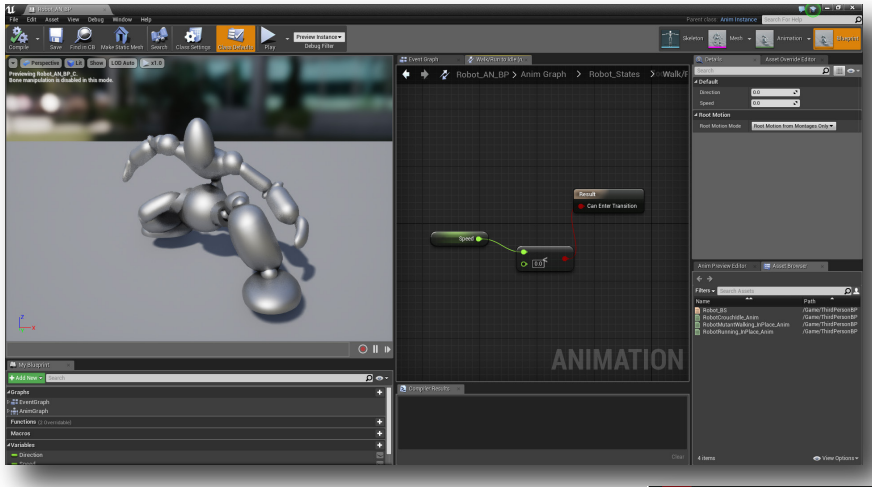
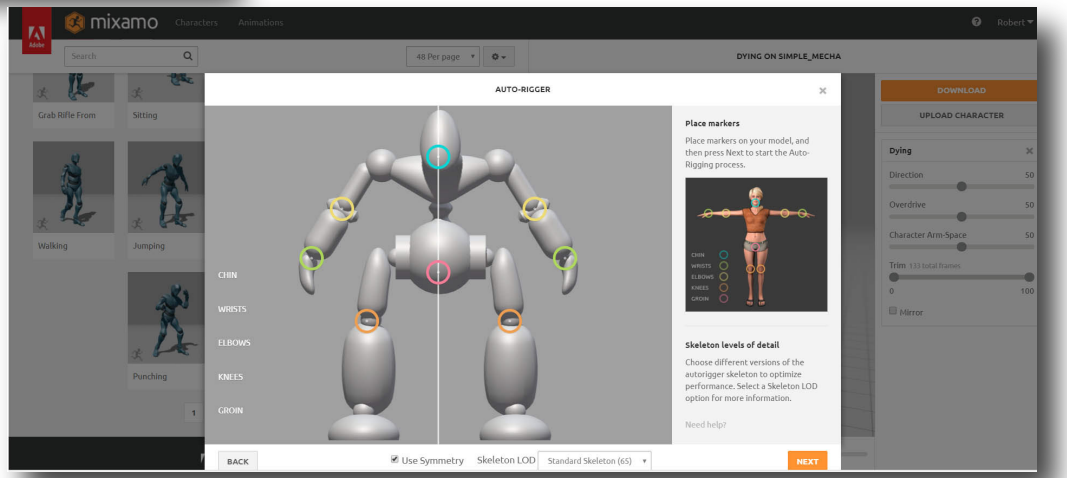
This project has multiple phases. First you'll model a character using 3D Max. Then you'll use an online rigging and animating program called Mixamo. After that you'll import the animations into Unreal and set up the character to play.

On the "I" drive on our computer system there is agreat video explainingthe process.

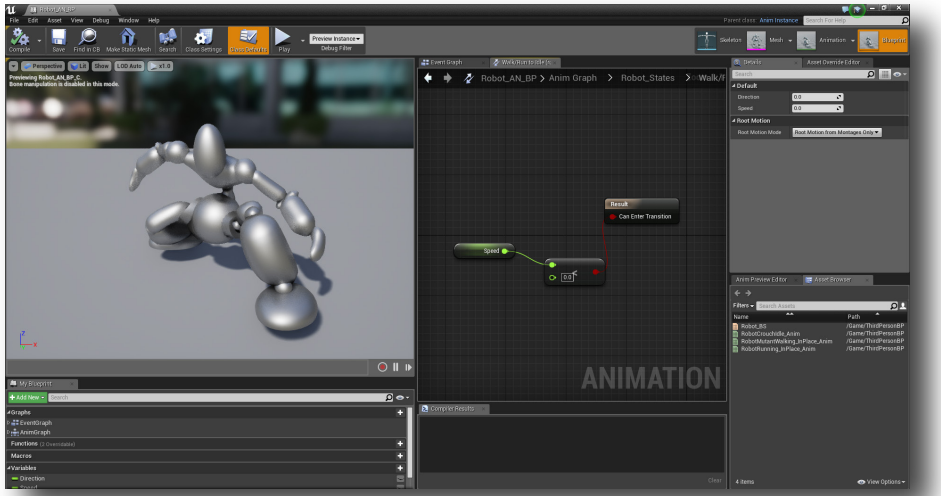
NOTE: A few things mentioned in the video are no longer available on MIxamo, like the pre-made animation packs. So you'll have to select your own animations.



1. Build character in 3D Max



2. Rig and animate your model in Mixamo



3. Import and blend animations in Unreal

1. Prepare you 3D Max character for exporting to Mixamo

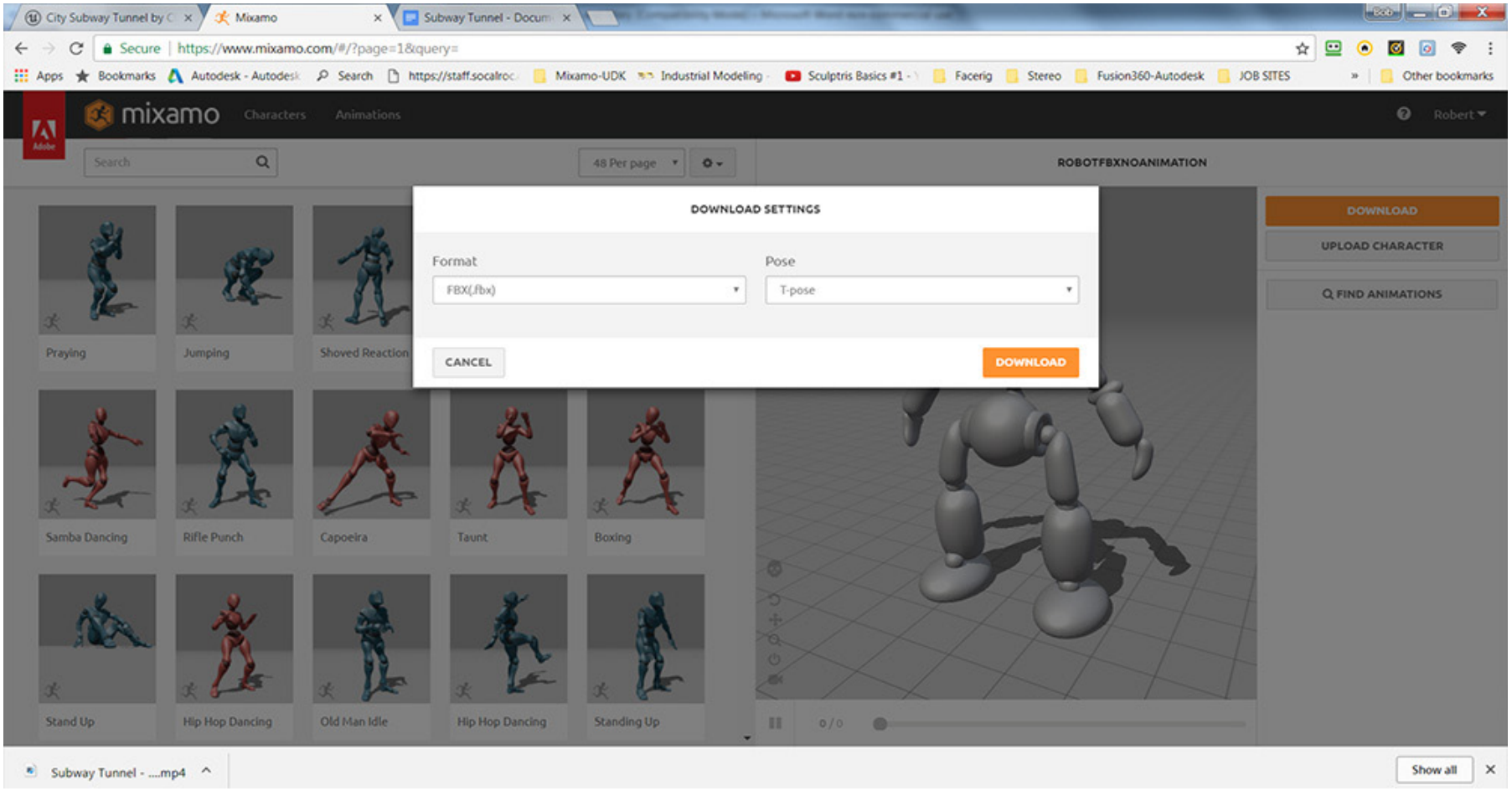
a. "Attach" all parts into one "Editible Mesh".

b. Make sure that nothing remains selected at the sub-object level (vertices, edges, polygons, or elements)

c. Position the "Pivot Point" directly between the characters tow feet. (see the Hierarcy Panel)

2. Export the character as an FBX file.

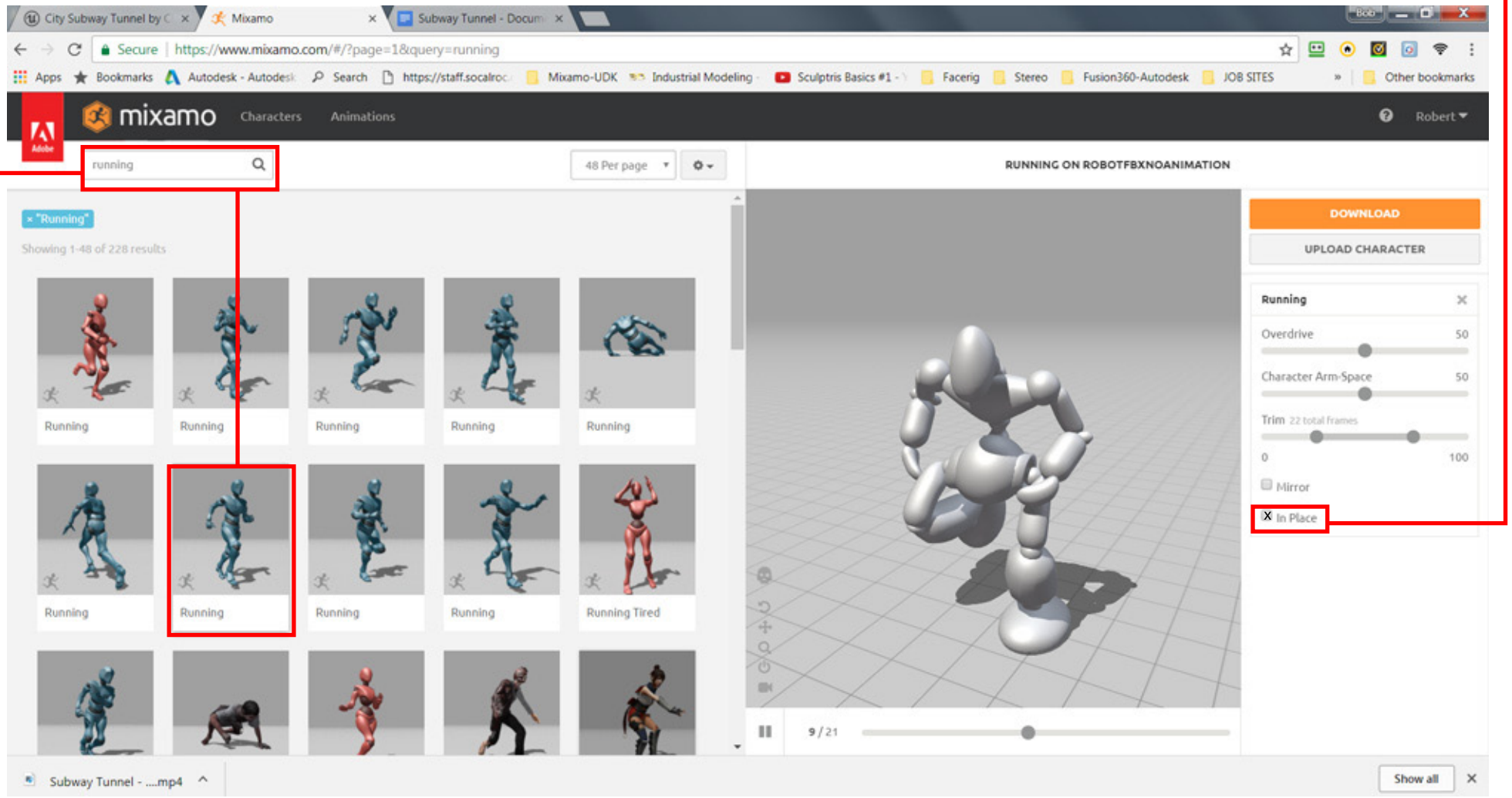
3. After Mixamo "rigs" your character it presents it in a static pose. Download this file. You will use it as the base skeletal model in Unreal 4. NOTE: If you don't do this before attaching the Idle, Walk, and Run animations, your character will not work properly in Unreal.



4. You'll need several basic animations - Running, Walking, Idle. You can find these by typing into the search box. Download all to temp folder on the desktop.

NOTE: Keep it simple the first time around. Unreal will accept dozens of animation clips but organizing them can be confusing.

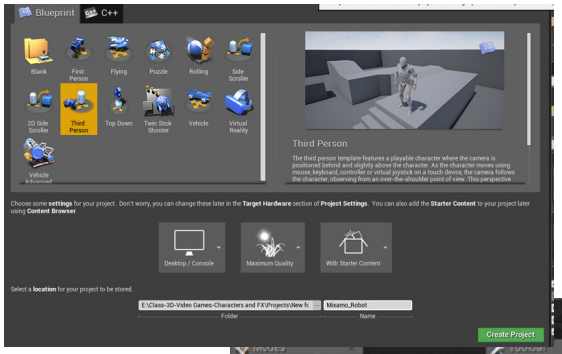
5. Use animation clips that inclue the "In Place" option. Click it.



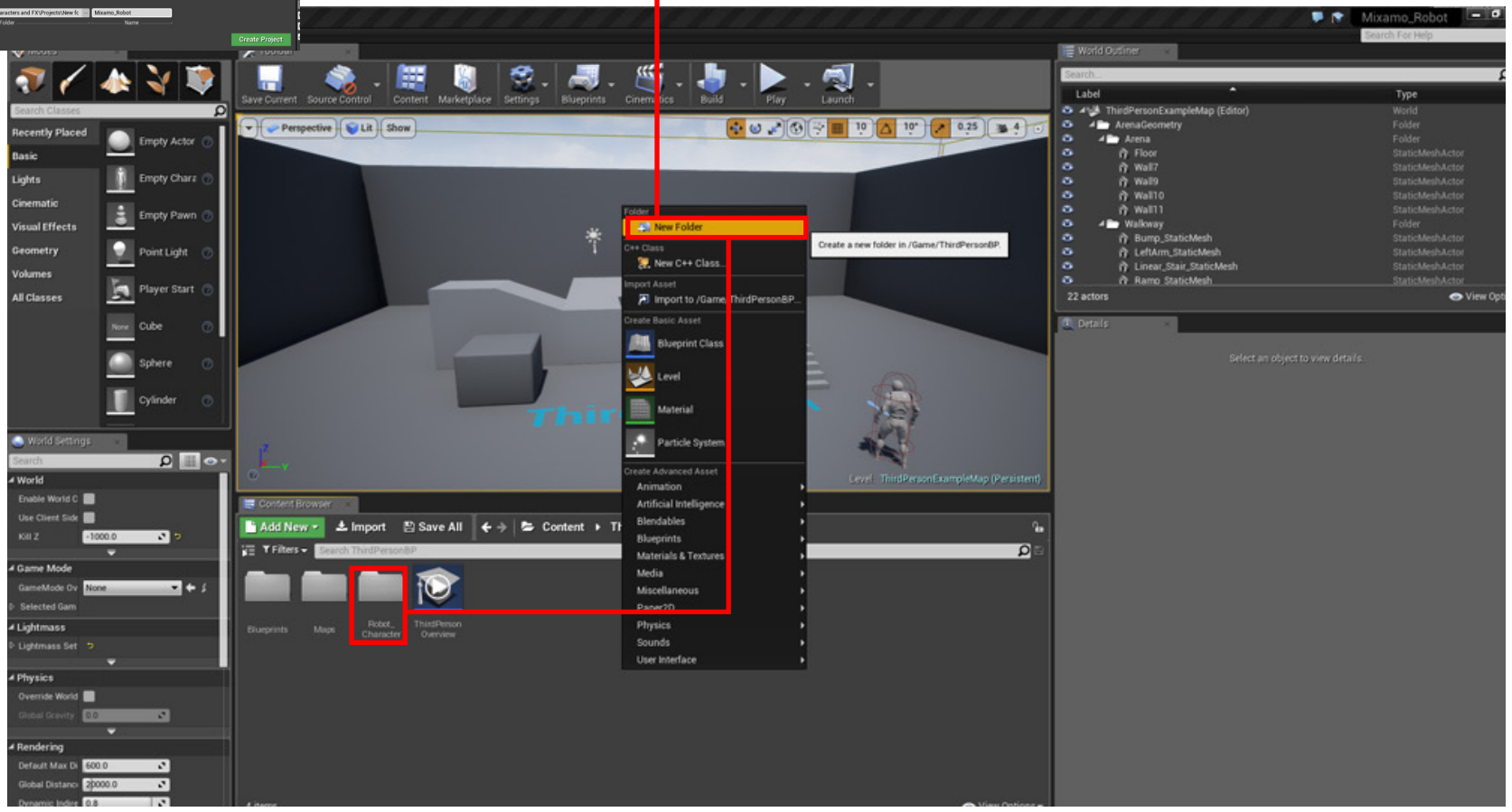
PHASE II

UNREAL 4

6. Start a new Third Person project in Unreal 4 a shown.



7. In the Third Person BP folder, right click and make a new folder for your character. Name it after your characters name (Mine is Robot).

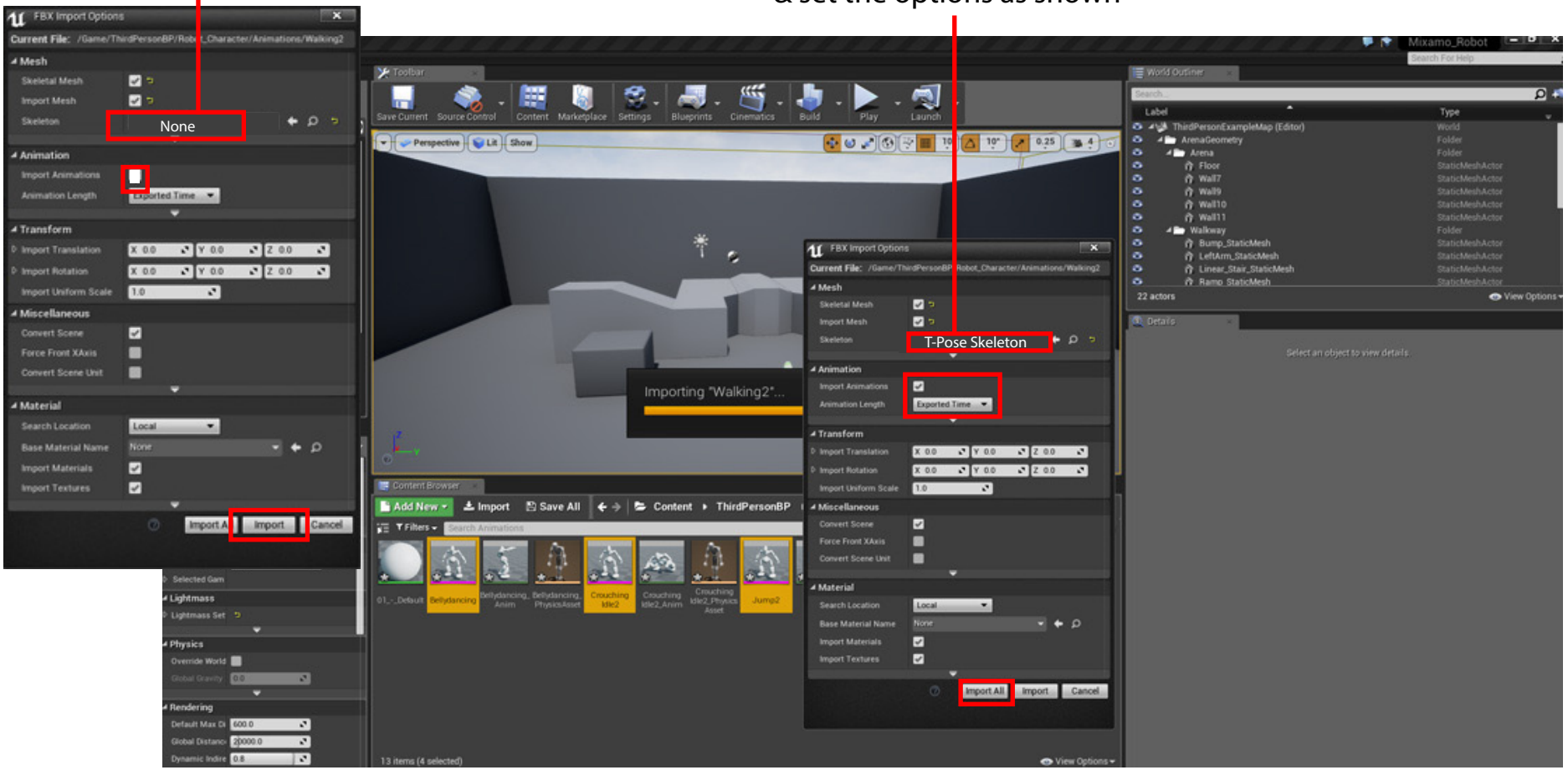


8. Inside your new character folder make another folder and call it Animations

NOTE: You must import the "T-Pose" first, before you import the animations into the Animations folder

Import the "T-Posed" FBX file into the Character folder & set the options as shown

Import the Running, Walking and Idle into the Animations folder & set the options as shown

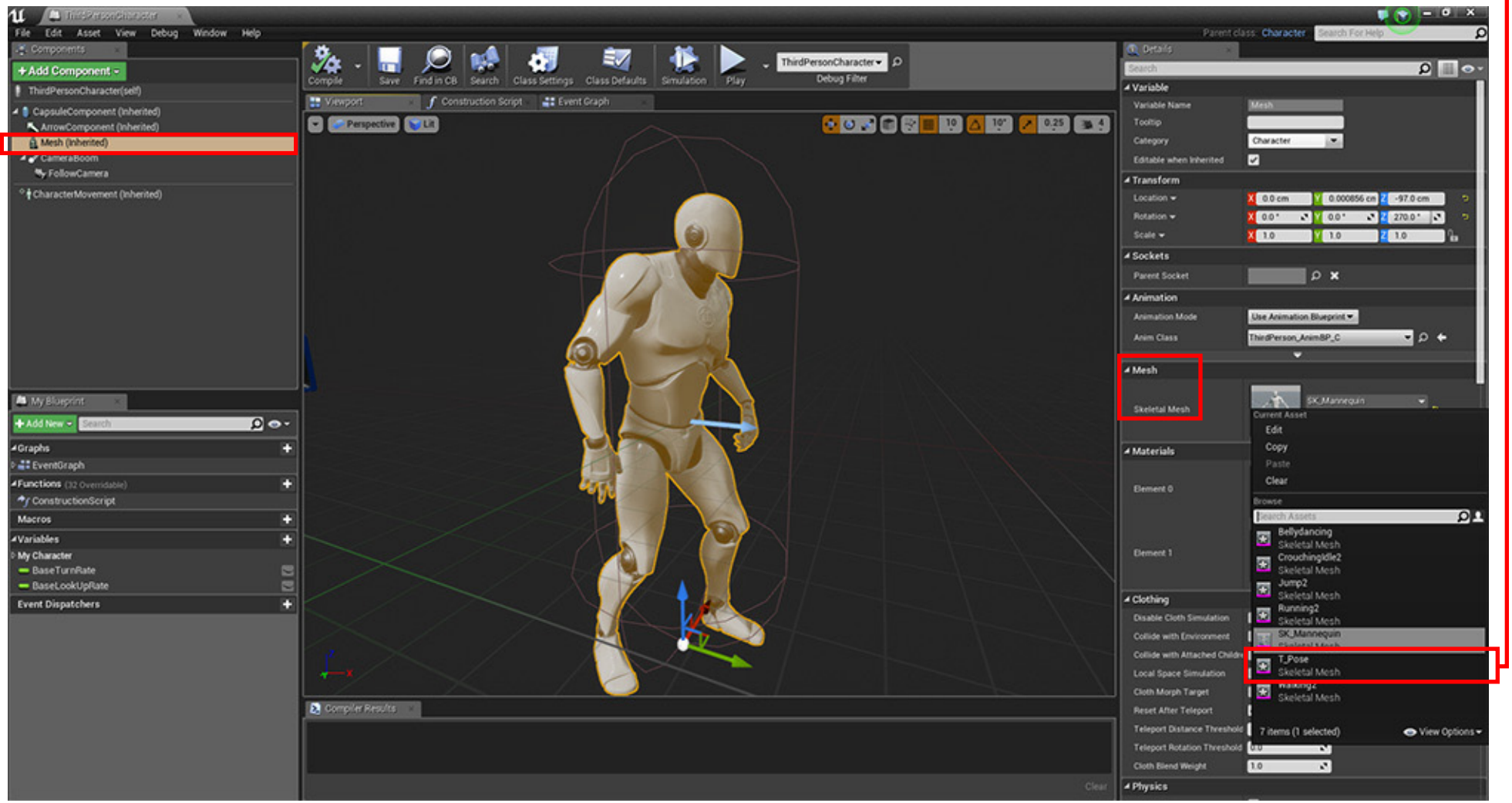


In this next phase you going to locate the existing manequin character and exchange its body with that of your character.

Select to existing manequin and open it's Blueprint and go to Viewport.

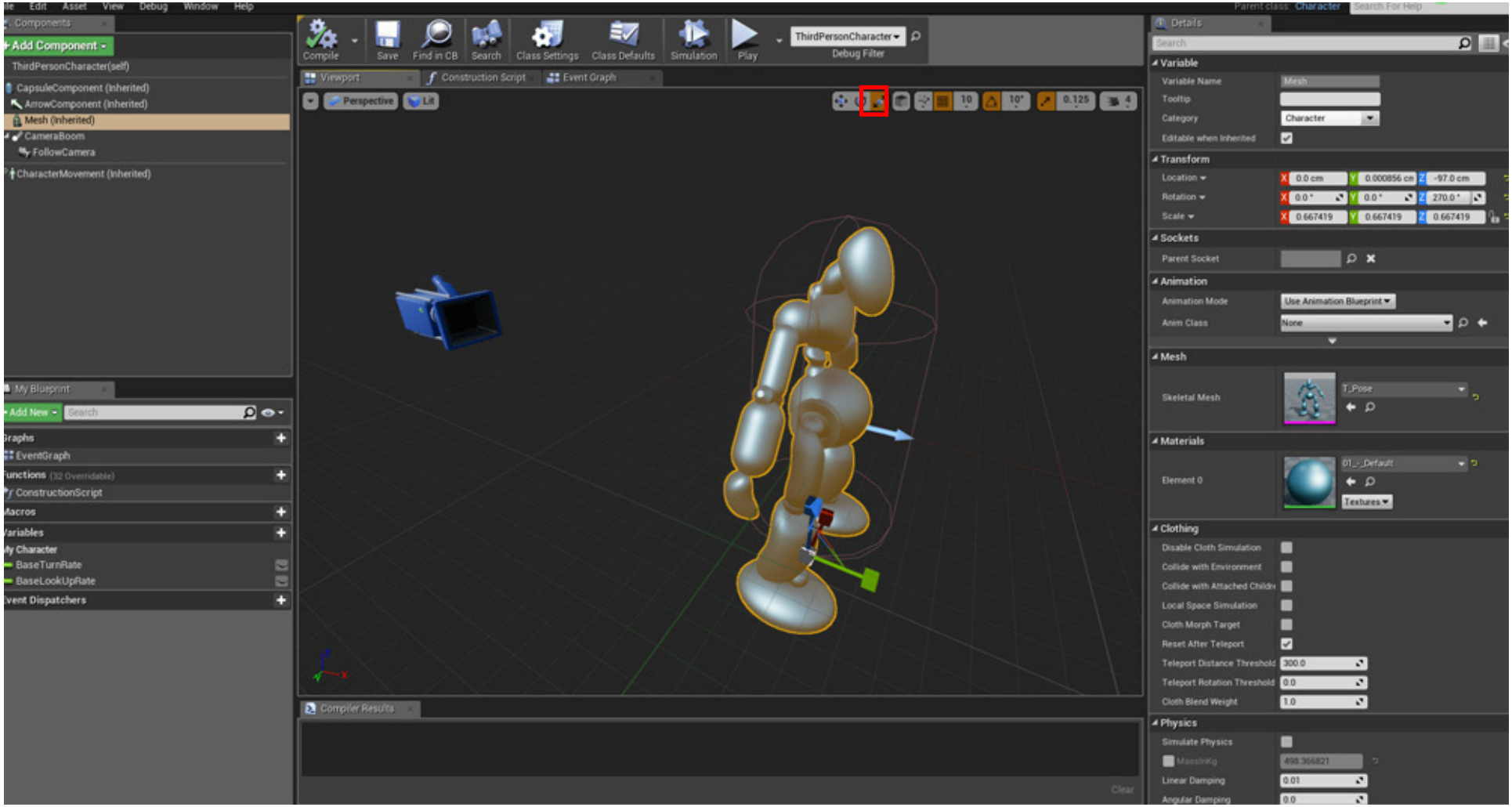
9. Select "Mesh (Inherited)

10. Select "Mesh" then drop to your _T-Pose and select

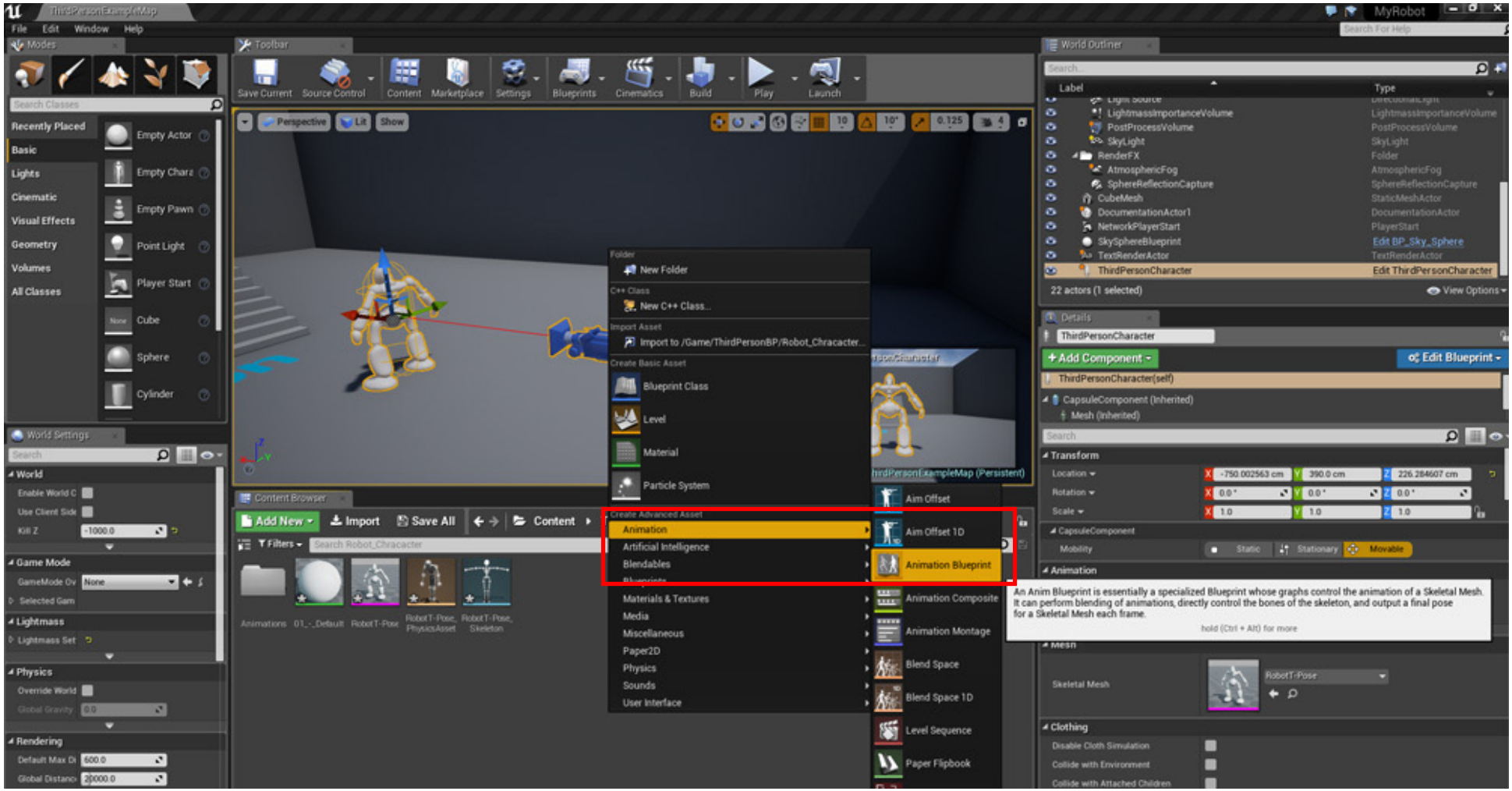


Compile and Save

Your character will take the place of the manequin. You may have to resize it to match the size of the collision capsule.



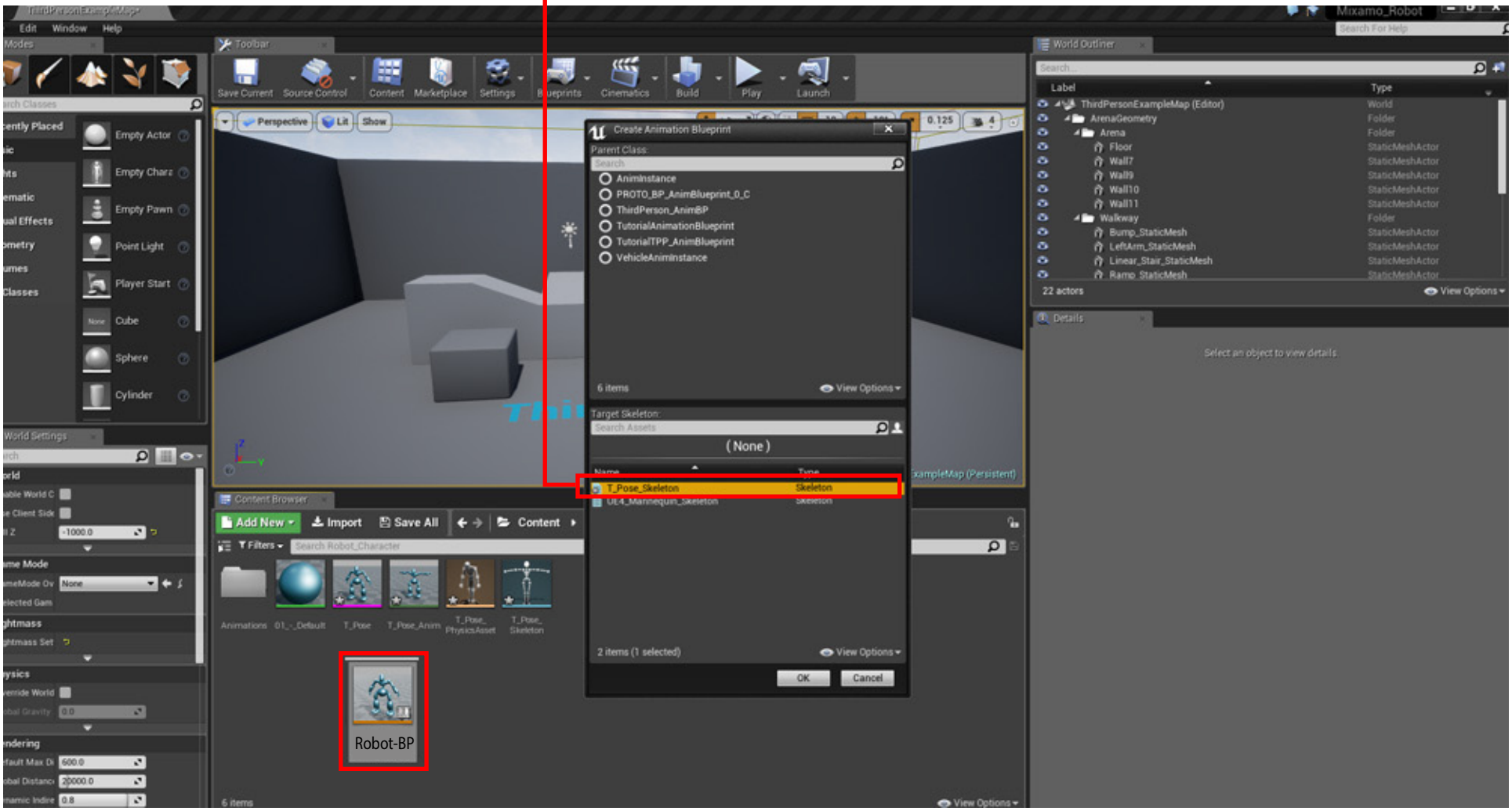
If you go to your game viewport you should see that the manequin has been replaced by your character. But in the process it has lost all of its animation capabilities. You need to replace them with a new "Animation Blueprint".



11. Go to your characters folder and right click and create a new "Animation Blueprint".

12. Select your character T-Pose Skeleton. Name the new blueprint whatever your characters name is and undrscore BP

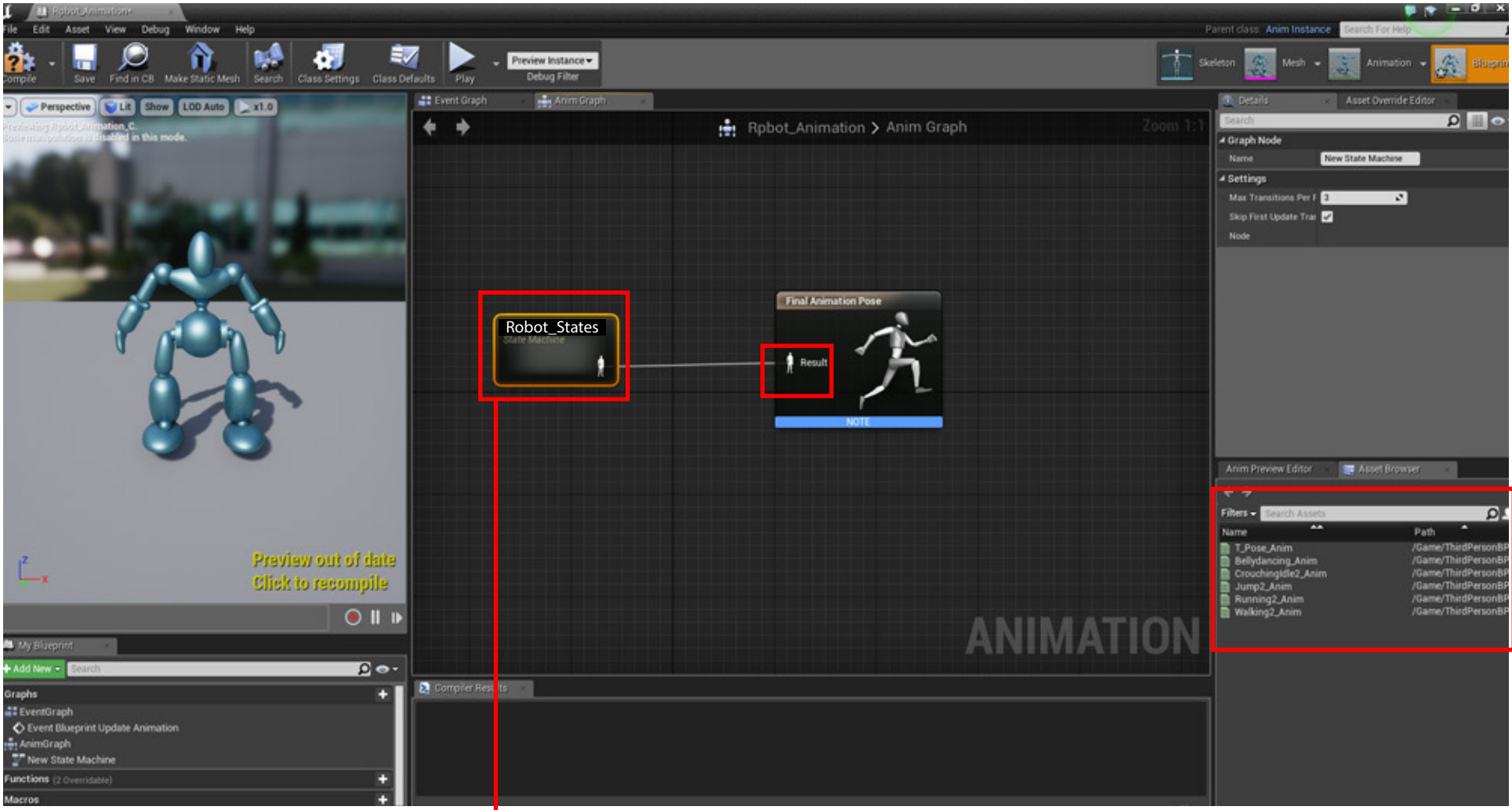
Mine is labeled "Robot_BP"



13. Double click the new Blueprint and open

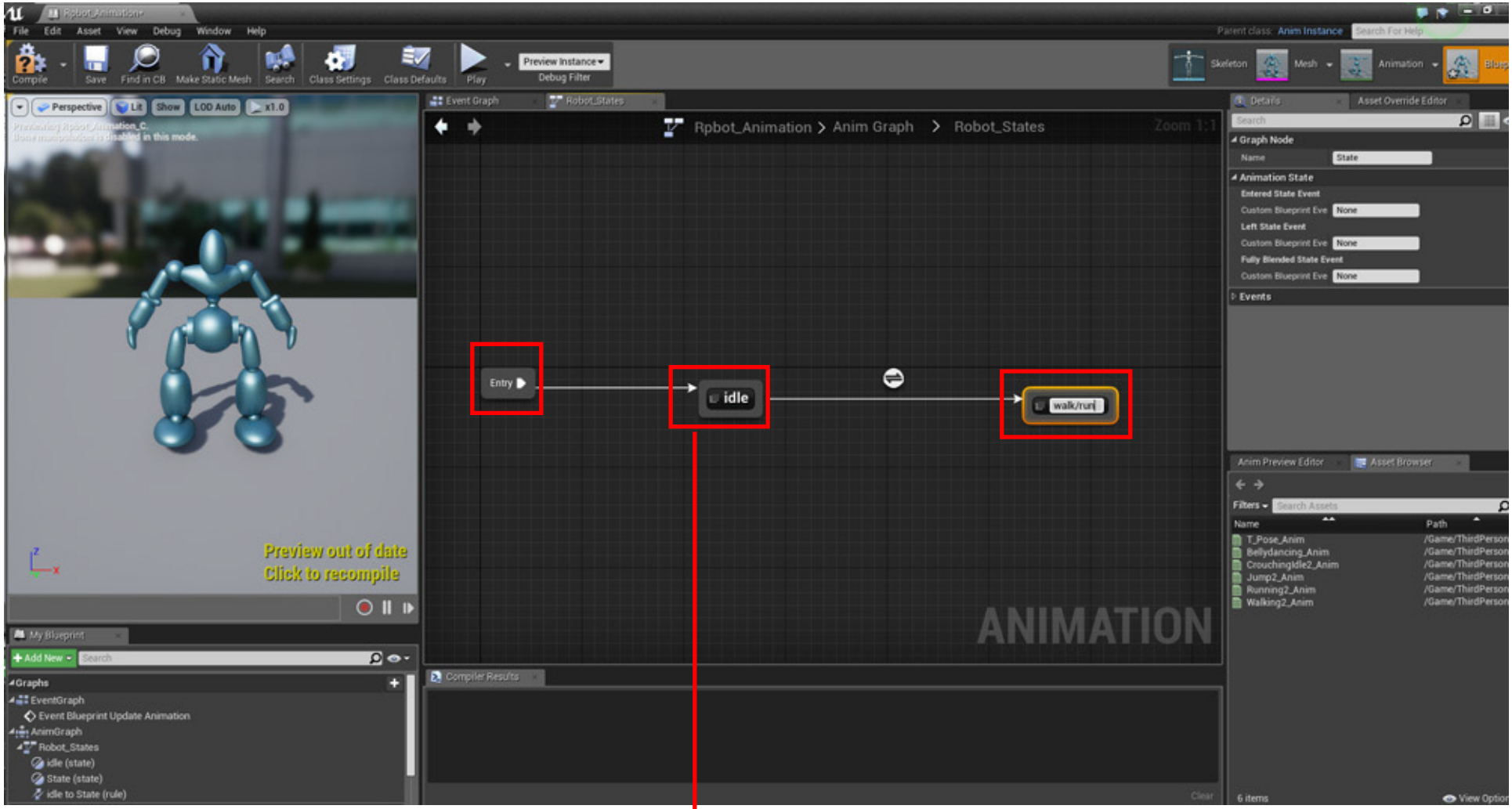
You now have to tell the Blueprint how to play the various animations (you'll see them listed in the lower right corner)

14. Right Click in the panel and type "New State Machine" then connect to the Final Animation Pose. Ignore the "Warning" that appears on the newly named state machine.



15. Double click the the new State Machine.

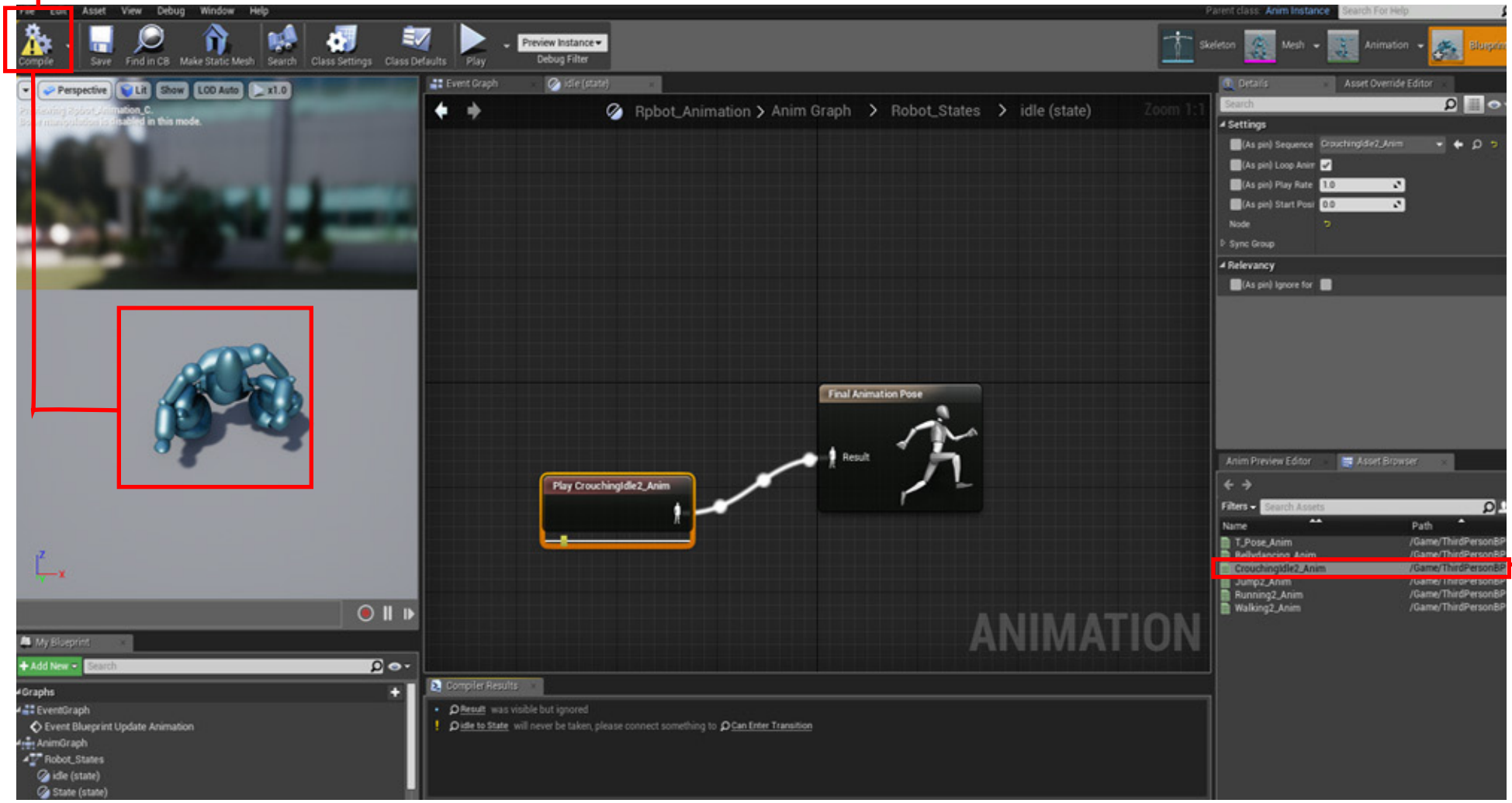
16. Drag from the "Entry" node a new State and call it Idle. And from Idle, drag another State and call it Walk/Run.



17. Double click on Idle

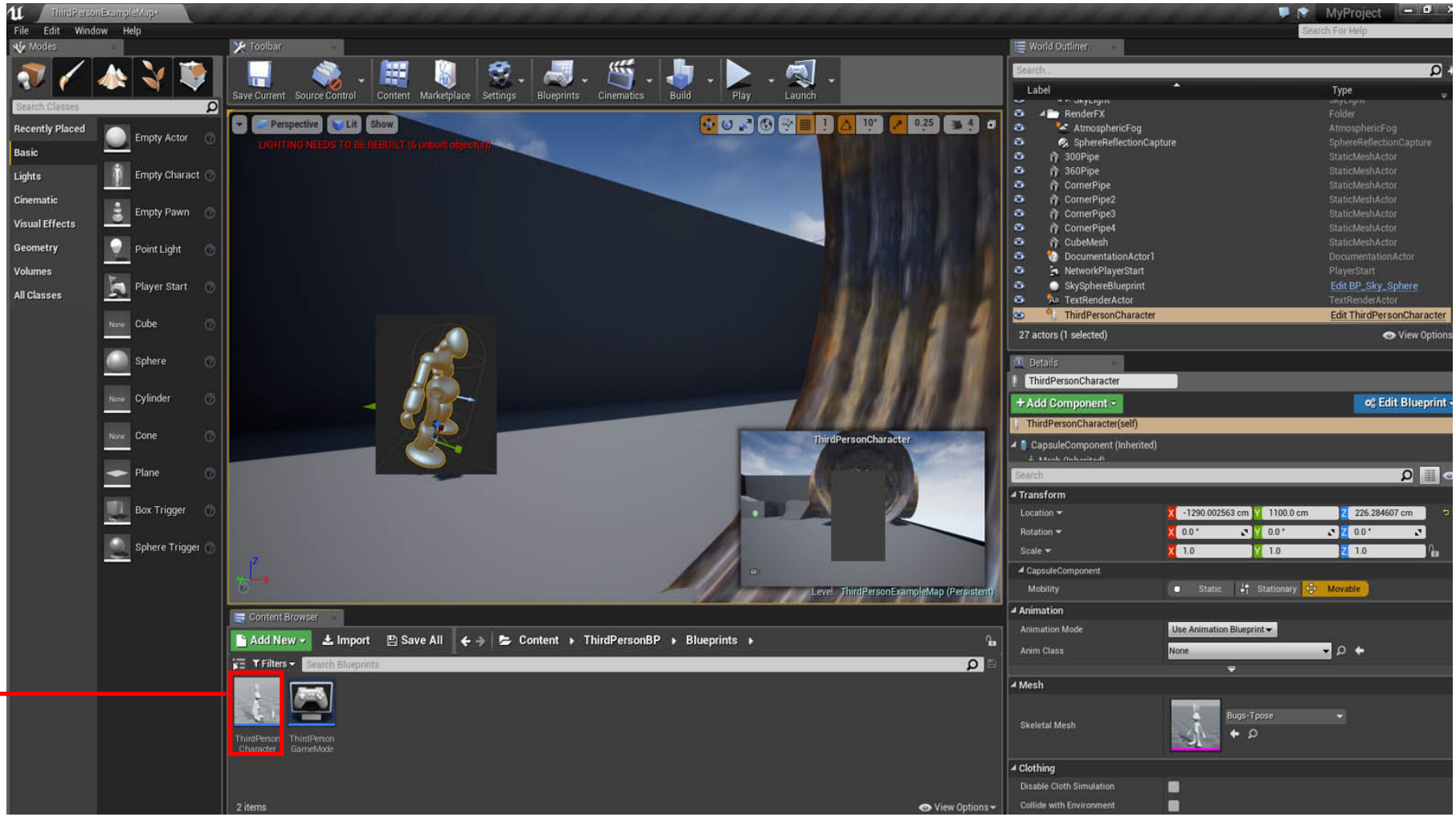
18. Drag your Idle Animation from the right side of the panel into the graph and connect to your character

19. Compile the scene and you should see the character switch to Idle pose.



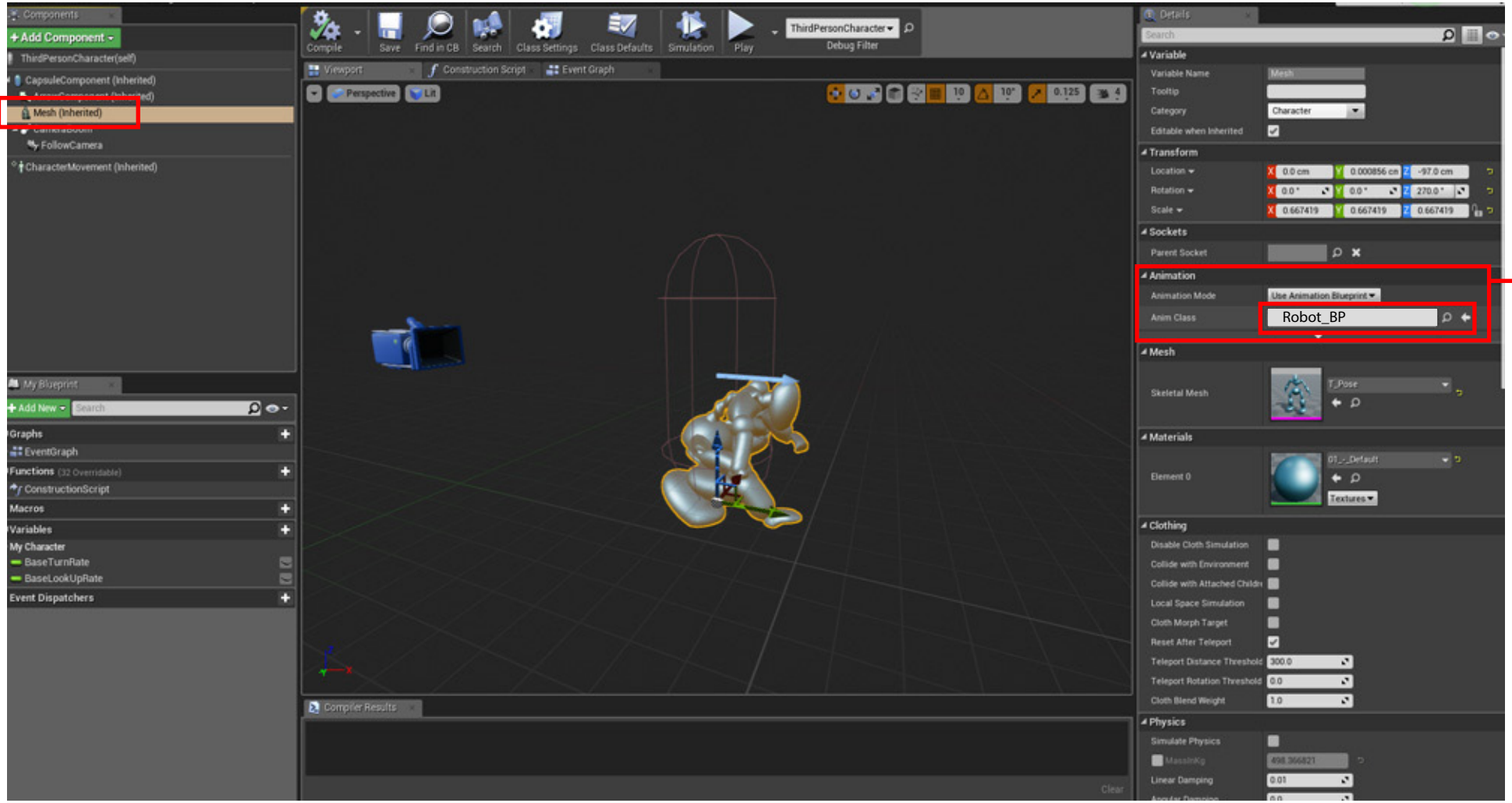
Before you connect the walk and run animations you need to attach the Animation Blueprint to the character

19(B) - Open the BluePrints folder and double click "ThirdPersonCharacter"



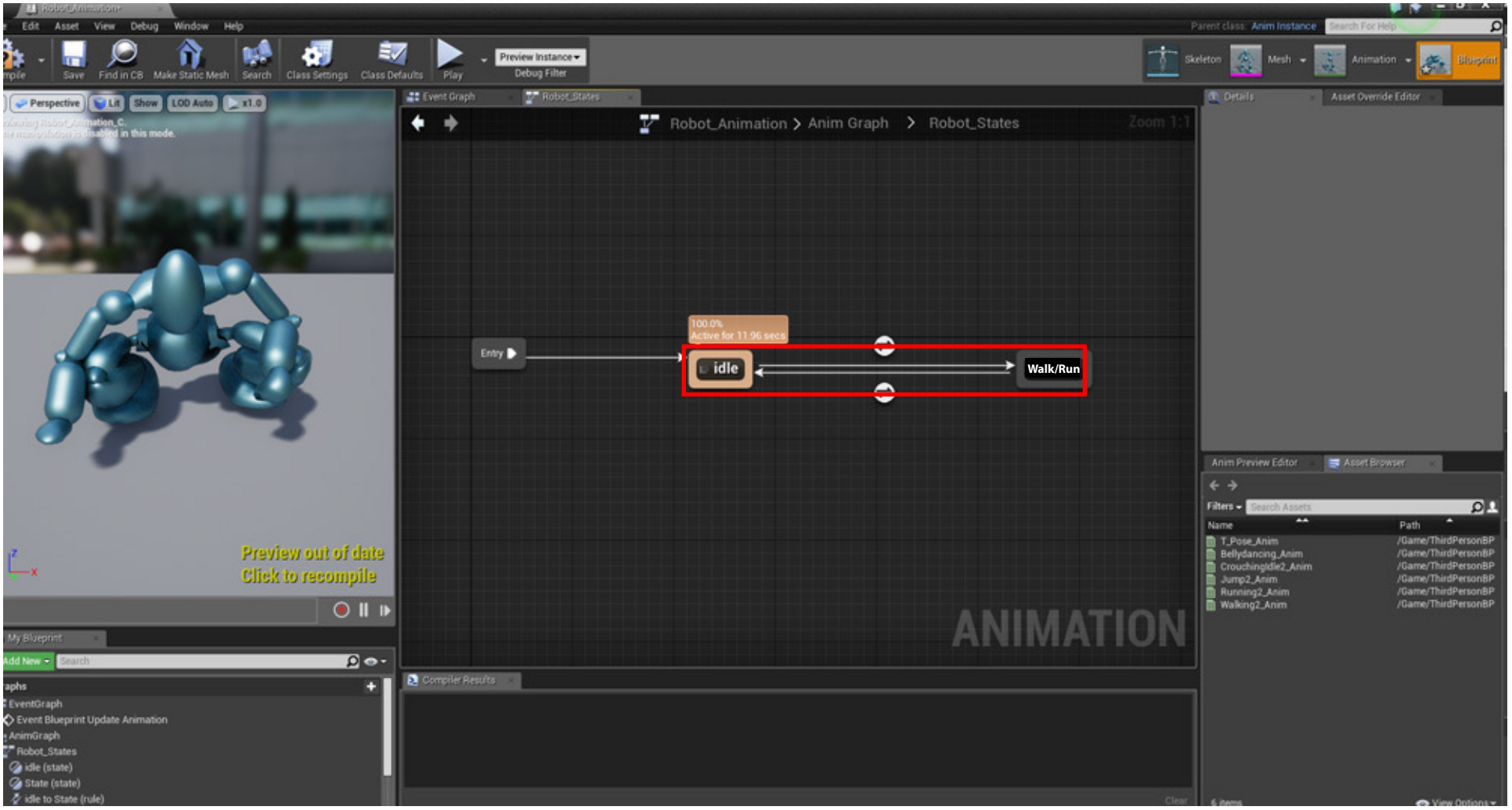
Before we connect the Walk/Run animations we need to connect the character with the it's new blueprint, the one you made on page 9.

20. Select "Mesh Inherited" and from the list find your character new BluePrint.



Now go back to the "States" graph so you can set up the Walk/Run animations

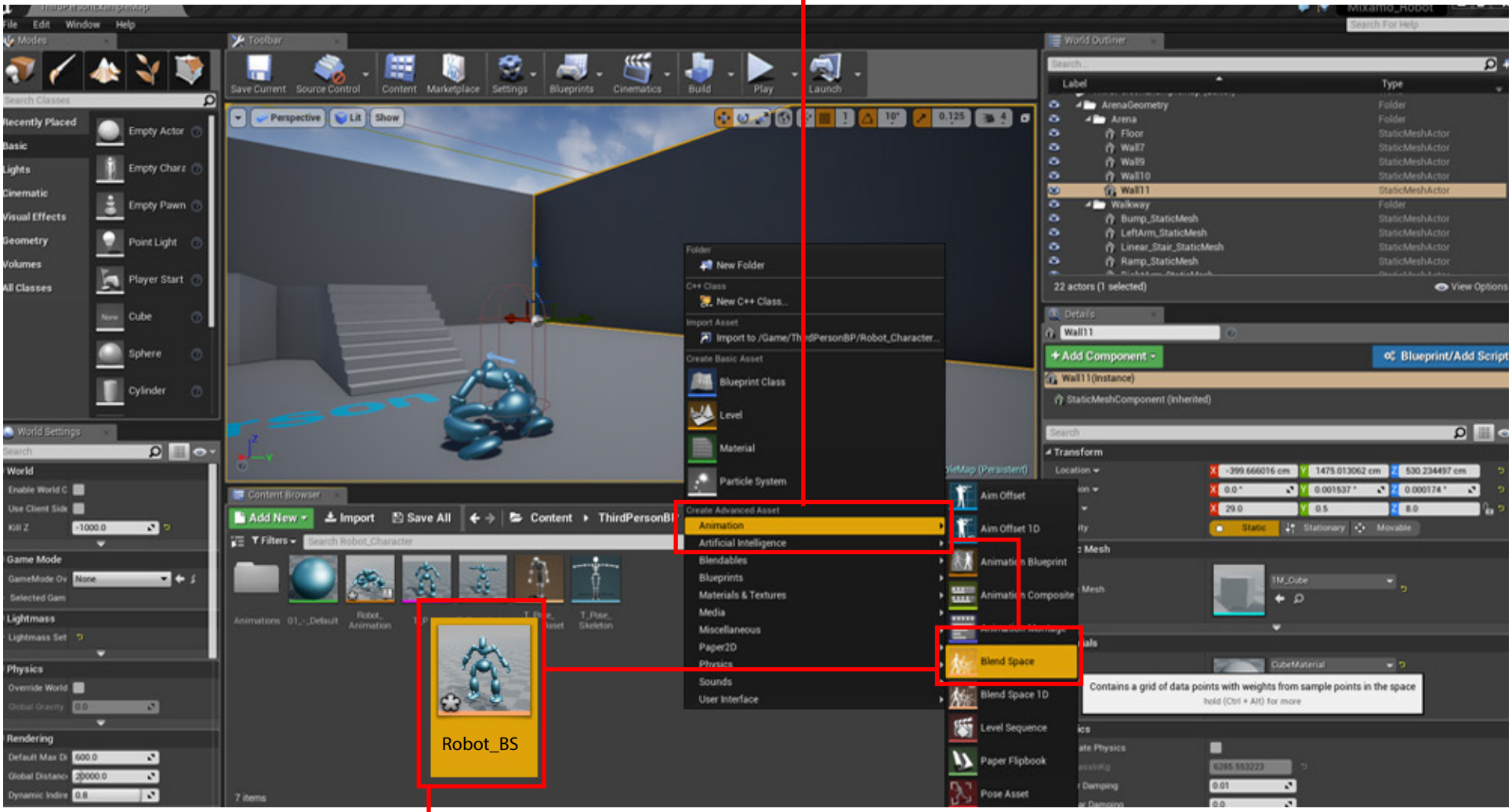
21. Drag and link the from theWalk?Run node to the Idle node. This allows thecharacter to slow from a run to an Idle state.



IGNORE THE WARNINGS!

The Walk and Running animations will attached using what's called a "Blend Space" Go back to your characters folder.

22. Right click and create a new Blend Space.

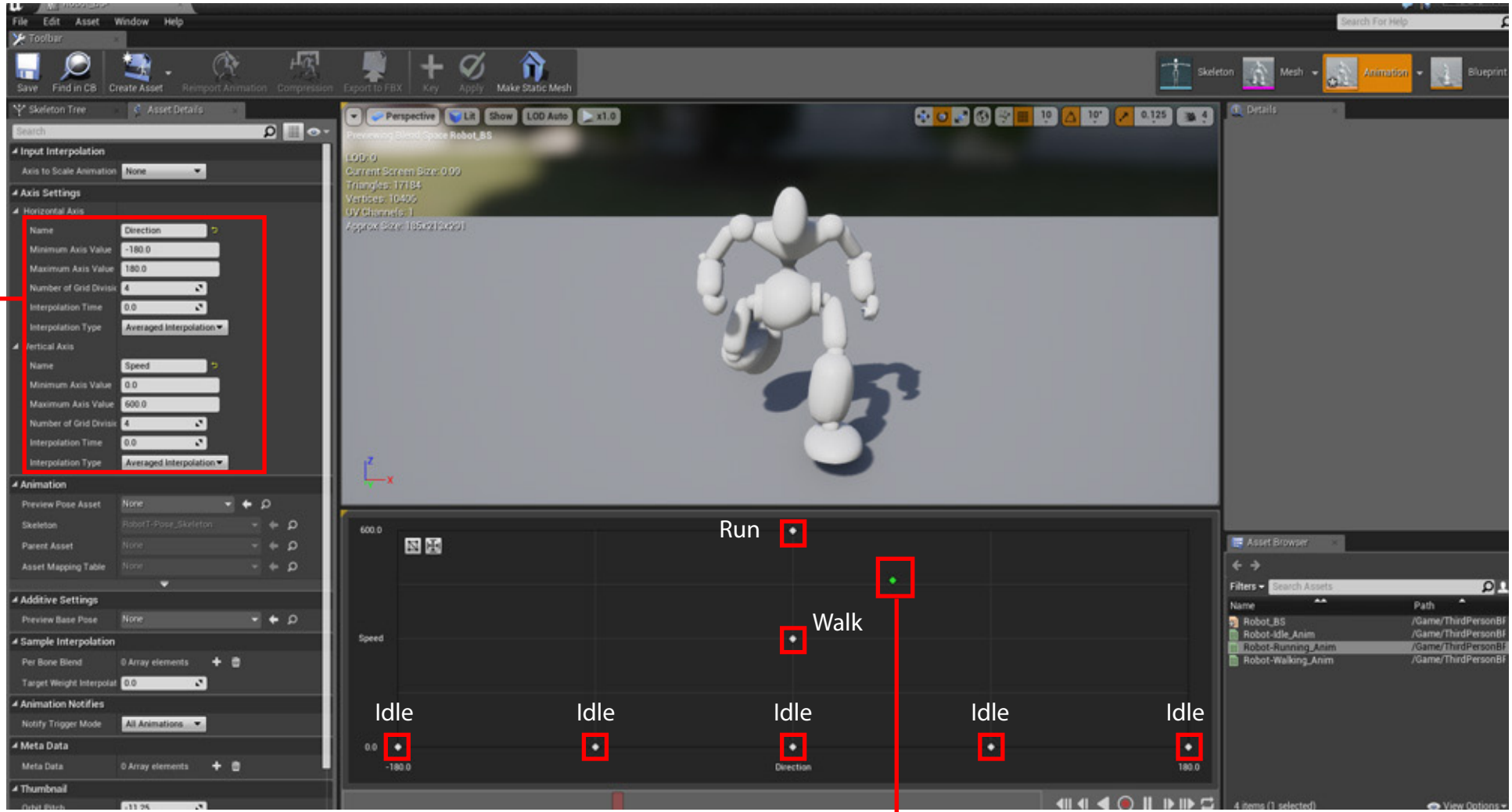


23. Name the Blend SPace after your character with an underscore of "BS". Double click to open the BlendSpace panel.

24. Make the following settings:

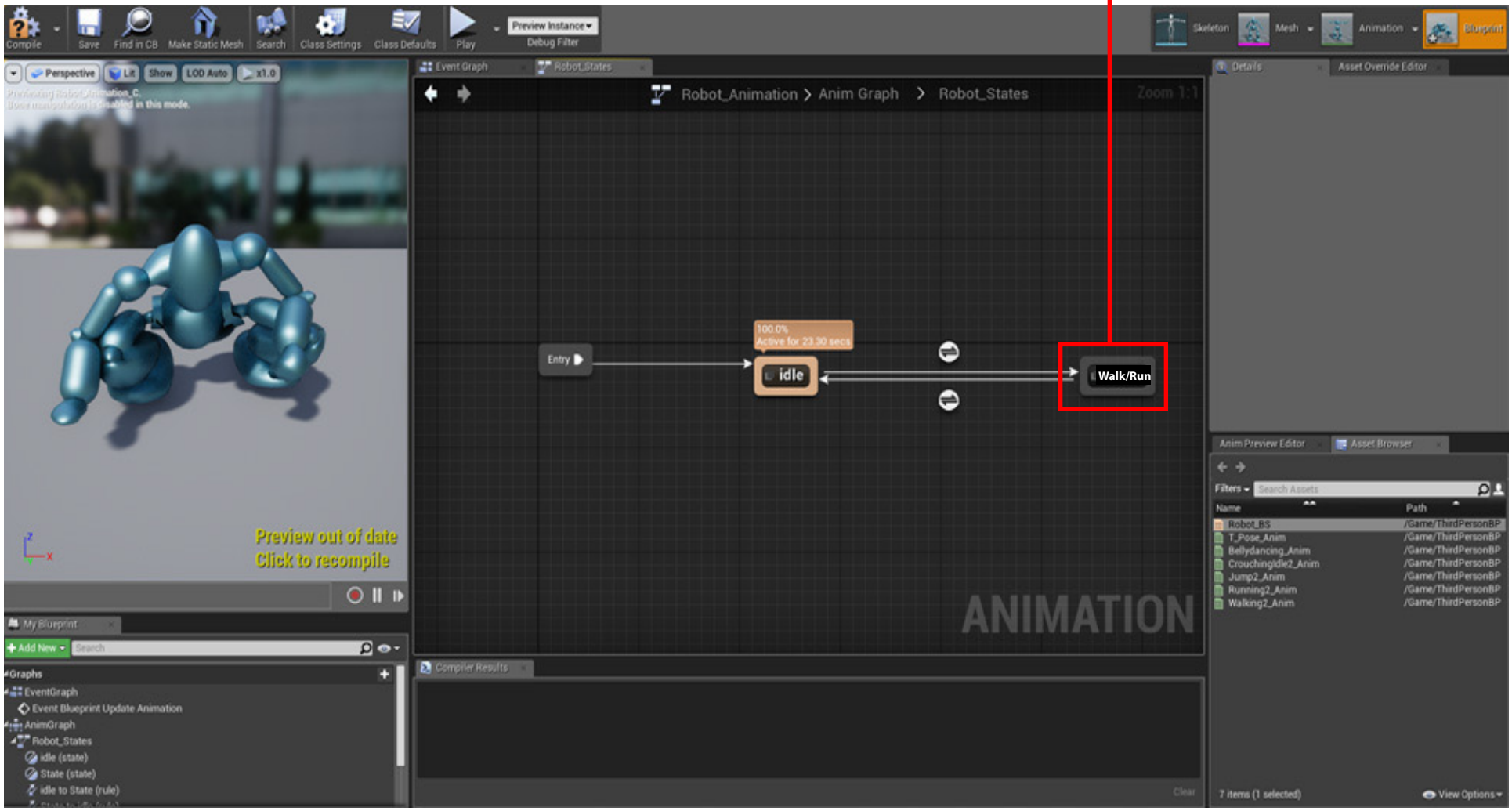
25. Drag from the list of animations into the graph area the following:

a. Five "Idle" poses
b. One Walk
c. One Run



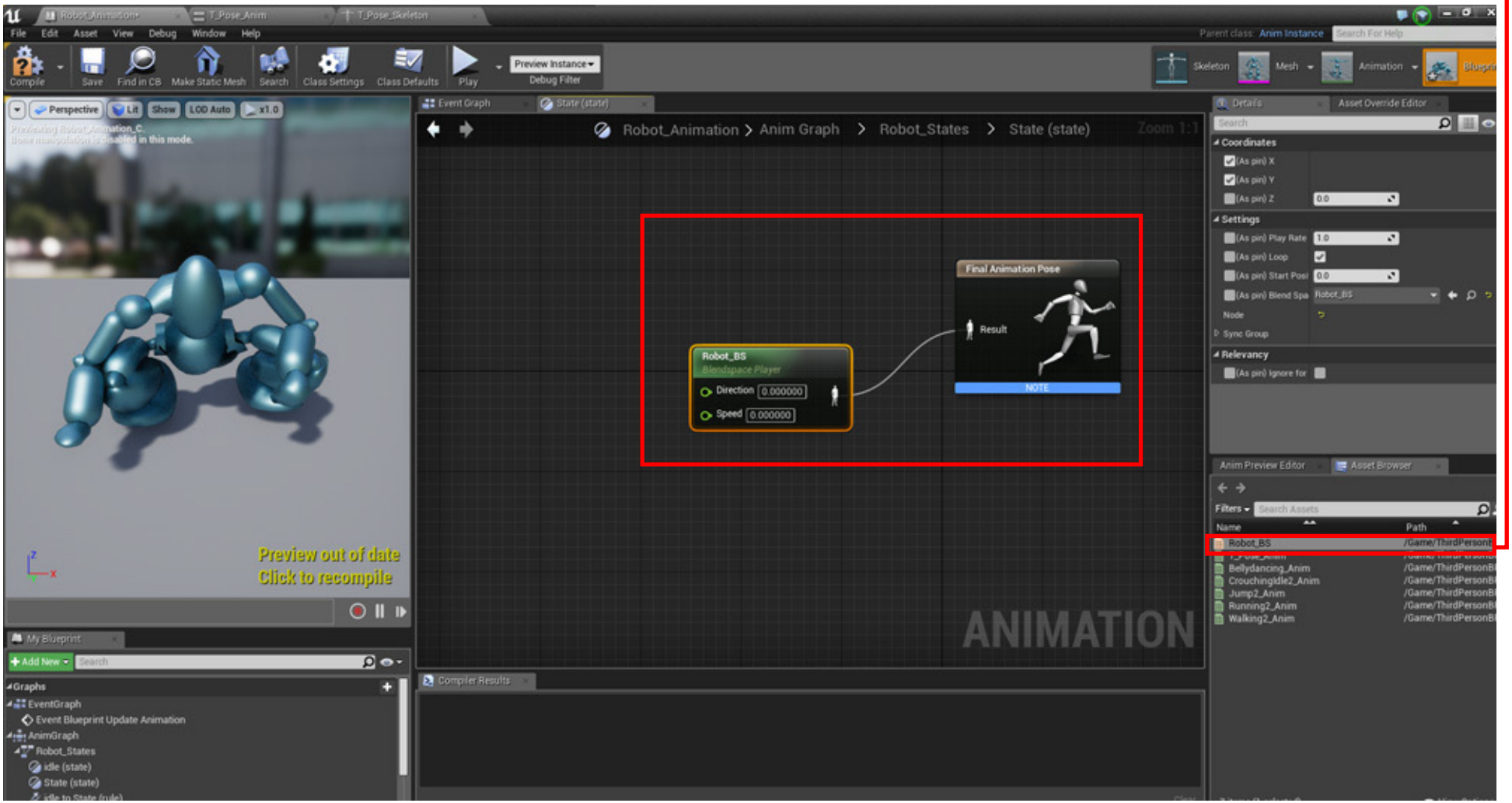
Hold the Shift key down and grab the green dot. Drag the green dot around the graph and you'll see how the BlendSpace works

Return to the Robot States graph and double click on Walk/Run

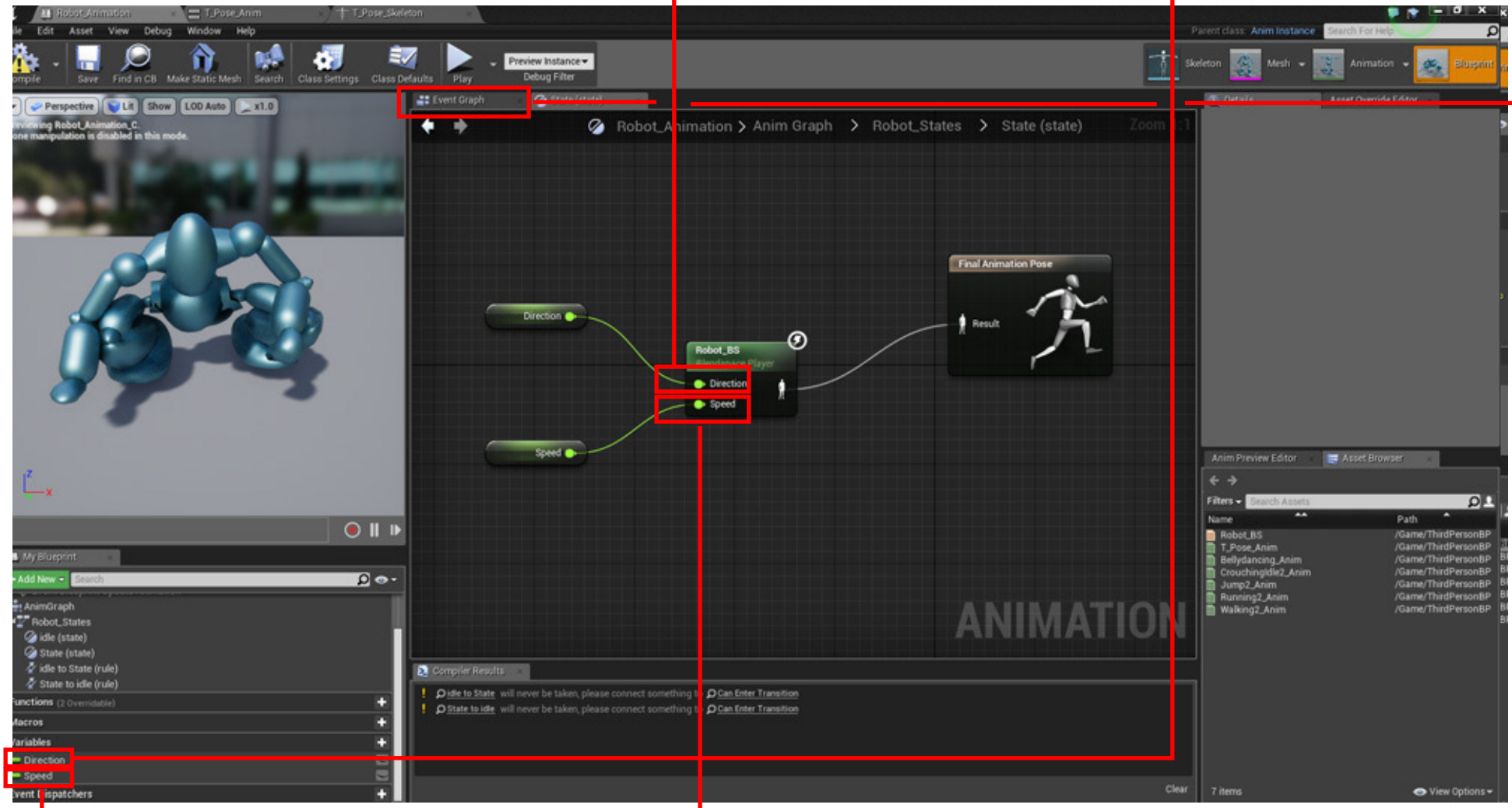


Now you'll make the connections telling the character where to get Speed and Direction.

26. Drag the Robot_BS (BlendSpace) into the graph and connect to the Final Animation Pose.



27. Pull from the Direction node and type Variable. Click Return. Name the new Variable "Direction".

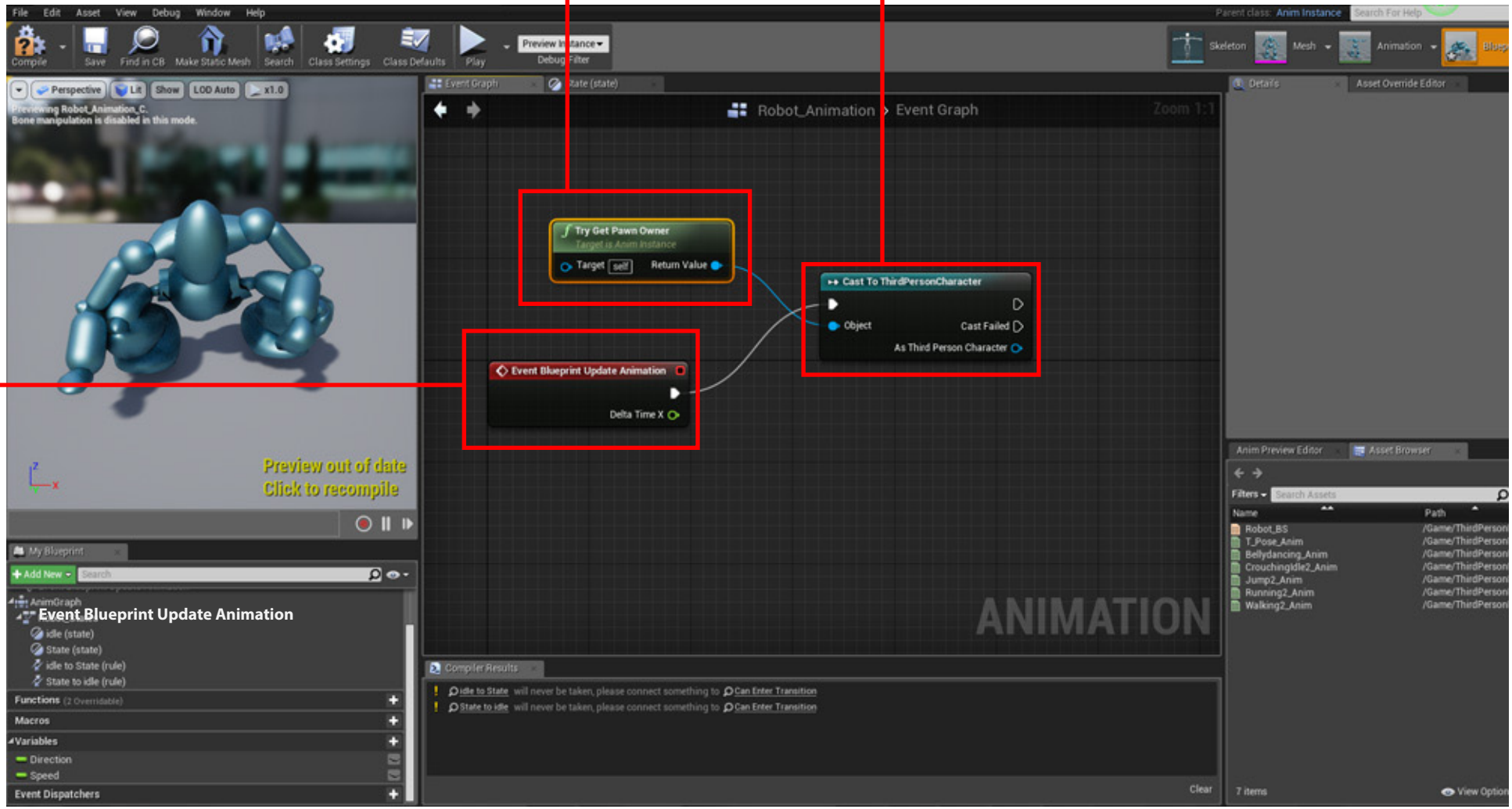


28. Pull from the Speed node and type Variable. Press return. Name the new variable "Speed"

29. Open the Event Graph

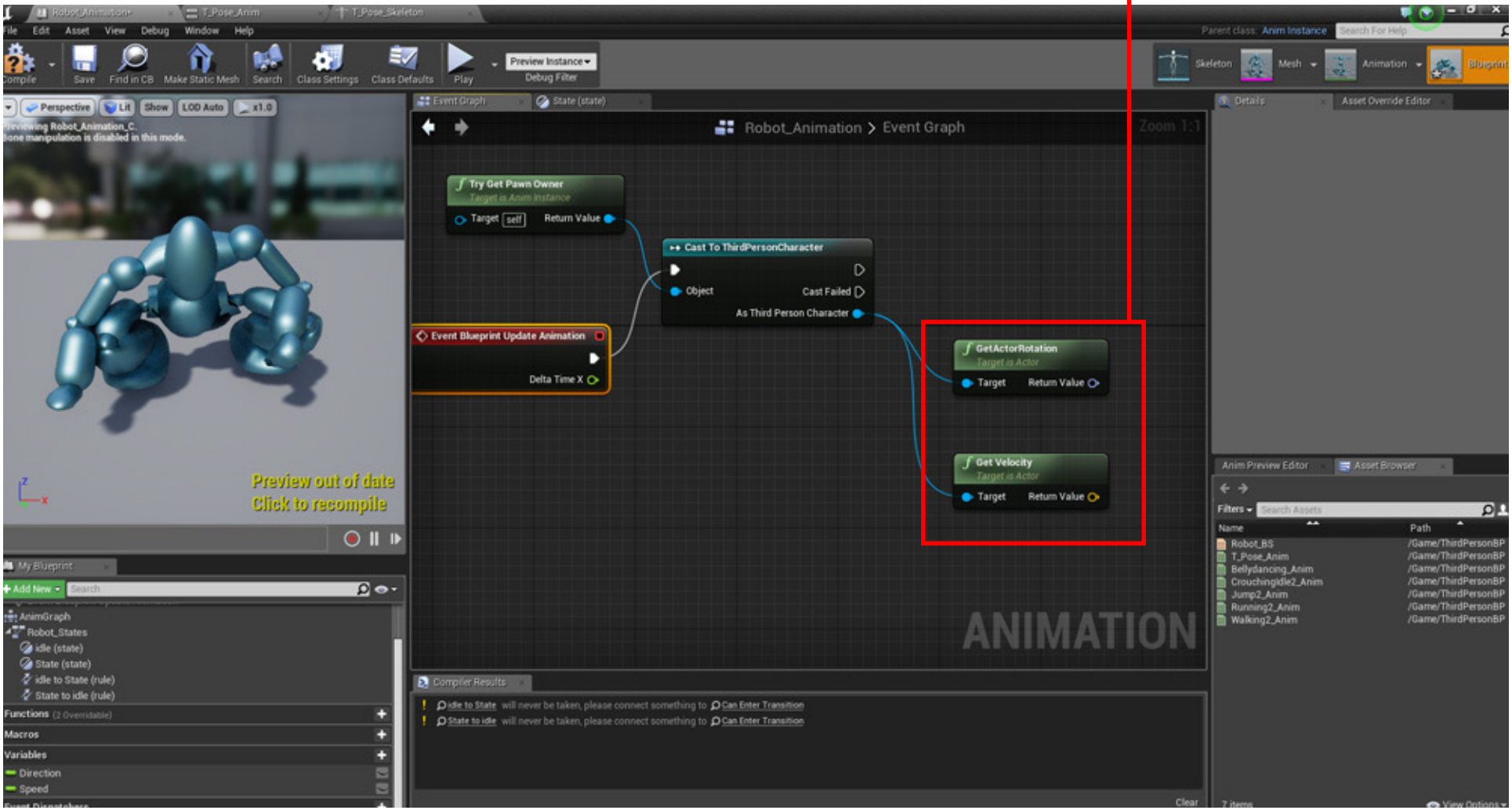
30. Drag from Event and type "Cast Third Person Character"

31. Drag and type "Try Get Pawn Owner".



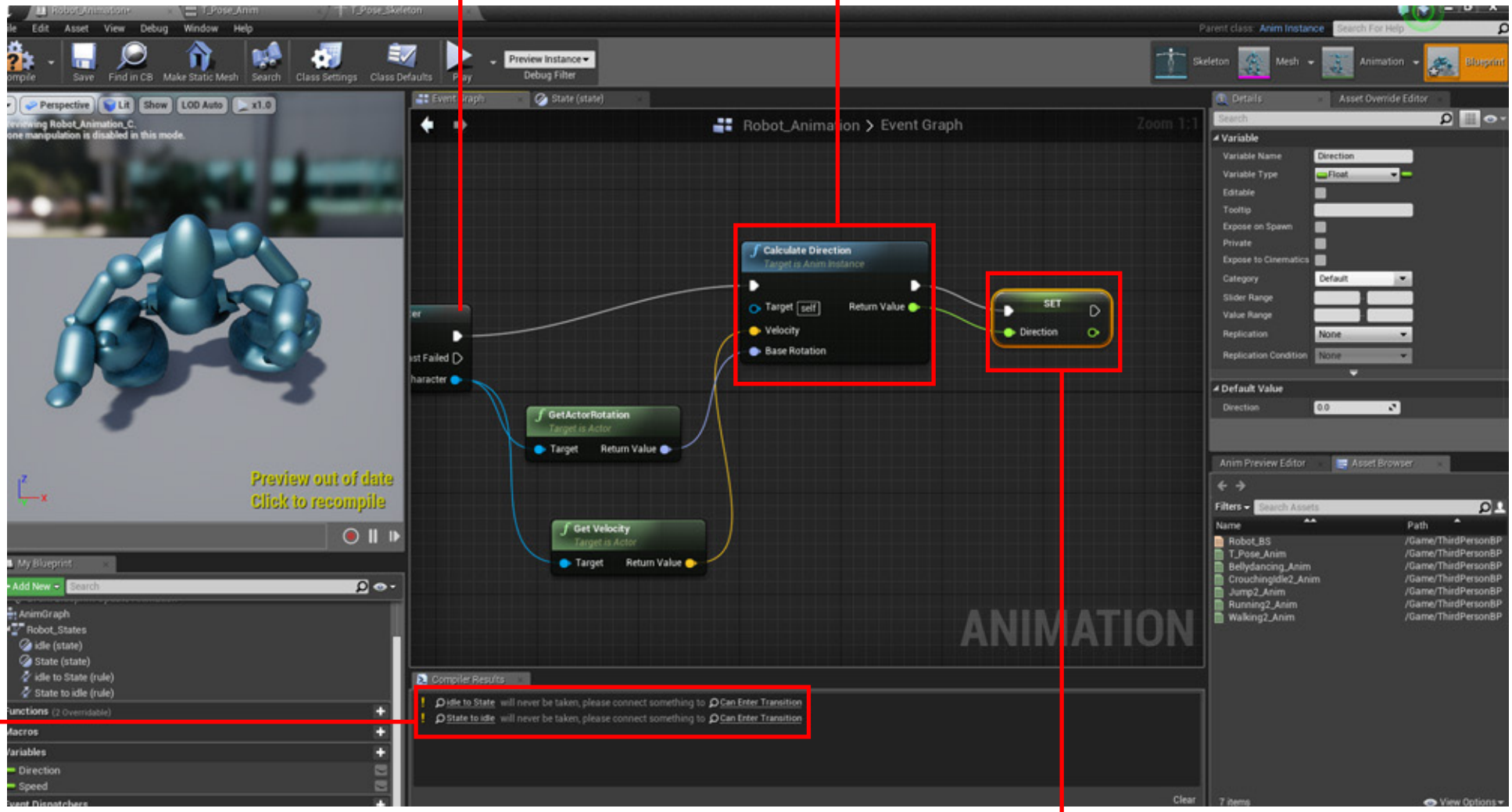
Compile but ignore warnings

32. Drag for "Get Velocity" and "Get Actor Rotation"



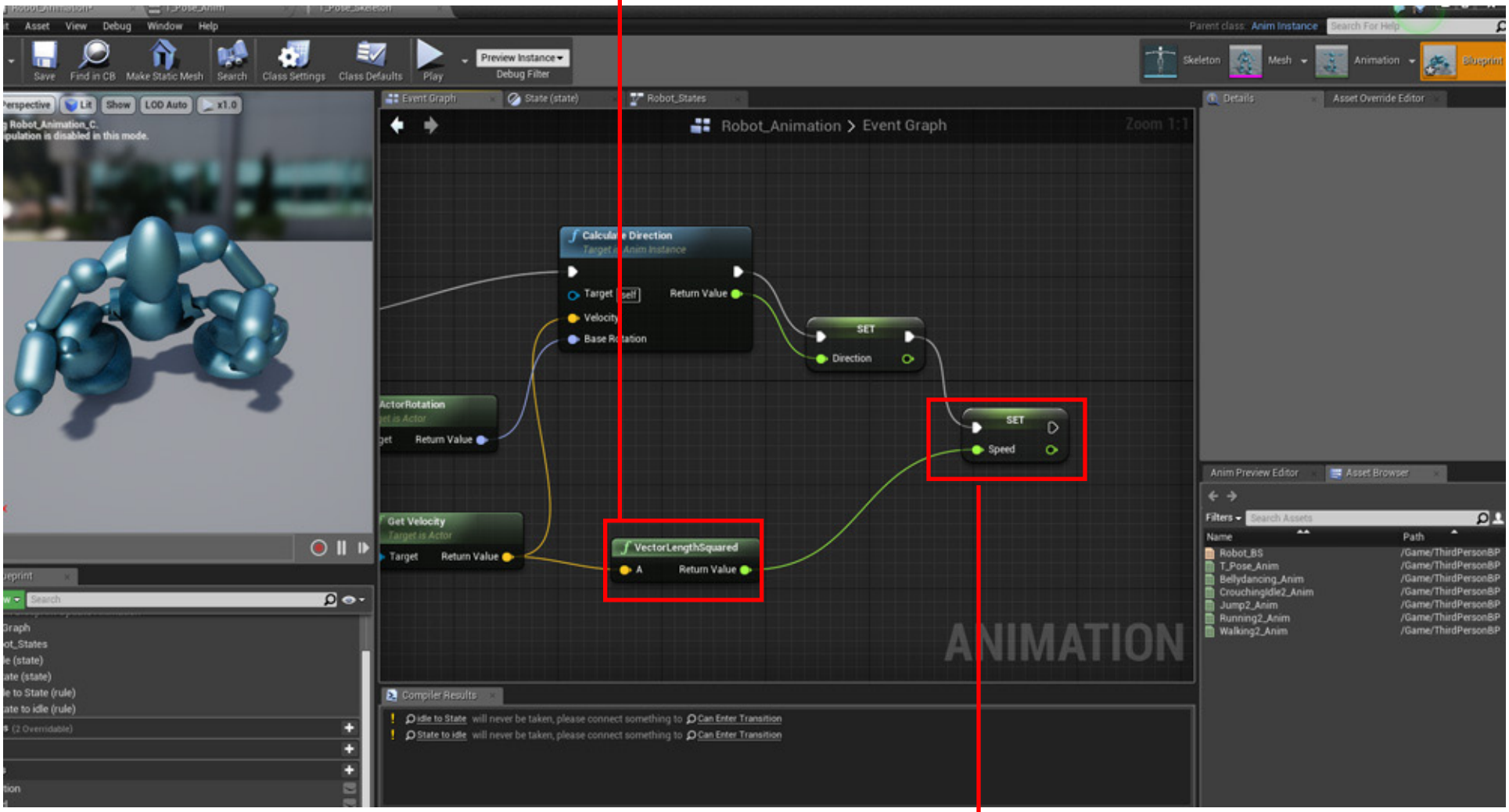
Compile but ignore warnings

33. Right click in panel and get "Calculate Direction" and connect to Third Person Character



34. Drag from Return Value and type "Set Direction".

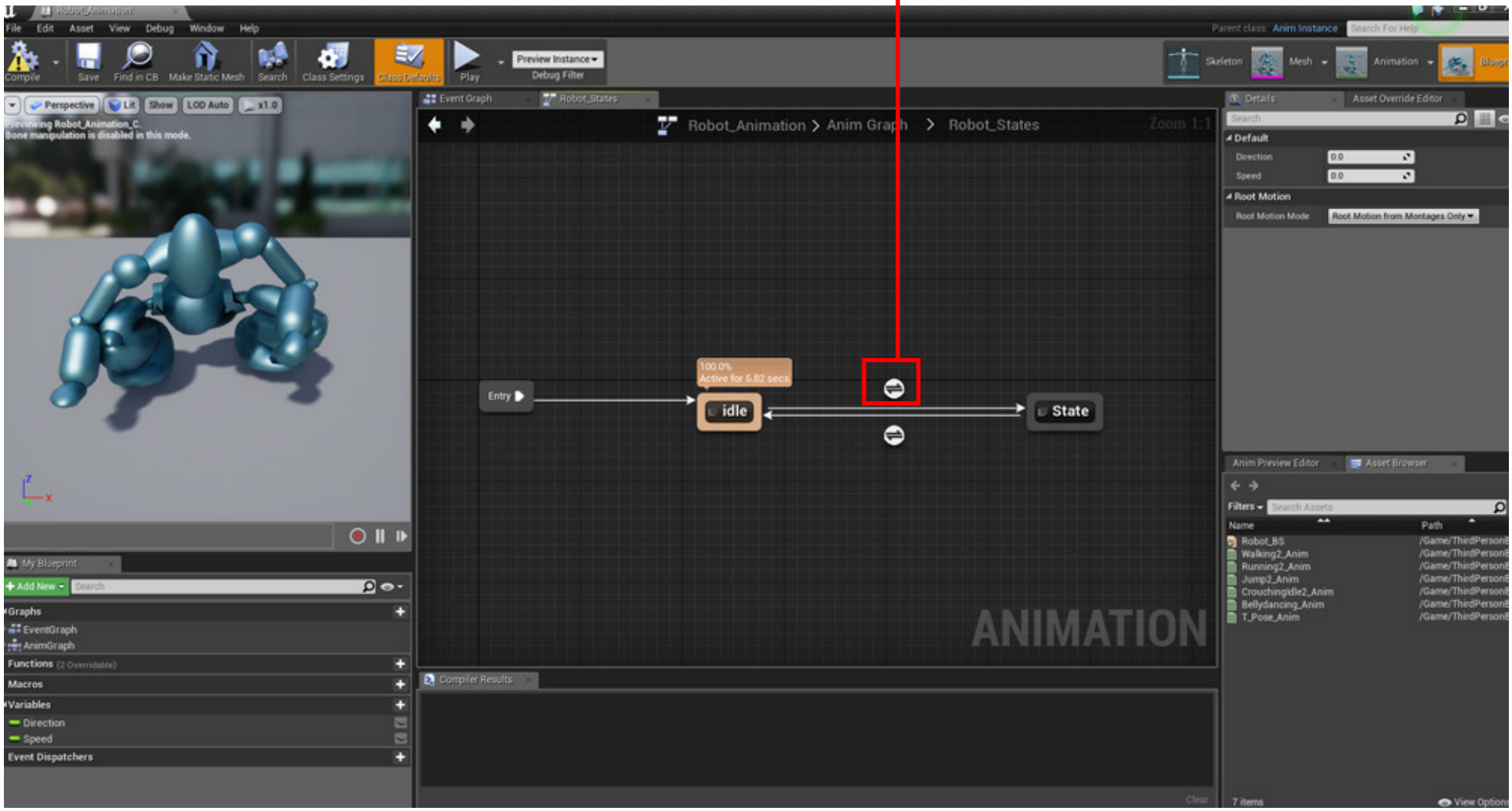
35. Drag from Get Velocity and type "Vector Length Squared"



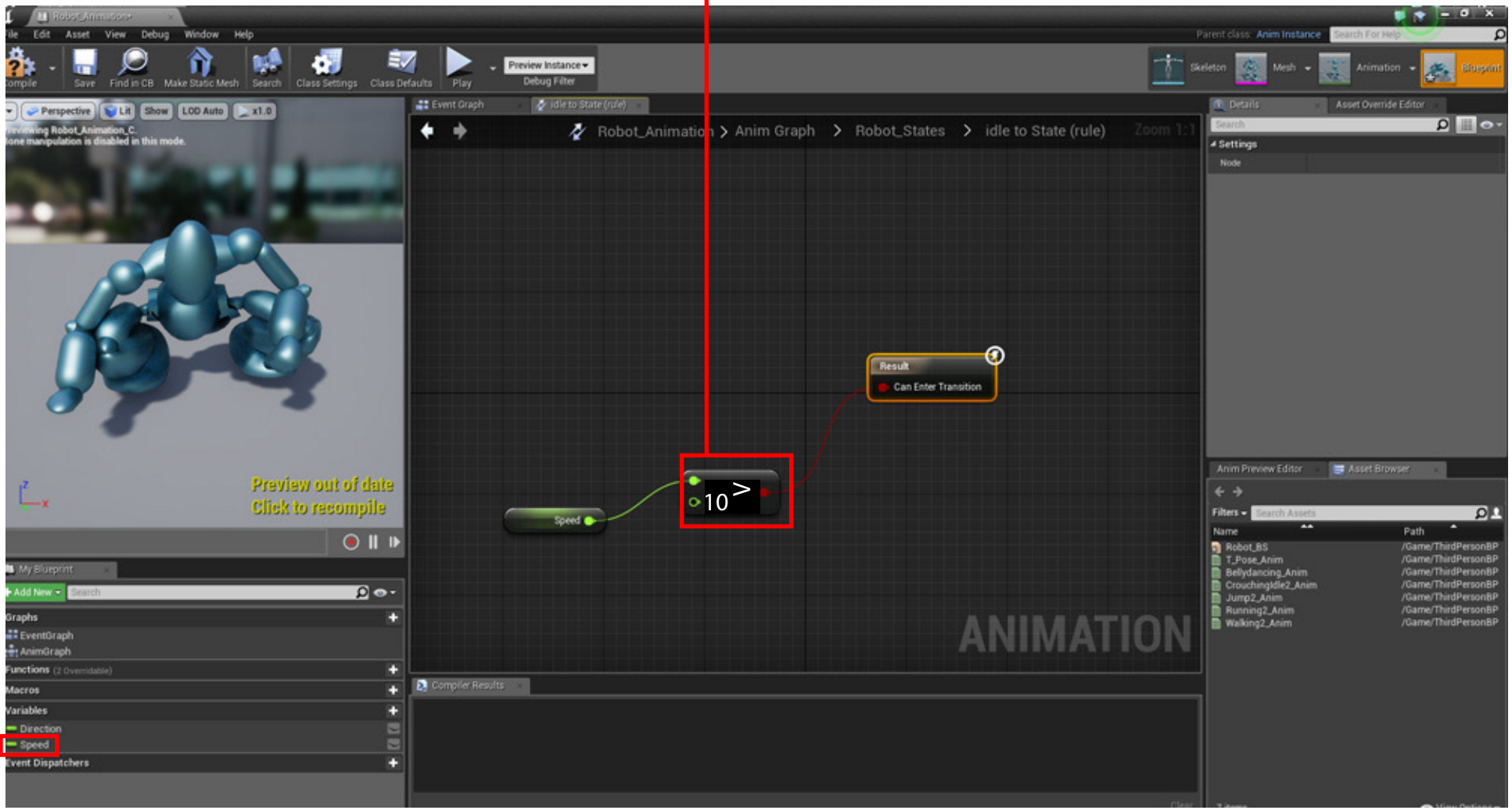
35(B) - Drag "Set Speed "and connect

Go back to your "States" panel. We now have to adjust our "Transitional Rules".

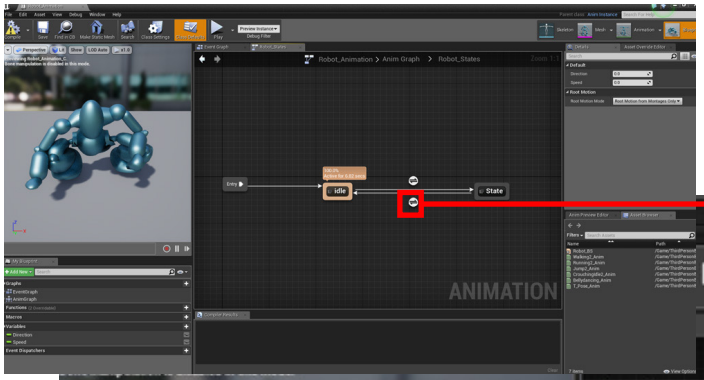
36. Double click the top TR



37. Drag and type "Float" and pick "Float >"

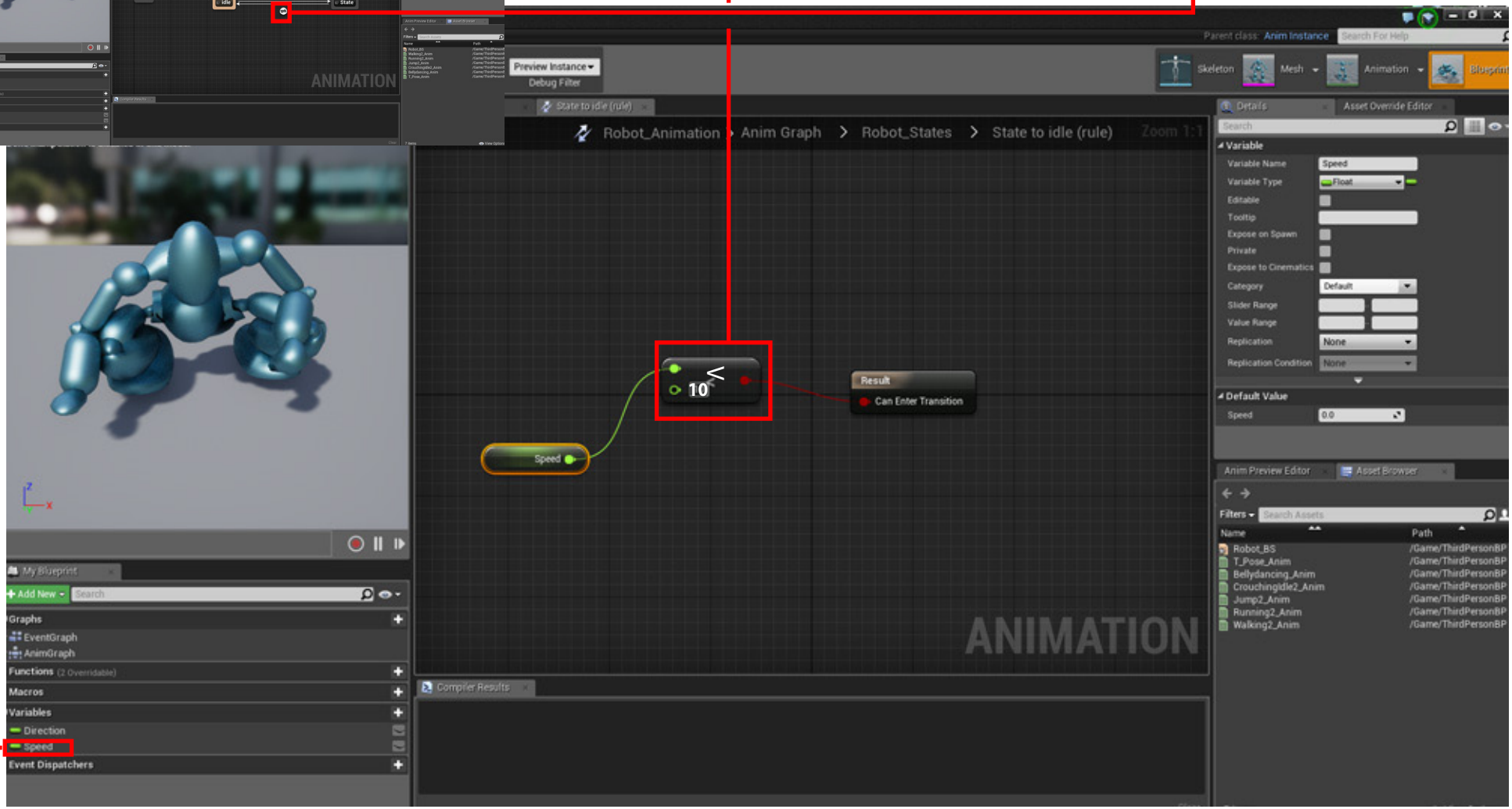


38. Drag Speed into the graph, Get and connect. Set speed to 10



39. Return to your character "States" and click the bottom Transition.

Drag out a "Float < (less than)



40. Drag Speed into the graph, Get and connect.

COMPILE. ALL WARNINGS SHOULD DISAPPEAR!