

Using an Arduino Ethernet shield



Using an arduino ethernet shield

The shield provides a physical connection to the internet directly from your Arduino.

The shield is used in conjunction with the Ethernet library (part of Arduino core).

The shield uses pins 10, 11, 12, 13 -- so you can't

First experiment -- get an IP:

Connect shield to your Arduino, plug into ethernet cable, and plug USB.

Open: File--> examples-->Ethernet-->DhcpAddressPrinter

In this code find the line:

```
byte mac[] = { 0x00, 0xAA, 0xBB, 0xCC, 0xDE, 0x02 };
```

Find the MAC sticker on your Shield -- change the above code to match your sticker. MAC is a hardware address (like a serial number, every networked device has one they have to be unique.)

Upload the code. Open the serial monitor. That is the IP of your Arduino.

First experiment -- get an IP:

Look at the code.

Note how ethernet is started -- there are a few ways to do this -- you should copy this version into any other examples you try.

```
// start the Ethernet connection:
if (Ethernet.begin(mac) == 0) {
  Serial.println("Failed to configure Ethernet using DHCP");
  // no point in carrying on, so do nothing forevermore:
  for(;;)
    ;
}
```

Leave this example open.

Open the example: File--> examples-->Ethernet-->WebServer

Find and replace the `byte mac[]` line in the webServer example with the line we entered in DhcpAddressPrinterTest.

Scroll down to setup and find this line:

`Ethernet.begin(mac, ip);`

change it to:

`Ethernet.begin(mac);`

Upload code, open serial monitor. You should see your IP.

Go to a web browser, open it and type the IP into the address bar.

You will see analog readings from the Arduino.

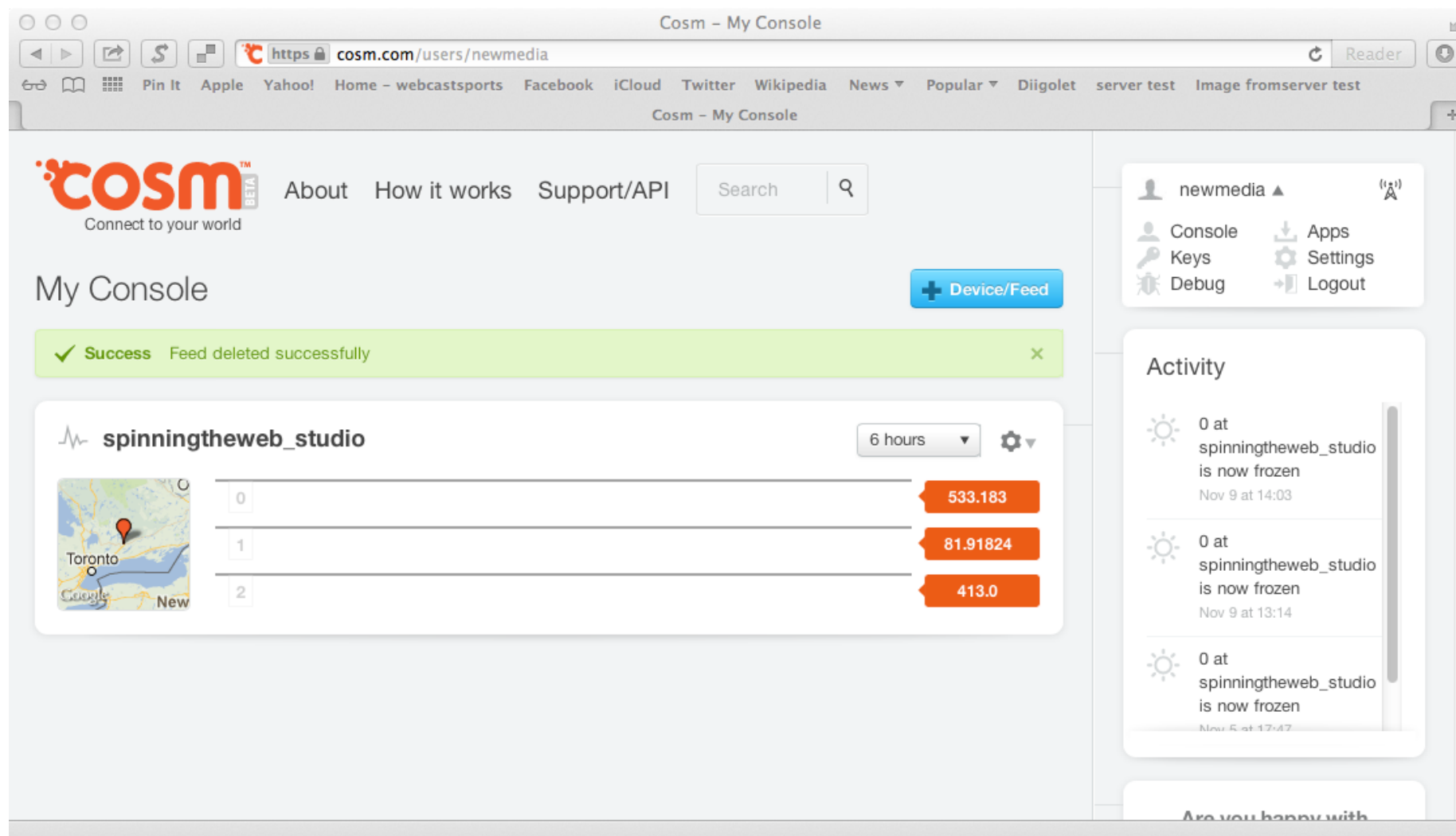
The example with all the lamps from last week is in the same folder as this doc.

It is based on code by Lady Ada.

Third experiment -- COSM data feed.

Keep the AddressPrinterOpen.

Go to COSM web site -- create an account if you do not have one. If you have one -- login. Should get to a window like the one below.

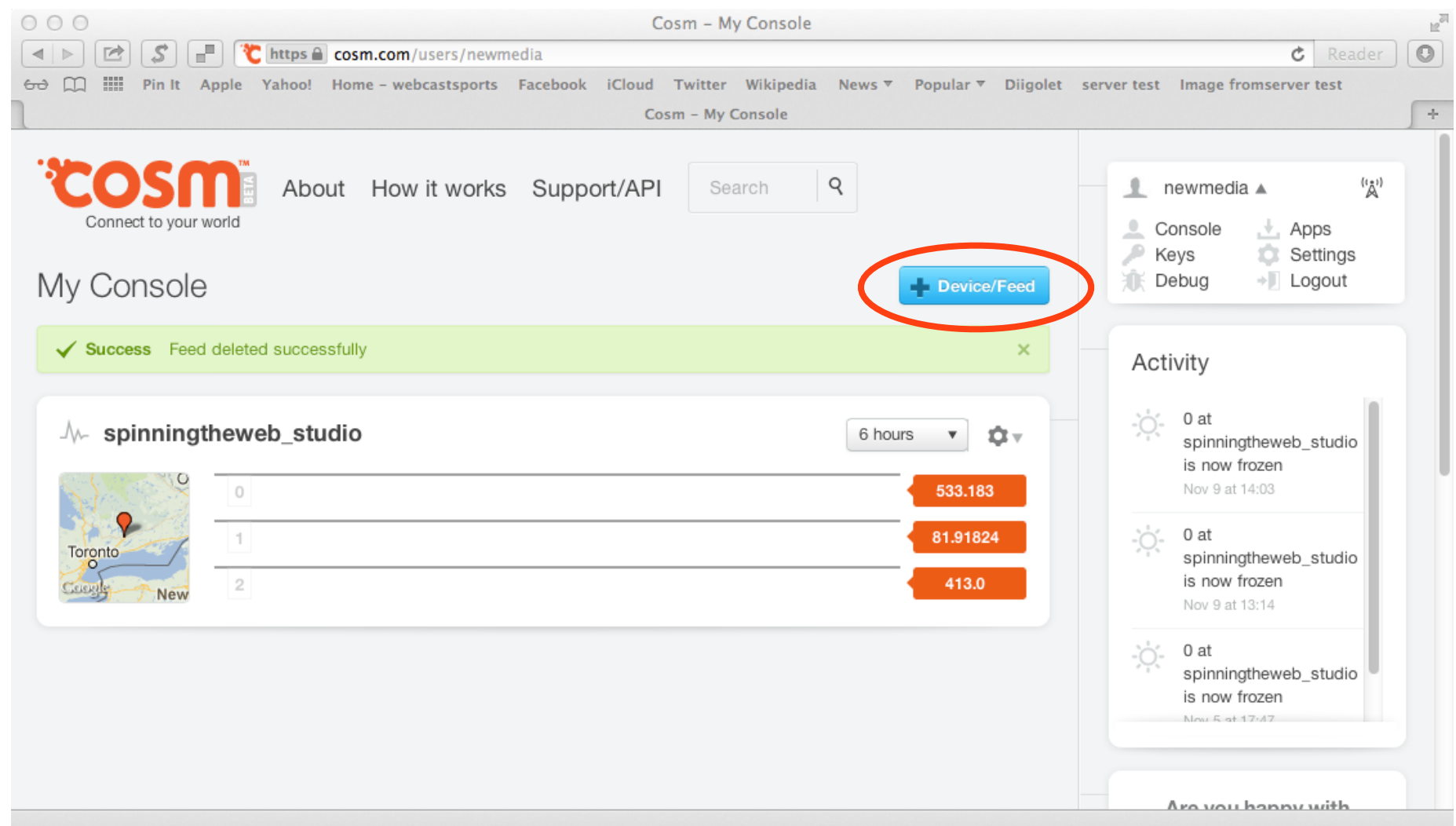


Third experiment -- COSM data feed.

Keep the AddressPrinterOpen.

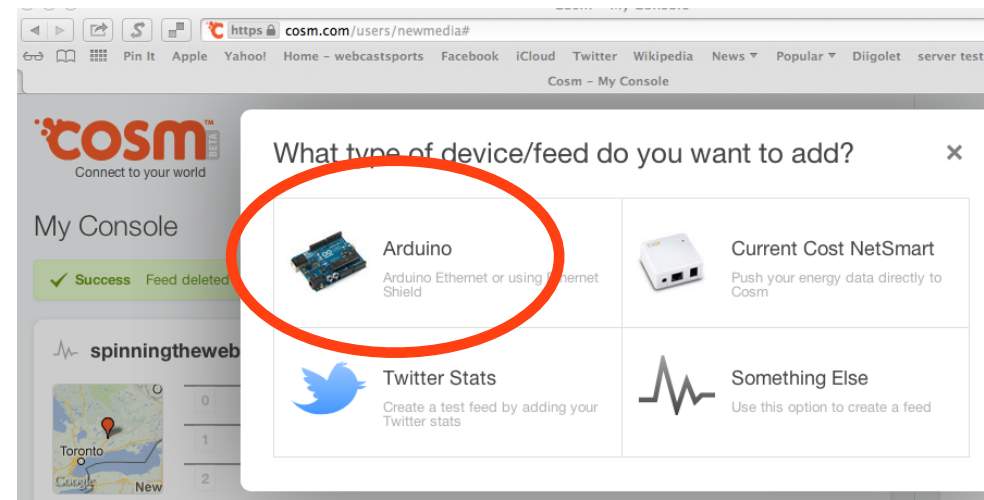
Go to COSM web site -- create an account if you do not have one. If you have one -- login. Should get to a window like the one below.

Get started by clicking the big blue button.



Third experiment -- COSM data feed.

A new window OPENS.
Pick Arduino.



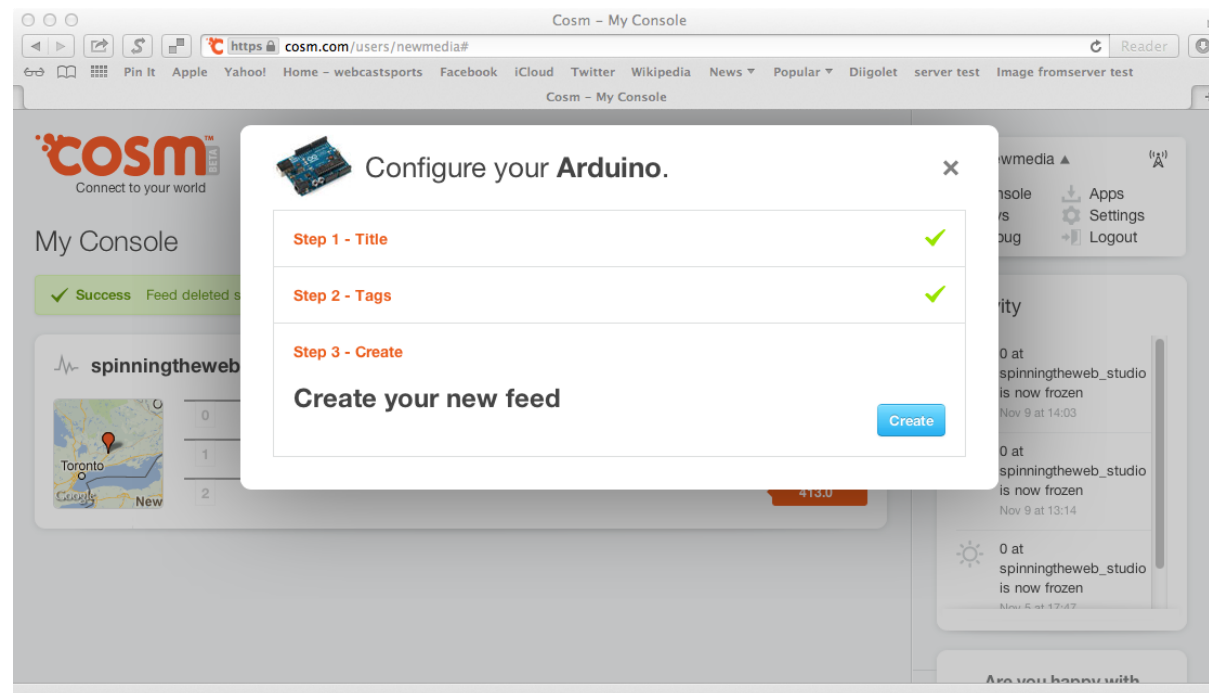
Describe it.

You can skip tags.
Just click NEXT.

Click Create.

NOW COPY THE CODE IN
THE WINDOW! PASTE it
into Arduino.

Then CLICK finish.



Third experiment -- COSM data feed.

Now change the MAC address line in the code you just pasted. (As we did in the other examples -- cut from DhcpAddressPrinter.)

Upload code and then open serial monitor.

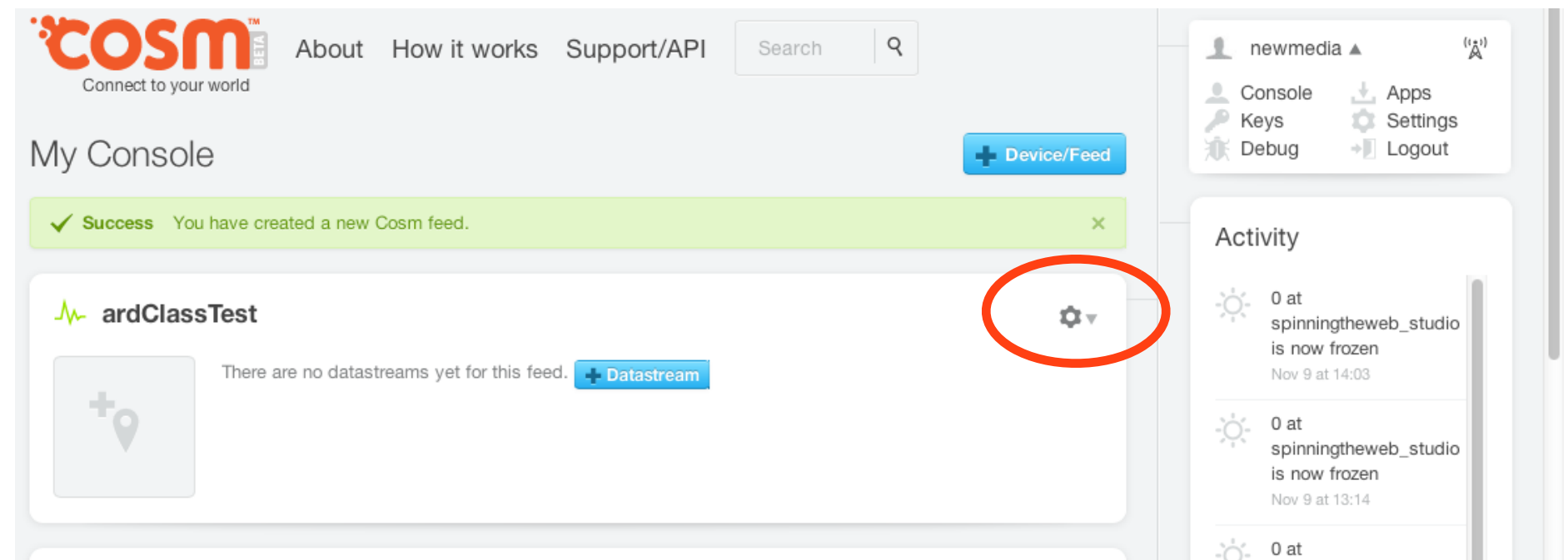
Back to COSM for a second. You should see a FEED with the name you just assigned.

We need to register the feed but clicking on the grey gear.

Select Edit.

Click the big green save changes -- without changing anything.

You will return to the feed -- change its time from 6 hours to 5 minutes.



Its a start ...