

Duck Hunter Augmented Reality Setup and GUI Part 1



HELLO!

Kami

Dosen Pemrograman Game




Duck Hunter Augmented Reality Setup and GUI Part 1

1. Mengumpulkan dan mengimpor aset game yang diperlukan.
2. Membangun Medan.
3. Menambahkan The Bird & Collider.
4. Menambahkan Target pada Kubus.
5. Memindahkan Burung dan Target

1.
Mengumpulkan
dan mengimpor
aset game yang
diperlukan.






Download dan import pada
Unity3D


Outdoor Ground Textures

https://assetstore.unity.com/packages/2d/textures-materials/floors/outdoor-ground-textures-12555?aid=1011ld79j&utm_source=aff




Outdoor Ground Textures PBR
14 high quality Ground textures.


1/18



Outdoor Ground Textures

 A dog's life software ★★★★☆ 4 | 26 Reviews


FREE

[Open in Unity](#) 


License	Extension Asset
File size	305.4 MB
Latest version	1.2
Latest release date	Sep 27, 2016
Supported Unity versions	5.1.0 or higher
Support	Visit site



Terrain Tools Sample Asset Pack

<https://assetstore.unity.com/packages/2d/textures-materials/nature/terrain-tools-sample-asset-pack-145808>




1/4






Terrain Tools Sample Asset Pack

 Unity Technologies ★★★★☆ 4 | 111 Reviews

FREE

[Open in Unity](#) 

License	Extension Asset
File size	325.4 MB
Latest version	1.0
Latest release date	May 23, 2019
Supported Unity versions	2019.1.1 or higher
Support	Visit site

Image Target pada Ims



Duck Hunt Assets URL

DuckHuntAssets.zip 4 item

■ Bird

■ gun

■ Sounds

■ Sprites

Target Manager

Buka pada browser developer vuforia. Setelah login masuk ke tab "Target Manager", kemudia klik "Add Database"

vuforia engine[™]
developer portal

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Hello winlost23 ▾ | [Log Out](#)

[License Manager](#) [Target Manager](#)

Target Manager

Add Database

Use the Target Manager to create and manage databases and targets.

Search

Database	Type	Targets	Date Modified
BelajarAR	Device	3	Nov 02, 2020
jawapos	Device	11	Apr 27, 2014
NI	Device	5	May 24, 2015
ph_emperor	Device	3	Feb 27, 2014
teshis	Device	28	Oct 12, 2016

Target Manager

Tampilan Add Database. Isikan name database, lalu pilih type device, kemudia klik "Create"

Create Database

Database Name *

BelajarAR

Type:

☒ Device

☐ Cloud

☐ VuMark

Cancel

Create

Target Manager

Lalu akan muncul database barusan di buat. Dan klik row databasenya.

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developer portal

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[License Manager](#) [Target Manager](#)

Target Manager

Add Database

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Target Manager

Tampilan setelah row database di klik. Kemudian klik tombol "Add Target"

[License Manager](#) [Target Manager](#)




Target Manager > BelajarAR

BelajarAR [Edit Name](#)

Type: Device

Targets (3)

[Add Target](#) [Download Database \(All\)](#)


<input type="checkbox"/>	Target Name	Type	Rating ^①	Status [▼]	Date Modified
<input type="checkbox"/>	 batu	Single Image	★★★★★	Active	Nov 02, 2020 14:15
<input type="checkbox"/>	 stones	Single Image	★★★★★	Active	Nov 02, 2020 12:18
<input type="checkbox"/>	 astronot	Single Image	★★★★★	Active	Nov 01, 2020 22:35

Target Manager


Tampilan Add Targer. Lalu pilih file yang sudah didownload dari lms. Lalu isikan "Width" = 4, Lalu isikan namanya. Lalu klik Add

Add Target


Type:




Single Image



Cuboid



Cylinder



3D Object

File:

Browse...

.jpg or .png (max file 2mb)

Width:

Enter the width of your target in scene units. The size of the target should be on the same scale as your augmented virtual content. Vuforia uses meters as the default unit scale. The target's height will be calculated when you upload your image.

Name:

Name must be unique to a database. When a target is detected in your application, this will be reported in the API.

Cancel Add

Target Manager

Setelah itu muncul pada database dengan nama batu. Lalu klik "Download Database"

License Manager

Target Manager

Target Manager > BelajarAR




BelajarAR Edit Name

Type: Device

Targets (3)

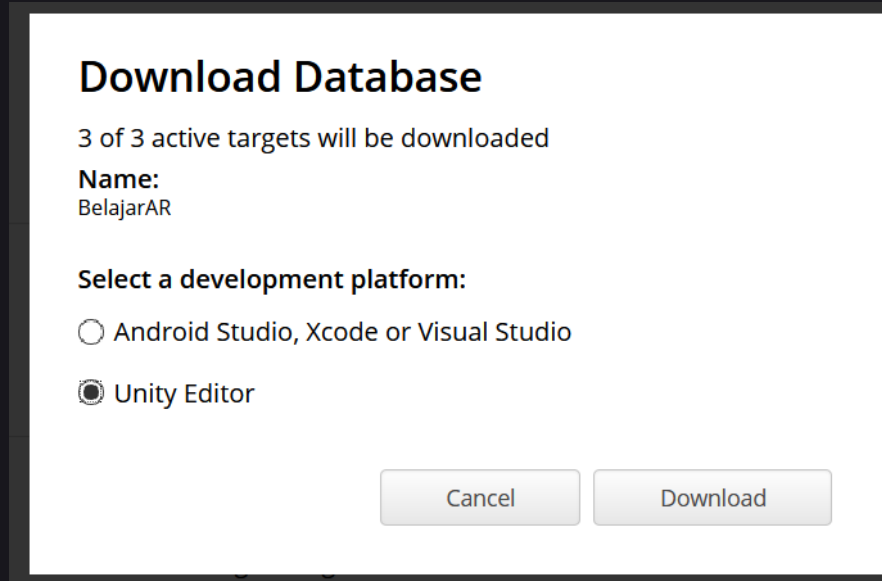
Add Target

Download Database (All)

<input type="checkbox"/>	Target Name	Type	Rating ^①	Status [▼]	Date Modified
<input type="checkbox"/>	 batu	Single Image	★★★★★	Active	Nov 02, 2020 14:15
<input type="checkbox"/>	 stones	Single Image	★★★★★	Active	Nov 02, 2020 12:18
<input type="checkbox"/>	 astronot	Single Image	★★★★★	Active	Nov 01, 2020 22:35

Target Manager

Lalu muncul pilihan download. Pilih Unity Editor, lalu klik Download



Download Database

3 of 3 active targets will be downloaded

Name:
BelajarAR

Select a development platform:

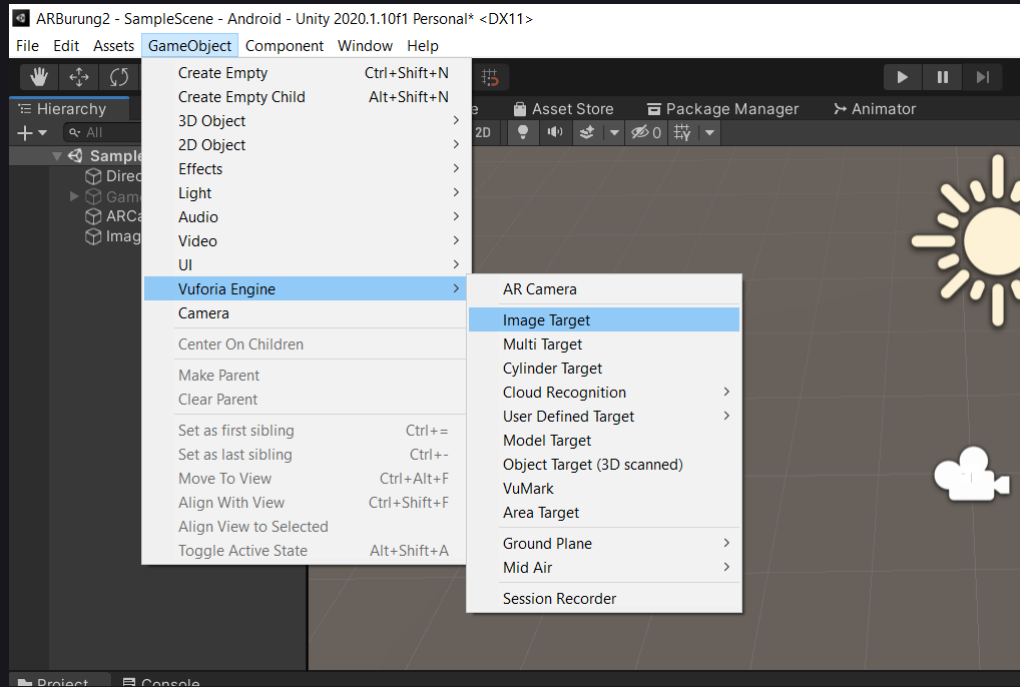
☐ Android Studio, Xcode or Visual Studio

☒ Unity Editor

Cancel Download

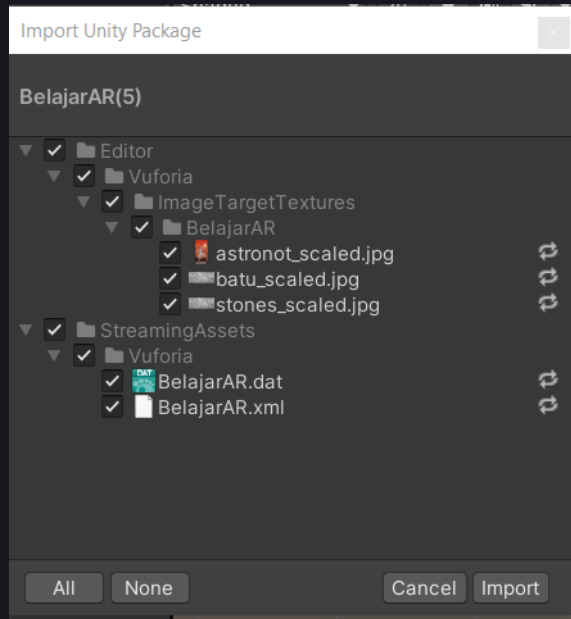
Unity3D

Buka Unity3D lalu tambahkan ARCamera yang sudah di beri key.
Kemudian tambahkan "Image Target".



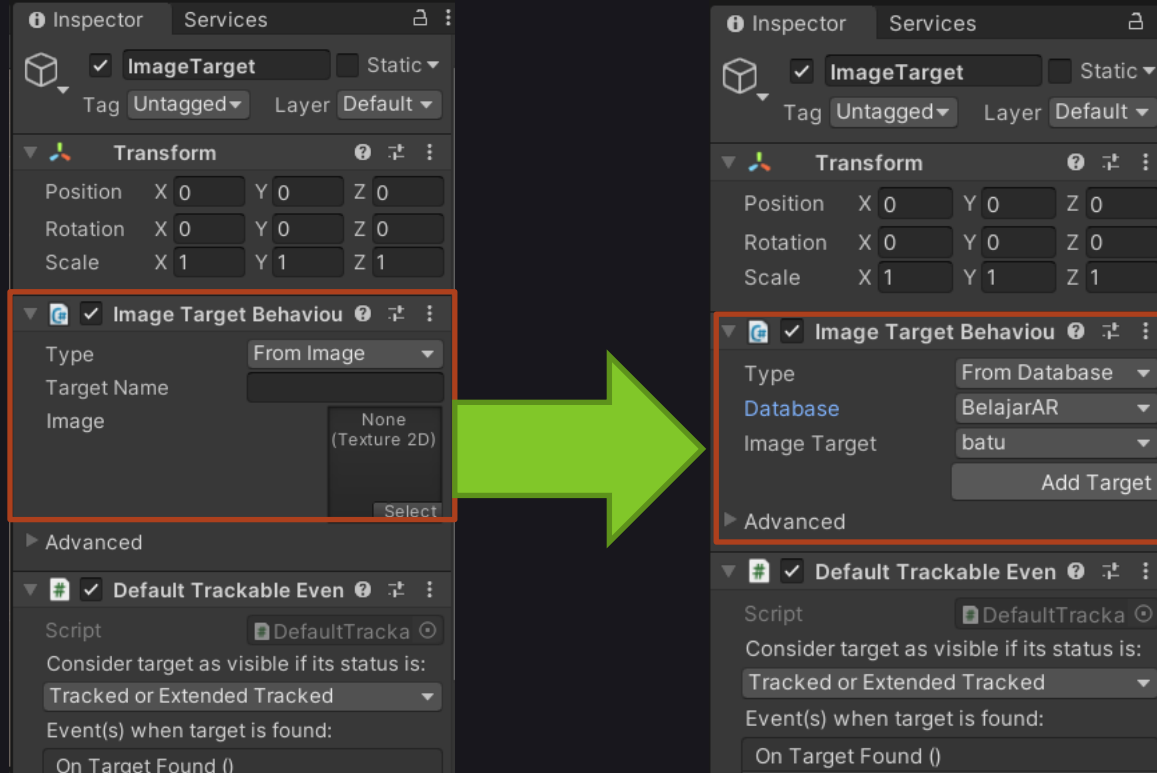
Unity3D

Import Image Target yang sudah di download. Lalu klik tombol "Import"



Unity3D

Pada bagian Inspector ImageTarget fokus pada kotak merah. Pilih type "From Database" dan database dan image targetnya.

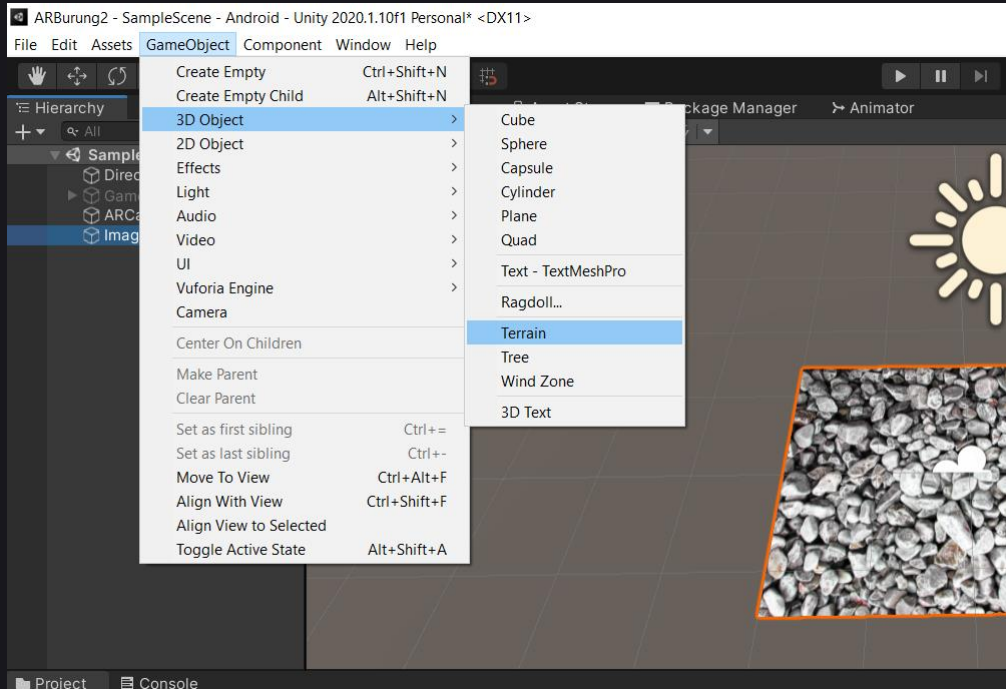


2. Membangun Medan



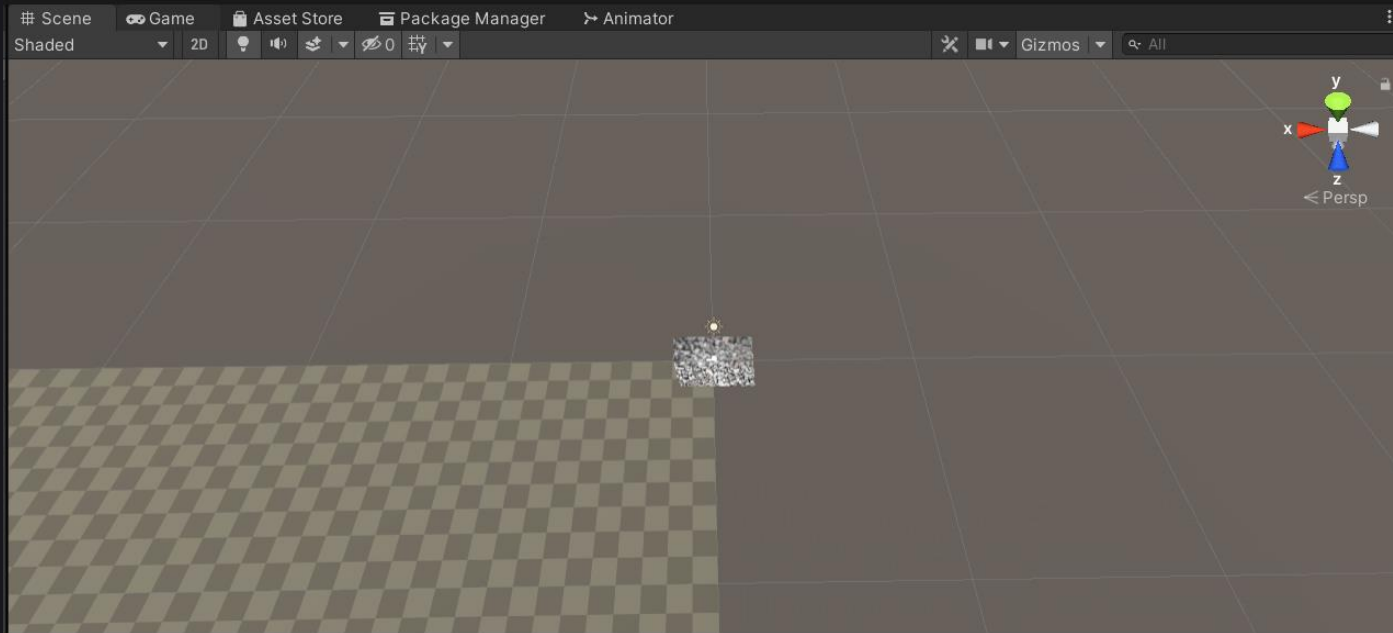
Unity3D

Membuat medan, dengan cara add Terrain.



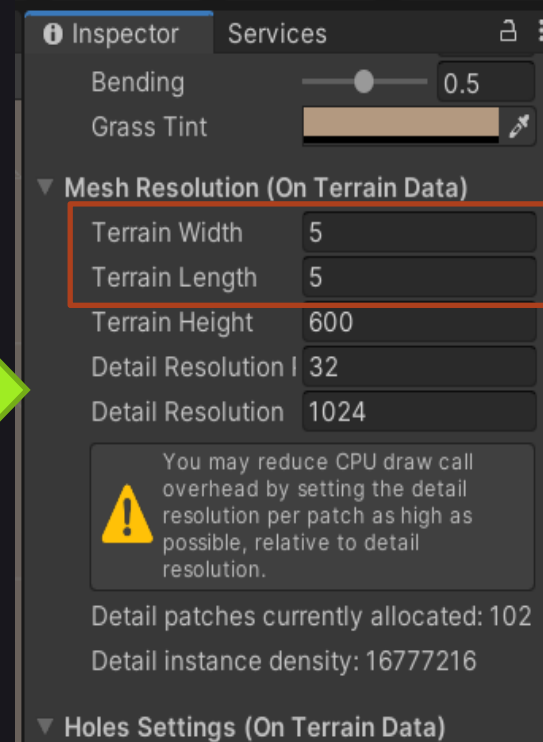
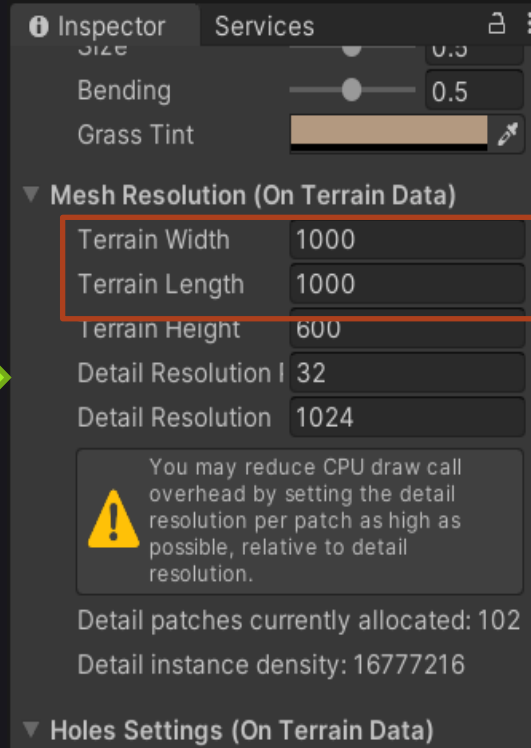
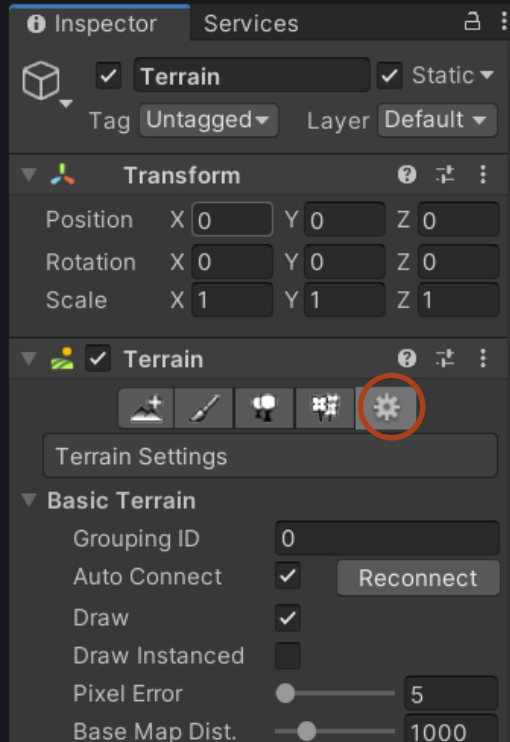
Unity3D

Terrain yang sudah di buat sangatlah besar, sehingga harus disesuaikan dengan ukuran markernya



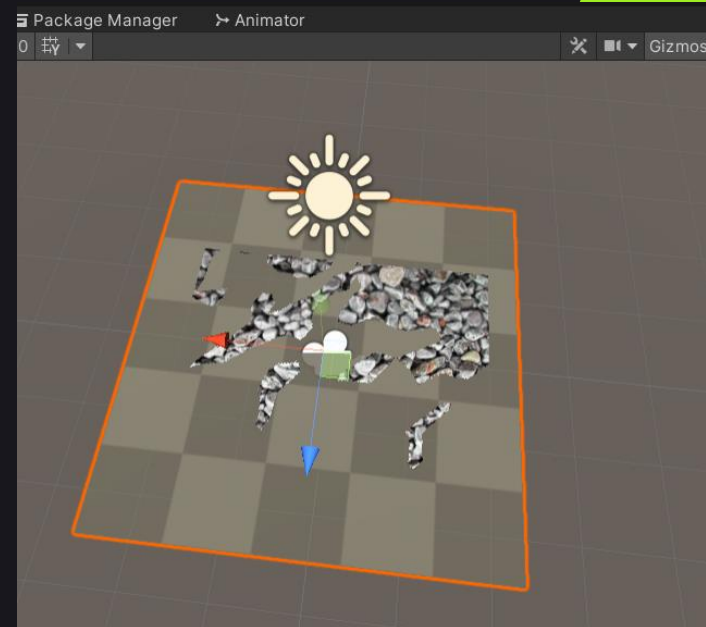
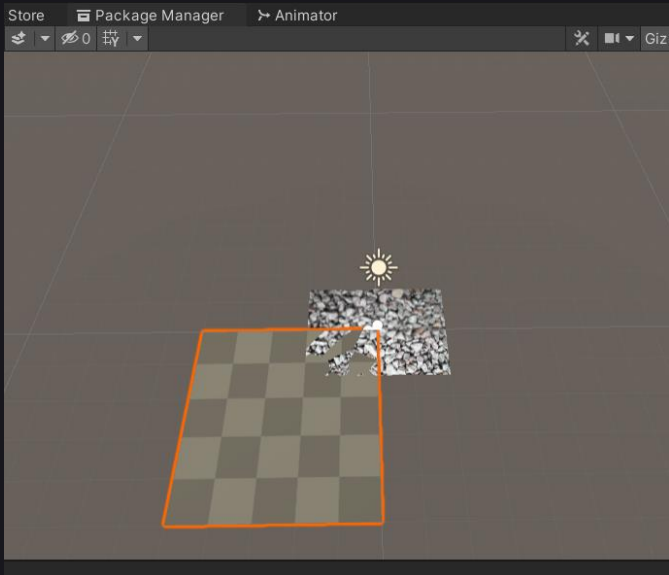
Unity3D

Menuju Inspector Terrain, lalu klik gambar yang dilingkari yaitu "Terrain Settings". Scroll dan cari bagian Mesh Resolution dan ubah width dan length nya menjadi 5.



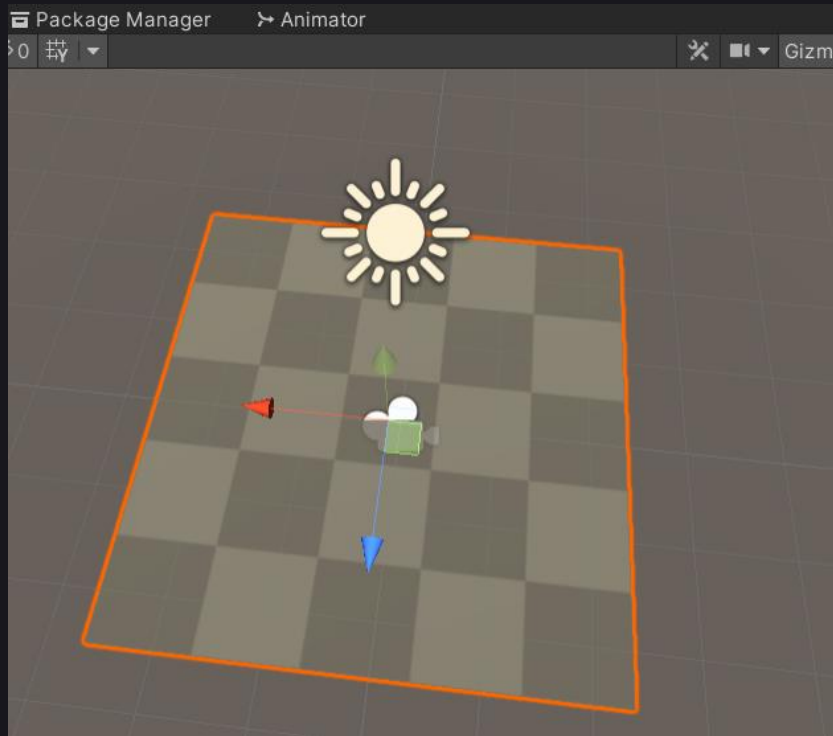
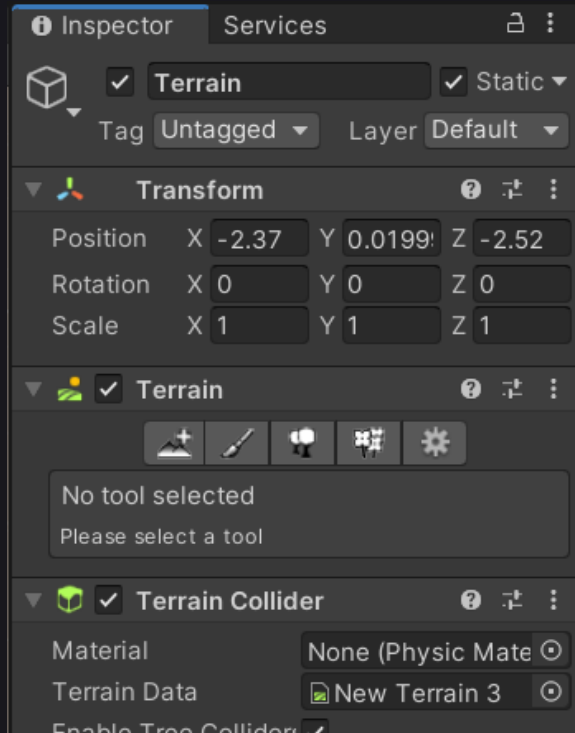
Unity3D

Sehingga ukuran terrain sudah sesuai dengan marker. Kemudian posisikan terrain di tengah-tengah marker.



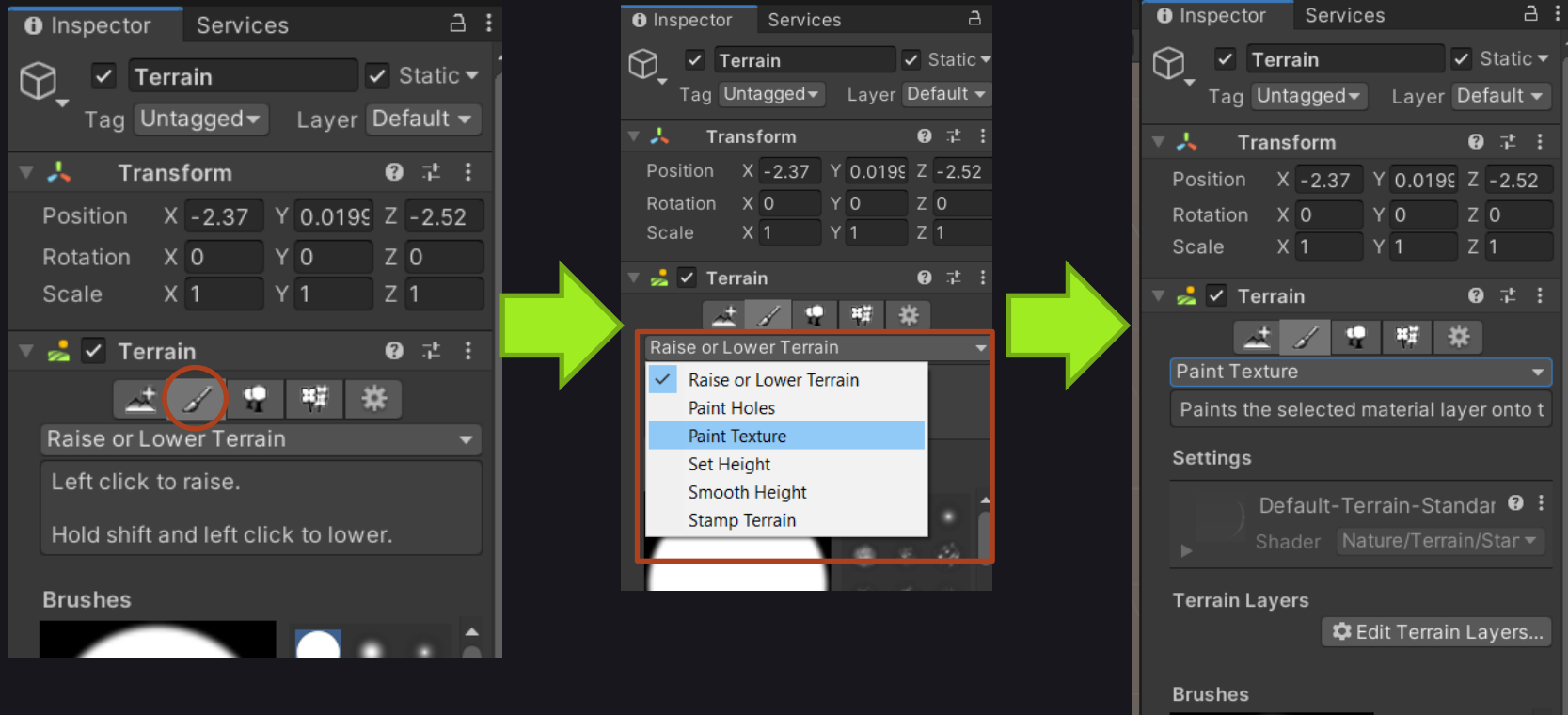
Unity3D

Naikan sedikit terrain di atas marker. Sehingga terrain menutupi image target



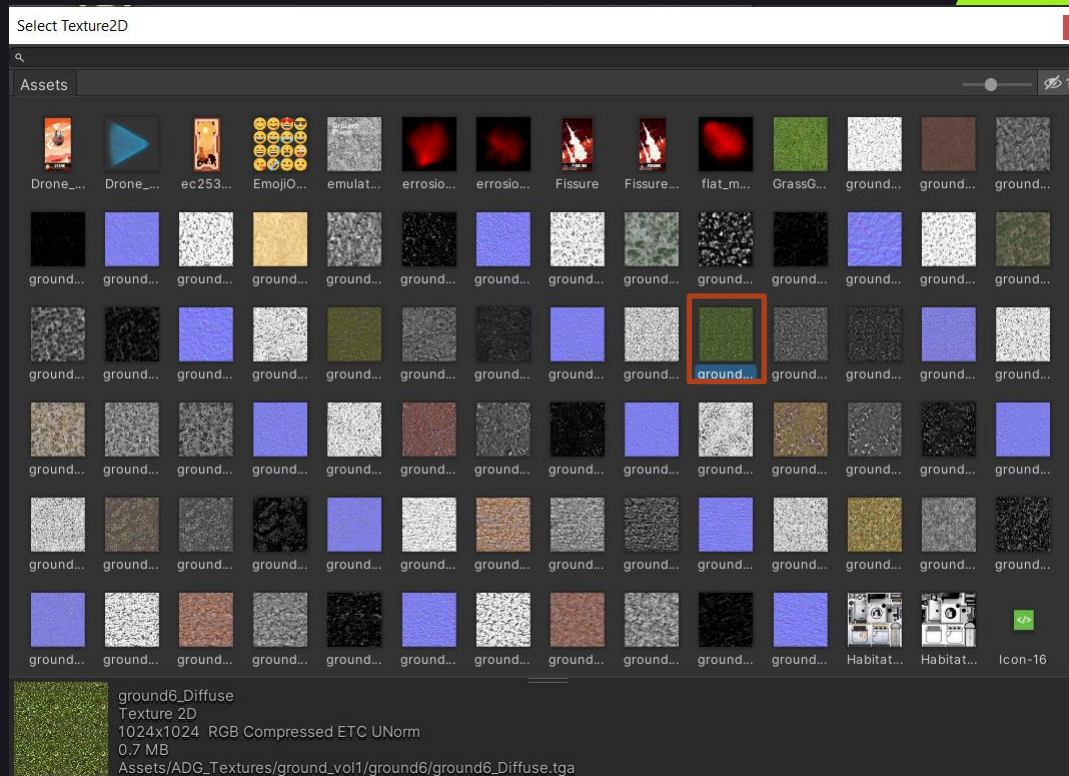
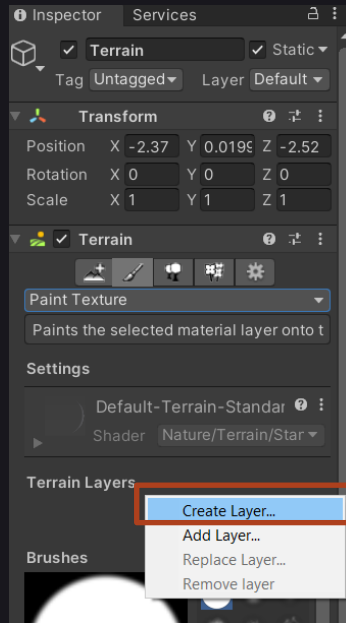
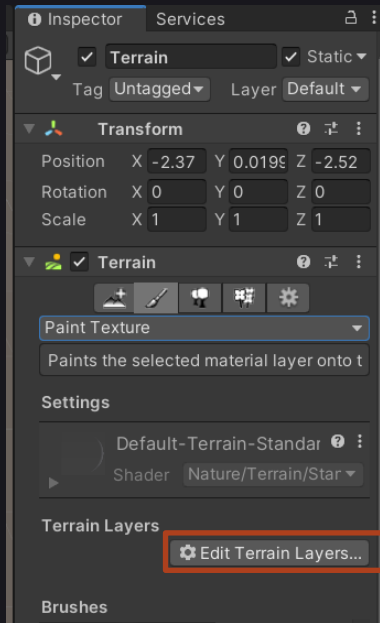
Unity3D

Memberi texture dasar pada terrain dengan cara klik "Paint Terrain" -> pilih "Paint Texture"



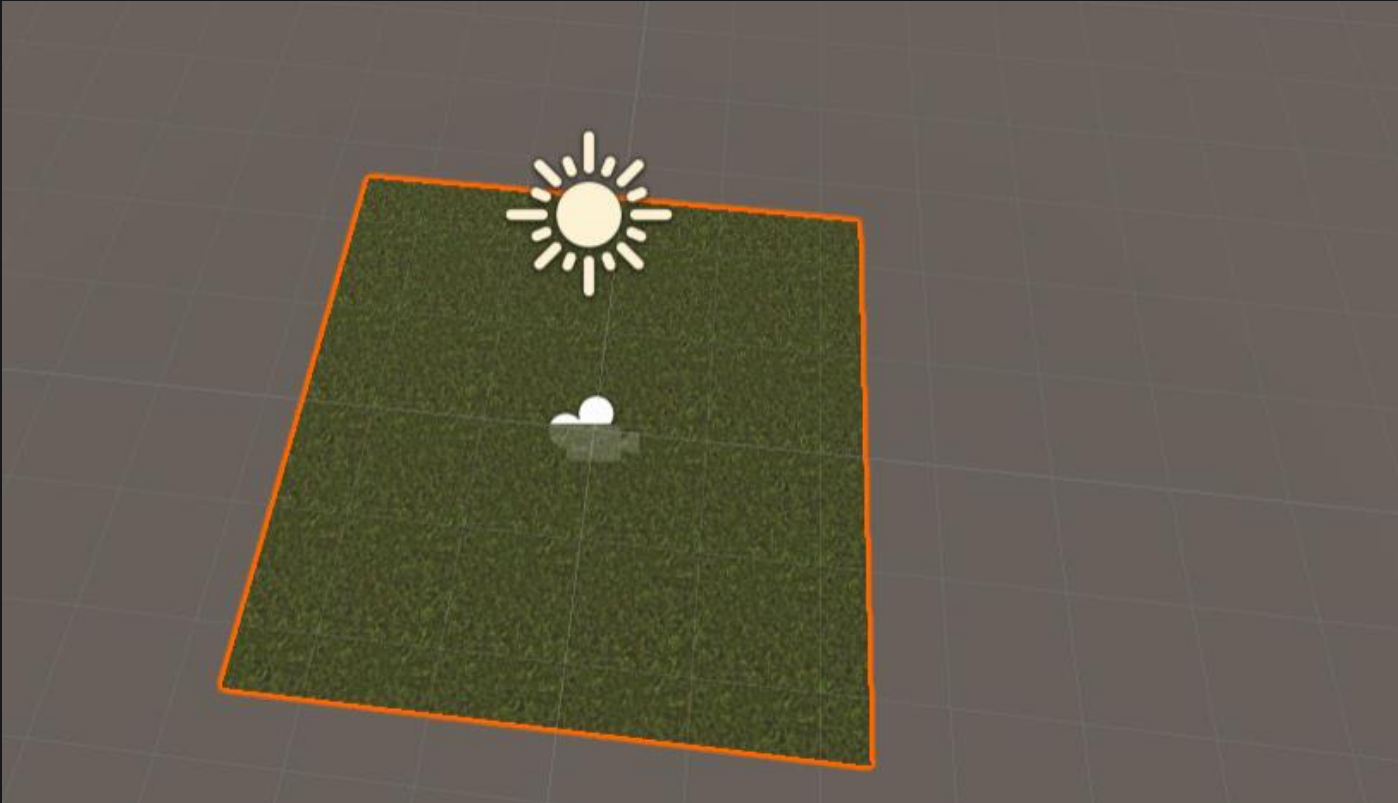
Unity3D

Lalu klik "Edit Terrain Layers..." -> "Create Layer" -> pilih "ground6_Diffuse" atau sesuai yang diinginkan.



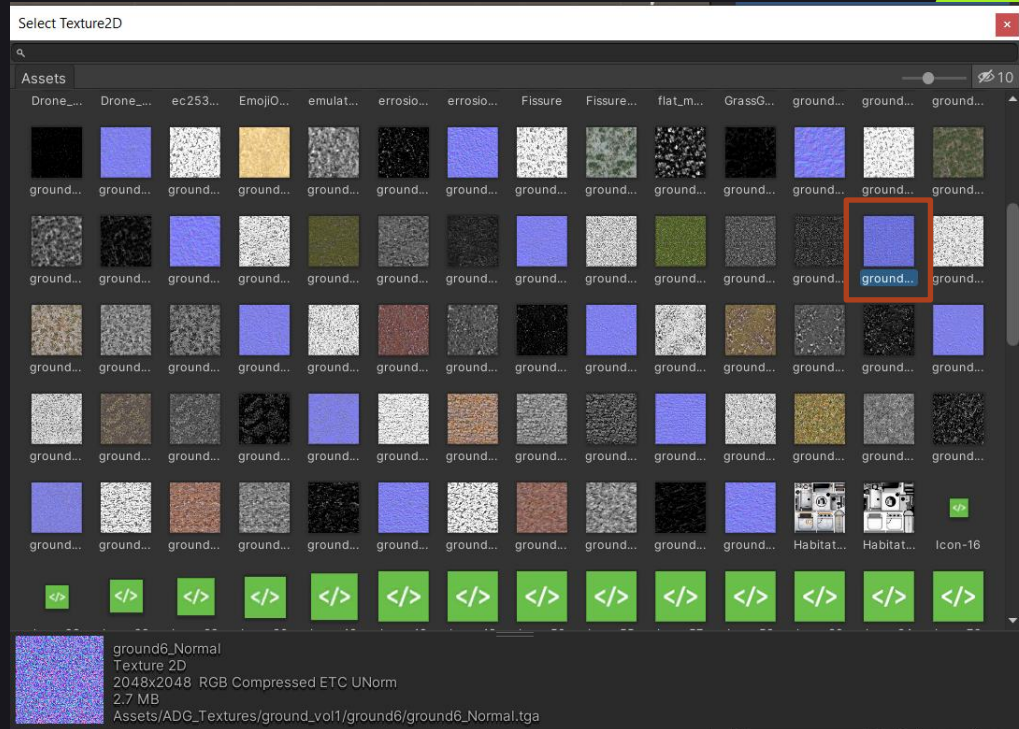
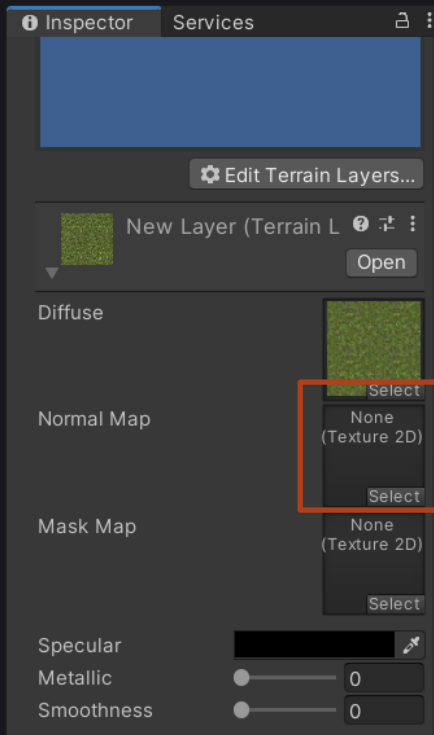
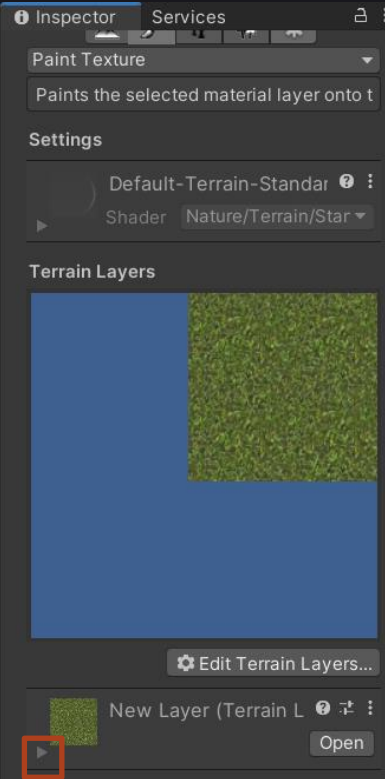
Unity3D

Tampilan terrain sudah di beri texture



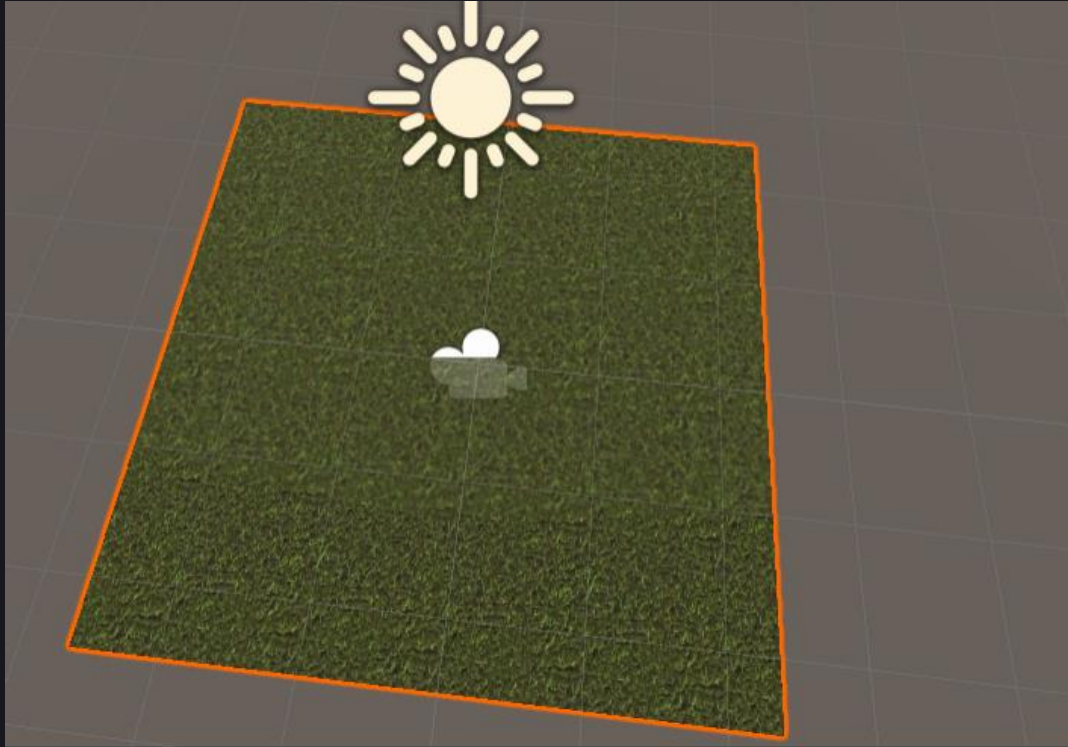
Unity3D

Supaya groundnya terlihat lebih nyata. Kita tambahkan texture pada normal map.



Unity3D

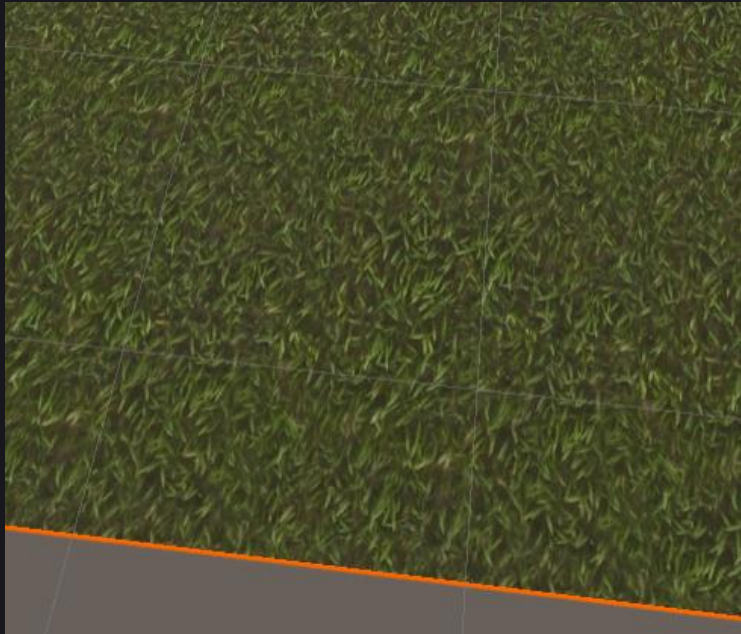
Tampilan terrain sudah di beri tambahan texture normal map



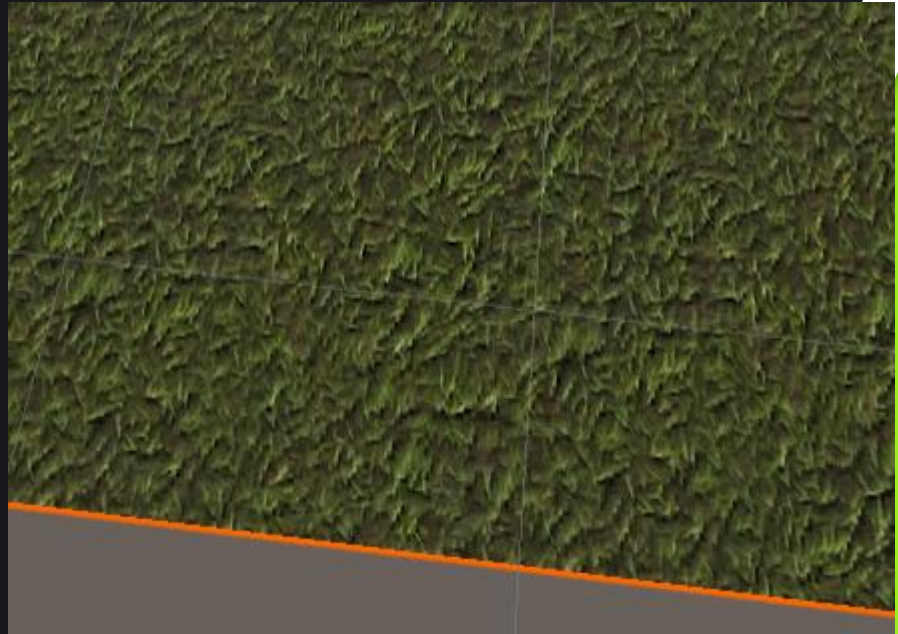
Unity3D

Tampilan sebelum dan sesudah diberi normal map

Sebelum

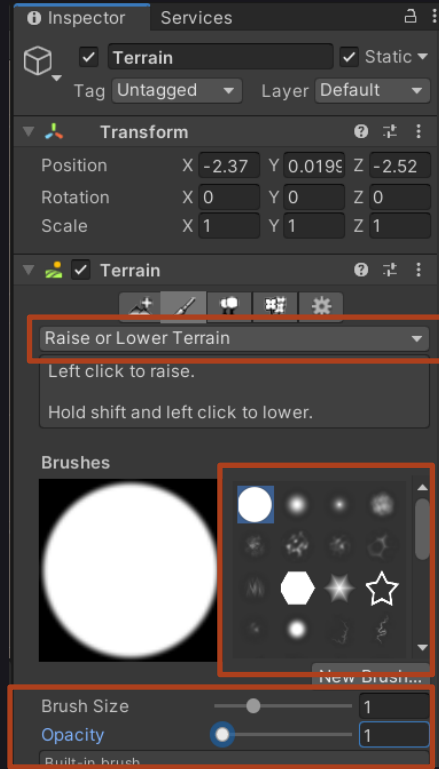


Sesudah



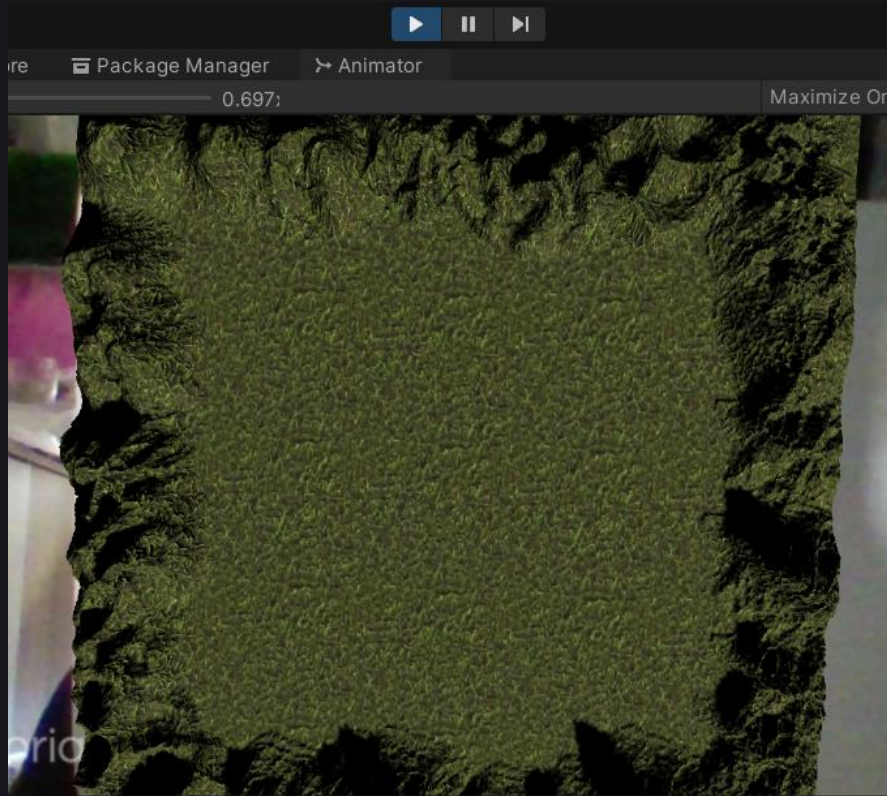
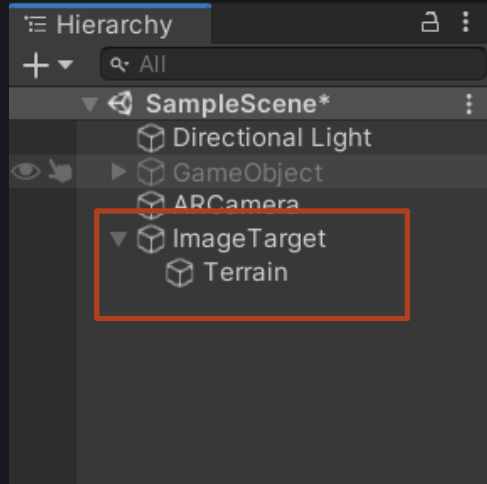
Unity3D

Membuat pegunungan di pinggir terrain. Pilih "Raise or Lower Terrain" -> pilih "Brushes" sesuai keinginan. Kemudian atur size dan opacity nya.



Unity3D

Play untuk melihat hasilnya. Sebelumnya masukan "Terrain" ke dalam "ImageTarget"

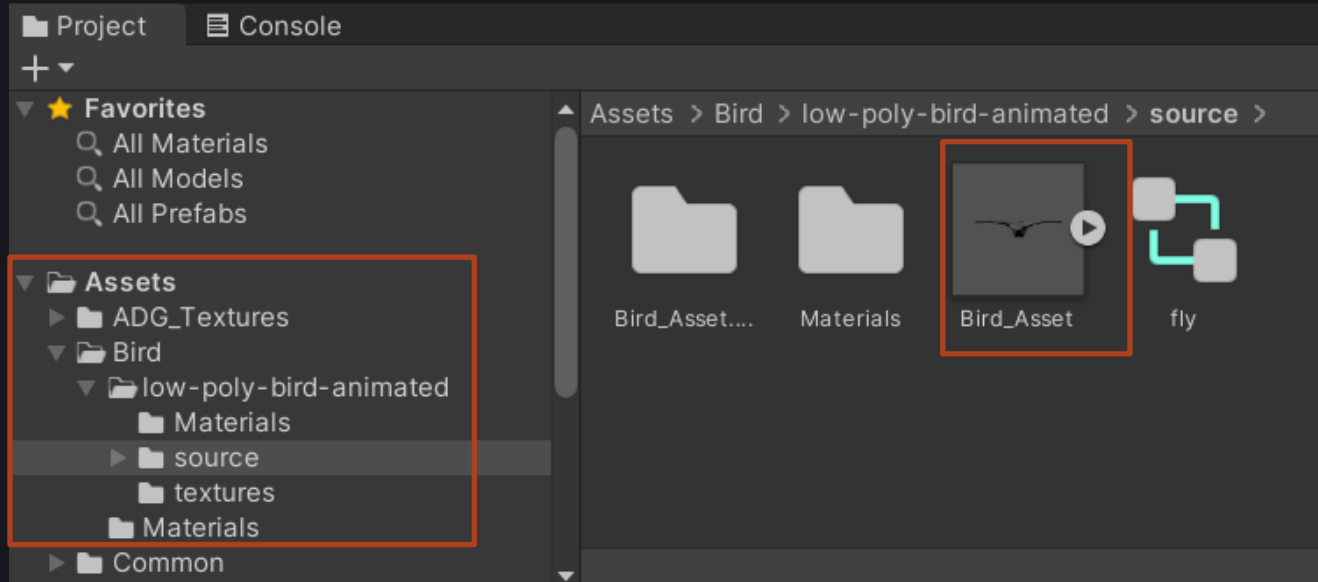


3. Menambahkan The Bird & Collider



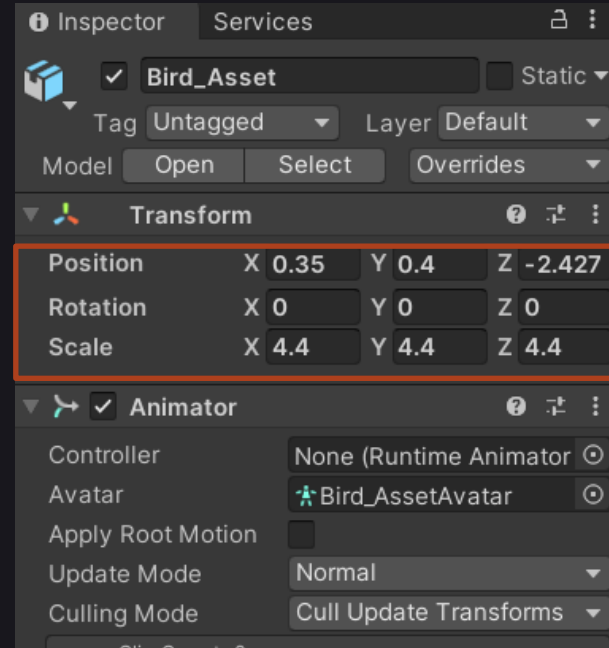
Unity3D

Memasukan objek burung ke dalam unity. Klik pada Assets->Bird->Source.
Kemudian drag and drop "Bird_Asset" ke dalam



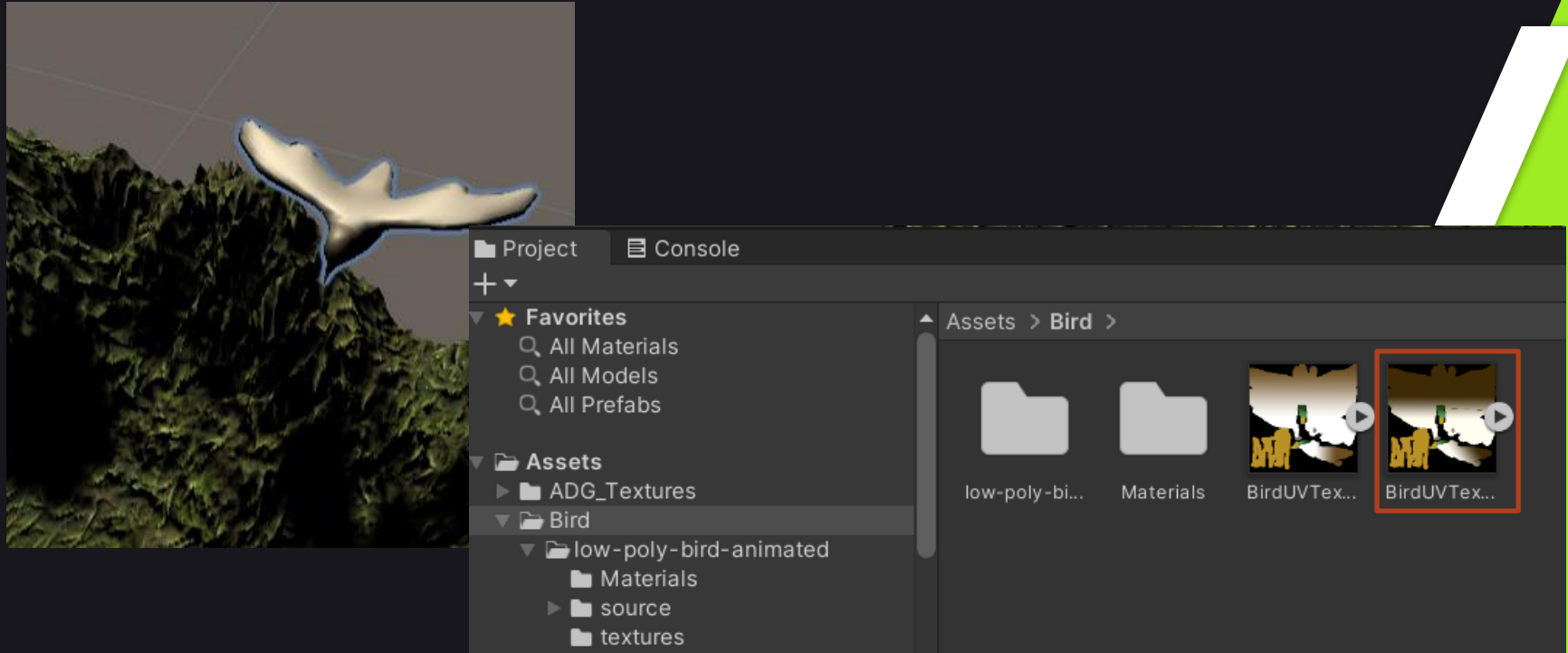
Unity3D

Burungnya terlihat sangat kecil. Kemudian kita besarkan dan atur posisi dengan merubah pada inspector ya pada bagian transform



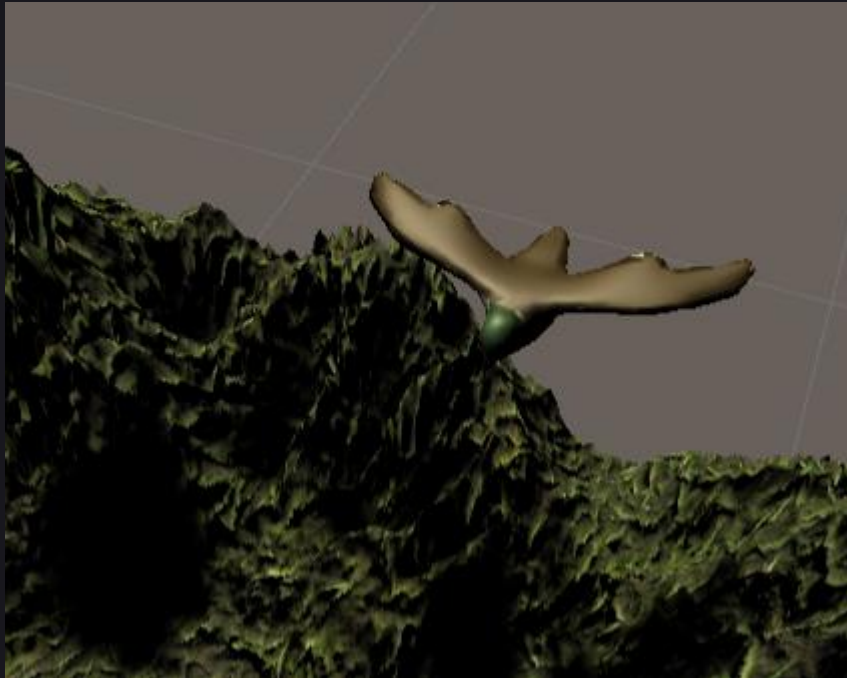
Unity3D

Untuk mempercantik burungnya, kita tambahkan texture dengan cara klik "BirdUVTex...." drag & drop ke objek burung. Dengan selection burungnya terlebih dahulu.



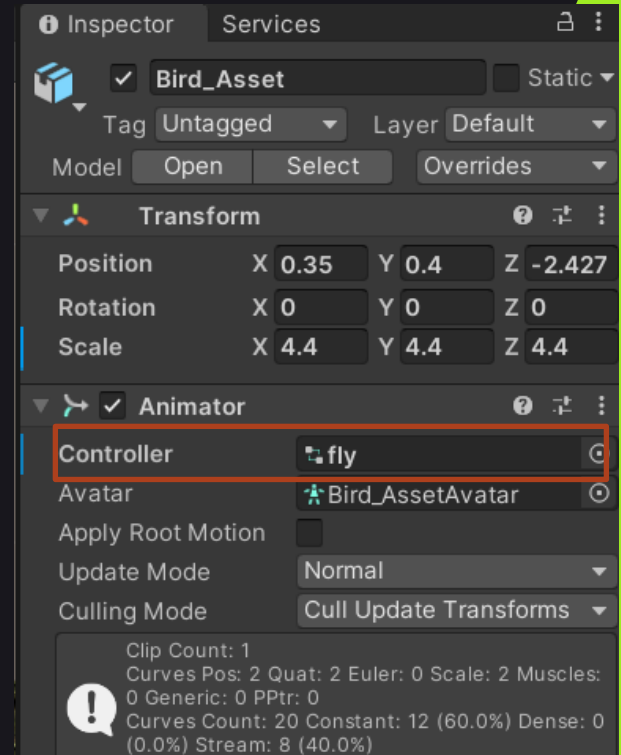
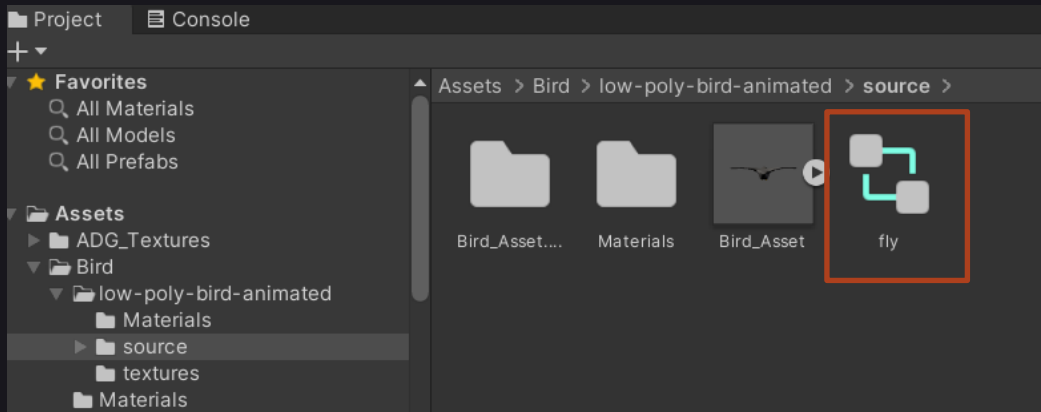
Unity3D

Hasil burung sudah di beri texture



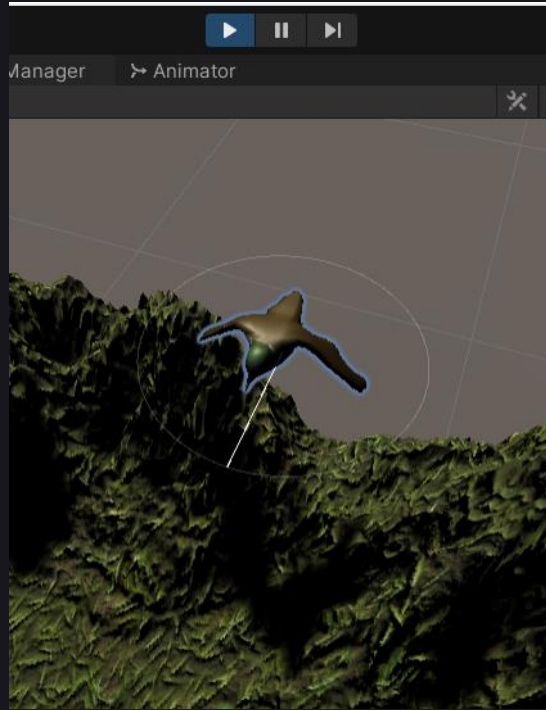
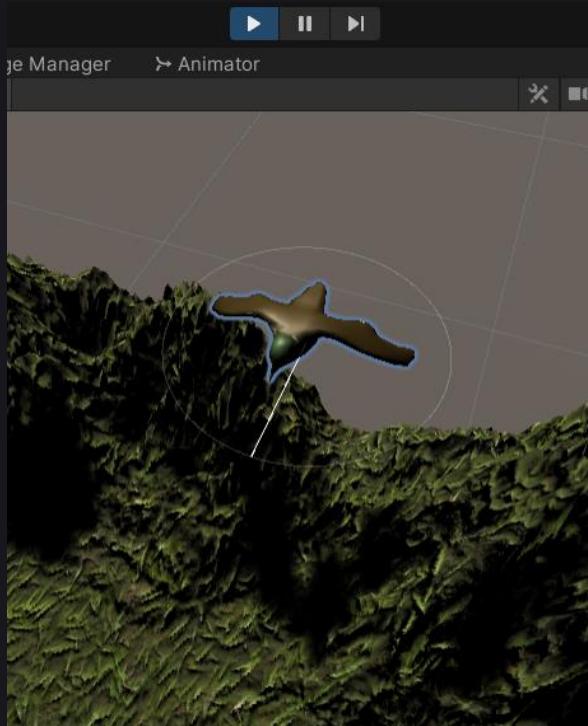
Unity3D

Tambahkan animasi pada burung, drag and drop "fly" ke dalam controller burung.



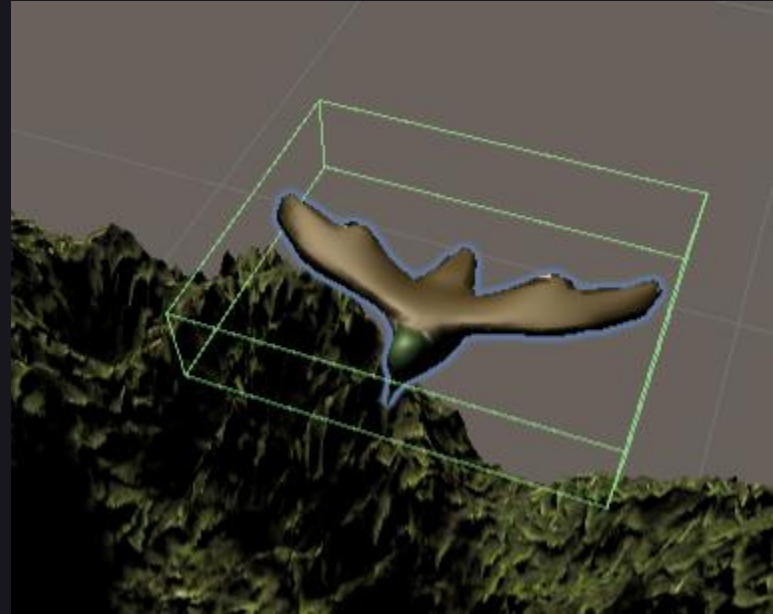
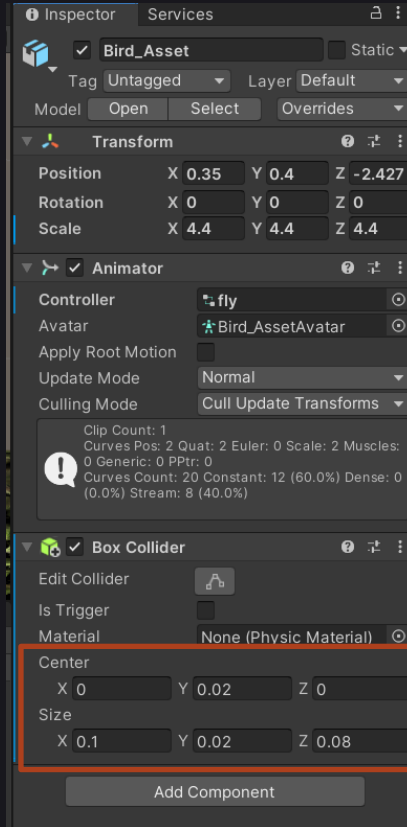
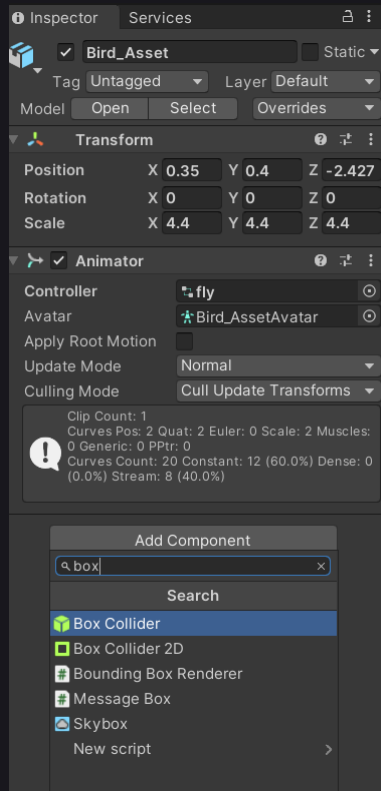
Unity3D

Jika di jalankan burung tersebut akan mengepakkan sayapnya



Unity3D

Berikutnya tambakan "Box Collider" dan seting ukuran beserta posisinya

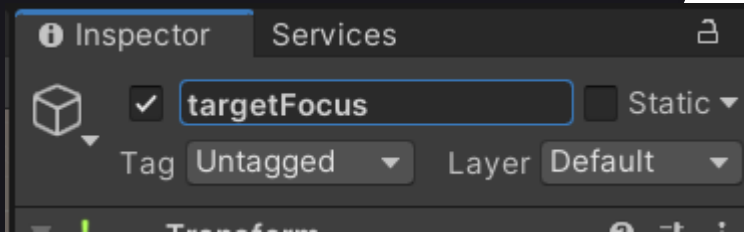
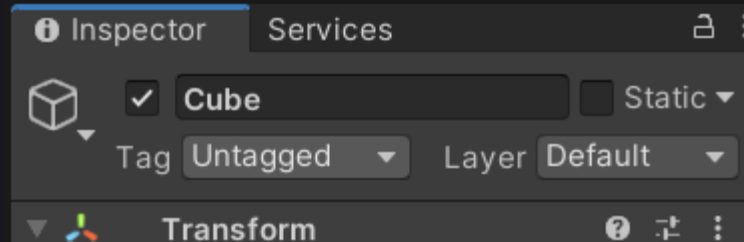
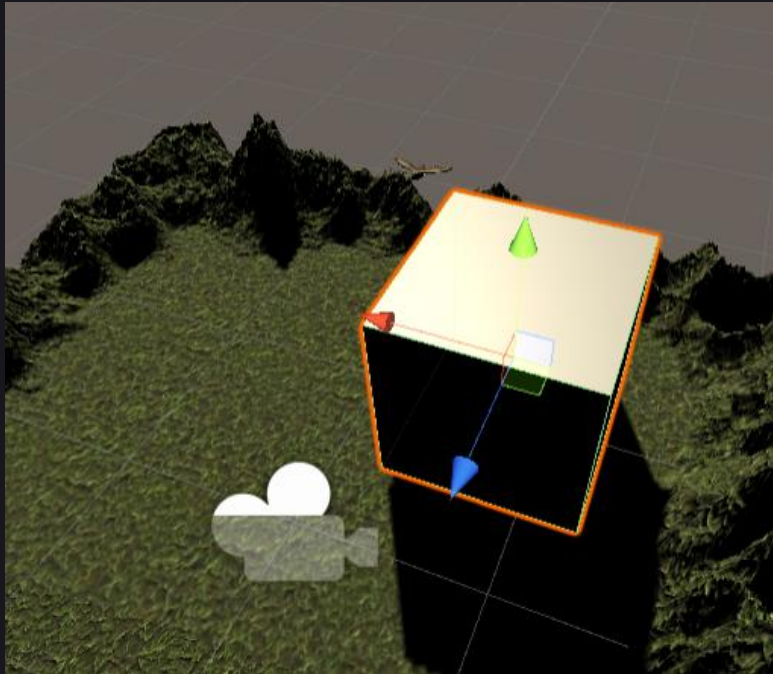


4. Menambahkan Target pada Kubus



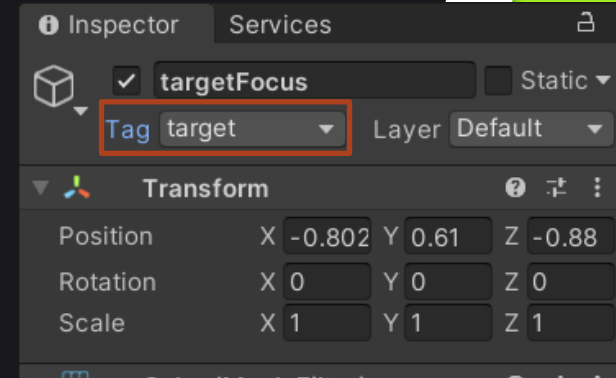
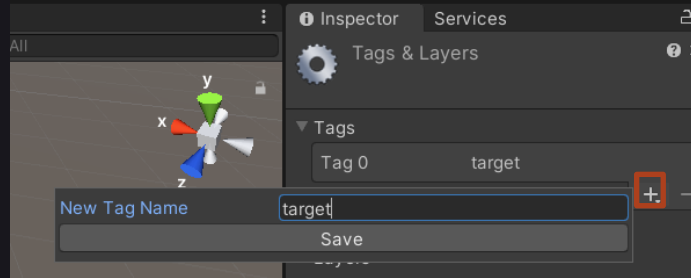
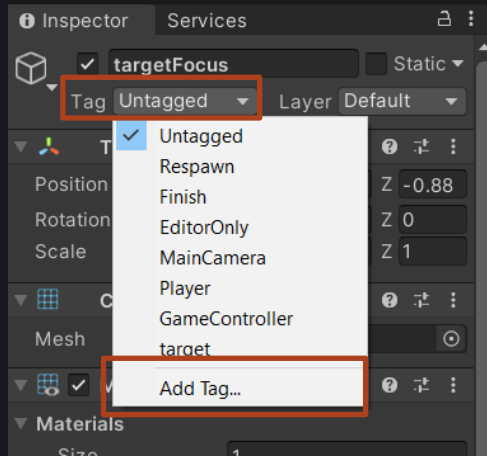
Unity3D

Membuat objek baru berupa kubus, kemudian ubah nama inspectornya awalnya "Cube" menjadi "targetFocus"



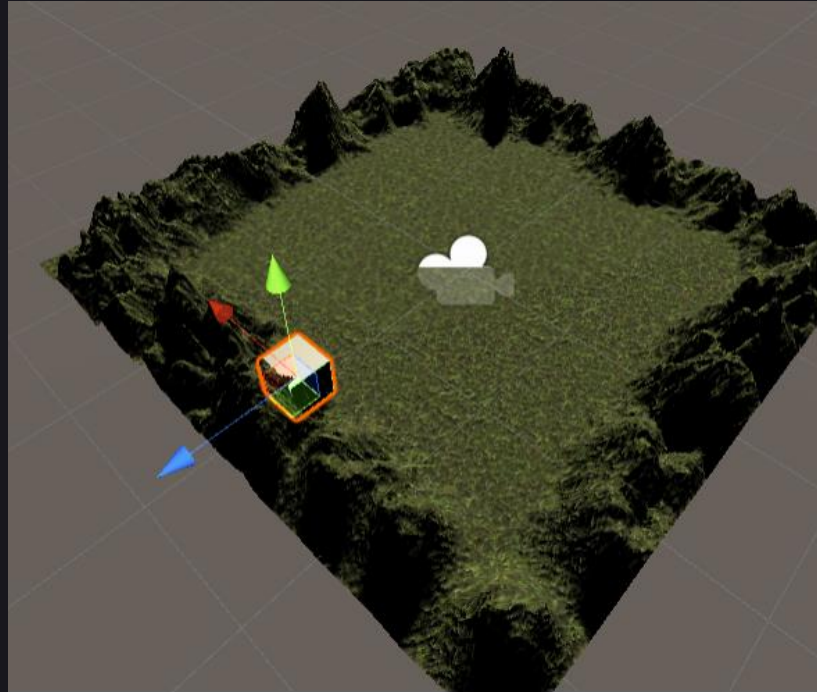
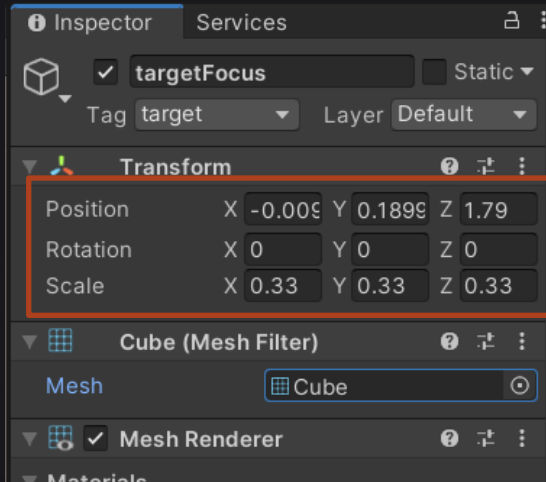
Unity3D

Bikin tag baru dengan nama "target". Pilih Add Tag->klik tombol plus->isikan nama "target"->save. Setelah itu Pilih tag dengan nama "target"



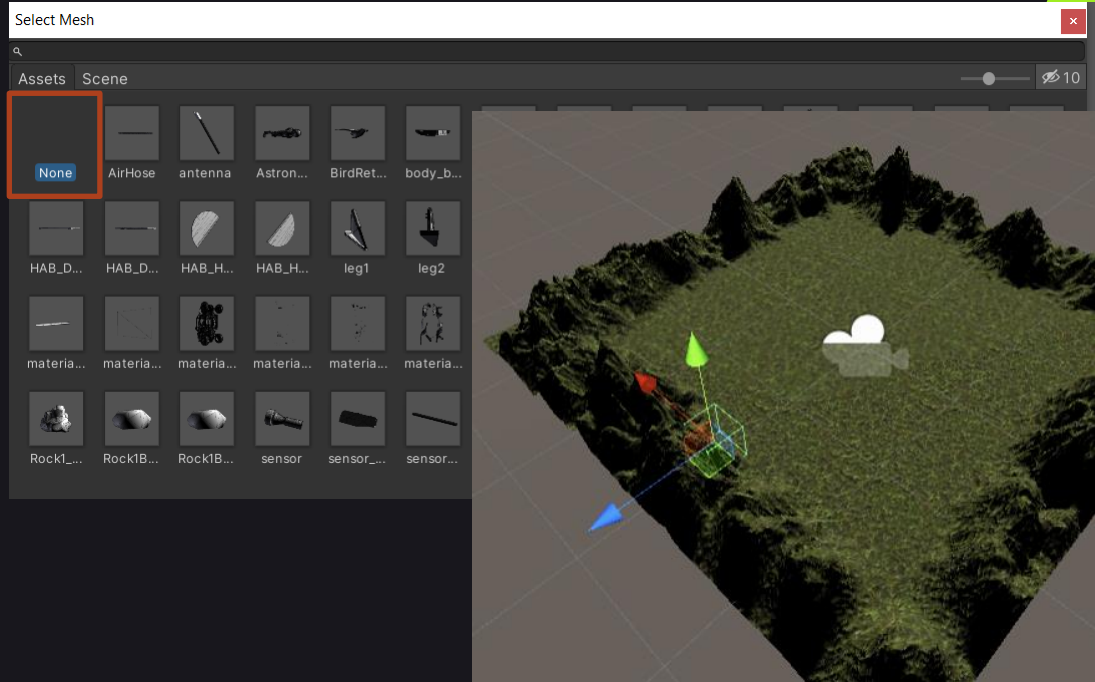
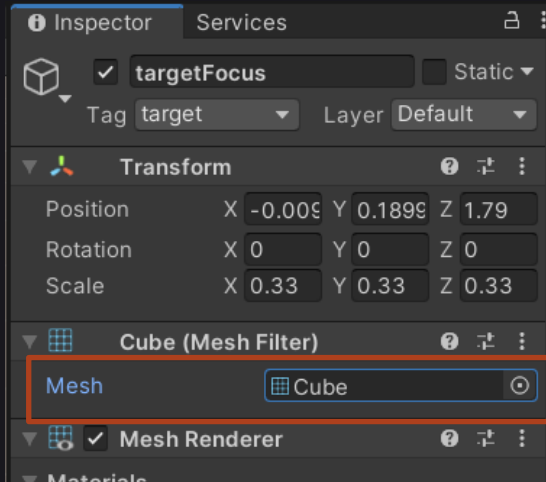
Unity3D

Atur posisi dan ukuran kubus



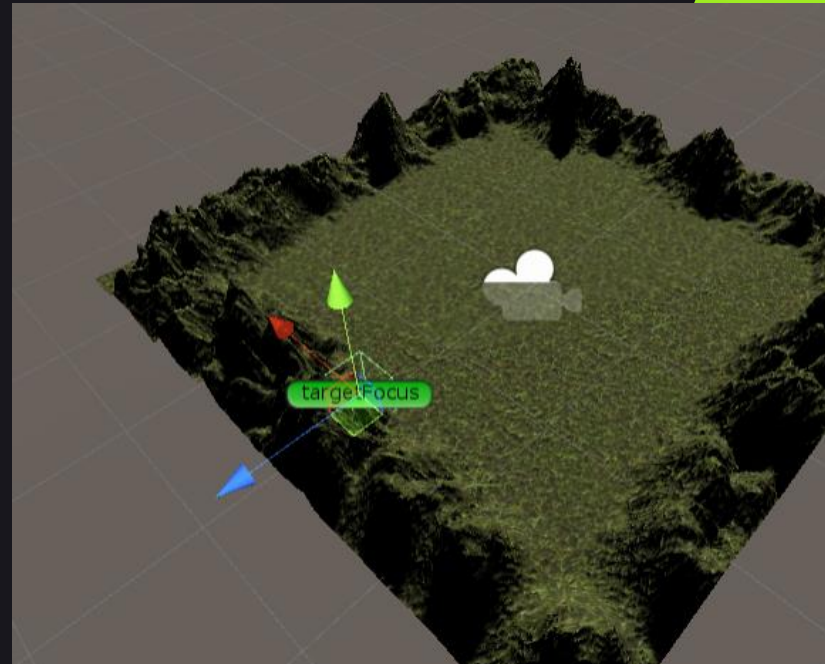
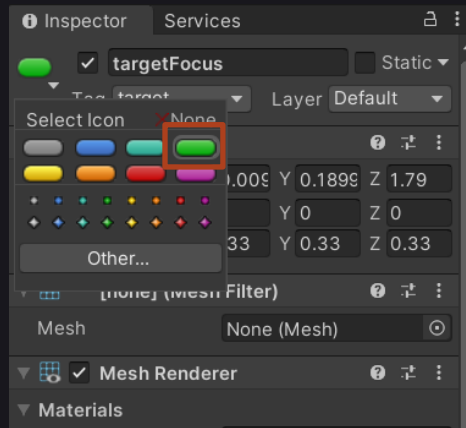
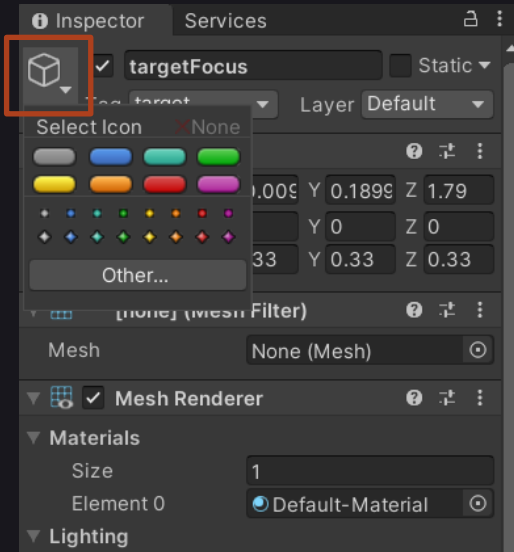
Unity3D

Atur Mesh pada cube. Pilih "None". Hasilnya tidak ada objek cube nya hanya terlihat collidernya.



Unity3D

Ubah icon targetFocus. Bisa pilih sesuai pilihan

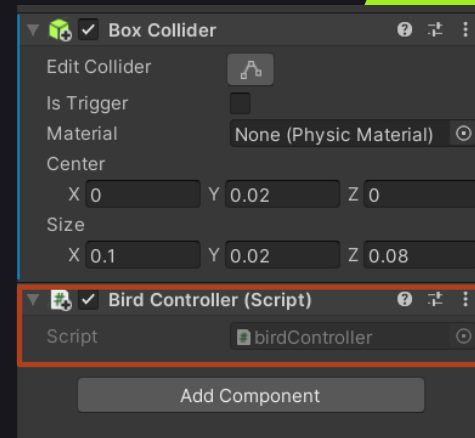
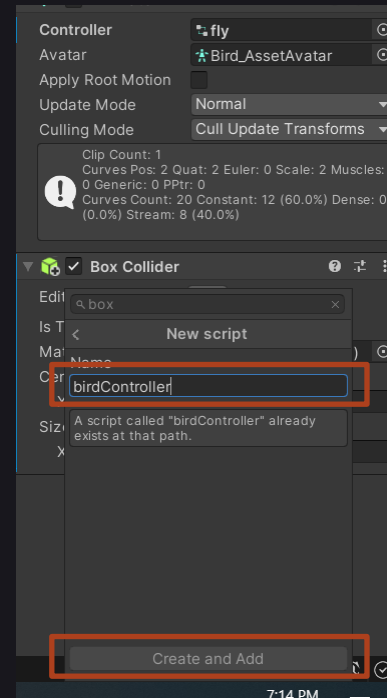
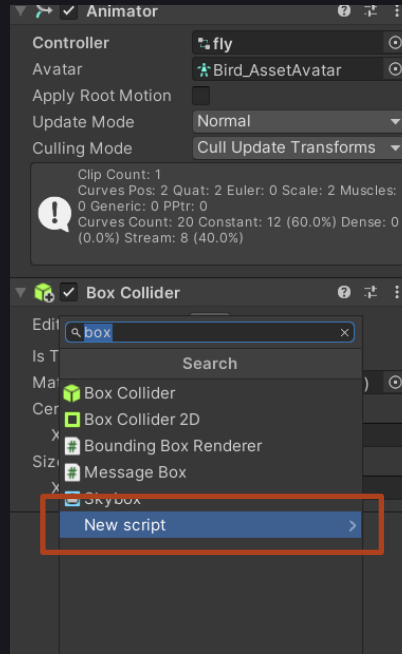
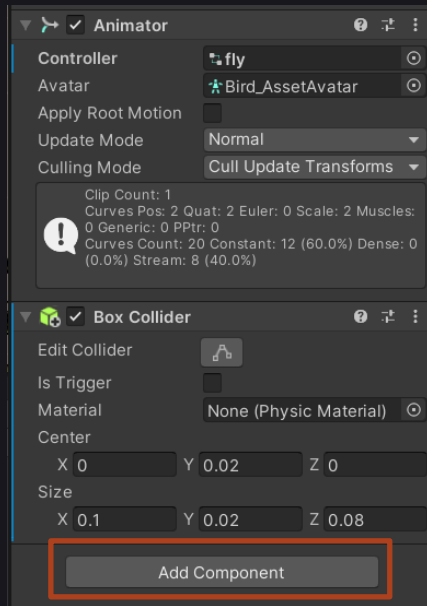


5. Memindahkan Burung dan Target



Unity3D

Membuat script pada "Bird_Asset". Masuk ke inspector lalu pada bagian bawah ada tombol "Add Component" lalu klik -> Klik "New script"-> isikan name "birdController" -> klik tombol "Create and Add".



Unity3D

Buka script birdController lalu isikan seperti code di samping. Jadi code ini digunakan untuk burung supaya bisa bergerak mendekat ke arah tag "target"

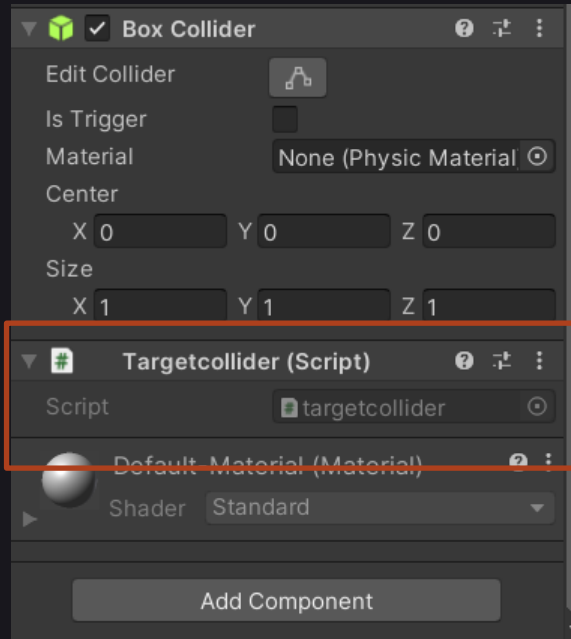
birdController.cs X

Assets > birdController.cs

```
1 using System.Collections;
2 using System.Collections.Generic;
3 using UnityEngine;
4
5 public class birdController : MonoBehaviour
6 {
7     private Transform targetFocus;
8     // Use this for initialization
9     void Start () {
10         targetFocus = GameObject.FindGameObjectWithTag("target").transform;
11     }
12
13     // Update is called once per frame
14     void Update () {
15         Vector3 target = targetFocus.position - this.transform.position;
16         Debug.Log (target.magnitude);
17
18         if (target.magnitude < 1){
19             targetcollider.instance.moveTarget();
20         }
21
22         transform.LookAt(targetFocus.transform);
23         float speed = Random.Range(0.3f,0.7f);
24         transform.Translate(0,0,speed * Time.deltaTime);
25     }
26 }
27
```

Unity3D

Buat script pada targetFocus dengan cara yang sama pada bird_Asset.
Dan nama scriptnya "targetcollider"



Unity3D

Buka script targetcollider lalu isikan seperti code di samping. Jadi code ini digunakan untuk target berpindah secara random jika terkena dengan collider yang lain

birdController.cs

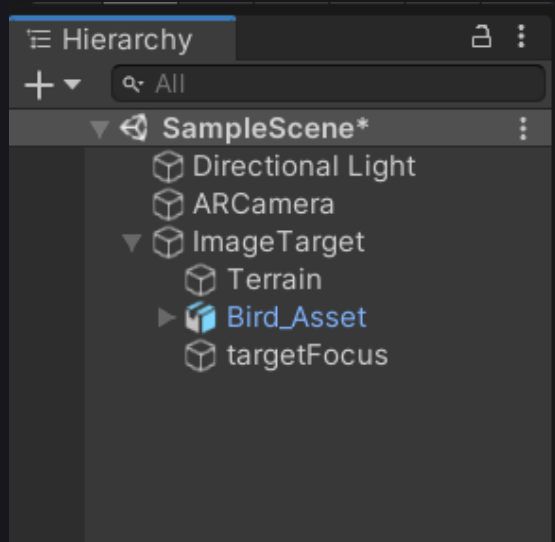
targetcollider.cs

Assets > targetcollider.cs > ...

```
1 using System.Collections;
2 using System.Collections.Generic;
3 using UnityEngine;
4
5 2 references
6 public class targetcollider : MonoBehaviour
7 {
8     3 references
9     public static targetcollider instance;
10    0 references
11    void Awake(){
12        if(instance == null){
13            instance = this;
14        }
15    }
16
17    0 references
18    void OnTriggerEnter(Collider other){
19        moveTarget ();
20    }
21
22    2 references
23    public void moveTarget(){
24        Vector3 temp;
25        temp.x = Random.Range(-2.5f,2.5f);
26        temp.y = Random.Range(0.4f,1f);
27        temp.z = Random.Range(-2.5f,2.5f);
28        transform.position = new Vector3 (temp.x, temp.y-6.5f, temp.z);
29    }
30 }
```

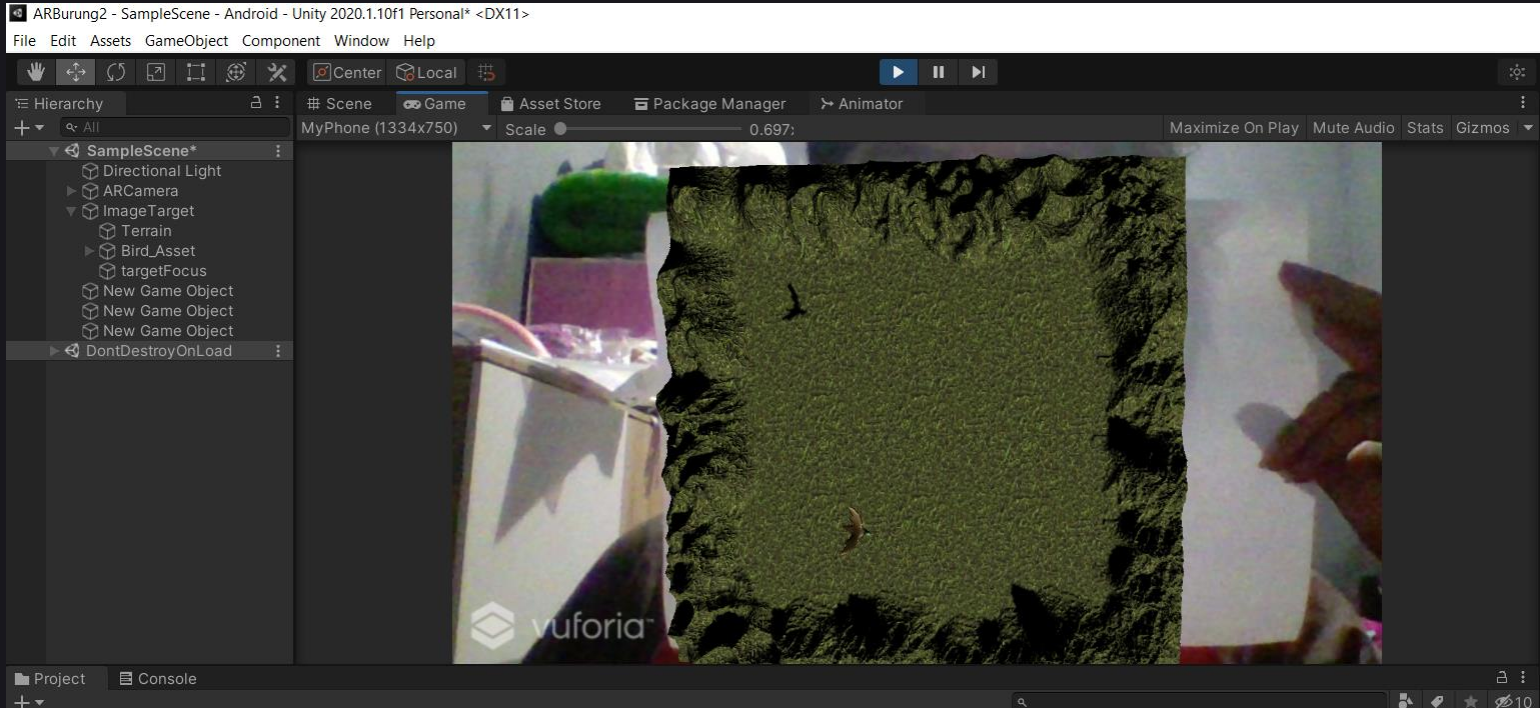
Unity3D

Untuk pengaturan terakhir dalam pertemuan ini untuk objek "Terrain", "Bird_Asset", dan "targetFocus" dimasukkan dalam hierarchy "ImageTarget"



Unity3D

Hasil akhir saat sudah di klik tombol play



Terima Kasih

Selamat Mencoba

