm not going to get into details of the individual options, there are other guides for this, but basically this is all you need



- Click the build button and this will build the asset

## Step 12 – Export

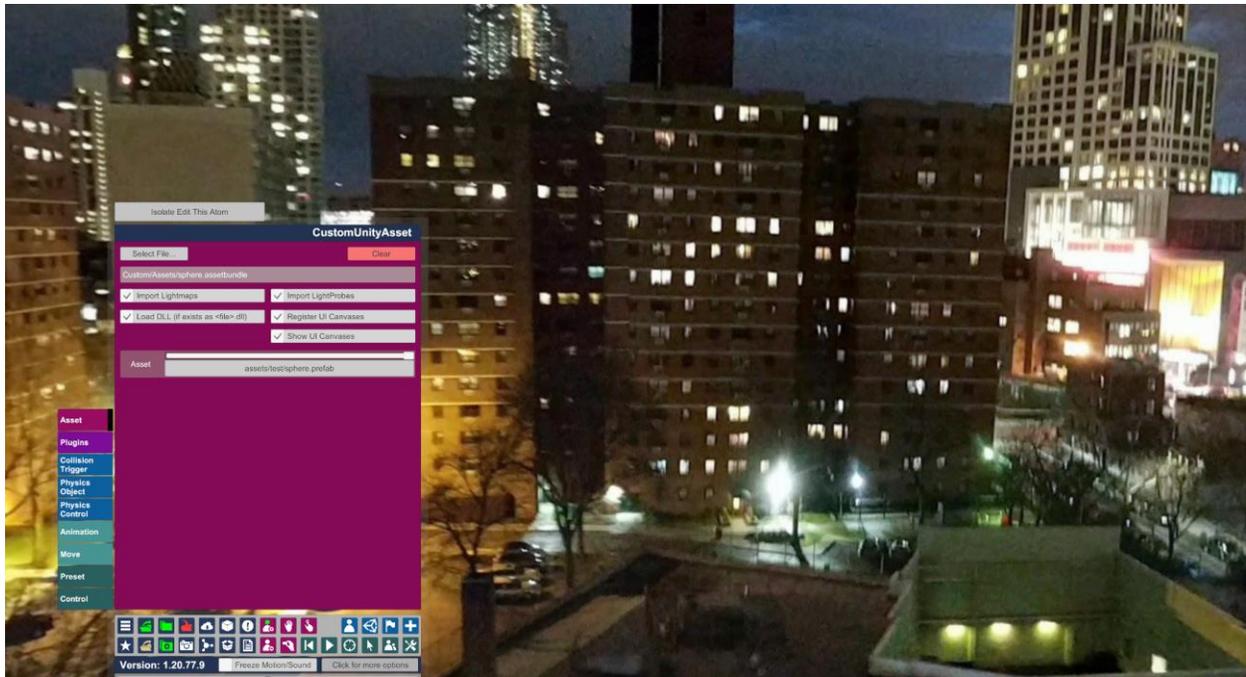
- After the build is completed, go to the VAM Exporter tab.
- re-enter the EXACT SAME NAME as the build name, but add “.assetbundle” file extension at the end.
- Make note of where the target folder is to pick up the asset bundle later
- Click “Copy Build AssetBundles”



### Step 13 – Load into VAM

- Locate and pick up the assetbundle file from the target folder
- Drop it into VAM/custom/assets folder
- Load VAM
- Load new empty scene or any scene of your choice
- Add a custom unity asset atom
- Load the assetbundle you just created

The skybox should now be active. That's it! Personally this balcony skybox looked like utter shit in VAM so I wouldn't use it at all. But that's the fun of it, you explore and find images that may or may not be useful to you!



## Final Notes:

1. I bought the Pro version of street view download so I can use the area download. This way I just download all user panoramas in a given area, and just sift through the saved images in my folder to see which ones I want to keep. This saves SO much time compared to just jumping from blue circle to blue circle, which often you can miss a good panorama especially since some blue circles don't appear unless you zoom further into the map. If you buy the pro version, you will need to separate the official google street view images from user uploaded images, otherwise your area download folder will be cluttered with thousands of unwanted street views along every street pathway. There is a method to do this, reach out to me if you want to know how (requires another tutorial in itself).
2. Just in case it wasn't clear, don't use these in your paid content.
3. Use the built in panorama viewer in Street View 360 to preview your downloaded image files. This will approximate how it will look in VAM. You can usually spot the uglier 32 tile images in the built in panorama viewer so you don't waste any time converting it in Unity.