

UNIVERSITÀ DI CATANIA



MRKT TUTORIAL

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# How to set up your environment for Hololens

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# 1 Introduction

**Disclaimer:** This tutorial is not meant to replace the *original MRTK tutorial*, it is just a tutorial made for other students which wants to quickly set up the environment for Microsoft Hololens.

## 2 Prerequisites

Before starting, it is mandatory to download and set up the following resources:

- **Windows 10**
- **Visual Studio 2019 (16.8 or higher):** Downloadable [\*here\*](#).  
It is *mandatory* to install these extensions:
  - ASP.NET and Web Development**
  - .NET desktop development**
  - C++ desktop development**
  - UWP development**
  - Unity game development**
  - C++ game development**
  - USB devices connectivity**
  - Windows 10 SDK**
- **Windows 10 SDK:** Downloadable [\*here\*](#)
- **Unity 2019.4 LTS:** Downloadable [\*here\*](#).  
It is *mandatory* to install modules:
  - Universal Windows Platform Build Support**
  - Windows Build Support (IL2CPP)**
- **.NET 5.0 runtime (or higher):** Downloadable [\*here\*](#).
- **Mixed Reality ToolKit:** Downloadable [\*here\*](#).

## 3 Initializing and deploying your first application

### 3.1 Unity Project

First of all, a new Unity 3D Project must be created. Once the blank project is created, select *File > Build Settings...*

Then select *Universal Windows Platform* and click *Switch Platform*. Once the switch is done, close the Build Settings Window. Open the *Window* menu *> TextMeshPro > Import TMP Essential Resources*, then click *all* and *import*

### 3.2 Importing the Mixed Reality ToolKit

In order to import the Mixed Reality ToolKit in your Unity's Project, you must open the *MixedRealityFeatureTool.exe* from the Mixed Reality Feature Tool directory. Then, *Start > select Mixed Reality ToolKit Foundation (2.5.4 or higher)* and click on *Get Features*. Click on *...* and select your project's path, then click *Validate* You will get a popup, close it and click on *Import* and then click on *Approve*

### 3.3 Configuring the Unity Project

Once unity has finished importing the packages, click on *Mixed Reality ToolKit* menu *> utilities > Configure Unity Project*. In the Configuration Windows, expand *Modify Configurations* section, ensure all options are checked and click on *Apply*. Now, select *Edit* menu *> Project Settings...* and then *XR Plug-in Management > Install XR Plug-in Management*. Once the installation is done, ensure that *Initialize XR on Startup* and *Windows Mixed Reality* is checked. Then in MRTK Project Configurator window, use the *Audio spatializer* dropdown to select the *MS HRTF Spatializer*, then click the *Apply* button. Then in the Project Settings Window, select *XR Plug-in Management > Windows Mixed Reality > Runtime Settings* and select *16bit – depth* as *Depth Buffer Format*. In project settings window, select *Player > Publishing Settings* and in the *Package name* enter a suitable name.

## 4 Conclusion

Once everything is done, you can write and build your application on hololens!