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Getting Started

VIVE Sync allows users to import a 3D model into a virtual meeting space. Once imported a user can move, scale, and rotate that object. Sync is in a BETA phase and support for additional 3D models types will expand over time. For now, only the formats below are officially supported. Due to the complexity of some models and the numerous 3D programs we have provided a guide for our recommended techniques to save/export files. If you encounter any problems or have any requests, please contact the Sync team at Sync_support@htc.com

Supported File Formats

3D Formats

Unity Asset Bundle (.ab)
FBX (.fbx)
OBJ (.obj)

***Note:** There is a 60MB limitation for your overall file size.

2D Formats (*textures*)

PNG
JPG (baseline & progressive - 12 bpc/arithmetic not supported)
BMP (non-1bpp, non-RLE)
TGA

***Note:** Currently, Sync only supports texture resolutions of 2048x2048 pixels. If you encounter the error message, "*Load failed*", after trying to load a model into the virtual environment, try re-saving your textures to a smaller resolution. We suggest not to use high-resolution textures, specifically, avoid using textures that are 4096x4096 or larger.

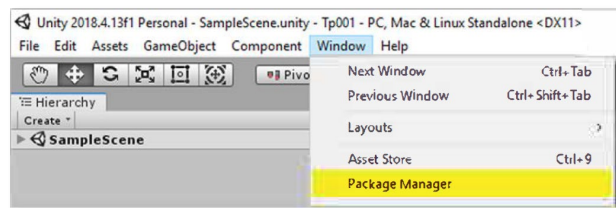
Unity Asset Bundle Preparation & Export Guide for Sync

Step 1: Launch Unity

***Note:** Currently, Sync specifically supports Unity 2018.3 and Unity 2018.4, overtime, we will expand to later versions.

Open Unity.

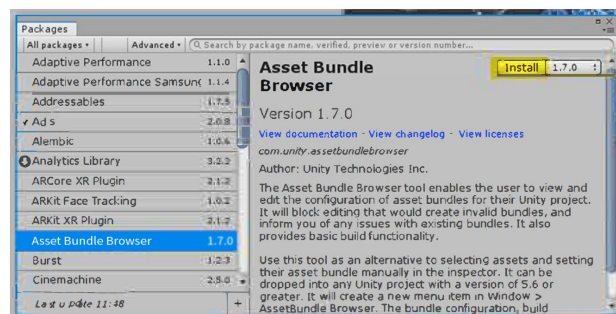
Go to **Window>Package Manger**



***Note:** If the Package Manager is not listed, try using the supported versions of Unity noted above.

Step 2: Install Asset Bundle Browser

Let the **Package Manager** load the full list. Search (scroll) for **Asset Bundle Browser**. Install it.

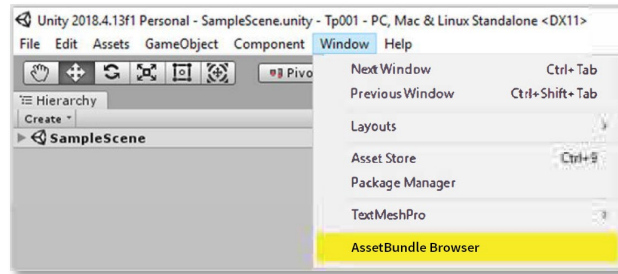


(***Note:** The **Package Manager** is accessible in the recommended versions of Unity that Sync supports.)

Step 3: Open Asset Bundle Browser

Now, under **Window**, you will see the **AssetBundle Browser** listed.

Click and open **AssetBundle Browser**.

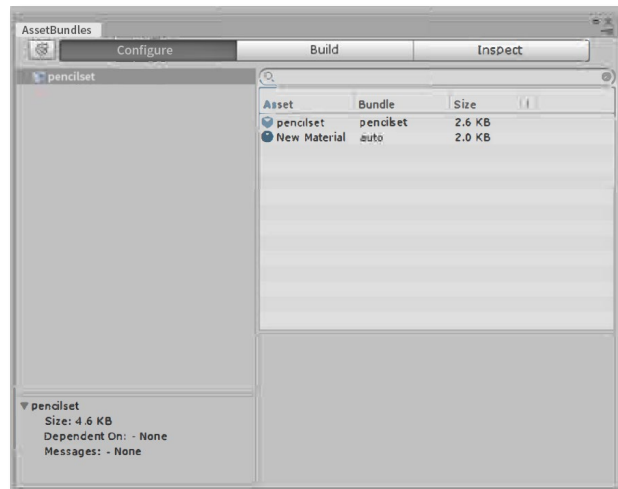


Step 4: Configure – Drag & Drop

Grab your prefab and drag and drop it to the **Configure** tab under the **AssetBundle Browser**. It will automatically list all the assets included in the prefab.

****Important notes regarding prefabs:***

- Make sure your prefab name has only lowercase letters and nothing else. (***Note:** Having uppercase letters, dashes, underscores, & symbols can create problems for asset bundles.)
- Sync supports up to 2K textures. Your prefab cannot have textures larger than 2048x2048 pixels.



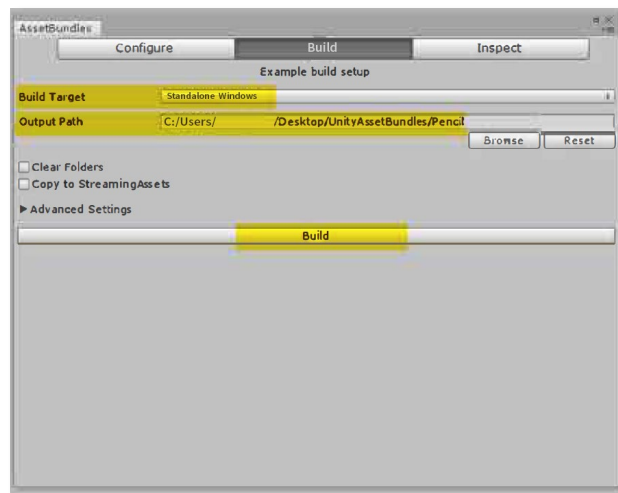
Step 5: Building for PC

***Note:** In order to ensure all participants can view your model, it is recommended to **Build** for both platforms (PC & android) to accommodate all headsets.

Switch to the **Build** tab.

Then, set your build target, **Build Target>Standalone Windows** (for Sync PC)

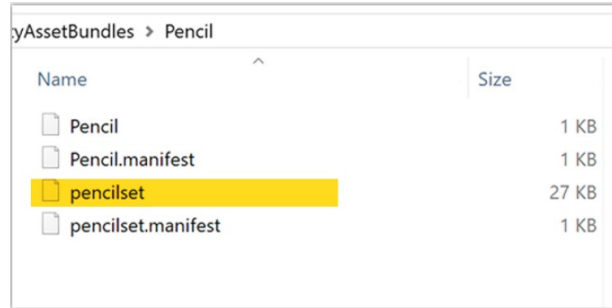
Set your **Output Path** and, then, click **Build**.



***Note:** Your asset bundle file cannot be larger than 60MB. If the output file size exceeds 60MB, please, go back to the Asset Bundle editor and reduce the number of objects and/or reduce the number of polygons and/or lower the resolution of the texture/s.

Step 6: Rename for PC

Go to your Output Folder. Look for your prefab name. (In this example, it was 'pencilset' and 27KB. The output file is typically the largest file in the Output Folder.) Copy this file into a new folder and rename the file by keeping its name and adding, '_windows.ab' to its name.

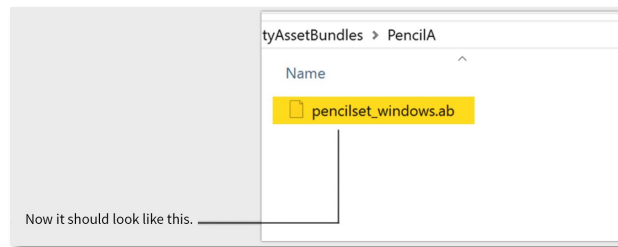


***Important Note:**

Do not change the file name! In this example, the output file was exported as 'pencilset.' This part cannot (should not) be renamed, otherwise it won't work. Just add '_windows.ab' to the name of the file.

Example:

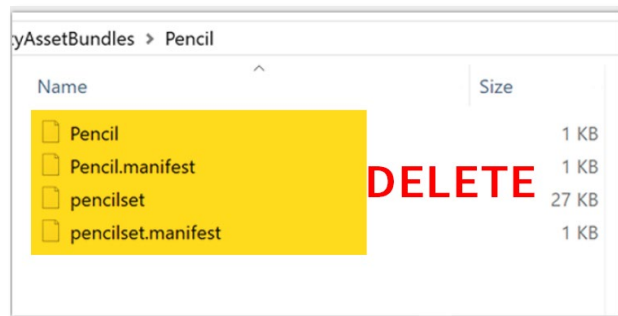
pencilset_windows.ab should not be changed, such as, to **mypencil_windows.ab**



Step 7: Deleting for Android Build

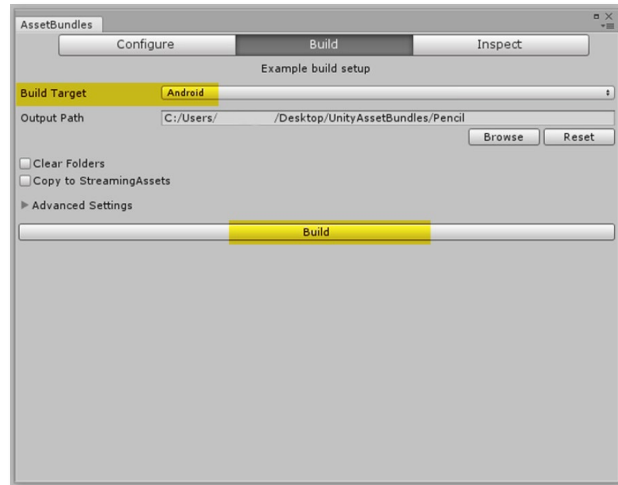
Go back to your Output Folder and delete everything.

This step is needed to reexport for the Focus version of Sync, the PC assets must first be removed (deleted).



Step 8: Building for Android

Go back to **AssetBundle Browser**. Switch **Build Target** to **Android**. Build again.

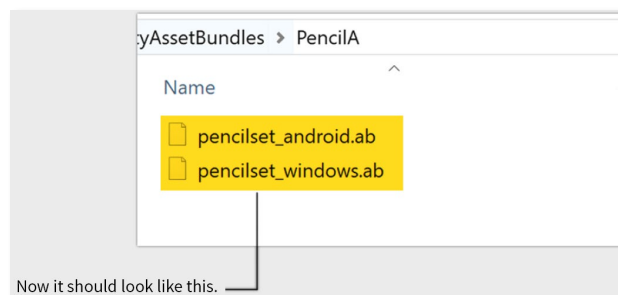


Step 9: Rename for Android

Go to your Output Folder.

Look for your prefab name. In this example, it was still 'pencilset.'

Copy this file into the new folder you created and add, '_android.ab' to its name. Do not change the name of the file. (Refer to Step 6, if needed.)



Step 10: Upload to OneDrive or Directly from PC

Upload all files to the OneDrive folder used with Sync, or directly from your PC, by going to <https://sync.vive.com> and follow the steps in the **Sync User Guide** to synchronize the files to your meeting room.

You're done!

***Note:** Remember, when you load in the model in Sync, it will work for both PC and Focus users, depending on which version is loaded ('*_windows.ab' or '*_android.ab'). For example, Focus users cannot see a '*_windows.ab' file, but PC users can see either version.

3D Model Loader Manual

***Note:** Although we use physically based shading (PBS) textures, such as metallic maps and roughness maps, in the examples below, we do not support PBS textures yet.

***Note:** FBX and OBJ files must first be converted to a .zip file before uploading. If you want to include textures, follow these steps:

1. Keep all texture file names the same as they were used in the 3D software application.
2. Zip the 3D model and all textures into a .zip file (***Note:** If the texture files are in a subfolder, you should include the entire subfolder in the .zip file).

***Note:** All models should follow the basic concepts of 'best practices,' specifically, please, perform a quality check to the method of construction by verifying that your model's geometry is 'clean' (this applies to both FBX and OBJ files used in the 3D software applications). To ensure this goal, perform a cleanup process on the model by making sure to remove all:

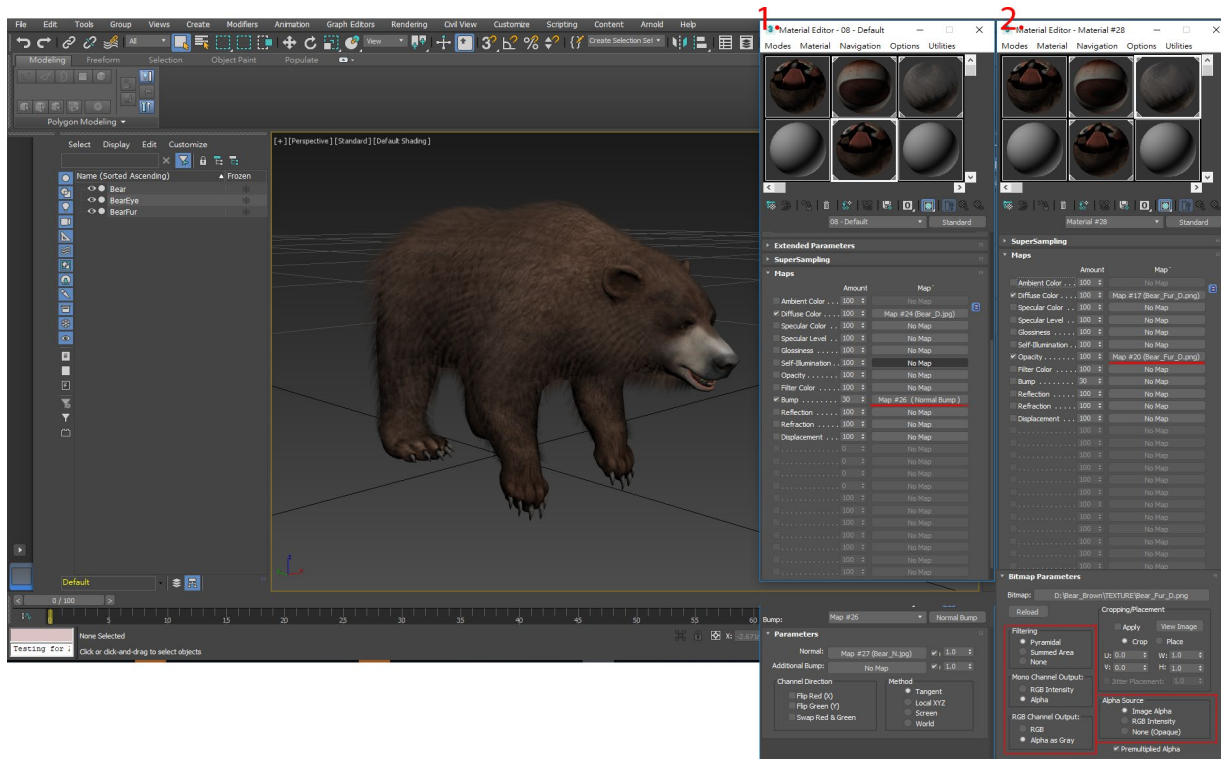
- a. 0 area faces
- b. 0 length edges
- c. Non-manifold geometry



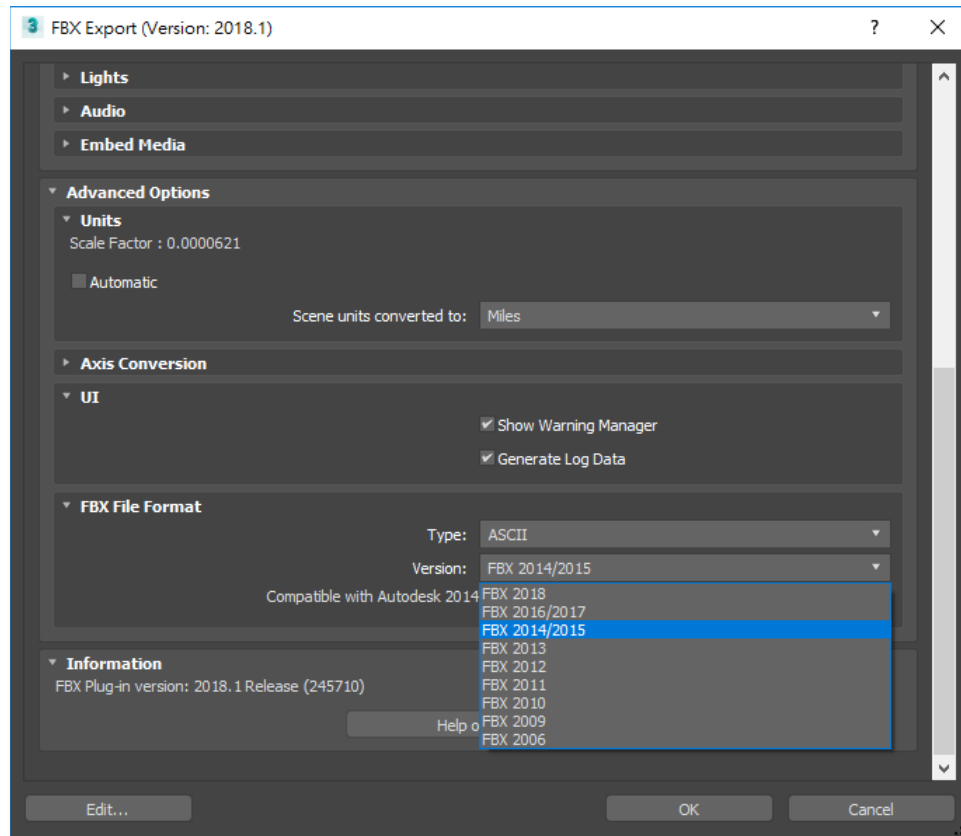
3DsMAX Preprocess

***Note:** Currently, 3D models exported from 3DsMAX with the normal map function is not supported.

1. Import your 3D model.
2. Check all texture mapping settings per material.




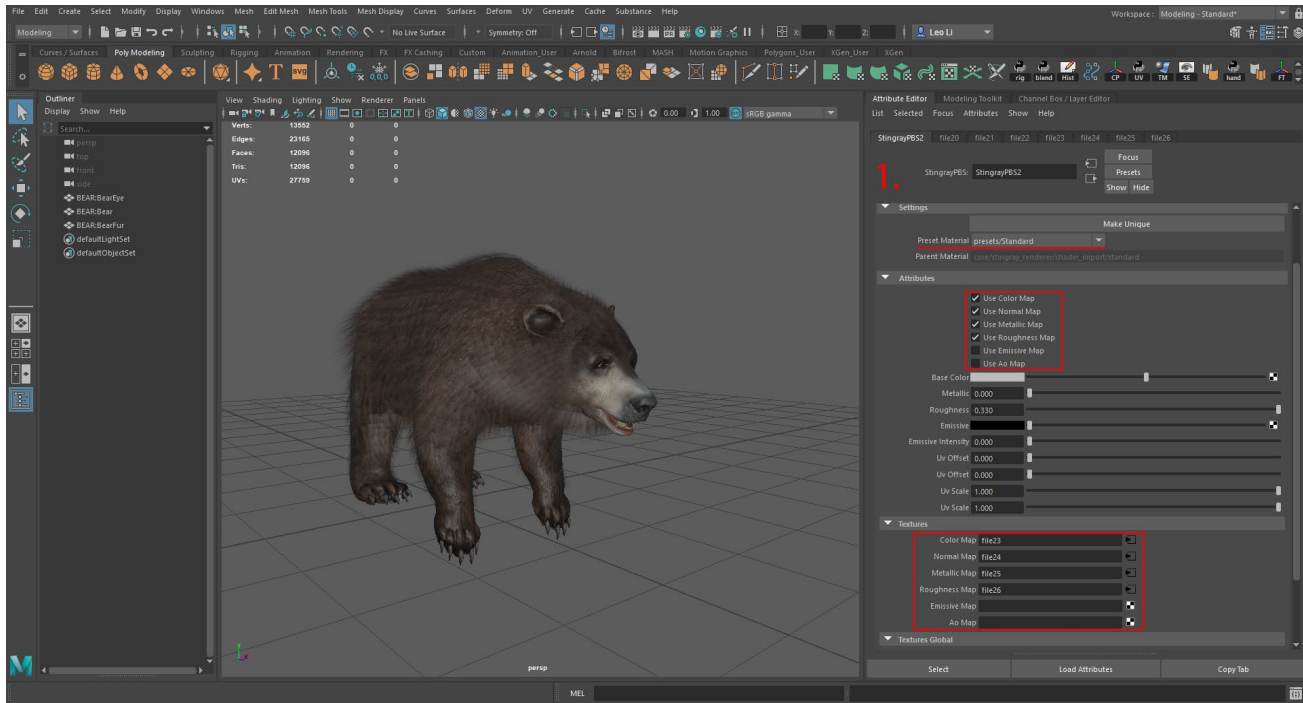
3. Export your 3D model. (We suggest using FBX plugins 2015; however, you can use a higher version, too.)



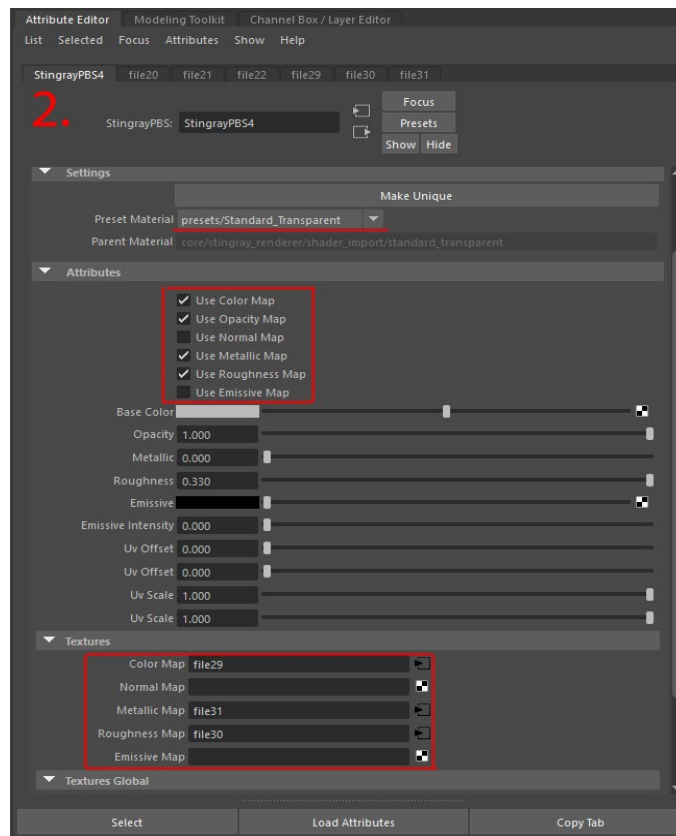
MAYA Preprocess

***Note:** Currently, 3D models exported from Maya as an OBJ format are not supported, only the FBX format is supported.

1. Import your 3D model and check all texture mapping settings per material 



(above image: Standard Mode)

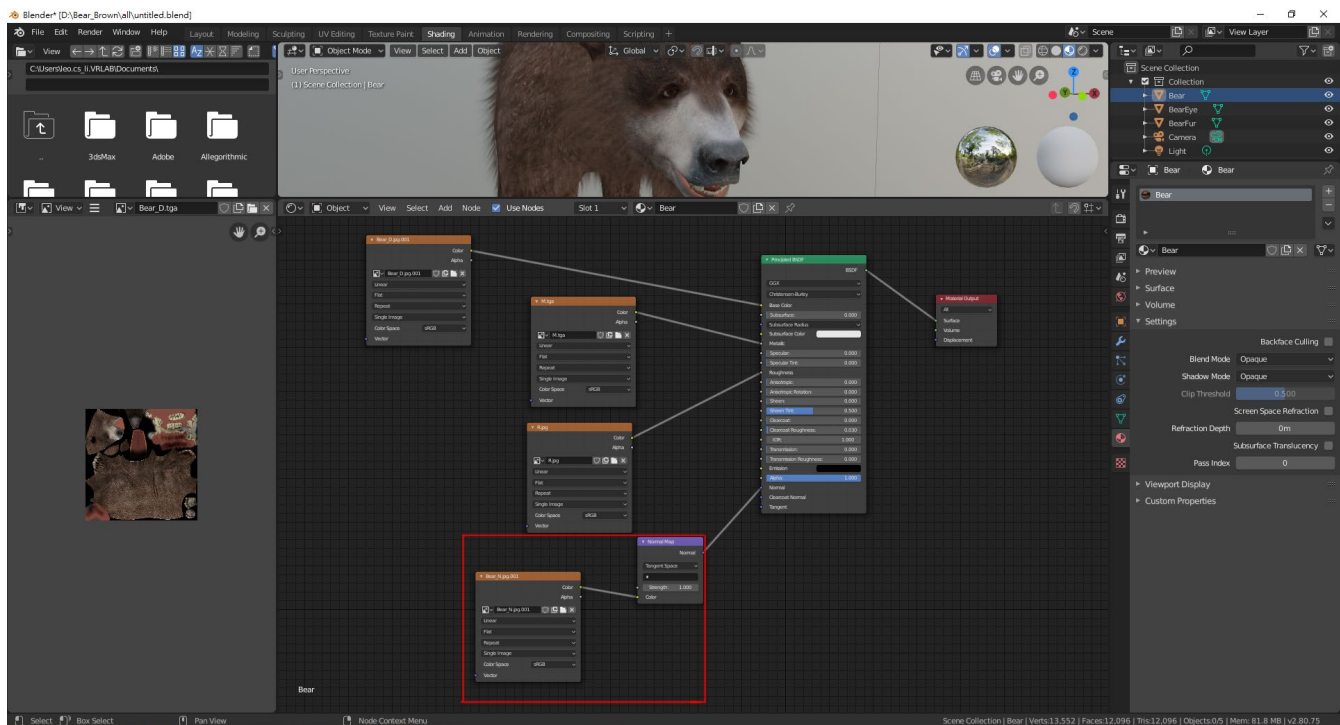


(above image: Transparent Mode)

2. **C**urrently, we suggest using the **StingrayPBS4** for correct PBS settings. You can use other materials, such as Lambert, but Lambert material may get the wrong PBS settings, particularly, the smooth value.
3. Export your 3D model.



1. Import your 3D model.
2. Check all texture mapping settings per material.
3. Use the correct normal map setting so that the normal map function can be supported.



(***Note:** The blue normal map node is necessary [as observed with the settings in the red rectangle], otherwise the normal map will be lost.)

4. Export your 3D model.

Uploading

You can follow these steps to upload your 3D models.

1. Keep all texture names the same as when they were utilized in the (particular) 3D software application that was used to create (export) the 3D model. Don't change texture names post the exporting process.
2. Pack your 3D model and all its textures to a .zip file. ***Note:** We don't prevent you from using subfolders, but we suggest not doing this with the .zip file. (We only ensure a better rate of success with one .zip file that contains one 3D model file and its associated textures without subfolders.)
3. Upload the .zip file to your OneDrive, or upload directly from your PC. ***Note:** Before uploading your .zip file, please, check the size of your file (.zip or .ab) does not exceed the 60MB limitation.
4. If you upload to your OneDrive, then synchronize your files using the Sync website. Go to the website (<https://sync.vive.com>) to key-in corresponding information.

Utilization in the Sync Application

In the application, you can follow these steps to load your 3D models.

1. Open your VR Tablet by pressing the menu button.
2. Click on the File Browser icon (located on the VR Tablet).



3. Select the 3D model you want to open.