Practical 10: Using Vuforia Engine to create Augmented Reality Content

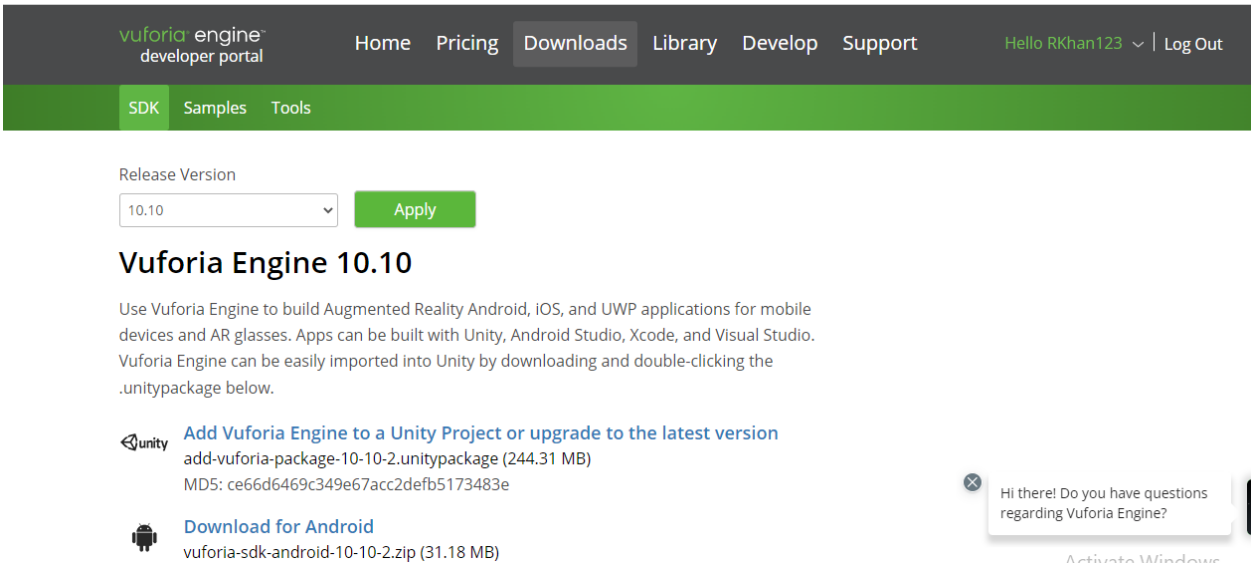
Vuforia is an augmented reality software development Kit (SDK) for mobile devices that enables the creation of Augmented reality applications. It uses Computer Vision technology to recognize and track Image targets and 3D objects in real time

Creating your project

Create a new 3D project in Unity by the name: VuforiaContent

Getting Vuforia sdk

Go to https://developer.vuforia.com



Create an account. Login by the account

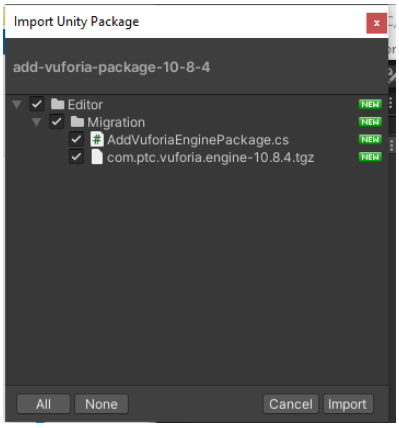
Go to Downloads

Click on Add Vuforia engine to a Unity Project or Upgrade to latest version

Click Agree

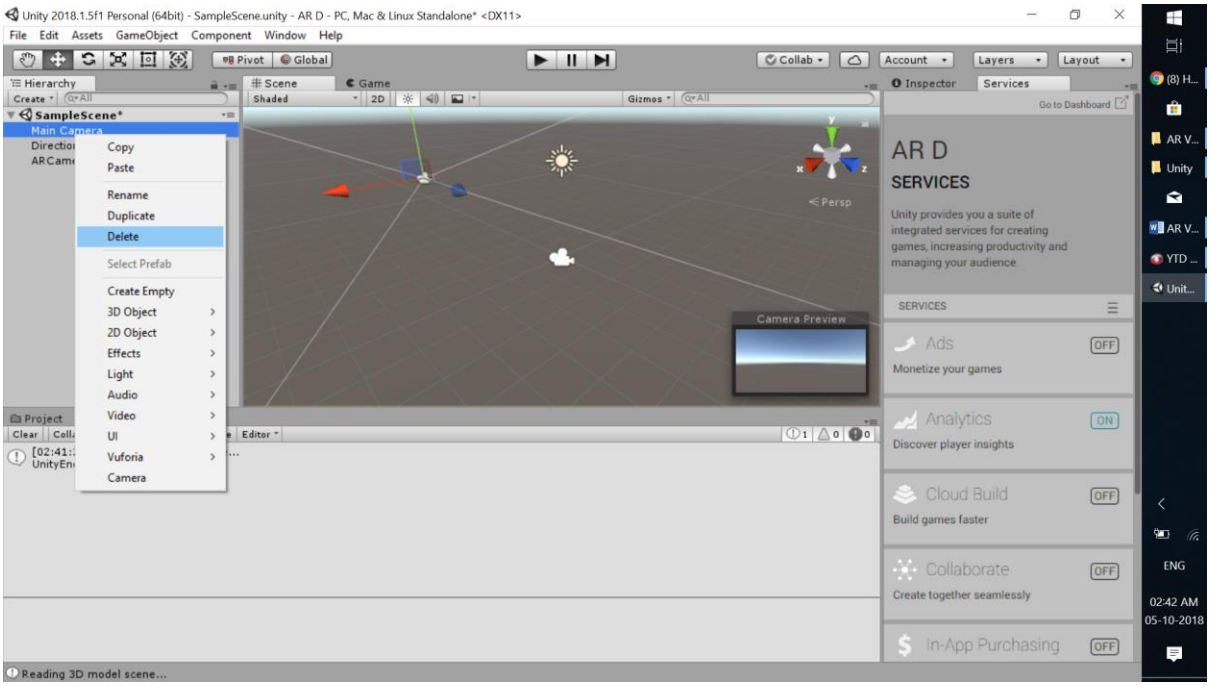
This downloads add-vuforia-package-10-8-4 package file

Drag this file in your Unity project's Assets folder then click import in the window. Click on Update if it asks

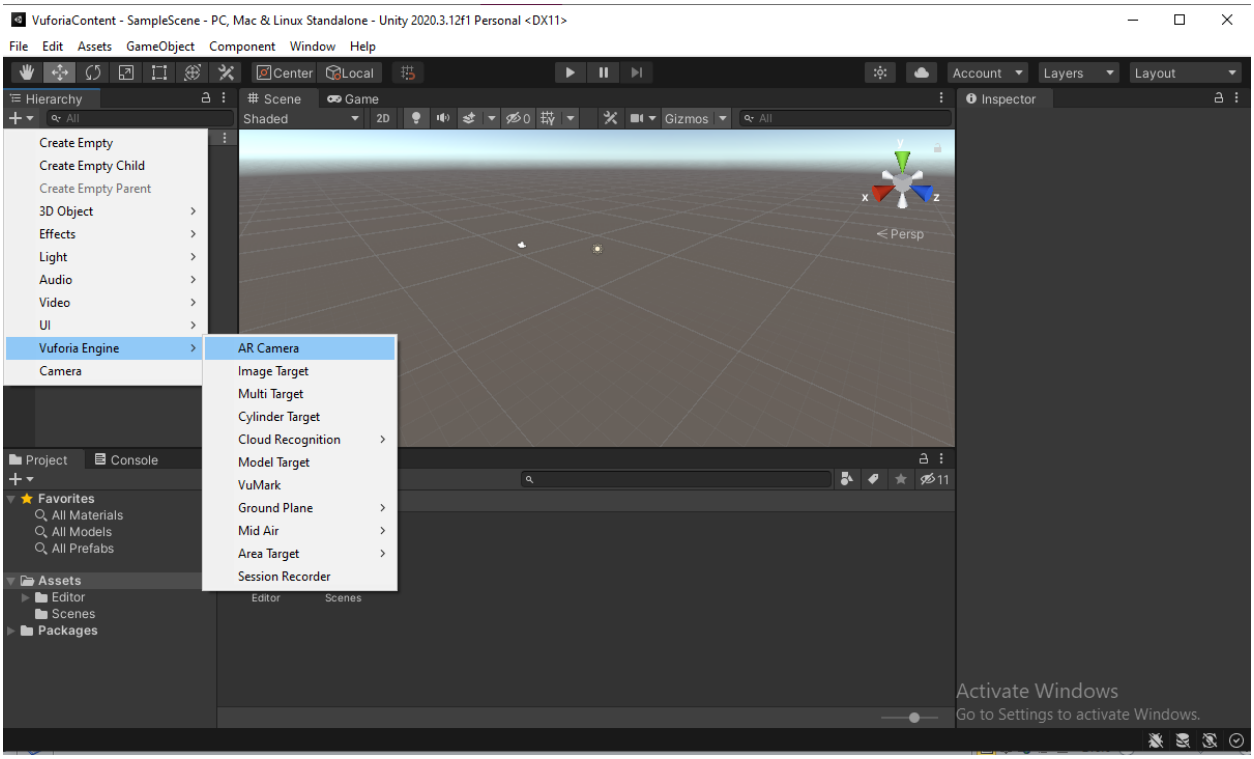


Adding Vuforia Engine to your Unity Project

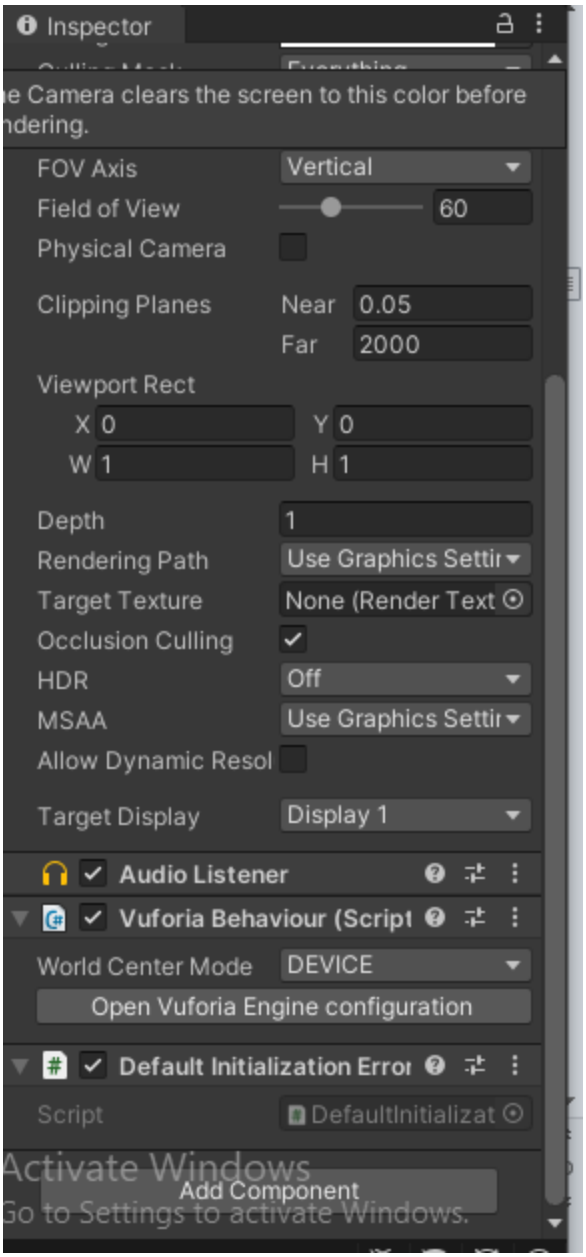
Remove the Main Camera



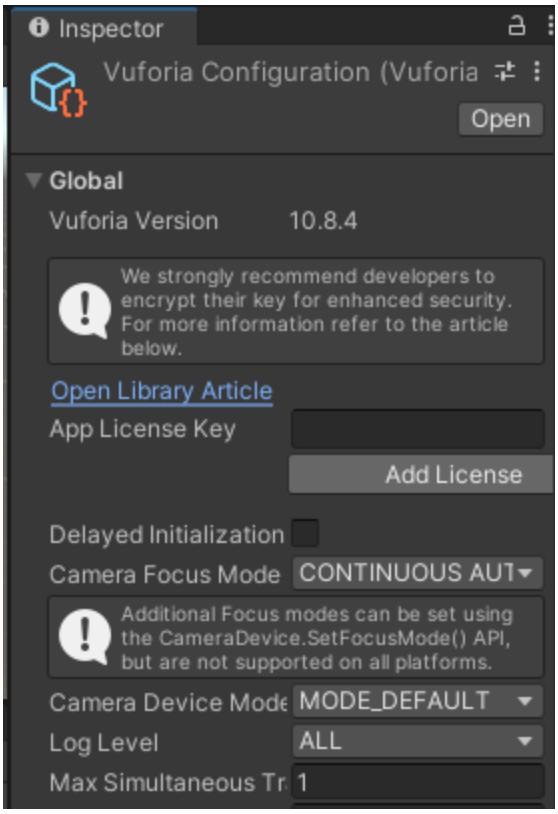
Click on + in hierarchy-> Vuforia Engine -> AR Camera



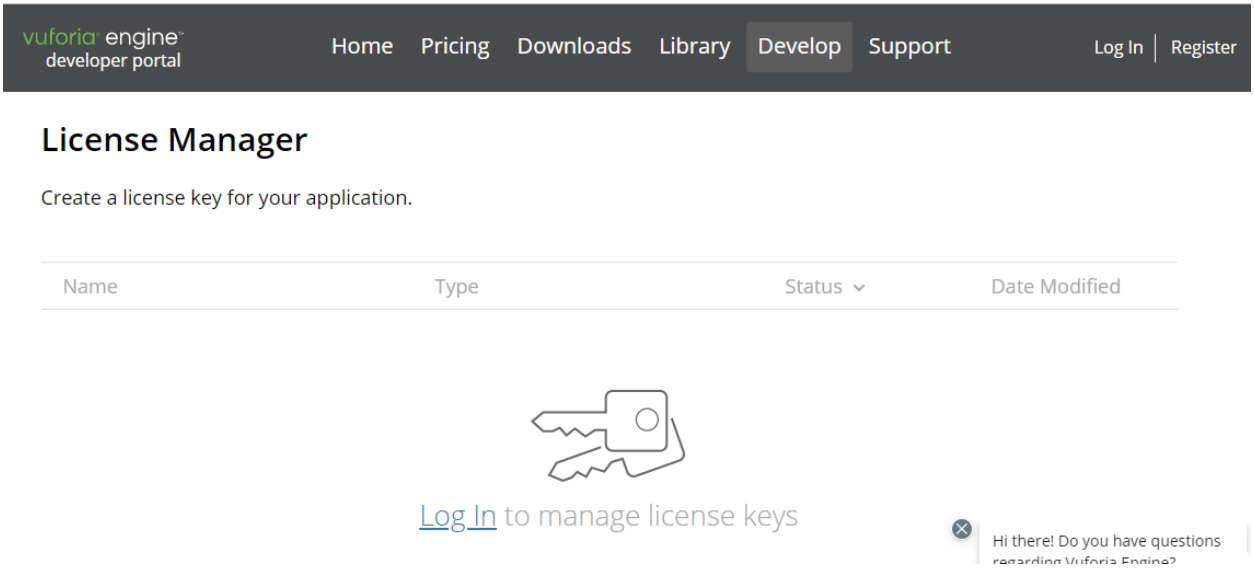
Select AR Camera, In inspector window click on Open Vuforia Engine Configuration



Click on Add License it opens developer.vuforia.com

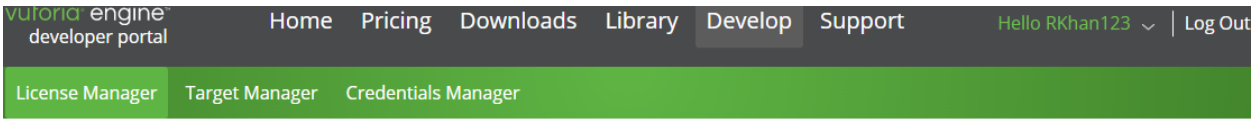


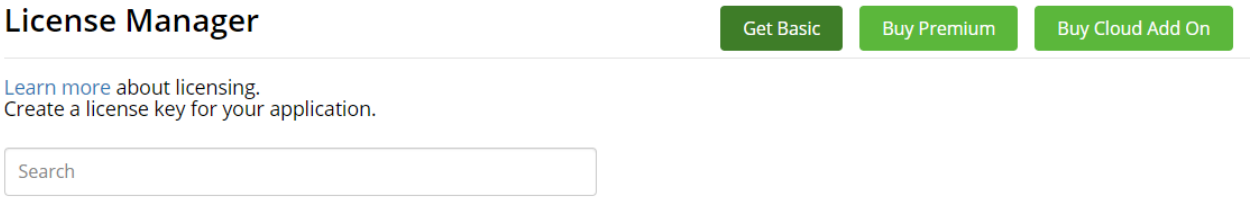
In License Manager Click on Login



Login by Vuforia ID and Password

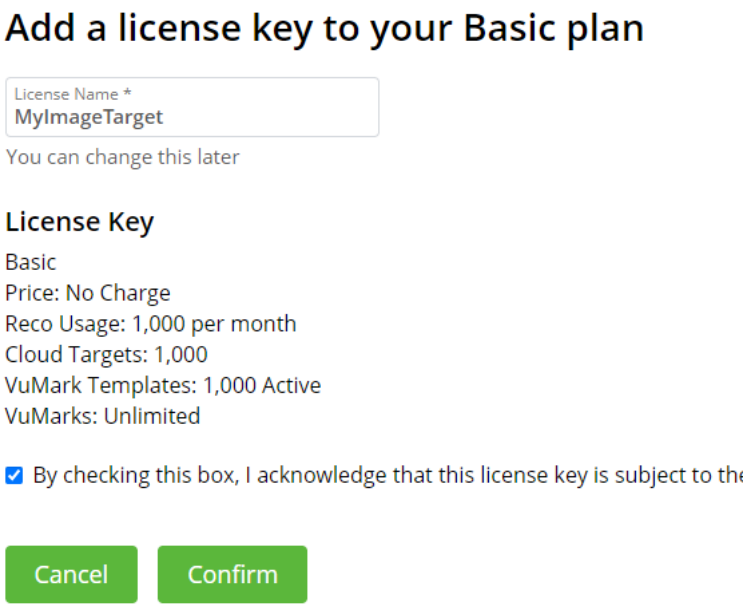
Click on Get Basic





License Name: MyImageTarget

Check the I acknowledge box Click Confirm



Now click on MyImageTarget key from list

Click on license key to copy it

License Manager > MyImageTarget

MyImageTarget Edit Name Delete License Key

License Key | Usage

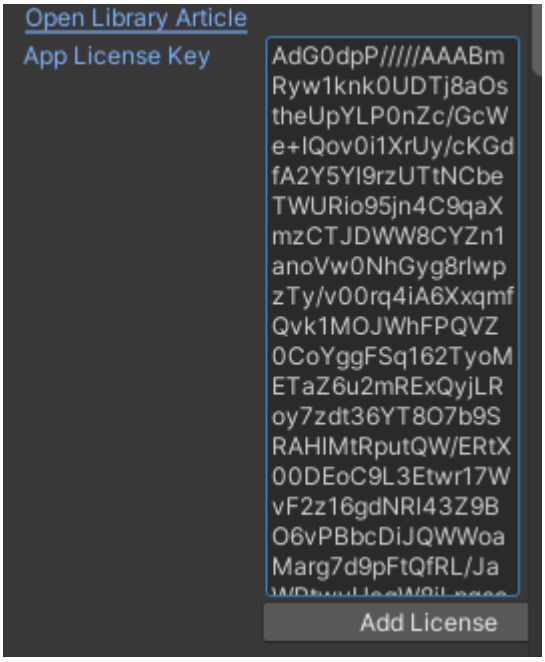
Please copy the license key below into your app

```
AdG0dpP/////AAABmRyw1knk0UDTj8aOstheUpYLP0nZc/GcWe+IQov0i1XrUy/cKGdfA2Y5Yl9rzUTtNCbeTWURio95jn4C9qaXmzC
TJDWW8CYZn1anoVw0NhGyg8rIwpzTy/v00rq4iA6XxqmfQvk1MOJWhFPQVZ0CoYggFSq162TyoMETaZ6u2mRExQyjLRoy7zdt36YT8O
7b9SRAHlMtRputQW/ERtX00DEoC9L3Etwr17WvF2z16gdNR143Z9BO6vPBbcDiJQWWoaMarg7d9pFtQfRL/JaWPtwyUagW8jLpqsogy
sqomn1nDktUXKND2mTKL6Aw0mjRT8QDA0cb8YR9DRZARdx7o5iSZoSl5DjRY3atgKXdFKhc
```

Plan Type: Basic
Status: Active
Created: Sep 29, 2022 00:18
License UUID: afd1777b63334c3ead0c84732d5d0ebb

Permissions:

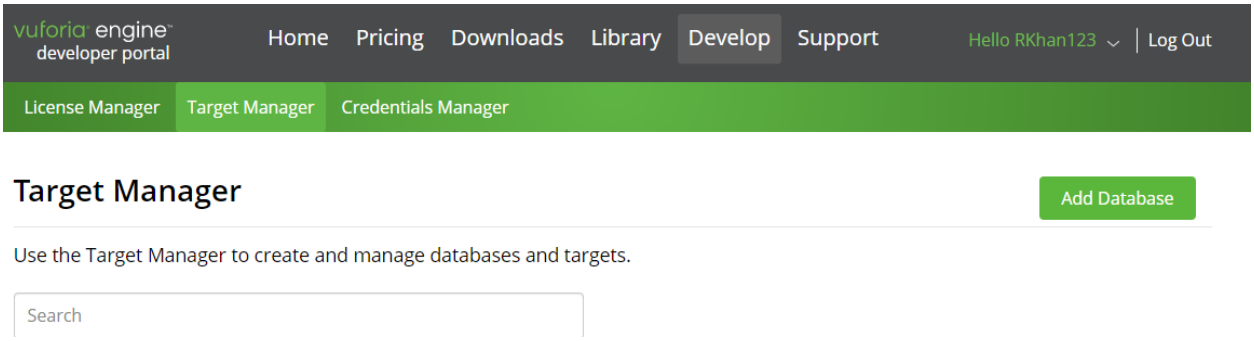
Now in Unity Paste in Add License

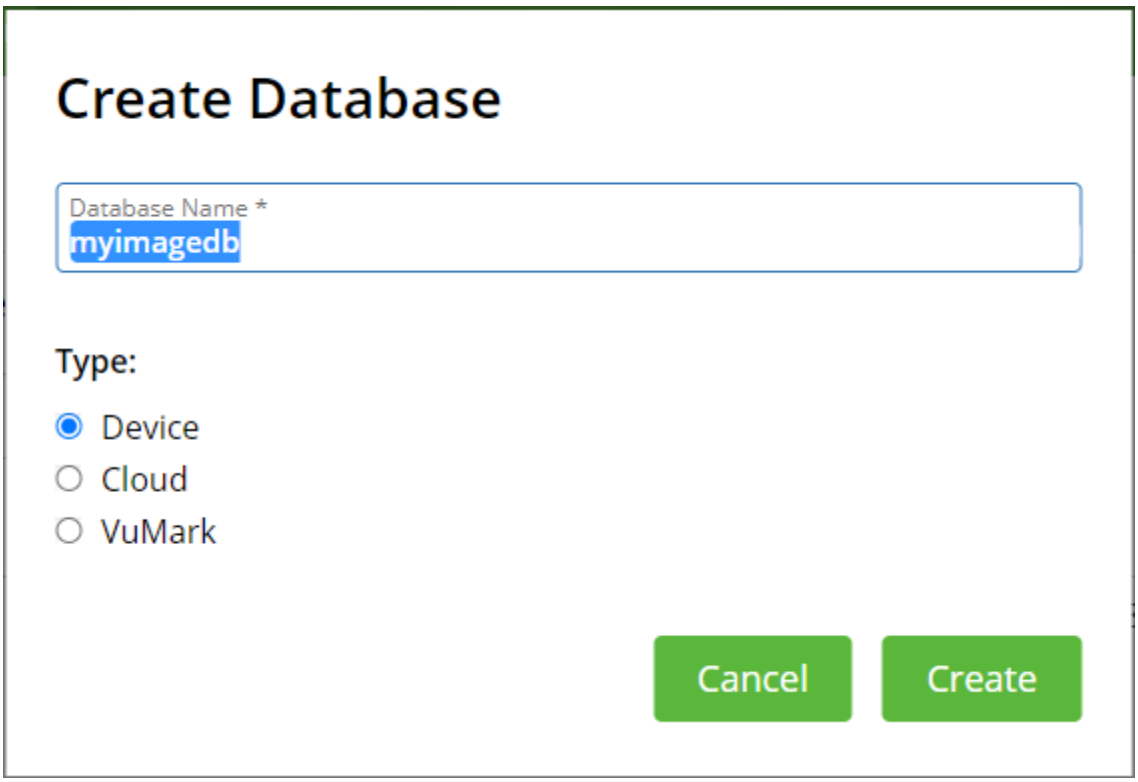


Creating Image

Click on Target Manager

Click Add database



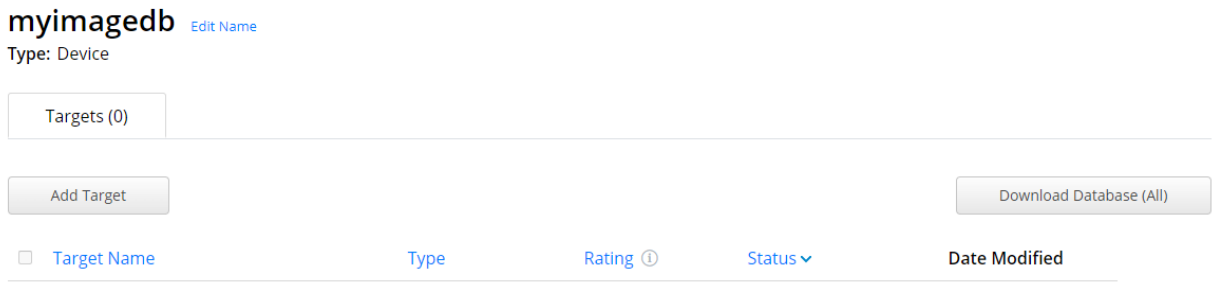


Database Name: myimagedb

Type: Device

Click Create

Click on myimagedb



Click on Add Target

Select Image

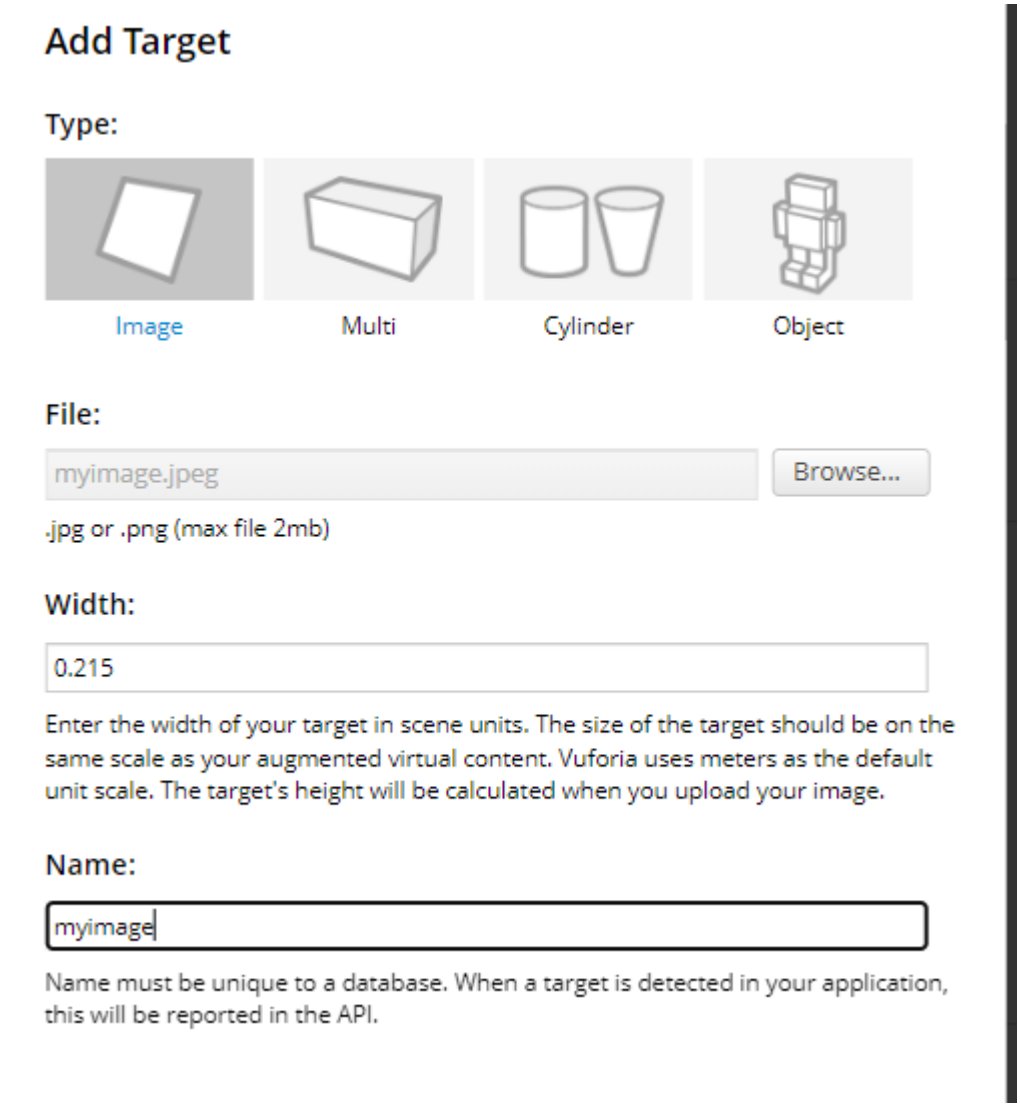
File: Click Browse and select .jpg or .png file

Width is in metres and must match the physical width of the image being tracked

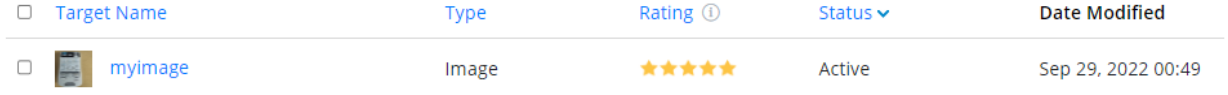
Width: 0.215

Name: myimage

Click Add



Rating of 5 stars means it can track that image very well

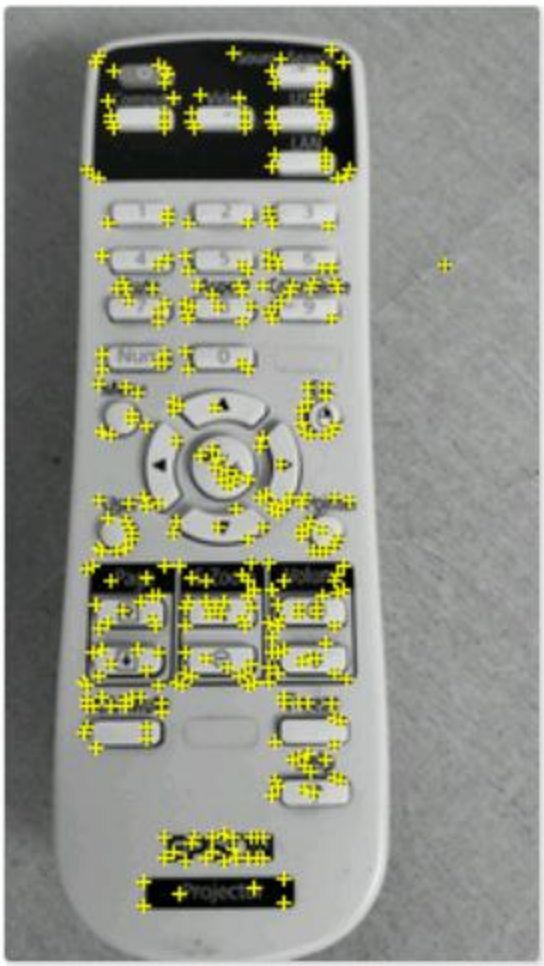


Click on image name myimage

Update Target Show Features

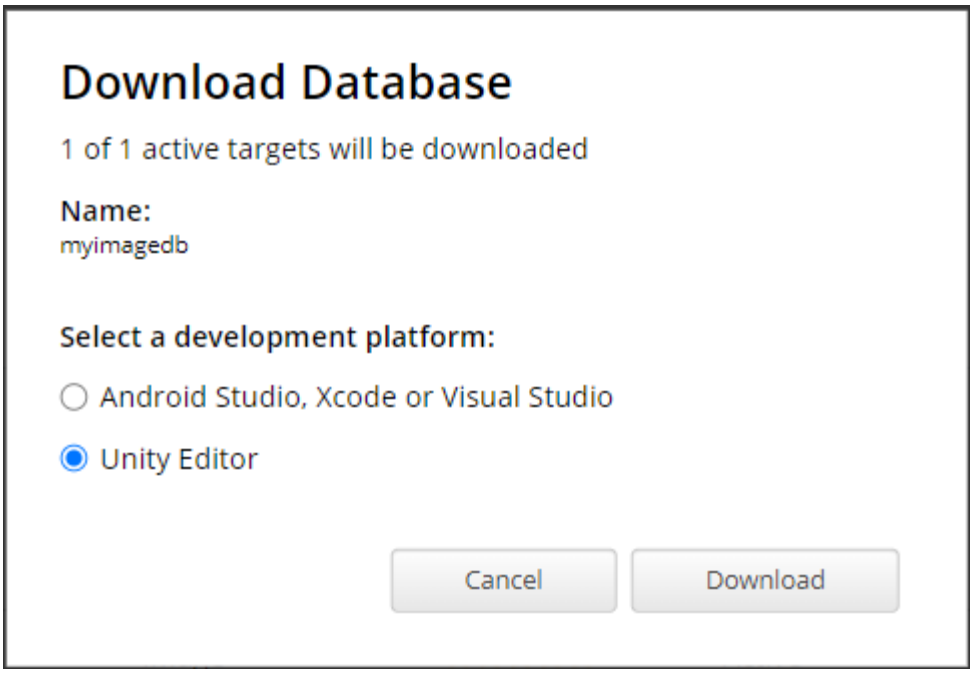
Click on Show Features

This shows what camera looks for i.e. feature points



Update Target Hide Features

Come back to myimagedb and Click Download Database

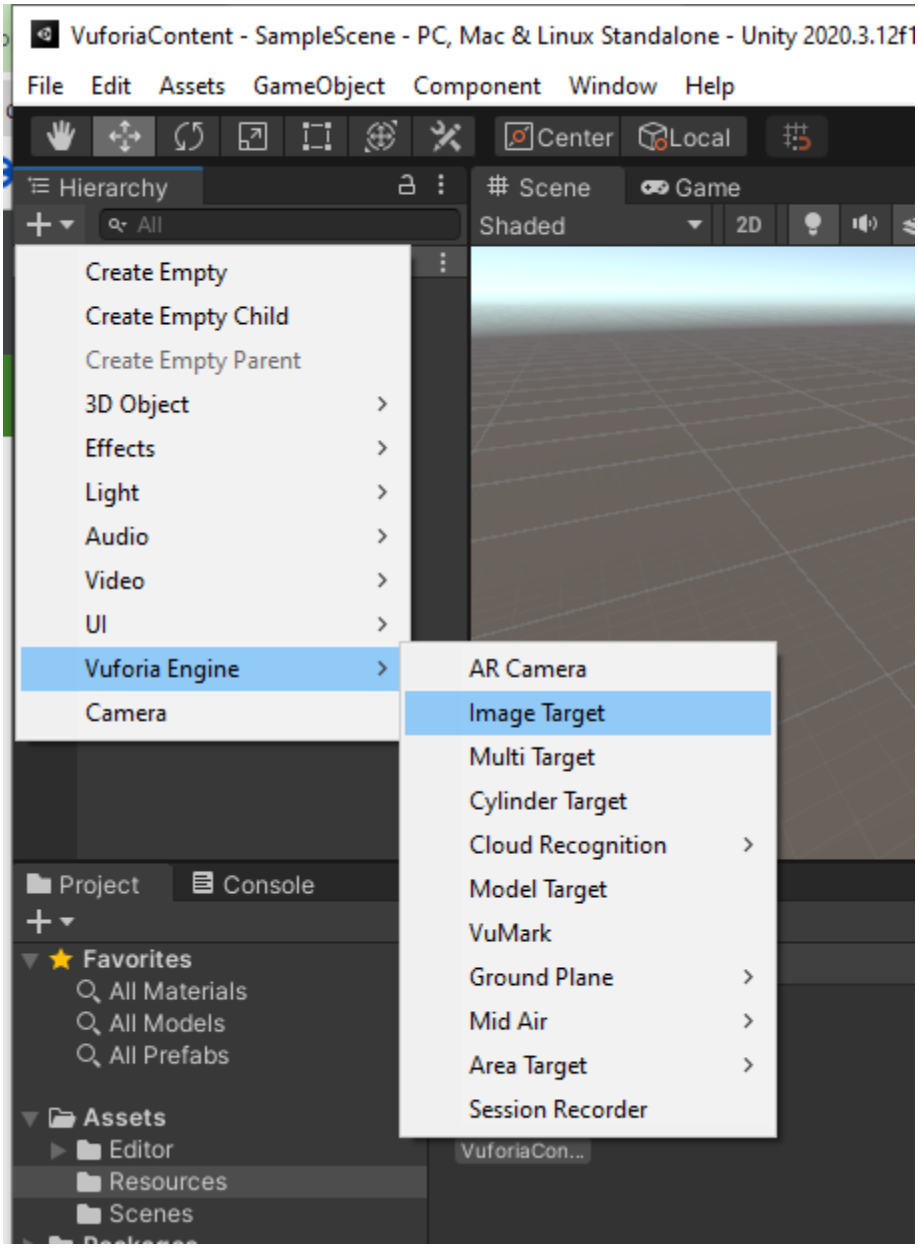


Select Unity Editor and click Download

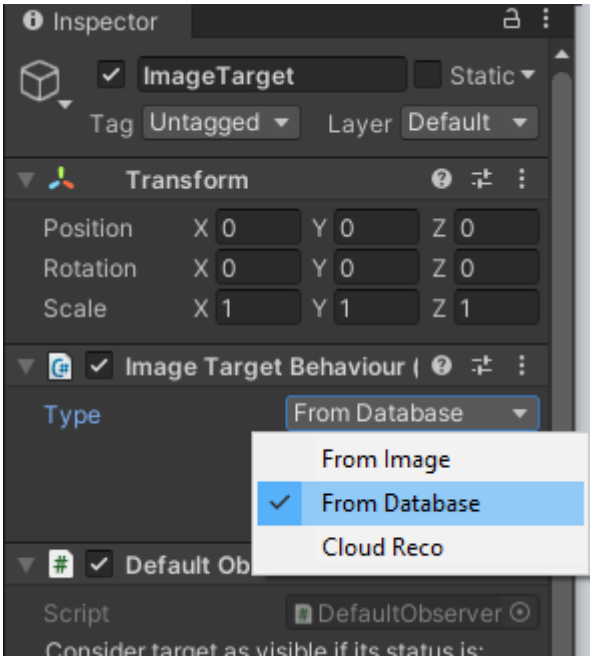
This will download myimagedb.unitypackage

Importing Image Target database in Unity Project

Click on + in hierarchy-> Vuforia Engine-> Image target

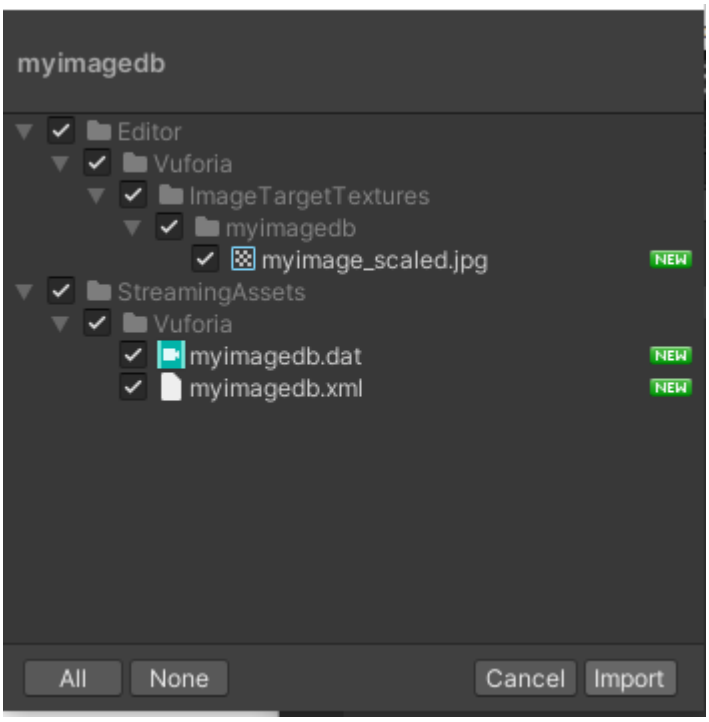


Select Imagetarget in Inspector Window Choose Type: From database



Click Skip

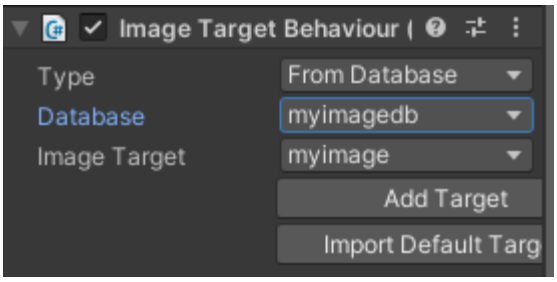
Drag and drop myimagedb.unitypackage in your Unity project and Click Import



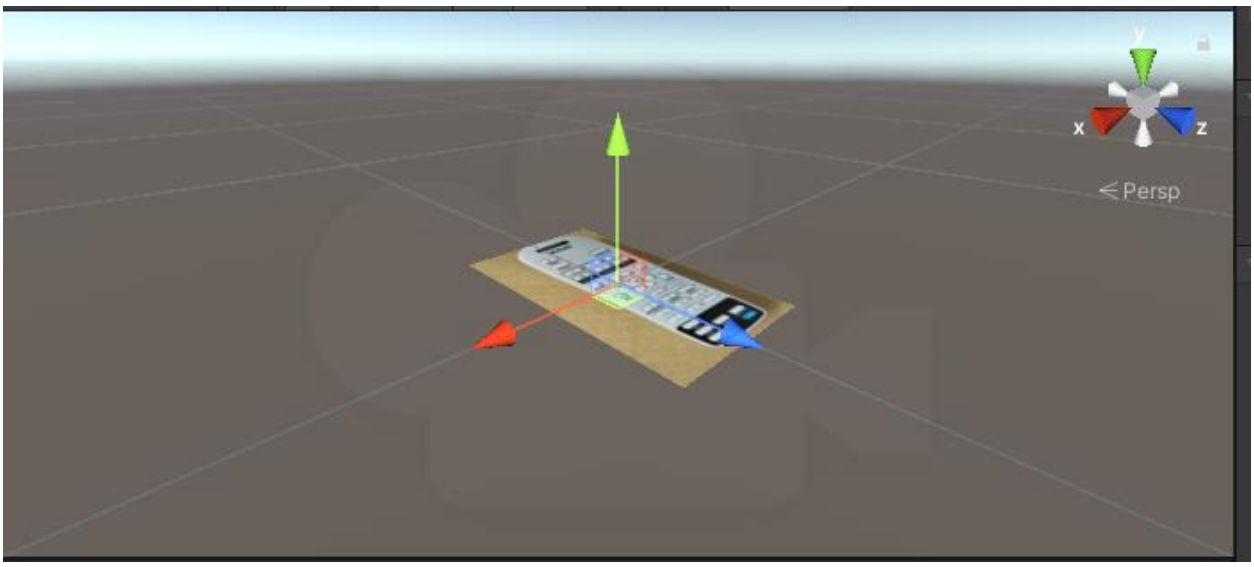
Now for the Imagetarget, in the inspector window

Database: myimagedb

Imagetarget: it chooses the image from database



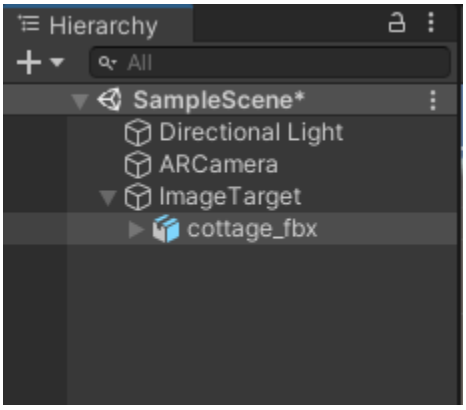
Now when you zoom in the scene on your image target you can see the image



Adding fbx model

Download an fbx model and drop it in assets folder.

Now drag it in hierarchy and drop it over the imagetarget to make its child



https://learn.unity.com/tutorial/recorded-video-session-creating-ar-content-with-vuforia#5c7f8528edbc2a002053b456

Creating AR content with Vuforia

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 Image targets and 3D objects in real time

Go to

http://ole.unity.com/vuforialive2018

click on Download CreatingARWithVuforia.zip

https://unity3d.com/partners/vuforia

click on “Get started with Unity sample assets”

click on “Add to My Assets”

in Unity

Create a New project

Template- VR Lightweight RP

Name of the Project: Vuforia

Start Unity again and open your project

Window-> Asset store

Search Vuforia core samples

Click Download

Click Import

Click Install/Upgrade

Select All and click Import

Edit-> Project Settings-> Player

Under XR Settings

Under XR Support Installers

Click on Vuforia Augmented Reality

Download it and Install

Close Unity for Installation to complete

Edit-> Project Settings-> Player

Check “Vuforia Augmented Reality Supported”

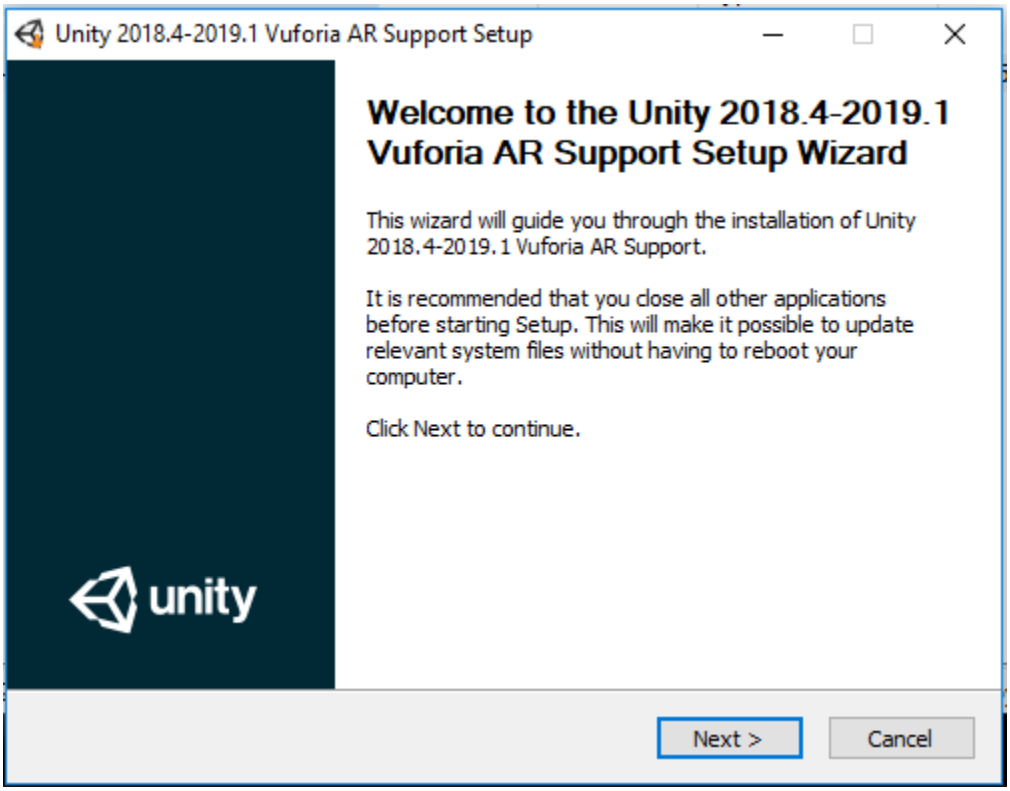
Connect your webcam

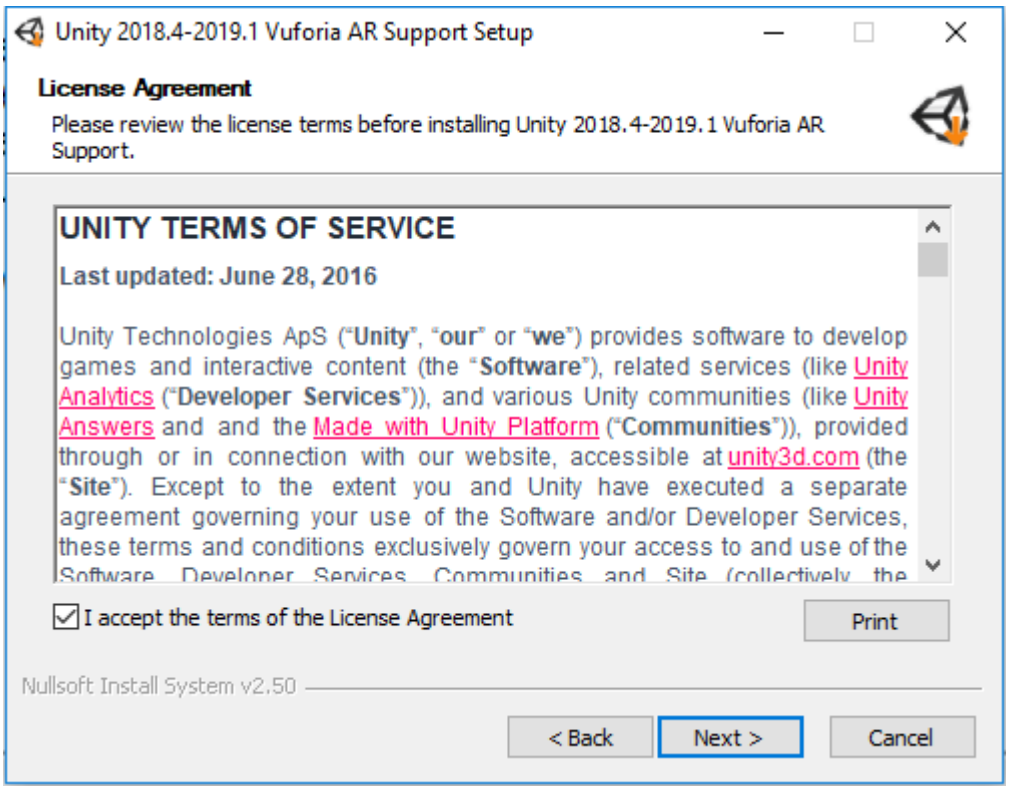
Now Under Assets folder-> Resources folder -> select VuforiaConfiguration object

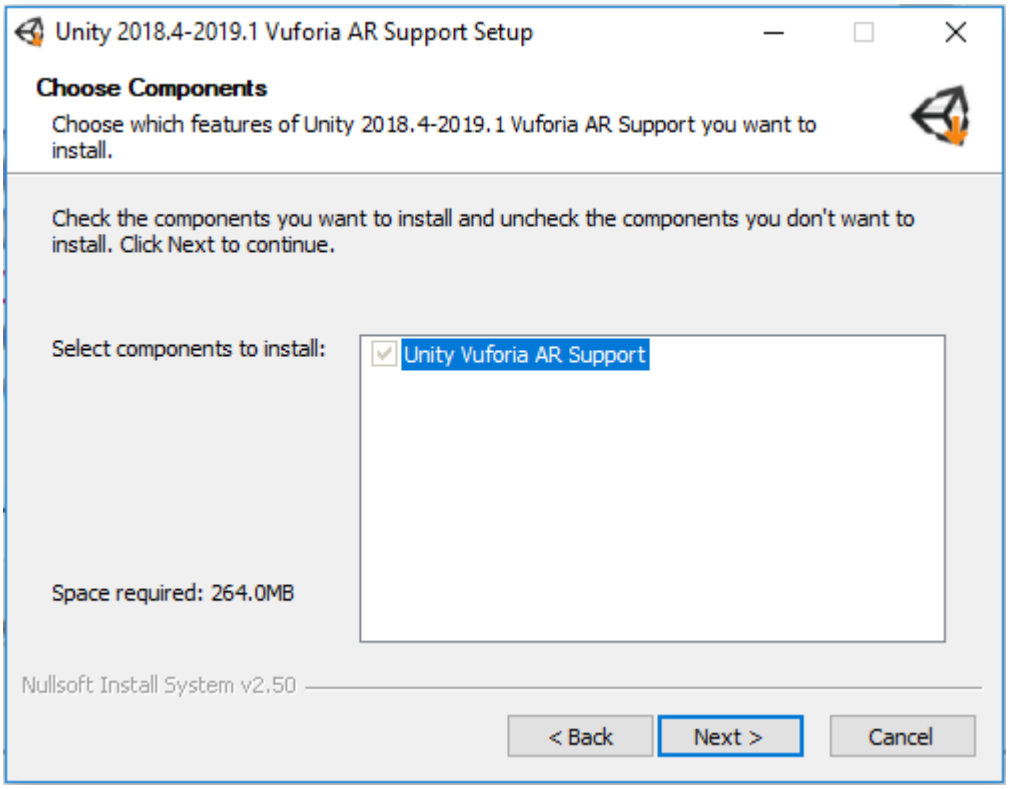
In its Inspector window scroll down and under Webcam -> Camera device -> select your camera

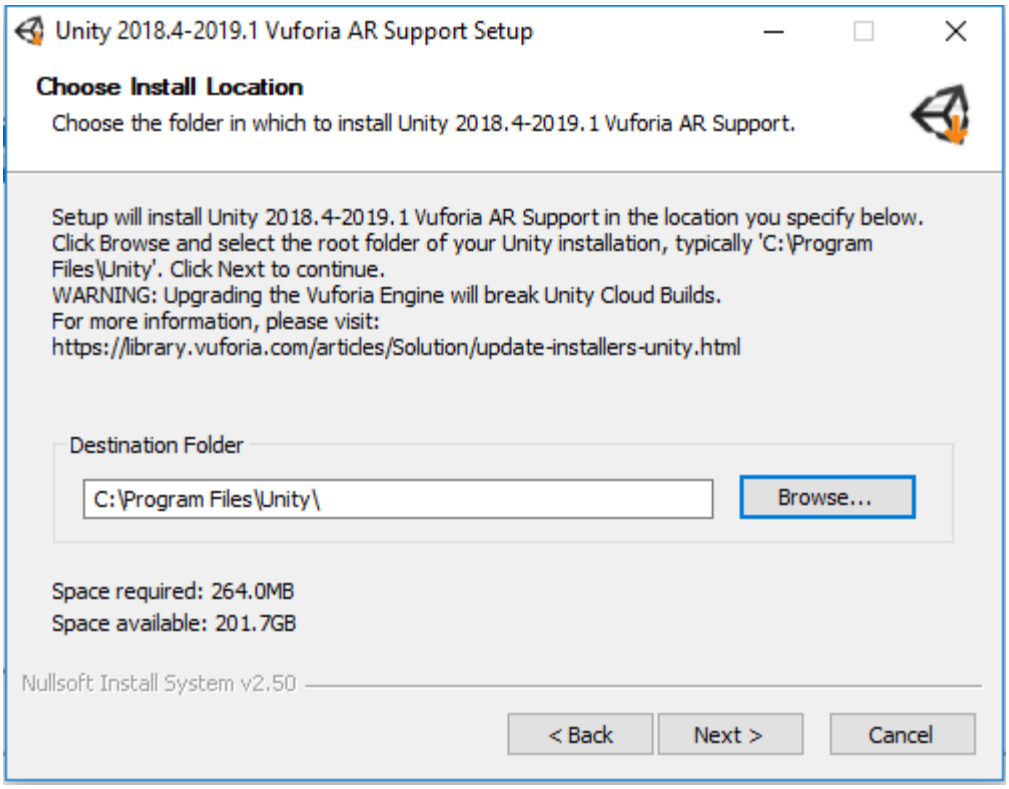
Now go to menu GameObject-> Vuforia Engine-> AR Camera

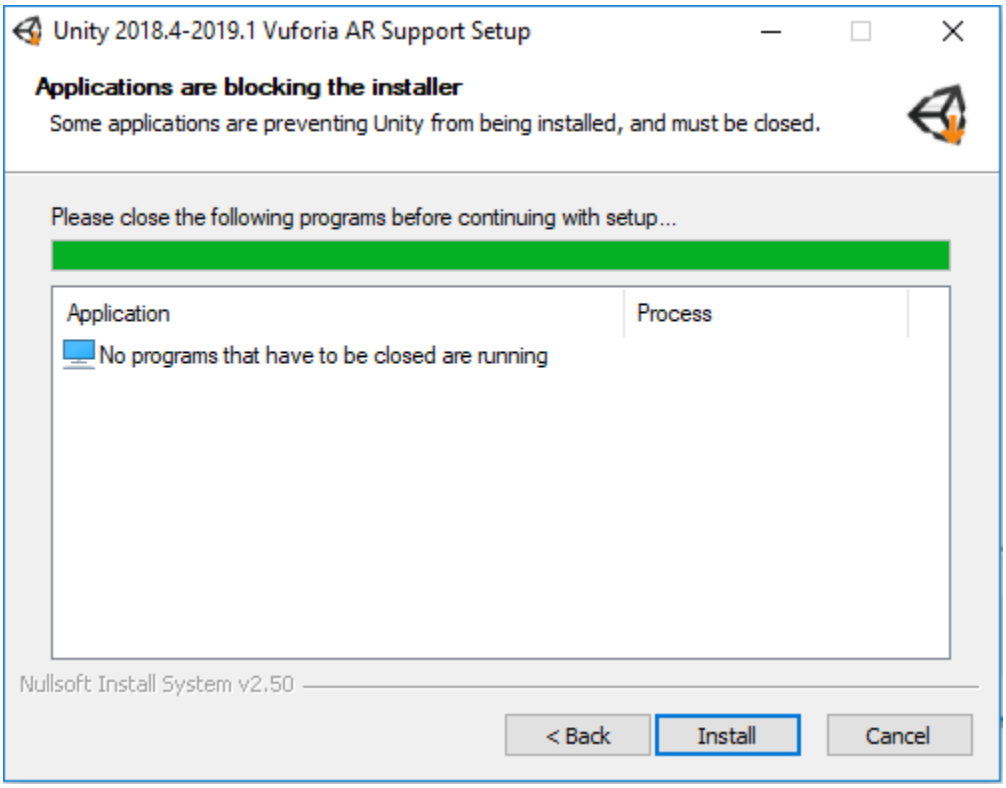
VuforiaConfiguration Inspector - Download Vuforia Engine 8.3.8

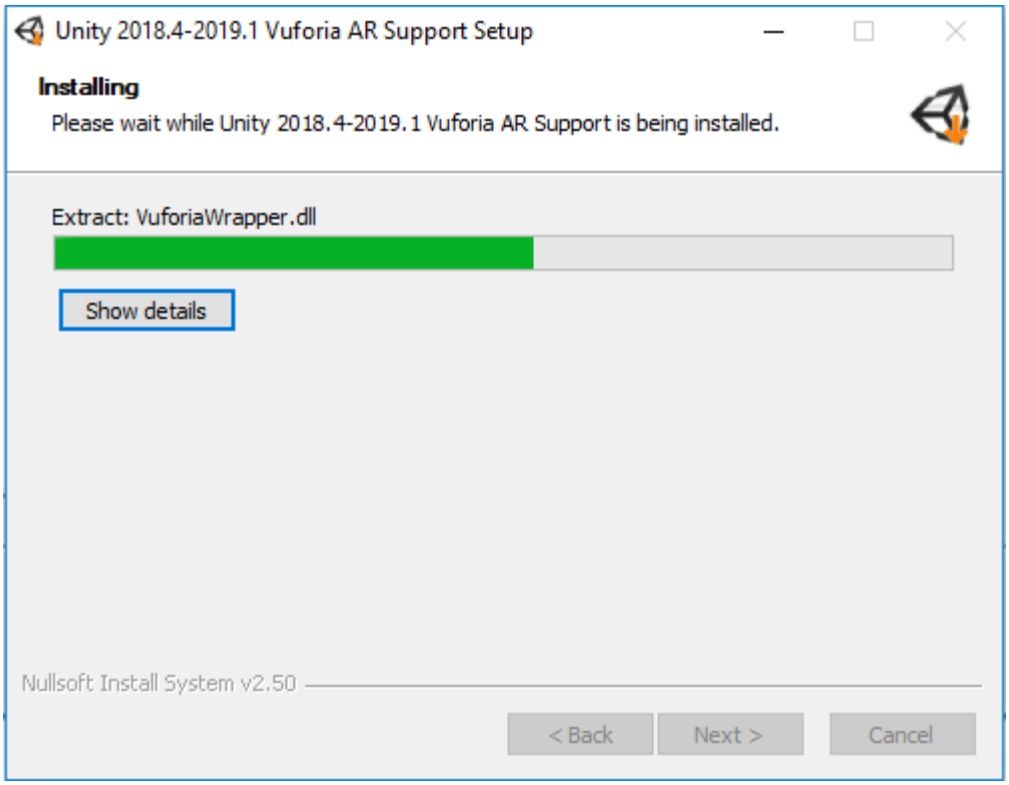


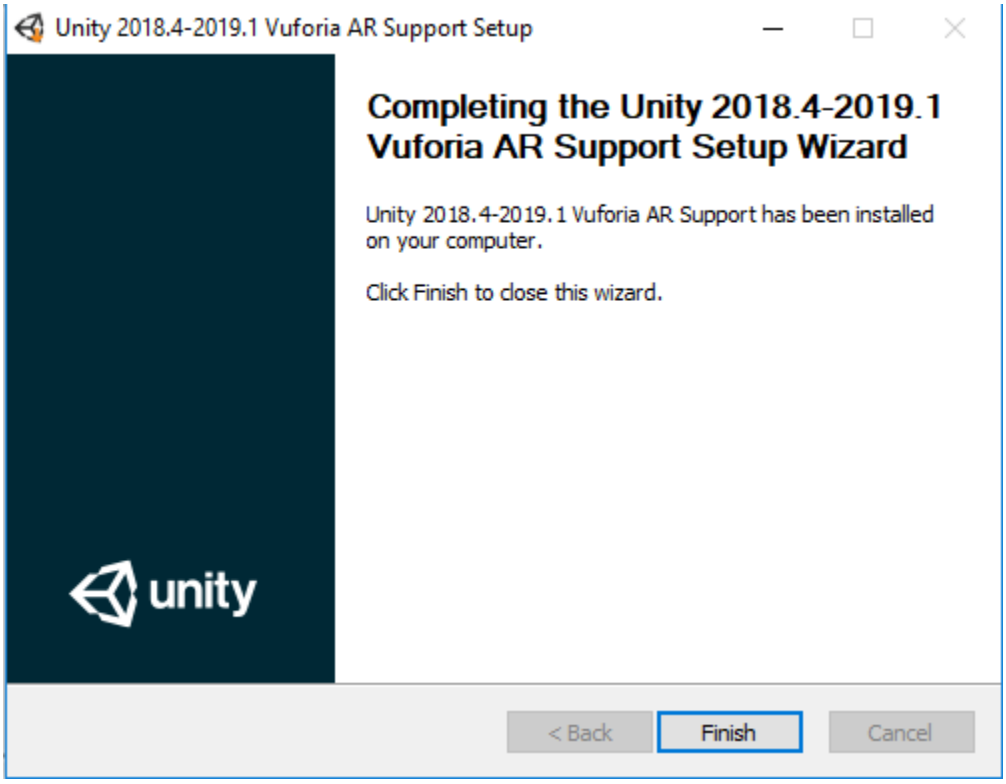

Unity 2018.4-2019.1 Vuforia AR Support Setup
License Agreement
Please review the license terms before installing Unity 2018.4-2019.1 Vuforia AR Support.
UNITY TERMS OF SERVICE
Last updated: June 28, 2016
Unity Technologies ApS ("Unity", "our" or "we") provides software to develop games and interactive content (the "Software"), related services (like Unity Analytics ("Developer Services")), and various Unity communities (like Unity Answers and and the Made with Unity Platform ("Communities")), provided through or in connection with our website, accessible at unity3d.com (the "Site"). Except to the extent you and Unity have executed a separate agreement governing your use of the Software and/or Developer Services, these terms and conditions exclusively govern your access to and use of the
I accept the terms of the License Agreement
Print
Nullsoft Install System v2.50
< Back
Next >
Cancel

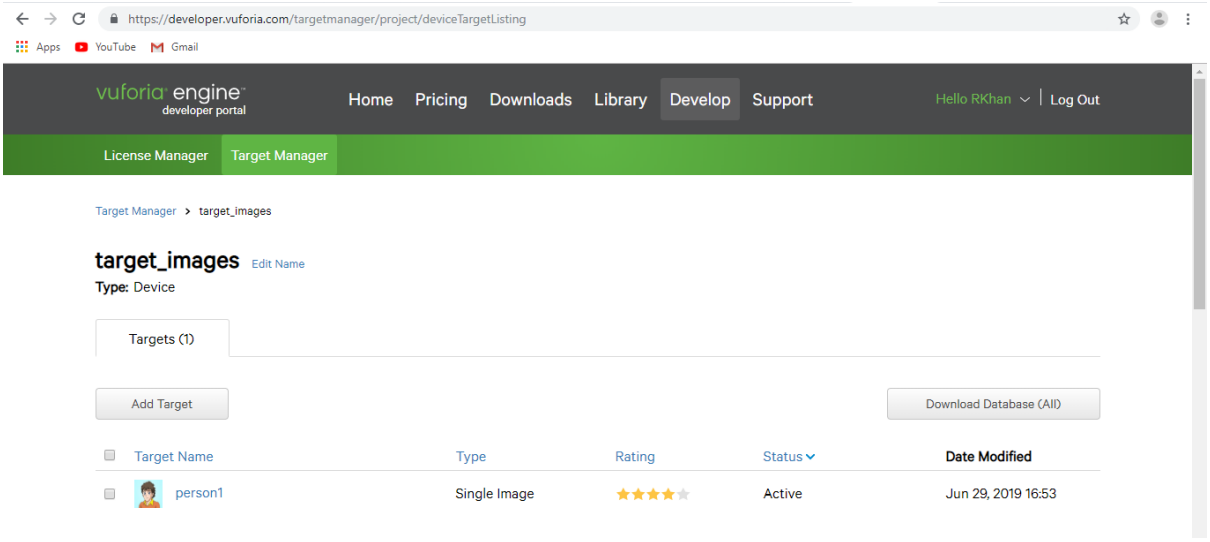
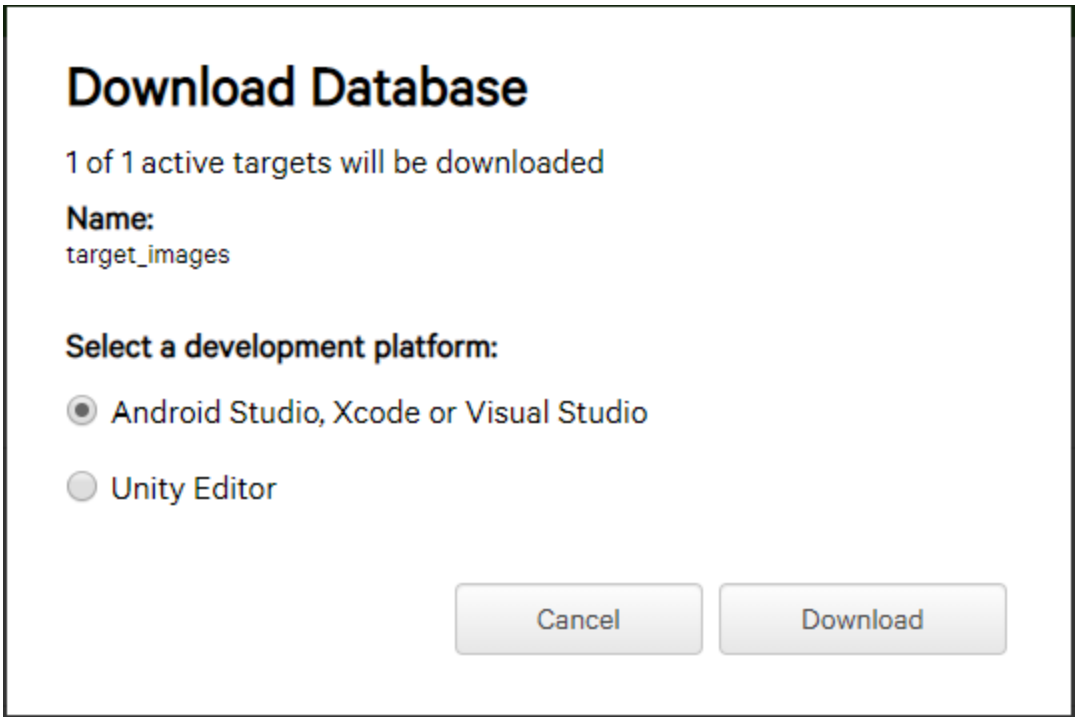

Unity 2018.4-2019.1 Vuforia AR Support Setup
Choose Components
Choose which features of Unity 2018.4-2019.1 Vuforia AR Support you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
Unity Vuforia AR Support
Space required: 264.0MB
Nullsoft Install System v2.50
< Back
Next >
Cancel


Unity 2018.4-2019.1 Vuforia AR Support Setup
Choose Install Location
Choose the folder in which to install Unity 2018.4-2019.1 Vuforia AR Support.
Setup will install Unity 2018.4-2019.1 Vuforia AR Support in the location you specify below.
Click Browse and select the root folder of your Unity installation, typically 'C:\Program Files\Unity'. Click Next to continue.
WARNING: Upgrading the Vuforia Engine will break Unity Cloud Builds.
For more information, please visit:
https://library.vuforia.com/articles/Solution/update-installers-unity.html
Destination Folder
C:\Program Files\Unity\
Browse...
Space required: 264.0MB
Space available: 201.7GB
Nullsoft Install System v2.50
< Back
Next >
Cancel


Unity 2018.4-2019.1 Vuforia AR Support Setup
Applications are blocking the installer
Some applications are preventing Unity from being installed, and must be closed.
Please close the following programs before continuing with setup...
Application
Process
No programs that have to be closed are running
Nullsoft Install System v2.50
< Back
Install
Cancel


Unity 2018.4-2019.1 Vuforia AR Support Setup
Installing
Please wait while Unity 2018.4-2019.1 Vuforia AR Support is being installed.
Extract: VuforiaWrapper.dll
Show details
Nullsoft Install System v2.50
< Back
Next >
Cancel


Unity 2018.4-2019.1 Vuforia AR Support Setup
Completing the Unity 2018.4-2019.1 Vuforia AR Support Setup Wizard
Unity 2018.4-2019.1 Vuforia AR Support has been installed on your computer.
Click Finish to close this wizard.
unity
< Back
Finish
Cancel

Adding Image Targets

Go to Prefabs folder and select Target template and drag it in the scene