PlatformIO in VS Code running on Linux Debian - access to /dev/ttyUSB0 - port doesn't exist

jimbo1up 1 September 2, 2023, 10:55am

I can build a project in PlatformIO but when it comes to the upload to my ESP32 device the Terminal progresses but then faults:

> A fatal error occurred: Could not open /dev/ttyUSB0, the port doesn't exist

I check the Devices tab - `/dev/ttyUSB0` is shown in the list with all the correct details CP2102 USB to Serial UART e.t.c.

I've updated the `UDEV/rules.d/` details for PlatformIO as instructed when I added the extension to VS Code - CP2102 USB to Serial UART is top of the list.

I've added myself to the `dialout` user group - `sudo adduser username dialout`

And then changed the ownership of the /dev/ttyUSB0 entry - `sudo chown username /dev/ttyUSB0`

I can see that this file belongs to me and is accessible by the `dialout` group.

I tried the same project build and upload on VS Code and PlatformIO extension running on Mac OS X and it works perfectly - the project is built and uploaded to the ESP32.

What is going wrong with Linux Debian? I know it must be some kind of permissions issue with the VS Code & PlatformIO but I'm struggling to think what.

1 Like

PlatformIO in VS Code running on Linux Debian - access to /dev/ttyUSB0 - port doesn't exist]

maxgerhardt 2 September 2, 2023, 12:01pm

> jimbo1up:
>
> I've added myself to the dialout user group - sudo adduser username dialout

Did you do logout + login or a reboot after that?

jimbo1up 3 September 2, 2023, 4:31pm

Hello maxgerhardt - Thanks for the reply - yes, several times, but to no avail.

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maxgerhardt 4 September 2, 2023, 4:34pm

Please open a **CLI** and execute `pio run -t upload 2>&1 | tee upload.log`

Post the contents of the `upload.log` file.

---

jimbo1up 5 September 2, 2023, 4:52pm

Here it is:

```
processing esp32dev (platform: espressif32; board: esp32dev; framewc
--------------------------------------------------------------------
Verbose mode can be enabled via `-v, --verbose` option
CONFIGURATION: https://docs.platformio.org/page/boards/espressif32/e
PLATFORM: Espressif 32 (6.3.2) > Espressif ESP32 Dev Module
HARDWARE: ESP32 240MHz, 320KB RAM, 4MB Flash
DEBUG: Current (cmsis-dap) External (cmsis-dap, esp-bridge, esp-prog
PACKAGES:
 - framework-arduinoespressif32 @ 3.20009.0 (2.0.9)
 - tool-esptoolpy @ 1.40501.0 (4.5.1)
 - tool-mkfatfs @ 2.0.1
 - tool-mklittlefs @ 1.203.210628 (2.3)
 - tool-mkspiffs @ 2.230.0 (2.30)
 - toolchain-xtensa-esp32 @ 8.4.0+2021r2-patch5
LDF: Library Dependency Finder -> https://bit.ly/configure-pio-ldf
LDF Modes: Finder ~ chain, Compatibility ~ soft
Found 34 compatible libraries
Scanning dependencies...
No dependencies
Building in release mode
Compiling .pio/build/esp32dev/src/main.cpp.o
Building .pio/build/esp32dev/bootloader.bin
```

maxgerhardt 6 September 2, 2023, 4:54pm

That is *extrodinarily strange.*

Just to make sure: You're running Debian natively on your computer, not through a virutal machine or Windows Subsystem for Linux (WSL)?

What is the output of

```
sudo dmesg | tail -n 50
```

?

---

jimbo1up 7 September 2, 2023, 5:00pm

I'm running it on a Lenovo T450 laptop which I recently switched to running Linuxfx - a port of Debian Ubuntu as it was getting painfully slow running with Win10.

Here's the output:

```
10499.744112] sd 0:0:0:0: [sda] Starting disk
[10499.977180] usb 3-3: Disable of device-initiated U1 failed.
[10499.980840] usb 3-3: Disable of device-initiated U2 failed.
[10499.985470] e1000e 0000:00:19.0 enp0s25: Failed to disable ULP
[10500.045657] usb 2-7: reset full-speed USB device number 4 using
[10500.055931] ata1: SATA link up 6.0 Gbps (SStatus 133 SControl 3
[10500.057871] ata1.00: ACPI cmd f5/00:00:00:00:00:a0(SECURITY FRE
[10500.060522] ata1.00: ACPI cmd f5/00:00:00:00:00:a0(SECURITY FRE
[10500.061339] ata1.00: configured for UDMA/133
[10500.321756] usb 2-8: reset high-speed USB device number 5 using
[10500.447132] psmouse serio1: synaptics: queried max coordinates:
[10500.478103] psmouse serio1: synaptics: queried min coordinates:
[10500.598037] usb 3-3: reset SuperSpeed USB device number 2 using
[10500.981793] usb 2-3: reset high-speed USB device number 6 using
[10501.201185] usb 3-3.2: Disable of device-initiated U1 failed.
[10501.204935] usb 3-3.2: Disable of device-initiated U2 failed.
[10501.285785] xhci_hcd 0000:00:14.0: WARN: endpoint 0x82 has stre
[10501.285869] xhci_hcd 0000:00:14.0: WARN: endpoint 0x83 has stre
[10501.285959] xhci_hcd 0000:00:14.0: WARN: endpoint 0x04 has stre
[10501.286178] usb 3-3.2: reset SuperSpeed USB device number 3 usi
[10501.465777] usb 2-3.4: reset high-speed USB device number 9 usi
[10501.669799] usb 2-3.3: reset full-speed USB device number 8 usi
```

maxgerhardt 8 September 2, 2023, 5:03pm

Okay at least the last 50 log lines don't indicate anything wrong.

What's the output of the commands

```
ls -l /dev/ttyUSB*
groups
```

---

jimbo1up 9 September 2, 2023, 5:12pm

Here's the output:

```
crw-rw-rw- 1 root dialout 188, 0 Sep  2 10:32 /dev/ttyUSB0
jamesm adm dialout cdrom sudo dip plugdev lpadmin sambashare
```

---

maxgerhardt 10 September 3, 2023, 8:47am

Can you live-boot from a regular Ubuntu 22 Desktop image (e.g. boot from USB drive) and install
PlatformIO there and retest? This is very fishy.

---

jimbo1up 11 September 3, 2023, 11:33am

Thanks for the continued support. I tried my Arduino IDE this morning and it found the ttyUSB0 port
without issue and I was able to upload to an Arduino board.

I've run the Ubuntu 22 Live disk on my laptop and tried to install PlatformIO as an extension in Visual
Studio code. I have a problem getting the extension to install as it keeps asking for Python3.6+ even
though I have installed Python3.11 on the system. I cannot test the Upload function until I get past this
hurdle. I'll keep working at it as I had the same problem when installing Python3 on my Linuxfx system,
but eventually it worked.

---

hannescam 12 September 7, 2023, 3:13pm

i dont know if it will work but sometimes it does for me:

```
sudo chmod 777 /dev/ttyUSB0
```

---

normvp 13 September 7, 2023, 11:12pm

jimbo1up, I noticed that you did not directly answer maxgerhardt's question. He wanted to know if you are running Linux under an emulator, such as Virtual Box. In the specific case of Virtual Box you will need to enable the use of the USB port in the emulator. In the lower right corner you would see an icon for the USB port. Right Click on that and then Right Click on the USB host on your individual machine. You can test for whether this solves your issue with "ls -l /dev/ttyUSB0" both before, and then again just after the enabling of the USB port in the emulator. You should see that initially the node file does not exist, then later it does exist.

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jimbo1up 14 September 8, 2023, 11:49am

Hello normvp. I'm running it on the bare metal Lenovo T450 laptop, no VM is involved. I was pleasantly surprised by just how good the install was - all the special function keys Volume, Brightness, Media Control etc. worked the first time. Linux has come a long way over the years.

---

jimbo1up 15 September 10, 2023, 8:07am

Thanks hannescam. I tried this but it made no difference. I'm trying to get things going with Live Ubuntu 20.04 as maxgerhardt suggested, but coming up against the issue of PlatformIO not recognising that Python3 is on the system. I've tried installing python3-venv as suggested by other people who have come up against this. For some reason, Ubuntu 20.04 just complains that it cannot find this and I get no further.

---

michavankesteren 16 December 31, 2023, 6:35pm

On linux your user needs to be in the `dialout` group. Simply changing /dev/ttyUSB0 perms wont work. To add your current user into the dialout group run

```
sudo usermod -a -G dialout $USER
```

reboot & profit

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