

Docker basic commands

1. Not using sudo commands

Normally, Docker commands require prefixing with sudo, as shown below:

```
sudo docker version
```

However, after adding the docker group, you no longer need to prefix commands with sudo. To add the docker group (run the command on the host running Docker):

```
sudo groupadd docker # Add the docker group
sudo gpasswd -a $USER docker # Add the current user to the docker group. $USER
is automatically resolved to the currently logged-in user.
newgrp docker # Update the docker group
```

After adding the above commands, test the command using the [docker images] command. If no errors are reported, you can now use the command without sudo. If the following error is reported:

```
pi@ubuntu:~$ docker images
WARNING: Error loading config file: /home/pi/.docker/config.json: open
/home/pi/.docker/config.json: permission denied
```

Then execute the following command on the host machine to resolve the issue:

```
sudo chown "$USER":"$USER" /home/"$USER"/.docker -R
sudo chmod g+rxw "/home/$USER/.docker" -R
```

2. Basic Docker Commands

1. Downloading the Image

⚠ If you cannot pull the image, you will need to use a secure internet connection.

```
docker pull
```

```
pi@raspberrypi:~ $ docker pull ubuntu
Using default tag: latest
```

2. List images

```
docker images
```

```

pi@raspberrypi:~$ docker images
REPOSITORY          TAG                 IMAGE ID            CREATED             SIZE
192.168.2.51:5000/ro... 5.1.0              0d9e239e4ecd       About an hour ago   17GB
nginx                latest             f1d0ee1e24a1       4 weeks ago        198MB
langgenius/dify-web   1.6.0              8410a8e6aaf0       5 weeks ago        533MB
langgenius/dify-api   1.6.0              935c77ebab80       5 weeks ago        1.97GB
redis                6-alpine           b45d9b799914       5 weeks ago        30.4MB
langgenius/dify-plu... 0.1.3-local        9a4912493da2       6 weeks ago        1.29GB
postgres             15-alpine          f490b1e1368a       2 months ago       266MB
langgenius/dify-sandbox 0.2.12            5c2ad4db0b19       3 months ago       636MB
ubuntu/squid          latest             0164cf4b7a88       4 months ago       244MB
semitechnologies/weaviate 1.19.0            b7fde6d5a98e       2 years ago        51MB
pi@raspberrypi:~$

```

Parameter explanation:

REPOSITORY: The repository of the image

TAG: The image tag IMAGE

ID: The image ID CREATED

TED: The time the image was created

SIZE: The size of the image

3. List currently running Docker images

```

docker ps # List running containers
docker ps -a #List all running containers

```

```

pi@raspberrypi:~$ docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS   NAMES
d5b85c17e6a7   192.168.2.51:5000/ros-humble:5.1.0 "/bin/bash"           11 seconds ago Up 10 seconds        adoring_bassi
pi@raspberrypi:~$

```

If it is, it means to list all the docker images that have been run

```

pi@raspberrypi:~$ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED        STATUS        PORTS   NAMES
d5b85c17e6a7   192.168.2.51:5000/ros-humble:5.1.0 "/bin/bash"           About a minute ago Up About a minute        adoring_bassi
663b22d652f4   192.168.2.51:5000/ros-humble:5.1.0 "/bin/bash /root/run..." 52 minutes ago   Exited (0) 25 minutes ago   thirsty_mclaren
9661ce9c395e   192.168.2.51:5000/ros-humble:5.1.0 "/bin/bash /root/run..." 53 minutes ago   Exited (0) 52 minutes ago   blissful_heisenberg
pi@raspberrypi:~$

```

Up indicates a running container, and Exited indicates a closed Docker container.

4. Exit a container using the exit command

```

pi@raspberrypi:~$ ./run_humble.sh
access control disabled, clients can connect from any host
-----
ROS_DOMAIN_ID: 61 | ROS:
my_robot_type: A1 | my_lidar: tmini | my_camera: nuwa
-----
root@raspberrypi:/# exit
exit
pi@raspberrypi:~$

```

5. Restart a closed Docker container

```

docker start (container id or container name) # Start a container
docker restart (container id or container name) # Restart a container
docker stop (container id or container name) # Stop the container
docker kill (container id or container name) # Forcefully stop the container

```

```

pi@raspberrypi:~$ docker ps -a
CONTAINER ID   IMAGE                                COMMAND                  CREATED         STATUS          PORTS          NAMES
d5b85c17e6a7   192.168.2.51:5000/ros-humble:5.1.0  "/bin/bash"            4 minutes ago   Exited (0) 59 seconds ago           adoring_bassi
683b22db52f4   192.168.2.51:5000/ros-humble:5.1.0  "/bin/bash /root/run..." 55 minutes ago   Exited (0) 28 minutes ago           thirsty_mclaren
9661ce9c395e   192.168.2.51:5000/ros-humble:5.1.0  "/bin/bash /root/run..." 55 minutes ago   Exited (0) 55 minutes ago           blissful_heisenberg
pi@raspberrypi:~$ docker start d5b85c17e6a7
d5b85c17e6a7
pi@raspberrypi:~$

```

6. Deleting a container

```

docker rm container id # Delete a specific container
docker rm -f $(docker ps -a -q) # Delete all containers
docker ps -a -q | xargs docker rm # Delete all containers

```