

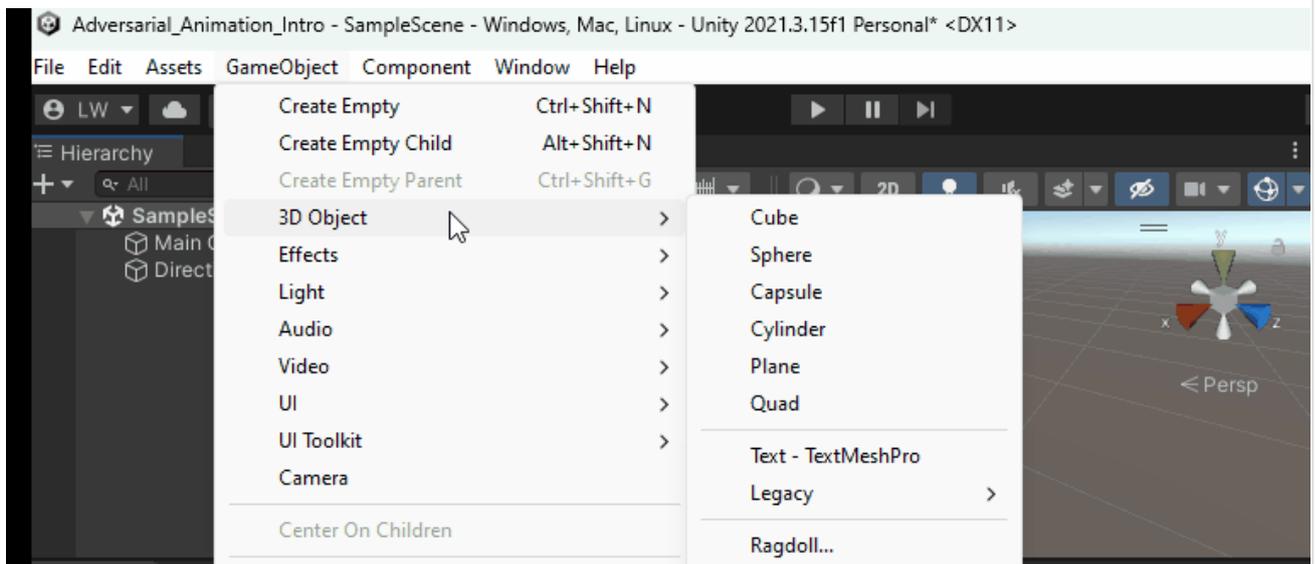
# Random walker

We will create a first GameObject and give it the functionality to randomly change it's position within a predefined range.

## Create a GameObject

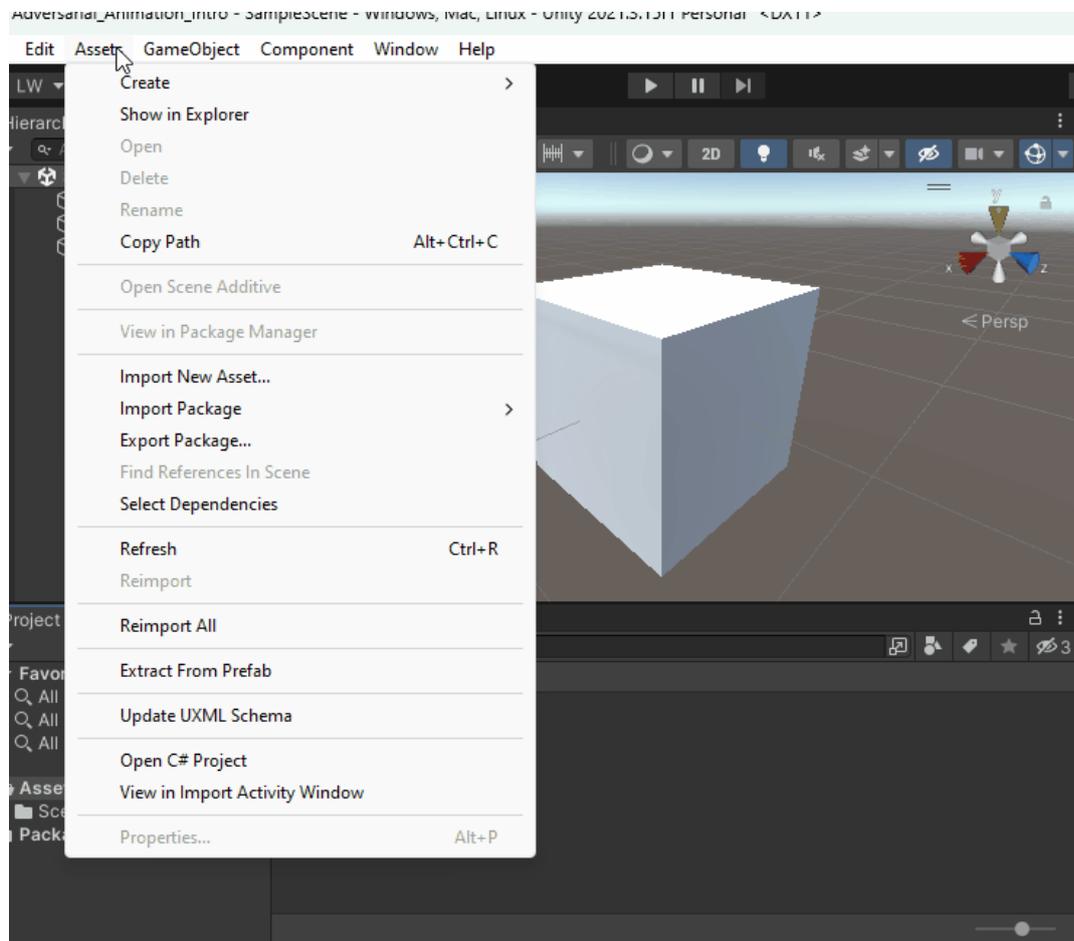
go to File -> GameObject -> cube to create your first GameObject

a handy definition for GameObject: A game object is the base class for all entities in unity



## Create a Material for our GameObject

go to Assets -> create -> Material *or* In the Assets window leftClick -> create -> Material



rename it to "green"

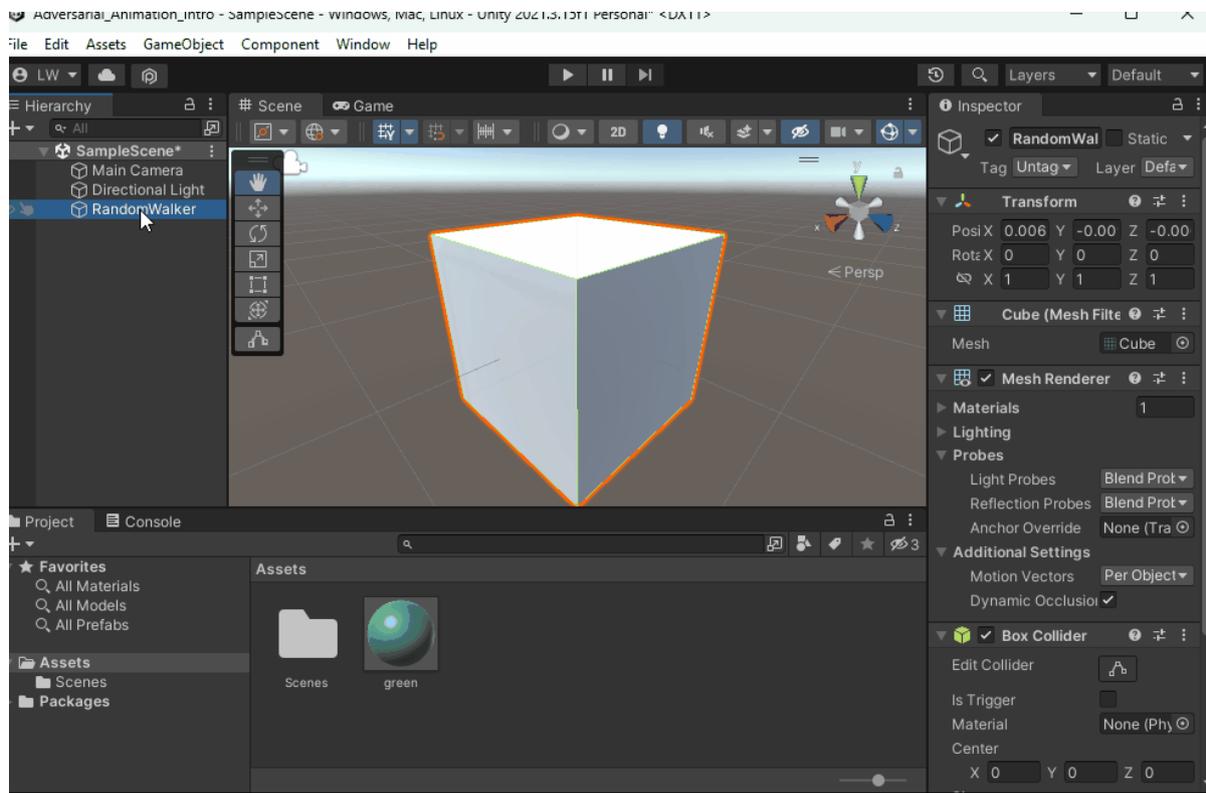
## Assign the Material to the RandomWalker GameObject

click on the **RandomWalker GameObject** in the **Scene** view or the **Hierarchy**

on the left, you will see now the **Inspector** window showing the **GameObjects'** properties!

in the **MeshRenderer** component under **Materials** you will find the current material(s) assigned.

assign the material you've just created.

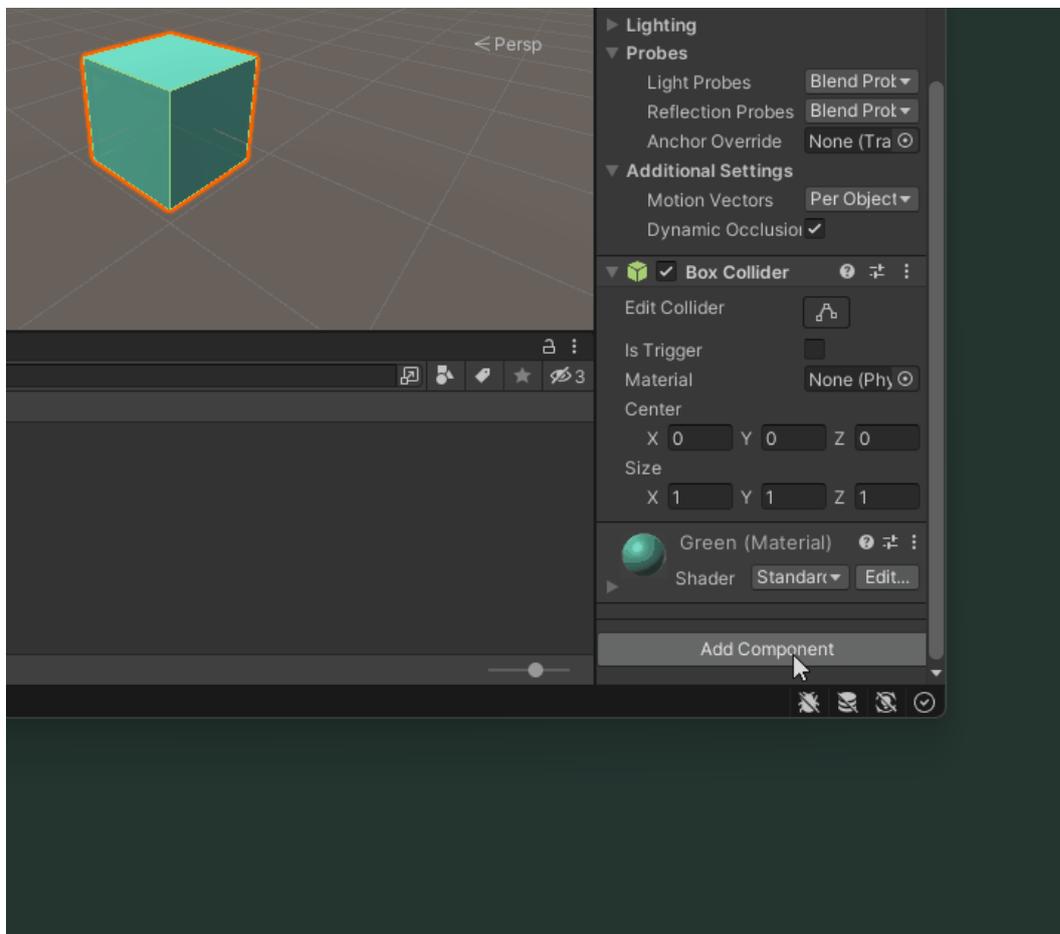


Create a Folder in the **Assets Window** and call it "**Materials**"  
Drag the newly created Material 'green' into the newly created folder "**Materials**"

## Attach a C# script to your GameObject

In the **Inspector** (right pane on default) scroll down and click 'Add Component'  
Type the name of your new **Script** in this case "**RandomWalker**" and press the enter key.

In the **Assets Window** you'll see the newly created **Script**.



Create a Folder in the **Assets Window** and call it "**Scripts**"

Drag the Script "**RandomWalker**" into the newly created Folder called **Scripts**

### Edit the C# script to add random walk functionality to the RandomWalker class

When the script is created, it normally opens immediately in the IDE that is associated with Unity

in our case, that is Visual Studio Code. You can change the associated editor under File -> Preferences -> External Tools

If the editor does not open, you can click with your mouse on the script in the **Assets** window, generally you can find all Scripts in the folder "Scripts."

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class RandomWalker : MonoBehaviour
{
```

```
public float speed = 2f; // speed of movement
public float range = 3f; // range of movement
private Vector3 targetPosition;

void Start()
{
    targetPosition = transform.position + Random.insideUnitSphere * range;
}

void Update()
{
    // move towards target position
    transform.position = Vector3.MoveTowards(transform.position, targetPosition, speed *
Time.deltaTime);
    // if target position is reached, set a new random target position
    if (Vector3.Distance(transform.position, targetPosition) < 0.1f)
    {
        targetPosition = transform.position + Random.insideUnitSphere * range;
    }
}
}
```

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