CMSC5716 Tutorial

VR in Unity

Setup Tutorial

Unity

- Well-known game engine
- Multiplatform support
  - Windows
  - iOS/Android
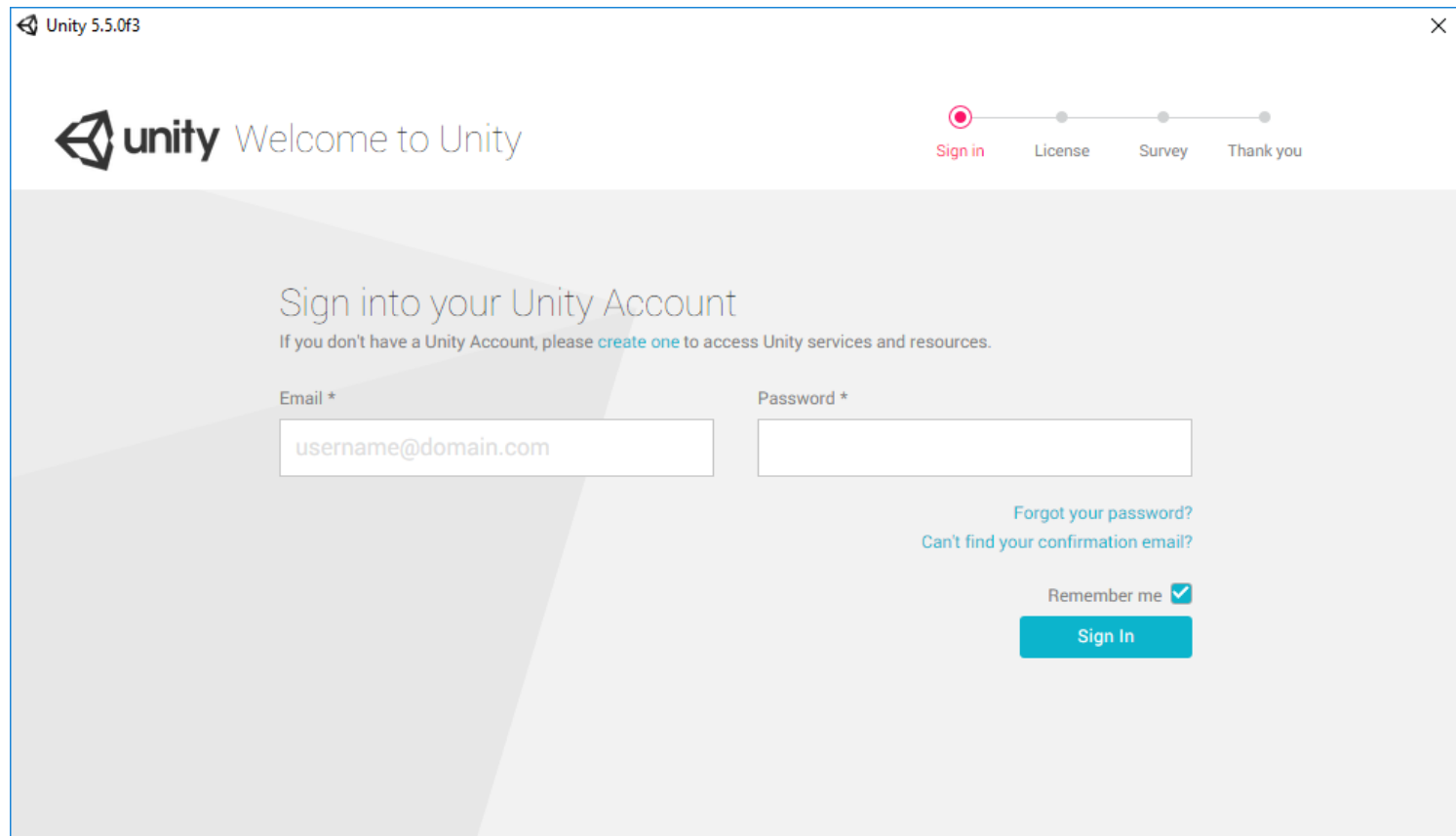 - PS4/PSV/XBoxOne/WiiU/3Ds

- Download
  - https://unity3d.com/

Requirement

- Unity 5.3 or higher to support VR

- Google VR SDK (For Google Cardboard)
  - https://developers.google.com/vr/unity/
- Oculus Runtime (For Oculus Rift)
  - https://developer3.oculus.com/downloads/
- SteamVR (For HTC Vive)
  - https://www.vive.com/hk/setup/ or
  - Install it in steam (http://store.steampowered.com/)

Start the Unity

- Create/Use your account

Create a 3D Project

- Select "3D"

Unity Editor

Build your own content
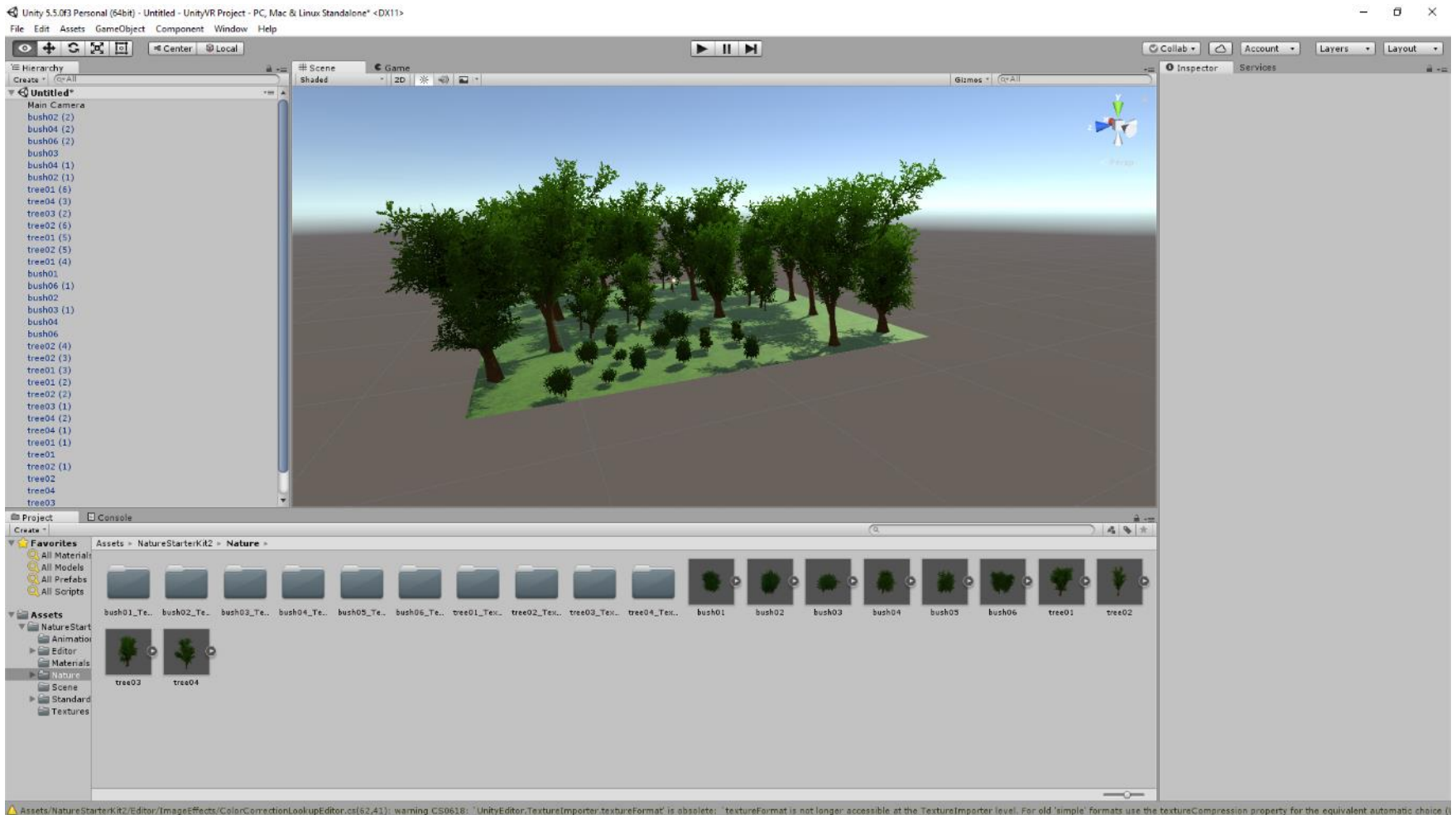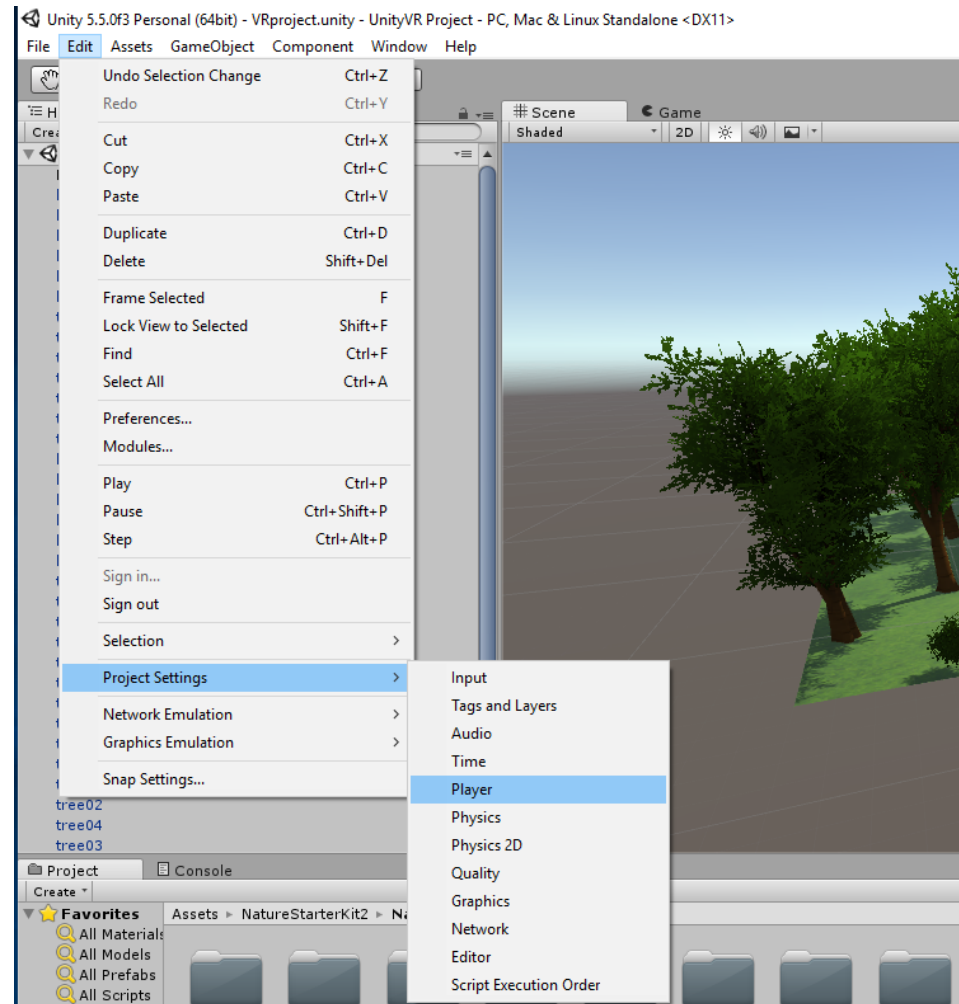
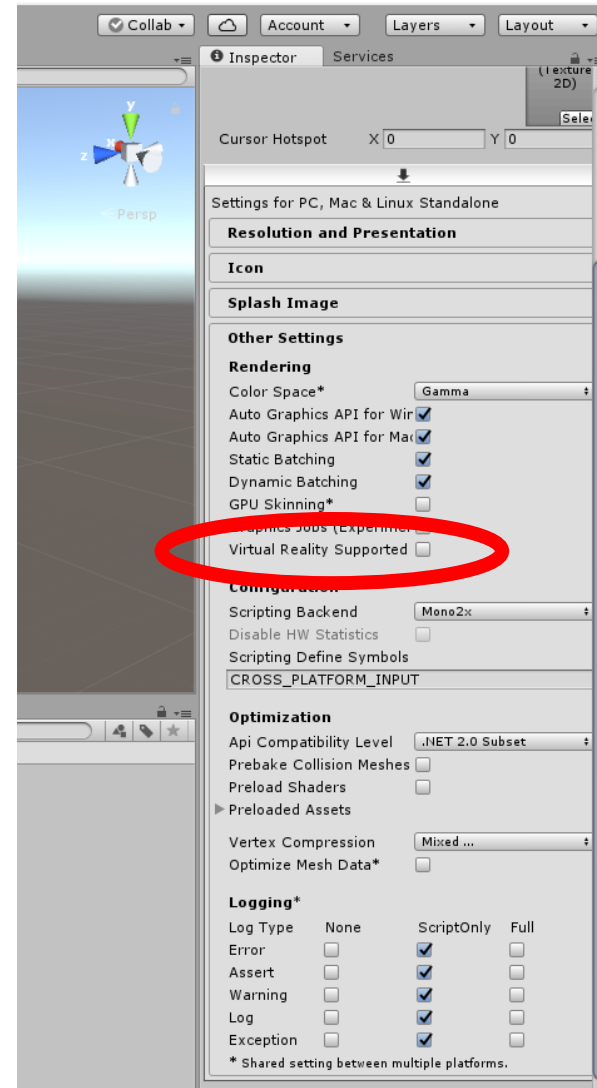# Enable VR for Oculus

or GearVR

Enable VR Support for Oculus(I)

- Menu >

  Edit >

  Project Settings >

  Player

Enable VR Support for Oculus (II)

- Inspector >

  Other Settings>

  Virtual Reality Supported

- Enjoy VR with your device by starting the game
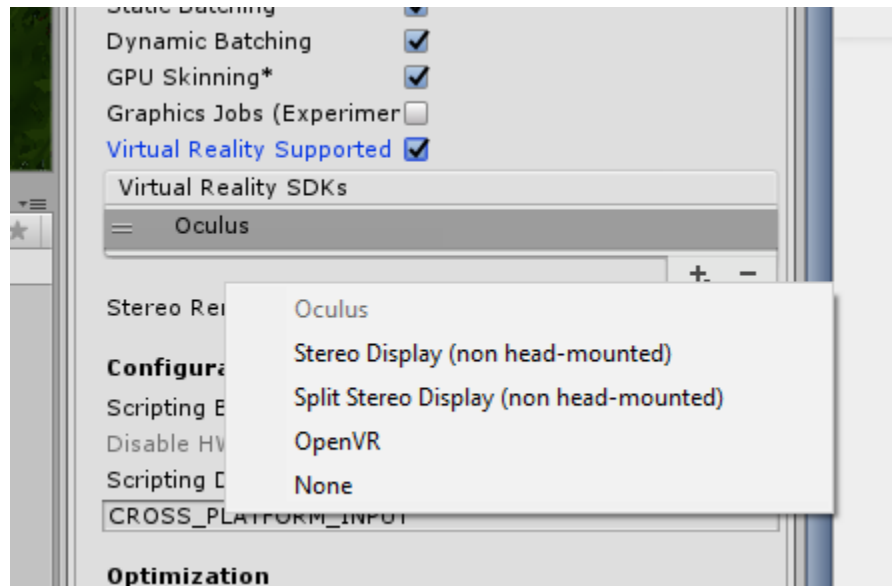
Enable VR for Google Cardboard

or DayDream

Unity Technical Preview

- You need correct version of Unity to support Cardboard
  - Unity Technical Preview
  - https://unity3d.com/partners/google/daydream
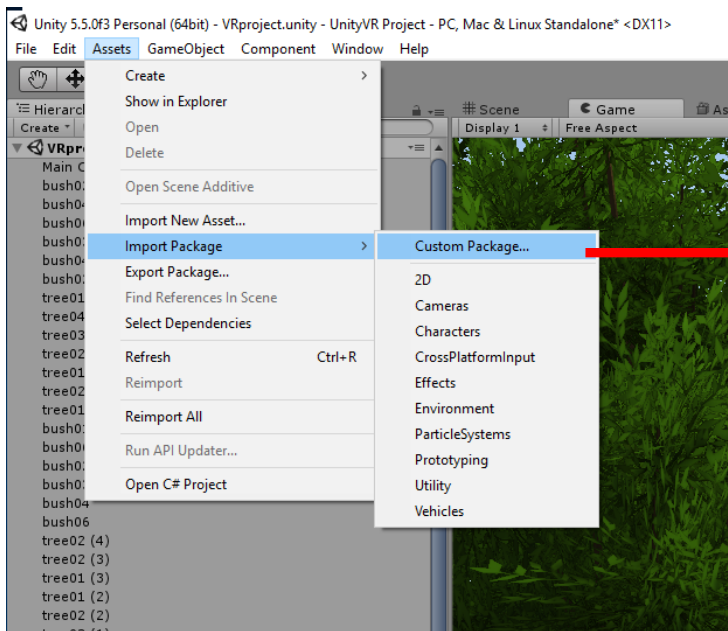
Enable VR for Cardboard

- Similar to oculus, and you can select your device

- Unity provides oculus package only
  - How about google cardboard

Import other SDK

- Need to import VR unity package from SDK
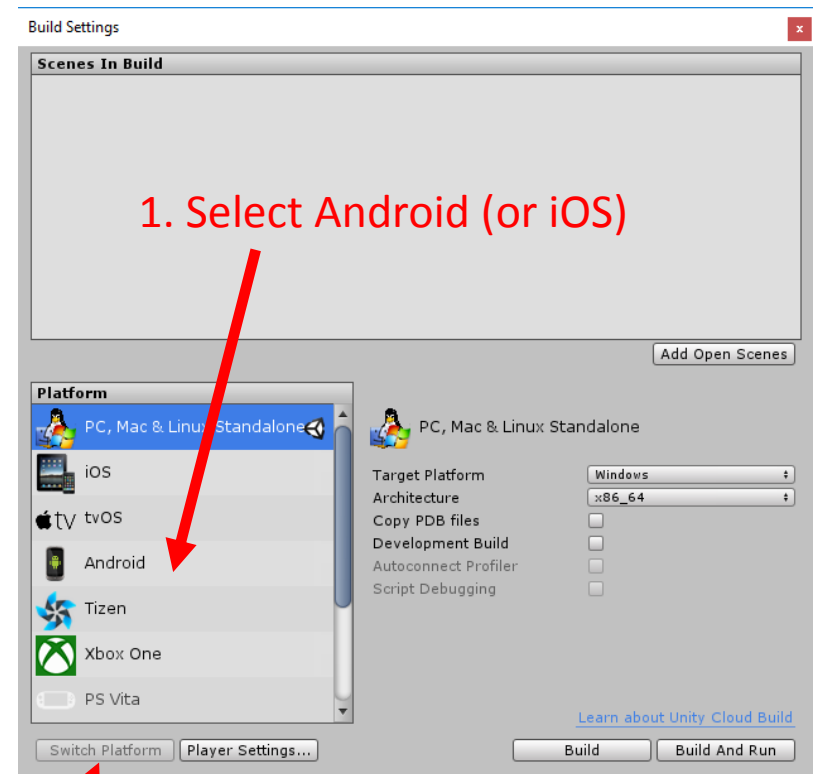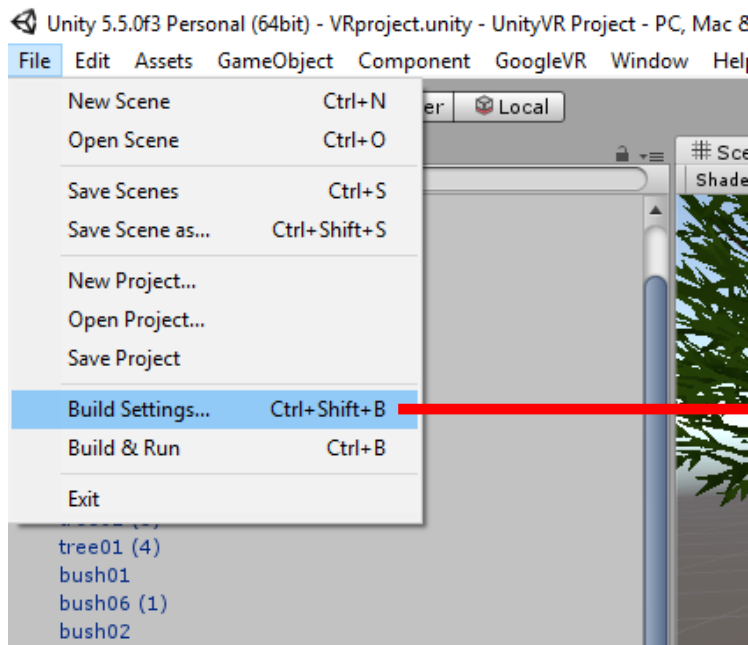 - Assets > import Package > Custom Package

Then select the package in downloaded SDK

Change the Platform

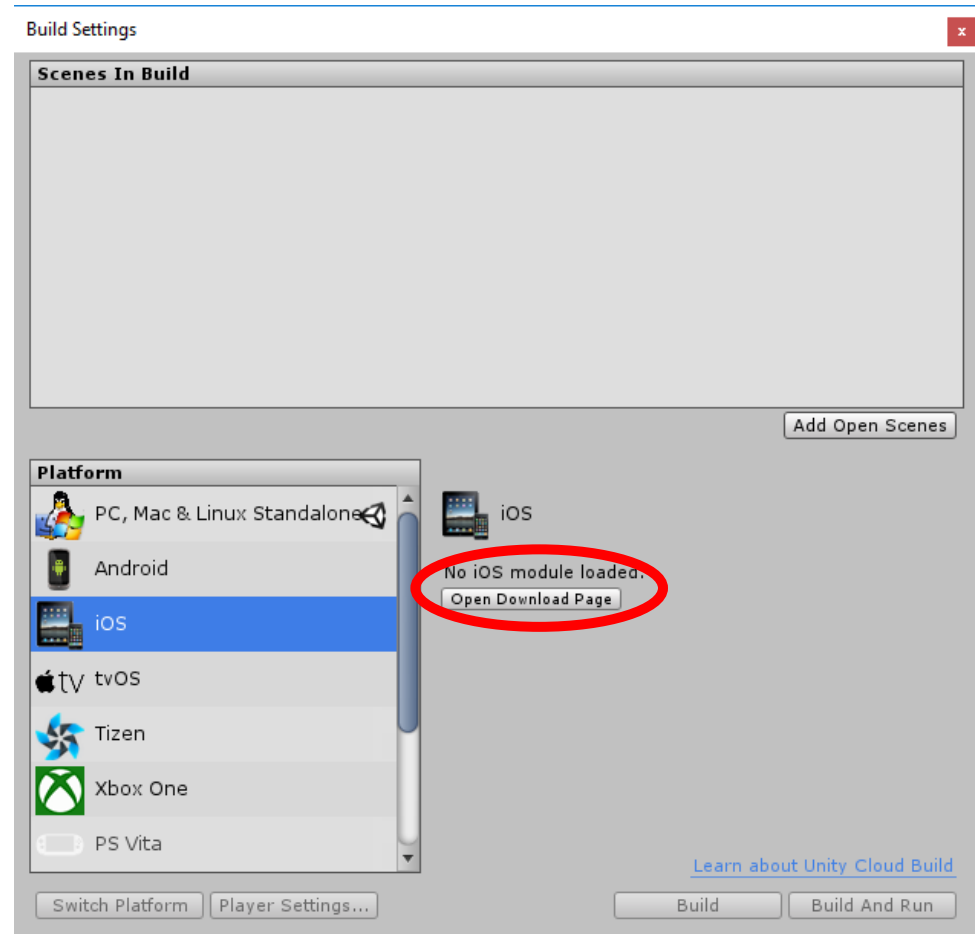- File > Build Settings

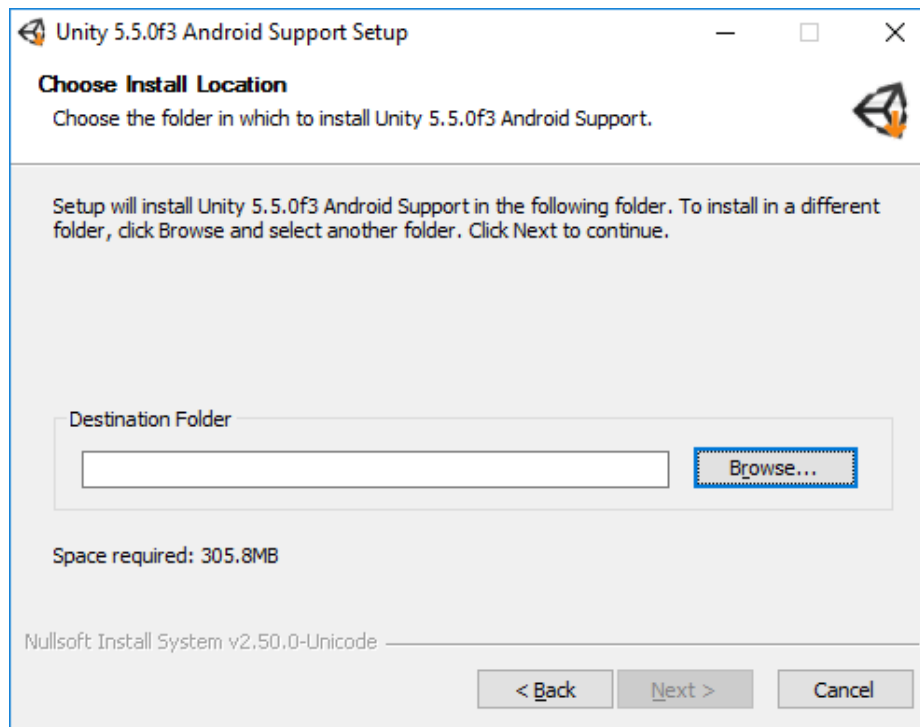1. Select Android (or iOS)

2. Switch Platform

Install the Platform Module

- To select platform, you may need to first install the platform module

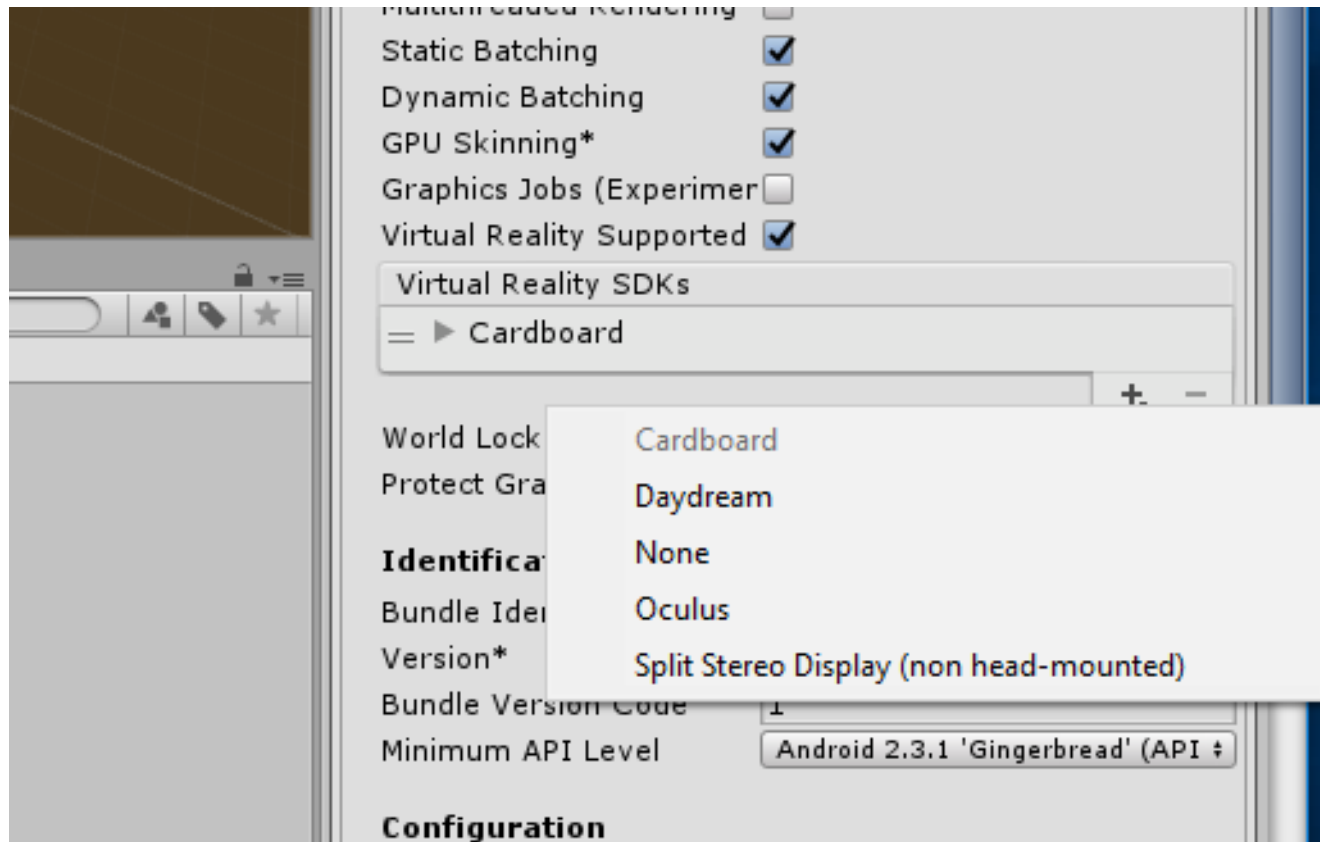- Check "Open Download Page"

Install the Module

- Run the downloaded file
- Select the your Unity path
  - E.g. C:\Program Files\Unity\

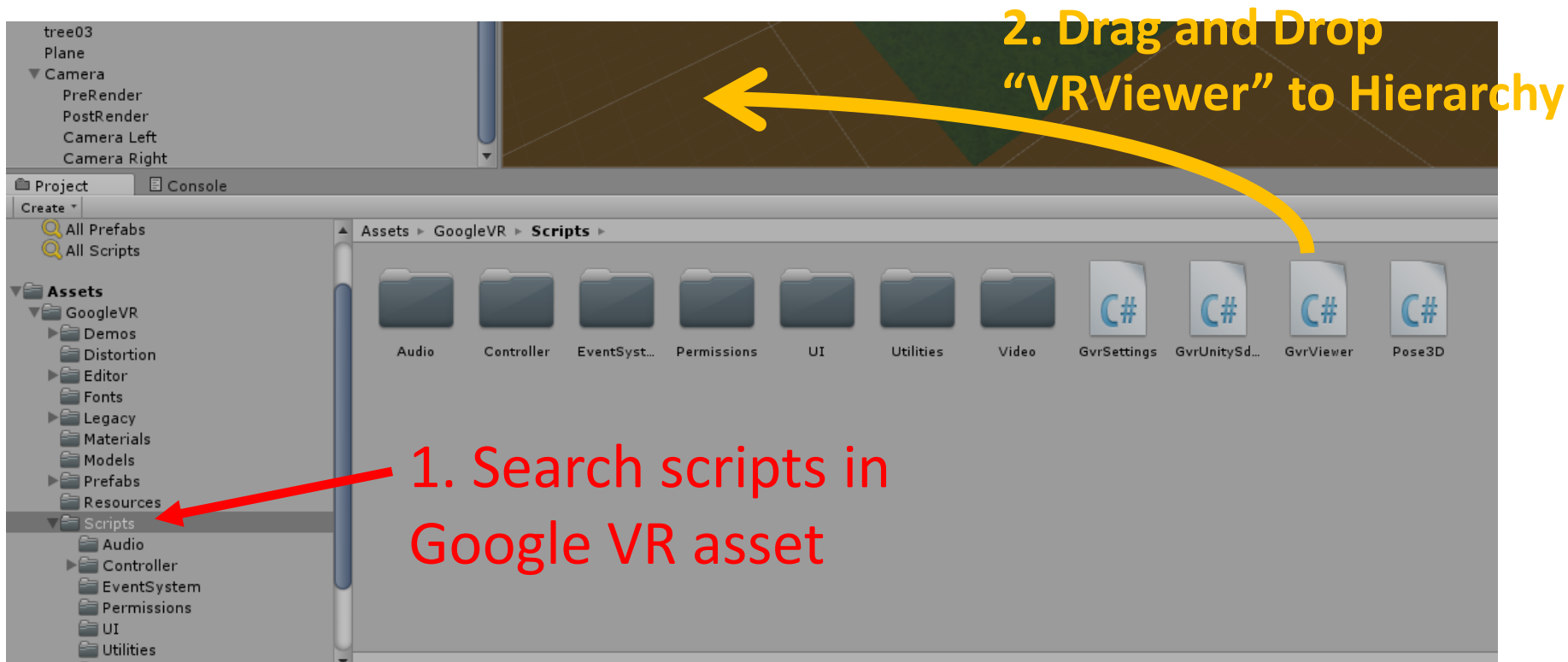# After switch to Android

- You can select cardboard now

Testing the VR

- Two methods:
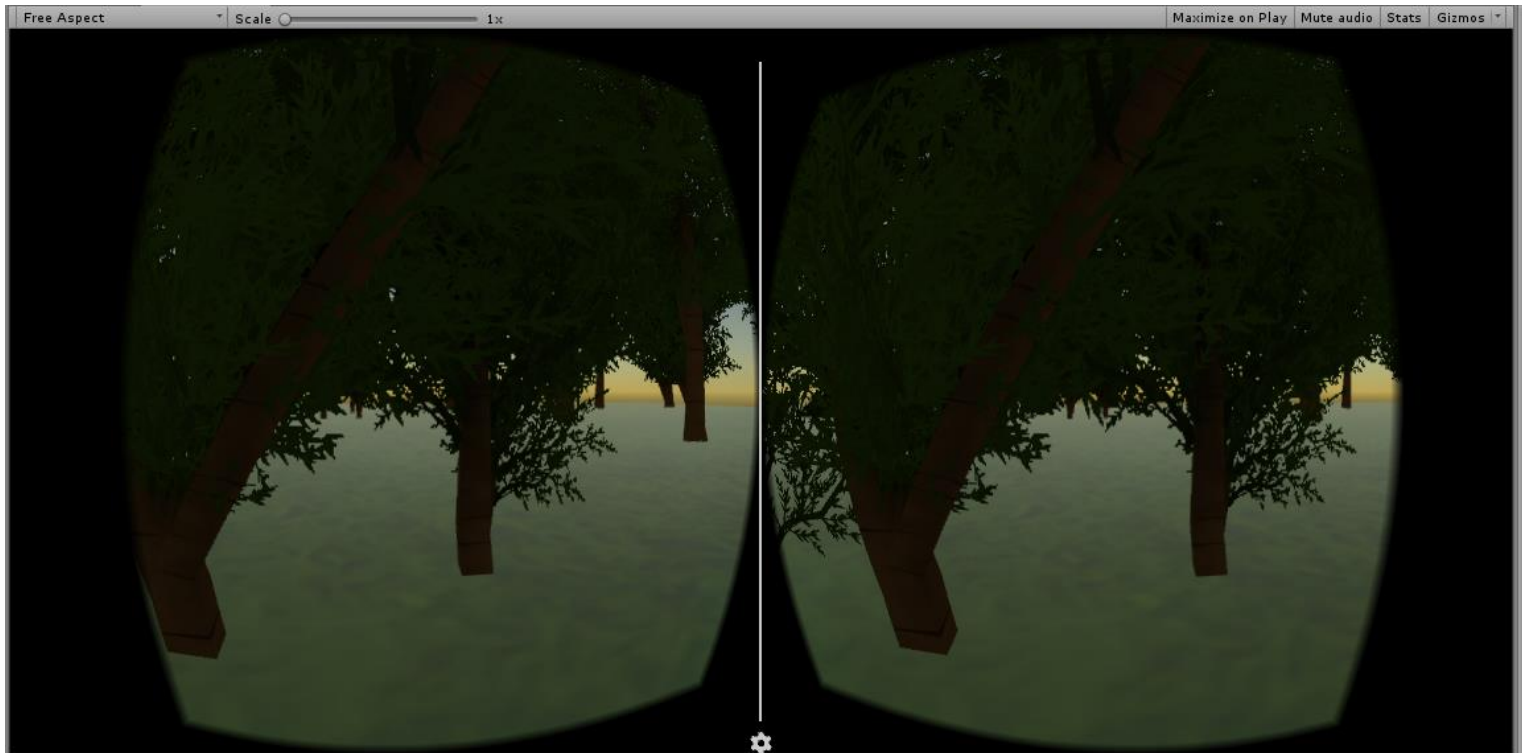 - In Unity viewer
  - On real device

In Unity Viewer

- Drag and drop the asset GoogleVR>
  Scripts>GvrViewer to any object in hierarchy

2. **Drag and Drop "VRViewer" to Hierarchy**

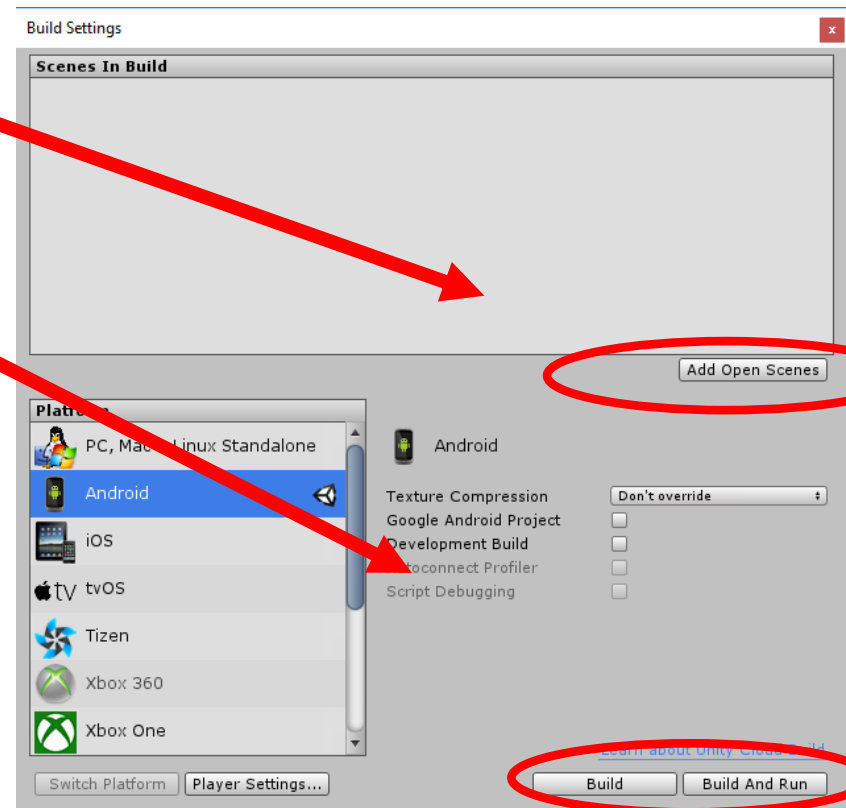1. Search scripts in Google VR asset

Testing VR in Viewer

- Run the scene
  - Alt + Mouse = Simulating turning head

On Real Device

- Connect your Android via USB cable

- Add current scenes to the package in build setting

- Click "Build and Run"

Notes

- Remember to change in player setting
    - The bundle identifier
    - Minimum API to 4.4 or upper

Build Requirements

- Android Phone in Debugger Mode
- Android SDK
- Java Development Kit

- Reference:
  - Debugger mode
    https://www.kingoapp.com/root-tutorials/how-to-enable-usb-debugging-mode-on-android.htm
  - Build Android game
    https://unity3d.com/learn/tutorials/topics/mobile-touch/building-your-unity-game-android-device-testing

Done

Enable VR for Vive

Enable VR Support for Vive (I)

- Go to asset store
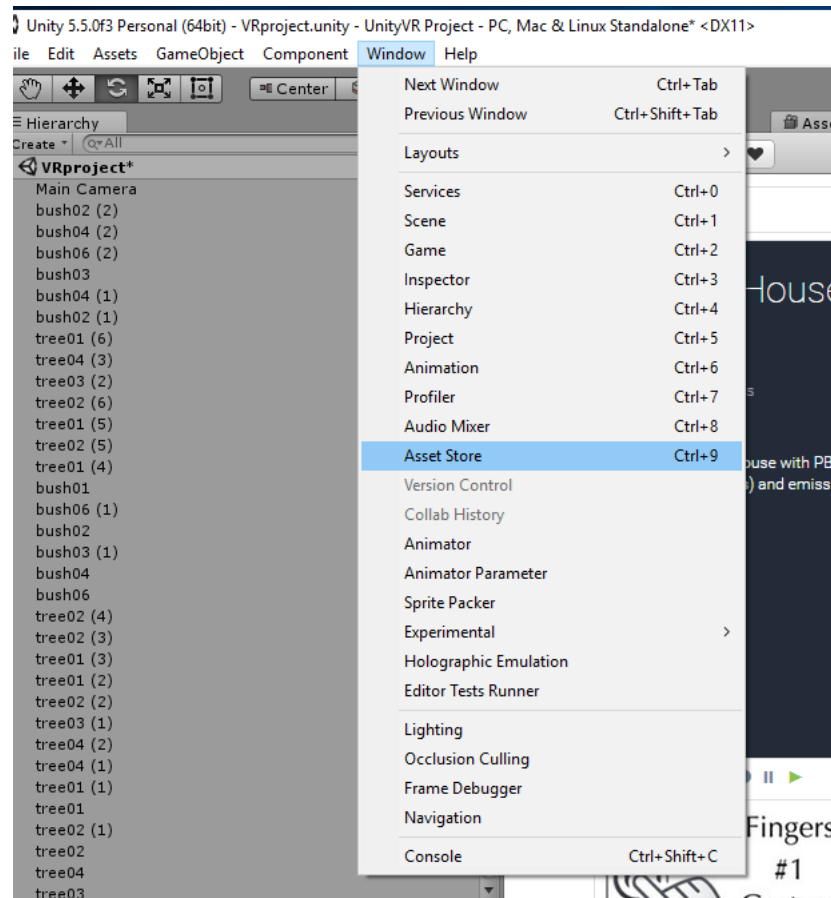
Search VR Plugin

Search "SteamVR" here

SteamVR Plugin

- Download and import the plugin

Add the plugin in Game
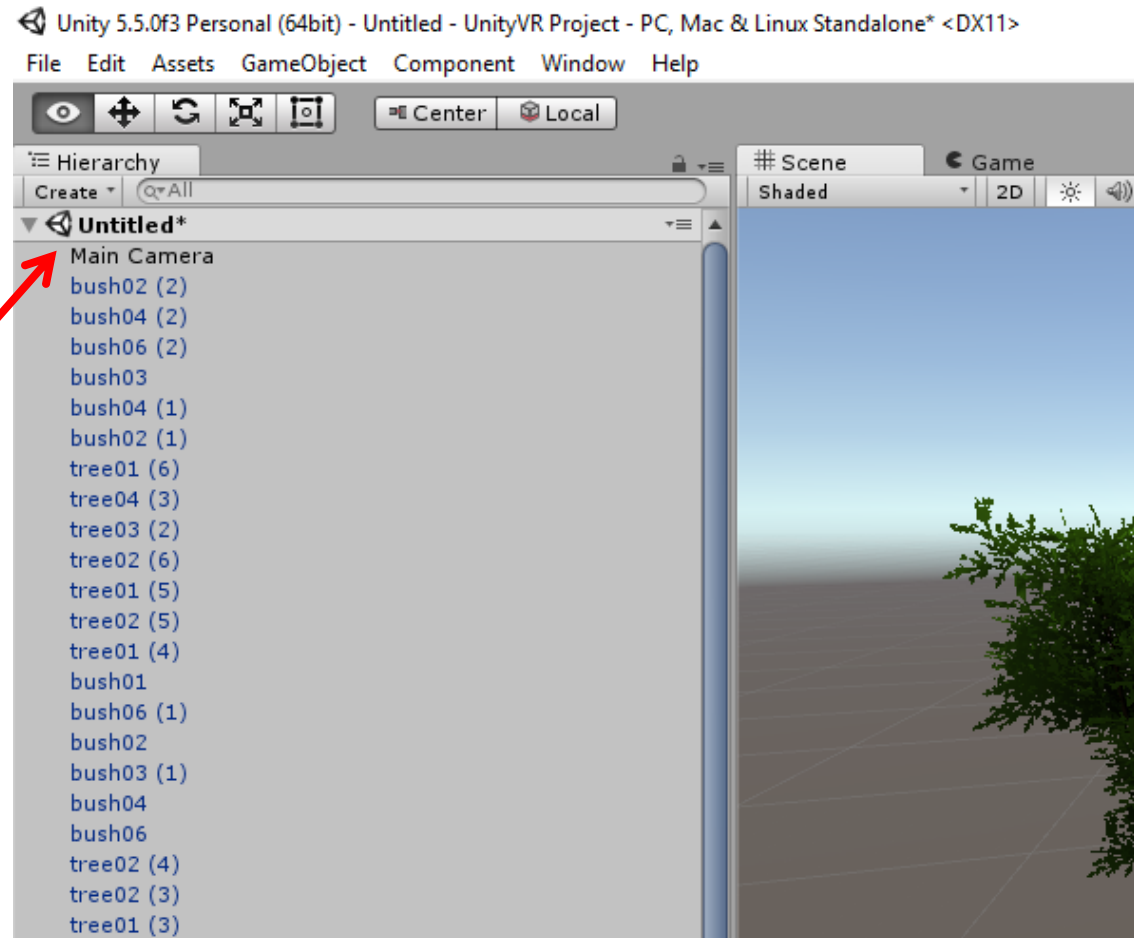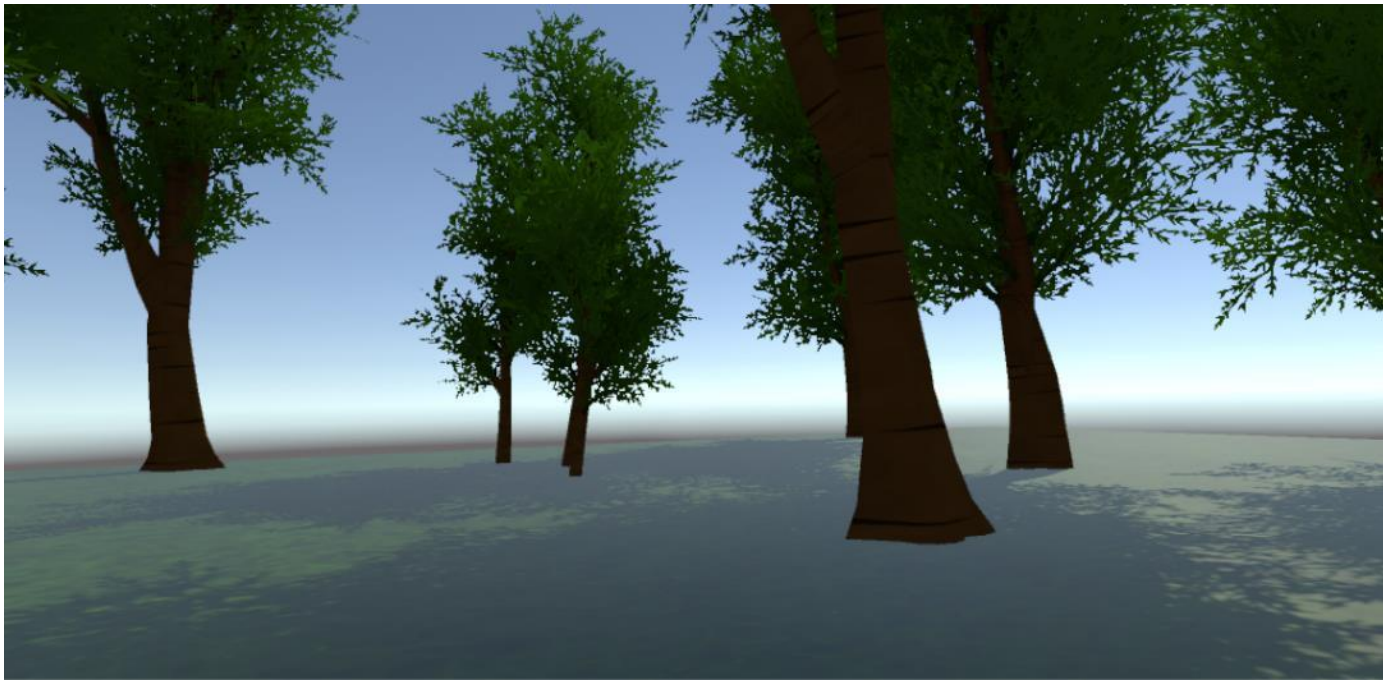
Delete the Main Camera

Delete it

Enjoy VR

- Start the game and you will see your content in Vive

Reference

- Unity VR Tutorial
  - https://unity3d.com/learn/tutorials/topics/virtual-reality
- HTC Vive Tutorial
  - https://www.raywenderlich.com/149239/htc-vive-tutorial-unity
- Google Cardboard
  - https://developers.google.com/vr/unity/guide