Environment converter and builder

Switch APK

Edit Audio

Panorama builder

Custom 3D environment builder

3D file preparation in Blender
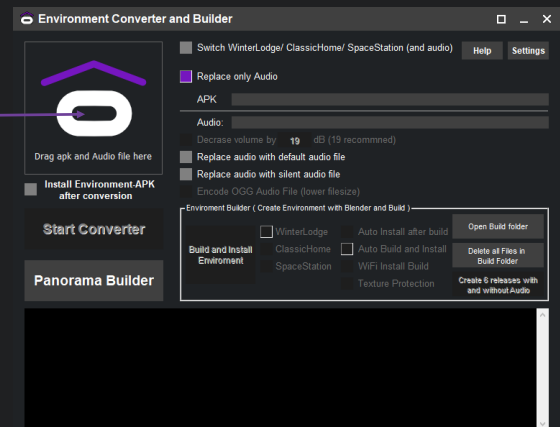
WiFi Install

Settings

Switch APK

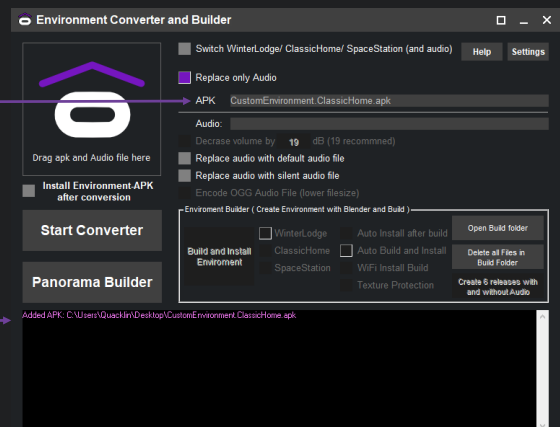## Switch between the different environment APK's

CustomEnvironment.
ClassicHome.apk

Drag the environment APK you want to change on the Quest Homes icon.

Then it will show up in the APK path

The console will show you that you added an APK file.

Select the Switch [**Environment Name**] toggle.

When your Quest is connected via USB and it is turned on, you can select [**Install Environment-APK after conversion**] and it will install the new created APK automatically on your Quest.
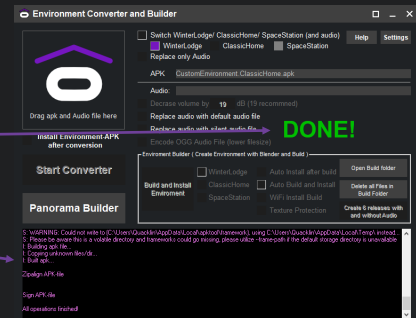
[**Start Converter**] will now light up and you can press the conversion process by pressing [**Start Converter**].
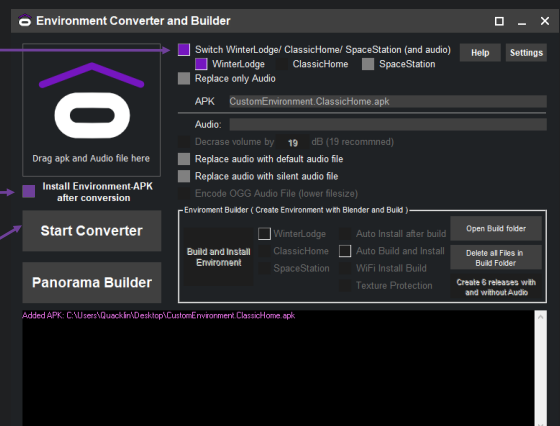
After finishing the conversion process an explorer window will pop up, asking you where to save the new file.
Choose your destination and press [**Save**]
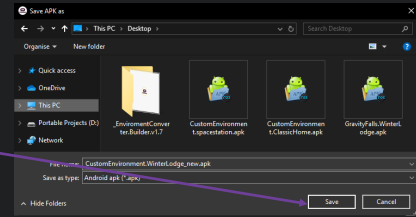
When the process is finished with success, it will show [DONE].

Keep an eye on the console.
It will always show you the current state.

Edit Audio

Drag the environment APK you want to change on the Quest Homes icon.

Most audio files are too loud to use as ambient sounds. Select [**Decrease volume**]. -19db is the default value, which works great. But feel free to change it to what ever suits your needs.

Default Audio
Select [**Replace audio with default audio file**] to restore the audio from the original environment.

Silent Audio
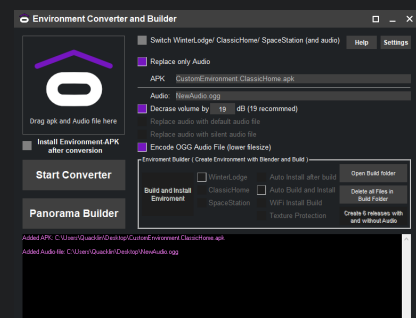To remove audio completely, select [**Replace audio with silent audio file**].
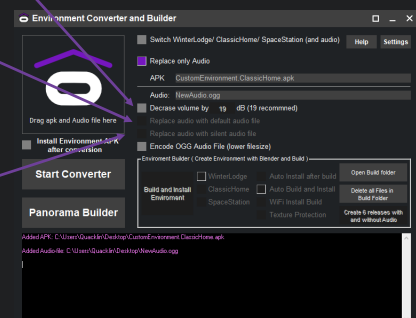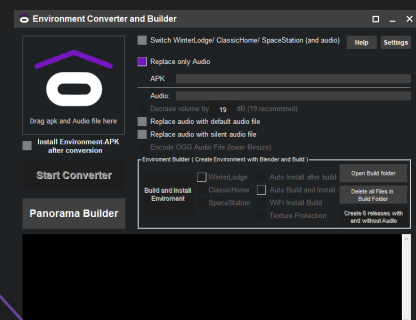
Replace Audio

Drag the audio file you want to apply on the Quest Homes logo.

Supported audio files:
.aiff
.mp3
.flac
.ogg
.pcm
.wav

Panorama builder

Create an environment based on a 360° image

Drag in the 360° image (preferred jpg) and an audio file.
(Supported Audio file at page 2).
If you don't want a custom audio file you can choose [**Default Audio file**] which will adds the fireplace audio from the original environment.
When selecting [**Silent Audio file**] the environment won't have any audio playing

Requirements for the 360° panorama image:

Recommended
minimum resolution: **4096x2048**
Maximum resolution: **8192x4096**

Aspect ratio: **2/1**
(The horizontal axis should always have exactly the duple amount of pixels than the vertical axis)

Drag the green line to set the desired centerpoint of the panorama image.
This will be the position you will be facing when resting the position in the Quest.

Press [**Build Panorama**]
to generate the environment APK.

The generated APK will be saved in to root folder of the Environment Converter tool.
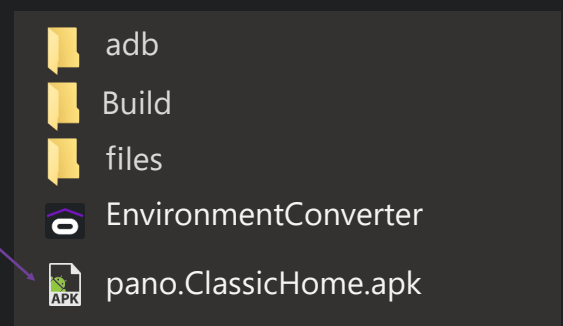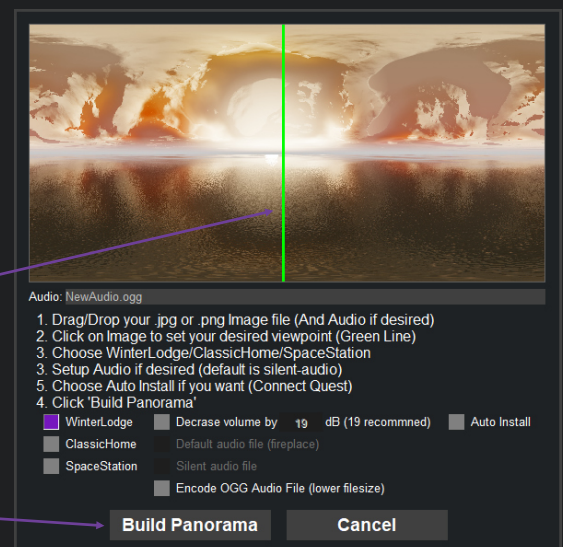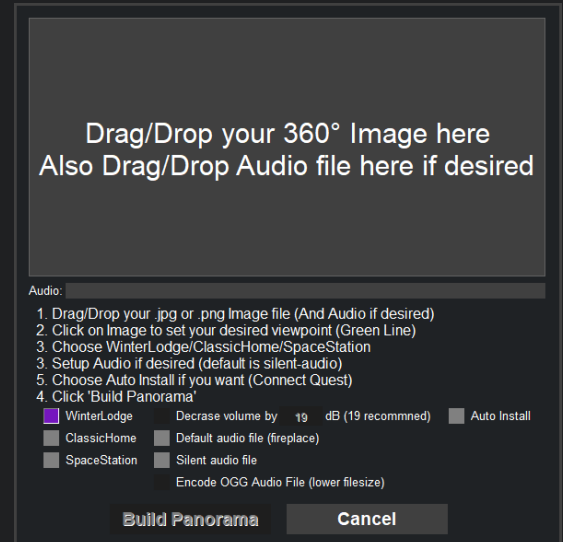
Custom 3D environment builder

## Create an 3D environment based on glTF file

Click [**open build folder**]
to open up the folder where you have to
insert the glTF files to build an environment
from.
Paste in the CustomEnvironment.bin, the
CustomEnvironment.gltf and the textures
(jpg or png).
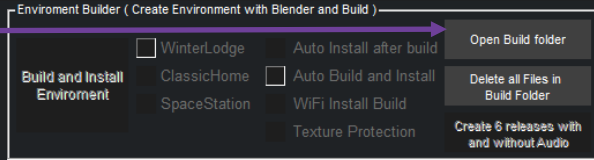
The [**build and install environment**]
button will now become intractable.
Select the the environment you want to
override (ClassicHome, WinterLodge or
SpaceStation).
You can add audio by dragging an audio
file onto the Quest Homes logo.
Press [**build and install environment**]
to start the building process.
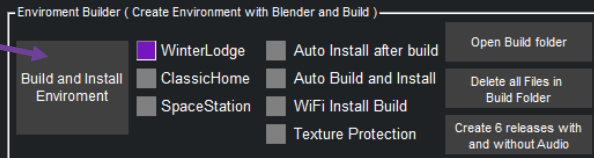
When [**Auto install after build**]
is selected it will install the newly generated
environment APK automatically on a
connected Quest.
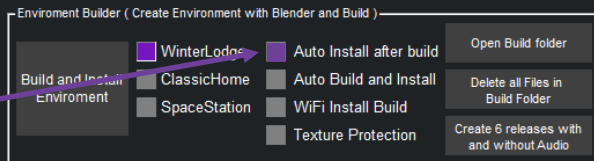
When working on your environment you
have to test it several times.
For this the function [**auto build and
install**] will become very handy. When the
checkbox is selected it will detect when files
in the build folder are getting changed and
starts to build and install automatically.
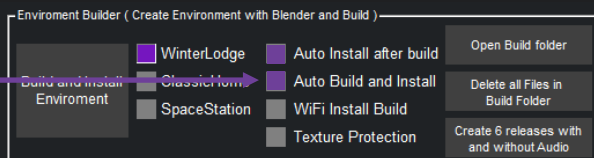
When you have changed your textures after
exporting from blender but still needs to
tweak the geometry, enable [**Texture
Protection**].
This prevents the textures from being
overwritten by copying back the stored
textures by the tool during each build
process.
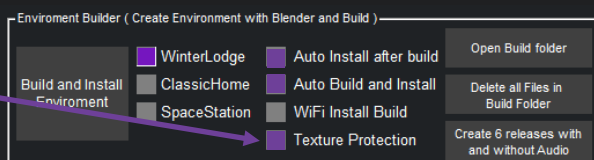
When you are happy with your result you can create all three versions (ClassicHome, WinterLodge and SpaceStation) with and without audio.
Drag a audio file onto the Quest Homes logo. (Supported Audio file at page 2).

Then press [**create 6 releases with and without audio**].
When the building process starts, a pop-up will open asking for a name. Insert here the environment name and press [**SAVE**].
When the building process is completed, a pop-up will open asking for a path to save. Select you desired path and press [**save**].
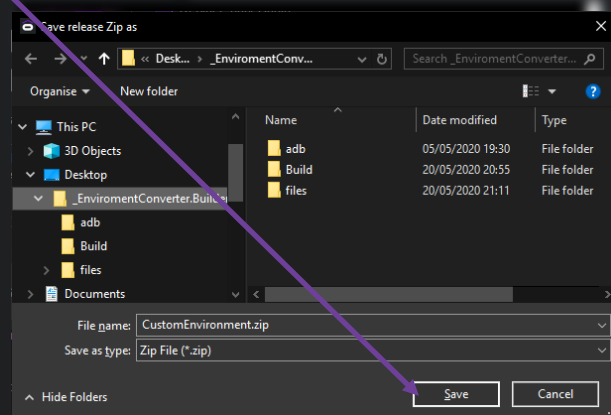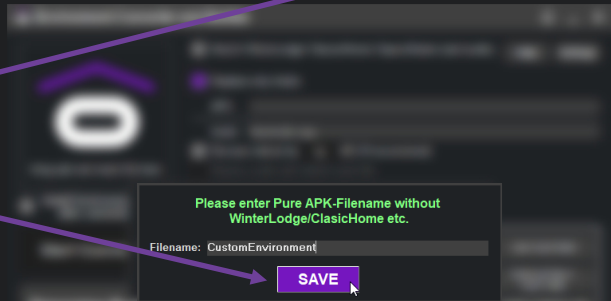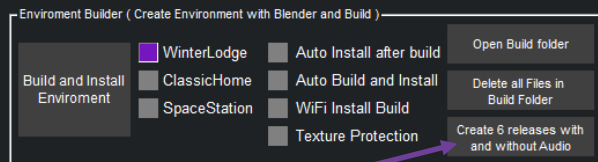
Export gITF from Blender

To export gITF files from blender select [**File**] → [**Export**]→ [**gITF 2.0**].
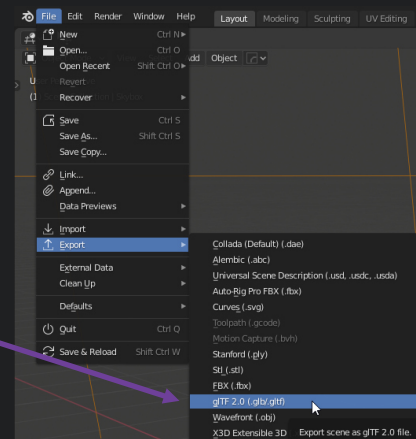
In the format drop-down menu select [**gITF Separate**].
As destination folder select the "build folder" of the EnviromentConverter/Builder. Press [**Export gITF 2.0**] to export the files. It may look like the program freezes but after some time you will find a "Filename.bin", "Filename.gltf" and your textures as jpg or png files in the build folder.
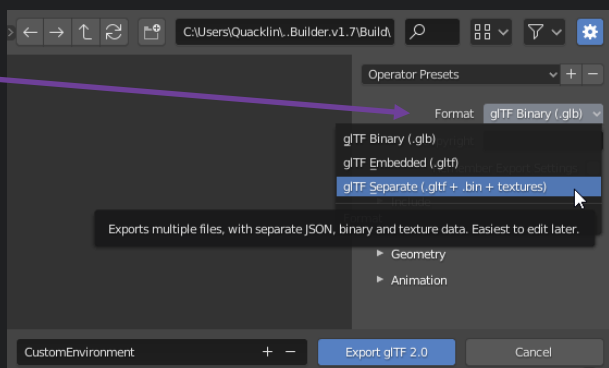
3D file preparation in Blender

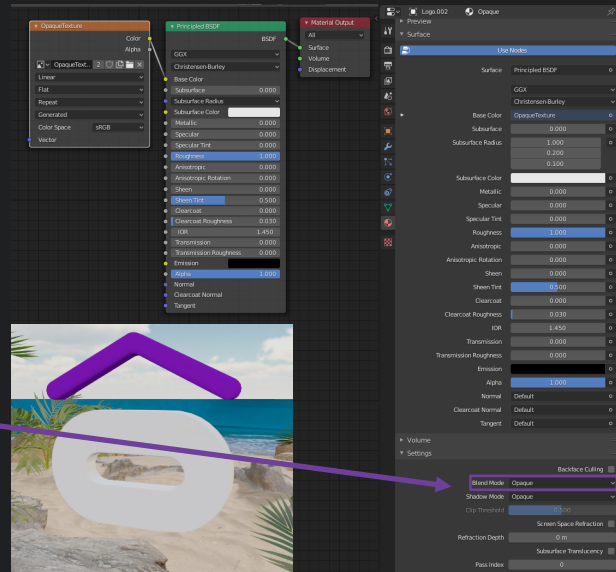## Opaque material setup

This is the default setup for Materials.
When you don't assign any texture the
object with this material will become white
a certain actions (open Oculus TV, etc...).
Use jpg's with 90% compression.

Make sure the [**Blend Mode**]
is set to "Opaque"

Opaque rendering

Alpha clip material setup

Alpha Clip is very useful for foliage and
everything that has to be cut out.
Set the [**Blend Mode**] to "**Alpha Clip**".
Then connect the image alpha output
to the principle bsdf "**Alpha**" input.
To use alpha clip you have to use a png.

Warning:
Anti Aliasing will be way worse when using
alpha clipping instead of cutting the
geometry.
Only use it to prevent too many triangles.
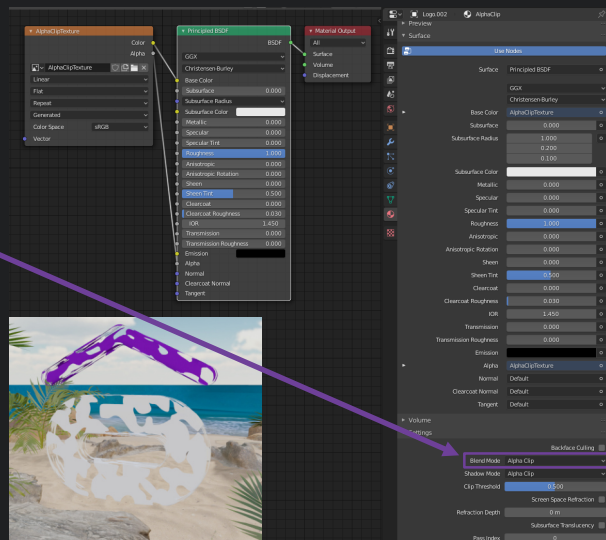
Alpha Clip rendering

Alpha blend material setup

Alpha Blend is very useful for transparent
effects like glass, water, smoke or faked
volumetric light.
Set the [**Blend Mode**] to "**Alpha Blend**".
The opacity is controlled by the brightness
of your input image. You need two textures
to use alpha blend.
The color textures has the color
information.
The alpha texture is a black and white
version of your color texture.
They should both be jpg's.
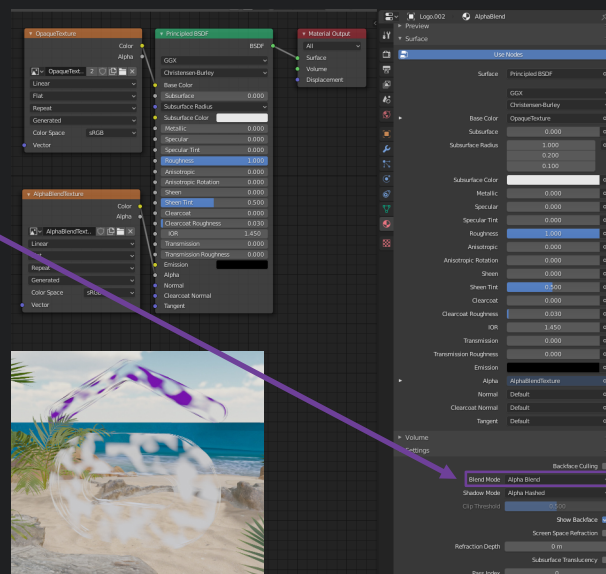
Alpha Blend rendering

Backface culling/Outline Effect

Enable [**Backface Culling**] in the material settings of your material.
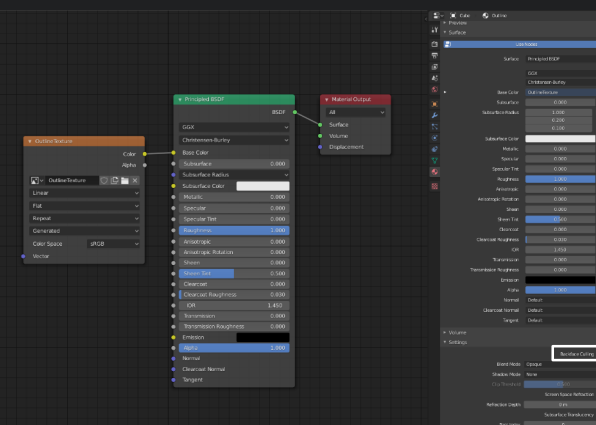

Duplicate your object(s) with [**crtl + D**].
(If you have multiple objects, join them with [crtl + J])

To view your face normals better enable [**Face Orientation**] in the view options.

Switch to edit mode and select everything with [**A**].

Press [**shift + N**] to recalculate normals. In the box left below check "inside".

When you object is red, it means it is showing you the negative side of the tringle.

You can then disable enable [**Face Orientation**].

To fatten your mesh to get the outline overlap your original mesh add a [**Displace**] modifier in the modifier tab.
Set it to a negative strength until you get your desired result. When everything is as you like it press [**Apply Modifier**].

Animations

Every animation will be played as an endless loop independent of other animations.
To create matching Animations use one Armature for all animated objects.
To preserve hierarchy in animations you have to use a Armature too.

Every Animation is looped automatically when the last key-frame was played. This gives you the opportunity to create asynchronous animations in relation to each other.

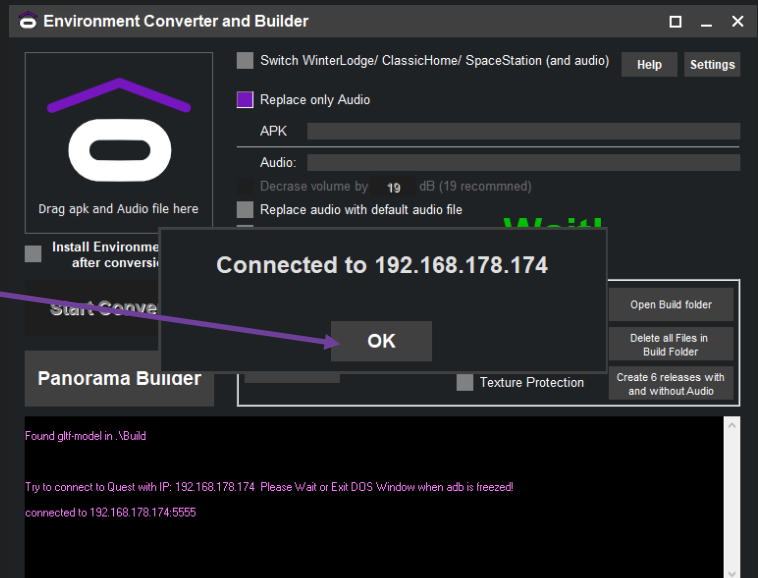Linked animated objects (except bones) will mostly break your environment.

WiFi Install

Auto install via WiFi

In order to install converted or built environments over WiFi you have to connect your quest first via USB.
Then select [**WiFi build**].
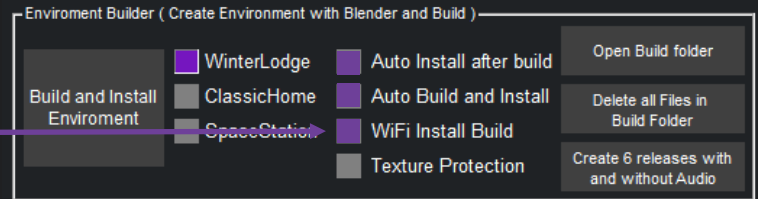
When a pop-up opens with the IP of the quest, press [**OK**].

The tool shows "**connected**"
you can unplug the USB connection and it will now install via WiFi when you select [**install environment-apk after conversion**] or [**build and install environment**].
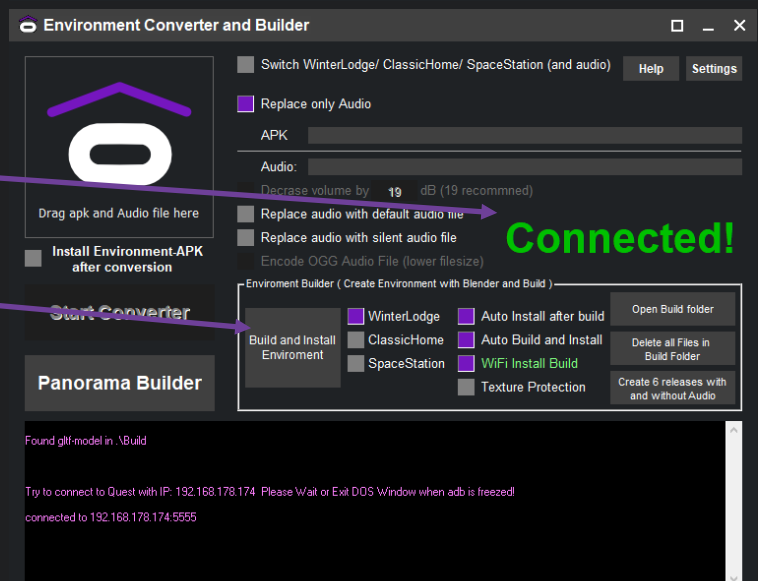
When the connection is established you don't need to connect via USB.
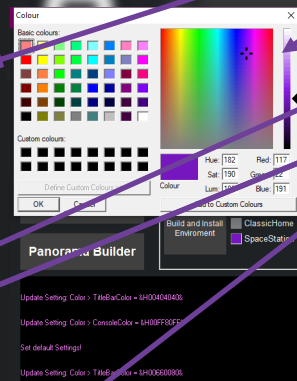Simply click [**WiFi build**] and it will connect directly.

Settings

Click on [**Settings**] to open the settings panel.

Change the appearance of the tool

To change the Hover or Titelbar color select [**Change Hover Color**] or [**Change Titel Bar color**] and a color selector will open where you can choose your preferred colors. Apply the changes by clicking on [**OK**] in the color selector.
You can set the Text color in the console by clicking on [**Change Console output Color**]
By clicking on [**Set default Colors**] the original colors will be restored.

Build settings

Change the default build folder by clicking on [**Change Build Folder Location**].
The tool will then search for the .gltf, .bin and texture files in the newly selected folder.

WiFi settings

Click on [**Change ADB Wireless Port**] to set a different Port.
Choose a Port between **5555** and **5585**.
Click on [**SAVE**] to save the new port settings

Misc settings

The position of the window will be saved on exit. When you open the tool next time the window will appear at the same position as it was closed.

☐ Store Window Position on exit

Your Button states will be saved.
Next time you open the tool your last configuration will be loaded automatically.

☐ Store Button state

When you have [**Texture Protection**] enabled, they will be deleted on exit.

☐ Delete protected Textures on exit

All files (.gltf, .bin and texture files) will be deleted in the build folder after successful building.

☐ Auto delete Files in ..\Build after Build

The ADB Server task will automatically terminate after closing the tool.

☐ Kill ADB Server on Exit

By default, when clicking [**create 6 releases with and without audio**] in the build menu the tool will pack all 3 environment APK version in a zip file.
If you don't want the environments packed, deselect [**Pack all 6 releases to zip file**]

☐ Pack all 6 releases to zip file

When the connection is established, you don't need to connect via USB.
When [**WiFi Auto Connect**] is enabled the tool will automatically try to connect to your Quest via WiFi when you launch the tool.

☐ WiFi Auto Connect

About

Have fun building fantastic home environments ;-)