

Axe and Shield Animation Set

Hello, and thank you for your purchase! This documentation covers four topics:

- Sockets
- Anim Notifies
- Retargeting
- IK Hand Retargeting

Sockets

The axe and shield meshes are attached to sockets in the character's skeleton. Depending on the models you use, the relative location/rotation of these sockets may need to be adjusted so they correctly fit in your character's hands. Sample BPs of how the props can be moved between these sockets can be found inside the Maps\OverviewMapDemoAssets folder.

Shield:

By default, the shield mesh is attached to the **hand_l** bone via the socket named **ShieldSocket**. However, if you would prefer to use IK for this hand, it could instead be attached to the **ik_hand_l** bone.

Axe:

By default, the axe mesh is attached to the **ik_hand_gun** bone via the socket named **AxeSocket**. If you would prefer not to use IK, you could attach it to the **hand_r** bone instead – however, the Sheathe and Unsheathe animations won't play correctly because they rely on the animation of the **ik_hand_gun** bone.

Additional Sockets:

The **StowedShield** and **StowedAxe** sockets can be used to position the meshes while sheathed.

Anim Notifies

Below is a list of AnimNotifies that are included in these animations and what purposes they could serve. Note that no functionality is tied to these notifies in this asset – they're included as a framework for you to build functionality onto!

HideAxe: Called during the ThrowAxe animation – could be used to hide the axe model and spawn an axe projectile.

StowAxe: Called during the Sheathe animation – could be used to move the axe from the player's hand to a sheathed position.

StowShield: Called during the Sheathe animation – could be used to move the shield from the player's hand to a sheathed position.

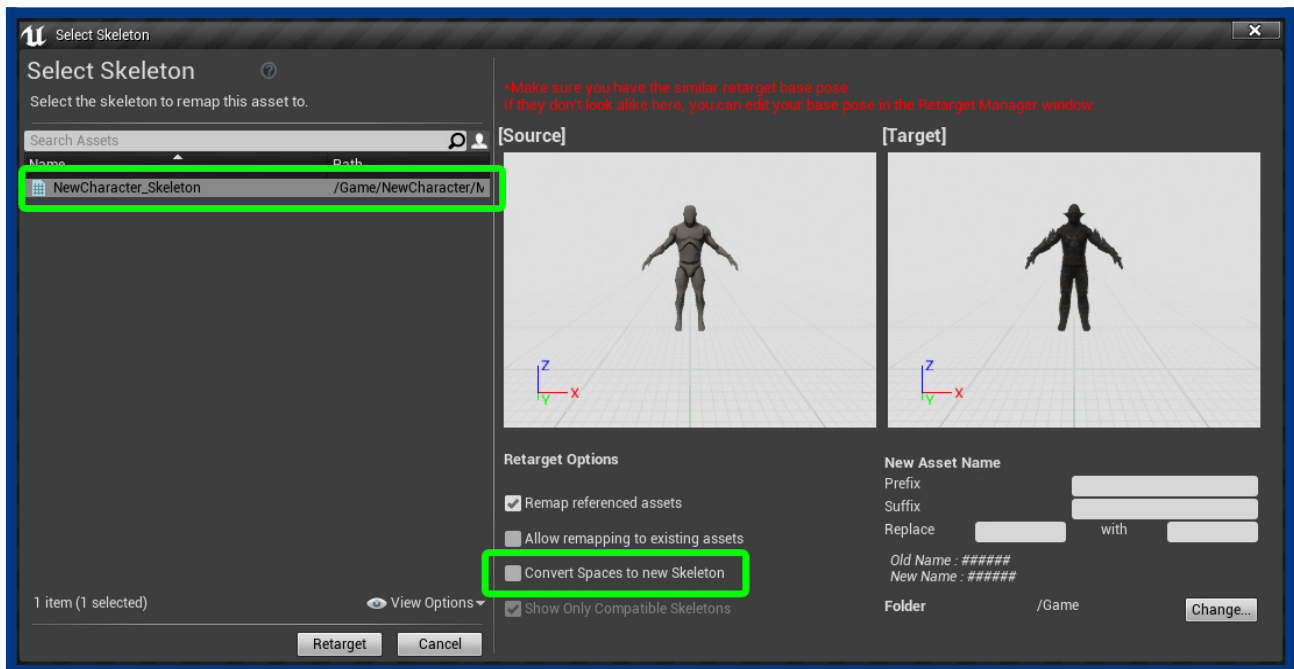
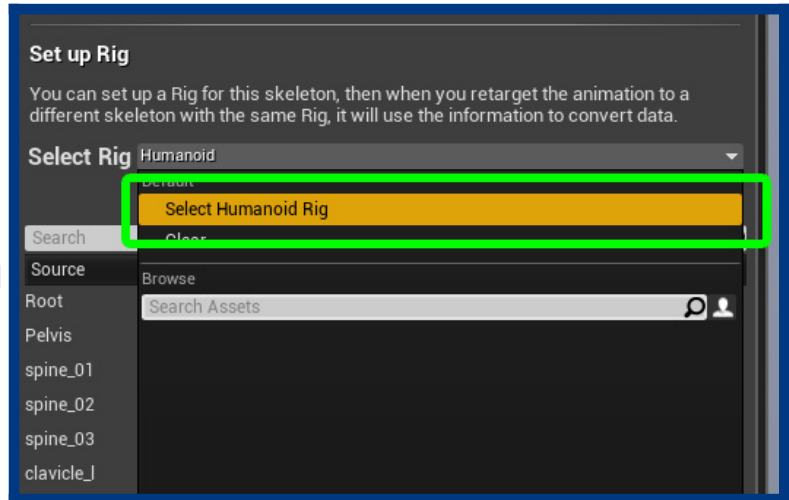
GrabAxe: Called during the Unsheathe and GetNewAxe animations – could be used to move an axe from the sheathed position to the player's hand.

GrabShield: Called during the Unsheathe animation - could be used to move the shield from the sheathed position to the player's hand.

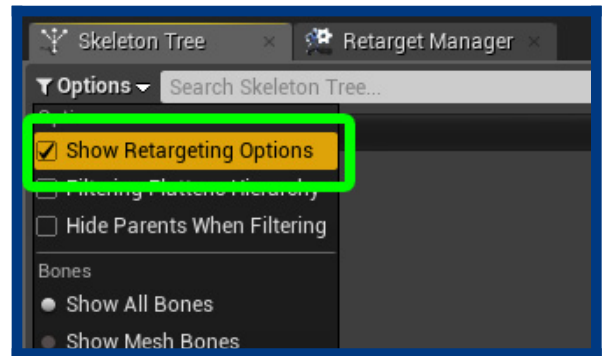
Retargeting

These animations utilize the ik_hand_gun bone 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.

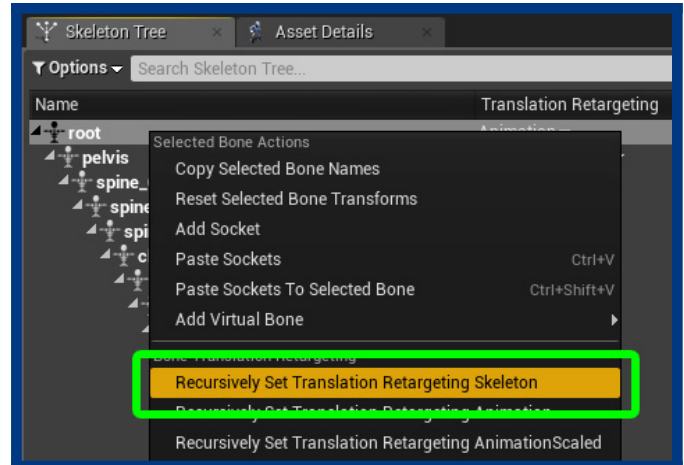
1. Open the skeleton you wish to retarget to
2. Click the **Retarget Manager** button in the toolbar at the top
3. In the **Select Rig** drop down, choose **Select Humanoid Rig**
4. **Save** the skeleton
5. Select all animations you would like to retarget, right click them and then select **Retarget Anim Assets > Duplicate Anim Assets and Retarget**
6. In the dialog that appears, select the skeleton you want to retarget to and uncheck **Convert Spaces to new Skeleton**
7. Click **Retarget**



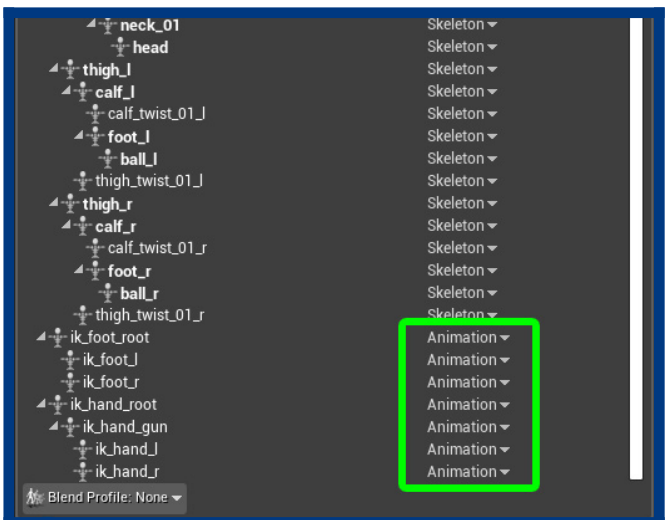
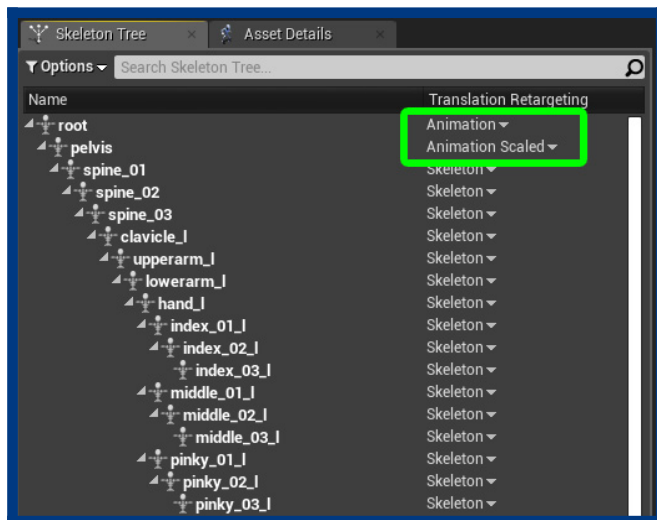
8. Open your character's skeleton
9. In the **Skeleton Tree** tab, click **Options > Show Retargeting Options**



10. 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**



11. 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**
12. Set the **Translation Retargeting** mode of the **pelvis** bone to **Animation Scaled**

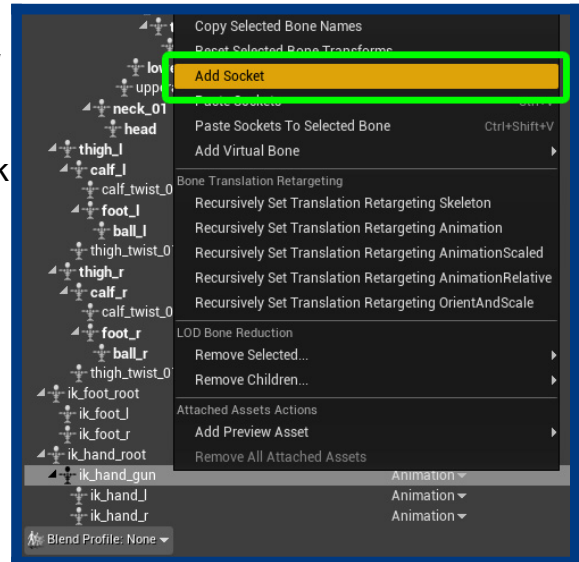


Retargeting is now complete! Please note that the hand and weapon positioning may appear incorrect when previewing the animations – that's ok, and it's to be expected. This will be addressed when performing IK hand retargeting in the next section.

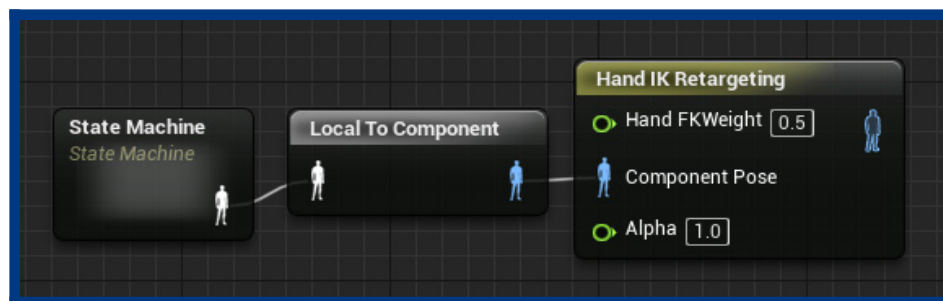
IK Hand Retargeting

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

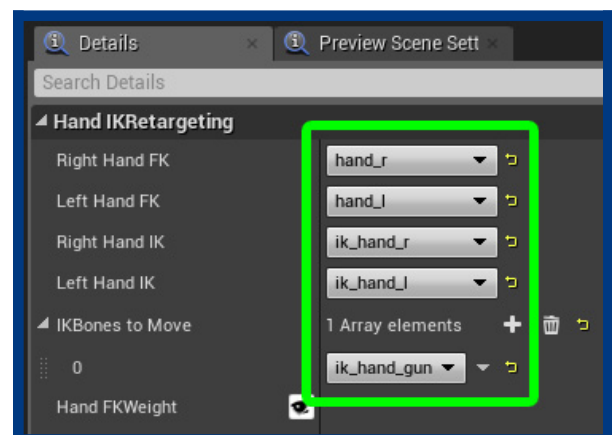
1. For reference, we want to add the axe asset as a preview mesh so we can quickly see how it lines up with the character's hands. Open your character's skeleton, right click the **ik_hand_gun** bone in the **Skeleton Tree**, click **Add Socket**, then name the socket **AxeSocket**. (Note: If you've decided to use IK for the shield hand as well, you'll need to repeat these steps for that hand too)



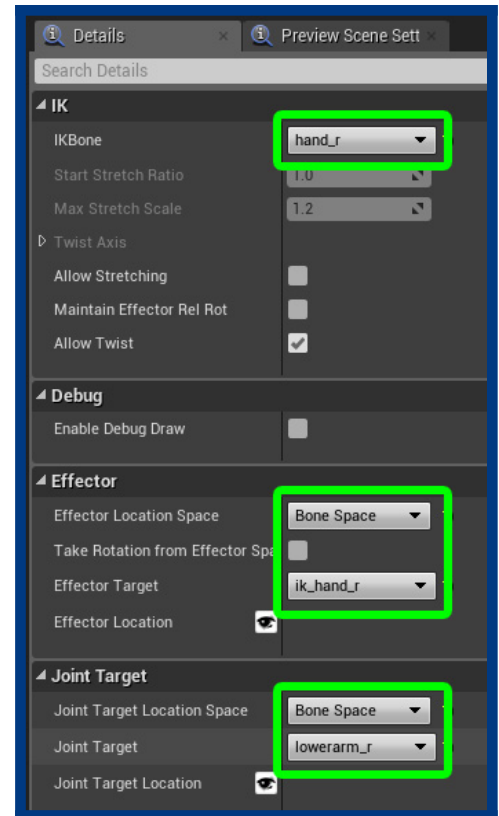
2. Right click the **AxeSocket**, click **Add Preview Asset**, then select the axe mesh
3. Open the **AnimGraph** of your character's **Animation Blueprint**
4. Before your animation result is passed to the **Final Animation Pose** node, create a **Hand IK Retargeting** node and connect your current 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**

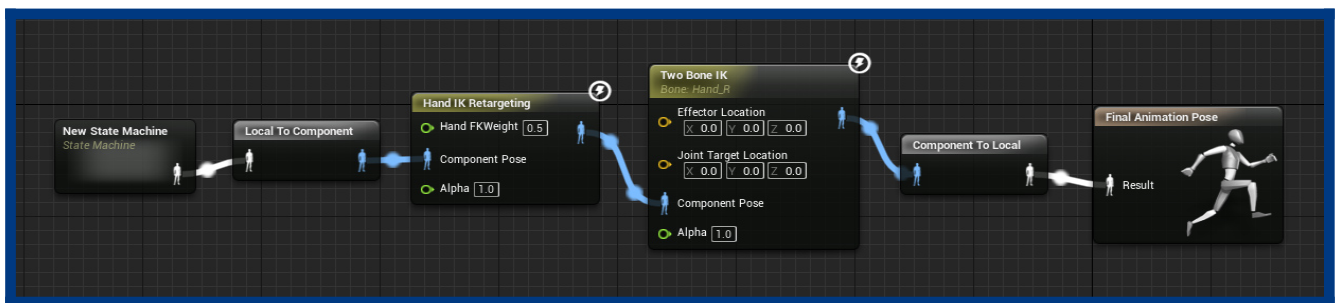


7. Create a **Two Bone IK** node and connect it to the output of the **Hand IK Retargeting** node
8. Select the **Two Bone IK** node and set the following options
 - IKBone = hand_r
 - Effector Location Space = Bone Space
 - Effector Target = ik_hand_r
 - Joint Target Location Space = Bone Space
 - Joint Target = lowerarm_r



(Note: If you're using IK for the shield hand as well, create a second **Two Bone IK** node and connect it to the output of the first **Two Bone IK** node. Repeat step 8 on the new **Two Bone IK** node, but use the equivalent Left bones instead of Right bones)

9. Connect the output of the **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



10. Compile the AnimBP and check the animations in the preview window or in-game. The axe should now be aligned with the hand!

That's it! If you run into any issues or need further assistance, please contact me. My email address can be found in my seller profile on the Marketplace.