

科學計算程式設計實習

Python Facebook SDK

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什麼是 Graph API

- Graph API 是 Facebook 所推出的一種技術標準
- 核心概念是：「物件與連結」
- Facebook 將整個社群抽象為物件與物件之間連結的圖

- 整個 Facebook 就是透過物件與連結建立而成的 Social Graph
- Facebook 所提供存取的介面，就稱為「Graph API」

如何使用 Graph API

- Facebook 提供給外部程式存取的方式就是URL
- 如果以 Javascript 實作就是透過 Ajax
- Java 可以用 HttpURLConnection 或直接用 HttpClient 的 API

- 簡單而言就是「透過 Http 的 Request」
- 發出請求的 URL 格式如下，「ID 為物件 id，CONNECTION_TYPE 為物件連結的種類」

https://graph.facebook.com/ID/CONNECTION_TYPE

- 而 Facebook 會給 json format 的回傳內容
- 以 User 物件而言，在沒有授權的情況下，能夠存取到以下這些欄位：

```
{  
  "id": "100000274774093",  
  "name": "林蔚儒",  
  "first_name": "蔚儒",  
  "last_name": "林",  
  "link": "https://www.facebook.com/rusiasia",  
  "username": "rusiasia",  
  "gender": "male",  
  "locale": "zh_TW"  
}
```

- 如果沒有授權，會出現這樣的回傳結果：

```
{  
  "error": {  
    "message": "(#604) Can't lookup all friends of 1000559192. Can only lookup  
    for the logged in user or the logged in user's friends that are users of your  
app.",  
    "type": "OAuthException",  
    "code": 604  
  }  
}
```

App Development

APIs and SDKs

Graph API

Using the Graph API

Reference

Common Scenarios

Other APIs

Advanced

iOS SDK

Android SDK

JavaScript SDK

PHP SDK

Unity SDK

The Graph API

The primary way for apps to read and write to the Facebook social graph. The Graph API has multiple versions available, read about [what has changed](#) and how to [upgrade from older versions](#).

Overview

Learn how the Graph API is structured, how versioning works and what access tokens are.

Using the Graph API

Learn how to publish to and retrieve data from Facebook using the Graph API.

API Reference

Get the full details of all the nodes, edges, and fields in the latest version of the Graph API.

Graph API and SDKs

Learn how to use our [iOS](#), [Android](#), [JavaScript](#), [PHP](#) SDKs with the Graph API. [Third-party SDKs](#) are also available.

Staying up to date

The current, latest version of the Graph API is v2.3. Apps calling v1.0 have until April 30, 2015 to upgrade to v2.0 or later.

<https://developers.facebook.com/docs/graph-api>

建立 Facebook app

- 登入 Facebook (<http://www.facebook.com>)



The screenshot shows the Facebook mobile app interface. At the top, there's a blue header with the Facebook logo on the left and login fields on the right. The login fields include "電子郵件或電話" (Email or phone) and "密碼" (Password), with a "登入" (Log in) button. Below the header, the main content area is white. On the left, there's a promotional graphic for the mobile app featuring a smartphone with the Facebook logo on its screen. Text next to it says "要出門了？別忘了帶上手機" (Going out? Don't forget to bring your phone) and "隨時從手機瀏覽 facebook.com" (Browse facebook.com anytime from your phone). A button labeled "開通 Facebook 手機功能" (Get Facebook mobile) is also present. On the right, the "註冊" (Sign up) section is visible, stating "完全並永遠免費！" (Completely and forever free!). The registration form includes fields for "姓氏" (Last name) and "名字" (First name), followed by "電子郵件地址或手機號碼" (Email address or phone number) and a confirmation field. There's also a "新密碼" (New password) field. Below these, there's a "生日" (Birthday) section with dropdowns for "年" (Year), "月" (Month), and "日" (Day), and a link "為什麼需要提供我的生日？" (Why do I need to provide my birthday?). Gender options "女性" (Female) and "男性" (Male) are also present. A small disclaimer at the bottom of the registration section states: "一旦點擊註冊，即表示你同意使用條款，而且你也閱讀了資料政策，包括 Cookie 的使用。" (By clicking Sign Up, you agree to the Terms of Use, and you have read the Privacy Policy, including the use of Cookies.). A large green "註冊" (Sign up) button is at the bottom of the registration section. At the very bottom of the page, there's a link: "為名人、團體或公司企業建立粉絲專頁" (Create a fan page for a celebrity, group, or business).

facebook

電子郵件或電話
密碼
登入
記住我 忘記密碼？

要出門了？別忘了帶上手機
隨時從手機瀏覽 facebook.com

開通 Facebook 手機功能

註冊
完全並永遠免費！

姓氏 名字

電子郵件地址或手機號碼

重新輸入電子郵件地址或手機號碼

新密碼

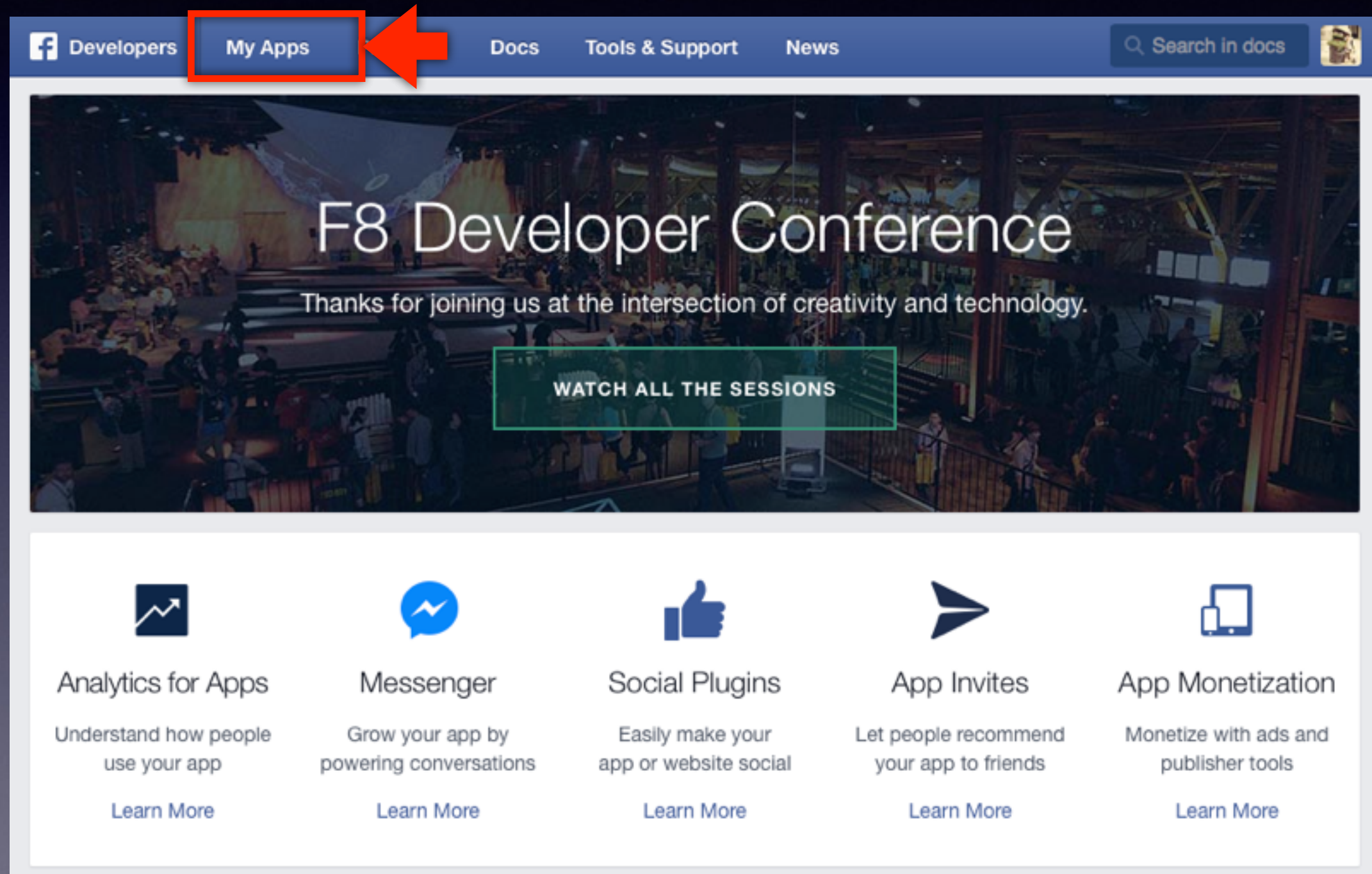
生日
年 月 日 為什麼需要提供我的生日？
女性 男性

一旦點擊註冊，即表示你同意使用條款，而且你也閱讀了資料政策，包括 Cookie 的使用。


註冊

為名人、團體或公司企業建立粉絲專頁


- 進入 Facebook Developer 頁面（<https://developers.facebook.com>）後點選“My Apps”選項




- 點選“Create a New App”

 Developers


My AppsProductsDocsTools & SupportNews

Search in docs

You currently have no apps integrated with Facebook.



Create a New App

 Developers

Products
Facebook Login
Sharing
Parse
Games
Ads for Apps

SDKs
iOS SDK
Android SDK
JavaScript SDK
PHP SDK
Unity SDK

Tools
Graph API Explorer
Open Graph Debugger
Object Browser
JavaScript Test Console
Facebook Insights

Support
Platform Status
Developers Group
Preferred Developers
Bugs

News
Blog
Developer Roadmap
Showcase

Facebook © 2015
中文(台灣)

AboutCreate AdCareersPlatform PolicyPrivacy PolicyCookiesTerms

- Display Name 輸入 Python Test
- 類別 選擇 ”參考” 後點 “Create App ID”

The screenshot shows the 'Create a New App ID' form with the following elements and annotations:

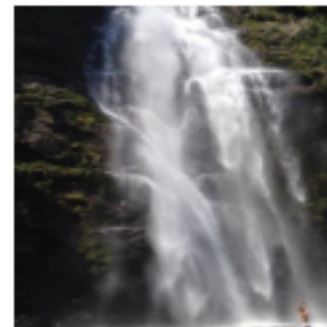
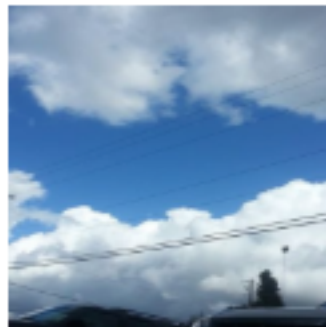
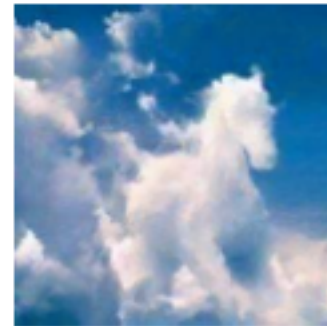
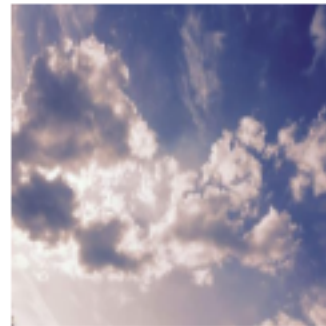
- Section Header:** 'Create a New App ID' with the subtitle 'Get started integrating Facebook into your app or website'.
- Step 1:** An arrow labeled '1' points to the 'Display Name' input field, which contains the text 'Python Test'. The entire input field is highlighted with a red border.
- Step 2:** An arrow labeled '2' points to the 'Namespace' section. Within this section, the '類別' (Category) dropdown menu is highlighted with a red border and shows the selected option '參考' (Reference) with a downward arrow.
- Step 3:** An arrow labeled '3' points to the 'Create App ID' button at the bottom right of the form.
- Footer:** A line of text at the bottom reads 'By proceeding, you agree to the Facebook Platform Policies'.

- 安全驗證 後點選“送出”

安全驗證

請選擇所有顯示雲朵的相片。

你也可以針對文字或語音執行安全驗證，而不只是相片。

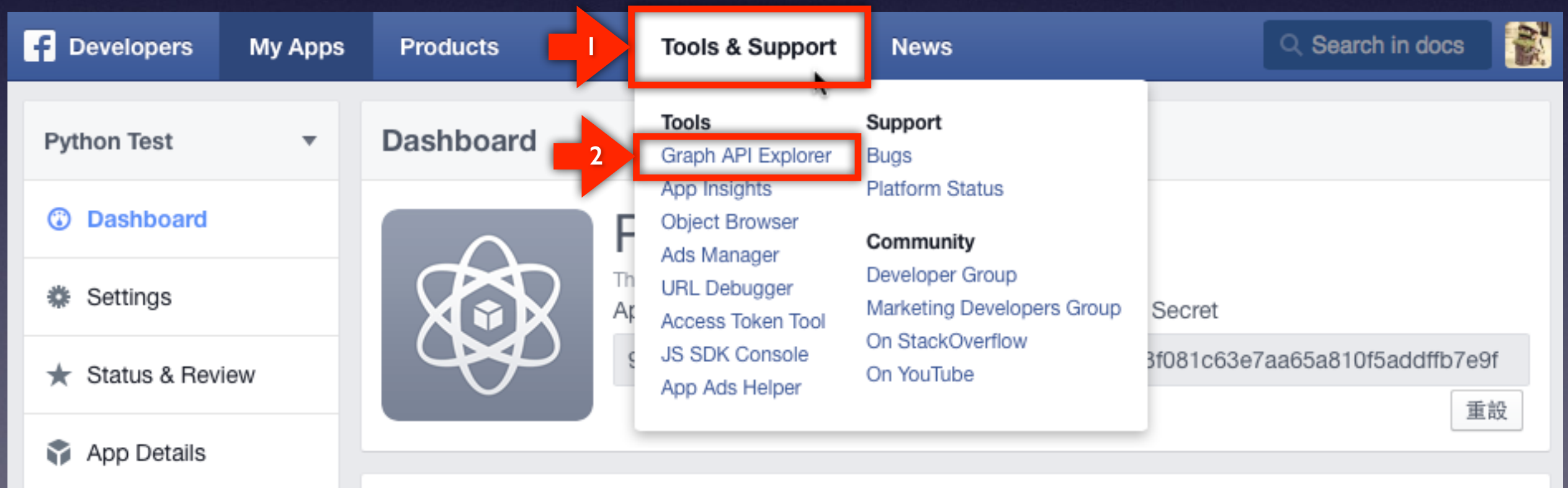


若你認為這是誤會，請請通知我們。

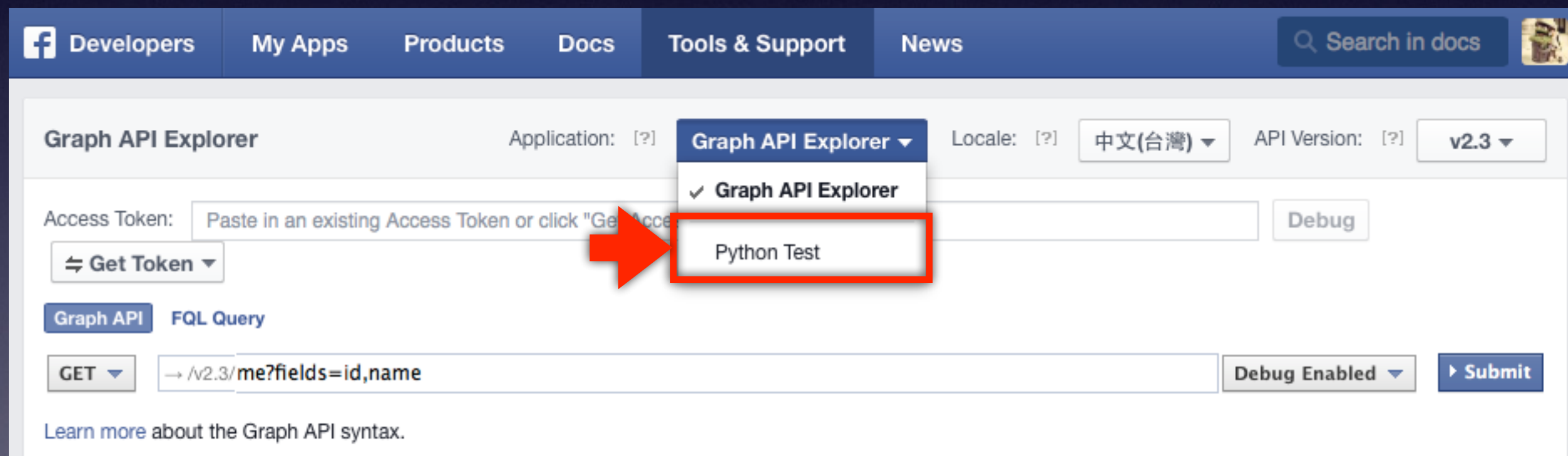


取得 Graph API Token

- 點選“Tools & Support”下的“Graph API Explorer”



- Application 選擇 “Python Test”



The screenshot shows the Facebook Graph API Explorer interface. At the top, there is a navigation bar with links: Developers, My Apps, Products, Docs, Tools & Support, and News. A search bar labeled "Search in docs" is on the right. Below the navigation bar, the main area is titled "Graph API Explorer". It includes fields for "Application" (set to "[?]", with a dropdown menu open), "Locale" (set to "[?]", with a dropdown menu showing "中文(台灣)"), and "API Version" (set to "[?]", with a dropdown menu showing "v2.3"). The dropdown menu for "Application" is open, showing two options: "Graph API Explorer" (checked) and "Python Test" (highlighted with a red box). A red arrow points from the "Get Token" button to the "Python Test" option. Below the application selection, there is an "Access Token" field with a placeholder text "Paste in an existing Access Token or click 'Get Access Token'", a "Get Token" button, and a "Debug" button. At the bottom, there is a "Graph API" tab and an "FQL Query" tab. The "Graph API" tab is active, showing a "GET" method and a URL field containing "/v2.3/me?fields=id,name". There is a "Debug Enabled" dropdown and a "Submit" button. A link "Learn more about the Graph API syntax." is at the bottom left.

- Get Token 選擇 “Get Access Token”

Graph API Explorer

Application: [?] Python Test ▼ Locale: [?] 中文(台灣) ▼ API Version: [?] v2.3 ▼

Access Token:

⇌ Get Token ▼

⇌ Get Access Token

⇌ Get App Token

- 選擇權限 點選 ”Extended Permissions” 分頁

選擇權限

☒ User Data Permissions ☐ Extended Permissions

☒ user_about_me ☐ user_actions.books ☐ user_actions.fitness
☐ user_actions.music ☐ user_actions.news ☐ user_actions.video
☐ user_birthday ☐ user_education_history ☐ user_events
☐ user_friends ☐ user_games_activity ☐ user_groups
☐ user_hometown ☐ user_likes ☐ user_location
☐ user_managed_groups ☐ user_photos ☐ user_posts
☐ user_relationship_details ☐ user_relationships ☐ user_religion_politics
☐ user_status ☐ user_tagged_places ☐ user_videos
☐ user_website ☐ user_work_history

預設已包含公開的個人資料。

- Extended Permissions 勾選“publish_actions”後點選“Get Access Token”

選擇權限

User Data Permissions Extended Permissions

<input type="checkbox"/> ads_management	<input type="checkbox"/> ads_read	<input type="checkbox"/> email
<input type="checkbox"/> manage_notifications	<input type="checkbox"/> manage_pages	<input checked="" type="checkbox"/> publish_actions
<input type="checkbox"/> publish_pages	<input type="checkbox"/> read_custom_friendlists	<input type="checkbox"/> read_insights
<input type="checkbox"/> read_mailbox	<input type="checkbox"/> read_page_mailboxes	<input type="checkbox"/> read_stream
<input type="checkbox"/> rsvp_event		

預設已包含公開的個人資料。

1

2

Get Access Token Clear 取消

- Python Test 將取得以下資訊：你的公開的個人檔案 點選“確定”



- Python Test 想替你在 Facebook 發表貼文
點選“確定”



- 完成 Access Token，並將 Access Token 複製

Facebook Developers navigation bar: Developers, My Apps, Products, Docs, Tools & Support, News. Search in docs.

Graph API Explorer

Application: [?] Python Test ▼ Locale: [?] 中文(台灣) ▼ API Version: [?] v2.3 ▼

Access Token: CAAOILLVtuyMBADZBvwNakvyITfzcgkVXY1rSCpbWo2WPwRvWPVyZC4tweBSpOtn5Xw0bcz8Vi0rtVZCI497vITkdZ

Get Token ▼

Graph API FQL Query

GET ▼ → /v2.3/me?fields=id,name Debug Enabled ▼ Submit

[Learn more about the Graph API syntax.](#)

下載 requests package

- 至 <https://pypi.python.org/pypi/requests> 下載 requests

The screenshot shows the PyPI page for the 'requests' package, version 2.6.2. The page layout includes a sidebar on the left with links like 'PACKAGE INDEX', 'Browse packages', and 'PyPI Tutorial'. The main content area displays the package name 'requests 2.6.2', its description 'Python HTTP for Humans.', and download statistics 'pypi v2.6.2 downloads 4M/month'. A red arrow points to a green button labeled 'Downloads ↓'. Below this, there is a code snippet demonstrating how to use the requests library to fetch data from GitHub. The right sidebar contains user-related links such as 'Not Logged In', 'Login', 'Register', and 'Status'.

python™

» Package Index > requests > 2.6.2

requests 2.6.2

Python HTTP for Humans.

pypi v2.6.2 downloads 4M/month

Downloads ↓

Requests is an Apache2 Licensed HTTP library, written in Python, for human beings.

Most existing Python modules for sending HTTP requests are extremely verbose and cumbersome. Python's builtin urllib2 module provides most of the HTTP capabilities you should need, but the api is thoroughly broken. It requires an enormous amount of work (even method overrides) to perform the simplest of tasks.

Things shouldn't be this way. Not in Python.

```
>>> r = requests.get('https://api.github.com', auth=('user', 'pass'))
>>> r.status_code
204
>>> r.headers['content-type']
'application/json'
>>> r.text
...

```

See [the same code](#), without Requests.

Requests allow you to send HTTP/1.1 requests. You can add headers, form data, multipart files, and parameters with simple Python dictionaries, and access the response data in the same way. It's powered by httplib and [urllib3](#), but it does all the hard work and crazy hacks for you.

Not Logged In

[Login](#)

[Register](#)

[Lost Login?](#)

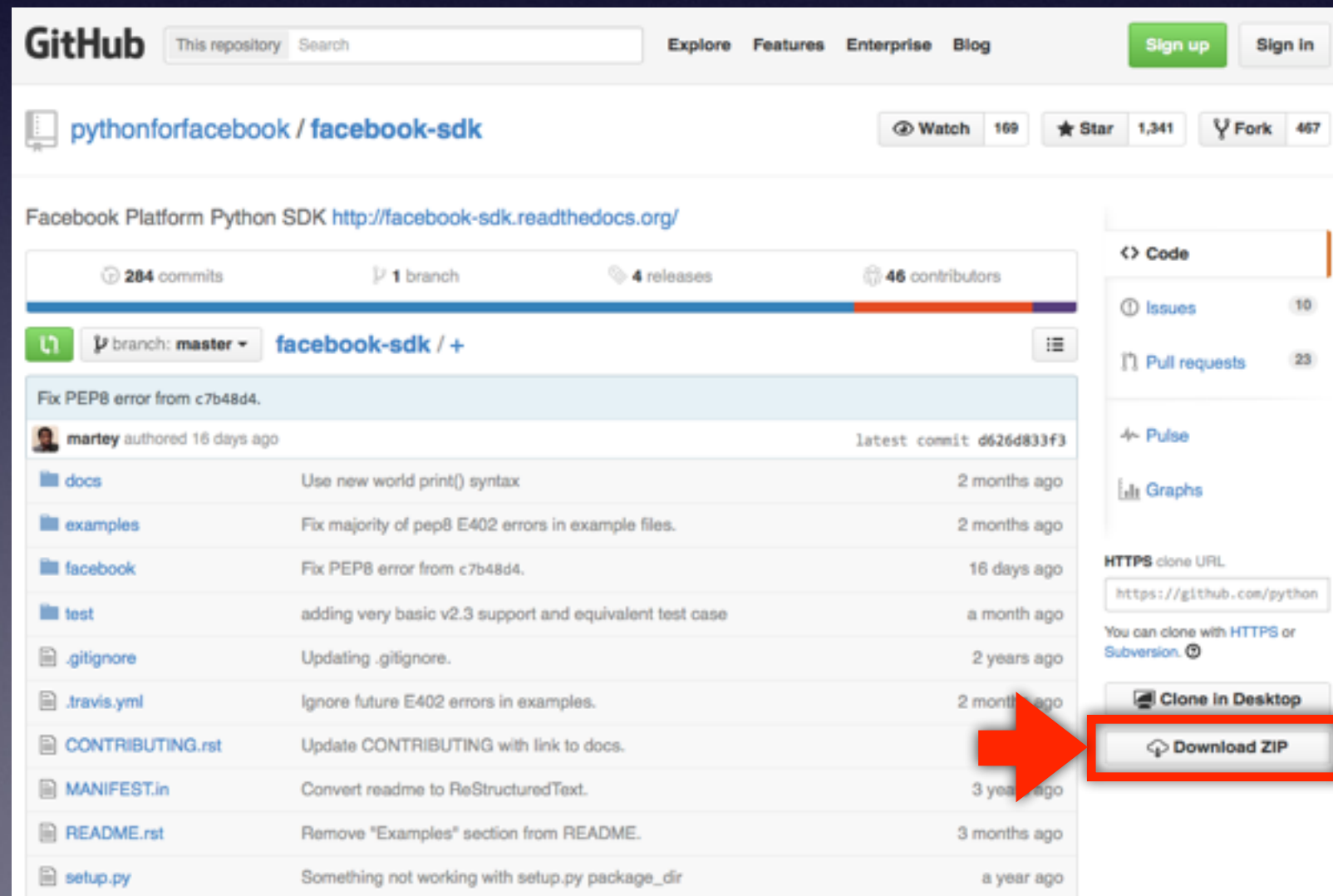
Use [OpenID](#)

Status

[Nothing to report](#)

下載 Facebook SDK for Python

- 至 <https://github.com/pythonforfacebook/facebook-sdk> 下載 facebook-sdk



Facebook SDK for Python

- [Installation](#)
- [Support & Development](#)
 - [Mailing List](#)
 - [Reporting Bugs](#)
 - [Contributing](#)
- [API Reference](#)
 - [class facebook.GraphAPI](#)

This client library is designed to support the [Facebook Graph API](#) and the official [Facebook JavaScript SDK](#), which is the canonical way to implement Facebook authentication. You can read more about the Graph API by accessing its [official documentation](#).

[Next](#) ➞

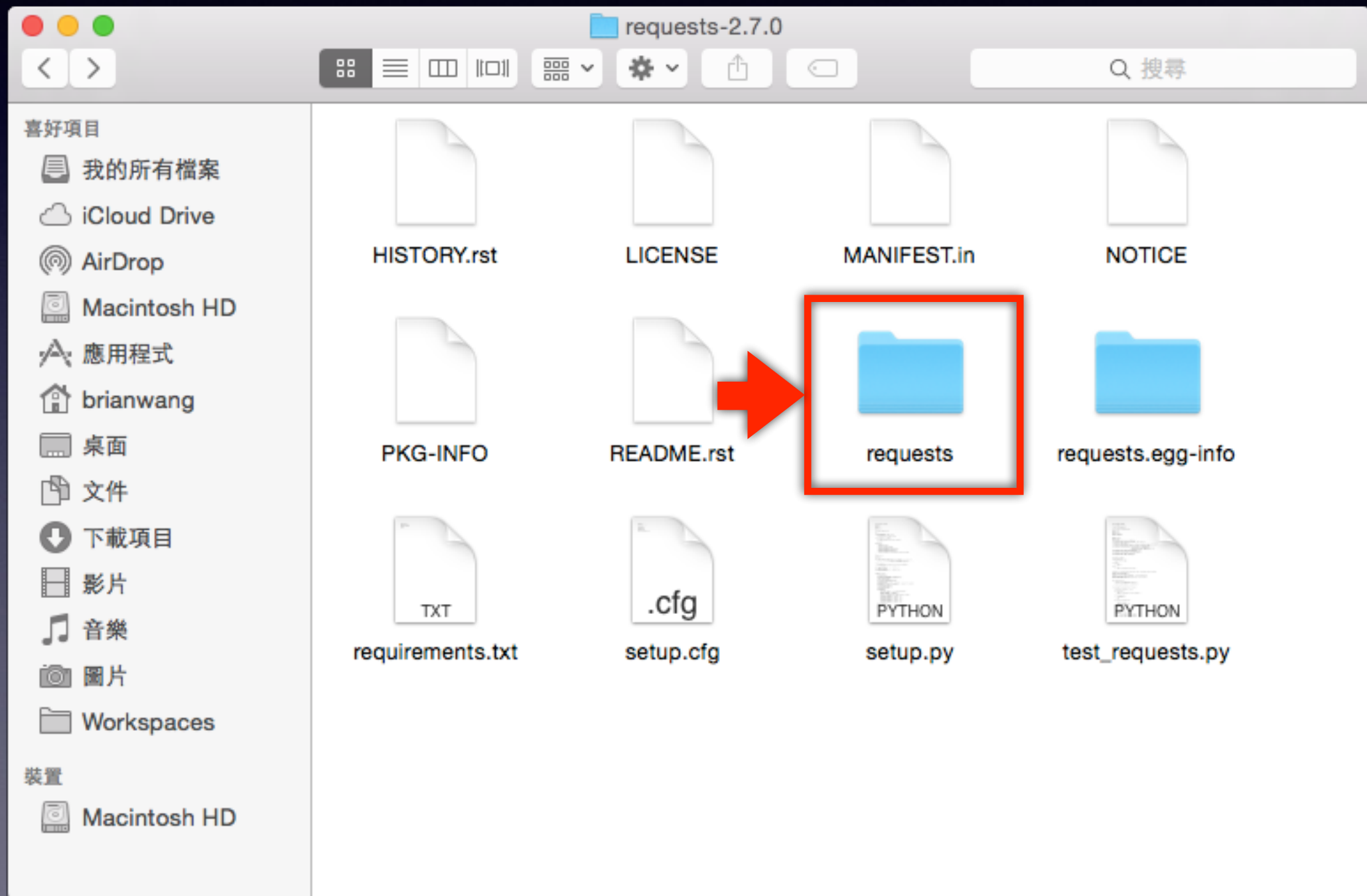
© Copyright 2010 Facebook, 2010-2014 Python for Facebook developers.

Built with [Sphinx](#) using a [theme](#) provided by [Read the Docs](#).

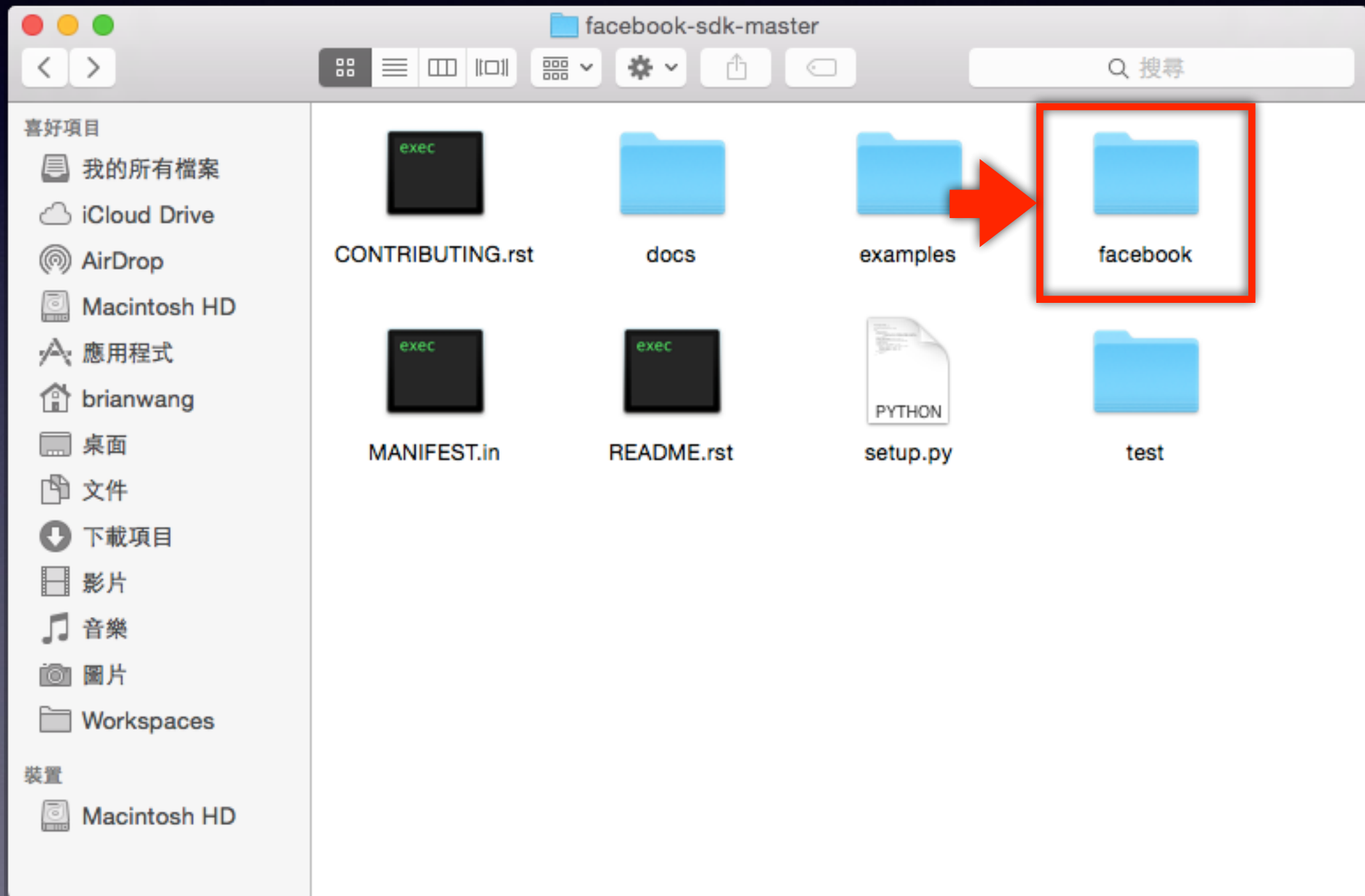
建立 Python 專案

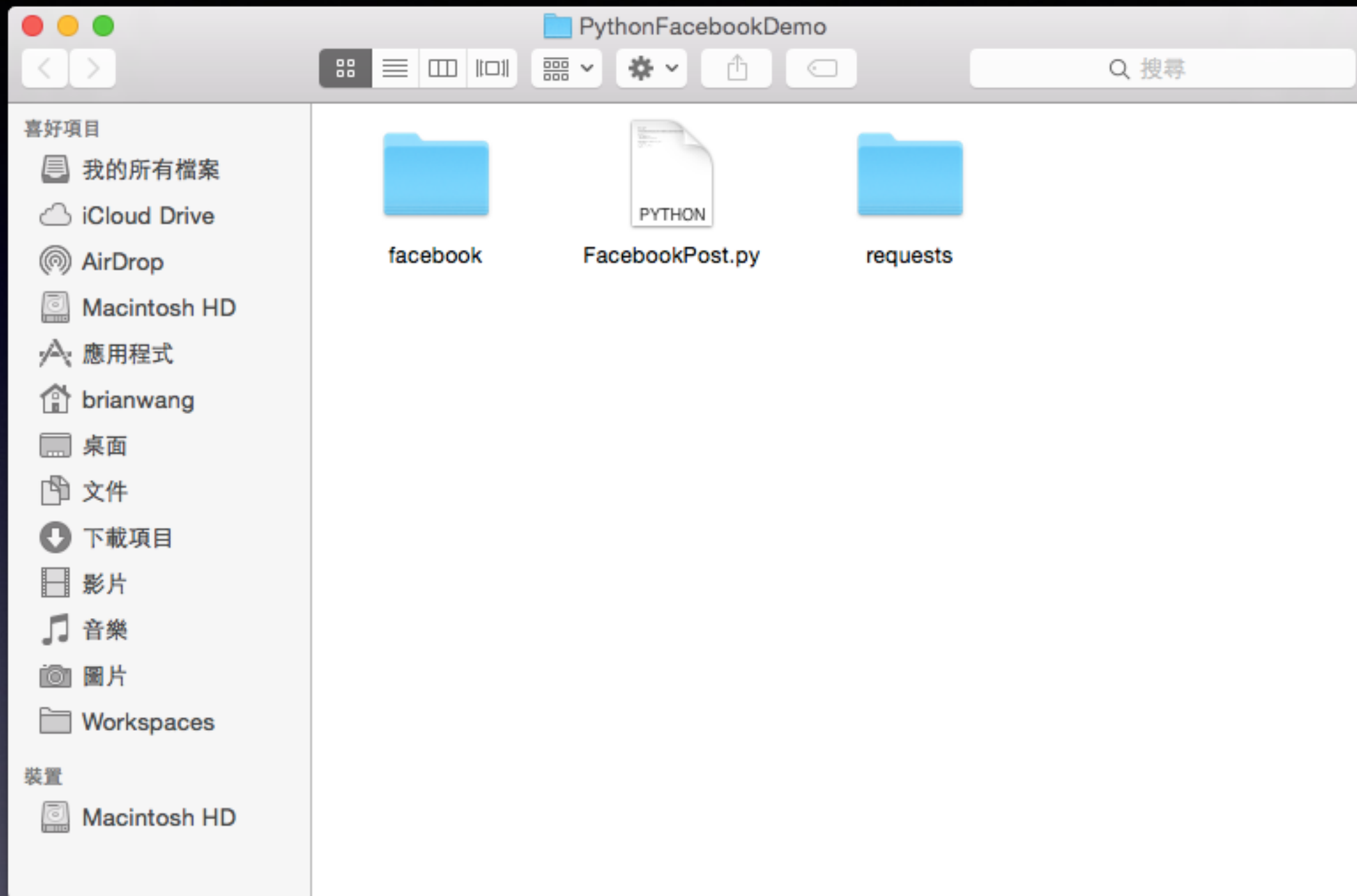
- 新增資料夾，名稱為“PythonFacebookDemo”
- 建立“FacebookPost.py”的 Python 檔案
- 解壓縮 requests package 和 facebook-sdk

- 複製 requests-2.7.0 下的 requests 資料夾到 PythonFacebookDemo



- 複製 facebook-sdk-master 下的 Facebook 資料夾到 PythonFacebookDemo

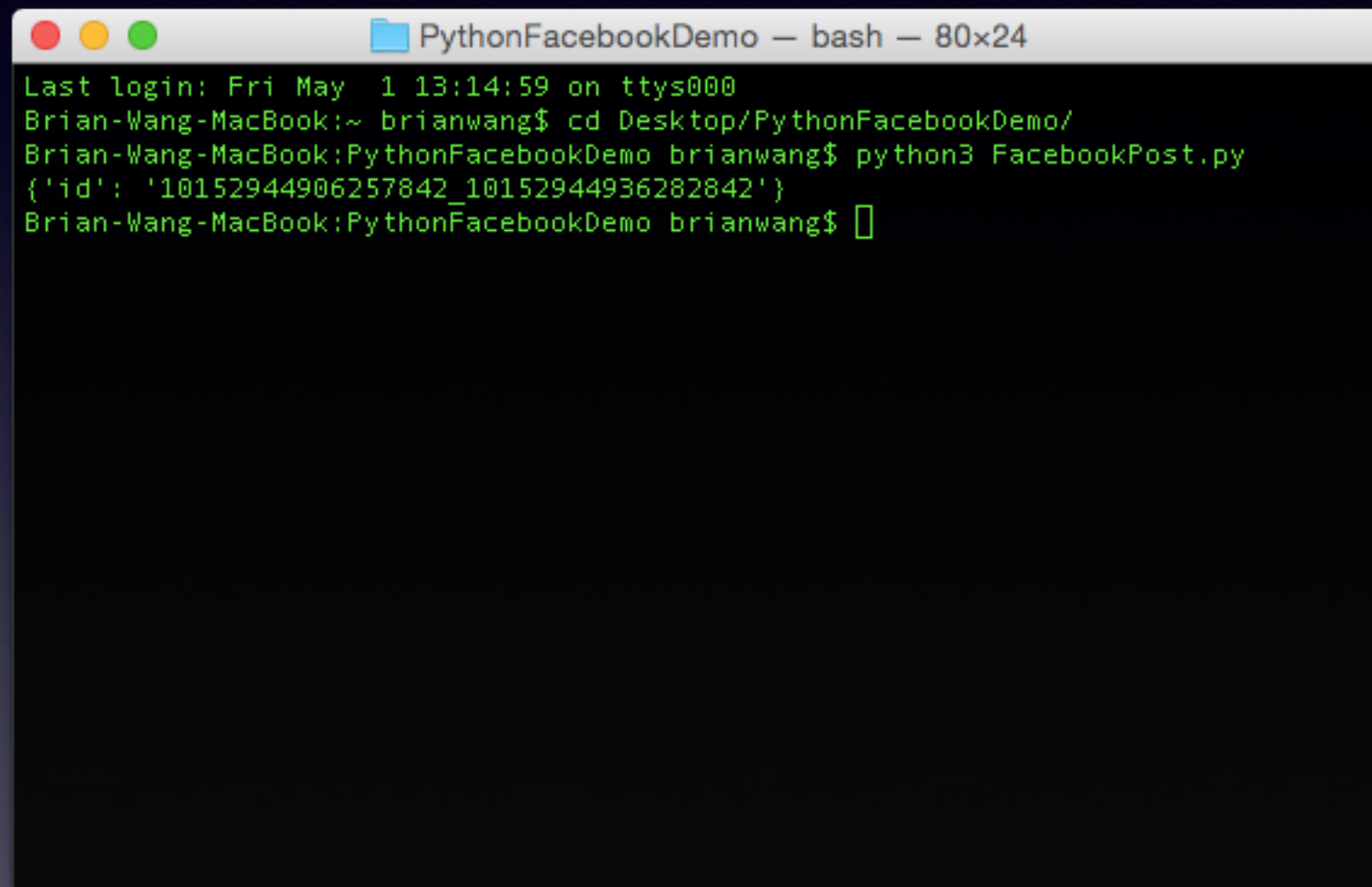




撰寫 Python 程式碼

```
1 import facebook
2
3 access_token = "CAA0ILLVtuyMBAIee9LUaxpl5TIwgcpve1aBYri6ne4dFZCHPxrdeojKjb11mKKiLp48pob8ZBqHfIaeAZBdXsa0kZB7ChI1HNAgVm4eWwsZCqUyoAWVTciCiaHM1
4
5 ▼ def main():
6     api = get_api()
7     msg = "Hello, world!"
8     status = api.put_wall_post(msg)
9     print(status)
10
11 ▼ def get_api():
12     graph = facebook.GraphAPI(access_token)
13     return graph
14
15 ▼ if __name__ == "__main__":
16     main()
```

執行測試



```
PythonFacebookDemo — bash — 80x24
Last login: Fri May  1 13:14:59 on ttys000
Brian-Wang-MacBook:~ brianwang$ cd Desktop/PythonFacebookDemo/
Brian-Wang-MacBook:PythonFacebookDemo brianwang$ python3 FacebookPost.py
{'id': '10152944906257842_10152944936282842'}
Brian-Wang-MacBook:PythonFacebookDemo brianwang$
```

參考資料

- Python Facebook tutorial - post to Facebook page in 4 steps (<http://nodotcom.org/python-facebook-tutorial.html>)
- Facebook SDK for Python (<http://facebook-sdk.readthedocs.org/en/latest/index.html>)