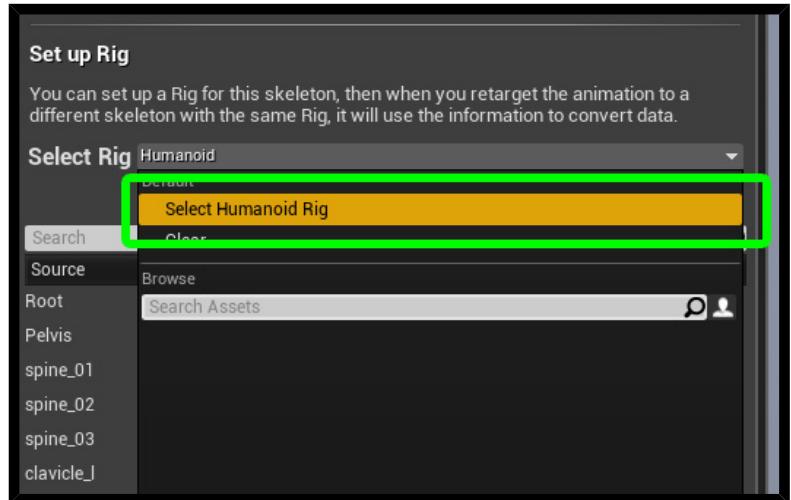


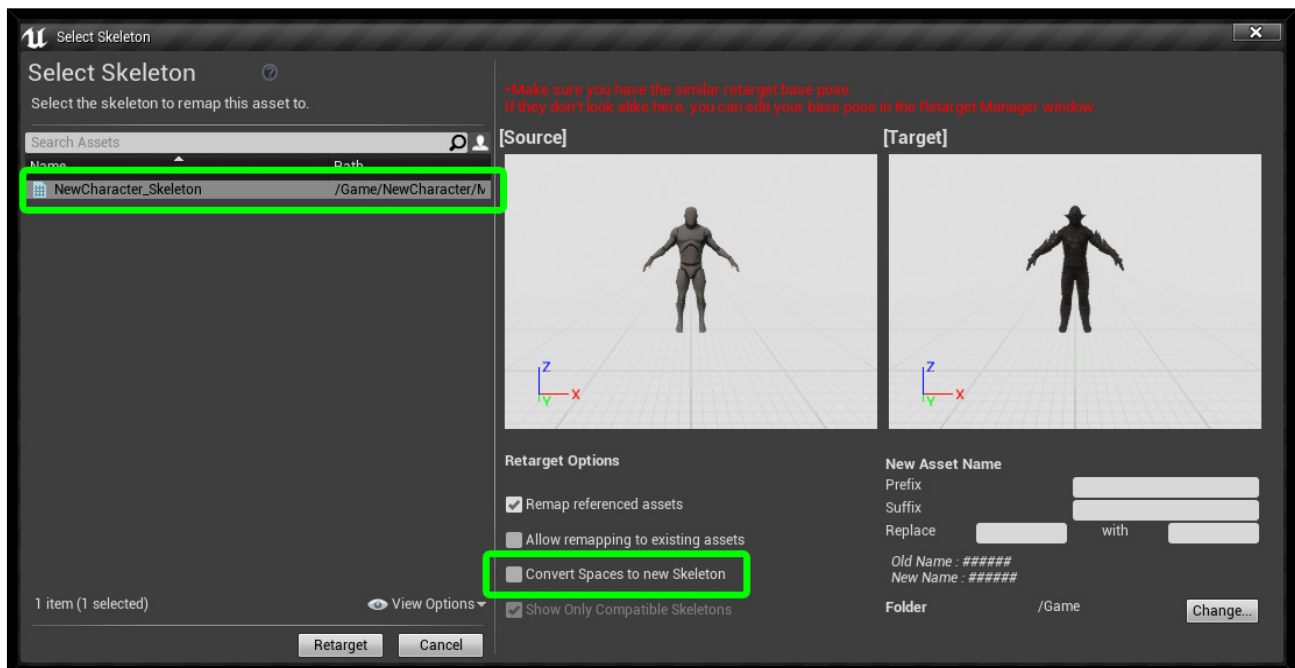
Retargeting

These animations utilize the IK hand bones to aid in the positioning of the weapon and the character's hands. The steps below outline how to retarget the animations to other characters (based on the UE4 rig) in such a way that preserves proper IK animation.

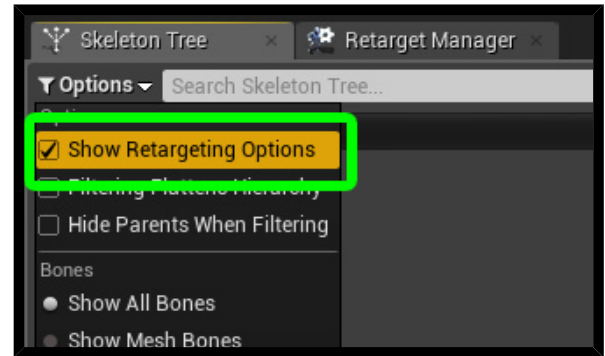
1. Open the Mannequin skeleton included in the animation pack
(UE4_Mannequin_Skeleton)
2. Click the **Retarget Manager** button in the toolbar at the top
3. In the **Select Rig** drop down, choose **Select Humanoid Rig**
4. **Save** the skeleton



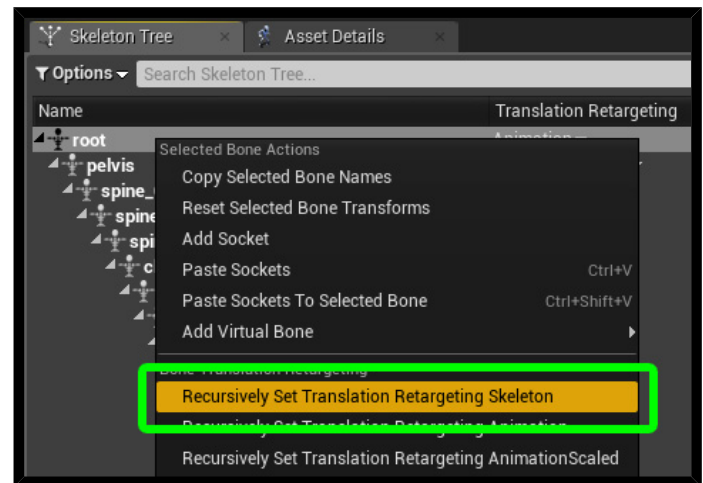
5. Repeat steps 1-4 for the skeleton you want to retarget to
6. Select all animations you would like to retarget, right click them and then select **Retarget Anim Assets > Duplicate Anim Assets and Retarget**
7. In the dialog that appears, select the skeleton you want to retarget to and uncheck **Convert Spaces to new Skeleton**
8. Click **Retarget**



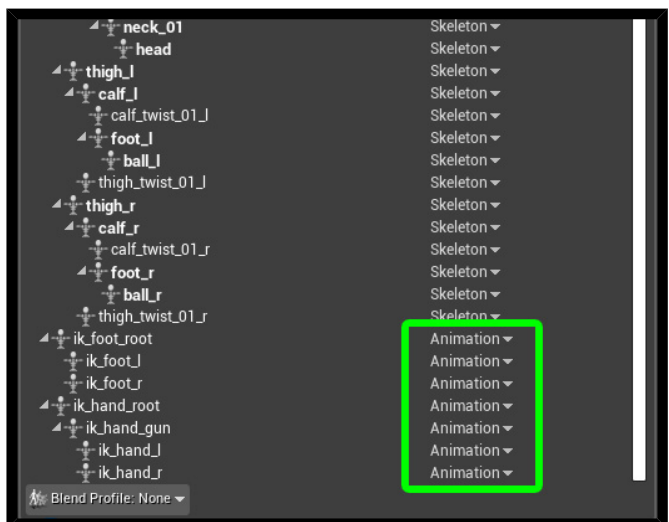
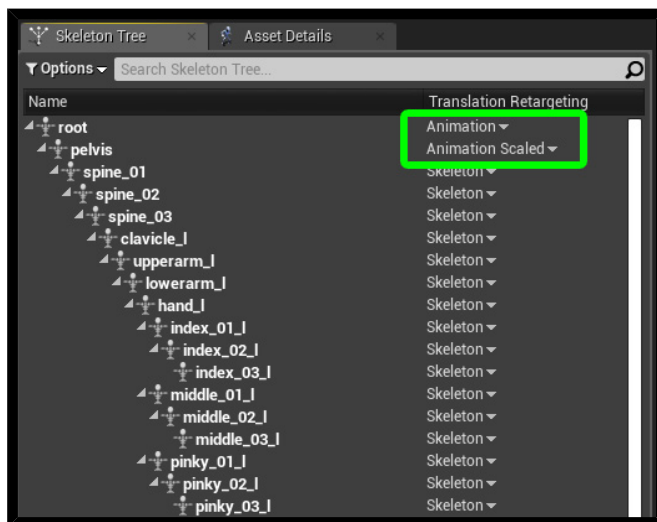
9. Open your character's skeleton
10. In the **Skeleton Tree** tab, click **Options > Show Retargeting Options**



11. We want the **Translation Retargeting** mode on most bones to be **Skeleton**. We can do this quickly by right-clicking on the **root** bone, then selecting **Recursively Set Translation Retargeting Skeleton**



12. Individually set the following bones to **Animation** by using the dropdowns in the **Translation Retargeting** column: **root**, **ik_hand_root**, **ik_hand_gun**, **ik_hand_r**, **ik_hand_l**, **ik_foot_root**, **ik_foot_r**, **ik_foot_l**
13. Set the **Translation Retargeting** mode of the **pelvis** bone to **Animation Scaled**

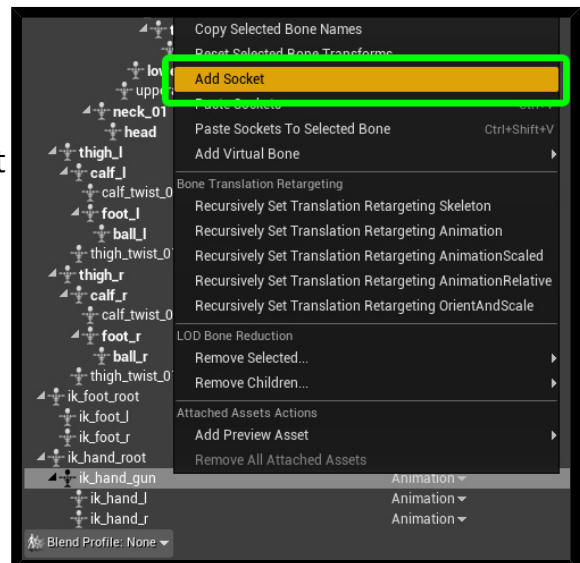


Retargeting is now complete! Please note that the hand and katana positioning may appear incorrect when previewing the animations – that's ok, and it's to be expected. This will be addressed when performing IK hand retargeting in the next section.

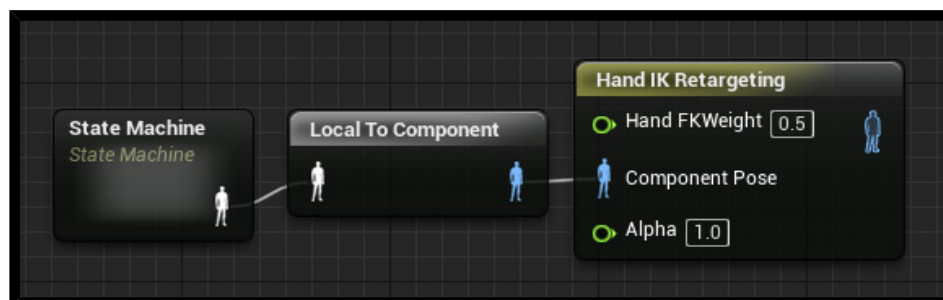
IK Hand Retargeting

The steps below outline how to perform IK Hand Retargeting in your Animation Blueprint to ensure your character's hands properly grip the weapon. Note: This doesn't cover the creation of an AnimBP – only how to add the IK setup to an existing one.

1. For reference, we want to add the katana asset as a preview mesh so we can quickly see how it lines up with the character's hands. Open your character's skeleton, right click the **ik_hand_gun** bone in the **Skeleton Tree**, click **Add Socket**, then name the socket **katanaSocket**



2. Right click the **katanaSocket**, click **Add Preview Asset**, then select the katana mesh
3. Open the **AnimGraph** of your character's **Animation Blueprint**
4. Before your animation result is passed to the **Final Animation Pose** node, create a **Hand IK Retargeting** node and connect your current animation result to its input. This should automatically create a **Local To Component** conversion node between them.



5. Select the **Hand IK Retargeting** node and set the following options in the **Details** panel:

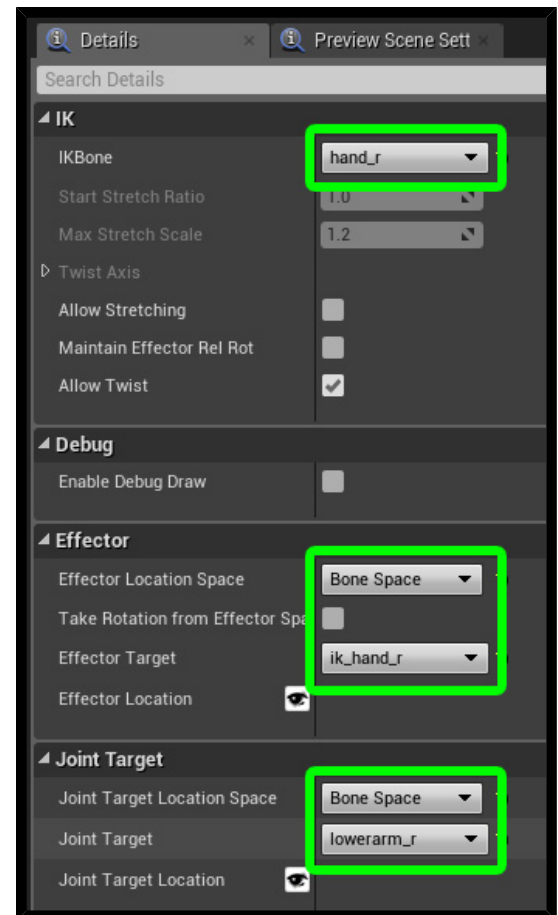
- Right Hand FK = hand_r
- Left Hand FK = hand_l
- Right Hand IK = ik_hand_r
- Left Hand IK = ik_hand_l

6. Add one array element to the **IKBones to Move** category and set it to **ik_hand_gun**



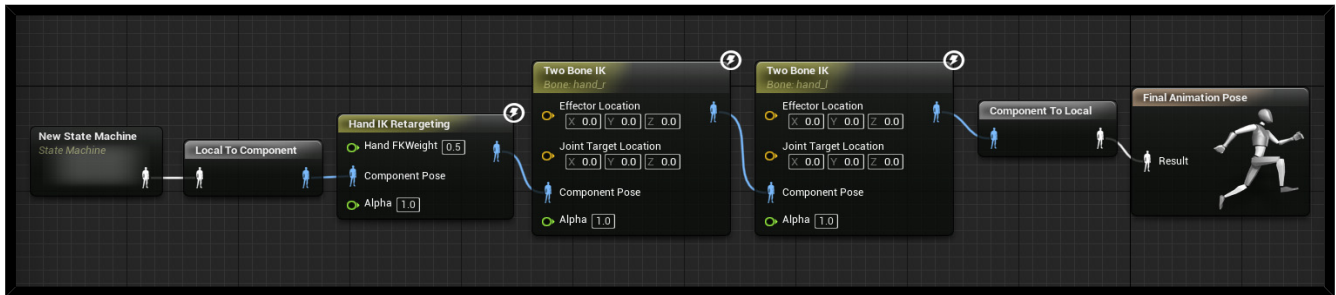
7. Create a **Two Bone IK** node and connect it to the output of the **Hand IK Retargeting** node
8. Select the **Two Bone IK** node and set the following options

- IKBone = hand_r
- Effector Location Space = Bone Space
- Effector Target = ik_hand_r
- Joint Target Location Space = Bone Space
- Joint Target = lowerarm_r



9. Create a second **Two Bone IK** node and connect it to the output of the first **Two Bone IK** node
10. Repeat step 8 on the new **Two Bone IK** node, but use the equivalent Left bones instead of Right bones

11. Connect the output of the second **Two Bone IK** node to the input of the **Final Animation Pose** node, which should again automatically create a **Component To Local** node in between



12. Compile the AnimBP and check the animations in the preview window or in-game
13. If everything looks good, you're done! If the Katana seems to move away from one of the hands, or if one of the arms sometimes over-extends, tweak the **Hand FKWeight** value on the **Hand IK Retargeting** node. A value of **0** moves the katana and hands closer to the left hand's FK position, while a value of **1** moves them to the right hand's FK position. The best value may vary depending on the rig – for each rig I tested, best results were anywhere between **0.5** and **1**.



That's it! If you run into any issues or need further assistance, please contact me.