# Rokoko Plugin Setup for Custom Character Mocap (4.26-4.27)


<u>Note:</u> There might be changes for better workflow. For any issue reach us at support@rokoko.com.

Make sure the model is ready for Studio Live

Before importing your model into Unreal Engine. Make sure that the character's hands and fingers are modeled as close to the Newton model as possible, to get the best possible retargeting of finger animation. The fingers should be straight and the thumb pointing 45 degrees away from the other fingers.
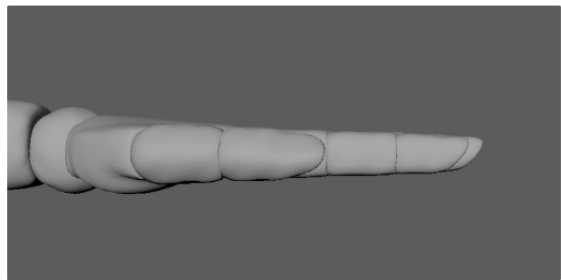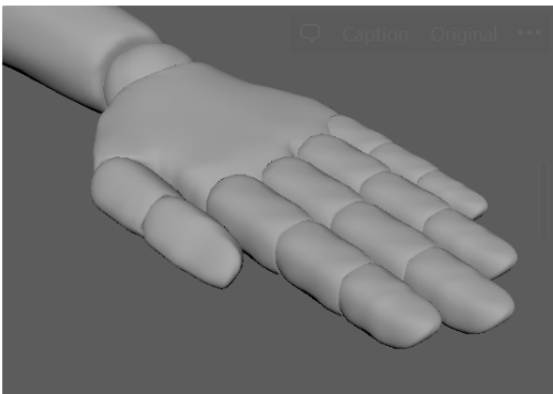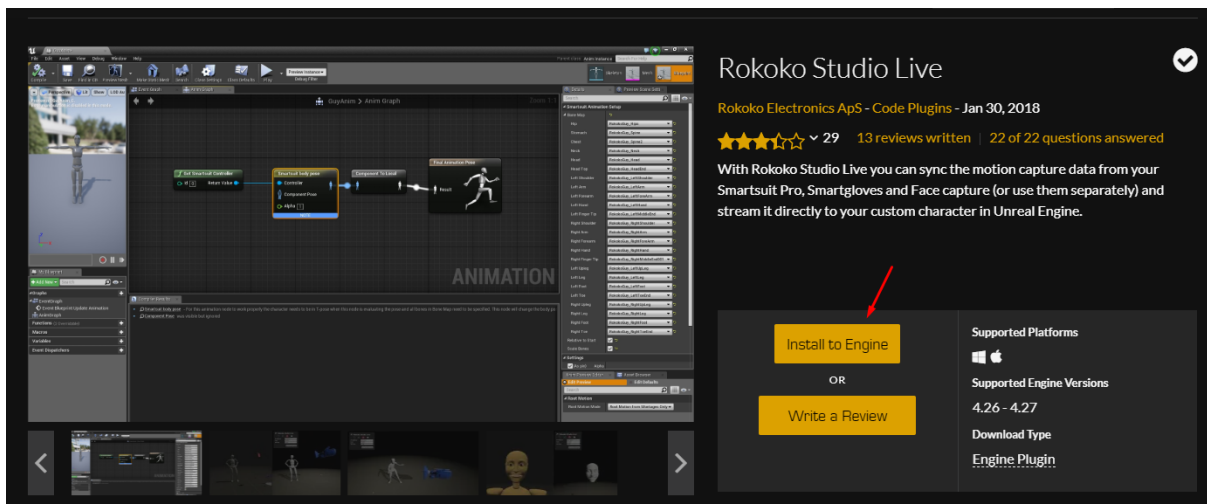

Studio Live supports up to a 4 finger joint setup: Metacarpal, Proximal, Medial and Distal finger joint.
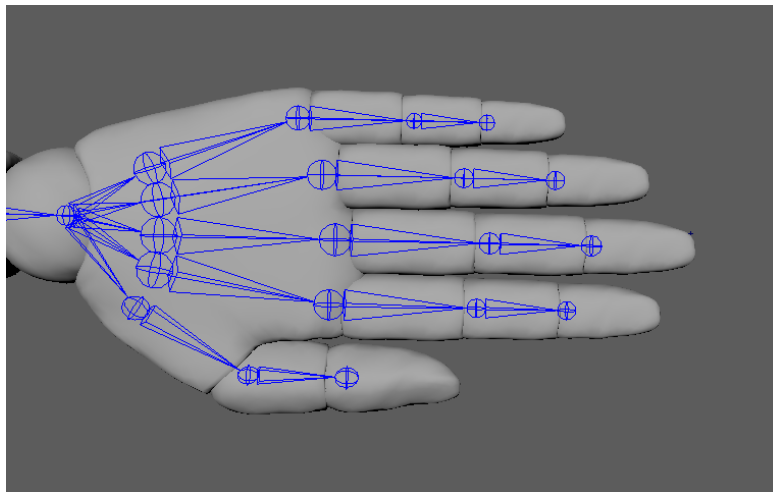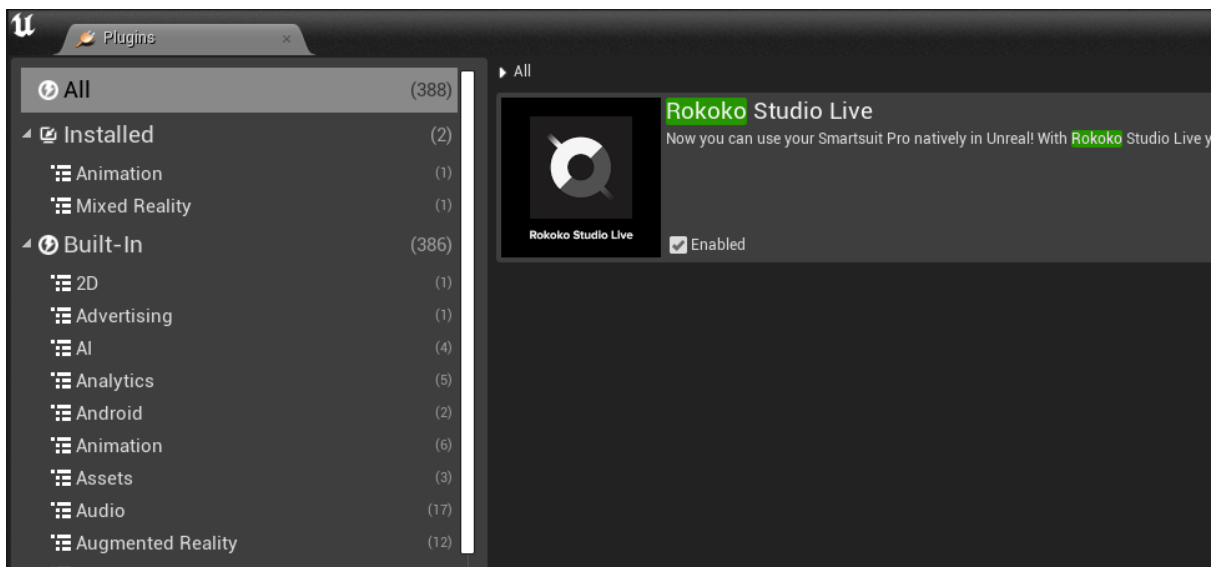
Setting up the Plugin

1. Uninstall ANY previous Rokoko plugin that you may have installed manually. (It should be in *C:\Program Files\Epic Games\UE_4.27\Engine\Plugins* as "Smartsuit" folder, delete the file)
2. Install to your current engine version(4.26-4.27) the Rokoko Plugin from Marketplace.

3. Launch a project. Go to Edit>Plugins and search for "Rokoko Studio Live" and in that section make sure the "Enabled" checkbox is checked. Then, restart your project.
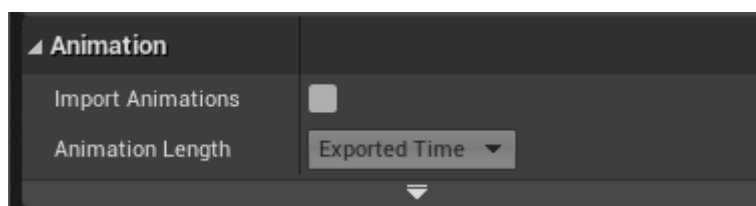
Setting up the character

1. Import your character. A pop-up window will appear. Expand the "Mesh" tab and make sure "Use T0 as Ref Pose" and "Import Morph Targets" checkboxes are checked.
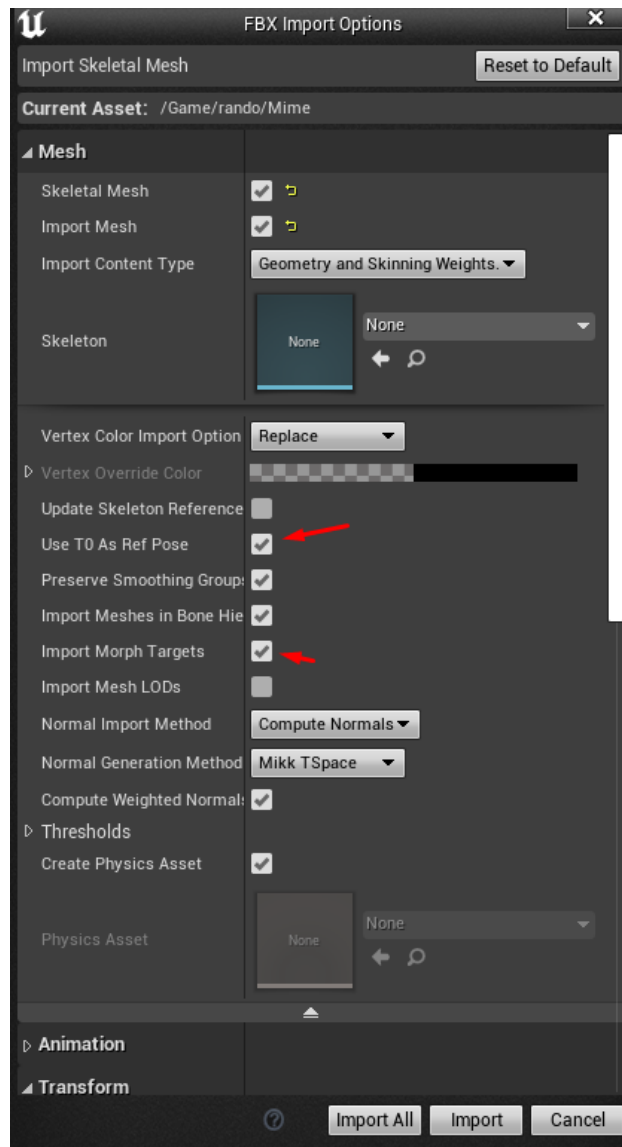

(In this documentation, I exported a free mocap as .fbx from Sample Project in Rokoko Studio and imported it without the Animation)

2. Right click on your Skeletal Mesh and click Create>Anim Blueprint. Rename it to something like "character_AnimBP"
3. Open the "character_AnimBP" and in the anim graph create a "Rokoko Body Pose" and a "Rokoko Face Pose" node. Connect them as shown below. (The "Component to Local" node will appear automatically)

   Note: You can skip any step regarding the "Rokoko Face Pose", if you want to livestream just the body/hands.
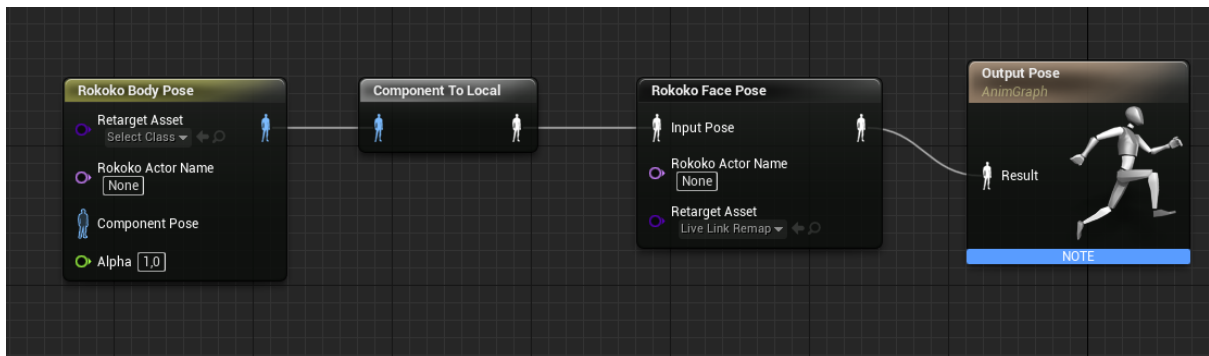
4. Create a variable, set it as "Name" and rename it something like "Rokoko Actor Name".
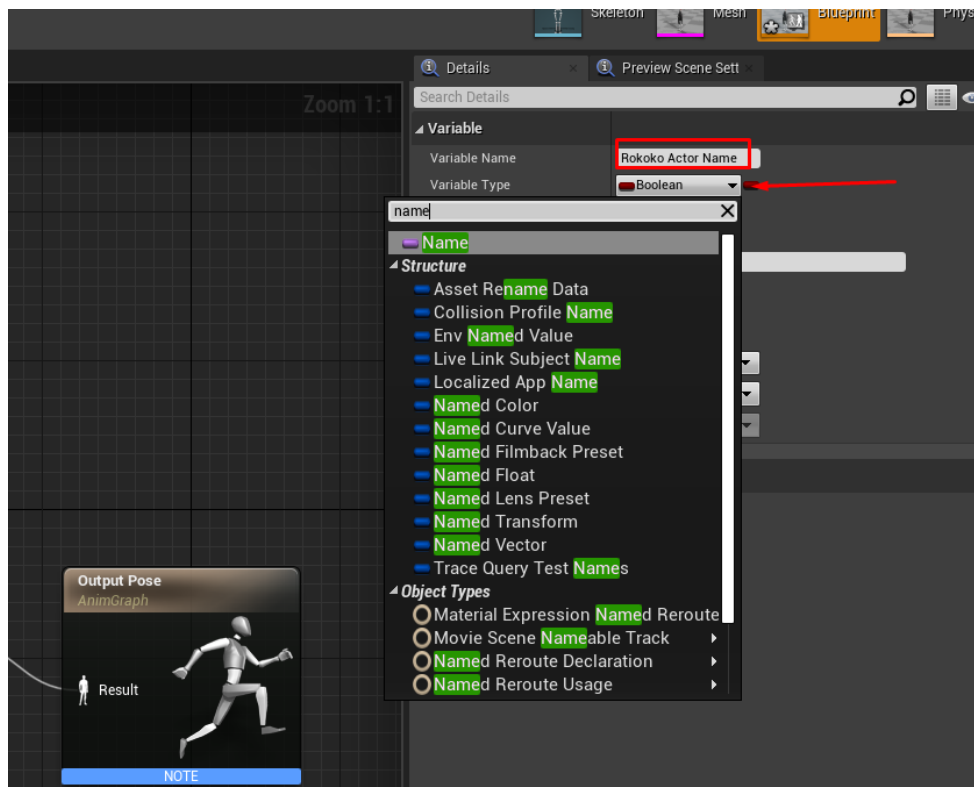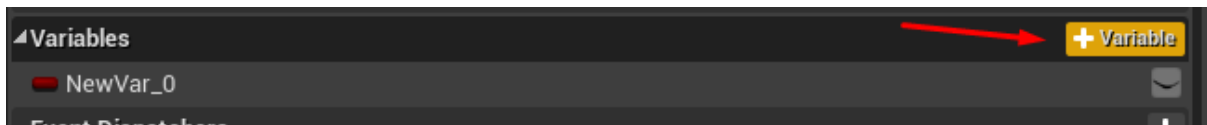
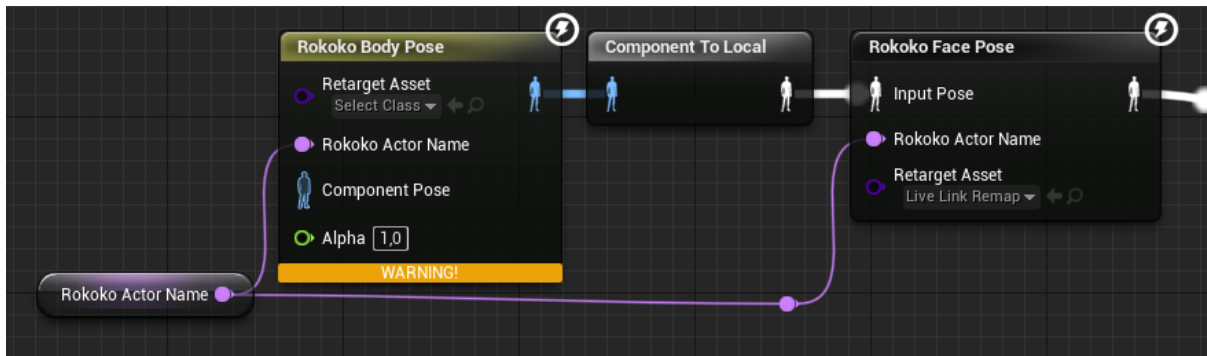5. Drag the "Rokoko Actor Name" variable into the graph, select "get Rokoko Actor name" and connect it to "Rokoko Body Pose" and "Rokoko Face Pose" inputs. Then, compile and save.

6. In the content browser, right-click, create a Blueprint class, expand the "All Classes" tab and create a "RokokoBodyMapData" and "RokokoFaceMapData" blueprint. Name them something like "character_boneMap" and "character_faceMap".
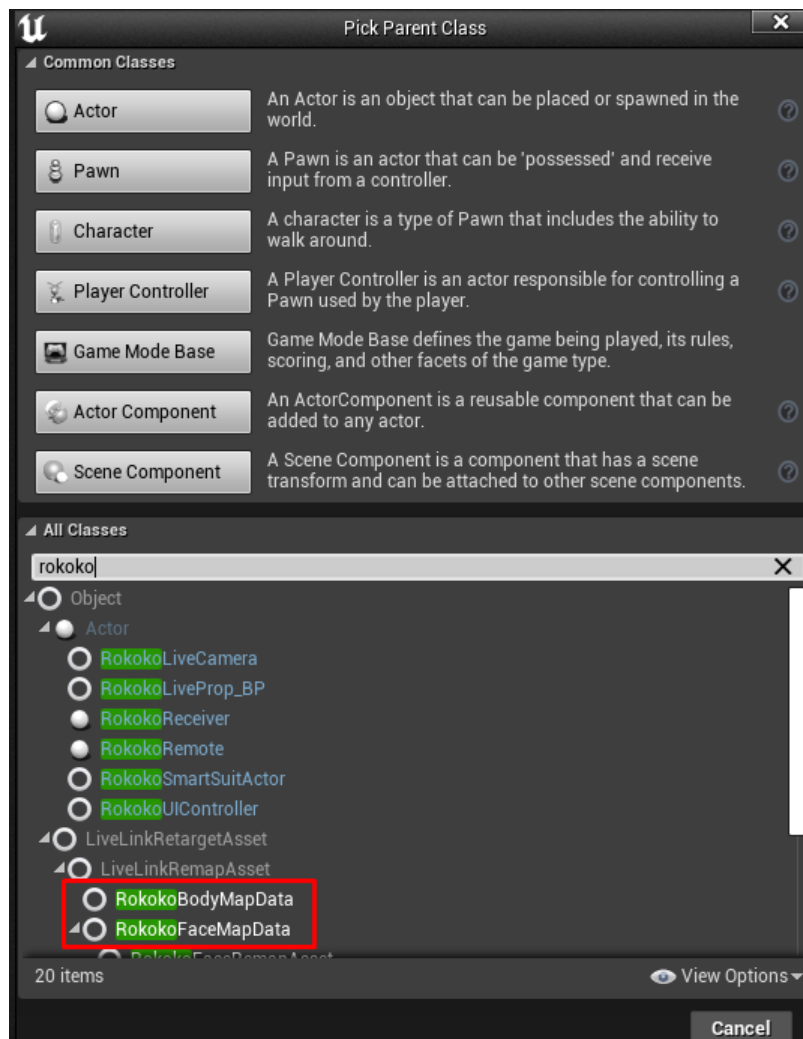
7. Open the "character_boneMap" blueprint and write the names of the corresponding joints in the hierarchy.

"Newton" bone map setup:

Bone Remapping	
Name Mapping	0 Map elements + 🗑
Hip	Character1_Hips ↴
Stomach	Character1_Spine ↴
Chest	Character1_Spine1 ↴
Neck	Character1_Neck ↴
Head	Character1_Head ↴
Left Shoulder	Character1_LeftShoulder ↴
Left Arm	Character1_LeftArm ↴
Left Forearm	Character1_LeftForeArm ↴
Left Hand	Character1_LeftHand ↴
Right Shoulder	Character1_RightShoulder ↴
Right Arm	Character1_RightArm ↴
Right Forearm	Character1_RightForeArm ↴
Right Hand	Character1_RightHand ↴
Left Upleg	Character1_LeftUpLeg ↴
Left Leg	Character1_LeftLeg ↴
Left Foot	Character1_LeftFoot ↴
Left Toe	Character1_LeftToeBase ↴
Right Upleg	Character1_RightUpLeg ↴
Right Leg	Character1_RightLeg ↴
Right Foot	Character1_RightFoot ↴
Right Toe	Character1_RightToeBase ↴

|	
Left Thumb Proximal	Character1_LeftHandThumb1 ↴
Left Thumb Medial	Character1_LeftHandThumb2 ↴
Left Thumb Distal	Character1_LeftHandThumb3 ↴
Left Thumb Tip	Character1_LeftHandThumb3 ↴
Left Index Proximal	Character1_LeftHandIndex1 ↴
Left Index Medial	Character1_LeftHandIndex2 ↴
Left Index Distal	Character1_LeftHandIndex3 ↴
Left Index Tip	Character1_LeftHandIndex3 ↴
Left Middle Proximal	Character1_LeftHandMiddle1 ↴
Left Middle Medial	Character1_LeftHandMiddle2 ↴
Left Middle Distal	Character1_LeftHandMiddle3 ↴
Left Middle Tip	Character1_LeftHandMiddle3 ↴
Left Ring Proximal	Character1_LeftHandRing1 ↴
Left Ring Medial	Character1_LeftHandRing2 ↴
Left Ring Distal	Character1_LeftHandRing3 ↴
Left Ring Tip	Character1_LeftHandRing3 ↴
Left Little Proximal	Character1_LeftHandPinky1 ↴
Left Little Medial	Character1_LeftHandPinky2 ↴
Left Little Distal	Character1_LeftHandPinky3 ↴
Left Little Tip	Character1_LeftHandPinky3 ↴

Right Thumb Proximal	Character1_RightHandThumb1 ↴
Right Thumb Medial	Character1_RightHandThumb2 ↴
Right Thumb Distal	Character1_RightHandThumb3 ↴
Right Thumb Tip	Character1_RightHandThumb3 ↴
Right Index Proximal	Character1_RightHandIndex1 ↴
Right Index Medial	Character1_RightHandIndex2 ↴
Right Index Distal	Character1_RightHandIndex3 ↴
Right Index Tip	Character1_RightHandIndex3 ↴
Right Middle Proximal	Character1_RightHandMiddle1 ↴
Right Middle Medial	Character1_RightHandMiddle2 ↴
Right Middle Distal	Character1_RightHandMiddle3 ↴
Right Middle Tip	Character1_RightHandMiddle3 ↴
Right Ring Proximal	Character1_RightHandRing1 ↴
Right Ring Medial	Character1_RightHandRing2 ↴
Right Ring Distal	Character1_RightHandRing3 ↴
Right Ring Tip	Character1_RightHandRing3 ↴
Right Little Proximal	Character1_RightHandPinky1 ↴
Right Little Medial	Character1_RightHandPinky2 ↴
Right Little Distal	Character1_RightHandPinky3 ↴
Right Little Tip	Character1_RightHandPinky3 ↴

Compile and save the blueprint.(If you use the same joint naming on more characters you can reuse this asset).

8. Open the "character_faceMap" blueprint and write the names of the blendshape names you'd like to override(first, try not making any changes). (If you use the same blendshape names on more characters you can reuse this asset).

   When done, compile and save.

9. Back in the "character_AnimBP" graph, create a variable, set it at "Rokoko Body Map Data" **class reference** and name it something like "BodyMapRetargetAsset".
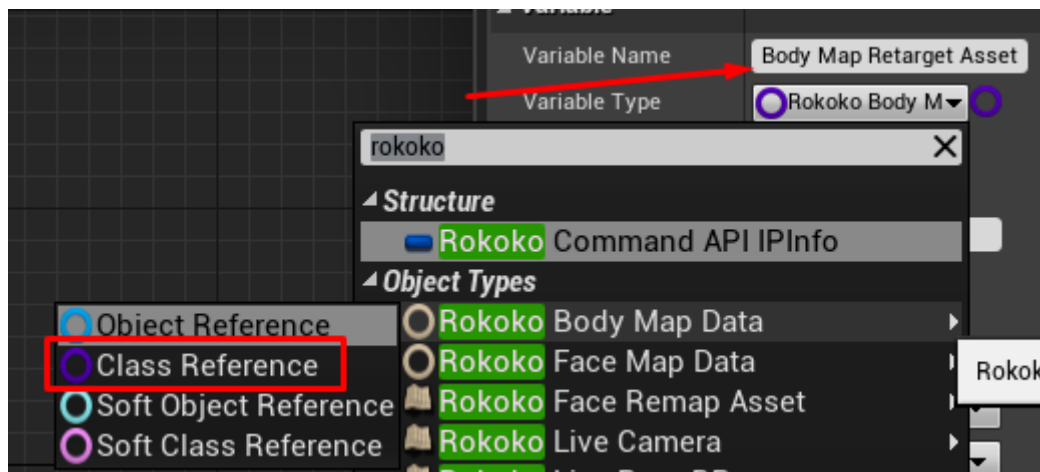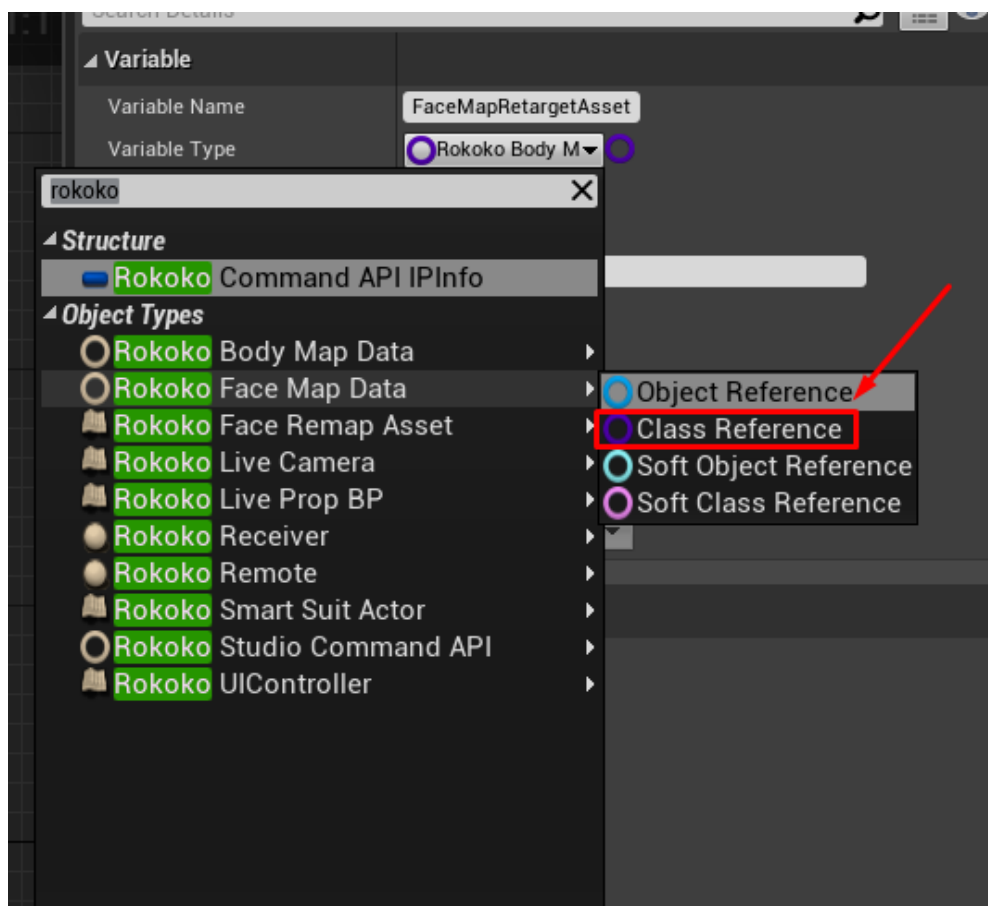

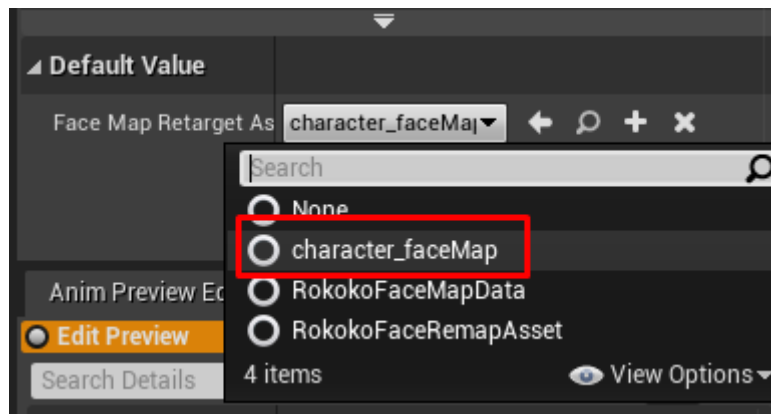Compile and set its default value to the bone map you just created.
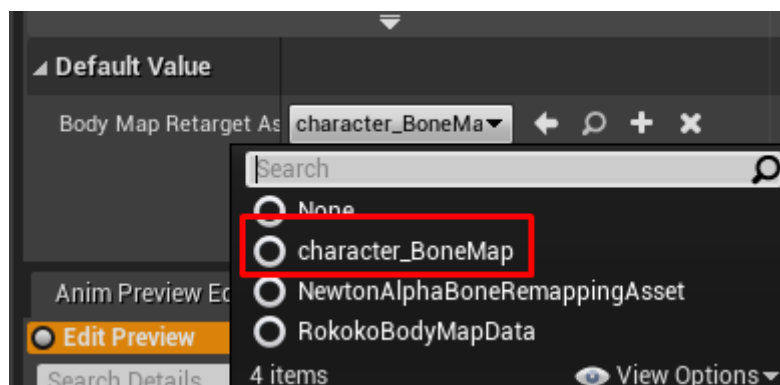
10. Drag the "BodyMapRetargetAsset" variable to the graph, select "get BodyMapRetarget Asset" and connect it to the "Retarget Asset" input of "Rokoko Body Pose" node.
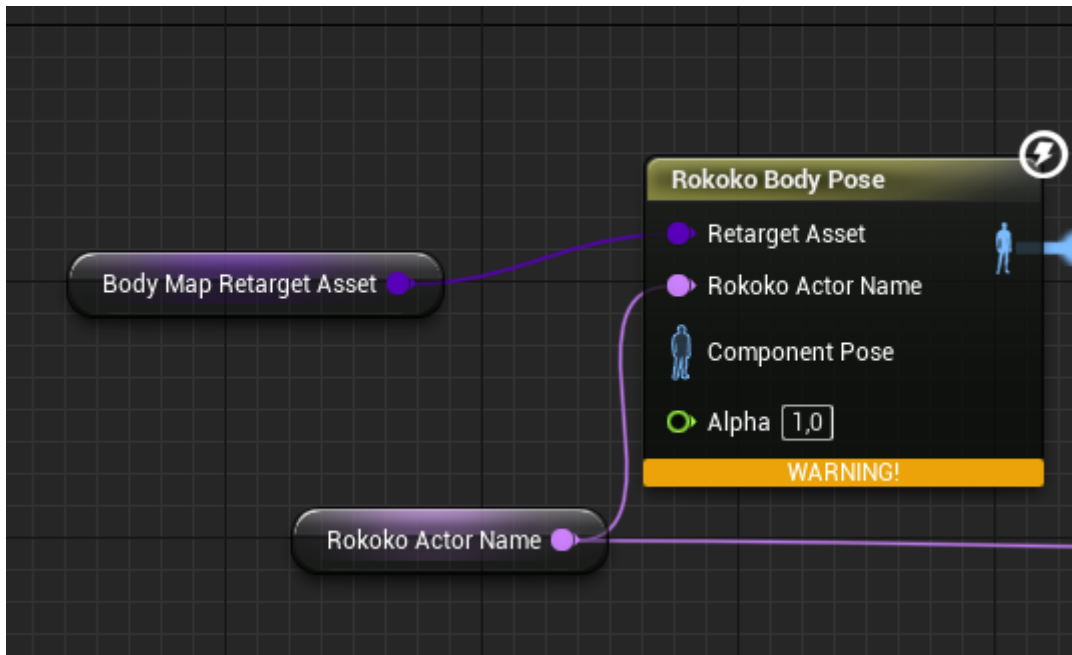
11. Create one more variable, set it at "Rokoko Face Map Data" **class reference** and name it something like "FaceMapRetargetAsset".
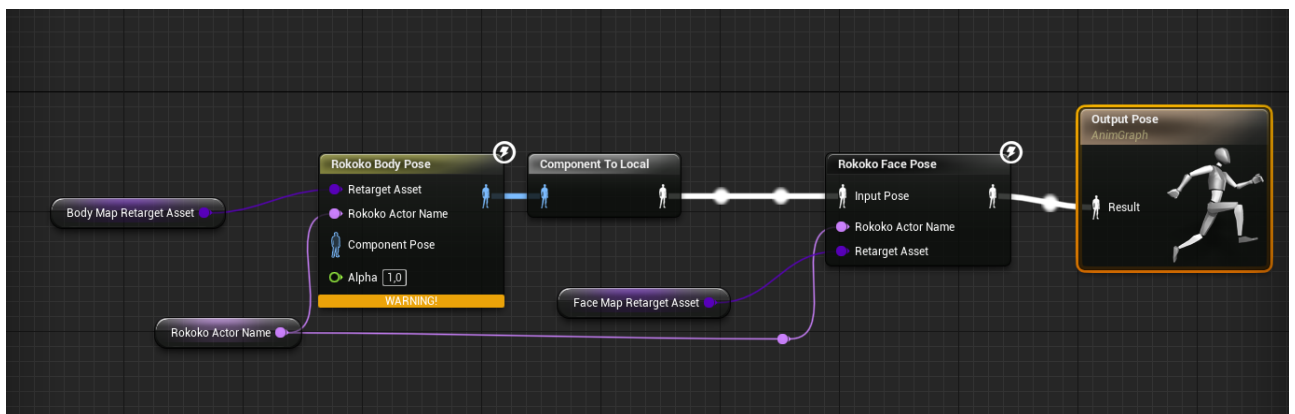

Compile and set its default value to the face map you just created.

12. Drag the "FaceMapRetargetAsset" variable to the graph, select "get FaceMapRetarget Asset" and connect it to the "Retarget Asset" input of "Rokoko Face Pose" node.

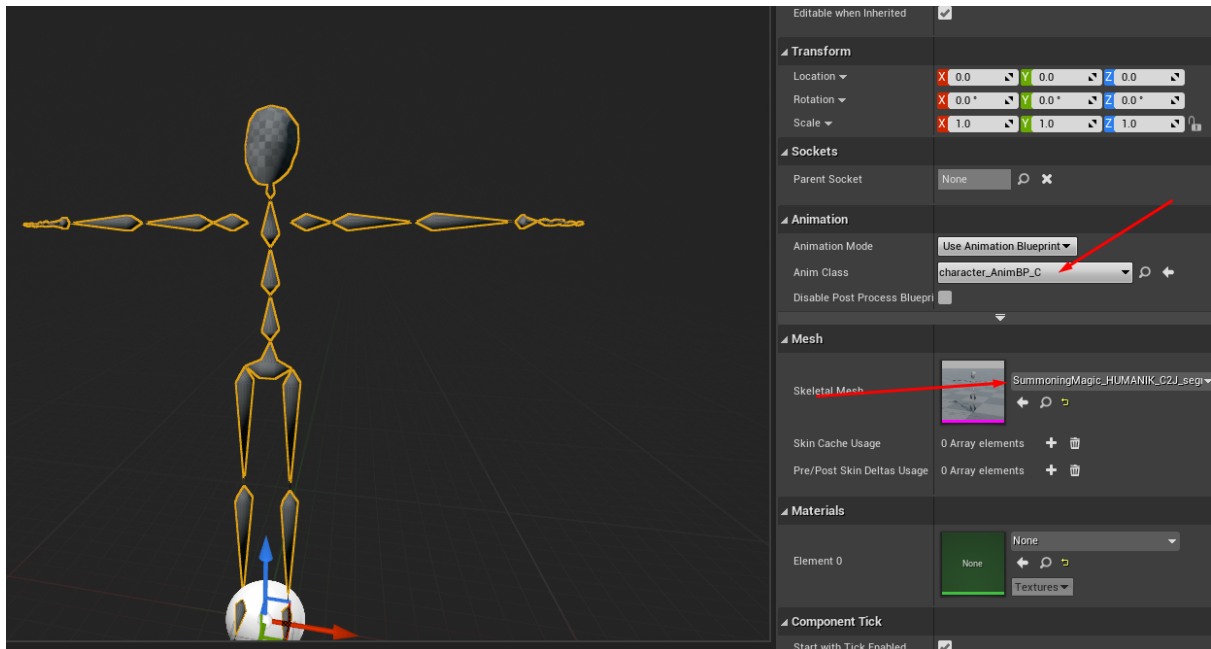13. Finally, your animation graph will look like this:

Note: Ignore the warnings!!

14. Right-click on the content browser and create an "Actor" blueprint class. Name it something like "character_BP". Open it and on-top left, click on Add Component and select skeletal mesh.
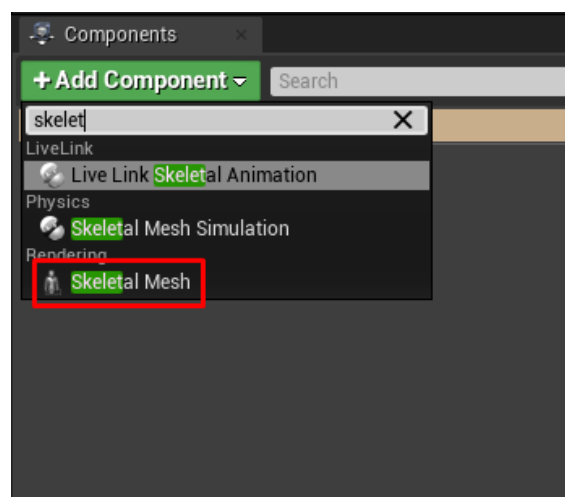
15. To this skeletal mesh, apply your character's skeleton and the Animation Blueprint you just created.

Hit compile and save.

16. On the event graph of the "character_BP" drag the skeletal mesh to the graph. From its pin, drag and create a "Get Anim Instance" node. From its pin,drag and create a "Cast to character_AnimBP" node. From "Cast to character_AnimBP" blue pin drag and create a "Set Rokoko Actor Name". Set the name as it is on your Actor Profile in Rokoko Studio. Connect the rest pins, Compile and Save the Blueprint.
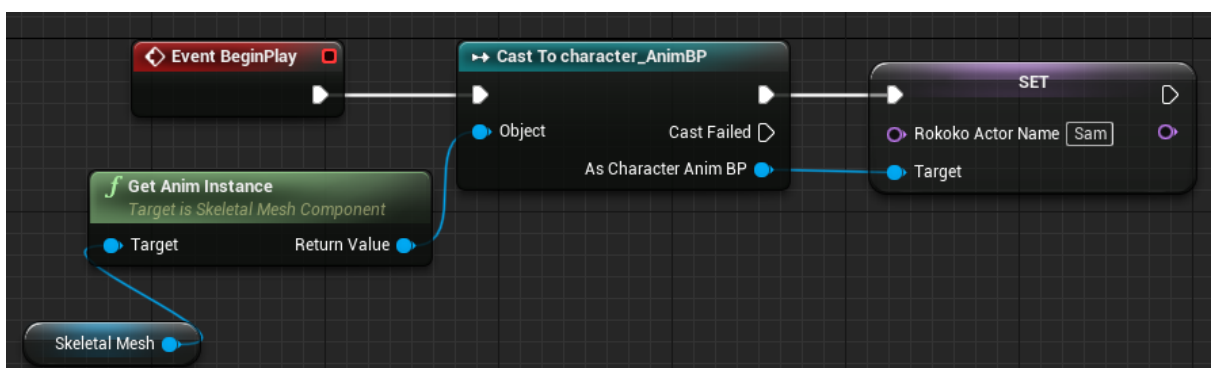

17. Drag the Actor Blueprint "character_BP" into the scene.
18. Under Place Actors(top-left of Unreal Editor) search for "Rokoko Receiver" and drag it into the scene. Set the Rokoko Port Number as **14045**, in the Details Panel.
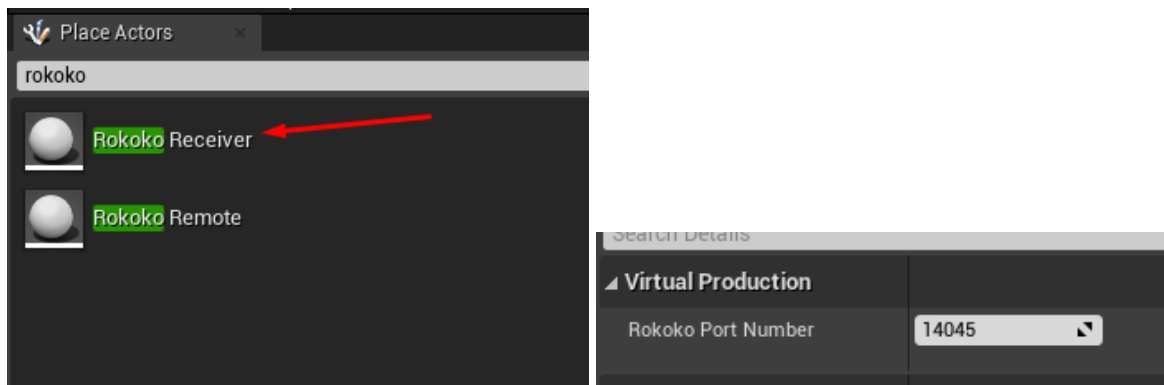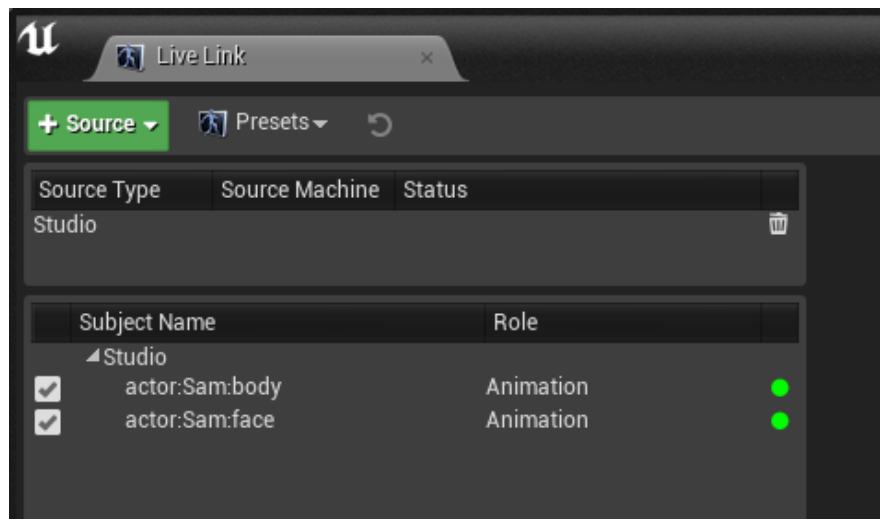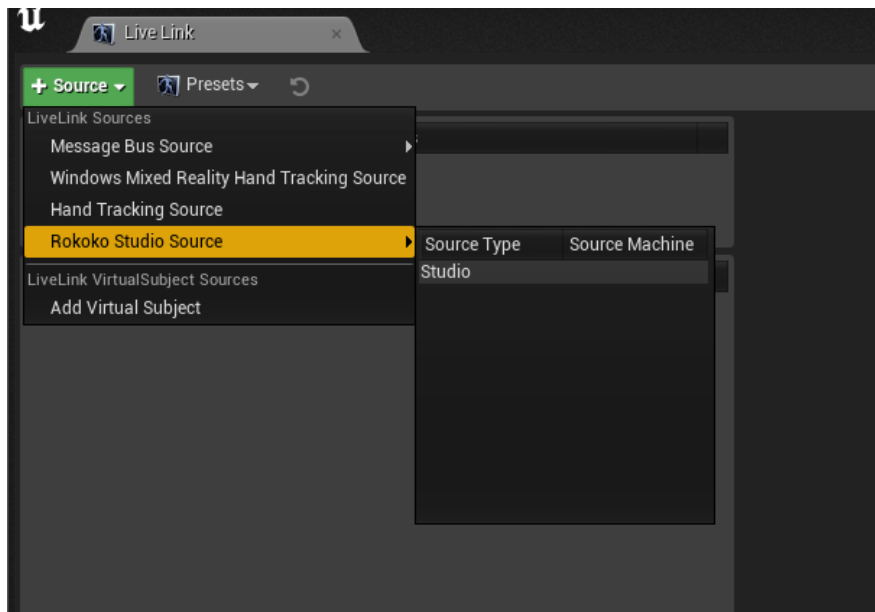
Setting up Livestream

1. Open Rokoko Studio, open a scene and make sure your Smartsuit is connected and paired with your Profile. Click on Start Livestream, navigate to Unreal Engine and click on the cogwheel. Make sure the port number is **14045** and enable the Livestream.
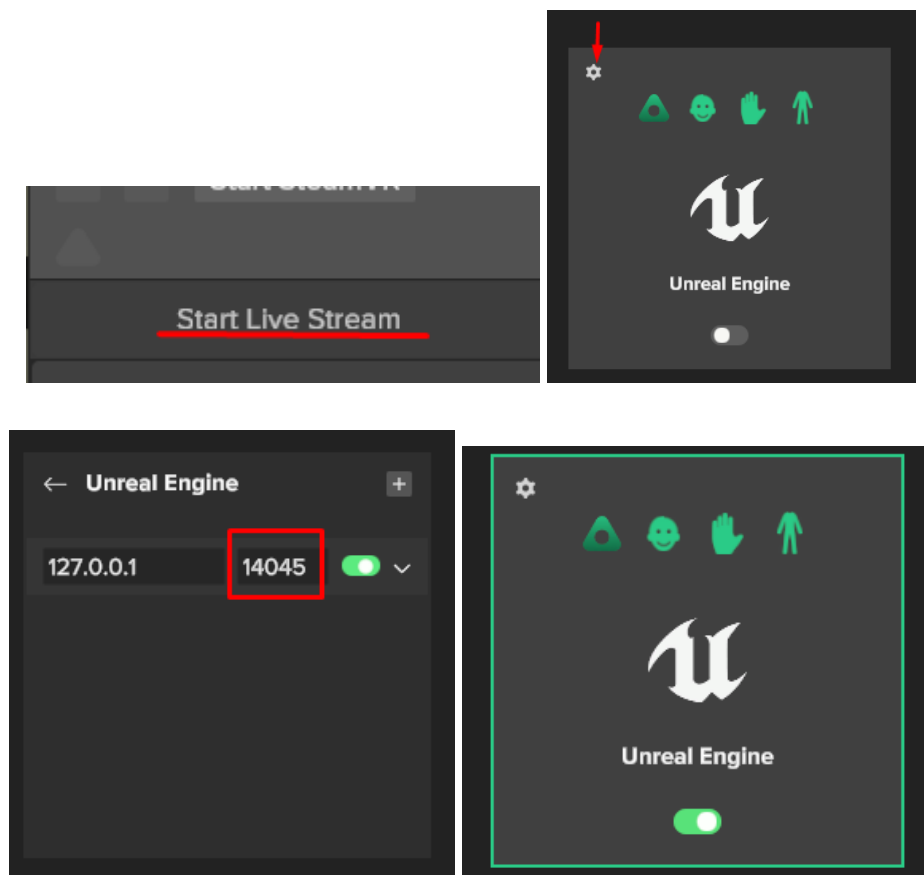
2. In Unreal, go to Window>Live Link and then Source>Rokoko Studio Source>Studio.

Hit play and start Livestream!