

# **Unity 2020.3**

## **Visual Scripting with Bolt**

### **Top Down Player Controller 3D**

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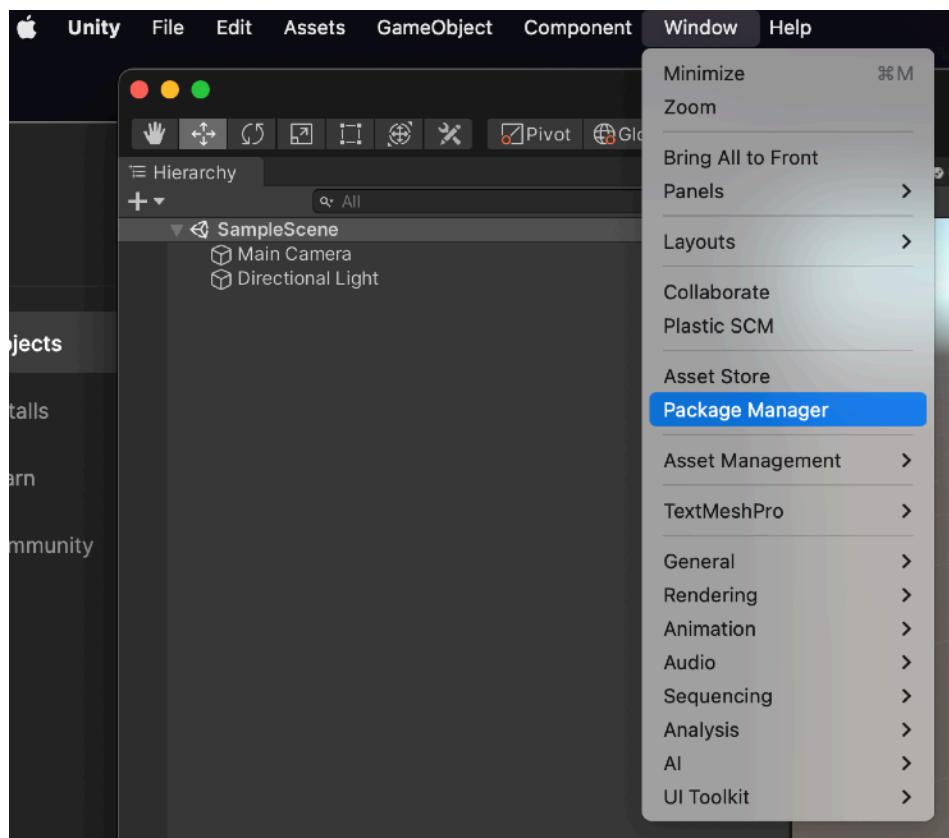
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# 1. Bolt Setup

More Information: <https://learn.unity.com/tutorial/bolt-videos-archived>

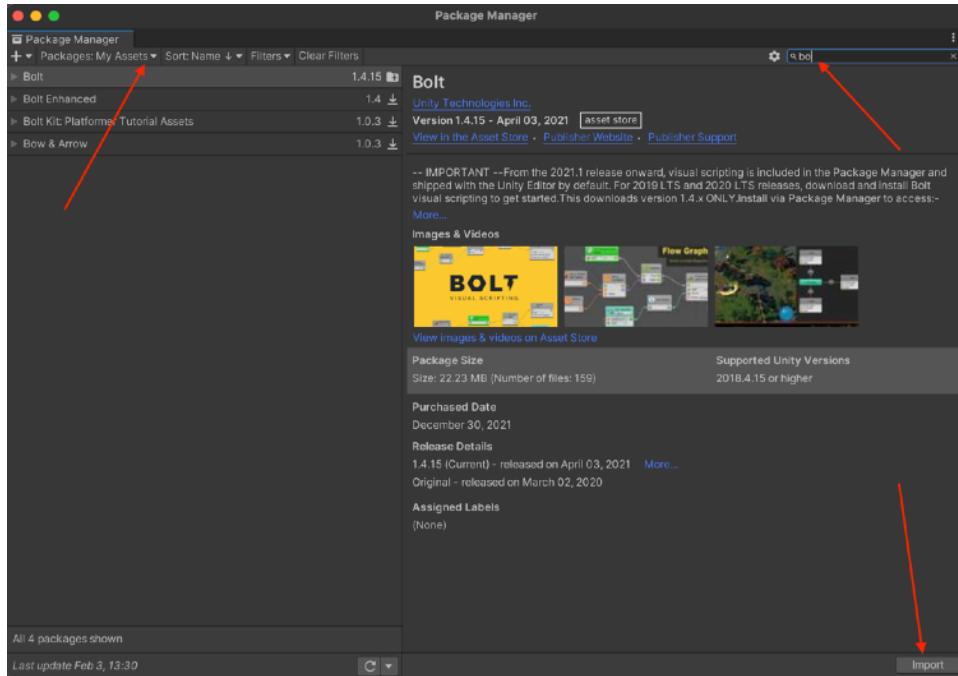
## 1.1 Bolt Package

Windows-> Select "Package Manager"



## 1.2 Import Bolt

Select “My Asset” -> Search for “Bolt” -> Click “Import” -> Click “Import”



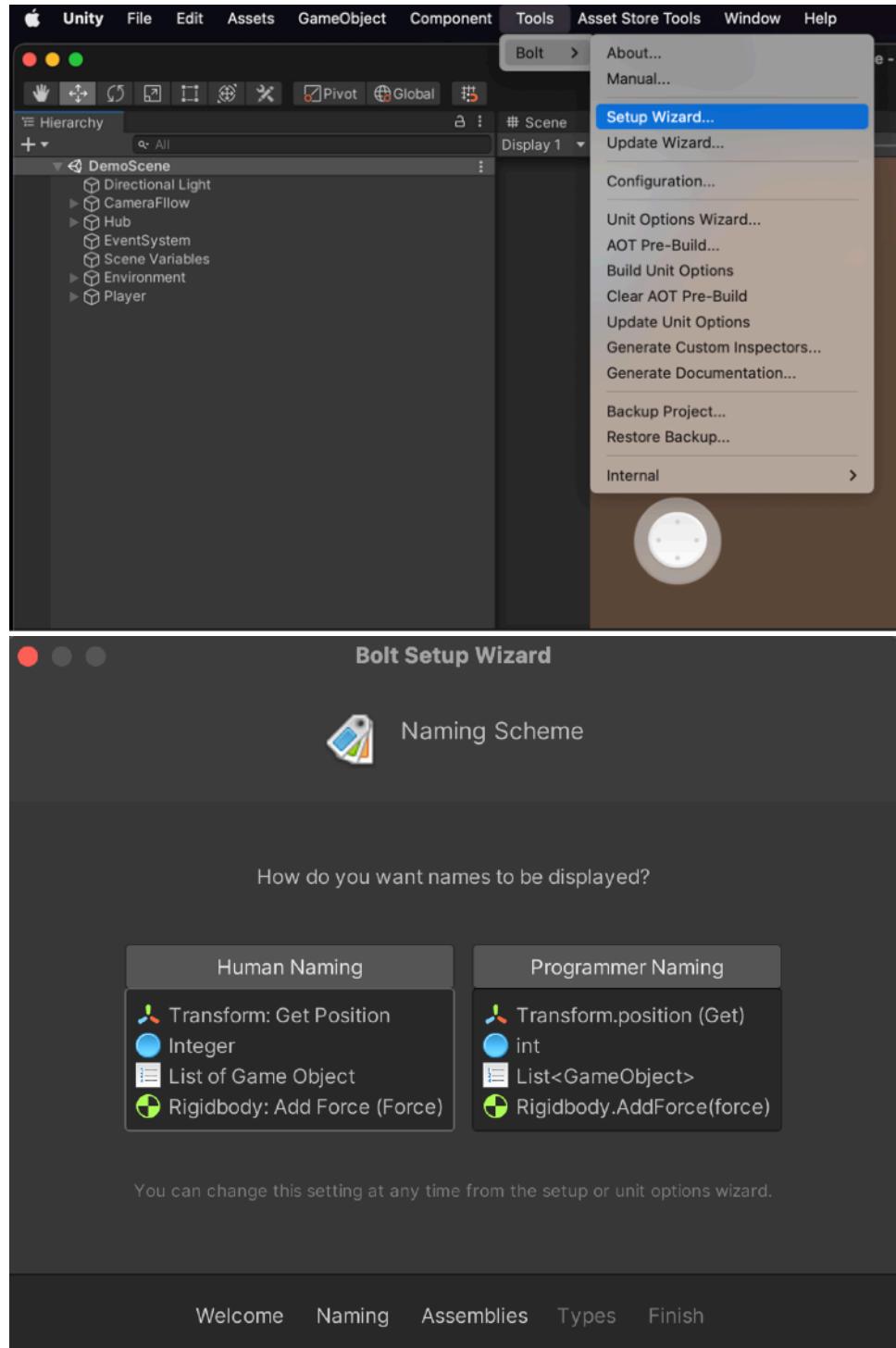
## 1.3 Bolt Setup

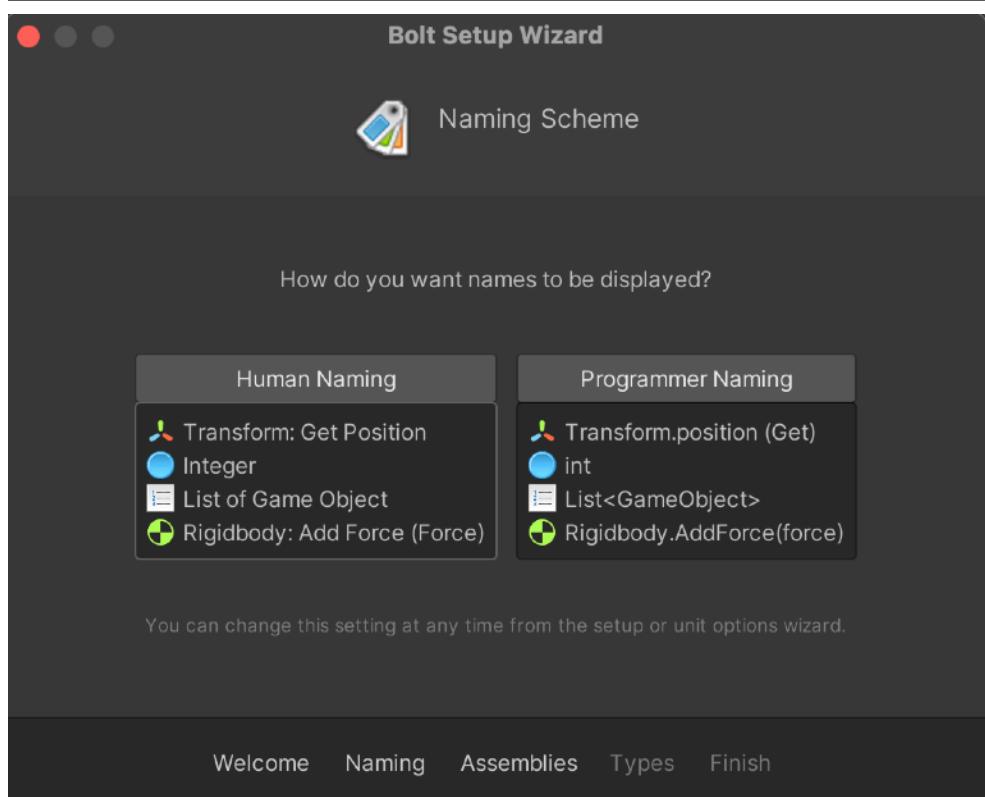
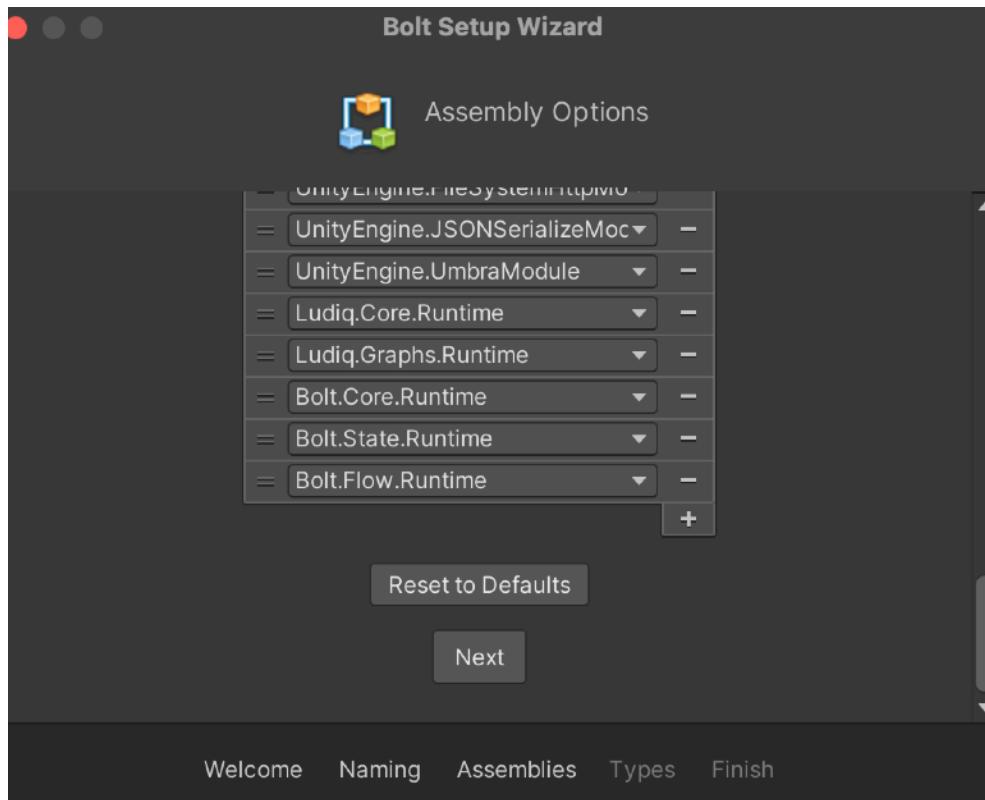
Tool->Bolt->Setup Wizard -> Click "Next"

->Select "Human Naming" -> Click "Next"

-> Assembly Options Click "Next"

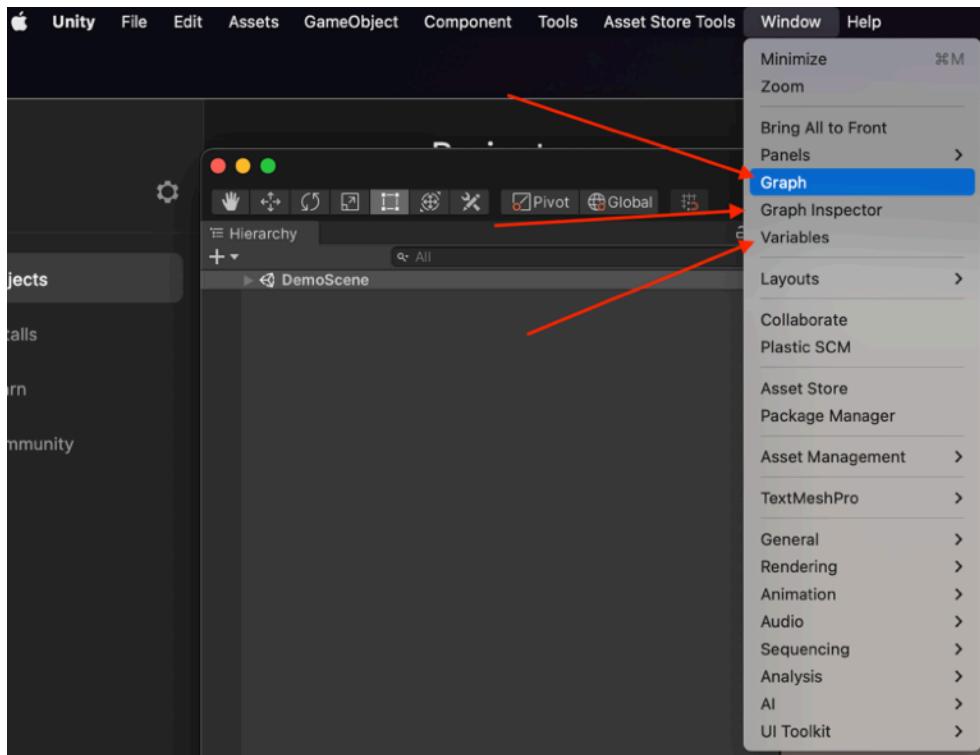
-> Type Option Click "Generate"



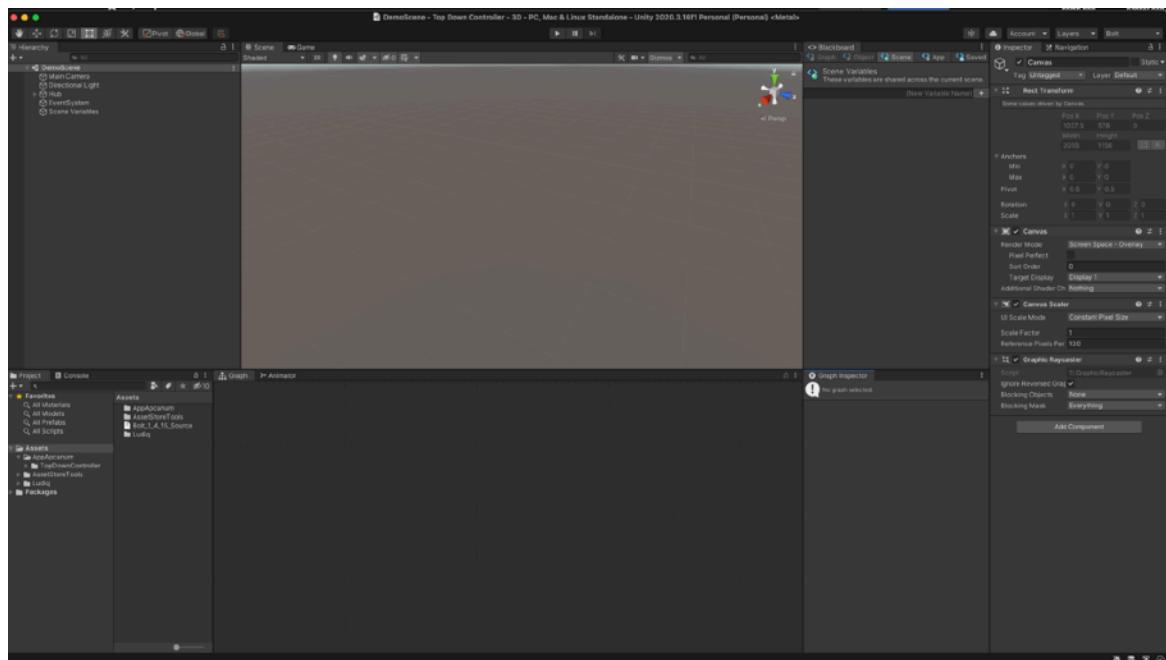


## 1.4 Windows for Bolt

- “Window” -> Select “Graph”,
- “Window” -> Select “Graph Inspector”
- “Window” -> Select “Variables”



## 1.5 Bolt Final Layout

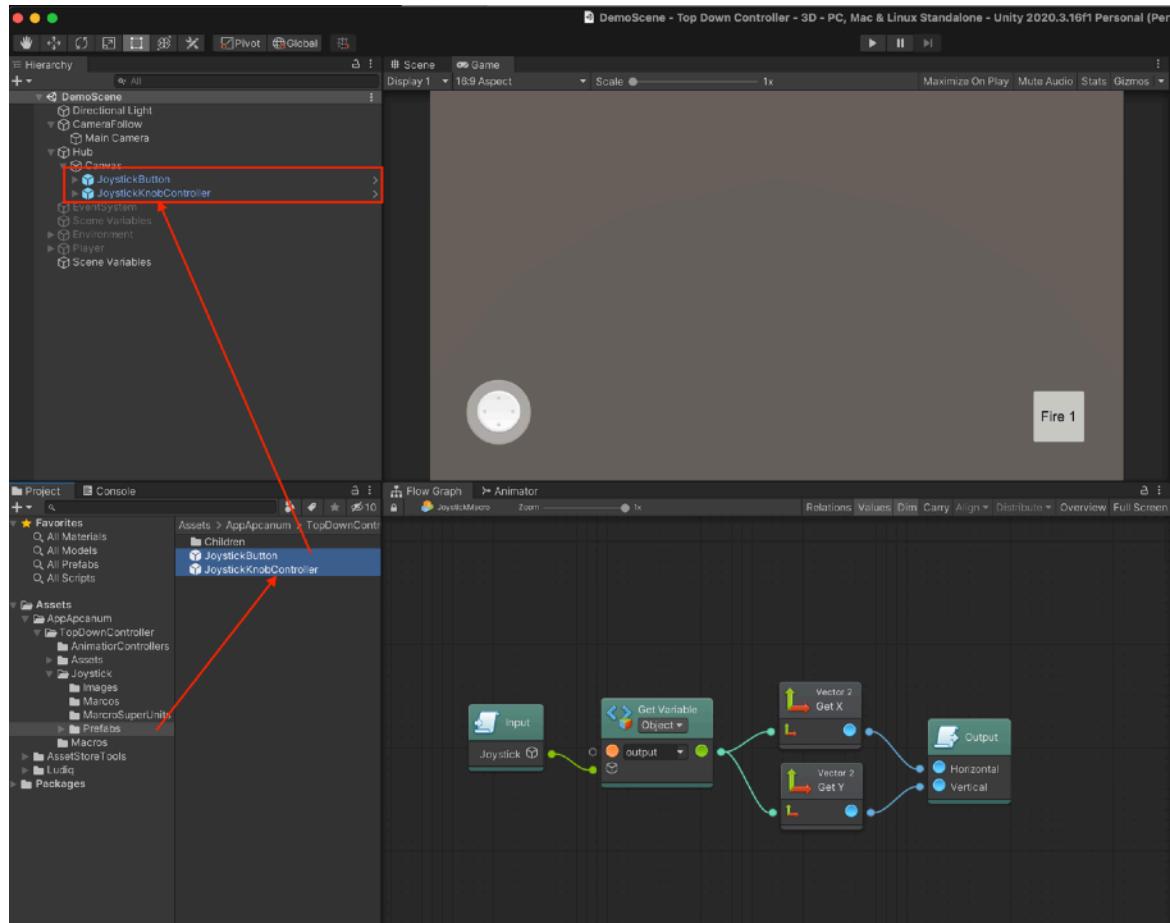


## 2. Hub

### 2.1 Joystick

Drag and drop -> "JoystickButton" and "JoystickKnobController"

from Joystick ->Prefabs to UI Canvas



## 2.2 Player Controller

Add Empty GameObject "Player" -> Add Component

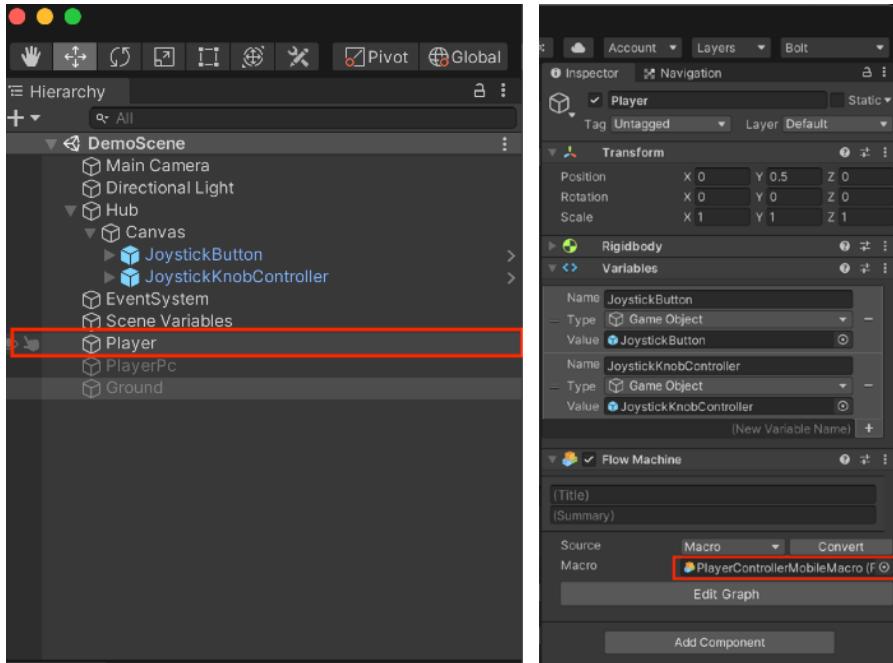
-> Select "Flow Machine"

-> Macro select "PlayerControllerMobileMacro"

-> Add Two "Game Object" Variables

Drag and drop "JoystickButton" and "JoystickKnobController"

-> Add Component "Rigidbody"



## 2.3 Variables and Flow Machine

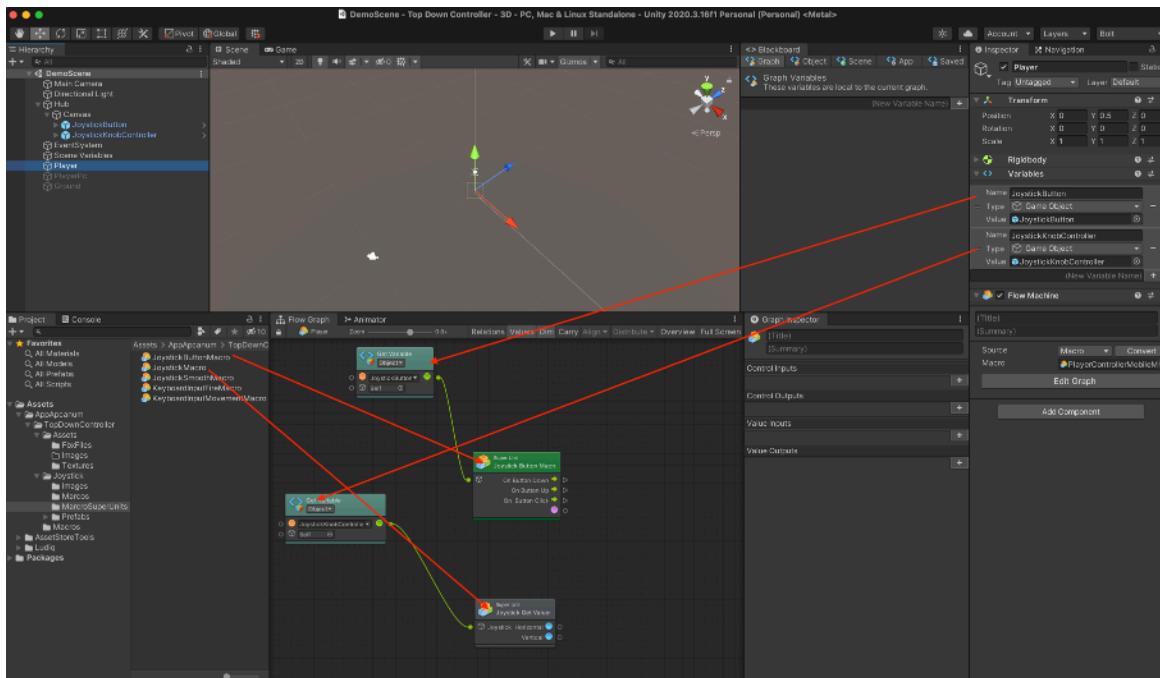
Drag and drop “Variables”

-> "JoystickButton" and "JoystickKnobController"

Drag and drop Joystick “MacroSuperUnits”

-> “JoystickButtonMacros” and “JoystickMacros”

into “PlayerControllerMacro”

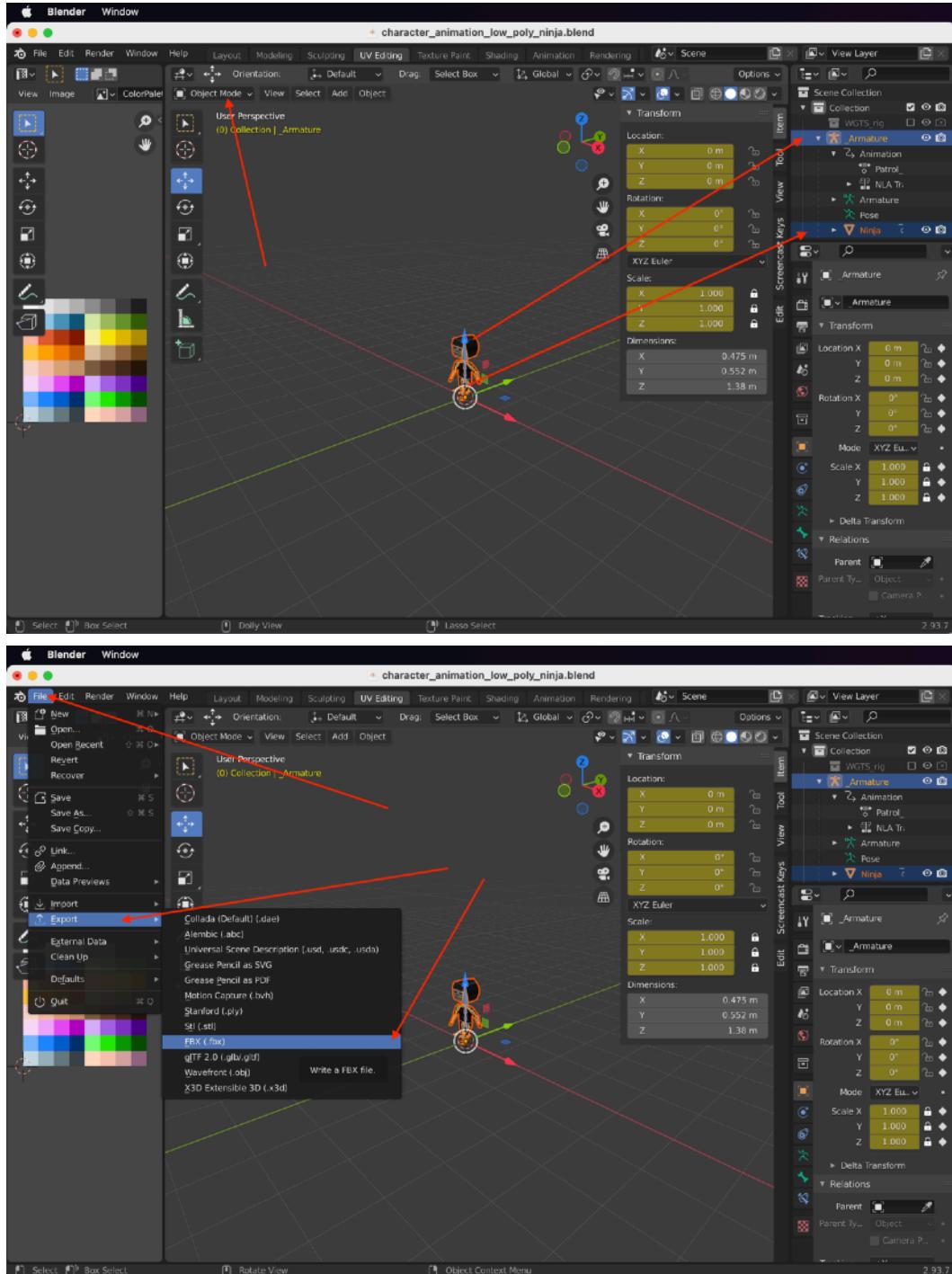


### 3. Import FBX file

More Information about how to create Rig a Low Poly Character - Search from YouTube - "Rig a Low Poly Character in Blender 2.9x" by Imphenzia

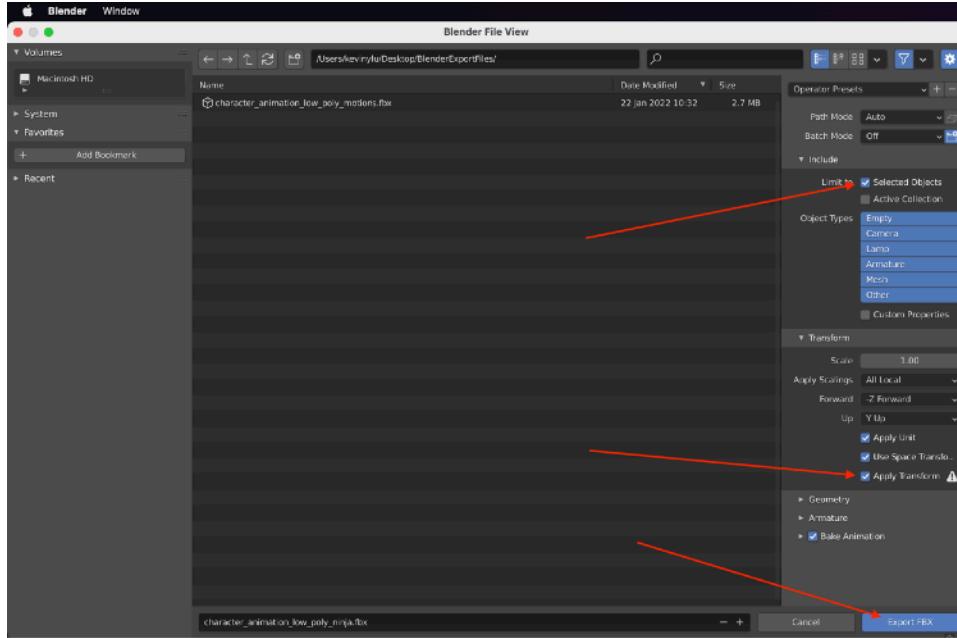
#### 3.1 Blender

- > Select "Object Mode"
- > Select "Armature" and "Object"
- > Select "File" -> "Export" -> "FBX"



-> Checkbox "Limit to" -> "Selected Objects"

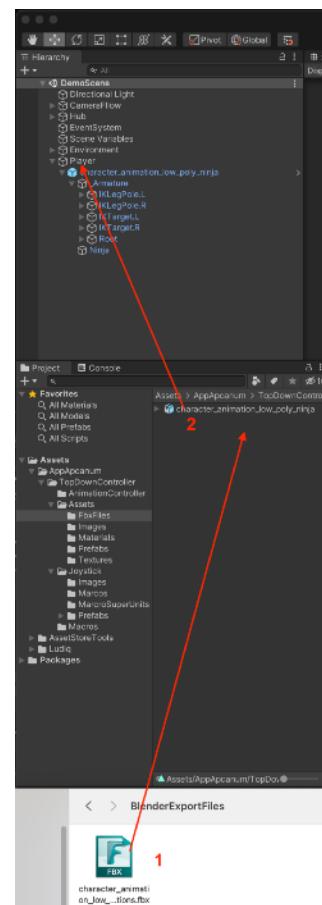
-> Checkbox -> "Apply Transform"



### 3.2 Import FBX file

Drag and drop -> FBX file into Unity

Drag and drop FBX "character" into "Player"

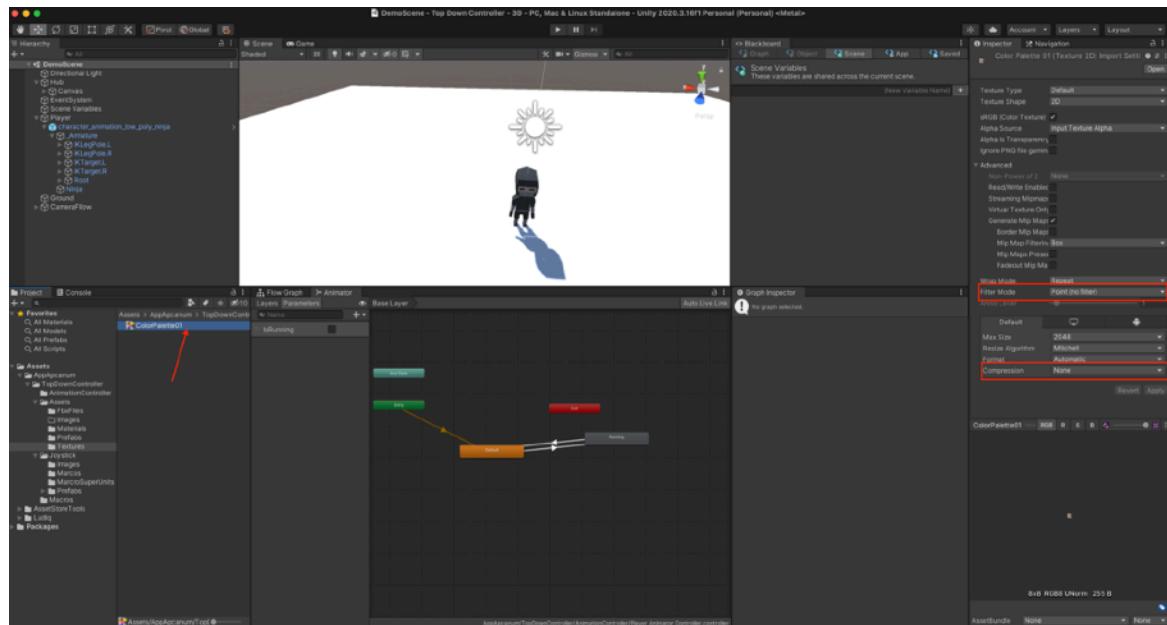


### 3.3 Texture

Drag and drop -> Texture Image into to Unity

-> Set Filter Mode -> Point(no filter)

-> Compression->None

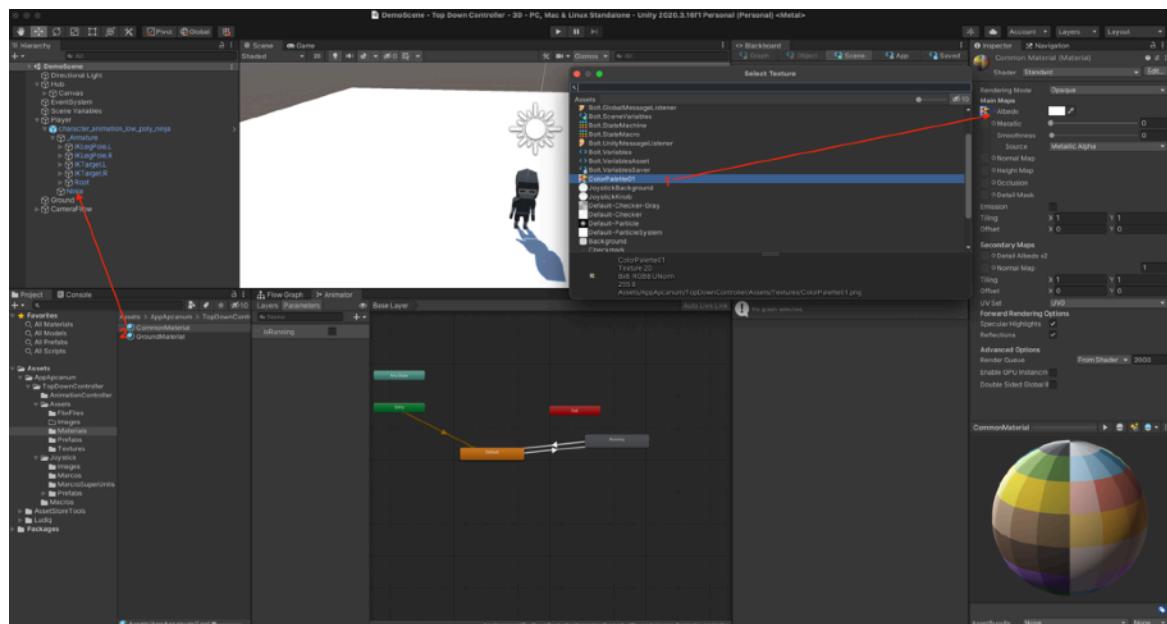


### 3.4 Material

Create new Material-> "CommonMaterial"

Set "Albedo"-> Texture Image file "ColorPalette01"

Drag and drop "CommonMaterial" into "character object"



# 4. Animation

## 4.1 Animator Controller

4.1.1 Select “character\_animation\_low\_poly\_ninja”,

On Inspector -> “Add Component” -> Animator

4.1.2 Open FBX file drop down -> Select “anim”

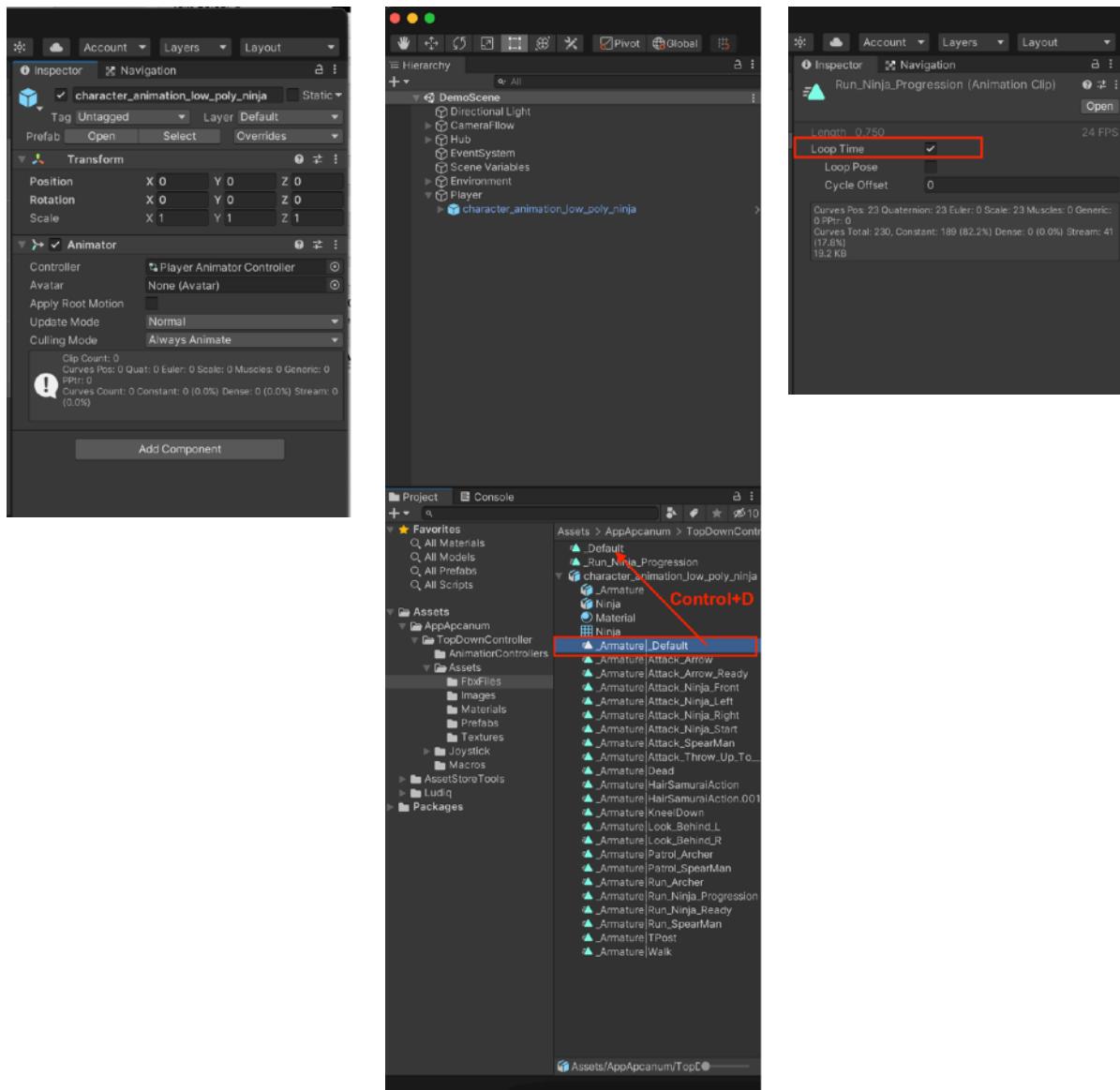
Keyboard press “Control+D”(Mac “Command+ D”)

duplicate “\_Armauture|Default” anim file -> Rename file to “\_Default”

Keyboard press “Control+D” duplicate “\_Armauture|Run\_Ninja\_Progression”

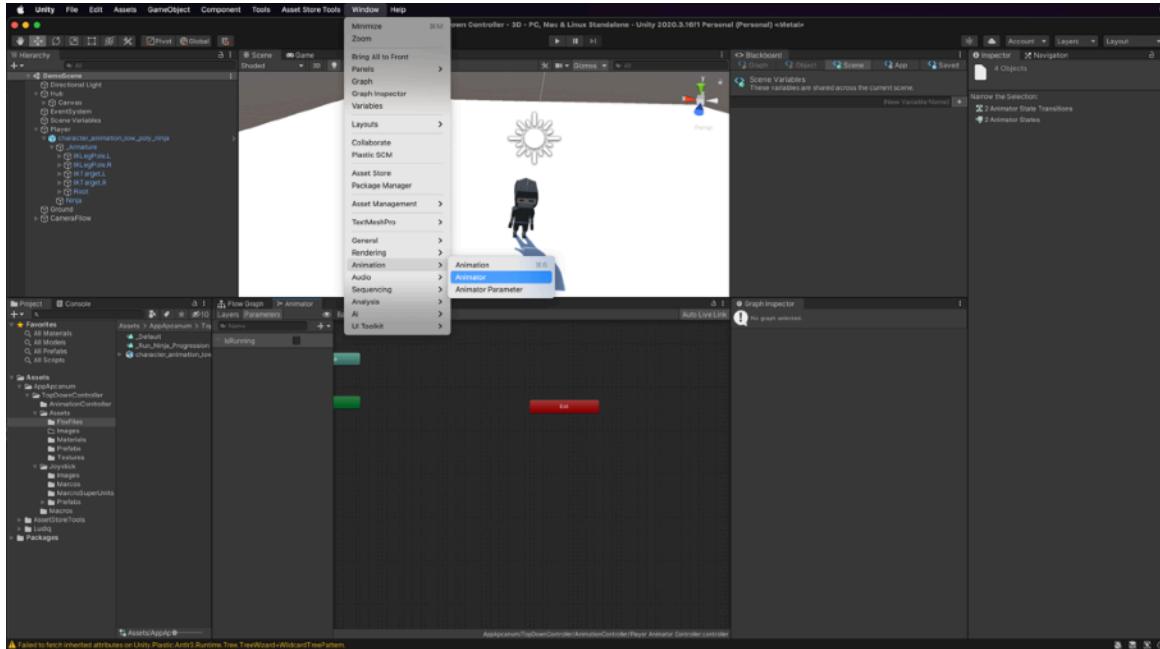
-> Rename file to “\_Run\_Ninja\_Progression”

4.1.3 Select “\_Run\_Ninja\_Progression” -> Enable “Loop Time”



## 4.3 Animator

Select -> Window -> Animation -> Animator

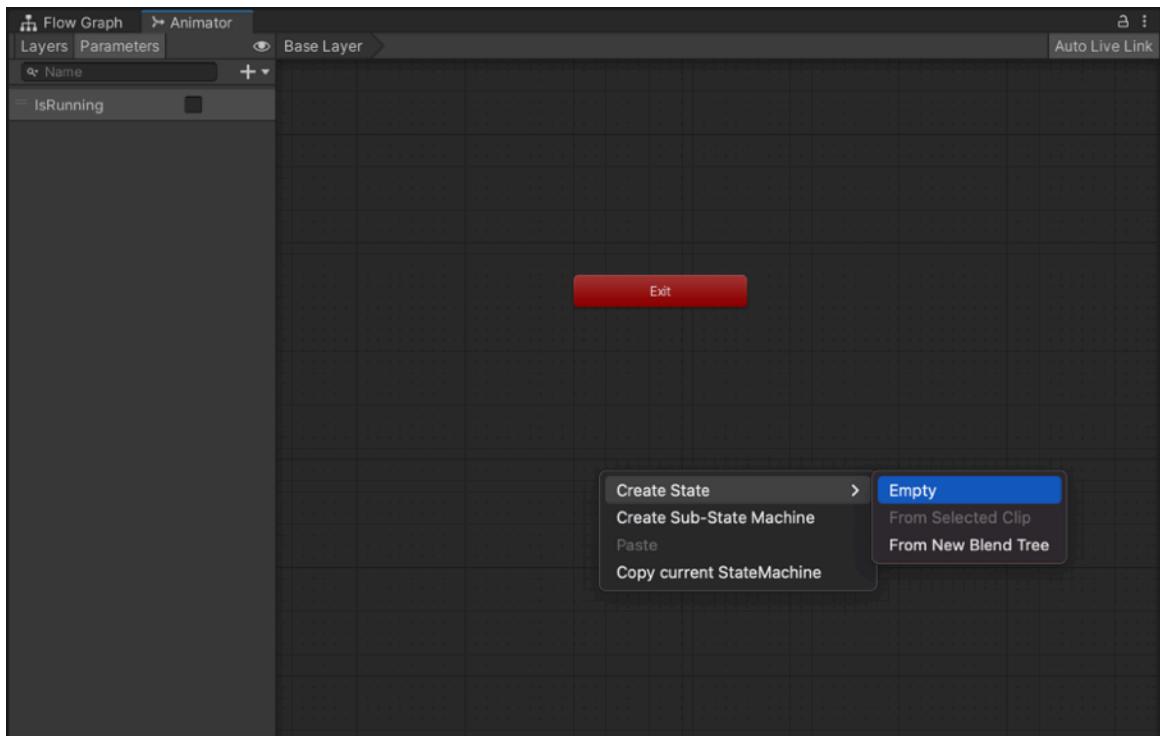


## 4.4 Create State

On "Animator" window -> Mouse Right Click -> Create State -> Empty

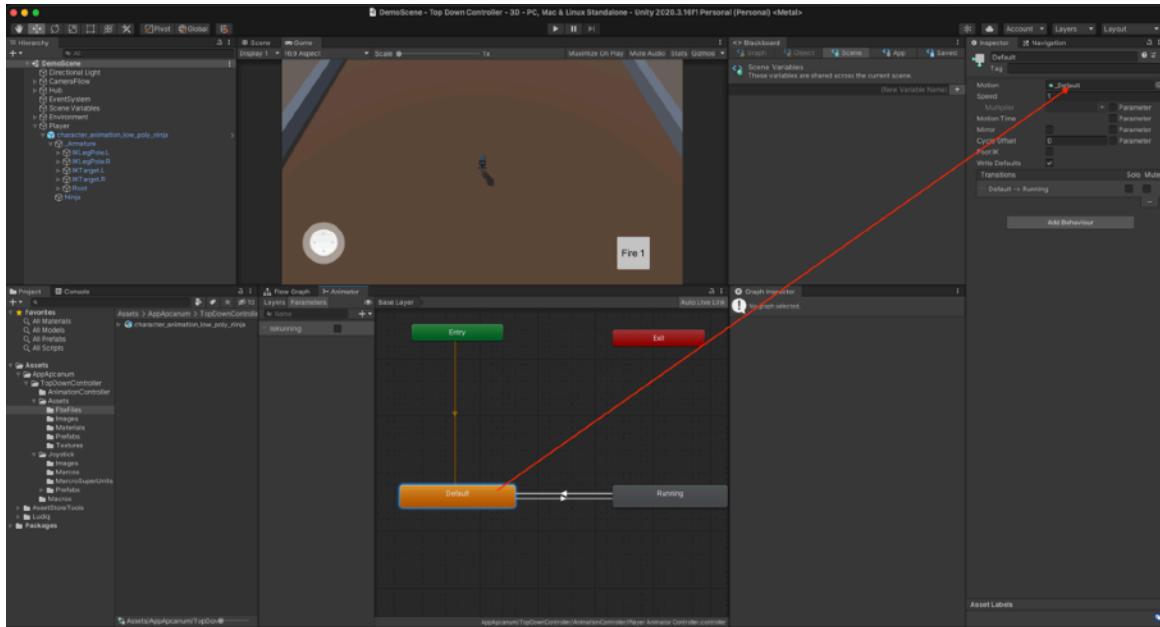
Name it "Default"

Again Create State -> Empty -> Name it "Running"

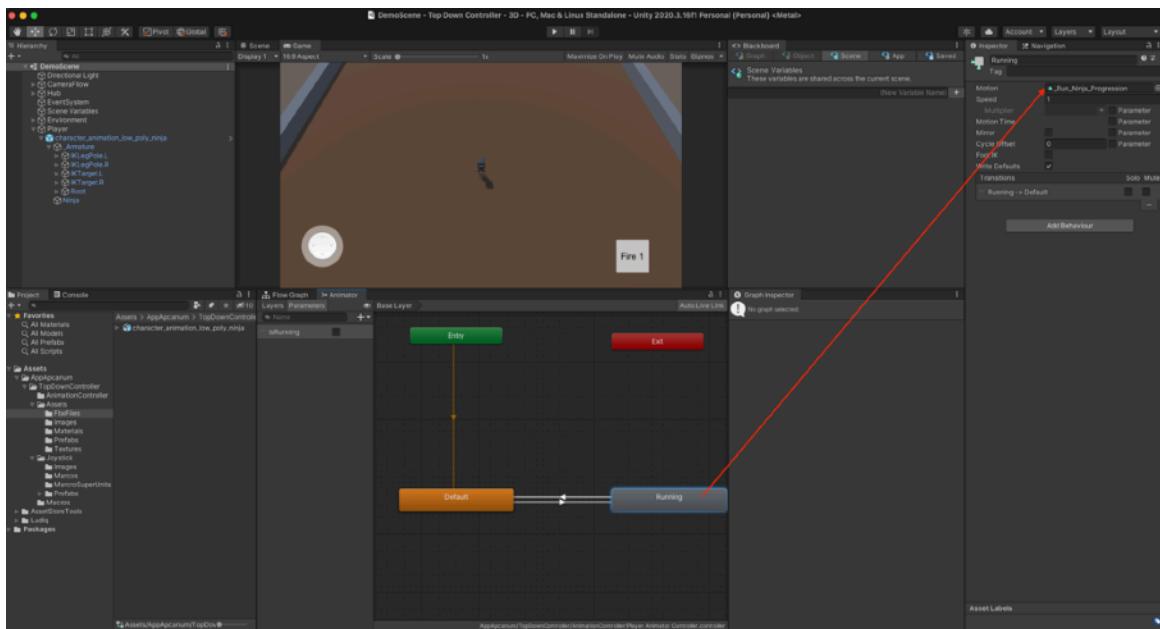


## 4.5 Motion

Select “Default” State -> Select Motion -> “\_Default”



Select “Running” State -> Select Motion -> “\_Run\_Ninja\_Progression”

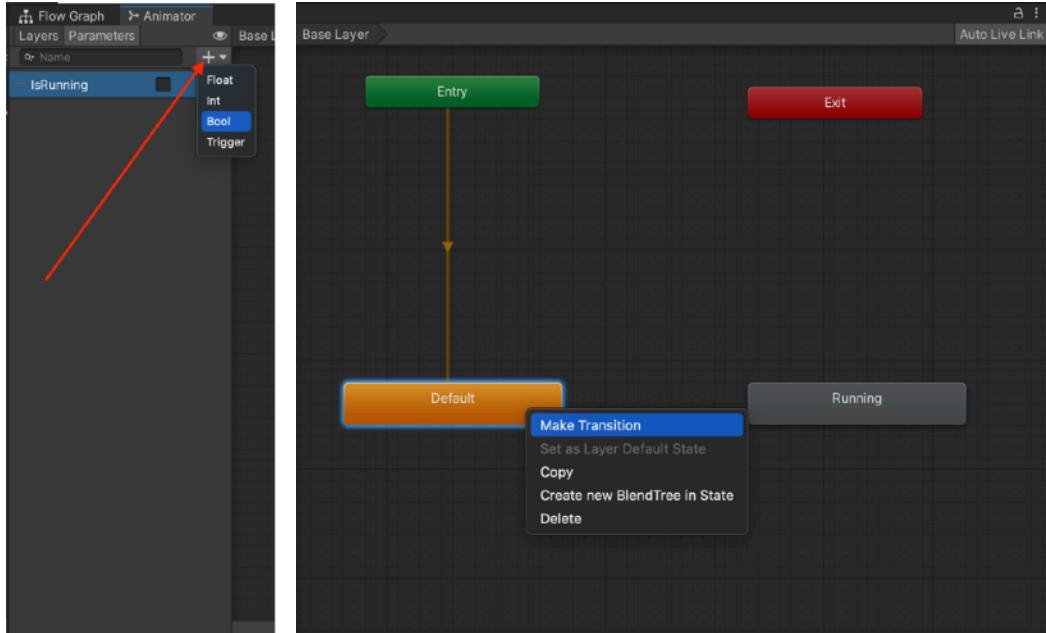


## 4.6 Transition

Select "Parameters" -> "+" -> "Bool" -> Name it "IsRunning"

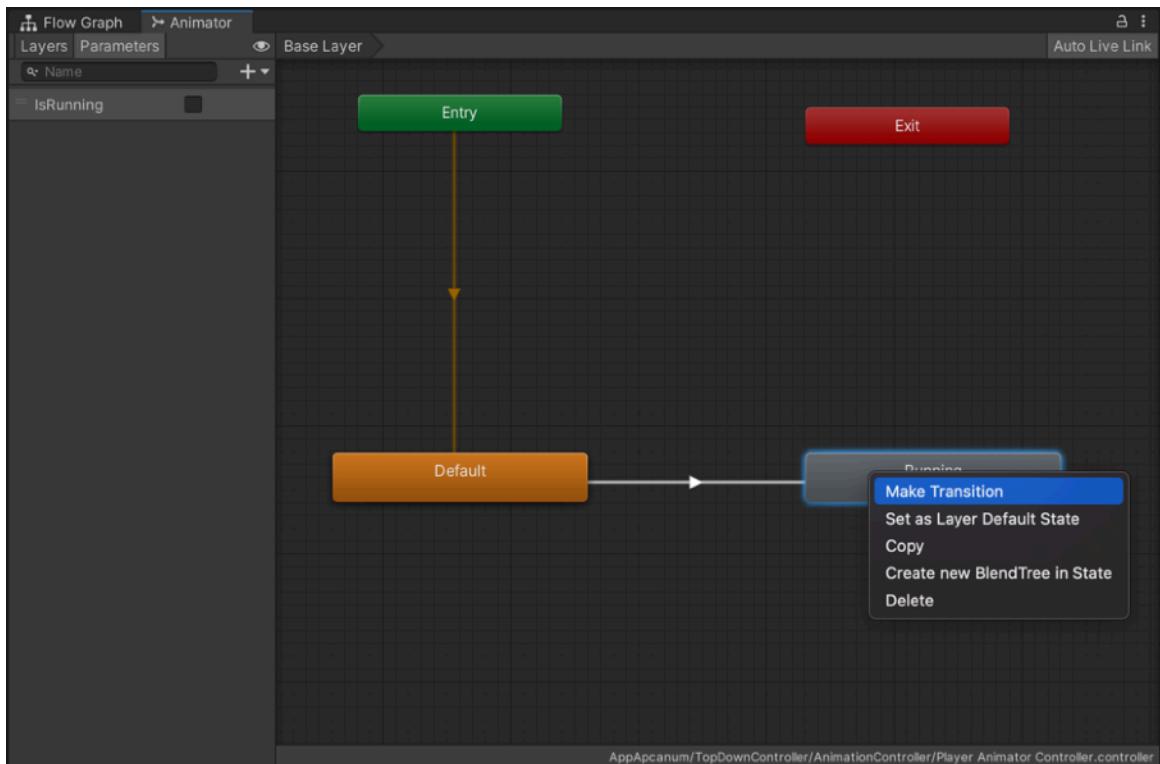
On "Base Layer" -> on "Default" State -> Right Click Mouse -> Select "Make Transition"

Link to "Running" State



Repeat "Running" State -> Right Click Mouse -> Select "Make Transition"

Link to "Default" State



## 4.7 Condition

Click on “Transition” -> “Default to Running” -> Select “IsRunning” -> true

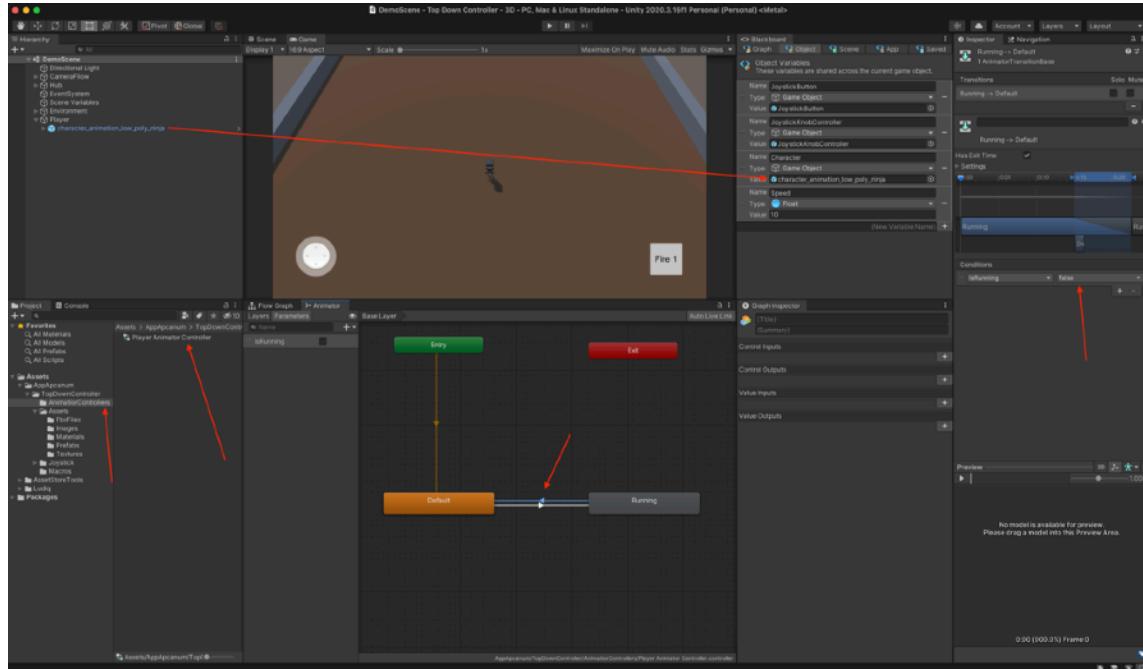
Click on “Transition” -> “Running to Default” -> Select “IsRunning” -> false

Add One “Float” Variable -> Name “Speed”

Add One “Game Object” Variable -> Name “Character”

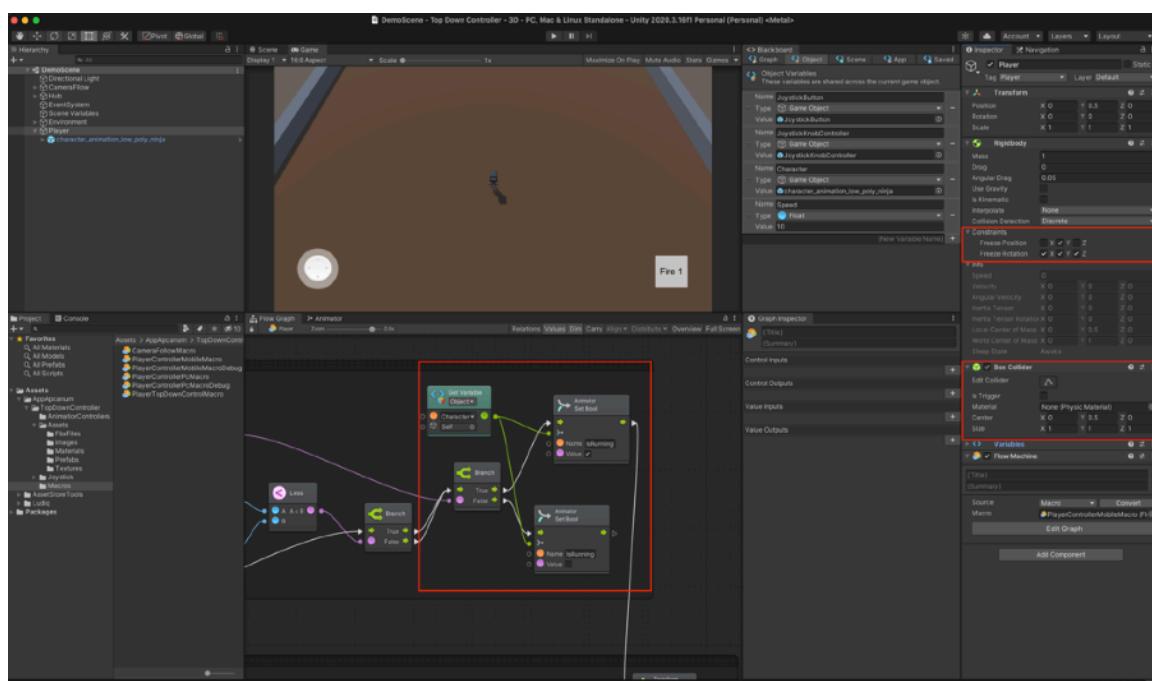
-> Drag and drop “character\_animation\_low\_poly\_ninja”

(You can create a Prefab by dragging this object to Project Prefabs folder)



## 4.6 Macro

Remember to set the “Constraints” on “Rigidbody” and add “Box Collider” Component



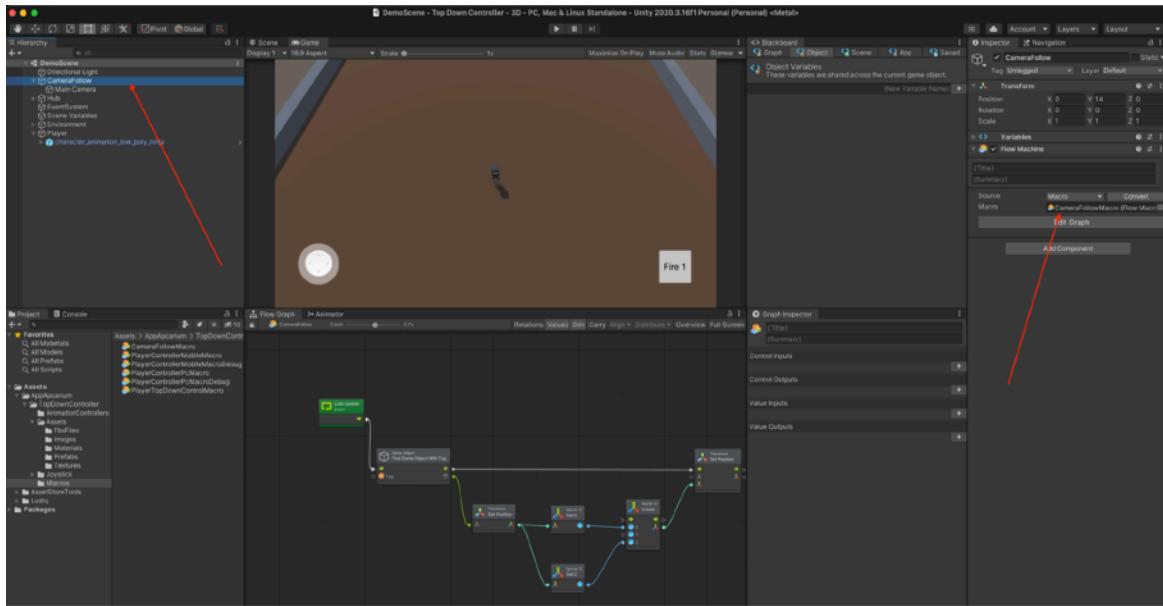
# 5. Camera

## 5.1 Follow

Add Empty GameObject "CameraFollow" -> Add Component "Flow Machine"

-> Select "CameraFollowMacro"

Adjust the "Y" value for "CameraFollow", Drag "Main Camera" into "CameraFollow"



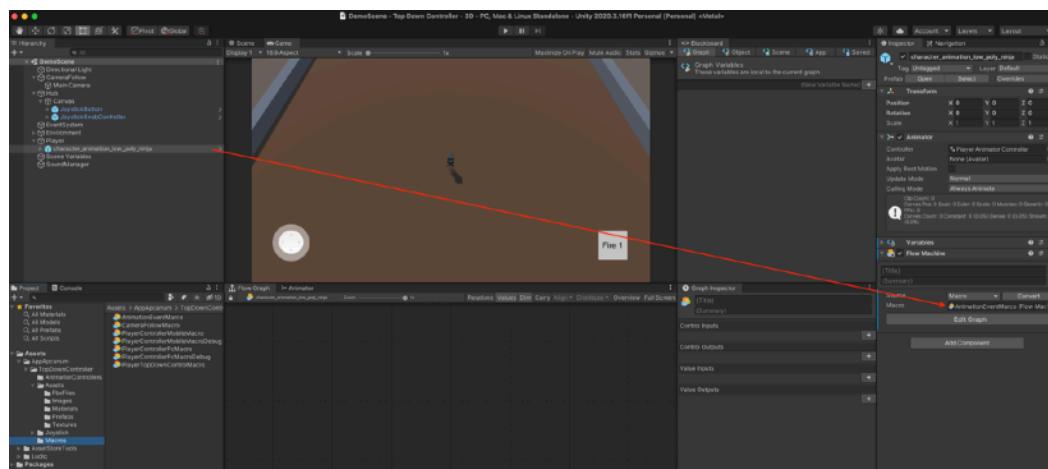
# 6. Animation Event

## 6.1 Macro

Important if the "Flow Machine" Component NOT been added -> "Animation Event" "Function" will not show any selection from drop down menu

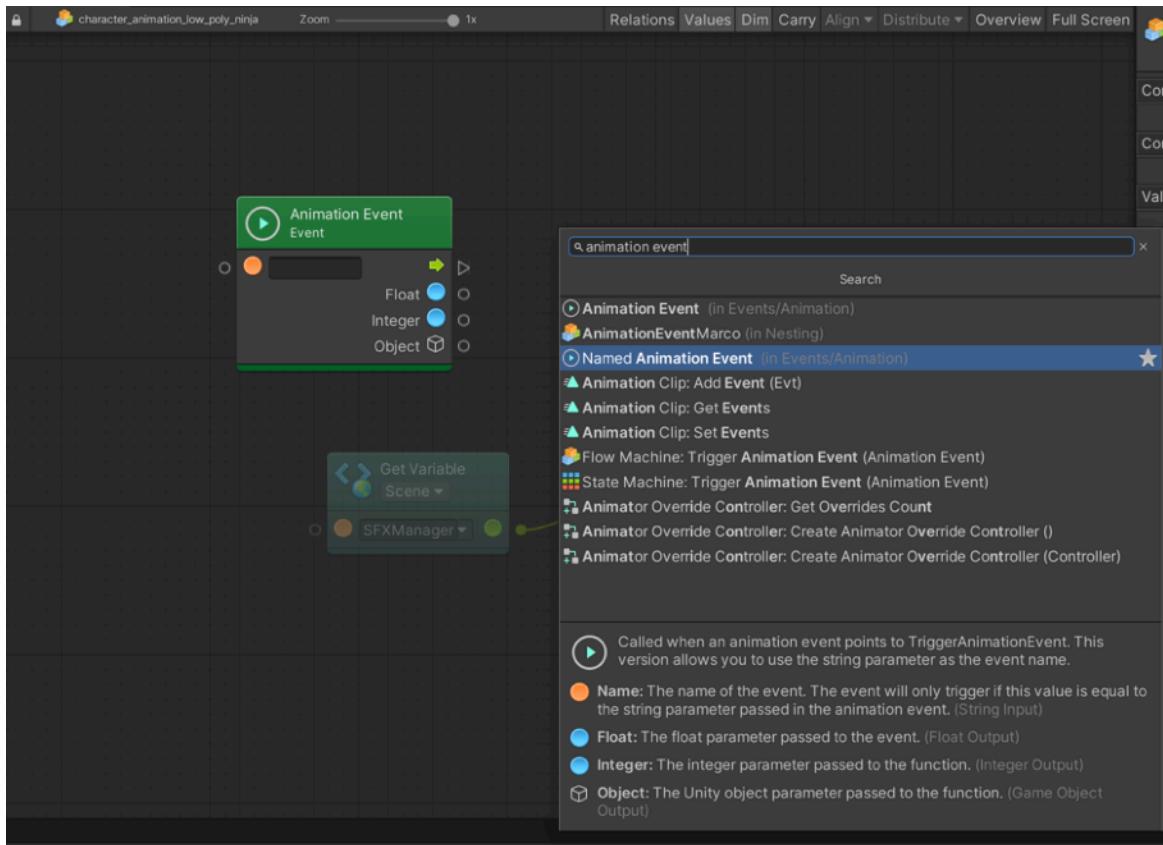
Select GameObject "character\_animation\_low\_poly\_ninja" -> Add Component

-> Select "Flow Machine"-> Macro select "AnimationEventMacro"



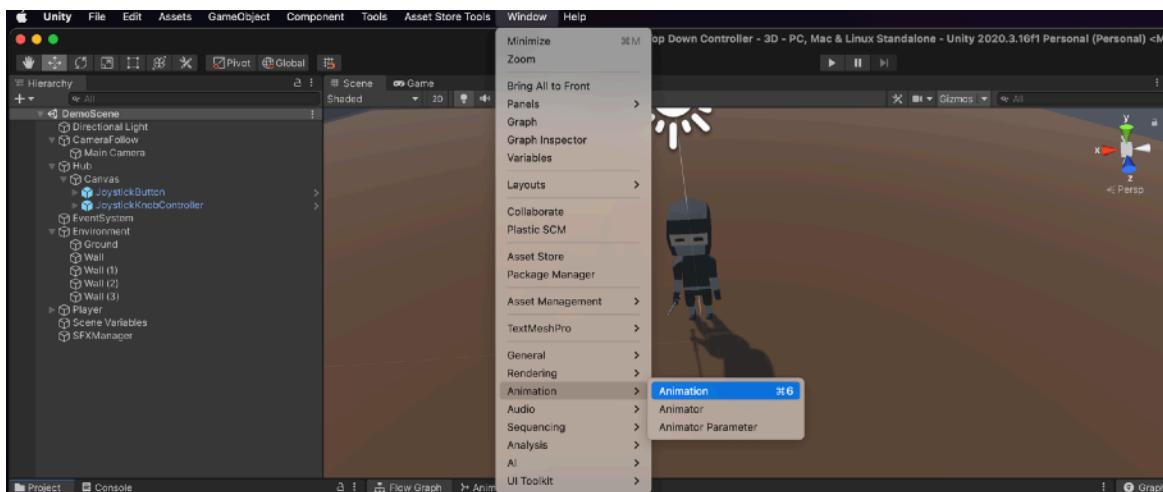
## 6.2 Named Animation Event

On “AnimationEventMarco” -> Mouse Click Mouse -> Add “Named Animation Event”



## 6.3 Animation Window

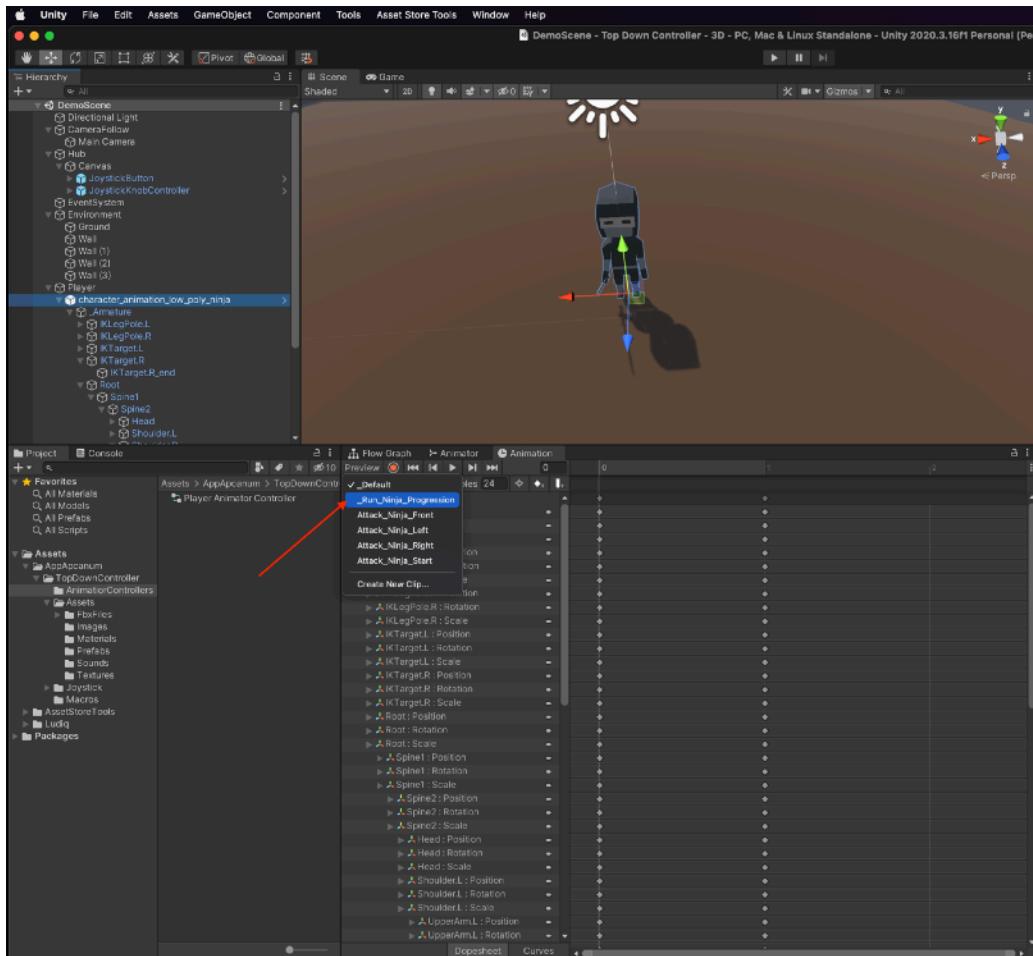
Windows-> Select “Animation” -> Select “Animation”



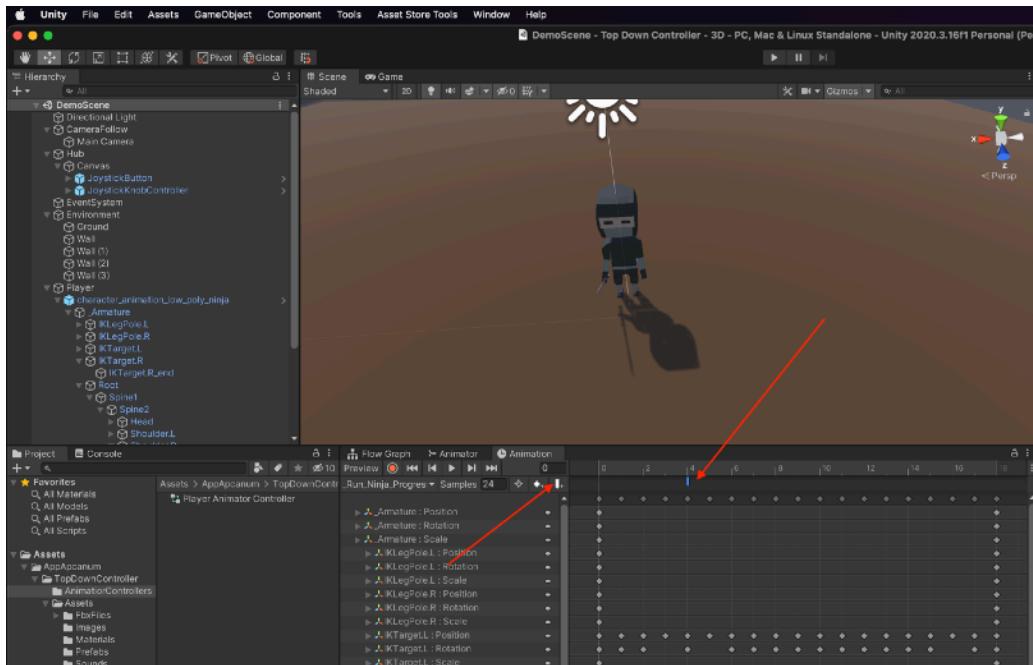
## 6.4 Add Run Event

Make Sure GameObject “character\_animation\_low\_poly\_ninja” is selected

-> Select “\_Run\_Ninja\_Progression”



AddEvent to “\_Run\_Ninja\_Progression” Animation

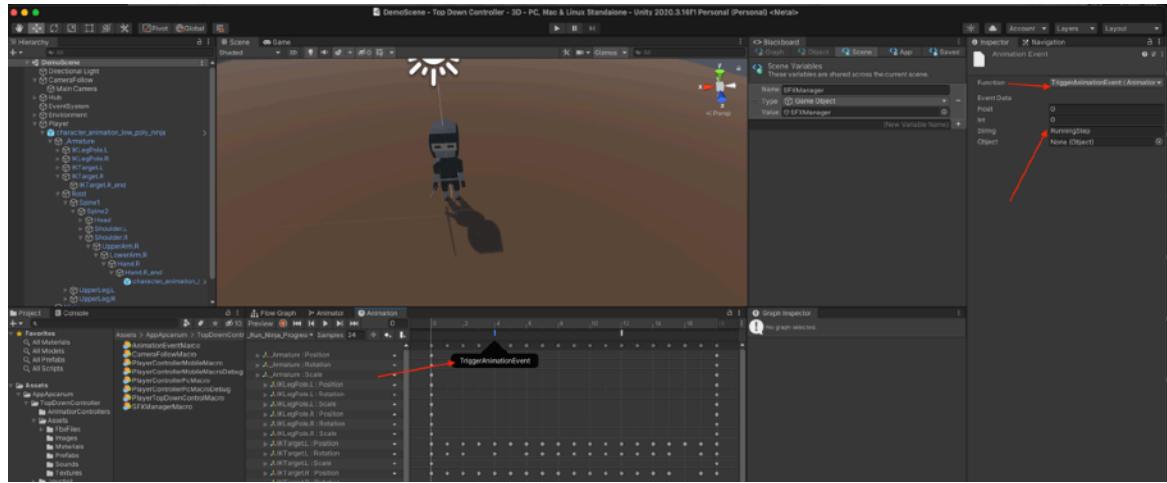


Move "Event" to Frame 4

Select "Event" -> Select "TiggerAnimationEvent" from "Inspector" -> "Animation Event"

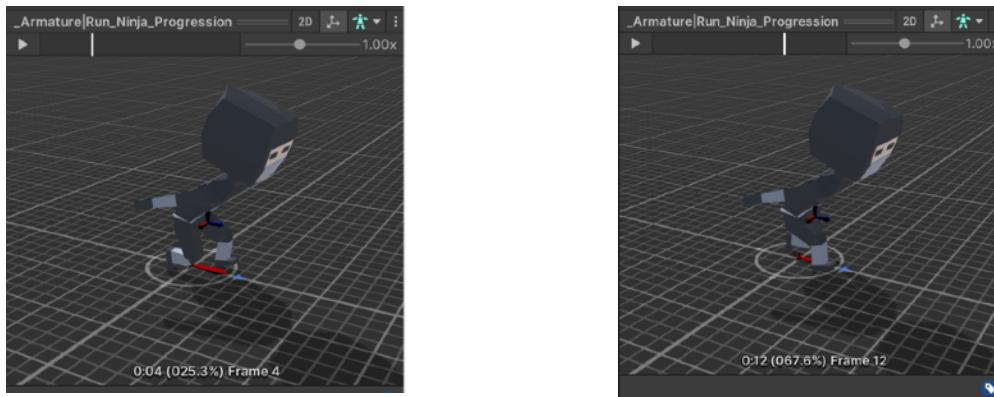
-> "Function"

Enter a String "Running" Step

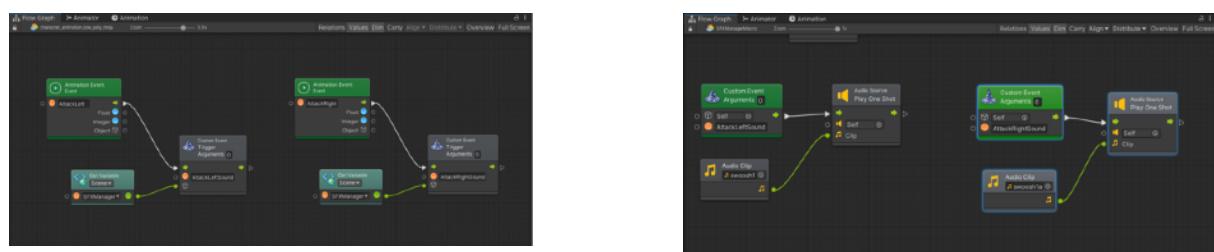


Copy this "Event" and paste it to Frame 12

Because you can see from FBX file these two Frame are the step on the ground



Note: On this Package Attack Sound Event also been add follow by above steps.



## 6.2 SFXManager

Add Empty GameObject "SFXManager" -> Add Component

-> Select "Flow Machine"

-> Macro select "SFXManagerMacro"

Add Scene Game Object "SFXManager"

-> Drag and drop into it

Add Component "Audio Source"

On "SFXManagerMacro"

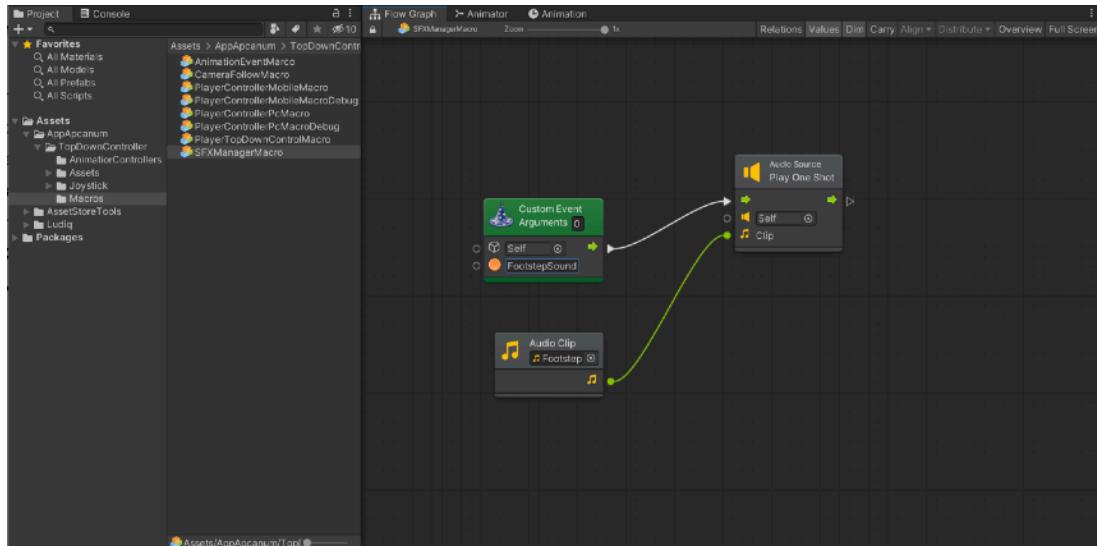
-> Add "Audio Source Play One Shot" -> Link to a "Audio Clip"

-> Add "Custom Event Arguments" -> "FootstepSound"

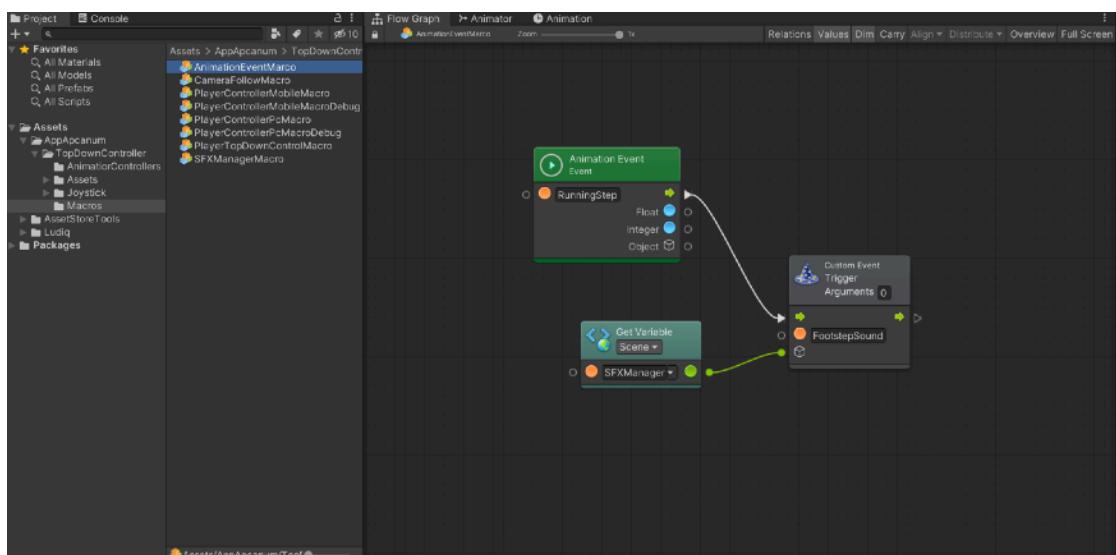
-> Link to a "Audio Source Play One Shot"

On "AnimationEventMarco"

Add Get Variable form "Scene" -> Select "SFXManager"



Make Sure on -> "Custom Event Trigger Arguments" also named "FootstepSound"



# 7. Button

## 7.1 Fire Button

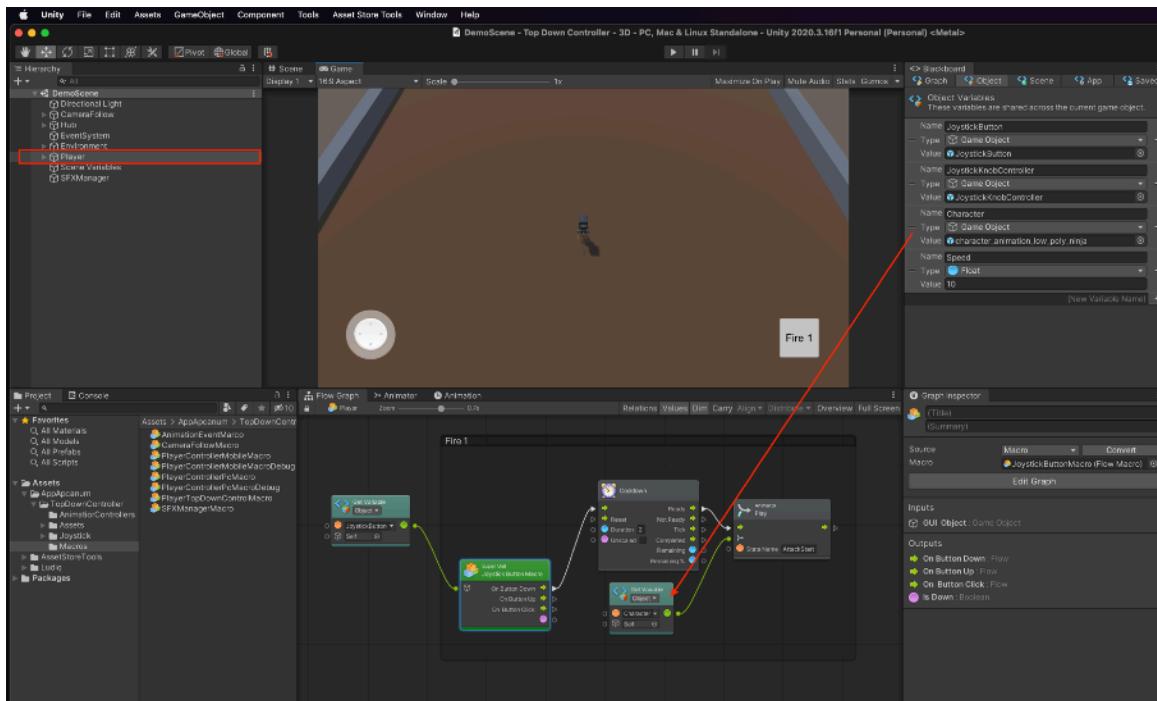
Form "Hierarchy" Select "Player".

Make sure "PlayerControllerMobileMacro" is showing on "Flow Graph"

Drag and Drop "Character" into "PlayerControllerMobileMacro"

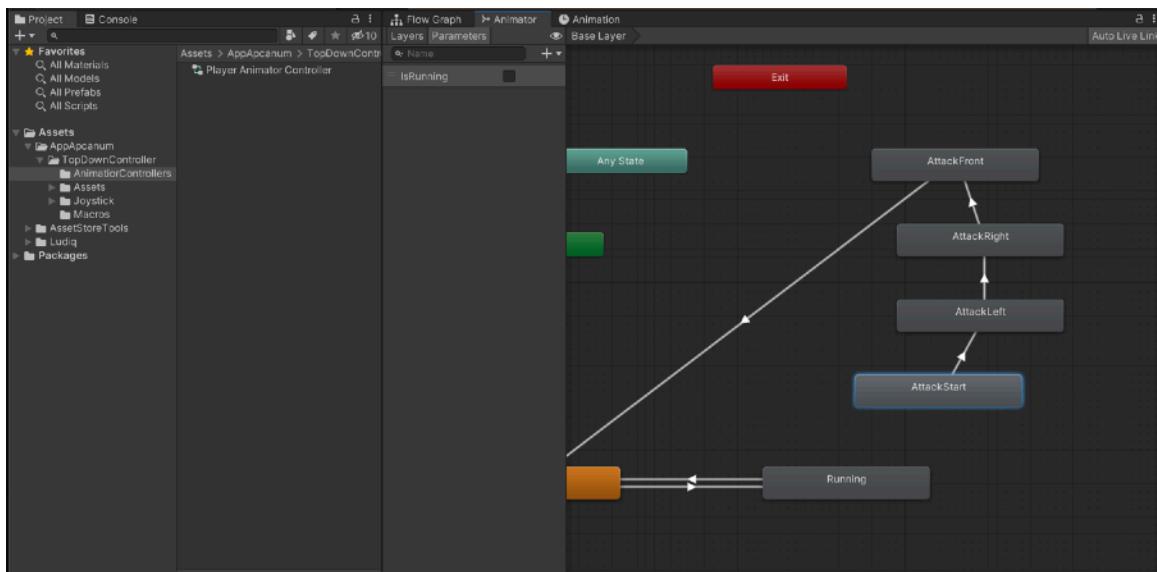
Add "Cooldown" and "Animator Play"

-> Link "Character" and Enter a State Name "Attack Start"



Follow Step 4. to add a new animation

Make sure "Attack Start" is on "Player Animator Controller"



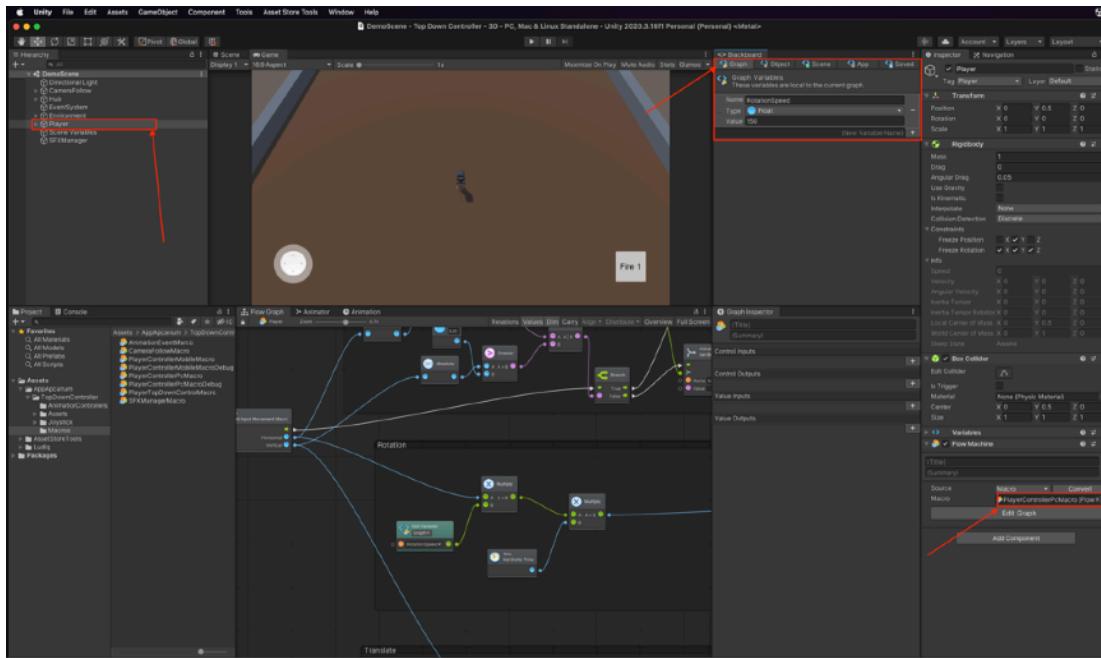
Top Down Player Controller 3D with Bolt

# 8. PC Keyboard

If your game is target to PC simple change the “Player” flow machine to “PlayerControllerPcMacro”

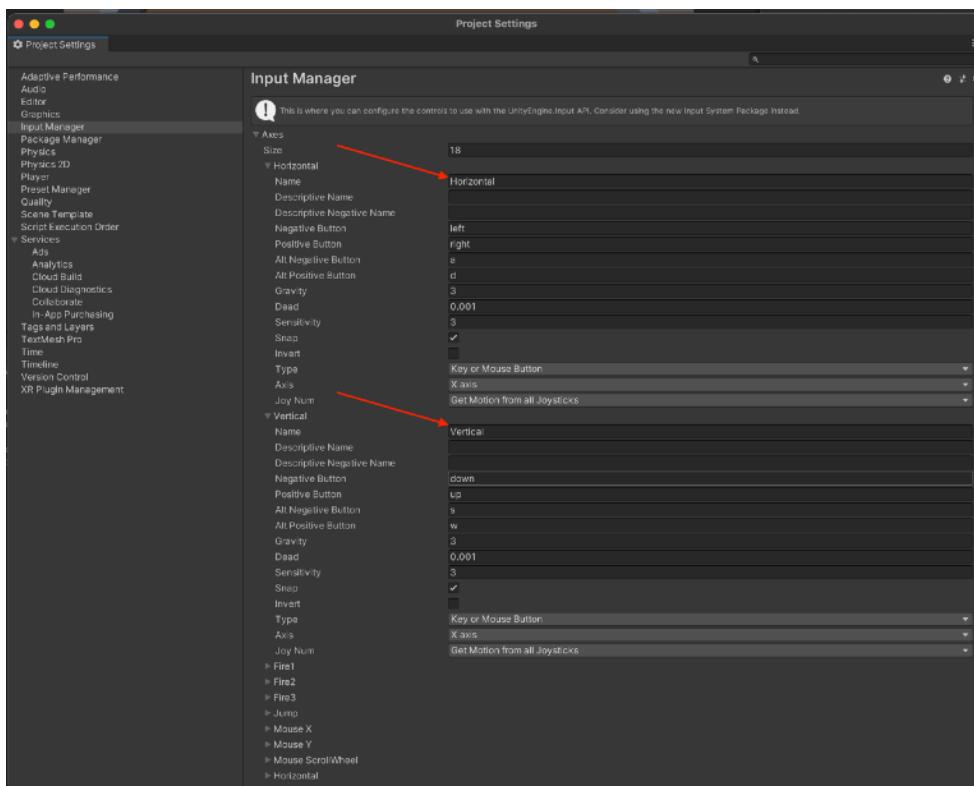
## 8.1 Movement

Make sure “RotationSpeed” is on “Graph” Variables



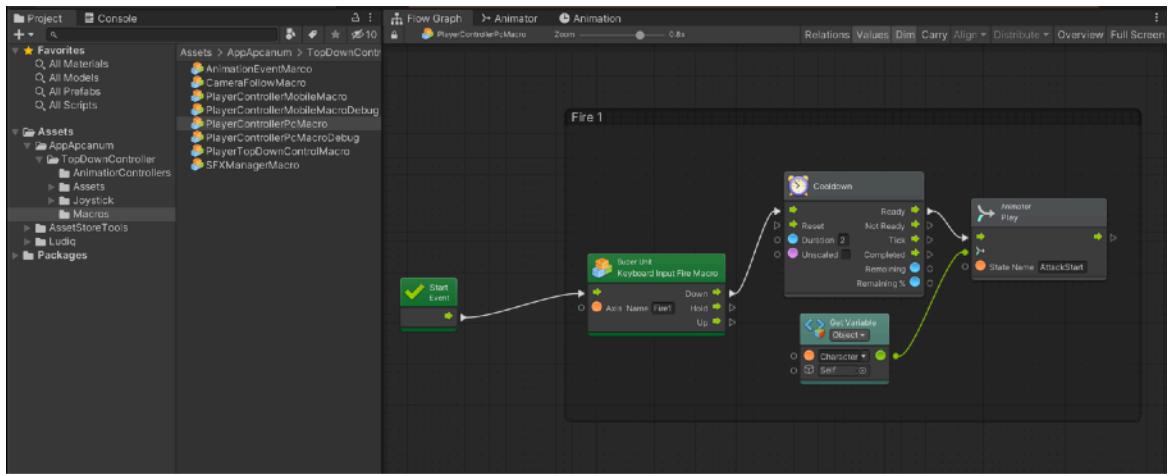
Make sure Form “Project Setting” -> “Input Manager”

-> “Horizontal” and “Vertical” name is correct



## 8.2 Fire Button

It is same as Step 7. Only different is using “Keyboard input Fire Macro” for “Fire 1”



From “Project Setting” which can change “Fire 1” to any other Button

