

Docker Installation and Deployment

1. Connect to AWS EC2 Instance (ap-south-1 : Mumbai).

```
[amalthomsonmacbook:~ amalthomson$ chmod 400 "/Users/amalthomson/Downloads/docker_ALinux.pem"
[amalthomsonmacbook:~ amalthomson$ ssh -i "/Users/amalthomson/Downloads/docker_ALinux.pem" ec2-user@ec2-35-154-128-73.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-35-154-128-73.ap-south-1.compute.amazonaws.com (35.154.128.73)' can't be established.
ED25519 key fingerprint is SHA256:RJ95D/sHxgzlbRKT6iehh4CXJoUtG6fz1W/tCq6DqaU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-35-154-128-73.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.

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-| ( _ /   Amazon Linux 2 AMI
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https://aws.amazon.com/amazon-linux-2/
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
[ec2-user@ip-172-31-47-28 ~]$ ]
```

2. Docker Installation

```
$ sudo su
# yum install docker -y
```

```
[root@ip-172-31-47-28 ~]$ sudo su
[[root@ip-172-31-47-28 ec2-user]# yum install docker -y
Failed to set locale, defaulting to C
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
--> Package docker.x86_64 0:20.10.23-1.amzn2.0.1 will be installed
--> Processing Dependency: runc >= 1.0.0 for package: docker-20.10.23-1.amzn2.0.1.x86_64
--> Processing Dependency: libcgroup >= 0.40.rc1-5.15 for package: docker-20.10.23-1.amzn2.0.1.x86_64
--> Processing Dependency: containerd >= 1.3.2 for package: docker-20.10.23-1.amzn2.0.1.x86_64
--> Processing Dependency: pigz for package: docker-20.10.23-1.amzn2.0.1.x86_64
--> Running transaction check
--> Package containerd.x86_64 0:1.6.19-1.amzn2.0.1 will be installed
--> Package libcgroup.x86_64 0:0.41-21.amzn2 will be installed
--> Package pigz.x86_64 0:2.3.4-1.amzn2.0.1 will be installed
--> Package runc.x86_64 0:1.1.7-1.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package           Arch         Version          Repository      Size
=====
Installing:
 docker           x86_64      20.10.23-1.amzn2.0.1    amzn2extra-docker 41 M
Installing for dependencies:
 containerd       x86_64      1.6.19-1.amzn2.0.1    amzn2extra-docker 27 M
 libcgroup        x86_64      0.41-21.amzn2          amzn2-core          66 k
 pigz             x86_64      2.3.4-1.amzn2.0.1    amzn2-core          81 k
 runc             x86_64      1.1.7-1.amzn2          amzn2extra-docker 2.9 M

Transaction Summary
=====
Install 1 Package (+4 Dependent packages)
```

3. Docker Version

```
# docker --version
```

```
[root@ip-172-31-47-28 ec2-user]# docker --version
Docker version 20.10.23, build 7355243
[root@ip-172-31-47-28 ec2-user]# ]
```

4. Docker Path

```
# which docker
```

```
amalthomson — root@ip-172-31-47-28:/home/ec2-user — ssh -i ~/Downloads/docker_ALinux.pem ec2-user@ec2-35-154-128-73.ap-south-1.compute.amazonaws.com — 120...
[[root@ip-172-31-47-28 ec2-user]# which docker
/bin/docker
[root@ip-172-31-47-28 ec2-user]# ]
```

5. Start Docker service

```
# service docker start
```

```
amalthomson — root@ip-172-31-47-28:/home/ec2-user — ssh -i ~/Downloads/docker_ALinux.pem ec2-user@ec2-35-154-128-73.ap-south-1.compute.amazonaws.com — 120...
[[root@ip-172-31-47-28 ec2-user]# service docker start
Redirecting to /bin/systemctl start docker.service
[root@ip-172-31-47-28 ec2-user]# ]
```

6. Check Docker status

```
# service docker status
```

```
amalthomson — root@ip-172-31-47-28:/home/ec2-user — ssh -i ~/Downloads/docker_ALinux.pem ec2-user@ec2-35-154-128-73.ap-south-1.compute.amazonaws.com — 120...
[[root@ip-172-31-47-28 ec2-user]# service docker status
Redirecting to /bin/systemctl status docker.service
● docker.service - Docker Application Container Engine
   Loaded: loaded (/usr/lib/systemd/system/docker.service; disabled; vendor preset: disabled)
   Active: active (running) since Sun 2023-06-25 04:24:13 UTC; 49s ago
     Docs: https://docs.docker.com
 Process: 3498 ExecStartPre=/usr/libexec/docker/docker-setup-runtimes.sh (code=exited, status=0/SUCCESS)
 Process: 3497 ExecStartPre=/bin/mkdir -p /run/docker (code=exited, status=0/SUCCESS)
 Main PID: 3501 (dockerd)
   Tasks: 7
  Memory: 20.7M
    CGroup: /system.slice/docker.service
            └─3501 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock --default-ulimit nofile=3276...[REDACTED]
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.288405556Z" le...pc
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.324439235Z" le...t"
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.324894616Z" le...e"
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.325342451Z" le...."
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.510878295Z" le...s"
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.558308753Z" le...."
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.577067507Z" le...23
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.577558476Z" le....n"
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal systemd[1]: Started Docker Application Container Engine.
Jun 25 04:24:13 ip-172-31-47-28.ap-south-1.compute.internal dockerd[3501]: time="2023-06-25T04:24:13.601745370Z" le...k"
Hint: Some lines were ellipsized, use -l to show in full.
[root@ip-172-31-47-28 ec2-user]# ]
```

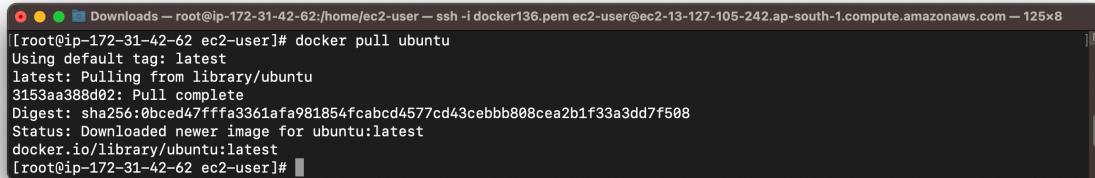
7. Display Docker images

```
# docker images
```

```
Downloads — root@ip-172-31-42-62:/home/ec2-user — ssh -i docker136.pem ec2-user@ec2-13-127-105-242.ap-south-1.compute.amazonaws.com — 125x5
[[root@ip-172-31-42-62 ec2-user]# docker images
REPOSITORY      TAG      IMAGE ID      CREATED      SIZE
[root@ip-172-31-42-62 ec2-user]# ]
```

8. Pull a Docker Image from DockerHub

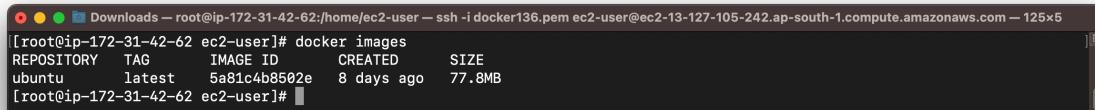
```
# docker pull ubuntu
```



```
[root@ip-172-31-42-62 ec2-user]# docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
3153aa388d02: Pull complete
Digest: sha256:0bcded47ffffa3361afa981854fcabcd4577cd43cebbb808cea2b1f33a3dd7f508
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
[root@ip-172-31-42-62 ec2-user]#
```

9. Display Docker Images

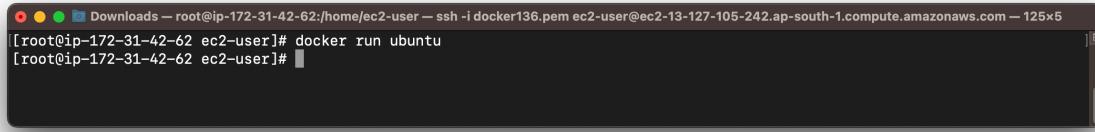
```
#docker images
```



```
[root@ip-172-31-42-62 ec2-user]# docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
ubuntu latest 5a81c4b8502e 8 days ago 77.8MB
[root@ip-172-31-42-62 ec2-user]#
```

10. Run docker image

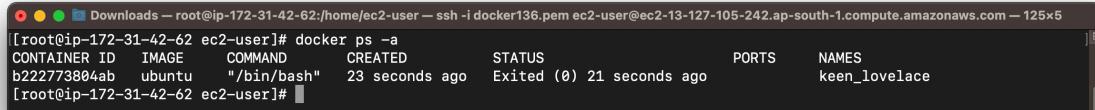
```
# docker run ubuntu
```



```
[root@ip-172-31-42-62 ec2-user]# docker run ubuntu
[root@ip-172-31-42-62 ec2-user]#
```

11. Display Process Status of Docker

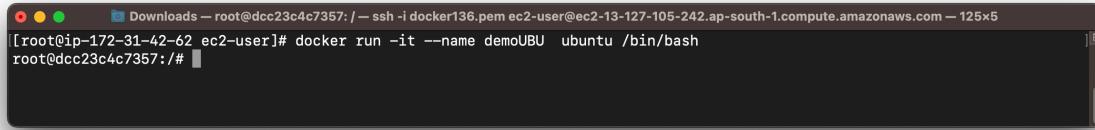
```
# docker ps -a
```



```
[root@ip-172-31-42-62 ec2-user]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
b222773804ab ubuntu "/bin/bash" 23 seconds ago Exited (0) 21 seconds ago
keen_lovelace
[root@ip-172-31-42-62 ec2-user]#
```

12. Pull and Run an interactive Container with custom naming the Container

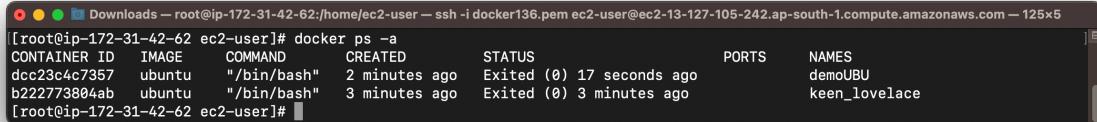
```
# docker run -it --name demoUBU ubuntu /bin/bash
```



```
[root@ip-172-31-42-62 ec2-user]# docker run -it --name demoUBU ubuntu /bin/bash
root@dcc23c4c7357:/#
```

13. Display Process Status of Docker

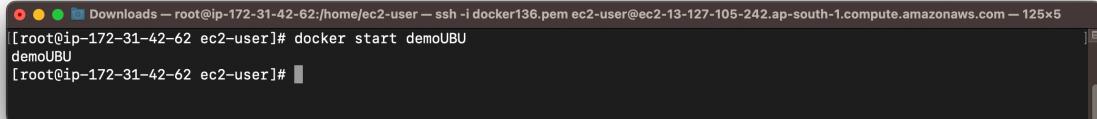
```
# docker ps -a
```



```
[root@ip-172-31-42-62 ec2-user]# docker ps -a
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS               NAMES
dcc23c4c7357        ubuntu              "/bin/bash"         2 minutes ago     Exited (0) 17 seconds ago          demoUBU
b222773804ab        ubuntu              "/bin/bash"         3 minutes ago     Exited (0) 3 minutes ago          keen_lovelace
[root@ip-172-31-42-62 ec2-user]#
```

14. Start Docker

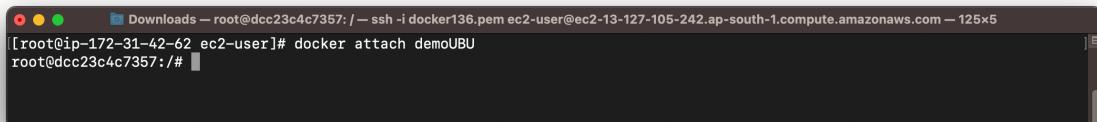
```
# docker start demoUBU
```



```
[root@ip-172-31-42-62 ec2-user]# docker start demoUBU
demoUBU
[root@ip-172-31-42-62 ec2-user]#
```

15. Attach Docker

```
# docker attach demoUBU
```



```
[root@ip-172-31-42-62 ec2-user]# docker attach demoUBU
root@dcc23c4c7357:/#
```

16. List Files and Directories in the Container

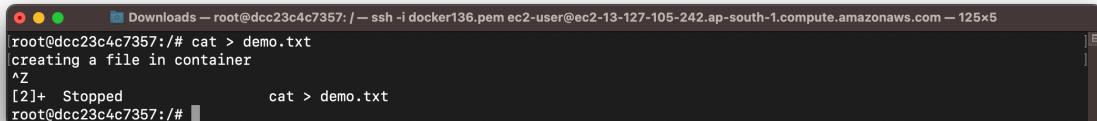
```
# ls
```



```
[root@dcc23c4c7357:/# ls
bin  boot  dev  etc  home  lib  lib32  lib64  libx32  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
root@dcc23c4c7357:/#
```

17. Create a file in the Container

```
# cat > demofile.txt
```



```
[root@dcc23c4c7357:/# cat > demo.txt
[creating a file in container
^Z
[2]+  Stopped                  cat > demo.txt
root@dcc23c4c7357:/#
```

18. List all the files and directories in the current directory

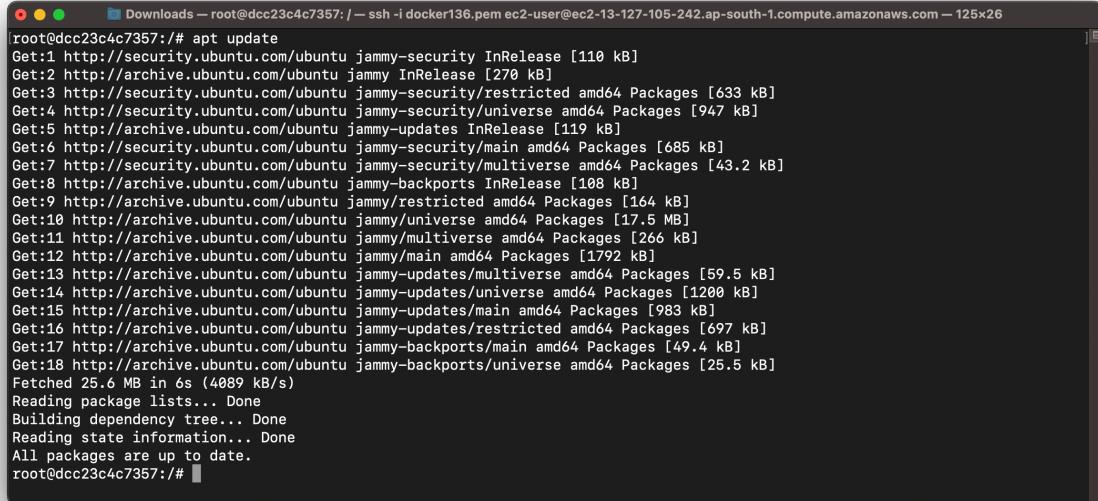
```
# ls
```



```
[root@dcc23c4c7357:/# ls
bin  demo.txt  etc  lib  lib32  lib64  media  opt  root  sbin  sys  usr
boot  dev      home  libx32  mnt  proc  run  srv  tmp  var
root@dcc23c4c7357:/#
```

19. Update the package index files on the system, ie. Container

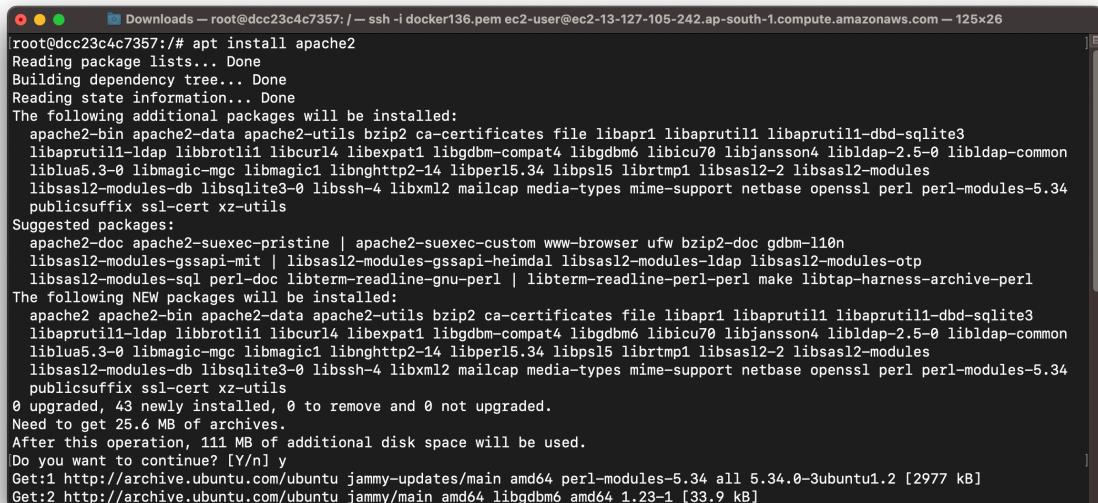
```
# apt-get update
```



```
[root@dcc23c4c7357:/]# apt update
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [633 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [947 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [685 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [43.2 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:11 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [59.5 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1200 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [983 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [697 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [49.4 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [25.5 kB]
Fetched 25.6 MB in 6s (4089 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
All packages are up to date.
root@dcc23c4c7357:/#
```

20. Install Apache in Container

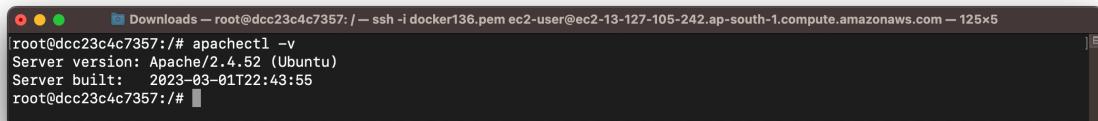
```
# apt install apache2
```



```
[root@dcc23c4c7357:/]# apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils bzip2 ca-certificates file libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libbrotli1 libcurl4 libexpat1 libgdbm-compat4 libgdbm6 libicu70 libjansson4 libldap-2.5-0 libldap-common
  liblua5.3-0 libmagic-mgc libmagic1 libnghttp2-14 libperl15.34 libpsl5 librtmp1 libsasl2-2 libsasl2-modules
  libsasl2-modules-db libsqlite3-0 libssh-4 libxml2 mailcap media-types mime-support netbase openssl perl perl-modules-5.34
  publicsuffix ssl-cert xz-utils
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser ufw bzip2-doc gdbm-l10n
  libsasl2-modules-gssapi-mit | libsasl2-modules-gssapi-heimdal libsasl2-modules-ldap libsasl2-modules-otp
  libsasl2-modules-sql perl-doc libterm-readline-gnu-perl | libterm-readline-perl-perl make libtaps-harness-archive-perl
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils bzip2 ca-certificates file libapr1 libaprutil1 libaprutil1-dbd-sqlite3
  libaprutil1-ldap libbrotli1 libcurl4 libexpat1 libgdbm-compat4 libgdbm6 libicu70 libjansson4 libldap-2.5-0 libldap-common
  liblua5.3-0 libmagic-mgc libmagic1 libnghttp2-14 libperl15.34 libpsl5 librtmp1 libsasl2-2 libsasl2-modules
  libsasl2-modules-db libsqlite3-0 libssh-4 libxml2 mailcap media-types mime-support netbase openssl perl perl-modules-5.34
  publicsuffix ssl-cert xz-utils
0 upgraded, 43 newly installed, 0 to remove and 0 not upgraded.
Need to get 25.6 MB of archives.
After this operation, 111 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 perl-modules-5.34 all 5.34.0-3ubuntu1.2 [2977 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 libgdbm6 amd64 1.23-1 [33.9 kB]
```

21. Display Apache Version

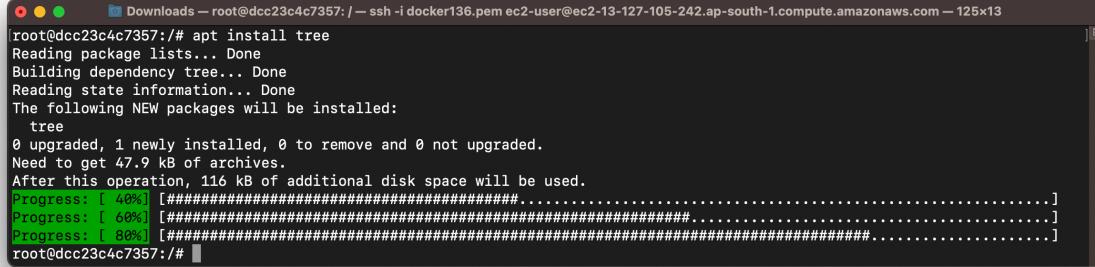
```
# apachectl -v
```



```
[root@dcc23c4c7357:/]# apachectl -v
Server version: Apache/2.4.52 (Ubuntu)
Server built:  2023-03-01T22:43:55
root@dcc23c4c7357:/#
```

22. Install Tree in Container

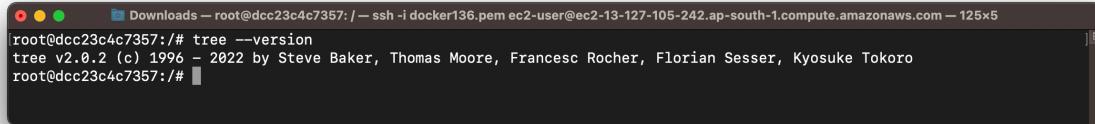
```
# apt install tree
```



```
[root@dcc23c4c7357:~/Downloads]# apt install tree
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  tree
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 47.9 kB of archives.
After this operation, 116 kB of additional disk space will be used.
Progress: [ 40%] [#####
Progress: [ 60%] [#####
Progress: [ 80%] [#####
root@dcc23c4c7357:~/Downloads]
```

23. Dispaly Tree Version

```
# tree --version
```



```
[root@dcc23c4c7357:~/Downloads]# tree --version
tree v2.0.2 (c) 1996 - 2022 by Steve Baker, Thomas Moore, Francesc Rocher, Florian Sesser, Kyosuke Tokoro
root@dcc23c4c7357:~/Downloads]
```

24. View directory using Tree

```
# tree
```

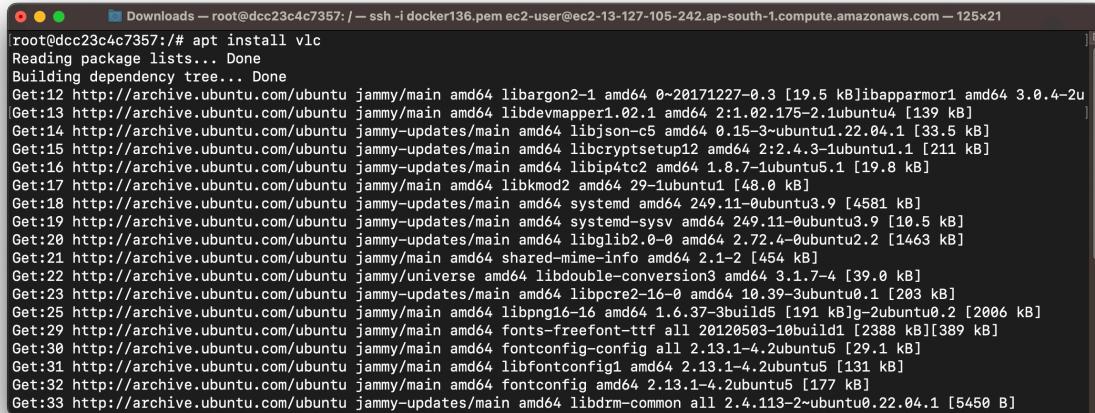


```
[root@dcc23c4c7357:~/newfolder]# tree
.
|-- file1.txt
|-- file2.txt
`-- newfolder
    |-- file1.txt
    '-- file2.txt

1 directory, 4 files
root@dcc23c4c7357:~/newfolder]
```

25. Install VLC in Container

```
# apt install vlc
```



```
[root@dcc23c4c7357:~/Downloads]# apt install vlc
Reading package lists... Done
Building dependency tree... Done
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 libargon2-1 amd64 0~20171227-0.3 [19.5 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy/main amd64 libdevmapper1.02.1 amd64 2:1.02.175-2.1ubuntu4 [139 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libjson-c5 amd64 0.15-3~ubuntu1.22.04.1 [33.5 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libcryptsetup12 amd64 2:2.4.3-1ubuntu1.1 [211 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libip4tc2 amd64 1.8.7-1ubuntu5.1 [19.8 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy/main amd64 libkmod2 amd64 29-1ubuntu1 [48.0 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 systemd amd64 249.11-0ubuntu3.9 [4581 kB]
Get:19 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 systemd-sysv amd64 249.11-0ubuntu3.9 [10.5 kB]
Get:20 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libgl2.0-0 amd64 2.72.4-0ubuntu2.2 [1463 kB]
Get:21 http://archive.ubuntu.com/ubuntu jammy/main amd64 shared-mime-info amd64 2.1-2 [454 kB]
Get:22 http://archive.ubuntu.com/ubuntu jammy/universe amd64 libdouble-conversion3 amd64 3.1.7-4 [39.0 kB]
Get:23 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libpcre2-16-0 amd64 10.39-3ubuntu0.1 [203 kB]
Get:25 http://archive.ubuntu.com/ubuntu jammy/main amd64 libpng16-16 amd64 1.6.37-3build5 [191 kB]
Get:29 http://archive.ubuntu.com/ubuntu jammy/main amd64 fonts-freefont-ttf all 20120503-10build1 [2388 kB]
Get:30 http://archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig-config all 2.13.1-4.2ubuntu5 [29.1 kB]
Get:31 http://archive.ubuntu.com/ubuntu jammy/main amd64 libfontconfig1 amd64 2.13.1-4.2ubuntu5 [131 kB]
Get:32 http://archive.ubuntu.com/ubuntu jammy/main amd64 fontconfig amd64 2.13.1-4.2ubuntu5 [177 kB]
Get:33 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libdrm-common all 2.4.113-2~ubuntu0.22.04.1 [5450 B]
```

26. Check VLC directory

```
# which vlc
```

```
Downloads - root@dcc23c4c7357:/ - ssh -i docker136.pem ec2-user@ec2-13-127-105-242.ap-south-1.compute.amazonaws.com - 125x5
[root@dcc23c4c7357:/# which vlc
/usr/bin/vlc
root@dcc23c4c7357:/# ]
```

27. Rename Container

```
# docker rename demoUBU UBUDemo
```

```
Downloads - root@ip-172-31-42-62:/home/ec2-user - ssh -i docker136.pem ec2-user@ec2-43-205-254-198.ap-south-1.compute.amazonaws.com - 125x7
[[root@ip-172-31-42-62 ec2-user]# docker rename demoUBU UBUDemo
[[root@ip-172-31-42-62 ec2-user]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
dcc23c4c7357 ubuntu "/bin/bash" 2 hours ago Exited (1) About an hour ago
b222773804ab ubuntu "/bin/bash" 2 hours ago Exited (0) 2 hours ago
keen_lovelace
[root@ip-172-31-42-62 ec2-user]# ]
```

28. Create Docker Image

```
# docker commit <container_name> <new_imagename>
```

```
Downloads - root@ip-172-31-42-62:/home/ec2-user - ssh -i docker136.pem ec2-user@ec2-43-205-254-198.ap-south-1.compute.amazonaws.com - 125x8
[[root@ip-172-31-42-62 ec2-user]# docker commit UBUDemo ubuimage
sha256:c8564e2b95a364dad4c3117fb04ba1ff6de6ee440a92ada35f92ab7b0a73d721
[[root@ip-172-31-42-62 ec2-user]# docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
ubuimage latest c8564e2b95a3 7 seconds ago 983MB
ubuntu latest 5a81c4b8502e 8 days ago 77.8MB
[root@ip-172-31-42-62 ec2-user]# ]
```

29. Create a Container using Docker Image created in previous step

```
# docker run -it --name ubicontainer ubuimage /bin/bash
```

```
Downloads - root@07dbf3b4de93:/ - ssh -i docker136.pem ec2-user@ec2-43-205-254-198.ap-south-1.compute.amazonaws.com - 125x6
[[root@ip-172-31-42-62 ec2-user]# docker run -it --name ubicontainer ubuimage /bin/bash
root@07dbf3b4de93:/# ls
bin  demo.txt  etc  lib  lib64  media  newfolder  proc  run  srv  tmp  var
boot  dev  home  lib32  libx32  mnt  opt  root  sbin  sys  usr
root@07dbf3b4de93:/# ]
```

30. Push Docker Image to Docker Hub

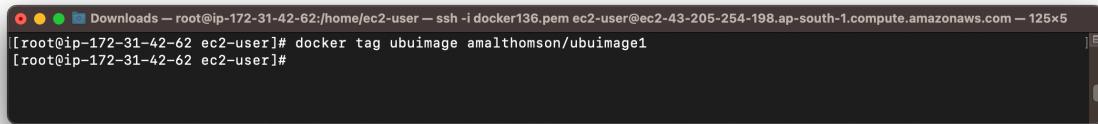
a) Login into Docker Hub

```
# docker login
```

```
Downloads - root@ip-172-31-42-62:/home/ec2-user - ssh -i docker136.pem ec2-user@ec2-43-205-254-198.ap-south-1.compute.amazonaws.com - 125x11
[[root@ip-172-31-42-62 ec2-user]# docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: amalthomson
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store
Login Succeeded
[root@ip-172-31-42-62 ec2-user]# ]
```

b) Tag Docker Image

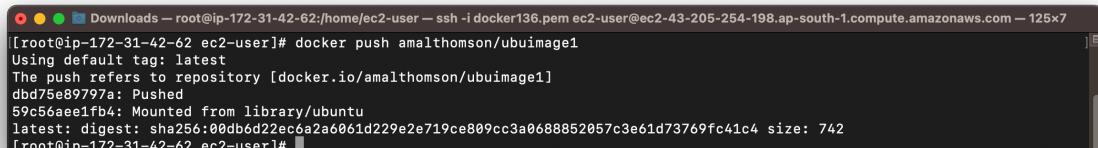
```
# docker tag ubuimage amalthomson/ubuimage1
```



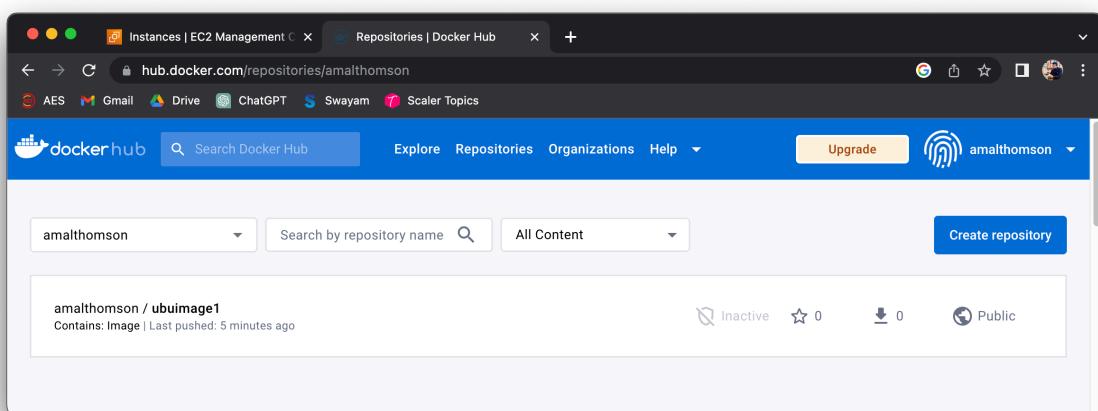
```
[root@ip-172-31-42-62 ec2-user]# docker tag ubuimage amalthomson/ubuimage1
[root@ip-172-31-42-62 ec2-user]#
```

31. Push Docker Image to Docker Hub

```
# docker push amalthomson/ubuimage1
```

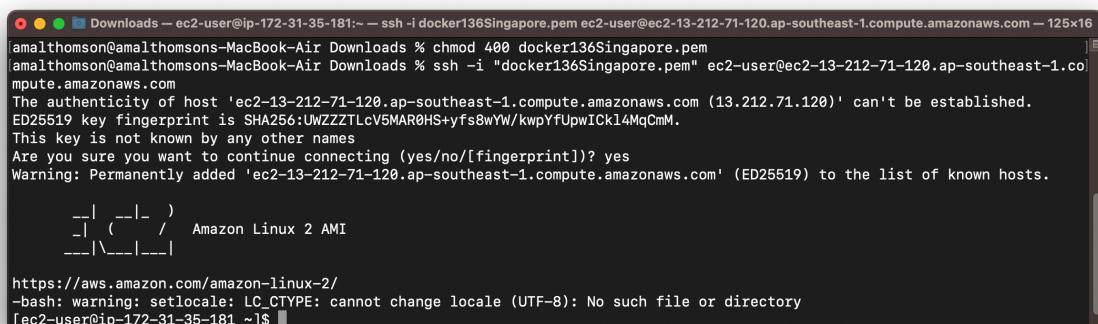


```
[root@ip-172-31-42-62 ec2-user]# docker push amalthomson/ubuimage1
Using default tag: latest
The push refers to repository [docker.io/amalthomson/ubuimage1]
ddb7e89797a: Pushed
59c56aeef1b4: Mounted from library/ubuntu
latest: digest: sha256:00dbbd22ec6a2a6061d229e2e719ce809cc3a0688852057c3e61d73769fc41c4 size: 742
[root@ip-172-31-42-62 ec2-user]#
```



32. Pull the pushed Docker Image from another ec2 Instance – When Image is Public

a) Connect to the ec2 Instance (ap-southeast-1 : Singapore)



```
[amalthomson@amalthomsons-MacBook-Air Downloads % chmod 400 docker136Singapore.pem
[amalthomson@amalthomsons-MacBook-Air Downloads % ssh -i "docker136Singapore.pem" ec2-user@ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com
The authenticity of host 'ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com (13.212.71.120)' can't be established.
ED25519 key fingerprint is SHA256:UWZZZTLCv5MAR0HS+Yfs8wY/kwpYfUpwICkI4MqCmM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com' (ED25519) to the list of known hosts.

--| --|- )
-| (   /   Amazon Linux 2 AMI
---|\---|---|
https://aws.amazon.com/amazon-linux-2/
-bash: warning: setlocale: LC_CTYPE: cannot change locale (UTF-8): No such file or directory
[ec2-user@ip-172-31-35-181 ~]$
```

- b) Install Docker and Start Service
- c) Pull and Run Container using the Image from Docker Hub

```
Downloads — root@3da9a8d0b7d3: / — ssh -i docker136Singapore.pem ec2-user@ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com — 125x8
[root@ip-172-31-35-181 ec2-user]# docker run -it --name ubuimageX amalthomson/ubuimage1 /bin/bash
Unable to find image 'amalthomson/ubuimage1:latest' locally
latest: Pulling from amalthomson/ubuimage1
3153aa388d02: Pull complete
1421e73320cb: Pull complete
Digest: sha256:00dbbd22ec6a2a6061d229e2e719ce809cc3a0688852057c3e61d73769fc41c4
Status: Downloaded newer image for amalthomson/ubuimage1:latest
root@3da9a8d0b7d3:/#
```

- d) Display Images pulled from Docker Hub

```
Downloads — root@ip-172-31-35-181:/home/ec2-user — ssh -i docker136Singapore.pem ec2-user@ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com — ...
[root@ip-172-31-35-181 ec2-user]# docker images
REPOSITORY          TAG      IMAGE ID   CREATED        SIZE
amalthomson/ubuimage1  latest   c8564e2b95a3  33 minutes ago  983MB
[root@ip-172-31-35-181 ec2-user]# docker ps -a
CONTAINER ID   IMAGE      COMMAND       CREATED     STATUS    PORTS     NAMES
3da9a8d0b7d3   amalthomson/ubuimage1   "/bin/bash"   About a minute ago   Exited (127) 49 seconds ago   ubuimageX
[root@ip-172-31-35-181 ec2-user]#
```

33. Pull the pushed Docker Image from another ec2 Instance – When Image is Private

- a) Pull and Run Container using the Image from Docker Hub

```
Downloads — root@ip-172-31-35-181:/home/ec2-user — ssh -i docker136Singapore.pem ec2-user@ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com — ...
[root@ip-172-31-35-181 ec2-user]# docker run -it --name ubuimageX amalthomson/ubuimage1 /bin/bash
Unable to find image 'amalthomson/ubuimage1:latest' locally
docker: Error response from daemon: pull access denied for amalthomson/ubuimage1, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.
[root@ip-172-31-35-181 ec2-user]#
```

- b) Login into Docker Hub

```
Downloads — root@f46c6dd0b8cf: / — ssh -i docker136Singapore.pem ec2-user@ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com — 125x10
[root@ip-172-31-35-181 ec2-user]# docker login
Login with your Docker ID to push and pull images from Docker Hub. If you don't have a Docker ID, head over to https://hub.docker.com to create one.
Username: amalthomson
Password:
WARNING! Your password will be stored unencrypted in /root/.docker/config.json.
Configure a credential helper to remove this warning. See
https://docs.docker.com/engine/reference/commandline/login/#credentials-store
Login Succeeded
```

- c) Pull and Run Container using the Image from Docker Hub

```
Downloads — root@f46c6dd0b8cf: / — ssh -i docker136Singapore.pem ec2-user@ec2-13-212-71-120.ap-southeast-1.compute.amazonaws.com — 125x7
[root@ip-172-31-35-181 ec2-user]# docker run -it --name ubuimageX amalthomson/ubuimage1 /bin/bash
Unable to find image 'amalthomson/ubuimage1:latest' locally
latest: Pulling from amalthomson/ubuimage1
3153aa388d02: Pull complete
1421e73320cb: Pull complete
Digest: sha256:00dbbd22ec6a2a6061d229e2e719ce809cc3a0688852057c3e61d73769fc41c4
Status: Downloaded newer image for amalthomson/ubuimage1:latest
```

d) Display all Docker Images pulled from Docker Hub

```
[root@ip-172-31-35-181 ~]# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
amalthomson/ubuimage1  latest   c8564e2b95a3  39 minutes ago  983MB
[root@ip-172-31-35-181 ~]# docker ps -a
CONTAINER ID        IMAGE           COMMAND       CREATED        STATUS         PORTS     NAMES
f46c6dd0b8cf  amalthomson/ubuimage1  "/bin/bash"  About a minute ago  Exited (0) 10 seconds ago  ubuimageX
[root@ip-172-31-35-181 ~]#
```

34. Exit Container

```
# exit
```

```
[root@ip-172-31-42-62 ~]# exit
exit
There are stopped jobs.
[root@ip-172-31-42-62 ~]# exit
exit
[root@ip-172-31-42-62 ~]#
```

35. Delete Containers

```
# docker rm <container_name/container_id>
```

```
[root@ip-172-31-42-62 ~]# docker ps -a
CONTAINER ID        IMAGE           COMMAND       CREATED        STATUS         PORTS     NAMES
07dbf3b4de93  ubuimage        "/bin/bash"  21 minutes ago  Exited (0) 17 minutes ago
dcc23c4c7357  ubuntu          "/bin/bash"  3 hours ago   Exited (127) 31 minutes ago
b222773804ab  ubuntu          "/bin/bash"  3 hours ago   Exited (0) 3 hours ago
keen_lovelace
[root@ip-172-31-42-62 ~]# docker rm ubucontainer
ubucontainer
[root@ip-172-31-42-62 ~]# docker ps -a
CONTAINER ID        IMAGE           COMMAND       CREATED        STATUS         PORTS     NAMES
dcc23c4c7357  ubuntu          "/bin/bash"  3 hours ago   Exited (127) 31 minutes ago
b222773804ab  ubuntu          "/bin/bash"  3 hours ago   Exited (0) 3 hours ago
keen_lovelace
[root@ip-172-31-42-62 ~]#
```

36. Delete Docker Image

```
# docker rmi <dockerimage_name/dockerimage_id>
```

```
[root@ip-172-31-42-62 ~]# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
amalthomson/ubuimage1  latest   c8564e2b95a3  44 minutes ago  983MB
ubuntu              latest   5a81c4b8502e  8 days ago    77.8MB
[root@ip-172-31-42-62 ~]# docker rmi c8564e2b95a3
Untagged: amalthomson/ubuimage1:latest
Untagged: amalthomson/ubuimage1@sha256:00db6d22ec6a2a6061d229e2e719ce809cc3a0688852057c3e61d73769fc41c4
Deleted: sha256:c8564e2b95a364dad4c3117fb04ba1ff6de6ee440a92ada35f92ab7b0a73d721
Deleted: sha256:57bc64083dbfb03296181c989fb1eac92c2ad208259e054b70be1ee63239b11
[root@ip-172-31-42-62 ~]# docker images
REPOSITORY          TAG      IMAGE ID      CREATED        SIZE
ubuntu              latest   5a81c4b8502e  8 days ago    77.8MB
[root@ip-172-31-42-62 ~]#
```

37. Exit EC2 Instance

```
# exit
```

```
[ec2-user@ip-172-31-42-62 ~]$ exit
logout
Connection to ec2-13-127-105-242.ap-south-1.compute.amazonaws.com closed.
amalthomson@amalthomsons-MacBook-Air Downloads %
```