Cloud Datalab

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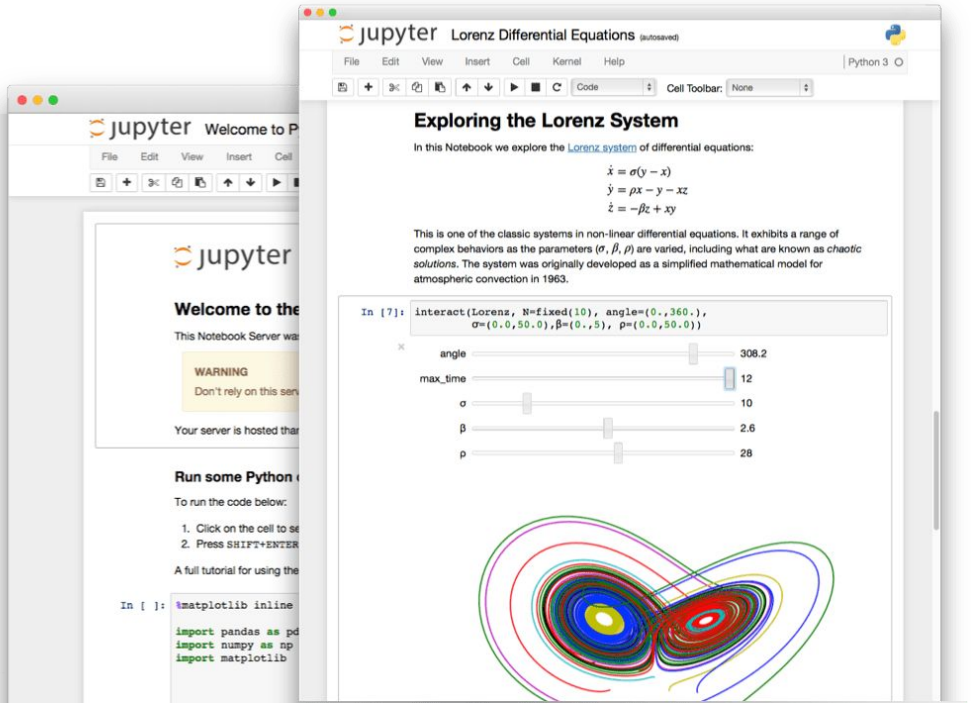
2018/05/12

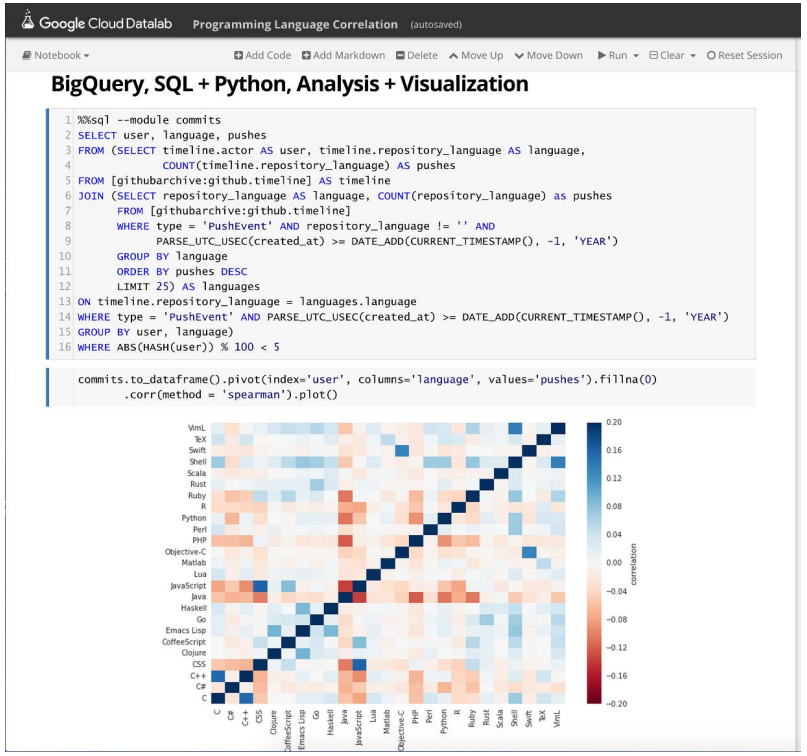
Introduction

- 基於 Jupyter (IPython)
- 互動式介面，即時輸出結果



Introduction (Cont'd)

- 使用 Python
- 整合 Google 服務
  - Google BigQuery
  - Cloud Machine Learning Engine
  - Google Compute Engine
  - Google Cloud Storage

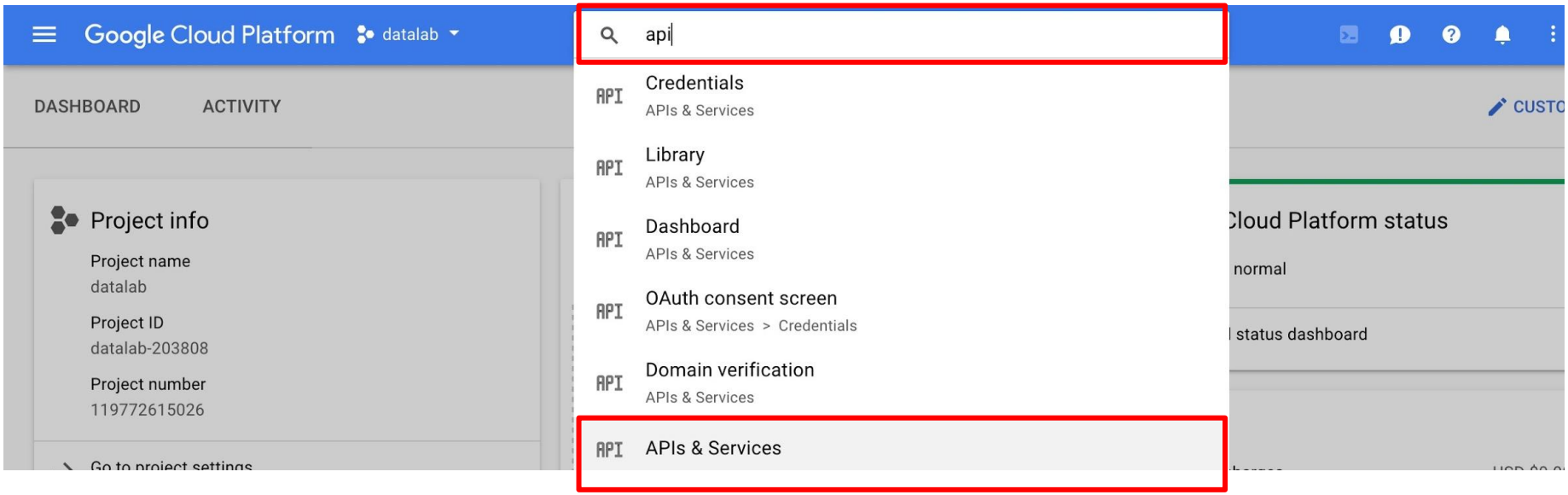


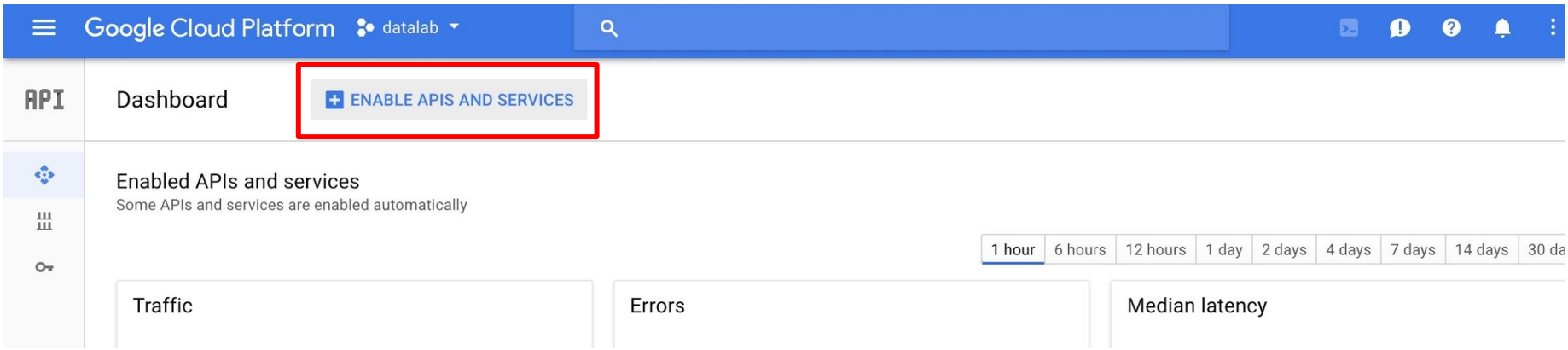
Setup

1. 建立 Google Cloud Platform 帳號
2. 申請免費試用 ($300)
3. 建立專案
4. 啟用 Compute Engine API and Source Repositories API
5. 開啟 Cloud Shell
6. 啟動 Datalab

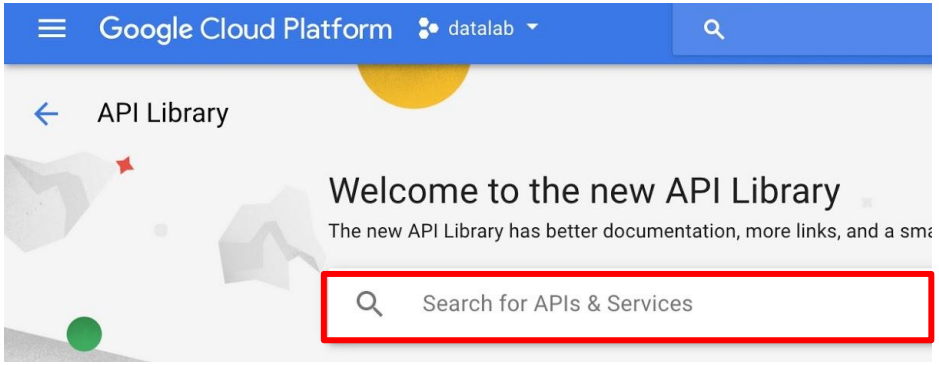
➔ Text Note: goo.gl/vmJGJ4

啟動APIs

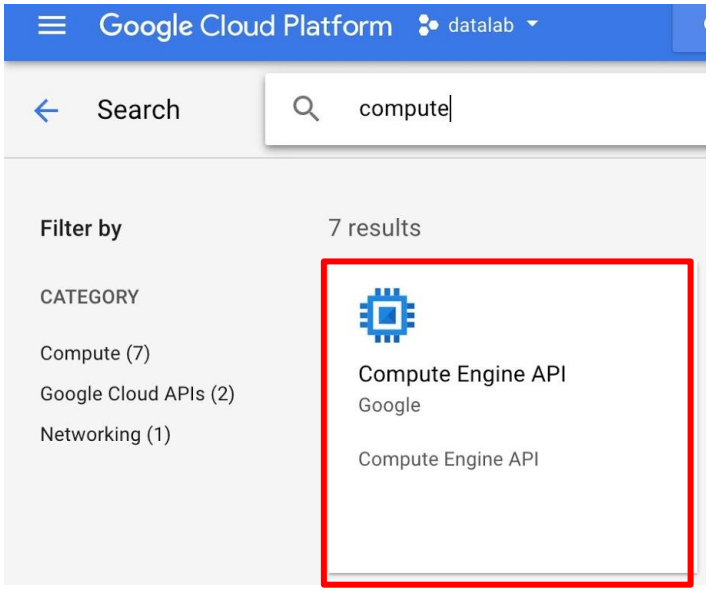

Google Cloud Platform
datalab
api
DASHBOARD
ACTIVITY
Project info
Project name
datalab
Project ID
datalab-203808
Project number
119772615026
Credentials
APIs & Services
Library
APIs & Services
Dashboard
APIs & Services
OAuth consent screen
APIs & Services > Credentials
Domain verification
APIs & Services
APIs & Services
normal
status dashboard

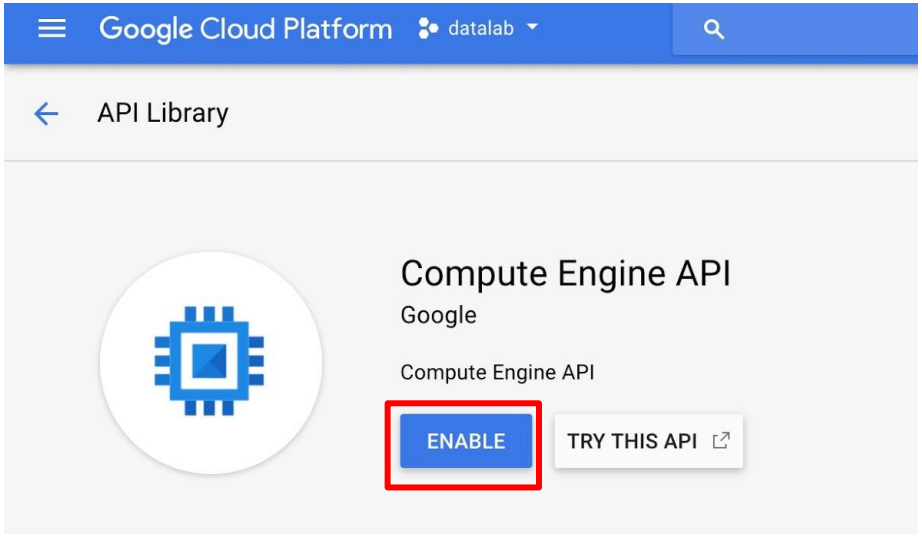

Google Cloud Platform
datalab
Dashboard
ENABLE APIS AND SERVICES
Enabled APIs and services
Some APIs and services are enabled automatically
1 hour
6 hours
12 hours
1 day
2 days
4 days
7 days
14 days
Traffic
Errors
Median latency

開啟Compute Engine API

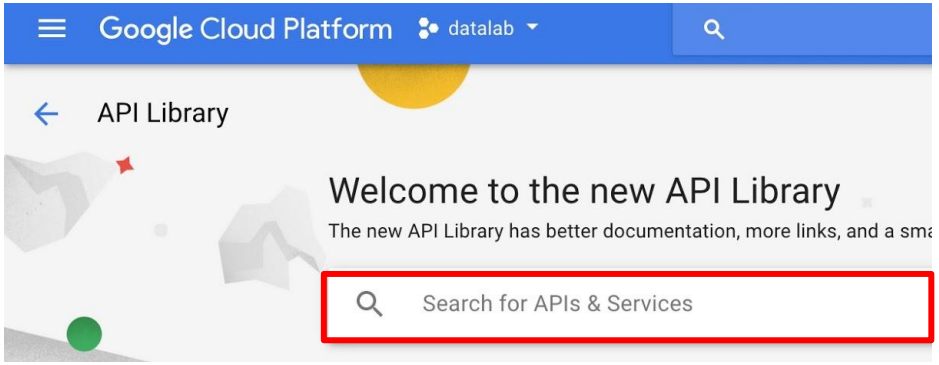


搜尋 compute

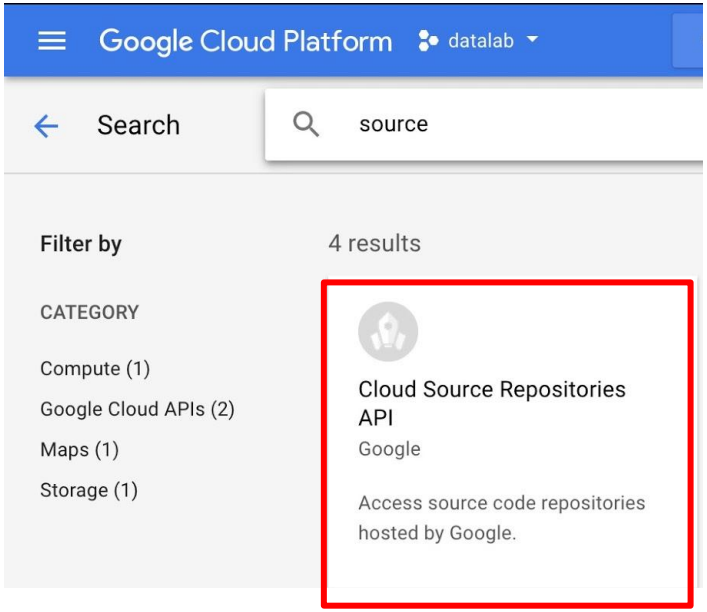


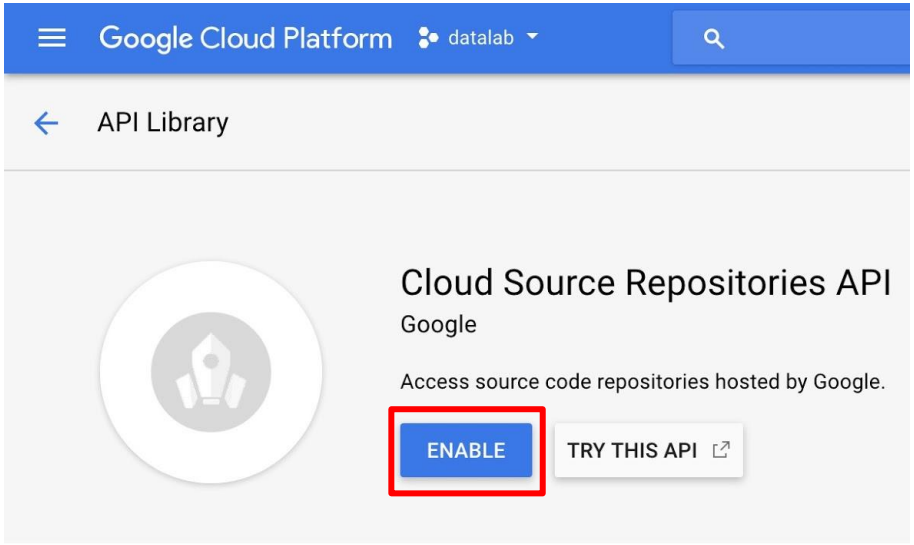


開啟 Source Repositories API

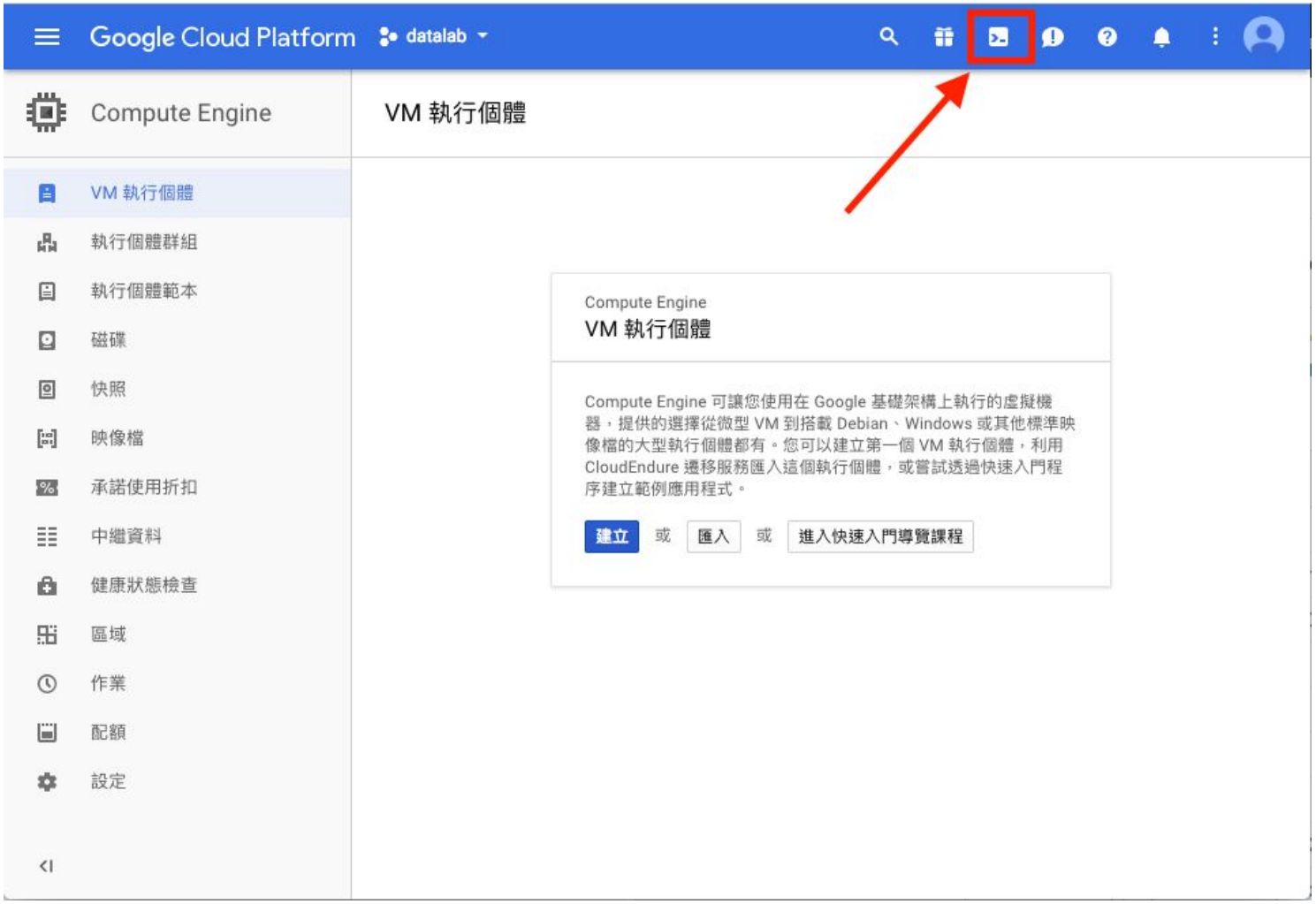


搜尋 source

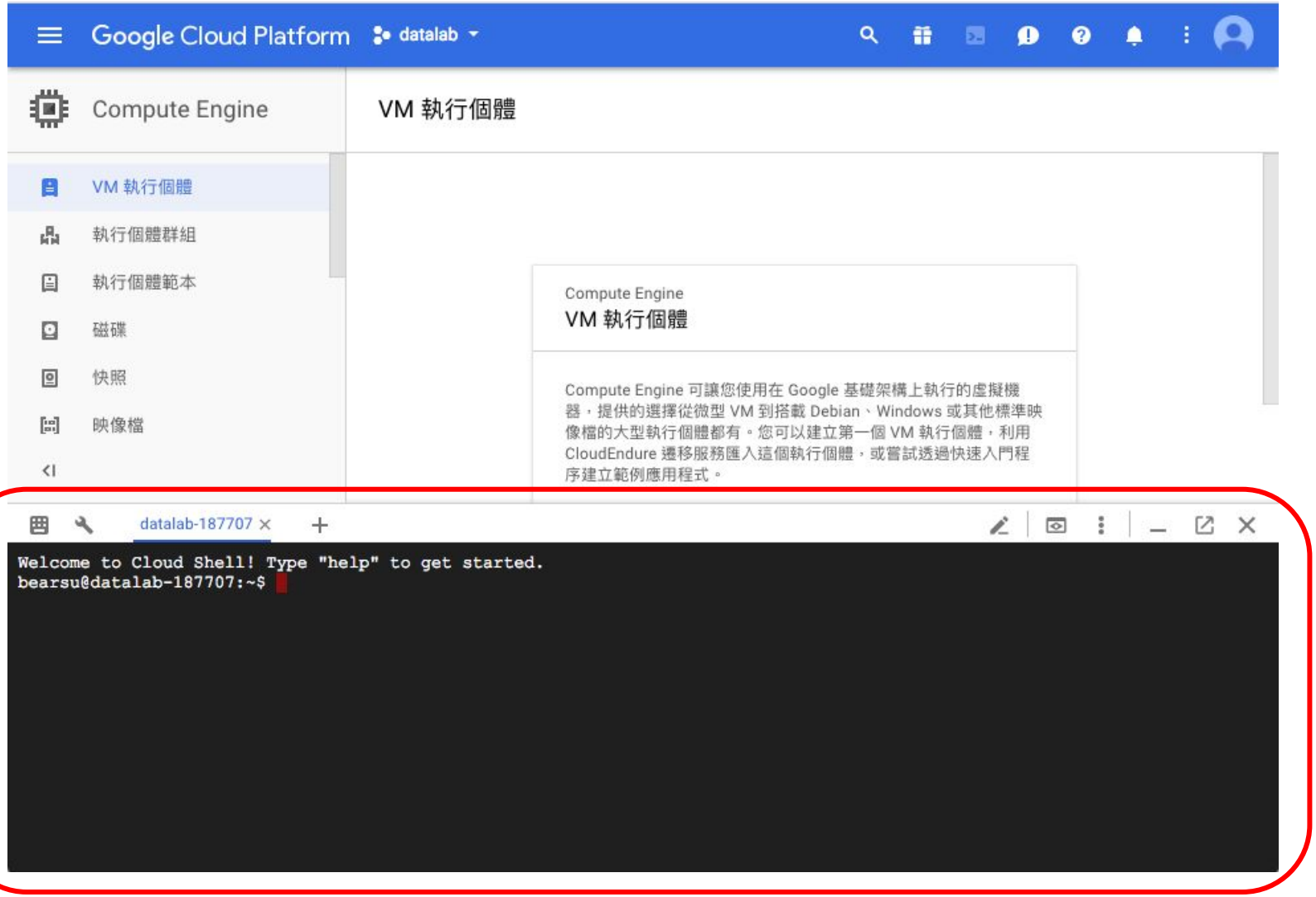




開啟 Cloud Shell



Cloud Shell 的介面



啟動 Datalab

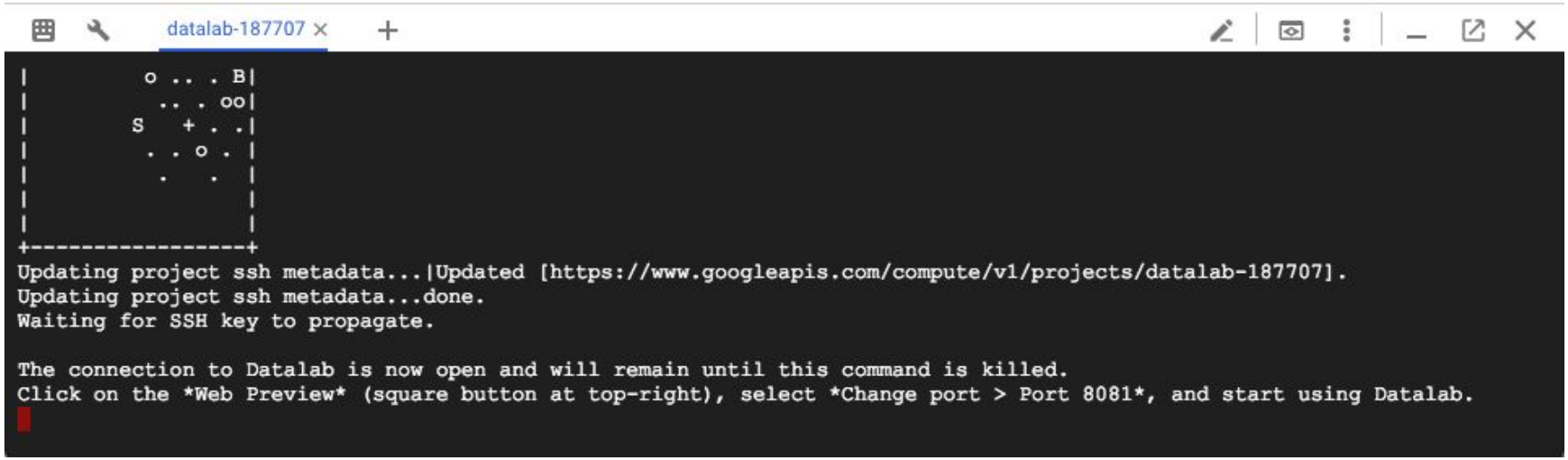
輸入指令：

```
datalab create lab-machine \
    --machine-type n1-standard-4 \
    --zone asia-east1-b
```

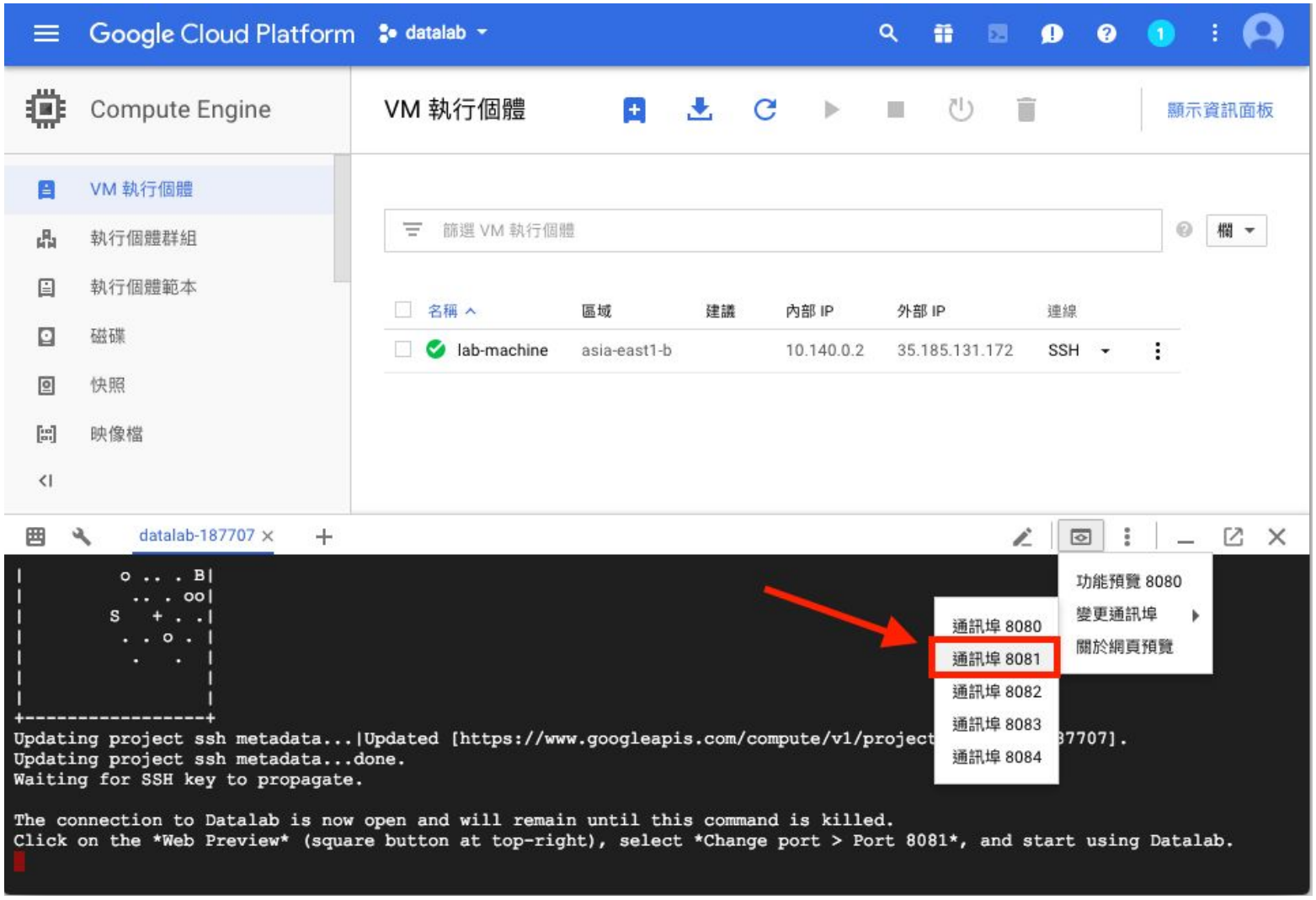
```
Welcome to Cloud Shell! Type "help" to get started.
bearsu@datalab-187707:~$ datalab create lab-machine \
>     --machine-type n1-standard-4 \
>     --zone asia-east1-b
Creating the instance lab-machine
Created [https://www.googleapis.com/compute/v1/projects/datalab-187707/zones/asia-east1-b/instances/lab-machine].
Connecting to lab-machine.
This will create an SSH tunnel and may prompt you to create an rsa key pair. To manage these keys, see https://cloud.goog
le.com/compute/docs/instances/adding-removing-ssh-keys
Waiting for Datalab to be reachable at http://localhost:8081/
This tool needs to create the directory [/home/bearsu/.ssh] before
being able to generate SSH keys.

Do you want to continue (Y/n)?  y
```

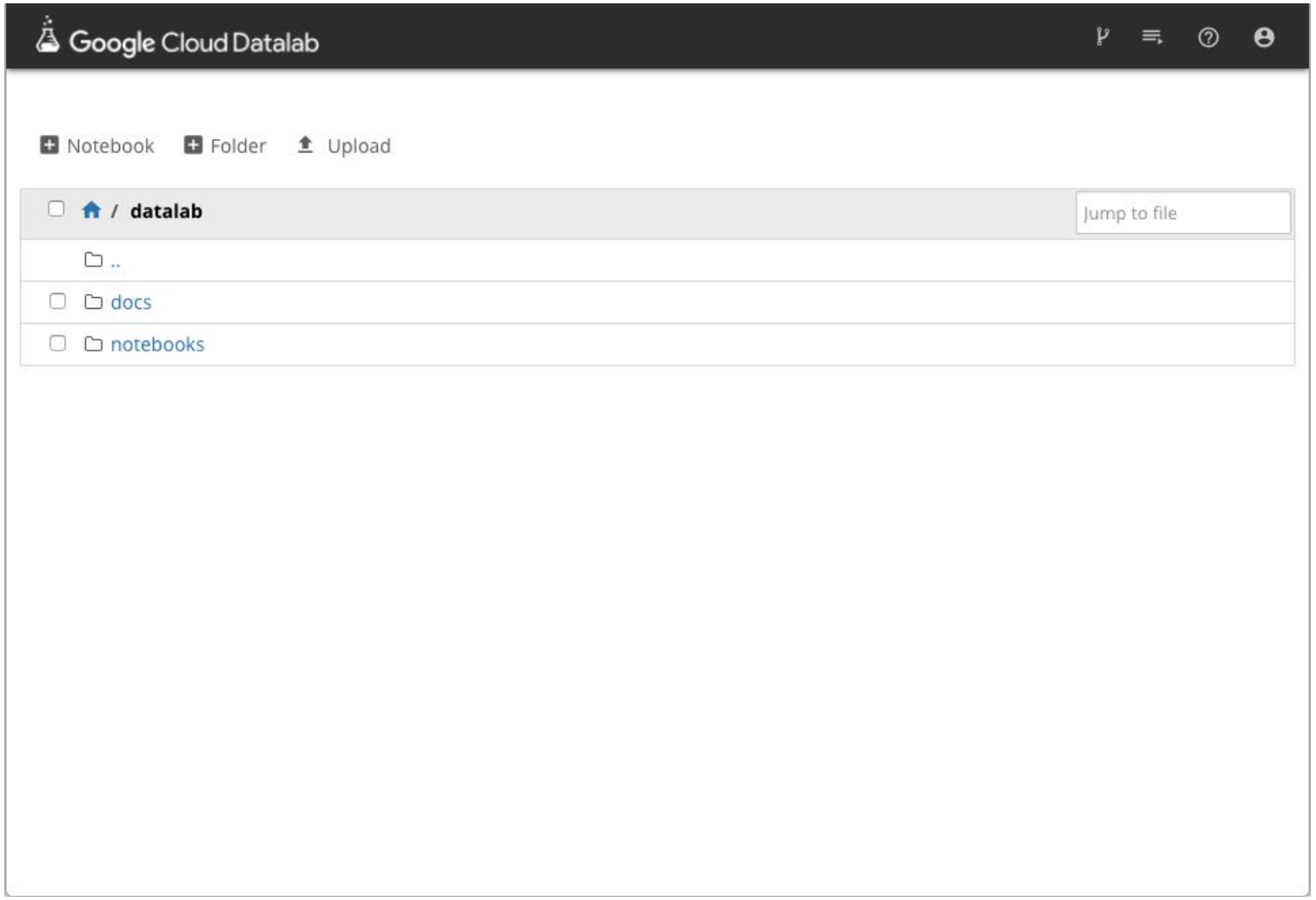
Datalab 啟動成功



依訊息開啟 Datalab 網頁介面



Datalab 介面


Google Cloud Datalab
Notebook
Folder
Upload
/ datalab
Jump to file
..
docs
notebooks

Datalab 基本指令

重新連上：
```
datalab connect lab-machine
```

停止：
```
datalab stop lab-machine
```

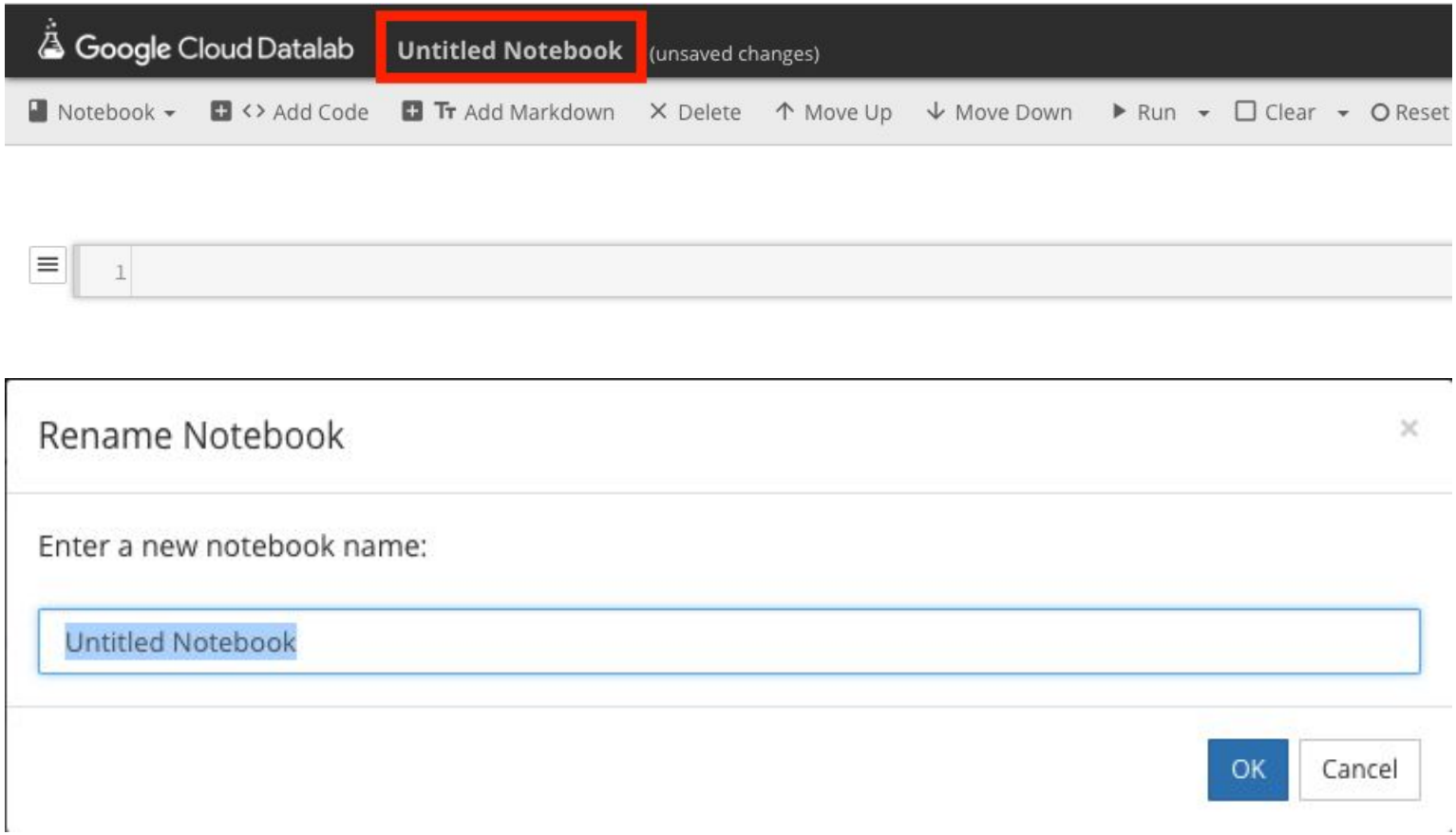
刪除：
```
datalab delete lab-machine
```

刪除(保留硬碟)：
```
datalab delete --keep-disk lab-machine
```

建立 Notebook

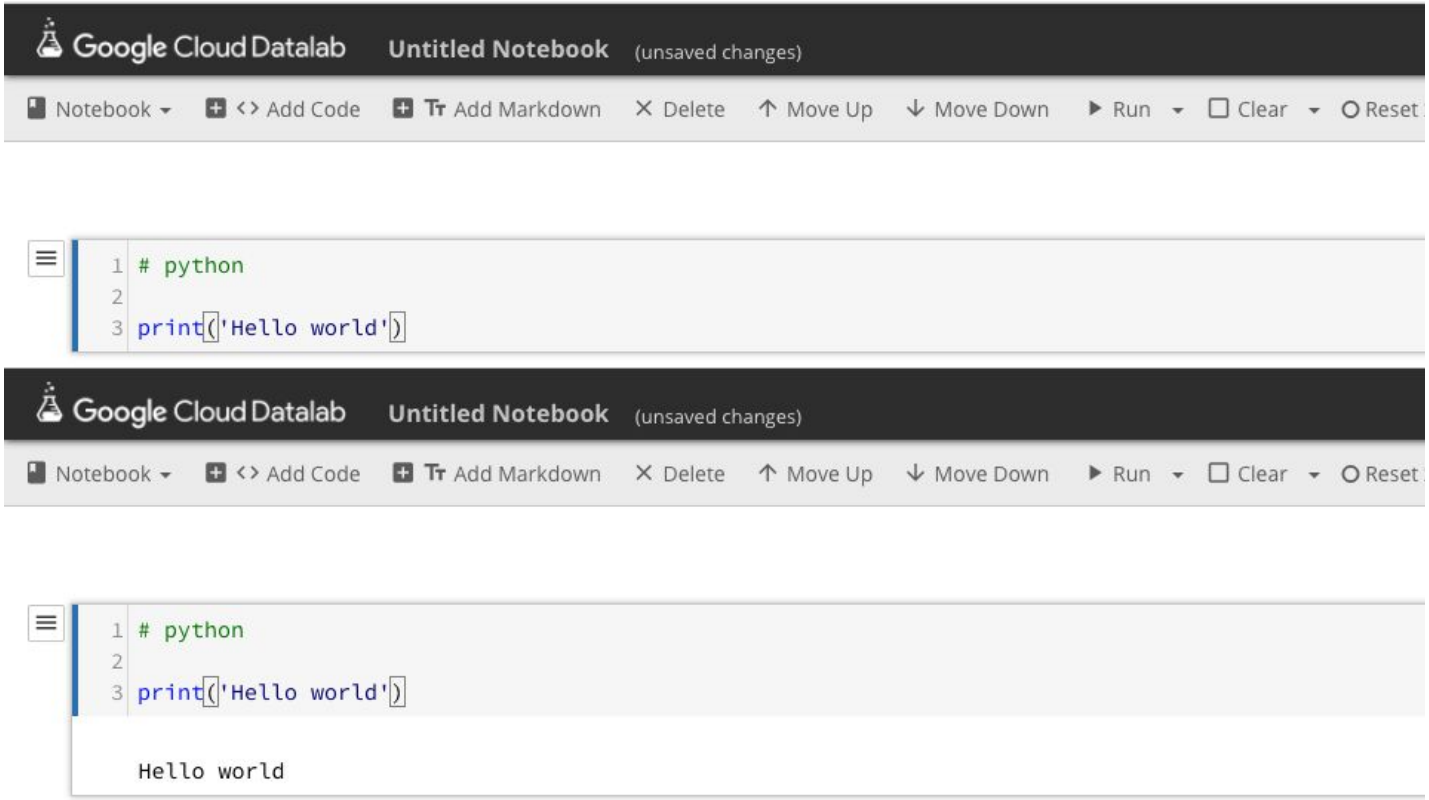

Google Cloud Datalab
Notebook
Folder
Upload
/ datalab / notebooks
..
README.md

編輯名稱


Google Cloud Datalab
Untitled Notebook
(unsaved changes)
Notebook
Add Code
Add Markdown
Delete
Move Up
Move Down
Run
Clear
Reset
1
Rename Notebook
Enter a new notebook name:
Untitled Notebook
OK
Cancel

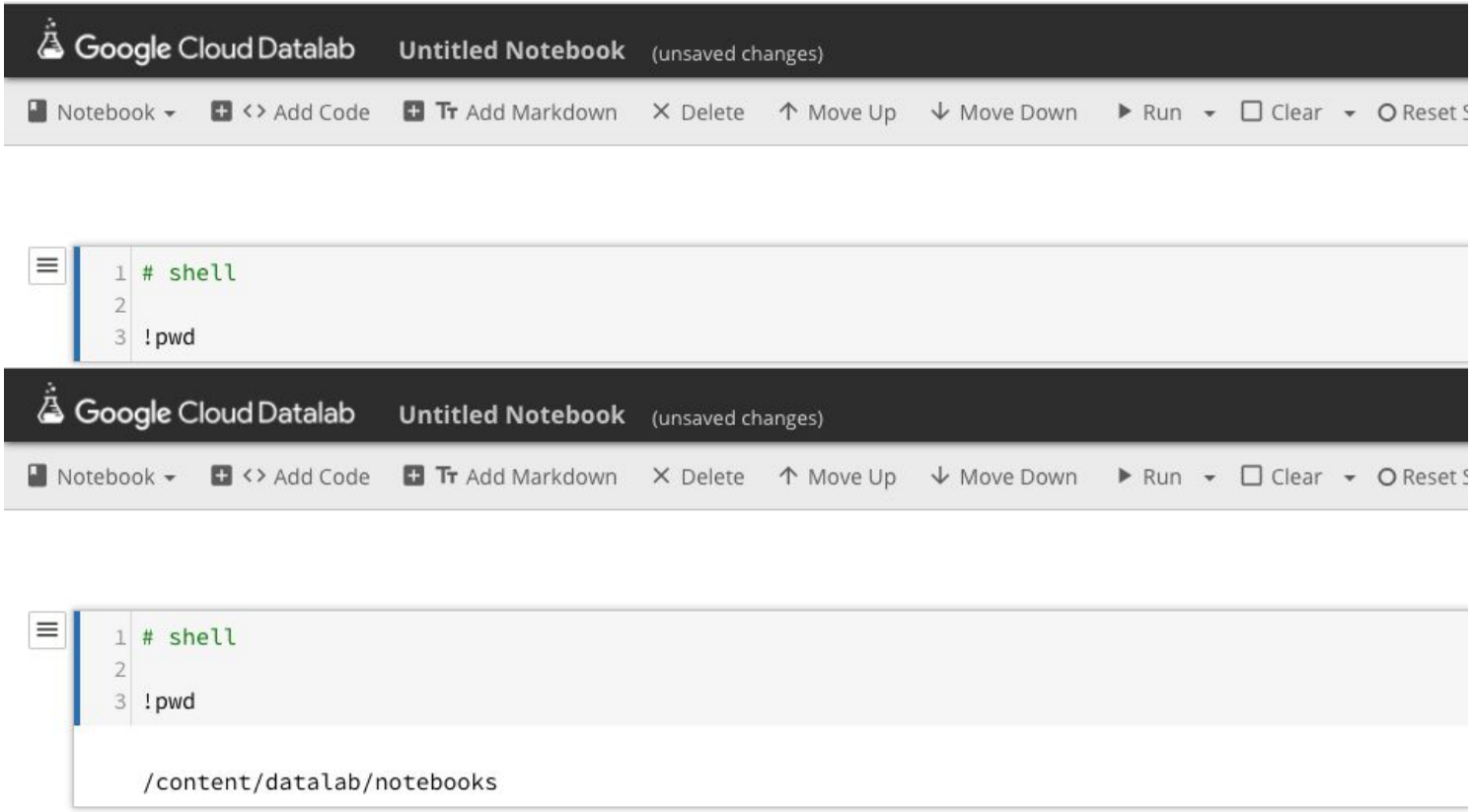
基本語法 - Python

- 輸入 python 程式碼，點擊「Run」或是「Ctrl + Enter」執行程式碼區塊。

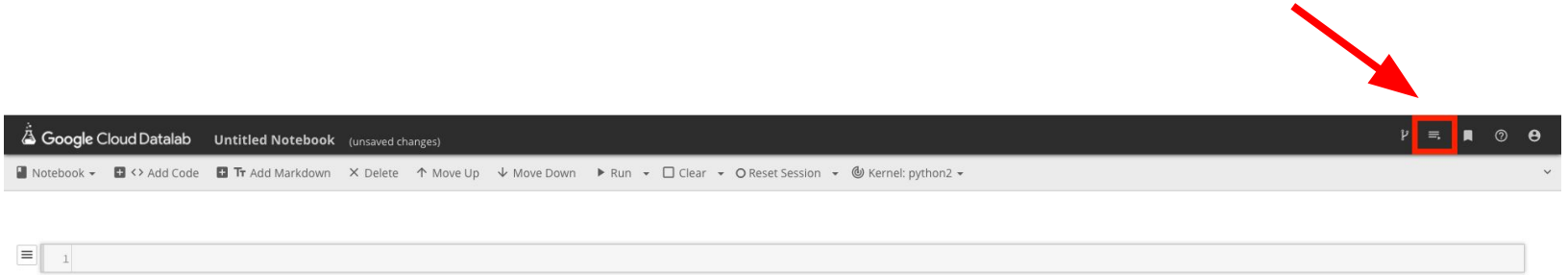


基本語法 - shell

- shell 指令前面要加上「!」



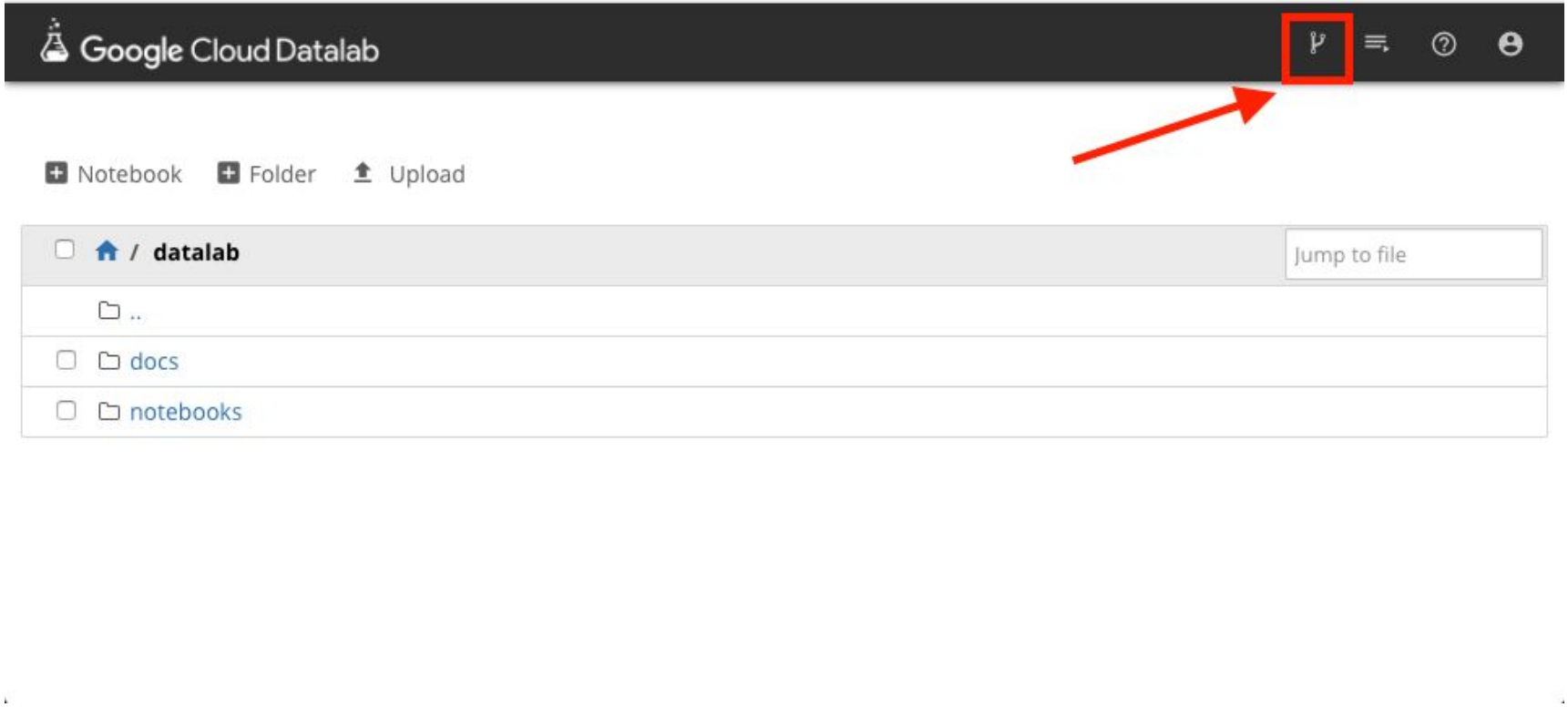
停止 Sessions


Google Cloud Datalab
Untitled Notebook
(unsaved changes)
Notebook
Add Code
Add Markdown
Delete
Move Up
Move Down
Run
Clear
Reset Session
Kernel: python2
1

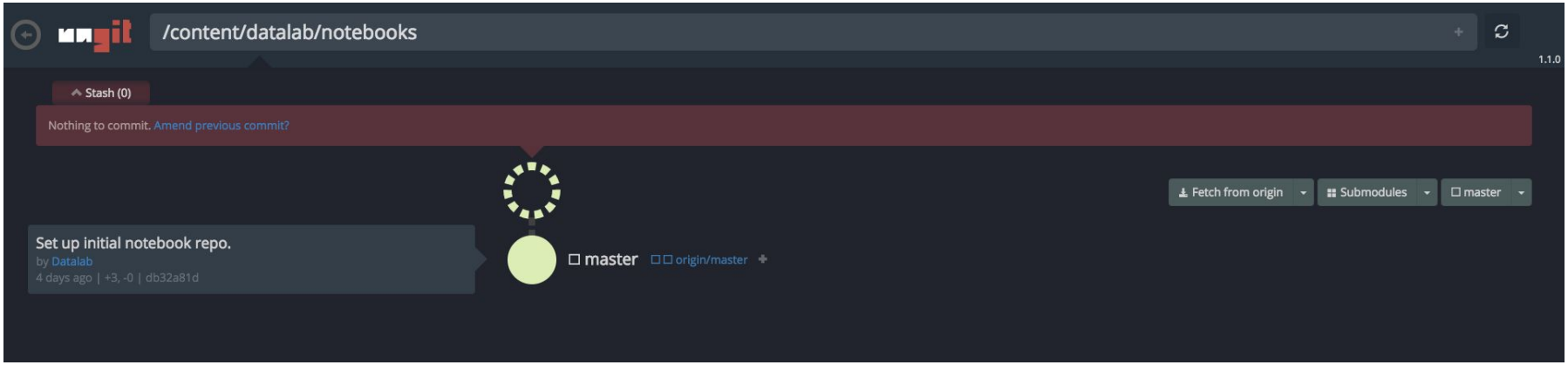

Google Cloud Datalab
Active Notebooks
datalab/notebooks/Untitled Notebook.ipynb
datalab/sample-notebooks/Hello World.ipynb
datalab/sample-notebooks/Readme.ipynb
datalab/sample-notebooks/tutorials/Data/Interactive Charts with Google Charting APIs.ipynb
datalab/sample-notebooks/intro/Using Datalab - Accessing Cloud Data.ipynb
datalab/sample-notebooks/samples/Anomaly Detection in HTTP Logs.ipynb
datalab/sample-notebooks/samples/Conversion Analysis with Google Analytics Data.ipynb
datalab/training-data-analyst/courses/machine_learning/feateng/feateng.ipynb
Shutdown
Active Terminals
There are no terminals running.

透過 git 下載 Notebooks

- 點擊右上角分支圖示

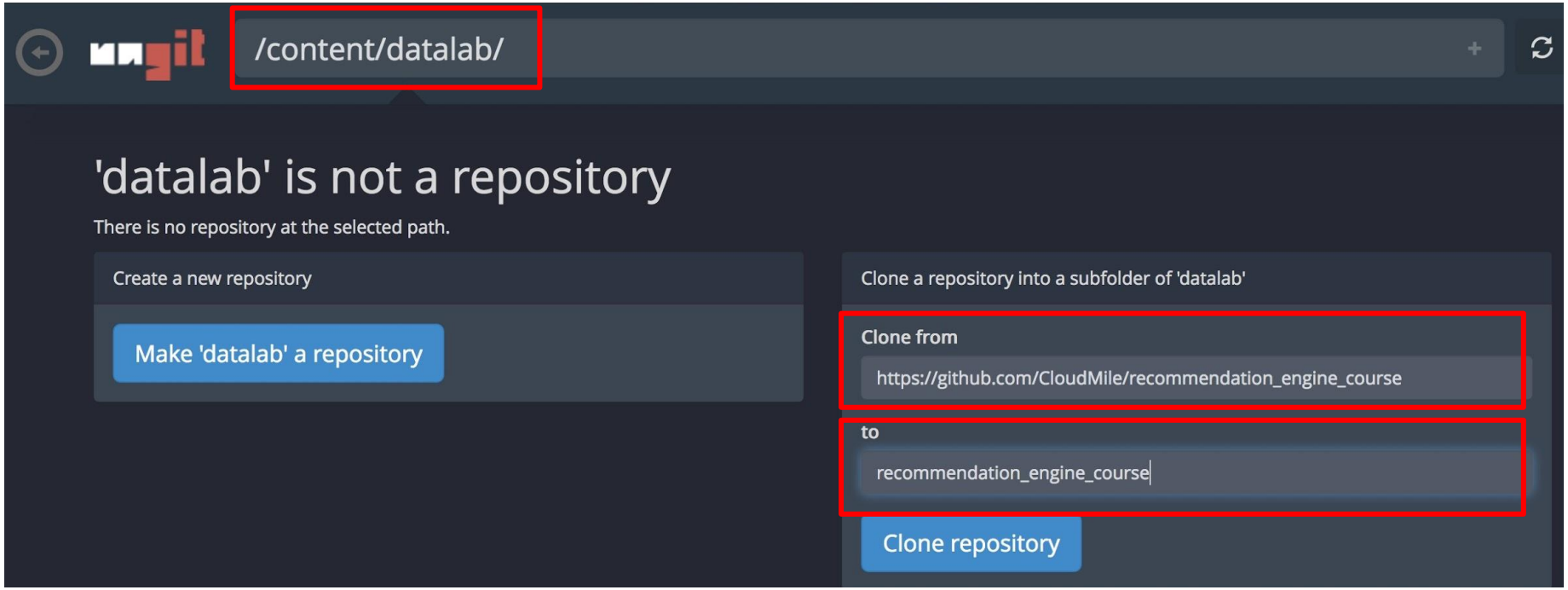


透過 git 下載 Notebooks



透過 git 下載 Notebooks

- 修改工作路徑後按下 Enter
- 於「Clone from」欄位填入：
  - https://github.com/CloudMile/recommendation_engine_course
- 於「to」欄位填入：recommendation_engine_course
- 點擊「Clone repository」



透過 git 下載 Notebooks

- 已新增檔案

Reference

- https://cloud.google.com/datalab/?hl=zh-tw
- https://cloud.google.com/datalab/docs/?hl=zh-tw
- https://github.com/googledatalab/datalab
- http://jupyter.org/
- https://codelabs.developers.google.com/ search `datalab`
- https://cloud.google.com/datalab/docs/reference/command-line/commands