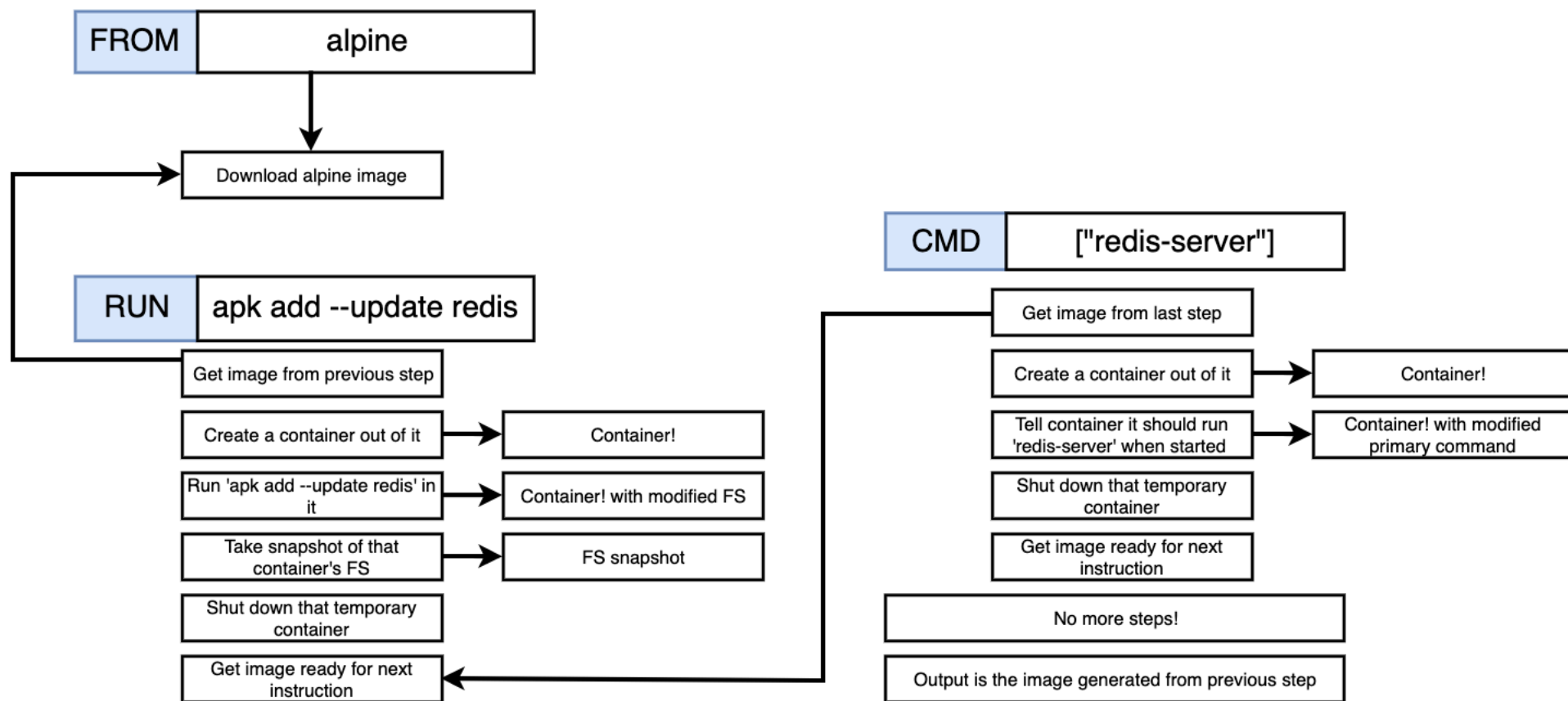


# Docker & Kubernetes (2)

David Chiu

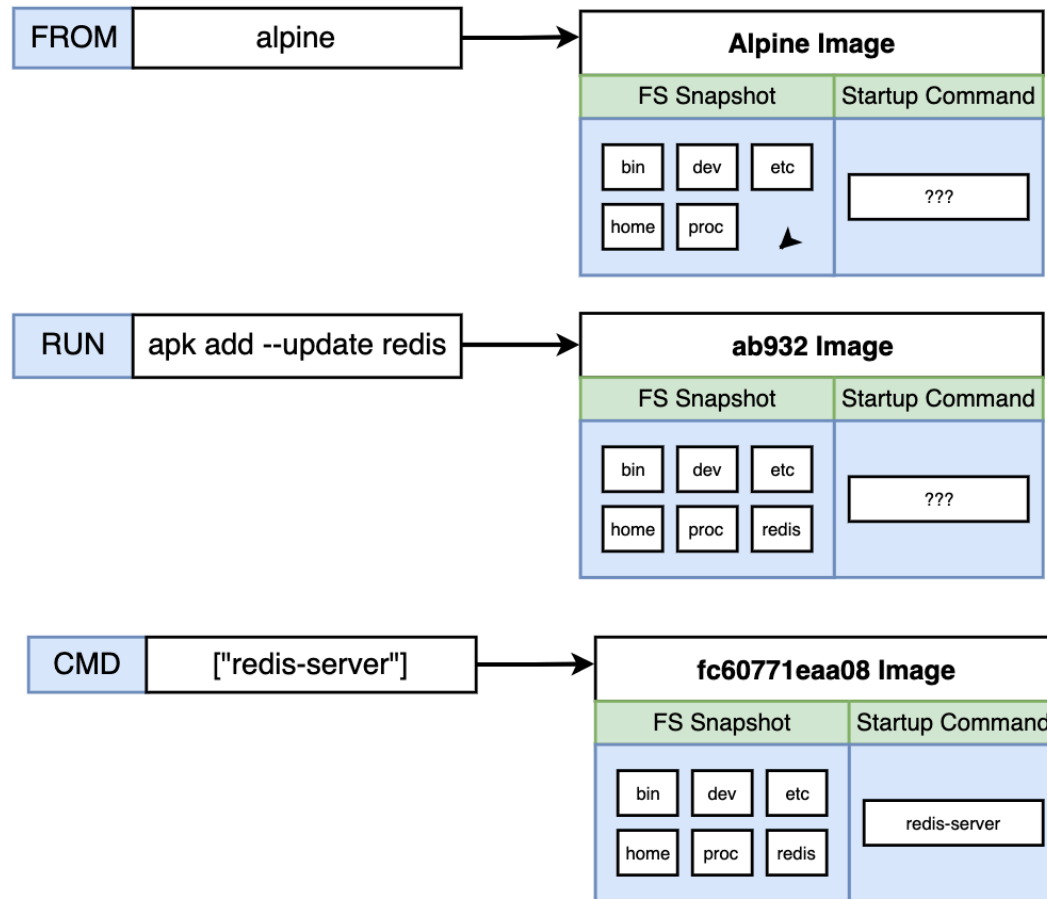
# Docker 建立流程

# 流程總覽





# 每個過程都會建立 Temporary Image

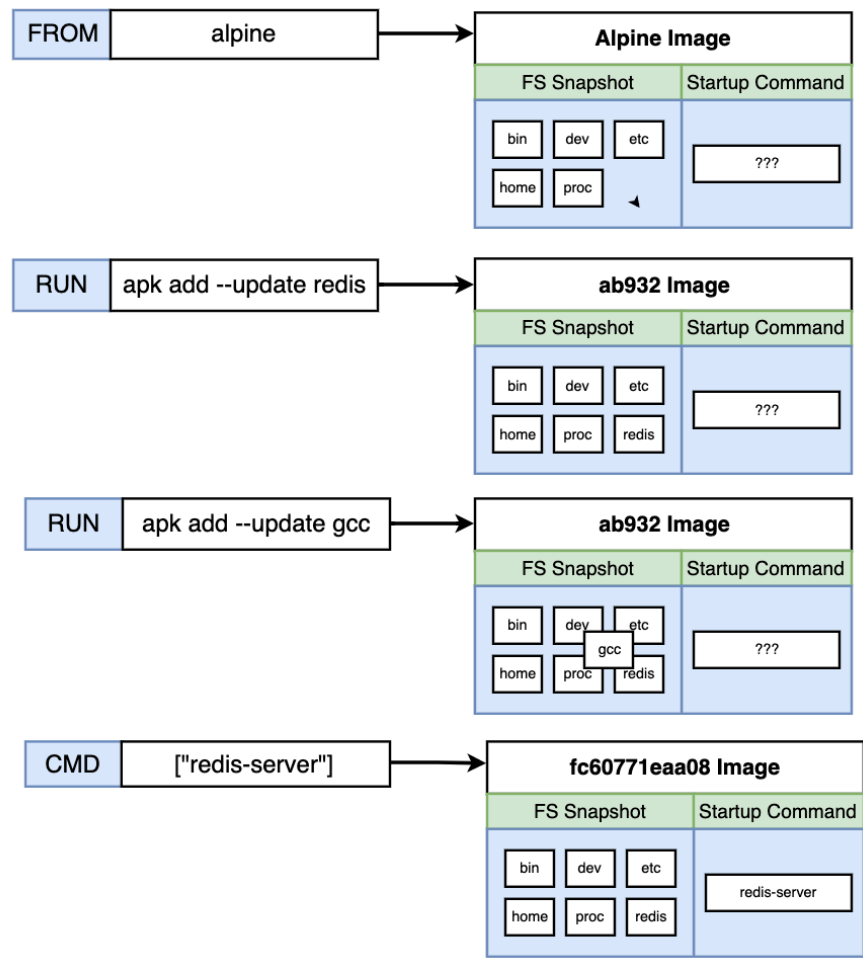


# 如果增加一行新指令

■ 增加 RUN apk add --update gcc

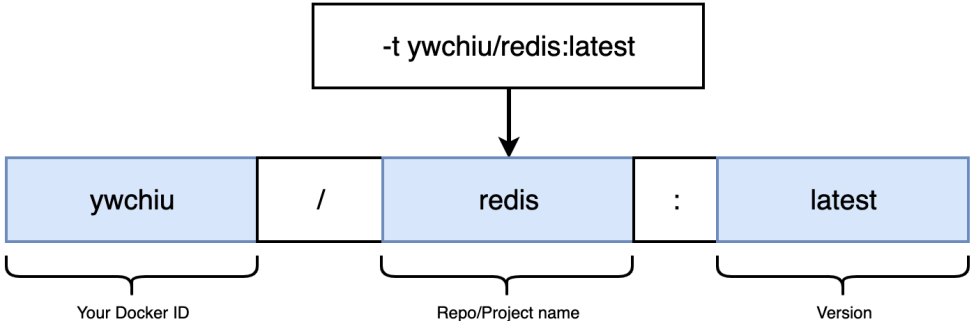
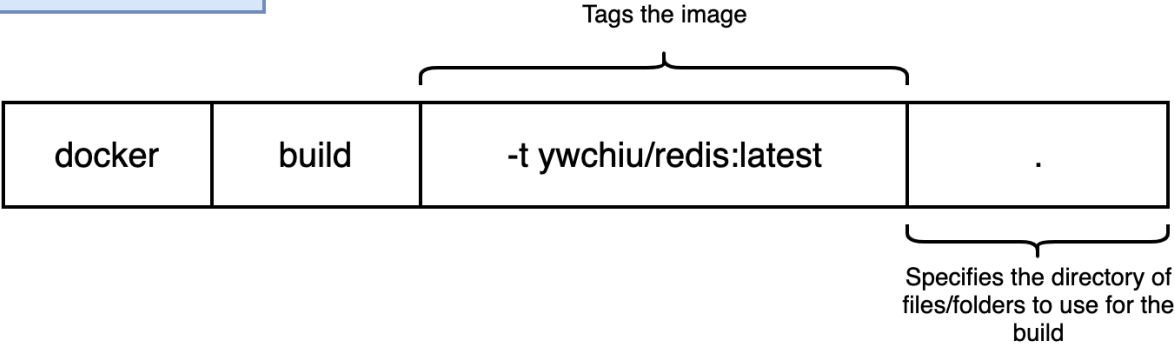
■ 重新執行 docker build . 看看

如果將 `apk add --update gcc` 移至前方呢?

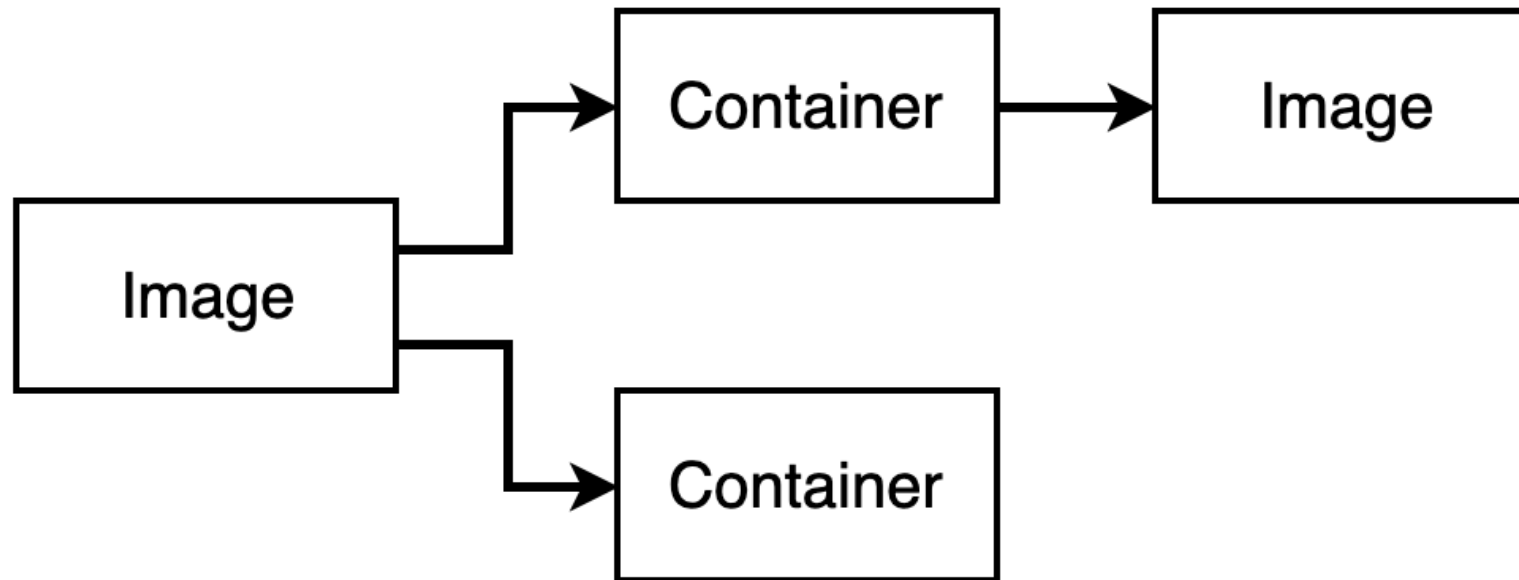


# 標記 Docker

## Tagging an Image



# Container v.s. Image

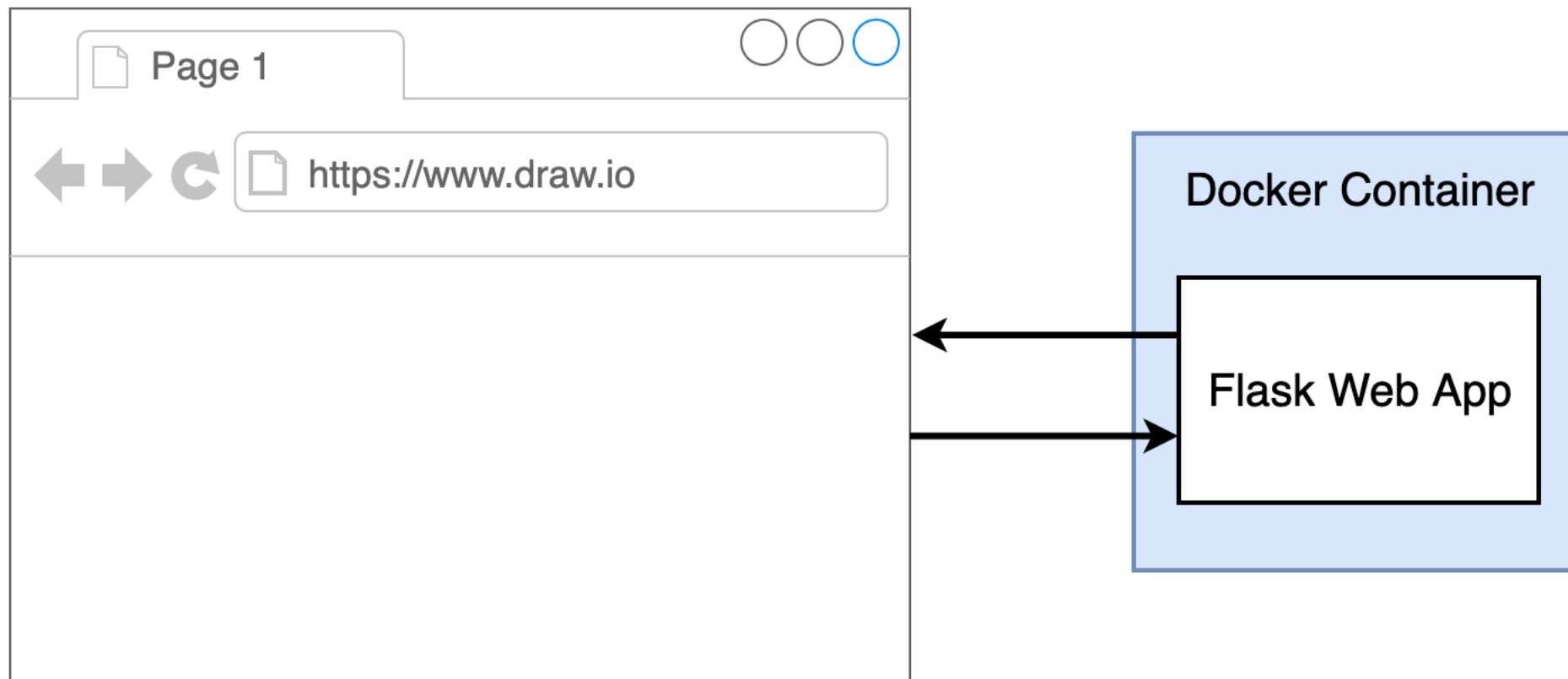




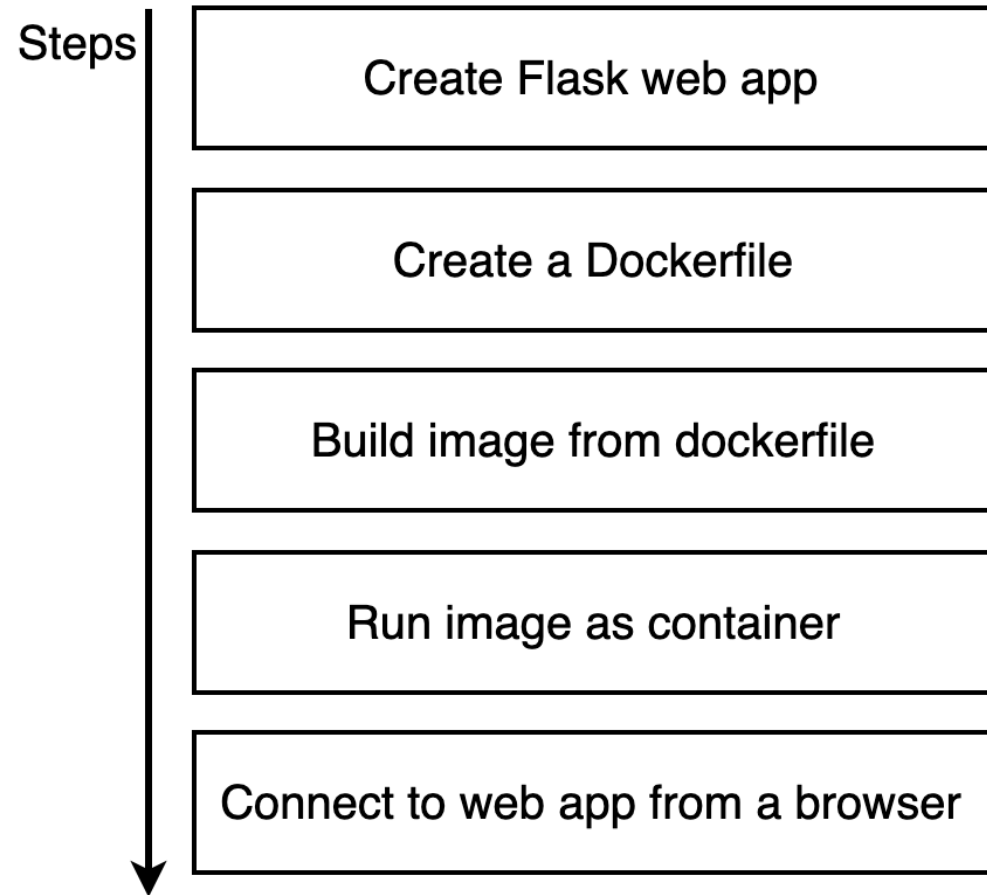
# 從Docker 建立網頁APP



# 搭建一個Flask APP



# Flask APP 建立流程



# Flask

- Flask 是輕量級 WSGI 網頁開發框架
- Flask 可以快速簡單撰寫小網頁到擴展成一個大型的應用程式





# 範例APP

```
from flask import Flask
app = Flask(__name__)

@app.route('/')
def hello_world():
    return 'Flask Dockerized'

if __name__ == '__main__':
    app.run(debug=True, host='0.0.0.0')
```

# Requirements.txt

---

- 包含Webapp 所需要的檔案 (透過 pip 安裝)
  - Flask==1.0.2

# Dockerfile

```
FROM ubuntu:latest
MAINTAINER ywchiu "david@largitdata.com"
RUN apt-get update -y
RUN apt-get install -y python-pip python-dev build-essential
COPY . /app
WORKDIR /app
RUN pip install -r requirements.txt
ENTRYPOINT ["python"]
CMD ["app.py"]
```

或使用已存在的 Docker  
FROM tiangolo/uwsgi-nginx-flask:python3.6-alpine3.7



# 建立與執行 Docker Image

## ■ 建立新Image

```
docker build -t flask-sample-app:latest .
```

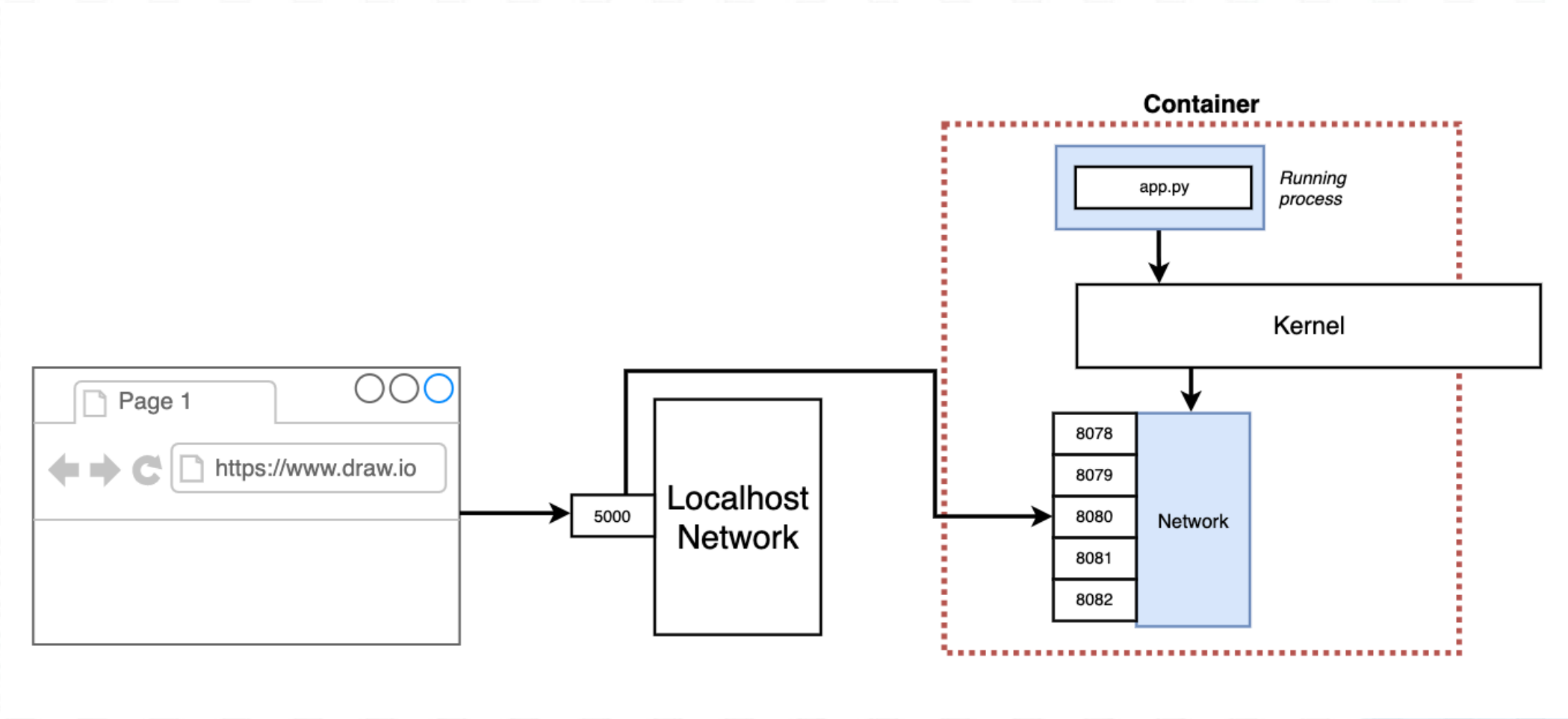
## ■ 建立 Container

```
docker run -d -p 5000:8080 flask-sample-app
```

## ■ 檢視 Container

```
docker ps
```

# 建立對Container 內的連線



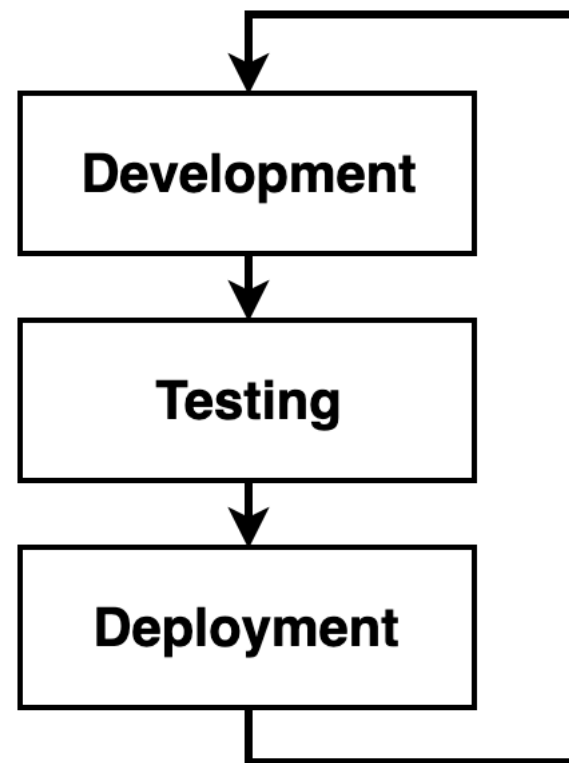
# 佈署 Docker 到正式環境



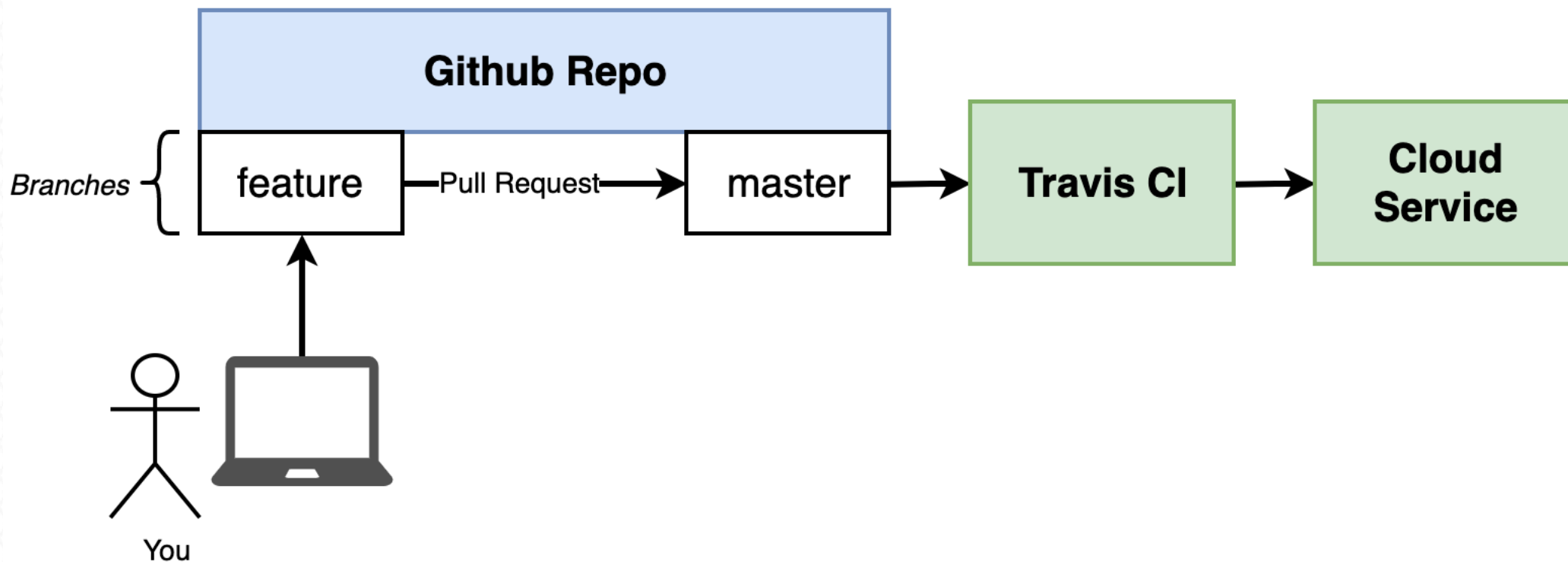
# 開發流程

開發流程分三階段

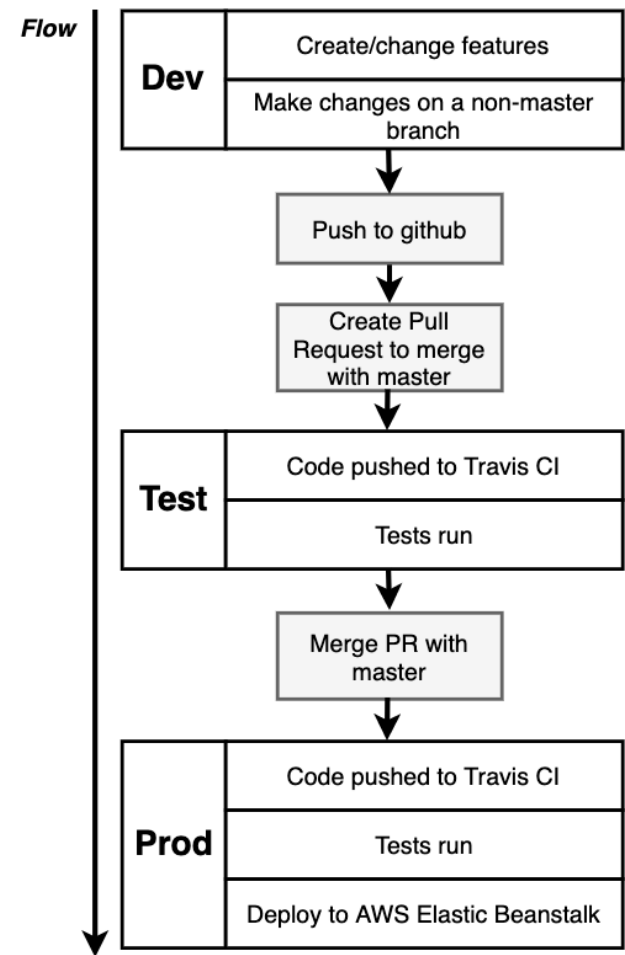
- 開發
- 測試
- 部署



# 完整 CI 流程



# 完整測試與佈署流程





# Travis CI

- Travis CI 提供的是持續整合服務（Continuous Integration，簡稱 CI）。它綁定 Github 上面的項目，只要有新的代碼，就會自動抓取。然後，提供一個運行環境，執行測試，完成構建，還能部署到服務器

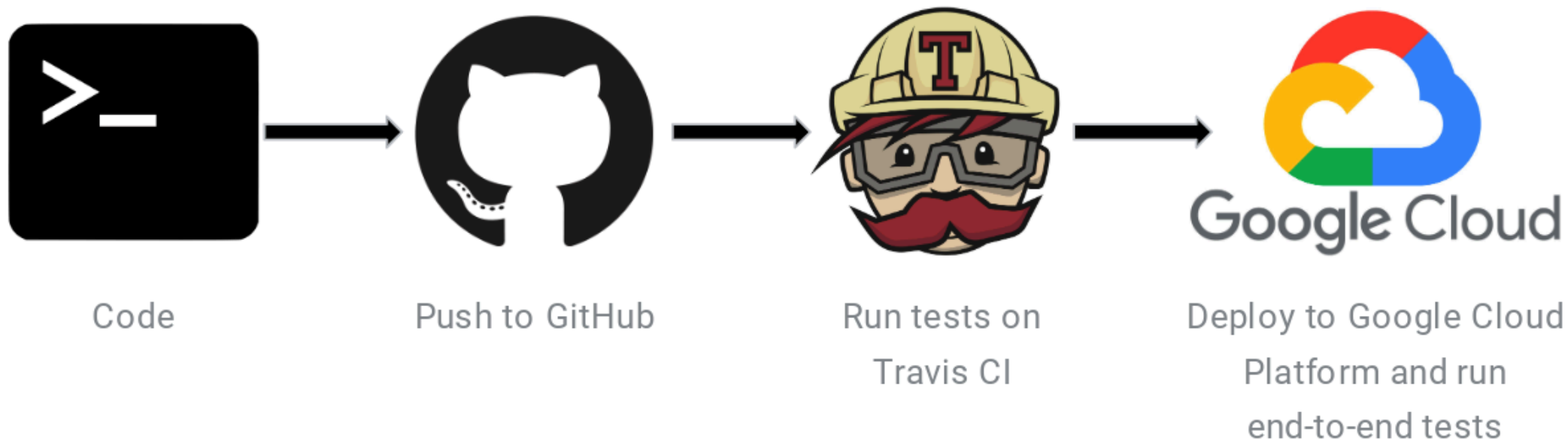


# Travis CI

# 持續整合服務(Continuous Integration)

- 持續整合指的是只要代碼有變更，就自動運行構建和測試，反饋運行結果。確保符合預期以後，再將新代碼"整合"到Master Branch
- 持續整合的好處在於，每次代碼的小幅變更，就能看到運行結果，從而不斷累積小的變更，而不是在開發週期結束時，一下子合併全部程式

# 持續整合範例



# Travis 啟用流程

---

- 啟動 Github APP
- 在repo 中增加 .travis.yml
- Push 專案



# 新增專案

■ <https://travis-ci.org/account/repositories>

## MY ACCOUNT



David Chiu

Sync account

## A SINGLE PLACE FOR ALL YOUR BUILDS

You can now have all your public and private repositories together at [travis-ci.com](https://travis-ci.com)

Sign up for the beta

## ORGANIZATIONS

You are not currently a member of any organization.

## MISSING AN ORGANIZATION?

[Review and add your authorized organizations.](#)



David Chiu

@ywchiu

Repositories

Settings

We're only showing your public repositories. You can find your private projects on [travis-ci.com](https://travis-ci.com).

## Legacy Services Integration



citest



Machine-Learning-For-Hackers---Chapter-3-Classfication



Settings

# 設定 webhooks

ywchiu / citest

Unwatch 1

Star 0

Fork 0

<> Code

Issues 0

Pull requests 0

Projects 0

Wiki

Security

Insights

Settings

Options

Collaborators

Webhooks

Notifications

Integrations & services

Deploy keys

Moderation

Interaction limits

Webhooks

Add webhook

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our [Webhooks Guide](#).

✓ <https://notify.travis-ci.org/> (create, delete, issue\_co... )

Edit

Delete

26

# .travis.yml

sudo: required

services:

- docker

env:

DOCKER\_COMPOSE\_VERSION: 1.14.0

before\_install:

- sudo rm /usr/local/bin/docker-compose
- curl -L [https://github.com/docker/compose/releases/download/\\${DOCKER\\_COMPOSE\\_VERSION}/docker-compose-`uname -s`-`uname -m`](https://github.com/docker/compose/releases/download/${DOCKER_COMPOSE_VERSION}/docker-compose-`uname -s`-`uname -m`) > docker-compose
- chmod +x docker-compose
- sudo mv docker-compose /usr/local/bin

before\_script:

- docker-compose -f docker-compose.yml up --build -d

script:

- docker-compose -f docker-compose.yml run users-service python manage.py test
- docker-compose -f docker-compose.yml run users-service flake8 project

after\_script:

- docker-compose -f docker-compose.yml down

The background features a light blue hexagonal grid pattern. Overlaid on this are several concentric, semi-transparent circles in shades of light blue and white. The circles have a slightly irregular, hand-drawn appearance. A dark blue horizontal line runs across the top of the image, and a dark teal horizontal line runs across the bottom.

**THANK YOU**