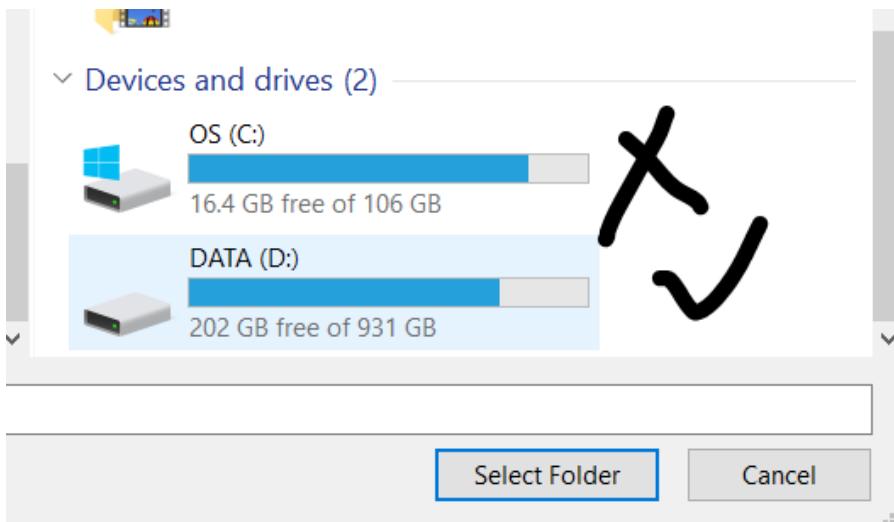


Steps to open VDI

Important Note –

1) Make sure your C drive or D drive has atleast 100GB space (as shown below)

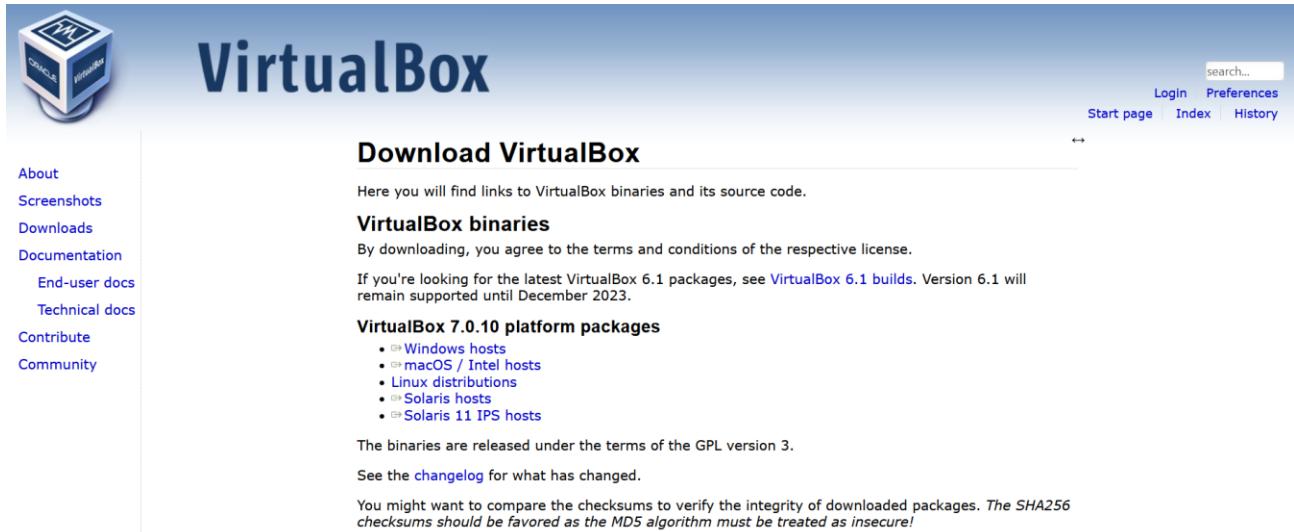


- 2) <https://forgefunder.com/~kunal/vsdsquadron.vdi>
- 3) Unzip the downloaded file and follow the below instructions starting from next page

Windows

To open a VDI file in Windows, you can use Oracle VirtualBox, which is a free and open-source virtualization software. Here are the steps to open a VDI file in Windows using VirtualBox:

1. Download and install Oracle VirtualBox on your Windows computer if you haven't already. You can download it from the official website:
<https://www.virtualbox.org/wiki/Downloads>



The screenshot shows the official Oracle VirtualBox website. The header features the VirtualBox logo and navigation links for 'search...', 'Login', 'Preferences', 'Start page', 'Index', and 'History'. The main content area is titled 'Download VirtualBox' and contains a sub-section for 'VirtualBox binaries'. It includes a note about the GPL version 3 license, a list of platform packages (Windows hosts, macOS / Intel hosts, Linux distributions, Solaris hosts, Solaris 11 IPS hosts), and a note about SHA256 checksums.

VirtualBox

Download VirtualBox

Here you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

If you're looking for the latest VirtualBox 6.1 packages, see [VirtualBox 6.1 builds](#). Version 6.1 will remain supported until December 2023.

VirtualBox 7.0.10 platform packages

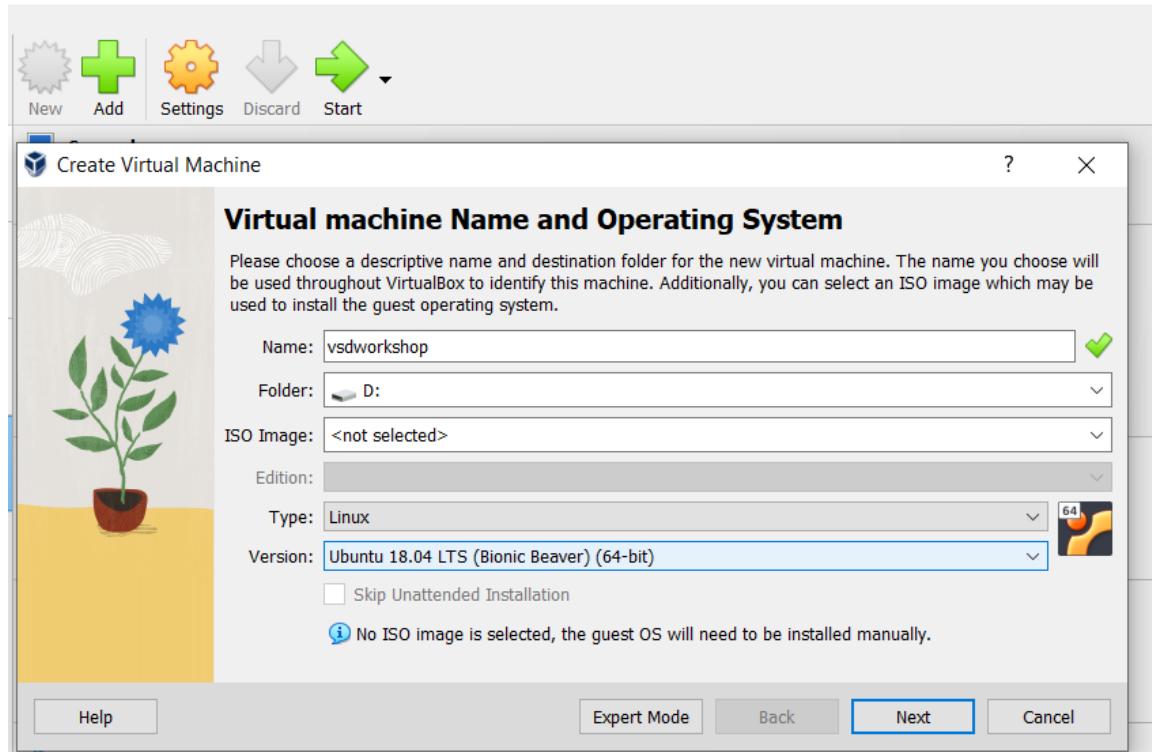
- [Windows hosts](#)
- [macOS / Intel hosts](#)
- [Linux distributions](#)
- [Solaris hosts](#)
- [Solaris 11 IPS hosts](#)

The binaries are released under the terms of the GPL version 3.

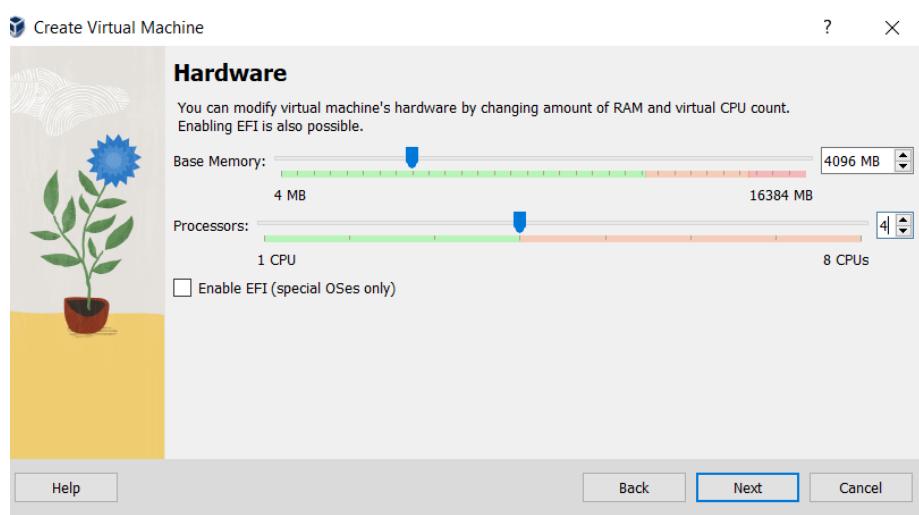
See the [changelog](#) for what has changed.

You might want to compare the checksums to verify the integrity of downloaded packages. *The SHA256 checksums should be favored as the MD5 algorithm must be treated as insecure!*

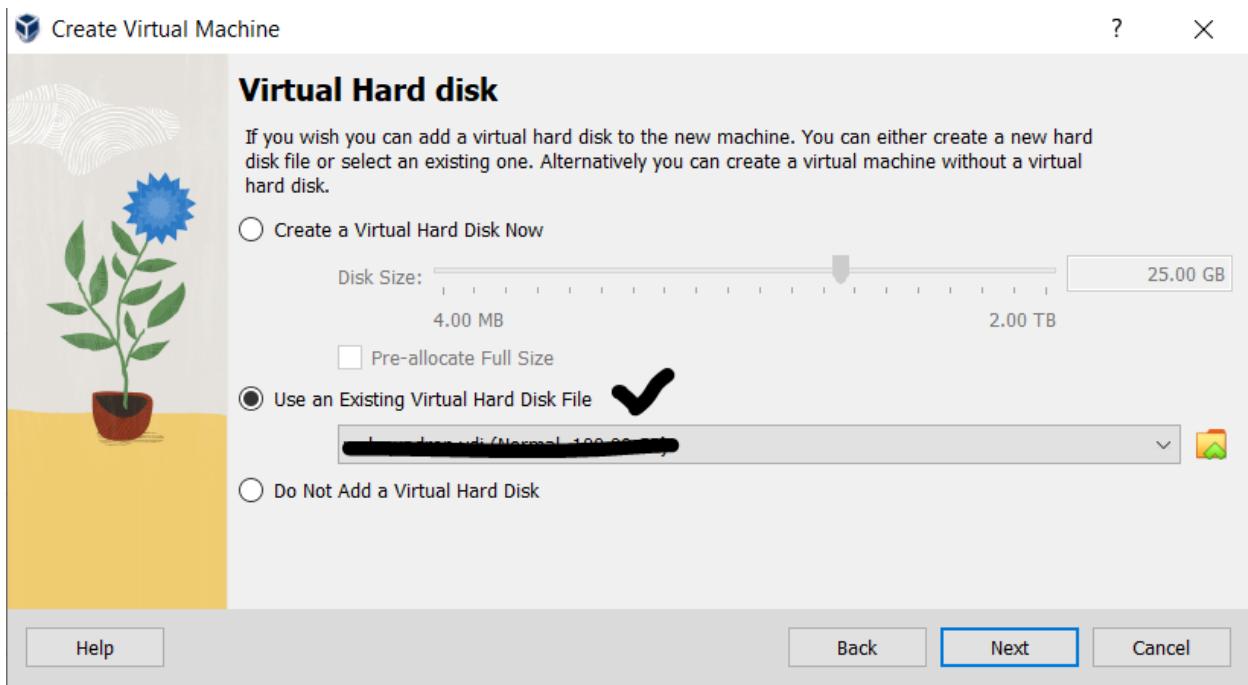
2. Launch VirtualBox and click on the "New" button to create a new virtual machine. Fill up the details as shown in the image below.



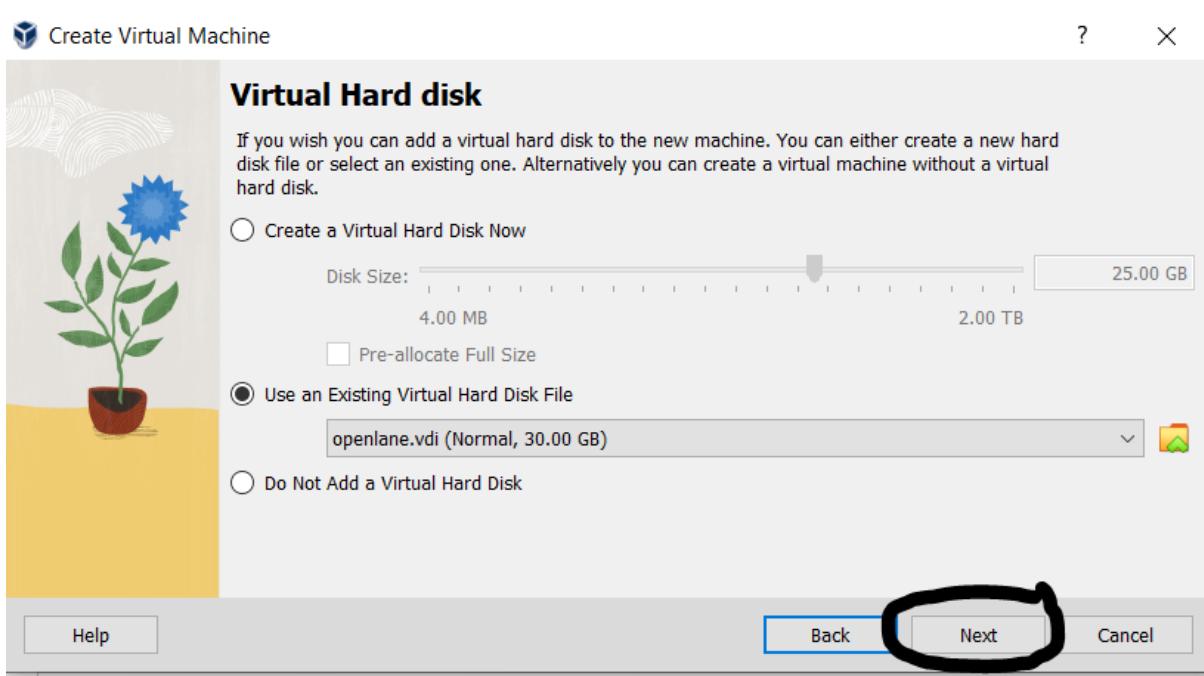
3. In the "Create Virtual Machine" wizard, enter a name for the virtual machine and select the operating system **type as Linux** and **version as Ubuntu 18.04** that matches the one installed in the VDI file you want to open
4. On the next screen, allocate memory

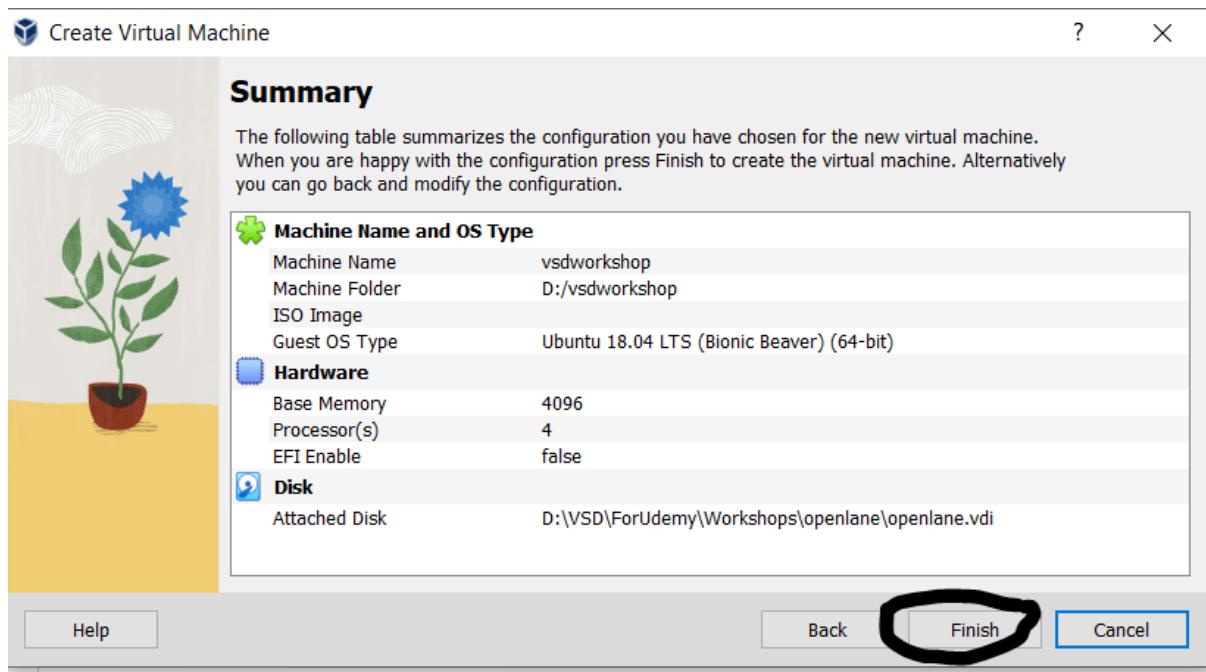


5. Create a virtual hard disk. Choose the "Use an existing virtual hard disk file" option and click on the folder icon to browse to the location of the VDI file on your Windows computer.

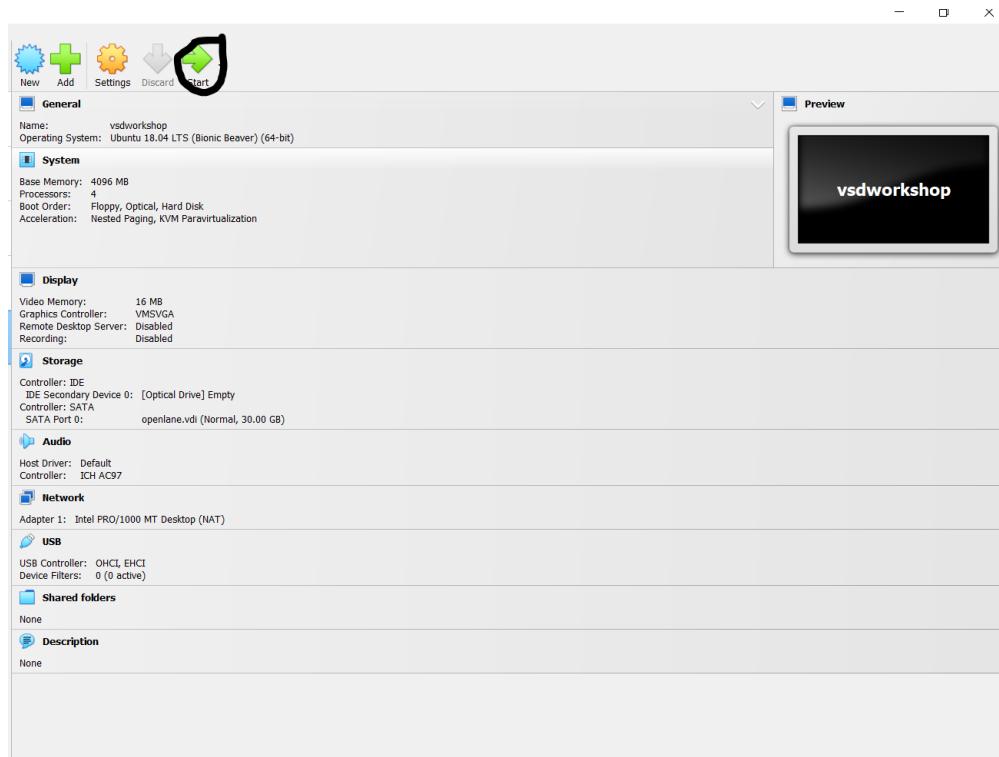


6. Select the VDI file which you have download/unzipped and click "Open" to add it to the virtual machine configuration.
7. Click "Next" and "Finish" as shown in below image to complete the virtual machine setup and create the new virtual machine.





- Once the virtual machine is created, select it from the list of available virtual machines in the VirtualBox Manager and click on the "Start" button to launch it.



9. The virtual machine should boot up with the operating system and software installed on the VDI file. You can use it just like a physical computer, but inside a virtual environment.

That's it! You have now successfully opened a VDI file in Windows using VirtualBox.

Ubuntu (images remain same as above)

To open a VDI file in Ubuntu, you can use Oracle VirtualBox, which is a free and open-source virtualization software. Here are the steps to open a VDI file in Ubuntu using VirtualBox:

1. Open a terminal window on your Ubuntu computer.
2. Install VirtualBox by running the following command in the terminal:
 1. `sudo apt install virtualbox`
3. Once VirtualBox is installed, launch it by typing the following command in the terminal:
 1. `virtualbox`
4. Click on the "New" button to create a new virtual machine.
5. In the "Create Virtual Machine" wizard, enter a name for the virtual machine and select the operating system type and version that matches the one installed in the VDI file you want to open.
6. On the next screen, allocate memory and create a virtual hard disk. Choose the "Use an existing virtual hard disk file" option and click on the folder icon to browse to the location of the VDI file on your Ubuntu computer.
7. Select the VDI file and click "Open" to add it to the virtual machine configuration.
8. Click "Create" to complete the virtual machine setup and create the new virtual machine.
9. Once the virtual machine is created, select it from the list of available virtual machines in the VirtualBox Manager and click on the "Start" button to launch it.
10. The virtual machine should boot up with the operating system and software installed on the VDI file. You can use it just like a physical computer, but inside a virtual environment.

That's it! You have now successfully opened a VDI file in Ubuntu using VirtualBox.

2 Installation and Settings

This section provides information about the software and hardware settings required to run `blink_test` on the VSDSquadron Mini RISC-V development board using PlatformIO

2.1 Install VSCode

- Download and install VSCode from <https://code.visualstudio.com>.

2.2 Install PlatformIO

- Open the "Extensions" sidebar in VSCode, as shown in Figure 4.
- Search for "PlatformIO" and click "install", as shown in Figure 4.

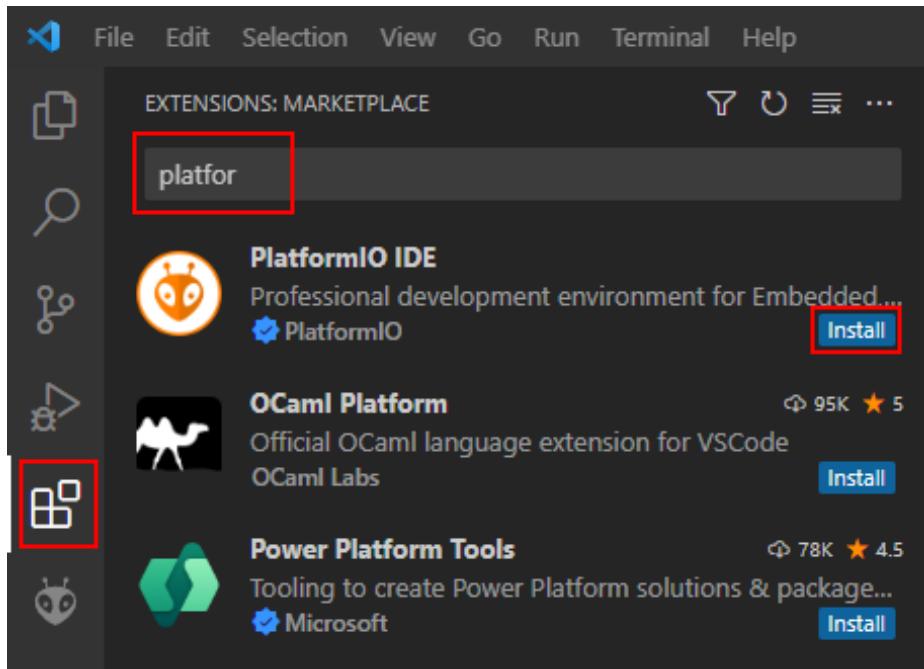


Figure 4: VSCode GUI highlighting "Extension" and "PlatformIO IDE"

2.3 Install CH32V Platform

- Expand the PlatformIO sidebar (ant icon) and click "PIO Home" as shown in Figure 5.
- In the PIO Home window, click on the "Platforms" sidebar and choose "Advanced Installation" as shown in Figure 6.
- Enter the following repository URL when prompted and press "Install," as shown in Figure 7: https://github.com/vsdpip/vsdssquadron_pio

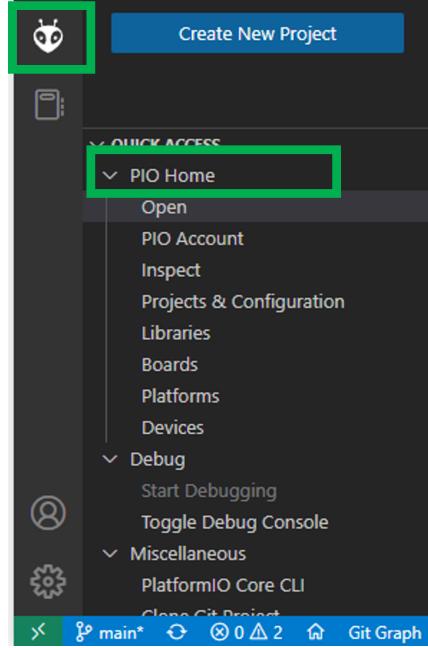


Figure 5: VSCode GUI highlighting "ant icon" and "PIO Home"

2.4 Install WCH-Link driver

- Go to the link <https://github.com/Community-PIO-CH32V/wchlink-driver-windows>
- Click on the "Download Zip" button as shown in below Figure 8
- Download this driver and unzip it
- Go to your device manager and locate the unknown driver, right click on it and select update driver
- Select 'browse my computer for drivers', select the unzipped folder and install it

2.5 Uploading blink example

- Click on "Platforms" as shown in Figure 9
- Click on "VSDSquadron" as shown in Figure 9
- Click on "Examples" as shown in Figure 10
- Click on "Import" as shown in Figure 10
- You should see "vsdsquadronmini" under "Project Tasks" as shown in Figure 11
- Click on "Build" and "Upload" button as shown in Figure 11

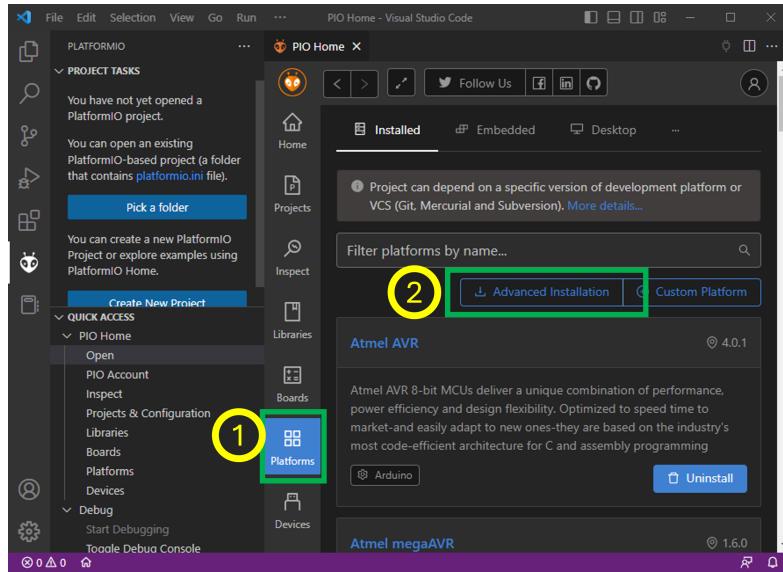


Figure 6: VSCode GUI highlighting "Platforms" sidebar and "Advanced Installation"

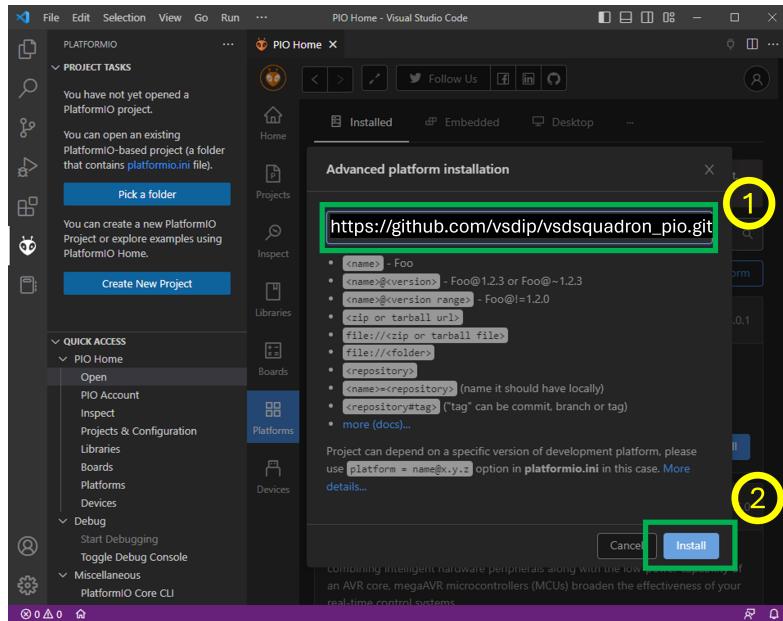


Figure 7: VSCode GUI highlighting "Repository URL" and "Install" button

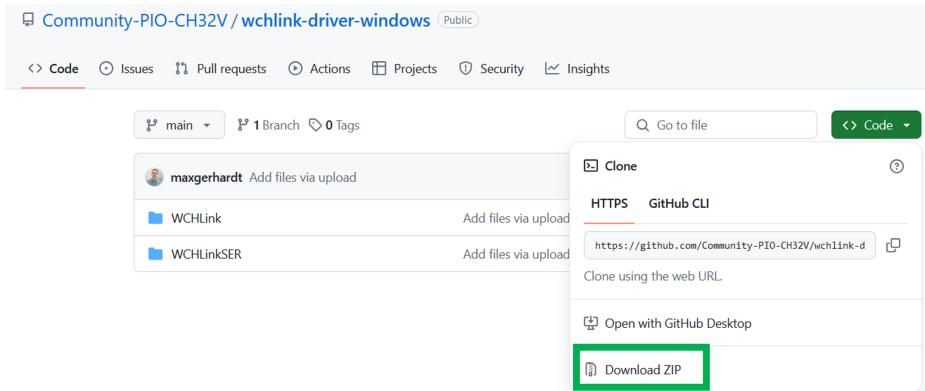


Figure 8: WCHLink Driver Windows

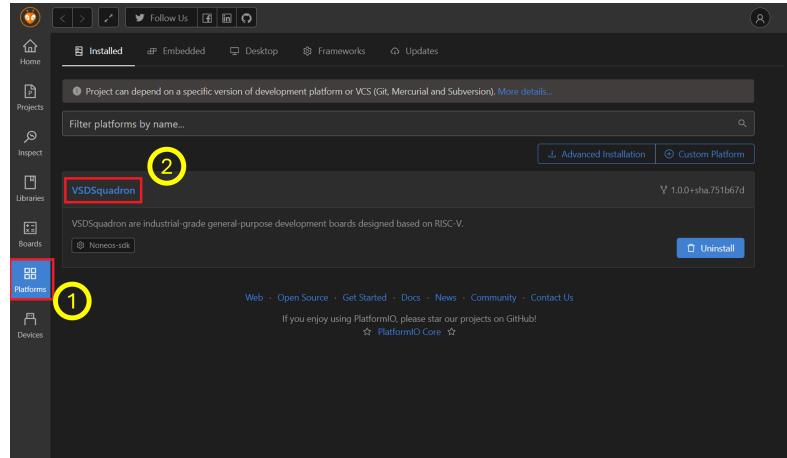


Figure 9: VSCode GUI highlighting "Platforms" and "VSDSquadron" platform which you sucessfully installed in previous step

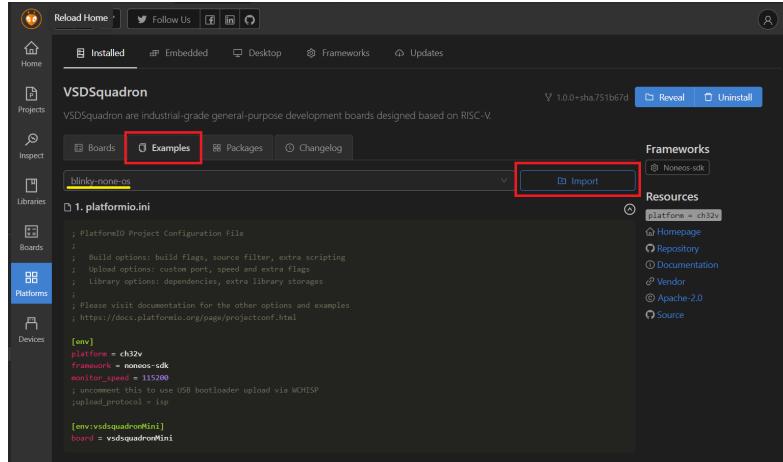


Figure 10: VSCode GUI highlighting "Examples" and "Import" buttons

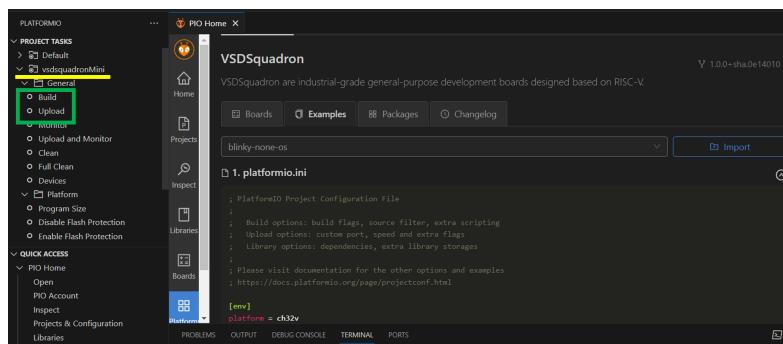


Figure 11: VSCode GUI highlighting "vsdsquadronmini" under "PROJECT TASKS" and "Build" "Upload" buttons