

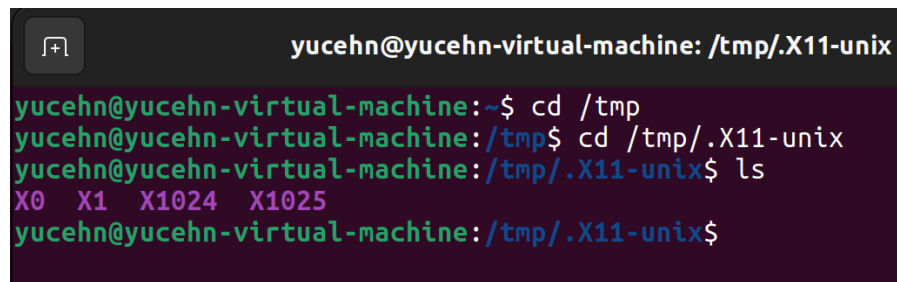
資安計畫 WITH DOCKER

建置此dockerfile的限制:

- ★ 建置含有GUI package 的 dockerfile, 不能使用wsl進行建置。
因為window子linux系統沒有提供GUI服務。

- 建置前, 先查詢是否有GUI X11 server

```
cd /tmp/.X11-unix  
ls
```



A terminal window titled 'yucehn@yucehn-virtual-machine: /tmp/.X11-unix'. The prompt is 'yucehn@yucehn-virtual-machine:~\$'. The user enters 'cd /tmp', and the prompt changes to 'yucehn@yucehn-virtual-machine:/tmp\$'. The user enters 'cd /tmp/.X11-unix', and the prompt changes to 'yucehn@yucehn-virtual-machine:/tmp/.X11-unix\$'. The user enters 'ls', and the output is 'X0 X1 X1024 X1025' in purple text. The prompt returns to 'yucehn@yucehn-virtual-machine:/tmp/.X11-unix\$'.

顯示紫色資料, 代表該linux系統有支援GUI, 可進行dockerfile的建置。

- ★ 分成三包資料夾

<https://github.com/Yuchen-ck/client-system>

<https://github.com/Yuchen-ck/Server-system>

<https://github.com/Yuchen-ck/predict-system>

(省略ubuntu 安裝docker的過程)

- Dockerfile (以下依server-system為例)

```
FROM ubuntu:22.04  
  
MAINTAINER xavier  
  
ENV DEBIAN_FRONTEND=noninteractive  
  
ENV LIBGL_ALWAYS_INDIRECT=1  
  
# Install Python 3, PyQt5,  
RUN apt-get update -y && apt-get install -y software-properties-common
```

```

RUN add-apt-repository --yes ppa:deadsnakes/ppa
RUN apt-get update -y && apt install -y python3.7 \
python3.7-distutils \
python3-pip \
ttf-wqy-microhei \
language-pack-zh*
RUN apt-get install -y python3-pyqt5 python3.7-dev

# Install Python required package
RUN python3.7 -m pip install pip
RUN python3.7 -m pip install SIP PyQt5
RUN python3.7 -m pip install --upgrade PyQt5
COPY *.txt /home/qtuser/Server-system/
RUN python3.7 -m pip install -r /home/qtuser/Server-system/requirements.txt

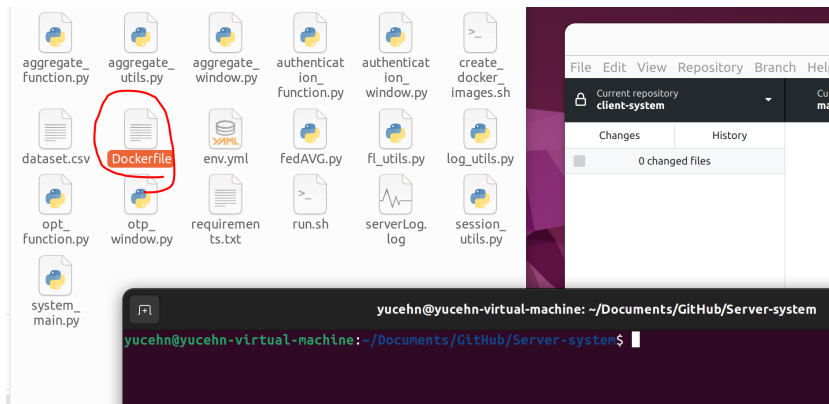
# Add user for user PyQt5
RUN adduser --quiet --disabled-password qtuser

# Copy python code
COPY * /home/qtuser/Server-system/
RUN chmod -R 777 /home/qtuser
# Change work directory
WORKDIR "/home/qtuser/Server-system"

```

★ dockerfile建置過程

1. 到資料夾，開啟terminal後，確認Dockerfile是否在相應路徑上。



2. 執行建置images的指令

```
sudo docker build -t server/system .
```

```

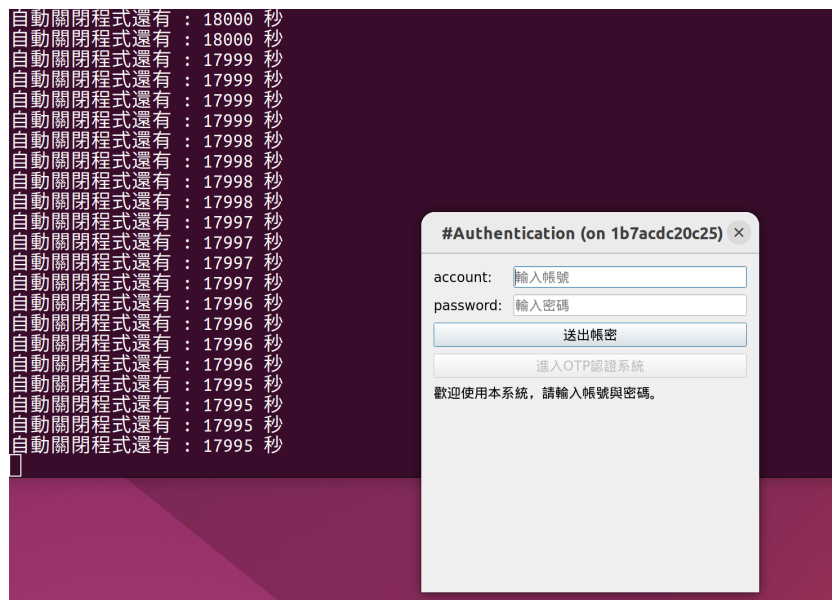
Step 12/17 : COPY *.txt /home/qtuser/Server-system/
---> Using cache
---> 888de91d1c67
Step 13/17 : RUN python3.7 -m pip install -r /home/qtuser/Server-system/requirements.txt
---> Using cache
---> 4bae64c96f0b
Step 14/17 : RUN adduser --quiet --disabled-password qtuser
---> Using cache
---> 5de4eee45014
Step 15/17 : COPY * /home/qtuser/Server-system/
---> 9f60391799ad
Step 16/17 : RUN chmod -R 777 /home/qtuser
---> Running in 29c3f358ce6f
Removing intermediate container 29c3f358ce6f
---> 9e6eb7641af9
Step 17/17 : WORKDIR "/home/qtuser/Server-system"
---> Running in 187a4ac2081b
Removing intermediate container 187a4ac2081b
---> 4dff42674496
Successfully built 4dff42674496
Successfully tagged client/system:latest

```

Successfully, 代表建置成功。

3. 執行啟動images的指令

```
sudo docker run --rm -it -v /tmp/.X11-unix:/tmp/.X11-unix -e DISPLAY=$DISPLAY -u qtuser server/system:latest python3.7
```



- 跑出GUI介面，代表成功。