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Arduino from command line?

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[PocketHarambe101](#)
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Posts: 96
Joined: Fri Sep 30, 2016 8:30 pm

Arduino from command line? [Quote](#)

Thu Jan 05, 2017 5:41 am

Hi,
I want to know if I can program my arduino/digispark/any compatible board from the command line.
I almost always use my Pi through ssh, and so rarely do I use the graphical desktop.
So, is there a command-line tool that allows me to upload .ino files to the connected board?
THANKS!

Also, is there a way to know the CPU usage and temperature with Python? If so, how? I googled around for a while and found out that the os module can do such things, but I didn't get it clearly.

--BACON IS ALWAYS THE ANSWER--
o={:.....> (((((TNT((((((~~~*

[Heater](#)
Posts: 12752
Joined: Tue Jul 17, 2012 3:02 pm

Re: Arduino from command line? [Quote](#)

Thu Jan 05, 2017 7:38 am

Is Google not working for you today?

<http://playground.arduino.cc/Learning/CommandLine> (<http://playground.arduino.cc/Learning/CommandLine>)



DogieLawson

Posts: 35383

Joined: Sun Jun 16, 2013 11:19 pm

Location: Basingstoke, UK

Contact: [Website](#) [Twitter](#)

Re: Arduino from command line? [Quote](#)

Thu Jan 05, 2017 11:40 am

<http://inotool.org> (<http://inotool.org>)

Note: Having anything remotely humorous in your signature is completely banned on this forum.

Any DMs sent on Twitter will be answered next month.

This is a doctor free zone.

pavelmc

Posts: 1

Joined: Tue May 08, 2018 5:55 pm

Re: Arduino from command line? [Quote](#)

Tue May 08, 2018 6:16 pm

If you want a fully compatible solution for your arduino project you need to check amake, a tool to simplify the cli of the arduino, I use it with Geany but others are using it with vi, Atom, etc.

No fuss on sharing your project with others (like when you use a makefile or other tools) as you will be used the Arduino IDE CLI inteface with more simple commands and with some extra features.

Project page is on github at <https://github.com/pavelmc/amake> (<https://github.com/pavelmc/amake>)

It's inspired and the now dead Ino and Arturo projects; please take 5 minutes to test it and please give feedback.

Example use:

Code:

```
cd ~/Arduino/Blink/  
#[move to your arduino project folder]  
  
amake -v uno Blink.ino  
#[to compile/verify your code]  
  
amake -u uno Blink.ino /dev/ttyUSB0  
#[to upload your code to an arduino connected via USB]
```

It has some smart glue in there, it can remember the board and file, and even autodetect the usb of the board; so after a successfull "amake -v" command you can do this on the command line and it will work.

Code:

```
amake -v  
#[to compile/verify your code]  
  
amake -u  
#[to upload your code to an arduino connected via USB]
```

If you use some IDE macros you can craft the compile and upload commands easily, for example using Geany IDE it will became:

- Compile/Verify: cd %d; amake -v uno %f
- Upload: cd %d; amake -u uno %f

You can get more help running just "amake" or "amake -h" once installed.

Also, it can support EVERY board/lib/programmer you have installed/configured in your Arduino IDE, yes, modern board like the Adafruit Trinket Mo / Arduino Mo etc...

Just fire your Arduino IDE, go to the board manager, install support and that's all, jut follow some simple instructions and your are set.

The board you have is not supported? not a problem, detect the fqbn (read the README.md file) and pass it along as the

board name.

I'm looking for testers to grow up the number or board aliases and auto detection of the proper USB signatures.

Remember this is a private grown tool, now shared with the public, you know, just a programmer scratching it's itch...

Cheers.

achrn

Posts: 371

Joined: Wed Feb 13, 2013 1:22 pm

Re: Arduino from command line? [Quote](#)

Wed May 09, 2018 7:24 am

PocketHarambe101 (./memberlist.php?mode=viewprofile&u=206363&sid=e7f4fd3d8d28d73dae1d62e8b95458ef)
wrote: ↑ (./viewtopic.php?p=1092526&sid=e7f4fd3d8d28d73dae1d62e8b95458ef#p1092526)
Thu Jan 05, 2017 5:41 am

I want to know if I can program my arduino/digispark/any compatible board from the command line.
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So, is there a command-line tool that allows me to upload .ino files to the connected board?
THANKS!

Personally, I use:

```
sudo apt install arduino-core  
sudo apt install arduino-mk
```

The arduino site is full of dire warnings that if you dare to use an apt package you'll have an incompatible prehistoric version (and the world will probably end), but they work for me. I don't use any very cutting-edge boards, however.

Then a Makefile in the directory with the *.ino:

Code:

```
ARDUINO_DIR    = /usr/share/arduino  
ARDMK_DIR      = /usr/share/arduino  
  
ARDUINO_LIBS   =  
BOARD_TAG      = nano328  
MONITOR_PORT   = /dev/ttyUSB*  
  
include /usr/share/arduino/Arduino.mk
```

(adjust the board tag to suit your arduino)

'make' will compile the sketch

'make upload' will compile and upload

'make help' will tell you other stuff

reading /usr/share/arduino/Arduino.mk will tell you still more stuff.

Also, is there a way to know the CPU usage and temperature with Python? If so, how? I googled around for a while and found out that the os module can do such things, but I didn't get it clearly.

Temperature is easy, just read the /sys/class/thermal/thermal_zone0/temp file:

Code:

```
#!/usr/bin/python3

# get core temperarture
myfile = open('/sys/class/thermal/thermal_zone0/temp')
tt = myfile.readline().rstrip()
myfile.close
temp=float(tt)/1000.0
print ("  core: "+tt+" = "+str(temp)+" C")
```

Gary77

Posts: 3

Joined: Mon May 07, 2018 11:25 am

Contact: [Website](#)

Re: Arduino from command line? [Quote](#)

Wed May 09, 2018 8:14 am

There are a lot of information about that in stackoverflow. I recommend you read it.

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