Docker安裝與使用

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# 前言

# 安裝Docker Desktop

請在這裡下載 Docker Desktop：  
<https://www.docker.com/products/docker-desktop/>

選Windows-AMD64

得Docker Desktop Installer，雙擊安裝完成後，啟動Docker Desktop，若成功，可在命令提示字元執行 docker --version，確認是否偵測到 docker 指令，以及安裝的版本，如，

Docker version 27.3.1, build ce12230

若碰到WSL2 error，參見下面解法。

## 碰到WSL2 error

參見[https://github.com/docker/for-win/issues/13580#issuecomment-1619667316](https://github.com/docker/for-win/issues/13580" \l "issuecomment-1619667316)，

* 是否enable CPU virtualization in BIOS

Restart，中停時按del 進入BIOS設定->Advance-> CPU virtualization(VMX)->Enable。

重啟動Docker Desktop。

* WSL 2是否裝latest(較少發生)

[https://github.com/microsoft/WSL/releases](https://github.com/docker/for-win/issues/url)，下載重安裝



# 啟動docker及其指令

在Dos Command下打docker可得如下，

Usage: docker [OPTIONS] COMMAND

A self-sufficient runtime for containers

* Common Commands:

Run Create and run a new container from an image

exec Execute a command in a running container

ps List containers

build Build an image from a Dockerfile

pull Download an image from a registry

push Upload an image to a registry

images List images

login Authenticate to a registry

logout Log out from a registry

search Search Docker Hub for images

version Show the Docker version information

info Display system-wide information

* Management Commands:

Builder Manage builds

buildx\* Docker Buildx

compose\* Docker Compose

container Manage containers

context Manage contexts

debug\* Get a shell into any image or container

desktop\* Docker Desktop commands (Alpha)

dev\* Docker Dev Environments

extension\* Manages Docker extensions

feedback\* Provide feedback, right in your terminal!

image Manage images

init\* Creates Docker-related starter files for your project

manifest Manage Docker image manifests and manifest lists

network Manage networks

plugin Manage plugins

sbom\* View the packaged-based Software Bill Of Materials (SBOM) for an image

scout\* Docker Scout

system Manage Docker

trust Manage trust on Docker images

volume Manage volumes

* Swarm Commands:

swarm Manage Swarm

* Commands:

attach Attach local standard input, output, and error streams to a running container

commit Create a new image from a container's changes

cp Copy files/folders between a container and the local filesystem

create Create a new container

diff Inspect changes to files or directories on a container's filesystem

events Get real time events from the server

export Export a container's filesystem as a tar archive

history Show the history of an image

import Import the contents from a tarball to create a filesystem image

inspect Return low-level information on Docker objects

kill Kill one or more running containers

load Load an image from a tar archive or STDIN

logs Fetch the logs of a container

pause Pause all processes within one or more containers

port List port mappings or a specific mapping for the container

rename Rename a container

restart Restart one or more containers

rm Remove one or more containers

rmi Remove one or more images

save Save one or more images to a tar archive (streamed to STDOUT by default)

start Start one or more stopped containers

stats Display a live stream of container(s) resource usage statistics

stop Stop one or more running containers

tag Create a tag TARGET\_IMAGE that refers to SOURCE\_IMAGE

top Display the running processes of a container

unpause Unpause all processes within one or more containers

update Update configuration of one or more containers

wait Block until one or more containers stop, then print their exit codes

* Global Options:

--config string Location of client config files (default "C:\\Users\\syscomach\\.docker")

-c, --context string Name of the context to use to connect to the daemon (overrides DOCKER\_HOST env var and default context set with "docker context use")

-D, --debug Enable debug mode

-H, --host list Daemon socket to connect to

-l, --log-level string Set the logging level ("debug", "info", "warn", "error", "fatal") (default "info")

--tls Use TLS; implied by --tlsverify

--tlscacert string Trust certs signed only by this CA (default "C:\\Users\\syscomach\\.docker\\ca.pem")

--tlscert string Path to TLS certificate file (default "C:\\Users\\syscomach\\.docker\\cert.pem")

--tlskey string Path to TLS key file (default "C:\\Users\\syscomach\\.docker\\key.pem")

--tlsverify Use TLS and verify the remote

-v, --version Print version information and quit

* Run 'docker COMMAND --help' for more information on a command.

For more help on how to use Docker, head to https://docs.docker.com/go/guides/

## docker指令範例1

* docker images，查看目前已有之images

REPOSITORY TAG IMAGE ID CREATED SIZE

mintplexlabs/anythingllm latest 9766f4c7c7ba 24 hours ago 4.12GB

* docker ps，查看目前已開之continer

CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES

4bbad765e197 opensora "/opt/nvidia/nvidia\_…" 7 minutes ago Up 7 minutes goofy\_raman

* docker build -t opensora .

用本folder中(上式之 .)之Dockerfile，產生一個image opensora

* docker run -ti --gpus all -v .:/workspace/Open-Sora opensora

用image opensora，產生一個container，執行成功會進入continer，可得，如，

(pytorch) root@c2d76597e732:/workspace/Open-Sora#

* (pytorch) 不可加sudo

Ctrl C 結束

exit 關閉目前之container

## docker指令範例2

尚不熟。

* docker ps -a，查電腦中之所有continer
* docker container start -i continer ID // ID或NAMES，前面部分就可9b27

(pytorch) root@9b27739499cc:/workspace/Open-Sora# python gradio/app.py // 沒成功

* docker container rm prune // 刪除電腦中之所有continer

# Docker使用

* 雖然在command prompt 及anaconda prompt都能執行Docker指令，但實際上，Docker與anaconda env.毫無關係，最好在command prompt 。?????

使用例請參閱” C:\SyscoSoft\3\_SyscoPY\3\_Video\22\_Open-Sora\_Github.docx”。

* 在command prompt做貼上，有時需用右鍵。

# Dockerfile寫法

https://docs.docker.com/get-started/docker-concepts/building-images/writing-a-dockerfile/