Platformio on Android-Termux

G V V Sharma*

CONTENTS

Abstract—This manual is a guide to get started with the Arduino UNO on an Android Phone.

1 TERMUX

1. On your android device, install apkpure from

```
https://m.apkpure.com/
```

2. Install Termux from apkpure
3. Install basic packages on termux

```
#Give termux access to your user directory in
     android
termux-setup-storage

#Upgrade packages
apt update && apt upgrade
apt install build-essential openssh

#Mandatory packages
apt install curl git wget subversion proot proot-
     distro python nmap neovim ranger
#-----------------End Install Termux----------------
     ------------
```

4. Install Debian on termux

```
proot-distro install debian
proot-distro login debian
apt update && apt upgrade
apt install apt-utils build-essential cmake
     neovim
apt install git wget subversion imagemagick
     nano
apt install avra avrdude gcc-avr avr-libc
```

*The author is with the Department of Electrical Engineering, Indian Institute of Technology, Hyderabad 502285 India e-mail: gadepall@iith.ac.in.

```
#-----------------End Installing ubuntu on
     termux--------------------------

#----------------- Installing python3 on
     termuxubuntu--------------------------
apt install python3-pip python3-numpy python3
     -scipy python3-matplotlib python3-mpmath
     python3-sympy python3-cvxopt
#----------------- End installing python3 on
     termuxubuntu--------------------------

#----------------- Installing platformio on
     termuxubuntu--------------------------
pip3 install platformio
#----------------- End installing python3 on
     termuxubuntu--------------------------
```

2 ARDUINO DROID

1. Install ArduinoDroid from apkpure
2. Open ArduinoDroid and grant all permissions
3. Execute the following on termuxubuntu

```
cd /sdcard/Download
svn co https://github.com/gadepall/arduino/trunk
     /ide/piosetup/codes
cd codes
pio run
```

This will generate the .hex file in

```
.pio/build/uno/firmware.hex
```

subdirectory.
4. Connect the Arduino to your phone via USB-OTG
5. For flashing the bin files, in ArduinoDroid,

```
Actions->Upload->Upload Precompiled
```

then go to your working directory and select

```
.pio/build/uno/firmware.hex
```

for uploading .hex file to the Arduino Uno.
6. The LED beside pin 13 will start blinking.