

# AR Development with Unity and Vuforia

AR Training with ARLETA

**22 May 2018**

Downloadables: [irekasoft.com/ar-training](http://irekasoft.com/ar-training)

Pre-Class Questionnaire  
[irekaweb.com/preclass](http://irekaweb.com/preclass)

# Logistic

1. Thank you for inviting us.
2. Overview for 3 days.
3. What is Unity and Vuforia.
4. Unity take time to download and install. We will install ASAP.
5. We we learn more on Unity and Vuforia.
6. Selamat berpuasa.

# Muhammad Hijazi

1. Working on iOS App development since 2010
2. Published more than 30 App for the AppStore and some for Google Play.
3. Gained more than 1.5 mil downloads combined.
4. App has been featured : ExpenseApp, FaceClock & Golden Guli.
5. Won IPCC 2011. Runner-up Digi Hackathon 2013.
6. Swift, Objective-C. Recently doing ReactNative. Has develop ARKit app as well.



# Day-1

- 10:30am ~ 12:30pm : Module 1 ( Introduction about Unity & Vuforia - Installation and Download )
- 2 pm ~ 4pm : Module 2 ( Vuforia Developer Portal )
- 4.15pm ~ 5pm : Module 3 ( Unity / Basic Vuforia / Basic C# )

# Day-2

- 8:30 ~ 10:15 : Module 4
- 10:30 ~ 12:30 : Module 5
- 2:00 ~ 5pm : Projek Berkumpulan

# Day-3

- 8:30am ~ 9am - AR Project Finalise & Presentation
- 9am - Projek Berkumpulan
- 10:30am ~ 12:30 : Pembentangan Projek Berkumpulan

# Introduction to AR

- AR is a technology heavily rely on image processing that intelligently understand the user's environment and render a 3D content or any virtual content as layer on the top of user's environment.
- This technology helps in many sectors such education, engineering, agriculture, entertainment, photography, cinematography, architecture.
- Demo: Some AR apps on devices

# Introduction to Unity / Unity3D

- Unity is a cross-platform **game engine**, which is primarily used to develop both 3D and 2-D **video games** and **simulations** for **computers, consoles,** and **mobile devices**.  
[unity3d.com](http://unity3d.com)
- **Vuforia** is an Augmented Reality Software Development Kit (**SDK**) for **mobile devices** that enables the creation of Augmented Reality applications. It uses Computer Vision technology to recognize and track planar images (Image Targets) and simple 3D objects, such as boxes, in real-time.  
<https://www.vuforia.com>
- In the latest version of Unity, Vuforia is bundled together with Unity, just need to tick Vuforia option during installation.

# Vuforia Setup

# Setup Vuforia

- Vuforia is an AR engine that helps Unity to display AR content.
- Sign Up with Vuforia ( <https://developer.vuforia.com> )
- Setup Vuforia developer.
- Vuforia plug-in is bundled with latest Unity version.

# Vuforia

## License Manager - For an application.

vuforia™ Developer Portal Hello irekasoft | Log Out

Home Pricing Downloads Library **Develop** Support

License Manager Target Manager

### License Manager

Create a license key for your application.

**Get Development Key** Buy Deployment Key

Name	Type	Status	Date Modified
<a href="#">iReka Soft</a>	Develop	Active	Apr 05, 2017 09:53
<a href="#">Unity3D_AR</a>	Develop	Active	Mar 08, 2018 19:22

[Back To License Manager](#)

### Add a free Development License Key

#### App Name

You can change this later

#### License Key

Develop  
Price: No Charge  
Reco Usage: 1,000 per month  
Cloud Targets: 1,000  
VuMark Templates: 1 active  
VuMarks: 100

By checking this box, I acknowledge that this license key is subject to the terms and conditions of the [Vuforia Developer Agreement](#).

Cancel Confirm

## Add New App Development License

# Vuforia

## Create a group Target Manager

vuforia™ Developer Portal Hello irekasoft | Log Out

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License Manager Target Manager

### Create Database

Name:

Type:

- Device
- Cloud
- VuMark

### Target Manager

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

Add Database

Database	Type	Targets	Date Modified
<a href="#">Unity3D_AR</a>	Device	3	Apr 18, 2018 18:04

Cancel

Create

# Upload a new marker

Home Pricing Downloads Library **Develop** Support

License Manager Target Manager

## Target Manager

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

Add Database

Database	Type	Targets	Date Modified
<a href="#">FrogLifecycle</a>	Device	1	May 21, 2018 18:24
<a href="#">Unity3D_AR</a>	Device	3	Apr 18, 2018 18:04

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License Manager Target Manager

Target Manager > FrogLifecycle


## FrogLifecycle [Edit Name](#)

Type: Device

Targets (1)

Add Target

Download Database (All)

<input type="checkbox"/>	Target Name	Type	Rating	Status <span>▼</span>	Date Modified
<input type="checkbox"/>	 FrogLifecycle	Single Image	★★★★★	Active	May 21, 2018 18:24

### Add Target

Type:

Single Image  Cuboid  Cylinder  3D Object

File:

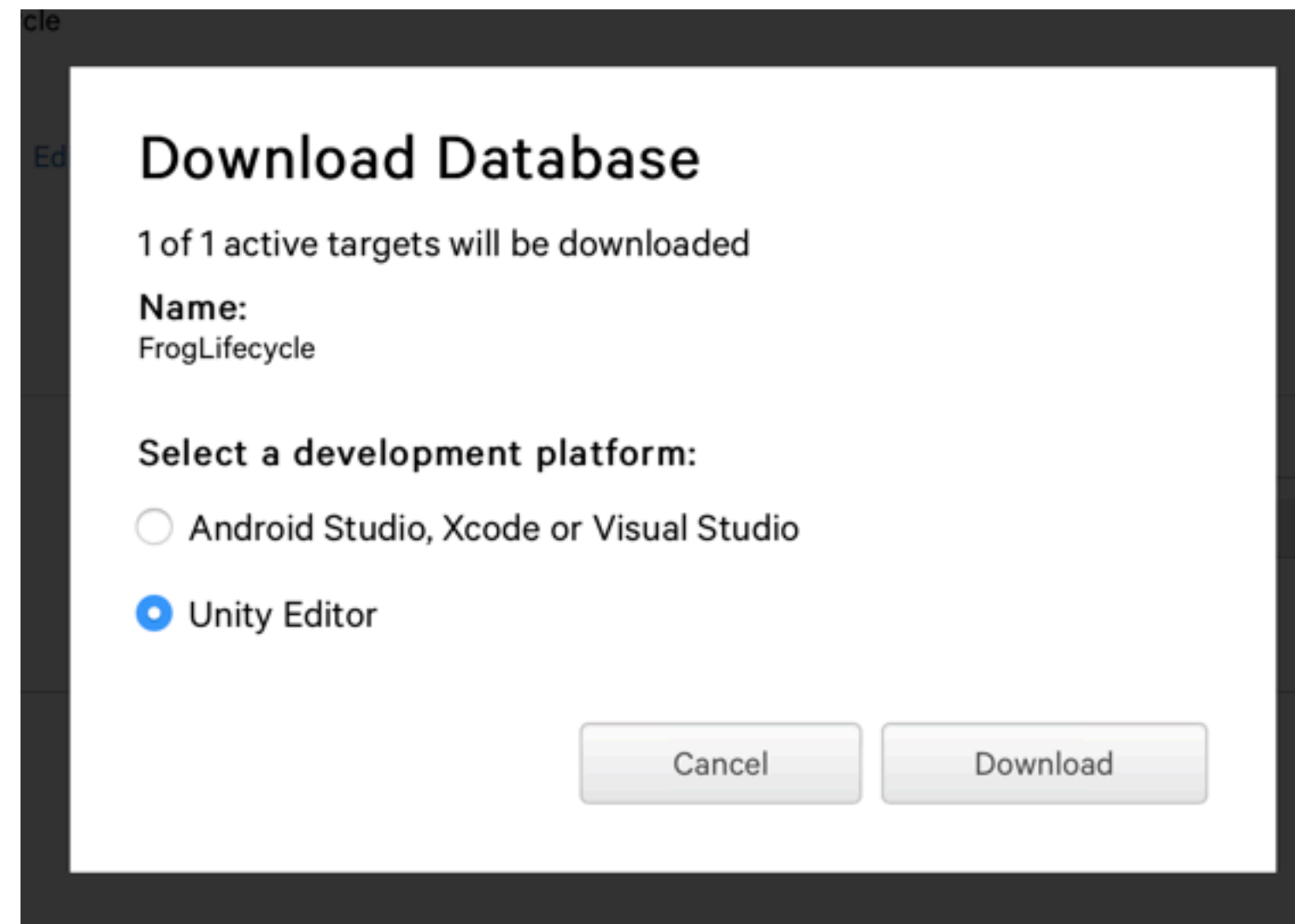
.jpg or .png (max file 2mb)

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.



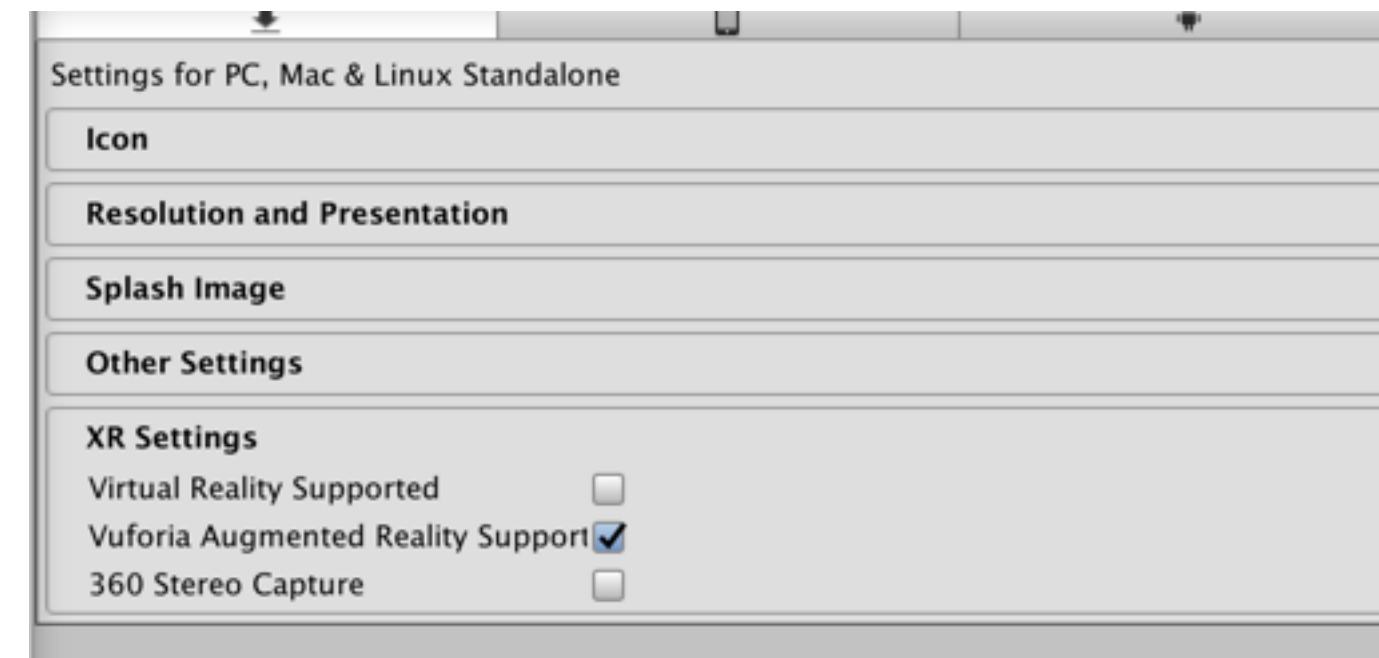
FrogLifecycle.unitypackage

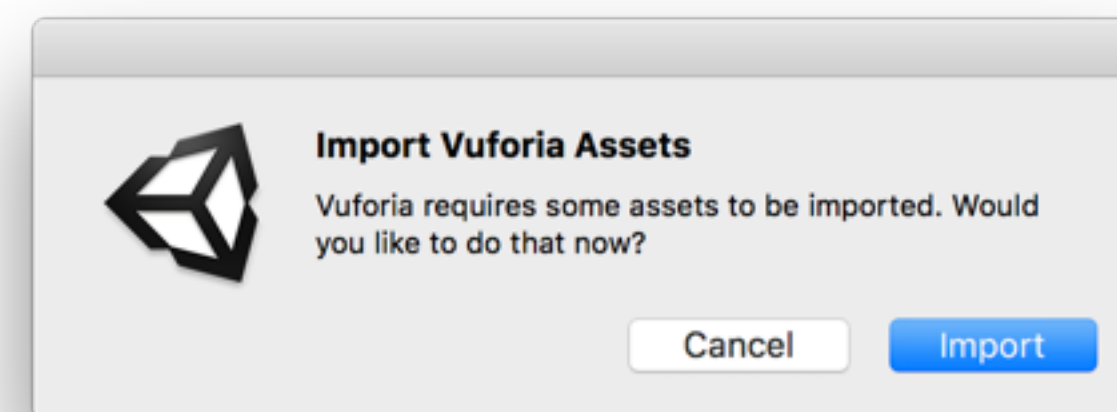
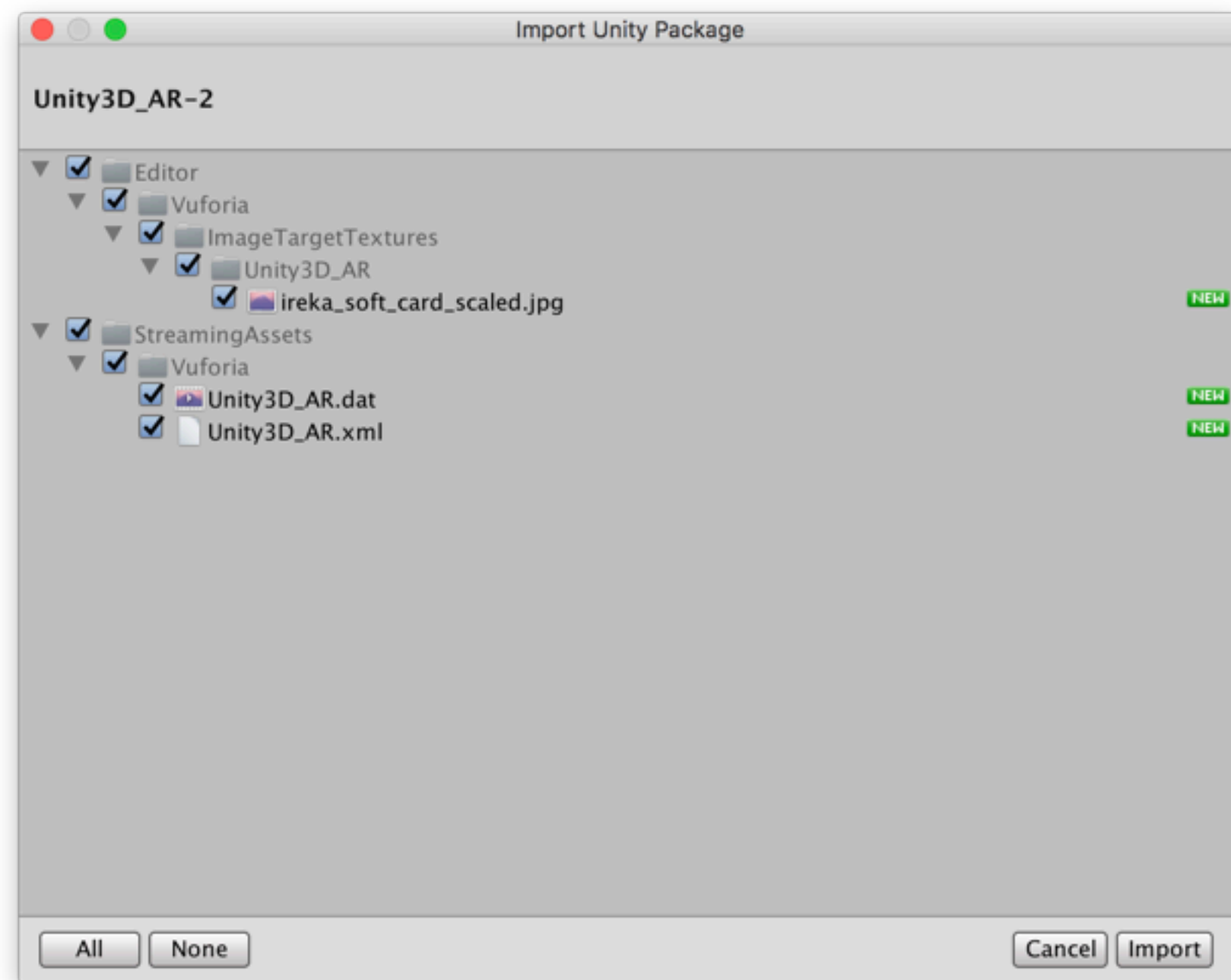


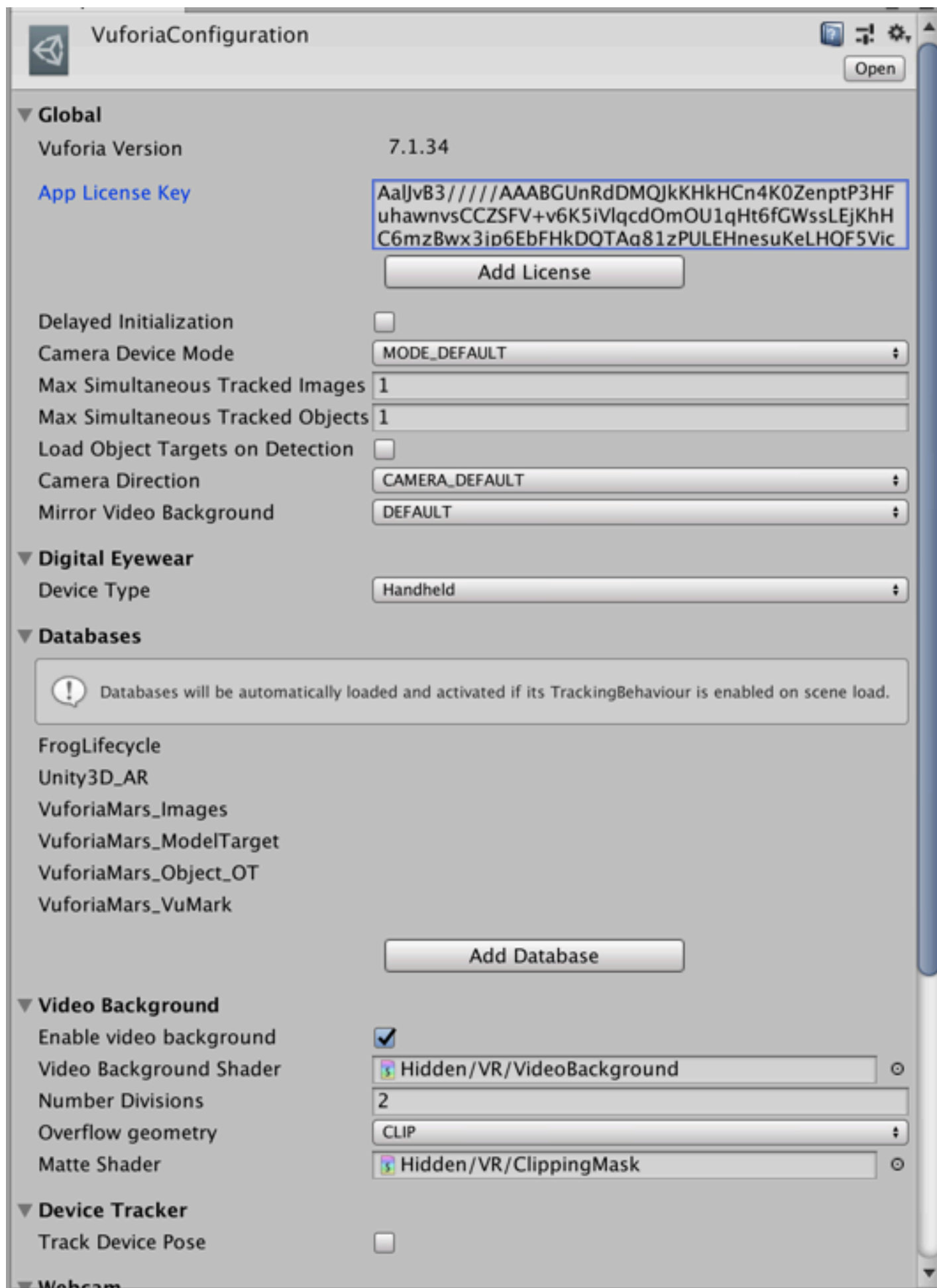
# Unity Setup

# User Interface

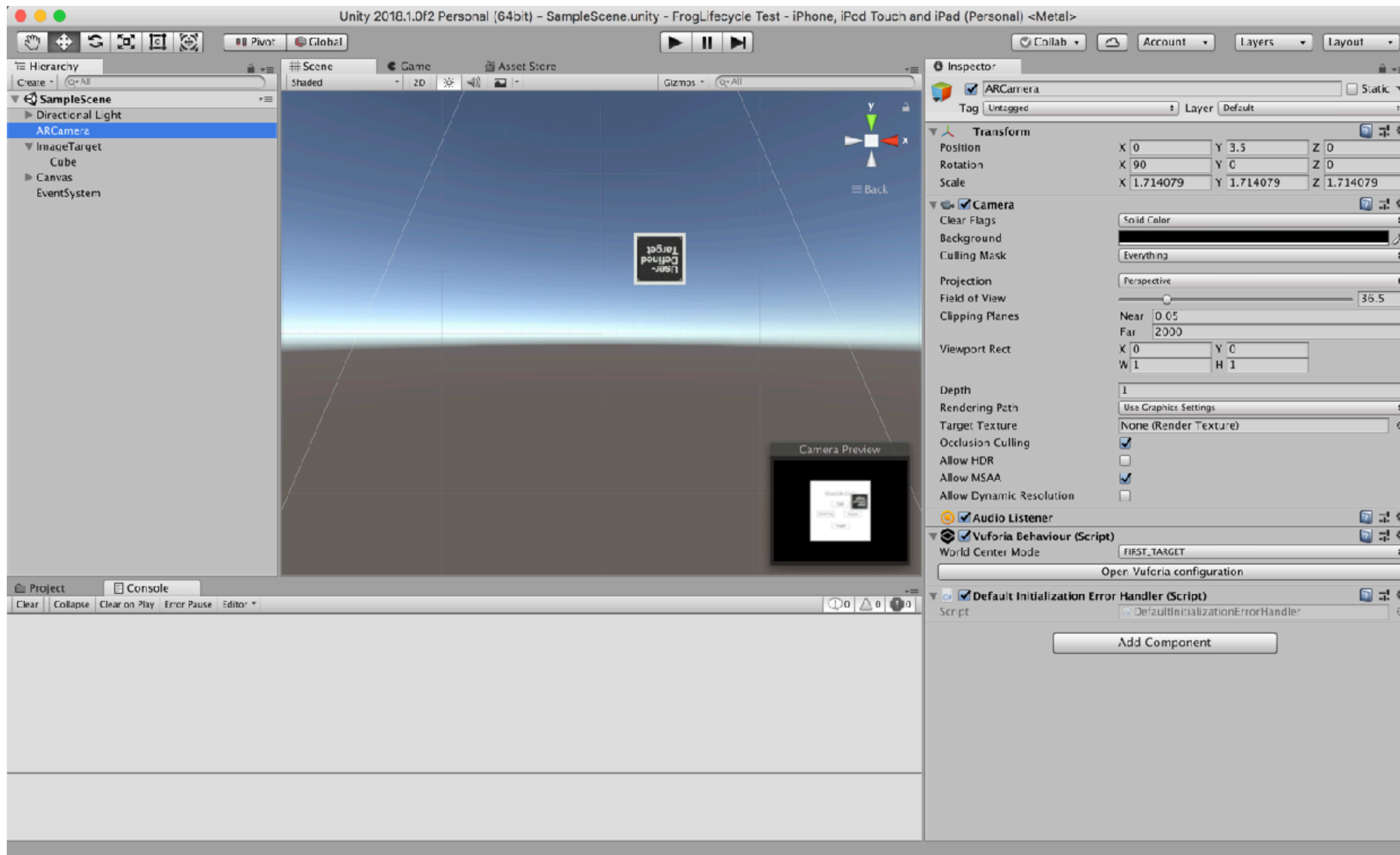
- Create a new Unity Project, using 3D, name it as 'FrogLifecycle'





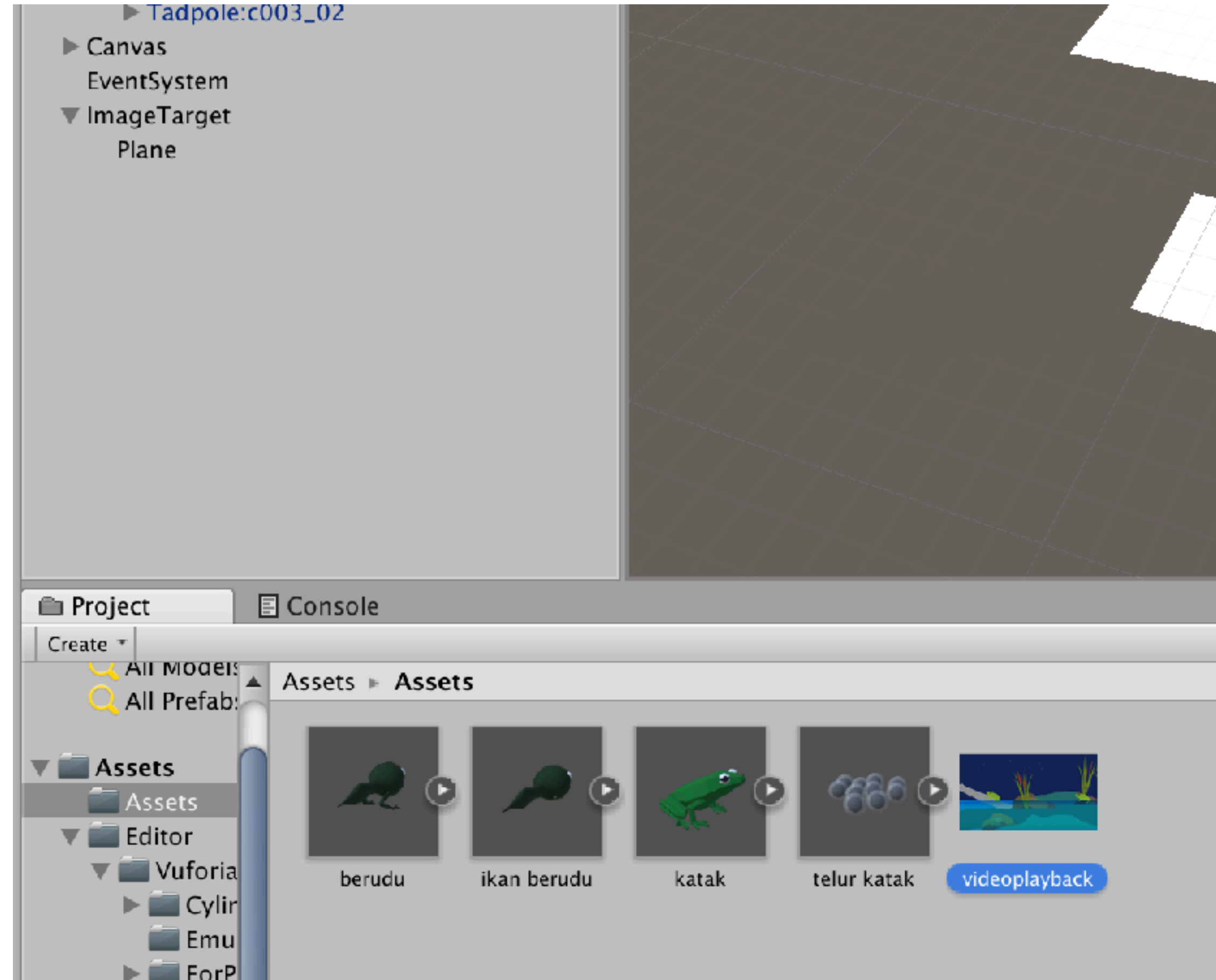


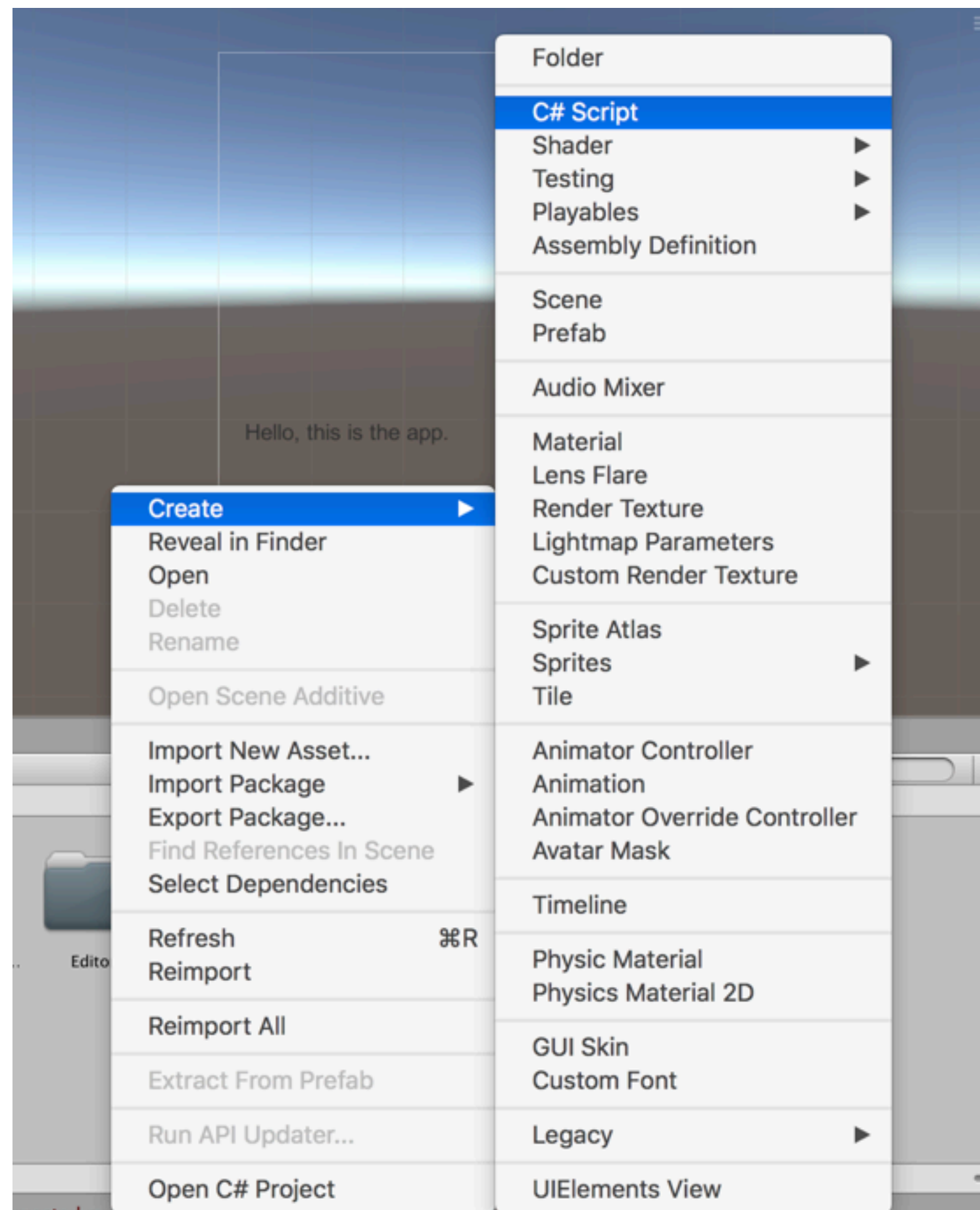
# Adding Script



Add Component > Script

# Video





# Unity / Vuforia C#

- <https://www.youtube.com/watch?v=WdfStRynCLw&t=1843s>
- <https://unity3d.com/learn/tutorials/topics/scripting/coding-unity-absolute-beginner>