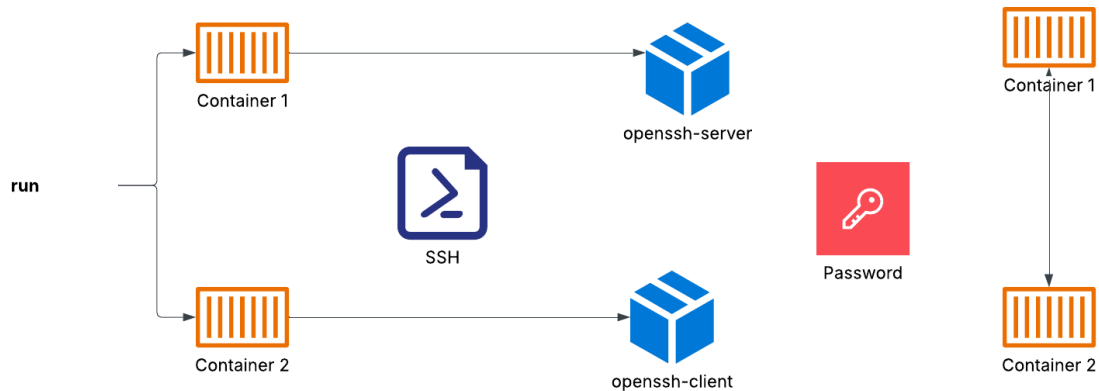
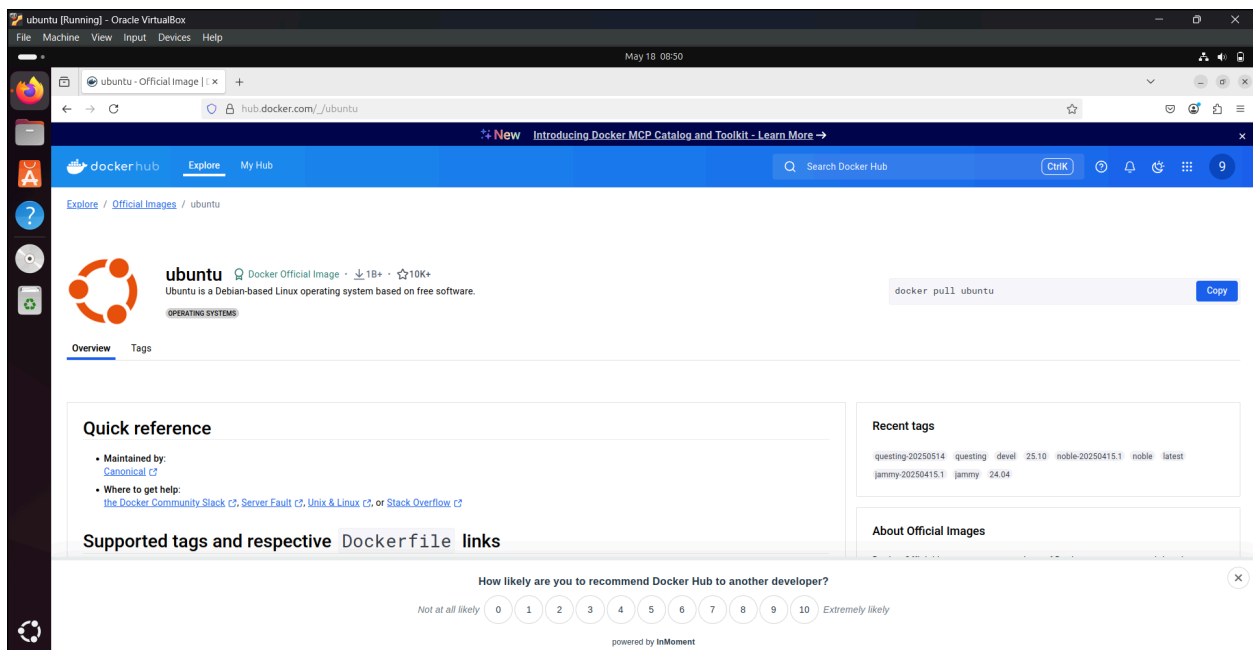


Secure SSH connection between two Ubuntu containers

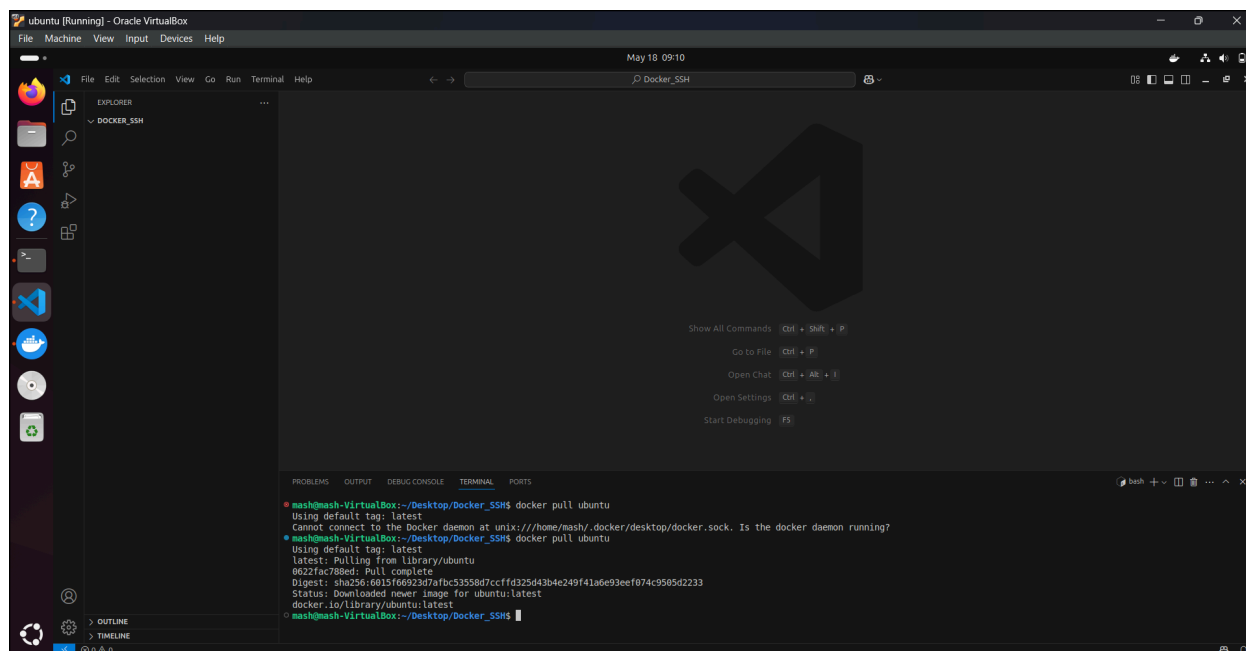


Get ubuntu image from Docker Hub.



pull docker image

docker pull ubuntu



The screenshot shows a terminal window titled 'ubuntu [Running] - Oracle VM VirtualBox'. The terminal output is as follows:

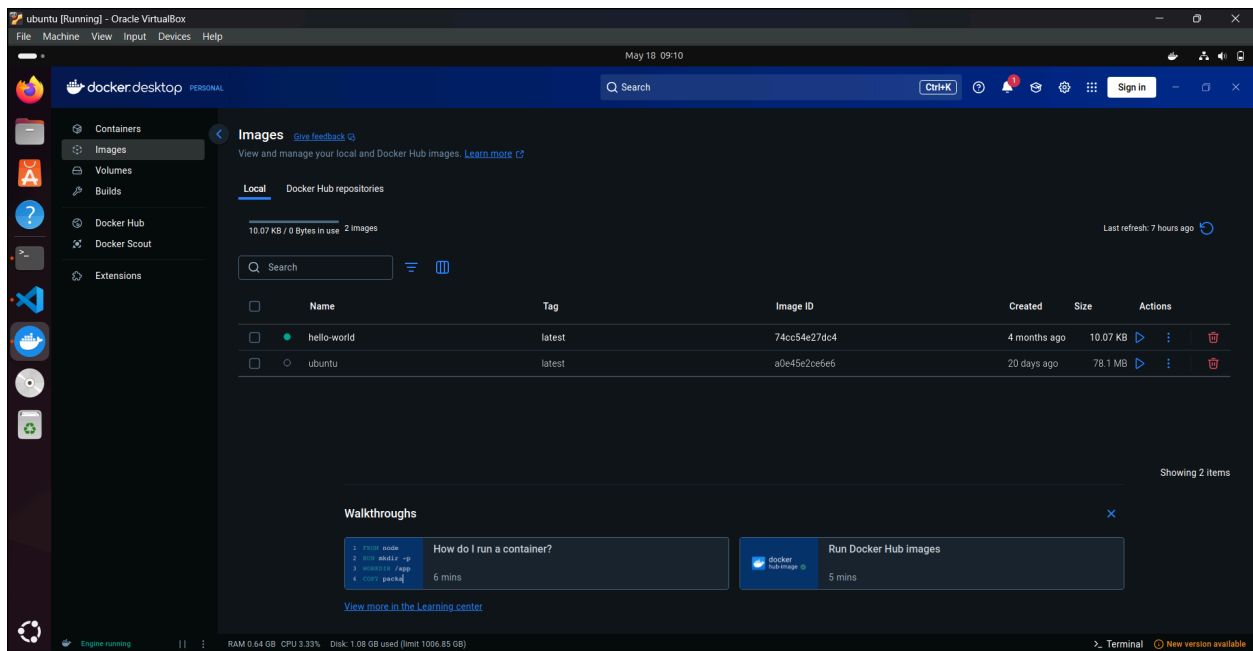
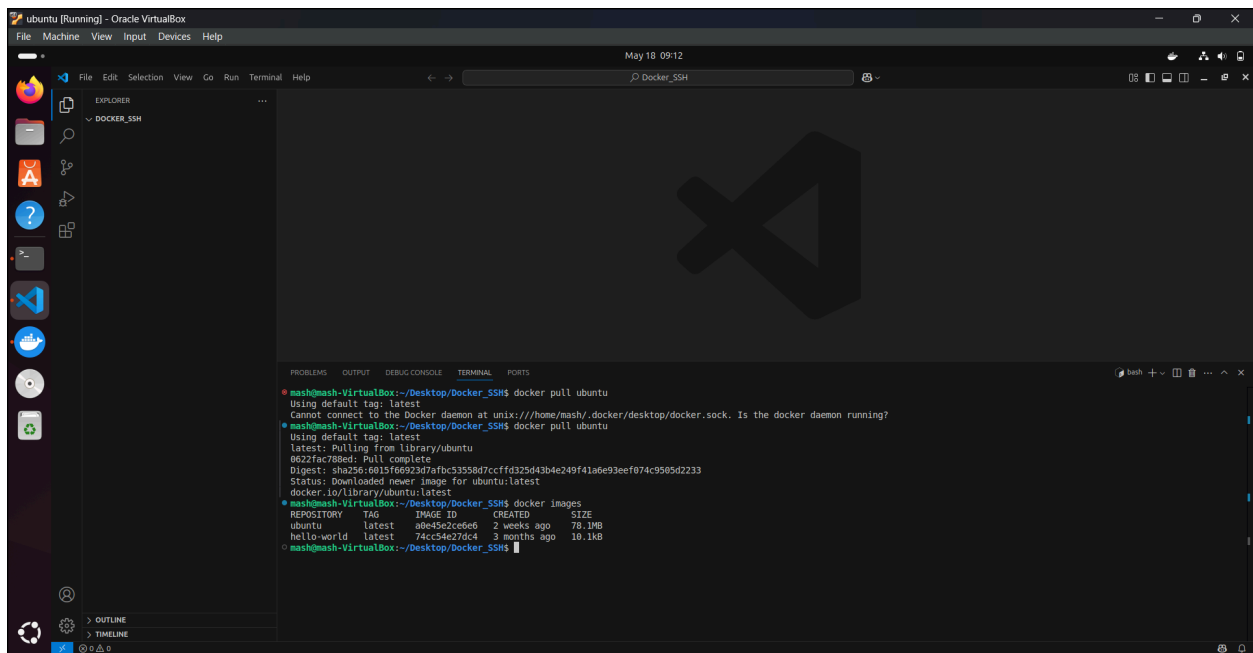
```

* mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker pull ubuntu
Using default tag: latest
Cannot connect to the Docker daemon at unix:///home/mash/.docker/desktop/docker.sock. Is the docker daemon running?
* mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
8622fac78bed: Pull complete
Digest: sha256:6015f66923d7afbc53558d7ccfffd325d43b4e249f41a6e93eef074c9505d2233
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
mash@mash-VirtualBox:~/Desktop/Docker_SSH$

```

Verify image

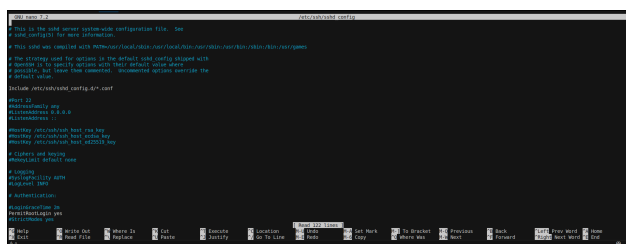
docker images



create first container and get interactive mode

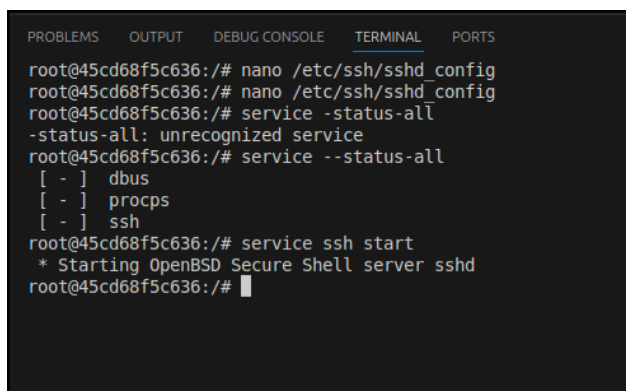
```
docker run -it --name <container name> <image name>
```


uncomment the `PermissionRootLogin` line and remove `"ProbitPaassword"` and enter `"yes"`.



```
enable ssh service
```

```
service --status-all
service ssh start
```



verify ssh service enable or not and exit form container interactive mode.

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
oot@45cd68f5c636:/# nano /etc/ssh/sshd_config
oot@45cd68f5c636:/# nano /etc/ssh/sshd_config
oot@45cd68f5c636:/# service -status-all
status-all: unrecognized service
oot@45cd68f5c636:/# service --status-all
[ - ] dbus
[ - ] procps
[ - ] ssh
oot@45cd68f5c636:/# service ssh start
* Starting OpenBSD Secure Shell server sshd
oot@45cd68f5c636:/# service --status-all
[ - ] dbus
[ - ] procps
[ + ] ssh
oot@45cd68f5c636:/# exit
exit
ash@mash-VirtualBox:~/Desktop/Docker_SSHs
```

create second container.

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
ash@mash-VirtualBox:~/Desktop/Docker_SSHs docker run -it --name ubuntu_container2 ubuntu
root@99fdb68d1f9d:/#
```

install OpenSSH client to the second container.

apt-get install openssh-client

```
root@99fdb68d1f9d:/# apt-get install -y openssh-client
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages will be installed:
  openssh-client
The following NEW packages will be installed:
  openssh-client
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 209 kB of archives.
After this operation, 641 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-client amd64 1:9.9p1-2ubuntu0.2 [145 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh2-1 amd64 1.11.0-2ubuntu0.1 [55.4 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh4 amd64 0.9.6-2ubuntu0.1 [30.4 kB]
Get:4 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh-gss-3 amd64 3.10.0-4ubuntu0.1 [10.4 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh-1 amd64 0.9.6-2ubuntu0.1 [29.4 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-client amd64 1:9.9p1-2ubuntu0.2 [145 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh2-1 amd64 1:1.11.0-2ubuntu0.1 [55.4 kB]
Get:8 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh4 amd64 0.9.6-2ubuntu0.1 [30.4 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh-gss-3 amd64 3.10.0-4ubuntu0.1 [10.4 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh-1 amd64 0.9.6-2ubuntu0.1 [29.4 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 openssh-client amd64 1:9.9p1-2ubuntu0.2 [145 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh2-1 amd64 1:1.11.0-2ubuntu0.1 [55.4 kB]
Get:13 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh4 amd64 0.9.6-2ubuntu0.1 [30.4 kB]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh-gss-3 amd64 3.10.0-4ubuntu0.1 [10.4 kB]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 libssh-1 amd64 0.9.6-2ubuntu0.1 [29.4 kB]
debconf: delaying package configuration, since apt-utils is not installed
Fetched 209 kB in 1s (18.4 MB/s)
Selecting previously unselected package openssh-client.
(Reading database ... 123456789 files and directories currently installed.)
Preparing to unpack .../openssh-client_1%3A9.9p1-2ubuntu0.2_amd64.deb ...
Unpacking openssh-client (1:9.9p1-2ubuntu0.2) ...
Setting up openssh-client (1:9.9p1-2ubuntu0.2) ...
```

exit from the second container and start first container that is server container.

exit
docker start < container name>
docker exec -it < container name > bash

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
root@3f68077b5ada:/# exit
exit
• mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker start ubuntu_container
ubuntu_container
○ mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker exec -it ubuntu_container bash
root@45cd68f5c636:/#
```

check the password for the root user on the first container.

password stored location is /etc/shadow.

```
cat /etc/shadow | grep root
```

```
mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker exec -it ubuntu_container bash
root@45cd68f5c636:/# cat /etc/shadow | grep root
root:!:20193:0:99999:7:::
root@45cd68f5c636:/# password root
bash: password: command not found
root@45cd68f5c636:/# passwd root
New password:
Retype new password:
passwd: password updated successfully
root@45cd68f5c636:/#
```

check the Ip address of of server container.

```
docker inspect < container name > | grep IPAddress
```

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
• mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker inspect ubuntu_container | grep IPAddress
    "SecondaryIPAddresses": null,
    "IPAddress": "172.17.0.2",
    "IPAddress": "172.17.0.2",
○ mash@mash-VirtualBox:~/Desktop/Docker_SSH$
```

Next start server container and check ssh service and exit form server container.

finally log to the client container and throght the ssh command log to the server container.

```
ssh root#<Ip Address>
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
'mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker start ubuntu_container
ubuntu_container
'mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker exec -it ubuntu_container bash
root@45cd68f5c636:/# service --status-all
[ - ] dbus
[ - ] procps
[ - ] ssh
root@45cd68f5c636:/# service ssh start
* Starting OpenBSD Secure Shell server sshd
root@45cd68f5c636:/#
root@45cd68f5c636:/# exit
exit
'mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker start ubuntu_container2
ubuntu_container2
'mash@mash-VirtualBox:~/Desktop/Docker_SSH$ docker exec -it ubuntu_container2 bash
root@3f68077b5ada:/# ssh root@172.17.0.2
The authenticity of host '172.17.0.2 (172.17.0.2)' can't be established.
ED25519 key fingerprint is SHA256:nN2vLUET+y99k27uWU0Q439yAvzaQxw1RaQogrpvh4M.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '172.17.0.2' (ED25519) to the list of known hosts.
root@172.17.0.2's password:
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.10.14-linuxkit x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
```