

部屬到雲端

劉治廷

# 前言

# 課程目標

- 如何申請Heroku服務
- 如何使用Heroku cli指令工具
- 淺嚐Git
- 如何部署Node.js API Server到Heroku

# 範例下載處

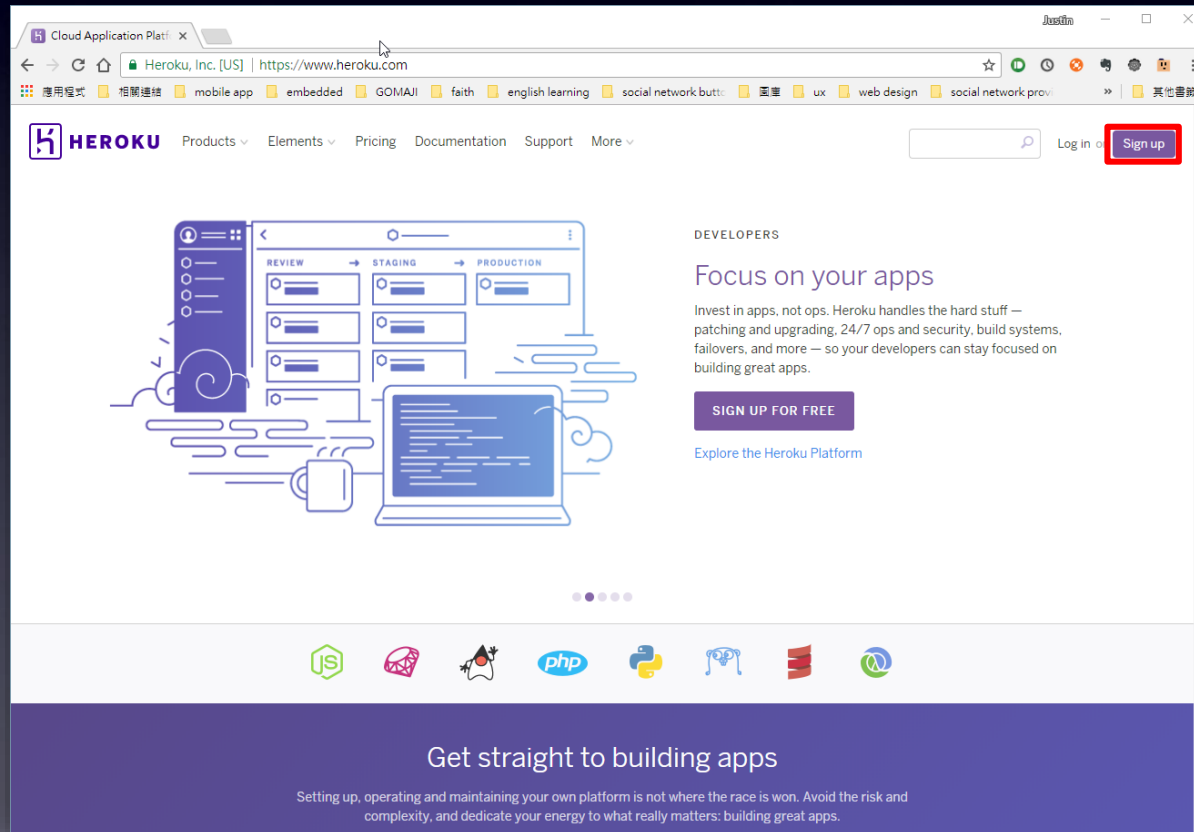
- <https://goo.gl/VKnHgg>
- 可以使用Clone or Download中Download Zip下載
- 建議：使用git抓取  
git clone  
[https://github.com/silencecork/shuworkshop\\_late2017.git](https://github.com/silencecork/shuworkshop_late2017.git)

PAAS

申請HEROKU

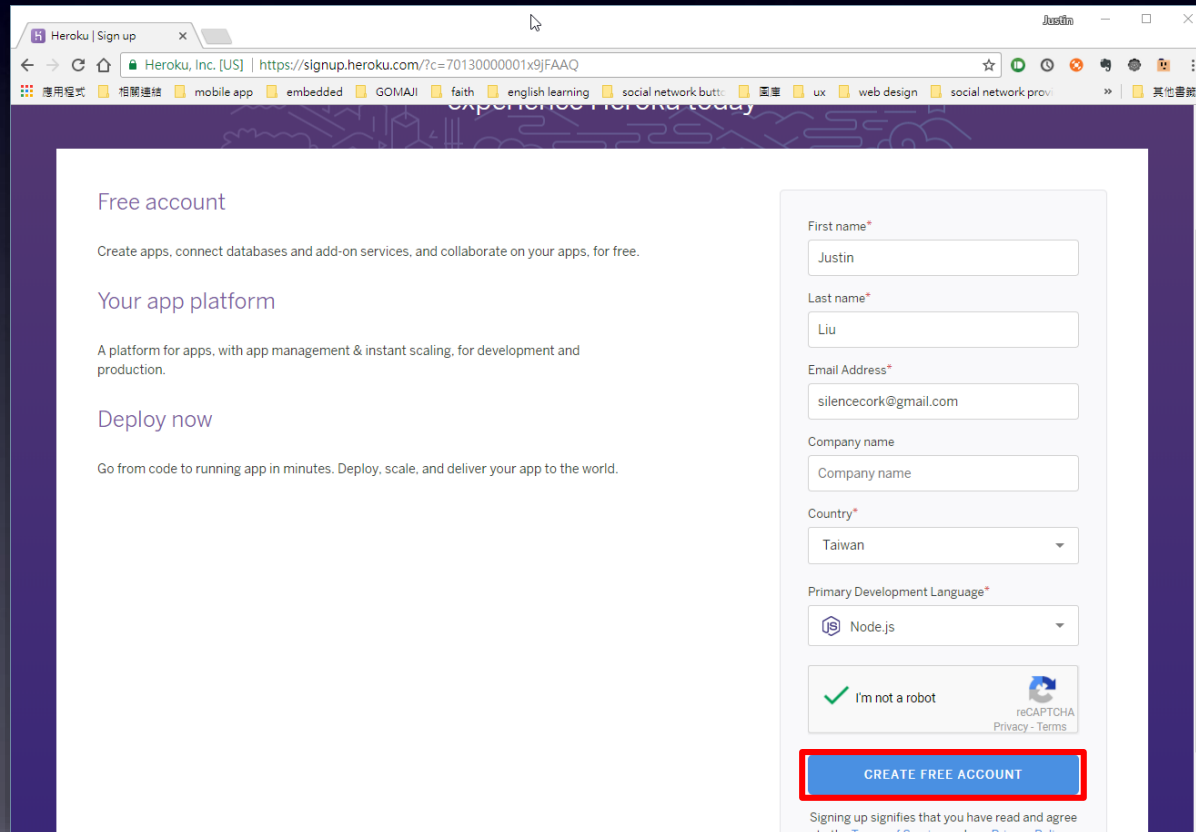
# 申請HEROKU

- 打開Heroku官方網站，點選右上方Signup
- <https://www.heroku.com/>



# 申請HEROKU

- 填寫完基本資料，按下CREATE FREE ACCOUNT
- 接下來你的Email會收到認證信，點開認證信的連結即可



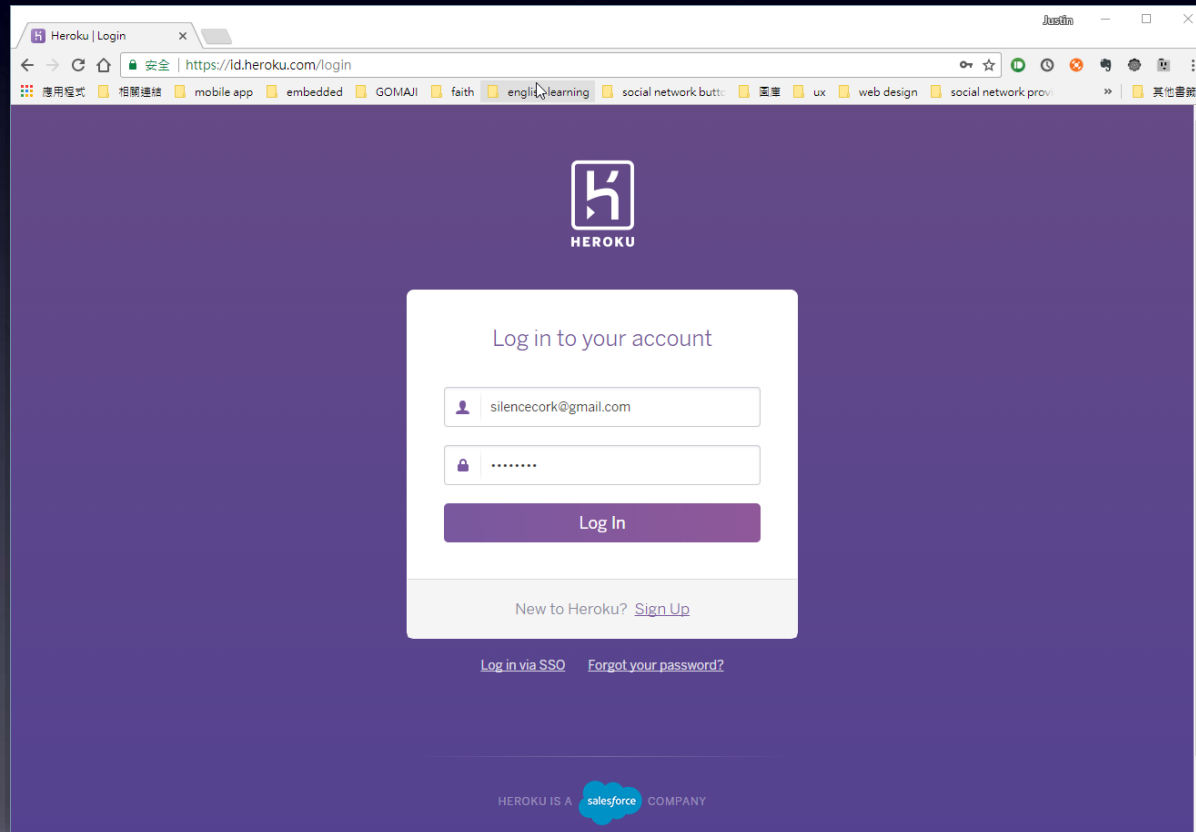
The screenshot shows the Heroku sign-up page. On the left, the 'Free account' section describes the platform's capabilities. On the right, the registration form is filled out with the following information:

- First name: Justin
- Last name: Liu
- Email Address: silencecork@gmail.com
- Company name: (empty)
- Country: Taiwan
- Primary Development Language: Node.js

Below the form is a reCAPTCHA checkbox labeled 'I'm not a robot' and a 'CREATE FREE ACCOUNT' button, which is highlighted with a red rectangle. At the bottom, there is a link to the Terms of Service and Privacy Policy.

# 申請HEROKU

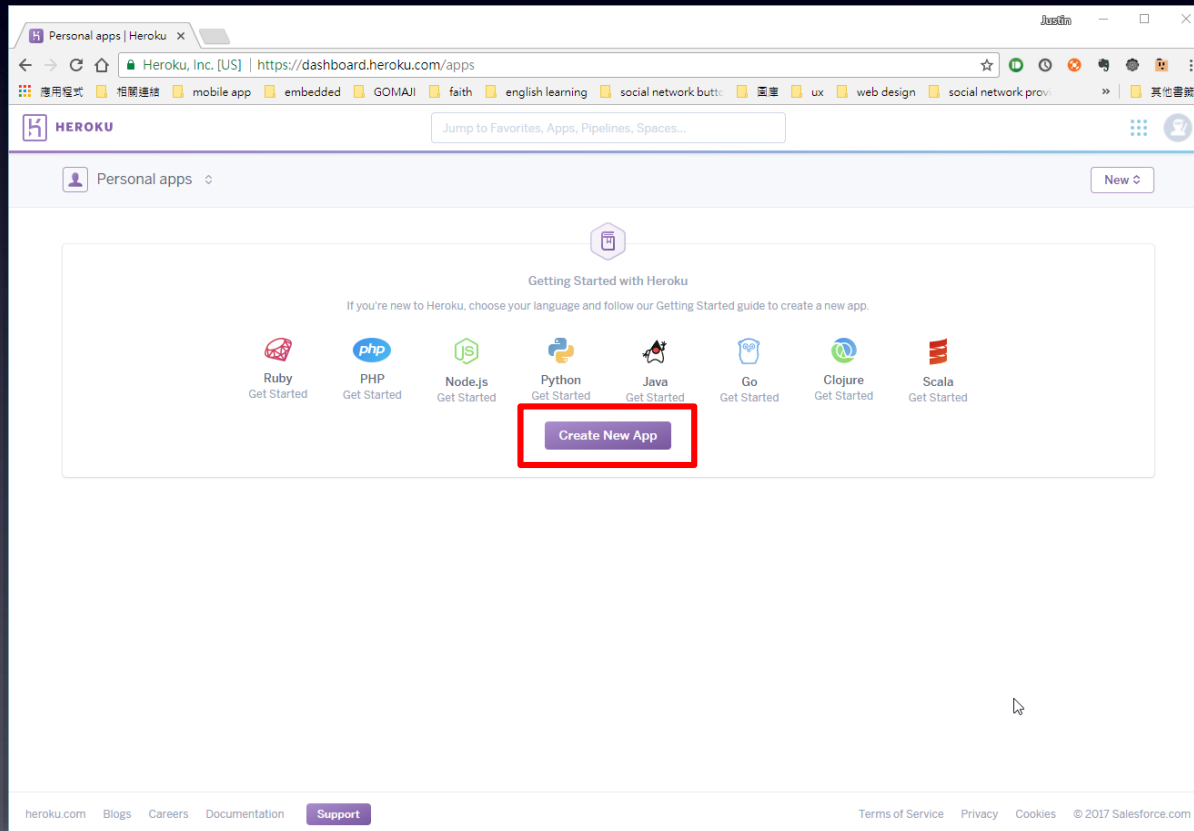
- 接下來可以到以下網址登入
  - <https://id.heroku.com/login>





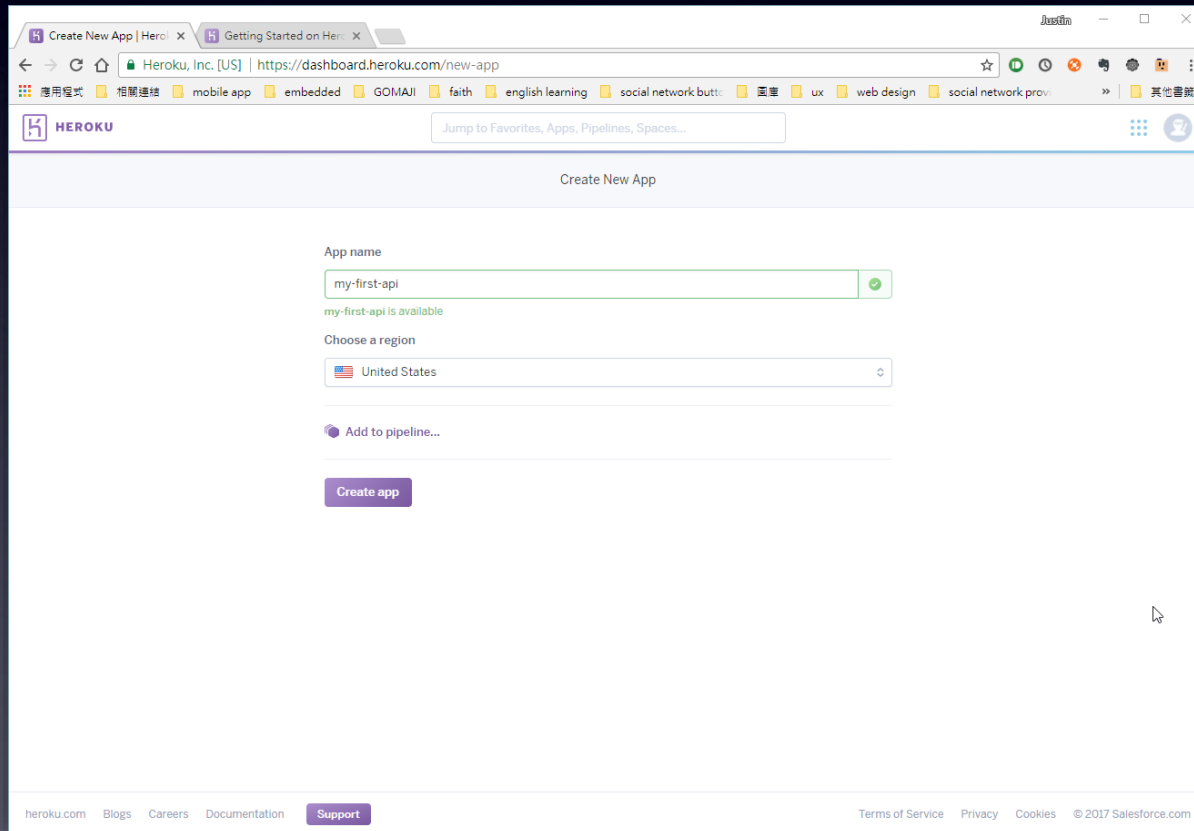
# 申請HEROKU

- 登入成功，選擇Create New App來建立雲端服務



# 申請HEROKU

- App Name輸入你雲端服務的名稱，Choose a region保持預設值即可。選擇完畢按下Create app



The screenshot shows the Heroku 'Create New App' page in a web browser. The browser's address bar shows the URL 'https://dashboard.heroku.com/new-app'. The page has a header with the Heroku logo and a search bar. The main content area is titled 'Create New App'. It contains three main sections: 'App name' with a text input field containing 'my-first-api' and a green checkmark icon; 'Choose a region' with a dropdown menu showing 'United States'; and 'Add to pipeline...' with a link icon. At the bottom of the form is a purple 'Create app' button. The footer of the page includes links for 'heroku.com', 'Blogs', 'Careers', 'Documentation', 'Support', 'Terms of Service', 'Privacy', 'Cookies', and '© 2017 Salesforce.com'.

Create New App

App name

my-first-api

my-first-api is available

Choose a region

United States

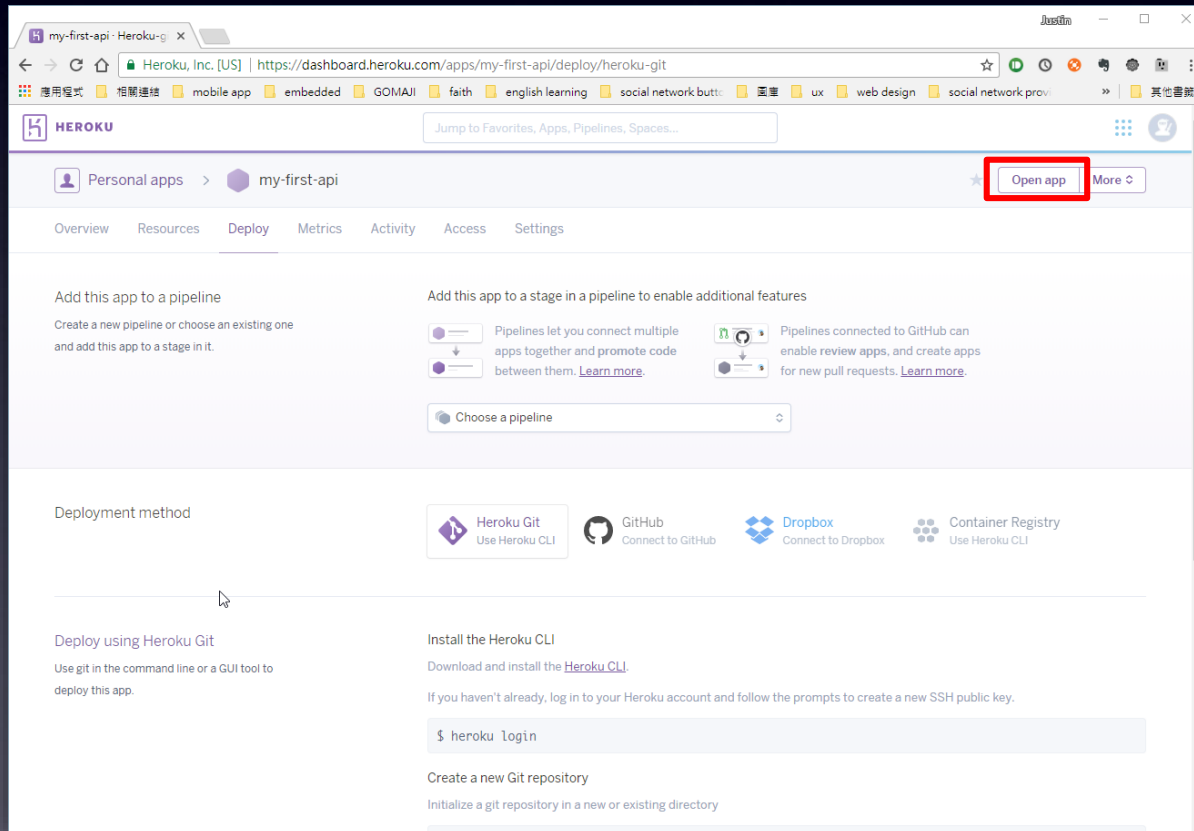
Add to pipeline...

Create app

heroku.com Blogs Careers Documentation Support Terms of Service Privacy Cookies © 2017 Salesforce.com

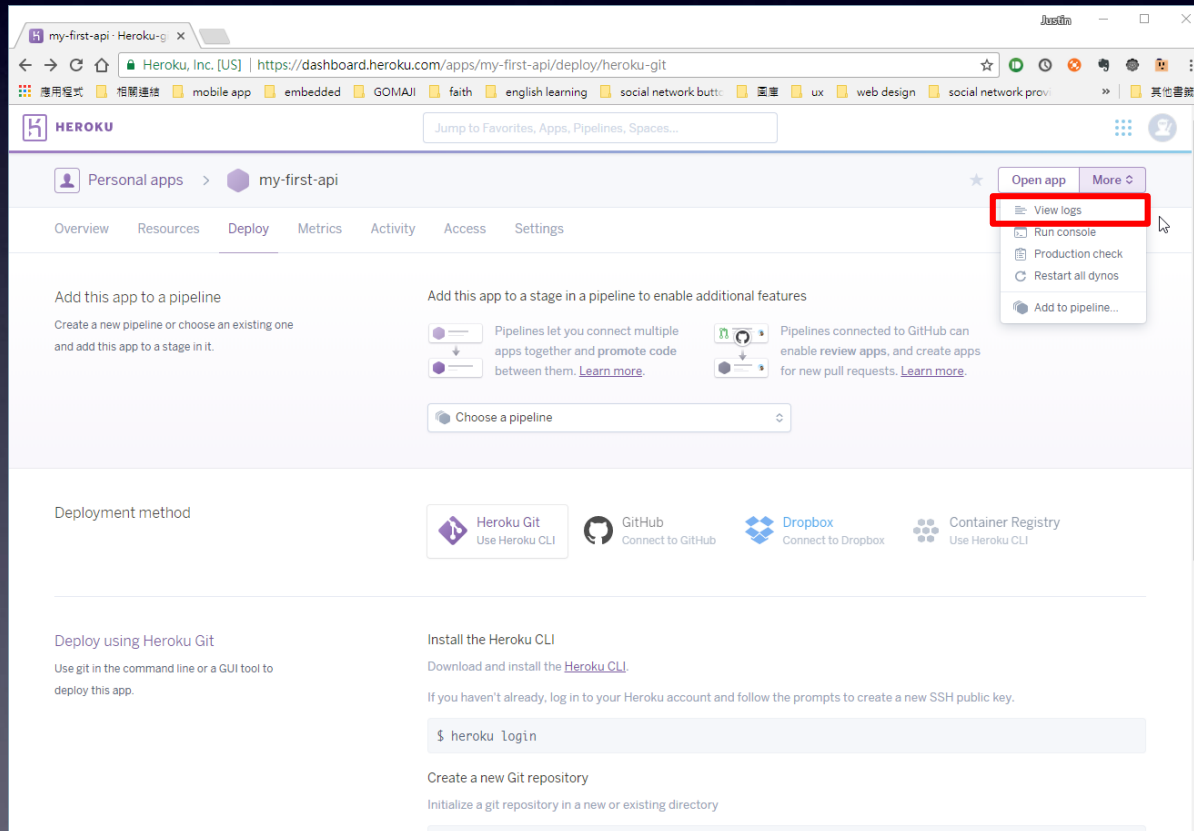
# 申請HEROKU

- 服務建立完成，以下簡介幾個項目
- Open app: 會開啟瀏覽器，連線到目前服務的位置



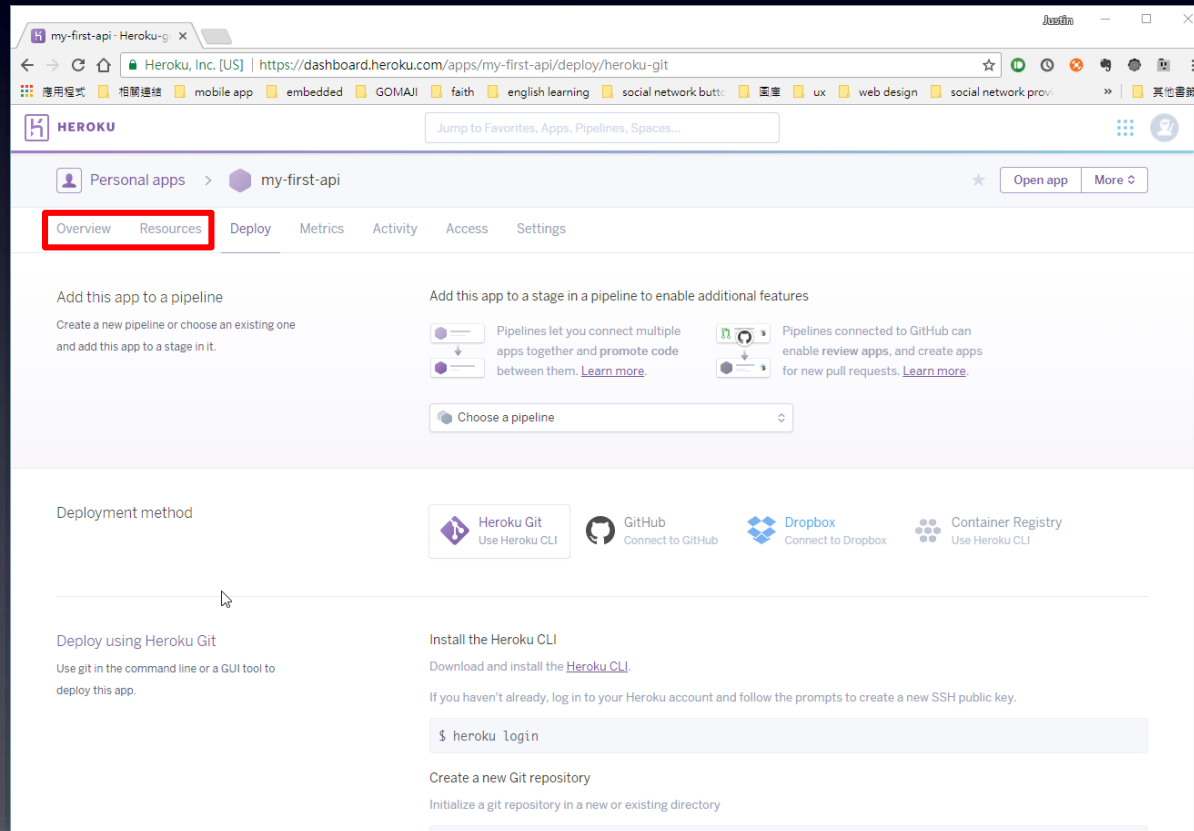
# 申請HEROKU

- More下的選項View logs:可以看到目前程式碼的Log  
Node.js使用`console.log()`的結果會顯示在這裡



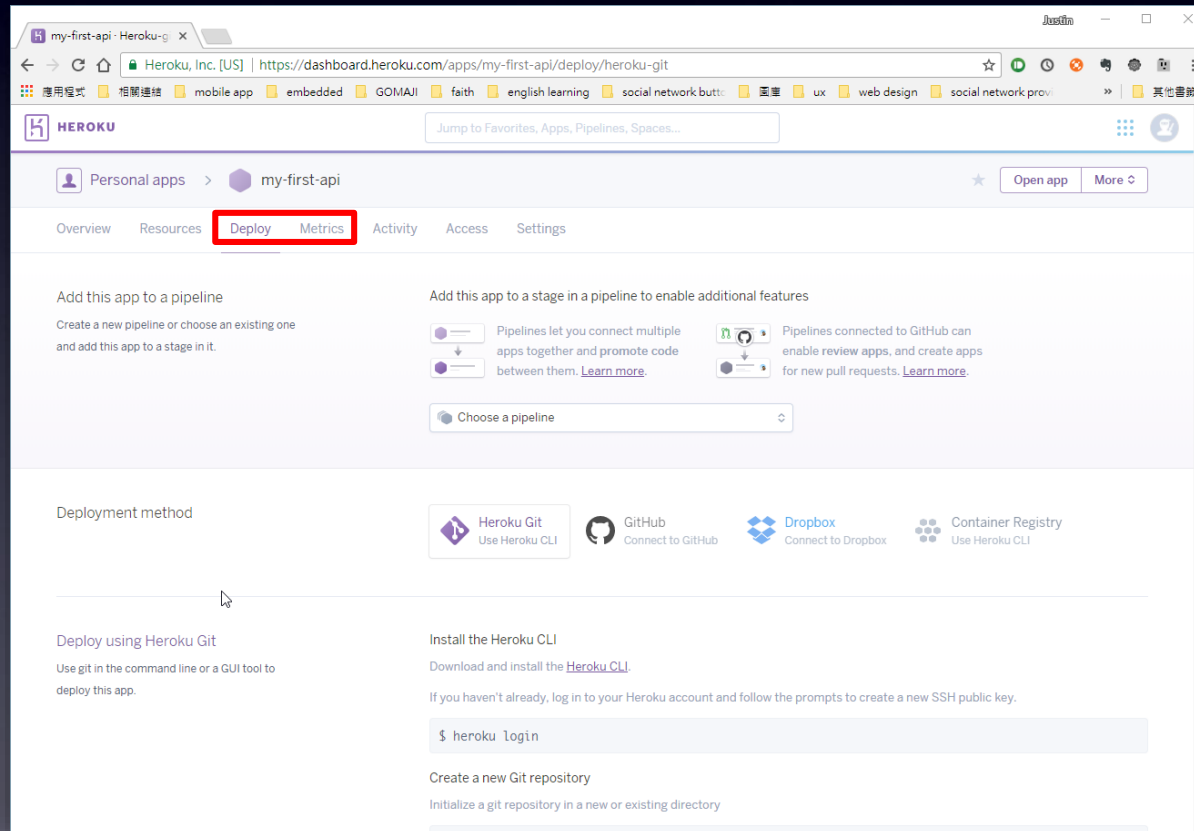
# 申請HEROKU

- Overview: 看見雲端服務整體使用狀況
- Resources: 分配給這雲端服務上各項程式的資源



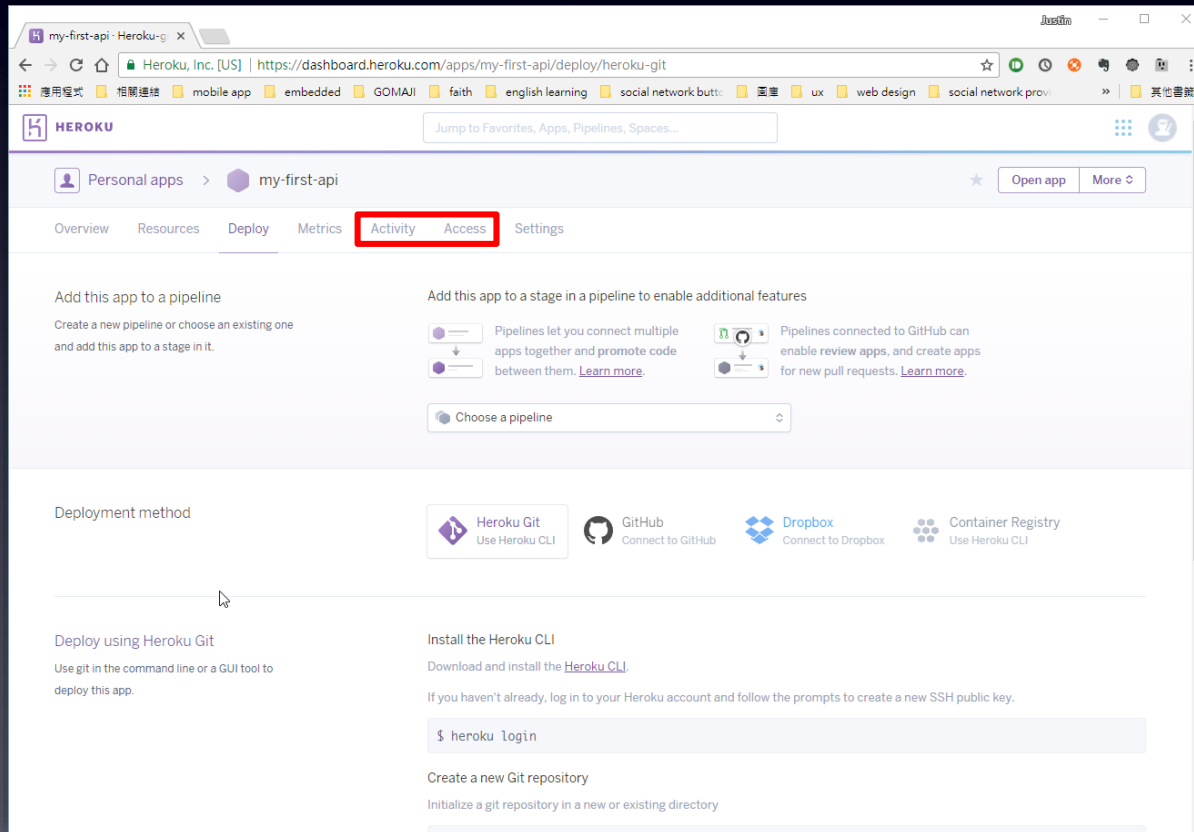
# 申請HEROKU

- Deploy: 程式碼部屬狀態
- Metrics: 外部人使用雲端服務的狀態(須付費)



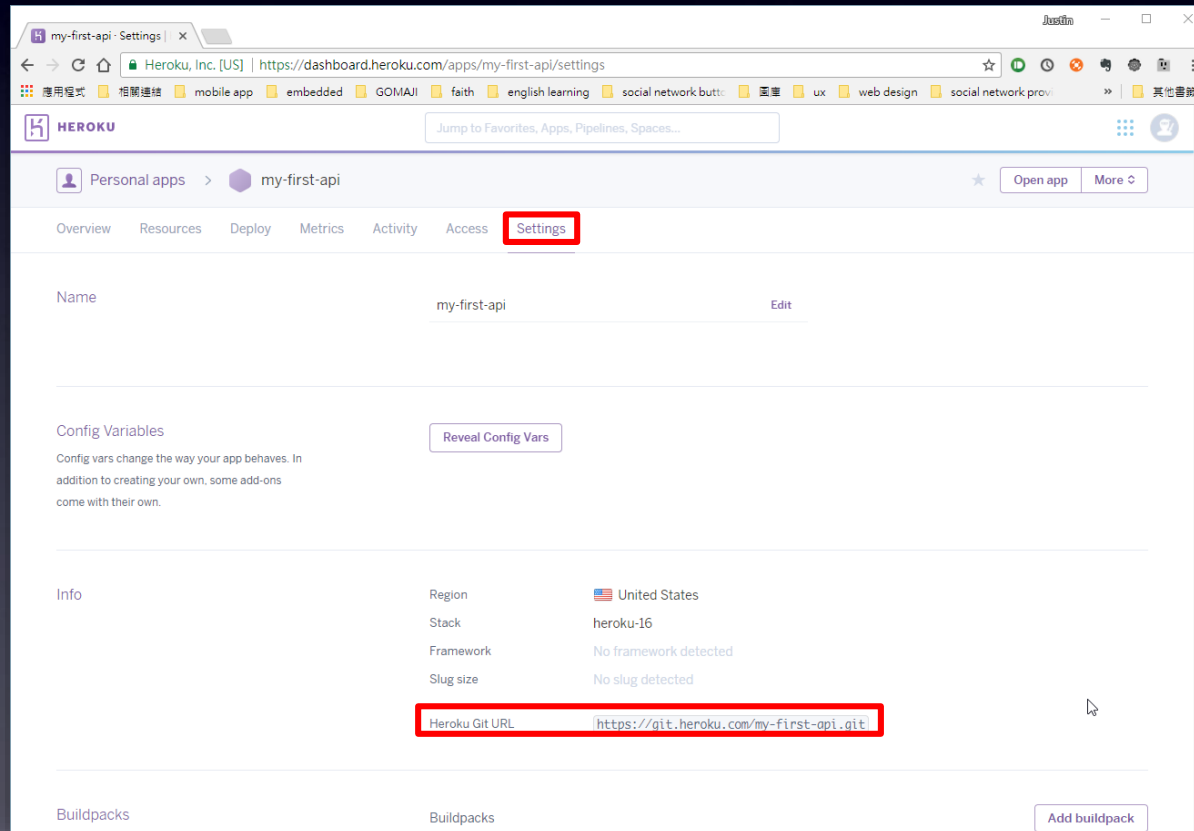
# 申請HEROKU

- **Activity:** 雲端服務設定或程式的活動紀錄
- **Access:** 設定可以存取雲端服務的帳號和權限



# 申請HEROKU

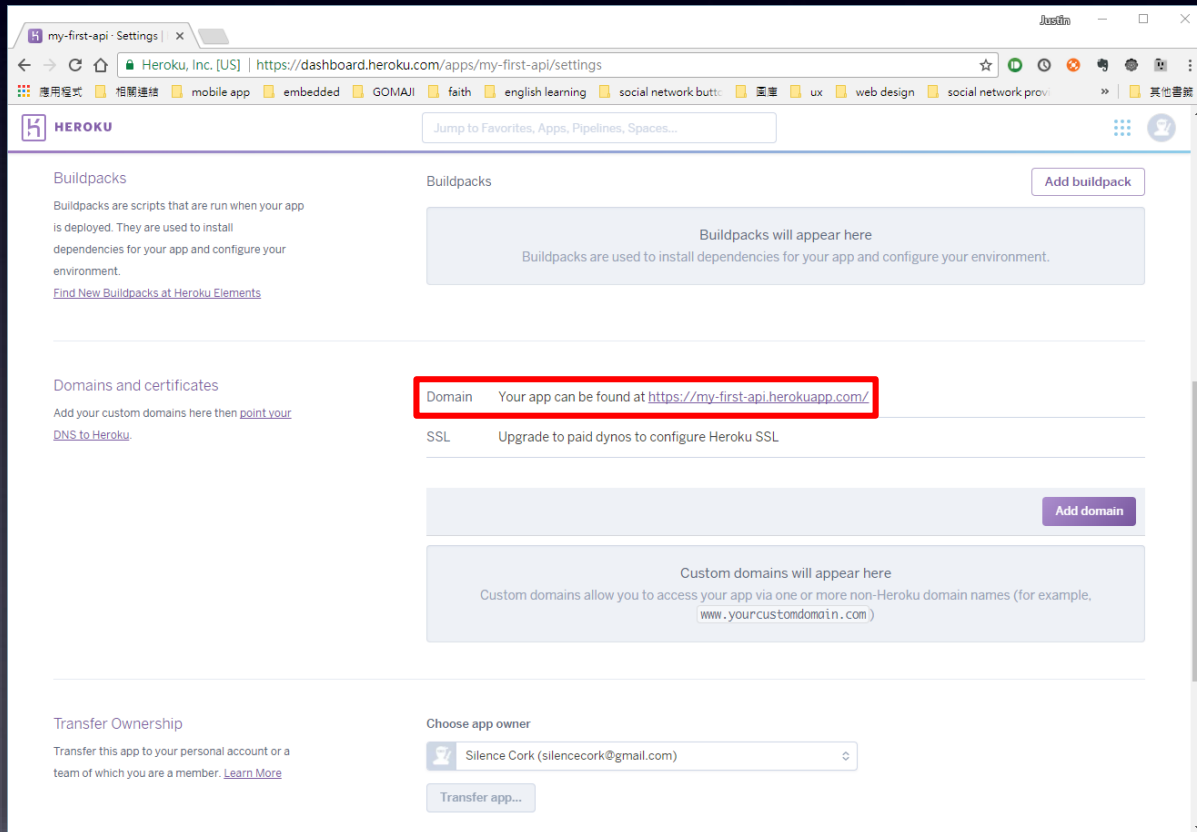
- Settings: 服務相關設定
- Heroku Git URL: 使用Git部屬程式的位置





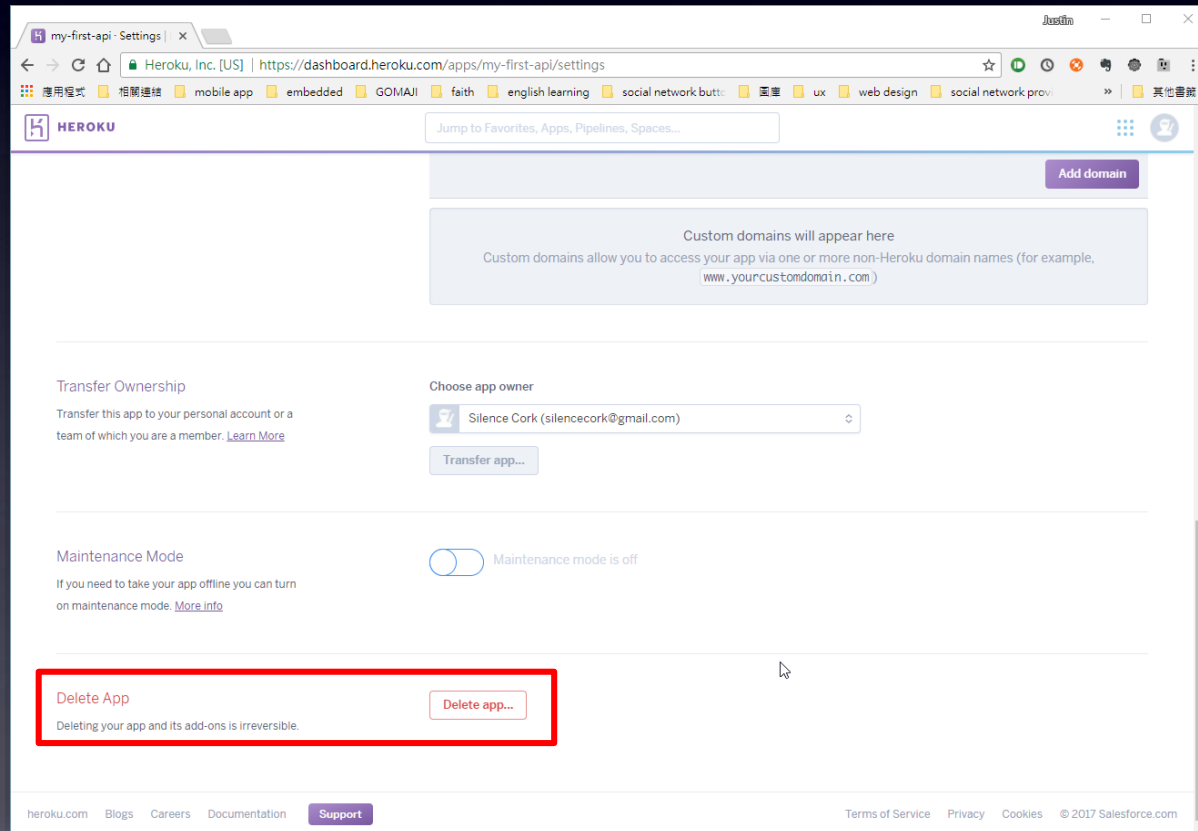
# 申請HEROKU

- **Settings**下的**Domain**: Heroku為雲端服務配置的公開DNS



# 申請HEROKU

- Settings下的Delete App: 刪除雲端服務

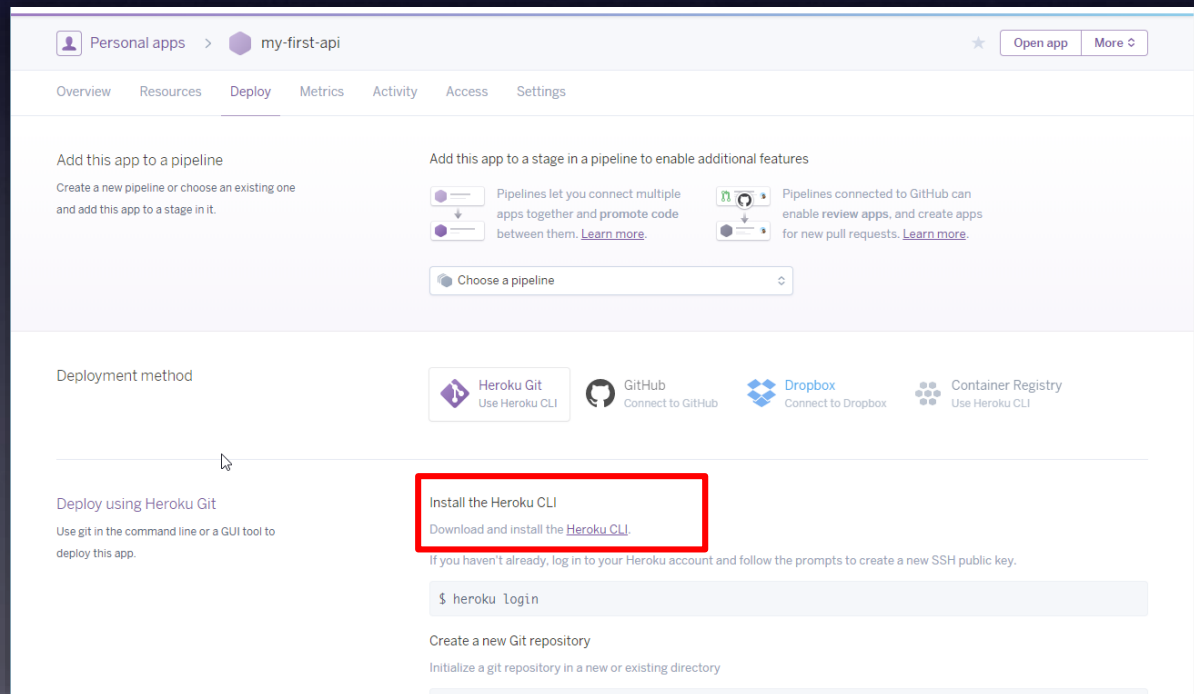


Heroku

安裝HEROKU CLI

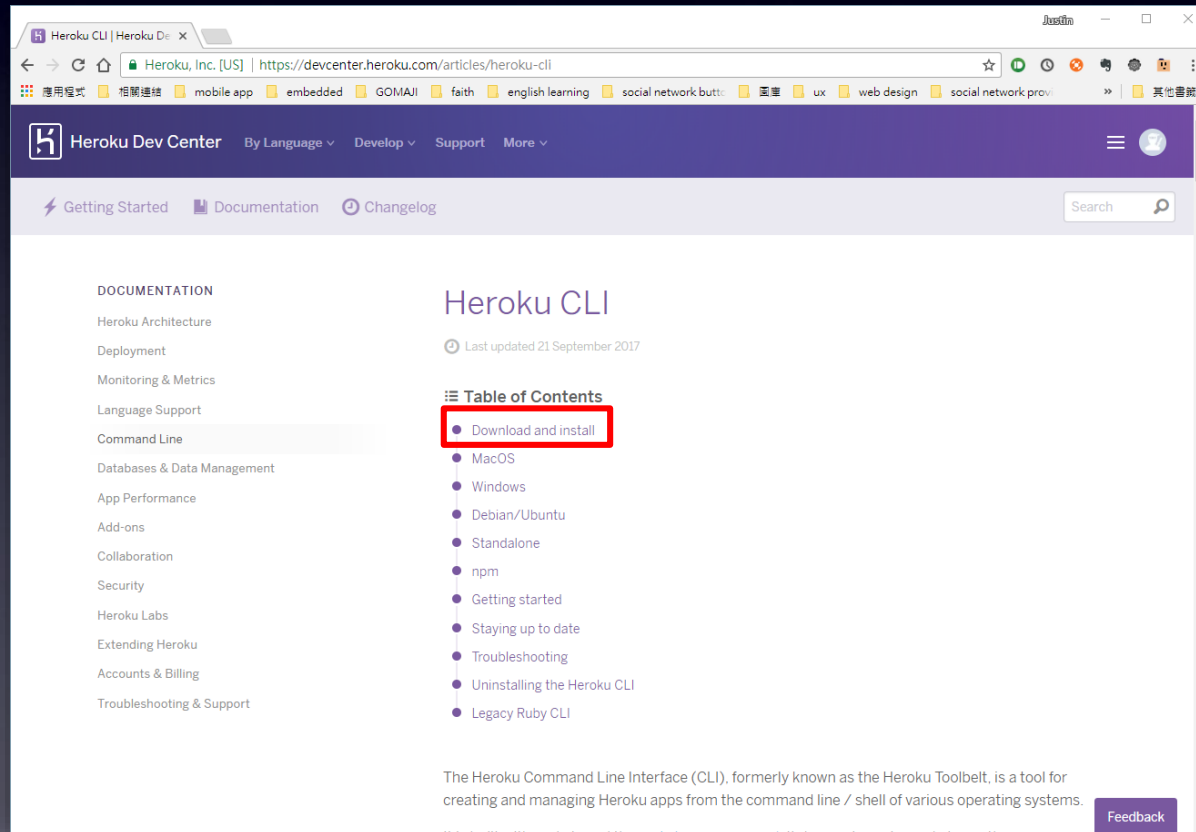
# 安裝HEROKU CLI

- Deploy的Tab底下有個Heroku CLI的連結，點下去
  - <https://devcenter.heroku.com/articles/heroku-cli>
- CLI - Command Line Interface指令模式工具



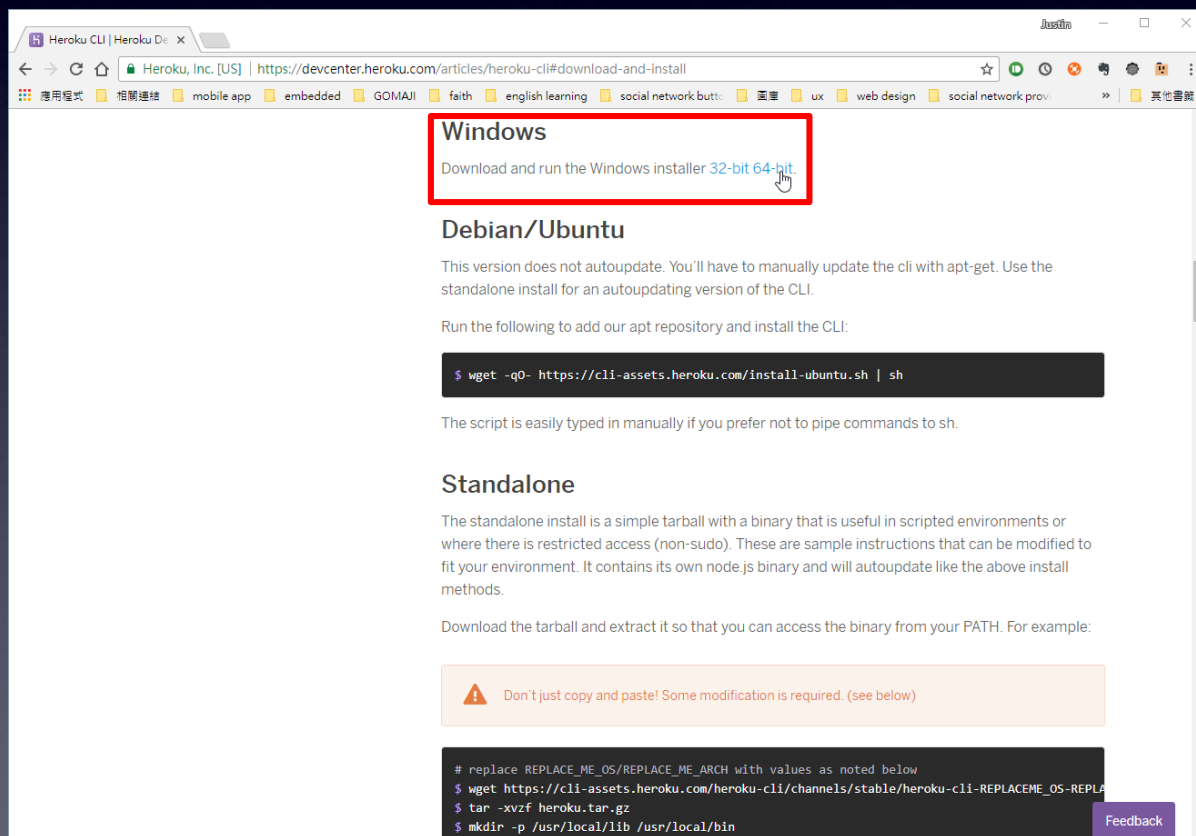
# 安裝HEROKU CLI

- 選擇Download and Install，接下來找尋自己作業系統的Heroku CLI



# 安裝HEROKU CLI

- 有Windows專用的CLI，點擊下載並安裝
- 安裝完畢後，打開指令模式(Windows下稱為cmd)



Node.js + Express

# 部屬前置作業

# 部屬前置作業

- 程式碼調整
  - 在index.js中調整app listen的方式

```
var express = require('express');
...
app.get('/createUser', function (req, res) {
  ...
})
app.get('/deleteUser', function (req, res) {
  ...
})
app.get('/updateUser', function (req, res) {
  ...
})
app.get('/login', function (req, res) {
  ...
})
app.get('/userList', function (req, res) {
  ...
})
app.listen(process.env.PORT || 3000);
```

`process.env.PORT`  
可以取得Heroku自動分配Port



# 部屬前置作業

- 新增Heroku描述檔
  - 新增一個檔案取名為Procfile，放在與index.js同層檔案中只要包含以下描述

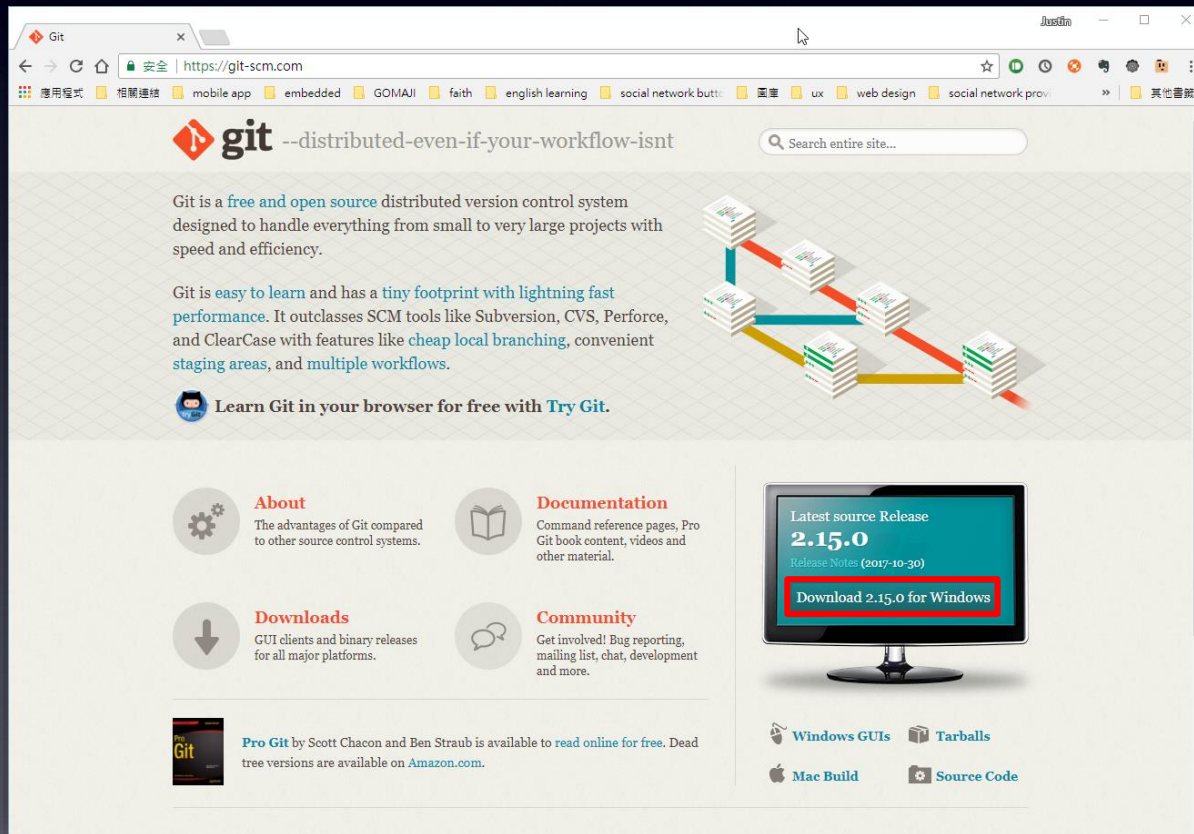
指示Heroku執行的Web類型的應用

web: node index.js

執行檔案的指令

# 部屬前置作業

- 安裝Git，進入官網，點選Download...
- <https://git-scm.com/>



# 部屬前置作業

- 在Heroku上，是使用Git來做程式碼部屬
- 什麼是Git?
  - 版本控管服務，可以記錄程式碼的修改歷程，並可以快速地恢復成之前的狀態，也可以用於部屬程式碼
  - <https://zh.wikipedia.org/wiki/Git>
- Git的教學
  - <https://backlog.com/git-tutorial/tw/>

# 部屬前置作業

- 安裝完Git，打開指令模式
- 輸入以下指令
  - `git config --global user.name "你的英文名字"`
  - `git config --global user.email 你的Email`



```
命令提示字元
Microsoft Windows [版本 10.0.15063]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\liu71>git config --global user.name "Justin"

C:\Users\liu71>git config --global user.email silencecork@gmail.com

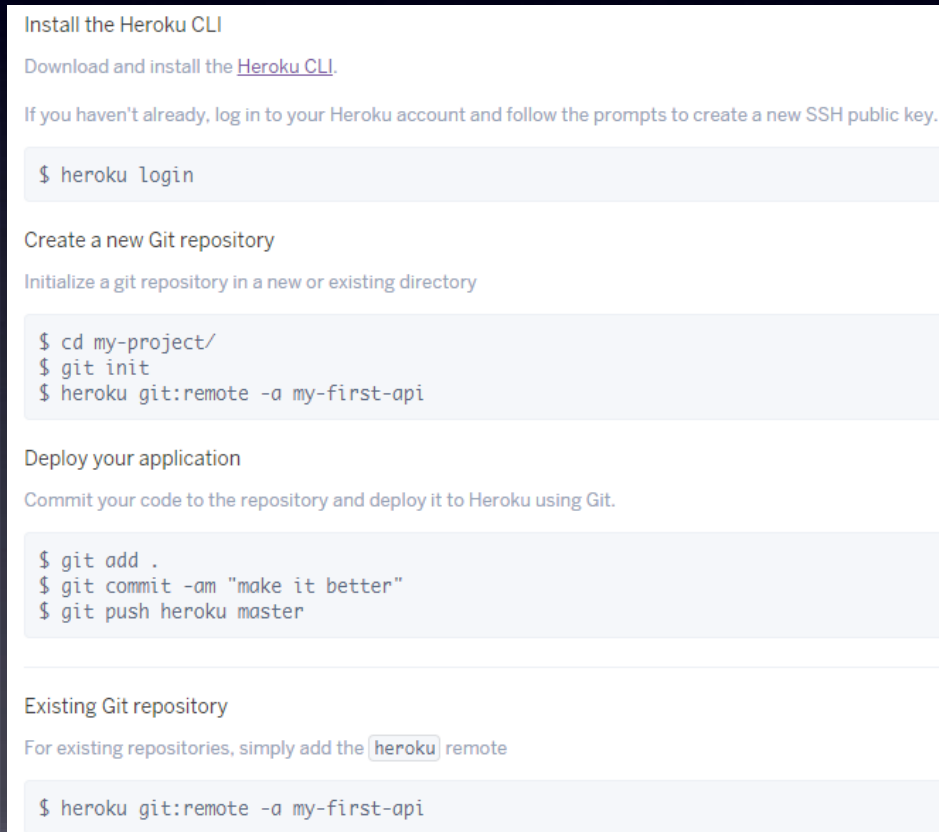
C:\Users\liu71>
```

Heroku

部屬程式到HEROKU

# 部屬程式到HEROKU

- 回到Heroku你自己雲端服務的Deploy Tab
- 底下有說明如何部屬程式碼



Install the Heroku CLI

Download and install the [Heroku CLI](#).

If you haven't already, log in to your Heroku account and follow the prompts to create a new SSH public key.

```
$ heroku login
```

Create a new Git repository

Initialize a git repository in a new or existing directory

```
$ cd my-project/  
$ git init  
$ heroku git:remote -a my-first-api
```

Deploy your application

Commit your code to the repository and deploy it to Heroku using Git.

```
$ git add .  
$ git commit -am "make it better"  
$ git push heroku master
```

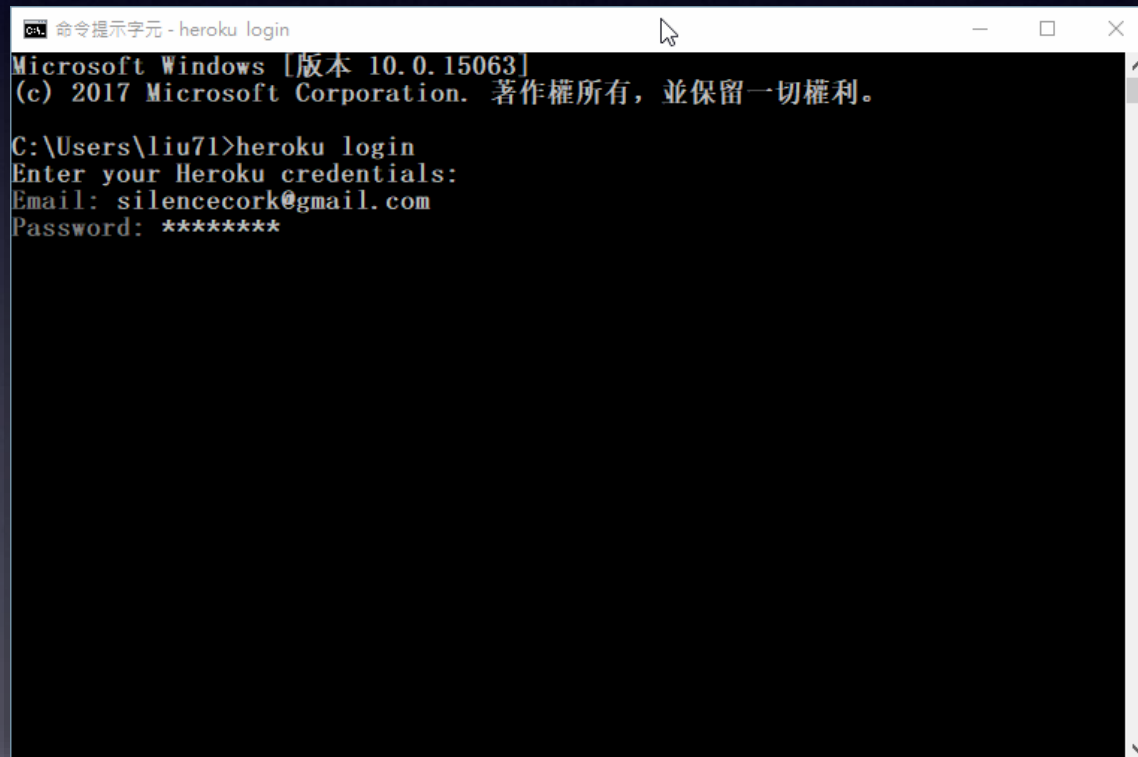
Existing Git repository

For existing repositories, simply add the `heroku` remote

```
$ heroku git:remote -a my-first-api
```

# 部屬程式到HEROKU

- 打開指令模式，請自行找尋電腦上的空間(Windows 建議在C:\Users\<使用者名稱下>\)
- 打入指令`heroku login`，並照著指示輸入登入資訊

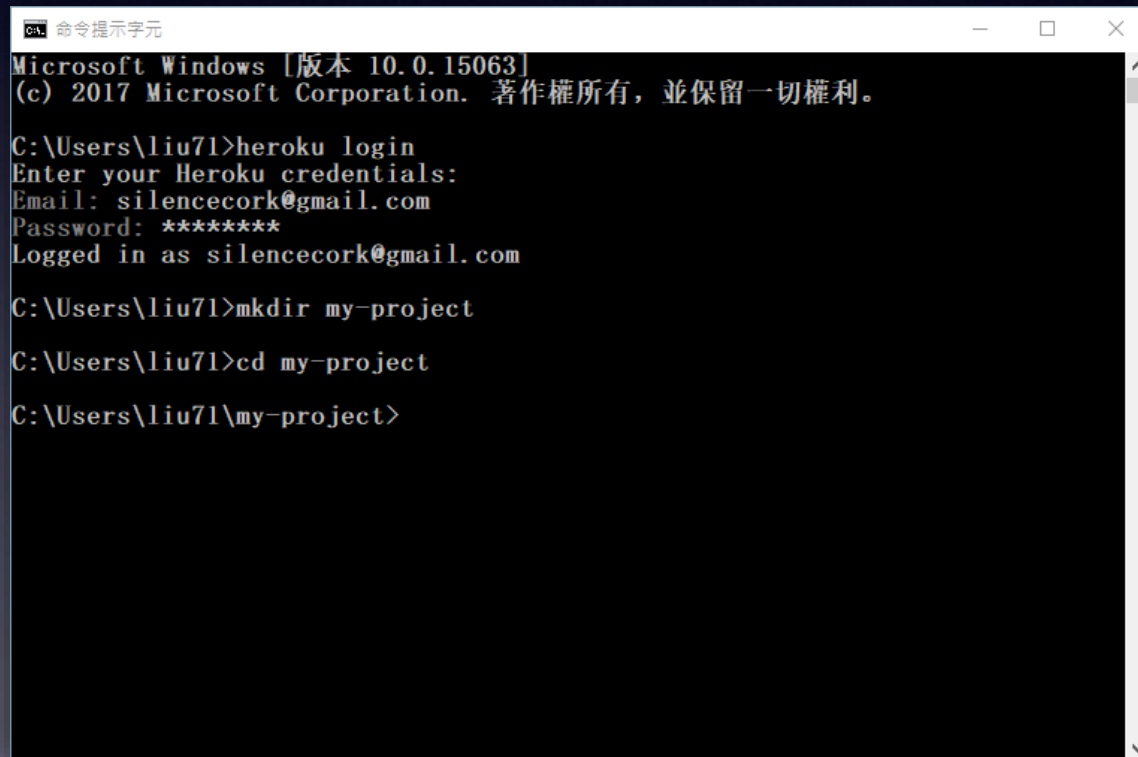


```
命令提示字元 - heroku login
Microsoft Windows [版本 10.0.15063]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\liu71>heroku login
Enter your Heroku credentials:
Email: silencecork@gmail.com
Password: *****
```

# 部屬程式到HEROKU

- 接下來建立擺放Server程式碼的資料夾
- 輸入建立資料夾指令`mkdir my-project`，再輸入`cd my-project`切換到資料夾內



```
命令提示字元
Microsoft Windows [版本 10.0.15063]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\liu71>heroku login
Enter your Heroku credentials:
Email: silencecork@gmail.com
Password: *****
Logged in as silencecork@gmail.com

C:\Users\liu71>mkdir my-project

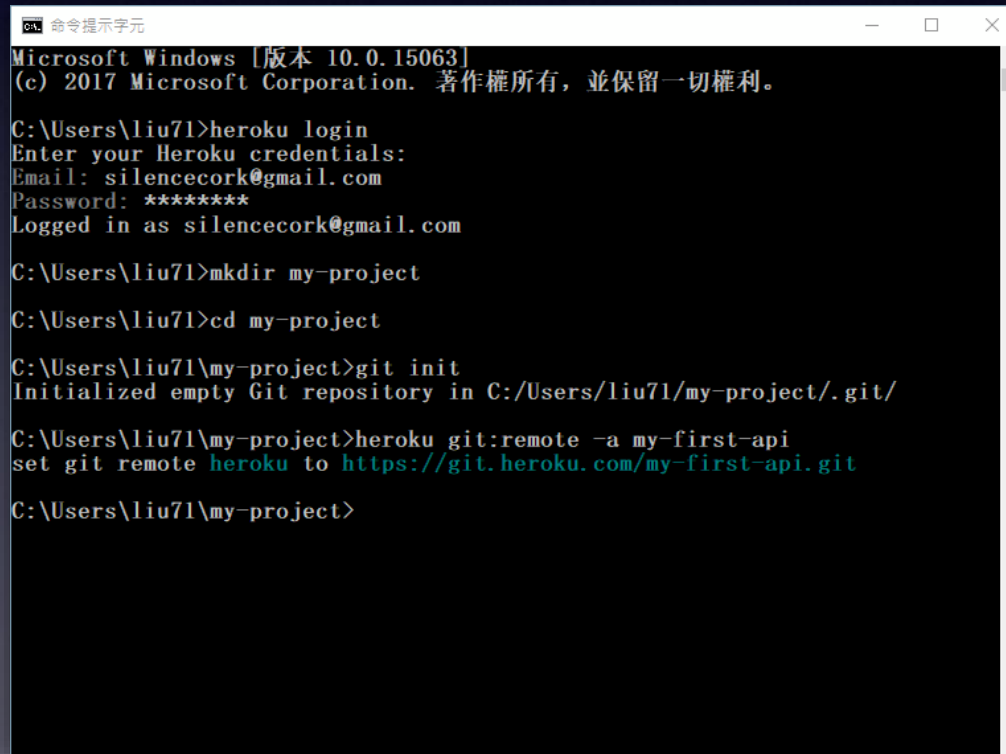
C:\Users\liu71>cd my-project

C:\Users\liu71\my-project>
```



# 部屬程式到HEROKU

- 接下來建立git repository
- 輸入指令git init
- 再輸入heroku git:remote -a my-first-api



```
命令提示字元
Microsoft Windows [版本 10.0.15063]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\liu71>heroku login
Enter your Heroku credentials:
Email: silencecork@gmail.com
Password: *****
Logged in as silencecork@gmail.com

C:\Users\liu71>mkdir my-project

C:\Users\liu71>cd my-project

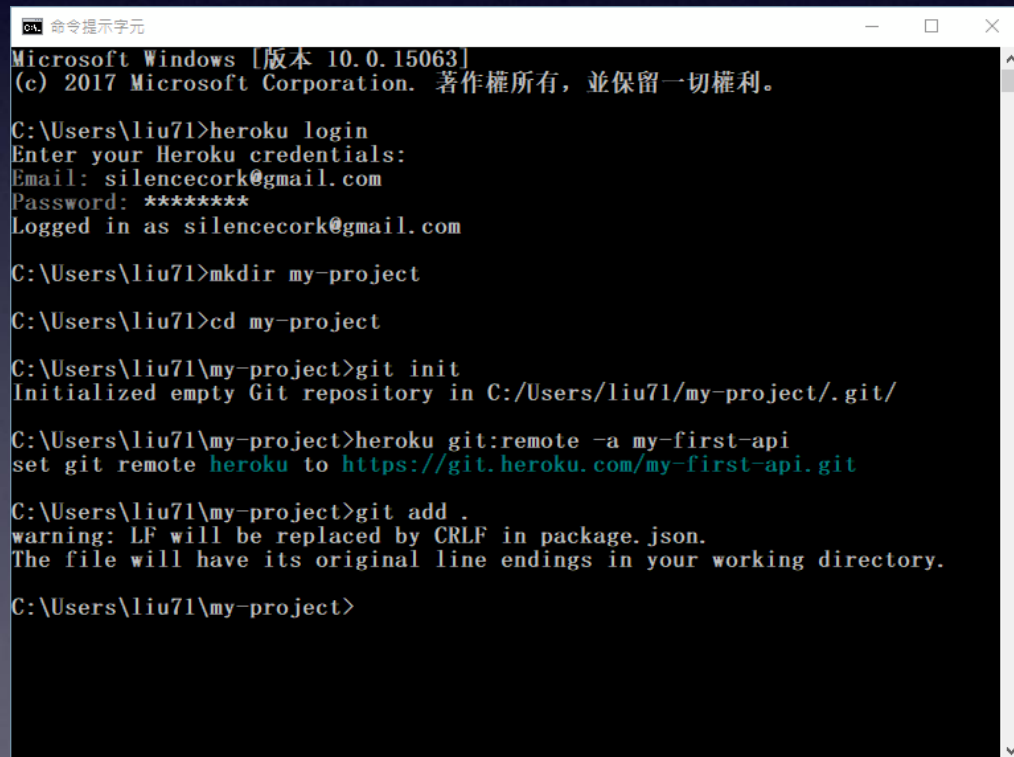
C:\Users\liu71\my-project>git init
Initialized empty Git repository in C:/Users/liu71/my-project/.git/

C:\Users\liu71\my-project>heroku git:remote -a my-first-api
set git remote heroku to https://git.heroku.com/my-first-api.git

C:\Users\liu71\my-project>
```

# 部屬程式到HEROKU

- 將專案檔案index.js, package.json, Procfile都複製到這個資料夾
- 在命令模式打入指令git add .



```
命令提示字元
Microsoft Windows [版本 10.0.15063]
(c) 2017 Microsoft Corporation. 著作權所有，並保留一切權利。

C:\Users\liu71>heroku login
Enter your Heroku credentials:
Email: silencecork@gmail.com
Password: *****
Logged in as silencecork@gmail.com

C:\Users\liu71>mkdir my-project

C:\Users\liu71>cd my-project

C:\Users\liu71\my-project>git init
Initialized empty Git repository in C:/Users/liu71/my-project/.git/

C:\Users\liu71\my-project>heroku git:remote -a my-first-api
set git remote heroku to https://git.heroku.com/my-first-api.git

C:\Users\liu71\my-project>git add .
warning: LF will be replaced by CRLF in package.json.
The file will have its original line endings in your working directory.

C:\Users\liu71\my-project>
```

# 部屬程式到HEROKU

- 接下來輸入指令 `git commit -m "first commit"`
- 再接著輸入 `git push heroku master`
- 部屬完成!

```
選擇 命令提示字元
C:\Users\liu71\my-project>heroku git:remote -a my-first-api
set git remote heroku to https://git.heroku.com/my-first-api.git

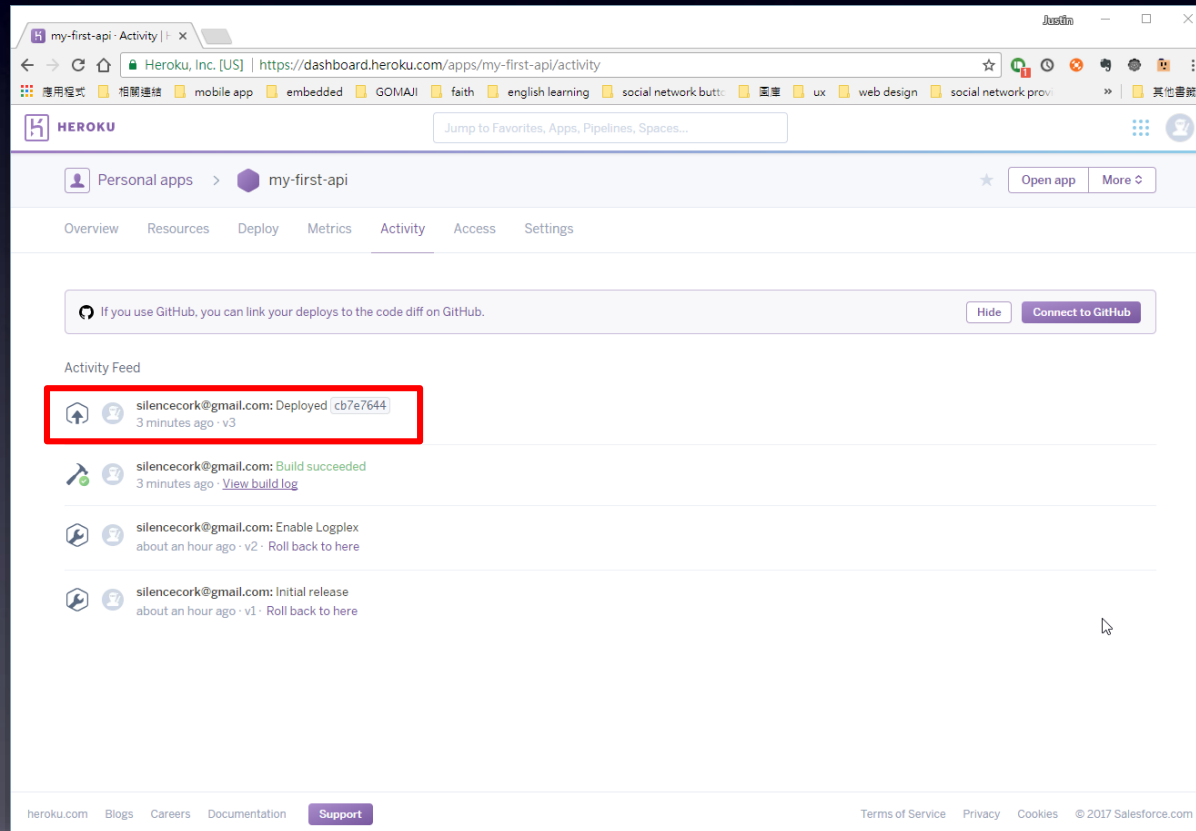
C:\Users\liu71\my-project>git add .
warning: LF will be replaced by CRLF in package.json.
The file will have its original line endings in your working directory.

C:\Users\liu71\my-project>git commit -m "first commit"
[master (root-commit) cb7e764] first commit
3 files changed, 196 insertions(+)
create mode 100644 Procfile
create mode 100644 index.js
create mode 100644 package.json

C:\Users\liu71\my-project>git push heroku master
Counting objects: 5, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 1.22 KiB | 1.22 MiB/s, done.
Total 5 (delta 0), reused 0 (delta 0)
remote: Compressing source files... done.
remote: Building source:
remote:
remote: -----> Node.js app detected
remote:
remote: -----> Creating runtime environment
remote:
remote:       NPM_CONFIG_LOGLEVEL=error
remote:       NPM_CONFIG_PRODUCTION=true
remote:       NODE_VERBOSE=false
```

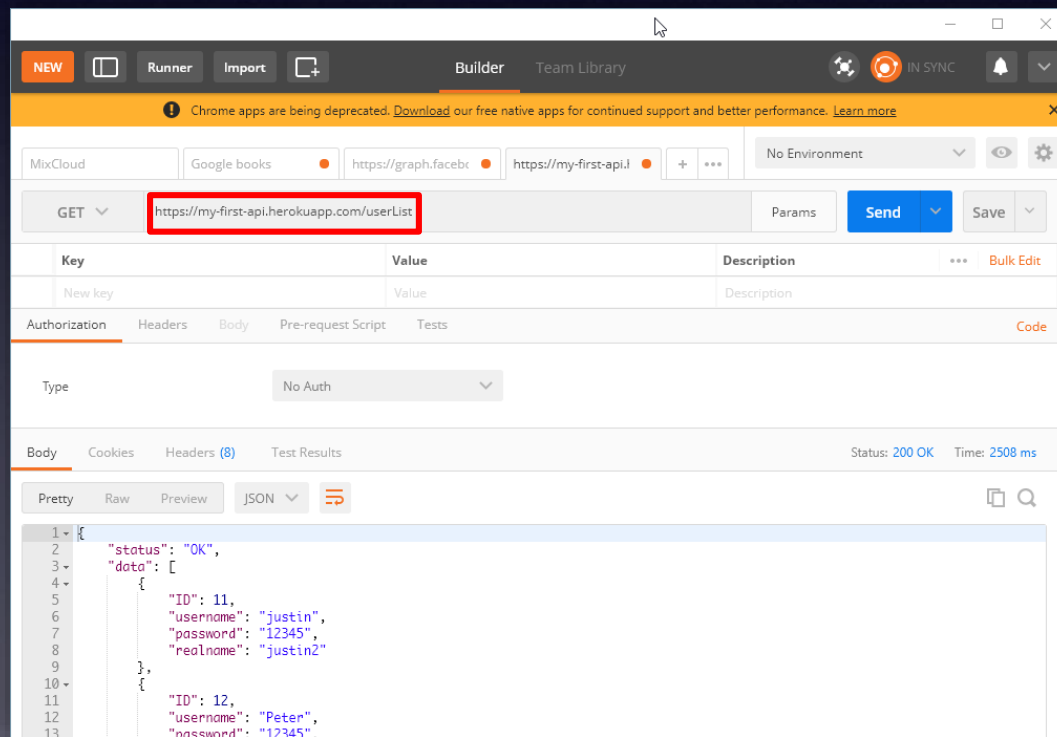
# 部屬程式到HEROKU

- 可到Heroku的服務頁，其中的Activity看看部屬狀況



# 部屬程式到HEROKU

- 現在可以試著用Postman來呼叫API
- API的主機位置記得改為Heroku分配的DNS
- 以本例子，就是<https://my-first-api.herokuapp.com/>



Homework

作業

# 作業說明

- 將上週自己的API Server，部屬到Heroku上
- 使用Java與Heroku的API Server相連接

Q & A