Getting started with Arduino IDE on Linux

Arduino IDE

Download “Arduino IDE 2.3.2” as AppImage file for Linux, from https://www.arduino.cc/en/software .

Troubleshooting – Arduino IDE is not responding (freeze) on Ubuntu, it was open for a couple of days.

Resolved by the following procedure:

- Launch terminal
- “ps -ef” to display all running processes (too many arduino related)
- “pgrep arduino” outputs the PIDs
- “pkill ‘arduino’” to kill all of them
- “pgrep arduino” reveals there is a process that doesn’t like to be killed
- “kill -9 [PID]” to kill that process, put its PID from prev command instead of [PID].

Useful commands:

- Get current available heap size:
    - Serial.println(ESP.getFreeHeap());
    - Serial.println(ESP.getMinFreeHeap());
- Reboot ESP32 from the code:
    - ESP.restart();
- Get unique identifier of an ESP32:
    - Serial.println(WiFi.macAddress());

ESP32 SDK

Install ESP32 SDK in Arduino IDE, following the guide https://randomnerdtutorials.com/installing-esp32-arduino-ide-2-0/

Troubleshooting – cannot upload/compile the sketch, fail with error “No module named 'serial'”.

Resolved, using the command “**python3 -m pip install pyserial**”, following the forum https://forum.arduino.cc/t/compilation-of-any-sketch-fails-for-esp32-no-module-named-serial/1153637

File System - LittleFS

Install ESP32 LittleFS Uploader (Upload Files to the Filesystem), following the guide https://randomnerdtutorials.com/arduino-ide-2-install-esp32-littlefs/

Find/create the folder (hidden): /home/.arduinoIDE/plugins.

Copy the .vsix file to the plugins folder (remove any other previous versions of the same plugin if that's the case).

Troubleshooting – Cannot "Upload LittleFS to Pico/ESP8266/ESP32", fail with error "A fatal error occurred: Invalid head of packet (0x70): Possible serial noise or corruption."

Resolved, by setting "Tools -> Flash Frequency: 40 MHz" and "Tools -> Upload Speed: 115200"

Testing the ESP32 LittleFS Uploader

- Create a "data" folder within a sketch folder, put a text file in it.
- In Arduino IDE: Ctrl+Shift+P -> Upload LittleFS to Pico/ESP8266/ESP32