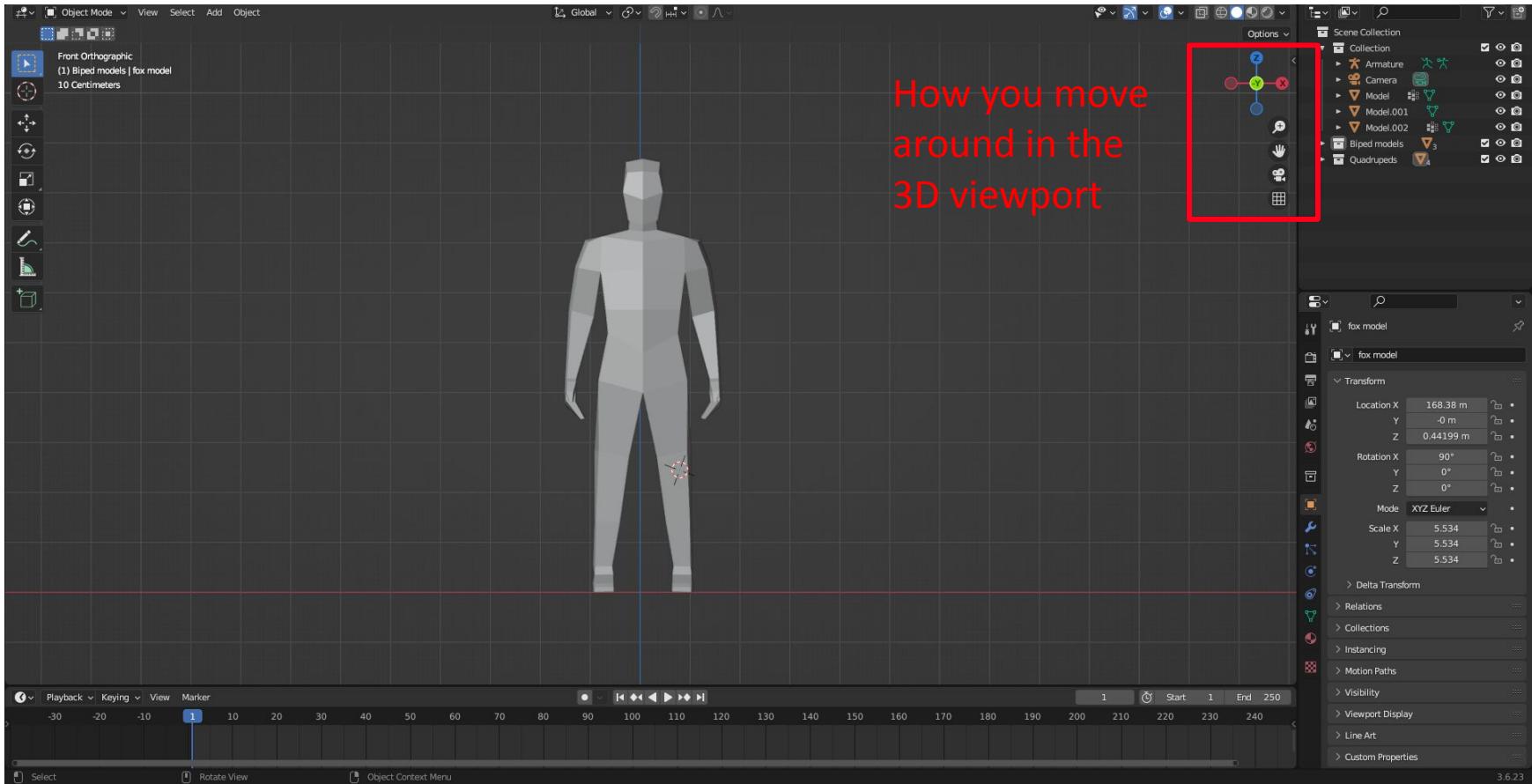
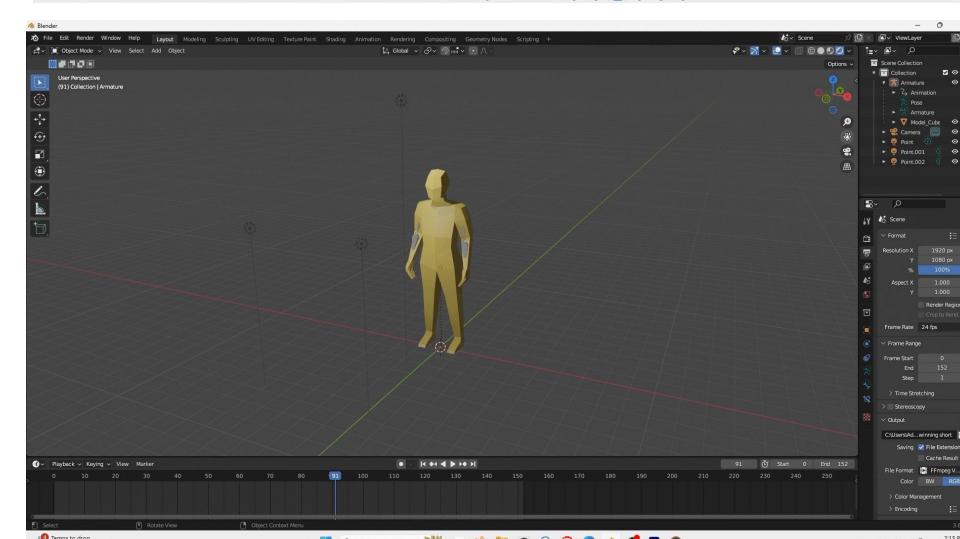


What Blender looks like





Tools you'll use most often, Navigation
Gizmo and Hand tool to pan



To move an object in 3D space, **Press G** and an axis to move in a specific direction. G and X moves the object on that axis.

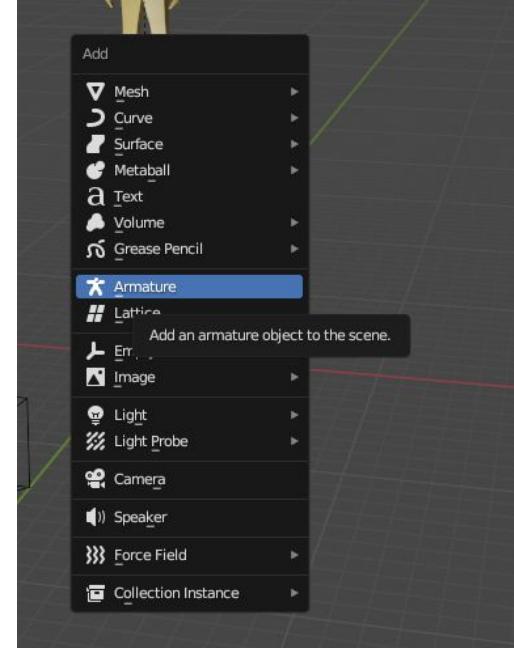
Red line = X **Green line = Y** **Blue line = Z**



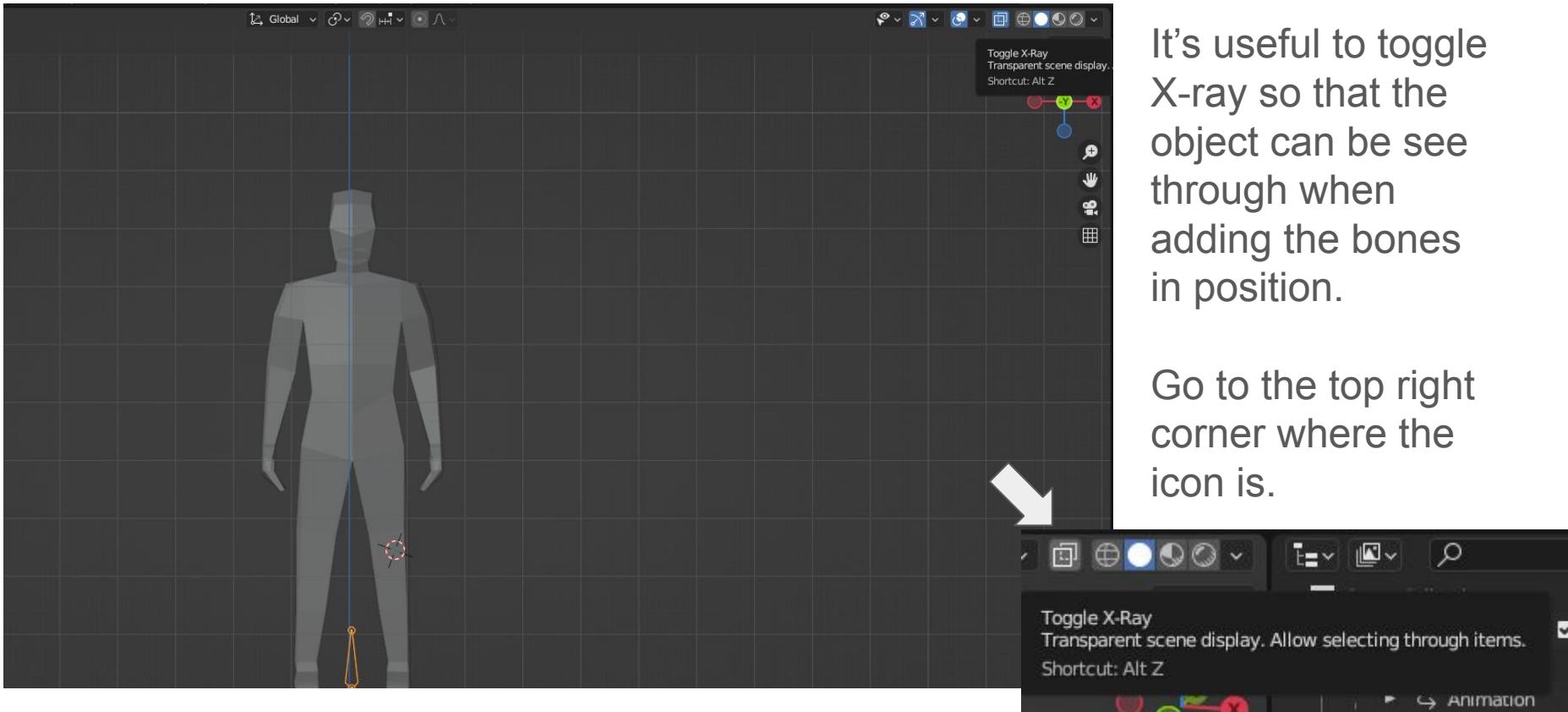
Adding an armature to model



Go to the top left corner and click on Add then select Armature. The most common shortcut to add things in Blender is **Shift + A**



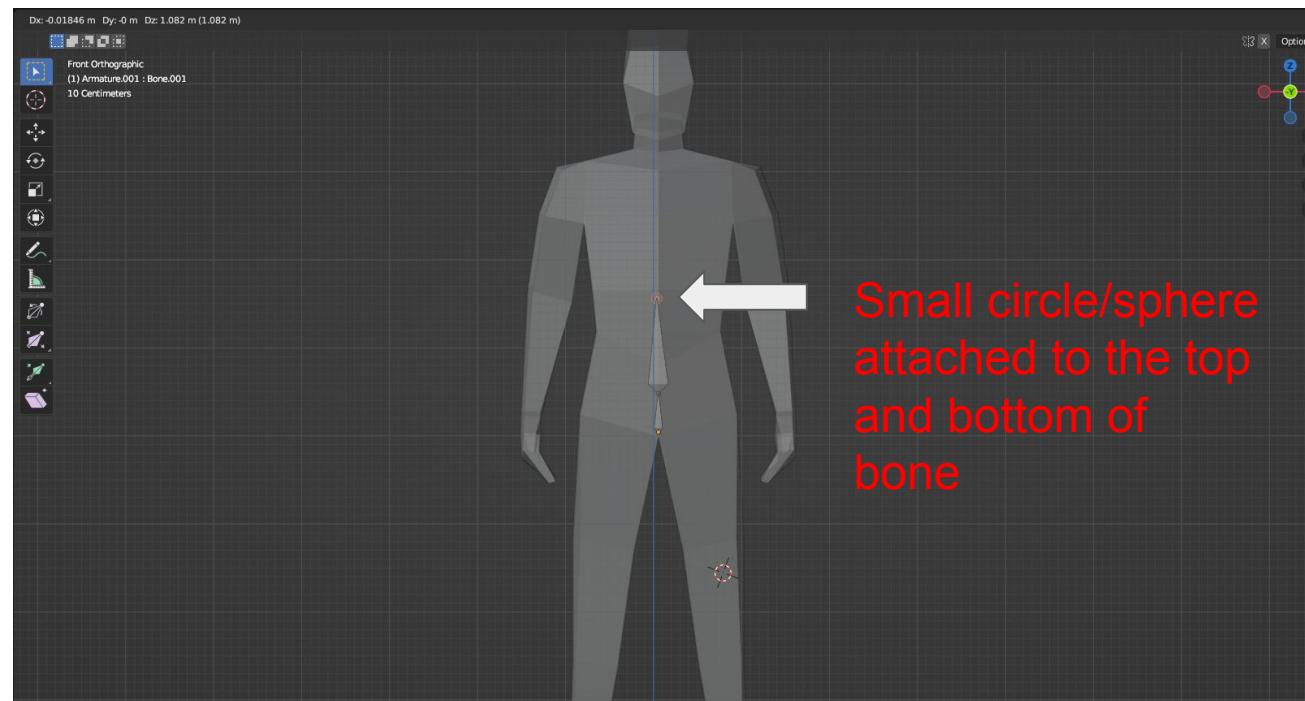
Toggle X-Ray



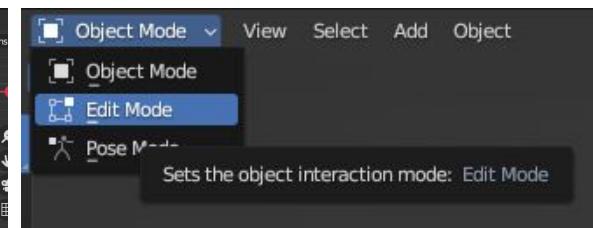
It's useful to toggle X-ray so that the object can be see through when adding the bones in position.

Go to the top right corner where the icon is.

Extruding armature, adding more bones in Edit mode



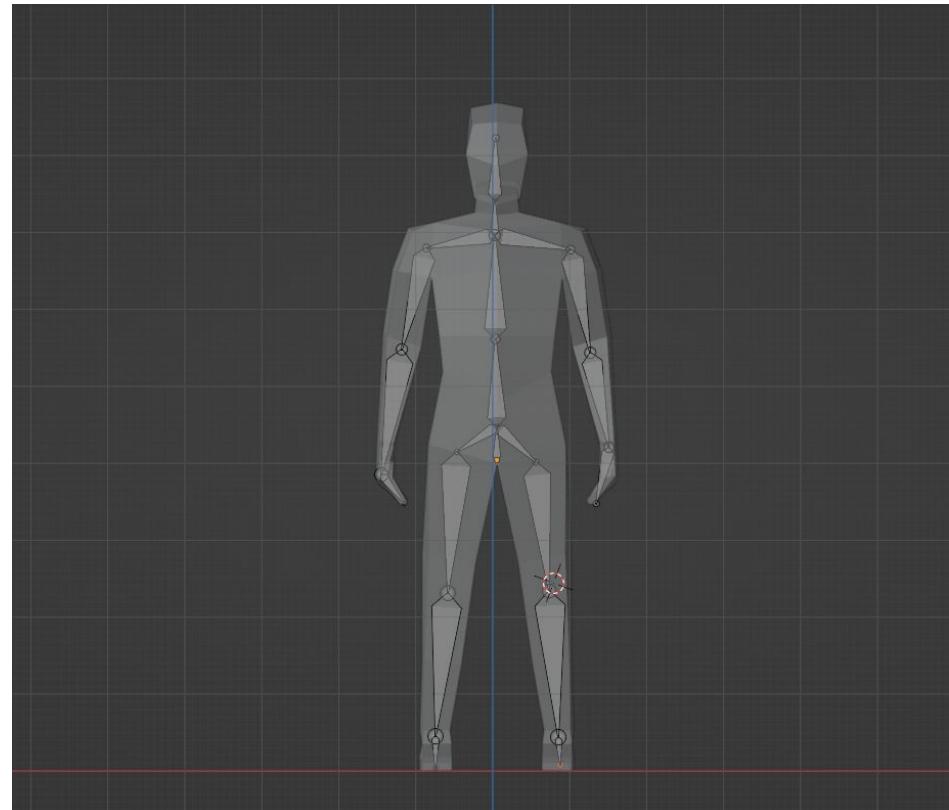
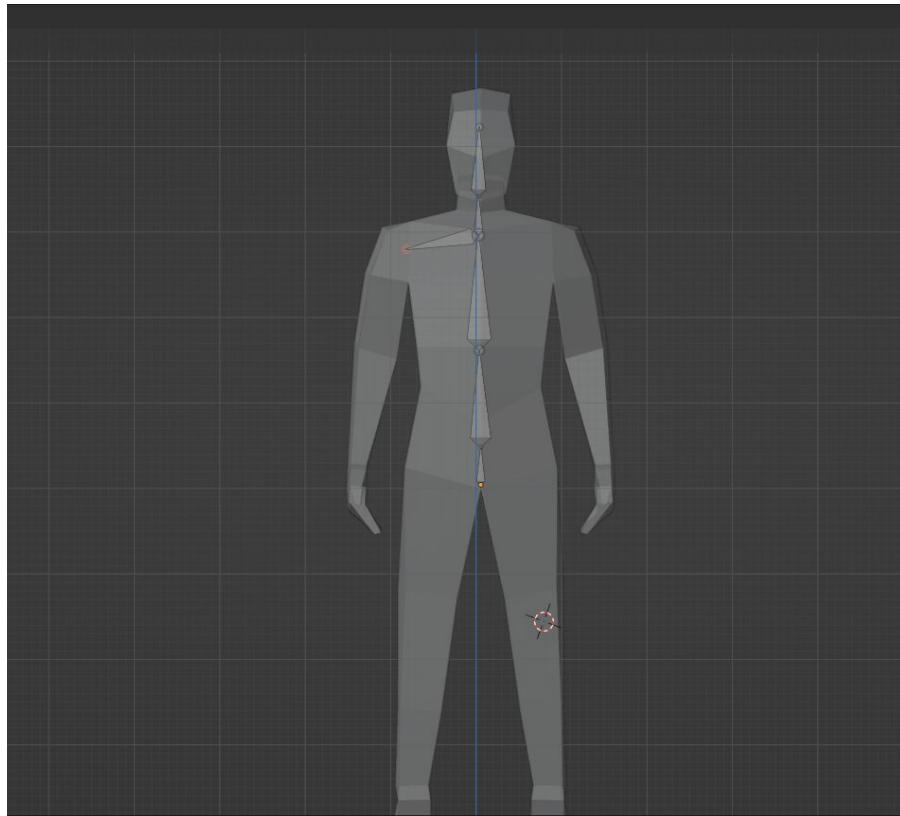
Common shortcut to go into Edit mode is the Tab key.



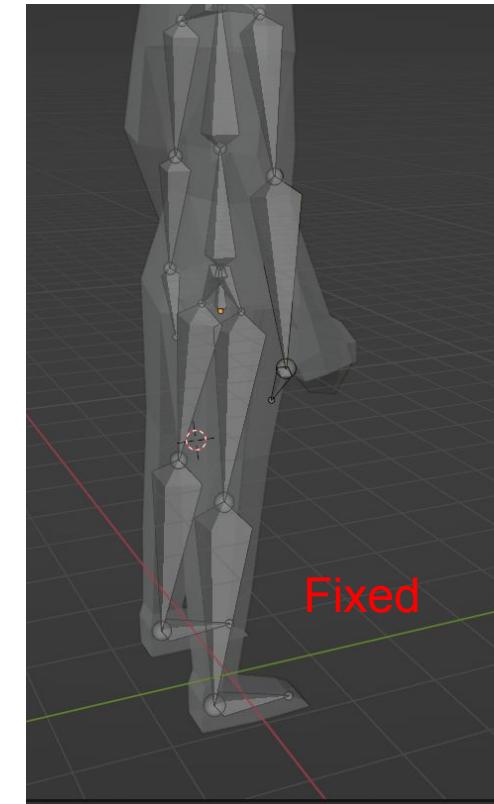
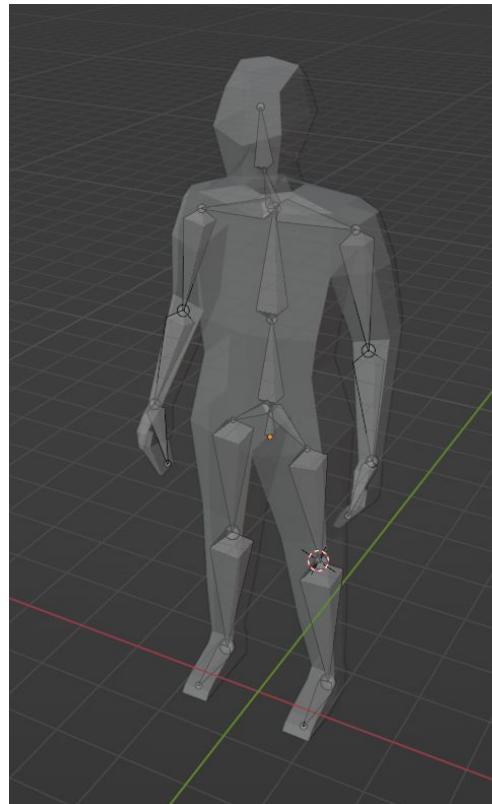
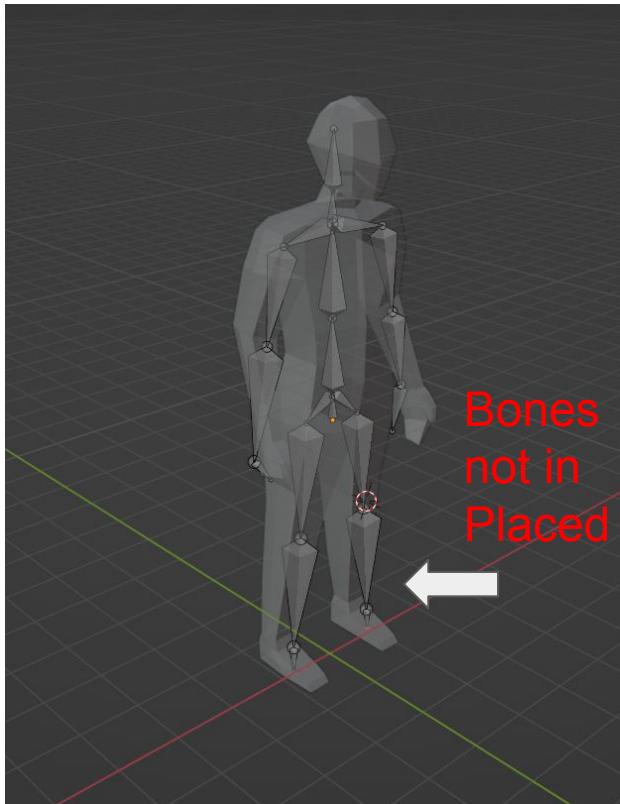
To add more bones to armature. Click on the first bone then in the top left corner in the drop down menu click on Edit mode.

Click on the small circle of the bone and **press E** and use the mouse to move it. **Left click** to confirm location.

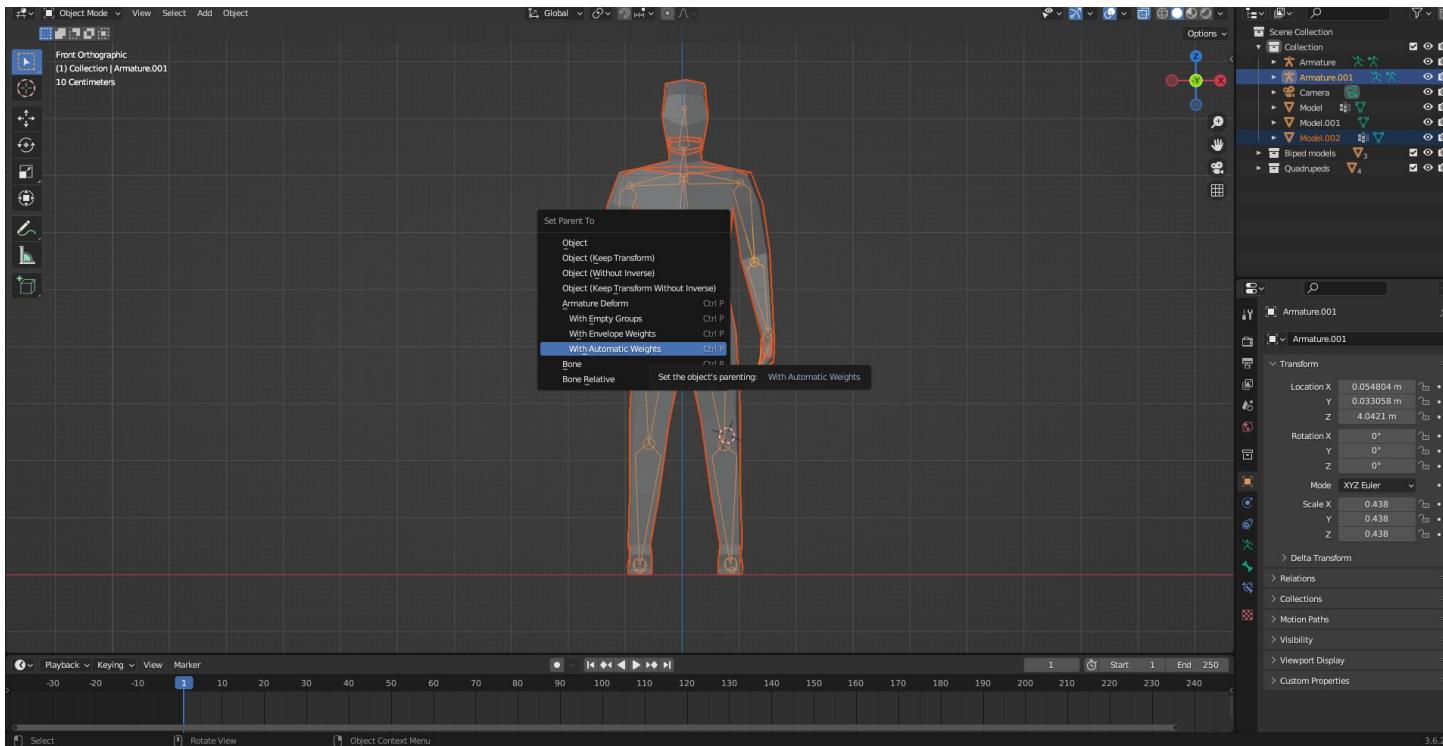
Keep extruding the bones until you have a full armature



Adjusting bone position. You can use the G key to match where the bones are to the model.



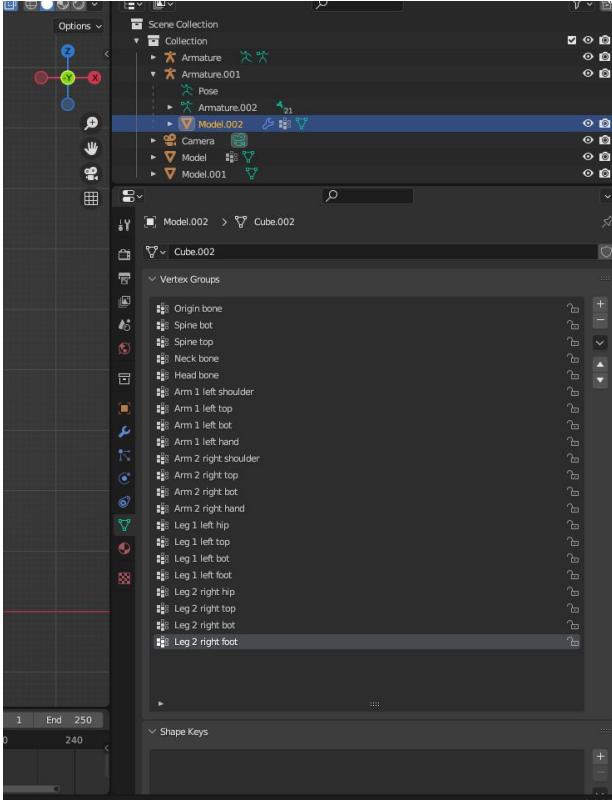
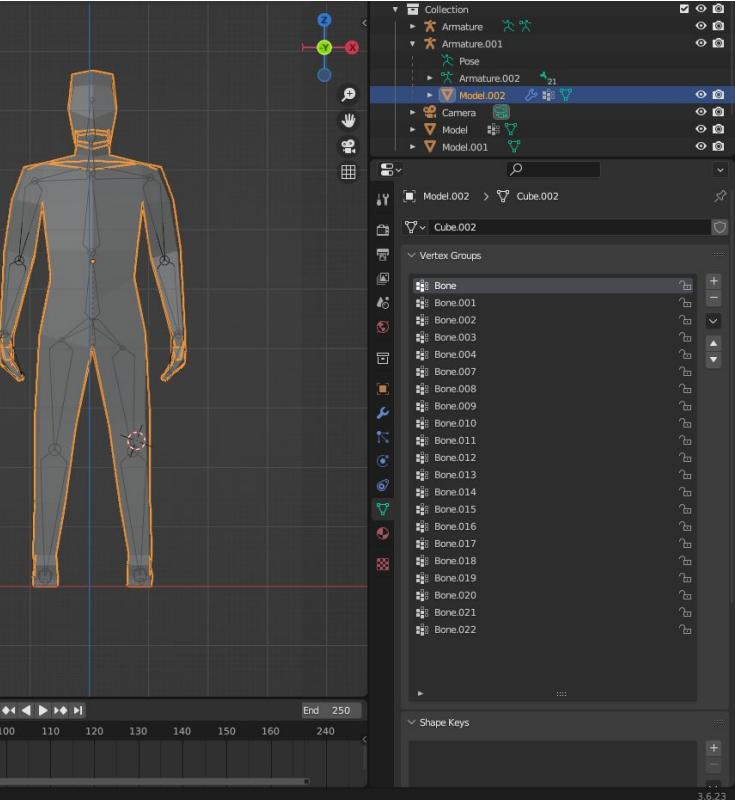
Parenting the model to armature



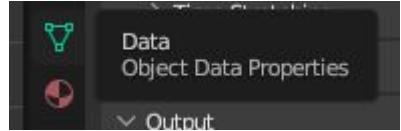
Click on the model in Object mode. Then hold down Shift and select the armature.

Once they are highlighted hold down **Ctrl** and press **P** key (**Ctrl + P**). A menu will come up and select **With Automatic Weights**.

Renaming bones

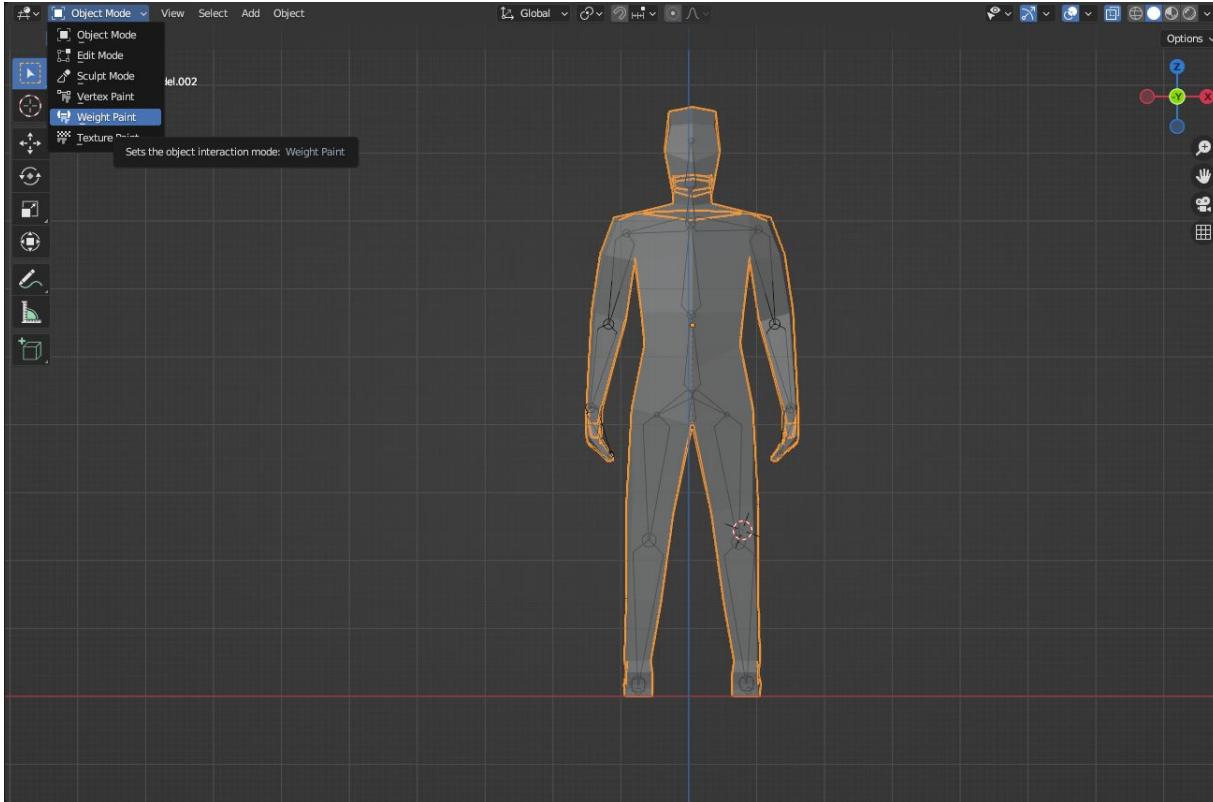


Click on the model and go to the data tab



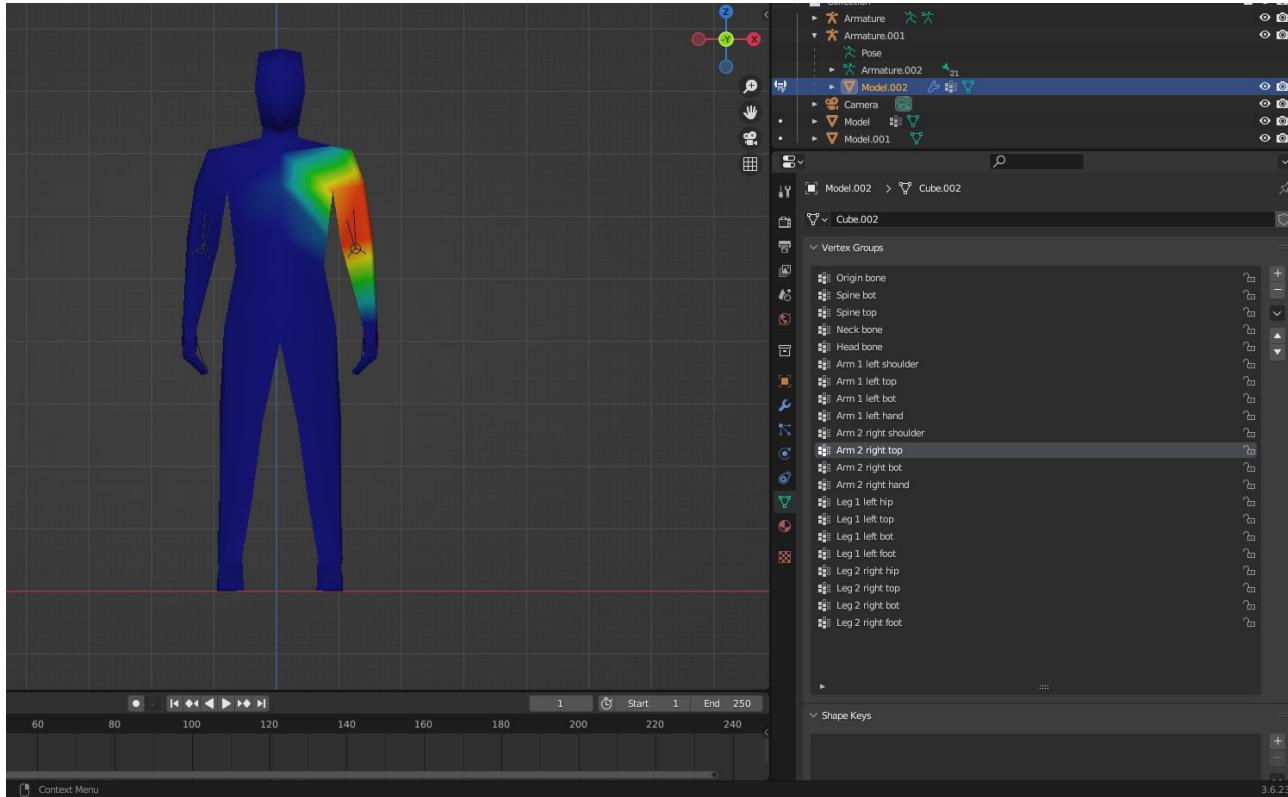
The bone names will look like the left image.
Rename the bones to keep more organized.
Click on armature then go to Edit mode. Select each bone and rename them.

Weight paint mode



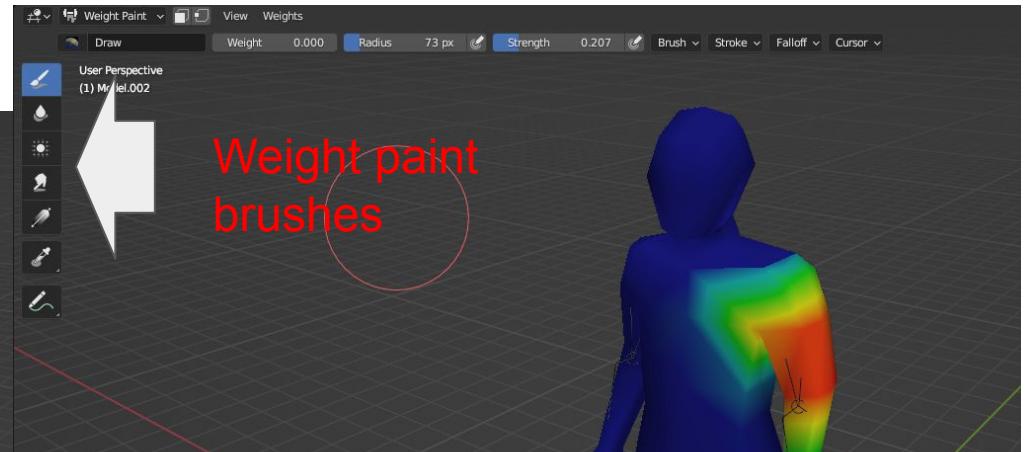
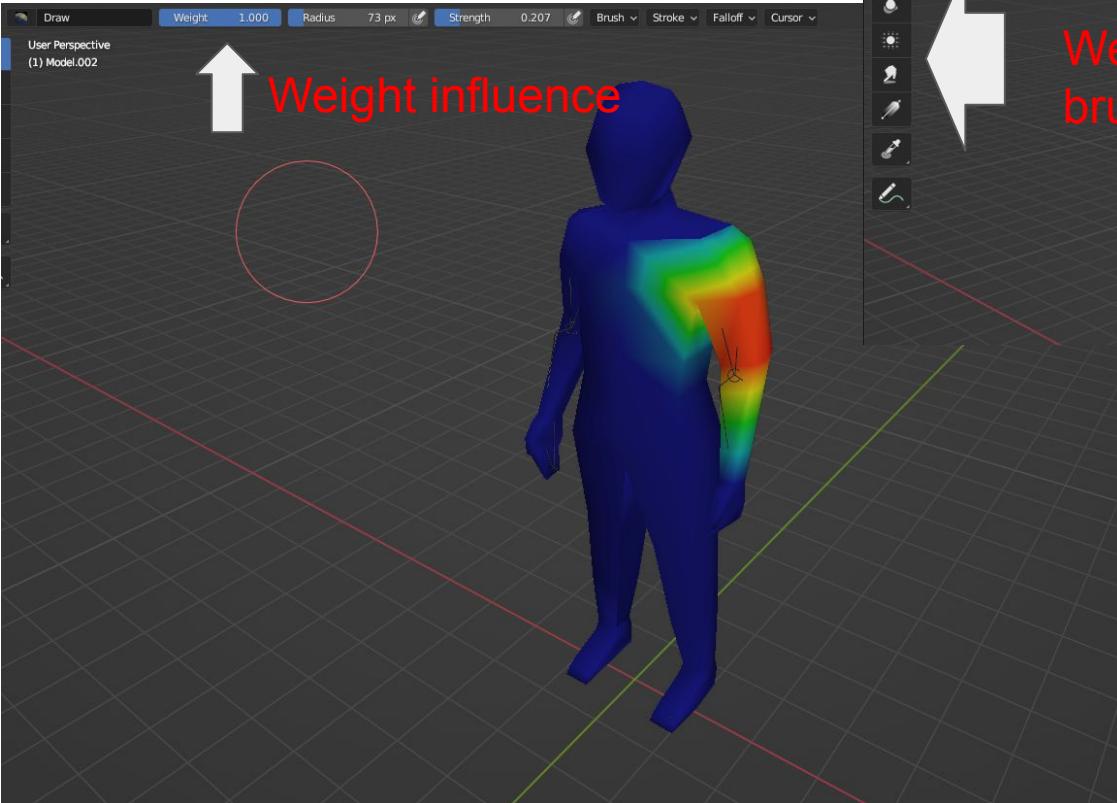
Once you finish renaming the bones click on the model and go the the top left corner and select weight paint.

Weight paint explanation



This is weight paint mode, on the right hand panel under the data tab. Whenever you click on a bone name or vertex group then it will highlight which part that bone has control of.

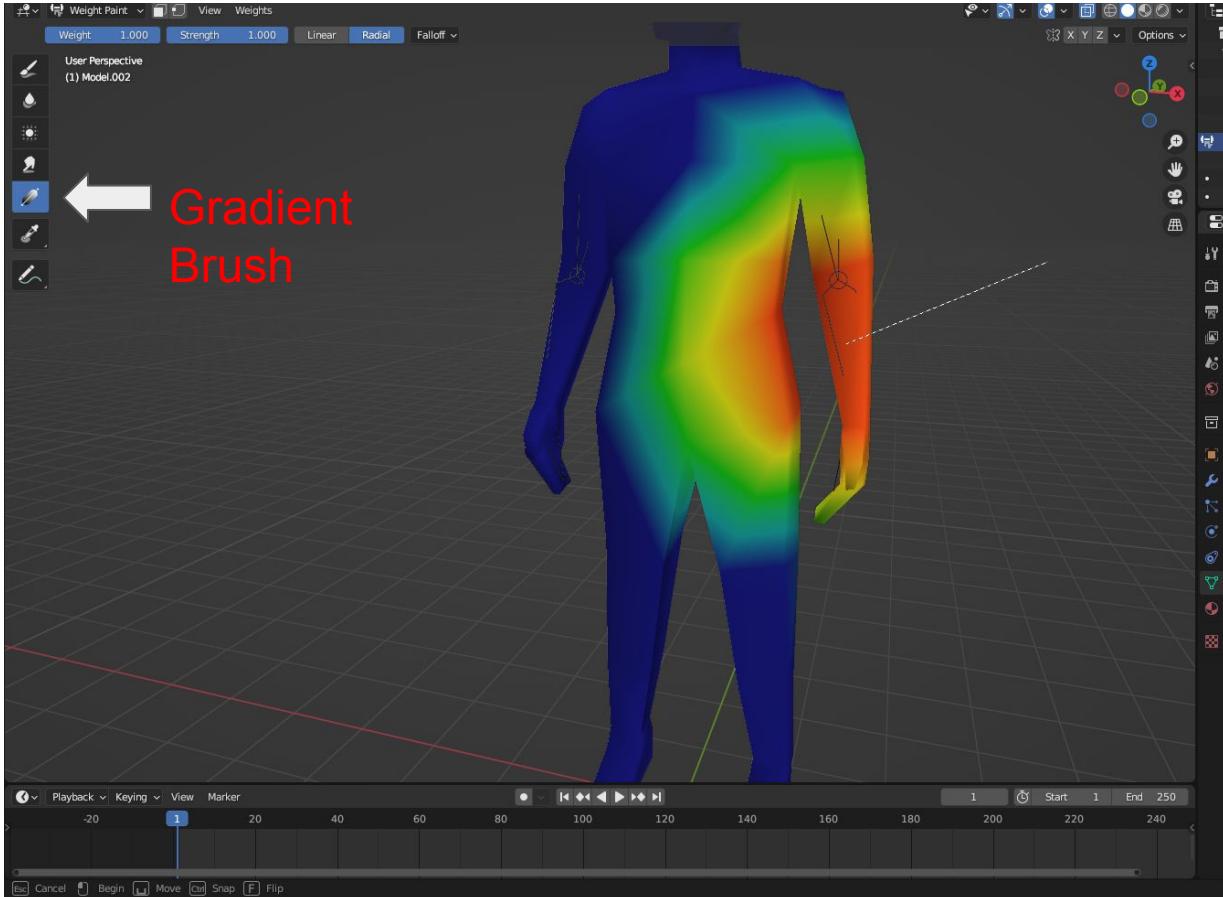
Weight Painting controls



You can control the weight/amount of control a bone has using weight paint. The red means it has most control and blue has no control. On the left hand side is your weight paint brushes.

Weight 1.000 = Red color, Control Weight 0.000 = Blue color, no control
Weight 0.500 = Green color, half control

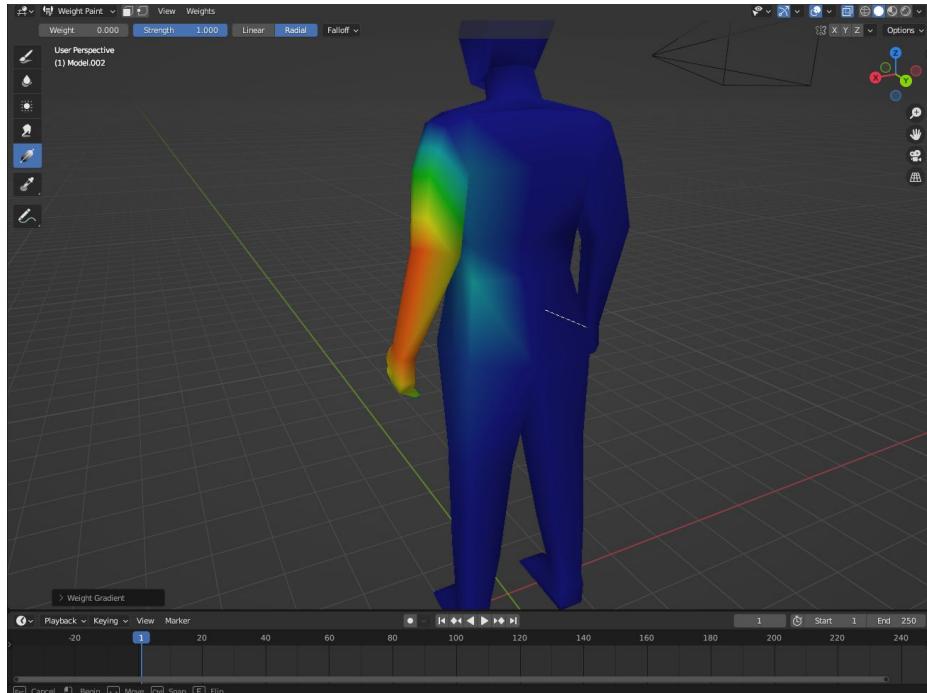
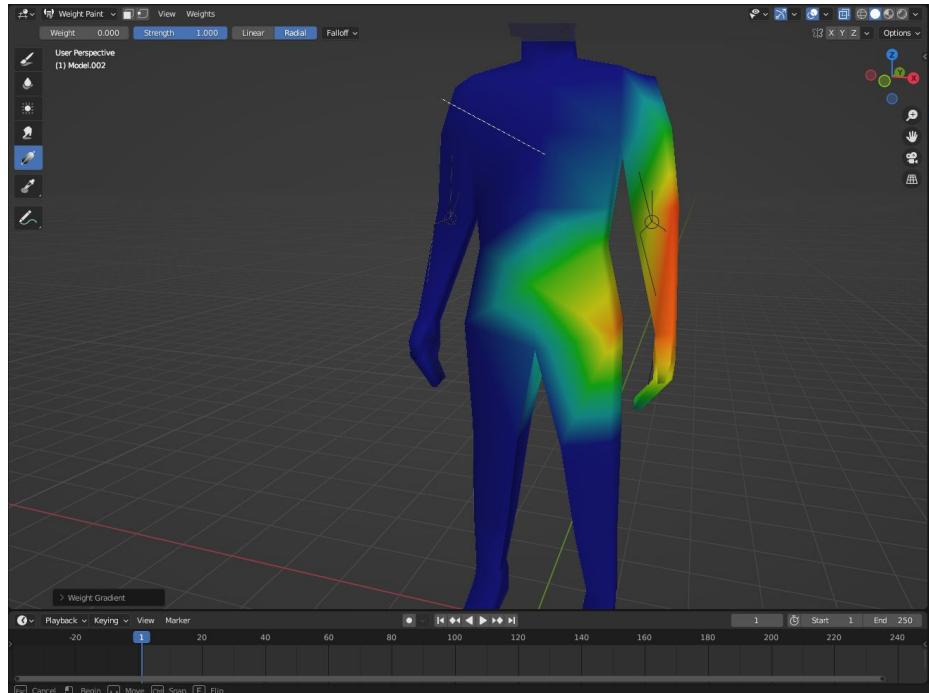
Gradient brush



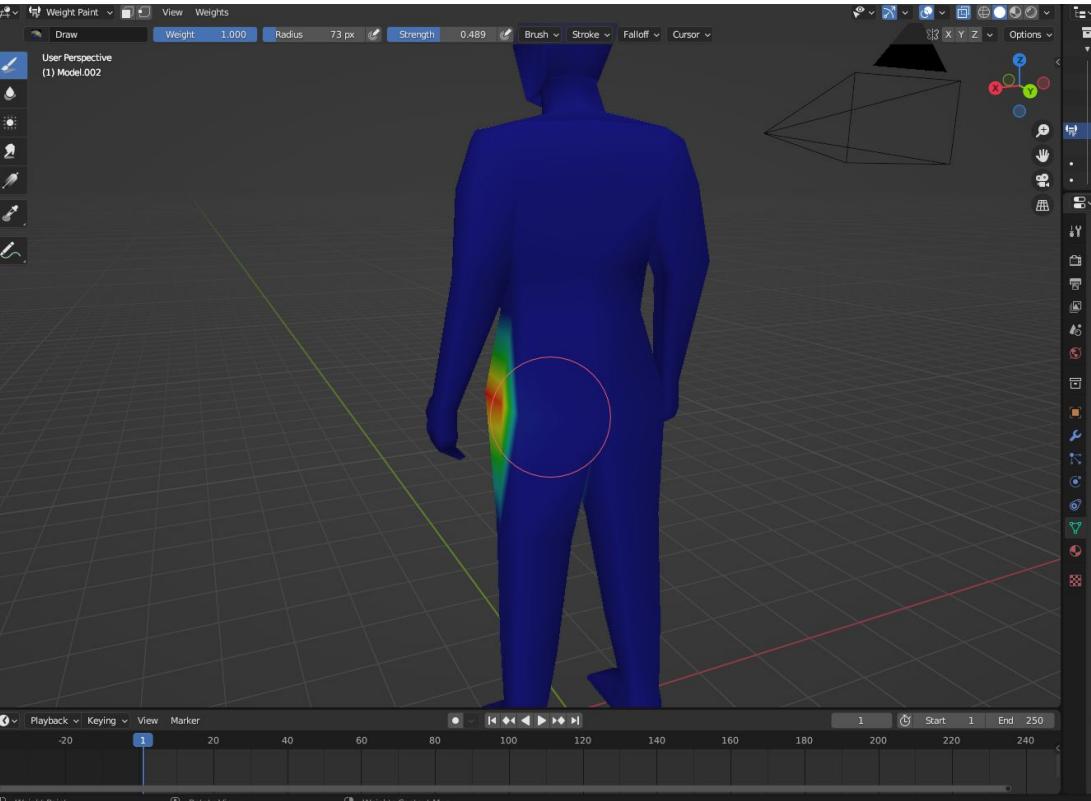
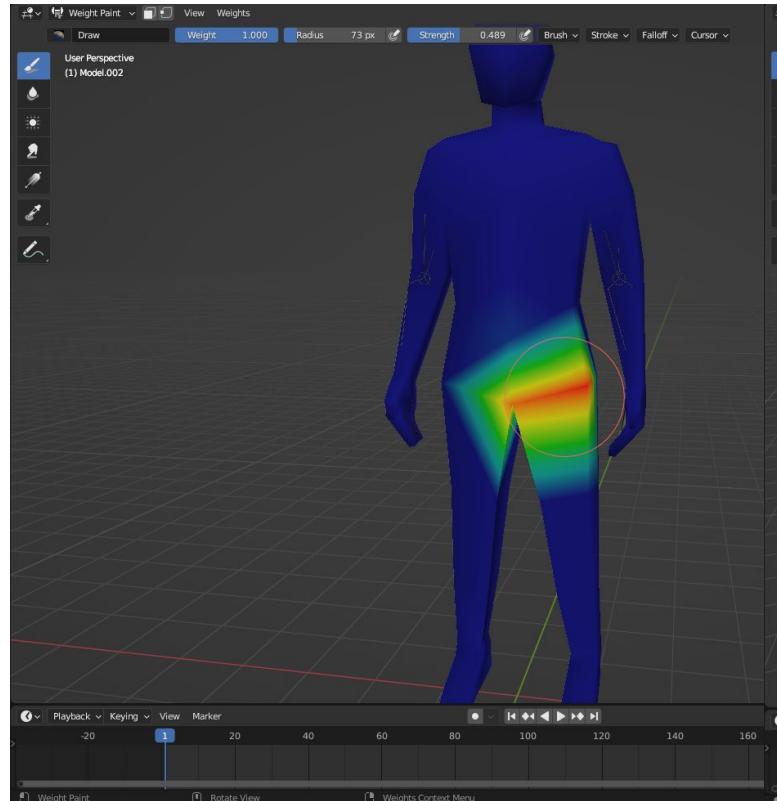
A weight paint brush I like to use is the Gradient brush because you can affect areas a bit quicker than the draw brush. On the top row

you can switch between Linear and Radial. It's best to use radial as you will have more control than Linear. You don't need to worry about Falloff.

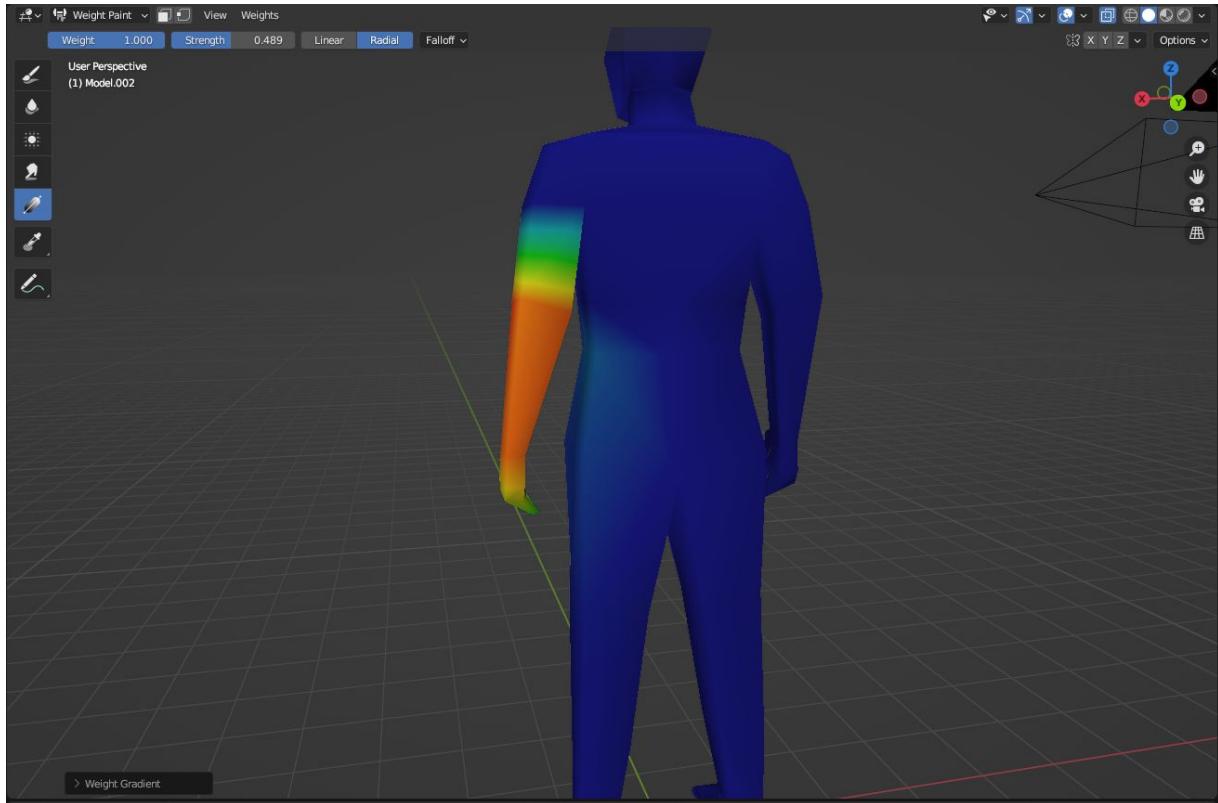
You will need to paint **front and back** of the model when weight painting as it does not automatic fill in.



More examples of front and back weight painting



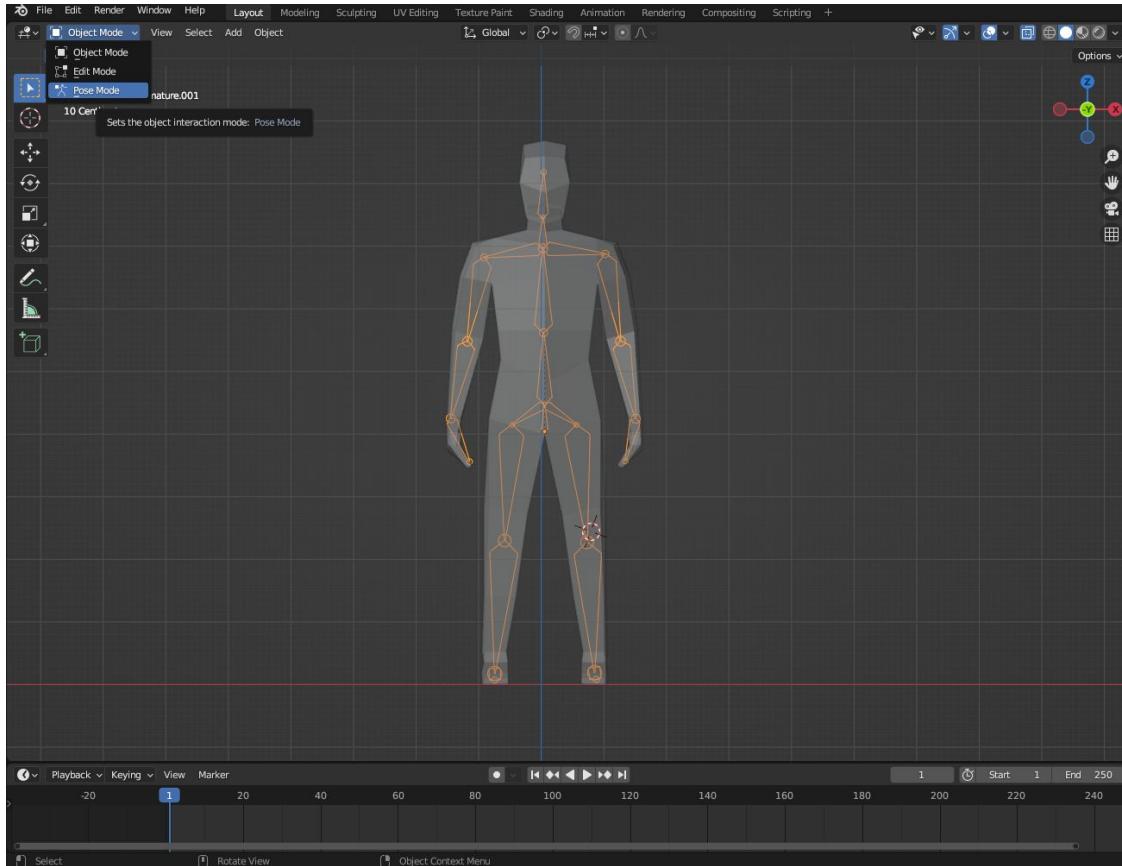
Clean up weight paint



The good thing about automatic weight paint is that it applies the weight to the model quickly. However, it is not always accurate and can leave some bones with green or blue areas where it has no control.

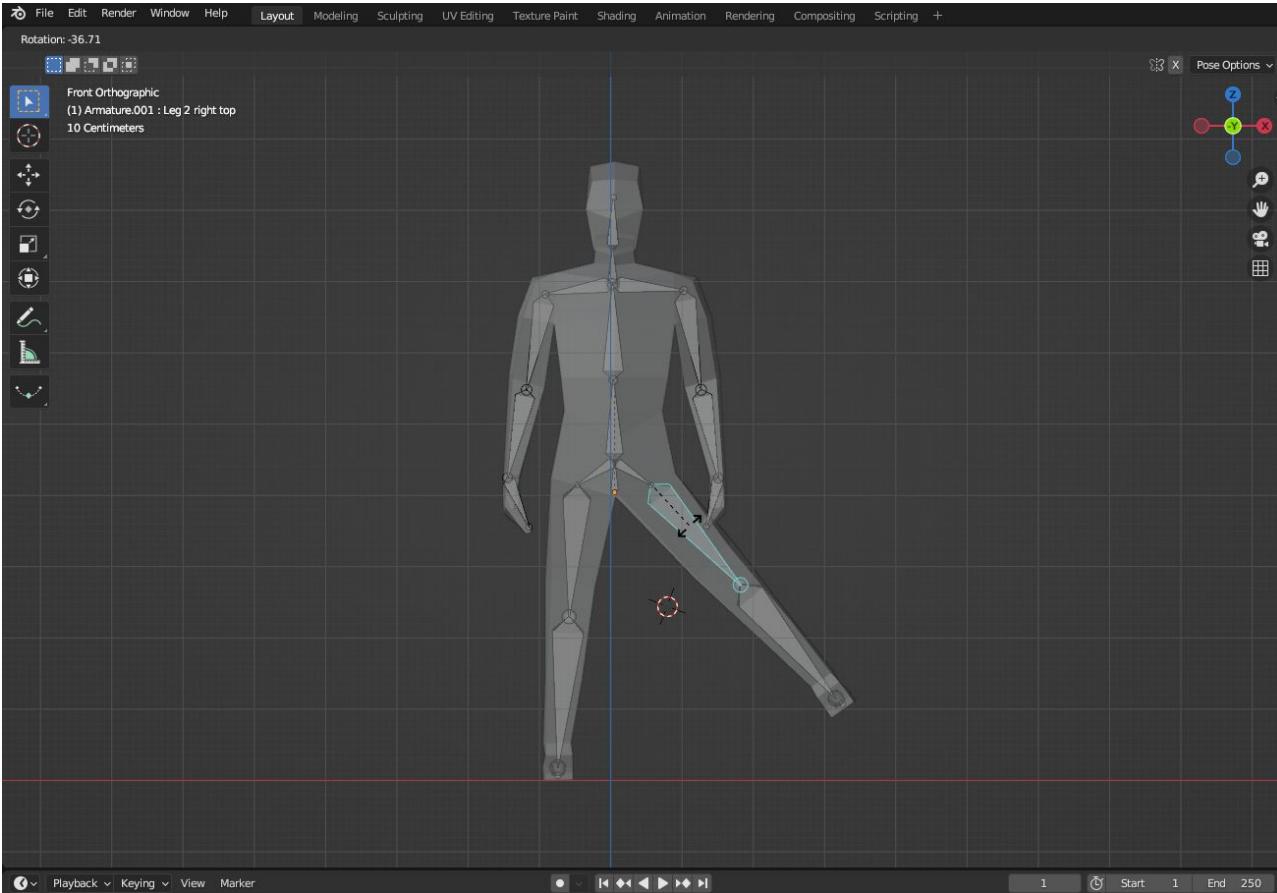
Use the weight paint brushes to add the proper weight to the associated bone/vertex group. It should be even and the weight should correspond to the specific area that bone controls.

Pose Mode



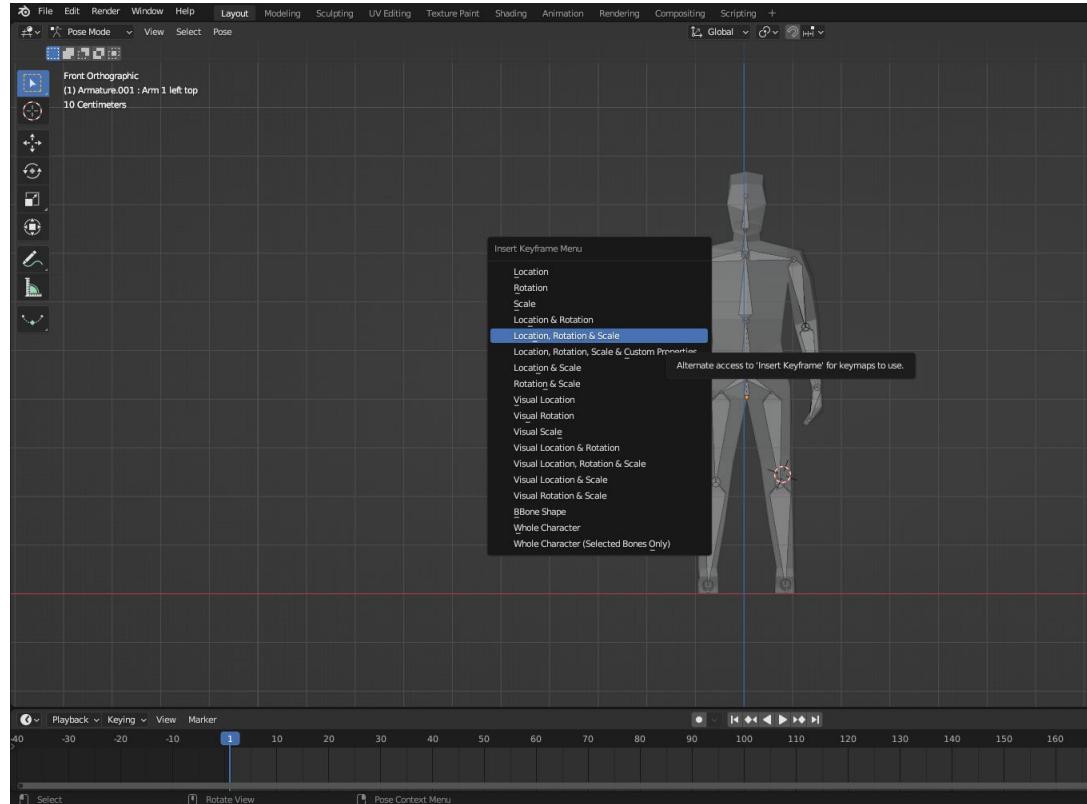
Click on the armature and on the top left corner go into Pose Mode.

Moving bones



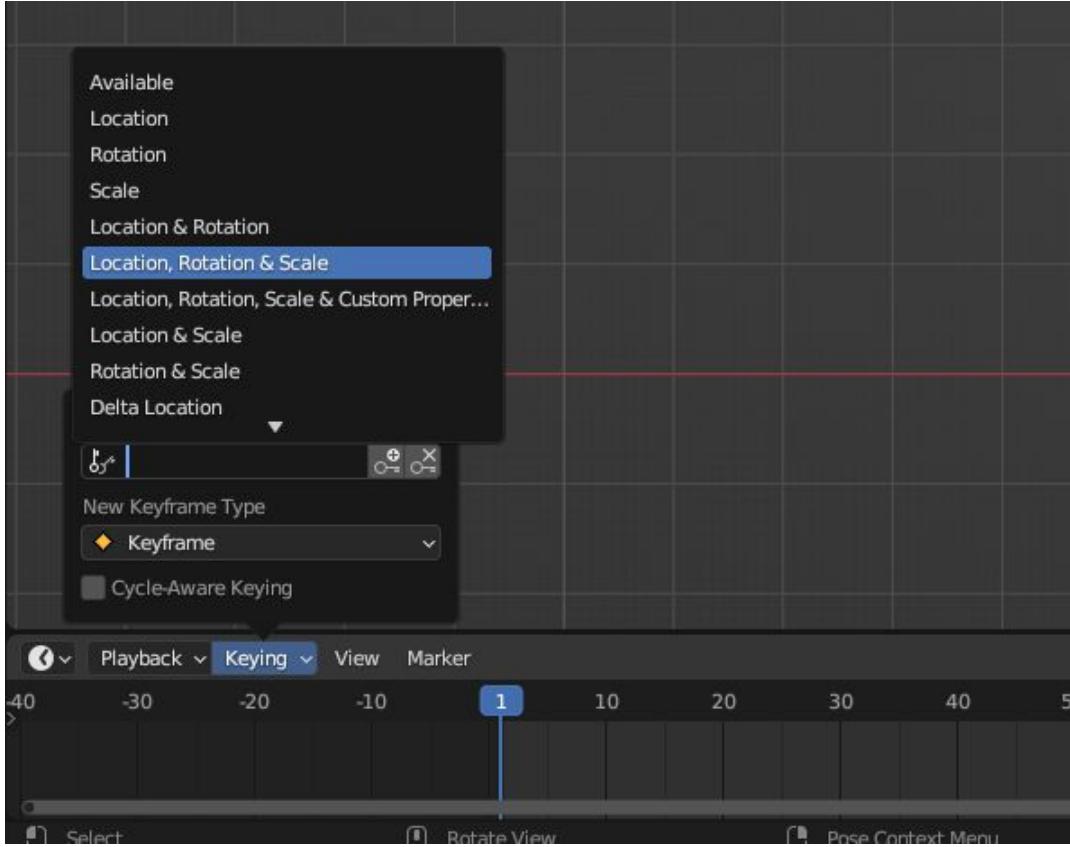
You can move each bone by clicking on one of them and pressing G and R according the axis you want to move the bone.
G and X (G + X) or R and X (R + X) to rotate the bone.

Adding keyframes



You can add a keyframe by press on the i key, a keyframe menu will pop up. You only need to focus on Location, Rotation & Scale. So that it will make a keyframe of those three elements.

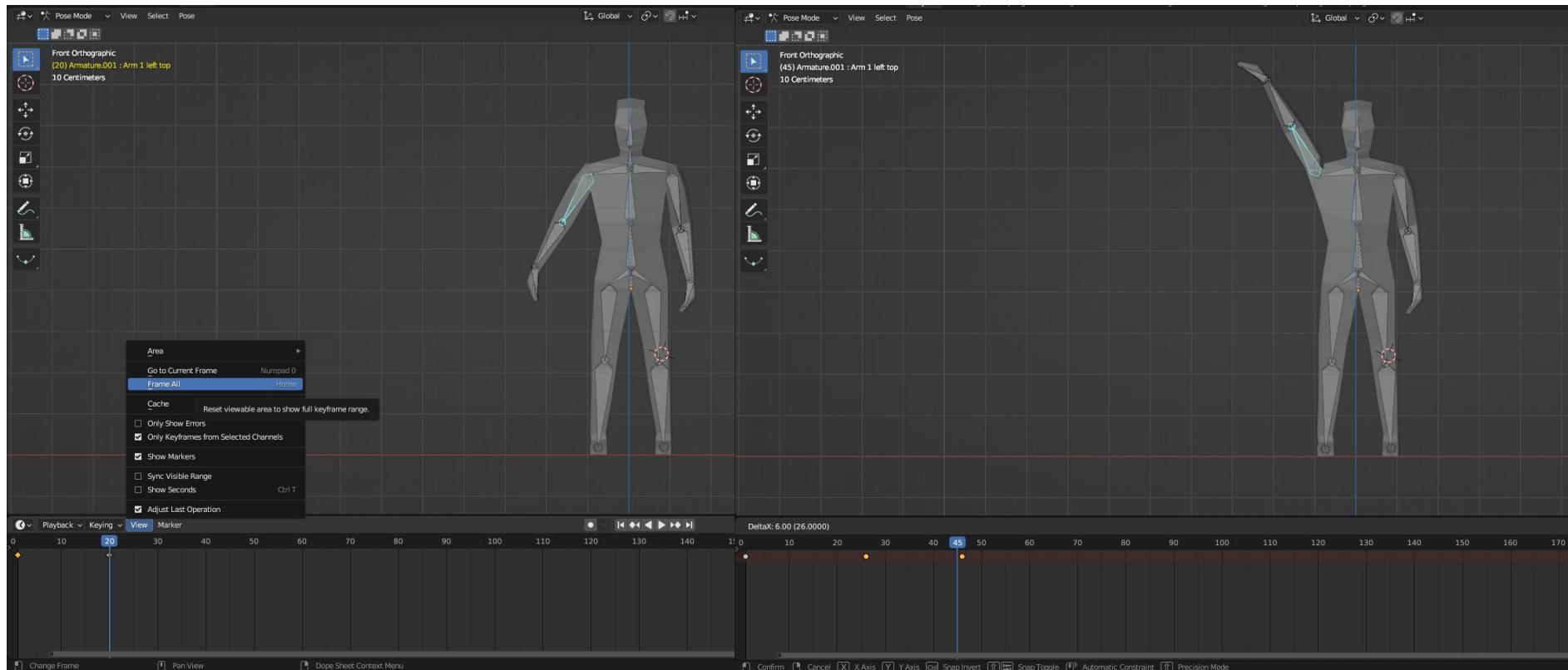
Pre-select Keyframe option



A more efficient way to add keyframes without the menu popping up every time after you press i key, is to pre-select the Location, Rotation & Scale.

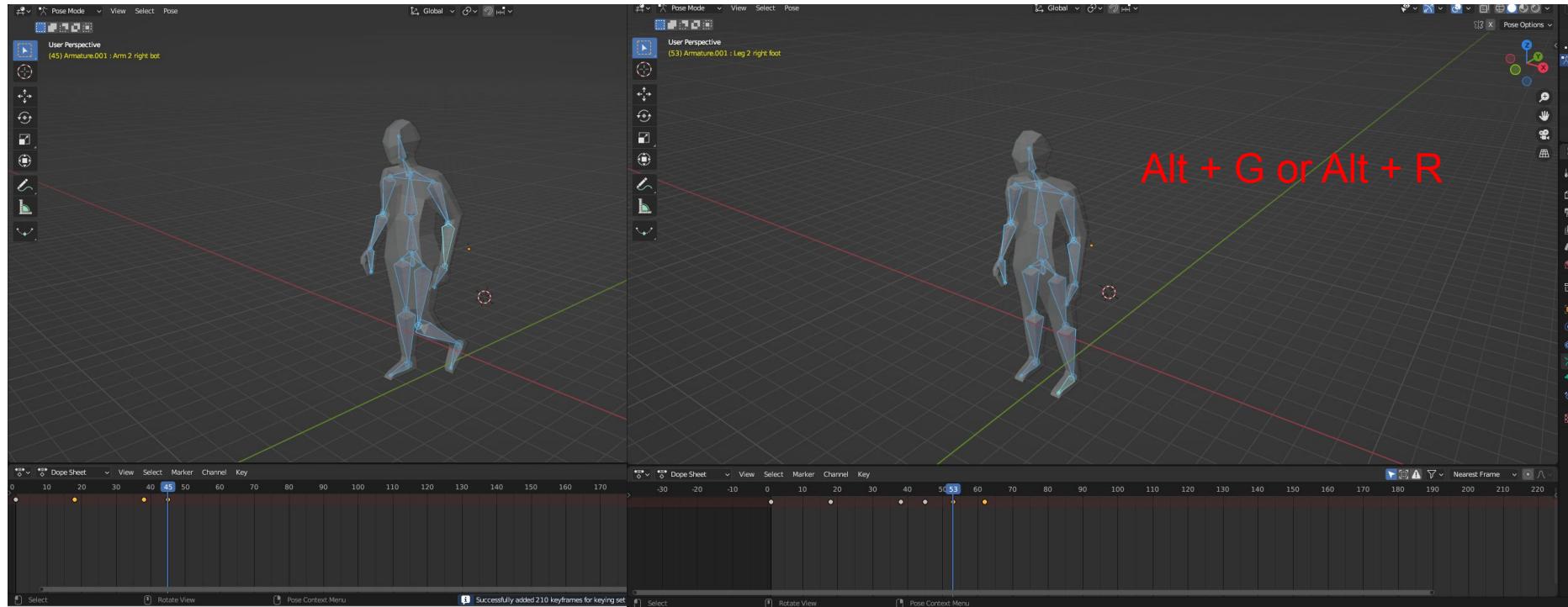
In the timeline tab, bottom left corner. Click on Keying then in the Key icon slot select Location, Rotation & Scale from the menu. This will automatically set the elements each time you move a bone in pose mode after you insert a keyframe (using i key)

If your keyframes are not showing on the timeline go to View on then click on Frame All

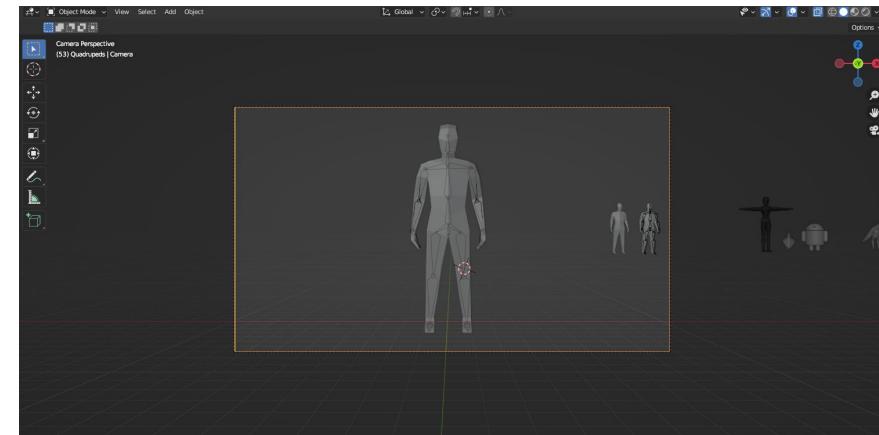
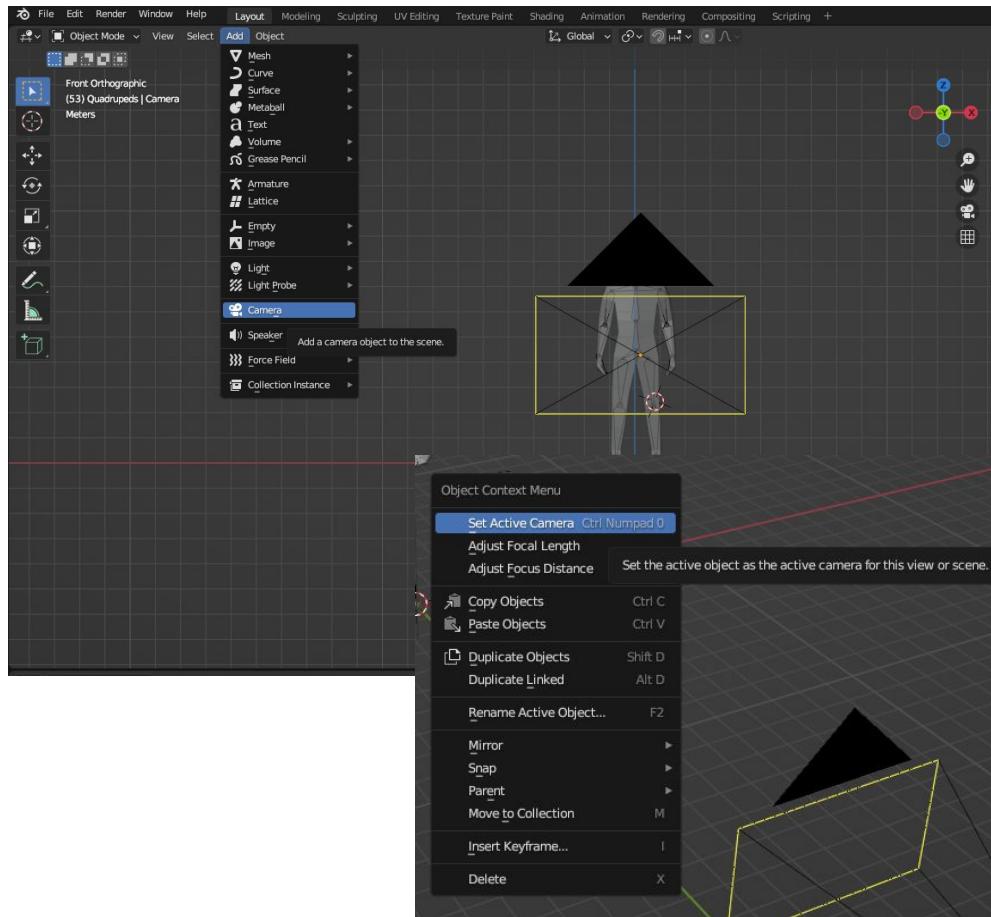


Resetting pose

After you have made a few keyframe and if you want to reset the armature to its original position, select the whole armature and **Alt + G** to reset location back to center or **Alt + R** to reset rotation of all bones



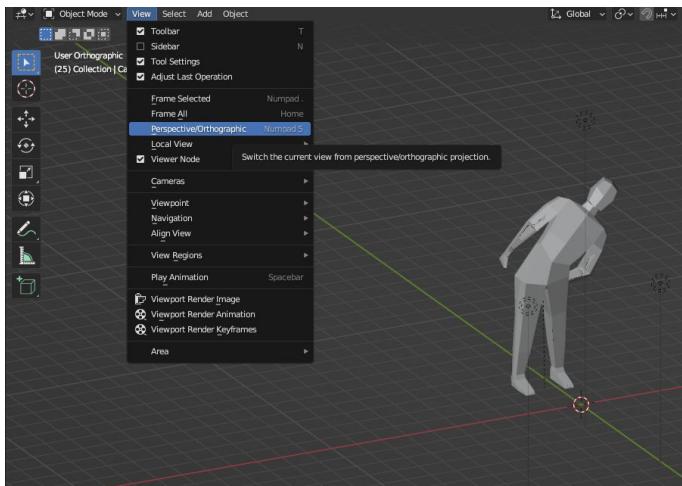
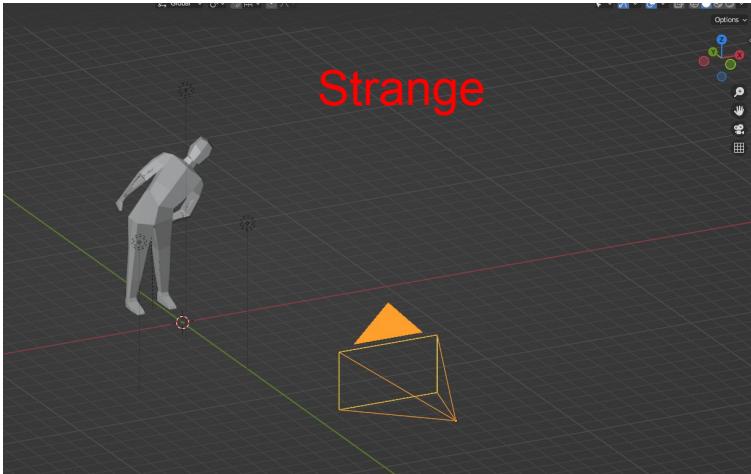
Adding Camera



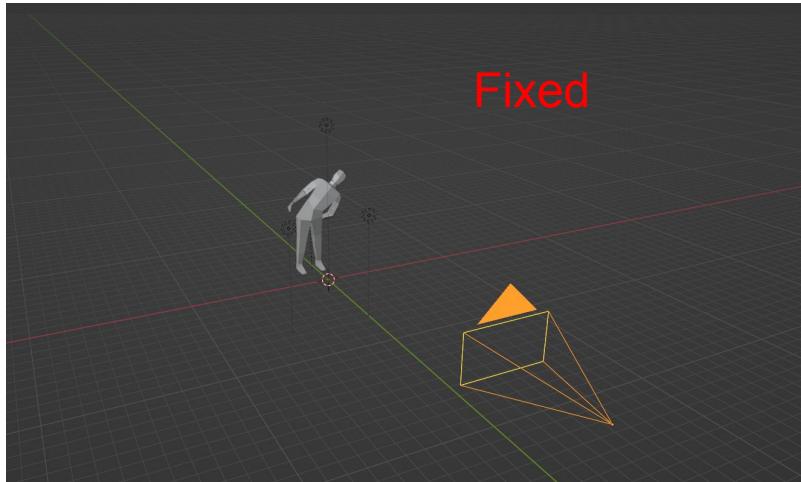
You can add a camera through the same method as adding an armature.

To see what the camera sees right click anywhere in the 3D viewport then Select Set Active Camera.

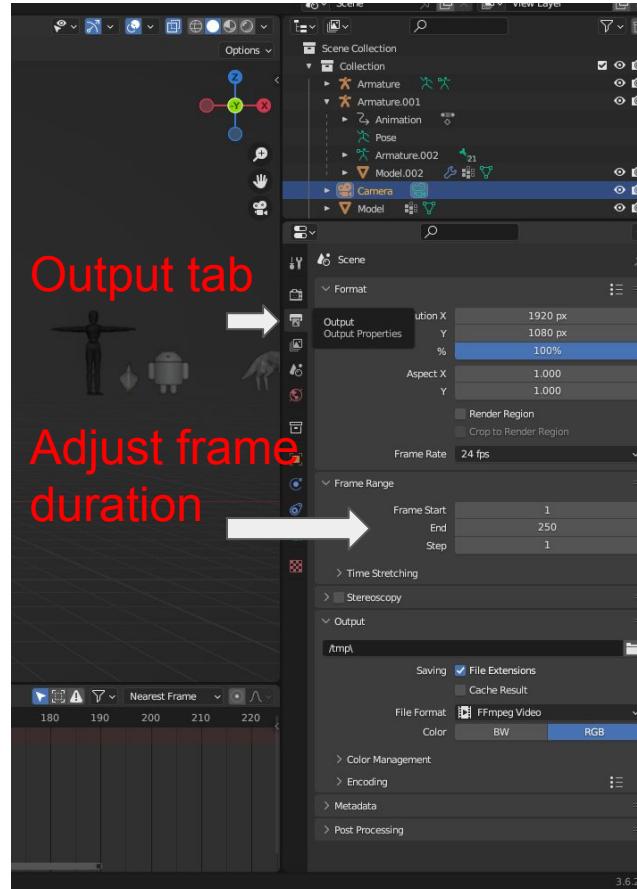
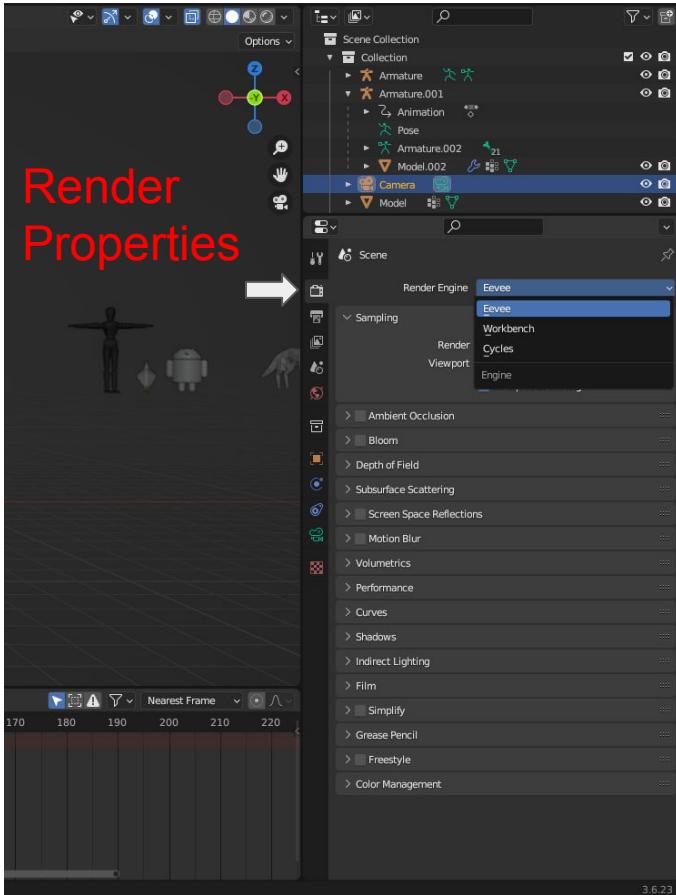
Exiting camera lens



If you use the navigation gizmo to exit the camera view, the perspective will look strange. To fix this go to View then Perspective Orthographic and it will reset the view back to normal.



Preparing to render

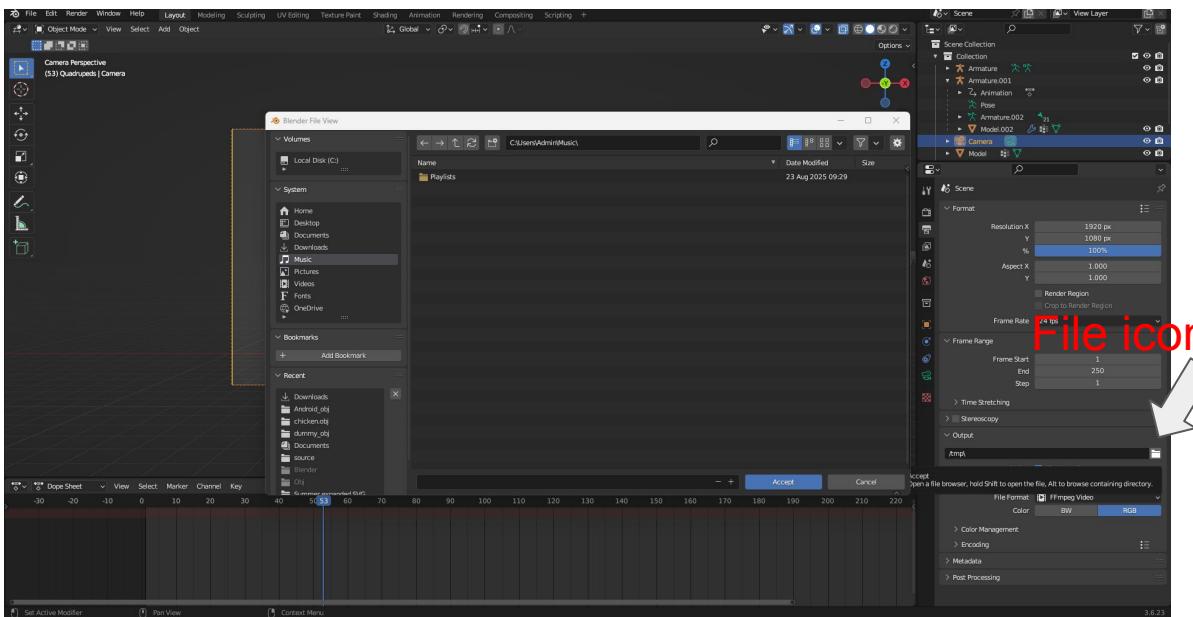
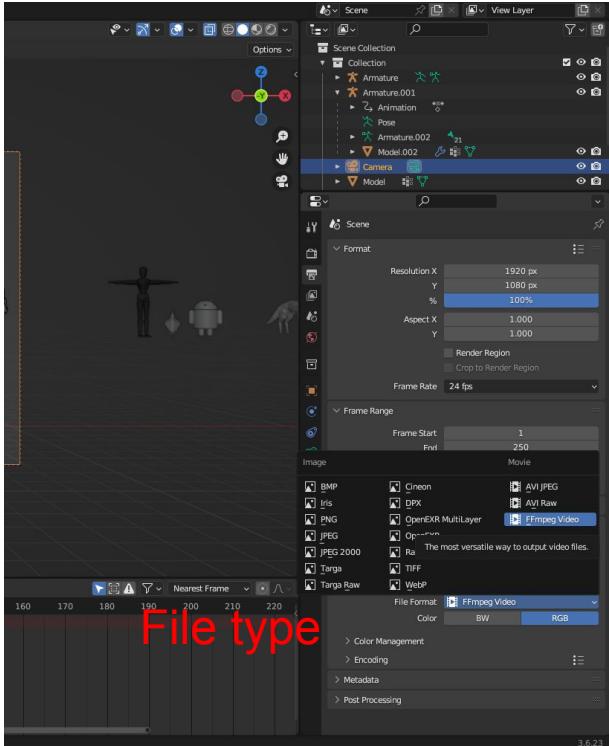


Go to the Render properties and make sure Render Engine is Eevee.

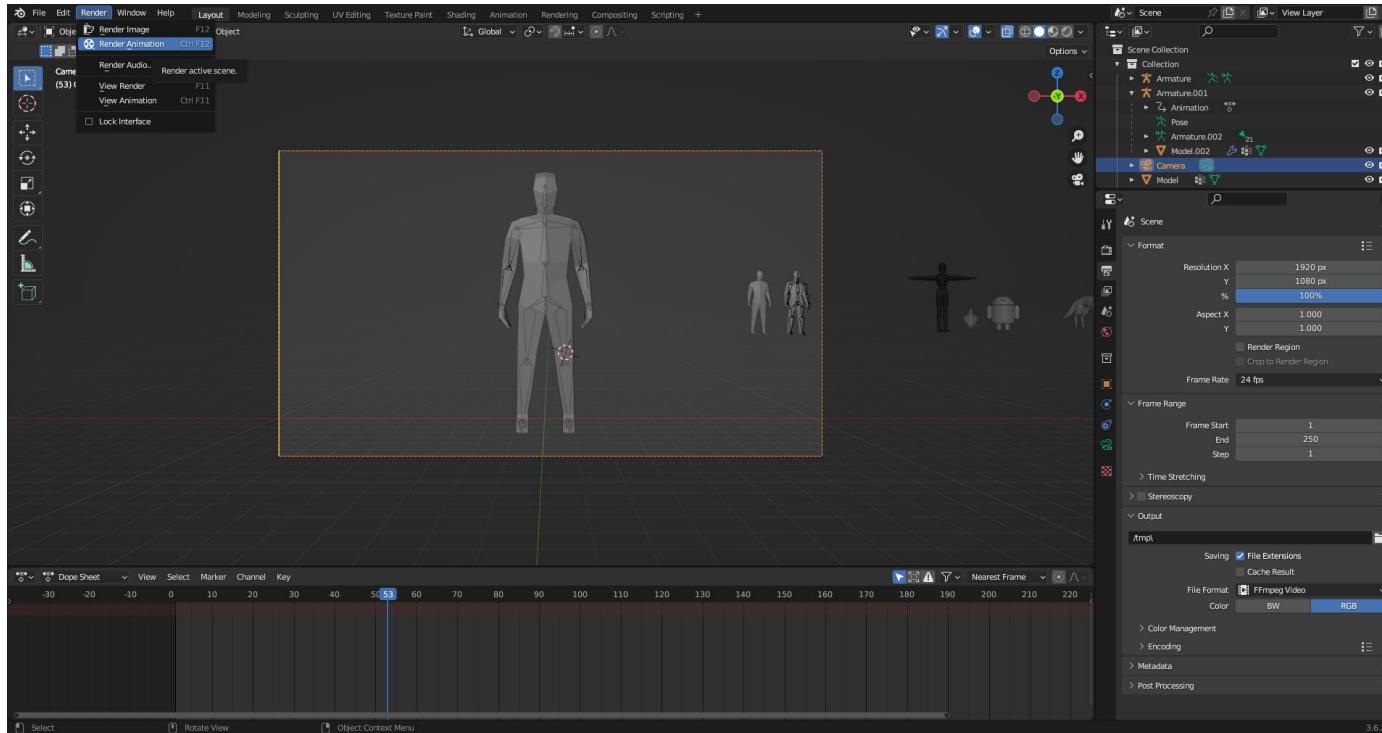
Go to the Output tab and this is where you can adjust the duration of the rendered animation.

Choosing file type and location

In output tab change the file format to Ffmpeg Video as it will render the animation to a MP4 video file. Click on the file icon above it to save it to a location in your files.



Final render



On the top left corner, click on Render then Render animation.

It will render the animation and will be placed to wherever the selected file destination is.

YOU'RE FINISHED!