

Using C++ on a Raspberry Pi with Blynk

Projects made with Blynk

Costas #1

March 11, 2017, 11:04am

This post is in response to recent posts regarding Blynk and Raspberry Pi's.

Most of the example sketches you will see are written for Arduino's and ESP's. If you have "javascript" skills there's a small selection of scripts that can be used with nodejs on the Pi. However there are some Blynkers that are much more familiar with C++ than they are with JS.

In the "linux" directory of the Blynk libraries there is a shell script and a Makefile for compiling C code for the Pi and other linux devices. I will concentrate on the Pi here.

Copy the following files for safe keeping:

```
build.sh
main.cpp
```

If you haven't already set up wiringPi on your Pi run the original shell script with:

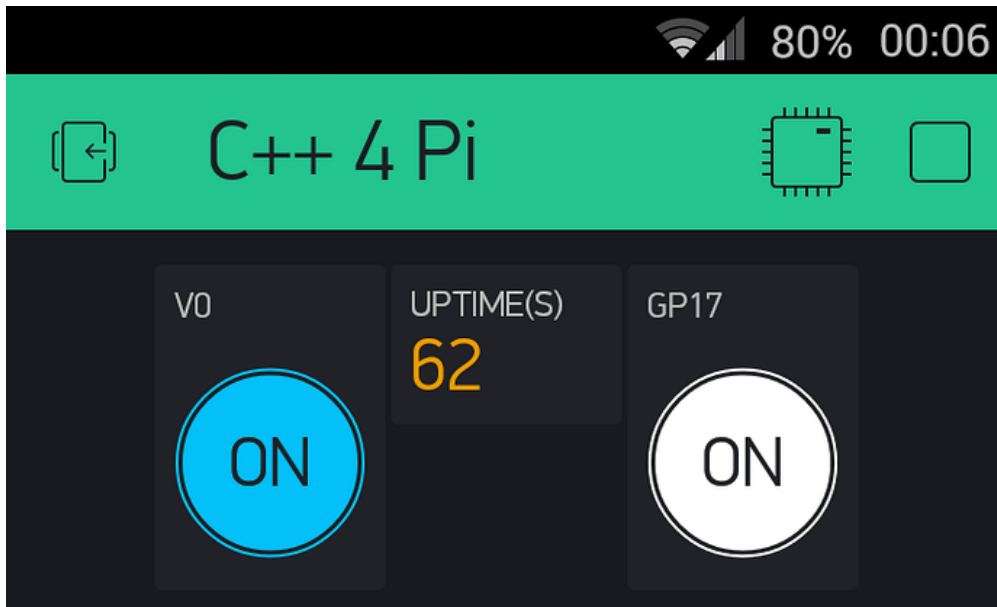
```
./build.sh raspberry
```

Now edit the build.sh shell script to remove all the one off stuff (like installing wiringPi etc) so it looks something like this:

```
#!/bin/bash
//
case "$1" in
raspberry)
    make clean all target=raspberry
    exit 0
;;
linux)
    make clean all
    exit 0
;;
esac

echo "Please specify platform: raspberry, linux"
exit 1
```

We will now modify main.cpp so it compiles the following project.



It's basically a **PushData for Pi**, with a few extras, using wiringPi so you can select "GPIO" pins directly in the project. Without messing around with various libraries the revised main.cpp is as follows:

```
// Blynk "gp" numbers are BCM numbers, so gp17 is physical pin 11
// #define BLYNK_DEBUG
#define BLYNK_PRINT stdout
#ifdef RASPBERRY
#include <BlynkApiWiringPi.h>
#else
#include <BlynkApiLinux.h>
#endif
#include <BlynkSocket.h>
#include <BlynkOptionsParser.h>

static BlynkTransportSocket _blynkTransport;
BlynkSocket Blynk(_blynkTransport);

#include <BlynkWidgets.h>

unsigned int uptime;           // 1 second intervals
unsigned int pinStatus;        // status of BCM 17
unsigned int lastpinStatus = 0; // to toggle

void myTimerEvent()           // button widget on V0 or direct access gp17 button
{
    uptime = (millis() / 1000);
    Blynk.virtualWrite(V1, uptime);
    pinStatus = digitalRead(17);
    if(pinStatus != lastpinStatus){
        lastpinStatus = pinStatus;
        printf("GP17 pin status: %i\n", pinStatus);
        if(pinStatus == 1){ // this is to synchronise V1 button if gp17 button is pressed
            Blynk.virtualWrite(V0, 1);
        }
    }
}
```

Once you have saved the revised main.cpp just run the script again:

```
./build.sh raspberry
```

and then start your connection to Blynk by replacing xxxxxxxxxx with your token:

```
sudo ./blynk --token=xxxxxxxxxxxxxx
```

Those 2 commands and a few button presses in the app will look like this:

```
pi@pizero:~/blynk0.4.4/libraries/Blynk/linux $ ./build.sh raspberry
rm main.o BlynkDebug.o ../src/utility/BlynkHandlers.o blynk
g++ -I ../src/ -I ./ -DLINUX -c -O3 -w -DRASPBERRY main.cpp -o main.o
g++ -I ../src/ -I ./ -DLINUX -c -O3 -w -DRASPBERRY BlynkDebug.cpp -o BlynkDebug.o
g++ -I ../src/ -I ./ -DLINUX -c -O3 -w -DRASPBERRY ../src/utility/BlynkHandlers.cpp -o
../src/utility/BlynkHandlers.o
g++ main.o BlynkDebug.o ../src/utility/BlynkHandlers.o -lrt -lpthread -s -lwiringPi -o blynk
pi@pizero:~/blynk0.4.4/libraries/Blynk/linux $ sudo ./blynk --token=xxxxxxxxxxxxxx
[1]
```

```

  _ _ _ _ _
 / _ )/ / _ _ _ _ / / _
 / _ / / // / _ \ ' _/
 / _ _/_/_\_, /_/_/_/_\
      / _ _/ v0.4.4 on Linux

```

```
[5001] Connecting to blynk-cloud.com:8442
[5374] Ready (ping: 101ms).
GP17 pin status: 1
GP17 pin status: 0
V1 turned device ON
GP17 pin status: 1
V1 turned device OFF
GP17 pin status: 0
V1 turned device ON
GP17 pin status: 1
```

9 Likes

Raspberry Pi, Blynk and Programming in C Language

Arduino IDE compiling for Raspberry Pi

Raspberry wiringPi: virtual Pin control output

Where to save and how to run Blynk Scripts

RaspberryPi JoyStick

Home automation raspberry pi 3 model b

[SOLVED] Trying to compile terminal example (On BananaPi) - error class Widget Terminal has no member named 'println'

[Help with running a sketch on raspberry pi](#)

[Blynk basics - client parameters and making sketch on RPi3 \(WireingPi\)](#)

[Raspberry pi with Blynk \(Code questions\)](#)

[How to Install SimpleTimer library for Blynk in Raspberry Pi](#)

[digitalWrite not updating output pin](#)

[Raspberry Pi client disconnects after 20 seconds](#)

[Help implementing sketch into \(C++\) code on Raspberry Pi](#)

[Blynk Library C++ Linux, make shared object library problem](#)

[Blynk-library js documentation?](#)

[Problem with path when running code \(Blynk looks for "/usr/local/lib"\)](#)

[Raspberry Pi, Light Sensor Readings](#)

[Push button notification on Raspberry Pi 3](#)

[Raspberry 3 Blynk Library C++ problem](#)

[Newbie help - Flashing output on GPIO pin when button is pressed on app](#)

[\[SOLVED\] Trying to compile terminal example \(On BananaPi\) - error class Widget Terminal has no member named 'println'](#)

[GunnerTechTools #2](#)

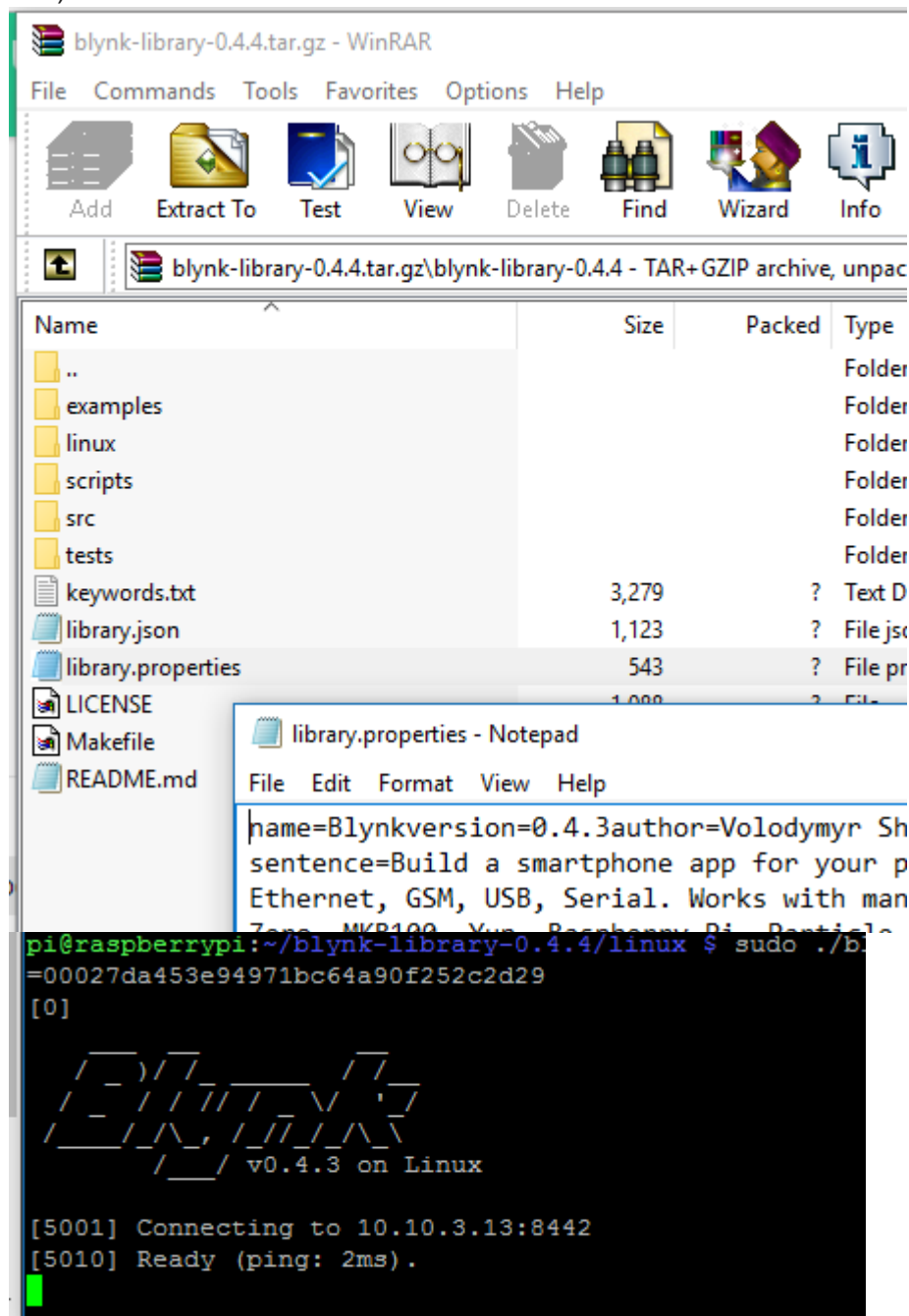
February 20, 2017, 2:03am

Thank you [@Costas](#)

The only issue I ended up with was that even though I downloaded 0.4.4:

```
wget https://github.com/blynkkk/blynk-library/archive/v0.4.4.tar.gz
```

It extracted out to 0.4.3 (using Windows for ease of display here - was downloaded and extracted on RPi)



How did you get the latest library for Linux?

0 Likes

Costas #3

February 20, 2017, 2:08am

The procedure for 0.4.4, **which obviously keeps changing for anyone reading this in a week or two's time**, is:

```
mkdir blynk0.4.4
cd blynk0.4.4
wget https://github.com/blynkkk/blynk-library/releases/download/v0.4.4/Blynk_Release_v0.4.4.zip
unzip *.zip
```

For future releases just visit <https://github.com/blynkkk/blynk-library/releases> and obtain the url for the zip.

How are you and others picking up old libraries?

1 Like

Costas #4

February 20, 2017, 2:09am

GunnerTechTools:

wget <https://github.com/blynkkk/blynk-library/archive/v0.4.4.tar.gz>

Looks like a bad tar [@Dmitriy](#) and [@vshymansky](#)

0 Likes

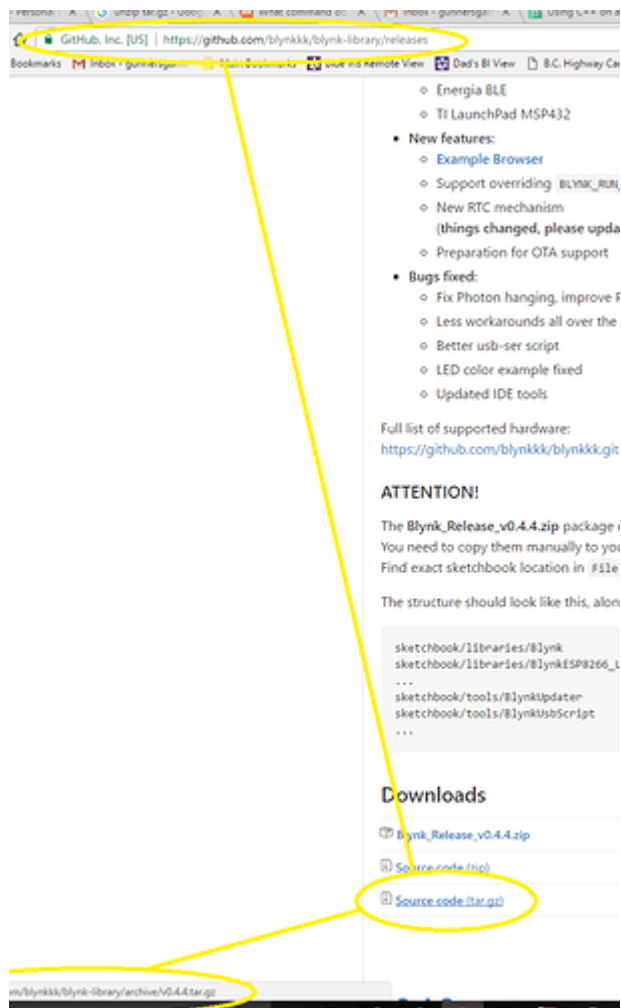
GunnerTechTools #5

February 20, 2017, 2:13am

Costas:

For future releases just visit <https://github.com/blynkkk/blynk-library/releases> and obtain the url for the zip.

How are you and others picking up old libraries?



0 Likes

Costas #6

February 20, 2017, 2:18am

@GunnerTechTools yes I spotted it.

@Dmitriy and **@vshymansky** the tar for 0.4.4 shows 0.4.3 in library.properties and library.json. In fact looking at the dates of the headers it's all 0.4.3.

That explains all the 0.4.3's that keep popping up on the forum. Which archive is used by Arduino library manager that I recommend not using?

1 Like

GunnerTechTools #7

February 20, 2017, 8:56am

@Costas So as this is C++ and seems almost like working with Arduino, does that mean that it can use some of the same basic libraries and code?

Meanwhile I have the example slightly tweaked to also trip some relays and fade an LED as well as run the client automatically at reboot... finally, coding progress with RPi. Unfortunately, I don't have a CodeShield type hat to easily provide hardware and sensors to the RPi... and have to keep aware of the 3.3v tolerance when I add my own.

ps, I am learning to really dislike PATH inconsistencies; dozens of ways, some work, some don't, some work sometimes... arrrggg 😬 Where is the darn master PATH file stored, so I can edit it and clean it up?? Google hasn't given it up yet.

0 Likes

Lichtsignaal #8

February 20, 2017, 9:14am

On the Pi it's probably an environment variable. It usually resides in your bash_profile (~/.bash_profile or something similar.

0 Likes

GunnerTechTools #9

February 20, 2017, 9:29am

Lichtsignaal:

~/.bash_profile or something similar.

Thanks, I will look. I only recently realized that ~/. is just a place holder for part of the path... kept messing me up when looking for stuffs.

Linux, the best way to wrap your head into a pretzel 🤔

0 Likes

Lichtsignaal #10

February 20, 2017, 9:33am

The most difficult aspect, if you ask me, is the user rights system. A Windows operator is basically always local administrator. Linux is a lot more strict with that.

But that is another discussion and I'm not sure this is the right place for that. Though I'd love to help ppl with the Linux parts, I'm not sure there is an appropriate category for that here. Maybe the RasPi needs a separate category, what'd you think @Dmitriy ? Since it's a kind of "different" product from your basic MCU.

0 Likes

Costas #11

February 20, 2017, 10:08am

GunnerTechTools:

So as this is C++ and seems almost like working with Arduino

That is why I created this thread. The elitists slate the Arduino implementation of C++ but it's something that **many, many** people, me included, are **very** familiar with. I made the basic example look as much like an Arduino sketch as I was able, even including some parts that are not technically needed.

GunnerTechTools:

does that mean that it can use some of the same basic libraries and code?

Yes and no. Obviously a Raspberry Pi is not an Arduino but the underlying C++ code within the libraries can be compiled for most platforms. Arduino made the linking of libraries and compilation so seamless that many users are not aware of the basic processes that are involved. I'm certainly not knocking Arduino for that.

If you study the Makefile you will see the basics of how additional libraries and the required paths are included in the compilation but it's not a straightforward process and takes some time to get up and running. I just wanted to offer the basic GPIO control as a starter and you will see the millis() hack for timed intervals rather than the preferred SimpleTimer used with Arduino.

I too struggle with paths but I did post a reference to bash_profile a few days ago. More to follow later ...

0 Likes

How to Install SimpleTimer library for Blynk in Raspberry Pi

Lichtsignaal #12

February 20, 2017, 10:12am

<http://serverfault.com/questions/166383/how-set-path-for-all-users-in-debian> long story short, there are a couple nice hints here 😊

0 Likes

GunnerTechTools #13

February 20, 2017, 10:12am

Costas:

and you will see the millis() hack for timed intervals rather than the preferred SimpleTimer

Ah ha! that's why it looked so strange... but I hadn't gotten around to digging into it more.

Costas:

Arduino made the linking of libraries and compilation so seamless

Yup, They both empowered and spoiled the non-elite with quasi coding powers 😊

0 Likes

Costas #14

February 20, 2017, 10:18am

Costas:

I too struggle with paths but I did post a reference to `bash_profile` a few days ago.

The different versions of linux have broadly similar approaches for the path but as per the recent RPi3 thread at [Problem installing in RPi3: onoff library and later](#) the syntax to “permanently” add an entry to the path on a Raspberry Pi takes the following syntax:

```
echo 'export PATH=$PATH:/opt/nodejs/bin/' >> ~/.bashrc
```

Having changed the path you can simply edit the `.bashrc` file with nano at a later date if you wish.

0 Likes

GunnerTechTools #15

March 10, 2017, 7:42am

I thought it was time to update my RPi client to latest 0.4.6 library.

However, after downloading, unzipping and much fussing about to get the files where I wanted them. I ran my script just fine... but it still says 0.4.3 both as it starts and according to the Admin Page. But the `library.properties` clearly says 0.4.6.

More typos <—hopeful wishing?? or do I actually have to go through all that file modding and script building after each library upgrade? (ok, similar to Arduino - but much more painful 😞)

Of course, that will be real fun this time around, since the upgrade overwrote the `main.cpp` which of course had my customised script 🤡 --> LINUX. Must remember to rename `main.cpp` to something else next time.

0 Likes

vshymansky #16

March 10, 2017, 8:51am

Hey, sorry for that... Yes it's arduino library removing stuff during updates... So you should build outside the Arduino ide for linux... I will add a note to the docs.

0 Likes

GunnerTechTools #17

March 10, 2017, 9:01am

vshymanskyy:

So you should build outside the Arduino ide for linux

Wait, what? Are you saying I "could - but shouldn't" build my wiringPi code using Arduino IDE?? I coded everything in the CLI using Nano... a pain, but I didn't know I could do easily otherwise... I didn't think it would compile/verify in the IDE anyhow, so I didn't bother trying.

Or am I just misinterpreting something? Probable... just hearing the work Linux scrambles my brain 🤪

0 Likes

vshymanskyy #18

March 10, 2017, 1:23pm

)))
well, no. AFAIK you can't run Arduino sketches on raspberry hardware directly.
Sorry, I have misunderstood the way you lost your main.cpp file.

0 Likes

fabianpi #19

March 10, 2017, 5:22pm

So everytime when I want to run a blynk project/example I've to edit **main.cpp** file, then build and connect it to my blynk app by the project's token, right?

0 Likes

Costas #20

March 10, 2017, 5:24pm

@fabianpi yes if you want to use C++ but Blynk also has the javascript (node) client.

0 Likes

Costas #21

March 30, 2017, 9:30pm

[@GunnerTechTools](#) when you tested the C++ stuff on your Pi was it a Pi 3?

Wondered if you could test something for me if you have a Pi 3. Does the gpio pin still go high and low if you remove the button tied to the digital pin i.e. control just by the button tied to a virtual pin?

Works OK for my Pi Zero's but not for [@schmersgahoven](#)'s Pi 3.

0 Likes

[GunnerTechTools](#) #22

March 30, 2017, 10:21pm

No fansnazzy new stuff for me, I am afraid... My RPi is one of the originals (RPi Model B ver 2.0). But so far all GPIO's I have tested do what they should with either Virtual or Physical buttons in both C++ and Javascript clients.

1 Like

[Jamin](#) #23

March 30, 2017, 11:00pm

I'm about to order my first Pi or clone.

Should I just go for the Pi 3 and test this?

0 Likes

[Costas](#) #24

March 30, 2017, 11:05pm

[@Jamin](#) I prefer the size and price of the Zero but it depends what plans you have for the Pi.

0 Likes

[Jamin](#) #25

March 30, 2017, 11:12pm

Plans = tinker

0 Likes

[Costas](#) #26

March 30, 2017, 11:20pm

Well the 3 would be good for me as I'm terrible with a soldering iron as the Zero's don't have any headers.

For the Zero as a Blynk server it doesn't need any headers but when you move on to client stuff it generally needs headers.

I have thought about buying some of these <https://shop.pimoroni.com/products/gpio-hammer-header>

With the jig you basically smack the headers on to the Zero with a hammer.

0 Likes

Costas #27

April 4, 2017, 9:15pm

SimpleTimer should now be available, from the Master branch, for the Pi as [@vshymanskyy](#) pushed an update a few days ago. Intervals should be set at > 10ms.

2 Likes

Jamin #28

April 4, 2017, 9:16pm

This tutorial should be included as a reference in the help center raspberry pi setup guide.

1 Like

vshymanskyy #29

April 5, 2017, 9:00am

[@Costas](#) , can I publish (a modified version of) your post to help.blynk.cc ?

0 Likes

Costas #30

April 5, 2017, 9:10am

Of course you can [@vshymanskyy](#) , please feel free to make any modifications that you think will help other Blynkers.

0 Likes

schmersgahoven #31

April 7, 2017, 4:11pm

[@costas](#) can you give me an example how the now updated timer under C should work? I see that the timer is called in the loop: timer.run(); but I did not get how to define interval like for simple timer for Arduino with: timer.setInterval(1000L, blinkLedWidget); under void setup.

THX and Best

0 Likes

Costas #32

April 7, 2017, 4:40pm

@schmersgahoven are you familiar with SimpleTimer “for Arduino”?

Have you created the blinkLedWidget() function?

Further details, if you need them, <https://github.com/marcelloromani/Arduino-SimpleTimer/tree/master/SimpleTimer> and <http://playground.arduino.cc/Code/SimpleTimer>

0 Likes

schmersgahoven #33

April 7, 2017, 6:17pm

@costas maybe not 100% familiar but I thought reading enough to come along with easy (simple) 😊 timer functions but it seems that not. I read your hints and thought I am doing right. I do not used blinkLedWidget() function but tried another simple code just a modification of yours from the top. But the function will not repeat writing uptime to V0

```
// Mein Timer
// #define BLYNK_DEBUG
#define BLYNK_PRINT stdout
#ifdef RASPBERRY
    #include <BlynkApiWiringPi.h>
#else
    #include <BlynkApiLinux.h>
#endif
#include <BlynkSocket.h>
#include <BlynkOptionsParser.h>

static BlynkTransportSocket _blynkTransport;
BlynkSocket Blynk(_blynkTransport);

#include <BlynkWidgets.h>

SimpleTimer timer;

unsigned int uptime;

void repeatMe()
{
    uptime = (millis() / 1000);
    Blynk.virtualWrite(V0, uptime);
}

void setup()
{
    timer.setInterval(1000, repeatMe);
}
```

0 Likes

Costas #34

April 7, 2017, 6:54pm

@schmersgahoven have you added a digital pin in your project as I believe that you established the virtual pins are only updated if they are tied to digital pins?

0 Likes

schmersgahoven #35

April 7, 2017, 8:45pm

@costas I do not think that this is the reason. Due to this I tried to repeat the `repeateMe()` by using `millis()` but here I came into trouble with delayed reaction of app and offline erros. So I deleted my code and go back to the beginning by putting your code from above in the `main.cpp` and tried this. And I have the same issue. If I push a button it displays and offline message and Uptime is sconds are counted wih delay of 4-5 seconds. I think this is caused due to flood error because `terminl` gives me the trouble message. But the problems appears with new update. I do not have them before with your example from above. And my try with `simpleTimer` from my last poste is not working as well. Can you mayb verify that your code from above is not working anymore with update of library or is it just a problem of my set up?

0 Likes

Costas #36

April 9, 2017, 1:28pm

@schmersgahoven try the newly released 0.4.7 version that replaces `SimpleTimer` with `BlynkTimer`.

1 Like

werewolfabs #37

May 23, 2017, 10:23pm

I have used the code given above but get the following message

```
[5001] Connecting to blynk-cloud.com:8442
[5791] Ready (ping: 273ms).
[6686] Trouble detected: http://docs.blynk.cc/#troubleshooting-flood-error
[10792] Connecting to blynk-cloud.com:8442
[11495] Ready (ping: 339ms).
^X[12366] Trouble detected: http://docs.blynk.cc/#troubleshooting-flood-error
```

please help me out

0 Likes

esa.attia #38

July 4, 2017, 5:52pm

Hi,

I'm still having a ton of trouble getting the C++ example working

I've done everything but when I do `./build.sh raspberry` I get

```
In file included from main.cpp:45:0:
./BlynkApiWiringPi.h: In instantiation of 'void BlynkApi<Proto>::processCmd(const void*, size_t)
[with Proto = BlynkProtocol<BlynkTransportSocket>; size_t = unsigned int]':
../src/Blynk/BlynkProtocol.h:349:9:   required from 'bool BlynkProtocol<Transp>::processInput()
[with Transp = BlynkTransportSocket]'
../src/Blynk/BlynkProtocol.h:166:31:   required from 'bool BlynkProtocol<Transp>::run(bool)
[with Transp = BlynkTransportSocket]'
main.cpp:97:13:   required from here
./BlynkApiWiringPi.h:177:9: error: 'class BlynkProtocol<BlynkTransportSocket>' has no member
named 'currentMsgId'
    static_cast<Proto*>(this)->sendCmd(BLYNK_CMD_RESPONSE, static_cast<Proto*>(this)-
>currentMsgId, NULL, BLYNK_ILLEGAL_COMMAND);
    ^
Makefile:70: recipe for target 'main.o' failed
```

0 Likes

vshymansky #39

July 4, 2017, 7:43pm

Yeagh, sorry i'll fix that soon

0 Likes

esa.attia #40

July 4, 2017, 10:15pm

HI ,

Thanks.

Do you have a timeline for this?

Do you know what it is so I can maybe look at the problem too?

Is it looking for a function that hasn't yet been implemented? or simply a case of me not including the right include files

Cheers

0 Likes

vshymansky #41

July 4, 2017, 10:32pm

[@esa.attia](#) Sorry no timeline for that.

As it is already fixed in the latest master branch: <https://github.com/blynkkk/blynk-library/commit/4eca7ddbe1c21b3c58970ddc35500f253917b655>

Cheers 😊

0 Likes

[esa.attia](#) #42

July 5, 2017, 1:18pm

Thank you !

0 Likes

[esa.attia](#) #44

July 5, 2017, 1:33pm

I seem to be having the same issues ... running 0.4.8
getting flood errors . currently using the RP3

0 Likes

[vshymanskyy](#) #45

July 5, 2017, 4:37pm

How can flood errors be the same issues? you'll have to search how to fight flood errors now.

0 Likes

[esa.attia](#) #46

July 6, 2017, 2:19am

Just because I've followed the instructions Costas and it hasn't worked. I'm having a similar to the issue werewolflabs is having. Which is what this thread is about "getting started with C++ implementation"

I would be nice to have a Docs page support which have a set of instructions (checked and verified) on how to get C++ running on a standard Rpi setup and not have to resort to a forum post to find all this info.

0 Likes

[vshymanskyy](#) #47

July 6, 2017, 11:57am

[@esa.attia](#) - Yes you're right! It would be nice - and we are ready to accept your contributions and help spreading them among the community! 😊

If you're working on a commercial project - you can get support from our highly qualified developers @ [Blynk for Business](#).

Cheers.

1 Like

[GunnerTechTools](#) split this topic #48

November 1, 2017, 1:13am

3 posts were merged into an existing topic: [Push button notification on Raspberry Pi 3](#)

0 Likes

[Pol](#) #49

November 9, 2017, 12:46pm

Hi all,

I tried to compile Blynk library 4.10 on my raspberry pi 3.
But unfortunately compilation is not working...

I have an error on "BlynkOnDisconnected" function that has not been found in sources file.

Does anyone can help Me?
What I'm doing wrong?

Is it possible to compile using CygWin?
Is it mandatory install WiringPi?

Thanks a lot

0 Likes

[cricri19top](#) #50

January 17, 2018, 12:38pm

Hello, Did someone tried to run RTC from examples on Raspberry Pi Zero? For push data it works (uptime in sec % min), but when I try for RTC I receive this error:

In file included from main.cpp:13:0:

.../src/WidgetRTC.h:15:6: error: #error WidgetRTC is not available on this platform!
#error WidgetRTC is not available on this platform!

Can you help?

0 Likes

[Costas](#) #51

January 17, 2018, 12:41pm

cricri19top:

Did someone tried to run RTC from examples on Raspberry Pi Zero?

You would need to link the required libraries etc that's why I used millis() in the example provided.

0 Likes

cricri19top #52

January 17, 2018, 1:19pm

can you be more specific what I need to do (one example); I'm using Raspbian on RI Zero and a local server; Blynk libraries were installed yesterday. Here are some other error received while compiling:

In file included from .../src/WidgetRTC.h:18:0,

from main.cpp:13:

.../src/Blynk/BlynkWidgetBase.h: In member function 'void BlynkWidgetBase::setLabel(Args ...)':

.../src/Blynk/BlynkWidgetBase.h:27:9: error: 'Blynk' was not declared in this scope

Blynk.setProperty(mPin, "label", args...);

^~~~~

.../src/Blynk/BlynkWidgetBase.h: In member function 'void BlynkWidgetBase::setColor(Args ...)':

.../src/Blynk/BlynkWidgetBase.h:32:9: error: 'Blynk' was not declared in this scope

Blynk.setProperty(mPin, "color", args...);

^~~~~

In file included from main.cpp:13:0:

.../src/WidgetRTC.h: In static member function 'static time_t WidgetRTC::requestTimeSync()':

.../src/WidgetRTC.h:37:5: error: 'Blynk' was not declared in this scope

Blynk.sendInternal("rtc", "sync");

^~~~~

main.cpp: In function 'void clockDisplay()':

main.cpp:29:3: error: 'String' was not declared in this scope

String currentTime = String(hour()) + ":" + minute() + ":" + second();

^~~~~~

main.cpp:30:10: error: expected ';' before 'currentDate'

String currentDate = String(day()) + " " + month() + " " + year();

0 Likes

cricri19top #53

January 19, 2018, 12:10pm

I'm not able to run DHT too; is there a tutorial to show how to setup libraries to be able to execute C++ programs? I'm trying to run programs from examples:

[https://examples.blynk.cc/?](https://examples.blynk.cc/?board=Raspberry%20Pi&shield=System%20default&example=More%2FDHT11)

[board=Raspberry%20Pi&shield=System%20default&example=More%2FDHT11](https://examples.blynk.cc/?board=Raspberry%20Pi&shield=System%20default&example=More%2FDHT11)

0 Likes

GunnerTechTools #54

January 19, 2018, 12:18pm

cricri19top:

I'm trying to run programs from examples:

All the examples in the Sketch Builder are for Arduino, Arduino like and ESP based MCUs

FYI, RPi can work with Blynk using WiringPi (C++) or Node.js, but as stated in the Help Center, anything beyond the basic direct pin control with options require much more experience...

<http://help.blynk.cc/how-to-connect-different-hardware-with-blynk/raspberry-pi/nodejs-vs-c-library>

Use Blynk with C++

If you want just to toggle a pin, it will simply work out-of-the-box.

But if you want to add more functionality, it will require some Linux, threading, sockets knowledge, modifying Makefile, etc.

So, C++ is generally for advanced developers.

0 Likes

cricri19top #55

January 19, 2018, 12:20pm

In the examples pages there are raspberry pi programs to be build

0 Likes

GunnerTechTools #56

January 19, 2018, 12:26pm

cricri19top:

In the examples pages there are raspberry pi programs to be build

I know... I have mentioned that in the past to the Developers 😊 ... and it has gotten better.

In theory most can be used with the WiringPi method, as it is C++ based... but not all as drop-in solutions, as many 3rd party libraries may not actually be supported on the RPi or WiringPi, syntax for workarounds may be different, and well, an RPi is not an Arduino... period.

Personally I started with WiringPi and quickly moved toward Node.js... I found more references available with Google... but still a lot of trial and error discovering the correct way to use Blynk with it.

0 Likes

cricri19top #57

January 19, 2018, 12:27pm

ok...thx...I have to move back to ESP

0 Likes

GunnerTechTools #58

January 19, 2018, 12:31pm

Don't give up entirely... there are a few others here who have some WiringPi experience.

And search here for NodeJS stuff... there are a few small examples... plus what is available on the Help Center document I linked to. I have been actively learning to control many things on my RPi3 with Blynk and quite like the power of the RPi 😊

0 Likes

cricri19top #59

January 21, 2018, 7:41pm

basic functionality for buttons works ok, but I want to try simple things like RTC or DHT 22 - and not able to solve it. Basically I want to be able to connect sensors to RPI (movement, Temp, Light, distance, magnetic etc...RPI is much better due to flexibility to update the program, connectivity etc. I have eliminated a lot of errors during the build, but still errors I cannot fix, so I cannot enjoy RTC or DHT on my RPI Zero. Switching to NodeJS...it's like starting with the left foot...

0 Likes

Clucas #60

February 14, 2018, 12:56pm

Hello **@Costas** first thank you for the post.

Do you have any C++ example that fits in this case using the serial.read?

Example: I want to read serial information from Arduino which is connected to the Raspberry USB port and put on Blynk virtual pin?

0 Likes

Costas #61

February 14, 2018, 1:07pm

@Clucas this is what I always recommend for MCU to MCU interfacing
<https://forum.arduino.cc/index.php?topic=396450.0>

0 Likes

Clucas #62

February 14, 2018, 1:36pm

Hello @Costas , thank you but this is more related to interface Arduino <-> Arduino, this interface I am able to do. But how could I modify the example below to receive the serial data from Arduino on the Raspberry USB port?

The port in raspberry is /dev/ttyACM0 which somehow needs to be declared?!

=/

```
// Blynk "gp" numbers are BCM numbers, so gp17 is physical pin 11
// #define BLYNK_DEBUG
#define BLYNK_PRINT stdout
#ifdef RASPBERRY
#include <BlynkApiWiringPi.h>
#else
#include <BlynkApiLinux.h>
#endif
#include <BlynkSocket.h>
#include <BlynkOptionsParser.h>

static BlynkTransportSocket _blynkTransport;
BlynkSocket Blynk(_blynkTransport);

#include <BlynkWidgets.h>

unsigned int uptime;           // 1 second intervals
unsigned int pinStatus;        // status of BCM 17
unsigned int lastpinStatus = 0; // to toggle

void myTimerEvent()           // button widget on V0 or direct access gp17 button
{
    uptime = (millis() / 1000);
    Blynk.virtualWrite(V1, uptime);
    pinStatus = digitalRead(17);
    if(pinStatus != lastpinStatus){
        lastpinStatus = pinStatus;
        printf("GP17 pin status: %i\n", pinStatus);
        if(pinStatus == 1){ // this is to synchronise V1 button if gp17 button is pressed
            Blynk.virtualWrite(V0, 1);
        }
    }
}
```

Using NodeJS I am able to receive the data from Arduino, but, I am unable to allocate them on the Virtual Pins (So I believe its easier to try to make it work with C++ above):

```
const SerialPort = require('serialport');
const port = new SerialPort('/dev/ttyACM0', () => {
    console.log('Port Opened');
});
const parsers = SerialPort.parsers;

const parser = new parsers.Readline({
    delimiter: '\n'
```

```
});  
  
port.pipe(parser);  
  
parser.on('data', console.log);
```

0 Likes

Costas #63

February 14, 2018, 1:44pm

Clucas:

to receive the serial data from Arduino on the Raspberry USB port?

I assume you know that the Pi has a serial port and how you enable it?

0 Likes

GunnerTechTools #64

February 14, 2018, 1:56pm

Clucas:

Using NodeJS I am able to receive the data from Arduino, but, I am unable to allocate them on the Virtual Pins

I haven't tested this yet, so there could be a syntax error or three... but I believe this should do the trick... using terminal, but any Display should work within display limits.

```
var term = new blynk.WidgetTerminal(13); // Setup Terminal Widget on vPin 13  
  
const SerialPort = require('serialport');  
const port = new SerialPort('/dev/ttyACM0', () => {  
  console.log('Port Opened');  
});  
const parsers = SerialPort.parsers;  
const parser = new parsers.Readline({  
  delimiter: '\n'  
});  
  
port.pipe(parser);  
parser.on('data', function(serdata)) {  
  term.write(serdata); // Send serial data to terminal on vPin 13  
});
```

0 Likes

Clucas #65

February 14, 2018, 2:04pm

Hello **@GunnerTechTools** , sorry I didn't explain this correctly...

On the link below is another topic only about the NodeJS code and better explanation about it:

Raspberry read serial data from Arduino over USB using NodeJS

Hello guys, I know this is not a 100% Blynk related subject, but I have spent many days searching for an answer without success and would like to know if you could help me =/ I am currently trying to configure the NodeJS on the Raspberry to read and store the values on Blynk virtual pins, currently the Arduino sends the following message over USB: S1T1,2345,S1RSSI,-84,S1SNR,750 Where: S1T1 = Means Sensor 1 Temperature 1; 2345 = Means 23,45 Celcius; S1RSSI = Means Sensor 1 RSSI (Signal stre...

Hello **@Costas** , yes the serial port on Raspberry PI Interfaces is enabled. But do you know how can I adapt the C++ Code to read the data?

0 Likes

GunnerTechTools #66

February 14, 2018, 2:22pm

Clucas:

On the link below is another topic only about the NodeJS code and better explanation about it:

OK, got it... you are correct that it isn't Blynk specific, (Hint, neither is this topic 😊) but I left a few links that should put you on track.

The same principle should work for this topic as well... parse your data stream out into individual components and send them to the App via `Blynk.virtualWrite(vPin, value)` However the precise parsing process with WiringPi might be different then true C++ on another Arduino/ESP.

Google, trial, error, try again, success.

0 Likes

GunnerTechTools #67

February 14, 2018, 3:23pm

Found this after a quick Gargle... Not sure if it is what you have in mind...

<http://wiringpi.com/reference/serial-library/>

0 Likes

