# AR/VR Worshop: Tap Mole AR

## It **V**irtually **R**uns!

# AR/VR Worshop: Tap Mole AR

**Language:** C#

> ⚠ **Your repository must contain all of your source files but NO useless files.**

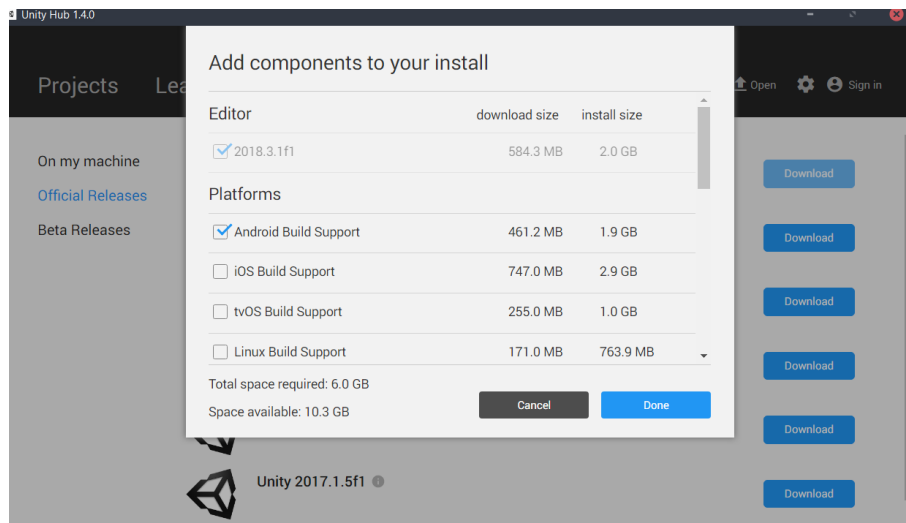No, you won't find long and useless pages here. Let's begin exercise #1.

# Exercise 00: Installation

Download Unity Hub : https://store.unity.com/download
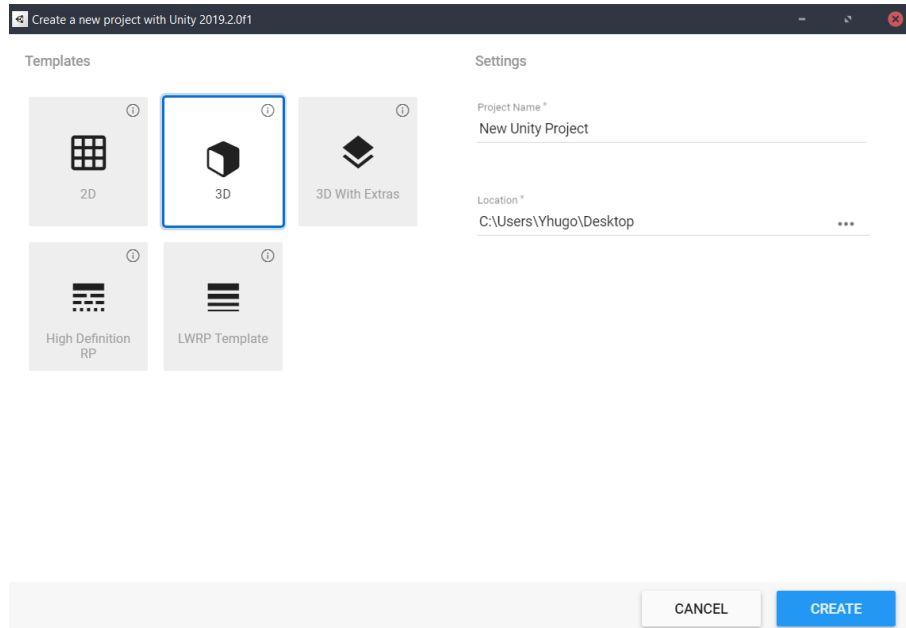Dowload Unity 2019.x or after with android package (on unity hub)
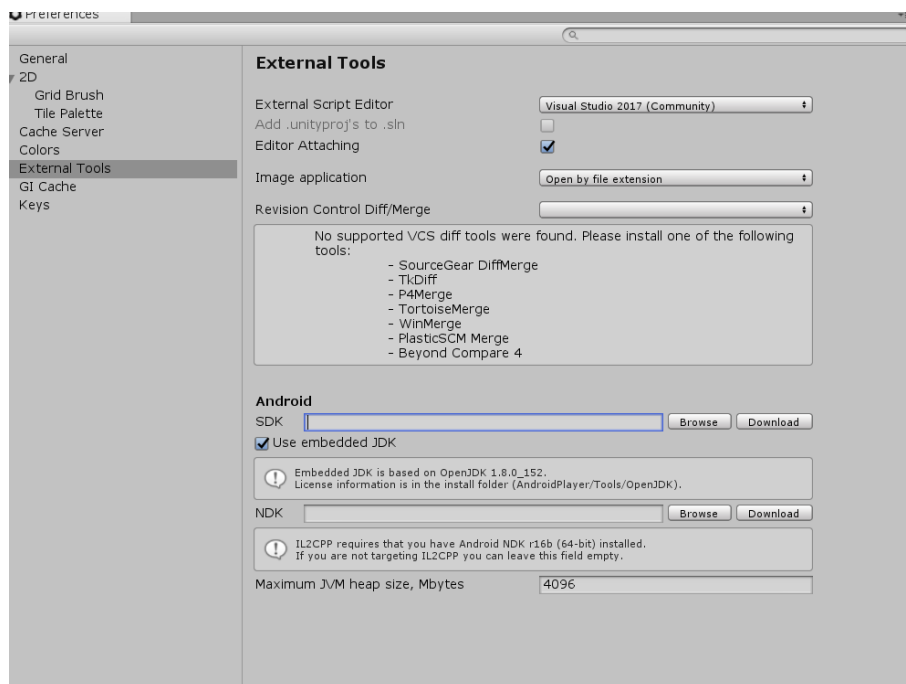


Dowload android studio if it's not installed

⚠ **Watch out where you install Android SDK**

Create a unity project in unity hub with a "3D" template



Link Android sdk with unity: Go to edit->preference->external tool and set android sdk path

Set up the project setting for build an android project Switch the build setting to Android

Got to window -> packageManager and install:

- AR Foundation 2.1.1

- AR SubSystems 2.1.0

- ARCore XR plugin 2.1.1

Go back to the build setting and Set the player setting to :

- Other setting :

    – Package name to com.poc.ARVRWorkshop

    – Minimum API level to 24

    – Target API level to your phone

    – delete Vulkan in graphic API
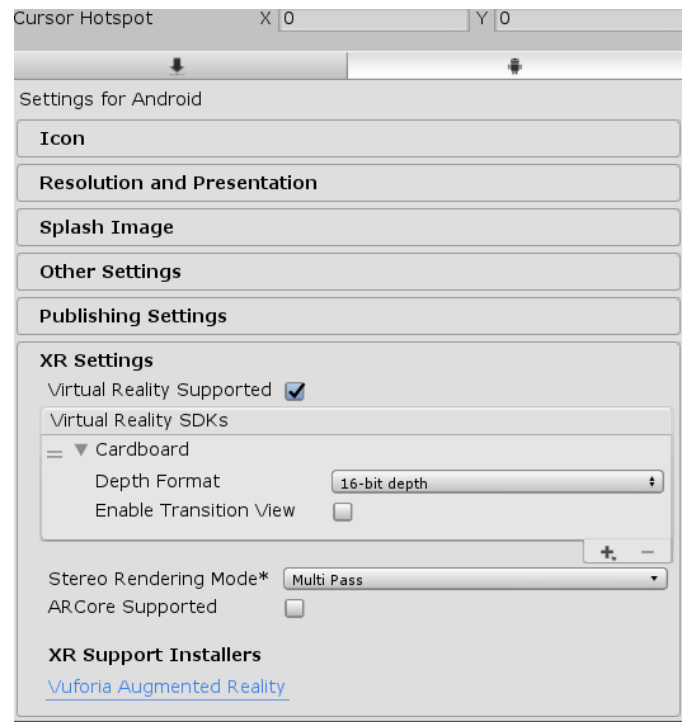
# Exercise 01: Scene Set up

Create a new scene name "AR Scene" do the basic set up of an AR Foundation scene and build the scene on your phone
**Prof Zone :**

- **Create scene**
- **Go to DOC**
- **Add AR Session**
- **Add AR Session Origin**
- **Build Setting add the open scene**

> ⚠ **May be you could found something on the AR Foundation Documentation**

# Exercise 02: Plane tracking

Create a Standard Ar Plane for AR Foundation **Prof Zone :**

- **Go to DOC**
- **Add plane manager on the AR default session origin**
- **Add default AR plane**
- **set default AR plane in plane tracking manager**

# Exercise 03: Instantiate mole

Create prefab name mole and instantiate automatically mole to random position on the planes mole prefab has :

- A specific layer name "Mole"
- Mesh Render with a capsule mesh
- Capsule Colider

**Prof Zone :**

- **Go to DOC**
- **Get plane in planes.trackable**
- **Get the line renderer get the point and compute the greater square (or get the position of plane and spawn arround)**

- **Add coroutine (StartCorutine like in the exemple)**

```
using System.Collections;
using UnityEngine;
using UnityEngine.Networking;

namespace Script
{
    public class PlayerController : MonoBehaviour
    {


        public float Time = .1f;
        // Update is called once per frame
        private void Start()
        {
            StartCoroutine("CoroutinMethodName");
        }

        IEnumerator CoroutinMethodName() {
            for(;;) {
                SpawnMethod();
                yield return new WaitForSeconds(Time);
            }
        }
    }
}
```

> ⚠ **You can found every plane in the plane tracker manager**

## Exercise 04: Kill the'm mole

Destruct the mole when the user touch it on the phone screen **Prof Zone :**

- **add a scrip who ray cast from from point to the screen to camera forward on the mole layer**

> ⚠ **Go to unity Documentation and look something about the Ray Cast**

## Exercise 05: Score

Add a score board UI
when you kill a mole add one point to this score board **Prof Zone :**

- **Add txt mesh pro**

- **Add text label in UI**
- **Add scipt who add 1 to the label every mole killed**

# Exercise 06: Animated tap mole

Make the mole appear and desapear after some time using animation and animation manager **Prof Zone :**

- **Create Animator**

- **Add animation manger to mall**

- **Create two animation GoIn and GoOut**

> ⚠ **Go to unity Documentation and look something about the Animator**