

HONG KONG PRODUCT DESIGN MAKEATHON 2017-2018

全港中小學產品設計大賽2017-2018

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第六場工作坊 18 Nov 2017

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：

- 智能家居、穿戴科技、衛生保健或復康產品

比賽日程：

- 2017年9月至2018年5月

活動簡介會：

- 2017年9月23日 地點：理工大學Z205室
時間：下午2時至4時

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-2017/>

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



贊助機構

littleBits

brother.
at your side



TINKERINE™

支持機構（排名不分先後）

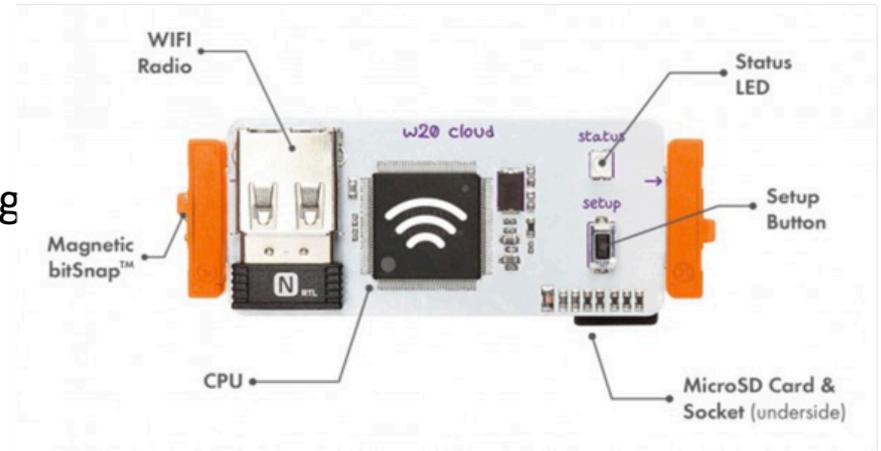
iTLE 資訊科技教育領袖協會
Association of I.T. Leaders in Education



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

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

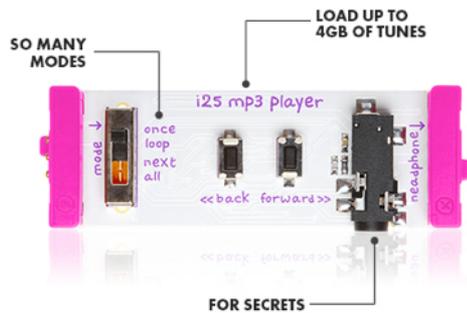


AC & IR

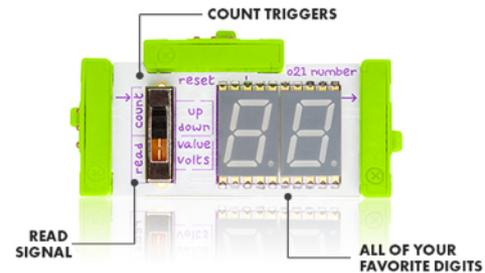


PAIR THE AC SWITCH WITH THE IR TRANSMITTER TO CONTROL ANY HOUSEHOLD OUTLET

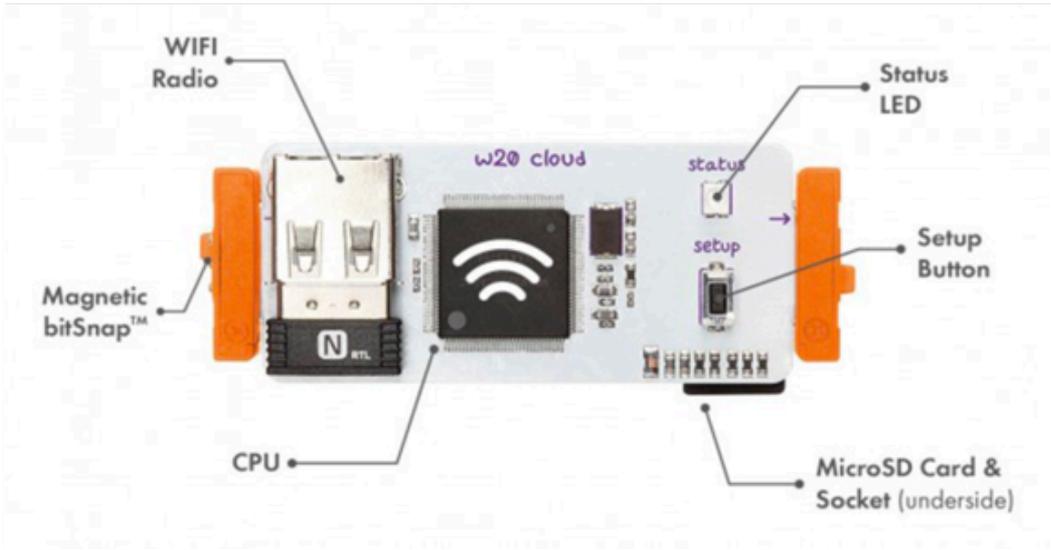
MP3 PLAYER



NUMBER



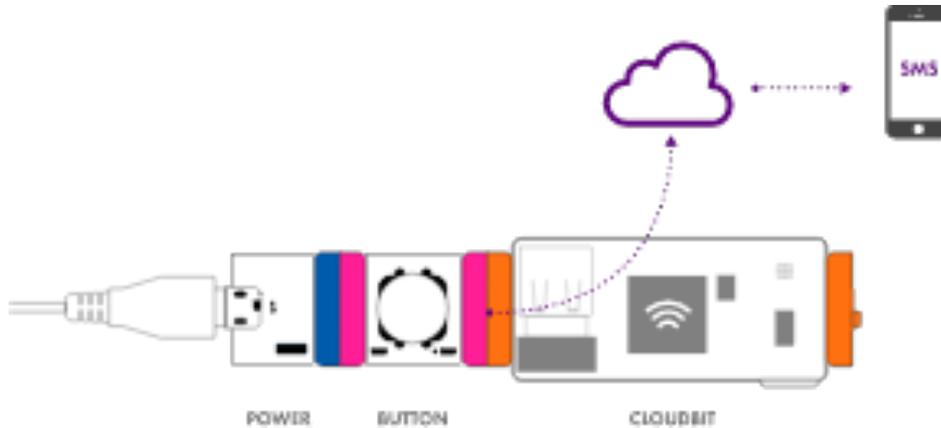
littleBits CloudBit Starter Kit



How the Cloudbit Works

Input: From Bit to Web

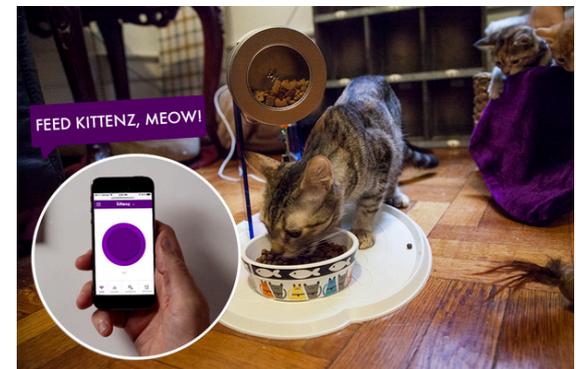
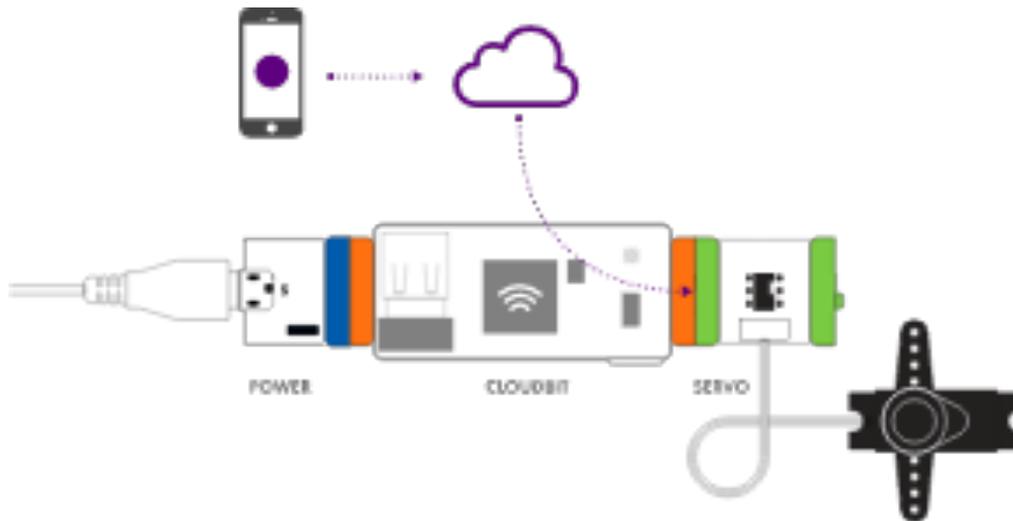
The cloudBit acts as an input by receiving signal from your littleBits circuit and sending it to the internet.



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

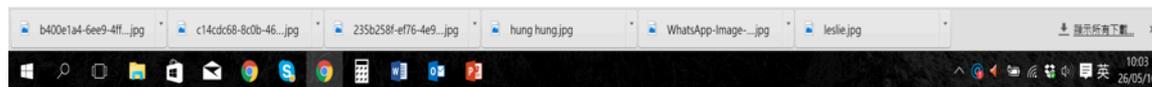
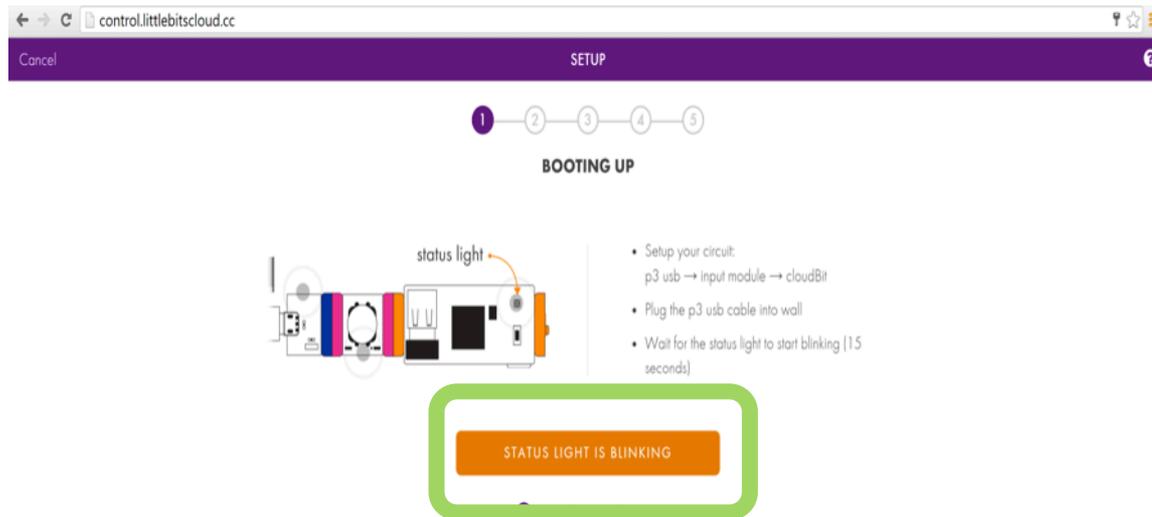
<http://developers.littlebitscloud.cc/>



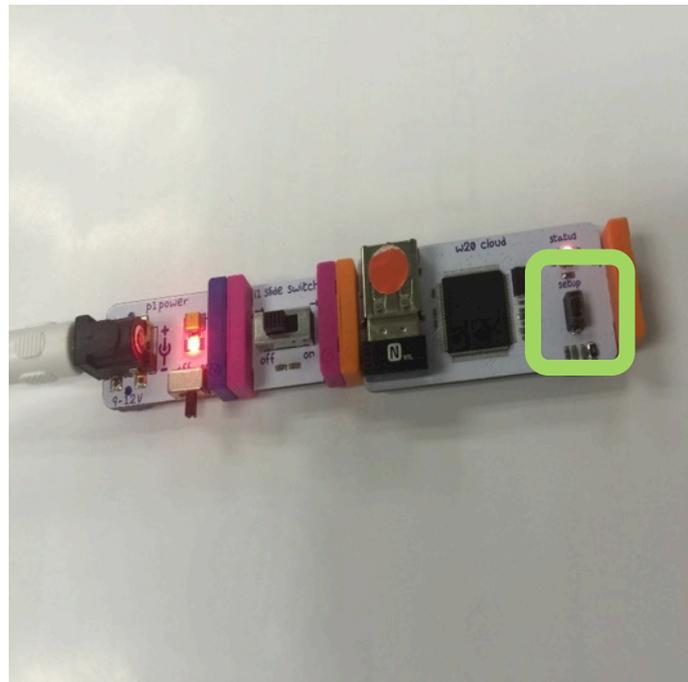
1. Go to littleBits' **GETTING STARTED WITH THE CLOUDBIT** site and choose **Sign Into Cloud Control**

The screenshot shows the littleBits website at the URL littlebits.cc/cloudstart. The page features a navigation bar with links for SHOP, INVENT, COMMUNITY, EDUCATORS, LOG IN, and a shopping cart icon. Below the navigation bar is a dark purple banner with links for FEATURED, EXPLORE, TIPS & TRICKS, APP, CLODBIT, LITTLEBITS + MINECRAFT, and BITLAB. The main content area is titled "GETTING STARTED WITH THE CLODBIT" and includes a sub-header: "littleBits makes a library of electronic modules that snap together with... prototype with electronics - no soldering, wiring, or programming required." Two buttons are visible: "SIGN INTO CLOUD CONTROL" (highlighted with a green box) and "SETUP LITTLEBITS PLUS MINECRAFT". Below the buttons are four dropdown menus: "HOW IT WORKS", "CONTROLLING THE CLODBIT", "SETUP OVERVIEW", and "SUPPORT". The website also features images of the "littleBits CLODBIT STARTER KIT" and "littleBits SMART HOME KIT" boxes and their respective components. The browser's taskbar at the bottom shows several open tabs and the system tray with the date 26/05/16 and time 09:56.

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

Cancel SETUP ?

1 2 3 4 5

GO INTO SETUP MODE



setup button

- Hold down the setup button on the cloudBit until the light blinks blue
- When the light blinks, let go and wait for the light to turn a steady blue

BLUE LIGHT IS STEADY

? Blue light not steady?

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

control.littlebitscloud.cc

Cancel SETUP

1 2 3 4 5

CONNECT TO YOUR CLOUDBIT

Open your wifi settings & choose "littleBits_Cloud_..." from the list

WAITING FOR YOU

Discovery-Guest
已連線, 安全

HP-Print-5A-Officejet 6700
安全

Superwifi Network 0
安全

littleBits_Cloud_038a31
開放

網路設定

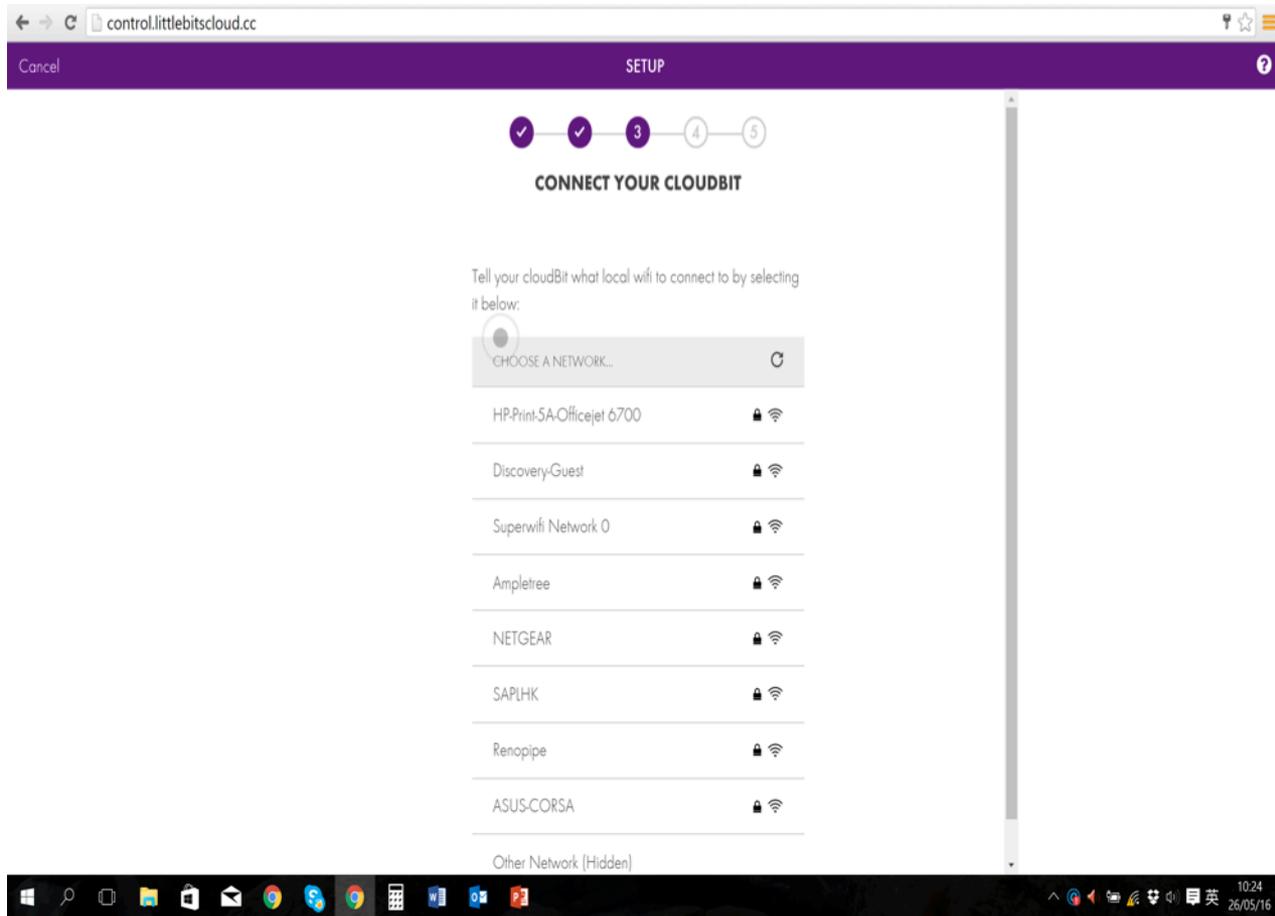
Discovery-Guest 飛鼠模式

10:24
26/05/16

7. Wait

The screenshot shows a web browser window with the address bar displaying `control.littlebitscloud.cc`. The page content is a purple header with "Cancel" on the left and "SETUP" in the center. Below the header, the text "WAITING FOR DEVICE TO RESPOND" is displayed with a circular refresh icon. On the right side, the Windows network settings panel is open, showing a list of available Wi-Fi networks. The network "littleBits_Cloud_038a31" is selected and highlighted in blue, with the status "正在連線" (Connecting) and a "取消" (Cancel) button. Other networks listed include "Discovery-Guest" (已連線 · 安全), "HP-Print-5A-Officejet 6700" (安全), "Superwifi Network 0" (安全), "Ampletree" (安全), "ASUS-CORSA" (安全), and "Renopipe". At the bottom of the screen, the Windows taskbar is visible, showing the Start button, search icon, taskbar icons for File Explorer, Mail, Chrome, and other applications, and the system tray with the date and time "10:24 26/05/16".

8. Then choose your original network



9. And login

control.littlebitscloud.cc

Cancel SETUP ?

1 2 3 4 5

CONNECT YOUR CLOUDBIT

Tell your cloudBit what local wifi to connect to by selecting it below:

Enter password for **Discovery-Guest** X

xxxxxxxxxxxxxxxx

Psst... we will not share any of this information. Your cloudBit needs your wifi password to connect to the internet.

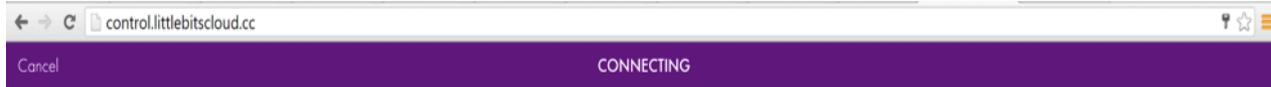
SAVE PASSWORD

10:25 26/05/16

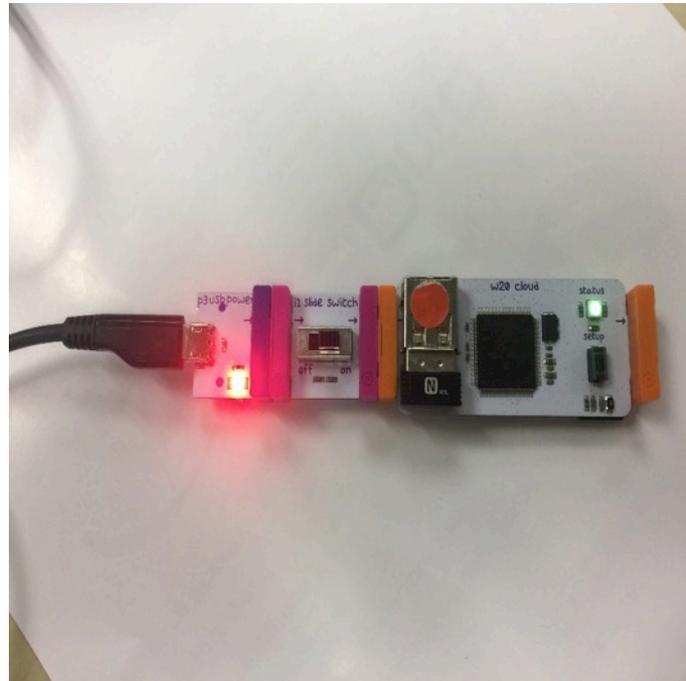
10. You should then see this page



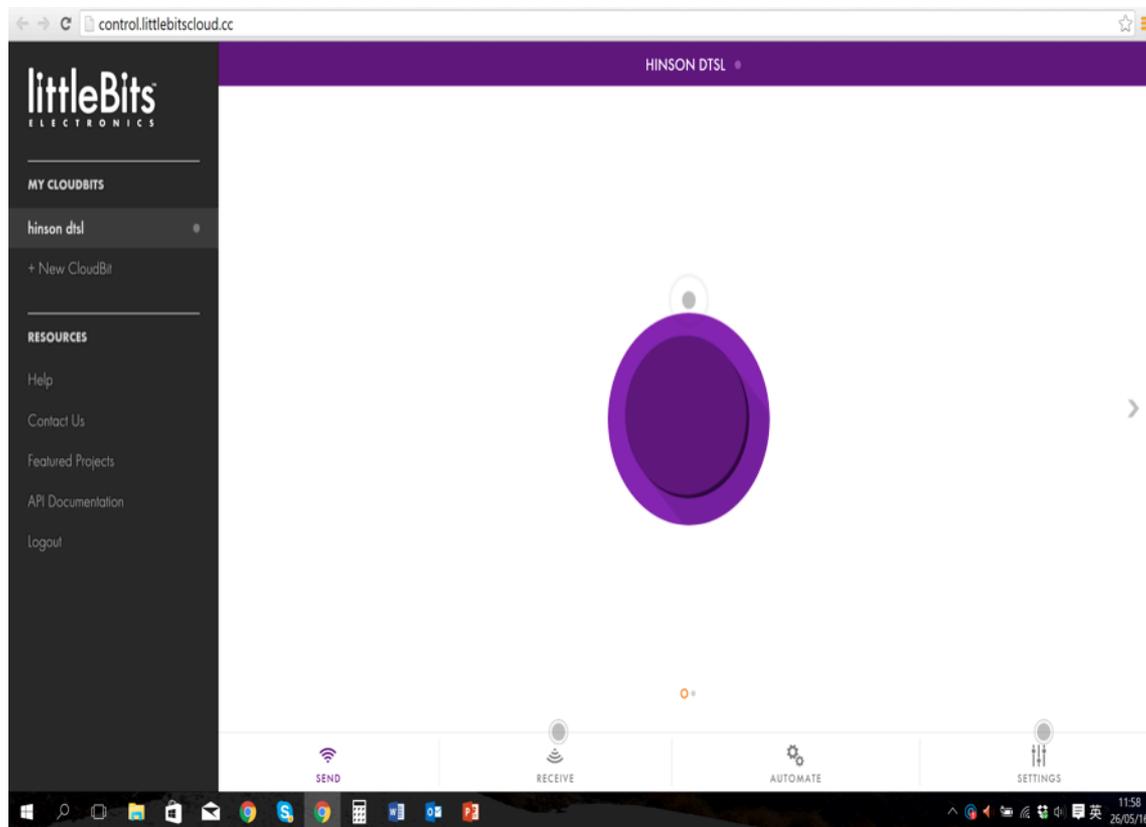
11. Then this page



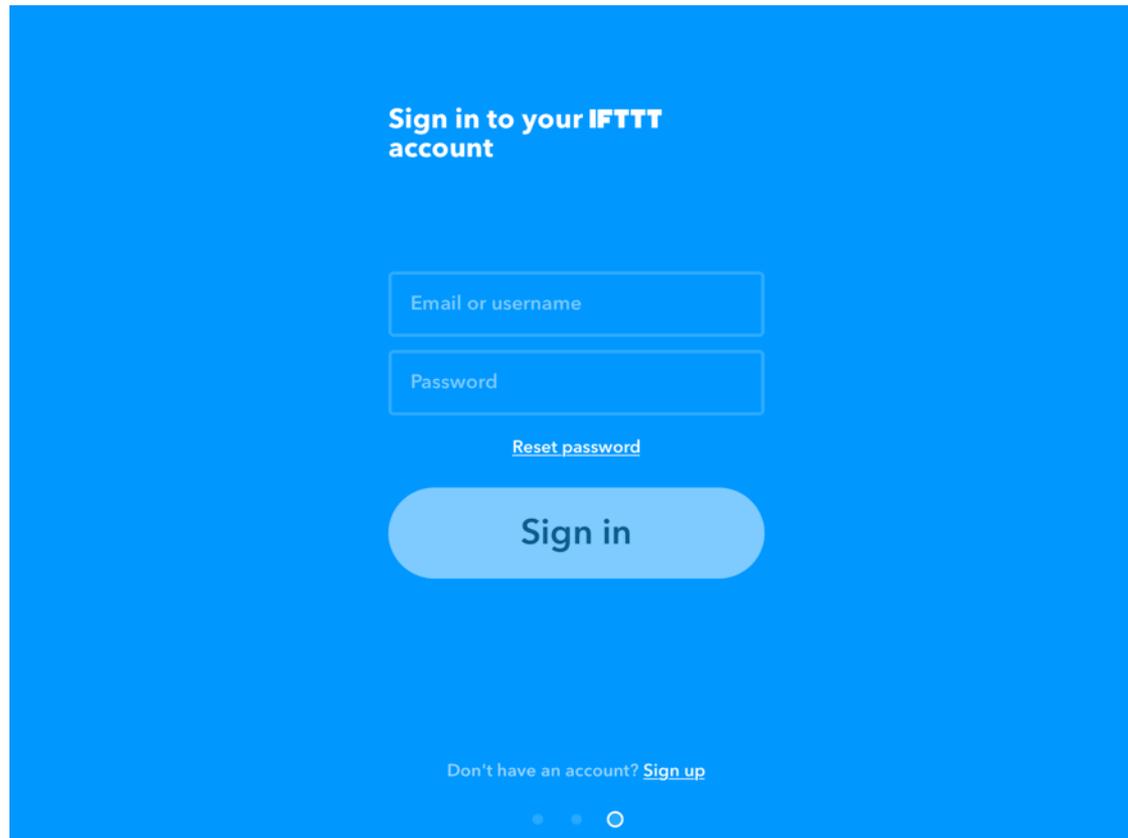
12. After a while your light should turn green



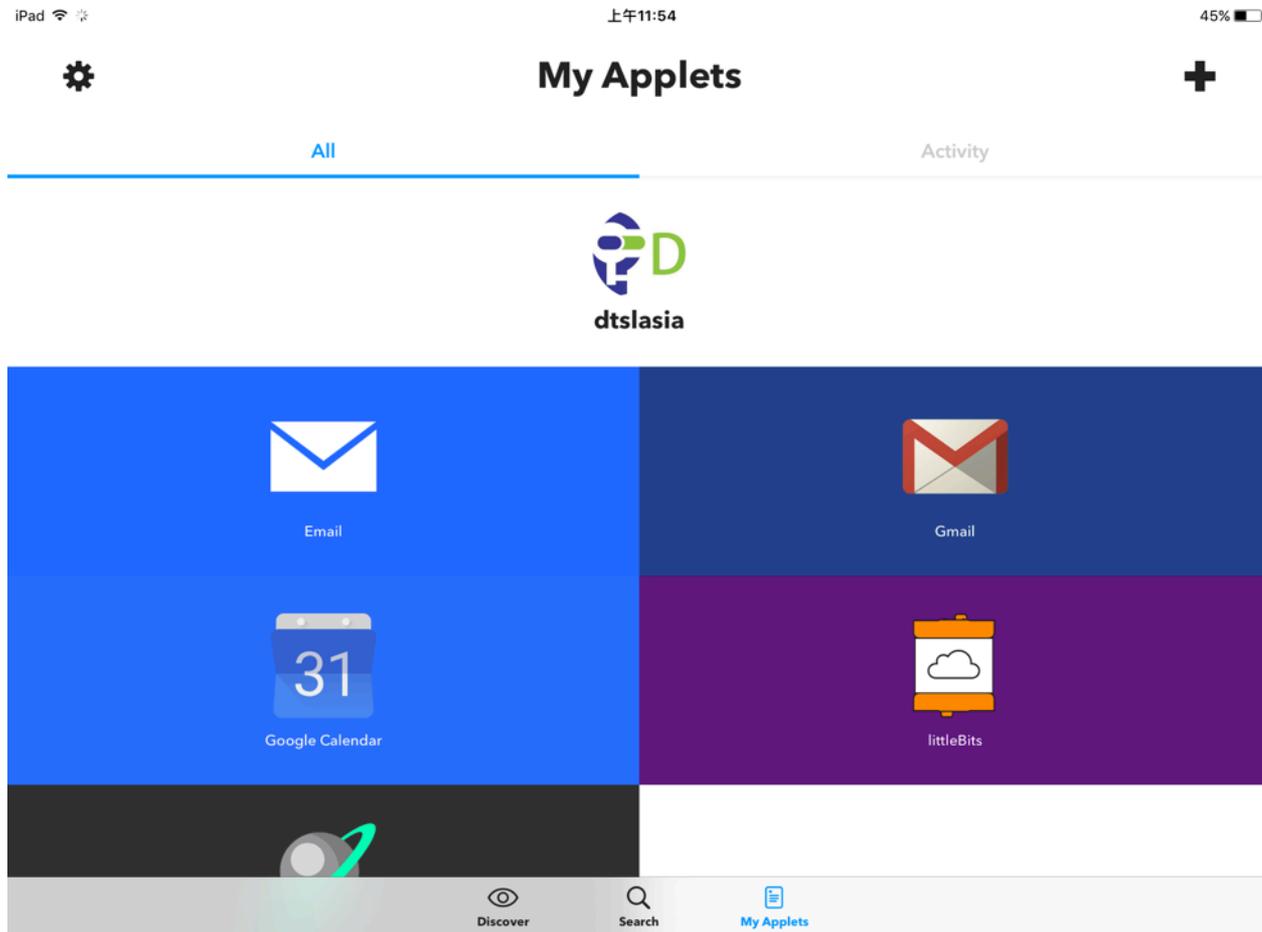
13. And the webpage will refer you back to this. This means you have setup your **CLOUDBIT** correctly



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

The image shows a sign-in screen for the IFTTT app. The background is a solid blue color. At the top, the text "Sign in to your IFTTT account" is displayed in white. Below this, there are two white input fields: the first is labeled "Email or username" and the second is labeled "Password". Under the password field, there is a link that says "Reset password". A large, rounded, light blue button with the text "Sign in" is centered below the input fields. At the bottom of the screen, there is a link that says "Don't have an account? Sign up". At the very bottom, there are three small white circles, with the rightmost one being slightly larger and more prominent, likely indicating the current step in a sequence.

15. Click My Applets and +



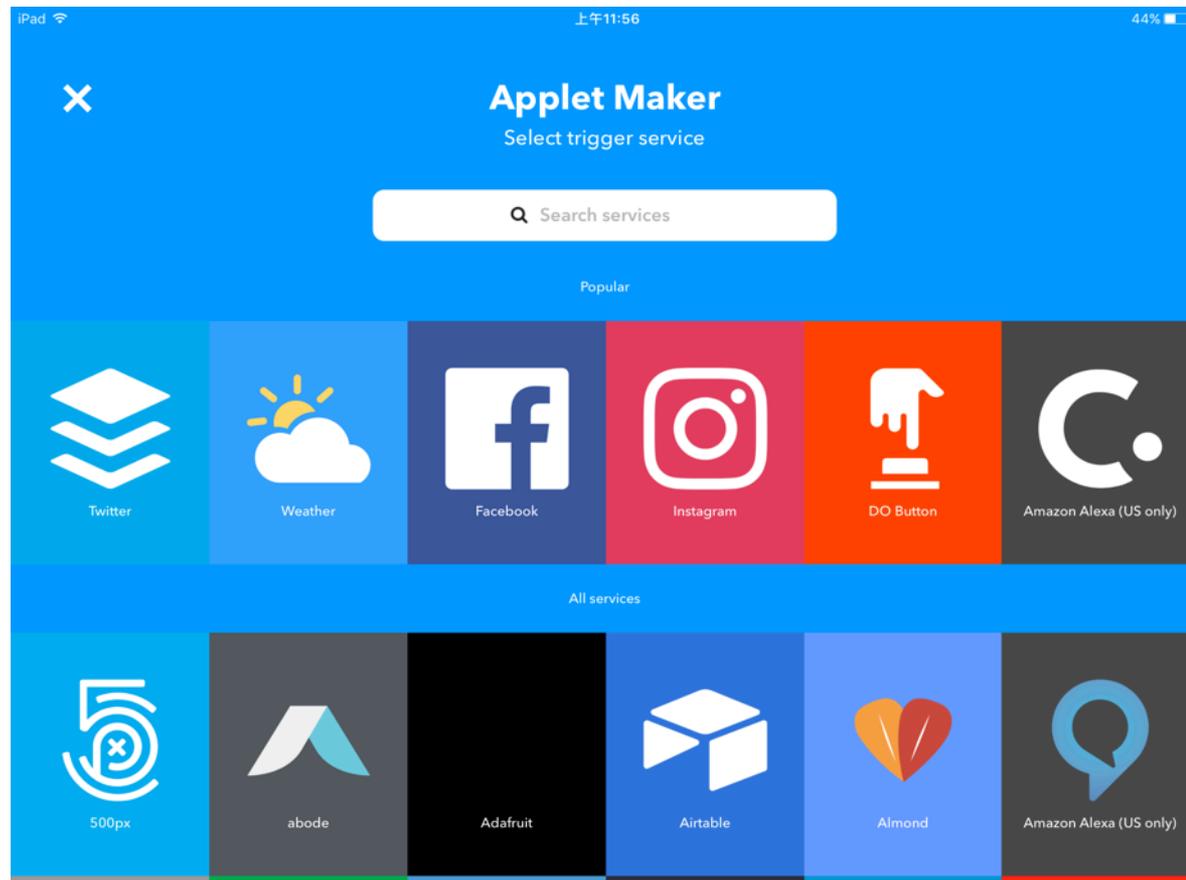
16. In Applet Maker, Click this



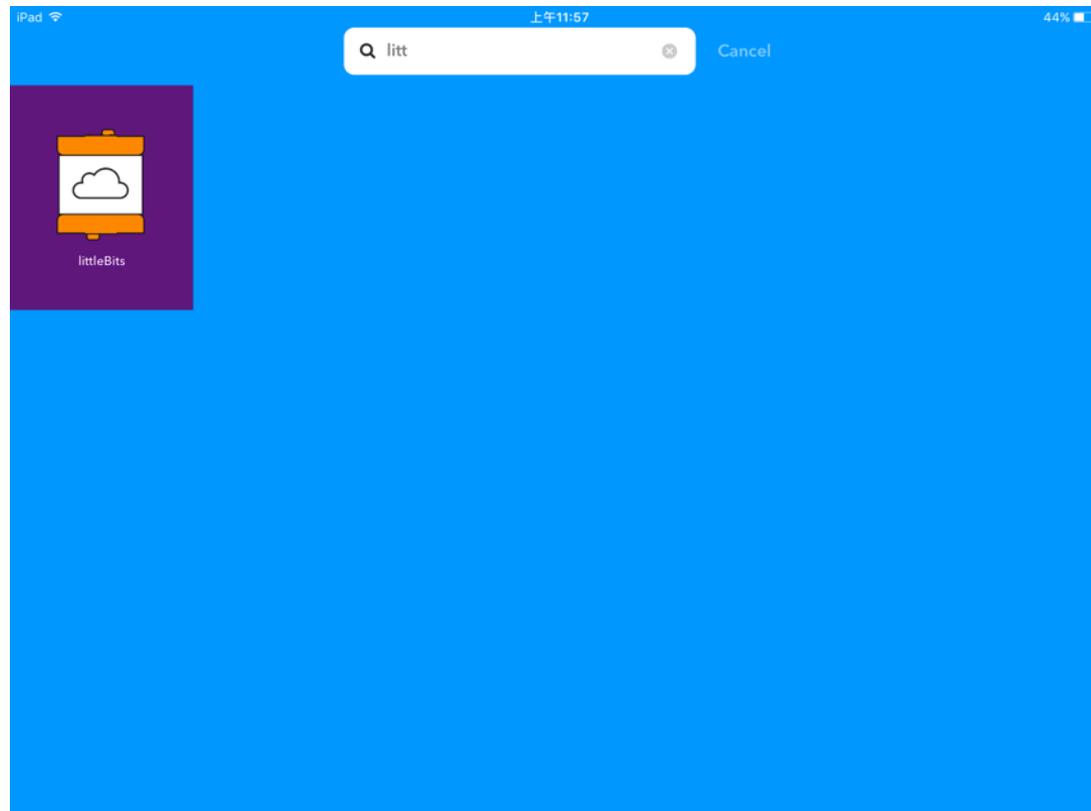
if
+ this
then
that

Want to build even richer Applets?

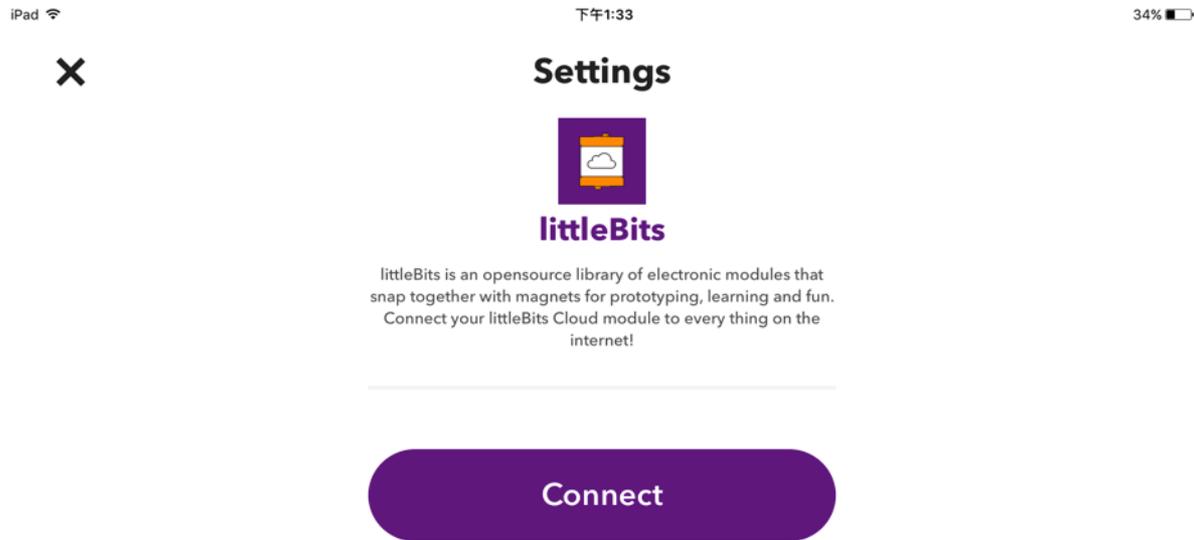
17. Type in littleBits then click the icon



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

iPad 下午1:33 34%

完成 < > littlebits.cc

You need to sign in or sign up before continuing. x

SIGN IN

Email

Password

Remember me

SIGN IN

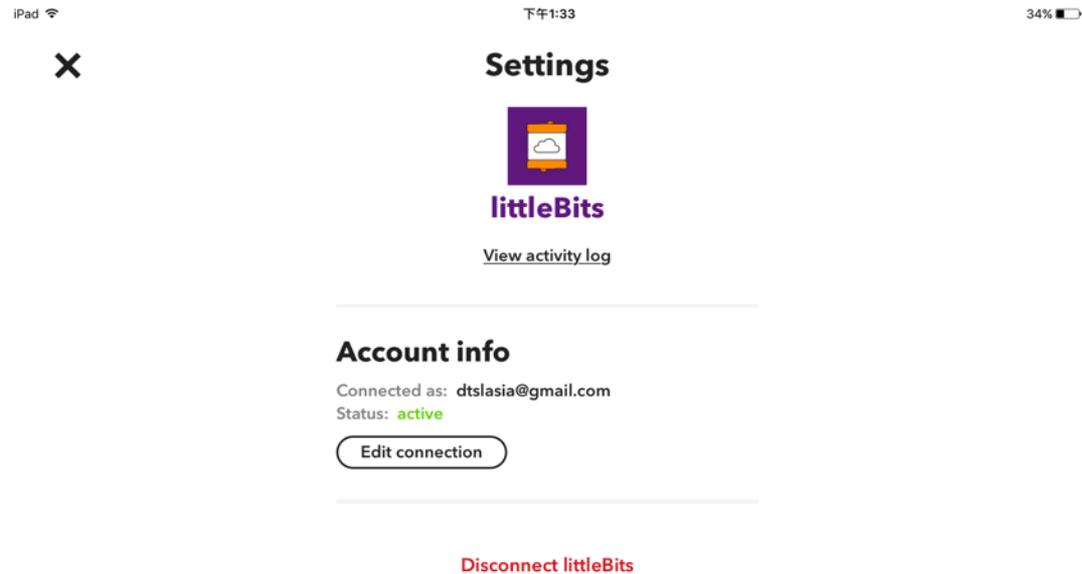
[Forgot your Password?](#)

or

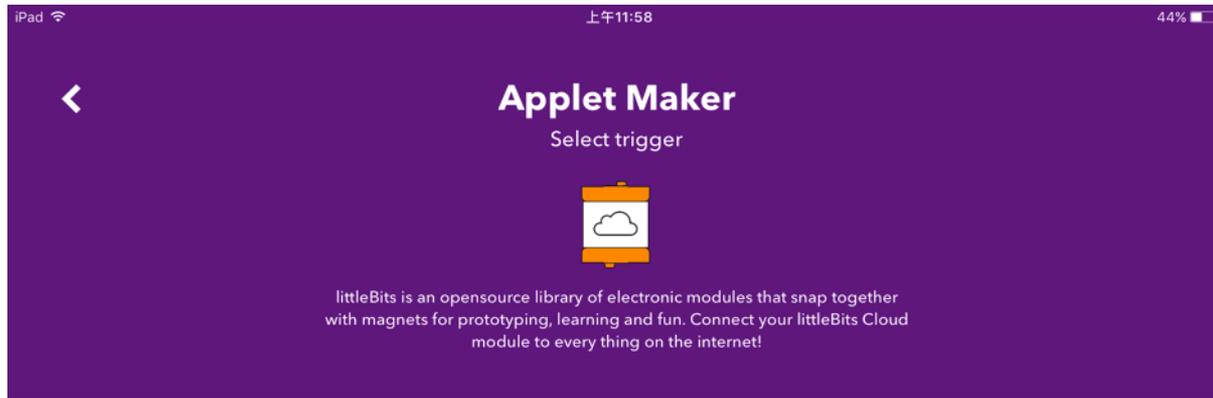
[Sign in with Facebook](#)

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

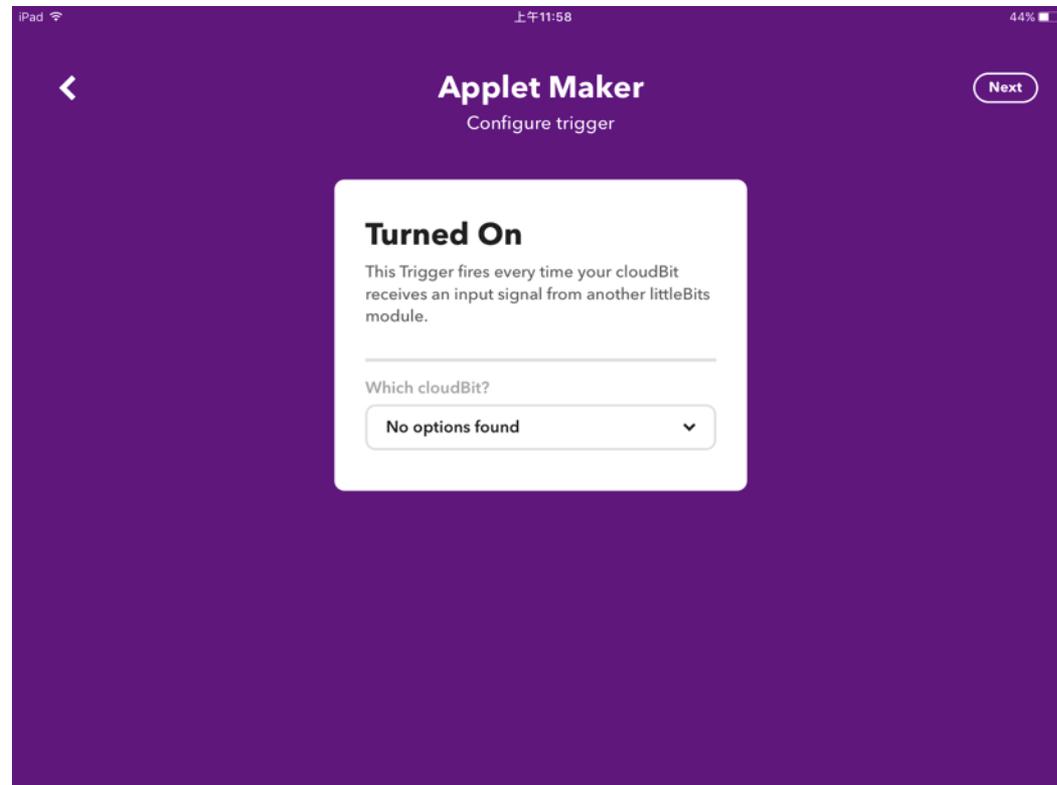


Choose trigger

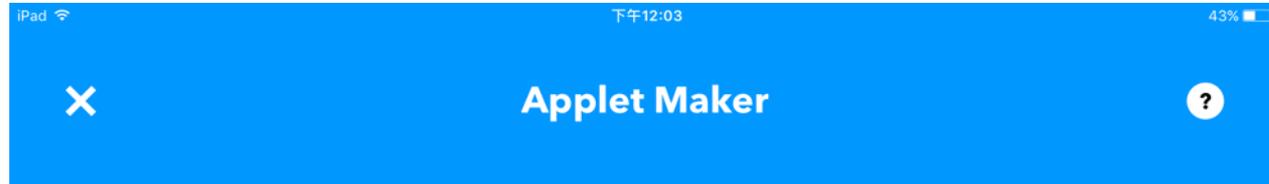
Turned On

Turned Off

23. Choose your CloudBit



24. Now choose that

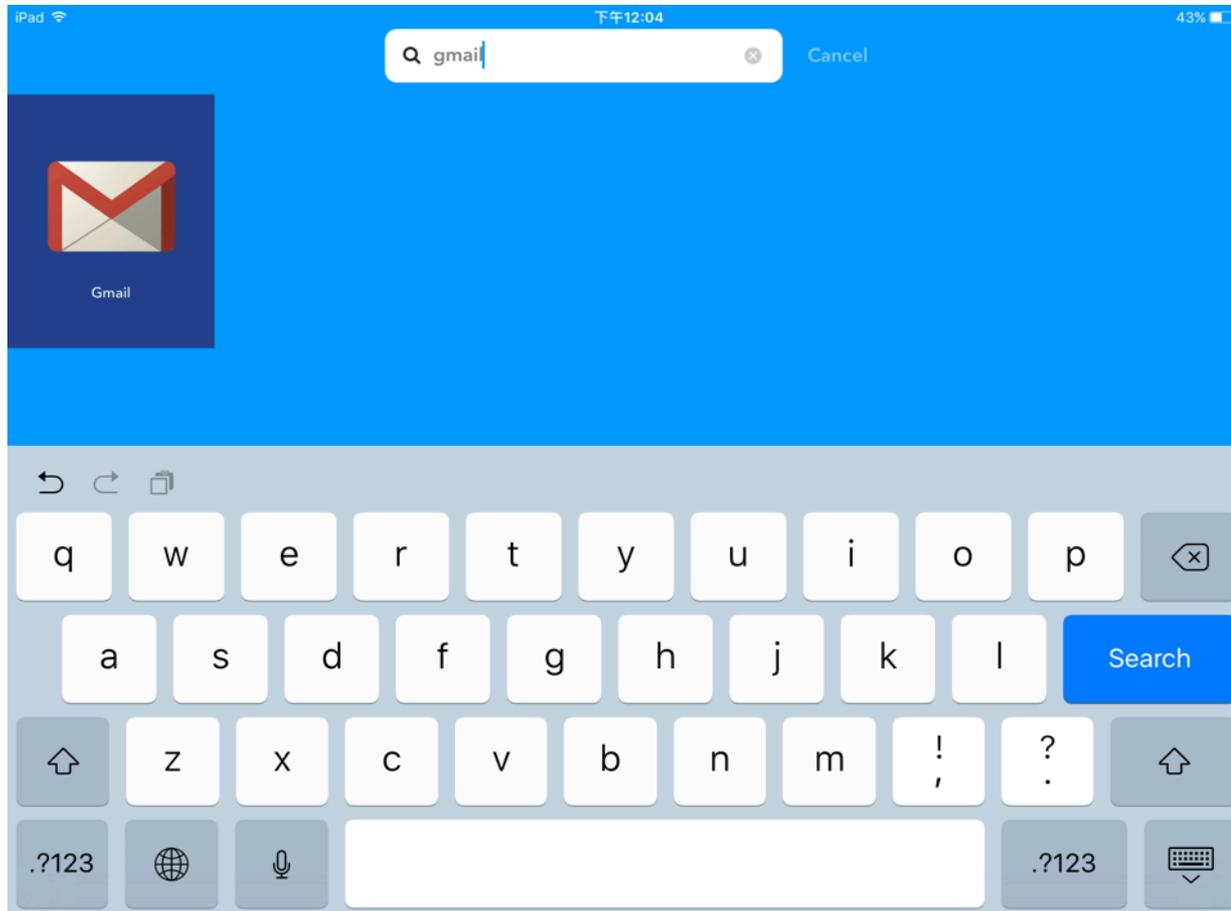


if

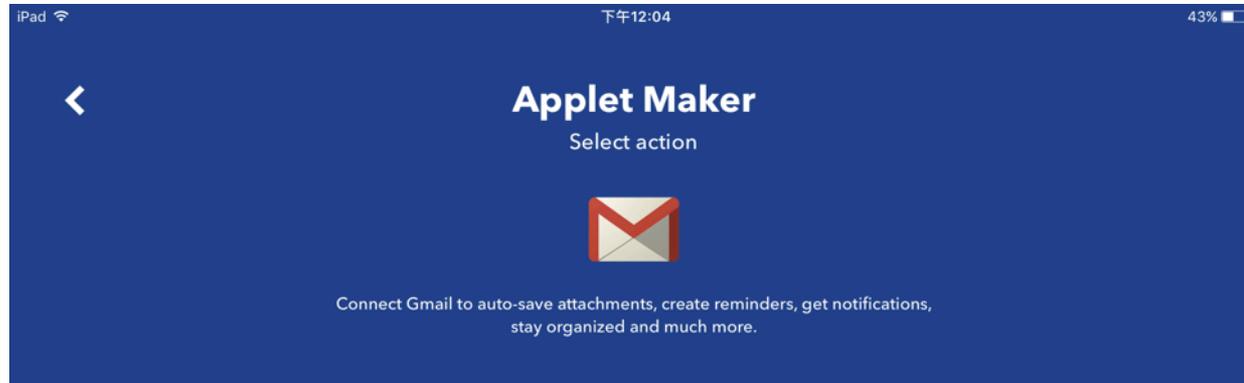
then
 that

[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**

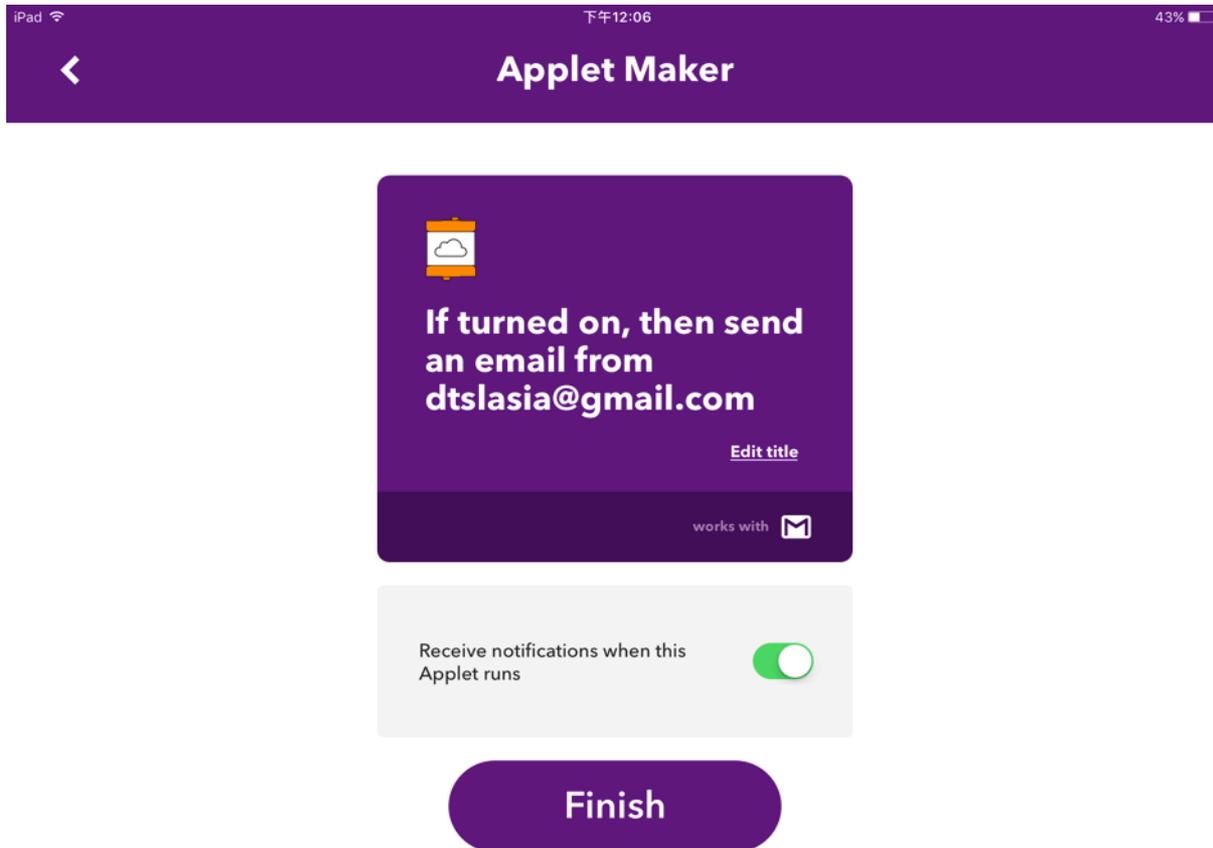
The screenshot shows the 'Applet Maker' interface on an iPad. The title bar at the top is dark blue with a back arrow on the left, the text 'Applet Maker' in the center, and a 'Next' button on the right. The main content area is white and contains the following sections:

- Send an email**: A heading followed by the text 'This Action will send an email to up to five recipients from your Gmail account.'
- Body**: A text input field containing the following HTML-formatted text:

```
' DeviceName ' input received TurnedOnAt  
<br>  
PowerPercent % power<br><br>  
via littleBits
```
- Attachment URL**: An empty text input field.
- Subject**: A text input field containing the following HTML-formatted text:

```
' DeviceName ' input received TurnedOnAt
```
- To address**: An empty text input field.

28. Check and click **Finish**

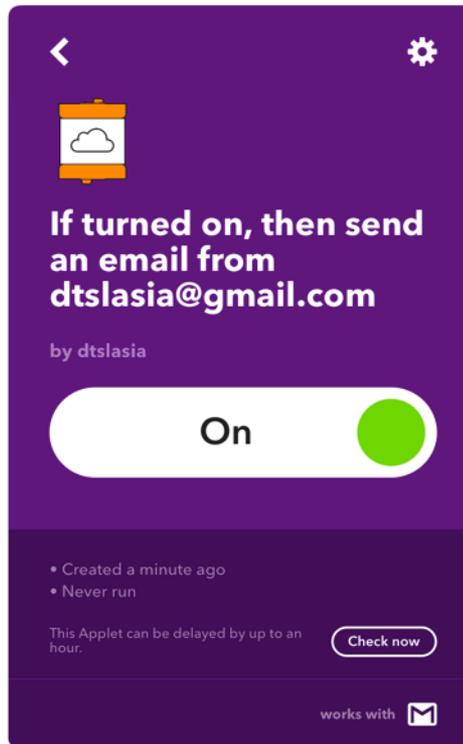


29. You've set up a new Applet

iPad

下午12:06

43%



Applet ID 44297178d