For this tutorial we will be making a simple automatic door opening sequence using the Unity Animator functions. This will consist of using Unity's built animation software to create different forms of the door and animate them accordingly to where the player is located within the immediate vicinity

To begin we need the basis for the door. To do this create a few cubes and rectangles to act as the door and wall or brace that holds the doors. Similar to shown below
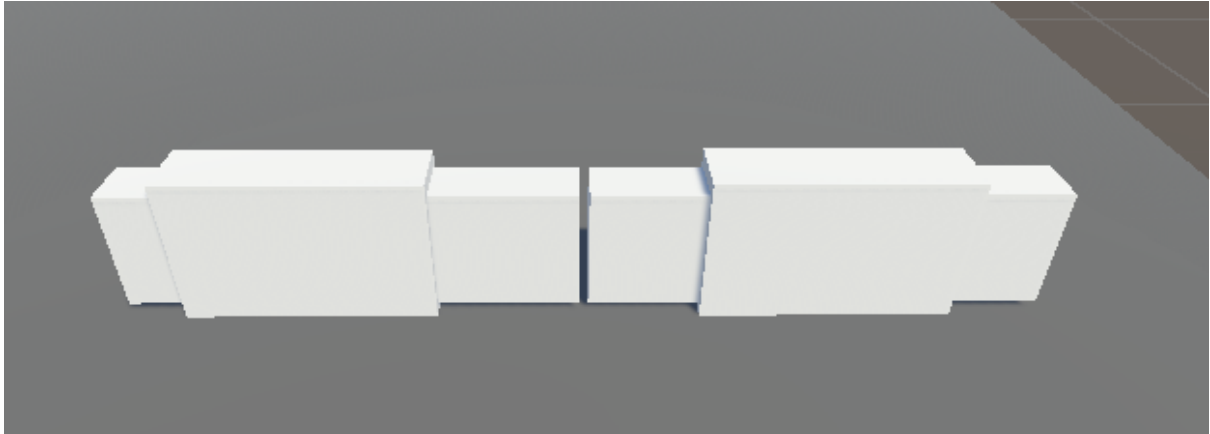

Next we need to make the animations for the doors that will open and close. Open up the Animator window if it is not open already. The window can be located as shown here
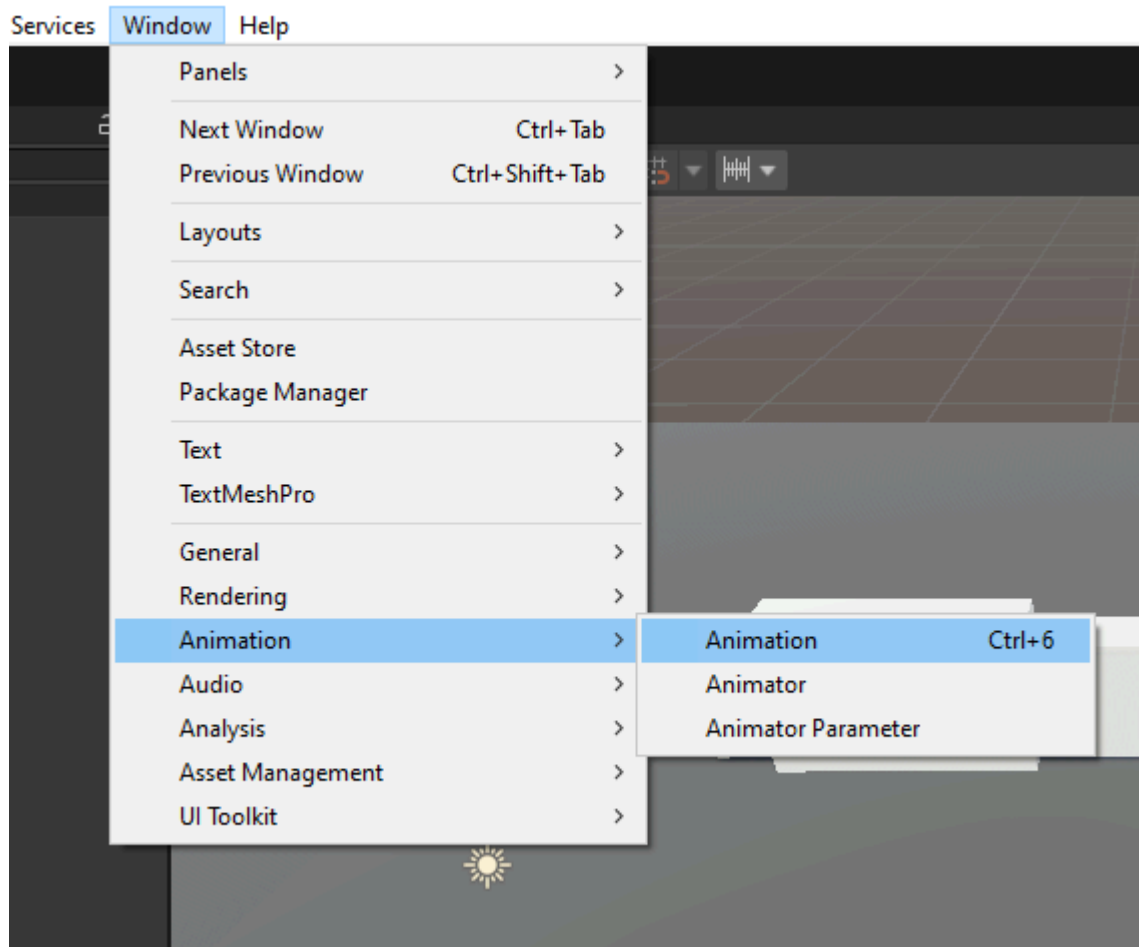
First select the group of objects you wish to animate, in this case the whole of the door including both the moving segments and any braces you have made. In the animation window select Create and name the first file something along the lines of Door opening.
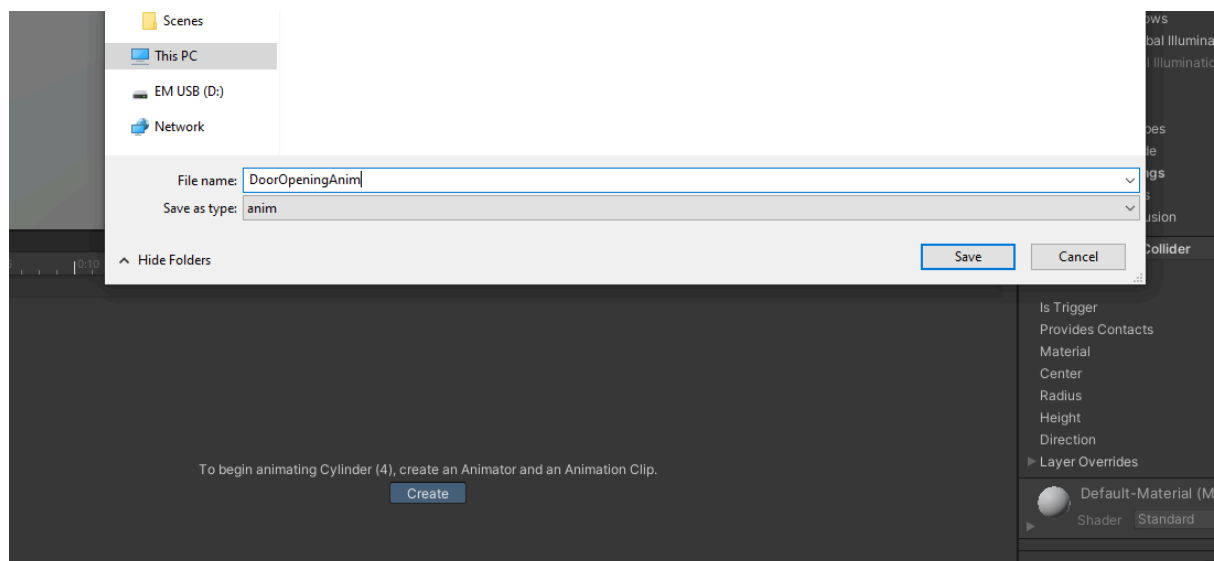
After the file is created, return to the animation window and begin recording the changes made to the object using the small red dot. This will mark changes saved across the timeline and play them back when you hit the small triangle play button.
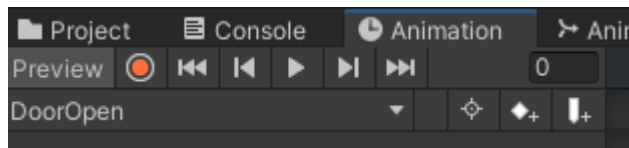
Create the first timestamp where the doors are closed fully in their default stance and bring the slider over to the end and move the door objects to the most open position and save again.
This will create the two points of range that the door will travel between and playing the animations will have them opening repeatedly within that range.

Next we need to do the same thing but in reverse. Create a new clip animation shown below, name it Door close and repeat the previous step, but have the first frame be the open doors and the last be the close. Playing this should resemble something similar to the last animation in reverse.
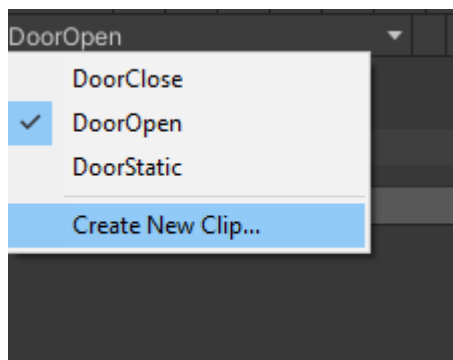

Finally make a third clip which is simply just the doors closed. This will be used as our static state of the door where nothing is happening to the doors and is where the animations will start and end.

Next we will be using the animator window to set our animation frames to the correct transitions and states. Open the animator window to begin setting this up. If you cannot find the animator window head to Window at the top of the screen Go to Animation - Animator then drag the window to where you find appropriate. I personally put my window next to my project and console tabs.
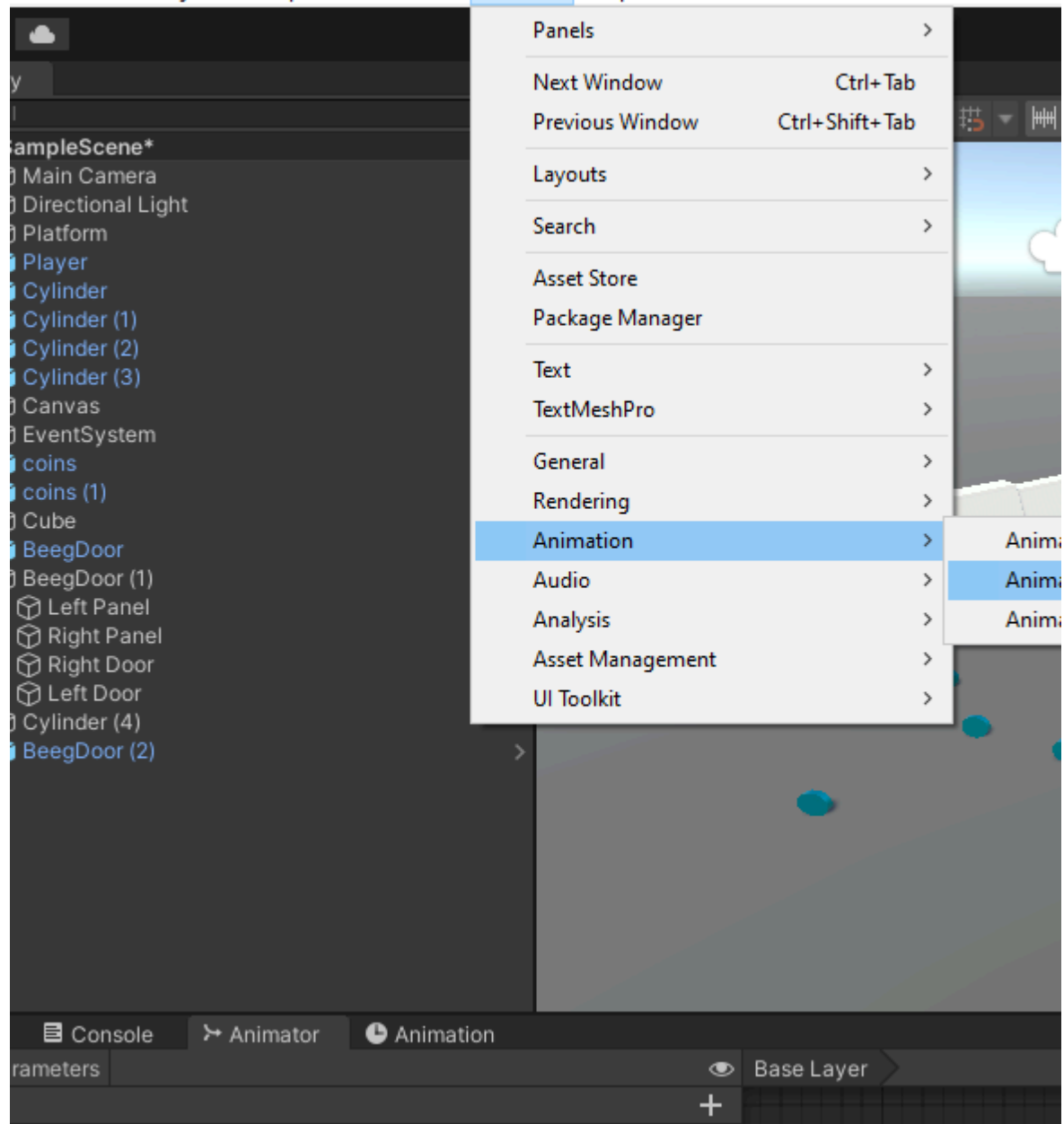
In your Animator window your states should look like the image below.
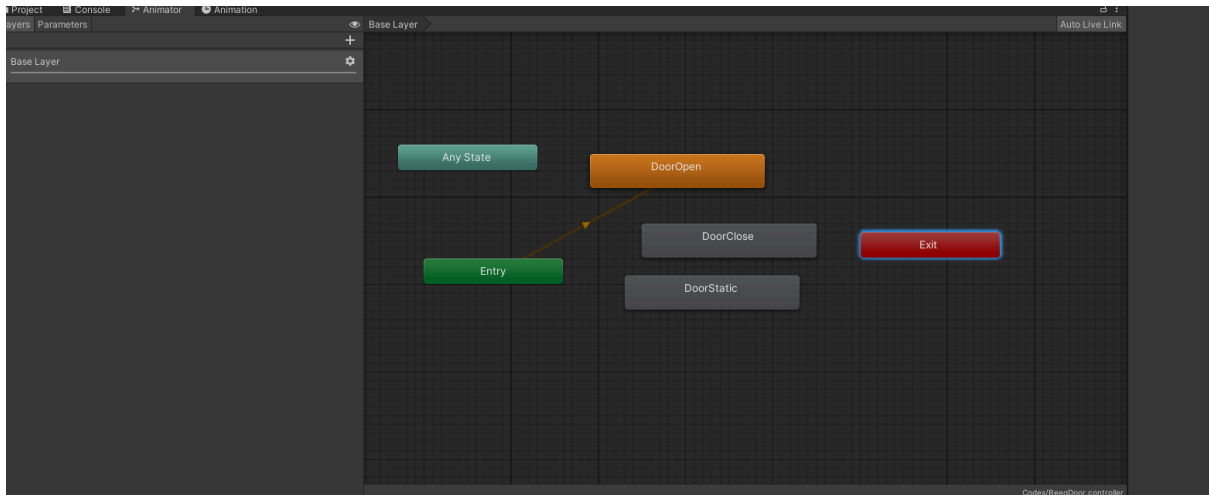
This is not a good layout for the states of the door. First move away the red Exit button as the door will not leave the states we have previously made. Next set the Layer Default state to the static door frame not the Door open State. This will be the frame that the door is in at the start of the scene. After that layout your states like so for easy visualisation and editing.
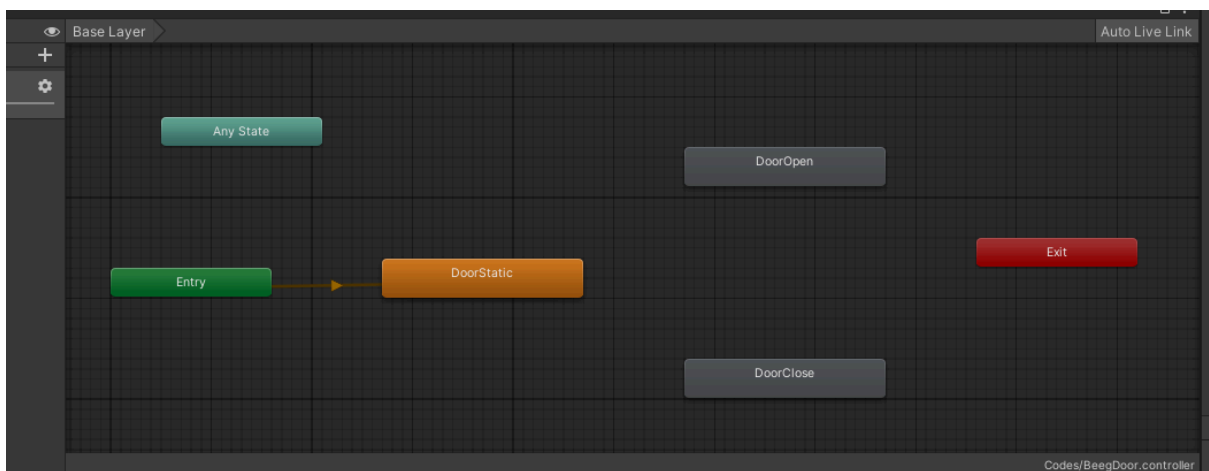

Next we need to create a new Bool and to do this head to the parameters tab within the animator window and click the plus dropdown menu and hit Bool. Name it something simple such as DoorOpen.
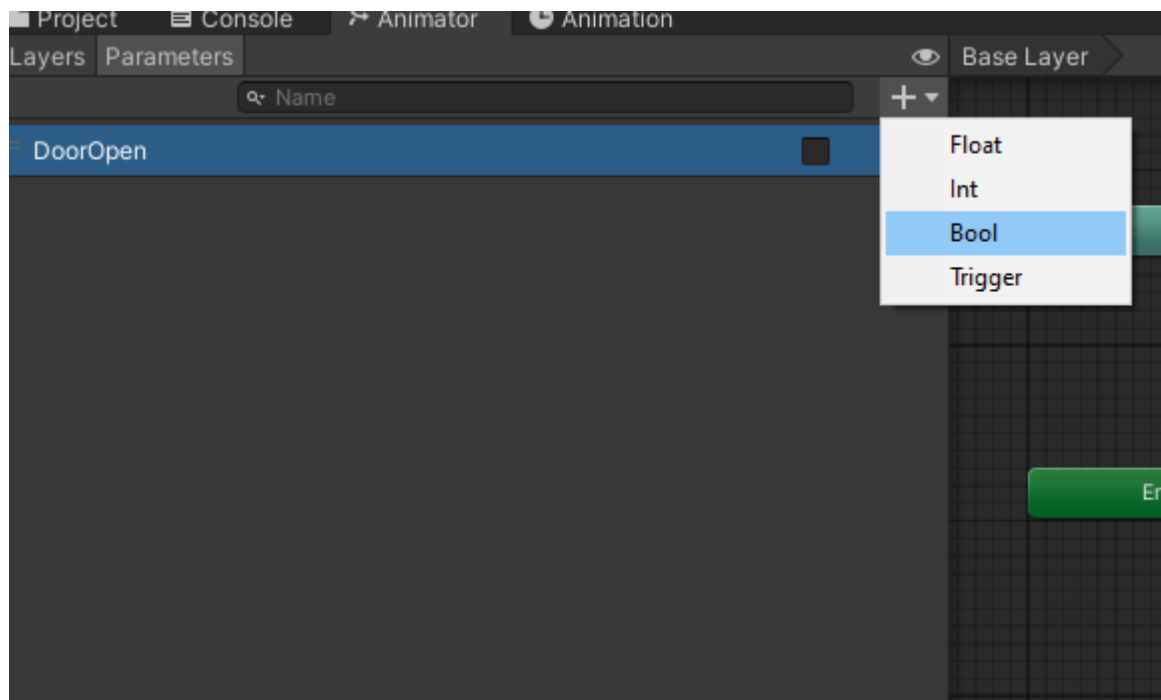
Now we can start making these transitions. Right click the DoorStatic state which should be colored yellow as it is the new default state and hit make new transitions. It will make a new arrow which you can then drag to the doorOpen state as it needs to open upon being triggered. Inside the transition arrow there should be a menu that says 'Conditions'. Click the small plus sign and it will create a new condition for this transition. The condition that it makes initially which should be DoorOpen - true is the transition that we need.
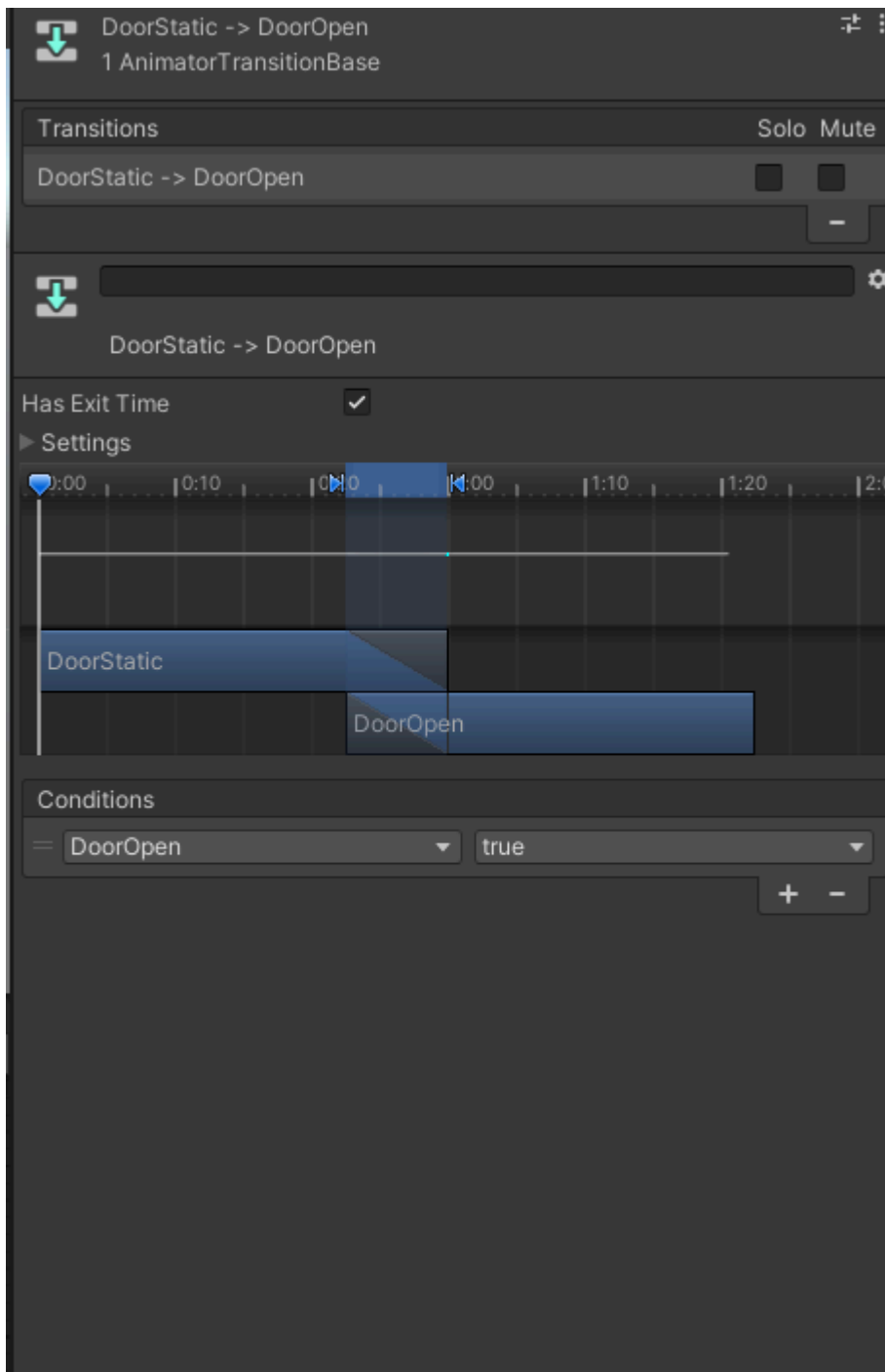
Next make these same transitions between the Door Open and Door Close states with the Open to close state being DoorOpen - false for its conditions and the DoorClose being the same condition as the Static to Open.
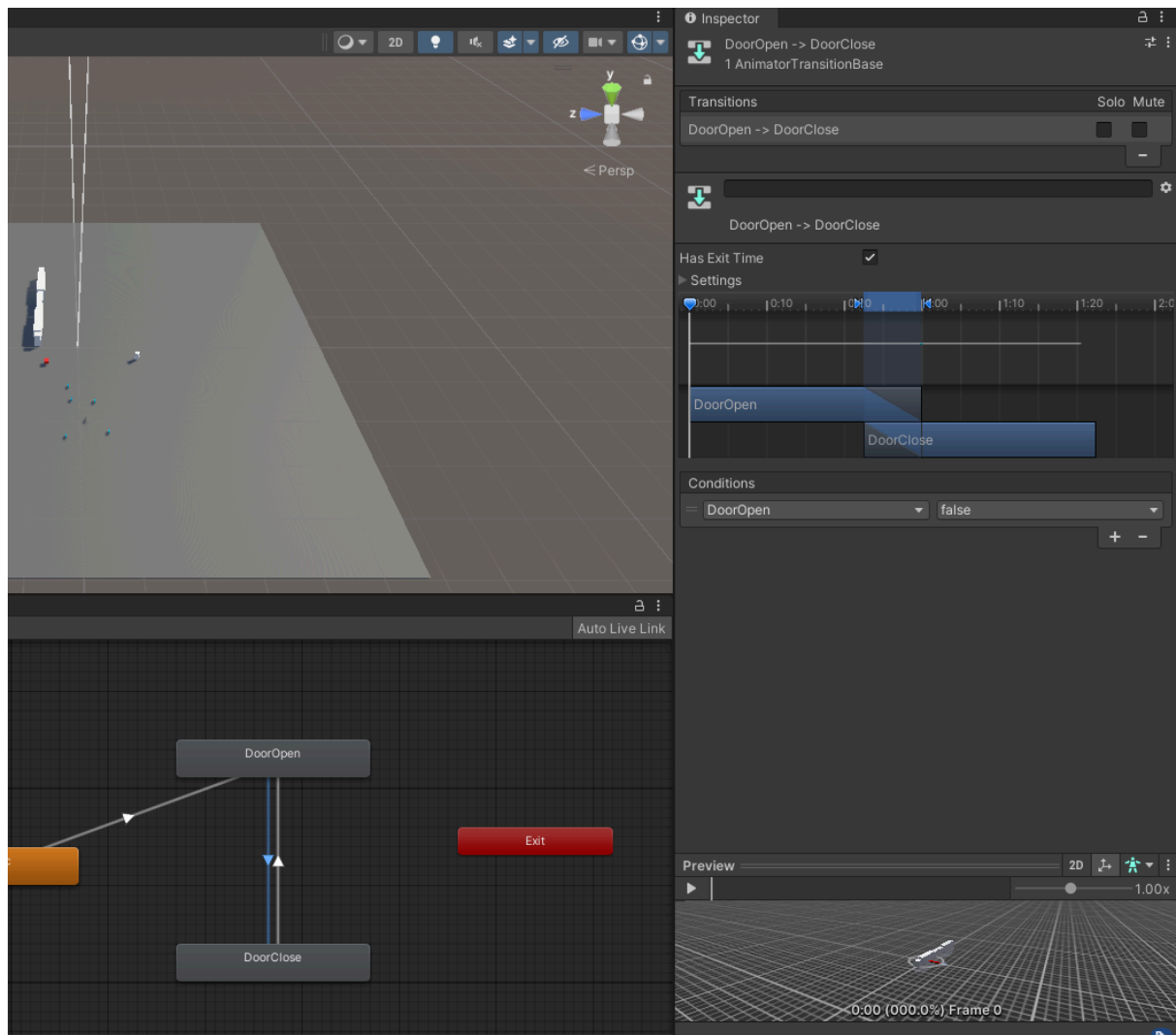
Finally to make the doors have a smooth in between animation and to be able to disturb the animations part way with movement untick the Has Exit Time on all transitions we have made.
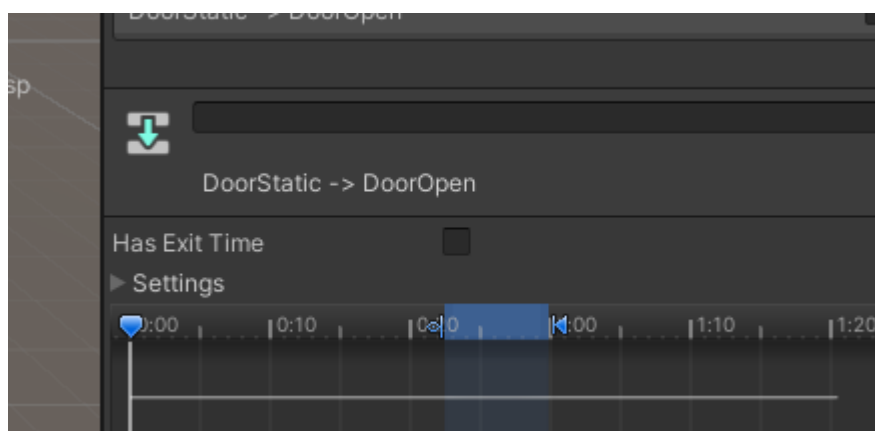

Now we can start working on getting the door opening and closing within an actual scene. Before we start making the script however we need to make an object that will trigger the animator's states we have made. To do this simply make an invisible cube around and out

the doors far enough to seem suitable to give the transitions enough time to open based on your player's speed. For my door I will be using the scale as seen here:
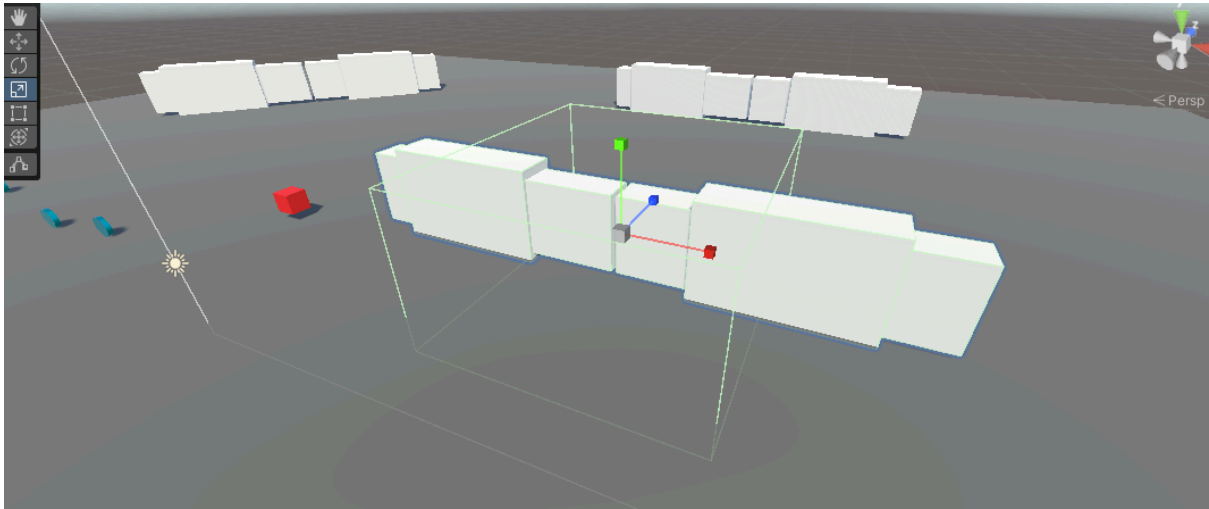
Make sure that this object is ticked as a Trigger in the inspector window. The make it a RigidBody and tick off uses Gravity and then freeze its positions in all dimensions. You don't want your doors to move locations so this will be necessary.
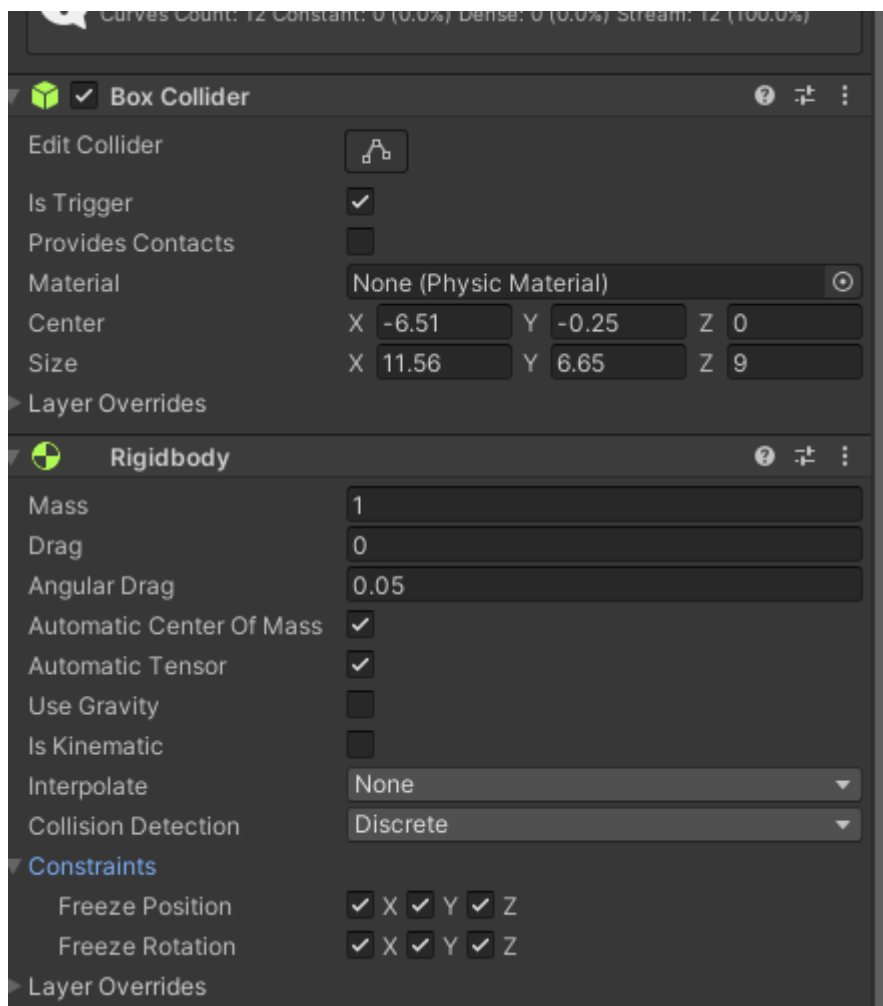
Now we can start making the script for the door itself. Add component to the Door object and hit C# script. Name this script something obvious such as SlidingDoorTrigger which I will be doing for my one. Under public class enter the following lines:

public Animator MyAnim;
public string PlayerTag;
public string OpenCloseAnimBoolName;

These lines will take the animating states we have made for references, a string variable for the player Tag if you have one (I recommend making one if you haven't already) and the string variable to pass the name of the animator Boolian variable.

```
public class SlidingDoorTrigger : MonoBehaviour
{
    public Animator MyAnim;
    public string PlayerTag;
    public string OpenCloseAnimBoolName;
```

This script will ignore the void start and update areas of the script so we can either ignore them or delete them from the script. Below the lines we have just made a private void on trigger collision detector like the following to detect if the player has moved in range of the collider to trigger the animation.

```
private void OnTriggerEnter(Collider other)
{
    if(other.tag == PlayerTag)
    {
        MyAnim.SetBool(OpenCloseAnimBoolName, true);
    }
}
```

Finally, to exit out of this function and to get the animator to close the door again, copy and paste the previous script on a new line below and change the OnTriggerEnter to OnTriggerExit and the true for the Bool to false instead of true.

```
public class SlidingDoorTrigger : MonoBehaviour
{
    public Animator MyAnim;
    public string PlayerTag;
    public string OpenCloseAnimBoolName;

    private void OnTriggerEnter(Collider other)
    {
        if(other.tag == PlayerTag)
        {
            MyAnim.SetBool(OpenCloseAnimBoolName, true);
        }
    }
    private void OnTriggerExit(Collider other)
    {
        if (other.tag == PlayerTag)
        {
            MyAnim.SetBool(OpenCloseAnimBoolName, false);
        }
    }
}
```

With all our pieces made we just need to organise them together to work in the scene. Move the Door object into the My Anim section of the script, enter the players tag exactly as spelt in the Player Tag box and finally put the damn of the Book into the Open Close Anim Bool box. It should look like the following.
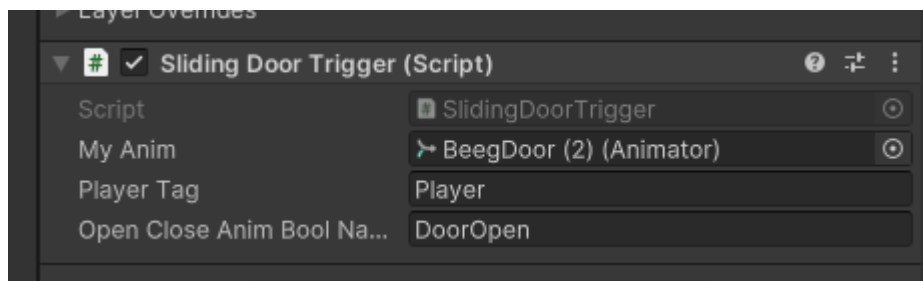
And with that the scene should run the door as intended, opening the door as you approach and closing again when you leave the area.
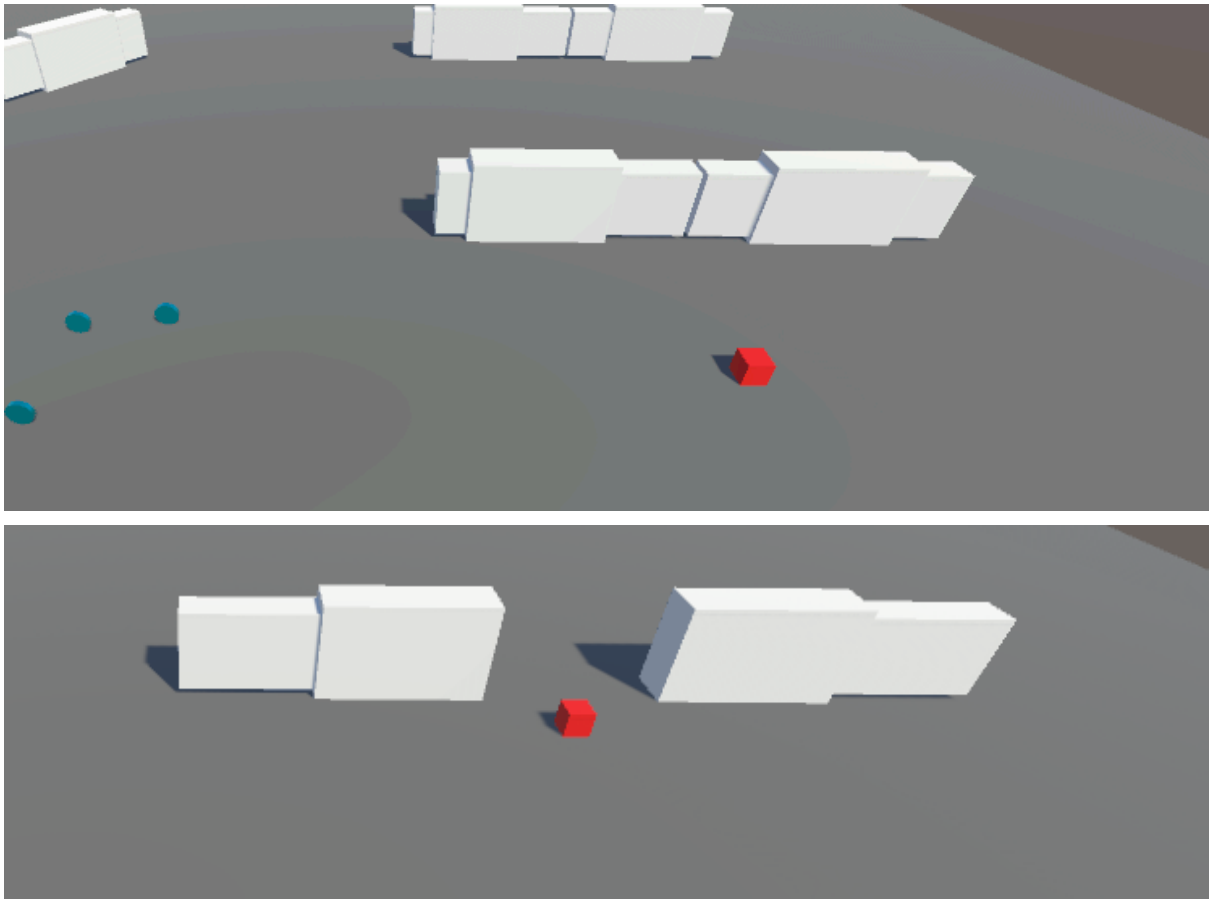
And that concludes the tutorial for making a fully operational sliding door in Unity.