IOT Trouble shooting

A high level Guidance

Let's say you got yourself a Beginners kit or you just bought separate parts like your micro controller, sensors, supply, LED's, accessories and more.

Let's begin from the beginning and see what are the different speed bumps you may hit.

1) Delivery may not happen in time, just hold you and the next bell could be your parcel !!

2) **So you plug in your device and the drivers don't work. Ahhhh!!**

The arduino and the other micro controllers have the capability to download the driver and install automatically when you plug in the USB. Sometimes it does not work, just download the latest drivers from the OEM's website and install it.

3) **Lets go the IDE (Development Environment)**

Make sure you download the latest software. All the versions are backward compatible!

4**) IDE Setting**

you will have to make 2 main selections

Port: Select the port, IDE will detect the port automatically. If you have 2 micro controllers then you will have to deliberately choose which port you want.

Board: The Arduino IDE has capabilities to work with multiple boards. So make sure you select the correct board, like UNO or YUN, NodeMCU etc.

5) **Ethernet Boards**

Most probably, the sketch would work. If you open up serial monitor, you will see that

Arduino connects to Internet and displays raw web content

If your sketch did not work, read on...

Find the lines referring IP address.

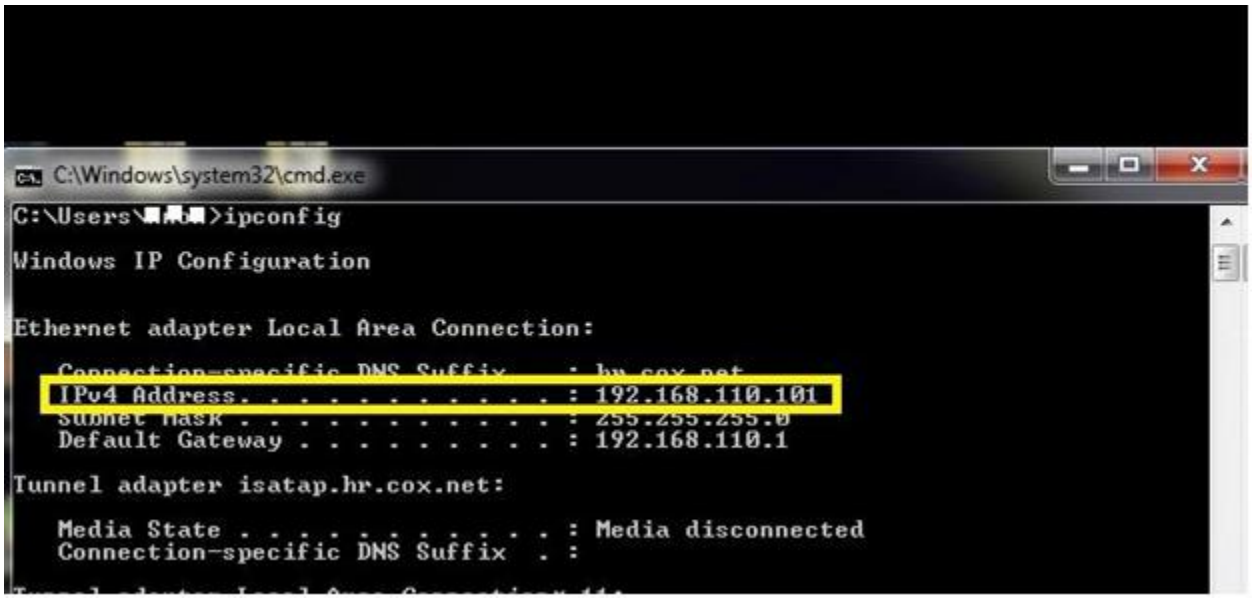
IPAddress ip(192, 168, 0, 177);

What are IP Addresses?

Each device on your internal home network is assigned a private IP address, of the form 192.168.x.x or 10.0.x.x. When your computer asks to browse a website, it's the router's job to send requests out to that website, then direct the replies back to the appropriate device on your network.

Most of the time you can forget all about IP addresses: computers and devices will appear automatically on the Windows or OS X network browser. But sometimes it's useful to know the IP address if something needs to be configured manually, and there are ways to go about doing this.

On a Windows PC, open up the command prompt and type ipconfig – you'll find your IP somewhere in the output.



192.168.110.101 is the IP address assigned to PC.

You will need to provide unused IP in Arduino code for IPAddress ip(x, x, x, x);

Simplest way is to retain the first 3 digits of your IP address from "ipconfig" and provide an unused value between 0 to 255 for 4th digit

After changing IP, upload the code and retry the WebClient.

6) **Sensors are not working.**

First check if they take 3.3 v or 5 v

Second check if it gives out an analog or digital output.

If its digital you will use any of t he 13 pins, out which some can be used for PWM like 3,5,6.

If its analog then you will use pins A0- A5.

The above applies for Arduino. A similar trend can be observed in other micro controllers.

7) **CODE is not working.**

There could be multiple reasons for this, let's see some contenders.

1) **Make sure your syntax in correct**

The arduino guys have made this very simple and if you want to say artistic. Of course we all will slip a semi colon or miss a letter. There are plenty of examples, one of them is in file --> examples ---> Basics ---> Blink. go over these examples and see the syntax used for pinmode's, how to set a digital or analog pin to high or low.

If you are using control structures and functions, make sure you may close attention to every single line.

Generally if you have to do 5 things in your code. You first do the first then run the program and check and then the second and so on. This way you can isolate the issue and solve it more efficiently.

8**) Code is working but can't see any values in the cloud platform.**

The first issue could be that the API key is plugged wrong, go over the examples provided and make sure you are following it correctly. Start with the uploads sketch in the lecture that will help you.

9) **Can't upload on to ESP8266.**

This is slightly tricky, the GPIO pin 10 and 0 should be low(GND) and then once uploaded remove from the GND.

10) **Soldering not working**

This could take a couple of tries. Please practice for a little bit on a sunny board with un important pins or leads then once you are comfortable then go on with the main soldering.

References:

KMS - IOT GUIDE