

Hong Kong Product Design Makeathon 2016-2017

全港中小學產品設計大賽2016-2017

第六場工作坊 IoT, Big Data and Smart Home Applications



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簡介：
本大賽為了提升學生對產品設計的興趣，鼓勵創意設計，展示學生在科學、科技、工程、數學等方面的學習成果。學生由概念圖開始到原型整合製作都全程負責，透過比賽學生有機會把想法帶到現實中實現，啟發學生的創意及設計才能。

比賽目的：

- 利用STEM知識應用於解決日常生活中遇到的難題
- 提升同學對產品設計的興趣

參賽資格：

- 全港中小學校學生
- 比賽將分為小學組及中學組

比賽題目：

- 無障生活、環保及節約能源、大數據

比賽日程：

- 2016年10月至2017年4月

活動簡介：

- 2016年10月22日下午2時至5時
- 地點：香港理工大學TU101及TU103室

評審安排及獎品：

- 詳情請參閱官方網站

官方網頁： <http://www.ise.polyu.edu.hk/html/product-design-makeathon-2016/>

報名查詢熱線： 31608443

主辦機構  THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學
DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING
工業及系統工程學系

協辦機構  DTSL

贊助機構  littleBits

支持機構（排名不分先後）

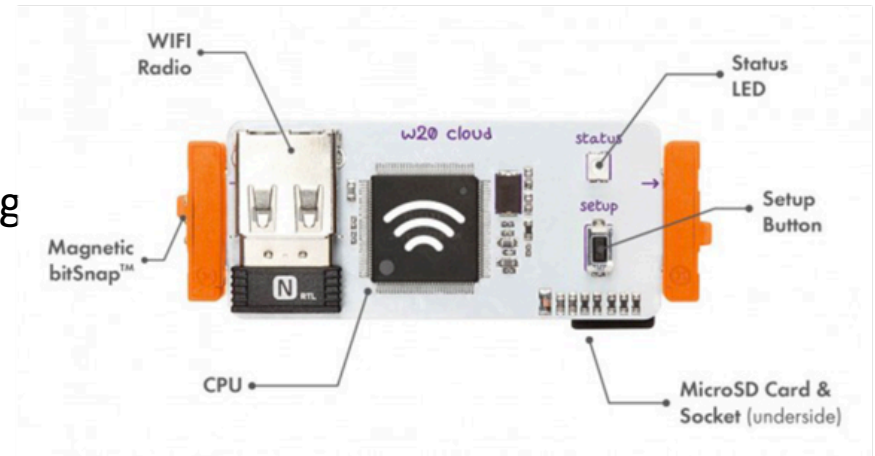
 AITLE 資訊科技教育領袖協會
Association of IT Leaders in Education

 HKECE 香港電腦教育學會
The Hong Kong Association for Computer Education

 今日校園
<http://www.hkta.edu.hk>

What is Cloudbit?

- A fast and easy way to create Internet-enabled inventions
- Automate your littleBits inventions through the Internet
- An embedded Linux System
- 64MB RAM, 4GB SD Card
- Support 802.11b/g/n
- Support the following security standards:
 - Open (no encryption)
 - WEP
 - WPA
 - WPA2



littleBits Smart Home Kit

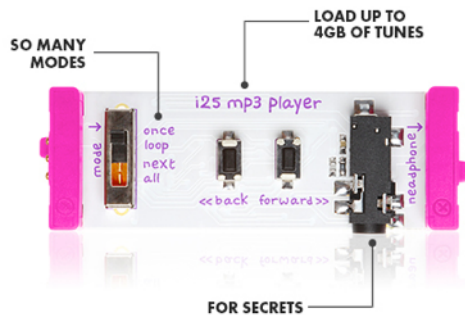


AC & IR

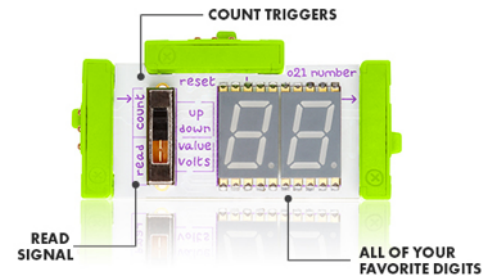


PAIR THE AC SWITCH
WITH THE IR TRANSMITTER
TO CONTROL ANY
HOUSEHOLD OUTLET

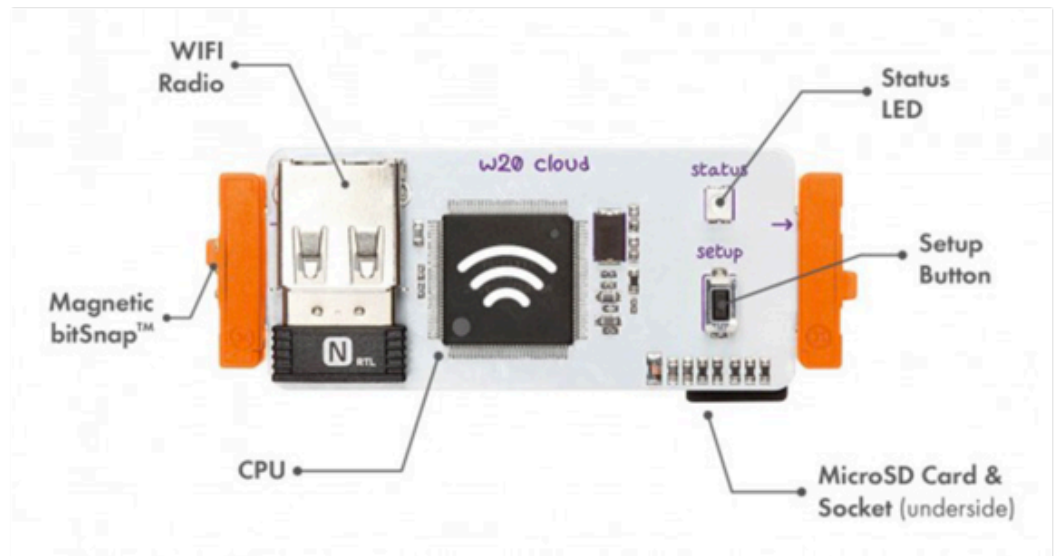
MP3 PLAYER



NUMBER



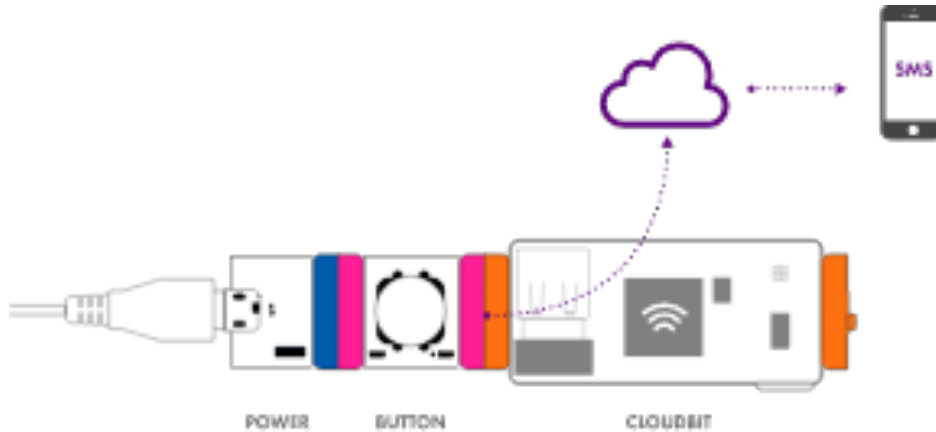
littleBits CloudBit Starter Kit



How the Cloudbit Works

Input: From Bit to Web

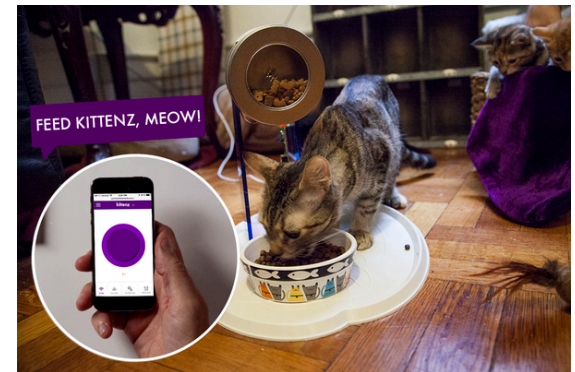
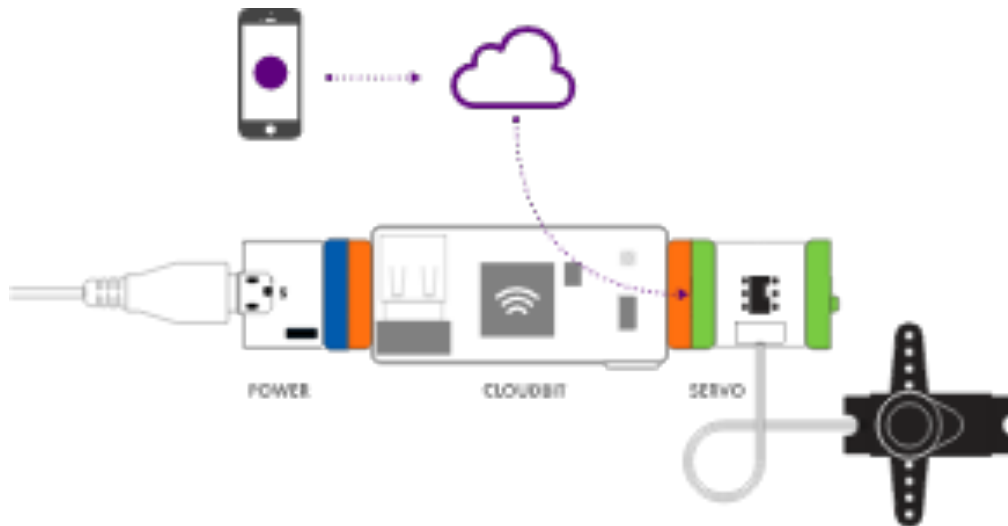
The cloudBit acts as an input by receiving signal from your littleBits circuit and sending it to the internet.



How the Cloudbit Works

Output: From Web to Bit

The cloudBit also acts as an output by sending signal from an event on the internet to your littleBits circuit.



Controlling the Cloudbit

Cloud Control App



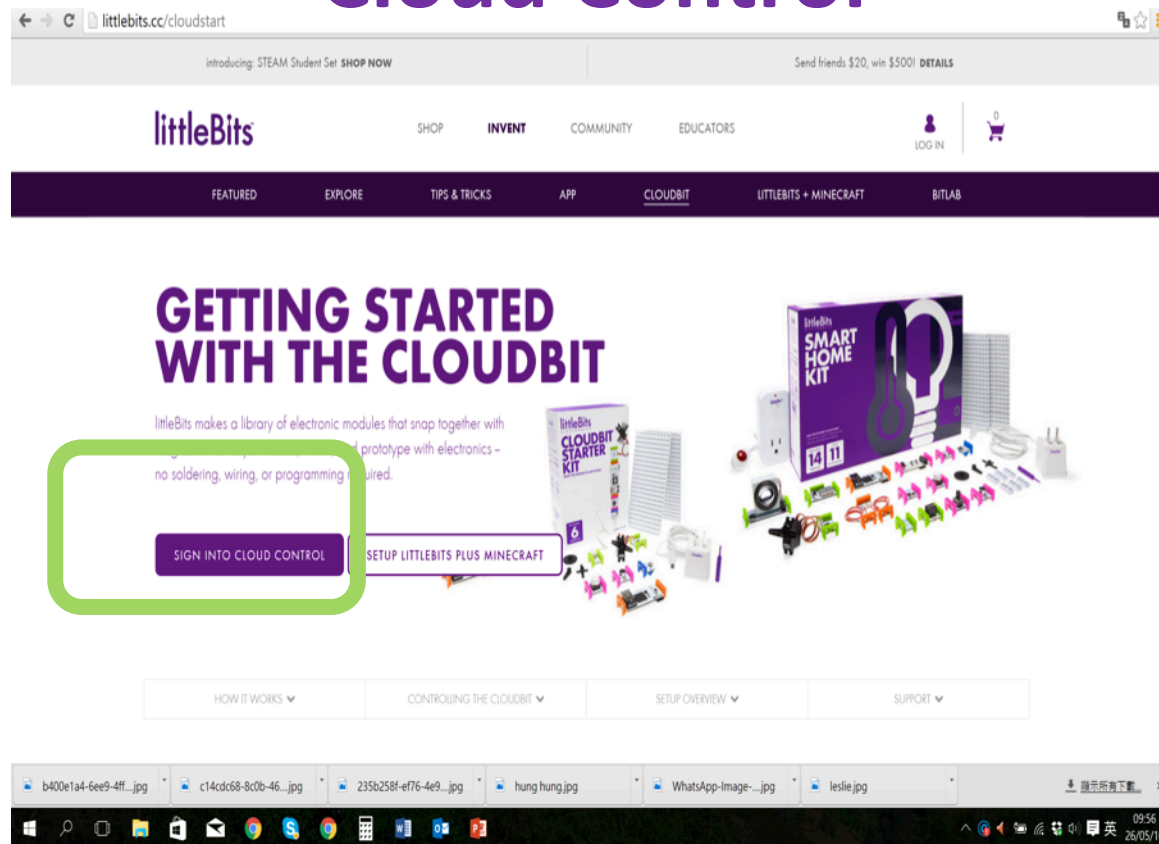
IF THIS THEN THAT/IFTTT

LITTLEBITS API

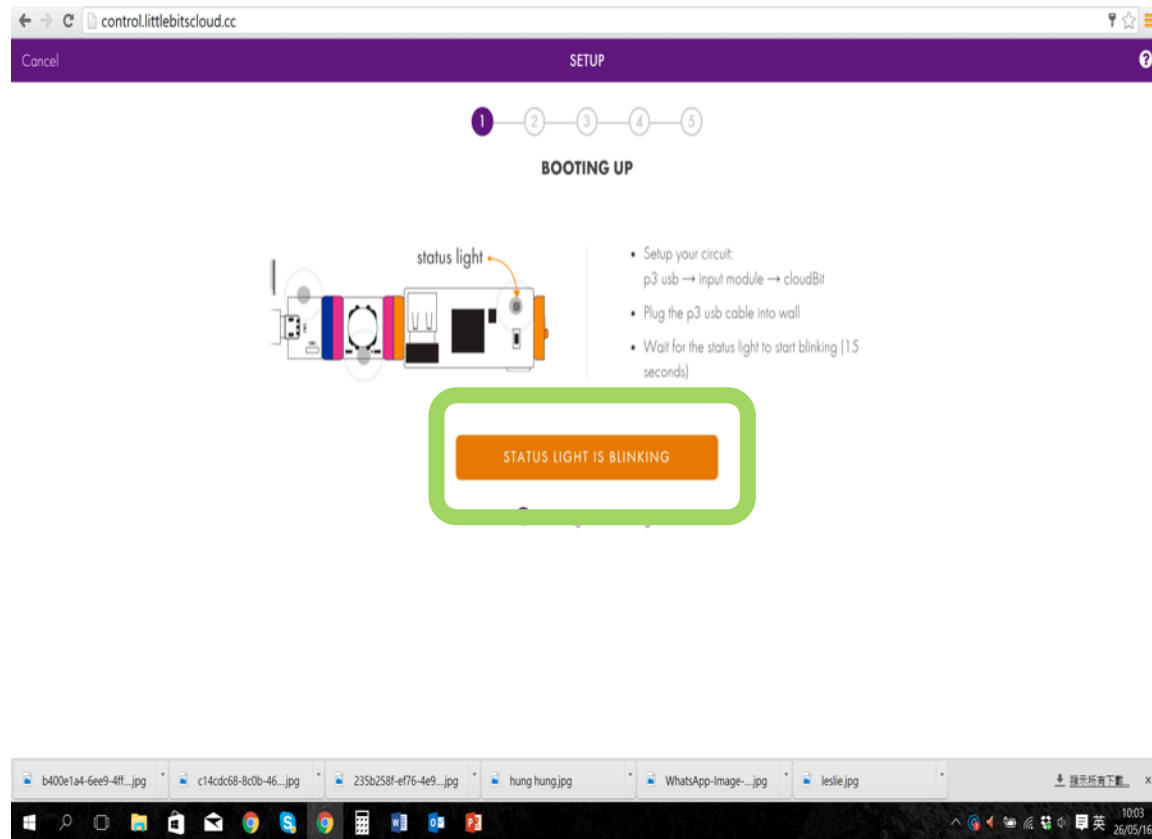
<http://developers.littlebitscloud.cc/>



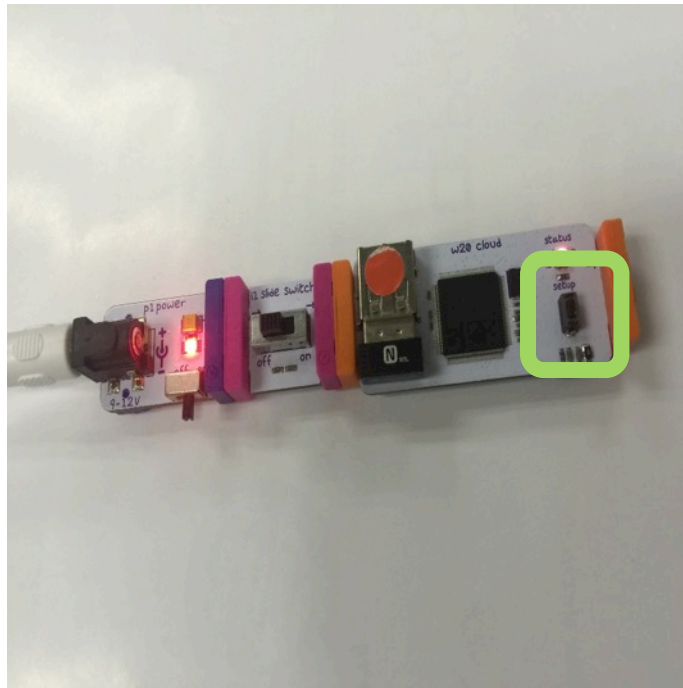
1. Go to littleBits' **GETTING STARTED WITH THE CLOUDBIT** site and choose **Sign Into Cloud Control**



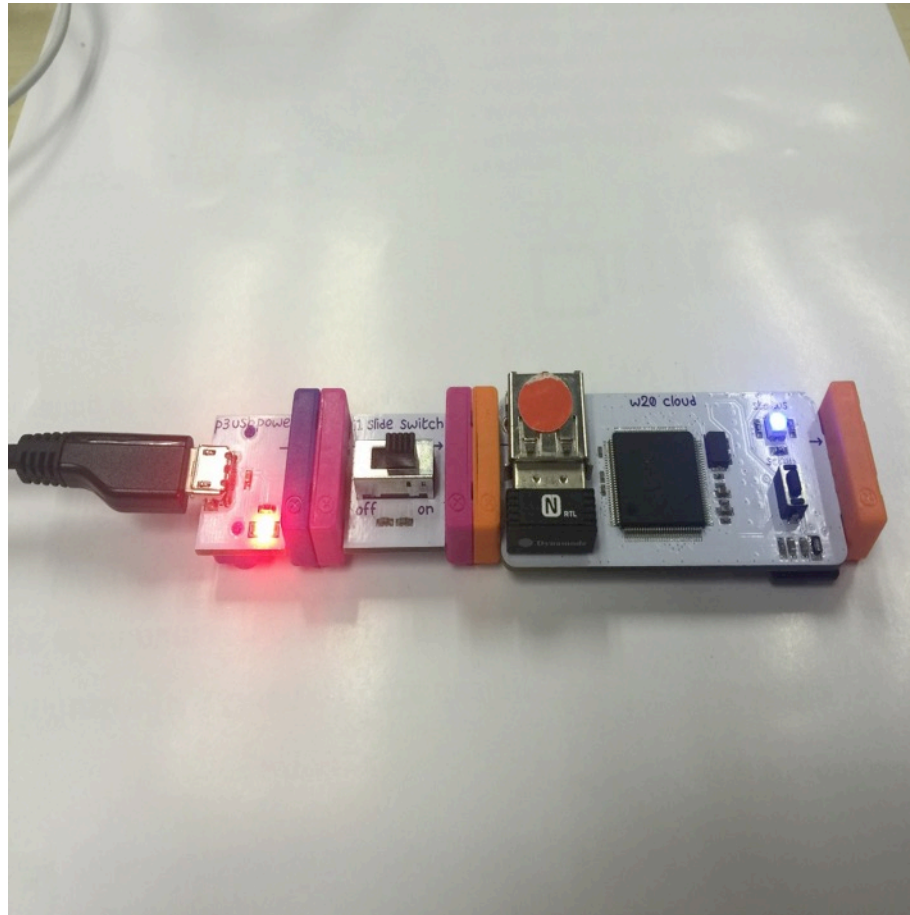
2. You should see this page, click **STATUS LIGHT IS BLINKING**



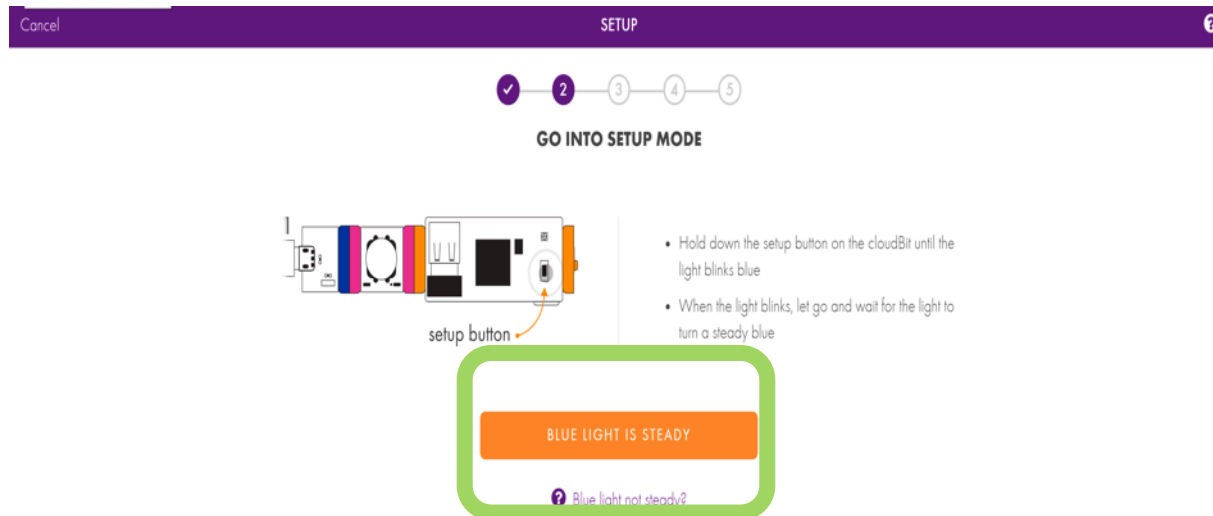
3. Connect your cloud bit to a USB power and press hold the button



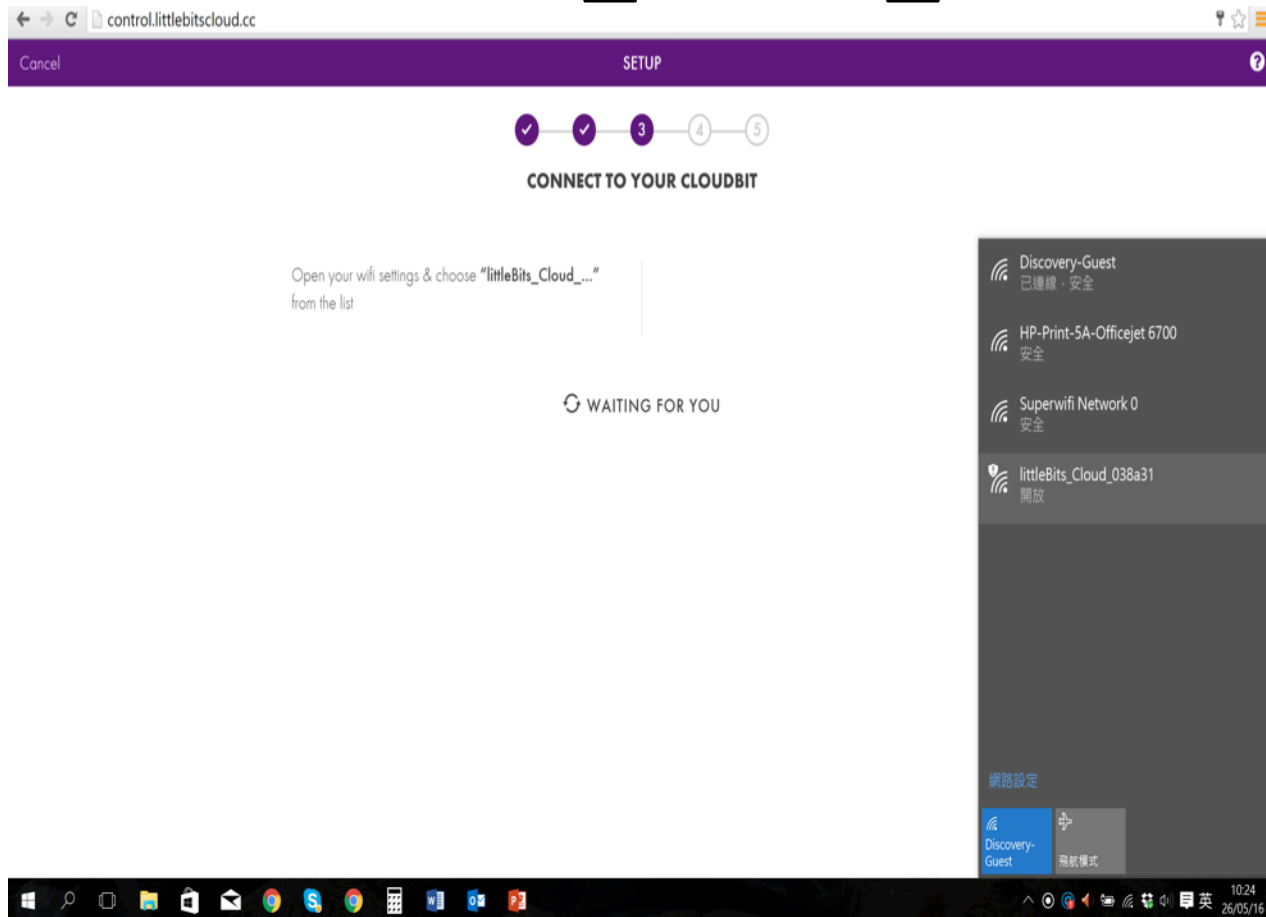
4. Stop pressing until you see a steady blue light



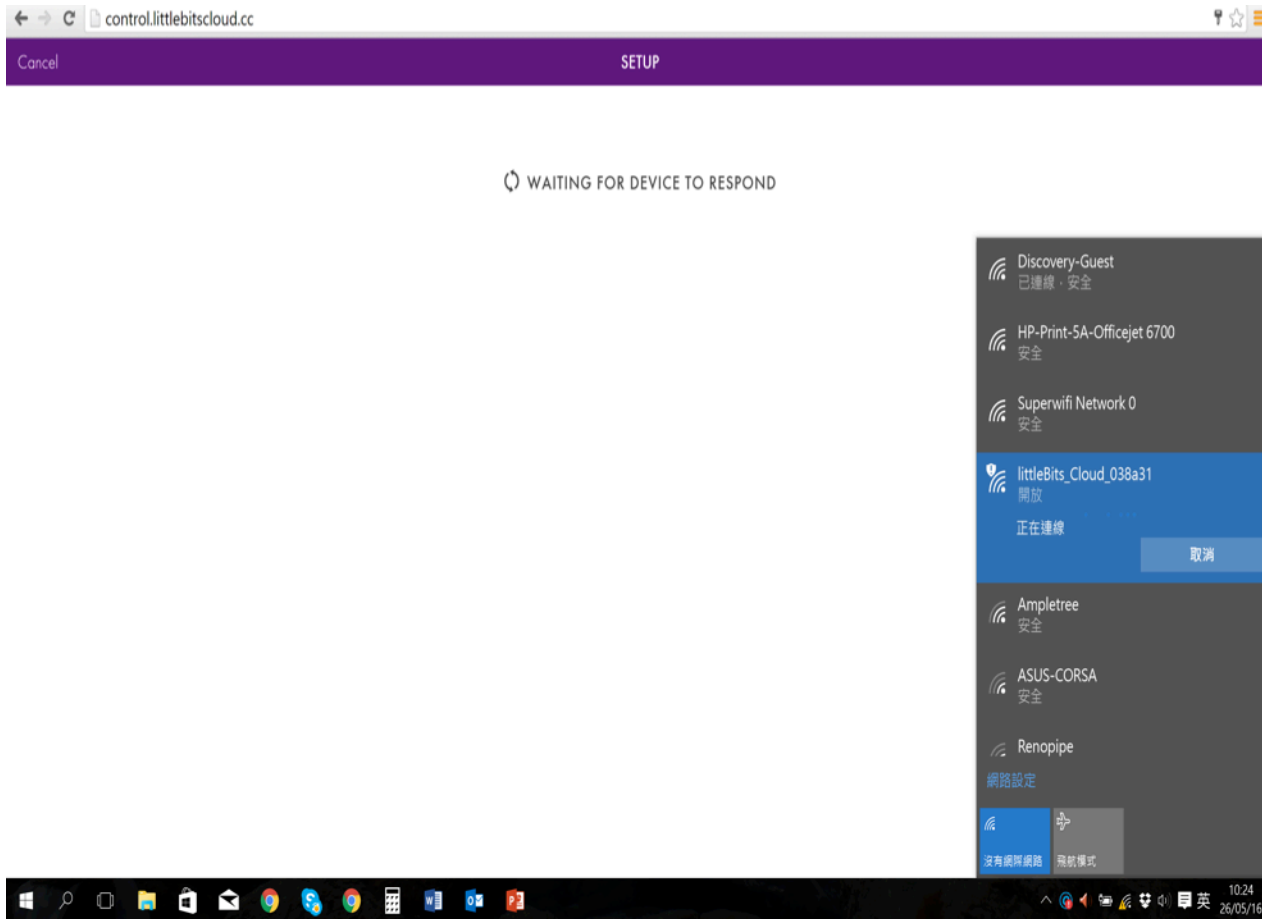
5. Press the **BLUE LIGHT IS STEADY** button



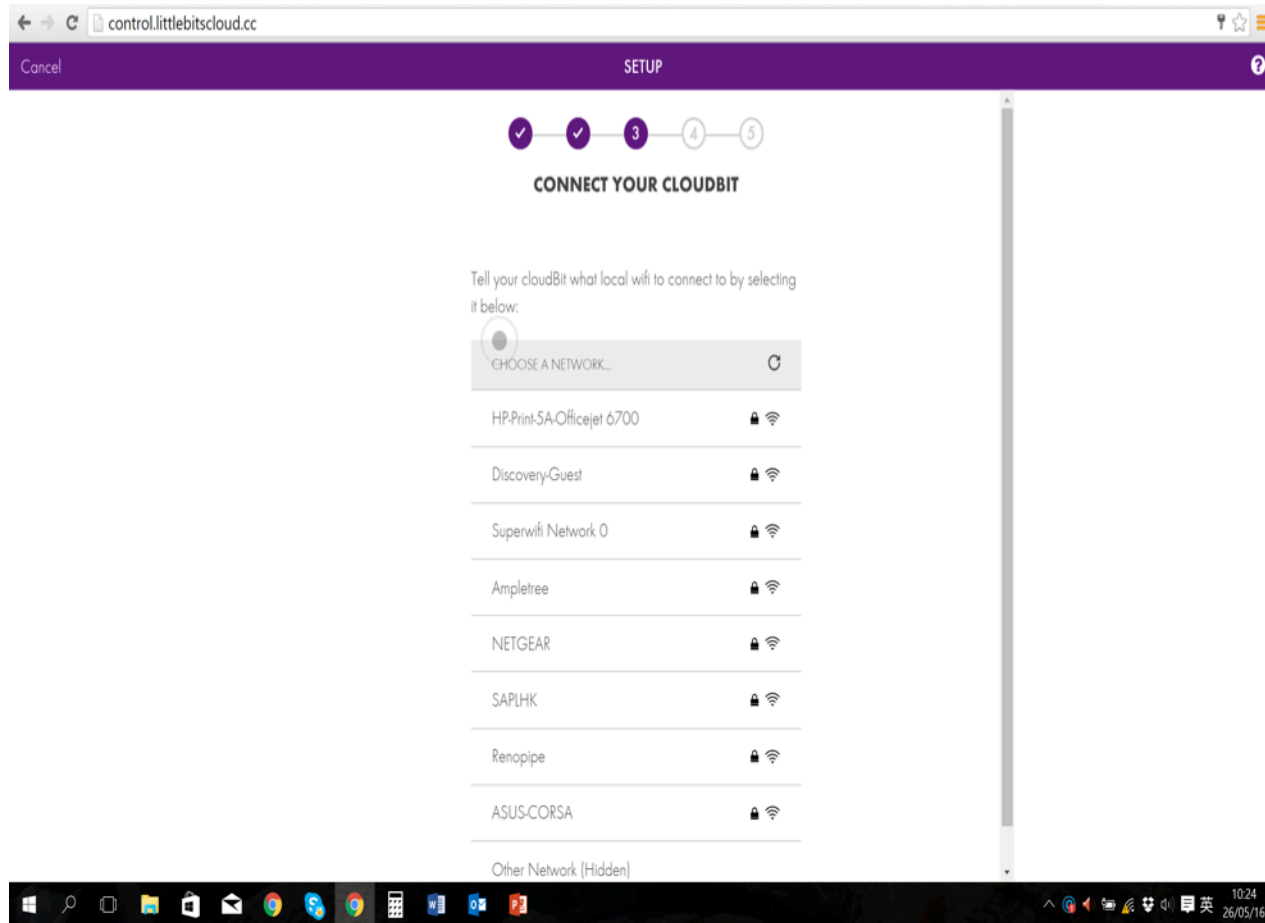
6. Open your wifi setting & choose littleBits_Cloud_.....



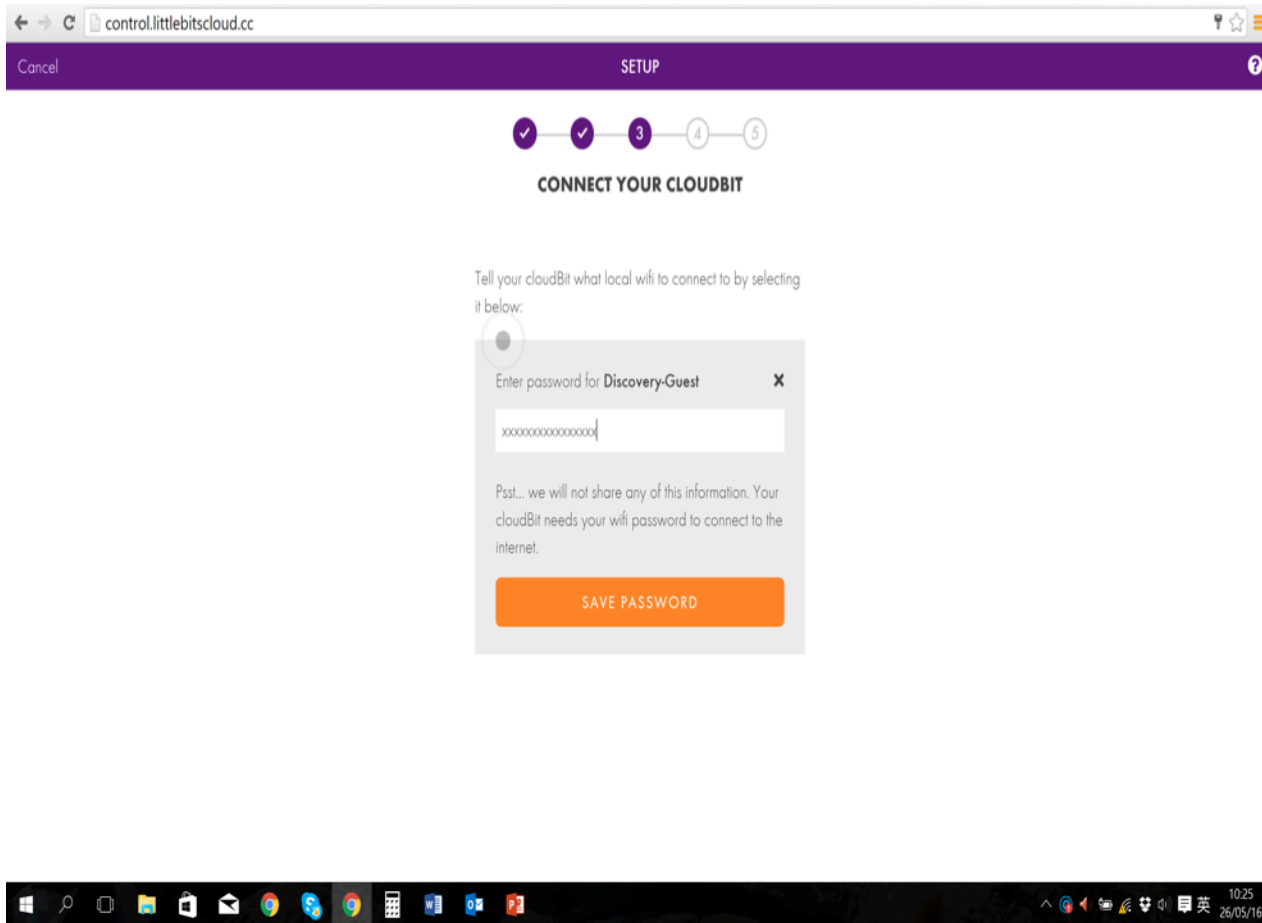
7. Wait



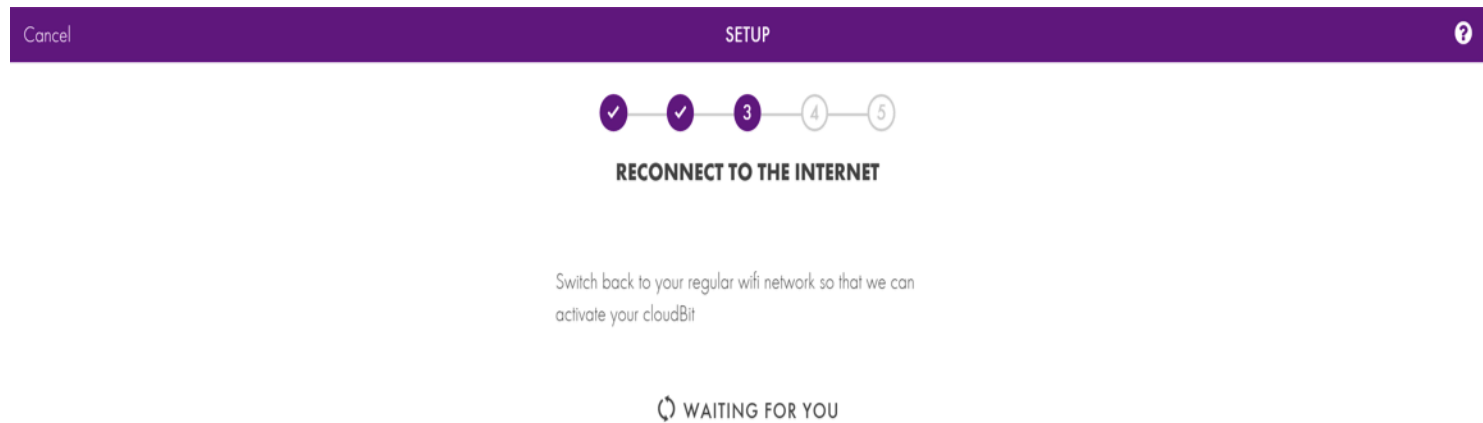
8. Then choose your original network



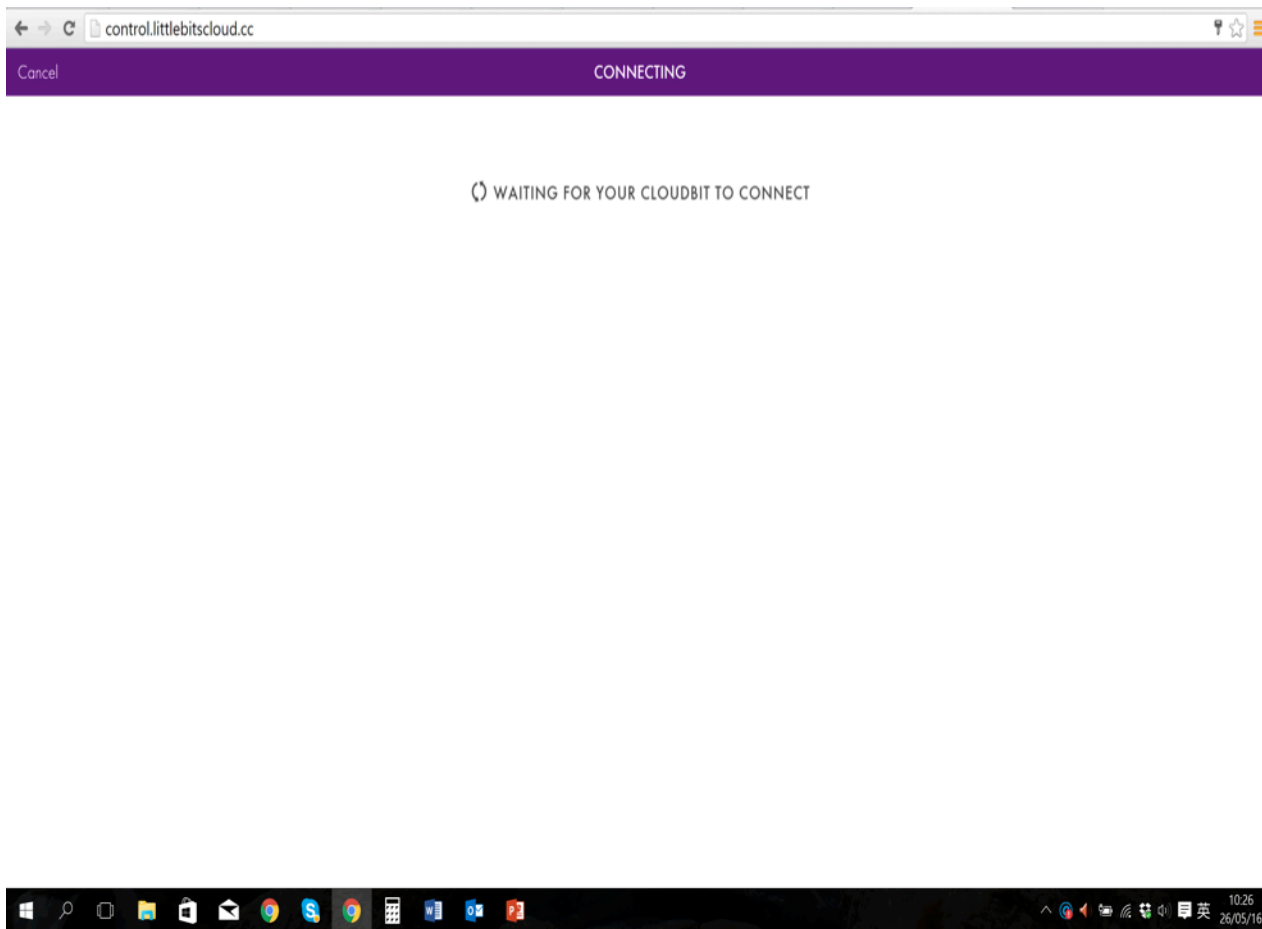
9. And login



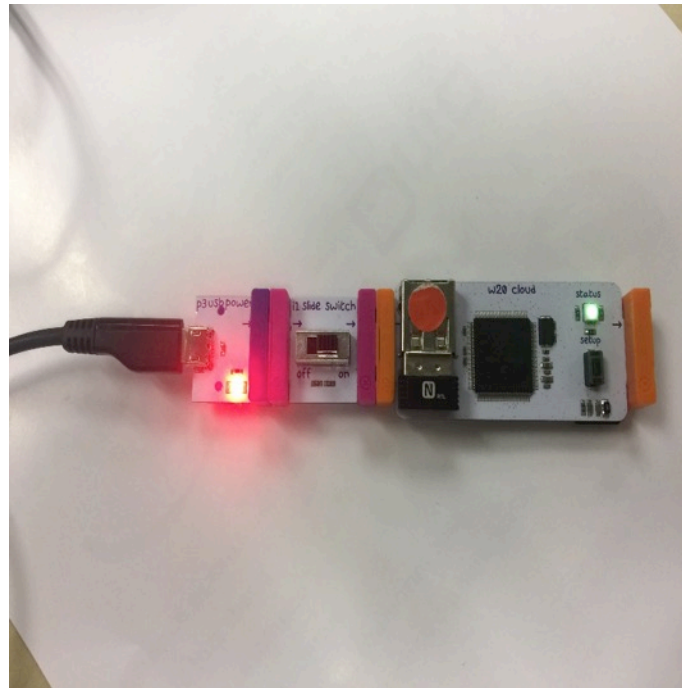
10. You should then see this page



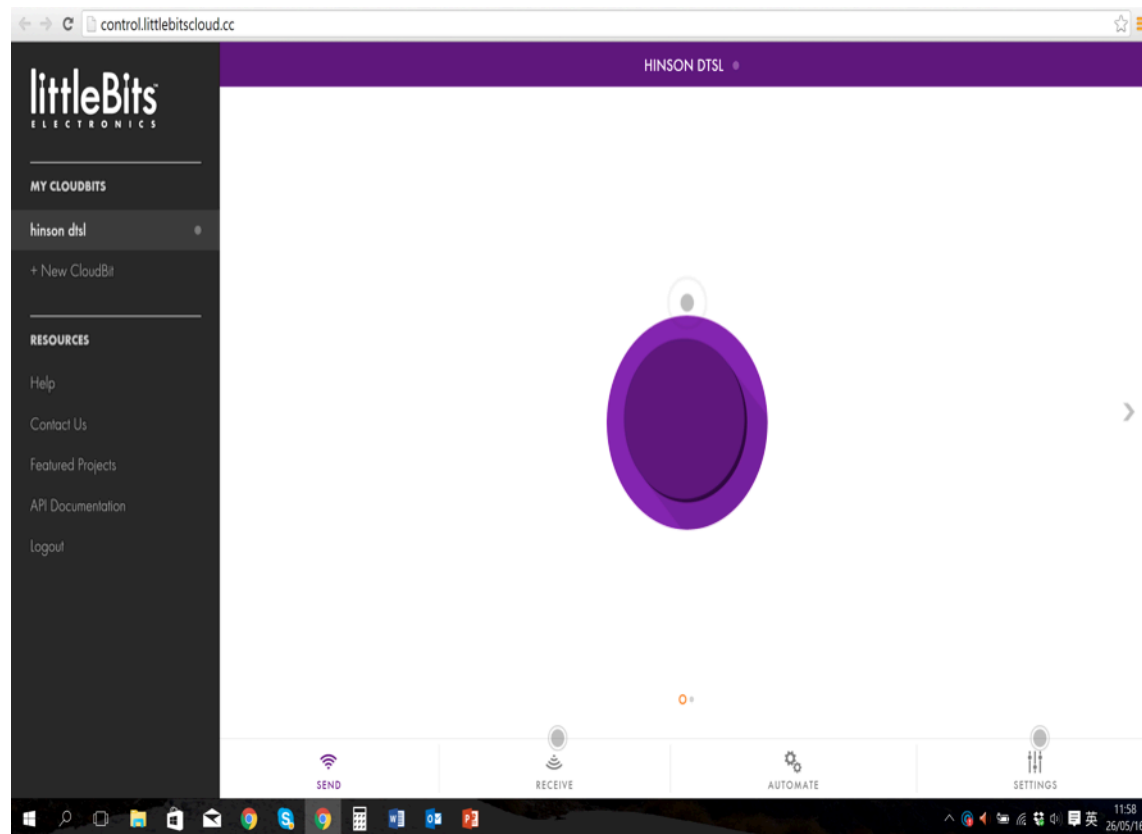
11. Then this page



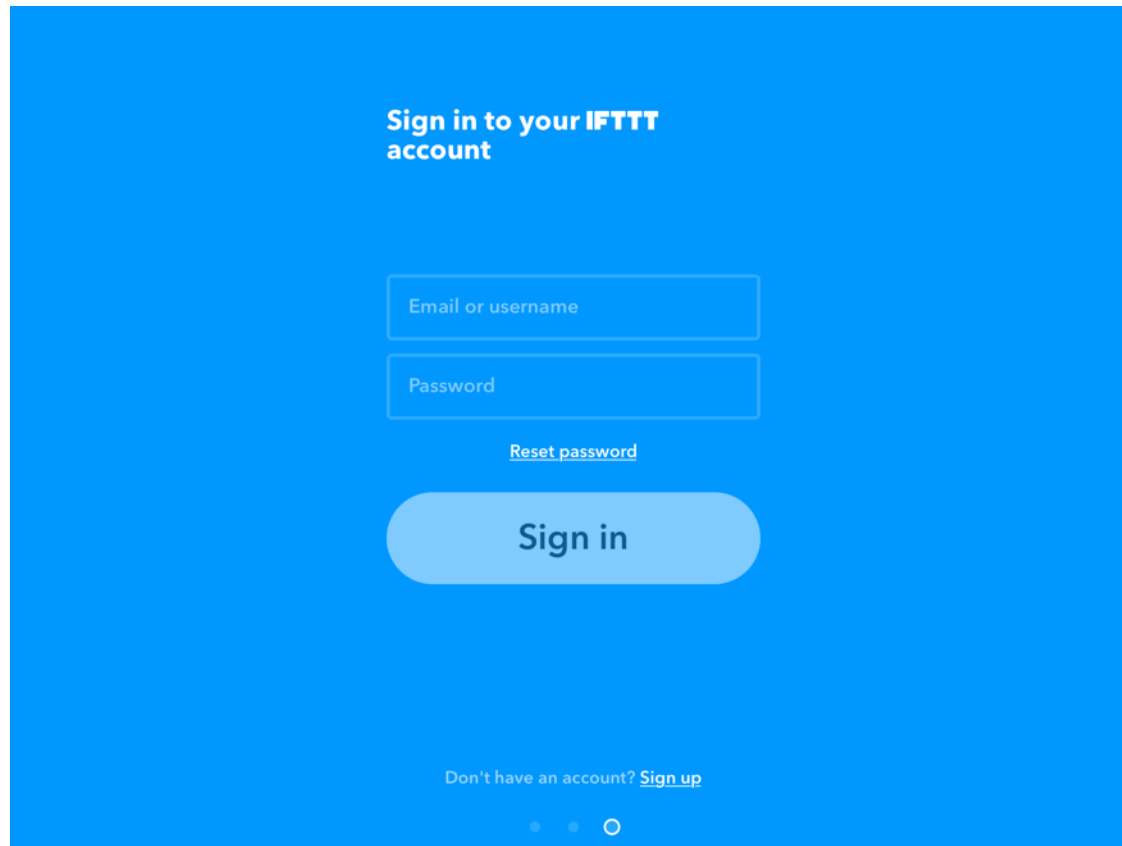
12. After a while your light should turn green



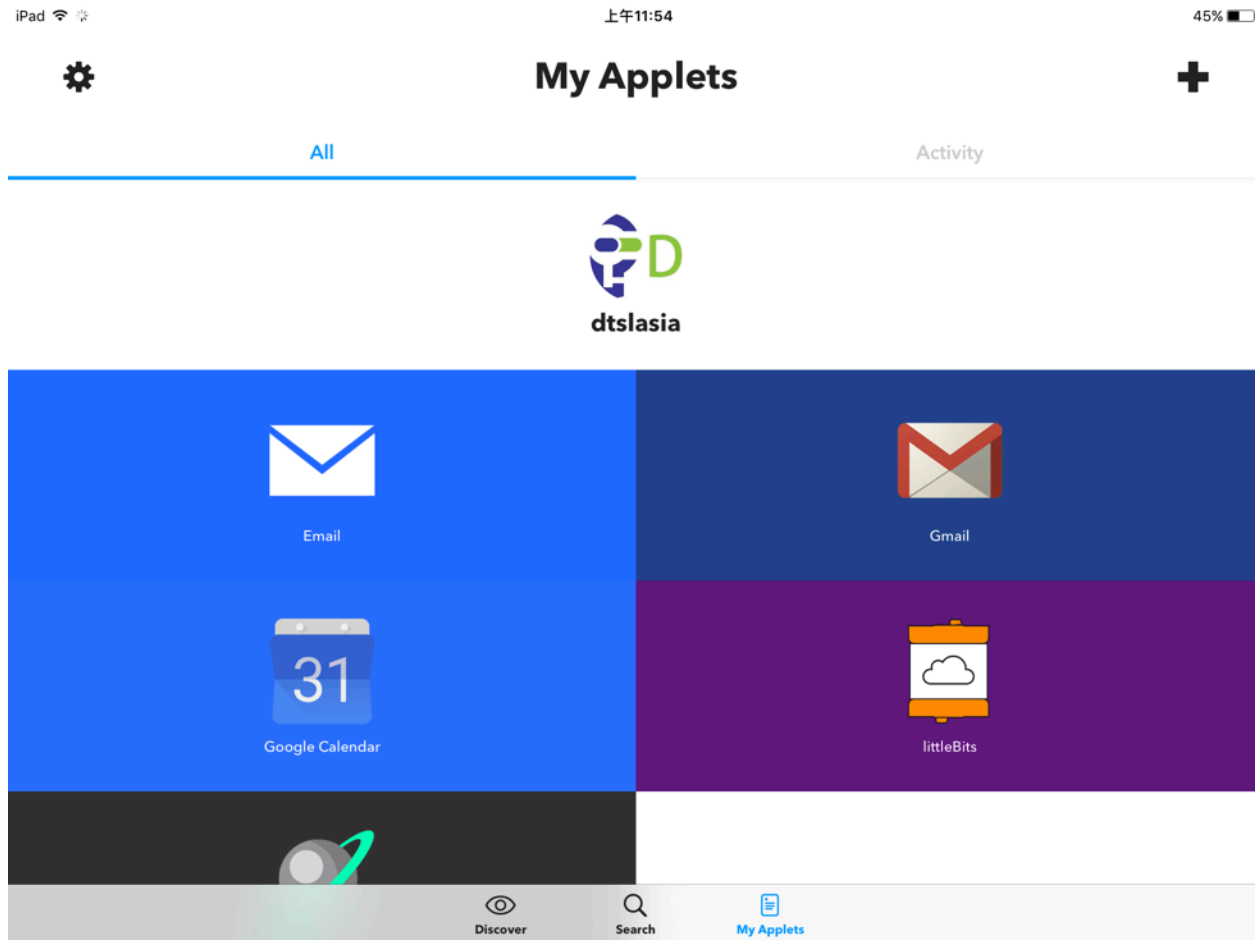
13. And the webpage will refer you back to this. This means you have setup your CLOUDBIT correctly



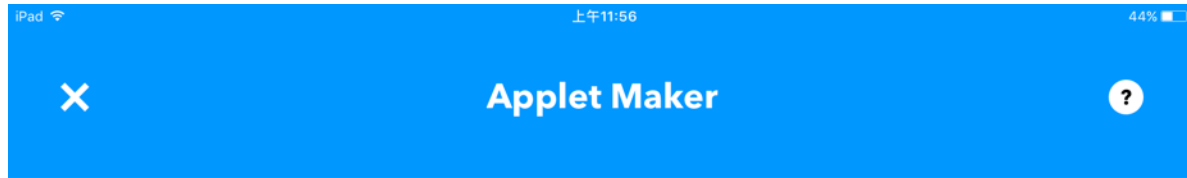
14. Now go to IFTTT App on your iPad/
Android tablet and sign in

The image shows the IFTTT sign-in interface on a blue background. At the top, the text "Sign in to your IFTTT account" is displayed. Below this are two input fields: "Email or username" and "Password". A link for "Reset password" is positioned between the two fields. A large, rounded "Sign in" button is centered below the fields. At the bottom, there is a link for "Don't have an account? Sign up" and a small progress indicator consisting of three dots, with the third dot being active.

15. Click My Applets and +



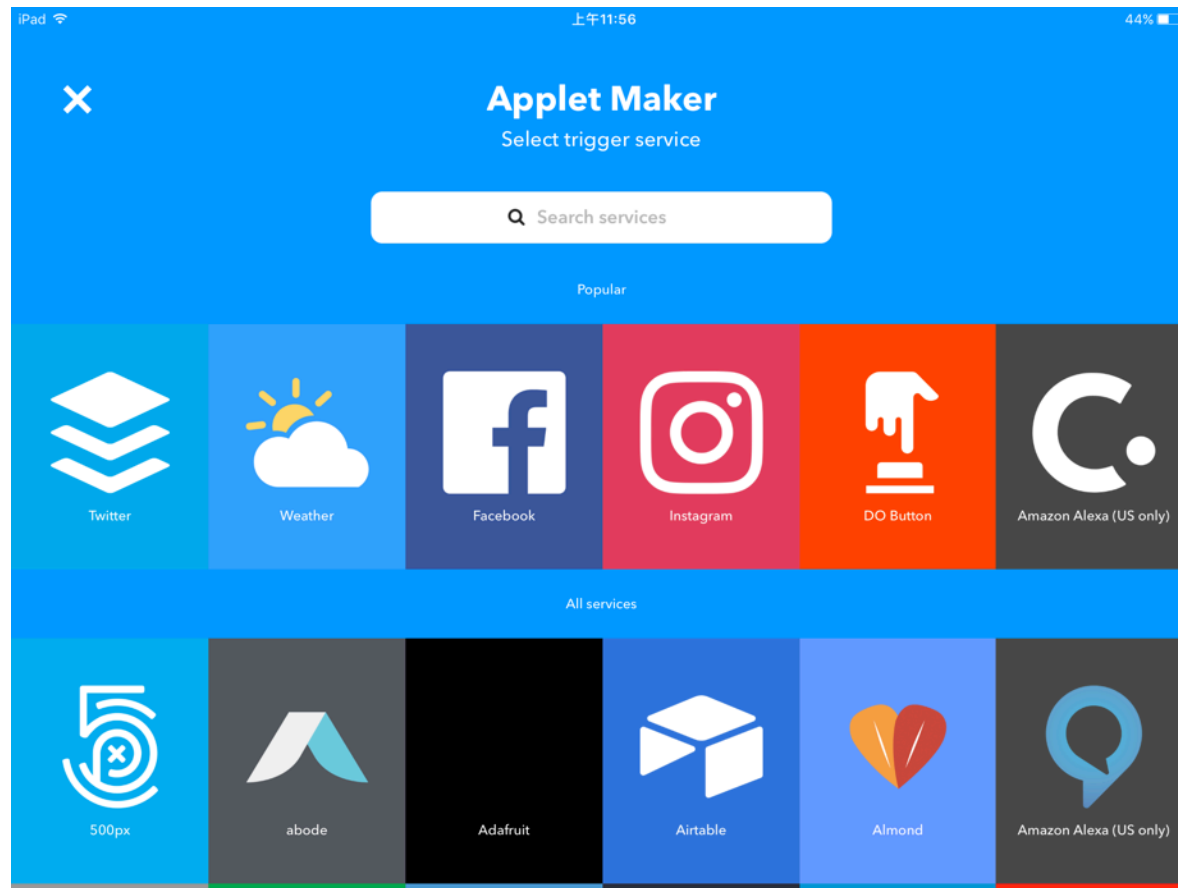
16. In Applet Maker, Click this



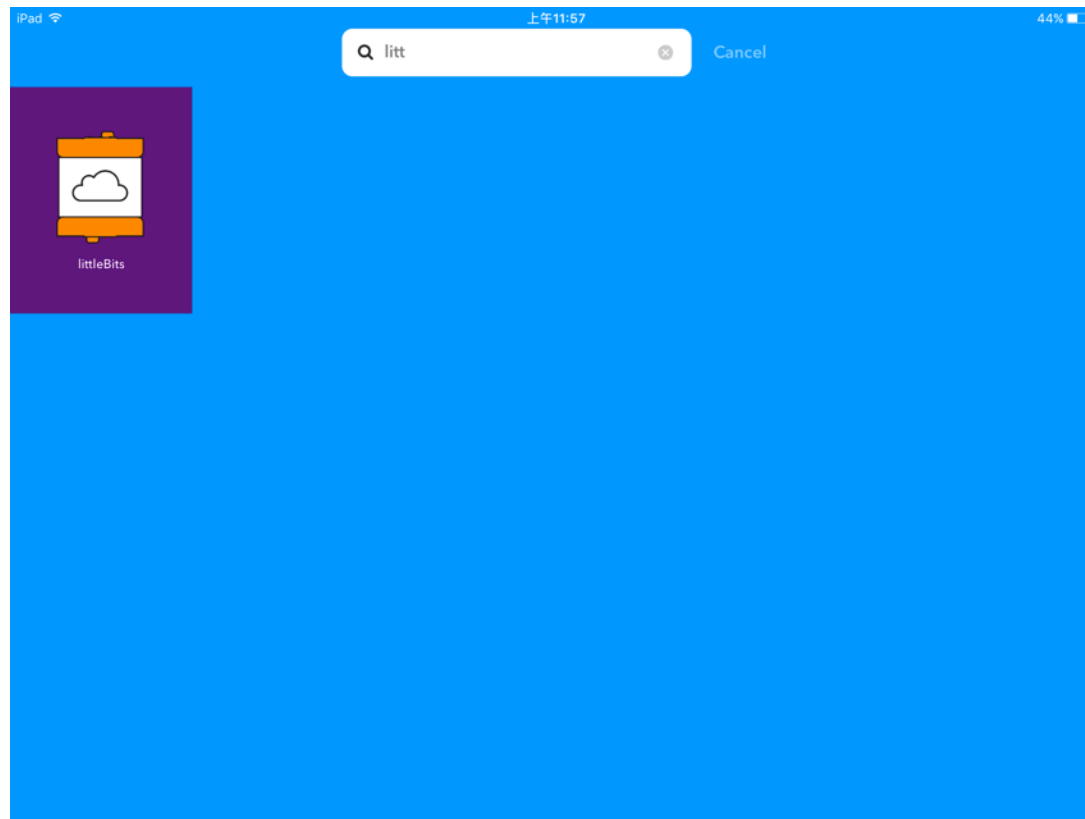
if
 **this**
then
that

Want to build even richer Applets?

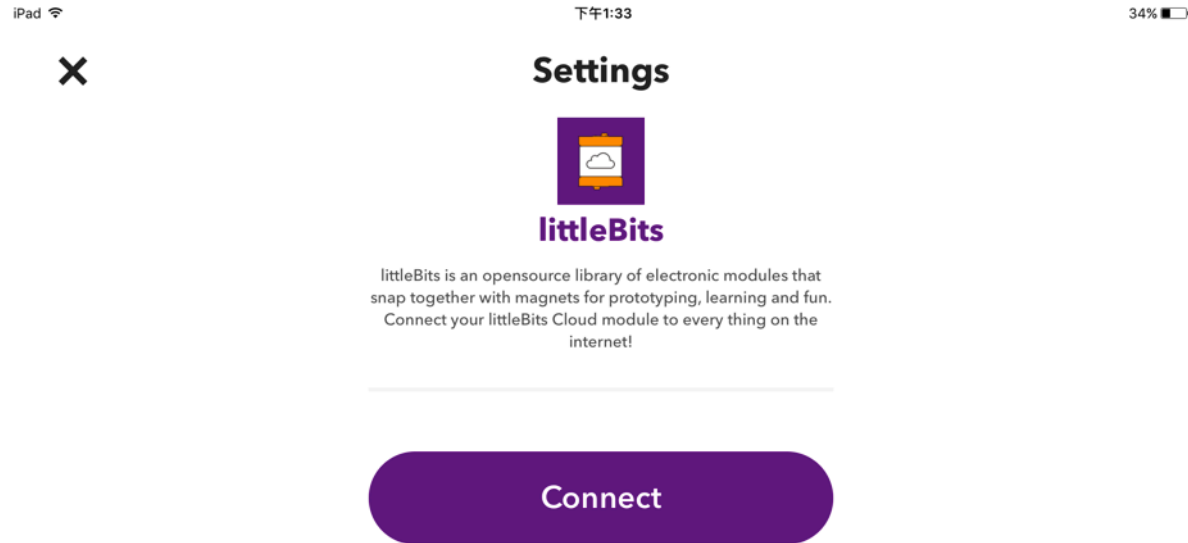
17. Type in littleBits then click the icon



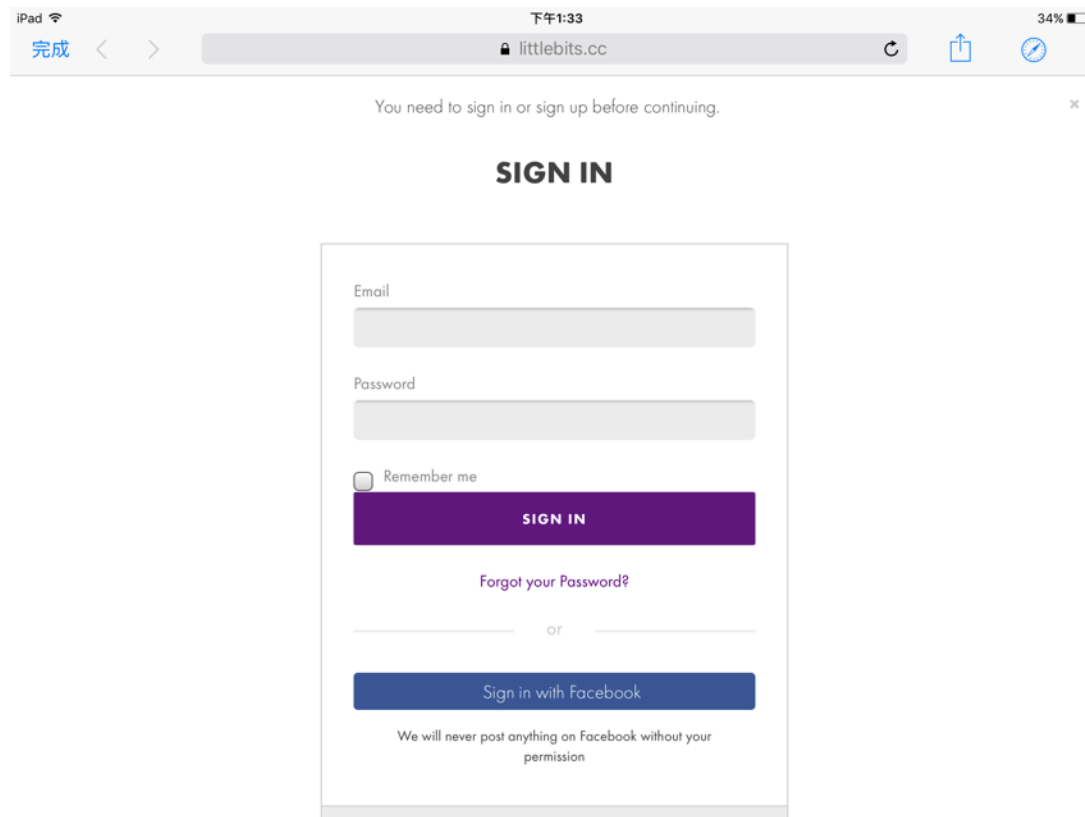
18. Type in littleBits then click the icon



19. Choose Connect then choose Authorize



20. Login with your littleBits.cc username and password to authorize



The screenshot shows the login page of littleBits.cc on an iPad. The status bar at the top indicates the time is 下午1:33 and the battery is at 34%. The browser address bar shows the URL littlebits.cc. Below the address bar, a message states: "You need to sign in or sign up before continuing." The main heading is "SIGN IN". The login form includes an "Email" input field, a "Password" input field, and a "Remember me" checkbox. A purple "SIGN IN" button is positioned below the password field. A link for "Forgot your Password?" is located below the "SIGN IN" button. A horizontal separator line with the word "or" in the center is below the password reset link. A blue "Sign in with Facebook" button is positioned below the separator. At the bottom of the form, a disclaimer reads: "We will never post anything on Facebook without your permission".

iPad 下午1:33 34%

完成 < > littlebits.cc

You need to sign in or sign up before continuing.

SIGN IN

Email

Password

☐ Remember me

SIGN IN

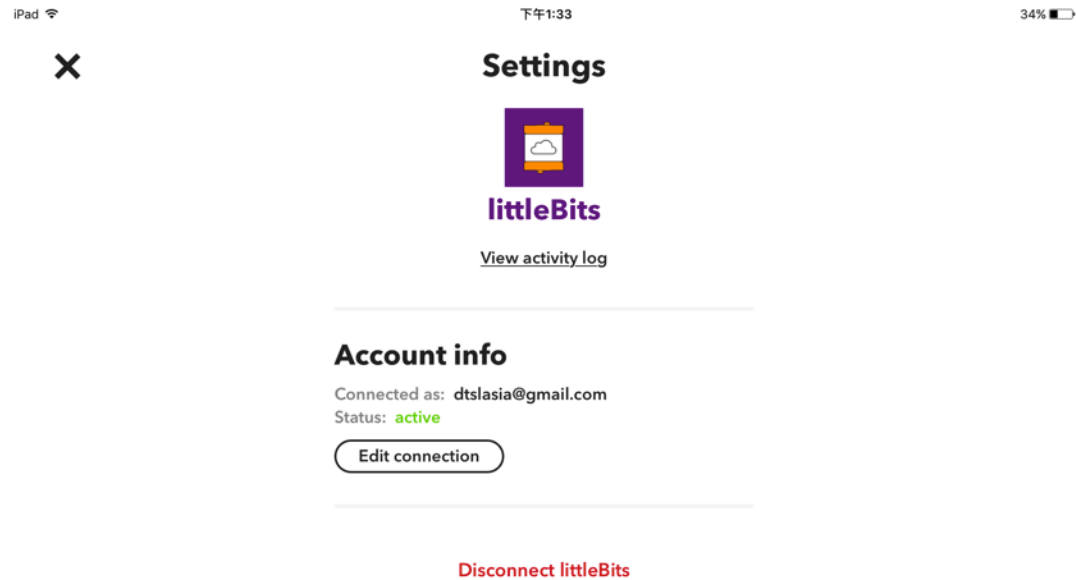
[Forgot your Password?](#)

or

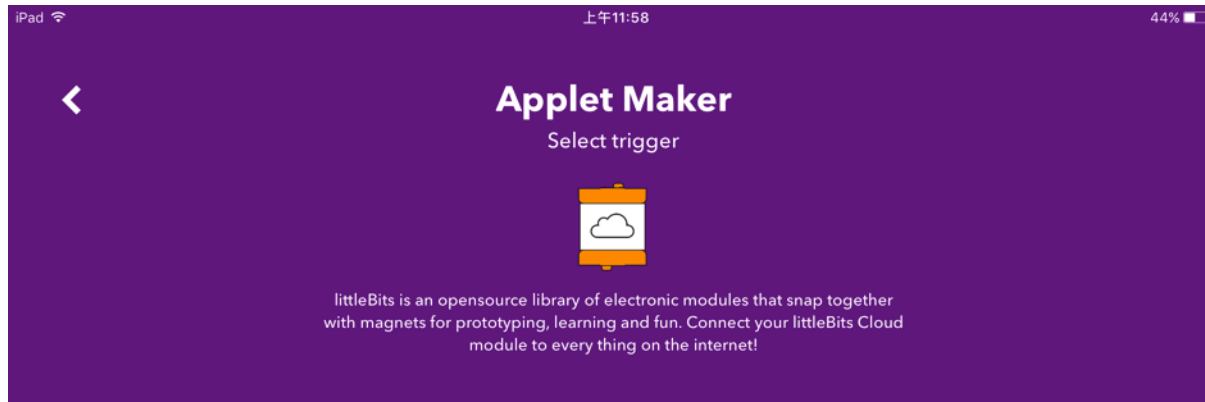
[Sign in with Facebook](#)

We will never post anything on Facebook without your permission

21. If you see this, then you can find your CLOUDBIT in IFTTT



22. Choose Turned On

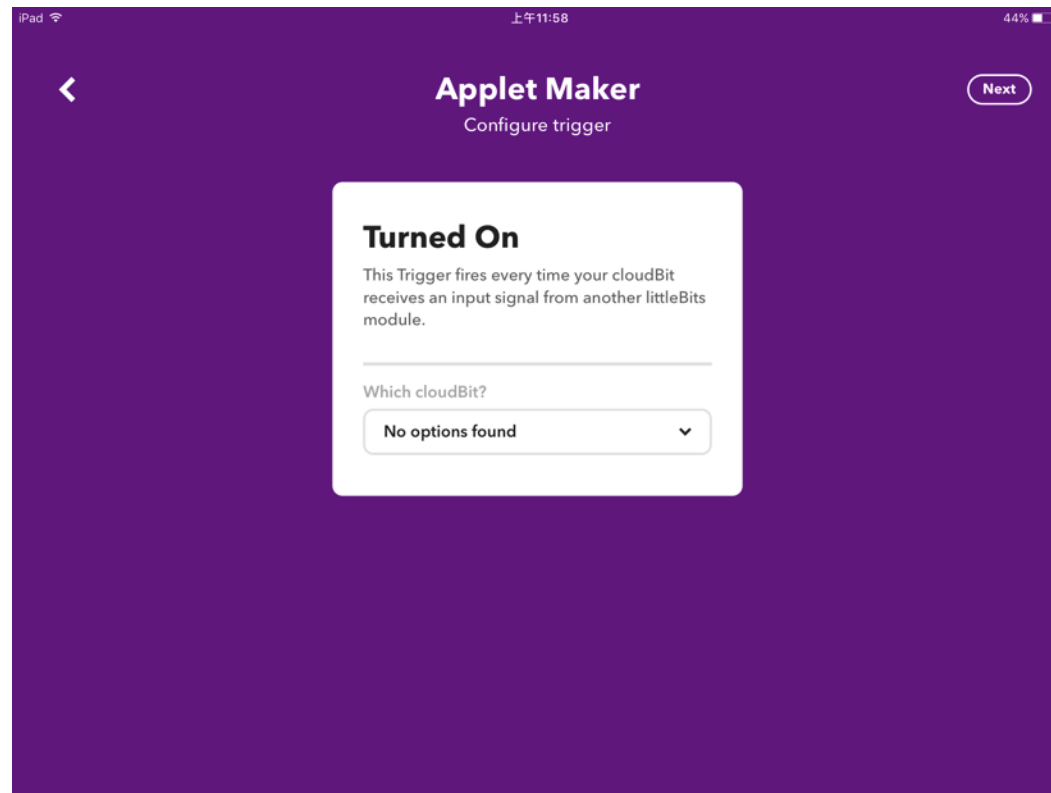


Choose trigger

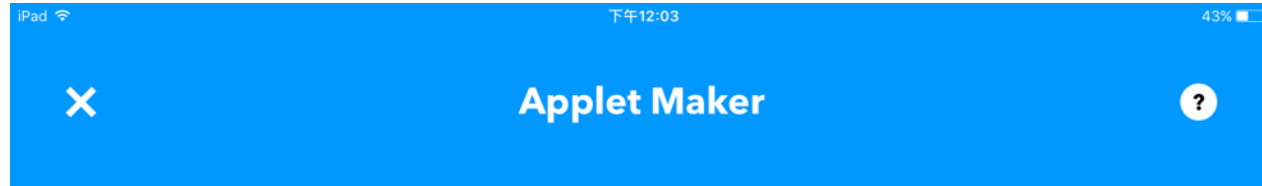
Turned On

Turned Off

23. Choose your CloudBit



24. Now choose that

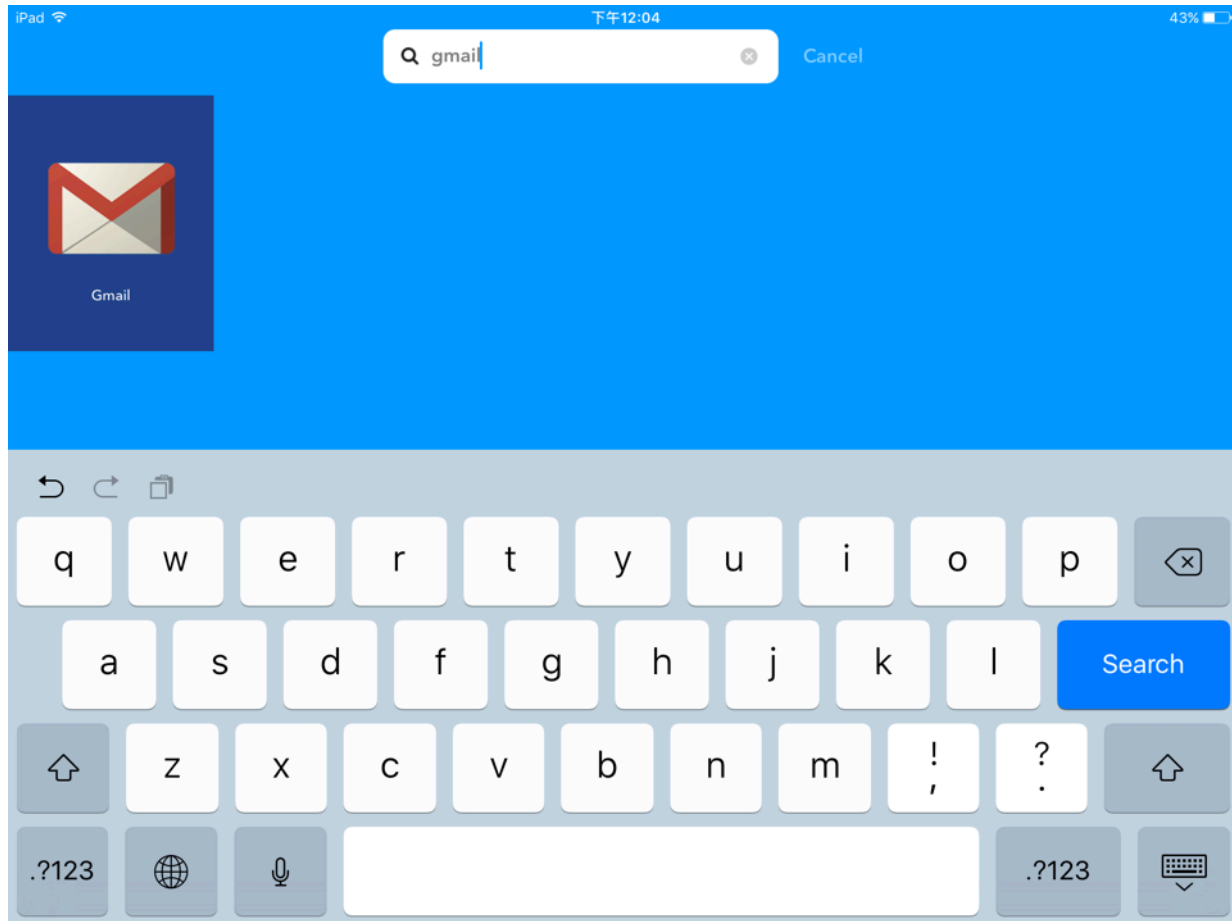


if

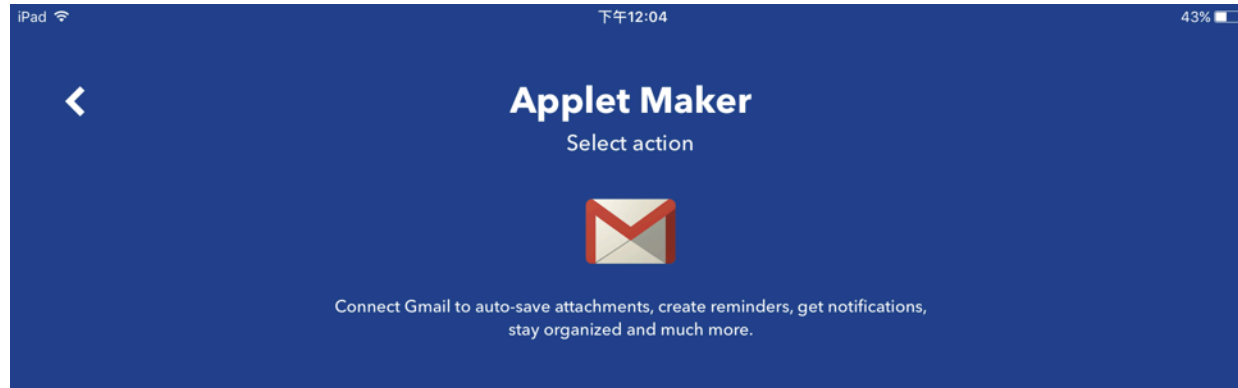
then
 that

[Want to build even richer Applets?](#)

25. Type and choose Gmail



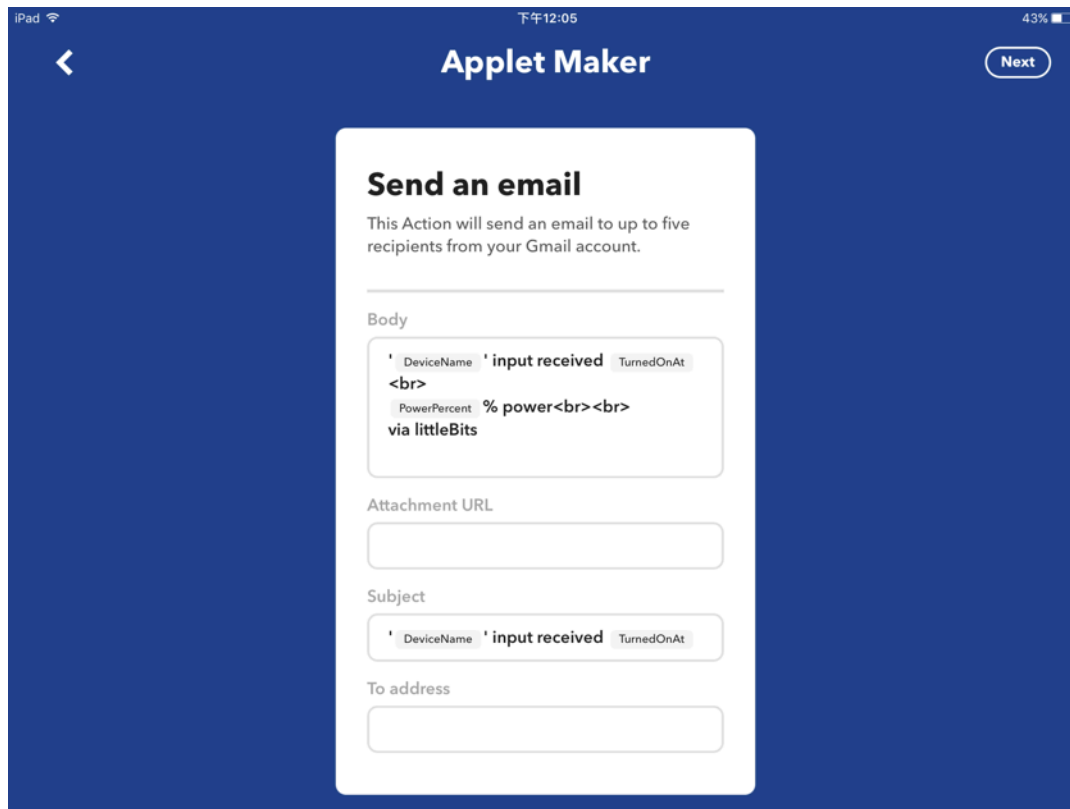
26. Choose **Send an Email**



Choose action

Send an email

27. Type in your email address and the message you want to see when someone presses the input button then press **Next**



The screenshot shows the 'Applet Maker' interface on an iPad. The title bar at the top is dark blue with a back arrow on the left, the text 'Applet Maker' in the center, and a 'Next' button on the right. The main content area is white and titled 'Send an email'. Below the title, it says 'This Action will send an email to up to five recipients from your Gmail account.' The 'Body' section contains a text area with the following content: `' DeviceName ' input received ' TurnedOnAt

' PowerPercent % power

via littleBits`. Below the body is an 'Attachment URL' field. The 'Subject' section contains a text area with the following content: `' DeviceName ' input received ' TurnedOnAt`. The 'To address' section contains an empty text field.

iPad 下午12:05 43%

Applet Maker Next

Send an email

This Action will send an email to up to five recipients from your Gmail account.

Body

' DeviceName ' input received ' TurnedOnAt

' PowerPercent % power

via littleBits

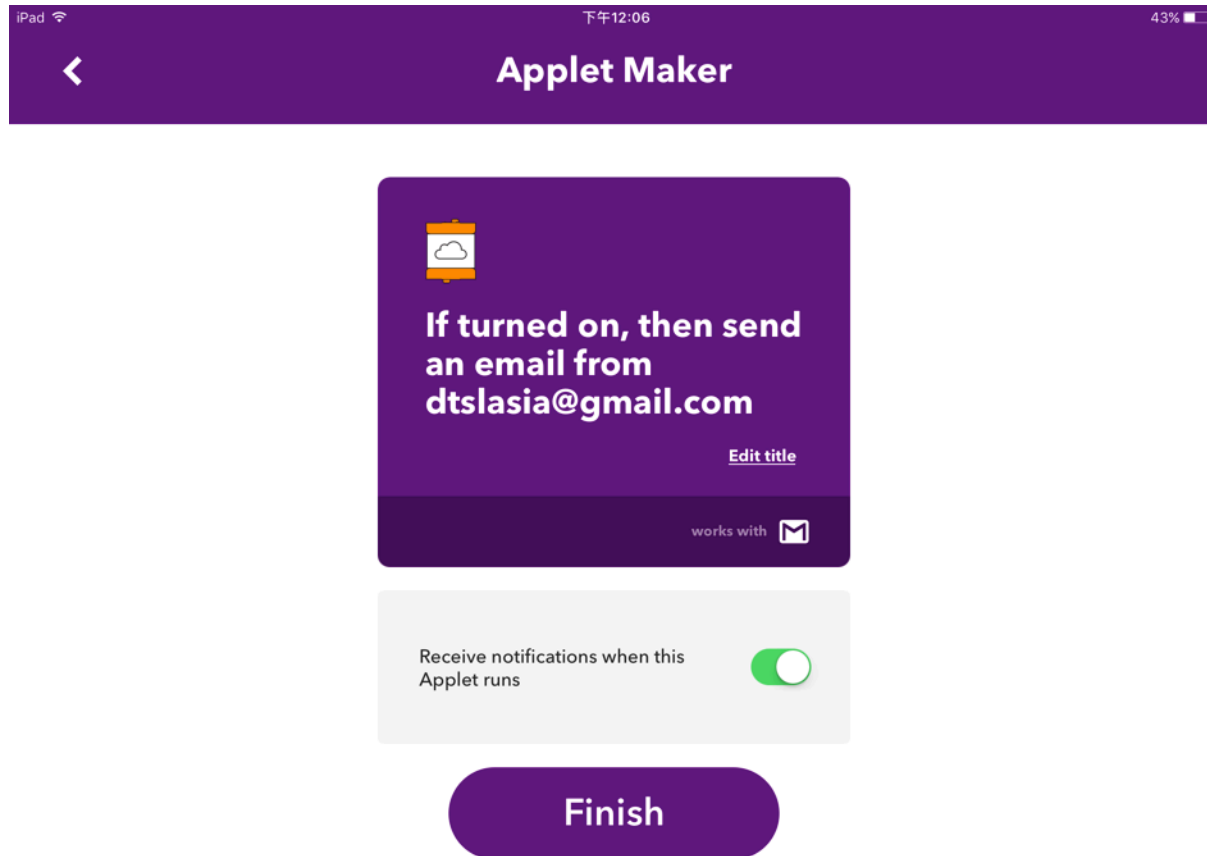
Attachment URL

Subject

' DeviceName ' input received ' TurnedOnAt

To address

28. Check and click **Finish**

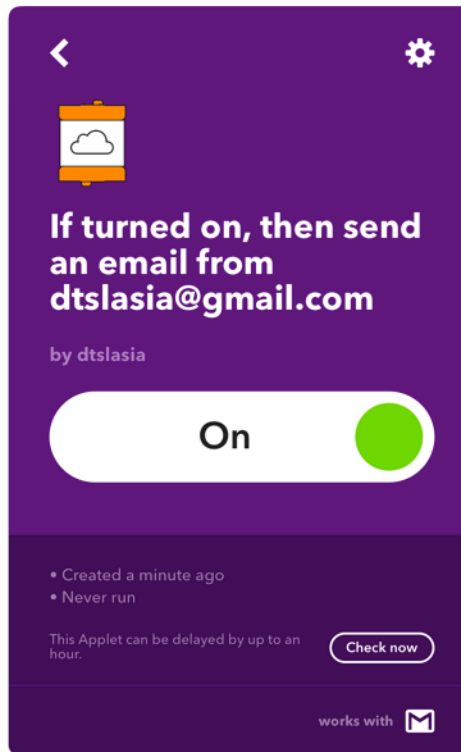


29. You've set up a new Applet

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43%



Applet ID 44297178d