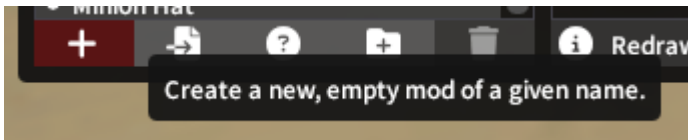# Adding a hat to a Minion
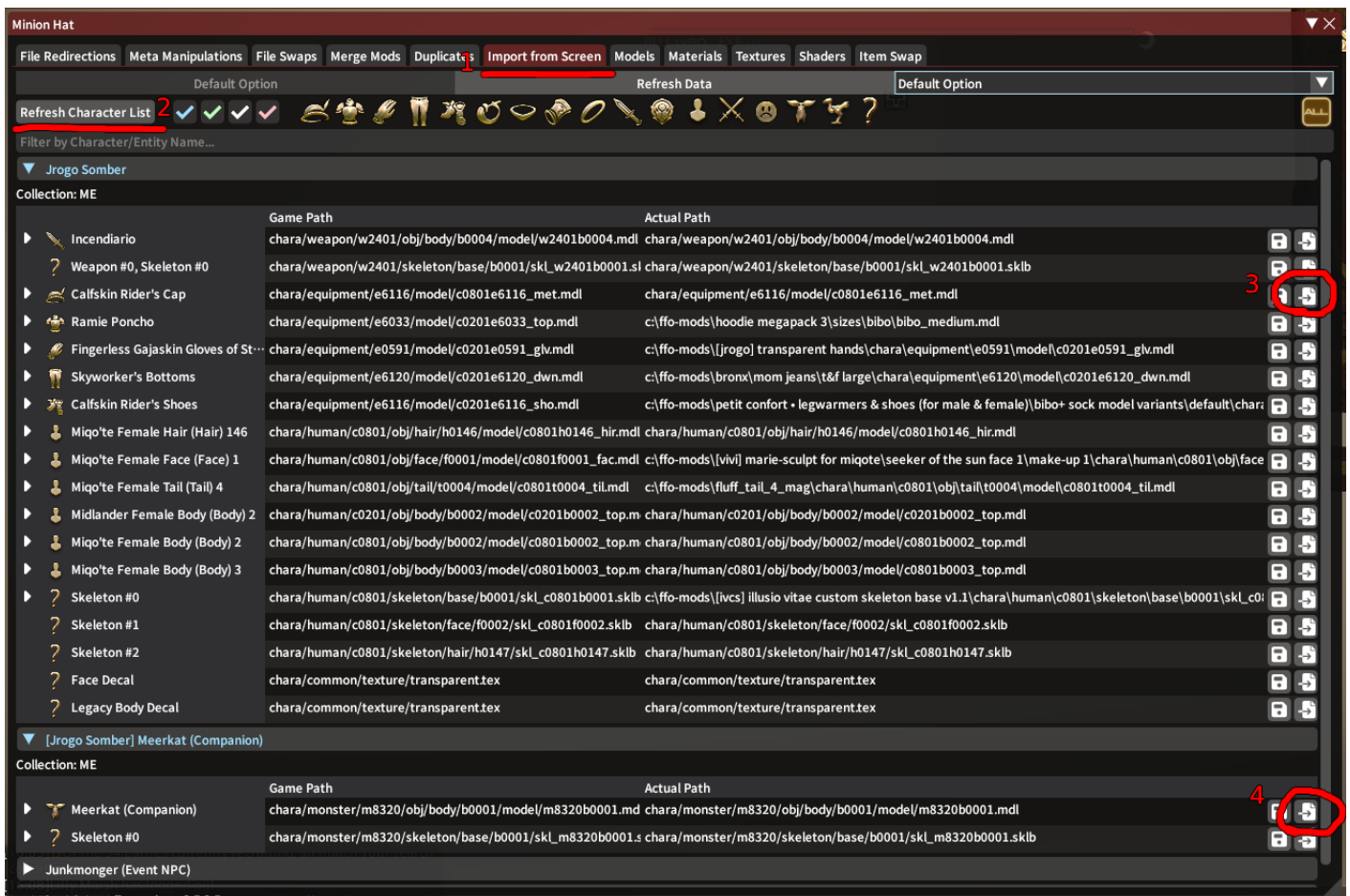
Do you want your minion to have a cool hat? 📖 Read on

Preparing our files

There are a few different ways to get files from the game. For this guide lets use Penumbra's `Import from Screen` combined with model export (textools can also accomplish this).

We are going to put the "Calfskin Rider's Cap" onto the "Meercat" minion. Equip the hat on your character and summon the minion. Then in Penumbra's Mods tab, make a new blank mod (call it whatever you like) and open `Advanced Settings`.
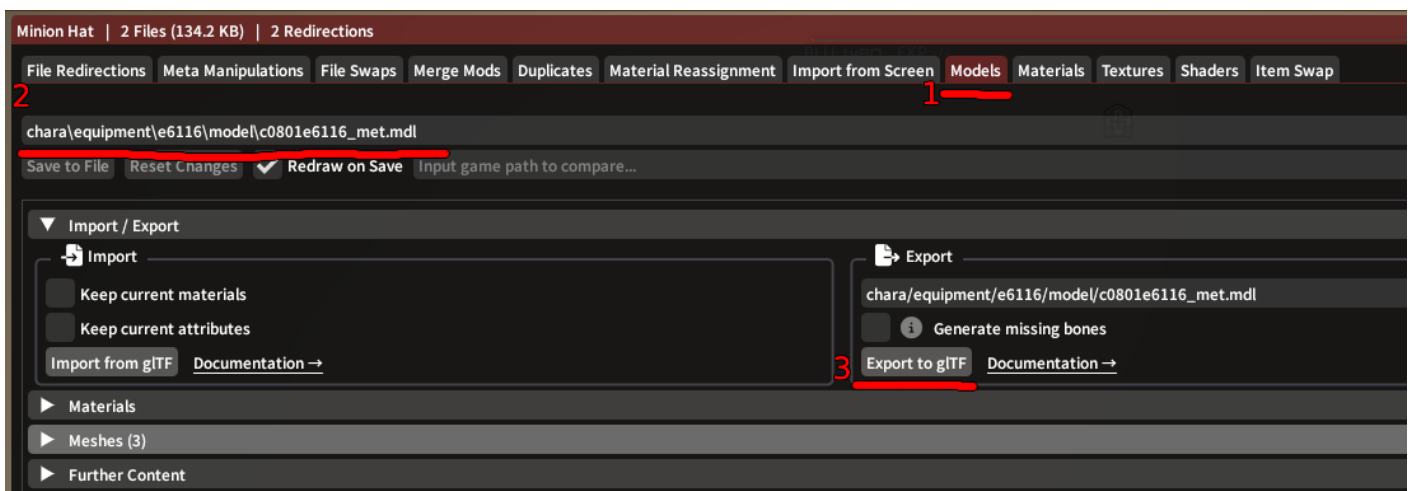

Open the `Import from Screen` tab, click `Refresh Character List` at the top left. Then click the `Add a copy...` button at the far right for the "Calfskin Rider's Cap" `mdl` on your character and the minion body on the Meerkat.

Now we will export these model files so that we can edit them in blender. Go to the Models tab of Advanced Editing (the window that we already have open).

For each model, select it in the dropdown, expand the Import/Export tab, and click Export to glTF . Put these files somewhere you will remember cause we will need them in the next step ☐☐ (You may want to put them in a folder as they will also export all the textures for the model)
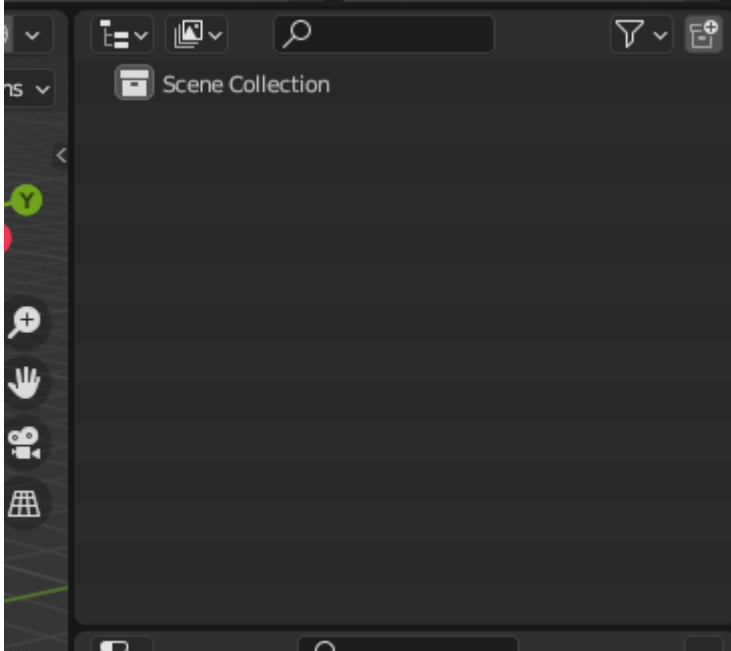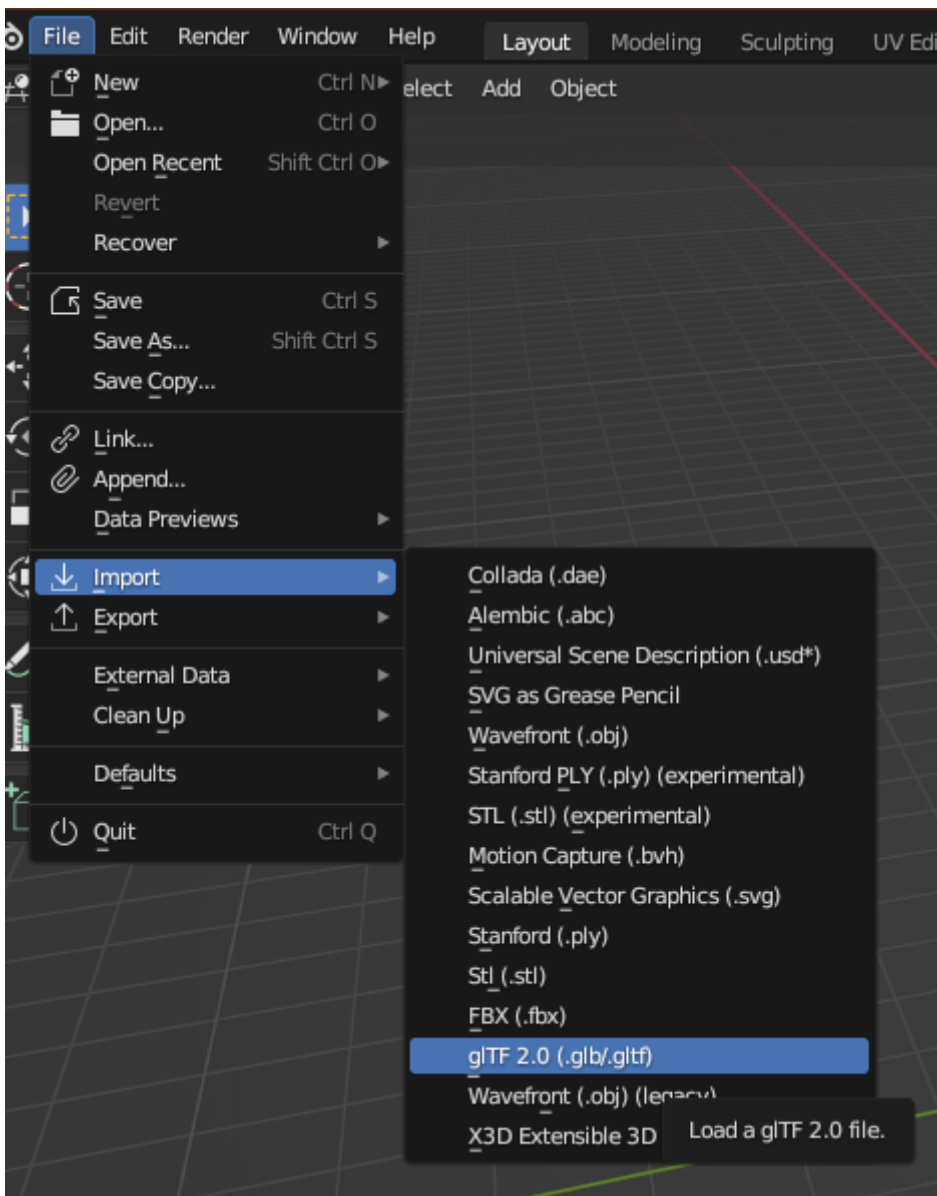

Blender!

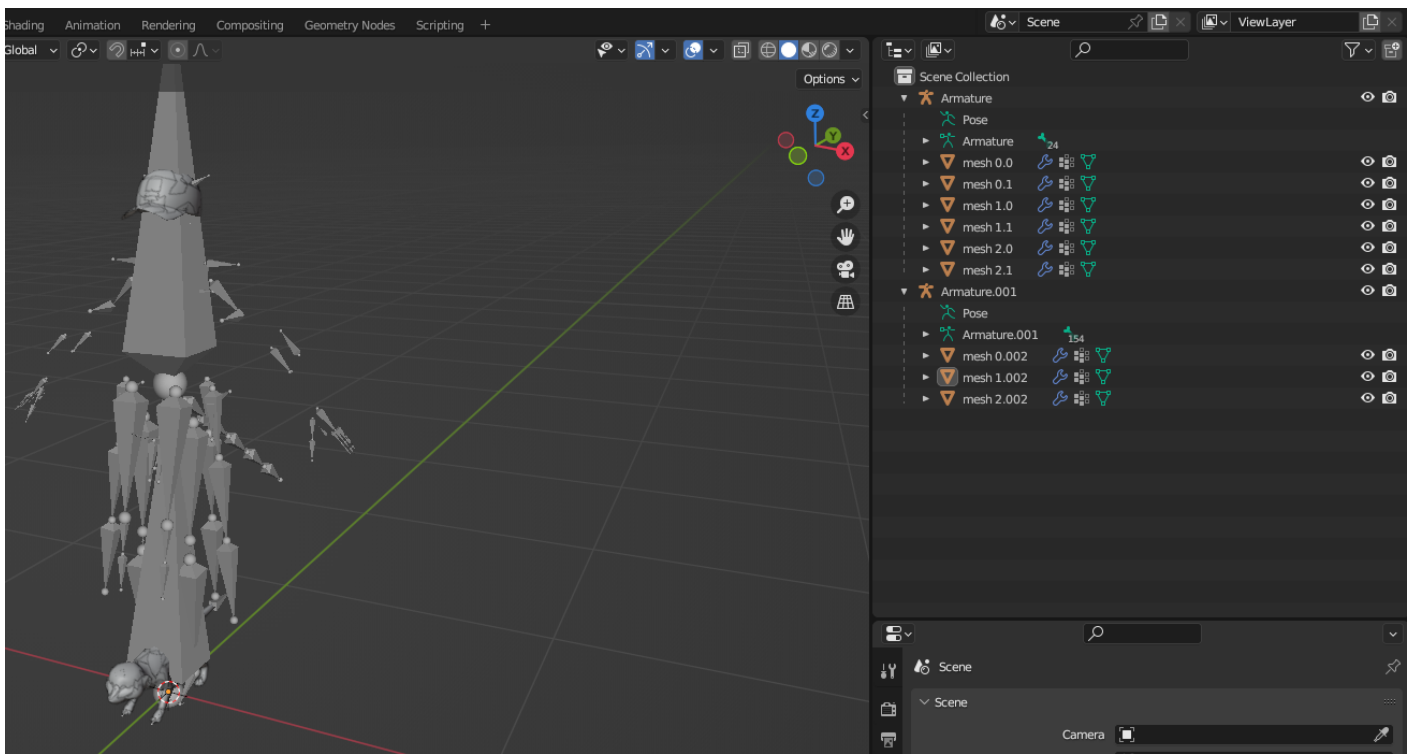(Note: This guide is using Blender version 3.6.2)

Importing the files

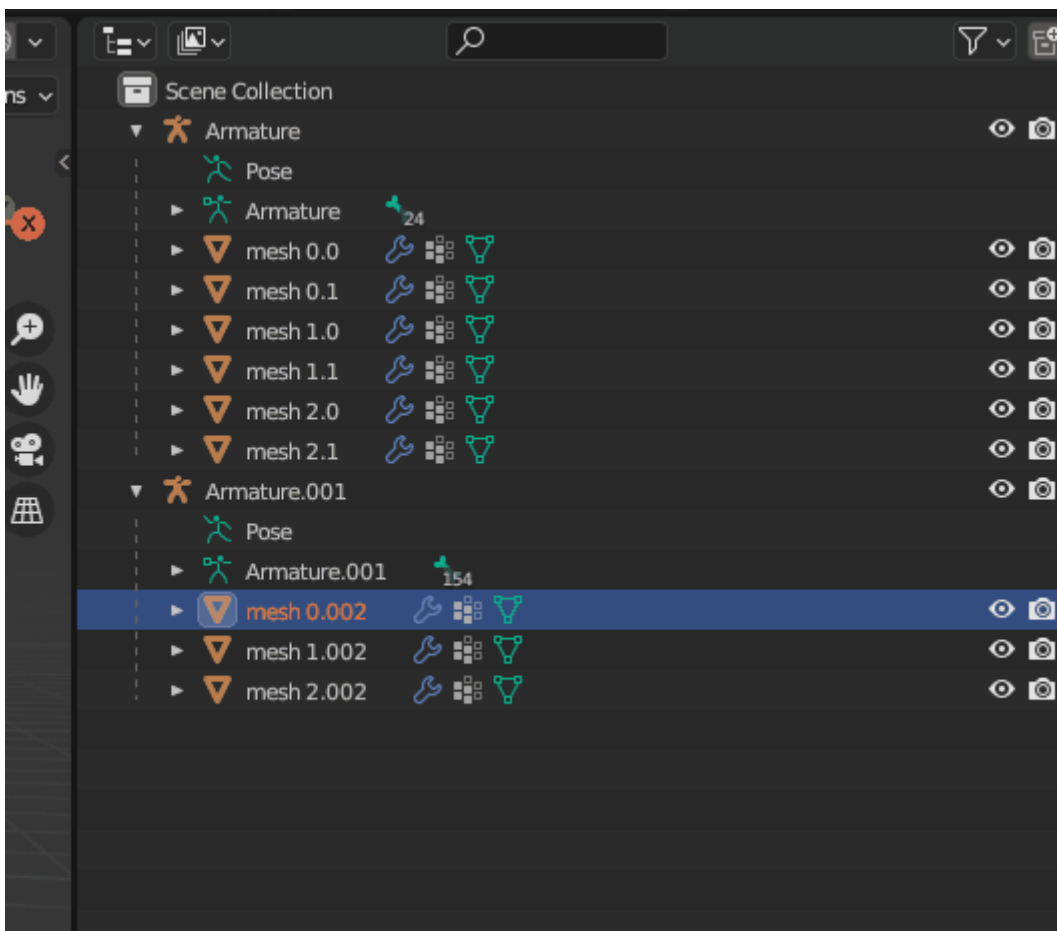Open blender and clear out the tree navigation to the right.

Now we will import our models. We will first import `m8320b0001.gltf` then we will import
`c0801e6116_met.gltf`. Go to `File -> Import -> glTF 2.0` and find each model and import them.
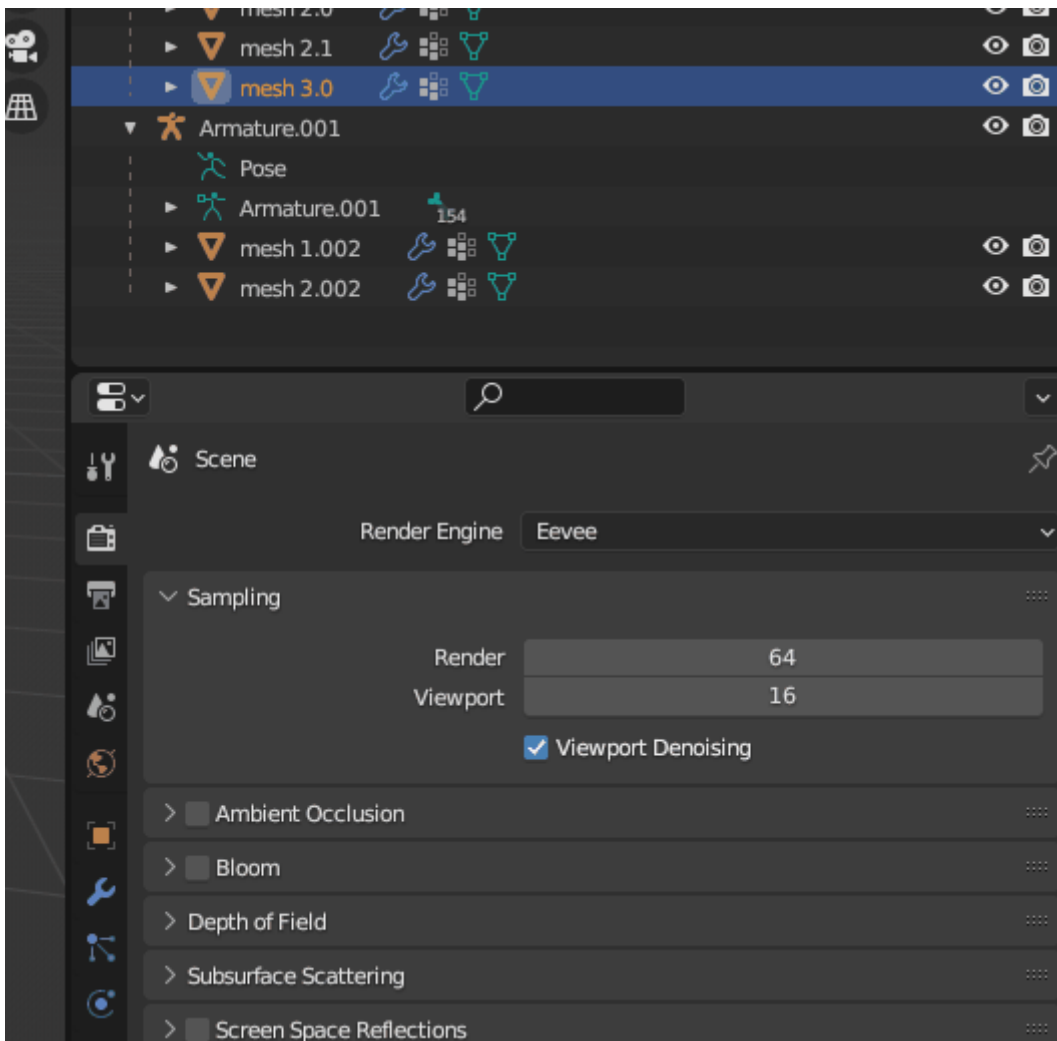
You should have some items on the right panel now and if you expand them they should look like the following. `mesh 0.002`, `mesh 1.002`, and `mesh 2.002` should be the different level of detail models for the hat as long as blender gave you the same names on import. We are going to use `mesh 0.002` .
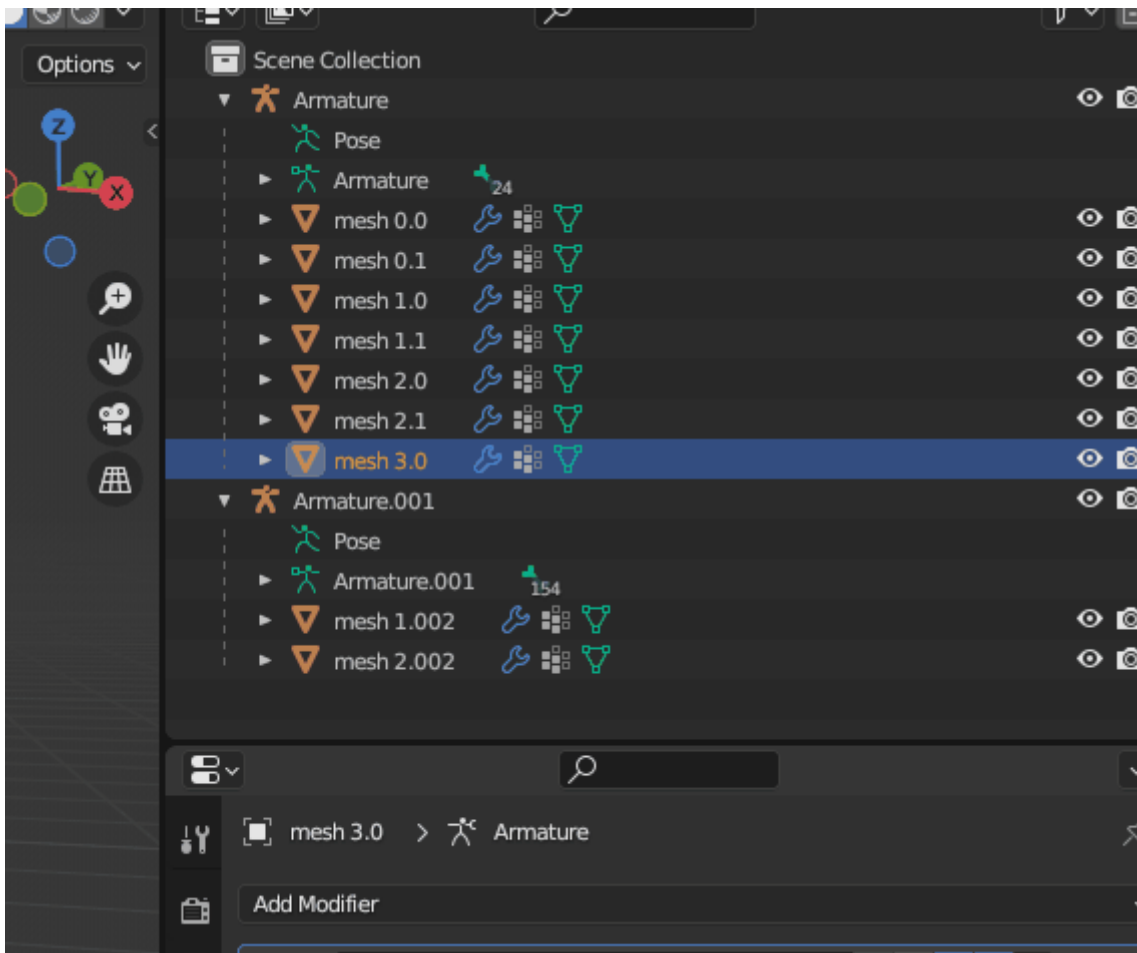
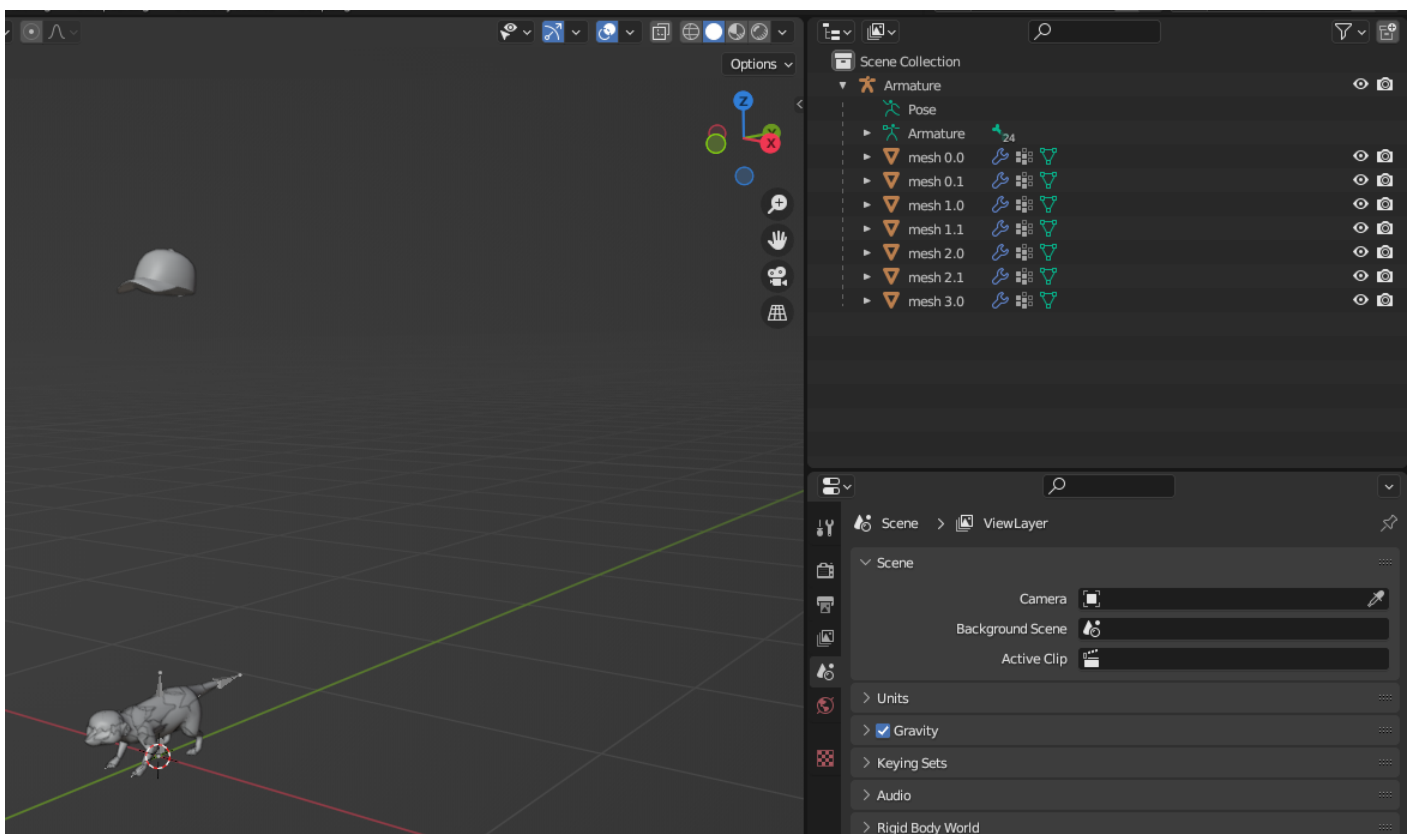Click on `mesh 0.002`, hold shift drag it to `Armature` on the right panel. Then rename it to `mesh 3.0`.

Select `mesh 3.0` and change its armature modifier to point to `Armature` instead of `Armature.001`.

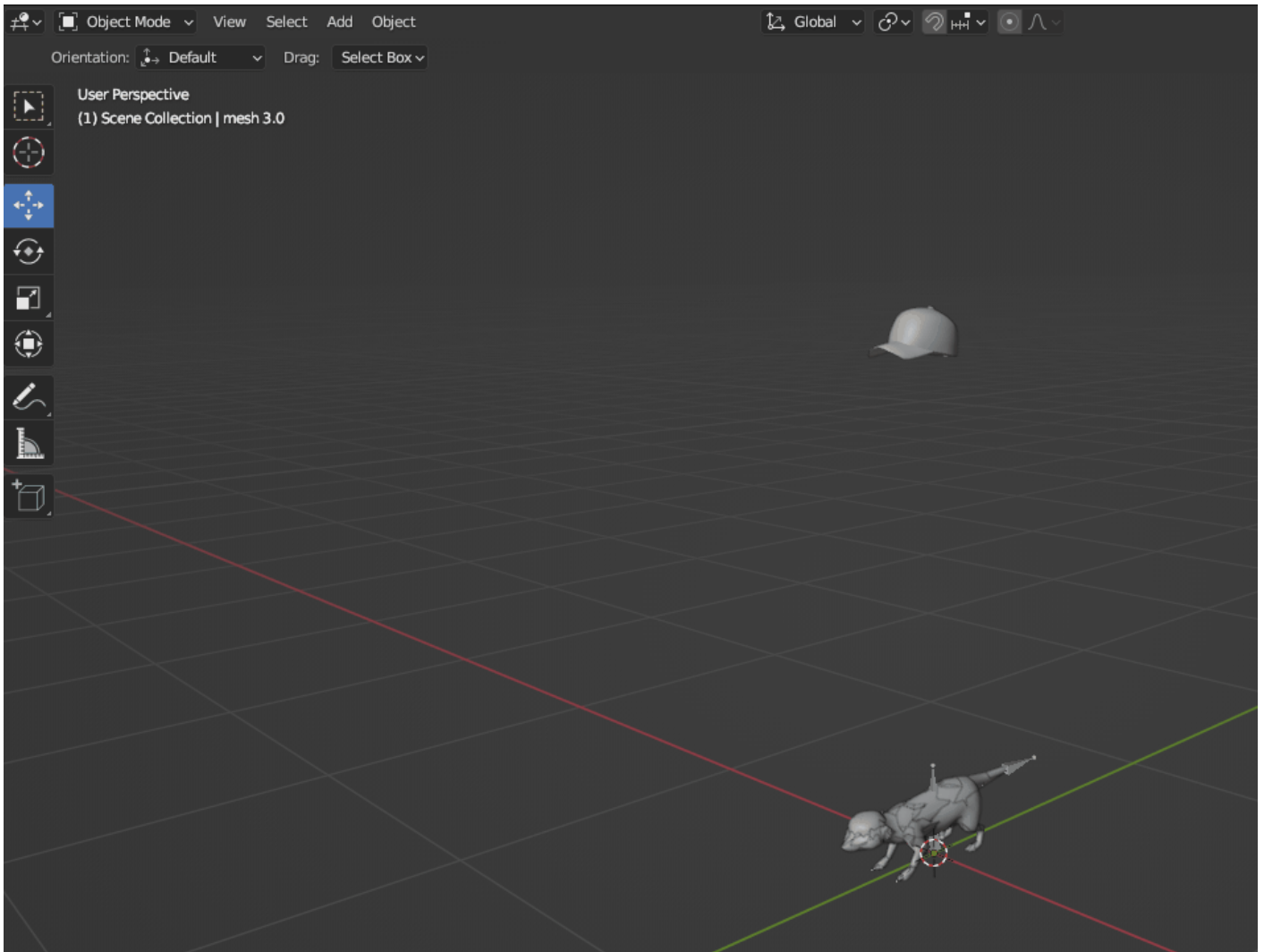Now right click on `Armature.001` and select `Delete Hierarchy`

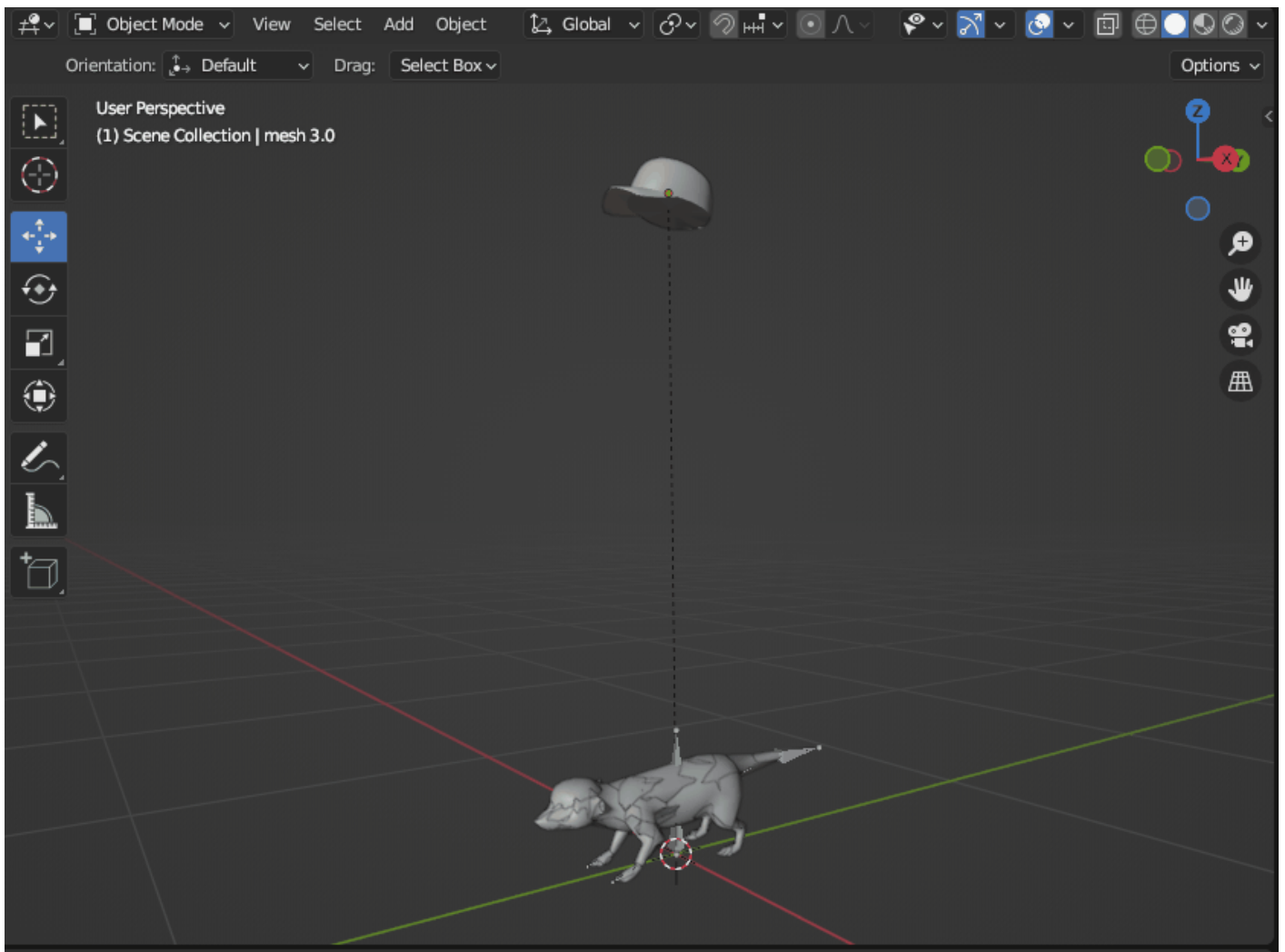Your setup should now look like this.

Moving the hat

Click on the hat mesh in the 3d space and select Object -> Set Origin -> Origin to Geometry .

Now we will use the move and rotate tools to move the hat to the minions head. This part is not an exact science, so use the gif below as a guide and move the head to a position you like.
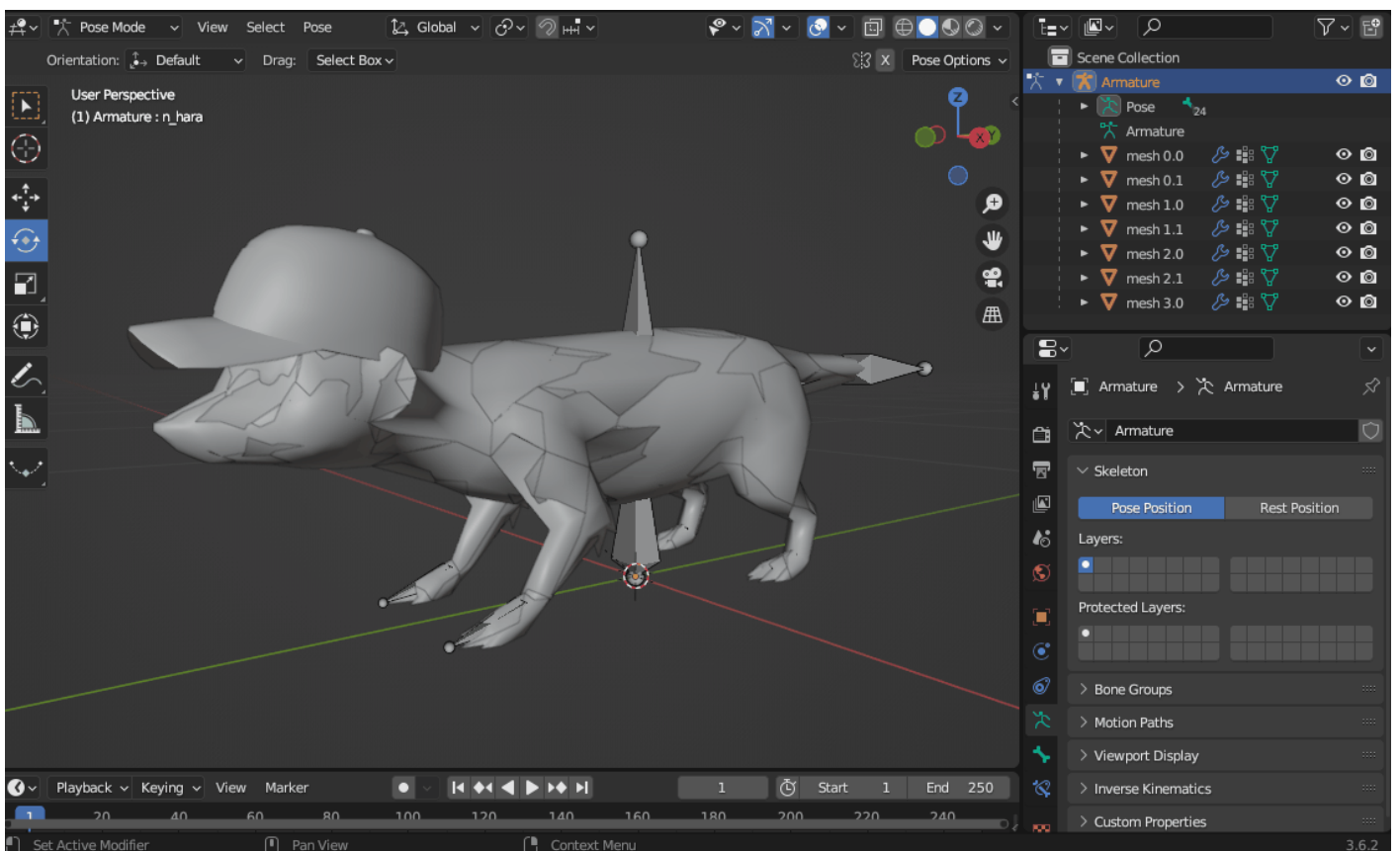
Adding weights

Now we need to add weights to our hat otherwise it will not move with the minions head. We are getting off a little easy with this mod as we only need to give the hat weights for one bone to make it look correct. Weights can be much more complicated for other clothing items, but we will keep it basic in this guide.
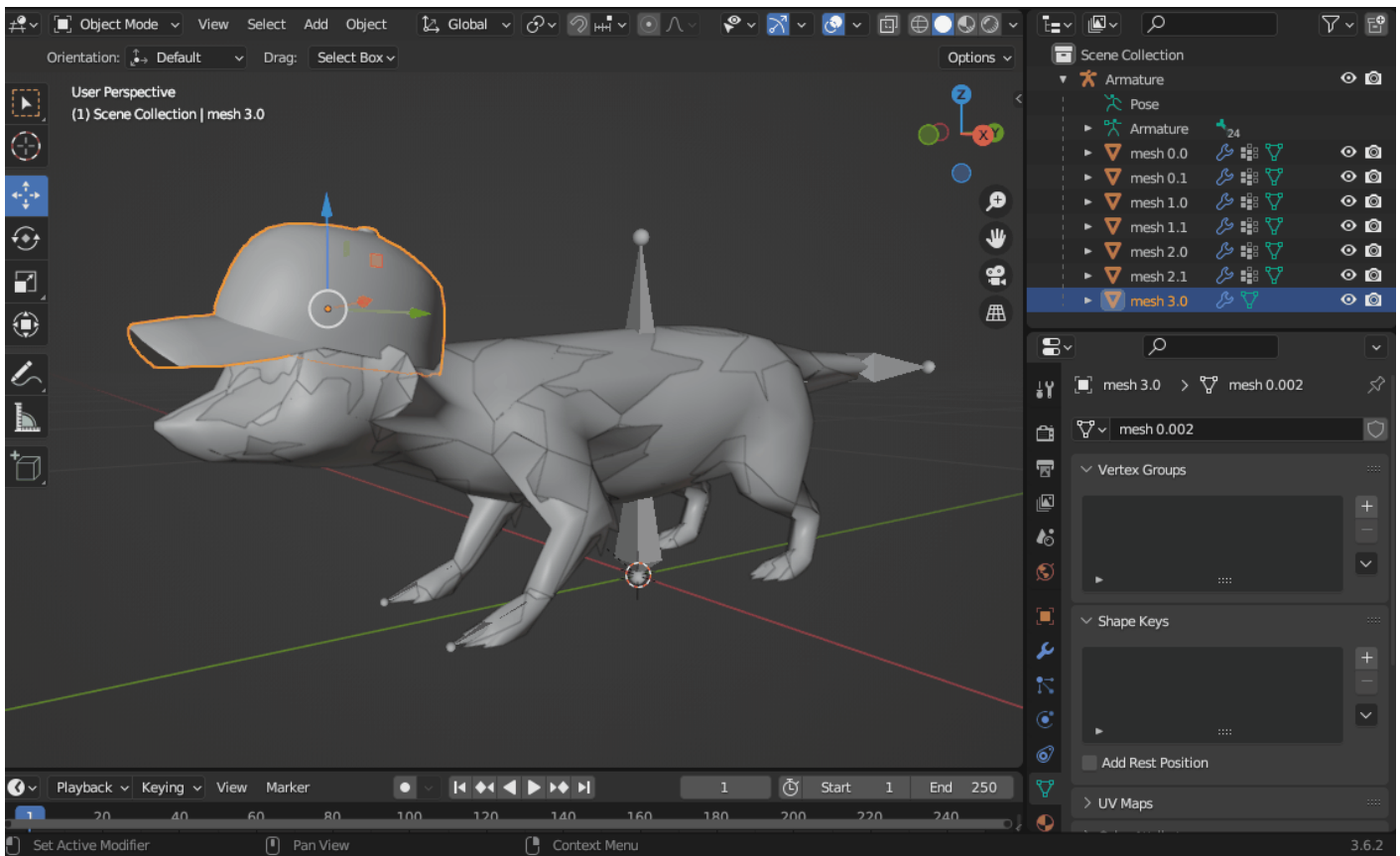
First lets figure out the bone that controls the minions head. In the gif below we can see that the bone for the head is `j_head`.

Now lets add weights for the hat to that bone. Switch back to object mode in the top left dropdown. Then select mesh 3.0 , open the data panel (green triangle looking one), and delete all current vertex groups.

Add a new group called j_head and switch to Weight Paint mode.

Ensure your weight slider is set to 1.0 . Switch to the gradient tool, and make the whole hat red.

Verify! Now we can switch back to our Armature then in pose mode we can verify the hat is attached to the head bone now.