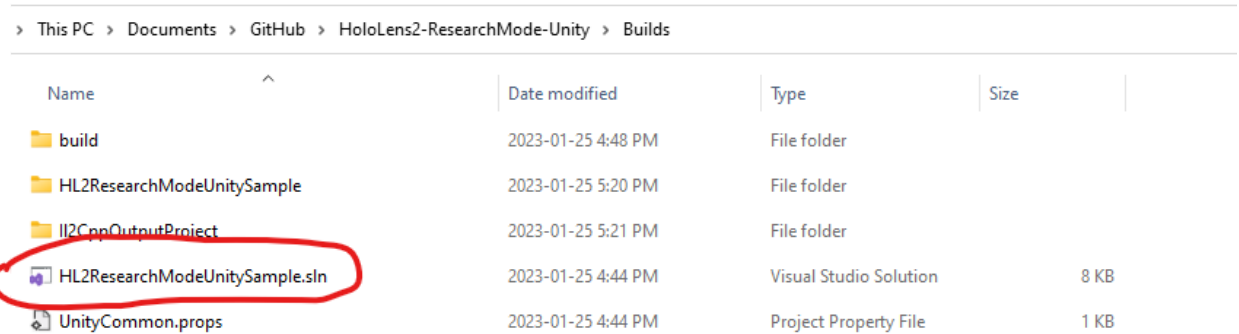


Building the application

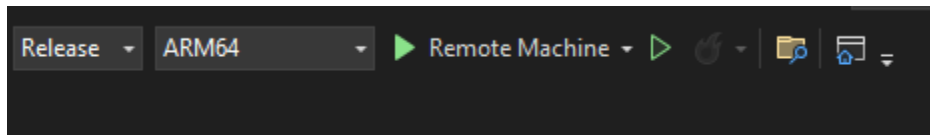
1. Open the project in Unity,



This PC > Documents > GitHub > HoloLens2-ResearchMode-Unity > Builds

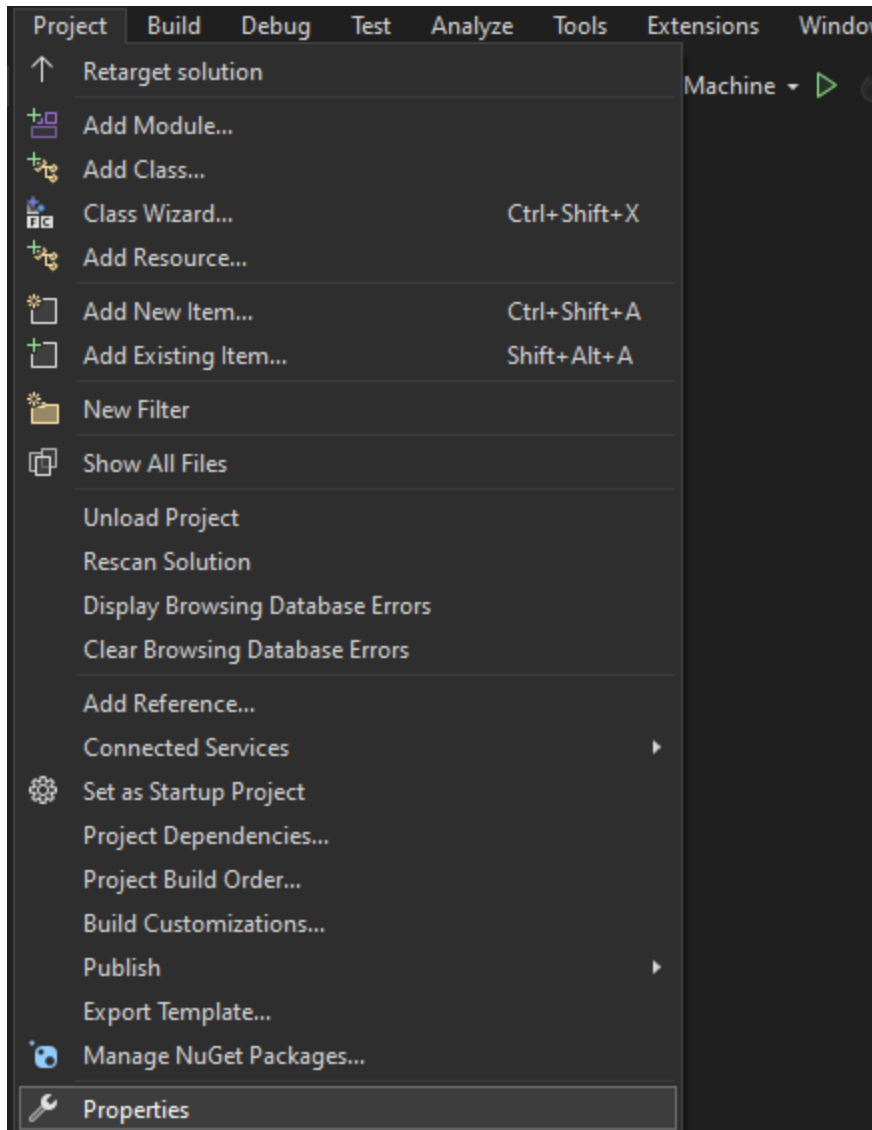
Name	Date modified	Type	Size
build	2023-01-25 4:48 PM	File folder	
HL2ResearchModeUnitySample	2023-01-25 5:20 PM	File folder	
IL2CppOutputProject	2023-01-25 5:21 PM	File folder	
HL2ResearchModeUnitySample.sln	2023-01-25 4:44 PM	Visual Studio Solution	8 KB
UnityCommon.props	2023-01-25 4:44 PM	Project Property File	1 KB

2. In Visual Studio, At the top of the screen change the Build configuration to the one you selected earlier and change the Solution platform to ARM64. Select the build platform to Remote Machine or Device.

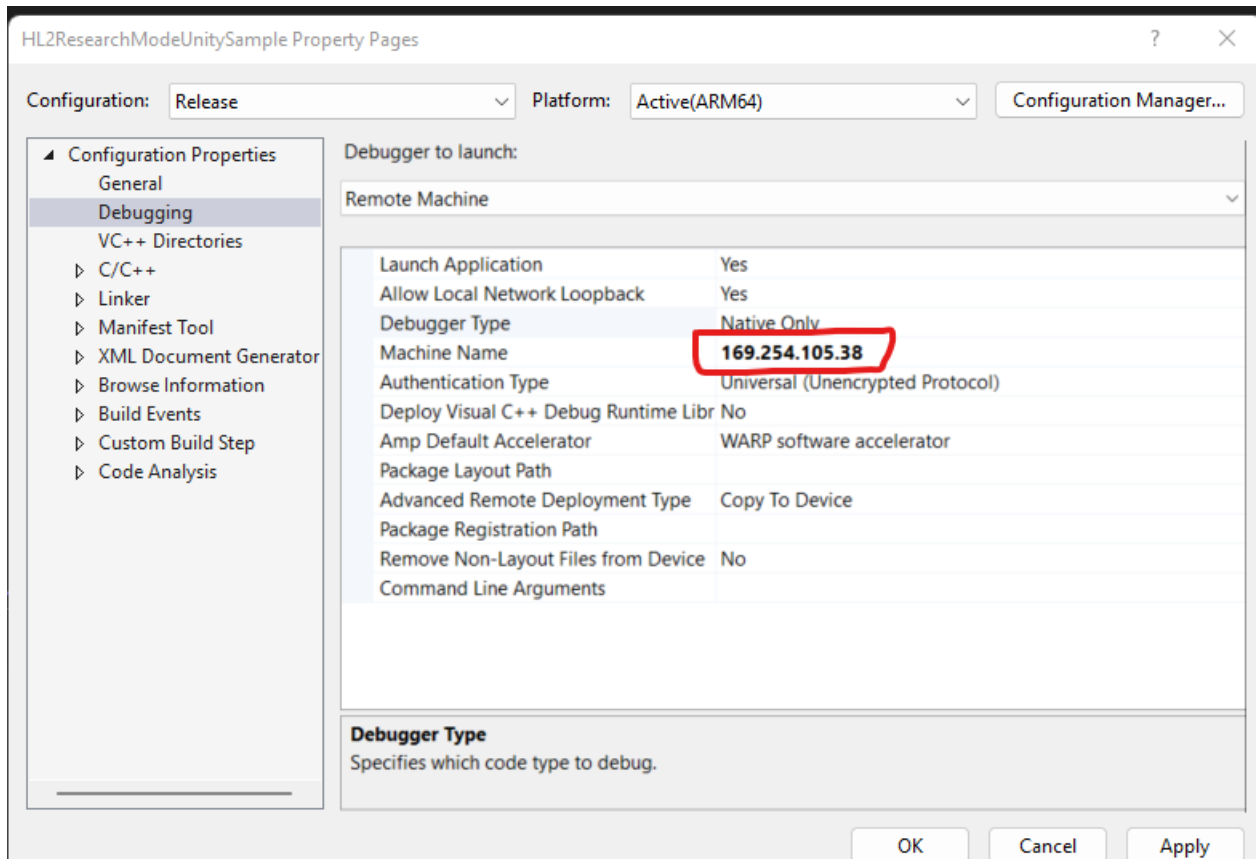


3. **If using Remote Machine**

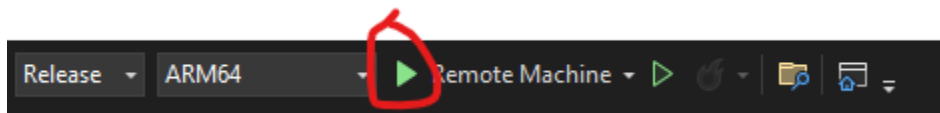
Select the project tab from the top and select properties at the bottom.



4. Under Debugging, change the machine name to the **IP Address** of your HoloLens

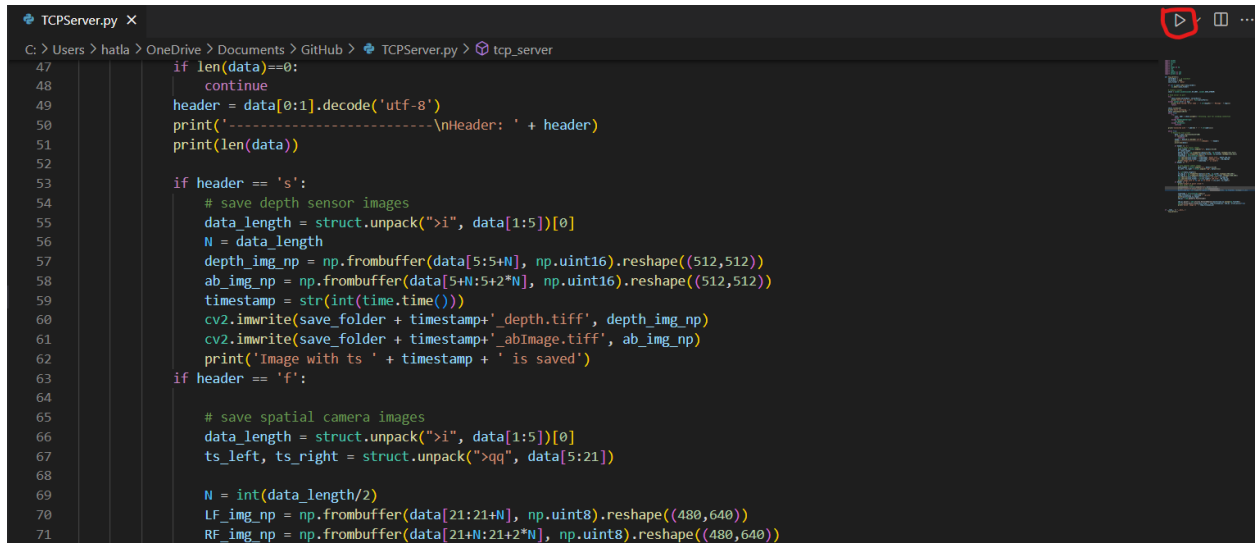


5. Now just hit the green button to start the project!



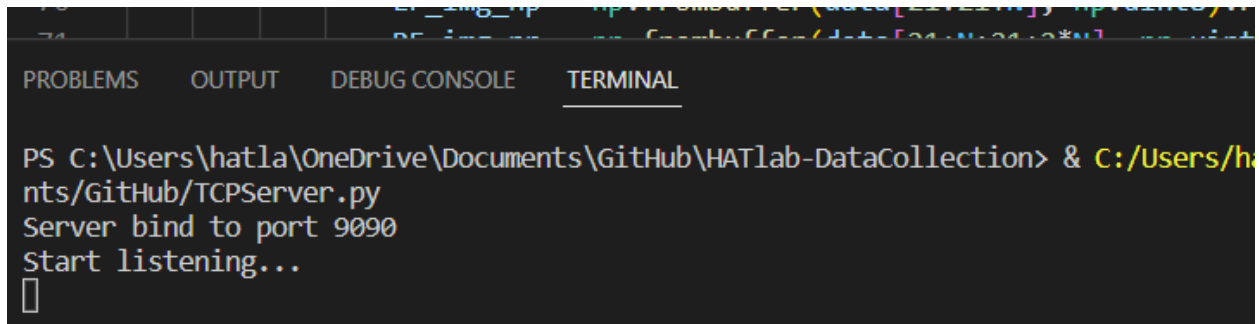
Connecting the Device to Python Server

1. After starting the project, Open TCPServer.py in Visual Studio Code.
2. Click the Play Button at the top to run the script



```
47 if len(data)==0:
48     continue
49 header = data[0:1].decode('utf-8')
50 print('-----\nHeader: ' + header)
51 print(len(data))
52
53 if header == 's':
54     # save depth sensor images
55     data_length = struct.unpack(">i", data[1:5])[0]
56     N = data_length
57     depth_img_np = np.frombuffer(data[5:5+N], np.uint16).reshape((512,512))
58     ab_img_np = np.frombuffer(data[5+N:5+2*N], np.uint16).reshape((512,512))
59     timestamp = str(int(time.time()))
60     cv2.imwrite(save_folder + timestamp+'.depth.tiff', depth_img_np)
61     cv2.imwrite(save_folder + timestamp+'_abImage.tiff', ab_img_np)
62     print('Image with ts ' + timestamp + ' is saved')
63 if header == 'f':
64
65     # save spatial camera images
66     data_length = struct.unpack(">i", data[1:5])[0]
67     ts_left, ts_right = struct.unpack(">qq", data[5:21])
68
69     N = int(data_length/2)
70     LF_img_np = np.frombuffer(data[21:21+N], np.uint8).reshape((480,640))
71     RF_img_np = np.frombuffer(data[21+N:21+2*N], np.uint8).reshape((480,640))
```

3. A terminal window should appear at the bottom with info on the connection status of the device.



```
PS C:\Users\hatla\OneDrive\Documents\GitHub\HATlab-DataCollection> & C:/Users/h
nts/GitHub/TCPServer.py
Server bind to port 9090
start listening...
█
```

4. When you see “Start listening...”, say “connect” loudly to your HoloLens 2 headset, if nothing shows up say “connect” again. Sometimes it takes 2 or 3 tries for it to connect. If you are on your fourth and fifth attempt to troubleshoot instead.