

SwitchDoc Labs



Blynk Configuration

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Version 1.1



Table of Contents

Errata	3
What is SkyWeather?	4
SkyWeather Features	4
What is Blynk	4
Step by Step Install (for iPhones – Android is very similar)	5
Installing the Blynk Authentication Codes into SkyWeather	10
What is in the SkyWeather Blynk App?	11
Versions of SkyWeather	13
SkyWeather	13
SkyWeather Lite.....	13
SkyWeather Solar.....	13
SkyWeather Plus Solar WXLINK Remote	13
The Science and Education Goals Behind SkyWeather.....	13
Support.....	14
Disclaimer	15

Errata

What is SkyWeather?

This is a perfect project kit for kids with some help from the adults and for adults trying to learn some new things. We have done this before with our successful OurWeather KickStarter so we know what we are talking about. People all over the world have built the OurWeather weather station with great success. This project has **no soldering** involved and uses Grove connectors to wire everything up! You can't reverse them and blow things up. [Here is our tutorial on the Grove system.](#)

SkyWeather Features

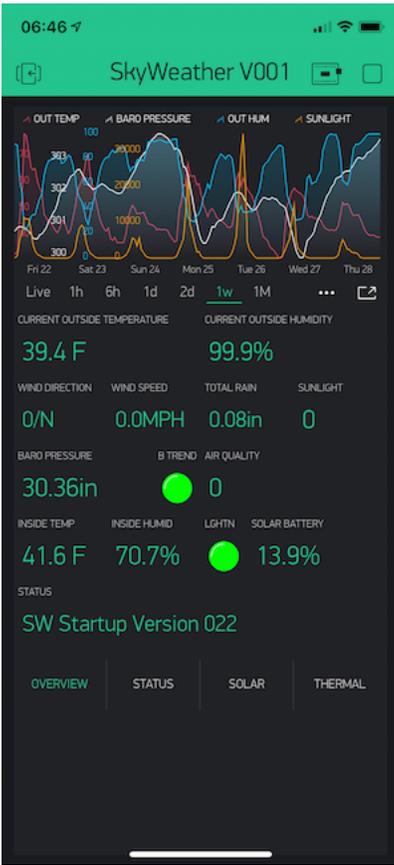
- Barometric Pressure
- LIGHTNING!
- Outside Temperature
- Outside Humidity
- Altitude
- Inside Temperature (in box)
- Inside Humidity (in box)
- Air Quality - AQI (your own local Air Quality Sensor)
- Sunlight
- Wind Speed
- Wind Direction
- Rain
- All your weather information on the Cloud including history

Easy to build. Easy to learn about the IOT (Internet Of Things) and the Raspberry Pi.

What is Blynk

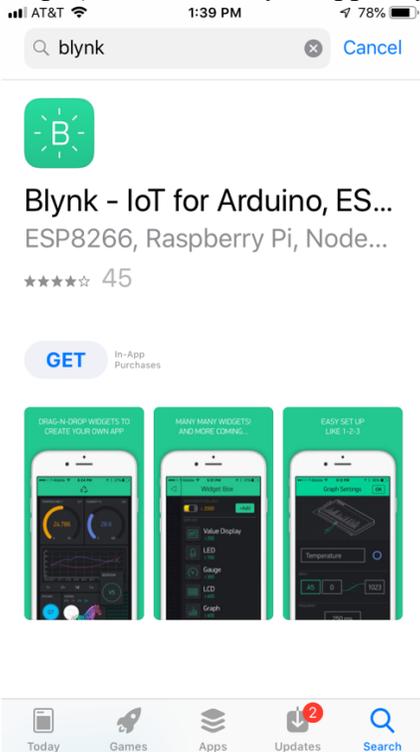
Blynk is a digital dashboard for your iOS or Android device that allows you to easily build graphical interfaces by dragging and dropping widgets. Blynk runs on iOS and Android apps to control Arduino, Raspberry Pi and the likes over the Internet.

It's a digital dashboard where you can build a graphic interface for your project by simply dragging and dropping widgets.



Step by Step Install (for iPhones – Android is very similar)

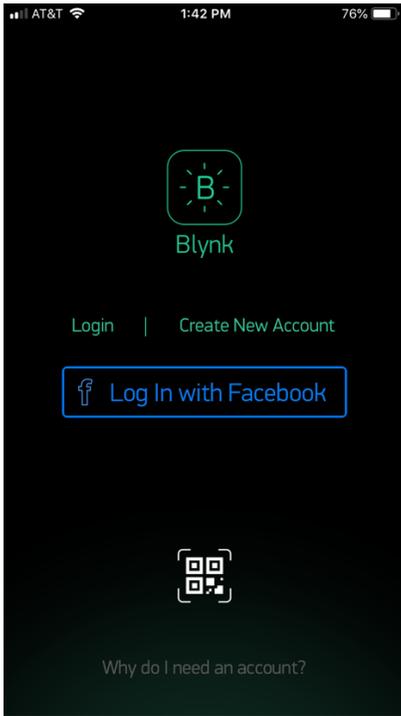
Step 1) Install the Blynk app on your mobile phone



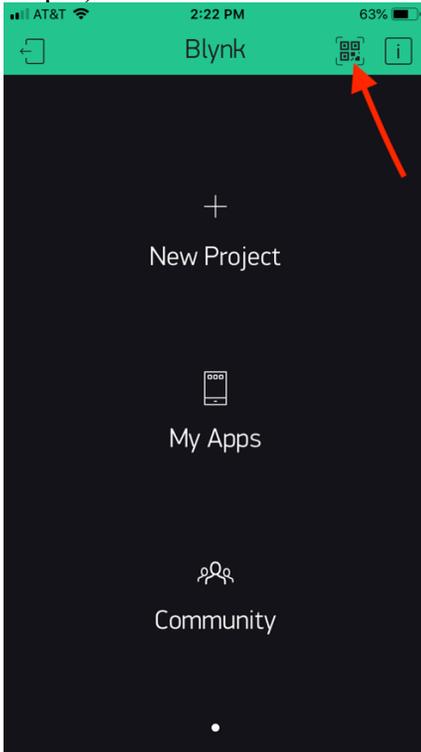
Step 2) Open the Blynk app and create an account

Page 5

Version 1.1 May 2019



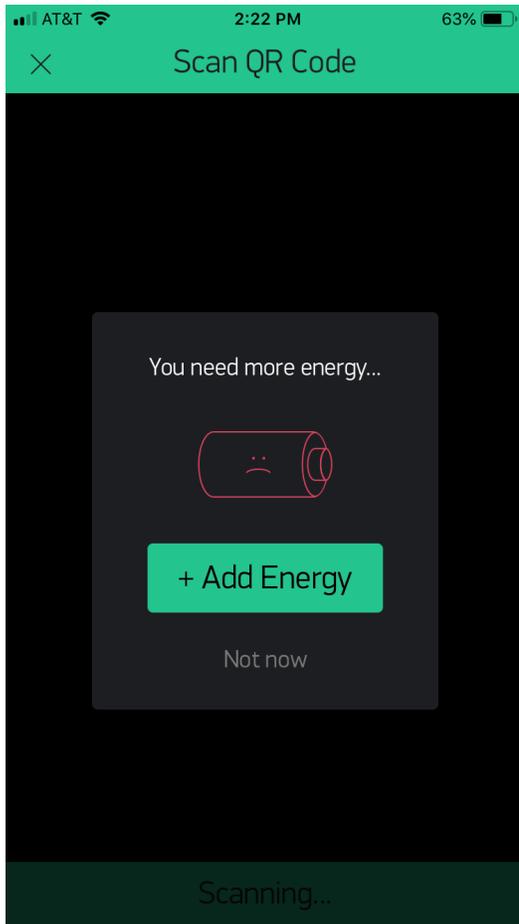
Step 3) Now click the button to scan a QR (see arrow)



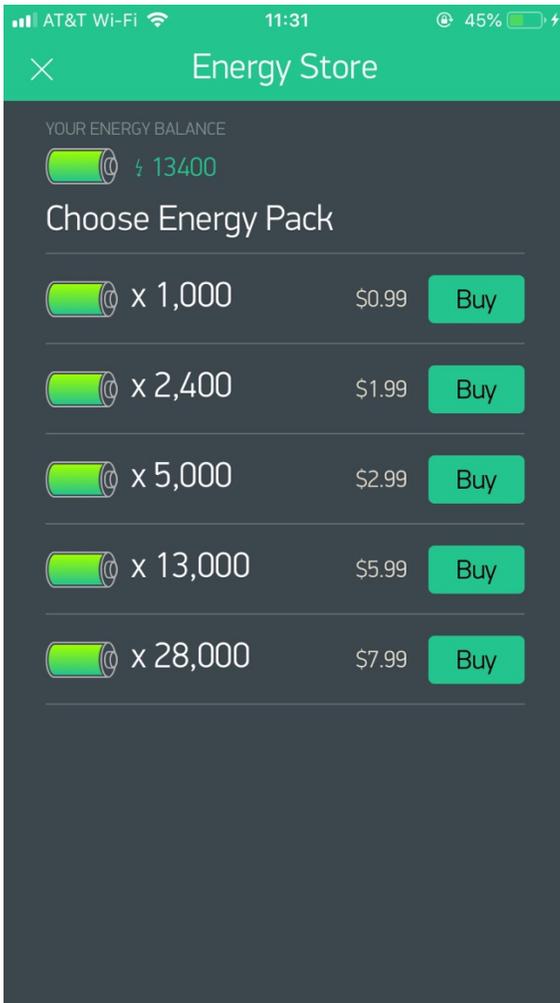
4) The current QR code for your Blynk App is located on the SkyWeather product page.
<https://shop.switchdoc.com/products/skyweather-raspberry-pi-based-weather-station-kit-for-the-cloud>

Scan the QR code on this page you will then see the screen below the QR code

SDL Weather V003



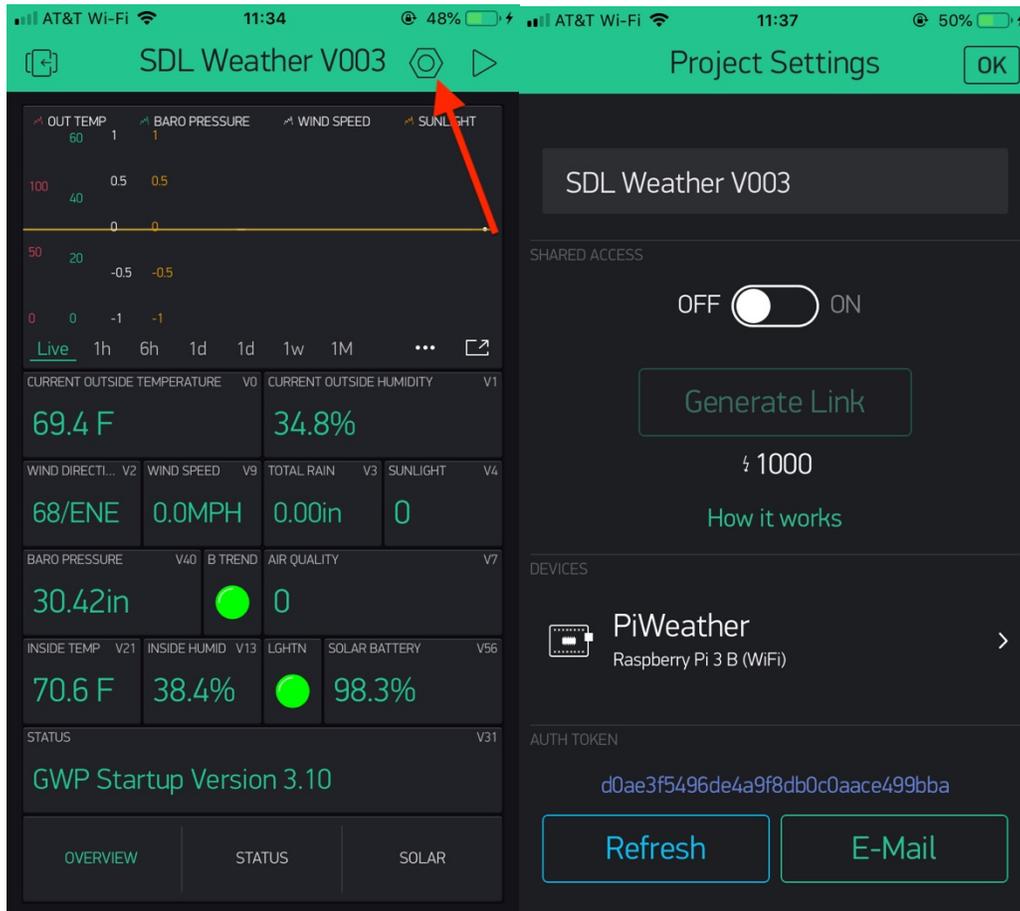
Step 5) Add Energy. SkyWeather requires a total of 8700 Blynk energy. You start your account with 2000, so you need to purchase 5700 Blynk Energy. As of this writing, it will cost \$5.99. It varies.



Step 6) Scan the QR code again. You will now see the SkyWeather App on your screen.



Step 7) Click in middle of the project to select the project. Then click the indicated button to go to project settings. Note: You can always see the App Version number of the project setting (V003). Now copy and paste or email yourself the authentication token (AUTH TOKEN) as we will be putting this in the SkyWeather configuration file in the next section. The one below WILL NOT WORK. You need your own. Your screens will look somewhat different than the ones below.



You have completed the Blynk SkyWeather App installation.

Installing the Blynk Authentication Codes into SkyWeather

The final step to connecting SkyWeather to the SkyWeather App is to copy your Authentication Token (AUTH TOKEN above) to the SkyWeather configuration file. Note: You should have already completed the configuration of the SkyWeather system and should have a conflocal.py file. If you haven't done this, go back to the configuration file and complete the configuration tasks.

Step 1) using a terminal window, go to the SDL_Pi_SkyWeather directory

```
cd ~/SDL_Pi_SkyWeather
```

Step 2) Copy the config.py file to conflocal.py, if you haven't already. (this keeps you from copying over your changes when you update SkyWeather)

```
cp config.py conflocal.py
```

Step 3) Open the conflocal.py file with your favorite editor

Step 4) Change the following lines:

```
#####  
# Blynk configuration  
#####  
  
USEBLYNK = False  
BLYNK_AUTH = 'xxxxx'  
BLYNK_URL = 'http://blynk-cloud.com/'
```

Change False to True

Replace xxxxx with your authentication token from above. Then it should look like this (but use YOUR authentication token – this one won't work):

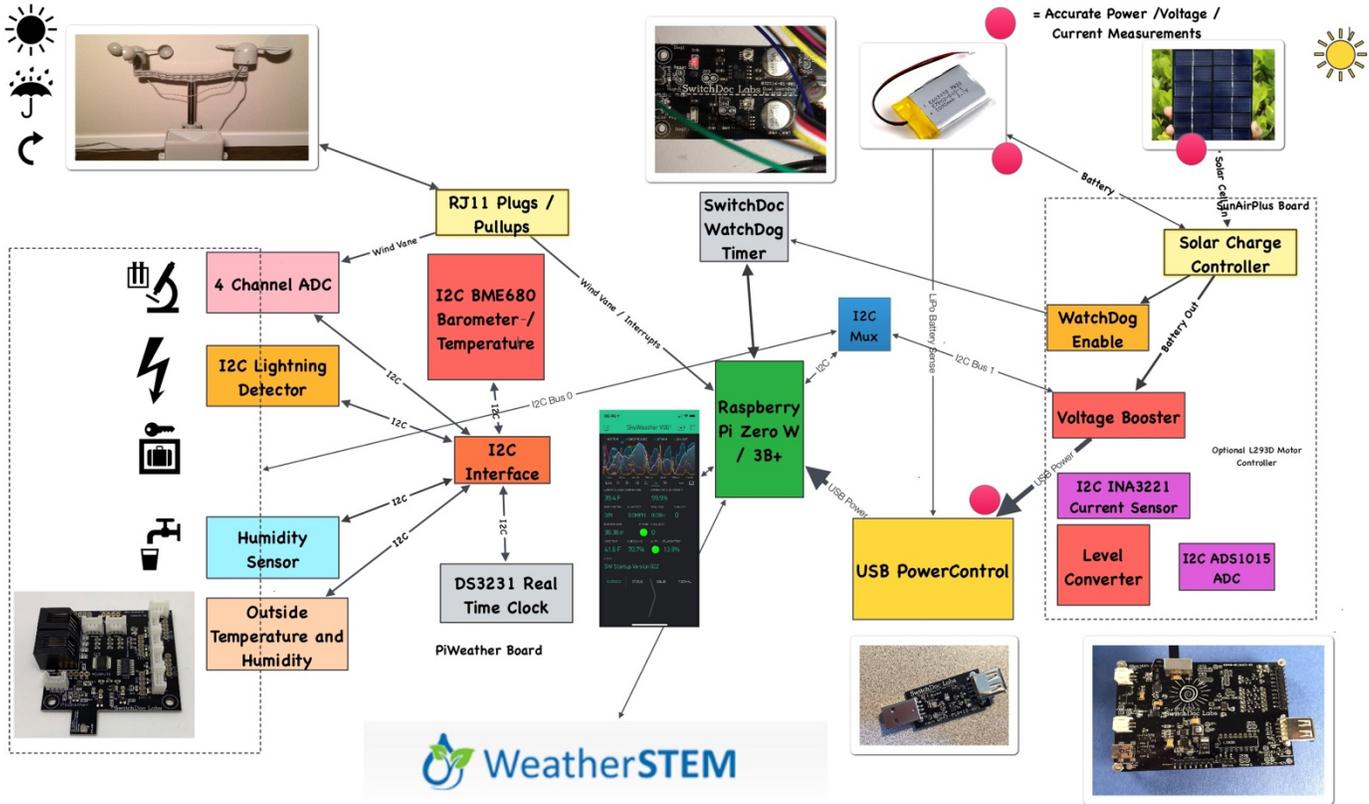
```
#####  
# Blynk configuration  
#####  
  
USEBLYNK = True  
BLYNK_AUTH = 'daff75da224b447b69ce2e5b0abe5312'  
BLYNK_URL = 'http://blynk-cloud.com/'
```

Step 5) You are now complete. Start up your SkyWeather software again. Look at the App on your phone and after about 30 seconds, things should start propagating and you will start seeing cool data.

[What is in the SkyWeather Blynk App?](#)

There are four screens in the Blynk App. They are:

- **Main Screen** – Shows current weather conditions and Air Quality
- **Control Screen** – Shows Status and controls. Only the OLED and Units buttons currently work in the current version of SkyWeather (and the OLED is an optional board for SkyWeather).
- **Solar** – Shows the status and performance of the solar power system if installed on SkyWeather
- **Thermal** – Shows the thermal state of the SkyWeather box and also if the optional fan is turned on or not.



Versions of SkyWeather

SkyWeather

The full SkyWeather kit including the Lightning and Wind Direction, Speed and Rain sensors. Includes: Rain, Wind Speed / Direction, Lighting Detection, Outside Temperature and Humidity, Barometric Pressure, Internal Temperature/Humidity, Sunlight Strength, and Outside Air Quality.

SkyWeather Lite

SkyWeather Lite does not contain the Lightning Detector and the WeatherRack wind and rain sensors. Because of that, do not drill the holes for the Lightning Detector Pylon and you do not need to have the RJ11 box connectors for the WeatherRack

SkyWeather Solar

SkyWeather Solar adds a set of solar panels on the top of the SkyWeather Box. We have a special assembly manual for that add on to the SkyWeather kit. Note that you have to think about where and how to orient your solar panels versus the orientation you want for your Sky Camera. Solar Panels should generally point south (in the northern hemisphere) and north (in the southern hemisphere – right Topher?).

SkyWeather Plus Solar WXLink Remote

This SkyWeather package places the WeatherRack wind / rain sensors and the outside temperature and humidity sensor, along with a solar system in an external box connected by wireless LoRa. See the weatherproofing manual for the WXLink Box. Basically, you place the WeatherRack and the outside temperature / humidity sensors outside and the rest of SkyWeather can either be inside or outside. There are no wires between the WXLink remote box and the SkyWeather system. You may still want to place the Sky Camera and SkyWeather system outside and in that case you do not need to have the RJ11 box connectors for the WeatherRack or the hole AM2315 Outside Temperature and Humidity Sensor.

This manual is for the base SkyWeather kit.

The Science and Education Goals Behind SkyWeather

Everything we build for the Maker market is designed for education and learning. Making is education. Making is learning. Building your own projects allows you to innovate around a framework and do wonderful things that of which we have never even thought.

The educational goals for SkyWeather are:

- Learn about the Raspberry Pi and installing software on the Pi
- Connecting up sensors to the Raspberry Pi
- Learning about Feedback loops
- Understand your indoor environment and what affects it
- Learn about the new technology called the Internet of Things

SkyWeather designed to be the hub to which you connect everything to turn your Raspberry Pi into a complete Weather Station that talks to the Cloud. Just ready to be customized to your project and usage. It is designed to be a great way of learning to hook up hardware to the Raspberry Pi. And you have all the source code to modify to work the way you want it to do.

EDUCATORS: WeatherSTEM.com has a tremendous amount of curriculum material available about using WeatherSTEM (and SkyWeather) in your classroom.

Our partnership with WeatherSTEM brings this kickstarter into the realm of cloud based data mining, great graphics displays and even time lapse photography. SkyWeather and WeatherSTEM together rock. This is a great kit in which to learn about weather sensing, data sharing in the cloud and the Raspberry Pi.

Support

As with all SwitchDoc Labs products, technical support is given through the forums on Forum.switchdoc.com. If you have issues that can be solved by our fabulous customer service department, please go to www.switchdoc.com and send your issues through our Contact page on the top menu.

Disclaimer

SwitchDoc Labs, LLC takes no responsibility for any physical injuries and possession loss caused by those reasons which are not related to product quality, such as operating without following the operating manual and cautions, natural disasters or force majeure.

SwitchDoc Labs, LLC has compiled and published this manual which covers the latest product description and specification. The contents of this manual are subject to change without notice.