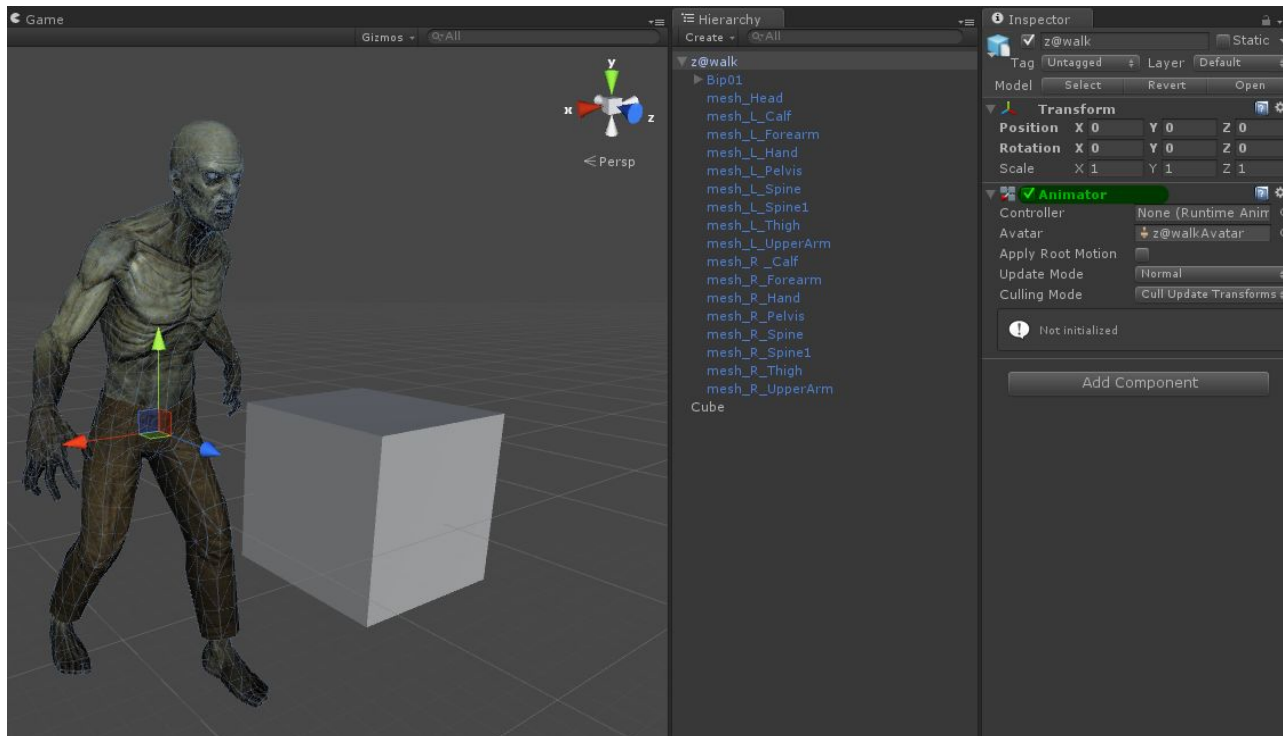


# How to add new zombie

This tutorial will show you how to add animated model as new zombie character for **Unitz**

This sample needs a character model with animations **Walk** ,**Idle** ,**Attack** (at least 3 animations)

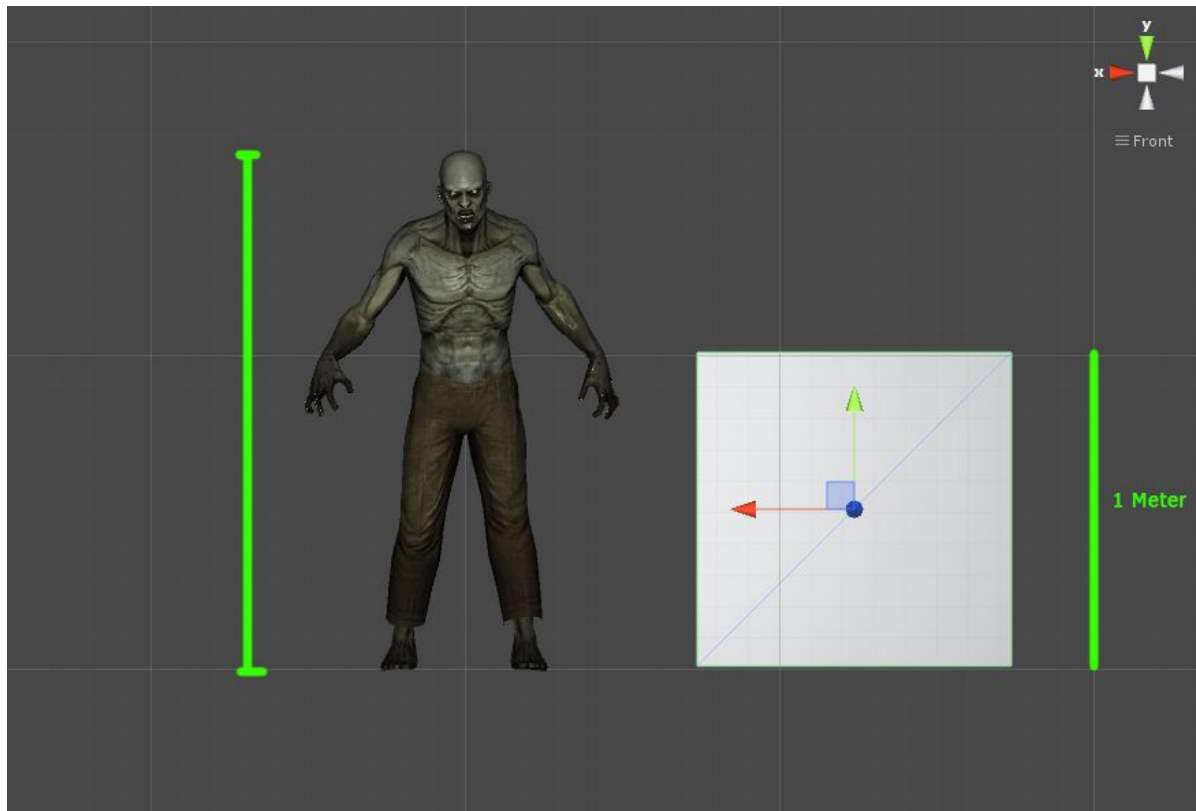
**Step 1.** Import a character to your project and place it into the scene.



**Files > New Scene** and place a character model into the scene set position to **0,0,0** make sure everything is cleared and an **Animator** component must included in the model.

## Importance 1 : Character Scales

When you place a character into the scene, please check a scales, just make sure it look correctly.

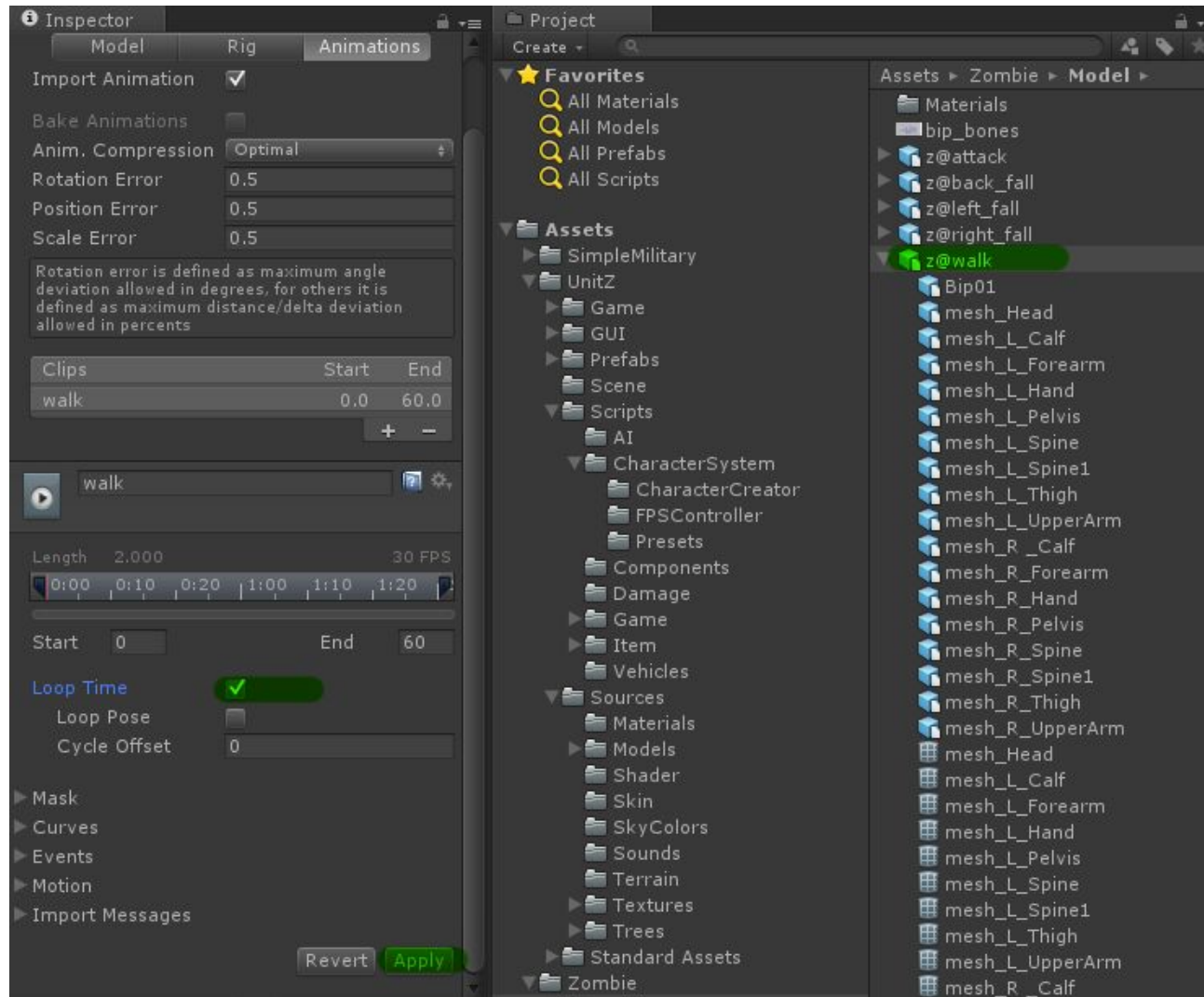


Note \*

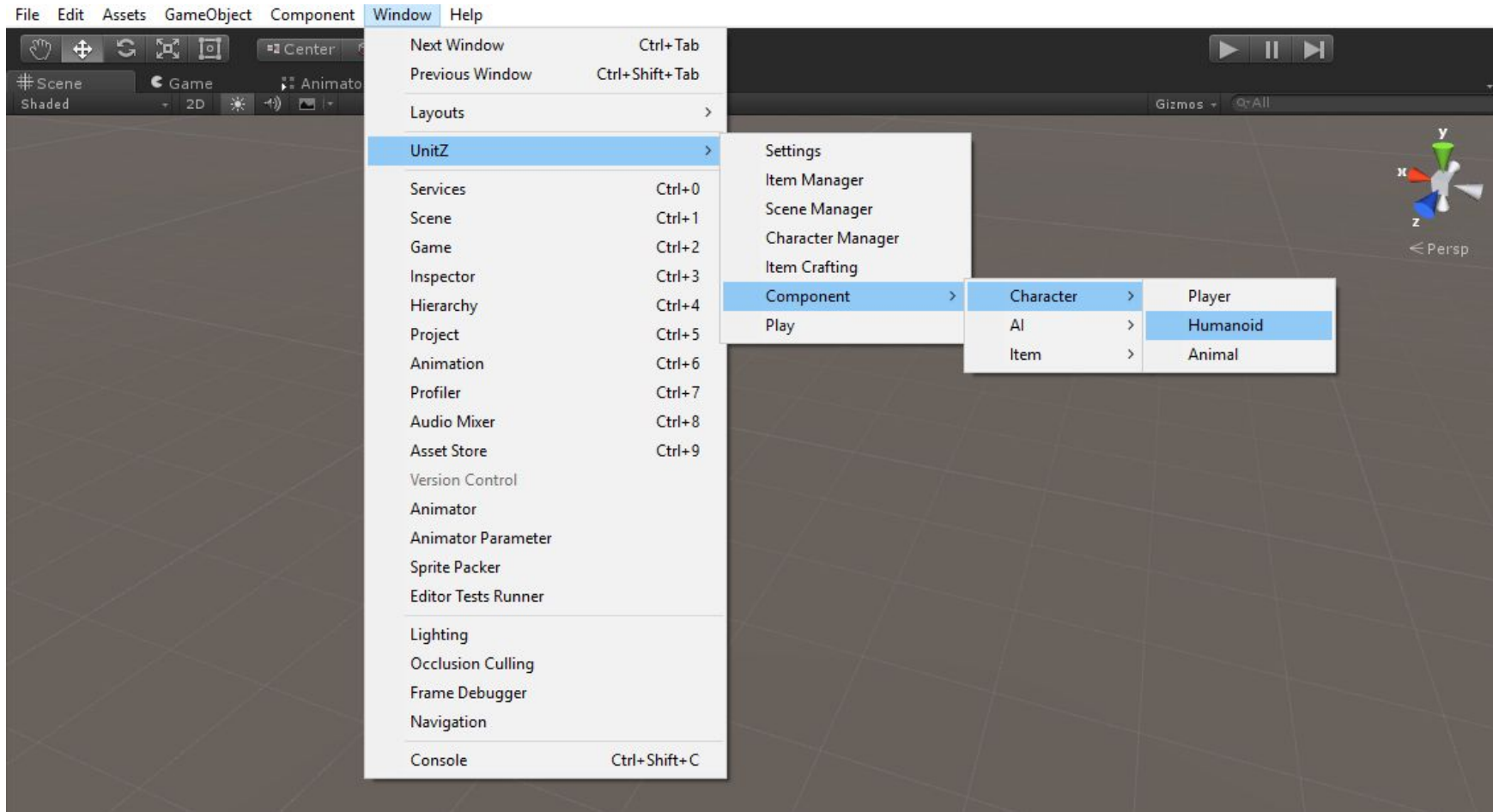
Basically a good characters or props must come with a properly scales. however you can check and compare a character model with a “**Cube**” the cube is 1x1x1 meter, please create a cube for comparing by **GameObject > 3D Object > Cube** so a character scales must look like in the picture. ( it’s about 180 tall as standard )

## Importance 2 : Animations

All animations like **walk** , **run** , **idle** must set as Loop

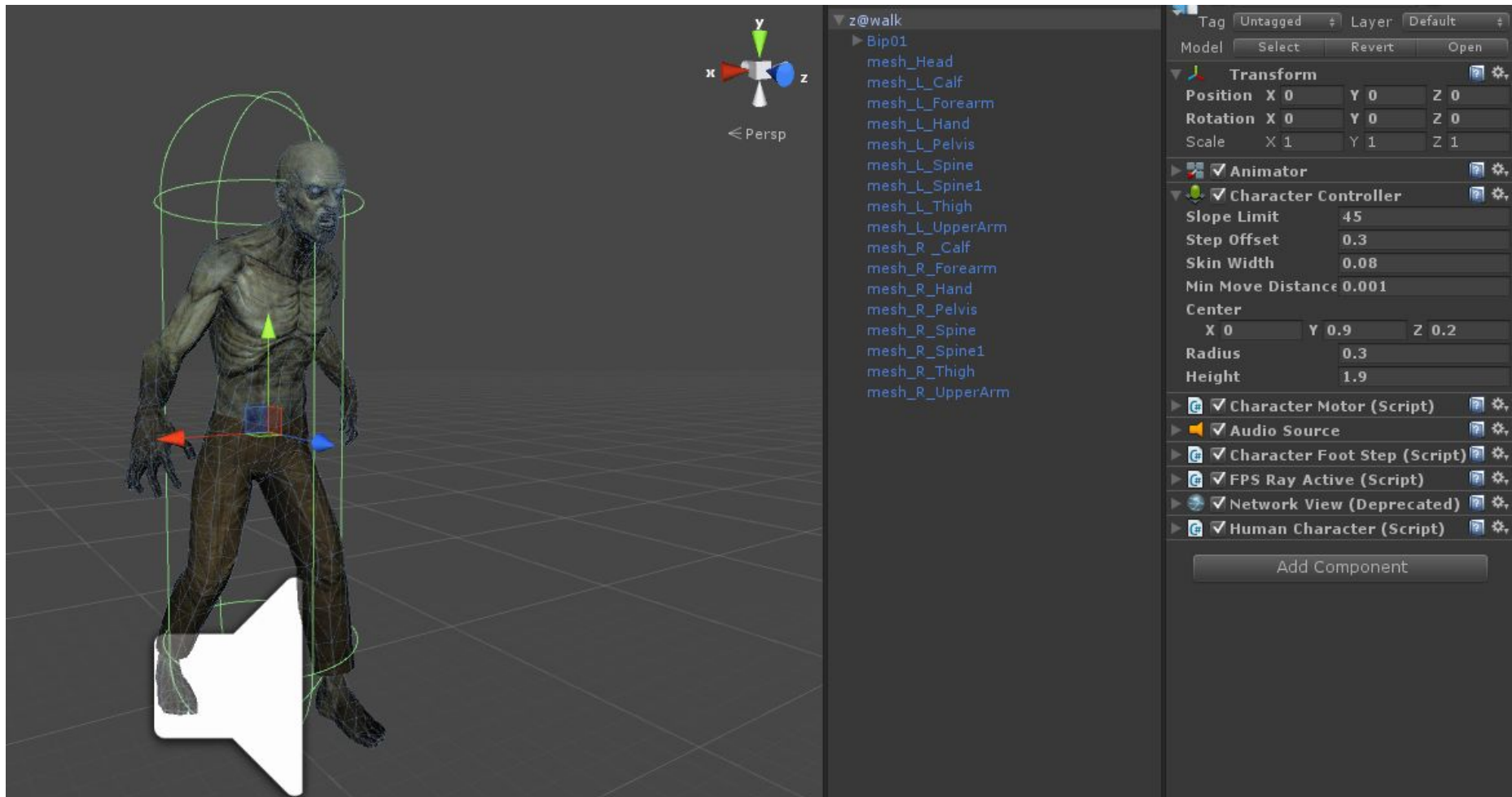


## Step 2. Adding a character components into your model.

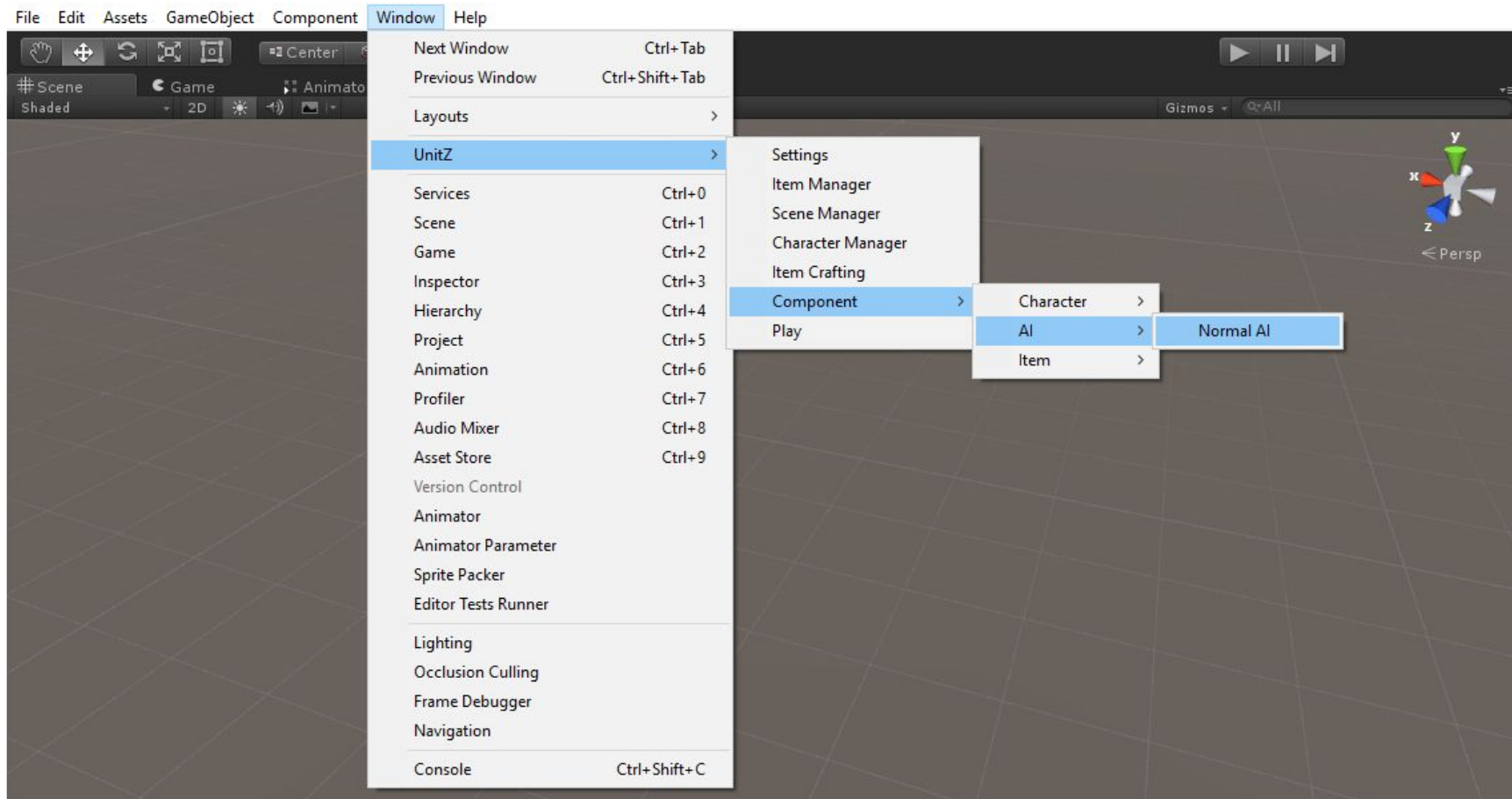


after place model to the scene then select it and go to **Window > UnitZ > Component > Character > Humanoid**.  
all component automatically added to your model.

Setup a **Character Controller** size, make sure it look fit perfectly.

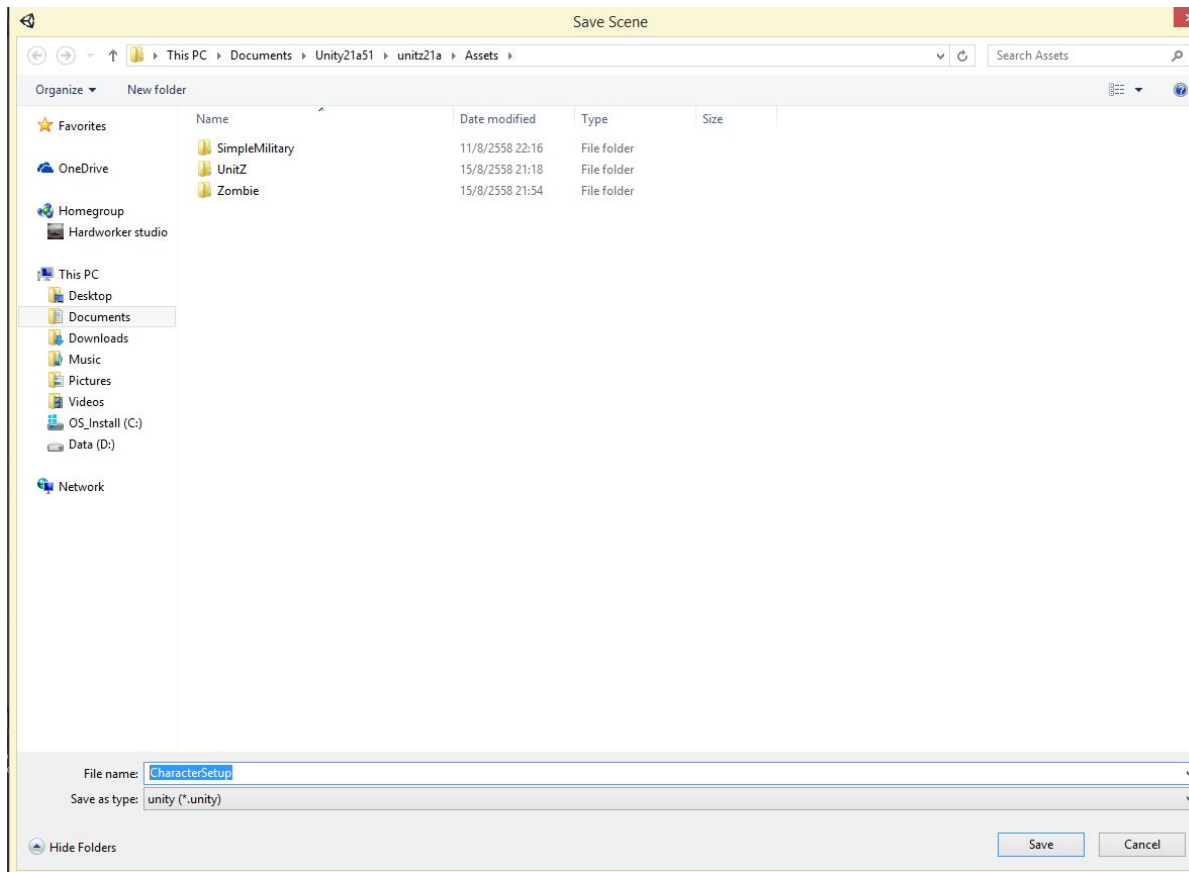


Add a **Character AI** to your character model.



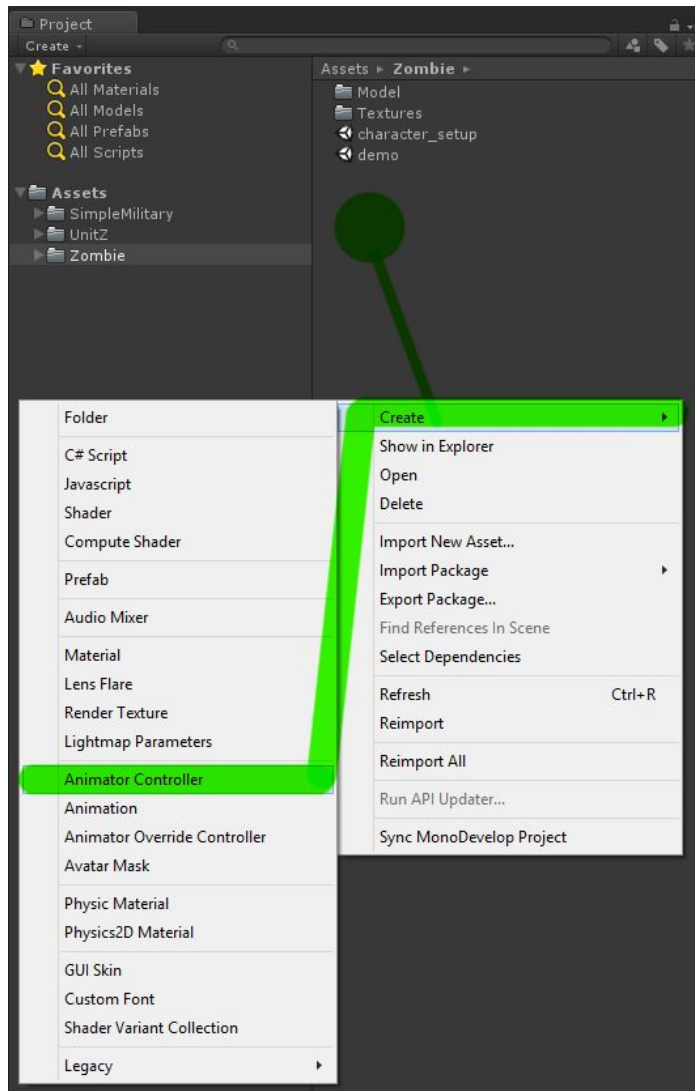
Select your character model and go to **Window > UnitZ > Component > AI > Normal AI**.

**Step 3.** Save scene named “**zombie\_setup**” so we will working on this scene until this character is ready to use in game.



Note \* You should save a “**zombie\_setup**” to the same place as a character source model, one scene per one character so it’s easier to config and managing.



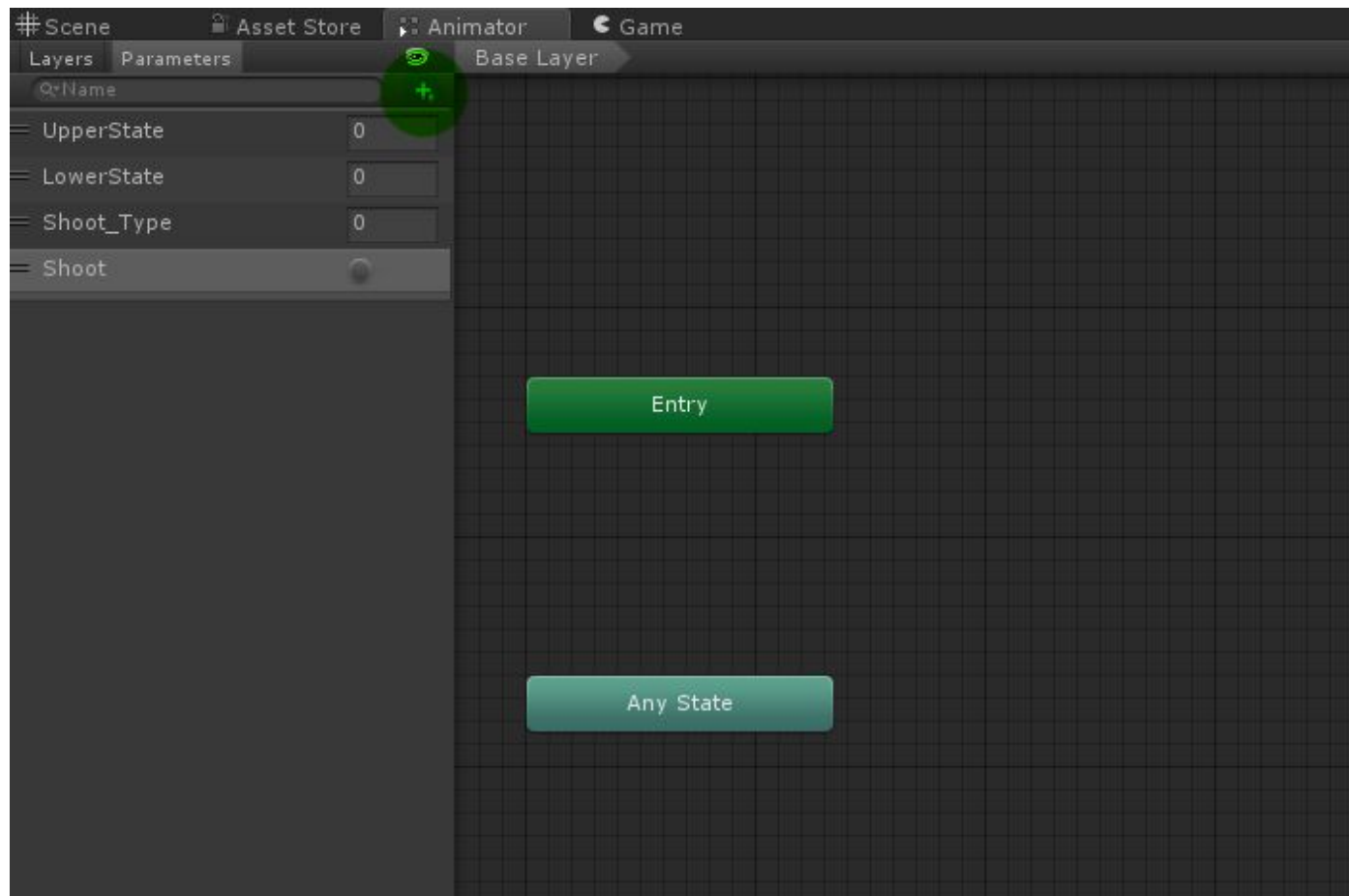


#### Step 4. Create *Animation Controller*

Right click on a space in a character folder and select **Create > Animation Controller** and named “**ZombieController**”



Open "**ZombieController**" on Animator tab and adding a following parameters, by **Click plus + button** on parameters tab



**UpperState** : Int

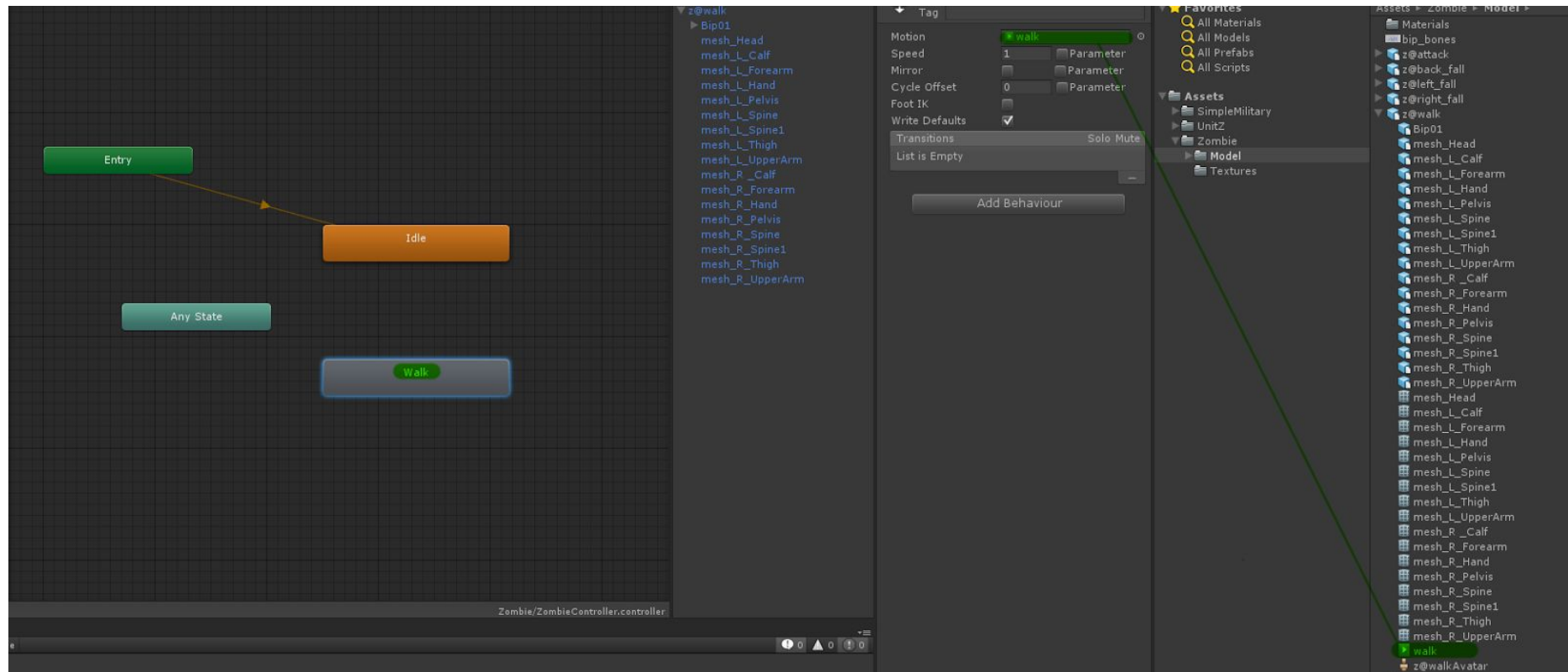
**LowerState** : Int

**Shoot\_Type** : Int

**Shoot** : Trigger

#### Step 4. Adding 2 States into the animator

Idle State and Walk State, by **Right Click** on animator work space and **Create State > Empty**

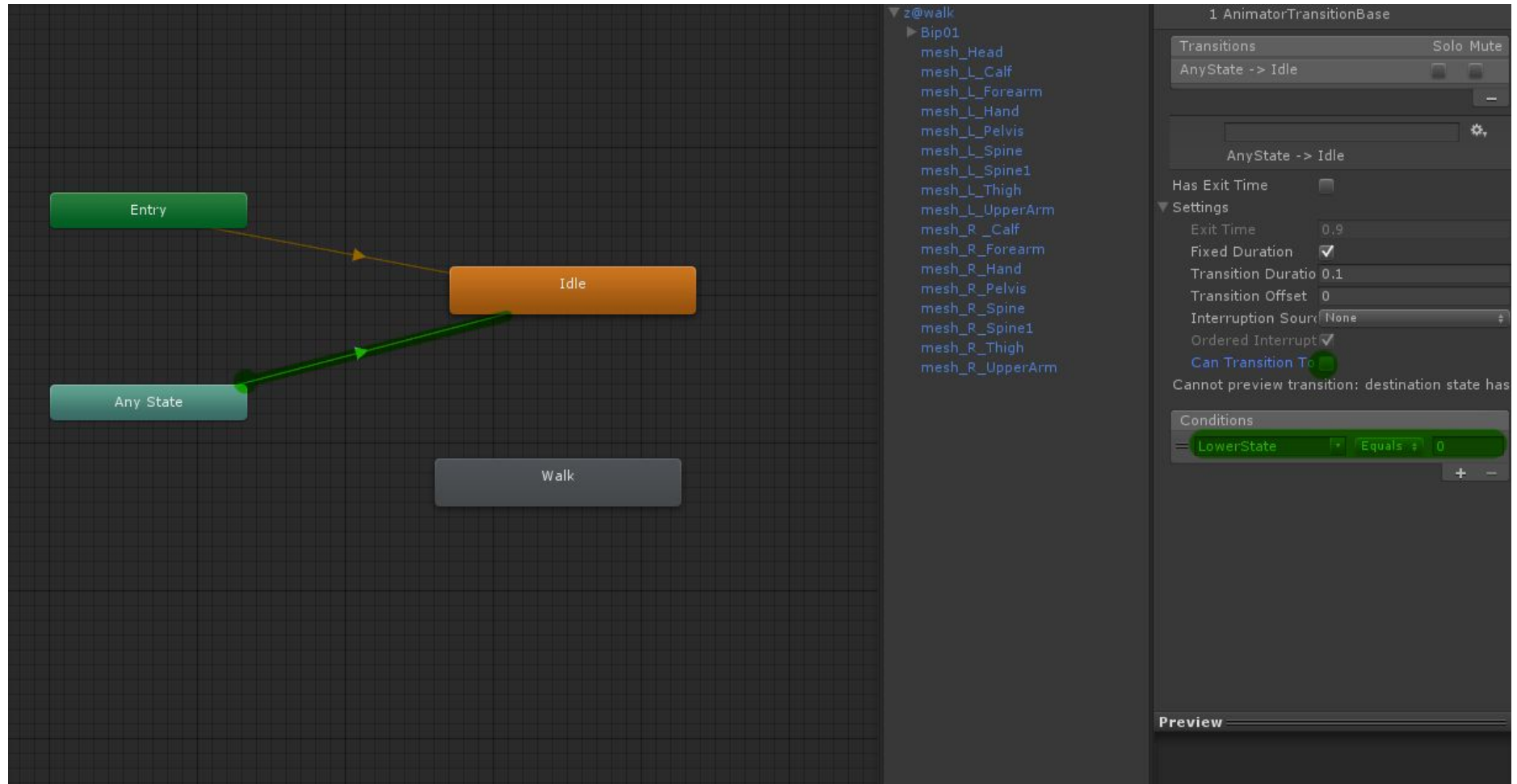


Add **Walk Motion** from a character model into **Motion** parameter on **Walk State**

Add **Idle Motion** from a character model into **Motion** parameter on **Idle State**

Note \* you can drag any motion from asset into the animator directly, so it will create a state automatically.

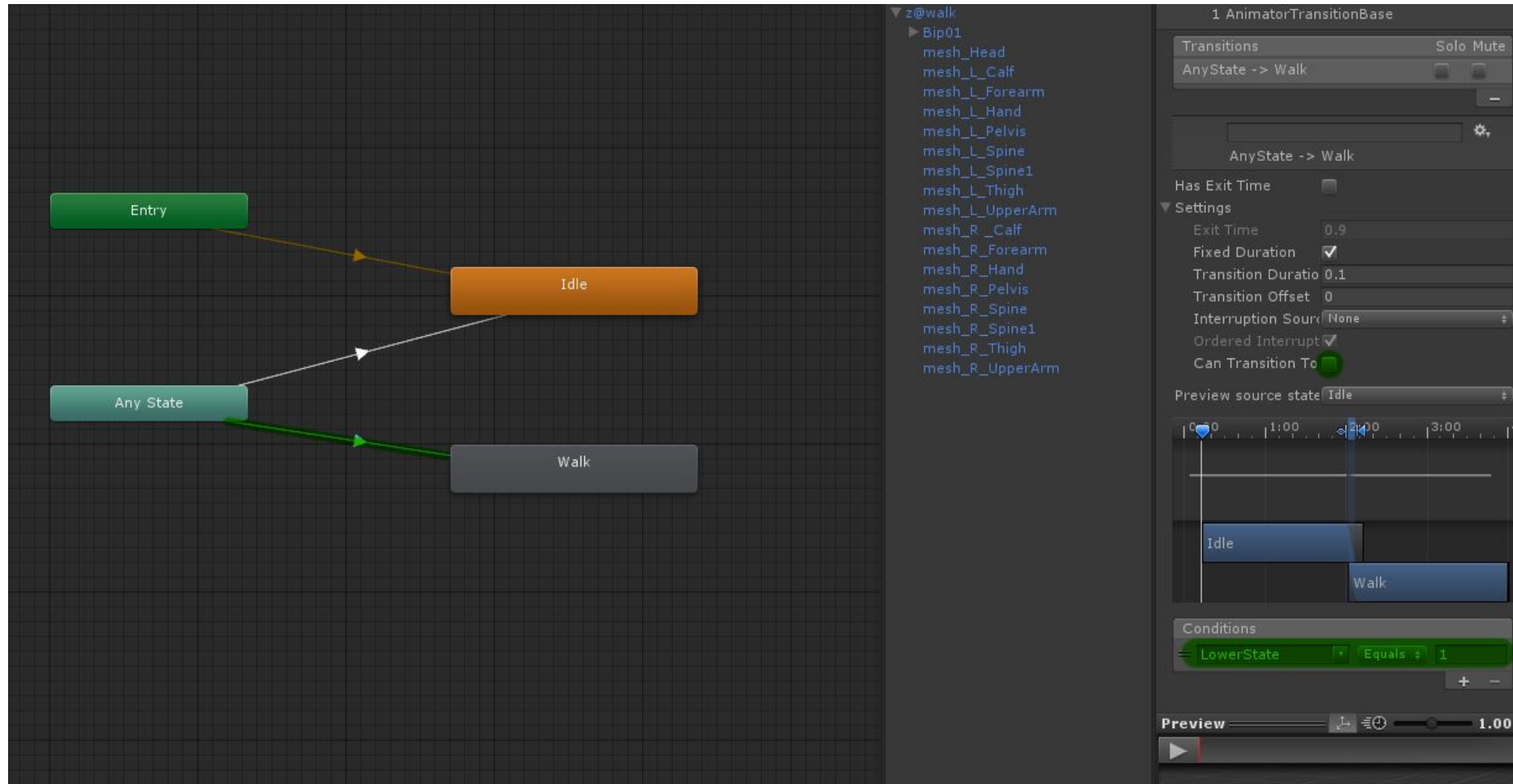
## Step 5. Connect Any State to Idle State



Condition : LowerState : Equals : 0

**Uncheck** Can Transition To Self parameter

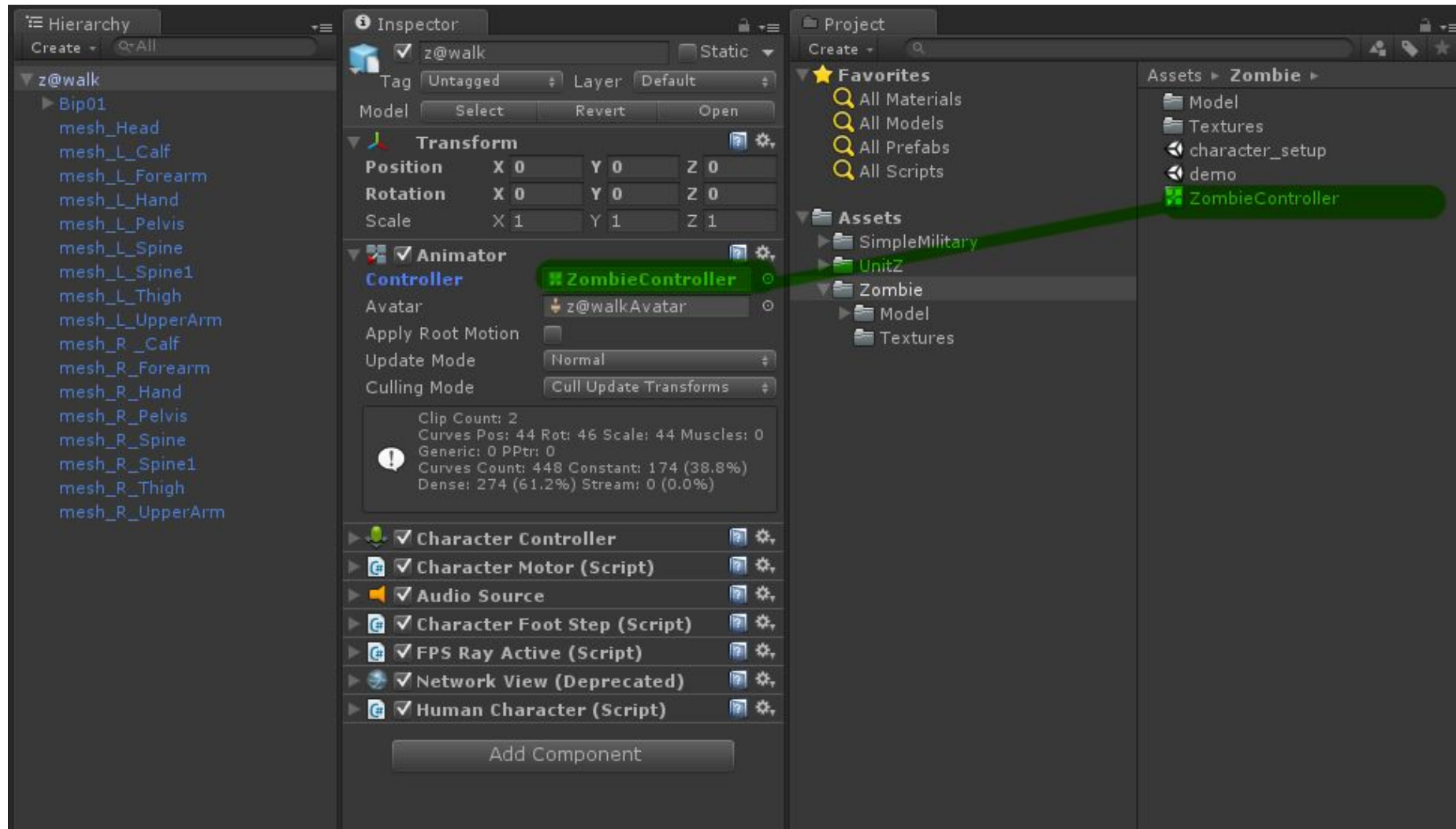
## Step 6. Connect Any State to Walk State



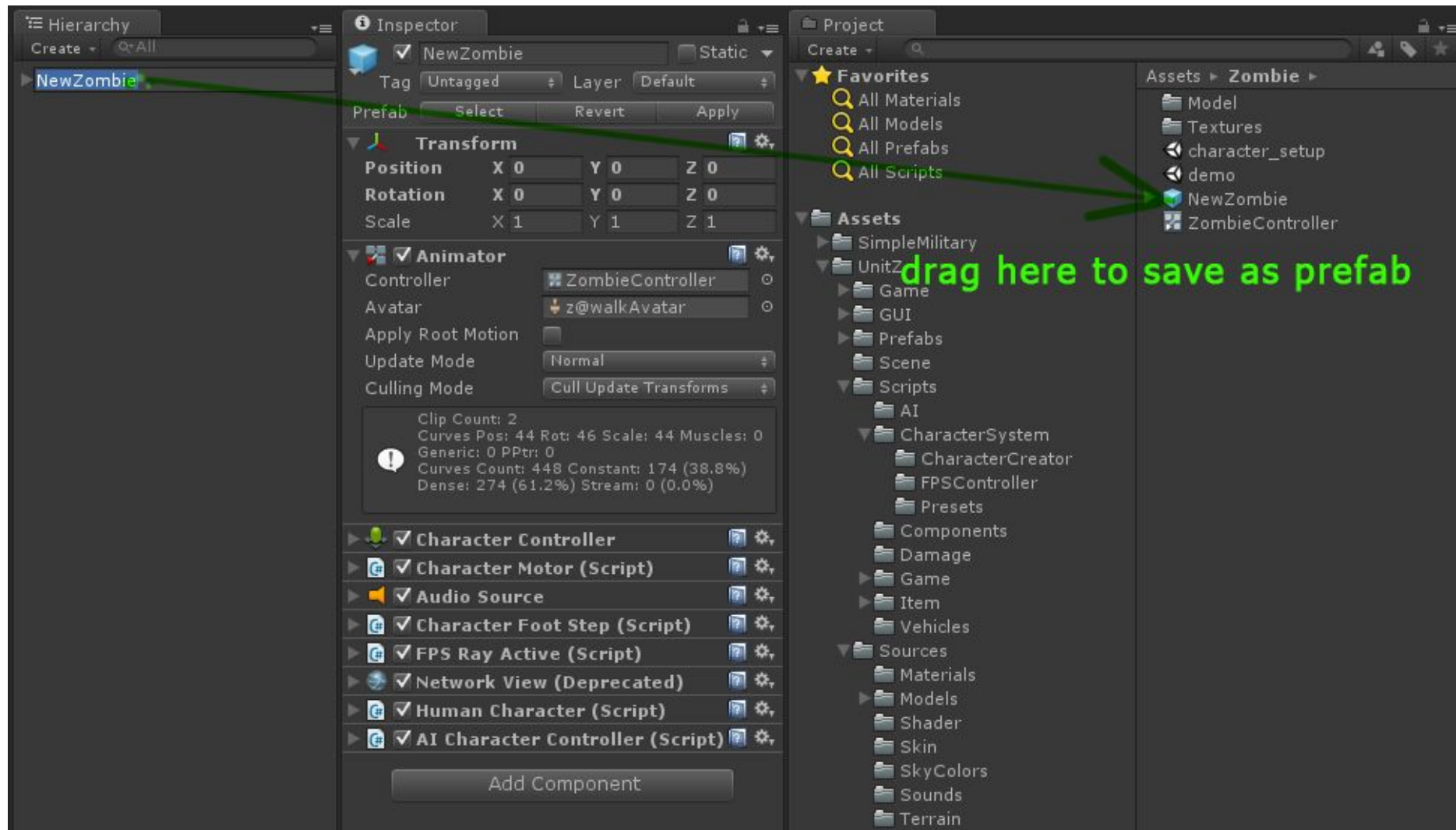
Condition : LowerState : Equals : 1

**Uncheck** Can Transition To Self parameter

**Step 7.** Back to a character on scene. add **ZombieController** that's you have done in steps 4 - 6 into **Controller** parameter on **Animator** component.



**Step 8.** Rename character to “**NewZombie**” and save it as a prefab.

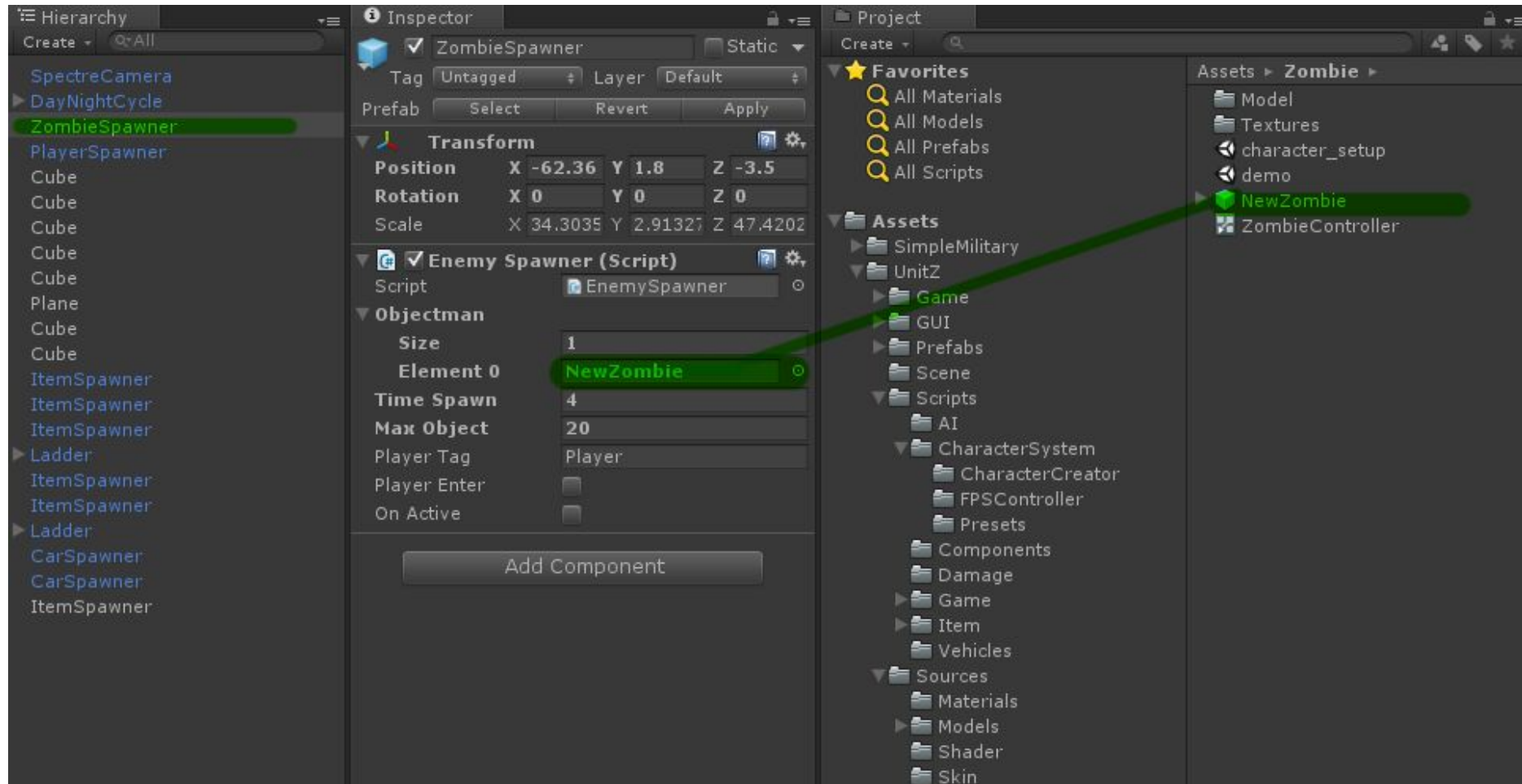


you should drag the character (**NewZombie**) into the same folder of model to save it as prefab.



**Step 9.** Add the character to testing.

Open “**sanbox**” scene from **UnitZ/Scene** and select **ZombieSpawner** object on the scene

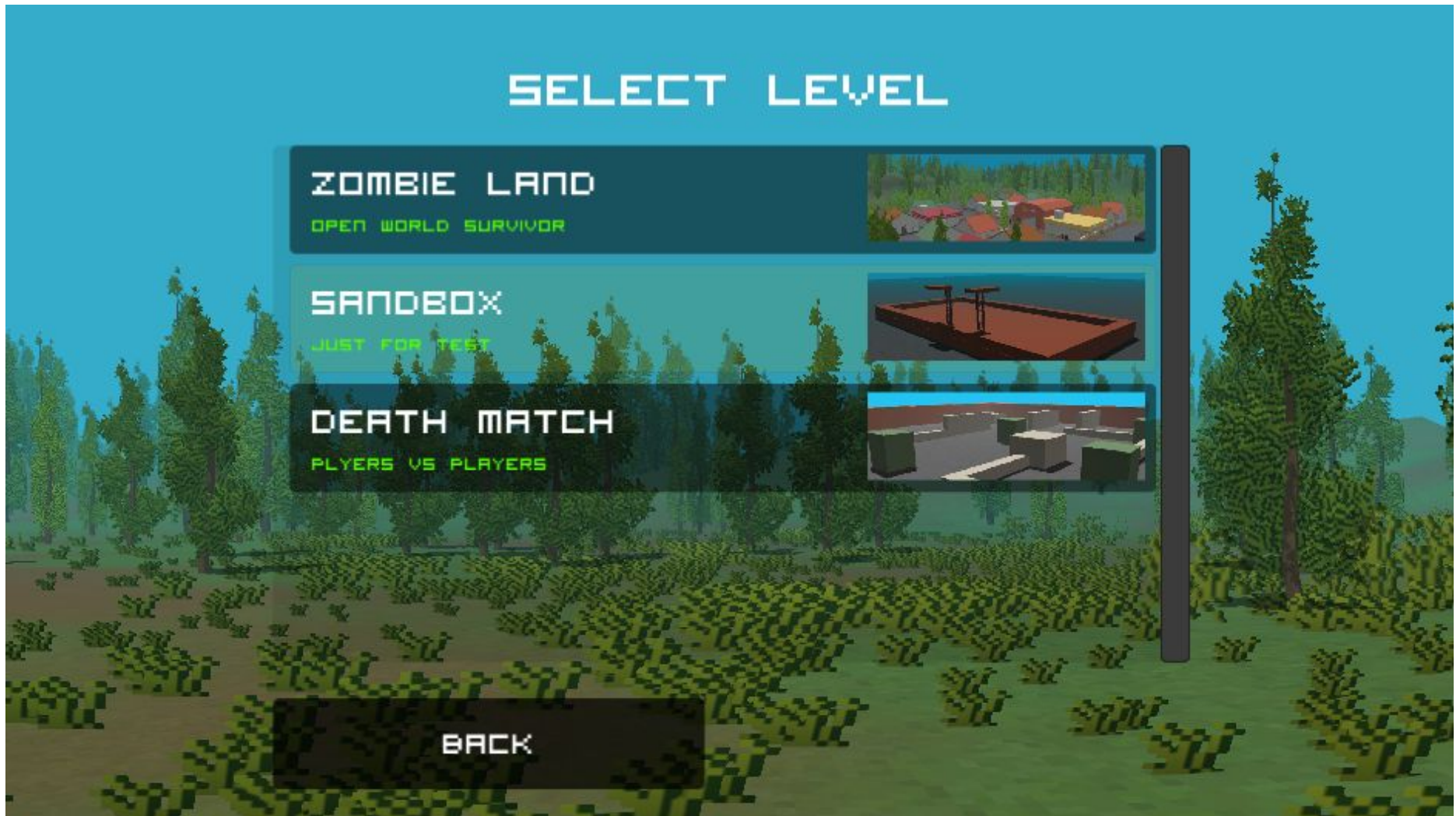


Add your **NewZombie** prefab into **Objectman** parameter on **EnemySpawner** component and **Save** scene



## Step 10. Play test

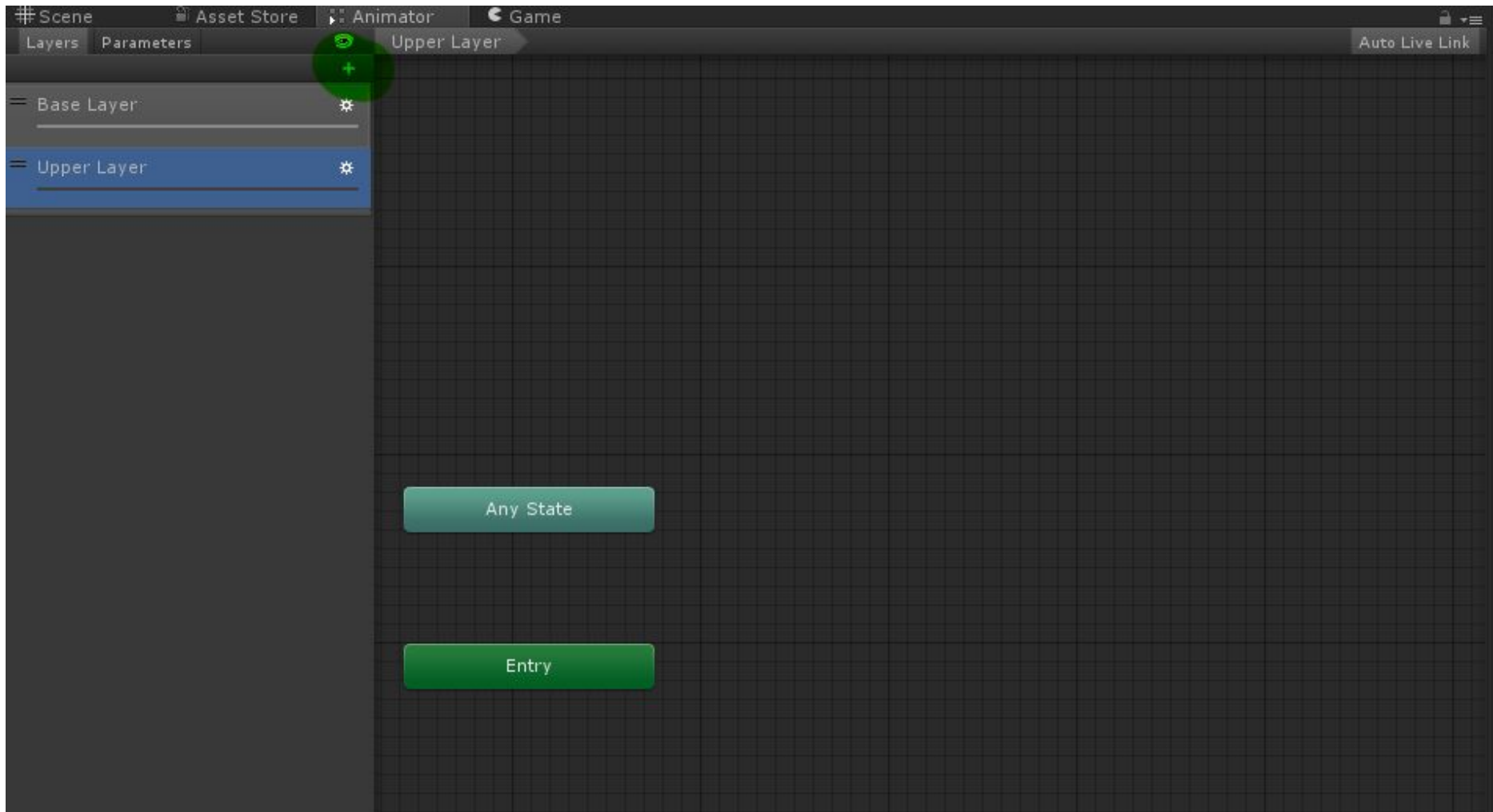
Let's start at "mainmenu" [UnitZ/mainmenu](#) scene and Don't forget to select level to **Sandbox**



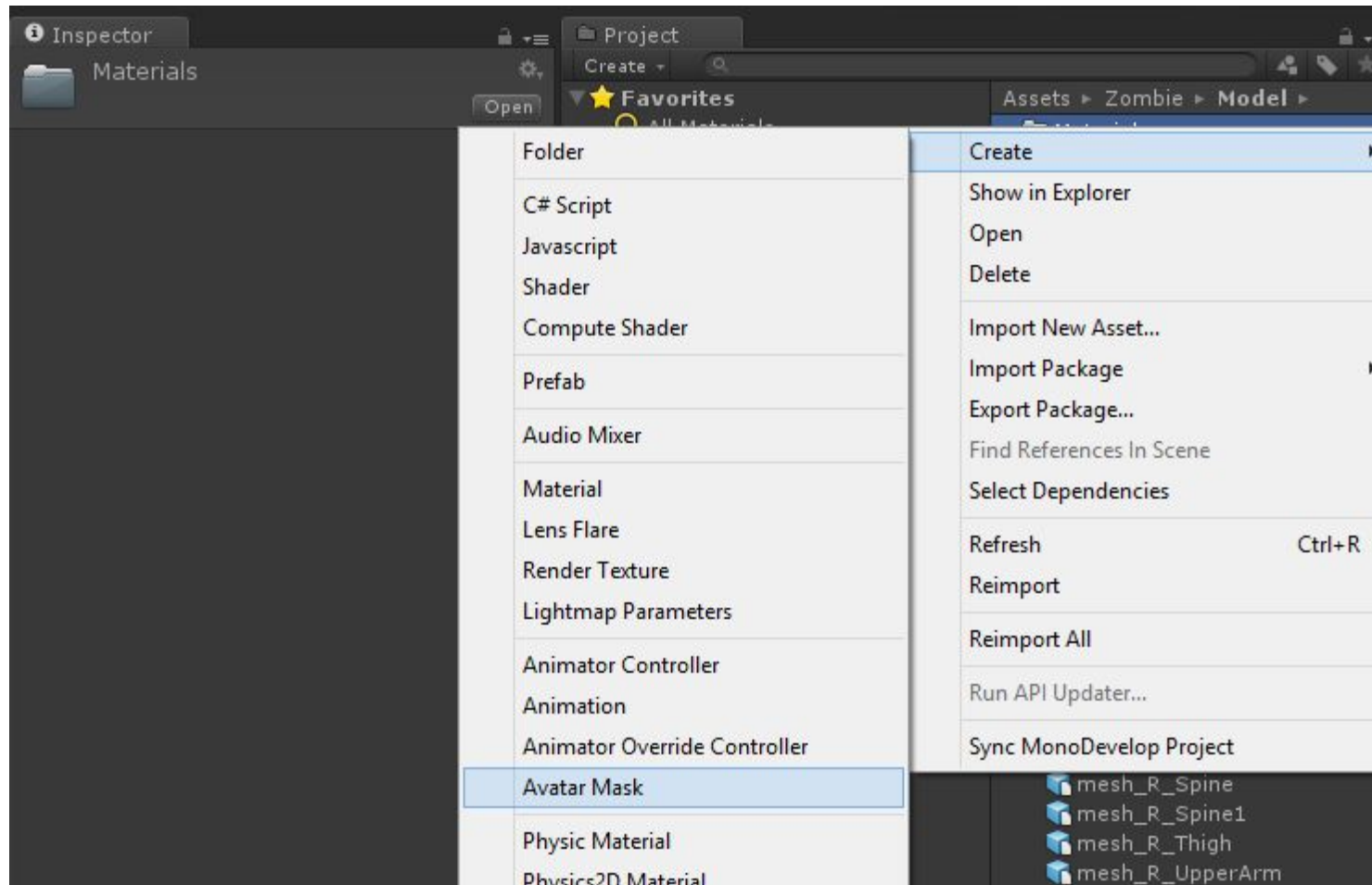
**Testing..** You will see a zombie walking facing toward to you but still cannot attacking.



**Step 11.** Add an ***Attacking*** animation, Please back to animator and add new **Animation Layer** by Click **plus** button on **Leyers** tab. then named a layer to “**Upper Layer**”

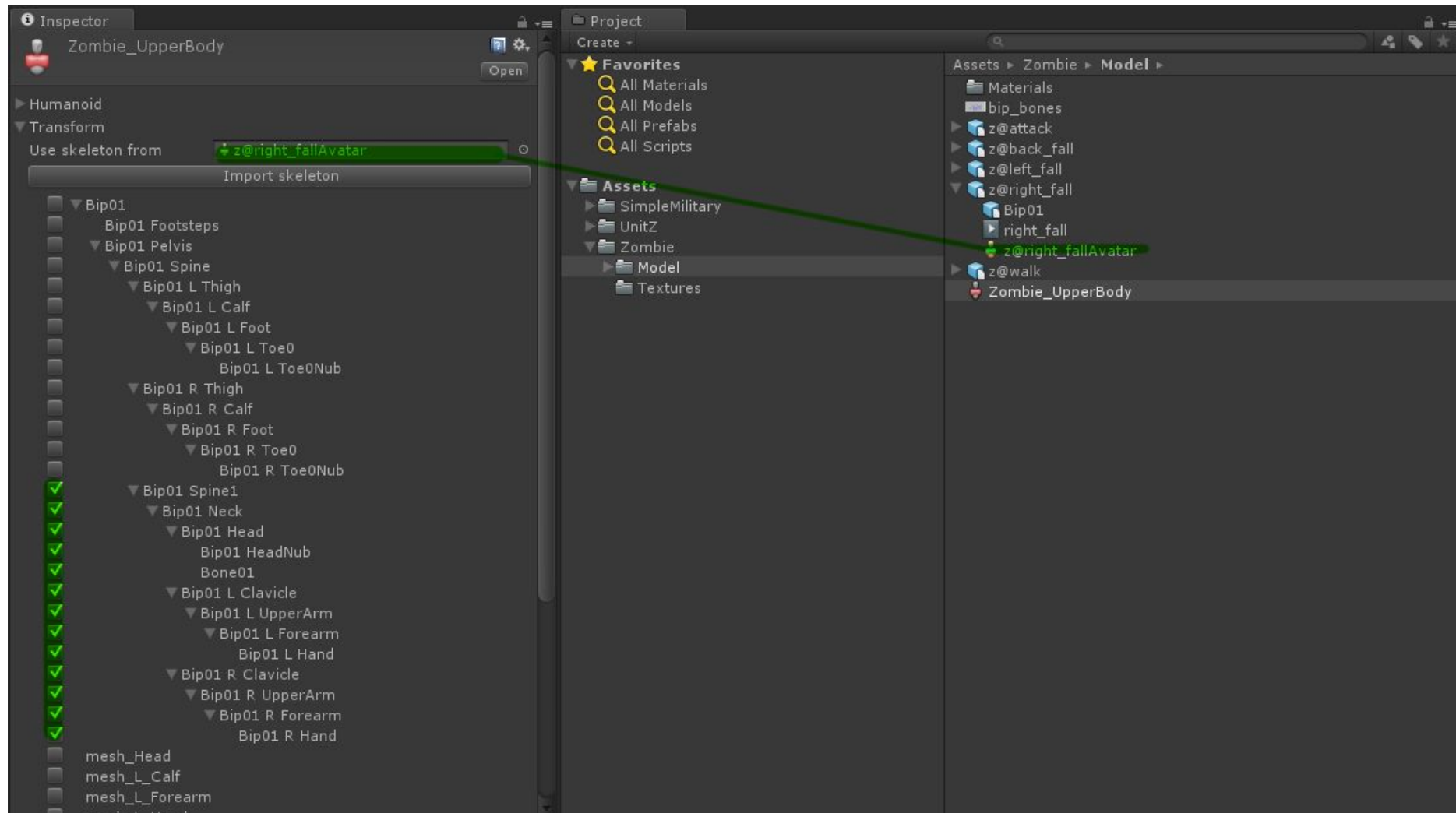


**Step 12.** Create **Avatar Mask**, by right click on a space in character folder and select **Create > Avatar Mask**



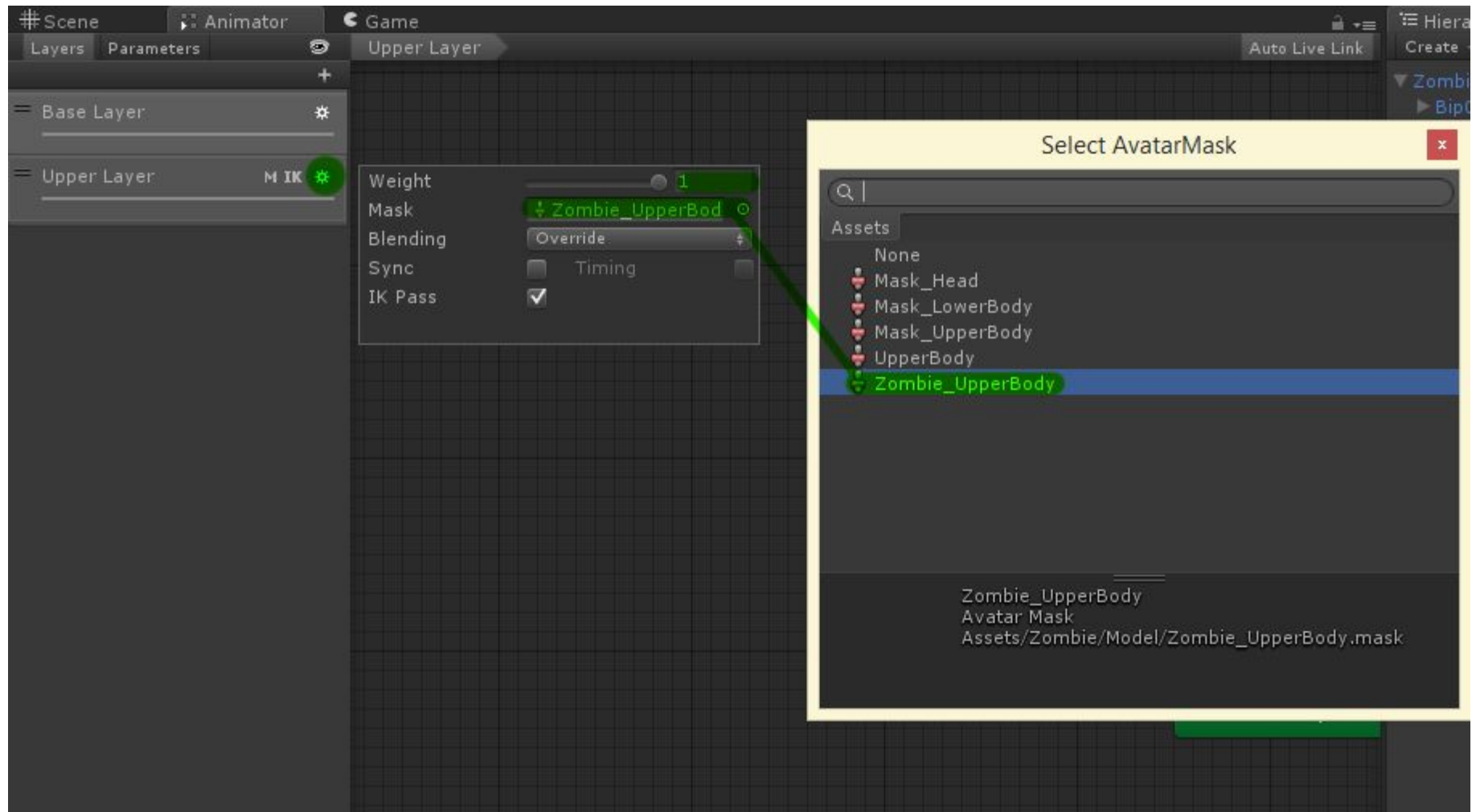
Note \* Avatar Mask should in the same place as a character like an Animation controller.

Named “**Zombie\_UpperBody**” and add **Avatar** from a character model into **Use skeleton from** parameter and then Click **Import Skeleton** on Transform tab, and just checked only bones on *upper part* of body.



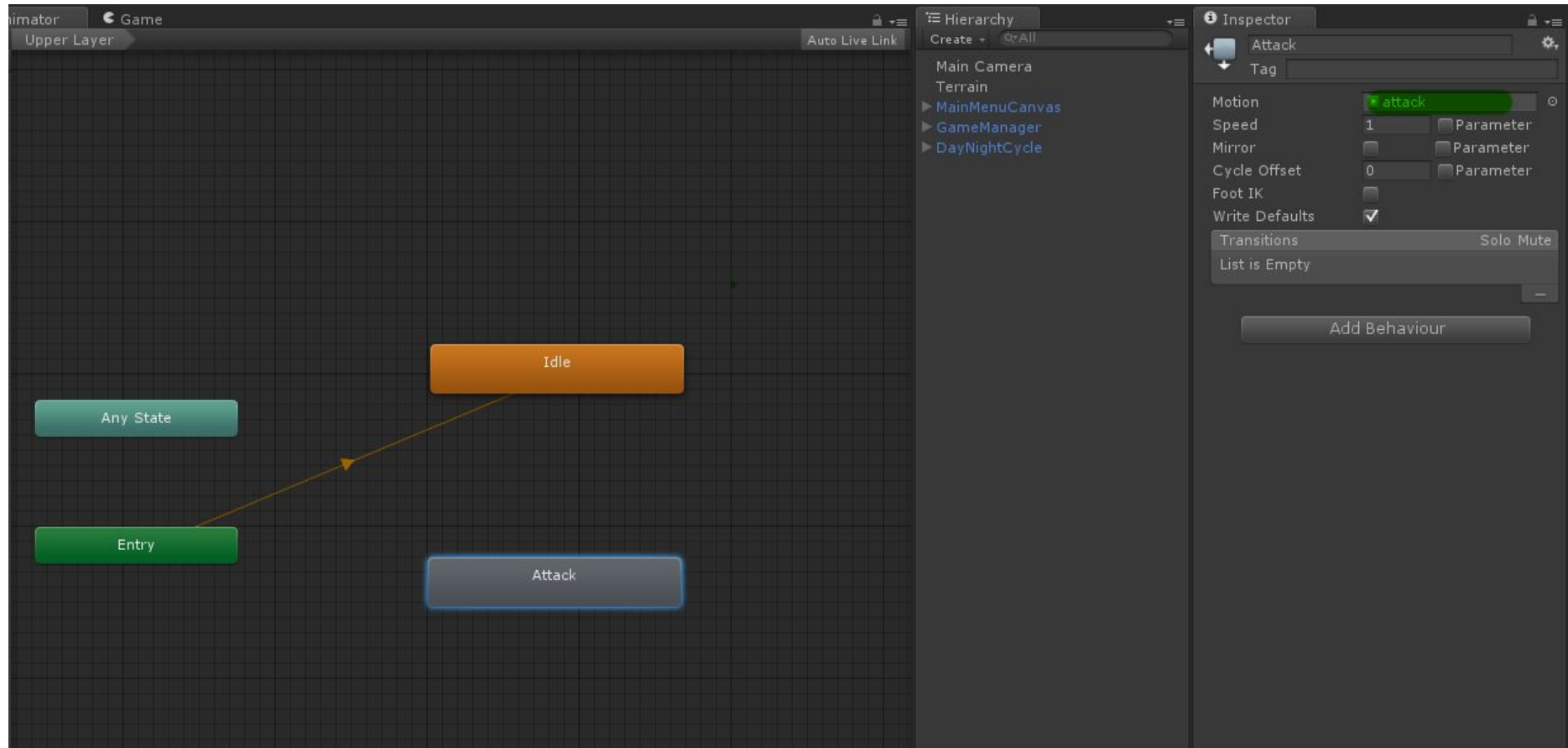


**Step 13.** Add Avatar Mask into an **Upper Layer**, by click on **Gear** button and set the **Mask** like this image.



Don't forget to set **Weight = 1** and **IK Pass** must Checked

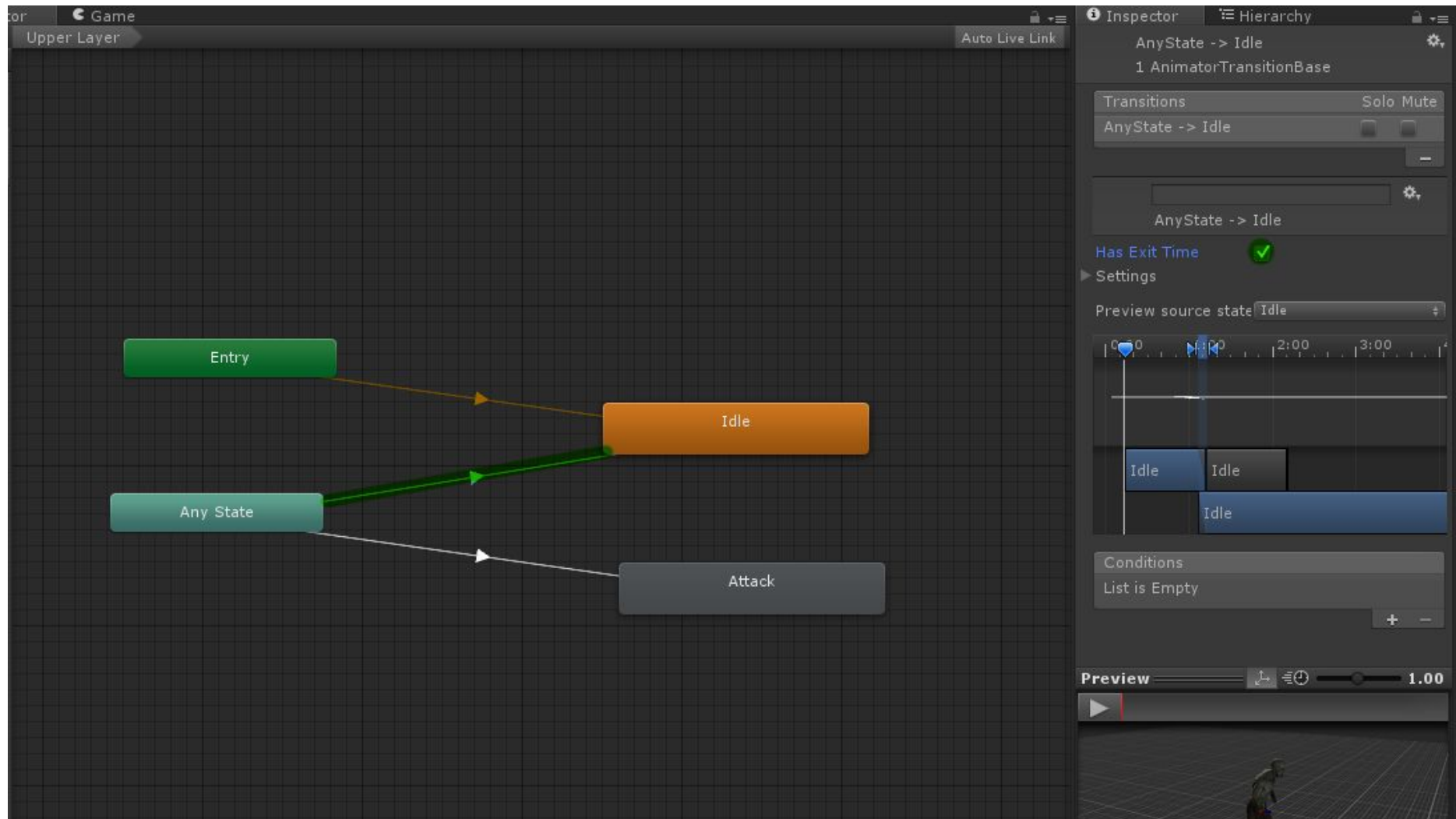
**Step 14.** Create 2 States on the animator, **Idle** state , **Attack** State,



Add **Attack Motion** from a character model into **Motion** parameter on **Attack** State  
Add **Idle Motion** from a character model into **Motion** parameter on **Idle** State

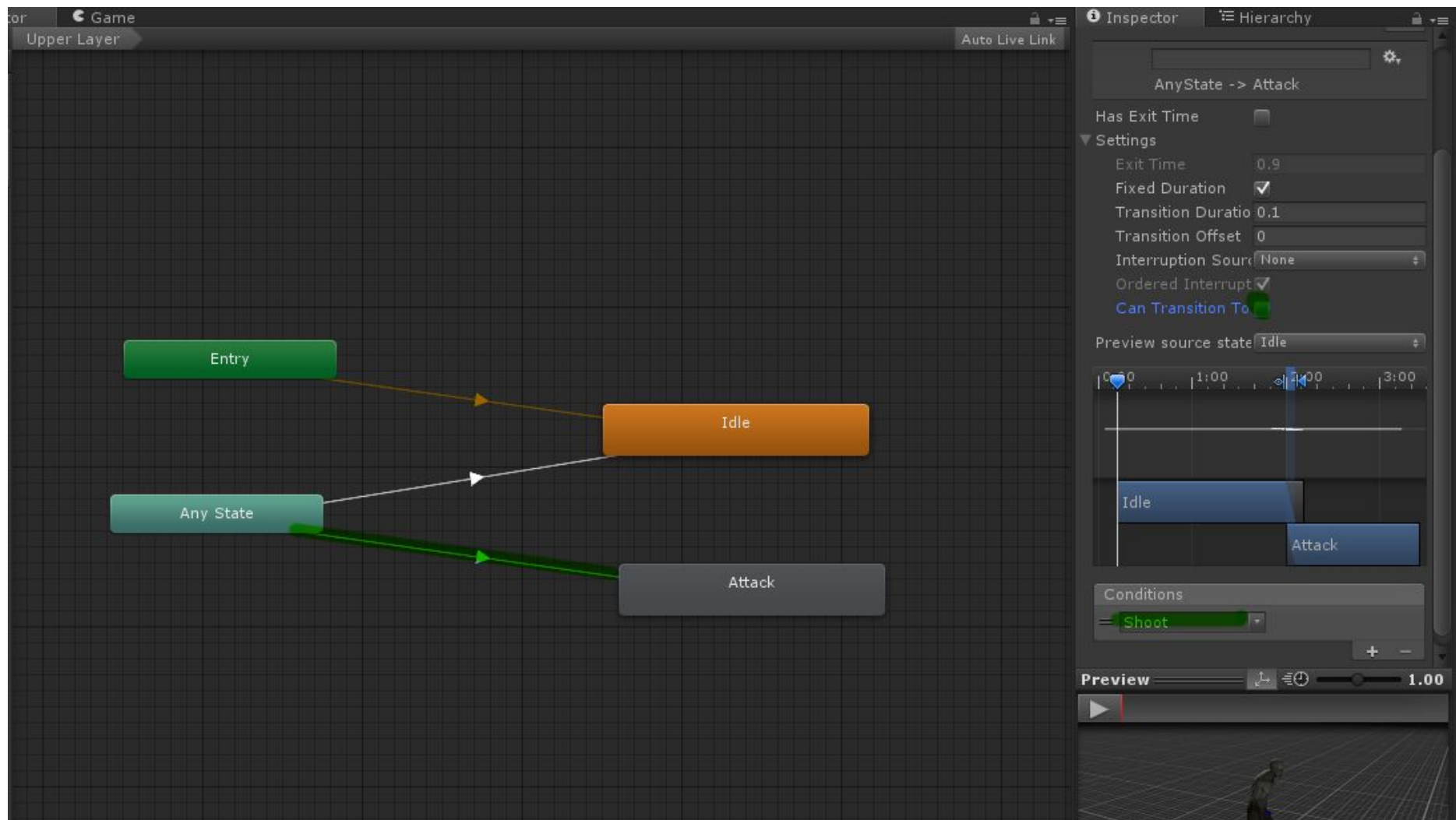


## Step 15. Connect Any State to Idle State



Condition : None, **Checked** Has Exit Time parameter and **Uncheck** Can Transition To Self parameter.

## Step 15. Connect Any State to Attack State



Condition : Shoot triggered, and **Uncheck** Can Transition To Self parameter.

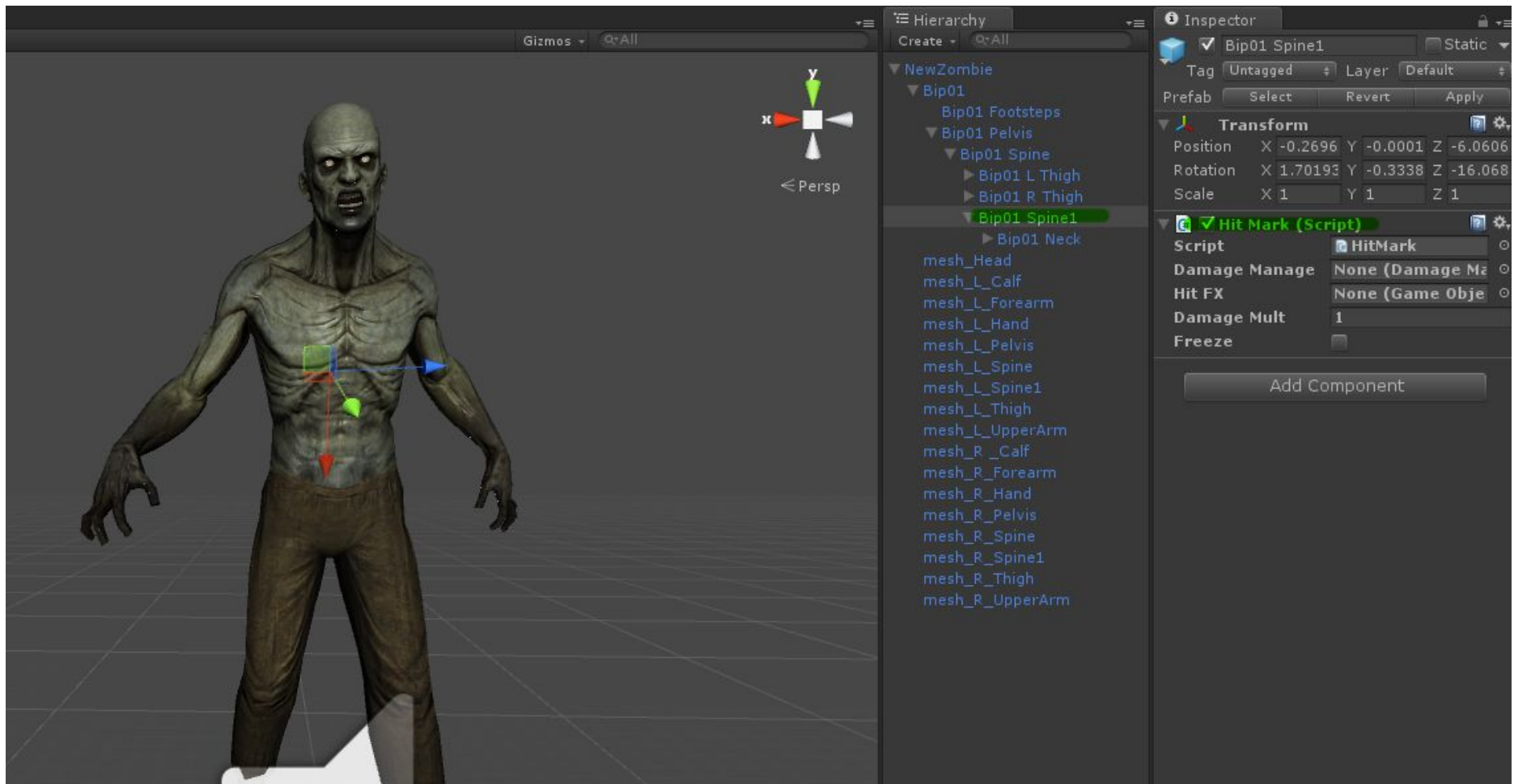
**Step 16.** Save Scene and Play test again.



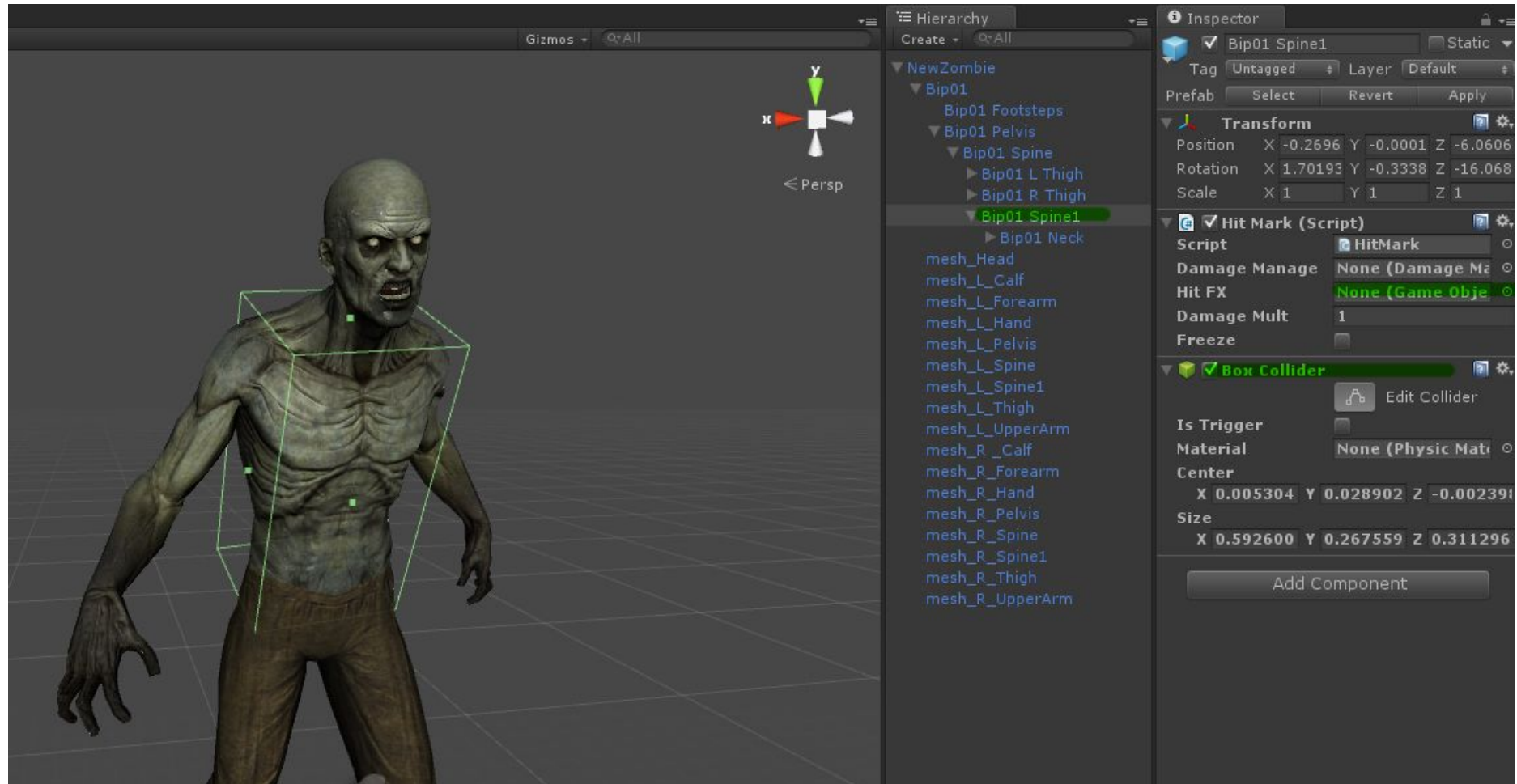
Now you can see the zombies are moving facing toward to you and play attack animation when it close to you.

## Step 17. Adding Hitboxes

Please back to “**zombie\_setup**” scene, open **NewZombie** character **hierarchy** and add **Hit Mark** component into the **bone** on **middle** of skeleton `UnitZ\Scripts\Damage\HitMark.cs`



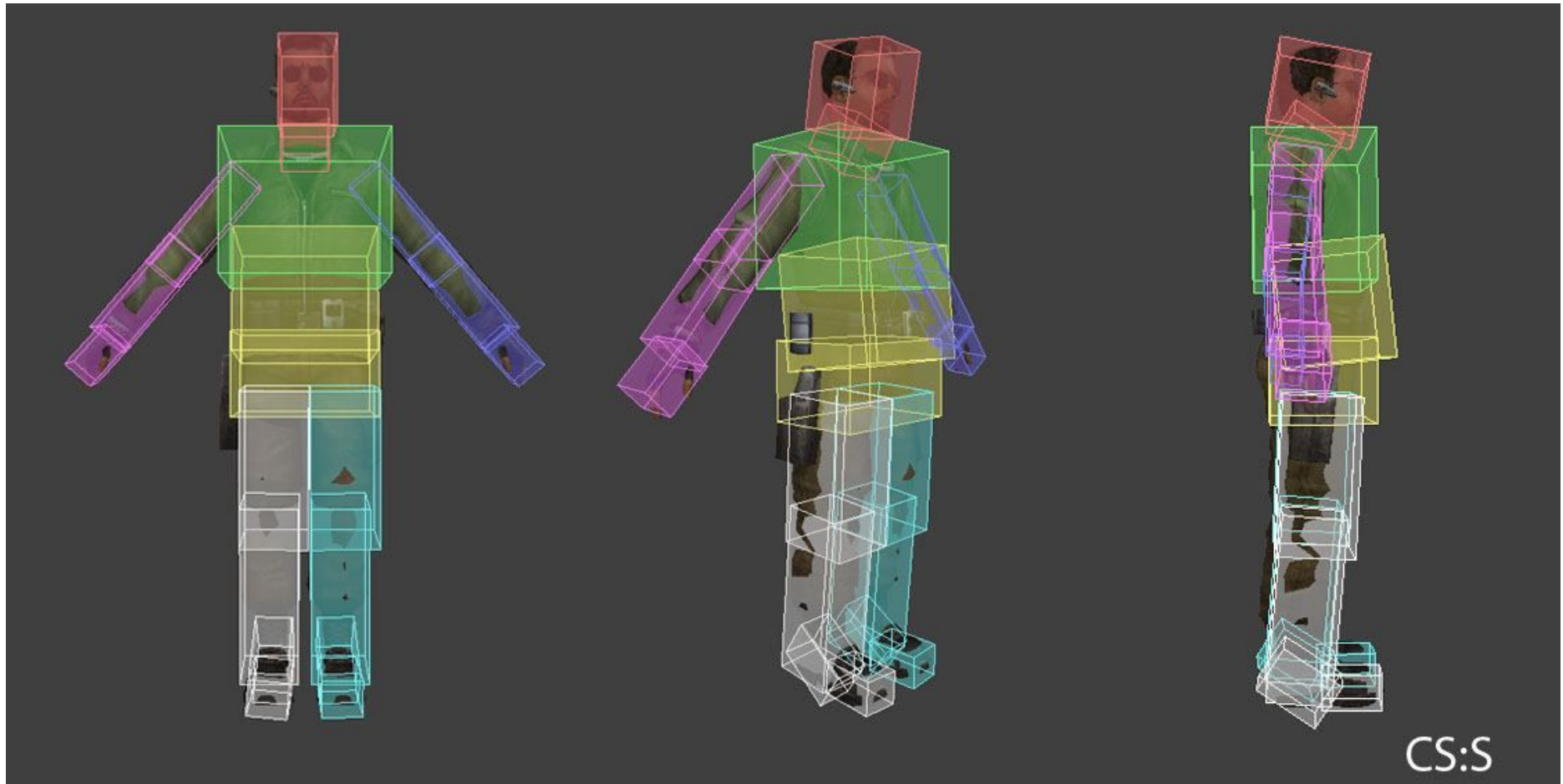
Don't forget to adding **Box collider** into the **bone**, by go to **Component > Physics > Boxcollider**.



Set as **Trigger** and Custom the size make sure it look fit perfectly and **Damage Mult** should be a double in head.you can also add any **Blood fx** particle into **Hit FX** parameter on **Hitmark** component to make this zombie look more completely. **Note \*** You can add more hitboxes into your character to cover the body as possible.



This is a Hitboxes structure from Counter Striker : Source



In this image is showing how to setup all the hitbox to cover the whole body. Separate by a colors and related to a **Damage multiplier**.

**Step 18.** Click **Apply** button on **NewZombie** character and **Save scene**

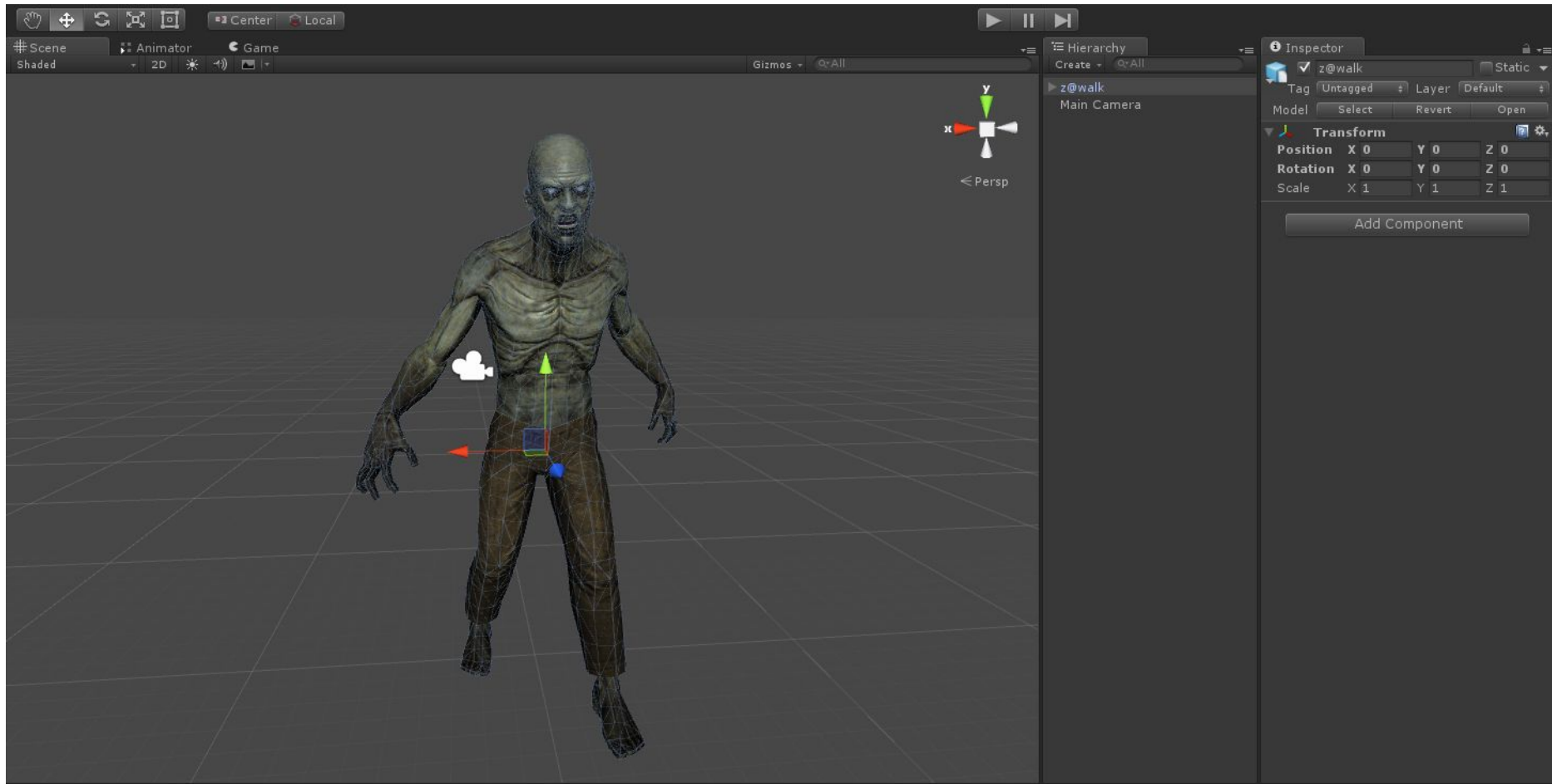




**Step 19.** Play test again, now you can shoot them and kill. *but disappear when dying so we still need a ragdoll.*

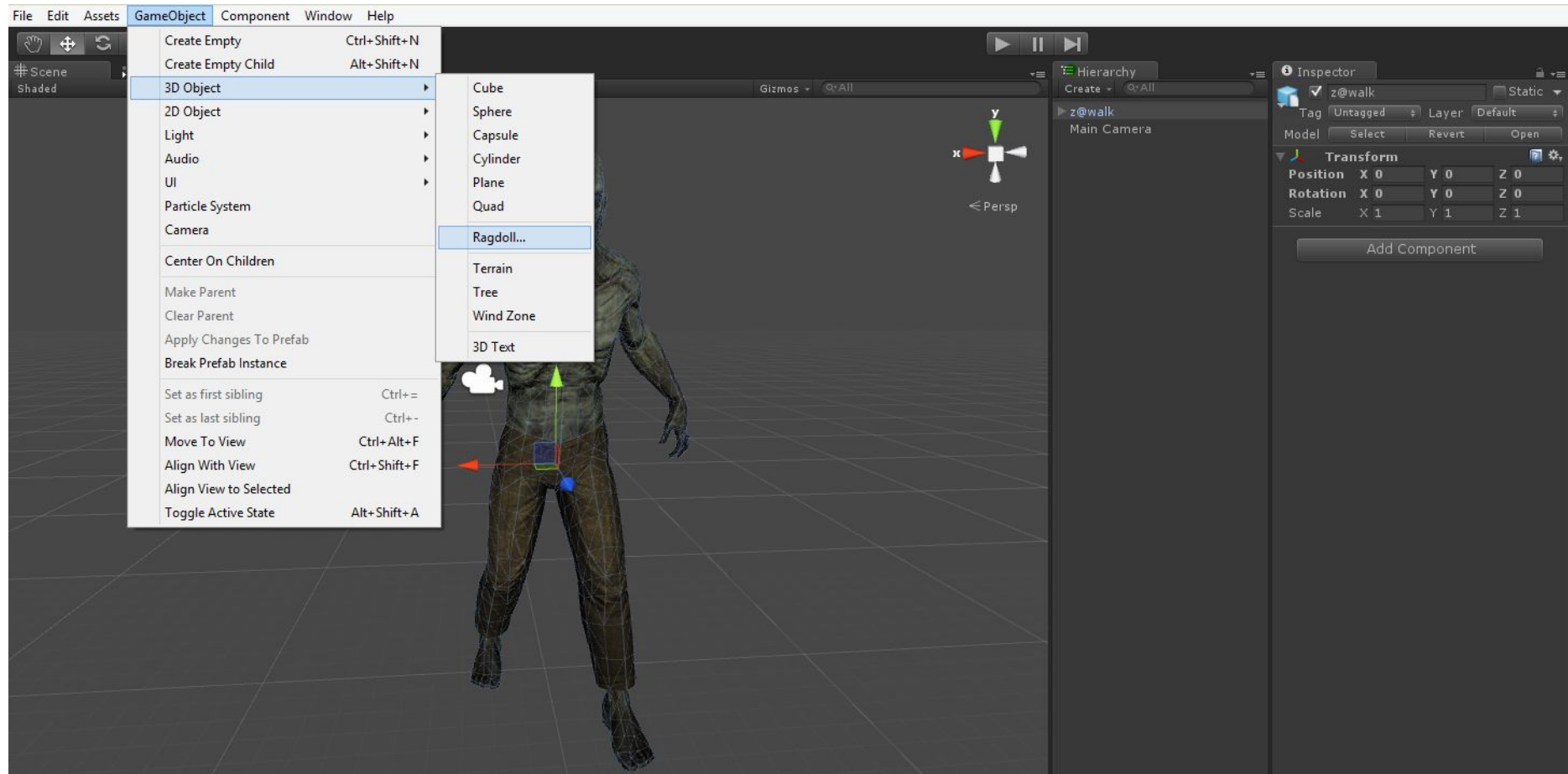


**Step 20.** New scene for **Ragdoll**, Please **New scene** and place a character model into the scene.



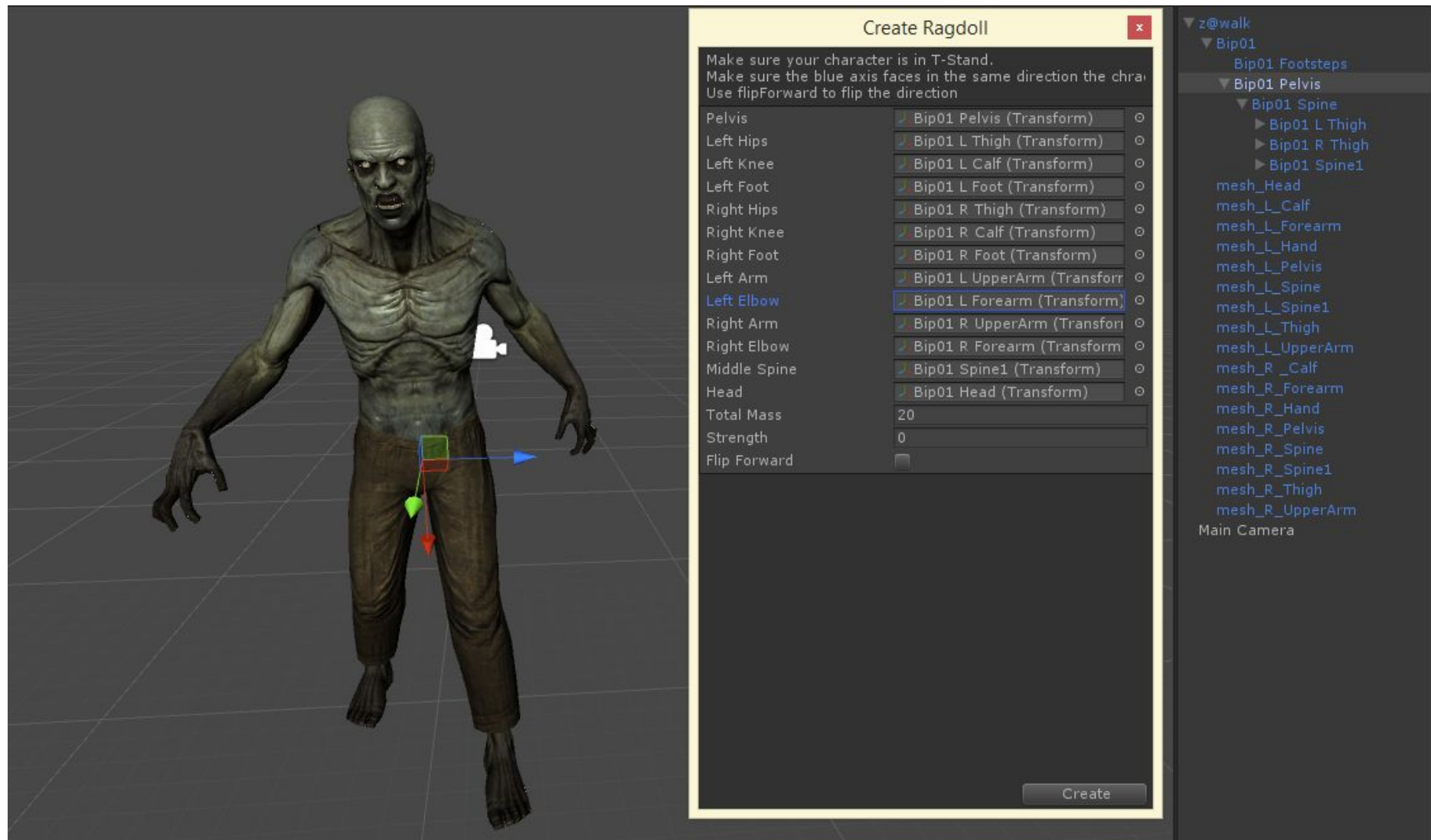
Don't forget to Remove an **animator** if included and set position to 0,0,0  
Importance \* Ragdoll must same scales as a character.

## Step 21. Create Ragdoll

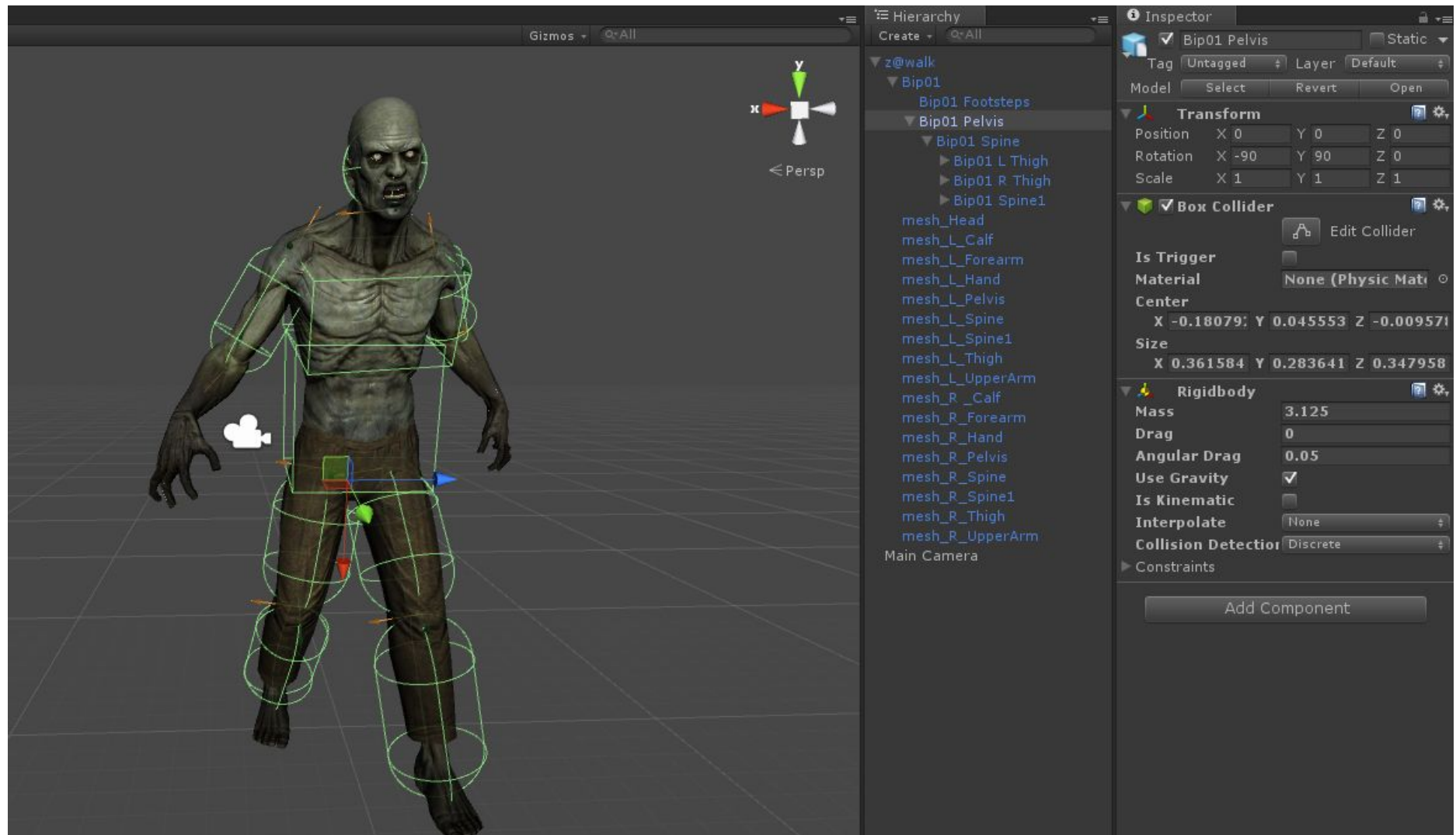


Please go to **GameObject > 3D Object > Ragdoll**

**Step 22.** Setup all bones into the parameters, make sure it correctly relates to the names.

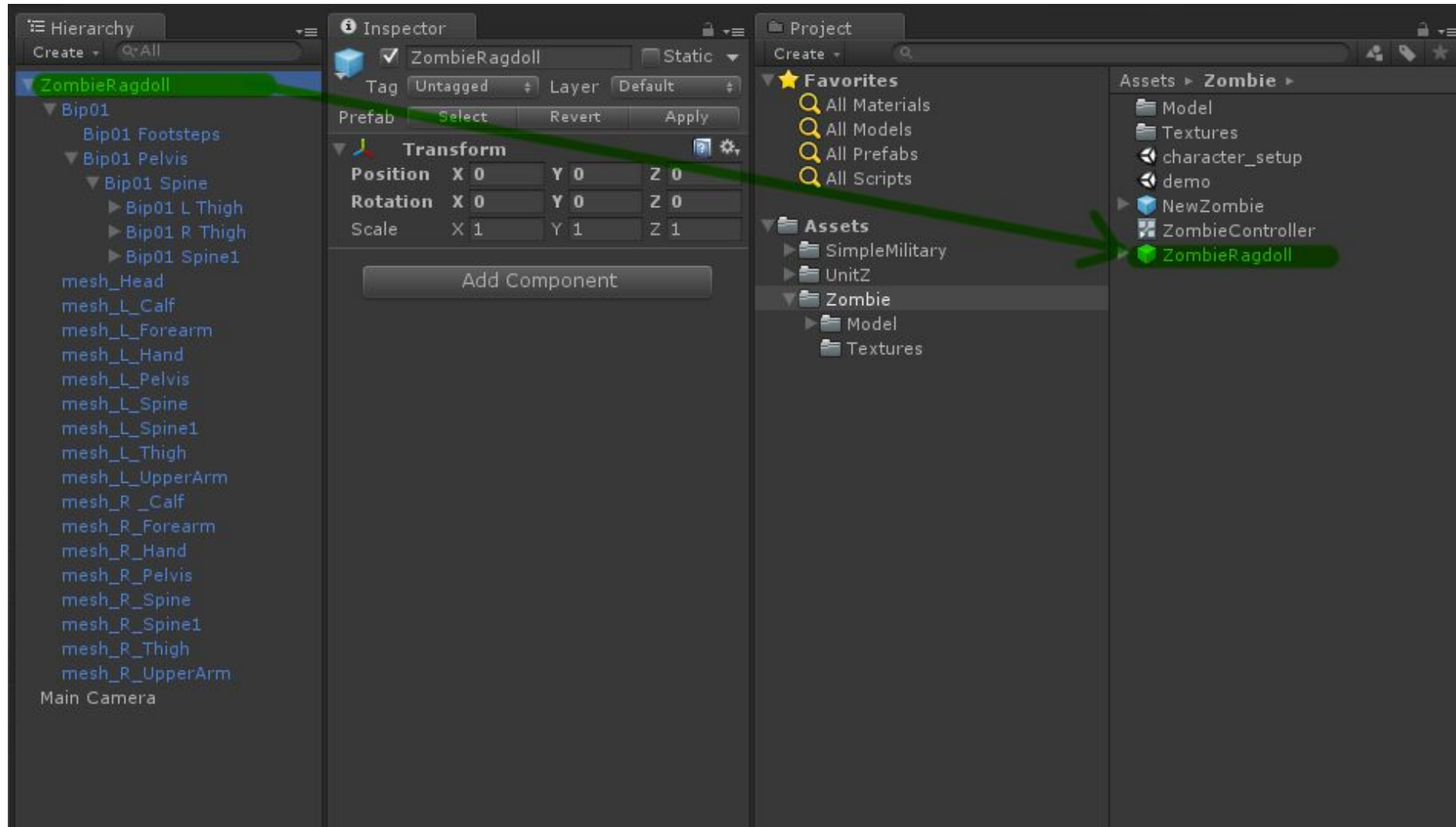


**Step 23.** Click **Create**, you will see many colliders and rigidbodies are attached into the character.



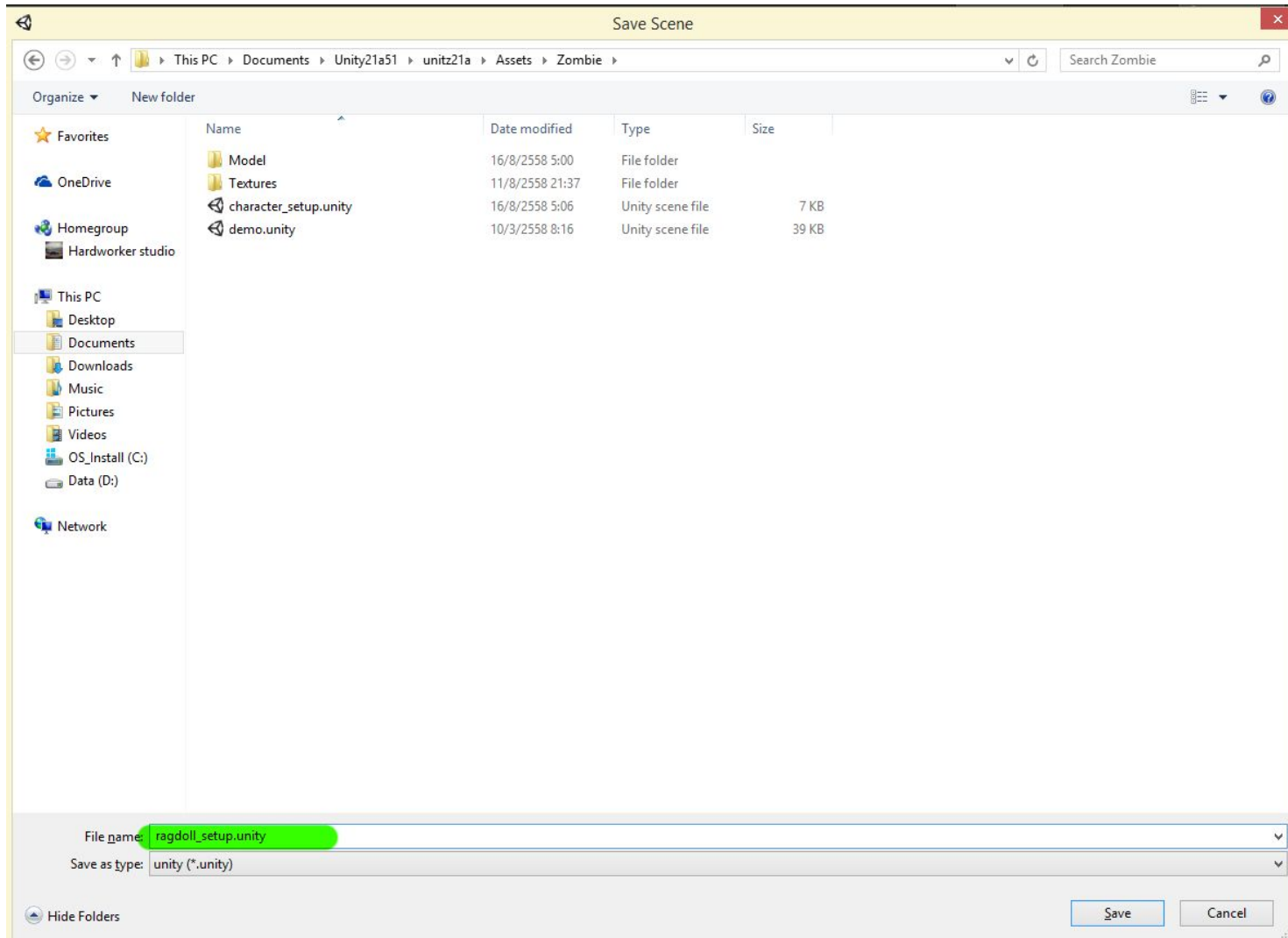


**Step 24.** Rename to “**ZombieRagdoll**” and save as a prefab.



Note \* a ragdoll should save at the same place as a character so it easier to custom and managing.

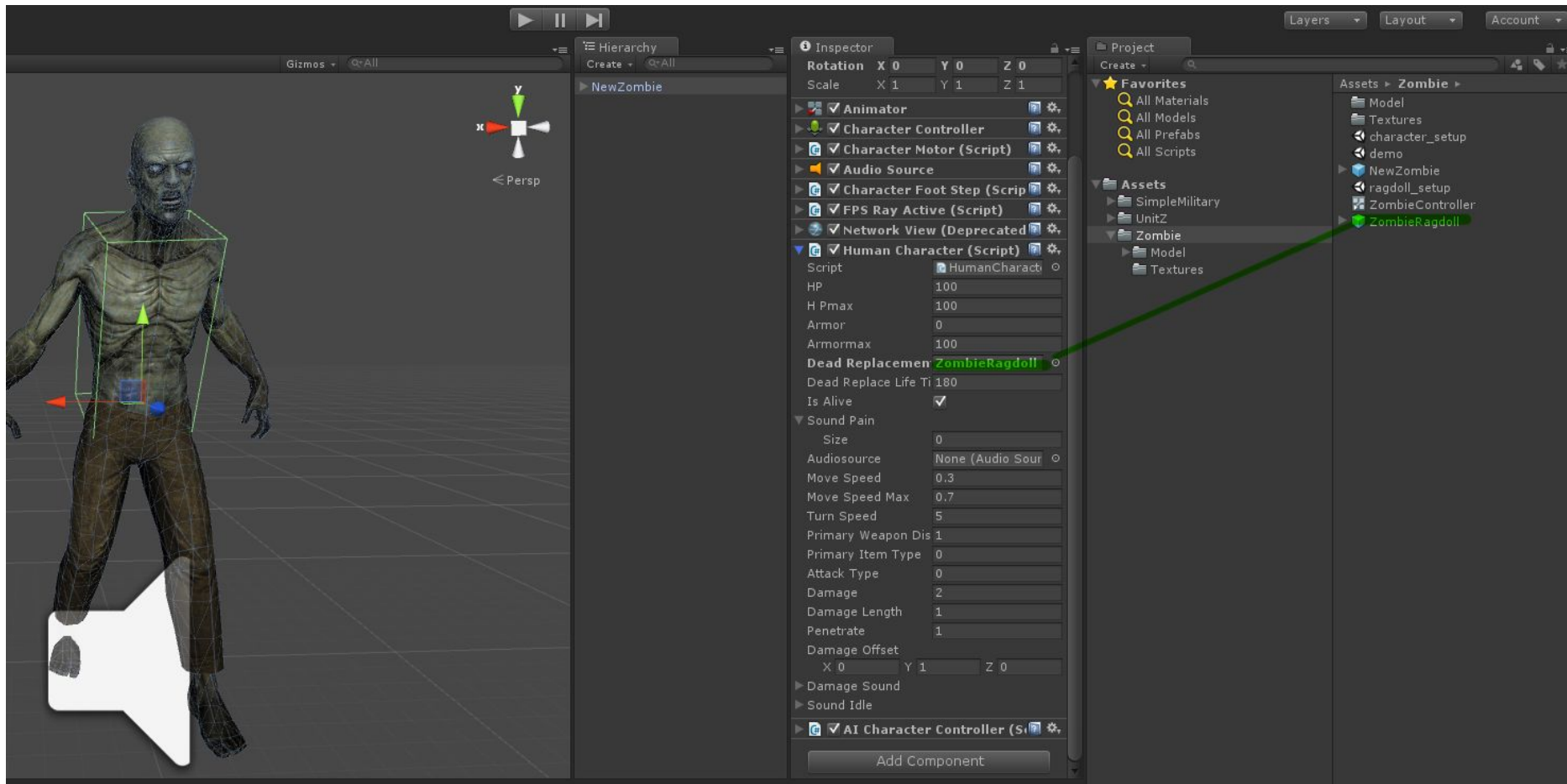
## Step 25. Save scene as “Zombie\_Ragdoll”



Note \* You should save a “Zombie\_ragdoll” to the same place as a character.



**Step 26.** Please back to “**Zombie\_Setup**” scene, select **NewZombie** and add **ZombieRagdoll** into **Dead Replacement** parameter on **Human Character** component and click **Apply Button**



Note \* you can settings all necessary parameters on **Human Character** Component such as **Move speed** , **Damage** and more.

**Step 27.** Play test and enjoy!



# Thank you

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